

GENERAL NOTES

- This project is designed in accordance with the International Residential Code (IRC) 2015 Edition.
- Dead Loads:
 - Floors 15 psf
 - Decks 60 psf
 - Roof 20 psf
- Live Loads:
 - Floors 40 psf
 - Decks 40 psf
 - Roof (snow) 30 psf
 - Wind 115 mph, Exposure 'C'
- Foundation:
 - The foundation has been designed by Jesik Consulting.
 - The structure shall be founded on spread footings placed on undisturbed, natural soil with a maximum bearing pressure of 2,000 psf.
 - Refer to soil report 22-9178 prepared Jesik Consulting for additional information.
 - Minimum frost depth of footings shall be 30" (top of finished grade to bottom of footing). Field verify all top of footing elevations.
- Concrete:
 - Concrete has been designed and shall be constructed in accordance with the American Concrete Institute "Building Code Requirements for Structural Concrete" (ACI 318). All concrete shall be of stone aggregate, unless noted otherwise.
Minimum 28 day compressive strength shall be:
 - Slab, grade-beam and footing concrete shall be made with cement that meets ASTM C150 Type II or ASTM C595 Type II, 20% fly ash (ASTM C618 Class F), maximum water-cement ratio of 0.50 and a minimum 28 day compressive strength of 4,000 psi. Fly ash content can be reduced to 15% for placement in cold weather provided water-cement ratio of 0.50 is maintained.
 - All other concrete 3000 psi
 - Reinforcing shall be new billet steel ASTM A615, grade 60, except bars to be welded shall be ASTM A706, grade 60. Provide corner bars to match all horizontal reinforcing. Provide (2) #5 around all openings in concrete and extend bars 24" past edges of openings.
 - Lap Splices shall be Class B. Use the following lap lengths, U.N.O.:
 - No. 6 bars and smaller:
 - 57 bar diameters for 3,000 psi concrete.
 - 50 bar diameters for 4,000 psi concrete.
 - Reinforcing placement: Provide chairs, standees, additional reinforcement, and accessories necessary to support reinforcement at position shown. Support of reinforcement on form ties, brick, or other unacceptable material will not be allowed.
 - Minimum concrete cover:
 - Concrete cast against and permanently exposed to earth 3 inches
 - Concrete exposed to earth or weather:
 - # 5 bar and larger 2 inches
 - # 5 bar and smaller 1.5 inches
 - Concrete not exposed to earth or weather 3/4 inches
 - Anchor rods (Anchor bolts) shall be grade 36, conforming to ASTM F1554, and shall have a minimum concrete embedment of 7" with a 2" hook, unless noted otherwise.
 - Exterior slabs/sidewalks shall be 4" thick (minimum) reinforced with 6x6-W1.4xW1.4 w.w.f.
- Steel:
 - Structural steel shall be detailed and erected in accordance with the American Institute of Steel Construction Specifications and Code of Standard Practice. Minimum yield strength:
50 ksi for square/rectangular HSS (ASTM A500, GR. C)
50 ksi for wide flange members (ASTM A992)
46 ksi for round HSS (ASTM A500, GR. C)
35 ksi for round pipe (ASTM A53, GR. B)
36 ksi for all other members (ASTM A36)
 - Connections:
 - Unfactored connection capacities are noted on drawings. Use standard framed beam connections meeting the requirements of the "Manual of Steel Construction-ASD", latest edition. Use 3/4" diameter, A325-N bolts, minimum, snug-tightened; or ASTM F1852 tension-control (TC) bolts.
 - Minimum welds per AISC Specification and AWS D1.1, not less than continuous 3/16" fillet, E70XX electrodes, unless noted otherwise. Welding of reinforcing to embeds shall be done to develop 1.5 times the yield strength of the reinforcing.
 - Headed Anchor Studs (H.A.S.):
 - Shall conform to AWS D1.1 and shall be automatically end welded in the shop.
 - Shall be Nelson H4L or equal.
 - Steel Deck:
 - Shall be erected in accordance with manufacturer's suggested specifications.
 - Deck panels are to be 36" wide and continuous over three spans.
 - Concrete form deck shall be galvanized. Supplied by Vulcraft, or approved equivalent.
 - Column base plates that require grout shall bear on non-shrink grout.
- Wood:
 - Framing lumber shall be (U.N.O.):
 - Studs Hem-fir Stud grade
 - Headers Hem-fir #2
 - Wood construction shall be in conformance with the "National Design Specification for Wood Construction."
 - Simpson Strong-Tie connectors are specifically required to meet the structural calculations of these drawings. All nail holes shall be filled to produce the maximum hanger capacity. See Simpson for solid web blocking behind certain hangers that bear on steel beams. (1-800-999-5099)
 - Stainless steel (or galvanized) connectors, fasteners and anchors shall be used with preservative-treated woods.
 - Exterior walls shall be fully sheathed with 7/16" oriented strand board (O.S.B.), or approved equivalent.
 - Plywood web joists, Versa-lam LVL (2.1E - noted V.L. on plans), and Versa-stud LVL (1.7E - noted V.S. on plans) shall be manufactured by Boise Cascade, or approved equivalent. Joists and beams shall not be modified without the written consent of the Structural Engineer.
 - Roof trusses shall be designed by a registered professional engineer (Colorado). Truss deflections shall not exceed:
Total load: L/180, nor 1 inch.
Live load: L/240, nor 3/4 inch.
Calculations and shop drawings bearing the seal and signature of the design engineer shall be reviewed by the Structural Engineer prior to truss fabrication. Shop drawings shall show location of all trusses, connection plate capacity, and the size and grade of lumber used. Truss manufacturer shall provide blocking and bridging as required for stability, and bearing blocks if needed. Truss supplier shall provide all hangers and connectors needed.
- Drawing Coordination:
 - Dimensions on these Structural drawings shall be verified with the Architectural drawings and any discrepancy shall be brought to the Architect's attention.
 - DRAWINGS SHALL NOT BE SCALED. Written dimensions shall take precedence over scaled measurements.
 - Shop drawings shall be prepared and drawn by the fabricator. Copying these drawings for shop drawing use will not be permitted.
 - Any and all material substitutions shall be approved by the Structural Engineer prior to construction.
 - Valentine Engineering's electronic or digital seal or signature is effective only to that version of this document as originally published by Valentine Engineering. Valentine Engineering is not responsible for any subsequent modification, corruption, or unauthorized use of such document. To verify validity or applicability of the seal or signature, contact Valentine Engineering.

