

STRUCTURAL NOTES

GENERAL

1. THIS PROJECT SHALL MEET ALL REQUIREMENTS OF THE CITY OF DAWSONVILLE, GEORGIA AND THE 2018 INTERNATIONAL BUILDING CODE WITH LOCAL AMENDMENTS.
2. THE GENERAL CONTRACTOR SHALL VERIFY THE SIZE AND LOCATION OF ALL ARCHITECTURAL, MECHANICAL, PLUMBING, AND ELECTRICAL OPENINGS (COORDINATE WITH APPLICABLE TRADES). THE CONTRACTOR SHALL PROVIDE FOR ALL OPENINGS, WHETHER SHOWN ON THE STRUCTURAL DRAWINGS OR NOT. ANY DEVIATION FROM OPENINGS SHOWN ON THE STRUCTURAL DRAWINGS SHALL BE BROUGHT TO THE ENGINEER'S ATTENTION FOR APPROVAL PRIOR TO CONSTRUCTION.
3. THE GENERAL CONTRACTOR SHALL VERIFY ALL DIMENSIONS SHOWN ON THE STRUCTURAL DRAWINGS WITH THE ARCHITECTURAL DRAWINGS BEFORE CONSTRUCTION AND NOTIFY THE ARCHITECT OF ANY DISCREPANCIES OR INCONSISTENCIES BEFORE PROCEEDING WITH THE WORK.
4. COMPLETE SHOP DRAWINGS AS REQUIRED FOR THE STRUCTURAL WORK SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW PRIOR TO COMMENCEMENT OF CONSTRUCTION IN ACCORDANCE WITH THE SPECIFICATIONS. SUCH REVIEW BY THE ENGINEER DOES NOT RELIEVE THE CONTRACTOR OF FULL RESPONSIBILITY FOR CORRECT FABRICATION AND CONSTRUCTION OF THE WORK. ALLOW TEN (10) BUSINESS DAYS FOR REVIEW FROM THE TIME SUBMITTALS ARE RECEIVED IN OUR OFFICE. ANY DEVIATION FROM, ADDITION TO, SUBSTITUTION FOR, OR MODIFICATION TO THE STRUCTURE OR ANY PART OF THE STRUCTURE DETAILED ON THESE DRAWINGS SHALL BE SUBMITTED IN WRITING TO THE ENGINEER FOR REVIEW. SHOP DRAWINGS THAT ARE SUBMITTED FOR REVIEW DO NOT CONSTITUTE "IN-WRITING" UNLESS IT IS CLEARLY NOTED THAT SPECIFIC CHANGES ARE BEING SUGGESTED.
6. THE STRUCTURAL DRAWINGS ARE NOT TO BE SCALED FOR DETERMINATION OF QUANTITIES, LENGTHS, OR FIT OF MATERIALS.
7. THE STRUCTURAL DRAWINGS AND SPECIFICATIONS REPRESENT THE FINISHED STRUCTURE. THEY DO NOT INDICATE THE METHODS OF CONSTRUCTION UNLESS SO STATED OR NOTED. THE CONTRACTOR SHALL PROVIDE ALL MEASURES NECESSARY TO PROTECT THE WORKMEN AND OTHER PERSONS DURING CONSTRUCTION.

SPECIAL INSPECTION

THE FOLLOWING ITEMS REQUIRE SPECIAL INSPECTION:
(REFERENCE ADJACENT TABLES FOR ADDITIONAL INFORMATION.)

1. SOILS AND FOUNDATIONS
2. CAST-IN-PLACE CONCRETE
3. POST INSTALLED CONCRETE ANCHORS

DESIGN LOADS

1. ROOF LIVE LOAD 18 PSF (MIN. ROOF SLOPE 6:12)
2. ROOF DEAD LOAD 20 PSF
3. WIND LOAD BASED ON ASCE 7-16
V_{ULT} = 105 MPH
V_{ASD} = 81 MPH
RISK CATEGORY: II
EXPOSURE CATEGORY C
I_w = 1.0
INTERNAL PRESSURE COEFFICIENT GC_p: ±0.18
COMPONENTS & CLADDING:
MAIN ROOF (HIP ROOF > 20 TO 27 DEGREES)

ULTIMATE	
+12.2 PSF	(ZONE 1, EFF. AREA = 50 FT. ²)
-23.6 PSF	
+12.2 PSF	(ZONE 2e, EFF. AREA = 50 FT. ²)
-33.4 PSF	
+12.2 PSF	(ZONE 2r, EFF. AREA = 50 FT. ²)
-33.4 PSF	
+12.2 PSF	(ZONE 3, EFF. AREA = 50 FT. ²)
-33.4 PSF	
+22.9 PSF	(ZONE 4, EFF. AREA = 20 FT. ²)
-24.9 PSF	
+22.9 PSF	(ZONE 5, EFF. AREA = 20 FT. ²)
-30.0 PSF	

MAIN ROOF (HIP ROOF > 27 TO 45 DEGREES)

ULTIMATE	
+12.0 PSF	(ZONE 1, EFF. AREA = 50 FT. ²)
-25.4 PSF	
+12.0 PSF	(ZONE 2e, EFF. AREA = 50 FT. ²)
-21.1 PSF	
+12.0 PSF	(ZONE 2r, EFF. AREA = 50 FT. ²)
-33.5 PSF	
+12.0 PSF	(ZONE 3, EFF. AREA = 50 FT. ²)
-24.0 PSF	
+22.9 PSF	(ZONE 4, EFF. AREA = 20 FT. ²)
-24.9 PSF	
+22.9 PSF	(ZONE 5, EFF. AREA = 20 FT. ²)
-30.0 PSF	

TOWER ROOF (HIP ROOF > 27 TO 45 DEGREES)

ULTIMATE	
+13.1 PSF	(ZONE 1, EFF. AREA = 50 FT. ²)
-27.7 PSF	
+13.2 PSF	(ZONE 2e, EFF. AREA = 50 FT. ²)
-23.0 PSF	
+13.1 PSF	(ZONE 2r, EFF. AREA = 50 FT. ²)
-36.6 PSF	
+13.1 PSF	(ZONE 3, EFF. AREA = 50 FT. ²)
-26.1 PSF	
+24.9 PSF	(ZONE 4, EFF. AREA = 20 FT. ²)
-27.2 PSF	
+24.9 PSF	(ZONE 5, EFF. AREA = 20 FT. ²)
-32.7 PSF	

4. SEISMIC LOADS
I_e = 1.0
S_s = 0.234g
S_i = 0.093g

SITE CLASS D (PER GEOTECHNICAL REPORT)
S_{0.5} = 0.249g
S_{0.1} = 0.148g

DESIGN CATEGORY: C

BASIC SEISMIC-FORCE-RESISTING SYSTEM: LIGHT FRAME WALLS WITH SHEAR PANELS-
WOOD STRUCTURAL PANELS.

DESIGN BASE SHEAR V = 0.42W

R = 6.5

ANALYSIS PROCEDURE: SIMPLIFIED ANALYSIS

SNOW LOADS

GROUND SNOW P_g = 5 PSF

FLAT ROOF SNOW P_f = 5 PSF

C_e = 1.0

C_i = 1.0

6. SEE ROOF PLAN FOR ADDITIONAL MECHANICAL LOADS.

FOUNDATION DESIGN AND SITEWORK FOR BUILDING

1. FOUNDATION DESIGN IS BASED ON RECOMMENDATIONS CONTAINED IN A GEOTECHNICAL INVESTIGATION REPORT BY: TRC ENVIRONMENTAL CORPORATION, INC.; DATED: NOVEMBER 8, 2021; REPORT NO.: 465636.
2. FOUNDATION DESIGN IS BASED ON A NET ALLOWABLE BEARING PRESSURE OF 1,500 PSF FOUNDED AT LEAST EIGHTEEN (18) INCHES BELOW ADJACENT EXTERIOR GRADE INTO SUITABLE NEWLY PLACED SELECT FILL. CONTINUOUS STRIP FOOTINGS AND COLUMN FOOTING WIDTHS SHALL BE SIXTEEN (16) INCHES MINIMUM.
3. THE CONTRACTOR SHALL READ THE SOILS REPORT REFERENCED ABOVE AND THOROUGHLY FAMILIARIZE HIMSELF WITH ALL SITE AND SUBGRADE PREPARATION RECOMMENDATIONS CONTAINED THEREIN. INFORMATION CONTAINED IN THE "FOUNDATION DESIGN AND SITEWORK FOR BUILDING" SECTION OF THE STRUCTURAL NOTES REPRESENTS A GENERAL OVERVIEW OF SITE WORK TO BE PERFORMED, AND SHALL NOT BE USED AS A SUBSTITUTE FOR THE SOILS REPORT REFERENCED ABOVE.
4. REMOVE ALL VEGETATION AND DEBRIS, INCLUDING PAVEMENTS, SIDEWALKS, BUILDING FOUNDATIONS, AND ABANDONED UTILITIES.
5. SUBGRADES WITHIN THE PROPOSED BUILDING AREA SHOULD BE PROOFROLLED, IN THE PRESENCE OF THE GEOTECHNICAL ENGINEER, WITH APPROPRIATE RUBBER-TIRE MOUNTED HEAVY CONSTRUCTION EQUIPMENT OR A LOADED DUMP TRUCK TO DETECT LOOSE YIELDING SOILS WHICH MUST BE REMOVED TO A STABLE SUBGRADE.
6. THE APPROVED SUBGRADE SHOULD BE SCARIFIED TO A DEPTH OF 12 INCHES, MOISTURE CONDITIONED TO -2 TO +3 PERCENT OF OPTIMUM MOISTURE CONTENT AND PROPERLY RECOMPACTED.
7. DURING WET WEATHER, SUBGRADE STABILITY PROBLEMS SHOULD BE EXPECTED. IN THE EVENT THE SUBGRADE IS SUBJECT TO SIGNIFICANT INCREASES IN MOISTURE AND SUBGRADE STABILITY PROBLEMS DEVELOP, OVEREXCAVATION ON THE ORDER OF 8 TO 10 INCHES SHOULD BE EXPECTED TO ACHIEVE A STABLE SUBGRADE.
8. PROVIDE POSITIVE DRAINAGE AWAY FROM EXCAVATIONS SO AS NOT TO ALLOW STANDING WATER FOR LONG PERIODS OF TIME.
9. TO ACHIEVE A PVR OF 1 INCH OR LESS AND TO PROVIDE ALLOWABLE BEARING PRESSURES AS INDICATED, THE SITE SHALL BE EXCAVATED TO PROVIDE A MINIMUM OF 2 FEET OF SELECT FILL BELOW EXISTING GRADE OR 2 FEET BELOW BOTTOM OF DEEPEST GRADE BEAM, WHICHEVER IS DEEPER. SELECT FILL SHALL EXTEND A MINIMUM OF 3 FEET BEYOND THE BUILDING FOOTPRINT. IN AREA OF LUBE PITS, SELECT FILL SHALL BE PLACED TO A MINIMUM DEPTH OF 6 INCHES BELOW BOTTOM OF DEEPEST GRADE BEAM. PLACE SELECT FILL IN ACCORDANCE WITH THE GEOTECHNICAL REPORT.
10. PROVIDE A 4 INCH THICK LAYER OF COMPACTED COARSE GRANULAR MATERIAL WITH A VAPOR BARRIER CONSISTING OF 15 MIL POLYETHYLENE SHEETING PLACED DIRECTLY ABOVE THE BASE COURSE.
11. DO NOT PUNCTURE THE VAPOR BARRIER, LAP AND TAPE ENDS.
12. PERFORM ALL SITEWORK UNDER THE DIRECT SUPERVISION OF THE GEOTECHNICAL ENGINEER.
13. REFERENCE THE SOILS REPORT FOR ANY QUESTIONS CONCERNING SUBGRADE PREPARATION, SITE CONDITIONS OR FOUNDATION PLACEMENT.

CONCRETE

1. ALL CONCRETE SHALL BE NORMAL WEIGHT, WITH A MINIMUM COMPRESSIVE STRENGTH OF 3,000 PSI AT 28 DAYS, (U.N.O.).
2. CEMENT SHALL CONFORM TO ASTM C150, AND SHALL BE TYPE I OR TYPE II MATERIAL, U.N.O. MAXIMUM WATER TO CEMENT RATIO SHALL BE 0.55.
3. MINIMUM CEMENT CONTENT SHALL BE 5 SACKS PER CUBIC YARD.
4. TYPE C OR F FLY ASH MAY BE USED UP TO 20% OF TOTAL CEMENT CONTENT BY VOLUME. THIS IS ONLY FOR CONCRETE SPECIFIED IN THESE STRUCTURAL DRAWINGS. REFER TO SPECIFICATIONS BY OTHER DISCIPLINES.
5. MAXIMUM SLUMP SHALL BE 5 IN., U.N.O.
6. MATERIALS AND WORKMANSHIP SHALL CONFORM TO THE AMERICAN CONCRETE INSTITUTE'S "SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BUILDINGS", ACI 301.
7. CONCRETE MIX SHALL NOT USE ANY ADMIXTURES WHICH CONTAIN CALCIUM CHLORIDE.
8. CONCRETE TEST REPORTS SHALL BE MADE AVAILABLE AT THE JOB SITE. CONTRACTOR SHALL SUBMIT CONCRETE MIX DESIGN PER SPECIFICATIONS PRIOR TO PLACEMENT CONCRETE.

REINFORCING STEEL

1. BARS SHALL BE ASTM A615, GRADE 60.
2. DETAIL, FABRICATE, AND PLACE IN CONFORMANCE WITH ACI 315 AND 318.
3. LAP ALL REINFORCING STEEL 40 BAR DIAMETERS (U.N.O.).
4. LAP CONTINUOUS BARS IN GRADE BEAMS 40 BAR DIAMETERS (U.N.O. ON DRAWINGS). TOP BARS TO BE SPLICED BETWEEN SUPPORTS AND BOTTOM BARS TO BE SPLICED AT SUPPORTS, AS APPLICABLE.
5. PROVIDE ACCESSORIES FOR SUPPORT OF ALL REINFORCING.
6. SUBMIT SHOP DRAWINGS SHOWING ALL REINFORCING FOR APPROVAL BY THE STRUCTURAL ENGINEER OF RECORD.
7. THE FOLLOWING MINIMUM CONCRETE COVER SHALL BE PROVIDED FOR REINFORCEMENT:

	MINIMUM COVER, IN.
A. CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH	3
B. CONCRETE EXPOSED TO EARTH OR WEATHER:	
#6 THROUGH #18 BAR	2
#5 BAR, W31 OR D31 WIRE, AND SMALLER	1½
C. CONCRETE NOT EXPOSED TO WEATHER OR IN CONTACT WITH GROUND:	
SLABS, WALLS, JOISTS:	
#14 AND #18 BARS	1½
#11 BAR AND SMALLER	¾
BEAMS, COLUMNS:	
PRIMARY REINFORCEMENT, TIES, STIRRUPS, SPIRALS	1½

POST-INSTALLED ANCHORS

1. EXCEPT WHERE INDICATED ON THE DRAWINGS, THE FOLLOWING HILTI OR SIMPSON PRODUCTS MAY BE USED. CONTACT HILTI AT (800) 879-8000 OR SIMPSON AT WWW.STRONGTIE.COM FOR PRODUCT RELATED QUESTIONS.
- A. ANCHORAGE TO CONCRETE
- a. ADHESIVE ANCHORS FOR CRACKED AND UNCRACKED CONCRETE USE:
- (1) HILTI HIT-HY 200 SAFE SET SYSTEM WITH HILTI HIT-Z ROD OR HAS -E THREADED ROD PER ICC-ES ESR-3187.
- (2) SIMPSON SET-3G SYSTEM WITH F1554 THREADED ROD PER ICC-ES ESR-4057
- b. MEDIUM DUTY MECHANICAL ANCHORS FOR CRACKED AND UNCRACKED CONCRETE USE:
- (1) HILTI KWIK HUS EZ AND KWIK HUS EZ-I SCREW ANCHORS PER ICC-ES ESR-3027
- (2) SIMPSON TITEN HD SCREW ANCHORS PER ICC-ES ESR-2713
- (3) SIMPSON TITEN HD STAINLESS STEEL SCREW ANCHOR PER IAMPO UES ER-493
- B. REBAR DOWELING INTO CONCRETE
- a. ADHESIVE ANCHORS FOR CRACKED AND UNCRACKED CONCRETE USE:
- (1) HILTI HIT-HY 200 SAFE SET SYSTEM WITH HILTI HOLLOW DRILL BIT SYSTEM WITH CONTINUOUSLY DEFORMED REBAR PER ICC ESR-3187.
- (2) SIMPSON SET-3G SYSTEM WITH CONTINUOUSLY DEFORMED REBAR PER ICC-ES ESR-4057.
2. ANCHOR CAPACITY USED IN DESIGN SHALL BE BASED ON THE TECHNICAL DATA PUBLISHED OR SUCH OTHER METHOD AS APPROVED BY THE STRUCTURAL ENGINEER OF RECORD. SUBSTITUTION REQUESTS FOR ALTERNATE PRODUCTS MUST BE APPROVED IN WRITING BY THE STRUCTURAL ENGINEER OF RECORD PRIOR TO USE. CONTRACTOR SHALL PROVIDE CALCULATIONS DEMONSTRATING THAT THE SUBSTITUTED PRODUCT IS CAPABLE OF ACHIEVING THE PERFORMANCE VALUES OF THE SPECIFIED PRODUCT. SUBSTITUTIONS WILL BE EVALUATED BY THEIR HAVING AN ICC ESR SHOWING COMPLIANCE WITH THE RELEVANT BUILDING CODE FOR SEISMIC USES, LOAD RESISTANCE, INSTALLATION CATEGORY, AND AVAILABILITY OF COMPREHENSIVE INSTALLATION INSTRUCTIONS. ADHESIVE ANCHOR EVALUATION WILL ALSO CONSIDER CREEP, IN-SERVICE TEMPERATURE AND INSTALLATION TEMPERATURE.
3. INSTALL ANCHORS PER THE MANUFACTURER INSTRUCTIONS, AS INCLUDED IN THE ANCHOR PACKAGING.
4. CONTRACTOR SHALL USE THE NECESSARY MEANS, AS REQUIRED BY OSHA, TO PROTECT FROM DUST DURING DRILLING OPERATIONS.
5. INSTALL ACCORDING TO MANUFACTURER'S SPECIFICATIONS. THREADED ROD AND REBAR DIAMETERS AND EMBEDMENT LENGTHS SHALL BE AS NOTED ON DRAWINGS.
6. OVERHEAD ADHESIVE ANCHORS MUST BE INSTALLED USING PRODUCTS WHICH HAVE SPECIFIC APPLICATIONS THAT ARE INTENDED FOR OVERHEAD USE.
7. THE CONTRACTOR SHALL ARRANGE AN ANCHOR MANUFACTURER'S REPRESENTATIVE TO PROVIDE ONSITE INSTALLATION TRAINING FOR ALL OF THEIR ANCHORING PRODUCTS SPECIFIED. THE STRUCTURAL ENGINEER OF RECORD MUST RECEIVE DOCUMENTED CONFIRMATION THAT ALL OF THE CONTRACTOR'S PERSONNEL WHO INSTALL ANCHORS ARE TRAINED PRIOR TO THE COMMENCEMENT OF INSTALLING ANCHORS.
8. ANCHOR CAPACITY IS DEPENDANT UPON SPACING BETWEEN ADJACENT ANCHORS AND PROXIMITY OF ANCHORS TO EDGE OF CONCRETE. INSTALL ANCHORS IN ACCORDANCE WITH SPACING AND EDGE CLEARANCES INDICATED ON THE DRAWINGS.
9. EXISTING REINFORCING BARS IN THE CONCRETE STRUCTURE MAY CONFLICT WITH SPECIFIC ANCHOR LOCATIONS. UNLESS NOTED ON THE DRAWINGS THAT THE BARS CAN BE CUT, THE CONTRACTOR SHALL REVIEW THE EXISTING STRUCTURAL DRAWINGS AND SHALL UNDERSTAND THE LOCATION OF THE REINFORCING BARS AT THE LOCATIONS OF THE CONCRETE ANCHORS, BY FERROSCAN, GPR, X-RAY, CHIPPING OR OTHER MEANS.

STRUCTURAL WOOD

1. WOOD FRAMING SHALL COMPLY WITH THE SOUTHERN PINE INSPECTION BUREAU, OR SHALL CONFORM TO SPECIFICATIONS AS PUBLISHED BY THE WESTERN WOODS PRODUCTS ASSOCIATION.
2. WOOD FRAMING 2 INCHES X 4 INCHES AND LARGER SHALL BE NO. 2 SOUTHERN PINE, NO. 2 DOUGLAS FIR LARCH, OR EQUIVALENT (U.N.O.).
3. WOOD COLUMNS 6 INCHES X 6 INCHES AND LARGER SHALL BE NO. 1 SOUTHERN PINE, NO. 1 DOUGLAS FIR LARCH, OR EQUIVALENT.
4. ALL EXPOSED WOOD FRAMING, UNLESS NOTED OTHERWISE, SHALL BE "SELECT" GRADE LUMBER.
5. ALL PLATES IN CONTACT WITH CONCRETE OR MASONRY SHALL BE PRESSURE TREATED (USE CATEGORY 2 AS SPECIFIED BY AWP) FOR MOISTURE PROTECTION. ALL WOOD EXPOSED TO WEATHER SHALL BE PRESSURE TREATED (USE CATEGORY 3B AS SPECIFIED BY AWP) OR WESTERN RED CEDAR.
6. GLUED-LAMINATED MEMBERS SHALL BE INDUSTRIAL APPEARANCE, E1.8, WITH GRADES AND SPECIES AS FOLLOWS: U.N.O. MEMBER SIZES BASED ON CURRENT NDS WESTERN SPECIES.
- SIMPLY SUPPORTED SPAN MEMBERS
- SPECIES GRADE
DOUGLAS FIR 24F-V4
SOUTHERN PINE 24F-V3
- MULTI SPAN MEMBERS
- SPECIES GRADE
DOUGLAS FIR 24F-V8
SOUTHERN PINE 24F-V8
7. METAL-PLATE-CONNECTED WOOD TRUSSES
- A. TRUSS FABRICATION AND INSTALLATION SHALL COMELY WITH THE FOLLOWING STANDARDS:
- a. ANSI / TPI 1- 2014- NATIONAL DESIGN STANDARD FOR METAL PLATE CONNECTED WOOD TRUSS CONSTRUCTION
- b. BCSI-B1: GUIDE FOR HANDLING, INSTALLING, RESTRAINING & BRACING OF TRUSSES
- c. BCSI-B2: TRUSS INSTALLATION & TEMPORARY RESTRAINT/ BRACING
- d. BCSI-B3: PERMANT RESTRAINT/BRACING OF CHORDS & WEB MEMBERS
- B. TRUSSES SHALL BE DESIGNED FOR THE FOLLOWING LOADS
- a. TOP CHORD: DEAD LOAD = 15 PSF
LIVE LOAD = 18 PSF (MIN.)
- b. BOTTOM CHORD: DEAD LOAD = 5 PSF
LIVE LOAD = 0 PSF (MIN.)
NON-CONCURRENT LIVE LOAD = 10 PSF
- c. ADDITIONAL MECHANICAL LOADS SHALL BE APPLIED TO THEIR RESPECTIVE CHORD MEMBER AS NOTED ON THE FLOOR/ROOF PLAN
- d. LIVE LOADS LISTED IN a. AND b. ARE MINIMUM ROOF LIVE LOADS. TRUSSES SHALL ALSO BE DESIGN TO CONSIDER FLAT ROOF SNOW LOADS, SNOW DRIFT LOADS, AND UNBALANCED ROOF SNOW LOADS PER ASCE-7 (WHERE APPLICABLE).
- e. REQUIRED UPLIFT FOR COMPONENTS AND CLADDING LOADS AS INDICATED IN THE DESIGN LOADS SECTION OF THESE STRUCTURAL NOTES
- f. ALLOWABLE VERTICAL DEFLECTION LIMITS: DEAD + LIVE: L/180
LIVE: L/240
- g. TRUSS CAMBER: TO BE PROVIDED BY THE TRUSS DESIGNER AS REQUIRED TO MEET SERVICEABILITY LIMITS UNLESS SPECIFICALLY NOTED BY THE BUILDING DESIGNER.
- C. ALL TRUSS-TO-TRUSS CONNECTORS SHALL BE SPECIFIED BY THE TRUSS DESIGNER. TRUSS-TO-STRUCTURAL ELEMENT CONNECTIONS SHALL BE SPECIFIED BY THE BUILDING DESIGNER, UNLESS SPECIFICALLY NOTED.
- D. PERMANENT MEMBER RESTRAINT/ BRACING OF TRUSS SYSTEM SHALL BE SPECIFIED BY THE TRUSS DESIGNER. TRUSS DESIGNER IS PERMITTED TO SUBSTITUTE PERMANENT INDIVIDUAL TRUSS MEMBER RESTRAINT WITH REINFORCEMENT DESIGNED TO PREVENT BUCKLING. IF SPECIFIC TRUSS MEMBER PERMANENT RESTRAINT DESIGN IS NOT PROVIDED, THE METHOD OF PERMANENT INDIVIDUAL TRUSS MEMBER RESTRAINT AND DIAGONAL BRACING FOR THE TRUSS TOP CHORD, BOTTOM CHORD, AND WEB MEMBERS SHALL BE IN ACCORDANCE WITH BCSI-B3 OR BCSI-B7
- E. A "TRUSS SUBMITTAL PACKAGE" AS DEFINED BY ANSI/ TPI-1, SHALL BE SUBMITTED TO THE BUILDING DESIGNER FOR REVIEW FOR COMPATIBILITY WITH THE BUILDING DESIGN. THE TRUSS SUBMITTAL PACKAGE SHALL INCLUDE: INDIVIDUAL TRUSS DESIGN DRAWINGS, THE TRUSS PLACEMENT DIAGRAM (INCLUDING TRUSS BRIDGING LAYOUT), THE COVER/TRUSS INDEX SHEET, LATERAL RESTRAINT AND DIAGONAL BRACING DETAILS DESIGNED IN ACCORDANCE WITH GENERALLY ACCEPTED ENGINEERING PRACTICE, APPLICABLE BCSI-DEFINED LATERAL RESTRAINT AND DIAGONAL BRACING DETAILS AND ANY OTHER STRUCTURAL DETAILS GERMANE TO THE TRUSSES. EACH INDIVIDUAL TRUSS DESIGN DRAWING, OR COVER/TRUSS IN SHEET IF USED, SHALL BEAR THE SEAL AND SIGNATURE OF THE TRUSS DESIGNER REGISTERED IN THE PROJECT STATE.
- F. THE CONTRACTOR SHALL FAMILIARIZE THEMSELVES WITH THE "REQUIREMENTS OF THE CONTRACTOR" AS DEFINED BY ANSI/TPI 1.
8. ROOF DECK
- A. ALL ROOF DECK SHALL BE APA RATED STRUCTURAL I GRADE PLYWOOD OR OSB (ORIENTED STRAND BOARD). STRUCTURAL I GRADES MAY HAVE EITHER AN EXTERIOR OR EXPOSURE I DESIGNATION (U.N.O.).
- B. ROOF SHEATHING SHALL BE ¾ INCH THICK MINIMUM (48/24) U.N.O.
- C. STAGGER ENDS OF SHEETS
- D. PROVIDE BLOCKING AT EDGES OF ALL ROOF SHEETS. PLYWOOD CLIPS MAY BE USED AT ROOF INSTEAD OF BLOCKING, UNLESS BLOCKING REQUIRED FOR NAILING.
- E. NAIL EDGES OF ROOF SHEETS AT 6 IN. O.C. MAXIMUM (U.N.O.).
- F. NAIL FACES OF ROOF SHEETS AT 12 IN. O.C. MAXIMUM.
- G. USE MINIMUM 10d COMMON NAILS (U.N.O.).
9. WALL SHEATHING
- A. ALL WALL SHEATHING SHALL BE APA RATED STRUCTURAL I GRADE PLYWOOD OR OSB (ORIENTED STRAND BOARD). STRUCTURAL I GRADES MAY HAVE EITHER AN EXTERIOR OR EXPOSURE I DESIGNATION (U.N.O.).
- B. WALL SHEATHING SHALL BE ½ INCH THICK MINIMUM (32/16) U.N.O.
- C. STAGGER ENDS OF SHEETS
- D. PROVIDE BLOCKING AT EDGES OF ALL SHEARWALL SHEETS.
- E. NAIL EDGES OF SHEARWALL SHEETS PER SCHEDULE ON PLAN (OTHER WALLS AT 6 IN. O.C. MAXIMUM).
- F. NAIL FACES OF WALL SHEETS AT 12 IN. O.C. MAXIMUM.
- G. USE MINIMUM 10d COMMON NAILS (U.N.O.).
10. CONNECTORS SHALL BE AS MANUFACTURED BY THE SIMPSON CO. OR APPROVED EQUAL. CONNECTORS USED WITH PRESSURE TREATED LUMBER OR IN UNCONDITIONED SPACE, SHALL HAVE THE ZMAX (6185) COATING. ALL NAILS USED FOR CONNECTORS SHALL MATCH THOSE SPECIFIED BY THE SUPPLIER'S PRODUCT CATALOG.
11. NAILING, UNLESS NOTED OTHERWISE, SHALL BE PER THE 2018 INTERNATIONAL BUILDING CODE.
12. ALL REFERENCES TO NAILS ON THE STRUCTURAL DRAWINGS ARE BASED ON COMMON WIRE NAILS (U.N.O.) WITH THE FOLLOWING DIMENSIONS, TYPICAL, U.N.O.
- 8d COMMON: 0.131" DIA. X 2½" LONG
10d COMMON: 0.148" DIA. X 3" LONG
16d COMMON: 0.162" DIA. X 3¾" LONG
- POWER AUTOMATED NAIL GUNS SHALL USE NAILS TO MATCH THE ABOVE NAILS AS SPECIFIED.

Statement of Special Inspections

This Statement of Special Inspections / Quality Assurance Plan includes the following building systems:

- ☒ Soils and Foundations
☒ Cast-in-Place Concrete
☐ Masonry

- ☐ Structural Steel
☐ Wood Construction
☒ Special Cases

General Notes

The inspectors and testing agencies shall be engaged by the Owner or the Owner's Agent, and not by the Contractor or Subcontractor whose work is to be inspected or tested. Any conflict of interest must be disclosed to the Building Official, prior to commencing work.

The qualifications of all personnel performing Special Inspections and testing activities are subject to the approval of the Building Official and E.O.R. The credentials of all inspectors and testing technicians shall be provided if requested.

The special inspectors shall keep records of inspections and shall furnish inspection reports to the owner, Engineer of Record (E.O.R.) and Architect of Record (A.O.R.). Field and testing result reports shall be submitted to all designated parties as they are completed. The reports shall indicate that the work performed was done in accordance to the construction drawings. Discrepancies shall be brought to the attention of the general contractor for correction. If the discrepancies are not corrected, the discrepancies shall be brought to the attention of the E.O.R. prior to completion of that phase of work. A final report that documents required special inspections and corrections of discrepancies shall be submitted by the General Contractor to the Owner, E.O.R. and A.O.R.

Soils and Foundations

Item	Scope	Monitoring: Periodic (P) Continuous (C)
1. Shallow Foundations	Inspect soils below footings for adequate bearing capacity and consistency with geotechnical report. Inspect removal of unsuitable material and preparation of subgrade prior to placement of controlled fill.	P C
2. Controlled Structural Fill	Perform sieve tests (ASTM D422 & D1140) and modified Proctor tests (ASTM D1557) of each source of fill material. Inspect placement, lift thickness and compaction of controlled fill. Test density of each lift of fill by nuclear methods (ASTM D2922) Verify extent and slope of fill placement.	C

Note:

1. Special Inspection is not required during placement of controlled fill having a total depth of 12 inches or less.

Cast-in-Place Concrete

Item	Scope	Monitoring: Periodic (P) Continuous (C)
1. Mix Design	Review concrete batch tickets and verify compliance with approved mix design. Verify that water added at the site does not exceed that allowed by the mix design. Submit proposed mix design of each class of concrete to Structural Engineer of Record and to inspection and testing firm for review prior to commencement of work.	P
2. Material Certification	Review for conformance to contract documents. Submit to Structural Engineer of Record for review.	P
3. Reinforcement Installation	Inspect size, spacing, cover, positioning and grade of reinforcing steel. Verify that reinforcing bars are free of form oil or other deleterious materials. Inspect bar laps and mechanical splices. Verify that bars are adequately tied and supported on chairs or bolsters. Submit certified copies of mill test report of reinforcement materials analysis.	P
4. Anchor Rods	Inspect size, positioning and embedment of anchor rods. Inspect concrete placement and consolidation around anchors.	C
5. Concrete Placement	Inspect placement of concrete. Verify that concrete conveyance and depositing avoids segregation or contamination. Verify that concrete is properly consolidated.	C
6. Sampling and Testing of Concrete	Test concrete compressive strength (ASTM C31 & C39), slump (ASTM C143), air-content (ASTM C231 or C173) and temperature (ASTM C1064). Three concrete test cylinders will be taken for every 75 or less cubic yards of each class of concrete placed, or concrete placed on any given day. One additional test cylinder will be taken during cold weather concreting, cured on job site under same conditions as concrete represents.	C
7. Curing and Protection	Inspect curing, cold weather protection and hot weather protection procedures.	P

Note: Special Inspection is not required for flatwork patios, driveways and sidewalks, on grade not shown on structural drawings.

Special Cases

Item	Scope	Monitoring: Periodic (P) Continuous (C)
Epoxy Anchors in Concrete or CMU	Review anchors and product being used for conformance to contract and the manufacturer's instructions. Obtain and review manufacturer specifications. Perform pull test to 125% of allowable design load per manufacturer specifications. (Minimum of 10% of total anchors, to include a minimum of one of each type, size or embedment.)	C

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Revisions:

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SHEET

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NOTES AND SPECIAL INSPECTIONS

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