## Structural Specifications

Any discrepancies found among the drawings, specifications and notes shall be reported to the Architect/Engineer for clarification. The General Contractor shall verify and coordinate dimensions among all drawings prior to proceeding with any work or fabrication. The General Contractor is responsible to provide all bracing and shoring as required to support all loads that may be imposed on the structure for as long as required for safety and until all structural elements are complete. Contractor to submit a request to Architect/Engineer for any substitution of materials or products specified in the contract drawings or specifications. Contractor to provide shop drawings to the Architect/Engineer for review prior to fabrication and/or erection of the following items: Reinforcing Steel, Structural Steel, Miscellaneous Metals, Manufactured Wood Joists and Trusses, Manufactured Steel Joists, Trusses, Steel Roof and Floor Decking. Holes, notching or other penetrations through structural members shall not be permitted without

5

J

prior Architect/Engineer approval. General Contractor shall be responsible for safety and protection within and adjacent to the job site. Periodic observation visits by representatives of Ruscitto/Latham/Blanton Architectura P.A.

shall not be construed as construction supervision, inspection and/or construction approval. The following applies unless otherwise noted in the drawings.

BUILDING CODE Design, construction, and inspection shall conform to the International Building Code, (IBC), 2018 Edition and Local Codes that may be applicable.

MATERIAL TEST STANDARDS Material test standards referenced shall be the edition referenced in the 2018 IBC. RISK CATEGORY OF BUILDING: II

 $rac{ extsf{DESIGN LOADS}}{ extsf{At all times}}$  , the General Contractor and Owner shall keep the loads on the structure within the limits of the design load criteria. DESIGN ROOF LOADS

Live Load (Snow)	65 PSF (Yurt)
Dead Load	10 PSF (Yurt)
Wood Load Duration Factor	1.15 (Cd)
Importance Factor Snow	1.0 (Is)
Drift and Un-Balanced Loads p	er ASCE/SEI 7-16
Ground Snow Load	112 PSF (Pg)
Exposure Factor	1.0 (Ce)
Temperature Factor	1.2 (Ct)
DESIGN FLOOR LOADS	
Snow Load	112 PSF (Pg)
Live Load	40 PSF
Dead Load	6.5 PSF
WIND LOAD DATA	
Wind Speed (3 sec. gust)	103 MPH (V ultimat
Importance Factor	1 (Iw)
Risk Category	II
Exposure Category	В
Internal Pressure Coefficient	+/18

FOUNDATION/SOILS Design soil bearing pressure = 1500 psf (assumed). All foundations shall bear on firm, undisturbed, drained, granular soil free of organic material. If soil is disturbed, compact soil in maximum 6" deep lifts to 95% maximum dry

density per ASTM D698.

Contractor to notify Architect/Engineer if soil conditions are contrary to the assumed design conditions which may require a lower assumed soil bearing pressure such as clays, silts or organics. Exterior footings shall bear a minimum of 3'-0" below finished grade unless otherwise noted in the drawings.

Structural concrete, including, but not limited to, footings, foundations, walls, columns, beams, on-grade and suspended slabs, shall be of normal weight concrete (145pcf) with a maximum aggregate size of 3/4" conforming to ASTM C33, and shall meet the following criteria:

aggregate size of 3/4 conforming to ASIM CSS, and Shaff meet the following criteria.					
LOCATION	MINIMUM 28day COMPRESSIVE STRENGTH, psi	MAXIMUM WATER-CEMENT RATIO (b)	MAXIMUM SLUMP, inches (a)	AIR-ENTRAINMENT PERCENT ± 1.5%	CEMENT TYPE
CONCRETE FOOTINGS AND PIERS	3000	.50	4	6	II

a) Maximum slump based on maximum water-cementitious ratio. Mid and high range water reducing agents can be used to increase slump beyond these maximums with Approval of Engineer. b) Water shall not be added at the job site such that the water-cementitious ratio is exceeded. General Contractor to submit concrete mix design to Architect/Engineer for review before

CONCRETE BATCHING, MIXING, TRANSPORTATION, PLACEMENT, CONSOLIDATION, HOT & COLD WEATHER PROTECTION Concrete batching, mixing, and transportation shall conform to ACI 304R. Cement to conform to ASTM C150. Aggregates to conform to ASTM C33.

Water shall conform to ASTM C1602. Placing of concrete shall conform to ACI 304R and ACI 318-26.5.2. Pumping of concrete shall conform to ACI 304.2R.

No more than 90 minutes shall elapse between batching and placement of concrete. Form work shall conform to ACI 347R and ACI 318-26.11.

Reinforcing steel and Embedded items shall be clean and free of foreign debris and be tied securely in place and care taken not to displace during concrete placement. Conduits and Pipes shall not be embedded in concrete without Engineers written approval. Consolidation of concrete shall conform to ACI 309R. The unconfined fall of concrete shall not exceed 5'-0". Hot weather concreting shall conform to ACI 305R.

Cold weather concreting shall conform to ACI 306R. Concrete shall not be placed on disturbed soil, frozen soil, or placed in water. Forms shall not be stripped from walls and footings until concrete strength reaches a minimum of 1000psi. Forms supporting suspended slabs shall not be stripped until full 28day specified compressive strength is achieved.

REINFORCING STEEL Reinforcing steel shall conform to ASTM A615, grade 60. Where construction documents specify Concrete Shear Wall, Concrete Seismic Frame, or Reinforced Seismic Boundary Element, reinforcement shall comply with ASTM A706 Grade 60 or ASTM A615 Grade 60 meeting the requirements of ACI 318-18.2.6. Mill certifications showing compliance with ACI 318-18.2.6 shall be submitted to Engineer for verification and approval. Reinforcing steel to be detailed, fabricated, and placed in accordance with ACI 315 and ACI

concrete placement.

**REINFORCMENT CONCRETE COVER REQUIREMENTS** Reinforcement concrete cover requirements, unless otherwise noted in drawings, as follows: (1) Cast against earth 3" (2) Cast against form,

- Exposed to earth or weather 2" (3) Walls, slabs, joists
- Not exposed to earth or weather 3/4" (4) Beams, columns
- Not exposed to earth or weather 1-1/2"

 $\frac{\text{SAWN STRUCTURAL LUMBER}}{\text{Structural lumber shall conform to the latest edition of the West Coast Lumber Inspection}$ Bureau (WCLIB) or Western Wood Products Association (WWPA) grading rules for the specified sizes and grades listed below. Douglas Fir-Larch No.1 OR BTR P.T. (1) 2X, 3X, 4X

(2) 6X AND LARGER Douglas Fir-Larch No.1 OR BTR P.T.

Wood Members in contact with concrete or masonry walls below grade or supported by concrete or masonry foundations that are less than 8" from exposed earth shall be naturally durable wood or preservative-treated per AWPA U1. See IBC section 2304.11 for additional decay and termite protection requirements.

PLYWOOD SHEATHING All plywood sheathing shall be APA rated exposure 1 plywood with thickness, veneer grades and span ratings as noted herein or in drawings.

Plywood at floors shall be laid with face grain perpendicular to supports and end joints staggered at 4'-0" o.c.. Provide 1/8" space at all panel edges.

Panels shall be not less than 4'x8' except at boundaries and changes in framing where minimum panel dimension shall be 24" unless all edges of the undersized panels are supported by framing members or blocking. Glue floor sheathing and nail with 10d common at 6"o.c. boundary edges, 6"o.c. interior panel edges, 12"o.c. intermediate unless otherwise noted.

## Floor Sheathing: 23/32" CDX T&G minimum (48/24) span rating.

NAILS, BOLTS, LAGS AND PREFABRICATED CONNECTIONS FOR WOOD Unless otherwise noted in drawings or hardware supplier specification, all nails shall be common or galvanized box. Substitution of staples for nails only with Architect/Engineer prior approval.

Wood bolts and lags shall conform to ASTM A307 grade unless otherwise noted. Provide mild steel plate washers at all bolt heads and nuts bearing against wood. Metal connectors specified in drawings shall be manufactured by the Simpson Strong Tie Company and installed per their specifications. Other manufacturers may be considered where load capacity and dimensions are equal or better. All substitutions must be submitted to the Architect/Engineer for review.

Provide the maximum nailing pattern for all metal connectors. Nail or screw substitutions, other than manufacturers specified, must have Architect/Engineer

prior approval. Anchoring adhesive shall be two component 100% solids epoxy based system supplied in manufacturer's standard side-by-side cartridge and dispensed through a static mixing nozzle supplied by the manufacturer. Epoxy shall meet the minimum requirements of ASTM C-881 specification for type I,II,IV and V grade 3, class B and C and must develop a minimum 13,390 psi compressive yield strength after 7 day cure. Epoxy must have a heat deflection temperature of a minimum 168°F (76°C). Approved epoxy Simpson ET, SET, and Hilti RE500







