GENERAL STRUCTURAL NOTES

2012 EDITION OF THE INTERNATIONAL RESIDENTIAL CODE LOADS:

ROOF SNOW LOAD = 30 PSF (NON-REDUCIBLE) SUPERIMPOSED DEAD LOAD ON ROOF TRUSSES = 10 PSF

TYPICAL FLOOR LIVE LOAD = 40 PSF WIND DESIGN DATA:

115 MPH BASIC WIND SPEED (3 SEC. GUST, ULTIMATE) EXPOSURE B IMPORTANCE FACTOR, I = 1.0

FOUNDATIONS:

BUILDING CODE:

CONTRACTOR TO FOLLOW ALL RECOMMENDATIONS IN GEOTECHNICAL REPORT #14-1081 BY SOILOGIC, INC. DATED JUNE 17, 2014. THE FOUNDATION AND FLOOR SYSTEMS SHOWN ON THE STRUCTURAL DRAWINGS HAVE BEEN DESIGNED IN ACCORDANCE WITH THE GEOTECHNICAL REPORT RECOMMENDATIONS. ALL RISKS ASSOCIATED WITH THESE DESIGN REQUIREMENTS HAVE BEEN FULLY EVALUATED AND ACCEPTED BY THE OWNER.

DRILLED PIER DESIGN CRITERIA: DESIGN END BEARING PRESSURE = 25,000 PSF DESIGN SIDE SHEAR RESISTANCE = 2,500 PSF

- DESIGN SIDE SHEAR RESISTANCE = 2,000 PSF (UPLIFT) (NEGLECT SKIN FRICTION FOR TOP 3FT OF BEDROCK PENETRATION)
- MINIMUM DEAD LOAD PRESSURE = 8,000 PSF ON END BEARING AREA MINIMUM PENETRATION INTO BEDROCK = 9 FT
- MINIMUM LENGTH = 27 FT LENGTH/DIAMETER RATIO = 30 OR LESS

CONCRETE:

ALL CONCRETE WORK SHALL CONFORM TO THE LATEST EDITION OF ACI 301, UNLESS MORE STRINGENT REQUIREMENTS ARE DEFINED ELSEWHERE IN THE CONTRACT DOCUMENTS. CONCRETE DEFINED IN DRAWINGS SHALL HAVE THE FOLLOWING PROPERTIES:

USE	MIN f'c, 28 DAY	MAX SLUMP	MAX w/c RATIO	AIR CONTENT*	CEMENT TYP
DRILLED PIERS	3,000 PSI	7"	0.50 NO	REQUIREMENT	1/11
GRADEBEAMS & WALLS	3,000 PSI	4"	0.50 NC	REQUIREMENT	I/II
SLABS ON VOID (INTERIOR)	4,000 PSI	4"	0.45 NC	REQUIREMENT	1/11
SLABS ON METAL DECK	4,000 PSI	4"	0.45 NC	REQUIREMENT	/

SLABS ON GROUND (EXTERIOR)-- 3,000 PSI ------ 4" ------ 0.45 ------ 5.0% ------ 1/II MECHANICALLY VIBRATE ALL CONCRETE WHEN PLACED, EXCEPT THAT SLABS ON GRADE NEED BE VIBRATED ONLY AROUND UNDER-FLOOR DUCTS, ETC. ALL CONCRETE SLABS ON GRADE SHALL BE BOUND BY CONTROL JOINTS (KEYED OR SAW CUT), SUCH THAT THE ENCLOSED AREA DOES NOT EXCEED 144 SQUARE FEET. KEYED CONTROL JOINTS NEED ONLY OCCUR AT EXPOSED EDGES DURING POURING, ALL OTHER JOINTS MAY BE SAW CUT. LAP SPLICES, UNLESS NOTED OTHERWISE, SHALL BE CLASS "B" TENSION LAP SPLICES PER LATEST EDITION OF ACI 318. "WET STABBING" OF ANY EMBEDDED ITEM OR BOLT IS STRICTLY PROHIBITED.

VOID FORMS:

VOID FORM UNITS SHALL HAVE A BIODEGRADABLE PAPER SURFACE, TREATED FOR MOISTURE RESISTANCE, STRUCTURALLY SUFFICIENT TO SUPPORT THE WEIGHT OF PLASTIC CONCRETE AND OTHER SUPERIMPOSED LOADS. CONTRACTOR MUST WORK CLOSELY WITH THE MANUFACTURER TO ENSURE MATERIAL SELECTED DEGRADES QUICKLY AND COMPLETELY AFTER CONCRETE IS PLACED ABOVE. VOID FORM UNITS SHALL NOT BE WRAPPED IN PLASTIC NOR HAVE PLASTIC PLACED ABOVE OR BELOW.

REINFORCING STEEL:

ASTM A615 (Fy = 60 KSI) DEFORMED BARS FOR ALL BARS. ALL GRADE 60 REINFORCING TO BE WELDED OR FIELD BENT SHALL BE ASTM A706. WELDED WIRE FABRIC PER ASTM A185, WIRE PER ASTM A82. LATEST ACI CODE AND DETAILING MANUAL APPLY.

PREFABRICATED WOOD TRUSSES:

PREFABRICATED WOOD TRUSSES SHALL BE DESIGNED TO SUPPORT SELF WEIGHT PLUS LIVE LOAD AND SUPERIMPOSED DEAD LOADS STATED IN THE GENERAL STRUCTURAL NOTES OR LOCATED ON PLANS. BRIDGING SIZE AND SPACING BY TRUSS MANUFACTURER UNLESS NOTED OTHERWISE. TRUSS SHALL BE DESIGNED TO ACCOMMODATE A FUTURE MECHANICAL LOAD OF 300 POUNDS AT ANY PANEL POINT LOCATION. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS, ERECTION DRAWINGS AND DESIGN CALCULATIONS SEALED BY A PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF PROJECT LOCATION FOR REVIEW PRIOR TO MANUFACTURE.

WOOD: SAWN LUMBER:

FRAMING LUMBER SHALL COMPLY WITH THE LATEST EDITION OF THE GRADING RULES OF THE WESTERN WOOD PRODUCTS ASSOCIATION OR THE WEST COAST LUMBER INSPECTION BUREAU. ALL SAWN LUMBER SHALL BE STAMPED WITH THE GRADE MARK OF AN APPROVED LUMBER GRADING AGENCY AND SHALL HAVE THE FOLLOWING MINIMUM UNFACTORED PROPERTIES: Fc DESIGN

(PSI) (PSI) (PSI) (PSI) BASIS ALL LUMBER U.N.O. ---- 900 ---- 180 --- 1,600,000 ------ 1350 --- DFL NO. 2

ENGINEERED TIMBER PRODUCTS (MICROLAMS, PARALLAMS, ETC.):

Fb Fv

ENGINEERED TIMBER PRODUCTS SHOWN ON THE DRAWINGS ARE DESIGNED ACCORDING TO THE MATERIAL PROPERTIES DEFINED BELOW. SUBSTITUTION FOR EQUIVALENT PRODUCTS MUST BE ACCEPTED BY THE ENGINEER IN WRITING PRIOR TO INSTALLATION.

TRADE NAMEABBREVIATIONFb, PSIFv, PSIFc, PSIE, PSIMICROLAMLVL2,6002857501,900,000

WOOD STRUCTURAL PANELS:

ALL WOOD STRUCTURAL PANELS SHALL BE STRUCTURAL I, EXPOSURE 1 SHEATHING GRADE AND SHALL BE IDENTIFIED FOR GRADE AND GLUE TYPE BY THE TRADEMARKS OF AN APPROVED TESTING AND GRADING AGENCY. WOOD STRUCTURAL PANELS SHALL BE OF THE FOLLOWING NOMINAL THICKNESS, SPAN/INDEX RATIO AND SHALL BE ATTACHED AS FOLLOWS UNLESS NOTED OTHERWISE:

SPAN/INDEX EDGE INTERMEDIATE THICKNESS RATIO ATTACHMENT ATTACHMENT USE ROOF ------ 10d @ 6" O.C. ------ 10d @ 12" O.C.

FLOOR ------ 3/4" T & G --- 40/20 ----- #8 SCREWS @ 6" O.C.-- #8 SCREWS @ 10" O.C. EXTERIOR WALL------1/2" ------ 32/16 ------ 10d @ 4" O.C. ------ 10d @ 12" O.C.

ALL FLOOR SHEATHING SHALL BE GLUED TO JOISTS WITH AN APA AFG-01 QUALIFIED GLUE. WOOD STRUCTURAL PANELS MAY BE EITHER PLYWOOD OR ORIENTED STRAND BOARD (OSB) MATERIAL, AT THE CONTRACTOR'S OPTION.

STAGGER ALL WOOD PANEL JOINTS. APPLY SHEETS WITH FACE GRAIN PERPENDICULAR TO JOISTS AND RAFTERS.

WOOD GENERAL:

DOUBLE UP FLOOR JOISTS AND BLOCKING UNDER PARTITIONS. PROVIDE 2" SOLID BLOCKING AT SUPPORTS OF ALL JOISTS. DOUBLE UP STUDS AT JAMBS AND AS REQUIRED UNDER BEAMS IN BEARING WALLS. EVERY OTHER STUD OF WOOD FRAME BEARING WALL SHALL HAVE A SIMPSON H3 ANCHOR TOP AND BOTTOM, EXCEPT AT THOSE WALLS WHERE PLYWOOD SHEATHING IS NAILED DIRECTLY TO THE TOP AND BOTTOM PLATES. PROVIDE 2 X SOLID BLOCKING AT MID-HEIGHT OF BEARING STUD WALLS. ALL NAILING NOT NOTED SHALL BE ACCORDING TO THE INTERNATIONAL BUILDING CODE. WOOD CONNECTORS SHALL BE AS MANUFACTURED BY SIMPSON STRONG-TIE COMPANY, INC. OR OTHER MANUFACTURER WITH CURRENT AND EQUIVALENT I.C.C. APPROVAL. ALL WOOD IN CONTACT WITH CONCRETE, SOIL OR EXPOSED

UNLESS NOTED OTHERWISE, ALL TIMBER AND ENGINEERED LUMBER BEAMS SHALL BE SUPPORTED BY BUILT-UP 2X STUD POSTS WITH ONE MORE STUD THAN THE BEAM WIDTH MINIMUM (2-2X OR SOLID 4X BEAM WITH 3-STUD POSTS, ETC.); ALL GIRDER TRUSSES SHALL BEAR ON 3 STUDS MINIMUM OR 1 MORE STUD THAN THE NUMBER OF PLYS IN THE TRUSS WHICHEVER IS GREATER. CENTERLINE BEAM OR GIRDER TRUSS EQUALS CENTERLINE POST. ALL POSTS SHALL BE MADE CONTINUOUS THROUGH FLOOR STRUCTURES WITH POSTS OF SAME SIZE INSTALLED BETWEEN UPPER WALL BOTTOM PLATE AND LOWER WALL TOP PLATE.

STRUCTURAL STEEL:

TO WEATHER SHALL BE TREATED.

ALL WORK SHALL CONFORM TO THE LATEST EDITION OF AISC MANUAL OF STEEL CONSTRUCTION, AND LATEST EDITION OF AWS D1.1, UNLESS MORE STRINGENT REQUIREMENTS ARE DEFINED ELSEWHERE IN THE CONTRACT DOCUMENTS. ALL STRUCTURAL STEEL SHALL BE ASTM A992 (Fy = 50 KSI). ALL CHANNELS, ANGLES, AND PLATES SHALL BE ASTM A36 (Fy = 36 KSI). ALL PIPE STEEL SHALL BE ASTM A501

(Fy = 36 KSI) OR ASTM A53, TYPE E OR S, GRADE B (Fy = 35 KSI). ALL TUBE STEEL SHALL BE ASTM A500 (Fy = 46 KSI). ALL ANCHOR RODS SHALL BE ASTM F1554, GRADE 36 UNLESS NOTED OTHERWISE.

ALL WELDING SHALL BE PERFORMED BY WELDERS HOLDING VALID CERTIFICATES AND HAVING CURRENT EXPERIENCE IN THE TYPE OF WELD SHOWN ON THE DRAWINGS OR NOTES. CERTIFICATES SHALL BE THOSE ISSUED BY AN ACCEPTED TESTING AGENCY. ALL WELDING DONE BY E70 SERIES LOW HYDROGEN RODS UNLESS NOTED OTHERWISE. FOR GRADE 60 REINFORCING BARS, USE E90 SERIES. ALL WELDING PER LATEST AMERICAN WELDING SOCIETY STANDARDS. SHOP WELDS AND FIELD WELDS SHALL BE SHOWN ON THE SHOP DRAWINGS SUBMITTED FOR REVIEW. ALL FULL (COMPLETE) PENETRATION WELDS SHALL BE TESTED AND CERTIFIED BY AN INDEPENDENT TESTING LABORATORY.

COLD-FORMED METAL FRAMING:

SHEET STEEL USED IN THE FABRICATION OF COLD-FORMED METAL FRAMING PRODUCTS SHALL CONFORM TO ASTM A1003, STRUCTURAL GRADE, TYPE H OR ASTM A653 AND SHALL BE ZINC COATED IN ACCORDANCE WITH ASTM A924, G60. MINIMUM YIELD STRENGTH SHALL BE 50 KSI FOR MEMBERS WITH THICKNESS 54 MIL (16 GAGE) AND HEAVIER AND 33 KSI FOR MEMBERS WITH THICKNESS 43 MIL (18 GAGE) AND LIGHTER.

UNLESS SHOWN OTHERWISE ON THE DRAWINGS, PROVIDE #10 SELF-DRILLING SCREWS AT ALL COLD-FORMED FRAMING CONNECTIONS (MINIMUM TWO SCREWS PER CONNECTION). PROVIDE SUFFICIENT NUMBER OF SCREWS AT EACH CONNECTION TO SUPPORT ALL APPLIED LOADS.

SPLICING OF STUDS AND JOISTS SHALL NOT BE PERMITTED. CUTTING, NOTCHING, OR MODIFYING JOISTS IS NOT PERMITTED WITHOUT PRIOR APPROVAL FROM ENGINEER OF RECORD.

HIGH STRENGTH BOLTS:

ALL HIGH STRENGTH BOLTS SHALL BE 7/8" DIAMETER ASTM A325 AND SHALL BE INSTALLED AS BEARING-TYPE CONNECTIONS WITH THREADS INCLUDED IN SHEAR PLANE (I.E. A TYPE "N" CONNECTION) UNLESS NOTED OTHERWISE. BOLTS MAY BE TIGHTENED USING ANY AISC APPROVED METHOD. ALL HIGH STRENGTH BOLTING SHALL BE INSPECTED BY AN INDEPENDENT TESTING LABORATORY. **GENERAL:**

THE STRUCTURAL CONSTRUCTION DOCUMENTS REPRESENT THE FINISHED STRUCTURE. THEY DO NOT INDICATE THE METHOD OF CONSTRUCTION. THE CONTRACTOR SHALL PROVIDE ALL MEASURES NECESSARY TO PROTECT THE STRUCTURE DURING CONSTRUCTION. SUCH MEASURES SHALL INCLUDE, BUT NOT BE LIMITED TO, BRACING, SHORING FOR LOADS DUE TO CONSTRUCTION EQUIPMENT, ETC. THE STRUCTURAL ENGINEER SHALL NOT BE RESPONSIBLE FOR THE CONTRACTOR'S MEANS, METHODS, TECHNIQUES, SEQUENCES FOR PROCEDURE OF CONSTRUCTION, OR THE SAFETY PRECAUTIONS AND THE PROGRAMS INCIDENT THERETO, NOR SHALL OBSERVATION VISITS TO THE SITE INCLUDE INSPECTION OF THESE ITEMS.

CONTRACTOR SHALL VERIFY ALL EXISTING CONDITIONS PRIOR TO CONSTRUCTION. ANY VARIANCE FROM CONDITIONS SHOWN ON THESE DRAWINGS MUST BE BROUGHT TO THE ATTENTION OF THE ENGINEER IMMEDIATELY.

ALL BOLTS, ANCHOR RODS, EXPANSION BOLTS, ETC. SHALL BE INSTALLED WITH STEEL WASHERS AT FACE OF WOOD OR AT SLOTTED HOLES IN STEEL SECTIONS.





FIRST PLACEMENT

PROVIDE CONSTRUCTION JOINTS 60'-0" O.C. MAXIMUM. JOINTS SHALL BE LOCATED WITHIN MIDDLE 1/3 OF SPAN OR

APPROVED BY ENGINEER PRIOR TO PLACING CONCRETE.

TYPICAL VERTICAL WALL CONSTRUCTION JOIN

CENTERED OVER THE DRILLED PIER SUPPORT.

PROVIDE (4) ADD'L

O.C. CTR'D ON BEAM.

VERT. BARS AT 4"

ackslash TYPICAL BEAM POCKET AT STEEL BEAM

- LOCATION & DETAIL OF JOINTS SHALL BE

PLAN CONSTRUCTION JOINT

NOTE:

IS-1

VERTICAL WALL REINFORCING TYPICAL U.N.O.

- CLEAN SURFACE PRIOR TO POURING

1" = 1'-0"

CONCRETE AFTER TOTAL

DEAD LOAD HAS BEEN

APPLIED TO BEAM.

1" = 1'-0"

CONCRETE WALL RE:

FOUNDATION DETAILS

FOR REINFORCEMENT

CONCRETE AND ROUGHEN

JOINT W/ SEALANT (EACH FACE)

12" LONG KEY AT 24" O.C.



1" = 1'-0"













FOUNDATION PLAN

- FOUNDATION PLAN NOTES: 1. ALL PIERS SHOWN AR 12" DIAMETER CONCRETE DRILLED PIERS - U.N.O. RE: FOUNDATION DETAILS FOR REINFORCING AND ADDITIONAL NOTES.
- 2. ALL PIERS ARE CENTERED UNDER FOUNDATION WALLS U.N.O.
- T.O. PIER ELELVATION SHALL BE 10" BELOW BOTTOM OF CONCRETE WALL ELEVATION SHOWN ON PLAN. POUR BOTTOM OF WALL DOWN AT DRILLED PIERS PER TYPICAL DETAIL.
- PROVIDE 10" CONTINUOUS VOID FORM BELOW ALL FOUNDATION WALLS AND GRADEBEAMS PER GENERAL NOTES.
- 5. PROVIDE 12" CONTINUOUS VOID FORM BELOW ALL STRUCTURAL CONCRETE SLABS-ON-VOID PER GENERAL NOTES.

1/4" = 1'-0"





LOWER LEVEL FRAMING PLAN

MAIN LEVEL FRAMING PLAN

FLOOR FRAMING PLAN NOTES:

RFPI INDICATES PREFABRICATED WOOD I-JOISTS AS MANUFACTURED BY ROSEBURG. PROPOSED ALTERNATES SHALL HAVE EQUAL OR GREATER CAPACITY AND SHALL BE SUBMITTED TO THE ENGINEER OF RECORD FOR APPROVAL.

1/4" = 1'-0"

INDICATED ON PLAN. PROVIDE 5/8" DIA. THREADED ROD ANCHOR AT EACH HDU-SDS2.5 HOLDOWN SHOWN ON PLAN. DRILL AND EPOXY INTO TOP OF FOUNDATION WALL W/ SIMPSON SET-XP ADHESIVE, 12" MIN. EMBEDMENT DEPTH.

ROOF FRAMING PLAN

ROOF FRAMING PLAN NOTES:

- ROOF FRAMING CONSISTS OF PRE-ENGINEERED WOOD ROOF TRUSSES AT 2'-0"
 O.C. TYPICAL SPACING. RE: ARCH'L DRAWINGS FOR ROOF CONFIGURATION AND CEILING PROFILES. ROOF TRUSSES TO BE DESIGNED AND DETAILED BY CONTRACTOR. REFER TO GENERAL NOTES FOR ADDITIONAL INFORMATION.
- 2. ROOF TRUSS BEARING LOCATIONS HAVE BEEN COORDINATED WITH PRE-ENGINEERED TRUSS LAYOUT DRAWINGS. TRUSSES SHALL BEAR AT EXTERIOR WALLS AND BEAMS ONLY. INTERIOR BEAMS/WALLS NOT INDICATED AS TRUSS BEARING LINES HAVE NOT BEEN DESIGNED FOR ADDITIONAL LOAD FROM TRUSS BEARING AND SHALL NOT BE USED AS BEARING POINTS.
- PROVIDE BUILT-UP 2x POSTS BENEATH ALL GIRDER TRUSSES PER GENERAL NOTES.
- 4. PROVIDE SIMPSON H2.5A TIE AT EACH BEARING LOCATION OF EACH ROOF TRUSS.

