ABBREVIATIONS BUILDING INFORMATION ANCHOR BOLT HOLLOW CORE SITE DATA A.B. H.C. H.D. ABV. **HOLD DOWN ABOVE** PROJECT ADDRESS A.F.F. ABOVE FINISH FLOOR HDWD. HARDWOOD ALUM. **ALUMINUM** H.M. **HOLLOW METAL** 7914 E. HEARTWOOD DR. UNIT 7, EDEN, UT 84310 H.P. ANOD. **ANODIZED HIGH POINT** DISTRICT: RIDGE NEST. LOTS: #7 A.V. I.D. ELEV: 8805 FT **AUDIO VISUAL** INSIDE DIAMETER BEL **BELOW** INSUL INSULATION **INTERIOR BLOCKING** INT. BLK'G BM. BEAM JT. JOINT LEGAL DESCRIPTION B.O.S. **BOTTOM OF STRUCTURE** LAM. LAMINATE LAV. LAVATORY BOT. REFER TO CIVIL PLANS BOTTOM L.P. **BSMT BASEMENT LOW POINT** CAB. LT. WT. **CABINET** LIGHT WEIGHT **ZONING** CALCS. MACH. MACHINE CALCULATIONS CEM. RIDGE NEST DISTRICT MATL. MATERIAL CEMENT CER. TILE **CERAMIC TILE** M.B. MACHINE BOLT CLIMATE ZONE: 5B [R301.1] MECH. CLG. CEILING **MECHANICAL** CLR. MFCTR SITE AREA (SQ.FT.) CLEAR MANUFACTURER CMU ML **MATELINE** CONCRETE MASONRY UNIT COL. MOD. 1293 S.F. COLUMN MODULE MULL CONC. MULLION CONCRETE **BUILDING DATA** CONST. NEW CONSTRUCTION N.İ.C. CONT. CONTINUOUS NOT IN CONTRACT SIZE: 720 S.F. CONTR. CONTRACT / CONTRACTOR N.T.S. NOT TO SCALE HEIGHT: 16' - 4 5/8" O.C. CORR. **CORRIDOR** ON CENTER O.D. CPT. CARPET **OUTSIDE DIAMETER** DAT. OPP. DATUM **OPPOSITE** DET. **DETAIL** PL PROPERTY LINE WEBER COUNTY BUILDING CODE DATE DIA. DIAMETER PLAM. PLASTIC LAMINATE DIM(S). PLAS. DIMENSION(S) PLASTER **GOVERNING BUILDING CODES:** DR. PLUMB. DOOR **PLUMBING** 2015 i-Codes DWG. DRAWING PLYWD. PLYWOOD 2009 ANSI A117.1 D.S. DOWNSPOUT PROP. **PROPERTY** 2014 NEC PT E.J. PRESSURE TREATED **EXPANSION JOINT** Any amendments to the above mentioned codes as required ELEC. PTD. PAINTED **ELECTRICAL** by the Utah Code and the Utah Administrative Code **ELECTRIC METER MAIN PANEL** EM. R.A.G. RETURN AIR GRILL ELEV. **ELEVATION** R.D. **ROOF DRAIN** SEISMIC DATA REF. EQ. **EQUAL** REFERENCE EQUIP. **EQUIPMENT** RET. RETAINING REFER TO GENERAL STRUCTURAL NOTES EXPAN. **EXPANSION** R.O. **ROOF OPENING** S&P SHELF AND POLE **EXIST EXISTING** PROJECT DESCRIPTION EXT. **EXTERIOR** SIM. SIMILAR F.B. FLAT BAR S.O.G. **SLAB ON GRADE OCCUPANCY**: F.D. FLOOR DRAIN ST. STL. STRUCTURAL STEEL NEW SINGLE FAMILY 1 BEDROOM RESIDENCE F.F. **FINISH FLOOR** STOR. STORAGE FULLY SPRINKLERED (NFPA 13D). TO BE FACTORY F.G. FINISH GRADE STRUCT. STRUCTURE BUILT, STATE-APPROVED (3RD PARTY) AND TONGUE AND GROOVE FIN. FINISH T & G INSPECTED BY HCD FIXT. TEMP. **TEMPERATURE FIXTURE** T.O. TOP OF FLASH. **FLASHING** FOUNDATIONS TO BE SITE-BUILT. REFER TO **FLOOR** T.O.C. TOP OF CONCRETE FLR. DRAWINGS FOR CLARIFICATION. FTG. FOOTING T.O.M. TOP OF MASONRY F.O.B. T.O.P. TOP OF PARAPET FACE OF BLOCK **DESIGN CRITERIA** TOP OF ROOF F.O.C. FACE OF CONCRETE T.O.R. F.O.S. FACE OF STUD OR STEEL T.O.S. TOP OF STRUCTURE Climate Zone: 5B [TABLE N1101.10 (TABLE R301.1)] FT. FEET T.O.W. TOP OF WALL **TYPICAL** GA. GAUGE TYP. GALV. GALVANIZED UNDERWRITER'S LABORATORY U.L. G.C. **GENERAL CONTRACTOR** U.N.O. **UNLESS NOTED THERWISE** GLASS WATER CLOSET 2. Weber County Weather Data: GLUE LAMINATED BEAM WOOD Heating Cost Index: 285.00 (usa.com) GRD. GRADE W.O. WINDOW OPENING Cooling Cost Index: 145.67 (usa.com) **GWB** GYPSUM WALL BOARD W.P. WATERPROOF Average Temparature: 50.3° (usa.com) HOSE BIB Avg. July High Temp.: 90.9° (usa.com) Avg. Jan. Low Temp.: 16.5° (usa.com) Precipitation: 17.2" (weber cty) Snow: 53.3" (weber cty) Wind Speed: 17.42 mph **SCOPE OF WORK** Air Freezing Index: 2000 [FIGURE/TABLE R403.3(2)] Weathering Probability for Concrete: Severe [FIGURE R301.2(3)] NEW SINGLE-FAMILY 1 BEDROOM RESIDENCE. FULLY SPRINKLERED (NFPA 13D). Termite Infestation Probability: Moderate to Heavy [FIGURE R301.2(6)] FACTORY-BUILT, AND INSPECTED BY HCD IN FACTORY AND ON SITE BY WEBER COUNTY. FOUNDATIONS TO BE SITE-BUILT. REFER TO DRAWINGS FOR CLARIFICATION. PROJECT DESIGNER METAL SIDING AND ROOF INSTALLED ON SITE LIVINGHOMES, LLC. ALL UTILITIES INSTALLED IN FACTORY, CONNECTED MOD TO MOD AND TO SITE UTILITIES 2910 LINCOLN BLVD. BY GENERAL CONTRACTOR. SANTA MONICA, CA 90405

DEFERRED SUBMITTALS

1. SPRINKLER UNDER SEPARATE PERMIT, INSTALLED IN FACTORY COMPLETED ON SITE

2. FIREPLACE UNDER SEPARATE PERMIT

1. "B" designation indicates that location is considered "dry" as per Figure N1101.10

CONTACT

AMY SIMS LIVINGHOMES 2910 LINCOLN BOULEVARD SANTA MONICA, CA 90405 310.581.8500 X 8

HCD CERTIFIED DESIGN APPROVAL AGENCY (DAA)

3220 EAST 59TH STREET LONG BEACH, CA 90805

FABRICATOR

PLANT PREFAB, INC. 375 S. CACTUS AVE. REALTO, CA 92376

VERY HIGH FIRE HAZARD SEVERITY ZONE Based on maps, this project is located within Very High Fire Hazard Severity Zone (VHFHSZ). It shall Comply with requirements of Materials, systems & construction methods of Chapter 7A. Add the following material specifications and/or notes/details to plans: Class A roof covering is required for all buildings. Wood shakes and shingles are not Valley flashings shall be not less that 0.019-inch (0.48 mm) (No. 26 galvanized sheet gage) corrosion-resistant metal installed over a minimum 36-inch-wide (914mm)

underlayment consisting of one layer of No. 72 ASTM cap sheet running the full length

Roof gutters shall be provided with the means to prevent the accumulation of leaves and debris in the gutter (705A.4)

(Roof) (Attic) (Exterior wall) vents shall resist the intrusion of flame and embers into the attic area of the structure, or shall be protected by corrosion-resistant, noncombustible wire mesh with 1/4-inch (6mm) openings or its equivalent. Vents shall not be installed in eaves and cornices (706A.1, 706A.2, 706A.3)

Eaves and soffits shall meet the requirements of 707A5.5 or shall be protected by ignition-resistant materials or noncombustible construction on the exposed underside

Exterior walls shall be approved noncombustible or ignition-resistant material, heavy timber, or log wall construction or shall provide protection from the intrusion of flames and embers in accordance with 704A.3

Exterior wall coverings shall extend from the top of foundation to the roof, and terminate at 2-inch (50.8 mm) nominal solid wood blocking between rafters at all roof overhangs, or in the case of enclosed eaves, terminate at the enclosure (704A.3.1)

Exterior windows, window walls, glaze doors, and glazed openings within exterior doors shall be insulating - glass units with a minimum of one tempered pane, or glass block units, or have a fire- resistance rating of not less than 20 minutes, when tested according to ASTM E 2010, or conform to the performance requirements of 708A.2.1

Exterior door assemblies shall conform to the performance requirements of 708A.3 or shall be approved noncombustible construction, or solid core wood having stiles and rails not less than 1 3/8 inches thick with interior field panel thickness no less than 1 1/4 inches thick, or shall have a fire-resistance rating of not less than 20 minutes when tested according to ASTM E 2074. (Exception: Noncombustible or exterior fireretardant treated wood vehicle access doors) (708A.3)

Decking, surfaces, stair treads, risers, and landings of decks, porches, and balconies where any portion of such surface is within 10 feet (3048mm) of the primary structure shall be constructed of heavy timber, non combustible or other approved materials per Sec. 709A.3

The underside of cantilevered and overhanging appendages and floor projections shall maintain the ignition-resistant integrity of exterior walls, or the projection shall be enclosed to the grade (707A.8)

Buildings shall have all underfloor areas completely enclosed to the grade with construction as required for exterior walls (707A.8)

All utilities, pipes, furnances, water heaters or other mechanical devices located in an exposed under-floor area of a residential building shall be enclosed with materials as required for 1-hour fire-resistive construction.

The space between the roof covering and roof decking shall be constructed to prevent the intrusion of flames and embers and be fire stopped per 705A.2.

No trellis is permitted within 10 feet of the primary structure.

Trellis more that 10 feet from the primary structure shall be constructed of heavy timber or non combustible materials. Minimum of 4 inches spacing is required between the

	TECTURAL	ISSUE FOR WEBER COUNTY PERN - 09/05/17	REISSUE FOR WEBER COUNTY PERMIT - 10/06/17
A0.1	TITLE SHEET	\checkmark	✓
A0.2	GENERAL NOTES	\checkmark	
A0.3	HCD INSPECTION FORMS	\checkmark	
A0.4	RESCHECK		
A1.1	SITE PLAN		
A2.0	FOUNDATION PLAN		
A2.1	FLOOR PLAN		
A2.3	ROOF PLAN		
A2.4	RCP&POWER PLAN		
A3.1	ELEVATIONS		
A4.1	SECTIONS WINDOW/DOOR SCHEDULE		
A6.1 A7.1	WINDOW/DOOR SCHEDULE DETAILS	/	
A7.1 A8.1	3D VIEWS	✓ ✓ ✓	
C201 C301 C401 C501	SITE AND UTILITY PLAN GRADING PLAN EROSION CONTROL PLAN DETAILS	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	
C502	DETAILS	√	
STRUC	TURAL DRAWINGS		
SCS	STRUCTURAL COVER SHEET	\checkmark	√
SN1	GENERAL NOTES		
SN2	GENERAL NOTES		
SN3	GENERAL NOTES	√	
S1	FOUNDATION PLAN		
S2 S3	FLOOR FRAMING PLAN ROOF/WALL FRAMING PLAN		
SD1	FOUNDATION DETAILS		
SD1	GENERAL FRAMING DETAILS	/	
SD2 SD3	ROOF FRAMING DETAILS		\/ \/
		V	V
	ANICAL DRAWINGS		
M0 M1	MECHANICAL COVER SHEET MECHANICAL FLOOR PLAN	/	
M2	SPECIFICATIONS		/
IVIZ	SECIFICATIONS		

DRAWING INDEX



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GENERAL CONTRACTOR BLUE WILLOW BUILDERS INC. 7103 SOUTH REDWOOD RD. SUITE 426 WEST JORDAN, UT 84084 TEL: 801 910 7614

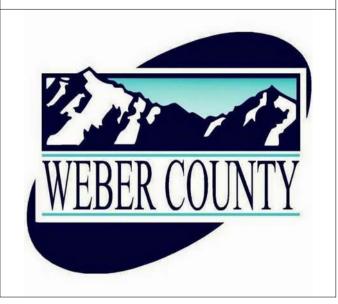
SURVEYOR + CIVIL ENGINEER TALISMAN CIVIL CONSULTANTS 5217 SOUTH STATE ST. SUITE 200 MURRAY, UT 84107 TEL: 801 743 1300

STRUCTURAL ENGINEER INNOVATIVE STRUCTURAL ENG'G 40810 COUNTY CENTER DR. SUITE 110 TEMECULA, CA 92591 TEL: 951 600 0032

SOILS ENGINEER INTERMOUNTAIN GEOENVIRON -MENTAL SERVICES, INC. 12429 SOUTH 300 EAST, SUITE 100, DRAPER, UT, 84120

MECHANICAL ENGINEER TREK ENGINEERING, INC. 3840 E CASSELLE AVE ORANGE, CA 92869 TEL: 714 769 9700

TEL: 801 748 4044



PROJECT: **RIDGE NEST UNIT 7**

Address: SUMMIT POWDER MOUNTAIN

7914 E.HEARTWOOD DR. UNIT 7, EDEN, UT 84310

19 JUL 2017 DRAWN BY: CHECKED BY: DESCRIPTION DATE ISSUE FOR PERMIT 09.05.2017 REISSUE FOR PERMIT 10.06.2017

SHEET AO.1 TITLE SHEET

FIRE RESISTANT CONSTRUCTION

Exterior Walls: SEE TABLE

Common Party (demising) Walls: each townhouse is considered a separate builidng and is separated by a common minimum 1-hour-fire-resistance-rated wall in accordance with R302.2, exc. 2, provided such walls do not contain plumbing or mechanical equipment, ducts or vents in the cavity of the common wall. Electrical installation shall be installed in accordance with Chapters 34 through 43. Penetrations shall be in accordance with Section R302.4 [R302.2]. Wall shall be continuous from footing to underside of roof sheathing [R302.2.1]. Parapets not required if the roof is Class C (min.) and roof sheathing is either noncombustible or fire-retardant-treated wood for a distance of 4' on each side of the wall [R302.2.2]. Structural independence of each townhome is not required [R302.2.4, exc. 5]

Note: the current drawings depict the party wall as an area separation wall as per UL design U 336, providing up to a 2 hour separation. Either a layer of noncombustible cementitious sheathing must be provided on top of the roof structure, or the roof sheathing must be fireretardent-treated wood for a distance of 4' on either side of the wall, and a minimum Class C roof must be provided. Penetrations to be protected in accordance with R302.4. and per UL System No. W-L-7188.

Dwelling/Garage Fire Separation [TABLE R302.6]: Walls: XX gypsum board. Ceiling: XX gypsum board.

Penetrations & Openings in Garage Walls: 1-3/8" min. thickness solid wood doors, solid or honeycomb-core steel doors, or 20-minute fire-rated doors, equipped with self-closing device [R302.5.1]. Ducts to be min. 26ga; no openings into garage [R302.5.2]. Other penetrations to be protected with approved materials but are not required to meet ASTM E 136 [R302.5.3; ref. R302.11.4].

Under Staris Protection: enclosed accessible space to be protected with min. 1/2" gwb

Foam Plastics: as per R316. Flame Spread Index and Smoke Developed Index (per ASTM E84 or UL 273):

For Wall and Ceiling Finishes: flame spread 200 max [R302.9.1]; smoke developed index 450

For Insulation: falme spread 25 max & smoke developed 450 max [R302.10.1]. Refer to R316 for foam plastics: flame spread 75 max [R316.3]; foam plastic in roofing applications does not have to be separated by thermal barrier, nor does it have a limitation on smoke developed index [R316.5.2].

Note: rigid foam insulation above structrual roof deck to be XPS insulation.

Fireblocking: provide if wood frame, or combustible, construction in concealed floor and stair spaces, openings, chimneys and fireplace [R302.11]. Materials to be as per R302.11.1.

Draftstopping: n/a

LIGHT, VENTILATION AND HEATING

Habitable Rooms (living, sleeping, eating, cooking): 8% min. glazing area; ventilation (operable windows, doors, etc.) 4% min. [R303.1].

Bathrooms: glazing 3 sq.ft. min.; ventilation 1.5 sq.ft. min., unless electric lighting and mechanical exhaust is provided [R303.3]. Mechanical Ventilation: required if air changes are less than 5 per hour [R303.4].

Stairway Illumination: 1 fc on treads and landings with switches top & bottom [R303.7]. Required Heating: heating facilities capable of min. room temp. of 68-degrees [R303.9].

MINIMUM ROOM AREAS

Rooms area: all habitable rooms not less than 70 sq.ft., except kitchens [R304.1]. Dimensions: habitable rooms not less than 7 ft in any dimension, except kitchens [R304.2].

CEILING HEIGHT

Minimum Height: not less than 7 ft, unless a closet or not occupiable [R305.1]. In rooms with sloped ceilingsat least 50% of required floor area to be 7 ft min., and never less than 5 ft. Bathrooms may be 6'-8" min. [R305.1 exc. 1]

Note: current design provide a minimum ceiling height in the kitchen, above the back of the counter, of 7 ft. This height can be reduced if desired to a minimum of 5 ft as noted.

SANITATION

Toilet Facilities: min. (1) water closet, lav, and bathtub or shower [R306.1].

Kitchen: kitchen area with sink [R306.2].

Sewage Disposal: sanitary sewer or approved private sewage disposal [R306.3].

Water Supply: fixtures connected to approved water supply; hot and cold water to kitchen sinks, lavs, tubs, showers, bidets, laundry tubs, washing machine outlets [R306.4].

TOILET, BATH AND SHOWER SPACES

Space Required: as per R307.1 and P2705.1

Bathtub and Shower Spaces: floors, walls and walls above tubs with shower heads to be nonabsorbent to 6 ft min. [R307.2]

GLAZING

Identification: safety and multi-pane glazing to be designedated [R308] and tested as per cPSC 16 CFR 1201, Category II [R308.1.1].

Safety Glazing: at all hazardous locations including glazing in doors, adjacent to doors, in windows with lites > 9 sq.ft., bottom edge less than 18 inches above the floor, top edge more than 36" above floor, walking surfaces within 36 inches; exceptions for rails. [R308.4.4]; wet surfaces [R308.4.5]; adjacent to stairs/ramps [R308.5].

GARAGES AND CARPORTS

Floor Surface: noncombustible, sloped where for parking of automobiles, to drain or to main vehicle entry doorway [R309.1] Carports: n/a

Automatic Garage Door Openers: listed and labeled per UL 325 [R309.4]. Fire Sprinklers: not required [R309.5].

EMERGENCY ESCAPE AND RESCUE OPENINGS

Emergency Escape and Rescue Required: basements, habitable attics, sleeping rooms [R310.1]. Minimum size 5.7 sq.ft. min. net clear [R310.2.1], 24" min. height [R310.2.1], 20" min. width [R310.2.1]. Maximum sill height 44" [R310.2.2]. Operational from inside without keys, tools [R310.1.1].

MEANS OF EGRESS

Means of Egress: continuous, unobstructed, <u>not through a garage</u> [R311.1]

Egress Door: min. (1) side-hinged 32" min. clear width, 78" min. clear height [R311.2]. Floors and landings at Exterior Doors: landing or floor on each side of each exterior door, not less than the width of the door served, 36" in the direction of travel; 1/4"/ft. max. slope [R311.3]. 1.5" max. threshold height; exterior landing 7-3/4" max. below top of threshold if door wings in (screen doors are ok) [R311.3.1].

Vertical Egress: stairs as per R311.7. Hallways: min. 3 ft. [R311.6].

Stairs: 36" clear width (handrails may project into); min. 6'-8" headroom; 12 ft max. vert. rise; 8" max. riser height & 9" min. tread depth (ref. amendment 15A-3-202.15). Nosing 3/4" min. on treads less than 11" depth; landings 36" min.; handrail on min. 1 side, coninuous, return to wall or terminate in post or terminal [R311.7].

GUARDS AND WINDOW FALL PROTECTION

Guards: required where > 30" vertical. 36" min. guard height. 4" max. openings [R312.1] Window Fall Protection: not required for windows > 24" A.F.F. [R312.2]. AUTOMATIC FIRE SPRINKLER SYSTEMS

Townhouses: required residential fire sprinkler system as per P2904. All areas of the dwelling unit except as follows: attics & unoccupied concealed spaces, clothes closets, bathrooms less than 55 sq.ft., garages, exterior porches, unheated entry areas (i.e. - mud rooms) [P2904.1.1].

SMOKE ALARMS

Smoke Detection and Notification: listed and labeled per UL 217, installed as per IRC and NFPA72 [R314.1]. Locations required: sleeping rooms, outside sleeping rooms,on each additional level (only upper level of split level dwellings required); (1) per 500 sq.ft. floor area on levels with more than 1,000 sq.ft. [NFPA 72,29.5.1.3]. Smoke alarms to be interconnected or wireless communicating [R314.4].

CARBON MONOXIDE ALARMS

Carbon Monoxide Alarms: required outside each sleeping area [R315.3]; devices listed per UL 2075; per the IRC and NFPA 720 [R315]. Single-station alarms listed per UL 2034.

FOAM PLASTIC (refer to dwelling/garage separation, above)

Labeled per R316.2, flame spread 75 max., smoke-developed index 450 max., per ASTM E 84 or UL 723. Separate from interior by 1/2" gwb (not req'd where separated by min. 1" concrete). Roofing applications do not require thermal barrier [R316]. Doors, incl. garage doors, exempt.

PROTECTION OF WOOD AND WOOD BASED PRODUCTS AGAINST DECAY Location Required: Natually durable or preservative-treated wood required at 1) crawl spaces (n/a); 2) contact with concrete or masonry foundation walls closer than 8" to exposed ground; 3) sills & sleepers in direct contact with concrete on ground, unless separated by impervious moisture barrier; 4) ends of girders entering concrete or masonry walls w/ less than 1/2" clearance, all sides; 5) siding, sht'g. framing in exterior walls w/ less than 6" clear to grade, or

2" to concrete; 6) structural members exposed to weather; 7) members in contact with interior side of masonry or concrete walls below grade [R317.1].

Field Treatment: treatment of field-cut ends required [R317.1.1]. Ground Contact: n/a (no wood embedded) [R317.1.2].

Geographical Areas: n/a [R317.1.3].

Wood Columns: n/a (no wood columns) [R317.1.4].

Quality Mark: pressure-preservative-treated wood to be marked with required information as per

Fasteners: coatings required at preservative-treated and fire-retardant treated wood required as per R317.3.

PROTECTION AGAINST SUBTERRANEAN TERMITES

Chemical Termiticide treatment, and/or treated or naturally-durable woods, and/or physical barriers, and/or metal framing required [R318.1]. Where applicable, lumber to be marked [R318.1.1]. Foam plastics not required to be protected in this zone [R318.4, ref. R301.2(6)].

SITE ADDRESS

Address numbers required to be visible from street [R319].

ACCESSIBILITY

Not required (single family structure), R320.

ELEVATORS AND PLATFORM LIFTS None [R321].

FLOOD RESISTANT CONSTRUCTION Not applicable (project is not in a flood hazard area) [R322].

STORM SHELTERS

Not applicable (no storm shelters proposed as a part of this project) [R323].

FOUNDATIONS

Refer to Geotechnical Report for soils and foundation information.

Refer to structural drawings for loads and design calculations. Drainage: min. 6" in 10' away from structural (grade); 2% @ impervious surfaces [R401.3]. Materials: concrete (ref. struct.)

Footings: design and support as per geotechnical report and structrual drawings. Minimum Depth: extended below frost line [R403.1.4.1]

Slope: top surface to be level, bottom to sloe not more than 10% [R403.1.5] Footings adjacent to slopes - 12" plus 2% required [R403.1.7.3]

Frost-Protected Shallow Foundations: insulation to be a per ASTM C 578 [R403.3]. Protect, and provide gravel below horizontal insulation below ground, with drain to daylight Air Freezing Index: 2000 [FIGURE/TABLE R403.3(2), Utah, Weber County].

Foundation Insulation: Provide extruded polystyrene insulation required [TABLE R403.3(1), footnotes d &e], calculated at 4.5R per inch (footnote c).

FOUNDATION DRAINAGE

Required where foundation walls retain earth and enclose habitable space below grade. Perforated pipe to be installed at or below the area to be protected, with discharge to a drainage system by gravity. Perforated pipe to be placed on a min. of 2" of washed gravel, one sieve size larger than the

perforation, and covered with not less than 6" of the same materials. [R405]. FOUNDATION WATERPROOFING AND DAMPPROOFING

Waterproofing from top of footing to finished grade required. All joints in membrane

waterproofing to be lapped and sealed [R406.2].

Wood and steel column minimum sized and protection to be as per R407

UNDER-FLOOR SPACE

FLOORS

Not applicable (no under-floor space proposed) [R408]

Refer to structural drawings.

WALL CONSTRUCTION Refer to structural drawings.

WOOD FRAMING Sawn Lumber. DOC PS20

Prefabricated Wood I-joists: ASTM D5055

Structural Glue Laminated Timber: ANSI/AITC A190.1 & ASTM D3737 Wood Structural Panels: DOC PS 1, DOC PS 2, or ANSI/APA PRP 210 Preservative Treated Wood: AWPA Standard U1 and M4; Preservatives as per AWPA U1

EXTERIOR WINDOWS AND DOORS

Note: For site built windows, refer to Building Planning, Glazing, R308.5. Site built windows to comply with IBC Section 2404.

Manufactured windows and doors to be installed and flashed in accordance with the fenestration manufacturer's written installation instructions. flash per Section R703.4. Design of windows and doors to be as required for wind loads per Table R301.2(2), adjusted for height and exposure per Table R301.2(3). Compliance and labeling for windows and sliding doors required as per AAMA/WDMA/CSA 101/I.S.2/A440. Hinged doors AAMA/WDMA/CSA 101/I.S.2/A440 or comply with R609.3 (ASTM E330, glass ref. R308.4.1) [R609]. Garage doors ASTM E 330 or ANSI/DASMA 108.

STRUCTURAL INSULATED PANEL WALL CONSTRUCTION Not appliacable (none specified) [R610].

WALL COVERING

INTERIOR COVERING

Note: for flame spread and smoke-development requirements, ref. R302.9.

Interior Plaster:

Gypsum Plaster: materials - ASTM C 5, C 22, C 28, C 35, C 59, C 61, C 587, C 631, C 847, C 933, C 1032, C 1047; install per ASTM C 843 and C 844. Lath/base for veneerr plaster ASTM C

Cement Plaster: materials - ASTM C 91 (Type M, S or N), C 150 (Type I, II and III), c 595 Type IP, I (PM), IS and I (SM), C847, C 897, C 926, C933, C 1032, C 1047 and C 1328; install per ASTM C 1063. Gypsum lath per ASTM C 1396.

Min. 3 coates o/ lath; 2 coats o/ other based; veneer plaster 1 coat max. 3/16" thk., w/ total thickness per Table R702.1(1). SEE TABLE

Support spacing for gypsum or metal lath on walls or ceilings not to exceed 16" or 3/8" thick, or 24" for 1/2" thick plain gypsum lath. Lath to be at right angles to supports with edn joints in adjacent courses staggered not less than one framing space [R702.2.3].

Gypsum Board: compliance with ASTM standards, over wood framing not less than 2" norminal thickness in the least dimension or furring strips not less than 1"x2" nominal over solid backing, 24" o.c. max. [R702.3.1]. 5/8" gwb, ceilings. framing perp. @ 24" o.c. max. - Type W screws @ 12" o.c. max. w/ not less than 5/8" penetration. (16" o.c. for framing 16" o.c., req'd @ waterresistant gwb areas) [R702.3.5, 702.3.6, 702.3.8].

Exterior wall gwb attachment to be as per Item 38, Table R602.3(1) (Type S @ 7" o.c. field, and

Water-resistant gwb @ base for nonabsorbent finish materials and ceramic tile to be ASTM C 1396, C 1178, or C 1278. Do not install a Class I or II vapor retarder in a shower or tub compartment. Seal all cut or exposed edges as per mfr 702.3.7.

Ceramic Tile: install per ANSI A108.1, 108.4, 108.5, 108.6, 108.11, 118.1, 118.3, 136.1, 137.1. Backers to be as per ASTM C 1288, C 1325, C 1178, or C 1278.

Other finishes: n/a

Wood Shakes and Shingles: n/a

Vapor Retarders: Class I or II required on interior side of frame walls (Climate Zone 5), except where wall is below grade, or a basement wall. Class shall be as per mfr certified testing; Class I - sheet polyethylene, unperforated aluminum foil; Class II - kraft-faced fiberglass batts [R702.7]

EXTERIOR COVERING

Weather-resistance, water resistance, wind resistance and water-resistive barrier required [R703.1, R703.1.1]. Ref. TABLE R301.2(2) R301.2(3) for wind loads.

Steel Siding - over wood sht'g: min. 29ga, lap joints, w/ water-resistive barrier, corrosionresistant 0.113 nails 1-3/4" (round head), ea. stud [TABLE 703.3(1)] Wood Siding (rain screen):

Flashing: corrosion-resistant flashing (self-adhered membranes used as flashing as per AAMA 711) req'd @ ext. window and door openings; at intersection of chimneys; under and at the ends of masonry, wood or metal copings and sills; cont. above all projecting wood trim; where exterior

porches, decks or stairs attach to a wall or floor assembly of wood-frame construction; wall and

ROOF-CEILING CONSTRUCTION

roof intersections; built-in gutters [R703.4].

Refer to structural for structural design and loads. Ventilation not required for unventilated attic and enclosed rafter assembly where insulation is Class II vapor barrier [R806.5].

ROOF ASSEMBLIES

Classification: Class C per R302.2.2

Weather Protection: Coverings and flashings required [R903.2].

Application: per Code, mfr. and compnent and cladding pressures [R905].

REQUIREMENTS FOR ROOF COVERINGS

Thermoset Single-Ply Roofing: 1/4" per foot (2) min. slope; ASTM D 4434, ASTM D 6754, ASTM D 6878, or CGSB CAN/CGSB 37.54 [R905.13].

Above-deck thermal insulation permitted if covered with roof covering and complies with FM

ROOF INSULATION [R906.2]

4450 or UL 1256.

CHIMNEYS AND FIREPLACES Note: if specified, the fireplace stove, a free-standing, chimney-connected solid-fuel-burning

heater is listed, labeled and installed in accordance with the conditions of the listing, with testing per UL 127 [R1004]. Combustion air as per R1006

ENERGY EFFICIENCY Ref. Energy Code.

MECHANICAL

Ref. mechanical.

FUEL GAS Ref. mechanical and plumbing

PLUMBING

ELECTRICAL Ref. electrical

Ref. plumbing

APPENDIX F/FADON CONTROL METHODS

Radon resistant construction is assumed based on radon levels in excess of 4pCi/L (radon.utah.gov) in accordance with Zone 1 requirements [TABLE AF101(1)]. Site-testing for radon levels required to confirm radon mitigation techniques required. Subfloor Preparation: gas-permeable, uniform layer of clean aggregate, min. 4" thick, passing

through a 2" sieve and retained by a 1/4" sieve. Soil-Gas-Retarder: min. 6-mil polyethylene flexible sheeting material placed on top of the gas-

permeable layer; lap seams min. 12"; penetrations sealed. Entry Routes: close/seal openings around bathtubs, showers, w/c, pipes, etc. with polyurethane

caulk or equivalent sealant. Same for concrete joints. Condensate Drains, Sumps, Air-Handling Units, Ducts, etc.: ref. mechanical and plubming Passive Subslab Depressurization System: ref. mechanical, plubming, and electrical

APPENDIX K/SOUND TRANSMISSION

For separation between dwelling units:

WIND SPEED^d (mph)

DESIGN CATEGORY

D SEVERE

f. The jurisdiction shall fill in this part of the table with the seismic design category determined from Section R301.2.2.

jurisdiction shall fill in this part of the table with "YES." Otherwise, the jurisdiction shall fill in this part of the table with "NO.

the table with "YES." Otherwise, the jurisdiction shall indicate "NO" in this part of the table.

requirements. Otherwise, the jurisdiction shall indicate "NO" in this part of the table.

3'-6"

c. The iurisdiction shall fill in this part of the table to indicate the need for protection depending on whether there has been a history of local subterranean termite damage.

MOD-HEAVY

a. Weathering may require a higher strength concrete or grade of masonry than necessary to satisfy the structural requirements of this code. The weathering column shall be filled in with the weathering

index, "negligible," "moderate" or "severe" for concrete as determined from Figure R301.2(3). The grade of masonry units shall be determined from ASTM C 34, C 55, C 62, C 73, C 90, C 129, C 145

d. The jurisdiction shall fill in this part of the table with the wind speed from the basic wind speed map [Figure R301.2(4)A]. Wind exposure category shall be determined on a site-specific basis in

e. The outdoor design dry-bulb temperature shall be selected from the columns of 97¹/₂-percent values for winter from Appendix D of the International Plumbing Code. Deviations from the Appendix D

g. The jurisdiction shall fill in this part of the table with (a) the date of the jurisdiction's entry into the National Flood Insurance Program (date of adoption of the first code or ordinance for management o

flood hazard areas), (b) the date(s) of the Flood Insurance Study and (c) the panel numbers and dates of the currently effective FIRMs and FBFMs or other flood hazard map adopted by the authority

h. In accordance with Sections R905.1.2, R905.4.3.1, R905.5.3.1, R905.6.3.1, R905.6.3.1, R905.8.3.1, where there has been a history of local damage from the effects of ice damming, the

i. The jurisdiction shall fill in this part of the table with the 100-year return period air freezing index (BF-days) from Figure R403.3(2) or from the 100-year (99 percent) value on the National Climatic Data

I. In accordance with Figure R301.2(4)A, where there is local historical data documenting unusual wind conditions, the jurisdiction shall fill in this part of the table with "YES" and identify any specific

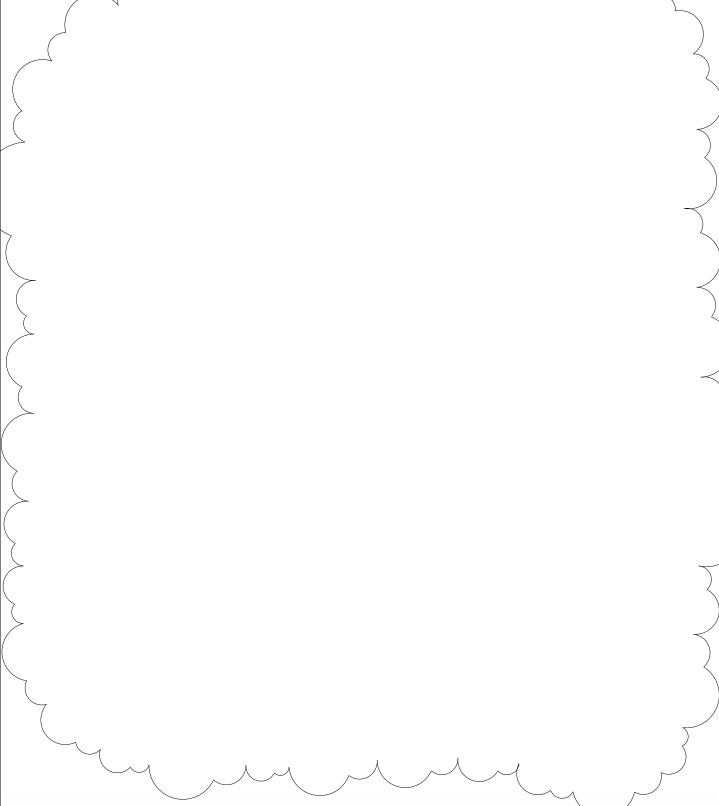
j. The jurisdiction shall fill in this part of the table with the mean annual temperature from the National Climatic Data Center data table "Air Freezing Index-USA Method (Base 32°F

m. In accordance with Section R301.2.1.2.1, the jurisdiction shall indicate the wind-borne debris wind zone(s). Otherwise, the jurisdiction shall indicate "NO" in this part of the table

b. The frost line depth may require deeper footings than indicated in Figure R403.1(1). The jurisdiction shall fill in the frost line depth column with the minimum depth of footing below finish grade.

Wall Assemblies: min. STC 45 when tested as per ASTM E 90. Concrete masonry assemblies to be as per TMS 0302 or testing in accordance with ASTM E 90. Floor-Ceiling Assemblies: n/a

The sound transmission class (STC rating) of a double stud wall per USG 050819 is STC 66.



WINTER

-9.6°F

ICE BARRIER

UNDERLAYMENT REQUIRED^h

RIDGE NEST UNIT 7

FREEZING

DATE: 19 JUL 2017 DRAWN BY: ΥW AS CHECKED BY:

SHEET A0.2 **GENERAL NOTES**

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TREK ENGINEERING, INC. 3840 E CASSELLE AVE ORANGE, CA 92869 TEL: 714 769 9700

MECHANICAL ENGINEER



PROJECT:

Address: SUMMIT POWDER MOUNTAIN

7914 E.HEARTWOOD DR.

UNIT 7, EDEN, UT 84310

DESCRIPTION DATE

08.25.2017

09.05.2017

10.06.2017

ISSUE FOR ARC FINAL REVIEW

ISSUE FOR PERMIT

REISSUE FOR PERMIT



STATE OF CALIFORNIA
BUSINESS, CONSUMER SERVICES, AND HOUSING AGENCY
DEPARTMENT OF HOUSING AND COMMUNITY DEVELOPMENT

Certificate of Approval

FACTORY BUILT HOUSING QUALITY ASSURANCE INSPECTOR

Certificate Number: IF1500758
Issue Date: May 31, 2017 Expiration Date: May 31, 2020

This Will Certify That

HECTOR F LOPEZ

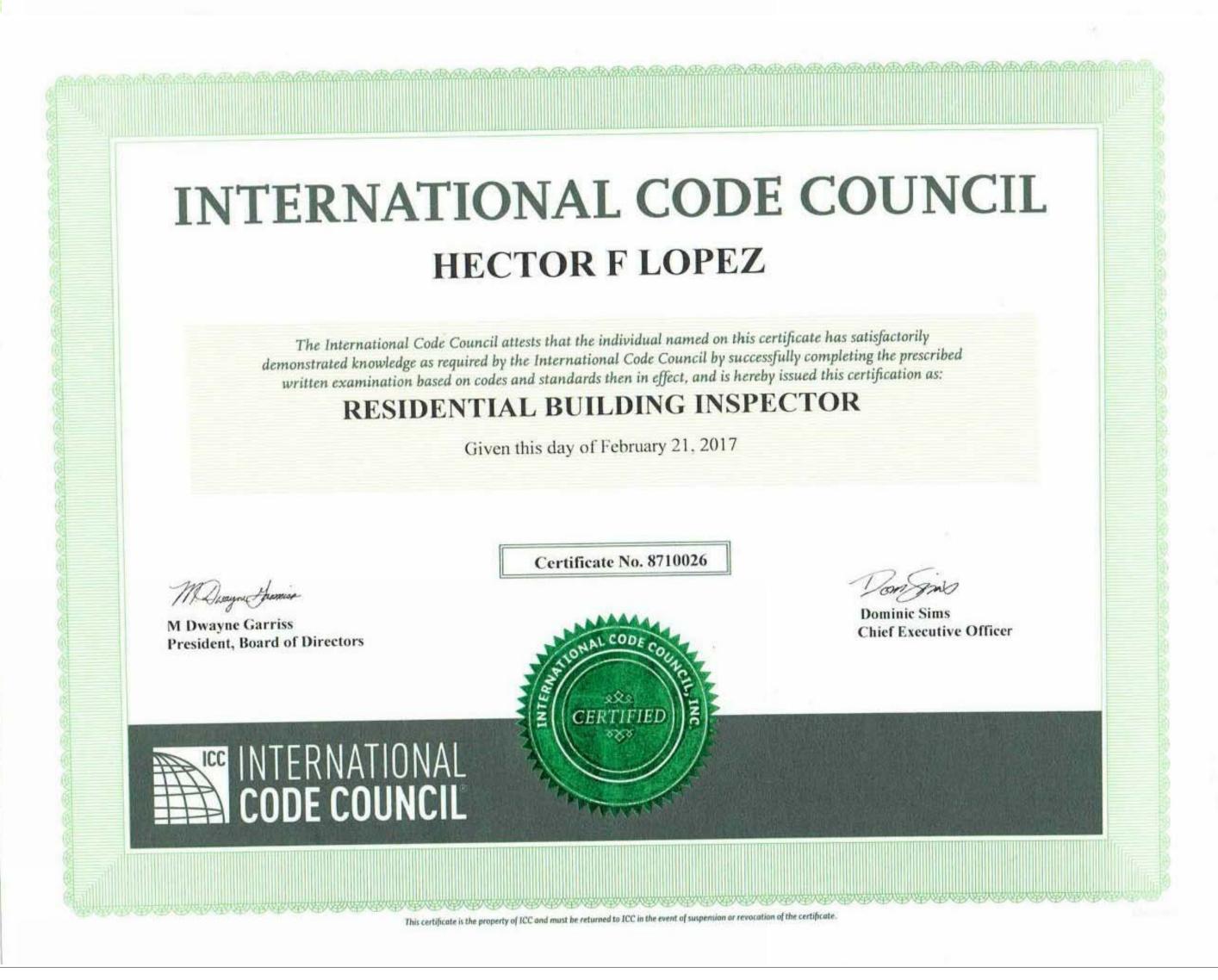
has met the minimum qualifications required of a Factory Built Housing QUALITY
ASSURANCE INSPECTOR (QAI), as addressed in the California Code of Regulations, Title 25,
Division 1, Chapter 3. The California Department of Housing and Community Development
(HCD) hereby grants approval for said individual to act as a Factory Built Housing Quality
Assurance Inspector on behalf of HCD.

5/31/2017 (Date)

HCD-OL-119 (Rev. 3/03)







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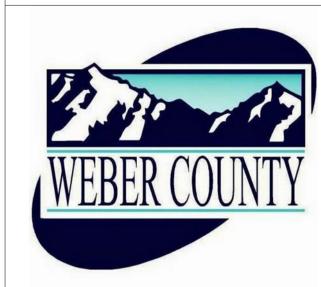
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PROJECT:

RIDGE NEST UNIT 7

Address: SUMMIT POWDER MOUNTAIN

7914 E.HEARTWOOD DR. UNIT 7, EDEN, UT 84310

APN:

DATE: 19 JUL 2017
DRAWN BY: YW
CHECKED BY: AS
DESCRIPTION DATE

ISSUE FOR PERMIT 09.05.2017

SHEET AO.3
HCD INSPECTION FORMS



RIDGE NEST UNIT 7

Energy Code: **Utah Energy Conservation Code** Location: Huntsville, Utah Construction Type: Single-family Project Type: **New Construction** Conditioned Floor Area: 732 ft2 Glazing Area Climate Zone: 5 (8065 HDD) Permit Date:

Compliance: 16.0% Better Than Code Maximum UA: 212 Your UA: 178

Construction Site: 7914 E. Heartwood Drive Eden, UT 84310

Permit Number:

Owner/Agent:

Living Homes 2910 Lincoln Blvd Santa Monica, CA 90405 (310) 581-8500

Designer/Contractor:

The % Better or Worse Than Code Index reflects how close to compliance the house is based on code trade-off rules. It DOES NOT provide an estimate of energy use or cost relative to a minimum-code home.

Envelope Assemblies

mpliance: Passes using UA trade-off

Assembly	Gross Area or Perimeter	Cavity R-Value	Cont. R-Value	U-Factor	UA
Floor: All-Wood Joist/Truss:Over Outside Air	732	30.0	0.0	0.033	24
NE Wall: Wood Frame, 16" o.c.	324	21.0	0.0	0.057	15
Window E: Wood Frame:Double Pane	40			0.260	10
Window F: Wood Frame:Double Pane	4			0.260	1
Window G: Wood Frame:Double Pane	25			0.260	7
SW Wall: Wood Frame, 16" o.c.	264	21.0	0.0	0.057	12
Window B: Wood Frame:Double Pane	30			0.260	8
Window H: Wood Frame:Double Pane	30			0.260	8
SE Wall: Wood Frame, 16" o.c.	283	21.0	0.0	0.057	13
Window A: Wood Frame:Double Pane	16			0.260	4
Door 1: Solid	21			0.500	11
Window 1: Wood Frame:Double Pane	12			0.260	3
NW Wall: Wood Frame, 16" o.c.	283	21.0	0.0	0.057	8
Window D: Wood Frame:Double Pane	35			0.260	9
Door 3: Glass	77			0.260	20
Window C: Wood Frame:Double Pane	33			0.260	9

Gross Area Cavity Cont. U-Factor UA
Perimeter R-Value R-Value Assembly Roof: Cathedral Ceiling 49.0

Mechanical Equipment

	and the state of the state of	 an alternative below the	
Gas-Fired Steam		95 AFUE	

Compliance Statement: The proposed building design described here is consistent with the building plans, specifications, and other calculations submitted with the permit application. The proposed building has been designed to meet the Utah Energy Conservation Code requirements in REScheck Version 4.6.4 and to comply with the mandatory requirements listed in the REScheck Inspection

Name - Title

Project Notes: Job# 129613

REScheck Software Version 4.6.4 Inspection Checklist

Energy Code: Utah Energy Conservation Code

Requirements: 96.0% were addressed directly in the REScheck software Text in the "Comments/Assumptions" column is provided by the user in the REScheck Requirements screen. For each

is being claimed. Where compliance is itemized in a separate table, a reference to that table is provided.

requirement, the user certifies that a code requirement will be met and how that is documented, or that an exception

Section # & Req.ID	Pre-Inspection/Plan Review	Plans Verified Value	Field Verified Value	Complies?	Comments/Assumptions	
103.1, 103.2 [PR1] ¹	Construction drawings and documentation demonstrate energy code compliance for the building envelope.			□Complies □Does Not □Not Observable □Not Applicable	Requirement will be met.	
302.1, 403.6 [PR2] ²	Heating and cooling equipment is sized per ACCA Manual S based on loads calculated per ACCA	Heating: Btu/hr Cooling:	Heating: Btu/hr Cooling:	□Complies □Does Not □Not Observable	Requirement will be met.	

☐Not Applicable

Additional Comments/Assumptions:

Manual J or other methods

approved by the code official.

1 High Impact (Tier 1) 2 Medium Impact (Tier 2) 3 Low Impact (Tier 3)

Section # & Req.ID	Foundation Inspection	Complies?	Comments/Assumptions	
303.2.1 [FO11] ²	A protective covering is installed to protect exposed exterior insulation	□Complies □Does Not	Requirement will be met.	
0	and extends a minimum of 6 in. below grade.	□Not Observable □Not Applicable		
403.8 [FO12] ²	Snow- and ice-melting system controls installed.	□Complies □Does Not	Requirement will be met.	
0		□Not Observable □Not Applicable		

1 High Impact (Tier 1) 2 Medium Impact (Tier 2) 3 Low Impact (Tier 3)

Additional Comments/Assumptions:

	GENERAL CONTRACTOR
	BLUE WILLOW BUILDERS INC.
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SURVEYOR + CIVIL ENGINEER TALISMAN CIVIL CONSULTANTS 5217 SOUTH STATE ST. SUITE 200 MURRAY, UT 84107

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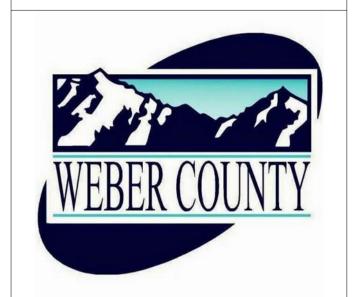
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MECHANICAL ENGINEER TREK ENGINEERING, INC. 3840 E CASSELLE AVE ORANGE, CA 92869 TEL: 714 769 9700



Section # & Req.ID	Framing / Rough-In Inspection	Plans Verified Value	Field Verified Value	Complies?	Comments/Assumptions
402.1.1, 402.3.4 [FR1] ¹	Door U-factor.	U	U	□Complies □Does Not □Not Observable □Not Applicable	See the Envelope Assemblies table for values.
402.1.1, 402.3.1, 402.3.3, 402.3.6, 402.5 [FR2] ¹	Glazing U-factor (area-weighted average).	U	U	□Complies □Does Not □Not Observable □Not Applicable	See the Envelope Assemblies table for values.
303.1.3 [FR4] ¹	U-factors of fenestration products are determined in accordance with the NFRC test procedure or taken from the default table.			☐Complies☐Does Not☐Not Observable☐Not Applicable	Requirement will be met.
402.4.3 [FR20] ¹	Fenestration that is not site built is listed and labeled as meeting AAMA /WDMA/CSA 101/I.S.2/A440 or has infiltration rates per NFRC 400 that do not exceed code limits.			□Complies □Does Not □Not Observable □Not Applicable	Requirement will be met.
402.4.4 [FR16] ²	IC-rated recessed lighting fixtures sealed at housing/interior finish and labeled to indicate ≤2.0 cfm leakage at 75 Pa.			□Complies □Does Not □Not Observable □Not Applicable	Requirement will be met.
403.2.1 [FR12] ¹	Supply ducts in attics are insulated to ≥R-8. All other ducts in unconditioned spaces or outside the building envelope are insulated to ≥R-6.	R R	R R	□Complies □Does Not □Not Observable □Not Applicable	Exception: Ducts located completely inside the building envelope.
403.2.2 [FR13] ¹	All joints and seams of air ducts, air handlers, and filter boxes are sealed.			□Complies □Does Not □Not Observable □Not Applicable	Exception: Requirement is not applicable.
403.3 [FR17] ²	HVAC piping conveying fluids above 105 °F or chilled fluids below 55 °F are insulated to ≥R- 3.	R	R	□Complies □Does Not □Not Observable □Not Applicable	Requirement will be met.
403.3.1 [FR24] ²	Protection of insulation on HVAC piping.			□Complies □Does Not □Not Observable □Not Applicable	Requirement will be met.
403.4.2 [FR18] ²	Hot water pipes are insulated to ≥R-3.	R	R	□Complies □Does Not □Not Observable □Not Applicable	Requirement will be met.
403.5 [FR19] ²	Automatic or gravity dampers are installed on all outdoor air intakes and exhausts.			□Complies □Does Not □Not Observable □Not Applicable	Requirement will be met.

1 High Impact (Tier 1) 2 Medium Impact (Tier 2) 3 Low Impact (Tier 3)

Section # & Req.ID	Insulation Inspection	Plans Verified Value	Field Verified Value	Complies?	Comments/Assumptions
803.1 IN13] ²	All installed insulation is labeled or the installed R-values provided.			□Complies □Does Not □Not Observable □Not Applicable	Requirement will be met.
102.1.1, 102.2.6 IN1] ¹	Floor insulation R-value.	R Wood Steel	R Wood Steel	□Complies □Does Not □Not Observable □Not Applicable	See the Envelope Assemblies table for values.
803.2, 802.2.7 IN2] ¹	Floor insulation installed per manufacturer's instructions, and in substantial contact with the underside of the subfloor.			Complies Does Not Not Observable Not Applicable	
102.1.1, 102.2.5, 102.2.6 IN3] ¹	Wall insulation R-value. If this is a mass wall with at least ½ of the wall insulation on the wall exterior, the exterior insulation requirement applies (FR10).	R Wood Mass Steel	RWood Mass Steel	□Complies □Does Not □Not Observable □Not Applicable	See the Envelope Assemblies table for values.
303.2 IN4] ¹	Wall insulation is installed per manufacturer's instructions.		1	Complies Does Not Not Observable Not Applicable	Requirement will be met.

1 High Impact (Tier 1) 2 Medium Impact (Tier 2) 3 Low Impact (Tier 3)

Section # & Req.ID	Final Inspection Provisions	Plans Verified Value	Field Verified Value	Complies?	Comments/Assumption
402.1.1, 402.2.1, 402.2.2, 402.2.6 [FI1] ¹	Ceiling insulation R-value.	R Wood Steel	R Wood Steel	□Complies □Does Not □Not Observable □Not Applicable	See the Envelope Assemblies table for values.
303.1.1.1, 303.2 [FI2] ¹	Ceiling insulation installed per manufacturer's instructions. Blown insulation marked every 300 ft ² .			☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
402.2.3 [FI22] ²			Exception: Requirement is not applicable.		
402.2.4 [FI3] ¹	Attic access hatch and door insulation ≥R-value of the adjacent assembly.	R	R	□Complies □Does Not □Not Observable □Not Applicable	Requirement will be met.
403.2.2 [FI4] ¹	Duct tightness test result of <=10 cfm/100 ft2 across the system or <=7.5 cfm/100 ft2 without air handler @ 25 Pa. For rough-in tests, verification may need to occur during Framing Inspection.	cfm/100	cfm/100	□Complies □Does Not □Not Observable □Not Applicable	Exception: Requirement is not applicable.
403.2.2.1 [FI24] ¹	Air handler leakage designated by manufacturer at <=2% of design air flow.			☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Exception: Requirement is not applicable.
403.1.1 [FI9] ²	Programmable thermostats installed on forced air furnaces.			□Complies □Does Not □Not Observable □Not Applicable	Exception: Requirement is not applicable.
403.1.2 [FI10] ²	Heat pump thermostat installed on heat pumps.			□Complies □Does Not □Not Observable □Not Applicable	Exception: Requirement is not applicable.
403.4.1 [FI11] ²	Circulating service hot water systems have automatic or accessible manual controls.			□Complies □Does Not □Not Observable □Not Applicable	Requirement will be met.
403.5.1 [FI25] ²	All mechanical ventilation system fans not part of tested and listed HVAC equipment meet efficacy and air flow limits.			□Complies □Does Not □Not Observable □Not Applicable	Requirement will be met.
401.3 [FI7] ²	Compliance certificate posted.			□Complies □Does Not □Not Observable □Not Applicable	Requirement will be met.
303.3 [FI18] ³	Manufacturer manuals for mechanical and water heating systems have been provided.			□Complies □Does Not □Not Observable □Not Applicable	Requirement will be met.

1 High Impact (Tier 1) 2 Medium Impact (Tier 2) 3 Low Impact (Tier 3)



0.26 Efficiency **Gas-Fired Steam** 95 AFUE PROJECT:

RIDGE NEST UNIT 7

Address: SUMMIT POWDER MOUNTAIN

7914 E.HEARTWOOD DR. UNIT 7, EDEN, UT 84310

DATE:	19 JUL 2017
DRAWN BY:	YW
CHECKED BY:	AS
# DESCRIPTION	DATE
ISSUE FOR PERMIT	09.05.2017

SHEET A0.4 RESCHECK

Additional Comments/Assumptions:



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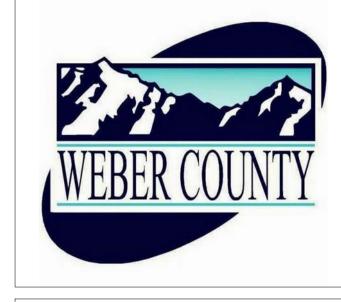
GENERAL CONTRACTOR
BLUE WILLOW BUILDERS INC.
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PROJECT:

RIDGE NEST UNIT 7

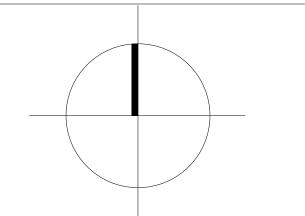
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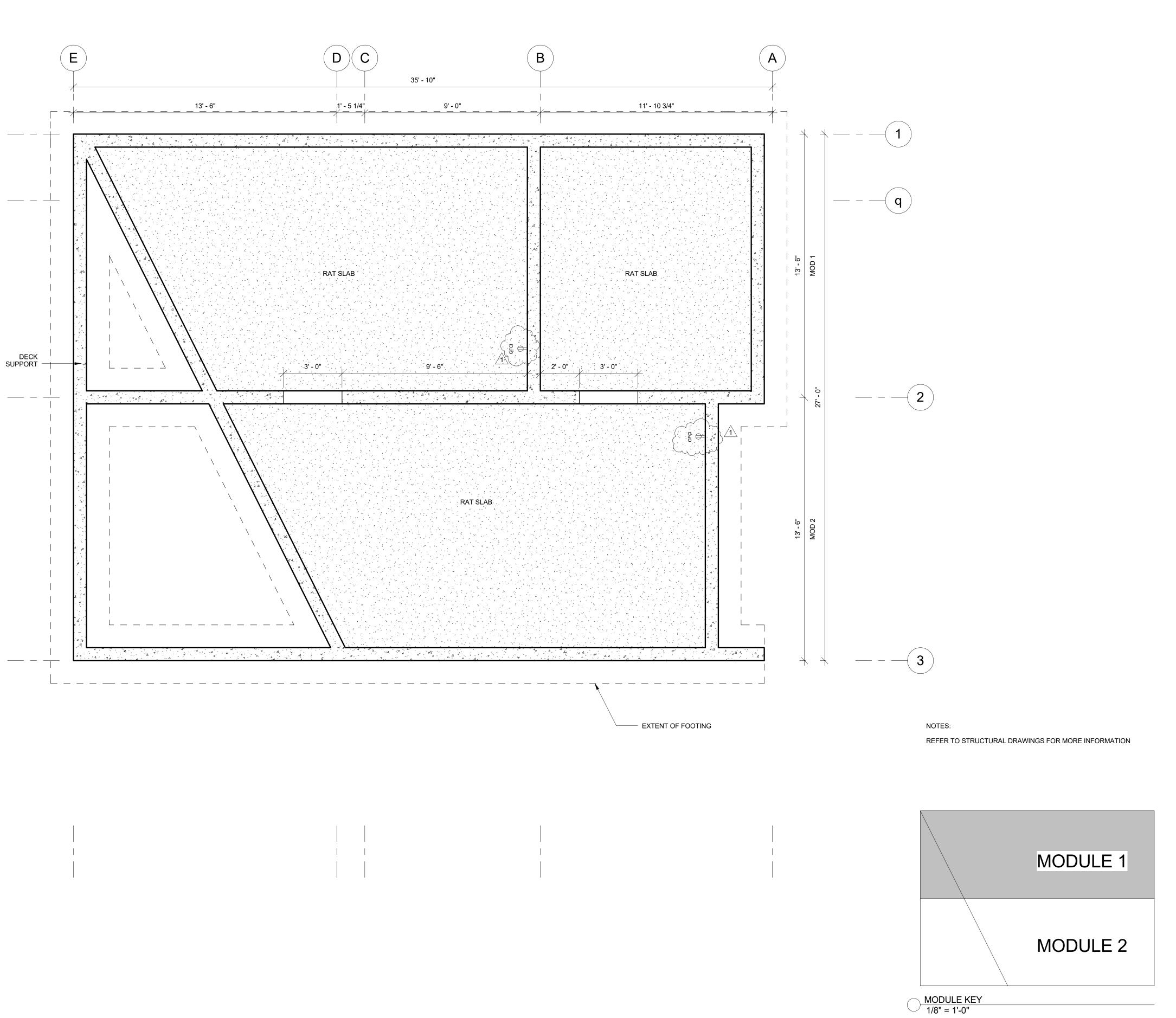
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DATE: 19 JUL 2017
DRAWN BY: YW
CHECKED BY: AS
DESCRIPTION DATE

ISSUE FOR ARC CONCEPTUAL 08.04.2017
DESIGN REVIEW 08.25.2017
ISSUE FOR PERMIT 09.05.2017



SHEET A1.1
SITE PLAN



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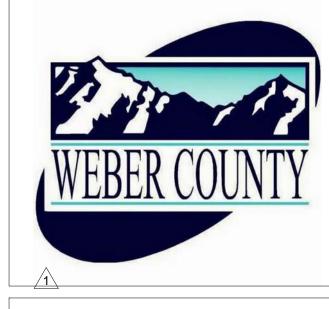
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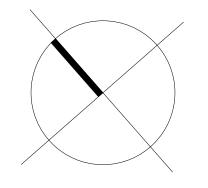
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10.06.2017

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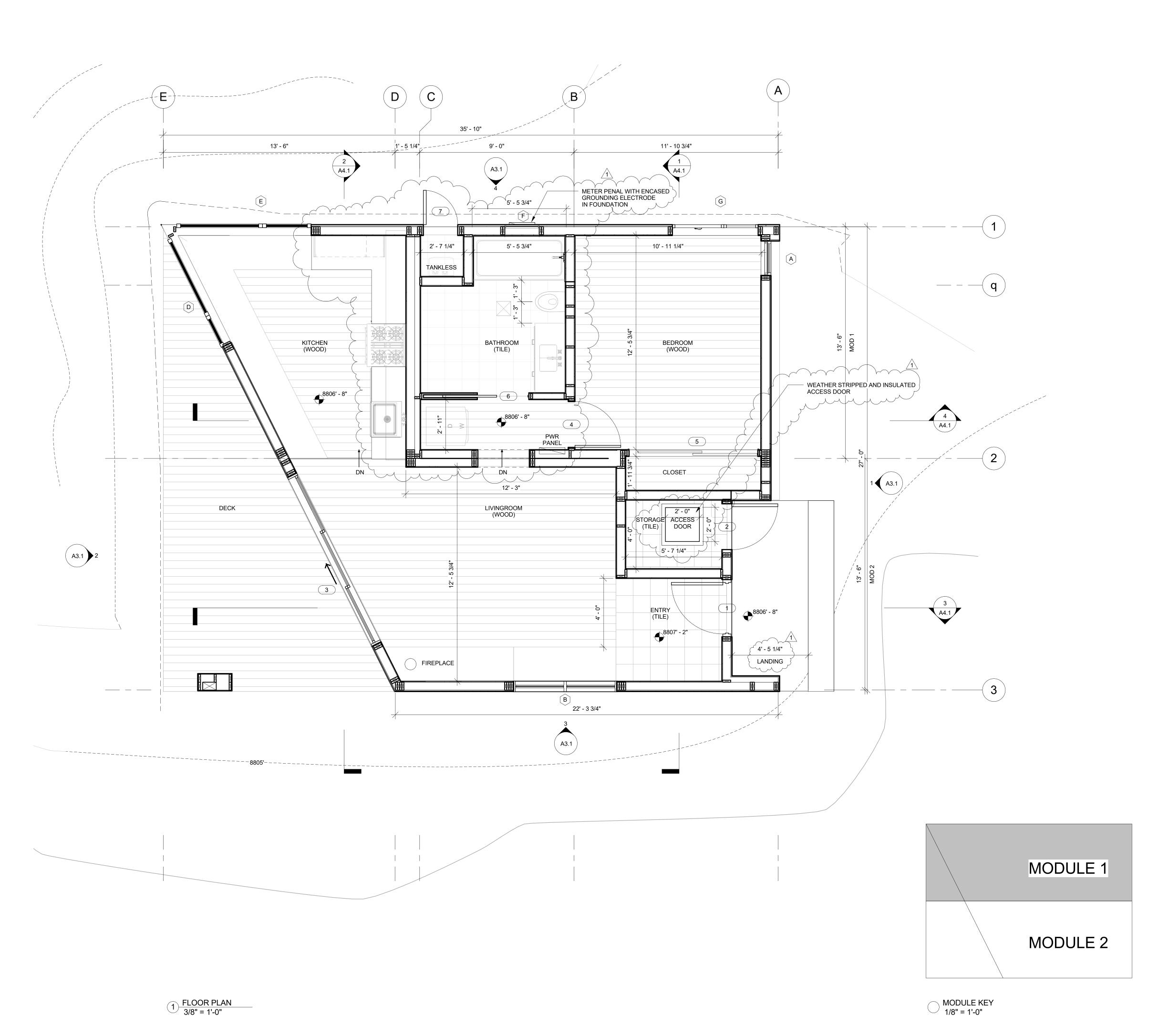
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#	#	DESCRIPTION		DATE	
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SHEET A2.0
FOUNDATION PLAN

1 FOUNDATION PLAN 3/8" = 1'-0"



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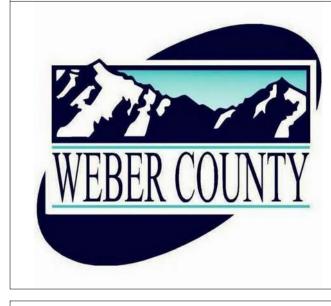
GENERAL CONTRACTOR
BLUE WILLOW BUILDERS INC.
7103 SOUTH REDWOOD RD. SUITE 426
WEST JORDAN, UT 84084
TEL: 801 910 7614

SURVEYOR + CIVIL ENGINEER
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TEL: 801 743 1300

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INNOVATIVE STRUCTURAL ENG'G
40810 COUNTY CENTER DR. SUITE 110
TEMECULA, CA 92591
TEL: 951 600 0032

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INTERMOUNTAIN GEOENVIRON
-MENTAL SERVICES, INC.
12429 SOUTH 300 EAST, SUITE 100,
DRAPER, UT, 84120
TEL: 801 748 4044

MECHANICAL ENGINEER
TREK ENGINEERING, INC.
3840 E CASSELLE AVE
ORANGE, CA 92869
TEL: 714 769 9700



PROJECT:

RIDGE NEST UNIT 7

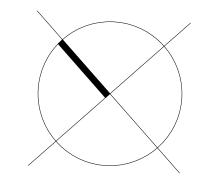
Address: SUMMIT POWDER MOUNTAIN

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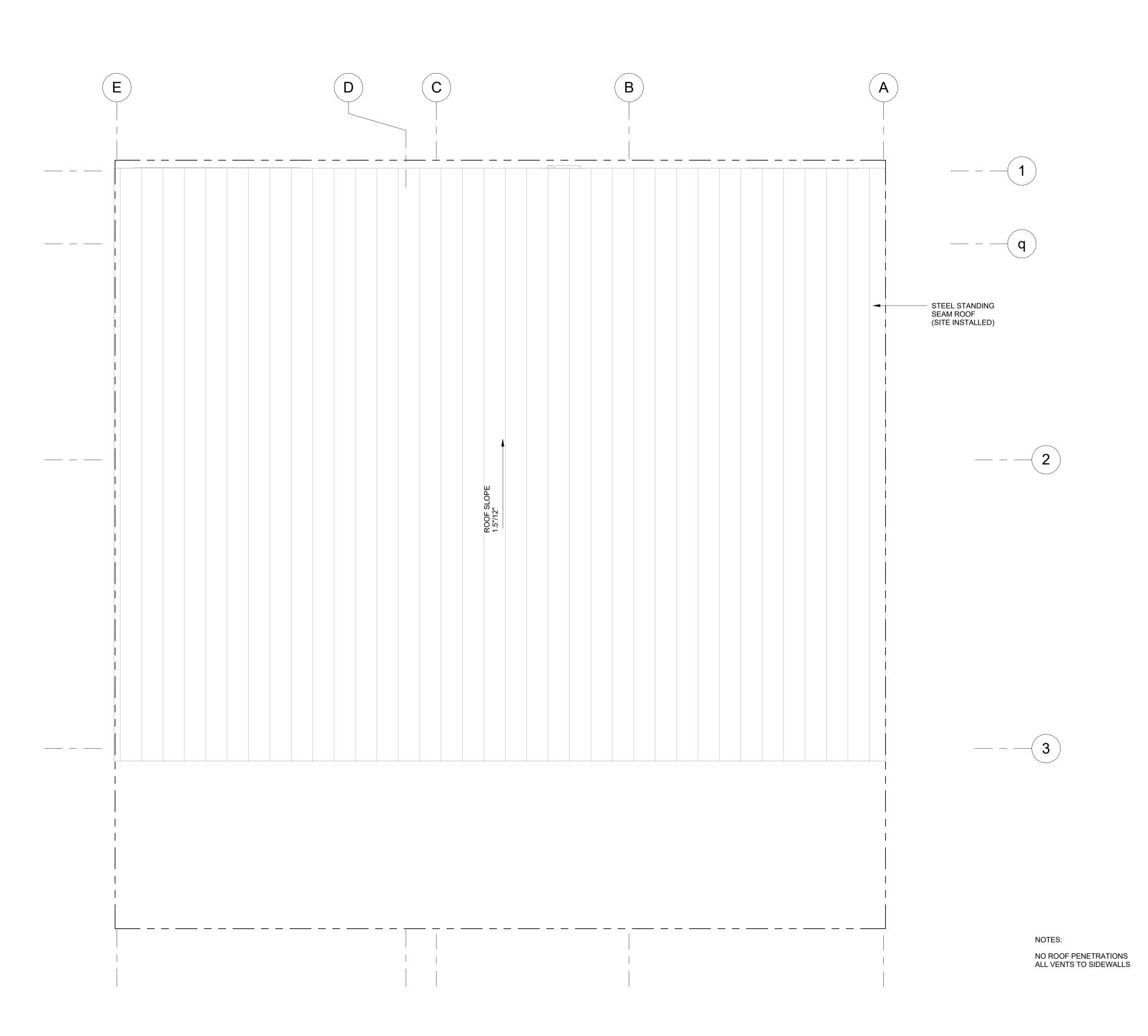
APN

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SHEET A2.1
FLOOR PLAN



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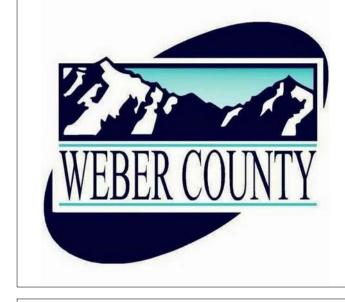
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PROJECT:

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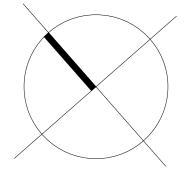
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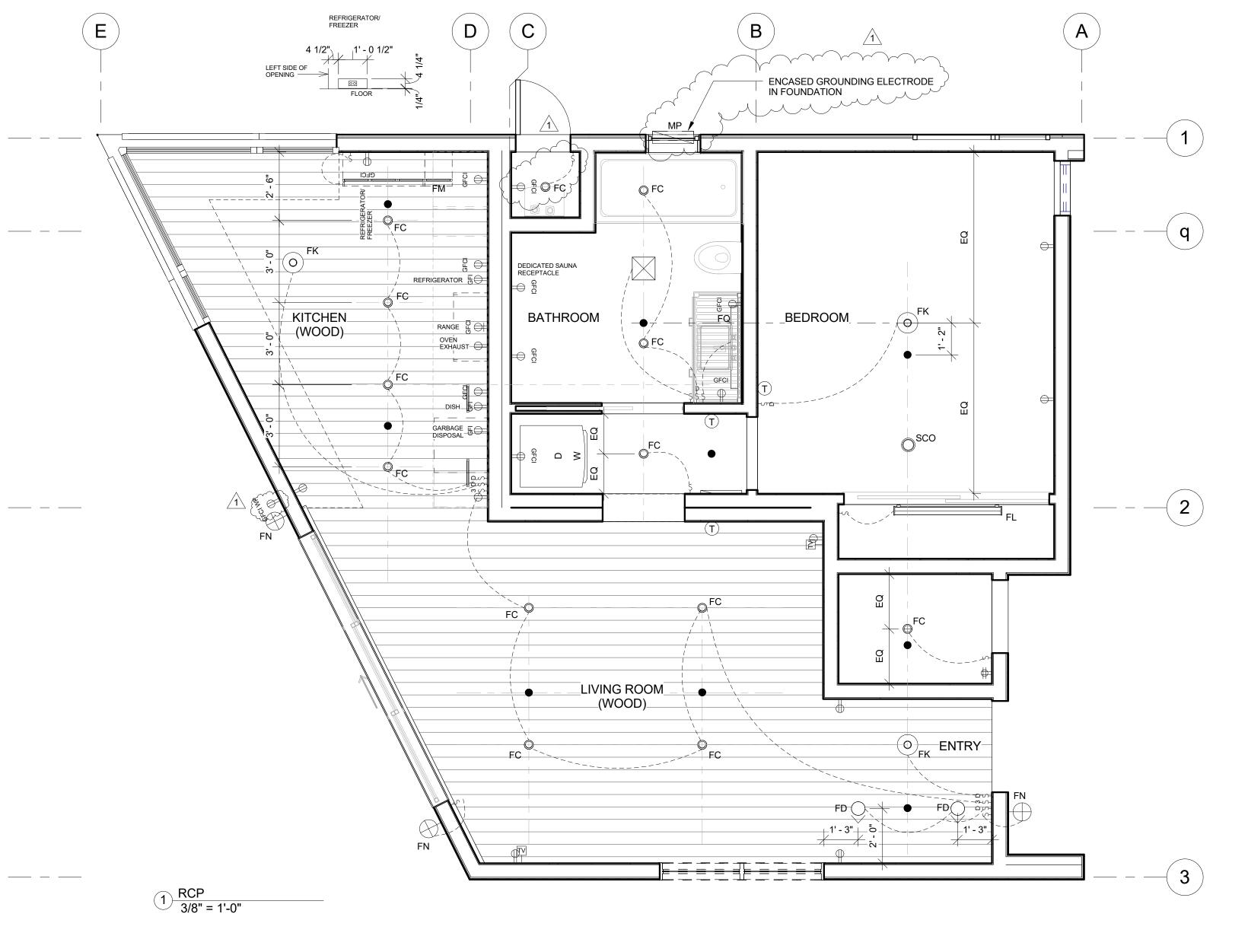
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SHEET A2.3
ROOF PLAN



ELECTRICAL NOTE:

PLEASE CONTACT ELECTRICIAN & LOG STACKER PRIOR TO CONSTRUCTION OF BUILDING TO ENSURE ACCURACY OF ALL ELECTRICAL WIRING.

 ALL RECEPTACLES SERVING KITCHEN COUNTERTOPS, IN GARAGES, BATHS, UNFINISHED BASEMENTS AND OUTSIDE RECEPTACLES SHALL BE GFCI PROTECTED (IRC E3802).

3. EXTERIOR OUTLETS SHALL HAVE WATERPROOF COVERINGS.

4. ALL ELECTRICAL OUTLET BRANCH CIRCUITS IN ALL BEDROOMS TO BE PROVIDED WITH/

ARC FAULT PROTECTION.

5. PROVIDE SMOKE DETECTORS CONFORMING TO IRC SECTION R313. ALL LEVELS, ALL BEDROOMS, ACCESS TO ALL BEDROOMS, AND IN ALL ROOMS WITH SLOPED CEILINGS NEXT TO HALLS SERVING BEDROOMS. ALL SMOKE DETECTORS SHALL BE WIRED IN SERIES WITH/ BATTERY BACK UP. SMOKE DETECTORS SHALL BE INTERCONNECTED SUCH THAT ACTUATION OF ONE SHALL ACTUATE ALL SMOKE DETECTORS. (R313.1-2) 6. CARBON MONOXIDE DETECTORS SHALL BE INSTALLED ON EACH HABITABLE LEVEL OF A DWELLING UNIT EQUIPPED WITH A FUEL BURNING APPLIANCE AND SHALL BE INTERCONNECTED WITH/ SMOKE DETECTORS & HARD WIRED WITH/ BATTERY BACKUP. (R313.2 AS AMENDED BY STATE).

7. ALL BATHROOM FANS TO BE VENTED TO EXTERIOR AT A RATE OF 50 CUBIC FEET PER MINUTE FOR INTERMITTENT OR 20 CUBIC FEET PER MINUTE FOR CONTINUOUS VENTILATION (IRC R303.3).

8. COPPER GROUND ROD TO BE 1/2" x 8" DRIVEN VERTICALLY INTO GROUND BELOW METER BASE/DISCONNECT LOCATION FOR GROUNDING AND BONDING OF ALL METAL PIPING INCLUDING GAS

9. ALL RECEPTACLES SERVICING UNFINISHED BASEMENTS TO BE GFCI PROTECTED.

10. ELECTRICAL PANELS MUST HAVE 30" WIDE BY 36" DEEP WORKING SPACE & 6'-6" HEADROOM. PROVIDE PROPER FIRE RATING FOR BOXES FACING INTO GARAGES.

11. LL SPAS AND HOT TUBS SHALL COMPLY WITH THE CURRENT INTERNATIONAL

RESIDENTIAL CODE, SPECIFICALLY EQUIPMENT LOCATION AND CLEARANCES SHALL

12. PROVIDE A COMFORT HEATING SYSTEM CAPABLE OF MAINTAINING 68 DEGREES FAHRENHEIT AT A POINT 36 INCHES ABOVE THE FLOOR IN ALL ROOMS (IRC R303.8).
13. OUTLETS ARE REQUIRED TO BE INSTALLED SO THAT NO POINT ALONG WALLS IS MORE THAN 6 FEET FROM AN OUTLET.

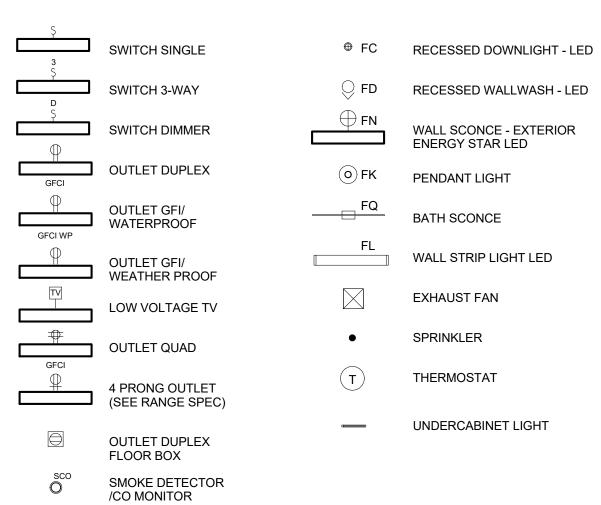
14. A PERMANENT CERTIFICATE SHALL BE POSTED ON OR IN THE ELECTRICAL DISTRIBUTION PANEL LISTING THE PREDOMINANT R-VALUES OF INSPECTION INSTALLED IN OR ON CEILING/ROOF, WALLS, FOUNDATION, (SLAB BASEMENT WALL, CRAWLSPACE WALL AND/OR FLOOR) AND DUCTS OUTSIDE THE CONDITIONED SPACES; U-FACTORS OF WINDOWS, AND SOLAR HEAT GAIN COEFFICIENT OF WINDOWS. THE TYPE AND EFFICIENCY OF HEATING, COOLING AND SERVICE WATER HEATING EQUIPMENT SHALL ALSO BE LISTED. -IRC N1101.9

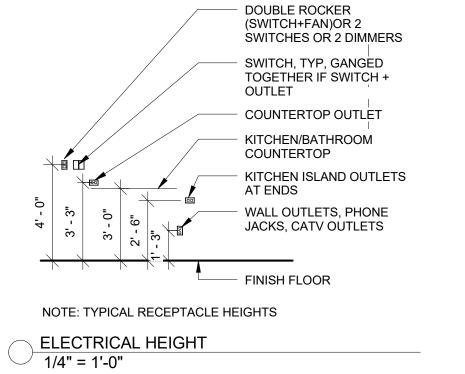
15. A MINIMUM OF 50 PERCENT OF LAMPS IN PERMANENTLY INSTALLED LIGHTING FIXTURES SHALL BE HIGH-EFFICIENCY LAMPS.

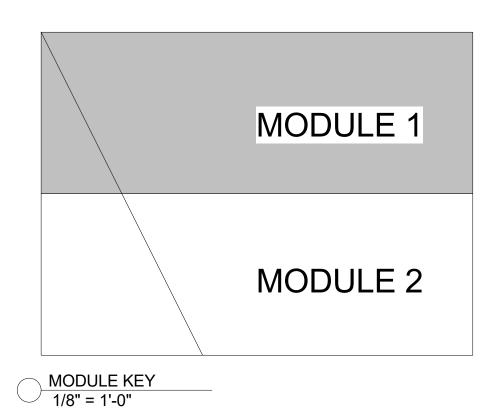
16. ALL 15 AND 20 AMP RECEPTACLES WITH-IN THE DWELLING UNIT SHALL BE TAMPER

RESISTANT RECEPTACLES.

17. IN THE KITCHEN, A MINIMUM OF TWO 20 AMPERE SMALL-APPLIANCE BRANCH CIRCUITS SHALL SERVE ALL WALL AND FLOOR RECEPTACLE OUTLETS.







ELECTRICAL LEGEND

1/4" = 1'-0"

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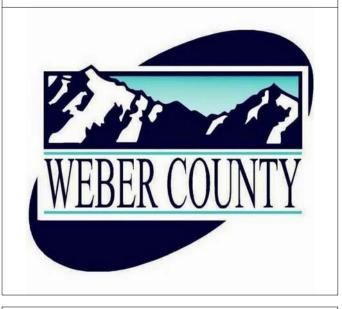
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PROJECT:

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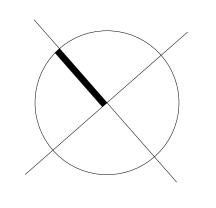
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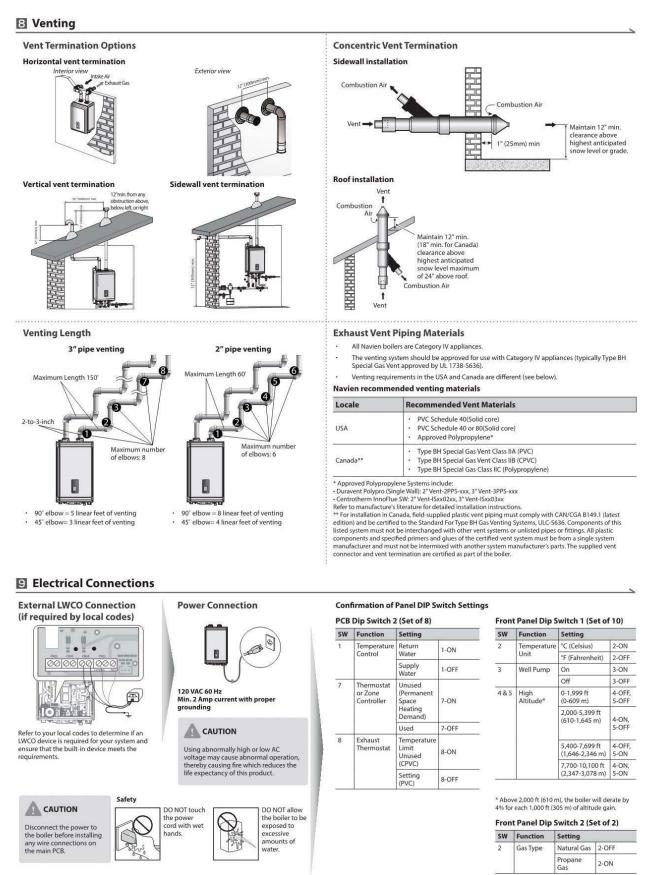
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SHEET A2.4
RCP & POWER PLAN



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Mavien

Condensing Gas
Combination Boiler

Certified design according to ANSI Z21.13 - CSA 4.9-2014 standards for indoor residential applications

Stainless Steel Flat Plate Heat Exchanger* for DHW (* certified to IAPMO PS 92-2013 standards)

Compatible with NaviEnk. Wi-Fi Control

 AFUE Ratings
 NCB-150E/-180E/-210E/-240E - 95.0% (NG/LPG) Compatible with Natural Gas (NG) and Propane (LPG)***
[*** requires installation of included Field Conversion Kit by a qualified gas servicer]

Tender

*

Mavien

00

• Certified by CSA, ASME, NSF/ANSI 372 for Low Lead (DHW only), SCAQMD (Rule 1146.2 Type 1 - Complies with 14 ng/J or 20 ppm NOx @ 3% O

Compatible with 2" PVC vent up to 60 ft** and 3" PVC vent up to 150 ft**
(" with ne elbows)

Backlit Front Panel - allows adjustment of hot water temperatures and boiler functions including Outdoor Reset Curve settings, heating setback, Integrated Low Water Safety Control, water fill pressure, and output capacity

Ready-Link Cascade Compatibility with Navien water heater models - can be connected with up to 15 tankless water heaters for increased DHW output

• Internal Circulation Pump - comes included with a primary circulation pump and air vent for added value and convenience

• Temperature Options - two boiler setpoints: hydronic heating temperatur settings range from 77°F up to 194°F and from 86°F to 140°F for DHW temperatures

• Domestic Hot Water Priority

NCB Series Combination Boilers

Specification Sheet

Sleek Design - Compatible with 2" PVC Vent

INCLUDED Illuminated Front Panel with Advanced Hydronic and DHW Operation

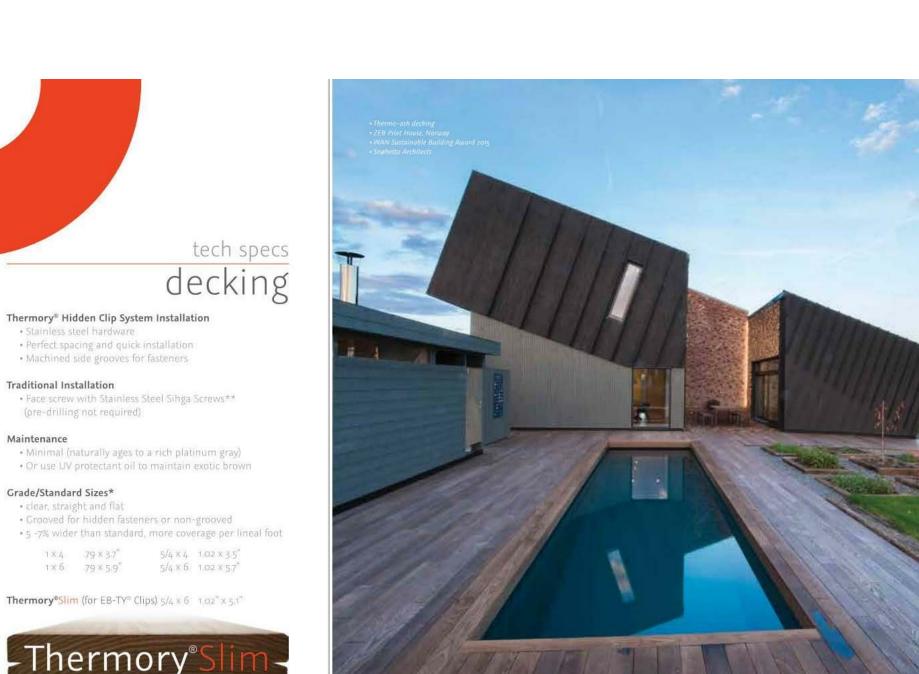
NCB Series Combination Boilers

Specification Sheet

EXTERIOR FINISH SPECIFICATION SIDING STAIN - CABOT WOOD STAIN COLOR: EBONY







Joint End Matched **JEM** Joint NOT required to rest on joists! Reduced waste (98% Yield) Reduced labor costs (less cutting/measuring) Bending strength exceeds deflection code requirements based on ASTM testing – 16 " joist spacing at 90° to deck board - 12" joist spacing at 45° to deck board no pre-drilling Ensures perfect-spacing Stainless steel hardware

Machined side grooves for his

No pre-drilling needed during insta

EXTERIOR LIGHTING SPECIFICATION

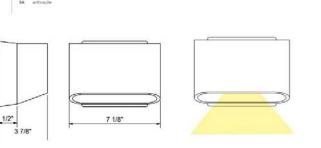
Specifications are subject to change w/o notice.

EXTERIRO FINISH MATERIAL

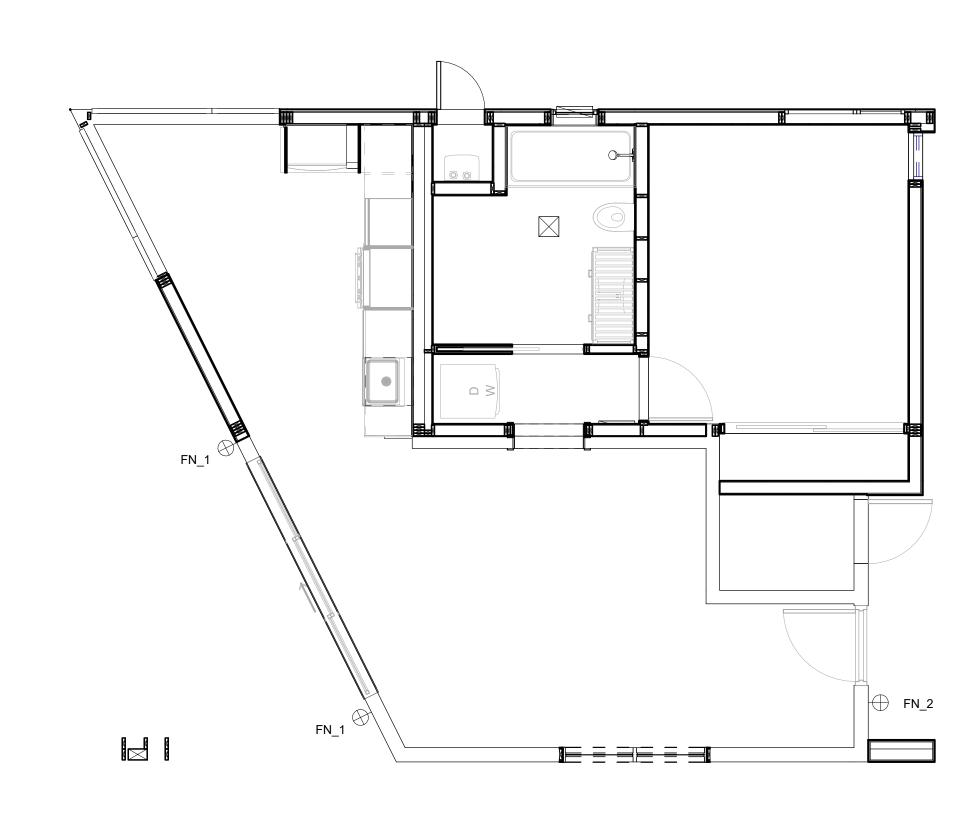
COLOR: EXOTIC BROWN

DECKING MATERIAL - THERMORY DECK

Job Name: Ridge Nest 7	Contact:		
Ordering Code: FN2	Fixture Type: 105055 LED-BK		
0	Outdoor Eclipse 1-Light		
	Description		
	The Outdoor Eclipse 1-Light is an exterior aconce made of extruder aluminum, contemporary organic design allows for a modern book with a warm dow illumination with which the search of the influence of the search organization or the search organization mounted to observe a stan- plow, it is offered in an antimizatio broad felage.		
	Technical Specifications		
	- Integrated LED Module - 100-277 W.C., Softer Irans, AUW - Mosert to 3 1/2" - 4" cottoponal or 4" square monased J-Blox - Bont Circuit prediction - Down East protection - Over Heat		
	LED Performance		
	LED Sharp Lumen 290 Im		
	Lumen 200 Im DUV ,001		
	CCT 3000K CRIRs >80		
	Life L74 30,000 fess.		
	Warranty 5 year Britled warranty		
	Listings		
	FTLus Cinted to UL 1508 (suitable for wet locations) -cFTL Listed to GSA C02.2 9(50.0) ADA Compliant		
Ordering Codes			
Follow the stops to specify your fature, example: 100009-0A			
Part Number Finish			



N-2	
DOUBLE DOWN – model: WS-W137 LED Exterior Sconce	
	Fixture Type: FN-1
5' 4'	Catalog Number: WS-W13718-BK Project: RIDGE NEST
11°	Location: SUMMIT POWDER MOUNTAI
PRODUCT DESCRIPTION	SPECIFICATIONS
PRODUCT DESCRIPTION Paday your bet with this winning hand. The dual down light sconce	Construction: Aluminum
Paday your bet with this winning hand. The dual down light sconce delivers layered lighting from an architectural style with twin down lights emanating from different levels for a tiered effect. Designed in a	Construction: Aluminum Light Source: High output LED.
Paday your bet with this winning hand. The dual down light sconce delivers layered lighting from an architectural type with rivin down lights emanating from different levels for a tiered effect. Designed in a unique format, this sconce makes a welcoming entry light or intriguing sconce in contemporary residential and commercial indoor/fundoor	Construction: Aluminum Light Source: High output LED. Finish: Black (BK), Graphite (GH)
Paday your bet with this winning hand. The dual down light sconce delivers byered lighting from an architectural style with twin down lights emanating from different levels for a tiered effect. Designed in a unique format, this sconce makes a welcoming entry light or intriguing	Construction: Aluminum Light Source: High output LED.
Paday your bet with this winning hand. The dual down light sconce delivers layered lighting from an architectural style with twin down lights emanding from different levels for a letted effect. Designed in a unique format, this sconce makes a welcoming entry light or intriguong sconce in contemporary residential and commercial indoor/outdoor settings. ADA compliant, Dark Sky friendly.	Construction: Aluminum Light Source: High output LED. Finish: Black (BK), Graphite (GH)
Asy your bet with this intendig hand. The dual down light acond born layered lighting from an architectural staye with notin down his emanating from different levels for a tiered effect. Designed in a ispec format, this socione makes a welcoming entry light or intriguing once in contemporary residential and commercial indoor/outdoor trops, ADA complant. Dur's Say friendly. ATURES ETL & ETL Wet Examin lated, IP65 rated ADA complant. Low profile design Alaminium construction Duris Say friendly when mounted in downward orientation United Say friendly when mounted in downward orientation United and driver (120%-220%-277V) Till stage dimning when used with compatible dimmers' 30,000 hour rated Efe Cost Temps (2000).	Construction: Aliminum Light Source: High output LED. Finish: Black (BK), Graphite (GH)



1 EXTERIOR LIGHTING PLAN 1/4" = 1'-0"

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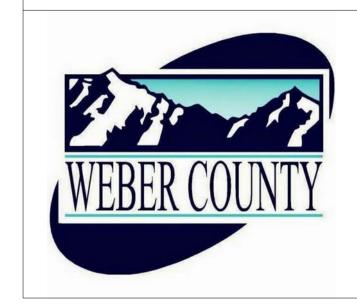
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PROJECT: RIDGE NEST UNIT 7

Address: SUMMIT POWDER MOUNTAIN

7914 E.HEARTWOOD DR.

UNIT 7, EDEN, UT 84310

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SHEET A2.5 MATERIAL SAMPLES, SPECS &

12",16" or 18" Coverage 12",16" or 18" Coverage

Standard Gauge(s): 24 ga., 26 ga. Optional Gauge(s): 22 ga.

Available Substrate(s): Open Framing, Solid Substrate Fastener(s): Standing Seam Roof, Concealed Fastened Standard Finish(es): PVDF (Kynar 500®), MS Colorfast45®, Acrylic Coated Galvalume®

Minimum Slope Requirement: 3:12OF/1:12SS* 3:12 over Open Framing 1:12 over Solid Substrate



Vertical Seam

Panel Coverage: 12", 16", 18" Rib Height: 1-3/4"

As a Structural Standing Seam panel, Vertical Seam delivers a clean, linear elegance paired with unmatched quality for a dependable, long-lasting, and beautiful roof. Structural Standing Seam roof systems are ideal for lower sloping and longer spanning roofs, or where extreme temperature

EXTERIOR FINISH SPECIFICATION

COLOR: DARK BRONZE

ROOFING MATERIAL - METAL SALES VERTICAL SEAM

Other Notes:

Contact Metal Sales for load-carrying capabilities

EXT. LIGHTING



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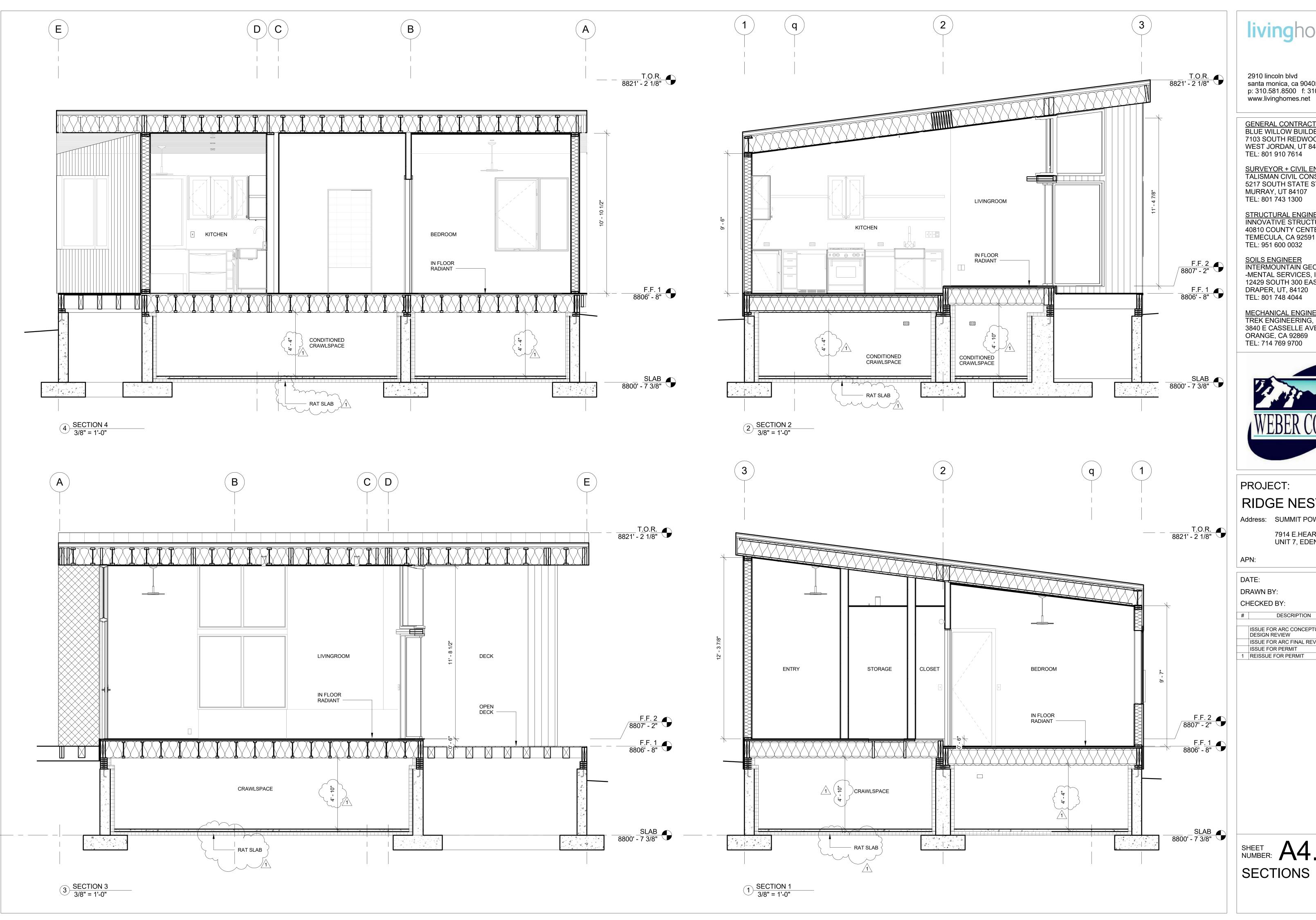
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SHEET A3.1
ELEVATIONS



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SHEET A4.1 SECTIONS

				DOC	R SCHEDUL	.E			
MARK	TYPE	WIDTH	HEIGHT	THICKNESS	FRAME MATERIAL	HARDWAR E TYP	U-VALUE	SHGC	COMMENTS
1	Α	3' - 0"	8' - 0"	0' - 1 3/4"					
2	В	2' - 8"	8' - 0"	0' - 1 3/4"					
3	С	11' - 0"	7' - 2 1/8"	0' - 1 3/4"					
4	D	2' - 8"	7' - 9"	0' - 1 3/8"					PRIVATE LOCK
5	E	7' - 6"	7' - 11 5/8"	0' - 1 3/8"					
6	F	3' - 0"	7' - 0"	0' - 1 3/8"					PRIVATE LOCK
7	В	2' - 0"	6' - 8"						

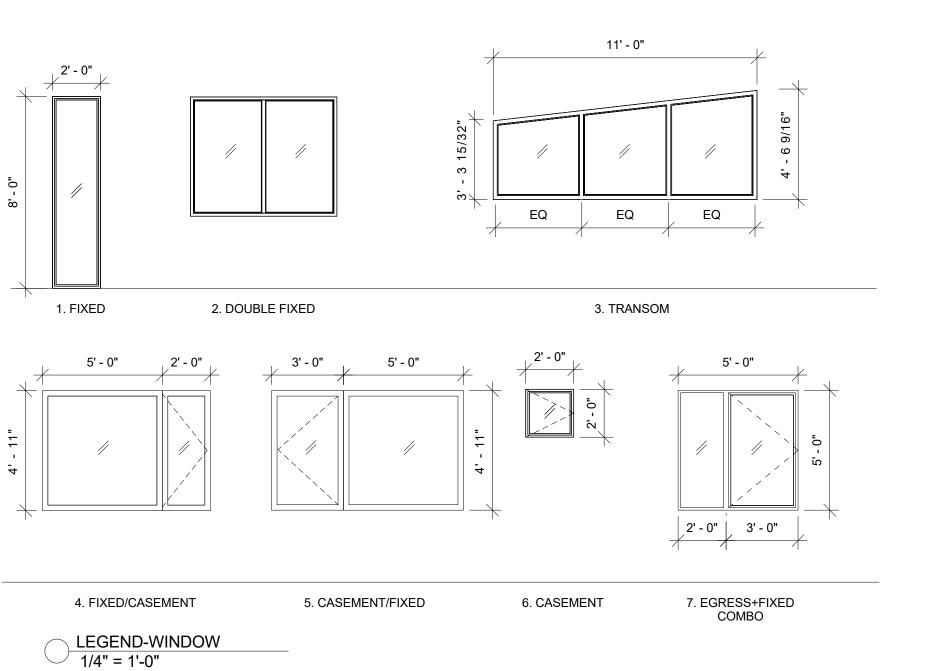
				WIND	OW SCHEE	ULE		
MARK	TYPE	WIDTH	HEIGHT	HARDWAR E TYP	MODEL	U VALUE	SHGC	COMMENTS
Α	1	2' - 0"	8' - 0"					
В	2	6' - 0"	5' - 0 1/8"					
С	3	11' - 0"	4' - 6 9/16"					
D	4	7' - 0"	5' - 0"					
Е	4	7' - 10"	5' - 0"					
F	6	2' - 0"	2' - 0"					
G	7	5' - 0"	5' - 0"					
Н	2	6' - 0"	4' - 10 1/2"					

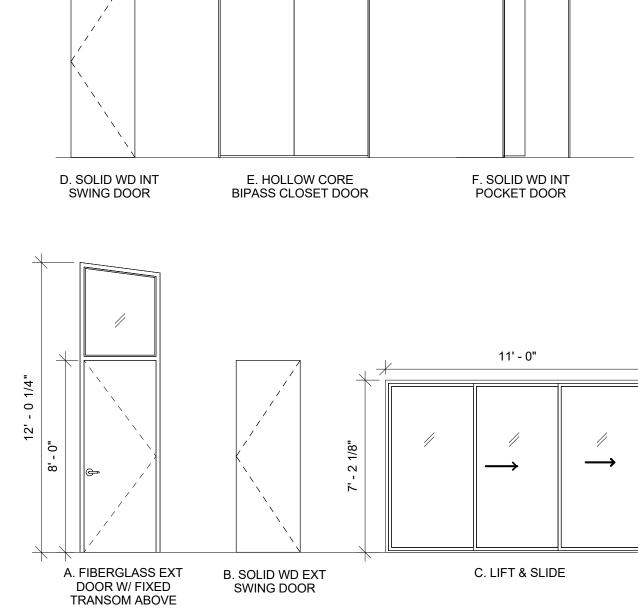
NOTE:

1. ALL GLASS TO BE TEMPERED

2. GLAZING SPEC: TRIPLE PANE - 180, CL, 180

3. WINDOWS + DOORS ARE JELD-WEN EPICVUE SERIES, EXTERIOR ALUMINUM CLAD WOOD, EXTERIOR COLOR CHESTNUT BRONZE; INTERIOR PINE (U.N.O.)





SHEET A6.1 WINDOW/DOOR SCHEDULE <u>LEGEND-DOOR</u> 1/4" = 1'-0"

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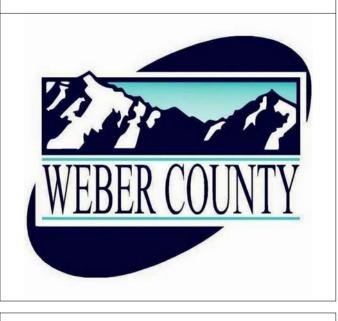
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<u>SURVEYOR + CIVIL ENGINEER</u> TALISMAN CIVIL CONSULTANTS 5217 SOUTH STATE ST. SUITE 200 MURRAY, UT 84107 TEL: 801 743 1300

STRUCTURAL ENGINEER INNOVATIVE STRUCTURAL ENG'G 40810 COUNTY CENTER DR. SUITE 110 TEMECULA, CA 92591 TEL: 951 600 0032

<u>SOILS ENGINEER</u> INTERMOUNTAIN GEOENVIRON -MENTAL SERVICES, INC. 12429 SOUTH 300 EAST, SUITE 100, DRAPER, UT, 84120 TEL: 801 748 4044

MECHANICAL ENGINEER TREK ENGINEERING, INC. 3840 E CASSELLE AVE ORANGE, CA 92869 TEL: 714 769 9700



PROJECT:

RIDGE NEST UNIT 7

Address: SUMMIT POWDER MOUNTAIN

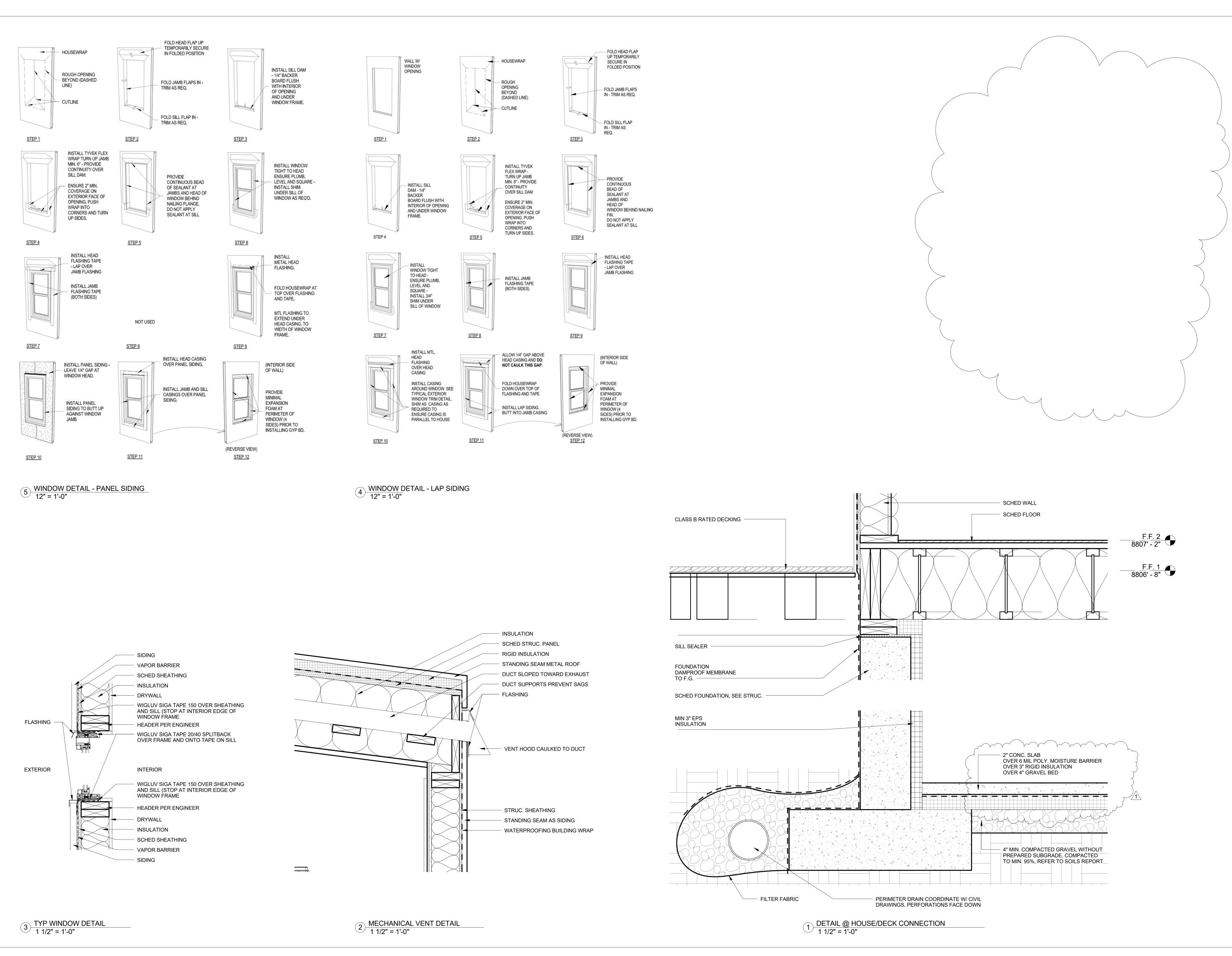
7914 E.HEARTWOOD DR. UNIT 7, EDEN, UT 84310

D.	ATE:	19 JUL 2017
D	RAWN BY:	YW
C	HECKED BY:	AS
#	DESCRIPTION	DATE
	ISSUE FOR ARC FINAL REVIEW	08.25.2017

ISSUE FOR PERMIT

1 REISSUE FOR PERMIT 10.06.2017

09.05.2017



2910 lincoln blvd santa monica, ca 90405 p: 310.581.8500 f: 310.496.2167 www.livinghomes.net

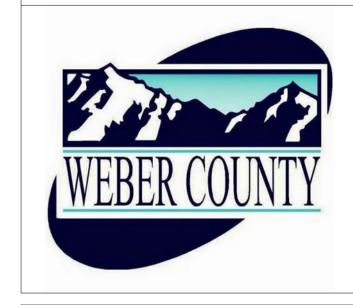
GENERAL CONTRACTOR
BLUE WILLOW BUILDERS INC.
7103 SOUTH REDWOOD RD. SUITE 426
WEST JORDAN, UT 84084
TEL: 801 910 7614

SURVEYOR + CIVIL ENGINEER
TALISMAN CIVIL CONSULTANTS
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TEL: 801 743 1300

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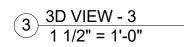
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SHEET A7.1

DETAILS









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SHEET A8.1
3D VIEWS

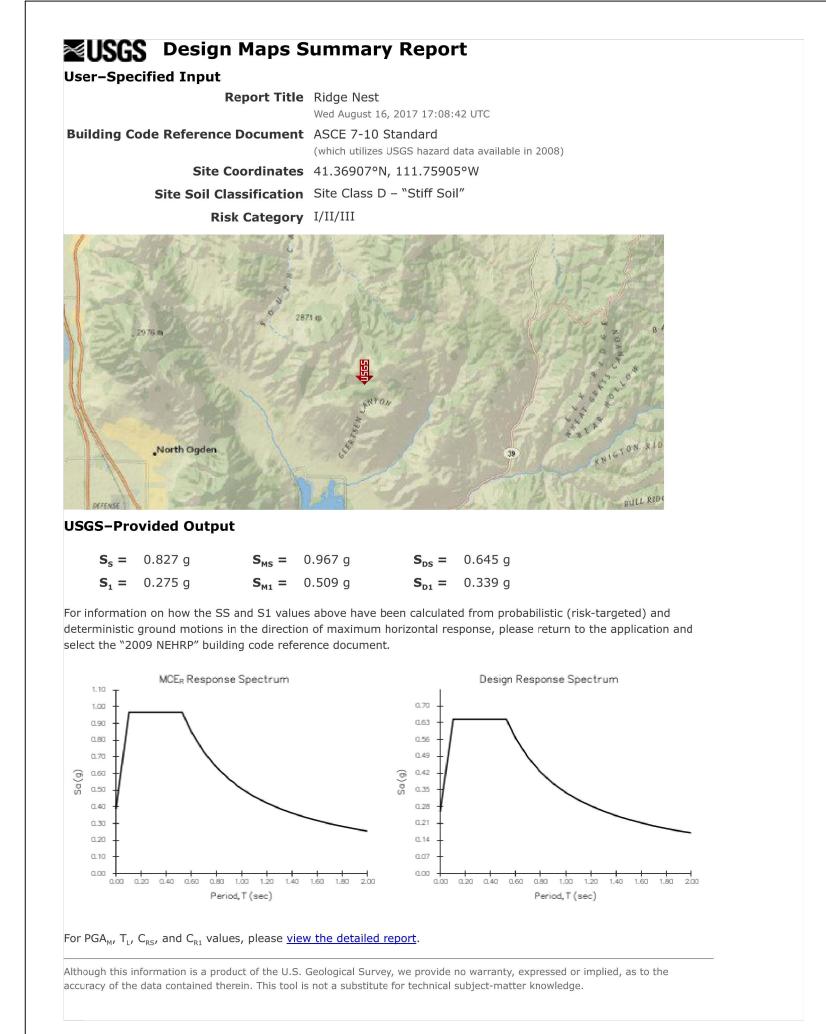
2 3D VIEW - 2 1 1/2" = 1'-0"

1 3D VIEW - 1 1 1/2" = 1'-0"

> 4 3D VIEW -1 1/2" = 1'-0"

DESIGN PARAMETERS

Р	ROJECT	DESIGN	I CRITERI	A		
	BUILDING	G CODE:	2012 INTERN	IATIONAL E CODE	BUILDING	
LOCATION (LAT	TUDE / LONG	GITUDE):	: 41.36907°,-111.75905°			
OCCL	JPANCY CAT	EGORY:		II		
	GEOTECH	INICAL PAR	AMETERS:			
SOILS	REPORT EN	GINEER:	IG	SES, INC.		
	REPORT N	UMBER:	R0	1628-008		
	REPOF	RT DATE:	JUL	Y 15, 2016		
ALLOWABLE SOIL E	BEARING PRE	ESSURE:	3,	500 PSF		
ALLOWABLE	PASSIVE PRE	ESSURE:	3	320 PCF		
-	TOTAL SETTL	EMENT:	1"	OVER 30'		
DIFFERE	NTIAL SETTL	EMENT:	<u>1</u> ,,	OVER 30'		
	CORR	OSIVITY:				
	SULFATE CO	ONTENT:				
	SEISMIC E	DESIGN PAR	AMETERS:			
	SITE	CLASS:		С		
SHOR	T PERIOD SP ACCELERAT		0.827g			
1s PERIOD SPECTRAL						
SEISMIC	DESIGN CAT	EGORY:	D			
SEISMIC IMPO	RTANCE FAC	CTOR, le:	1.0			
BUILDI	NG RISK CAT	EGORY:	: II			
RESPONS	SE MODIFICA	TION, R: 6	: 6.5 (WOOD SHEAR WALLS, U.N.O.)			
	WIND DE	ESIGN PARA	METERS:			
DESIG	GN SPEED (3:	s GUST):	120			
EXI	POSURE CAT	EGORY:	C C			
BUILDI	NG RISK CAT	EGORY:	: II			
	SNOW D	ESIGN PARA	AMETERS:			
	DESIGN ELE	VATION:	: 8,900 FT			
DESIGN GROU	ND SNOW LO	DAD, Pg:	: 280.6 PSF			
DES	IGN SNOW D	ENSITY:				
MAXIMUM ANTICIP	ATED SNOW	DEPTH:	:			
EXP	OSURE FACT	ΓOR, Ce:		1.00		
GRAVITY	DESIGN PAR	AMETERS:	(PSF, SERVIC	E LOADS)		
	DEAD	ROOF LIVE	SNOW Pf or Ps	LIVE	TOTAL	
ROOF:	15	20	196.4		211.4	
FLOOR:	15	-	-	40	55	
EXTERIOR DECK:	15	-	196.4	60	211.4	
EXTERIOR WALL:	15	-	-	-	15	
INTERIOR WALL:	10	-	-	_	10	



SHEET INDEX

GENERAL NOTES

SCS STRUCTURAL COVER SHEET

STRUCTURAL GENERAL NOTES

STRUCTURAL GENERAL NOTES

STRUCTURAL GENERAL NOTES

PLANS

FOUNDATION PLAN

LEVEL 1 MODULE - FLOOR FRAMING PLAN

LEVEL 1 MODULE- ROOF FRAMING PLAN

STRUCTURAL DETAILS

SD1 FOUNDATION DETAILS

GENERAL FRAMING DETAILS

INNOVATIVE STRUCTURAL ENGINEERIN 40810 COUNTY CENTER DR. #110 TEMECULA, CA 92591 TEL: 951.600.0032

W W W . I S E E N G I N E E R S . C O I

TEAM CONTACT INFORMATION:

PROJECT MANAGER: SHANE LOTHROP EXT. 203

ISE PROJECT NO.: 17-4815

SHANE@ISEENGINEERS.COM

PROJECT DESIGN ENGINEER: MATTHEW ESPINOZA EXT. 209

MATTHEW@ISEENGINEERS.COM

PROJECT INFORMATION:

ROOF FRAMING DETAILS

RIDGE NEST LOT 7

7914 E. HEARTWOOD DRIVE EDEN, UTAH 84310

CONTACT INFORMATION:

DESIGNER: LIVING HOMES 2910 LINCOLN BLVD. SANTA MONICA, CA 90405 310.581.8500

www.LIVINGHOMES.NET

GOVERNING JURISDICTION(S): WEBER COUNTY, UTAH **BUILDING DIVISION** 2380 WASHINGTON BLVD, #240 OGDEN, UT 84401



APPROVAL STAMP

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		NOCH WALL	
		DIS SIGNATURE DIS	

SHEET TITLE:

STRUCTURAL **COVER SHEET**

		WOO	D HAF	RDWARE NAILING SC	HEDULE			
Simpson		USP Lumber C	Connectors		APPLICATION	NAIL SIZE		
Product Number	Capacity (Lbs.)	Product Number	Capacity	Fastener Schedule				
			(Lbs.)					
HOLDOWNS								
STHD14	3,850	Not Available	N/A	(24) 16d Sinkers	Holdown	3-1/4" x .148"		
HTT5	4,670	Not Available	N/A	(26) 10d Sinkers	Holdown	3" x .148"		
HDQ8	9,230	Not Available	N/A	(20) 1/4" dia. x 3" Long SDS Screws	Holdown	N/A		
HDU11	11,175	Not Available	N/A	(30) 1/4" dia. x 2-1/2" Long SDS Screws	Holdown	N/A		
HDU14	14,375	Not Available	N/A	(36) 1/4" dia. x 2-1/2" Long SDS Screws	Holdown	N/A		
ANCHOR BOLTS								
SSTB24	5,175	STB24	5,175		Holdown Anchor	N/A		
SSTB34	10,100	STB34	10,100		Holdown Anchor	N/A		
001004	10,100	01804	10,100		TIOIGOWIT ATIONOI	1 1//-1		
HARDWARE								
H1	485	RT15	500	(4) 8d Nails	At Rafters/Trusses	1-1/2" x .131"		
LS50	450	MP5	455	(8) 10d Nails	At Blocking or Rim	1-1/2" x .148"		
A35	450	MPA1	570	(12) 8d Nails	At Blocking or Rim	1-1/2" x .131"		
LTP4	515	MP4F	565	(12) 8d Nails	At Blocking or Rim	1-1/2" x .131"		
LS50	450	MP5	455	(8) 10d Nails	Thru Plywood	2-1/2" x .148"		
A35	450	MPA1	570	(12) 8d Nails	Thru Plywood	2-1/2" x .131"		
LTP4	515	MP4F	565	(12) 8d Nails	Thru Plywood	2-1/2" x .131"		
STRAPS								
CS16	1705	RS150	1700	(26) 8d Nails	Directly to Timber	1-1/2" x .131"		
CS16	1705	RS150	1700	(26) 8d Nails	Thru Plywood	2-1/2" x .131"		
CMST14	6490	CMST14	6490	(76) 10d Nails	Thru Plywood	1-1/2" x .148"		
CMST14	6490	CMST14	6490	(76) 10d Nails	Directly to Timber	2-1/2" x .148"		
CMST12	9235	CMST12	9320	(100) 10d Nails	Thru Plywood	1-1/2" × .148"		
CMST12	9235	CMST12	9320	(100) 10d Nails	Directly to Timber	2-1/2" x .148"		
Shear Walls:								
8d Common					S.W.'S 2,3,4, & 6	2-1/2" x .131"		
10d Common					S.W. 2B	2-1/4" x .148"		
								—
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CONVENTIONAL WOOD ERAMING R	REQUIREMENTS - CBC A TABLE 2304.10.1
CONVENTIONAL WOOD FRAMING A	EQUINEIVIENTS - OBO A TABLE 2304.10.1
CONNECTION	NAILING
BLOCKING BETWEEN JOISTS OR RAFTERS TO TOP PLATES, TOENAIL	(3) 8d COMMON , (3) 3" x 0.131" NAILS, OR (3) 3" 14 GAGE STAPLES
BLOCKING BETWEEN RAFTERS OR TRUSS NOT AT WALL TOP PLATES, TOENAIL, EACH END	(2) 80 COMMON , (2) 3" X 0.131" NAILS, (2) 3" 14 GAGE STAPLES
BLOCKING BETWEEN RAFTERS OR TRUSS NOT AT WALL TOP PLATES, END NAIL	(2) 16d COMMON , (3) 3" x 0.131" NAILS, (3) 3" 14 GAGE STAPLES
FLAT BLOCKING TO TRUSS/WEB FILLER, FACE NAIL	16d COMMON , 3" x 0.131" NAILS, 3" 14 GAGE STAPLES @ 6" O.C.
CEILING JOIST TO TOP PLATE, EACH JOIST, TOENAIL	(3) 8d COMMON , (3) 3" \times 0.131" NAILS, (3) 3" 14 GAGE STAPLES, $\frac{7}{16}$ " CROWN
CEILING JOIST, LAPS PARTITION, FACE NAIL - TABLE 2308.7.3.1	(3) 16d COMMON , (4) 3" x 0.131" NAILS, (4) 3" 14 GAGE STAPLES, $\frac{7}{16}$ " CROWN
CEILING JOISTS TO PARALLEL RAFTERS, FACE NAIL - TABLE 2308.7.3.1	PER TABLE 2308.7.3.1
COLLAR TIE TO RAFTER, FACE NAIL	(3) 10d COMMON, (4) 3" x 0.131" NAILS, OR (4) 3" 14 GAGE STAPLES
RAFTER OR ROOF TRUSS TO PLATE, TOENAIL - TABLE 2308.7.5	(3) 10d COMMON, (4) 3" x 0.131" NAILS, OR (4) 3" 14 GAGE STAPLES
ROOF RAFTER TO 2x RIDGE BEAM, END NAIL	(2) 16d COMMON, (3) 3" x 0.131" NAILS, OR (3) 3" 14 GAGE STAPLES
ROOF RAFTER TO 2x RIDGE BEAM, TOE NAIL	(3) 10d COMMON, (4) 3" x 0.131" NAILS, OR (4) 3" 14 GAGE STAPLES
STUD TO STUD (NON-BRACED WALL PANELS), 24" O.C. FACE NAIL	16d COMMON (3 ½"x 0.162")
STUD TO STUD (NON-BRACED WALL PANELS), 16" O.C. FACE NAIL	3" x 0.131" NAILS, (3) 3" 14 GAGE STAPLES
STUD TO STUD AT INTERSECTING CORNER (BRACED), 16" O.C. FACE NAIL	16d COMMON (3 ½"x 0.162")
STUD TO STUD AT INTERSECTING CORNER (BRACED), 12" O.C. FACE NAIL	3" x 0.131" NAILS, (3) 3" 14 GAGE STAPLES
BUILT-UP HEADER (2" TO 2"), 16" O.C. EACH EDGE, FACE NAIL	16d COMMON (3 ½"x 0.162")
CONTINUOUS HEADER TO STUD, TOENAIL.	(4) 8d COMMON
TOP PLATE TO TOP PLATE, 16" O.C. FACE NAIL	16d COMMON
TOP PLATE TO TOP PLATE, 12" O.C. FACE NAIL	3" x 0.131" NAILS, 3" 14 GAGE STAPLES
TOP PLATE TO TOP PLATE, AT END JOINTS, EACH SIDE OF END JOINT, FACE NAIL (MIN. 24" LAP SPLICE LENGTH EACH SIDE END JOINT)	(8) 16d COMMON, (12) 3" x 0.131" NAILS, (12) 3" 14 GAGE STAPLES
BOTTOM PLATE TO JOIST, RIM JOIST, OR BLOCKING AT NON-BRACED PANEL, 16" O.C. FACE NAIL	16d COMMON
BOTTOM PLATE TO JOIST, RIM JOIST, OR BLOCKING AT NON-BRACED PANEL, 12" O.C. FACE NAIL	3" x 0.131" NAILS, 3" 14 GAGE STAPLES
BOTTOM PLATE TO JOIST, RIM JOIST, OR BLOCKING AT BRACED PANEL. 16" O.C. FACE NAIL	(2) 16d COMMON, (4) 3" x 0.131" NAILS, (4) 3" 14 GAGE STAPLES
STUD TO TOP OR BOTTOM PLATE, TOENAIL	(4) 8d COMMON, (4) 3"x 0.131" NAILS, (4) 3" 14 GAGE STAPLES
STUD TO TOP OR BOTTOM PLATE, END NAIL	(2) 16d COMMON, (3) 3"x 0.131" NAILS, (3) 3" 14 GAGE STAPLES
TOP OR BOTTOM PLATE TO STUD, END NAIL	(2) 16d COMMON, (3) 3"x 0.131" NAILS, (3) 3" 14 GAGE STAPLES
TOP PLATES, LAP AND INTERSECTIONS, FACE NAIL.	(2) 16d COMMON , (3) 3" x 0.131" NAILS, OR (3) 3" 14 GAGE STAPLES
1" BRACE TO EACH STUD AND PLATE, FACE NAIL.	(2) 8d COMMON, (2) 3" x 0.131" NAILS, OR (2) 3" 14 GAGE STAPLES
1" x 6" SHEATING TO EACH BEARING, FACE NAIL.	(2) 8d COMMON, (2) 3" x 0.128" NAILS
1" x 8" AND WIDER SHEATING TO EACH BEARING, FACE NAIL.	(3) 8d COMMON, (3) 3" x 0.128" NAILS
JOIST TO SILL OR GIRDER, TOENAIL	(3) 8d COMMON , (3) 3" x 0.131" NAILS, OR (3) 3" 14 GAGE STAPLES
RIM JOIST, BLOCKING TO TOP PLATE, TOENAIL.	8d (2 1/2" x 0.131") AT 6" o/c, 3" x 0.131" NAILS AT 6" o/c, OR 3" 14 GAGE STAPLES AT 6" o/c
1" x 6" SUBFLOOR OR LESS TO EACH JOIST, FACE NAIL	(2) 8d COMMON
2" SUBFLOOR TO JOIST OR GIRDER, BLIND AND FACE NAIL	(2) 16d COMMON
2" PLANKS.	(2) 16d COMMON AT EACH BEARING
BUILT-UP GIRDER AND BEAMS	20d COMMON AT 32" o/c, 3" x 0.131" NAILS AT 24" o/c, OR 3" 14 GAGE STAPLES AT 24" o/c AT, AT TOP AND BOTTOM, STAGGERED (2) 20d COMMON, (3) 3" x 0.131" NAILS, OR (3) 3" 14 GAGE STAPLES AT ENDS AND AT EACH SPLICE
LEDGER STRIP, EACH JOIST OR RAFTER, FACE NAIL	(3) 16d COMMON, (4) 3" x 0.131" NAILS, OR (4) 3" 14 GAGE STAPLES
JOIST TO BAND JOIST, FACE NAIL	(3) 16d COMMON, (4) 3" x 0.131" NAILS, OR (4) 3" 14 GAGE STAPLES
BRIDGING TO JOIST, TOENAIL EACH END	(2) 8d COMMON , (2) 3" x 0.131" NAILS, OR (2) 3" 14 GAGE STAPLES
BRIDGING TO JOIST, TOENAIL EACH END	(2) 8d COMMON , (2) 3" x 0.131" NAILS, OR (2) 3" 14 GAGE STAPLES

STRUCTURAL STEEL NOTES

- FABRICATION & ERECTION: ALL FABRICATION & ERECTION SHALL CONFORM TO THE LATEST STANDARDS OF THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC) SPECIFICATIONS FOR STRUCTURAL STEEL BUILDINGS.
- 2. <u>ASTM SPECIFICATIONS:</u> STRUCTURAL STEEL SHALL CONFORM TO THE FOLLOWING ASTM

TABLE 1 - STEEL MATERIAL	. SPECIFICATIONS
STEEL SHAPE	ASTM SPECIFICATION
W	A992 OR A572 GRADE 50
M, S, HP	A36 OR A572 GRADE 50
C - CHANNEL	A572 GRADE 50
L - ANGLE	A36
PLATES & BAR	A36
STEEL PIPE	A53 GRADE B
ROUND HSS	A500 GRADE B OR C
SQ. & RECT. HSS	A500 GRADE B OR C
MACHINE BOLTS	A325, A490, F1852, F2280
NUTS	A563, A194
WASHERS	F436
ANCHOR RODS	F1554-A36
SHEAR STUDS	A108
	•

- 3. STEEL EXPOSED TO WEATHER OR CORROSIVE ENVIRONMENT: ALL STEEL EXPOSED TO VEATHER OR CORROSIVE ENVIRONMENT SHALL BE HOT DIP GALVANIZED AFTER FABRICATION IN COMPLIANCE WITH ASTM A123. ALL FIELD WELDS ON GALVANIZED STEEL SHALL BE TREATED WITH ZINC-RICH PAINT IN COMPLIANCE WITH ASTM A780.
- 4. STEEL FABRICATION: ALL STEEL FABRICATION SHALL BE PERFORMED IN A SHOP
- 5. STEEL FABRICATOR: THE STRUCTURAL STEEL FABRICATOR SHALL PROVIDE A SET OF SHOP FABRICATION DRAWINGS FOR APPROVAL TO THE ENGINEER OF RECORD. THE FABRICATOR SHALL NOT FABRICATE THE STEEL UNTIL THE ENGINEER OF RECORD HAS APPROVED THE SHOP DRAWINGS.

APPROVED BY THE GOVERNING JURISDICTION DEPARTMENT OF BUILDING & SAFETY.

- 6. WELDING: ALL WELDING SHALL BE IN CONFORMANCE WITH THE LATEST AISC & AMERICAN WELDING SOCIETY (AWS) STANDARDS. ALL WELDING SHALL BE PERFORMED USING A SHIELDED ARC PROCESS USING APPROVED ELECTRODES CONFORMING TO AWS SPECIFICATION E70XX (LOW HYDROGEN). WELD MATERIAL SHALL COMPLY WITH AWS CERTIFICATION AND POSSESS A CHARPY V-NOTCH TOUGHNESS OF 20 FT-LBS AT -20 DEGREES F. WELDING SHALL BE PERFORMED BY ONLY AWS CERTIFIED WELDERS.
- WELDING PROCEDURES: A WRITTEN WELDING PROCEDURE SPECIFICATIONS (WPS) PER AWS D1.1 SHALL BE DEVELOPED BY THE FABRICATOR/ERECTOR AND REVIEWED BY THE ENGINEER OF RECORD AND THE BUILDING DEPARTMENT.
- . ERECTION AIDS: THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL ERECTION AIDS AND JOINT PREPARATIONS THAT INCLUDE, BUT ARE NOT LIMITED TO, ERECTION ANGLES, LIFT HOLES AND OTHER AIDS, WELDING PROCEDURES, REQUIRED ROOT OPENINGS, ROOT FACE DIMENSIONS, GROOVE ANGLES, BACKING BARS, COPES, SURFACE ROUGHNESS AND
- 9. FIELD WELDING: FIELD WELDING SHALL BE PERFORMED BY A BUILDING DEPARTMENT CERTIFIED WELDERS. FIELD WELDING REQUIRES CONTINUOUS SPECIAL INSPECTION. PERIODIC FIELD SPECIAL INSPECTION IS ACCEPTABLE FOR FLOOR AND ROOF DECK WELDING, STUD WELDING & WELDING OF STAIR/HANDRAIL SYSTEMS.
- 10. BOLTING: BOLTING OF STRUCTURAL STEEL SHALL MEET THE RESEARCH COUNCIL ON STRUCTURAL CONNECTIONS (RCSC) 2000 EDITION SPECIFICATIONS FOR STRUCTURAL JOINTS USING A325 & A490 BOLTS FOR TYPES X, N & SC.
- 11. CAMBER: ALL STEEL BEAMS SHALL HAVE STANDARD MILL CAMBER UNLESS NOTED OTHERWISE ON THE STRUCTURAL PLANS.

NAILS

UNEQUAL PARTS.

- . <u>DIAPHRAGM NAILING:</u> ALL FLOOR SHEATHING, ROOF SHEATHING AND SHEAR PANELS CONSTRUCTED USING WOOD-BASED STRUCTURAL-USE PANELS SHALL BE FASTENED WITH COMMON NAILS. HARDWARE SHALL BE NAILED PER MANUFACTURER'S REQUIREMENTS, OTHERWISE SHORT NAILS MAY BE USED. NAILING SHALL BE PER THE BUILDING CODE UNLESS NOTED OTHERWISE ON THE PLANS OR DETAILS.
- 2. NAIL GUNS: MUST BE EQUIPPED WITH A FLUSH NAILER ATTACHMENT FOR NAILING OF PLYWOOD SHEAR WALLS, FLOOR SHEATHING AND ROOF SHEATHING.
- 3. NAIL MANUFACTURING: ALL NAILS MUST BE DOMESTICALLY MANUFACTURED & MEET THE REQUIREMENTS OF THE CURRENT BUILDING CODE
- 4. GALVANIZED NAILS: ALL NAILS INTO PRESSURE TREATED LUMBER SHALL BE HOT DIPPED ALVANIZED OR OTHER APPROVED COATING TO RESIST CORROSION UNLESS PRESSURE TREATED PLATE IS TREATED WITH BORATE.

MANUFACTURED LUMBER PRODUCTS

- MANUFACTURED LUMBER: ALL MANUFACTURED SHALL HAVE ICC APPROVAL FOR THE LATEST BUILDING CODE.
- 2. <u>SIZES & STRENGTH</u>: THE FOLLOWING MINIMUM DESIGN VALUES MUST BE ACHIEVED FOR EACH TYPE OF MANUFACTURED LUMBER SPECIFIED ON THE STRUCTURAL PLANS.

STRU	JCTURAL COMPOS	ITE LUMBER	
	MI	NIMUM DESIGN V	ALUES
BEAM TYPE	Fb (PSI)	Fv (PSI)	E (PSI x 10^6)
PSL - PARALLAM	2,900	290	2.2
LVL - MICROLAM	2,600	285	1.9
LSL - TIMBERSTRAND	2,325	310	1.55
RIM - TIMBERSTRAND	1,700	400	1.3

3. <u>I-JOISTS</u>: PROVIDE FLOOR I-JOISTS AS MANUFACTURED BY I-LEVEL OR APPROVED EQUAL. THE FLOOR I-JOIST SIZES NOTED ON PLAN REFERENCE I-LEVEL PRODUCT.

EARTHWORK AND FOUNDATIONS

- GEOTECHNICAL REPORT: PERFORM SOILS WORK COMPLYING WITH FOUNDATION DESIGN BASED ON RECOMMENDATIONS IN SOILS REPORT. SEE STRUCTURAL COVER SHEET (SCS) FOR SOILS REPORT NUMBER AND DATE.
- ALLOWABLE FOUNDATION DESIGN VALUES PER GEOTECHINCAL REPORT: VALUES BELOW MAY BE INCREASED 33 PERCENT FOR TRANSIENT LOADING.
- A. BEARING CAPACITY: SEE PROJECT DESIGN CRITERIA
- ASSIVE LATERAL BEARING PRESSURE: SEE PROJECT DESIGN CRITERIA COEFFICIENT OF FRICTION: SEE PROJECT DESIGN CRITERIA
- GRADING, EXCAVATIONS, BACKFILL AND COMPACTION OF BACKFILL: COMPLY WITH GEOTECHNICAL REPORT AND REQUIREMENTS OF GOVERNING CODE AUTHORITY AND PERFORMED ONLY UNDER CONTINUOUS SPECIAL INSPECTION OF GEOTECHNICAL
- PREPARATION OF SOIL UNDER BUILDING PAD: SEE GEOTECHNICAL REPORT FOR OVER-EXCAVATION OF EXISTING SOIL AND INSTALLATION OF PROPERLY COMPACTED
- FOUNDATION EXCAVATIONS: FOUNDATIONS ARE TO BEAR ON FIRM EXISTING SOIL OR APPROVED COMPACTED FILL AS INDICATED IN GEOTECHNICAL REPORT. EXCAVATIONS ARE TO BE INSPECTED BY GEOTECHNICAL ENGINEER PRIOR TO PLACEMENT OF REINFORCING STEEL AND FORMWORK. ENSURE EXCAVATIONS ARE CLEANS, DRY AND FREE OF DEBRIS OR LOOSE SOIL. SLOPE SIDES OF EXCAVATION NOT LESS THAN MINIMUM SLOPE INDICATED IN GEOTECHNICAL REPORT. CAST CONCRETE DIRECTLY AGAINST EXCAVATED SURFACES.
- 6. <u>BACKFILLING OF RETAINING WALLS:</u> PLACE AFTER COMPLETION AND INSPECTION OF WATERPROOFING. ADEQUATELY SHORE RETAINING WALLS DURING BACKFILL OPERATION UNLESS ADEQUATELY SHORED, DO NOT PLACE BACKFILL BEHIND BUILDING STRUCTURE RETAINING WALLS (EXCLUDING SITE RETAINING WALLS) UNTIL CONCRETE AT ELEVATED FLOOR LEVELS ADJACENT TO WALLS ARE COMPLETELY POURED (IN AREA) AND HAVE CURED FOR AT LEAST 7 DAYS.
- WATER EXPOSURE AT BUILDING PERIMETER FOOTINGS: AT AREAS WHERE SIDEWALKS OR PAVING DO NOT IMMEDIATELY ADJOIN STRUCTURE, PROVIDE POSITIVE DRAINAGE AWAY FROM STRUCTURE AT BUILDING PERIMETER. LANDSCAPE IRRIGATION IS NOT PERMITTED WITHIN FIVE FEET OF BUILDING PERIMETER FOOTINGS EXCEPT WHEN ENCLOSED IN PROTECTED PLANTERS WITH DIRECT DRAINAGE AWAY FROM STRUCTURE OR WHICH COMPLIES WITH APPLICABLE CODE. DISCHARGE FROM DOWN SPOUTS, ROOF DRAINS AND SCUPPERS IS NOT PERMITTED ONTO UNPROTECTED SOILS WITHIN FIVE FEET OF BUILDING PERIMETER. REFER TO GEOTECHNICAL REPORT FOR COMPLETE REQUIREMENTS.

WOOD FRAMING

SAWN LUMBER: ALL STRUCTURAL SAWN LUMBER SHALL BE DOUGLAS FIR LARCH WITH 19% AXIMUM MOISTURE CONTENT OF THE FOLLOWING GRADES, CONFORMING TO STANDARD GRADING RULES FOR WEST COAST LUMBER NO. 17, UNLESS NOTED OTHERWISE. THE LUMBER GRADES AS SPECIFIED BELOW MEET MINIMUM REQUIREMENTS:

LUMBER GRADES	
CONDITION	GRADE
PLATES & BLOCKING	STUD OR BETTER
STUDS TO 10'-0" IN HEIGHT	STUD OR BETTER
STUDS OVER 10'-0" IN HEIGHT	#2
2x RAFTER JOISTS	#2
4x6 THROUGH 4x12 BEAMS, HEADER & POSTS	#2
4x14 BEAMS, HEADERS & POSTS	#1
4x4 POSTS, HEADERS	#2
6x AND LARGER POSTS, BEAMS, STRINGERS	#1

- 2. GRADE STAMPS: WHERE POSSIBLE ALL LUMBER GRADE STAMPS SHALL REMAIN ON JMBER AFTER INSTALLATION. CONVENTIONAL LUMBER SHALL MEET DOC PS 20 REQ.
- PRESSURE TREATED LUMBER: ALL WOOD BEARING ON CONCRETE OR MASONRY SHALL BE PRESSURE TREATED FIR. ALL NAILS TO PLATES TREATED W/ BORATE MAY BE STANDARD NAILS, FOR ALL OTHER PRESSURE TREATED PLATES, USE HOT DIP GALVANIZED NAILS.
- PLYWOOD/OSB: EACH WOOD-BASED STRUCTURAL-USE PANEL USED FOR DIAPHRAGM CONSTRUCTION SHALL BE IDENTIFIED BY A REGISTERED STAMP OR BRAND OF AN ICC-APPROVED COMPLIANCE ASSURANCE AGENCY. WOOD-BASED STRUCTURAL-USE PANELS SHALL MEET THE REQUIREMENTS OF DOC PS 1 OR PS 2. ALL PANELS SHALL BE GLUED WITH EXTERIOR TYPE GLUE MEETING APA SPECIFICATIONS. PANELS PERMANENTLY EXPOSED TO THE OUTDOORS SHALL BE EXTERIOR TYPE.
- METAL CONNECTORS: ALL METAL CONNECTORS SHALL BE THOSE MANUFACTURED BY SIMPSON STRONG TIE OR USP LUMBER CONNECTORS. THE NAILS FOR THESE CONNECTORS SHALL BE AS SPECIFIED BY THE MANUFACTURERS FOR CAPACITY OF THE HARDWARE. ALL CALLOUTS REFER TO SIMPSON PRODUCT CODES AND NAMES. REFER TO CROSS REFERENCE TABLES PROVIDED BY USP IN THEIR PRODUCT CATALOGS.
- FIRE STOPS: PROVIDE FIRE STOPS AT ALL INTERSECTIONS OF STUD WALLS AT FLOOR, CEILING AND ROOF. FIRE STOPS SHALL BE 2x NOMINAL THICKNESS OF WOOD AND SHALL BE THE FULL WIDTH OF THE ENCLOSED SPACE. PLACE FIRESTOPS AT A MAXIMUM SPACING OF 10'-0" IN THE VERTICAL DIRECTION. PROVIDE 2x FIRE STOPS IN ALL FURRED SPACES, VERTICAL AND HORIZONTAL, AND AT A MAXIMUM SPACING OF 10'-0" IN EACH DIRECTION AND AT THE SAME LINES AS FIRE STOPS IN ADJACENT STUD WALLS.
- BOLT HOLES: IN WOOD SHALL BE 1/32" TO 1/16" LARGER THAN THE NOMINAL BOLT DIAMETER . ALL BOLTS SHALL HAVE A STANDARD CUT WASHER UNDER HEAD AND NUT UNLESS NOTED OTHERWISE.
- 8. BOLTS: ALL BOLTS USED FOR WOOD CONNECTIONS SHALL BE ASTM A307, U.N.O. ALL NUTS AND BOLTS SHALL BE RE-TIGHTENED PRIOR TO THE APPLICATION OF SHEATHING,
- 9. NOTCHING & CUTTING: STRUCTURAL MEMBERS SHALL NOT BE CUT FOR PIPES, ETC. UNLESS SPECIFICALLY DETAILED. NOTCHING OF HORIZONTAL STRUCTURAL MEMBERS SHALL CONFORM TO THE BUILDING CODE. NOTCHING AND BORING OF STUDS AND TOP PLATES SHALL CONFORM TO THE BUILDING CODE.
- 10. JOIST BLOCKING: PROVIDE 2x BLOCKING BETWEEN CONVENTIONAL JOISTS AND RAFTERS AT ALL BEARING SUPPORTS. PROVIDE SOLID BLOCKING AT I-JOIST SHEAR WALLS. PROVIDE BLOCKING WHEN I-JOISTS ARE NON-CONTINUOUS OVER BEARING SUPPORT. FOR CONTINUOUS I-JOIST, PROVIDE (1) 16d PER JOIST TO TOP PLATE, AND OMIT BLOCKING AT BEARING SUPPORTS.CROSS BRIDGING OR SOLID BLOCKING SHALL BE PROVIDED AT 8'-0" O/C MAXIMUM FOR ALL CONVENTIONAL JOISTS MORE THAN 12" DEEP UNLESS BOTH EDGES ARE HELD IN LINE FOR THEIR ENTIRE LENGTH.
- 11. JOIST HANGERS: FOR I-JOISTS, PROVIDE SIMPSON "IUS" HANGER. FOR CONVENTIONAL JOIST, USE SIMPSON "LUS" HANGER, OR EQUIVALENT.
- 12. BEAM BEARING: ALL BEAMS TO BE SUPPORTED WITH FULL BEARING UNLESS NOTED
- 13. CONVENTIONAL FRAMING: ALL CONVENTIONAL FRAMED PORTIONS OF THE STRUCTURE ARE TO BE CONSTRUCTED PER SECTION 2308 OF THE CBC.
- 14. WALLS ON WOOD FLOOR: PROVIDE SINGLE FLOOR JOIST BELOW NON-BEARING, PARALLEL WALLS 10'-0" OR LONGER.
- 15. FINGER JOINTED STUDS: IT IS STRUCTURALLY ACCEPTABLE TO USE STRUCTURAL GLUED (FINGER-JOINTED) LUMBER. ALL FINGER-JOINTED LUMBER MUST BE "CER EXT JNTS" AND CONFORM WITH THE WWPA'S GLUED PRODUCTS PROCEDURES AND QUALITY CONTROL. FINGER-JOINTED LUMBER IS TO BE STAMPED WITH "CER EXT JNTS" AND MAY BE USED INTERCHANGEABLE WITH ANY SOLID-SAWN LUMBER PRODUCT OF THE SAME SPECIES AND GRADES. PLEASE REFER TO LUMBER SPECIFICATION IN THE STRUCTURAL GENERAL NOTES AND CALCULATIONS.
- 16. PLATE WASHERS AT NON-SILL PLATE APPLICATION: MINIMUM SIZE FOR SQUARE PLATE VASHERS: (REFER TO PLANS FOR SILL PLATE WASHER REQUIREMENTS.)

	ATE WASHERS L PLATE APPLICATION
BOLT SIZE	PLATE WASHER SIZE
1 2	3/16" x 2" x 2"
5 80	$\frac{1}{4}$ x 2 $\frac{1}{2}$ x 2 $\frac{1}{2}$
<u>3</u> 11 4	5 × 2 3 × 2 3
<u>7</u> "	5 × 3" × 3"
1"	$\frac{3}{8}$ " × 3 $\frac{1}{2}$ " × 3 $\frac{1}{2}$ "

GENERAL NOTES

MORE INFORMATION.

- . <u>FIELD VERIFICATION:</u> FIELD VERIFY EXISTING CONDITIONS AND DIMENSIONS PRIOR TO CONSTRUCTION. PROMPTLY NOTIFY ARCHITECT (STRUCTURAL ENGINEER) IN CASE OF DISCREPANCIES.
- <u>DESIGN INTENT</u>; CONTRACT DOCUMENTS INDICATE DESIGN INTENT FORE STRUCTURE IN ITS COMPLETED STATE. THEY DO NOT INDICATE METHOD OF CONSTRUCTION. PROMPTLY NOTIFY ARCHITECT (STRUCTURAL ENGINEER), PRIOR TO PROCEEDING WITH WORK, IF DESIGN INTENT REQUIRES FURTHER CLARIFICATION.
- 8. DEVIATIONS, MODIFICATIONS AND SUBSTITUTIONS TO APPROVED STRUCTURAL DRAWINGS; MUST BE ACCEPTED IN WRITING BY ARCHITECT (STRUCTURAL ENGINEER) AND APPROVED BY GOVERNING CODE AUTHORITY. NO DEVIATION, MODIFICATION OR SUBSTITUTION WILL BE ACCEPTED VIA SHOP DRAWING
- PROCEDURES OF CONSTRUCTION: CONTRACTOR IS RESPONSIBLE FOR PROCEDURES OF ONSTRUCTION COMPLYING WITH NATIONAL, STATE AND LOCAL SAFETY ORDINANCES. SITE VISITS (INCLUDING STRUCTURAL OBSERVATION) BY ARCHITECT (STRUCTURAL ENGINEER) DO NOT CONSTITUTE SUPERVISIONS OF METHODS OF CONSTRUCTION.
- A. PROTECTION OF UTILITIES: LOCATE EXISTING UTILITIES, INCLUDING THOSE NOT SHOWN ON CONTRACT DOCUMENTS, AND PROTECT THEM FROM DAMAGE. CONTRACTOR BEARS EXPENSE OF REPAIR OR REPLACEMENT OF UTILITIES IN CONJUNCTION WITH EXECUTION OF WORK.
- B. <u>EXCAVATIONS</u>: PROTECT STRUCTURE, ADJACENT STRUCTURES, ADJACENT PROPERTIES, STREETS, AND UTILITIES DURING EXCAVATION UTILIZING LAGGING, SHORING, UNDERPINNING AT SIDES AND RELATED PROCEDURES AS MAY BE REQUIRED. PROVIDE NECESSARY SUPPORTS FOR SOIL EXCAVATIONS. CONTRACTOR AND AFFECTED TRADES SHALL REFER TO GEOTECHNICAL REPORT FOR
- C. PROTECTION OF STRUCTURE: PROVIDE NECESSARY MEASURES TO PROTECT STRUCTURE DURING EXECUTION OF WORK.
- CONTRACTOR PROPOSED REVISIONS: WHERE A REVISION OF STRUCTURAL DESIGN OR CONNECTION IS PROPOSED BY CONTRACTOR TO ACCOMMODATE CONSTRUCTION TOLERANCES, CONSTRUCTION SEQUENCE AND/OR DIMENSION MODIFICATIONS, CONTRACTOR SHALL RETAIN A STRUCTURAL ENGINEER LICENSED IN STATE OF CALIFORNIA TO PERFORM DESIGN. SUBMIT STAMPED AND SIGNED DESIGN DRAWINGS AND CALCULATIONS TO THE ARCHITECT (STRUCTURAL ENGINEER) FOR REVIEW AND THE GOVERNING CODE AUTHORITY FOR APPROVAL
- E. ERECTION PLANS: DETERMINE PHASES OF WORK REQUIRING ERECTION PLANS ACCORDING TO PPLICABLE SAFETY REGULATIONS. MAINTAIN CERTIFIED COPIES OF ERECTION PLANS AT SITE DURING CONSTRUCTION.
- SHORING, BRACING, AND OTHER TEMPORARY SUPPORTS: DESIGN AND ERECT SHORING, BRACING, AND OTHER TEMPORARY SUPPORTS WHERE STRUCTURE HAS NOT ATTAINED DESIGN STRENGTH AND AS REQUIRED FOR SAFE ERECTION. ENSURE FLOOR, ROOF, AND WALL MEMBERS ARE SECURELY SHORED AND BRACED DURING CONSTRUCTION. PROVIDE SHORING AT ELEVATED BEAMS AND SLABS SUPPORTING CONCRETE OR MASONRY WALLS DURING AND AFTER WALL POUR UNTIL WALL ATTAINS DESIGN STRENGTH
- G. TEMPORARY LOADING: ENSURE CONSTRUCTION LOADS DO NOT EXCEED INDICATED DESIGN LIVE LOAD VALUES. NOTIFY AFFECTED SUB-CONTRATOR TRADES OF THESE DESIGN LOAD LIMITS.
- H. FABRICATION, SHIPMENT, AND ERECTION OF STRUCTURAL STEEL: ENSURE STRESSES OCCURRING DURING FABRICATION, SHIPMENT, AND ERECTION OF STRUCTURAL STEEL ARE TEMPORARY AND ARE LESS THAN DESIGN AND ALLOWABLE STRESS CAPACITIES OF INDIVIDUAL MEMBERS. DO NOT IMPAIR FULL DESIGN AND LOAD CARRYING CAPACITY OF MEMBERS DUE TO FABRICATION, SHIPMENT, OR ERECTION. CONTRACTOR IS RESPONSIBLE FOR CONTROLLING ERECTION SEQUENCE, ERECTION PROCEDURE, TEMPERATURE DIFFERENTIALS AND WELD SHRINKAGE TO MINIMIZE RESIDUE STRESSES. PROVIDE ADDITIONAL MATERIALS FOR THE ERECTION OF STRUCTURAL STEEL SUCH AS TEMPORARY BRACING AND GUY CABLES AS MAY BE NECESSARY AT NO ADDITIONAL COST. REMOVE THESE MATERIALS UNLESS APPROVED IN WRITING BY OWNER. DO NOT TIGHTEN BOLTS IN TYPICAL BEAM TO COLUMN CONNECTIONS FOR ERECTION PURPOSES.
- SECURING REINFORCING STEEL, DOWELS, ANCHOR BOLTS AND EMBEDS: FIRMLY SUPPORT AND ACCURATELY PLACE COMPLYING WITH ACI STANDARDS PRIOR TO CASTING CONCRETE OR GROUT IN MASONRY WALLS. USE TIES AND SUPPORT BARS IN ADDITION TO REINFORCING STEEL SHOWN WHERE NECESSARY. NO WELDING OR REINFORCING STEEL, INCLUDING TACK WELDING, IS PERMITTED UNLESS OTHERWISE ACCEPTED IN WRITING BY ARCHITECT (STRUCTURAL ENGINEER). PROVIDE PLASTIC OR PLASTIC COATED CHAIRS AND SPACERS WHEN RESTING ON EXPOSED SURFACES.
- COORDINATION RESPONSIBILITY: CONTRACTOR IS RESPONSIBLE FOR COORDINATION OF WORK INCLUDING THAT OF SUB-CONTRACTOR TRADES.
- SUBMITTALS: SUBMIT TO ARCHITECT (STRUCTURAL ENGINEER) AS INDICATED ON STRUCTURAL DRAWINGS AND SPECIFICATIONS. GENERAL CONTRACTOR SHALL REVIEW SUBMITTAL FOR COMPLETENESS AND COMPLIANCE WITH CONTRACT DOCUMENTS PRIOR TO SUBMISSION.
- A. REQUEST FOR INFORMATION (RFI) SUBMITTALS: ACCOMPANY RFI'S WITH PARTIAL STRUCTURAL FOUNDATION OR FRAMING PLANS SHOWING LOCATION IN QUESTION AND AFFECTED STRUCTURAL MEMBERS. COPY PARTIAL PLAN FROM STRUCTURAL DRAWINGS AND INDICATE GRID LINE LOCATIONS AND FLOOR LEVEL. ALSO PROVIDE PROPERLY DRAWN ENGINEERING SKETCHES ILLUSTRATING ISSUES AND CONTRACTOR'S PROPOSED SOLUTIONS. PHOTOGRAPHS ARE NOT ACCEPTABLE SUBSTITUTES TO ENGINEERING SKETCHES.
- CONTRACT DOCUMENTS USE: REVIEW CONTRACT DOCUMENTS IN THEIR ENTIRETY BEFORE PERFORMING STRUCTURAL RELATED WORK AND BEFORE DEVELOPING SHOP DRAWINGS. BRING DISCREPANCIES TO THE IMMEDIATE ATTENTION OF ARCHITECT (STRUCTURAL ENGINEER) BEFORE STARTING WORK.
- A. SCALING OF DRAWINGS: NOT PERMITTED.

GLB = GLU-LAM

- B. ADDITIONAL STRUCTURAL REQUIREMENTS: SEE SPECIFICATIONS.
- C. BUILDING GEOMETRY: SEE ARCHITECTURAL DRAWINGS FOR BUILDING GEOMETRY INCLUDING. BUT NOT LIMITED TO, TOP OF FLOOR AND ROOF ELEVATIONS; DEPRESSIONS; SLOPES; CURBS; DRAINS; TRENCHES; SLAB AND DECK EDGE LOCATIONS; WALL OVERALL DIMENSIONS; AND SIZE AND LOCATIONS OF OPENINGS IN FLOORS, ROOF AND WALLS.
- D. NON-STRUCTURAL ITEMS REQUIRING SPECIAL PROVISIONS: SEE ARCHITECTURAL, MECHANICAL, PLUMBING, AND ELECTRICAL DRAWINGS FOR NON-STRUCTURAL ITEMS REQUIRING SPECIAL PROVISIONS DURING CONSTRUCTION. THEY INCLUDE, BUT ARE NOT LIMITED TO, NON-STRUCTURAL WALLS; SIZE AND LOCATIONS OF OPENINGS AND SLEEVES PENETRATING STRUCTURE; SIZE AND LOCATION OF CONCRETE CURBS AND PADS; AND SIZE AND LOCATION OF PIPING, DUCTWORK, AND EQUIPMENT ANCHORAGES MOUNTED OR SUSPENDED FROM STRUCTURE. VERIFY EXACT SIZE AND LOCATION OF EQUIPMENT WITH EQUIPMENT MANUFACTURER.
- MATERIALS: FURNISH AND INSTALL IN COMPLIANCE WITH LEGALLY CONSTITUTED PUBLIC AUTHORITIES HAVING JURISDICTION INCLUDING COUNTY AND LOCAL ORDINANCES AND SAFETY ORDERS OF STATE INDUSTRIAL ACCIDENT COMMISSION, OSHA.
- PENETRATIONS, EMBEDMENTS, AND OPENINGS IN STRUCTURAL MEMBERS: NO PENETRATION, EMBEDMENT, OPENING, SLEEVE, PIPE, OR CONDUIT SHALL OCCUR IN STRUCTURAL MEMBERS INCLUDING FOOTINGS, SLABS, WALLS, COLUMNS, AND BEAMS UNLESS SPECIFICALLY SHOWN OR INDICATED ON STRUCTURAL DRAWINGS.
- TYPICAL DETAILS: DETAILS ON SD SERIES SHEETS ARE APPLICABLE THROUGHOUT PROJECT WHEREVER THE DESCRIBED CONDITION OCCURS AND MAY OR MAY NOT BE SPECIFICALLY REFERENCED ON STRUCTURAL DRAWINGS. CONTRACTOR IS RESPONSIBLE FOR IDENTIFYING THESE DETAILS AND UNDERSTANDING EXTENT OF THEIR APPLICATION PRIOR TO PERFORMING WORK.

	ABBRE	VIATIONS
4.5		
AB ABV	= ANCHOR BOLT = ABOVE	GT = GIRDER TRUSS HDR = HEADER
ADD'L		
ALT	= ADDITIONAL = ALTERNATE	HGR = HANGER BC = INTERNATIONAL BUILDING CODE
AWA	= ALIGN WITH ABOVE	I IN = INCH
BEW	= BOTTOM EACH WAY	INFO = INFORMATION
BLK	= BLOCK	INT = INTERIOR
BLKG	= BLOCKING	JST = JOIST
BLW	= BELOW	SST = SSIST LSL = LAMINATED STRAND LUMBER
BM	= BEAM	LVL = LAMINATED VENEER LUMBER
BN	= BOUNDARY NAILING	MAX = MAXIMUM
BRG	= BEARING	MFR = MANUFACTURER
BTM	= BOTTOM	MIN = MINIMUM
BTWN	= BETWEEN	MULT = MULTIPLE
BTR	= BETTER	N/A = NOT APPLICABLE
CBC	= CALIFORNIA BUILDING CODE	N/P = NOT PROVIDED
CLG	= CEILING	O/C = ON CENTER
CONC	= CONCRETE	PI = PLASTICITY INDEX
DBL	= DOUBLE	PLT = PLATE
DF	= DOUGLAS FIR	PLYWD= PLYWOOD
DIA	= DIAMETER	PNL = PANEL
DJ	= DECK JOIST	PSL = PARALLEL STRAND LUMBER
DP	= DEEP	PT = POST TENSION
DR	= DROP	REV = REVISION
EA	= EACH	RF = ROOF
El	= EXPANSION INDEX	RR = ROOF RAFTER
	= EMBEDMENT	SHTG = SHEATHING
EN	= EDGE NAILING	SIM = SIMILAR
EW	= EACH WAY	SPN = SOLE PLATE NAILING
EWB	= ENGINEERED WOOD BEAM	SQ = SQUARE
EXT	= EXTERIOR	SQSH = SQUASH
FA	= FROM ABOVE	STD = STANDARD
FDN	= FOUNDATION	SW = SHEAR WALL
FH	= FULL HEIGHT	TP = TOP PLATE
FJ	= FLOOR JOIST	TSL = TRIANGULAR STRAND LUMBER
FL	= FLUSH	TYP = TYPICAL
FLR	= FLOOR	UBC = UNIFORM BUILDING CODE UNO = UNLESS NOTED OTHERWISE
FNGR	= FINGER	WWM = WELDED WIRE MESH
FRMG FT	= FRAMING	WVVIM = WELDED WIRE MESH W/ = WITH
GA	= FEET = GAGE	W/O = WITHOUT
GA.	- UNUE	1 1 11/0 - 11/11/001



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APPROVAL STAMP

PLAN REVISIONS ELTA | DESCRIPTION | DATE CO. PC & LH REV'S 10/03/17

NGINEER STAMP & SIGNATURI



DATE: 10/03/17

SHEET TITLE:

GENERAL

SHEET NUMBER

REINFORCING STEEL

- A. ALL BARS, U.N.O.: ASTM A615, GRADE 60
 B. BARS TO BE WELDED: ASTM A706, GRADE 60
- C. ADDITIONAL REQUIREMENTS FOR BARS, EXCLUDING TIES, IN DUCTILE MOMEN RESISTING FRAMES AND BOUNDARY ELEMENTS IN SHEAR WALLS: NO ADDITIONAL REQUIREMENTS IF ASTM A706, GRADE 60 BARS USED. ASTM615, GRADE 60 BARS ARE PERMITTED PROVIDED ACTUAL YIELD STRENGTH BASED ON MILL TESTS DOES NOT EXCEED SPECIFIED YIELD STRENGTH BY MORE THAN 18,000 PSI (RETESTS SHALL NOT EXCEED THIS VALUE BY MORE THAN AN ADDITIONAL 3,000 PSI) AND RATIO OF ACTUAL ULTIMATE TENSILE STRESS TO ACTUAL TENSILE YIELD STRENGTH IS NOT LESS THAN
- WIRE AND SPIRAL REINFORCING:

 A. SMOOTH WELDED WIRE FABRIC (W.W.F.): ASTM A185, FY=65 KSI, FLAT SHEETS ONLY. DO NOT USE ROLLED MESH. LAP SPACES (1 FOOT MINIMUM). OFFSET LAPS IN ADJACENT SHEETS TO AVOID CONTINUOUS LAPS.
- B. DEFORMED WIRE STIRRUPS (D4 AND LARGER ONLY): ASTM A497, FY=65 KSI. C. SPIRAL REINFORCING: ASTM A82, GRADE 60
- . SHOP DRAWINGS: ACI 315, PART B. SHOW REINFORCING STEEL PLACEMENT INCLUDING SIZES, QUANTITIES, SPACING, CLEARANCES, SPLICE LOCATIONS, LAP LENGTHS, AND CONCRETE COVERAGES AND SUBMIT TO ARCHITECT (STRUCTURAL ENGINEER). PROMPTLY NOTIFY ARCHITECT (STRUCTURAL ENGINEER) PRIOR TO DEVELOPING SHOP DRAWINGS IF INSUFFICIENT CLEAR DISTANCES BETWEEN REINFORCING STEEL AND OTHER CONGESTION IS ENCOUNTERED. NOTIFY SPECIAL INSPECTOR OF ADJUSTMENTS MADE FORM APPROVED CONTRACT DOCUMENTS WHICH ARE INDICATED ON ACCEPTED SHOP DRAWINGS THAT FACILITATE FIELD PLACEMENT OF REINFORCING STEEL AND CONCRETE.
- 4. SPLICE LOCATIONS: SPLICE #5 BARS AND LARGER ONLY AT LOCATIONS INDICATED. IF ADDITIONAL SPLICE LOCATIONS ARE PROPOSED, PROMPTLY NOTIFY ARCHITECT (STRUCTURAL ENGINEER) PRIOR TO DEVELOPING SHOP DRAWINGS.
- A. SPLICES IN WALLS: LOCATE SPLICES IN HORIZONTAL BARS AT WELL-STAGGERED LOCATIONS. DO NOT SPLICE VERTICAL BARS EXCEPT AT HORIZONTAL SUPPORTS SUCH AS FLOOR AND ROOF DIAPHRAGMS.
- MINIMUM CLEARANCES BETWEEN PARALLEL REINFORCING STEEL INCLUDING DISTANCE BETWEEN SETS OF SPLICED BARS: 1" OR 1 db, WHICHEVER IS GREATER. 1 2" OR 12 db WHICHEVER IS GREATER, AT COLUMNS, PIERS, AND PILASTERS ONLY. FOR BUNDLED BARS. MINIMUM CLEAR DISTANCES BETWEEN UNITS OF BUNDLED BARS SHALL BE SAME AS SINGLE BARS EXCEPT BAR DIAMETER IS DERIVED FROM EQUIVALENT TOTAL AREA OF
- DOWELS AT CONSTRUCTION JOINTS: PROVIDE DOWELS MATCHING SIZE AND QUANTITY OF REINFORCING STEEL INTERRUPTED AT CONSTRUCTION JOINTS, UNLESS DETAILED
- 8. PLACEMENT OF BARS IN WALLS: PLACE VERTICAL BARS CLOSEST TO WALL SURFACES AT CURTAINS CONTAINING VERTICAL AND HORIZONTAL BARS OF THE SAME SIZE. IN CURTAINS WHICH VERTICAL AND HORIZONTAL BARS ARE OF DIFFERENT SIZES OR SPACING, PLACE LAYER WITH MOST STEEL AREA CLOSEST TO NEAR WALL SURFACE.
- 9. BARS TERMINATING AT WALLS, COLUMNS, BEAMS, AND FOUNDATIONS: EXTEND BARS TO WITHIN 2" (3" AT CONCRETE POURED AGAINST EARTH) OF FAR FACE OF WALL, COLUMN, BEAM OR FOUNDATION AND PROVIDE STANDARD ACI 90-DEGREE HOOK UNLESS DETAILED
- 10. BARS INTERRUPTED BY STRUCTURAL STEEL: EXTEND BARS TO WITHIN 2" OF STEEL FACE AND PROVIDE STANDARD ACI 90-DEGREE HOOK UNLESS DETAILED OTHERWISE.
- 11. WELDING: AWS D1.4, EXCEPT AS MODIFIED BY APPLICABLE CODE STANDARD 19-1. SEE RGA #3-77 OF CITY OF LOS ANGELES "R" BOOK FOR ADDITIONAL REQUIREMENTS IF GOVERNING CODE AUTHORITY IS CITY OF LOS ANGELES DEPARTMENT OF BUILDING AND
- A. ACCEPTABLE REINFORCING STEEL FOR WELDING ASTM A706: IF WELDING OF REINFORCING STEEL OTHER THAN A706 IS DESIRED, SUBMIT PROPOSED PROCEDURE. INDICATING CONFORMANCE TO APPLICABLE CODE AND REQUIREMENTS OF GOVERNING CODE AUTHORITY, TO ARCHITECT (STRUCTURAL ENGINEER) FOR ACCEPTANCE AND TO GOVERNING CODE AUTHORITY FOR APPROVAL PRIOR TO EXECUTION. B. WELDER CERTIFICATION: GOVERNING CODE AUTHORITY.
- 12. BENDING: BEND COLD UNLESS OTHERWISE ACCEPTED BY ARCHITECT (STRUCTURAL ENGINEER). DO NOT FIELD-BEND REINFORCING STEEL BARS EMBEDDED IN CONCRETE UNLESS OTHERWISE ACCEPTED IN WRITING BY ARCHITECT (STRUCTURAL ENGINEER).
- 13. LAP SPLICES: PROVIDE CLASS B SPLICES UNLESS INDICATED OTHERWISE.

MASONRY

- SPECIFIED COMPRESSIVE STRENGTH OF MASONRY (f'm): 1,500 PSI TYPICAL UNLESS NOTED
- VERIFYING SPECIFIED COMPRESSIVE STRENGTH OF MASONRY (fm): USE MASONRY PRISM TESTING METHODS UNLESS OTHERWISE ACCEPTABLE TO ARCHITECT (STRUCTURAL ENGINEER). FULL ALLOWABLE STRESSES ARE USED IN DESIGN. SUBMIT MASONRY PRISM DATA FOR EACH TYPE AND COMPRESSIVE STRENGTH OF MASONRY REQUIRED, WITH A PROFESSIONAL ENGINEER'S SIGNATURE AND STATE OF CALIFORNIA SEAL, TO ARCHITECT (STRUCTURAL ENGINEER). COMPLIANCE WITH MINIMUM REQUIRED COMPRESSIVE STRENGTH SHALL BE BASED ON APPLICABLE CODE SECTION 2105.3.
- CONCRETE BLOCK: ASTM C90, NORMAL WEIGHT, GRADE N-I AND APPLICABLE CODE STANDARD 21-4 ATTAINING A MINIMUM COMPRESSIVE STRENGTH AS REQUIRED TO MEET SPECIFIED COMPRESSIVE STRENGTH OF MASONRY (f'm).
- 4. <u>FACE BRICK:</u> ASTM C216 AND APPLICABLE CODE STANDARD 21-1.
- PORTLAND CEMENT FOR MORTAR AND GROUT: ASTM C150, TYPE I OR II. USE OF MASONRY CEMENT OR PLASTIC CEMENT IS NOT PERMITTED.
- A. AGGREGATES FOR MORTAR: ASTM C144. B. AGGREGATES FOR GROUT: C404, COARSE TYPE.
- 7. MORTAR: ASTM C270, TYPE S. MIX IN PROPORTIONS ACCORDING TO APPLICABLE CODE TABLE 21-A TYPE S. (2,000 PSI MINIMUM).
- 8. GROUT: ASTM C476, COARSE TYPE, ATTAINING A MINIMUM COMPRESSIVE STRENGTH AS REQUIRED TO MEET SPECIFIED COMPRESSIVE STRENGTH OF MASONRY (fm). HOWEVER, IN NO CASE SHALL GROUT COMPRESSIVE STRENGTH BE LESS THAN 2,000 PSI AT 28 DAYS.
- 9. <u>REINFORCING STEEL:</u> REINFORCING STEEL SECTION OF GENERAL NOTES UNLESS INDICATED OTHERWISE.
- 10. COMPOSITE MASONRY WALL PENETRATION SUBMITTAL: SUBMIT FOR EACH WALL INDICATING SIZE AND LOCATION OF EACH WALL PENETRATION AND OPENING AS NECESSARY BY AFFECTED TRADES. SUBMIT TOGETHER WITH APPROPRIATE REINFORCING STEEL SHOP DRAWINGS. SUBMIT WRITTEN STATEMENT FROM SPECIAL INSPECTOR THAT NO ADDITIONAL PENETRATIONS OR OPENINGS WERE ADDED TO THOSE SHOWN IN PENETRATION SUBMITTAL.
- 11. <u>REINFORCING STEEL SPLICES:</u> LAP REINFORCING STEEL AS NOTED ON PLANS & PER THE CURRENT ACI 318 CODE.
- 12. DOWELS FOR WALLS, COLUMNS, PILASTERS, AND PIERS: MATCH SIZE AND SPACING OF VERTICAL REINFORCING STEEL, UNLESS NOTED OTHERWISE. SET DOWELS TO ALIGN WITH CELLS CONTAINING REINFORCING STEEL.
- 13. MINIMUM REINFORCING STEEL CLEARANCES
- A. MINIMUM CLEARANCES BETWEEN REINFORCING AND OUTSIDE FACE OF MASONRY: 2" EXCEPT IN NO CASE SHALL CLEARANCE BE LESS THAN 1 $\frac{1}{2}$ db.
- B. MINIMUM CLEARANCE BETWEEN REINFORCING AND INSIDE FACE OF GROUT CELL: $\frac{1}{2}$ " C. MINIMUM CLEARANCE DISTANCE BETWEEN PARALLEL REINFORCING: 1" OR db, WHICHEVER IS LESS. INCREASE TO 1 $\frac{1}{2}$ " OR 1 $\frac{1}{2}$ db, WHICHEVER IS LESS, AT COLUMNS, PILASTERS, AND PIERS ONLY.
- 14. <u>PLACEMENT:</u> SET COURSES IN RUNNING BOND PATTERN UNLESS INDICATE OTHERWISE. SET CELLS IN VERTICAL ALIGNMENT. PROVIDE FLUSH MORTAR JOINTS AT SURFACES TO RECEIVE WATERPROOFING OR DAMP-PROOFING.
- 15. GROUTING: GROUT SOLID ALL CELLS. MECHANICALLY VIBRATE GROUT IN CELLS. A. GROUT HEIGHT LIMITS: APPLICABLE CODE TABLE 21-C
- B. HORIZONTAL CONSTRUCTION JOINTS: HOLD GROUT 1 1/2 INCHES BELOW TOP OF MASONRY UNIT IF WORK IS STOPPED ONE HOUR OR LONGER. C. GROUT COVER AROUND REINFORCING STEEL, ANCHOR BOLTS AND INSERTS PENETRATING MASONRY SHELL: 1" MINIMUM.
- 16. HORIZONTAL BAR TERMINATING AT WALL ENDS AND OPENING JAMBS: EXTEND BARS TO WITHIN 2 INCHES OF END OF WALL AND PROVIDE STANDARD AI 90-DEGREE HOOK UNLESS DETAILED OTHERWISE.

CONCRETE EXPOSURE REQUIREMENTS

ACI	318 TABLE 4.2.1 - E	XPOSURE	CATEGORIES AND C	CLASSES		
CATEGORY	SEVERITY CLASS CONDITION					
	NOT APPLICABLE	F0	AND THAWING CYC			
F	MODERATE	F1	CONCRETE EXPOSE THAWING CYCLES A EXPOSURE TO MOIS			
FREEZING AND THAWING	SEVERE	F2		D TO FREEZING AND AND IN CONTINUOUS URE		
	VERY SEVERE	F3	THAWING AND IN CO	D TO FREEZING AND ONTINUOUS CONTAGE EXPOSED TO DEICING		
			WATER SOLUBLE SULFATE (SO4) IN SOIL, PERCENT BY WEIGHT	DISSOLVED SULFA (SO4) IN WATER, PP		
S	NOT APPLICABLE	S0	SO ₄ < 0.10	SO ₄ < 150		
SULFATE	MODERATE	S1	0.10 <u><</u> SO ₄ < 0.20	150 <u><</u> SO₄ < 1500 SEAWATER		
	SEVERE	S2	0.20 <u><</u> SO ₄ <u><</u> 2.0	1500 <u><</u> SO₄ <u><</u> 10,0		
	VERY SEVERE	S3	SO ₄ > 2.00	SO ₄ > 10,000		
Р	NOT APPLICABLE	P0	IN CONTACT W/ WAT PERMEABILITY IS NO			
REQUIRED LOW PERMEABILITY	REQUIRED	P1	IN CONTACT W/ WA PERMEABILITY IS RE			
	NOT APPLICABLE	C0	CONCRETE DRY OR MOISTURE	PROTECTED FROM		
C CORROSION	MODERATE	C1	CONCRETE EXPOSED TO MOISTURE BUT NOT TO EXTERNAL SOURCES OF CHLORIDE			
PROTECTION OF REINFORCEMENT	SEVERE	C2	CONCRETE EXPOSE AN EXTERNAL SOUF FROM DEICING CHE BRACKISH WATER, S FROM THESE SOUR	MICALS, SALT, SEAWATER, OR SPRA		

EXPOSURE CLASS	MAX W/C	MIN f'c	AE	ENTS		
			LIMITS ON CEMENTITIOUS MATERIALS			
FO	N/A	2500		N/A		
F1	0.45	4500	PER T	ABLE 4.4.1 - ACI	318-08	N/A
F2	0.45	4500	PER TA	ABLE 4.4.1 - ACI	318-08	N/A
F3	0.45	4500	PER T	PER TABLE 4.4.2 - ACI 318-08		
			CEMENTI	CALCIUM CHLORIDE		
			ASTM C150	ASTM C595	ASTM C1157	ADMIXTURE
S0	N/A	2500	NO TYPE NO TYPE RESTRICTION RESTRICTION F		NO TYPE RESTRICTION	NO RESTRICTION
S1	0.50	4000	II _{2,3} IP (MS) IS(<70) (MS)		MS	NO RESTRICTION
S2	0.45	4500	V 3 IP (HS) IS(<70) (HS)		HS	NOT PERMITTED
S3	0.45	4500	V PLUS POZZOLAN OR SLAG 4	IP (HS) PLUS POZZOLAN OR SLAG 4 OR IS (<70) (HS) PLUS POZZOLAN OR SLAG 4	HS PLUS POZZOLAN OR SLAG 4	NOT PERMITTED

ACI 318 TABLE 4.3.1 - REQUIREMENTS FOR CONCRETE BY EXPOSURE CLASS

P0	N/A	2500		DNE			
P1	0.50	4000	NONE				
			MAXIMUM WATER SOLUBLE CHLORIDE ION (CL-) CONTENT IN CONCRETE, PERCENT BY WEIGHT OF CEMENT 5 REINFORCED PRESTRESSED CONCRETE CONCRETE		RELATED PROVISIONS		
CO	N/A	2500	0 1.00 0.06		NONE		
C1	N/A	2500	0.30	0.06	INOINE		
C2	0.40	5000	0.15	0.06	ACI 318, 7.7.6 & 18.16 6		

- ALTERNATIVE COMBINATIONS OF CEMENTITIOUS MATERIALS OF THOSE LISTED IN TABLE 4.3.1 SHALL BE PERMITTED WHEN TESTED FOR SULFATE RESISTANCE AND
- MEETING THE CRITERIA IN 4.5.1. FOR SEAWATER EXPOSURE, OTHER TYPES OF PORTLAND CEMENTS WITH TRICALCIUM
- ALUMI-NATE (C3A) CONTENTS UP TO 10 PERCENT ARE PERMITTED IS THE W/CM DOES
- OTHER AVAILABLE TYPES OF CEMENT SUCH AS TYPE III OR TYPE I ARE PERMITTED IN EXPOSURE CLASSES S1 OR S2 IF THE C3A CONTENTS ARE LESS THAN 8 OR 5 PERCENT, RESPECTIVELY.
- THE AMOUNT OF THE SPECIFIC SOURCE OF THE POZZOLAN OR SLAG TO BE USED SHALL NOT BE LESS THAN THE AMOUNT THAT HAS BEEN DETERMINED BY SERVICE RECORD TO IMPROVE SULFATE RESISTANCE WHEN USED IN CONCRETE CONTAINING TYPE V CEMENT. ALTERNATIVELY, THE AMOUNT OF THE SPECIFIC SOURCE OF THE POZZOLAN OR SLAG TO BE USED SHALL NOT BE LESS THAN THE AMOUNT TESTED IN ACCORDANCE WITH ASTM C1012 AND MEETING THE CRITERIA IN 4.5.1.
- WATER-SOLUBLE CHLORIDE ION CONTENT THAT IS CONTRIBUTED FROM THE INGREDIENTS INCLUDING WATER, AGGREGATES, CEMENTITIOUS MATERIALS, AND ADMIXTURES SHALL BE DETERMINED ON THE CONCRETE MIXTURE BY ASTM C1218 AT AGE BETWEEN 28 AND 42 DAYS.
- REQUIREMENTS OF 7.7.6 SHALL BE SATISFIED. SEE 18.16 FOR UNBONDED TENDONS.

CONCRETE

- CONCRETE COMPRESSIVE STRENGTH: ALL CONCRETE SHALL ATTAIN A MINIMUM COMPRESSIVE STRENGTH AS SHOWN IN THE TABLE 2 BELOW AT 28 DAYS, U.N.O. ON PLANS. SEE ALSO SULFATE CONTENT NOTES.
- AGGREGATES IN CONCRETE: SHALL BE NATURAL SAND AND ROCK (150 LB/CU. FT) CONFORMING TO ASTM C33. AGGREGATE SHALL HAVE PROVEN SHRINKAGE CHARACTERISTICS OF LESS THAN 0.05% PER ASTM C-157. DO NOT CHANGE SOURCE OF AGGREGATE DURING COURSE OF WORK WITHOUT WRITTEN CONSENT OF ENGINEER.
- . CEMENT: SHALL BE PORTLAND CEMENT CONFORMING TO ASTM C150. CEMENT SHALL BE TYPE II OR AS REQUIRED TO SATISFY SITE SOIL CONDITIONS. REFER TO TABLE 4 FOR CONCRETE CEMENT REQUIREMENTS ON SOIL CONTAINING SULFATE. REFER TO TABLE 2 FOR MAXIMUM WATER TO CEMENT RATIO.

CONCRETE STRENGTH					
CONDITION	STRENGTH, fc	WATER / CEMENT RATIO	MAX. SLUMP		
SLAB ON GRADE	2,500 PSI	0.65	6"		
FOOTING & GRADE BM	2,500 PSI	0.65	6"		
RETAINING WALL	2,500 PSI	0.65	6"		

REBAR CLEAR COVER IN CONCRETE: THE FOLLOWING MINIMUM CLEAR DISTANCES BETWEEN REINFORCING STEEL AND FACE OF CONCRETE SHALL BE MAINTAINED UNLESS NOTED OTHERWISE:

REBAR CLEAR COVER FOR CAST	-IN-PLACE CONCRETE
CONDITION	COVER
SLAB ON GRADE	CENTER OF SLAB OR 2" MIN
CONCRETE AGAINST & PERMANENTLY EXPOSED TO EARTH:	3"
CONCRETE EXPOSED TO EARTH OR WEATHER:	
WALL PANELS, SLABS, JOINTS:	1"
OTHER MEMBERS:	1 ½"
CONCRETE NOT EXPOSED TO EARTH OR WEATHER:	
SLABS, WALLS, JOINTS:	<u>3</u> 11 4
BEAM, COLUMNS PRIMARY REINFORCEMENT:	1 ½"
BEAM, COLUMNS TIES, STIRRUPS, SPIRALS	1"

- <u>N:</u> VIBHATION OF CONCRETE SHALL BE IN ACCORDANCE WITH GENERAL PROVISIONS OUTLINED IN PORTLAND CEMENT ASSOCIATION SPECIFICATION ST26.
- 6. CURING: CONCRETE SHALL BE MAINTAINED AT IN A MOIST CONDITION FOR A MINIMUM OF FIVE DAYS AFTER ITS PLACEMENT. FOR CONCRETE OTHER THAN SLAB ON GRADE, APPROVED CURING COMPOUNDS MAY BE USED IN LIEU OF MOIST CURING. ONLY IF APPROVED BY THE ENGINEER OR ARCHITECT.
- 7. INSPECTIONS, TESTING & QUALITY ASSURANCE: REFER TO SHEET SN1 FOR DEPUTY SPECIAL INSPECTION, TESTING & STRUCTURAL OBSERVATION REQUIREMENTS. A MINIMUM OF ONE COMPRESSION TEST AT 7 DAYS AND 2 TESTS AT 28 DAYS FOR ALL CONCRETE SAMPLES. TAKE TEST AT A FREQUENCY OF ONCE EVERY 150 CU. YDS OR 5,000 SQ. FT MINIMUM.
- 8. ANCHOR BOLTS, DOWELS, INSERTS: SHALL BE TIED IN PLACE PRIOR TO POURING
- 9. CONSTRUCTION AND POUR JOINTS: LOCATIONS SHALL BE APPROVED BY ENGINEER PRIOR TO POURING CONCRETE.
- 10. FLY ASH: THE MAXIMUM CONTENT OF FLY ASH OR POZZOLANS CONFORMING TO ASTM C618 IN CONCRETE SHALL BE 25% AND SHALL BE GOVERNED BY ACI 318-08 TABLE 4.2.3.
- 11. FORMWORK: FORMWORK TOLERANCE SHALL IN ACCORDANCE WITH THE C.B.C. AND A.C.I. STANDARDS.

- HOT WEATHER CONCRETING: WHEN AIR TEMPERATURE RISES ABOVE 80° F AND HUMIDITY FALLS BELOW 25, THE CONTRACTOR SHALL FOLLOW HOT WEATHER CONCRETING IN ACCORDANCE WITH ACI 305 5-77. CONTRACTOR SHALL BE PREPARED TO USE FOG SPRAY OR OTHER PRECAUTIONS ACCEPTABLE TO ARCHITECT WHEN RATE OF EVAPORATION EQUALS OR EXCEEDS 0.2 POUNDS PER SQUARE FOOT PER HOUR. COLD WEATHER CONCRETING: ADEQUATE EQUIPMENT SHALL BE PROVIDED FOR
- HEATING CONCRETE MATERIALS AND PROTECTING CONCRETE DURING FREEZING OR NEAR FEEZING WEATHER. ALL CONCRETE MATERIALS AND ALL REINFORCEMENT, FORMS FILLERS AND GROUND WITH WHICH THE CONCRETE IS TO CONTACT SHALL BE FREE FROM FROST. FROZEN MATERIAL OR MATERIALS CONTAINING ICE SHALL NOT BE USED. COLD WEATHER CONCRETING SHALL BE DONE IN ACCORDANCE WITH ACI 306 R-78. (LATEST EDITION)
- 13. PIPES IN CONCRETE: PIPES MAY PASS THROUGH STRUCTURAL CONCRETE IN SLEEVES, BUT SHALL NOT BE EMBEDDED THEREIN. PIPES OR DUCTS EXCEEDING ONE-THIRD THE SLAB OR WALL THICKNESS SHALL NOT BE PLACED IN THE STRUCTURAL CONCRETE UNLESS SPECIFICALLY DETAILED.
- 14. EXPOSED CORNERS: PROVIDE 3/4" CHAMFERS AT ALL EXPOSED CORNERS.
- 15. <u>ARCHITECTURAL DETAILS:</u> REFER TO ARCHITECTURAL DRAWINGS FOR REVEALS, AREAS OF TEXTURED CONCRETE OR SPECIAL FINISHES, ITEMS REQUIRED TO BE CAST INTO THE CONCRETE, CURBS AND SLAB DEPRESSIONS.
- 16. DRYPACK OR GROUT: SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 2,000 PSI AND BE COMPOSED OF ONE PART PORTLAND CEMENT TO NOT MORE THAN THREE PARTS SAND.

PROPRIETARY ANCHORAGES AND FASTENERS

- A. DRILL AND EPOXY ANCHORS: SIMPSON SET-XP EPOXY ADHESIVE SYSTEM USING THREADED STEEL RODS CONFORMING TO ASTM-F1554, GRADE 36, OR REINFORCING STEEL CONFORMING TO ASTM A615 OR A706, GRADE 60, COMPLYING WITH ICC ES ESR 2508. INSTALLERS TO BE CERTIFIED BY MANUFACTURER.
- B. <u>MECHANICAL ANCHORS:</u> HILTI KWIK BOLT-III CARBON STEEL EXPANSION ANCHORS COMPLYING WITH ICC ES REPORT NO. 1385.
- C. WELDED SHEAR STUDS: NELSON 3SL FLUX FILLED, HEADED STUD ANCHORS, 60,000 PSI MINIMUM ULTIMATE TENSILE STRENGTH, AUTOMATICALLY END WELDED IN FIELD CONFIRMING TO ASTM A108 AND COMPLYING WITH ICC ES REPORT NO. 2614.
- D. <u>WELDED DEFORMED ANCHORS:</u> NELSON D2L, COLD ROLLED, DEFORMED STEEL REINFORCING BARS CONFORMING TO ASTM A496 AND COMPLYING WITH ICC ES REPORT NO. 5217.

- A. POWDER ACTUATED FASTENERS: HILTI XCP, COMPLYING WITH CURRENT ICC ES REPORT NO. 2379. PROVIDE APPROPRIATE WASHER BETWEEN FASTENER HEAD AND LIGHT GAUGE METAL OR WOOD SURFACE.
- B. SELF-DRILLING METAL SCREWS (INDICATED "SCREWS" ON DRAWINGS): MINIMUM 0.292-INCH HEAD DIAMETER SELF-DRILLING/SELF-TAPPING STEEL SCREWS COMPLYING WITH ICC ES REPORT. MINIMUM YIELD STRESS, FY=33 KSI.
- 3. <u>INSTALLATION:</u> SEE MANUFACTURER'S WRITTEN INSTRUCTIONS AND REFERENCED ICC ES A. MATERIALS NOT TO BE PENETRATED BY FASTENERS OR ANCHORAGE POST-TENSIONED CONCRETE AND PRECAST, PRESTRESSED CONCRETE UNLESS SPECIFICALLY DETAILED HEREIN OR AS ACCEPTED IN WRITING BY ARCHITECT (STRUCTURAL ENGINEER). WHEN INSTALLATION IS PERMITTED, LOCATE PRESTRESSING
- AND POST-TENSIONED TENDONS ACCURATELY PRIOR TO INSTALLATION. B. <u>DRILLING HOLES IN EXISTING CONCRETE OR MASONRY FOR ANCHORAGES:</u> USE NON-PNEUMATIC, RATARY HAMMER TOOLS WITH ANSI COMPLIANT NON-REBAR CUTTING DRILL BITS TO DRILL HOLES OF PROPER TOLERANCES. LOCATE EXISTING REBAR INCLUDING PRESTRESSING AND POST-TENSIONING TENDONS USING NON-HAZARDOUS, NONDESTRUCTIVE 1 METHODS WITH ACCURATE LOCATION TOLERANCES (PLUS OR MINUS INCH PRIOR TO DRILLING 4 HOLES TO AVOID CUTTING OR DAMAGING. HOLES SHALL BE THOROUGHLY CLEANED PER MANUFACTURERS
- WRITTEN RECOMMENDATIONS PRIOR TO INSTALLATION OF ANCHORAGES. C. <u>DELETERIOUS MATERIALS:</u> KEEP ANCHORAGES, INCLUDING HOLES FOR DRILL AND EPOXY ANCHORS AND MECHANICAL ANCHORS, FREE OF DUST, GREASE, AND OTHER MATERIALS THAT IMPAIR BOND.
- 4. TESTING FOR DRILL AND EPOXY ANCHORS:

 A. SPECIAL INSPECTION: SPECIAL INSPECTOR WILL PERFORM CONTINUOUS SPECIAL INSPECTION DURING INSTALLATION.



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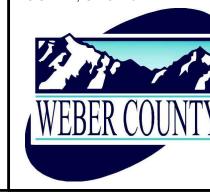
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APPROVAL STAMP

PLAN REVISIONS DELTA | DESCRIPTION | DATE CO. PC & LH REV'S 10/03/17

ENGINEER STAMP & SIGNATURI



DATE: 10/03/17

SHEET TITLE:

GENERAL

SHEET NUMBER

DEPUTY SPECIAL INSPECTOR

- 1. DEPUTY SPECIAL INSPECTIONS SHALL BE PROVIDED BY:
- PHONE NUMBER:
- 2. SPECIAL INSPECTOR SHALL BE HIRED BY THE OWNER TO PROVIDE SPECIAL INSPECTIONS AS REQUIRED PER THE PLANS.
- 3. SPECIAL INSPECTOR: A QUALIFIED PERSON, EMPLOYED BY THE OWNER, WHO HAS DEMONSTRATED COMPETENCE TO THE SATISFACTION OF THE BUILDING OFFICIAL FOR INSPECTION OF THE PARTICULAR TYPE OF CONSTRUCTION OR OPERATION REQUIRING SPECIAL INSPECTION. DUTIES INCLUDE VISUAL INSPECTIONS AND FIELD MEASUREMENTS OF MATERIALS, OBTAINING SPECIMENS FOR TESTS AND RELATED ACTIONS INCLUDING PREPARATION OF REPORTS.
- 4. <u>CONTINUOUS INSPECTION:</u> ON SITE INSPECTION BY THE SPECIAL INSPECTOR ON A CONTINUOUS BASIS OBSERVING ALL WORK REQUIRING SPECIAL INSPECTION.
- 5. <u>PERIODIC INSPECTION:</u> INTERMITTENT INSPECTION AS PERMITTED BY THE PLAN, SPECIFIED AT PRE-DETERMINED INTERVALS OR MORE FREQUENTLY AS WORK PROGRESSES. NO SIGNIFICANT ELEMENTS OR AREAS SHALL BE COVERED BY ADDITIONAL WORK UNTIL APPROVED BY THE BUILDING OFFICIAL AND/OR SPECIAL INSPECTOR.
- 6. REPORTS SHALL BE SUBMITTED TO THE BUILDING OFFICIAL IN A TIMELY MANNER AS DETERMINED BY THE BUILDING OFFICIAL

QUALITY ASSURANCE (STRUCTURAL OBSERVATION, MATERIALS TESTING, AND SPECIAL INSPECTION).

A. COORDINATION RESPONSIBILITIES OF CONTRACTOR: NOTIFY ARCHITECT (STRUCTURAL ENGINEER) 48 HOURS IN ADVANCE OF CRITICAL STAGES OF CONSTRUCTION INDICATED BELOW SO VISITS MAY BE SCHEDULED BY STRUCTURAL OBSERVATION SCHEDULE MAY REQUIRE REMOVAL OF SUBSEQUENT WORK FOR OBSERVATION. CONTRACTOR TO BEAR COSTS OF REMOVAL AND REPLACEMENT OF FINISHED WORK OR FRAMING DAMAGED BY REMOVAL PROCESS OR AS REQUIRED FOR CORRECTIVE ACTION.

B. PRE-CONSTRUCTION MEETING: OWNER MAY COORDINATE AND COLL FOR MEETING BETWEEN ARCHITECT (STRUCTURAL ENGINEER) RESPONSIBLE FOR STRUCTURAL ENGINEER) RESPONSIBLE FOR STRUCTURAL OBSERVER, CONTRACTOR, AFFECTED SUBCONTRACTORS AND SPECIAL INSPECTOR. STRUCTURAL OBSERVER WILL PRESIDE OVER THIS MEETING. PURPOSE OF MEETING IS TO IDENTIFY MAJOR STRUCTURAL OBSERVATION, MATERIALS TESTING, AND SPECIAL INSPECTION OF PROJECT.

C. CRITICAL STAGES OF CONSTRUCTION REQUIRING STRUCTURAL OBSERVATION:

FRAMING & PRE-CONCRETE POUR REBAR OBSERVATIONS

2. MILL TEST REPORTS CERTIFYING MATERIALS: CONTRACTOR TO SUBMIT MILL TEST REPORTS CERTIFYING REINFORCING STEEL, STRESSING TENDONS, AND STRUCTURAL ENGINEER) AND, UPON REQUEST, TO GOVERNING CODE AUTHORITY. ENSURE MATERIALS ARE PROPERLY TAGGED FOR IDENTIFICATION. IF MILL TEST REPORTS CANNOT BE MADE AVAILABLE OR IF MATERIAL CANNOT BE IDENTIFIED, TESTING LABORATORY WILL PERFORM TESTS AND INSPECTIONS OF UNIDENTIFIABLE MATERIALS FOUND DEFICIENT AFTER INITIAL TESTS AND INSPECTIONS, OR MATERIALS FOUND DEFICIENT AFTER INITIAL TESTS AND INSPECTIONS, OR MATERIALS FOUND DEFICIENT AFTER INITIAL TESTS AND INSPECTIONS, OR MATERIALS FOUND DEFICIENT AFTER INITIAL TESTS AND INSPECTIONS OF UNIDENTIFIABLE MATERIALS FOUND DEFICIENT AFTER INITIAL TESTS AND INSPECTIONS. REPLACING DEFICIENT MATERIALS. A. <u>ULTRASONIC EXAMINATION OF HEAVY ROLLED SHAPES AND THICK PLATES AT PROPOSED WELDED MOMENT CONNECTIONS</u>: WHERE COMPLETE PENETRATION GROOVE WELDS OCCUR AT GROUPS 4 AND 5 STRUCTURAL STEEL SHAPES, AS DEFINED IN ASTM A6, AND PLATES EXCEEDING 2 INCHES THICK, SUBMIT MILL TEST REPORTS TO ARCHITECT (STRUCTURAL ENGINEER) AND, UPON REQUEST, TO GOVERNING CODE AUTHORITY.

MILL TEST REPORTS SHALL CERTIFY THAT CHARPY V-NOTCH TESTING WAS CONDUCTED IN COMPLIANCE WITH ASTM A6, SUPPLEMENTARY REQUIREMENT S5, INCLUDING IMPACT TEST COMPLYING WITH ASTM A673 AT FREQUENCY P WITH MINIMUM AVERAGE VALUE OF 20 FT.-LBS. ABSORBED ENERGY AT 70 DEGREES FAHRENHEIT.

3. CERTIFICATE OF COMPLIANCE FOR OFFSITE FABRICATION: SUBMIT FOR STRUCTURAL STEEL, GLU-LAMS, AND PLYWOOD-WEB JOISTS, PRECAST CONCRETE IN COMPLIANCE WITH APPLICABLE CODE SECTION 1701.7. SUBMIT TO OWNER, TESTING LABORATORY, ARCHITECT (STRUCTURAL ENGINEER) AND GOVERNING CODE AUTHORITY.

WELD TESTING AND INSPECTION: TESTING LABORATORY WILL SUBMIT WELD TEST. RESULTS TO OWNER, CONTRACTOR, ARCHITECT (STRUCTURAL ENGINEER) AND, UPON REQUEST, TO GOVERNING CODE AUTHORITY. SEE SPECIFICATIONS FOR TESTING REQUIREMENTS NOT INDICATED ON STRUCTURAL DRAWINGS. TRUCTURAL STEEL WELDING: APART FROM VISUAL INSPECTION AND REVIEW OF FABRICATION AND ERECTION REPORTS OF FABRICATOR/ERECT STEEL FABRICATION AND ERECTION AND STRUCTURAL WELDING. SHOP AND FIELD TESTING OF MATERIALS AND WELDING WILL BE AS FOLLOWS: 3: APART FROM VISUAL INSPECTION AND REVIEW OF FABRICATION AND ERECTION AND ERECTION REPORTS OF FABRICATORY WILL PERFORM INDICATED SHOP AND FIELD INSPECTION AND TESTING. TESTING LABORATORY WILL BE AWS Q.C.-1 CERTIFIED AND WILL PROVIDE INSPECTION AND TESTING LABORATORY WILL PROVIDE INSPECTION AND TESTING LAB ULTRASONIC TESTING IS REQUIRED FOR ALL (100%) PARTIAL AND COMPLETE PENETRATION WELDS. TEST GROOVE WELDING ON CONTINUITY PLATES BY ULTRASONIC TESTING WILL BE SUBJECTED TO MAGNETIC PARTICLE EXAMINATION.

BASE METAL THICKER THAN 1-1/2 INCHES, SUBJECTED TO THROUGH THICKNESS WELD SHRINKAGE, WILL BE ULTRASONICALLY TESTED DIRECTLY BEHIND SUCH WELDS 48 HOURS OR MORE AFTER COMPLETION OF WELDING. WELDS SHALL BE VISUALLY INSPECTED AND PERIODICALLY MEASURED (15 PERCENT MINIMUM). IV. CHECK 10 PERCENT OF FILLET WELDS BY MAGNETIC PARTICLE (ASTM 109 METHOD). CHECK 25 PERCENT OF CONTINUITY PLATE FILLET WELDS AND BEAM FILLET WELDS (100 PERCENT IN MOMENT ZONES) BY MAGNETIC PARTICLE. V. ULTRASONICALLY TEST COLUMN FLANGES LOCATED AT PROPOSED WELDED MOMENT CONNECTIONS, CONTINUITY PLATES, AND BASE PLATES WHERE COLUMN FLANGE OR PLATE THICKNESS EXCEEDS 1-1/2 INCHES. TEST FOR EVIDENCE OF LAMINATIONS, INCLUSIONS OR OTHER DISCONTINUITIES IN ACCORDANCE WITH ASTM A435, STRAIGHT BEAM STRUCTURAL SHAPES, AS APPLICABLE. TEST ZONE TO

INCLUDE AREA 6 INCHES ABOVE AND BELOW EACH BEAM FLANGE CONNECTION. FOR PLATES, ANY DISCONTINUITY CAUSING A TOTAL LOSS OF BACK REFLECTION NOT CONTAINED WITHIN 3-INCH DIAMETER CIRCLE, OR ONE-HALF THICKNESS OF PLATE, WHICHEVER IS GREATER, WILL BE REJECTED. FOR ROLLED SHAPES, ASTM 898, LEVEL 1 CRITERIA APPLIES. TESTING WILL BE PERFORMED ON MATERIAL PRIOR TO FABRICATION, AFTER FABRICATION, AND AFTER FINAL WELDING OF BEAM VI. AMPERAGE, VOLTA

TION IS NOT PERMITTED UNLESS INDICATED IN THE PROGRAM OR OTHERWISE ACCEPTED BY ARCHITECT CONTINUOUS SPECIAL (STRUCTURAL ENGINE

REQUIRED VERIFICATIONS AND INSPECTIONS OF SEISMIC VERIFICATION AND INSPECTION C						SPE	CIAL IN	ISPI	ECTIC	N PROGRAM PER SECTION 1705				
VERIFICATION AND INSPECTION C	RESISTANCE	- SECTION	1705.1	1	REQUIRED VERIFICATION AND INSPECTION OF PIER F	OUNDATIONS	TABLE 17	05.8		MASONRY LEVEL 1 INSPECTION REQUIREMENTS (OCC. CATEGORY I, II, III BUILDINGS) - TABLE 1704.5				
	CONTINUOUS	PERIODIC	Yes	No	VERIFICATION AND INSPECTION	CONTINUOUS	PERIODIC	Yes	No	INSPECTION TASK	CONTINUOUS	PERIODIC	Yes	No
SMIC FORCE RESISTING SYSTEMS IN STRUCTURES ASSIGNED SEISMIC DESIGN CATEGORY C, D, E, F			•		OBSERVE DRILLING OPERATIONS AND MAINTAIN COMPLETE AND ACCURATE RECORDS FOR EACH PIER	•			•	COMPLIANCE WITH REQUIRED INSPECTION PROVISIONS OF THE CONSTRUCTION DOCUMENTS AND THE APPROVED SUBMITTALS SHALL BE VERIFIED.		•		•
SIGNATED SEISMIC SYSTEMS IN STRUCTURES ASSIGNED TO SMIC DESIGN CATEGORY D, E, F:					2. VERIFY PLACEMENT LOCATIONS AND PLUMBNESS, CONFORM PIER DIAMETERS, BELL DIAMETERS (IF APPLICABLE), LENGTHS,	•				2. VERIFICATION OF I'M AND I'AAC PRIOR TO CONSTRUCTION		•		
STRUCTURAL STEEL: QUIRED IN ACCORDANCE WITH QUALITY ASSURANCE PLAN					EMBEDMENT INTO BEDROCK (IF APPLICABLE) AND ADEQUATE END BEARING STRATA CAPACITY.					EXCEPT WHERE SPECIFICALLY EXEMPTED BY CODE. 3. VERIFICATION OF SLUMP FLOW AND VSI AS DELIVERED TO	_			
AISC 341. EPT AT:					3. FOR CONCRETE PIERS, PERFORM ADDITIONAL INSPECTIONS IN ACCORDANCE WITH SECTION 1704.4.					THE SITE FOR SELF-CONSOLIDATING GROUT.				-
STEEL STRUCTURES IN CATEGORY C WITH R < 3 EXCLUDING CANTILEVERED COLUMN SYSTEMS					4. FOR MASONRY PIERS, PERFORM ADDITIONAL INSPECTIONS IN			\vdash		4. AS MASONRY CONSTRUCTION BEGINS, THE FOLLOWING SHALL BE VERIFIED TO ENSURE COMPLIANCE				
ORDINARY MOMENT FRAMES, ULTRASONIC AND					ACCORDANCE WITH SECTION 1704.5.	_				A. PROPORTIONS OF SITE-PREPARED MORTAR.				
MAGNETIC PARTICLE TESTING OF CJP WELDS ARE ONLY REQUIRED AT DEMAND CRITICAL WELDS.					REQUIRED VERIFICATION AND INSPECTION OF PILE F VERIFICATION AND INSPECTION	CONTINUOUS	·		No	B. CONSTRUCTION OF MORTAR JOINTS.				
RUCTURAL WOOD:					1. VERIFY PILE MATERIALS, SIZES AND LENGTHS COMPLY WITH					C. LOCATION OF REINFORCEMENT, CONNECTORS, PRESTRESSING TENDONS AND ANCHORAGES.				
GLUING OPERATIONS OF SEISMIC RESISTING SYSTEM	•				THE REQUIREMENTS.	•				D. PRESTRESSING TECHNIQUE.				
NAILING, BOLTING, ANCHORING AND OTHER FASTENING COMPONENTS OF THE SEISMIC RESISTING SYSTEM					DETERMINE CAPACITIES OF TEST PILES AND CONDUCT ADDITIONAL LOAD TESTS, AS REQUIRED.	•			•	E. GRADE AND SIZE OF PRESTRESSING TENDONS AND				
CLUDING: WOOD SHEAR WALLS, WOOD DIAPHRAGMS, AG STRUTS, BRACES, SHEAR PANELS AND HOLD-DOWNS.					3. OBSERVE DRIVING OPERATIONS AND MAINTAIN COMPLETE	•				ANCHORAGES.		_		
CEPTION: NOT REQUIRED AT SHEAR WALLS, DIAPHRAGMS CLUDING NAILING, BOLTING, ANCHORING TO OTHER					AND ACCURATE RECORDS FOR EACH PILE.					5. DURING CONSTRUCTION THE INSP. PROGRAM SHALL VERIFY: A. SIZE AND LOCATION OF STRUCTURAL ELEMENTS.				
EMBERS OF THE SEISMIC SYSTEM WHERE THE FASTENER ACING OF THE SHEATHING IS MORE THAN 4" O.C.					4. VERIFY PLACEMENT LOCATIONS AND PLUMBNESS, CONFIRM TYPE AND SIZE OF HAMMER, RECORD NUMBER OF BLOWS PER FOOT OF PENETRATION, DETERMINE REQUIRED					B. TYPE, SIZE AND LOCATION OF ANCHORS, INCLUDING		-		-
COLD-FORMED STEEL FRAMING: INSPECTION OF WELDING					PENETRATIONS TO ACHIEVE DESIGN CAPACITY, RECORD TIP AND BUTT ELEVATIONS AND DOCUMENT ANY PILE DAMAGE.					OTHÉR DETAILS OF ANCHORAGE OF MASONRY TO STRUCTURAL MEMBERS, FRAMES OR OTHER		•		•
F SEISMIC RESISTING SYSTEM, SCREW ATTACHMENT, DLTING, ANCHORING, AND FASTENING OF ITEMS IN SEISMIC		•			5. FOR STEEL PILES, PERFORM ADDITIONAL INSPECTIONS IN	_		†_		CONSTRUCTION.		_	_	
ESISTING SYSTEM, INCLUDING STRUTS, BRACES, AND DLD-DOWNS. (CEPT: IF SHEATHING IS GYPSUM OR FIBERBOARD. OR IF					ACCORDANCE WITH SECTION 1704.3.				-	C. SPECIFIED SIZE, GRADE AND TYPE OF REINFORCEMENT, ANCHOR BOLTS, PRESTRESSING TENDONS, AND ANCHORAGES.		-		
ICEPT: IF SHEATHING IS GYPSUM OR FIBERBOARD. OR IF IEATHING IS WOOD STRUCTURAL PANEL OR STEEL SHEETS IN ONE SIDE WITH FASTENERS MORE THAN 4" O.C.					6. FOR CONCRETE PILES AND CONCRETE-FILLED PILES, PERFORM ADDITIONAL INSPECTIONS IN ACCORDANCE WITH SECTION 1704.4.					D. WELDING OF REINFORCING BARS.				
DRAGE RACKS AND ACCESS FLOORS: REQUIRED DURING					7. FOR SPECIALTY PILES, PERFORM ADDITIONAL INSPECTIONS					E. PREPARATION, CONSTRUCTION AND PROTECTION OF	 			-
ICHORAGE OF ACCESS FLOORS AND STORAGE RACKS 8 ET OR HIGHER IN SEISMIC DESIGN CATEGORY D, E, F.					AS DETERMINED BY THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE.				•	MASONRY DURING COLD WEATHER (TEMP BELOW 40°F) OR HOT WEATHER (TEMP ABOVE 90°F)		•		
RCHITECTURAL COMPONENTS: REQUIRED DURING		•		•	8. FOR AUGERED UNCASED PILES AND CAISSON PILES, PERFORM					F. APPLICATION AND MEASUREMENT OF PRESTRESSING	П			
RECTION & FASTENING OF EXTERIOR CLADDING, INTERIOR EXTERIOR NON-BEARING WALLS, VENEER IN STRUCTURES	_	-		_	INSPECTIONS IN ACCORDANCE WITH SECTION 1704.9.					FORCE.		_	-	╀-
SIGNED TO SEISMIC DESIGN CATEGORY D, E, F. CEPTIONS: SPECIAL INSPECTION IS NOT REQUIRED FOR:					REQUIRED VERIFICATION AND INSPECTION OF CONCRET VERIFICATION AND INSPECTION TASK	CONTINUOUS				6. PRIOR TO GROUTING, THE FOLLOWING SHALL BE VERIFIED TO ENSURE COMPLIANCE:				
EXTERIOR CLADDING, NON-BEARING WALLS & VENEER 30FT OR LESS ABOVE GROUND					I. INSPECTION OF REINFORCING STEEL, INCLUDING PRESTRESSING		_	+_	_	A. GROUT SPACE IS CLEAN				•
2. CLADDING & VENEER WEIGHING 5 PSF OR LESS. 3. INTERIOR NON-BEARING WALLS WEIGHING 15 PSF OR					TENDONS, AND PLACEMENT.					B. PLACEMENT OF REINFORCEMENT AND CONNECTORS AND PRESTRESSING TENDONS AND ANCHORAGES		•		-
LESS.			-		2. INSPECTION OF REINFORCING STEEL WELDING IN ACCORDANCE WITH TABLE 1704.3, ITEM 5B.				•	C. PROPORTIONS OF SITE-PREPARED GROUT AND				
LECTRICAL AND MECHANICAL COMPONENTS: HORAGE OF ELECTRICAL EQUIPMENT FOR EMERGENCY OR	_	_ '		_	3. INSPECTION OF BOLTS TO BE INSTALLED IN CONCRETE PRIOR TO					D. CONSTRUCTION OF MORTAR JOINTS.	_			
DBY POWER SYSTEMS IN STRUCTURES ASSIGNED TO MIC DESIGN CATEGORY C, D, E, F.		•		•	AND DURING PLACEMENT OF CONCRETE WHERE ALLOWABLE LOADS WERE INCREASED OR WHERE STRENGTH DESIGN IS USED.					7. GROUT PLACEMENT SHALL BE VERIFIED TO ENSURE				-
ALLATION OF ANCHORAGE OF OTHER ELECTRICAL					4. INSPECTION OF ANCHORS INSTALLED IN HARDENED CONCRETE					COMPLIANCE WITH CODE AND CONSTRUCTION DOCUMENT PROVISIONS.	-			-
PMENT IN STRUCTURES ASSIGNED TO SEISMIC DESIGN GORY C, D, E, F.		•			5. VERIFYING USE OF REQUIRED DESIGN MIX.					A. GROUTING OF PRESTRESSING BONDED TENDONS.				
ALLATION OF PIPING SYSTEMS INTENDED TO CARRY					6. AT THE TIME FRESH CONCRETE IS SAMPLED TO FABRICATE SPECIMENS FOR STRENGTH TESTS, PERFORM SLUMP AND AIR					8. PREPARATION OF ANY REQUIRED GROUT SPECIMENS,				
MABLE, COMBUSTIBLE OR HIGHLY TOXIC CONTENTS AND R ASSOCIATED MECHANICAL UNITS IN STRUCTURES		•			CONTENT TESTS, AND DETERMINE THE TEMPERATURE OF THE CONCRETE.	_			_	MORTAR SPECIMENS AND/OR PRISMS SHALL BE OBSERVED.	 	_		\vdash
GNED TO SEISMIC DESIGN CATEGORY C, D, E, F. ALLATION OF HVAC DUCTWORK THAT WILL CONTAIN			\vdash		7. INSPECTION OF CONCRETE AND SHOTCRETE PLACEMENT FOR PROPER APPLICATION TECHNIQUES.					9. COMPLIANCE WITH REQUIRED INSPECTION PROVISIONS OF THE CONSTRUCTION DOCUMENTS AND THE APPROVED SUBMITTAL S SHALL BE VERIFIED.		•		-
ARDOUS MATERIALS IN STRUCTURES ASSIGNED TO SEISMIC GN CATEGORY C, D, E, F.		•			8. INSPECTION FOR MAINTENANCE OF SPECIFIED CURING				_	MASONRY LEVEL 2 INSPECTION REQUIREMENTS (OCC. CAT	EGORY IV BUILI	DINGS) - TA	BLE 17	704.5.
ALLATION OF VIBRATION ISOLATION SYSTEMS IN					TEMPERATURE AND TECHNIQUES.		-		_	VERIFICATION AND INSPECTION	CONTINUOUS			
JCTURES ASSIGNED TO SEISMIC DESIGN CATEGORY C, D, E, HERE THE CONSTRUCTION DOCUMENTS REQUIRE A					9. INSPECTION OF PRESTRESSED CONCRETE:					1. COMPLIANCE WITH REQUIRED INSPECTION PROVISIONS OF		_		
MINAL CLEARANCE OF 0.25 INCHES OR LESS BETWEEN THE IPMENT SUPPORT FRAME AND RESTRAINT.		-		_	A. APPLICATION OF PRESTRESSING FORCES.					THE CONSTRUCTION DOCUMENTS AND THE APPROVED SUBMITTALS SHALL BE VERIFIED.		_		-
SMIC ISOLATION SYSTEM: FABRICATION AND INSTALLATION ISOLATOR UNITS AND ENERGY DISSIPATION DEVICES THAT				_	B. GROUTING OF BONDED PRESTRESSING TENDONS IN THE SEISMIC-FORCE-RESISTING SYSTEM.	•				2. VERIFICATION OF f'm AND f'AAC PRIOR TO CONSTRUCTION AND FOR EVERY 5,000 SQUARE FEET DURING				
PART OF THE SEISMIC ISOLATION SYSTEM.					9. ERECTION OF PRECAST CONCRETE MEMBERS.					CONSTRUCTION.		-		
REQUIRED VERIFICATIONS AND INSPECTIONS OF WIND	RESISTANCE	_		N.I	10.VERIFICATION OF IN-SITU CONCRETE STRENGTH, PRIOR TO STRESSING OF TENDONS IN POSTTENSIONED CONCRETE AND					3. VERIFICATION OF PROPORTIONS OF MATERIALS ON PREMIXED OR PREBLENDED MORTAR AND GROUT AS				
VERIFICATION AND INSPECTION C	CONTINUOUS	PERIODIC	res	INO	PRIOR TO REMOVAL OF SHORES AND FORMS FROM BEAMS AND STRUCTURAL SLABS.		_		_	DELIVERED TO THE SITE.				_
UIRED IN WIND EXPOSURE CATEGORY B, WHERE 3-SECOND IT BASIC WIND SPEED IS 120 MPH OR GREATER.		•			11.INSPECT FORMWORK FOR SHAPE, LOCATION AND DIMENSIONS OF THE CONCRETE MEMBER BEING FORMED.					4. VERIFICATION OF SLUMP FLOW AND VSI AS DELIVERED TO THE SITE FOR SELF-CONSOLIDATING GROUT.	-			•
UIRED IN WIND EXPOSURE CATEGORY C OR D, WHERE THE					12.INSPECTION OF POST INSTALLED MECHANICALLY OR					5. THE FOLLOWING SHALL BE VERIFIED TO ENSURE COMPLIANCE:				
	CTION OF THE	FOLLOWING	ITEMS		ADHESIVE TYPE CONCRETE ANCHORS.					A. PROPORTIONS OF SITE-PREPAIRED MORTAR, GROUT	П			
ED OF THE CONDITIONS ARE MET AROUE THEN SPECIAL INSPEC	CHON OF THE F	OLLOWING	TI EIVIS I.	3	CONCRETE INSPECTION EXCEPTIONS: (1704.4) SPECIAL INSPECTION IS NOT 1. ISOLATED SPREAD FOOTINGS OF BUILDINGS THREE STORIES OR LES		PLANE THAT A	RE FUL	_Y	AND PRESTRESSING GROUT FOR BONDED TENDONS.				-
RED:	SEISMIC SECTION	ON 1707 AB(OVE.		SUPPORTED ON EARTH OR ROCK. 2. CONTINUOUS CONCRETE FOOTINGS SUPPORTING WALLS OF BUILD	INGS THREE STOP	RIES OR LESS A	ABOVE (IRADE	B. PLACEMENT OF MASONRY UNITS AND CONSTRUCTION OF MORTAR JOINTS.		•		-
RED: ROOF CLADDING . WALL CLADDING.					PLANE THAT ARE FULLY SUPPORTED ON EARTH OR ROCK WHERE: 2.1 THE FOOTINGS SUPPORT WALLS OF LIGHT FRAME CONSTRU 2.2 THE FOOTINGS ARE DESIGNED IN ACCORDANCE WITH 1809					C. PLACEMENT OF REINFORCEMENT, CONNECTORS, AND PRESTRESSING TENDONS AND ANCHORAGE				
ED: ROOF CLADDING . WALL CLADDING.					2.3 THE STRUCTURAL DESIGNED IN ACCORDANCE WITH 1009 COMPRESSIVE STRENGTH SPECIFIED IN THE IN THE CONSTR	= 2,500 PSI OR LE	,			D. GROUT SPACE PRIOR TO GROUTING	+ -			
ED: ROOF CLADDING . WALL CLADDING.					CONSTRUCTION. 3. NON STRUCTURAL CONCRETE SLABS SUPPORTED DIRECTLY ON THE	GROUND, INCLU	DING PRESTRE	ESSED S	LABS ON	E. PLACEMENT OF GROUT	-			-
ED: ROOF CLADDING . WALL CLADDING.					GRADE, WHERE THE EFFECTIVE PRE-STRESS IS LESS THAN 150 PSI. 4. CONCRETE FOUNDATION WALLS CONSTRUCTED WITH TABLE 1807.	.1.6.2				F. PLACEMENT OF PRESTRESSING GROUT.				
:D: ROOF CLADDING . WALL CLADDING.										1	_		+	1
:D: ROOF CLADDING . WALL CLADDING.					5. CONCRETE PATIOS, DRIVEWAYS AND SIDEWALKS ON GRADE.					G. SIZE AND LOCATION OF STRUCTURAL ELEMENTS				
ED: ROOF CLADDING . WALL CLADDING. REQUIRED FOR WOOD & COLD FORM STEEL AS OUTLINED IN S ENGINEER OF F	RECORD STRI	JCTURAL O)BSERV	'ATION F						H. TYPE, SIZE AND LOCATION OF ANCHORS, INCLUDING				
ED: ROOF CLADDING . WALL CLADDING. REQUIRED FOR WOOD & COLD FORM STEEL AS OUTLINED IN S ENGINEER OF F					5. CONCRETE PATIOS, DRIVEWAYS AND SIDEWALKS ON GRADE. REQUIREMENTS							• ·		•
ED: ROOF CLADDING . WALL CLADDING . REQUIRED FOR WOOD & COLD FORM STEEL AS OUTLINED IN S ENGINEER OF F CTURAL OBSERVATIONS FOR SEISMIC RESISTANCE: URAL OBSERVATIONS SHALL BE PROVIDED BY THE ENGINEER OF	OF RECORD FO				5. CONCRETE PATIOS, DRIVEWAYS AND SIDEWALKS ON GRADE.					H. TYPE, SIZE AND LOCATION OF ANCHORS, INCLUDING OTHER DETAILS OF ANCHORAGE OF MASONRY TO	•			•
ED: ROOF CLADDING. WALL CLADDING. REQUIRED FOR WOOD & COLD FORM STEEL AS OUTLINED IN S ENGINEER OF F ICTURAL OBSERVATIONS FOR SEISMIC RESISTANCE: TURAL OBSERVATIONS SHALL BE PROVIDED BY THE ENGINEER OF STRUCTURE IS CLASSIFIED AS OCCUPANCY CATEGORY III OR IV. THE HEIGHT OF THE STRUCTURE IS GREATER THAN 75 FT.	OF RECORD FO	PR STRUCTUR	RES IN S	EISMIC [5. CONCRETE PATIOS, DRIVEWAYS AND SIDEWALKS ON GRADE. REQUIREMENTS DESIGN CATEGORIES D, E, F WHEN THE FOLLOWING CONDITIONS EXIST:					H. TYPE, SIZE AND LOCATION OF ANCHORS, INCLUDING OTHER DETAILS OF ANCHORAGE OF MASONRY TO STRUCTURAL MEMBERS, FRAMES OR OTHER CONSTR. I. SPECIFIED SIZE, GRADE AND TYPE OF REINFORCEMENT, ANCHOR BOLTS, PRESTRESSING TENDONS AND ANCHORAGES.	•	•		-
ED: ROOF CLADDING. WALL CLADDING. REQUIRED FOR WOOD & COLD FORM STEEL AS OUTLINED IN S ENGINEER OF F CTURAL OBSERVATIONS FOR SEISMIC RESISTANCE: URAL OBSERVATIONS SHALL BE PROVIDED BY THE ENGINEER OF STRUCTURE IS CLASSIFIED AS OCCUPANCY CATEGORY III OR IV. THE HEIGHT OF THE STRUCTURE IS GREATER THAN 75 FT. THE STRUCTURE IS ASSIGNED TO SEISMIC DESIGN CATEGORY E, WHEN DESIGNATED BY THE ENGINEER OF RECORD.	OF RECORD FO	PR STRUCTUR	RES IN S	EISMIC [5. CONCRETE PATIOS, DRIVEWAYS AND SIDEWALKS ON GRADE. REQUIREMENTS DESIGN CATEGORIES D, E, F WHEN THE FOLLOWING CONDITIONS EXIST:					H. TYPE, SIZE AND LOCATION OF ANCHORS, INCLUDING OTHER DETAILS OF ANCHORAGE OF MASONRY TO STRUCTURAL MEMBERS, FRAMES OR OTHER CONSTR. I. SPECIFIED SIZE, GRADE AND TYPE OF REINFORCEMENT, ANCHOR BOLTS, PRESTRESSING TENDONS AND ANCHORAGES. J. WELDING OF REINFORCING BARS.	•	• · · · · · · · · · · · · · · · · · · ·		•
ED: ROOF CLADDING. WALL CLADDING. REQUIRED FOR WOOD & COLD FORM STEEL AS OUTLINED IN S ENGINEER OF F CTURAL OBSERVATIONS FOR SEISMIC RESISTANCE: URAL OBSERVATIONS SHALL BE PROVIDED BY THE ENGINEER OF THE HEIGHT OF THE STRUCTURE IS GREATER THAN 75 FT. THE STRUCTURE IS ASSIGNED TO SEISMIC DESIGN CATEGORY ENVIRONMENT OF THE STRUCTURE OF RECORD. WHEN REQUIRED BY THE BUILDING OFFICIAL.	OF RECORD FO	PR STRUCTUR	RES IN S	EISMIC [5. CONCRETE PATIOS, DRIVEWAYS AND SIDEWALKS ON GRADE. REQUIREMENTS DESIGN CATEGORIES D, E, F WHEN THE FOLLOWING CONDITIONS EXIST:					H. TYPE, SIZE AND LOCATION OF ANCHORS, INCLUDING OTHER DETAILS OF ANCHORAGE OF MASONRY TO STRUCTURAL MEMBERS, FRAMES OR OTHER CONSTR. 1. SPECIFIED SIZE, GRADE AND TYPE OF REINFORCEMENT, ANCHOR BOLTS, PRESTRESSING TENDONS AND ANCHORAGES. J. WELDING OF REINFORCING BARS. K. PROTECTION OF MASONRY DURING COLD WEATHER (TEMPERATURE BELOW 40^F) OR HOT WEATHER	•	•		-
JOTURAL OBSERVATIONS FOR SEISMIC RESISTANCE: TURAL OBSERVATIONS SHALL BE PROVIDED BY THE ENGINEER OF STRUCTURE IS CLASSIFIED AS OCCUPANCY CATEGORY III OR IV. THE HEIGHT OF THE STRUCTURE IS GREATER THAN 75 FT. THE STRUCTURE IS ASSIGNED TO SEISMIC DESIGN CATEGORY E, WHEN DESIGNATED BY THE ENGINEER OF RECORD. WHEN REQUIRED BY THE BUILDING OFFICIAL. JOTURAL OBSERVATIONS FOR WIND RESISTANCE:	OF RECORD FO	OR STRUCTUR	RES IN S	EISMIC E	5. CONCRETE PATIOS, DRIVEWAYS AND SIDEWALKS ON GRADE. REQUIREMENTS DESIGN CATEGORIES D, E, F WHEN THE FOLLOWING CONDITIONS EXIST:	/ING EXIST:				H. TYPE, SIZE AND LOCATION OF ANCHORS, INCLUDING OTHER DETAILS OF ANCHORAGE OF MASONRY TO STRUCTURAL MEMBERS, FRAMES OR OTHER CONSTR. I. SPECIFIED SIZE, GRADE AND TYPE OF REINFORCEMENT, ANCHOR BOLTS, PRESTRESSING TENDONS AND ANCHORAGES. J. WELDING OF REINFORCING BARS. K. PROTECTION OF MASONRY DURING COLD WEATHER		•		•

			←—				
. MATERIAL VERIFICATION OF HI-STRENGTH BOLTS, NUTS AND WASHERS:							
A.IDENTIFICATION MARKINGS TO CONFORM TO ASTM STANDARDS SPECIFIED IN THE APPROVED CONSTRUCTION DOCUMENTS.		•	•				
B. MANUFACTURER'S CERTIFICATE OF COMPLIANCE REQUIRED.		•					
. INSPECTION OF HIGH-STRENGTH BOLTING: A. SNUG-TIGHT JOINTS			_	 			
B. PRETENSIONED AND SLIP-CRITICAL JOINTS USING TURN-OF-NUT		•	-				
WITH MATCHMARKING, TWIST-OFF BOLT OR DIRECT TENSION INDICATOR METHODS OF INSTALLATION		•					
C. PRETENSIONED AND SLIP-CRITICAL JOINTS USING TURN-OF-NUT WITHOUT MATCHMARKING OR CALIBRATED WRENCH METHODS OF INSTALLATION	-		•				
. MATERIAL VERIFICATION OF STRUCTURAL STEEL & COLD-FORM DECK							
A. FOR STRUCTURAL STEEL, IDENTIFICATION MARKINGS TO CONFORM TO AISC 360.		•	•				
B. FOR OTHER STEEL, IDENTIFICATION MARKINGS TO CONFORM TO ASTM STANDARDS SPECIFIED IN THE APPROVED CONSTRUCTION DOCUMENTS.			•				
C. MANUFACTURERS' CERTIFIED MILL TEST REPORTS.							
. MATERIAL VERIFICATION OF WELD FILLER MATERIALS:							
A.IDENTIFICATION MARKINGS TO CONFORM TO AWS SPECIFICATION IN THE APPROVED CONSTRUCTION DOCUMENTS		•	•				
B. MANUFACTURER'S CERTIFICATE OF COMPLIANCE REQUIRED.			•				
. INSPECTION OF WELDING:	l						
A. STRUCTURAL STEEL:							
(1) COMPLETE AND PARTIAL PENETRATION GROOVE WELDS							
(2) MULTIPASS FILLET WELDS.							
(3) SINGLE-PASS FILLET WELDS > 5/16"							
(4) PLUG AND SLOT WELDS							
(5) SINGLE-PASS FILLET WELDS < 5/16"			•				
(6) FLOOR AND ROOF DECK WELDS							
B. REINFORCING STEEL:							
(1) VERIFICATION OF WELDABILITY OF REINFORCING STEEL OTHER THAN ASTM A 706		•					
(2) REINFORCING STEEL-RESISTING FLEXURAL AND AXIAL FORCES IN INTERMEDIATE AND SPECIAL MOMENT FRAMES, AND BOUNDARY ELEMENTS OR SPECIAL REINFORCED CONCRETE SHEAR WALLS AND SHEAR REINFORCEMENT.	•			•			
(3) SHEAR REINFORCEMENT.							
(4) OTHER REINFORCING STEEL.		•					
. INSPECTION OF STEEL FRAME JOINT DETAILS FOR COMPLIANCE WITH APPROVED CONSTRUCTION DOCUMENTS:		-					
A. DETAILS SUCH AS BRACING AND STIFFENING							
B. MEMBER LOCATIONS							
C. APPLICATION OF JOIST DETAILS AT EACH CONNECTION							
·	PERFORM SUCH W NOT BE REQUIRED PERATION OF ANY I E REQUIRED TO SU	WHERE THE F. KIND AS PART JBMIT A DETAI	UT SPECI FABRICA T OF THE NILED PRO	ATOR DOES E ROCEDURE			
FABRICATION PROCESS. IN SUCH CASES, THE FABRICATOR SHALL BE REQUIRED TO SUBMIT A DETAILED PROCEDURE FOR MATERIAL CONTROL THAT DEMONSTRATES THE FABRICATOR'S ABILITY TO MAINTAIN SUITABLE RECORDS AND PROCEDURES SUCH THAT, AT ANY TIME DURING THE FABRICATION PROCESS, THE MATERIAL SPECIFICATION, GRADE AND MILL TEST REPORTS FOR THE MAIN STRESS-CARRYING ELEMENTS ARE CAPABLE OF BEING DETERMINED.							
THE SPECIAL INSPECTOR NEED NOT BE CONTINUOUSLY PRESENT DURING WELDING OF THE FOLLOWING ITEMS, PROVIDED THE MATERIALS, WELDING PROCEDURES, AND QUALIFICATIONS OF WELDERS ARE VERIFIED PRIOR TO START OF THE WORK; PERIODIC INSPECTIONS ARE MADE OF THE WORK IN PROGRESS; AND A VISUAL INSPECTION OF ALL WELDS IS MADE PRIOR TO COMPLETION OR PRIOR TO SHIPMENT OF SHOP WELDING. 3.1 SINGLE PASS FILLET WELDS NOT EXCEEDING ⁵ / ₆ " IN SIZE. 3.2 FLOOR AND ROOF DECK WELDING 3.3 WELDED STUDS WHEN USED FOR STRUCTURAL DIAPHRAGM 3.4 WELDED SHEET STEEL FOR COLD-FORMED STEEL FRAMING MEMBERS SUCH AS STUDS OR JOISTS. 3.5 WELDING OF STAIRS AND RAILING SYSTEMS.							
CONTINUOUS SPECIAL INSPECTION IS REQUIRED FOR STRUCTURAL OF BUILDINGS OVER 160 FEET IN HEIGHT WITH STRUCTURAL STEEL	MOMENT RESISTI	ING FRAMES.		ERECTION			
REQUIRED VERIFICATION AND INSPECTION OF VERIFICATION AND INSPECTION	CONTINUOUS	PERIODIC	Yes	No			
VELIII 167 (TIELV) II VELI EE TIELV							
1. INSPECTOR SHALL INSPECT WOOD HIGH LOAD DIAPHRAGMS	1	1	1 '				

REQUIRED VERIFICATION AND INSPECTION OF <u>STEEL</u> CONSTRUCTION - TABLE 1705A.2.1

CONTINUOUS PERIODIC Yes No

VERIFICATION AND INSPECTION TASK



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GOVERNING JURISDICTION(S) WEBER COUNTY, UTAH BUILDING DIVISION 2380 WASHINGTON BLVD, #240 OGDEN, UT 84401



APPROVAL STAMP

PLAN REVISIONS DELTA | DESCRIPTION | DATE CO. PC & LH REV'S 10/03/17

ENGINEER STAMP & SIGNATURI

REQUIRED VERIFICATION AND INSPECTION OF MISCELLANEOUS ITEMS								
VERIFICATION AND INSPECTION	CONTINUOUS	PERIODIC	Yes	No				
1. INSPECTOR SHALL INSPECT WOOD HIGH LOAD DIAPHRAGMS PER TABLE 2306.3.2. CHECK PANEL GRADE, THICKNESS, MEMBERS SIZES AT ADJOINING PANEL EDGES & NAILS OR STAPLES.		•		•				
2. SPRAYED FIRE RESISTANT MATERIALS PER 1704.10								
REQUIRED VERIFICATION AND INSPECTION OF SOILS - TABLE 1705.6								
VERIFICATION AND INSPECTION	CONTINUOUS	PERIODIC	Yes	No				
VERIFY MATERIALS BELOW FOOTINGS ARE ADEQUATE TO ACHIEVE THE DESIGN BEARING CAPACITY.								
2. VERIFY EXCAVATIONS ARE EXTENDED TO PROPER DEPTH AND HAVE REACHED PROPER MATERIAL		•						
3. PERFORM CLASSIFICATION AND TESTING OF CONTROLLED FILL MATERIALS								
4. VERIFY USE OF PROPER MATERIALS, DENSITIES AND LIFT THICKNESSES DURING PLACEMENT AND COMPACTION OF CONTROLLED FILL.								
5. PRIOR TO PLACEMENT OF CONTROLLED FILL, OBSERVE SUBGRADE AND VERIFY THAT SITE HAS BEEN PREPARED								

SOILS INSPECTION EXCEPTIONS: (1704.7)

SPECIAL INSPECTION IS NOT REQUIRED DURING PLACEMENT OF CONTROLLED FILL HAVING A TOTAL DEPTH OF 12

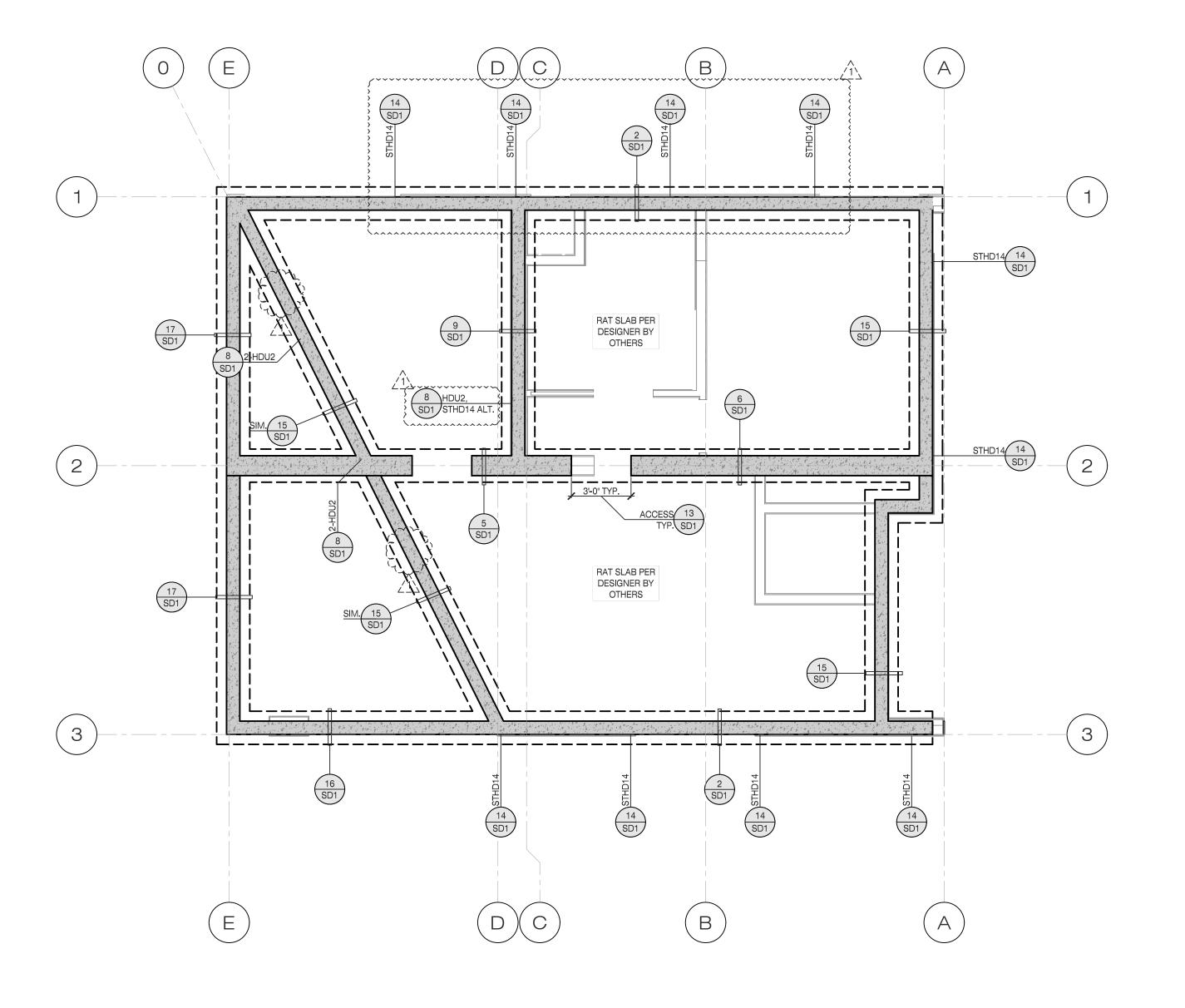
SHEET NUMBER

GENERAL

NOTES

SHEET TITLE:

10/03/17

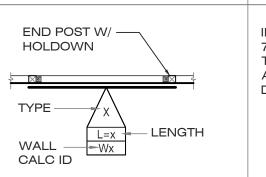


FOUNDATION NOTES

- FOR GENERAL NOTES & DETAILS REFER TO THE SN & SD SHEETS.
- SEE ARCHITECTURAL, MECHANICAL, ELECTRICAL, AND PLUMBING DRAWINGS FOR TOP OF STRUCTURAL CONCRETE SLAB ELEVATIONS, DEPRESSIONS, SLOPES, CURBS, DRAINS, PADS, DECK EDGE LOCATIONS, HOLDOWN LOCATIONS ALL OVERALL DIMENSIONS, AND LOCATIONS OF OPENINGS IN WALLS AND SLABS NOT INDICATED ON STRUCTURAL DRAWINGS.
- 3. CENTER CONTINUOUS FOOTINGS UNDER WALLS U.N.O. CENTER SPREAD FOOTINGS UNDER COLUMNS U.N.O.
- 4. CONSTRUCT CONTINUOUS FOOTINGS AT CORNERS AND INTERSECTIONS PER DETAIL 10/SD1.
- 5. DIMENSIONS TO WALLS ARE TO FACE OF CMU BLOCK OR STEEL UNLESS NOTED OTHERWISE.
- 6. IN NO CASE SHALL PIPES, CONDUITS, OR SLEEVES BE EMBEDDED IN SPREAD FOOTINGS UNLESS SPECIFICALLY DETAILED ON THE STRUCTURAL DRAWINGS.
- ALL HOLD-DOWNS/STRAPS AND ANCHOR BOLTS AT SHEAR WALLS SHALL BE SET IN PLACE TO TEMPLATE PRIOR TO FOUNDATION INSPECTION.

FOUNDATION LEGEND & SYMBOLS



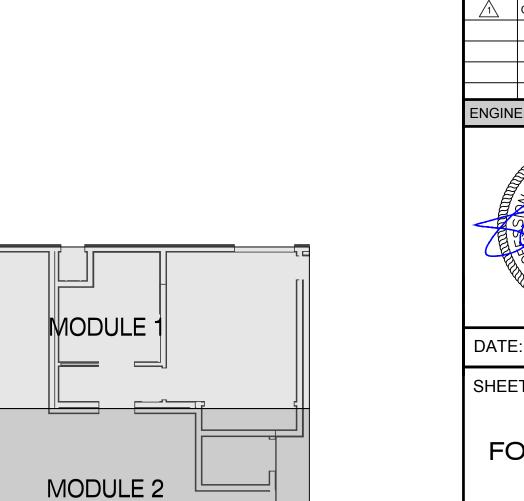


_ DETAIL #

_ SHEET #

INDENTIFIES WOOD SHEAR WALL LOCATION. REFER TO DETAIL 7/SD1 FOR ANCHOR BOLT SIZE & SPACING AT EACH SHEAR WALL TYPE. PROVIDE 3" SQ x 0.229" ANGLE SLOTTED PLATE WASHERS AT EACH ANCHOR BOLT. REDUCE BOLT SPACING BY HALF AT DOUBLE SIDED SHEAR WALLS.

BUBBLE INDICATES REVISED HARDWARE OTHER THAN NOTED IN DETAIL



MOD LAYOUT

SCALE : $\frac{1}{8}$ " = 1'-0", DO NOT SCALE PLANS FOR CONSTRUCTION DIMENSIONS. ALL CONSTRUCTION DIMENSIONS MUST BE VERIFIED WITH THE ARCH. PLANS



STRUCTURAL ENGINEERING 40810 COUNTY CENTER DR. #110 TEMECULA, CA 92591 TEL: 951.600.0032 WWW.ISEENGINEERS.COI

TEAM CONTACT INFORMATION: ISE PROJECT NO.: 17-4815

SHANE LOTHROP EXT. 203 SHANE@ISEENGINEERS.COM

PROJECT DESIGN ENGINEER:

MATTHEW ESPINOZA EXT. 209

MATTHEW@ISEENGINEERS.COM

PROJECT INFORMATION: RIDGE NEST

7914 E. HEARTWOOD DRIVE

EDEN, UTAH 84310

CONTACT INFORMATION:

DESIGNER: LIVING HOMES 2910 LINCOLN BLVD. SANTA MONICA, CA 90405 310.581.8500

www.LIVINGHOMES.NET

GOVERNING JURISDICTION(S): WEBER COUNTY, UTAH **BUILDING DIVISION** 2380 WASHINGTON BLVD, #240



APPROVAL STAMP

PLAN REVISIONS DELTA DESCRIPTION DATE CO. PC & LH REV'S 10/03/17 **ENGINEER STAMP & SIGNATUR**

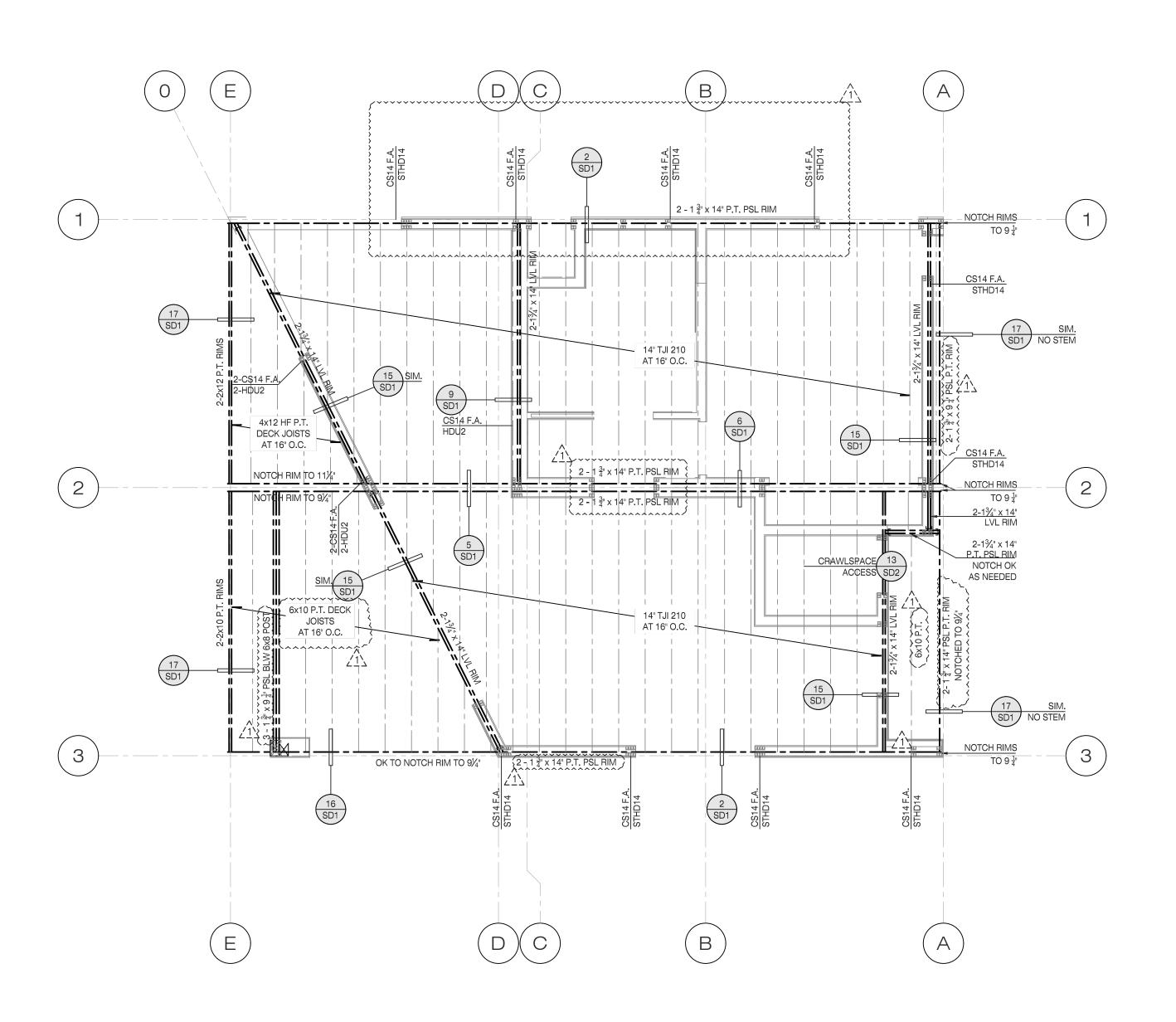
DATE: 10/03/17

SHEET TITLE:

FOUNDATION PLAN

SHEET SHEET NUMBER

FOUNDATION PLAN SCALE: $\frac{1}{4}$ " = 1'-0", DO NOT SCALE PLANS FOR CONSTRUCTION DIMENSIONS. ALL CONSTRUCTION DIMENSIONS MUST BE VERIFIED WITH THE ARCH. PLANS



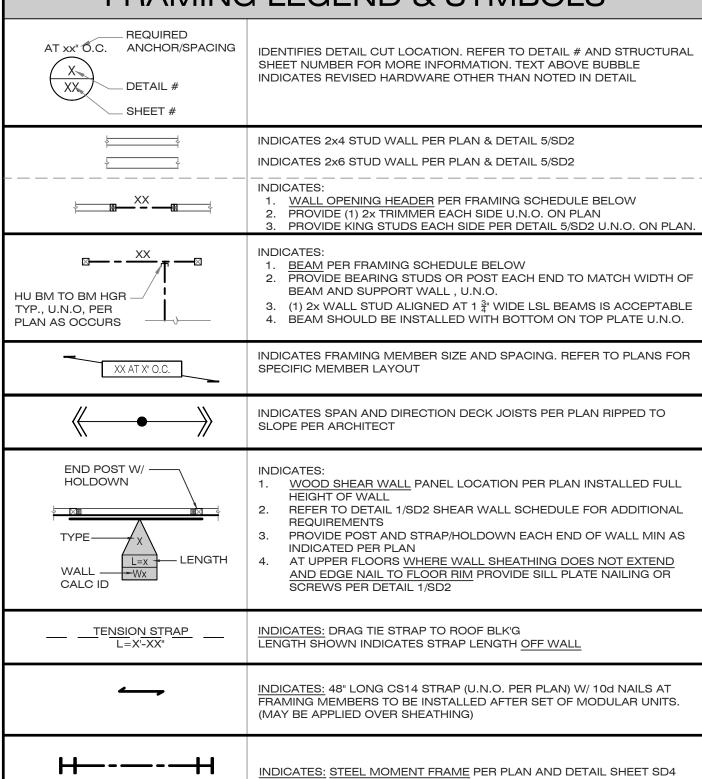
FLOOR FRAMING PLAN

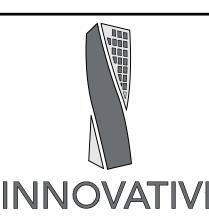
SCALE: $\frac{1}{4}$ " = 1'-0", DO NOT SCALE PLANS FOR CONSTRUCTION DIMENSIONS. ALL CONSTRUCTION DIMENSIONS MUST BE VERIFIED WITH THE ARCH. PLANS

FRAMING NOTES

- REFER TO STRUCTURAL GENERAL NOTE SHEETS SN AND DETAILS SD FOR INFORMATION NOT SHOWN ON THE
- TOP PLATE SPLICES SHALL BE PROVIDED PER DETAIL SHEET SD2 AT ALL EXTERIOR WALLS AND INTERIOR
- REFER TO DETAIL 1 THROUGH 3 ON SHEET SD2 FOR SHEAR WALL, ROOF AND FLOOR SHEATHING REQUIREMENTS.
- REFER TO NON-BEARING HEADER SCHEDULE ON SHEET SD2 FOR HEADER SIZES AT ALL LOCATIONS NOT SHOWN ON THE FRAMING PLAN.
- 5. REFER TO DETAIL 11 ON SHEET SD2 FOR BUILT-UP MEMBER FRAMING REQUIREMENTS.
- 6. ALL EXTERIOR WALL HEADERS ARE TO BE 2-2x6 AT 2x4 STUD WALLS AND 3-2x6 AT 2x6 STUD WALLS PER DETAIL 11/SD2 TYPICAL UNLESS NOTED OTHERWISE ON THE PLANS.

FRAMING LEGEND & SYMBOLS





STRUCTURAL ENGINEERIN 40810 COUNTY CENTER DR. #110 TEMECULA, CA 92591 TEL: 951.600.0032 WWW.ISEENGINEERS.CO

TEAM CONTACT INFORMATION:

ISE PROJECT NO.: 17-4815

SHANE LOTHROP EXT. 203

SHANE@ISEENGINEERS.COM PROJECT DESIGN ENGINEER:

MATTHEW ESPINOZA EXT. 209

MATTHEW@ISEENGINEERS.COM

PROJECT INFORMATION:

RIDGE NEST

7914 E. HEARTWOOD DRIVE

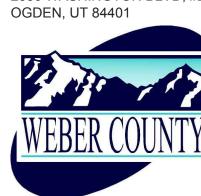
EDEN, UTAH 84310

CONTACT INFORMATION:

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www.LIVINGHOMES.NET

GOVERNING JURISDICTION(S): WEBER COUNTY, UTAH **BUILDING DIVISION** 2380 WASHINGTON BLVD, #240



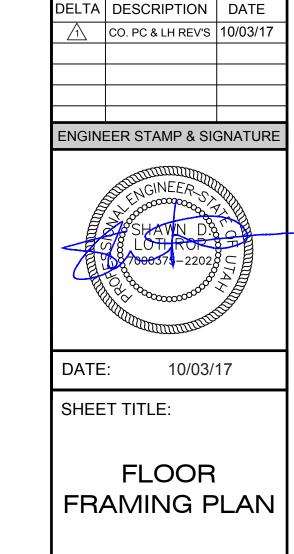
APPROVAL STAMP

PLAN REVISIONS

MODULE MODULE 2

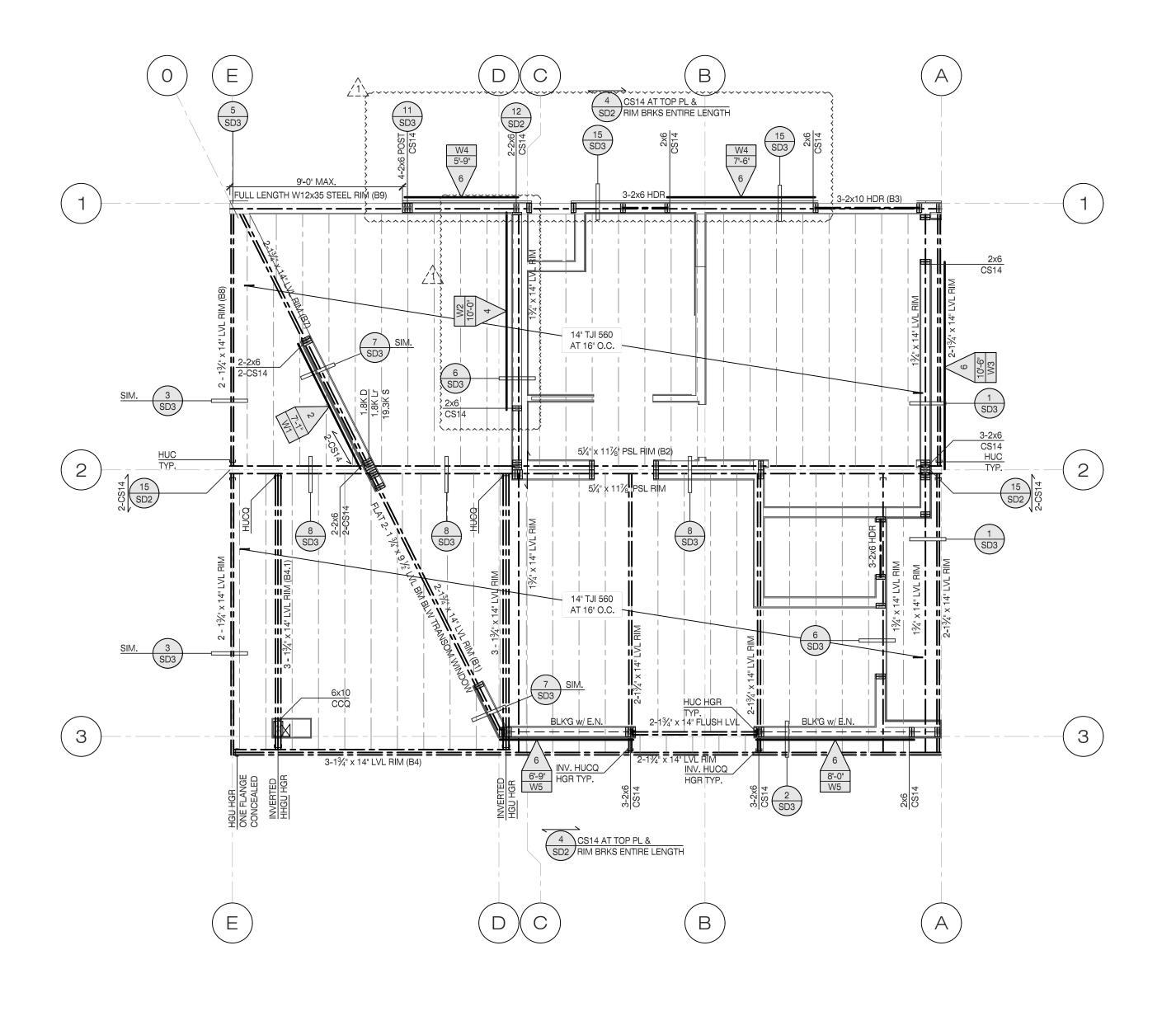
MOD LAYOUT

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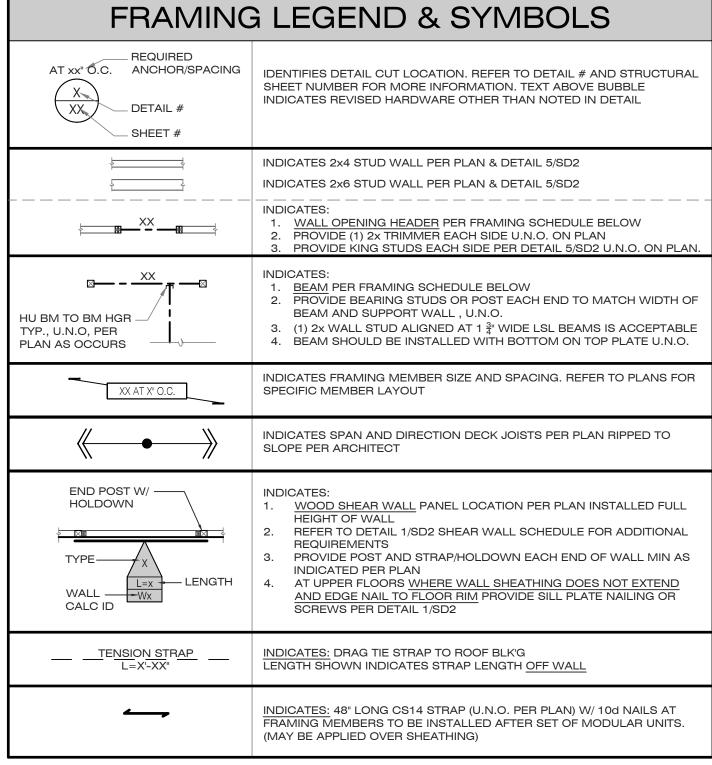
SHEET NUMBER

SHEET



FRAMING NOTES

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- 5. REFER TO DETAIL 11 ON SHEET SD2 FOR BUILT-UP MEMBER FRAMING REQUIREMENTS.
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MOD LAYOUT

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MODULE

MODULE 2



STRUCTURAL ENGINEERIN 40810 COUNTY CENTER DR. #110 TEMECULA, CA 92591 TEL: 951.600.0032 WWW.ISEENGINEERS.CO

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MATTHEW@ISEENGINEERS.COM

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EDEN, UTAH 84310

CONTACT INFORMATION: LIVING HOMES 2910 LINCOLN BLVD.

SANTA MONICA, CA 90405 310.581.8500 www.LIVINGHOMES.NET

GOVERNING JURISDICTION(S): WEBER COUNTY, UTAH **BUILDING DIVISION** 2380 WASHINGTON BLVD, #240



APPROVAL STAMP

PLAN REVISIONS DELTA DESCRIPTION DATE CO. PC & LH REV'S 10/03/17 **ENGINEER STAMP & SIGNATURI** DATE: 10/03/17

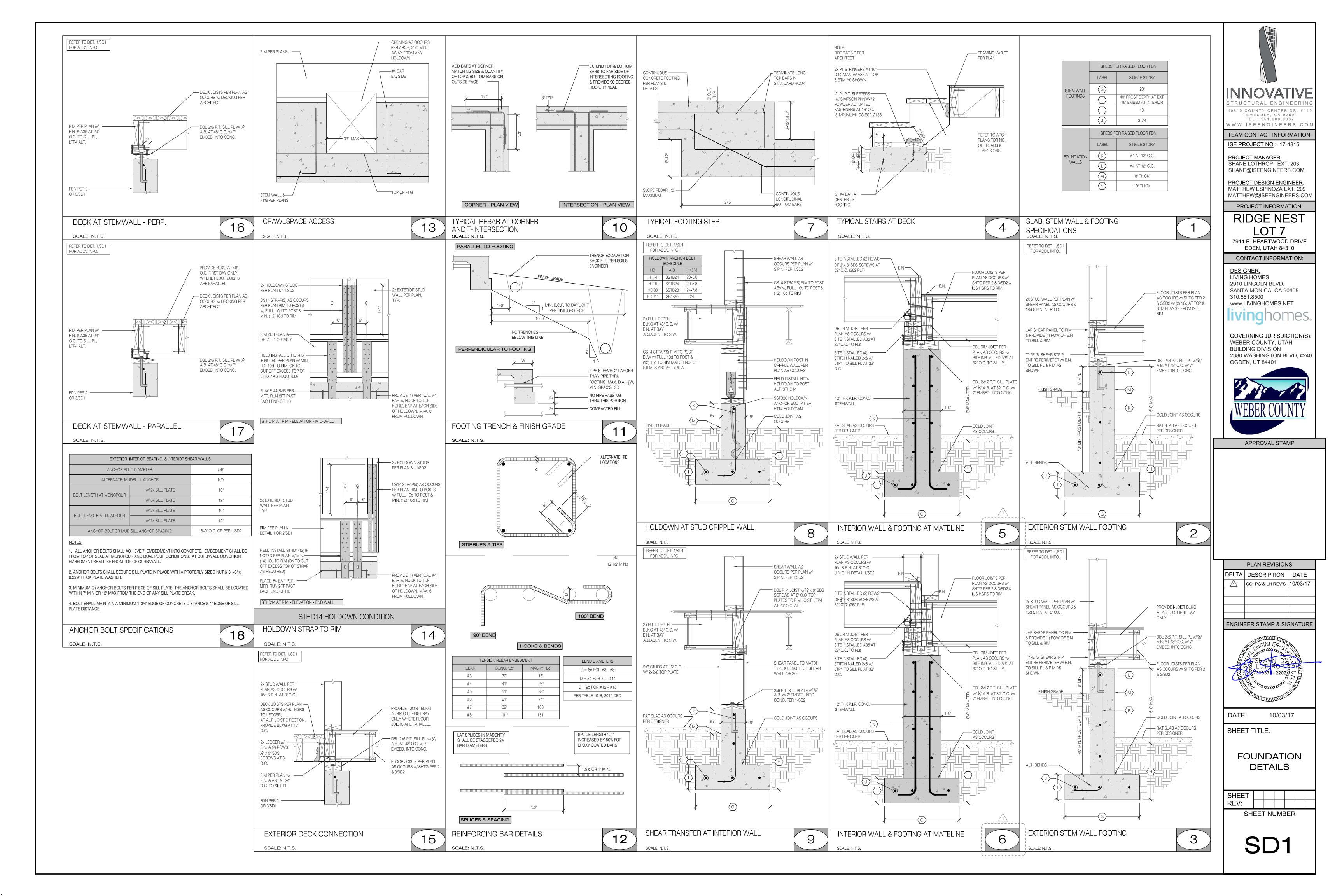
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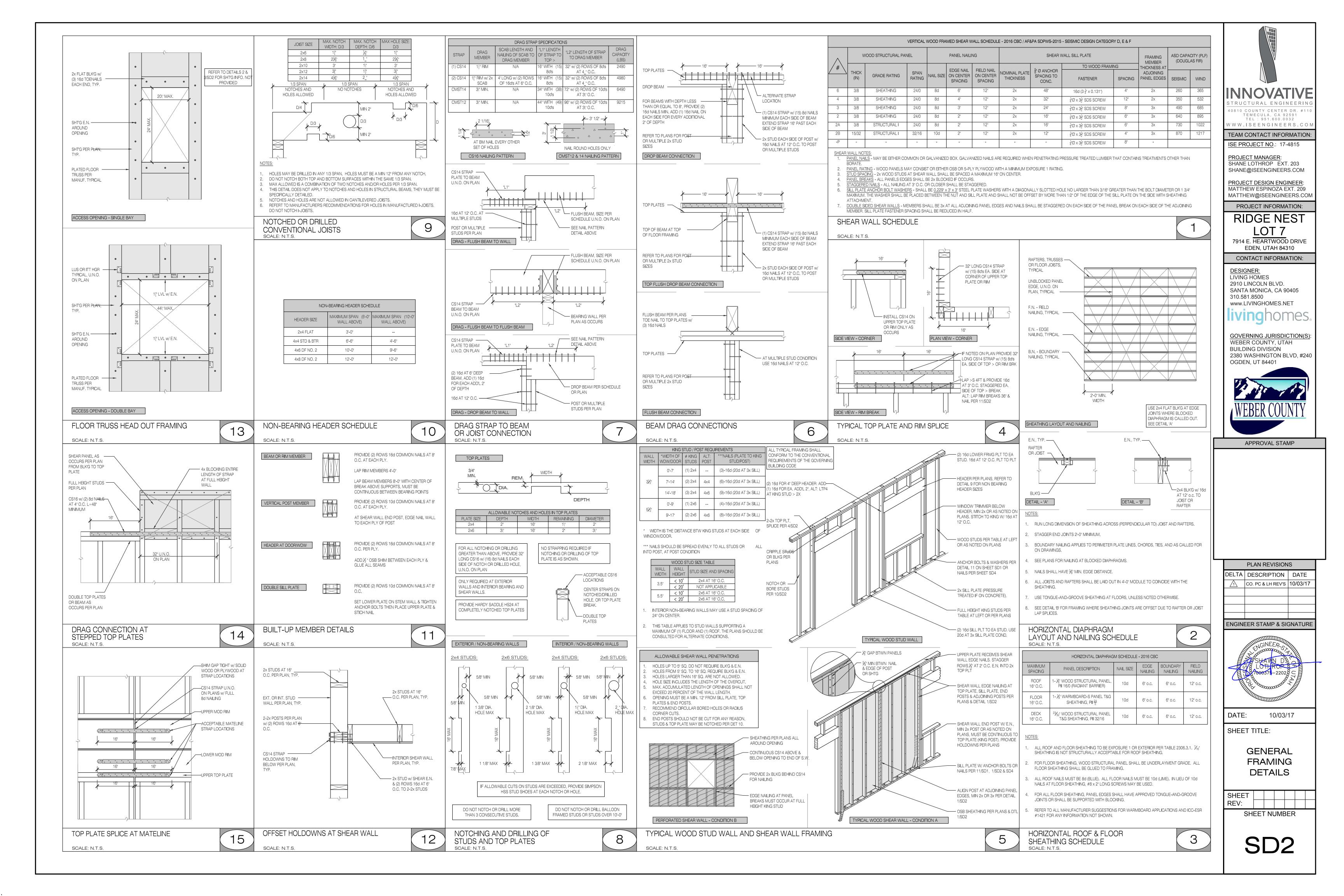
ROOF/WALL FRAMING PLAN

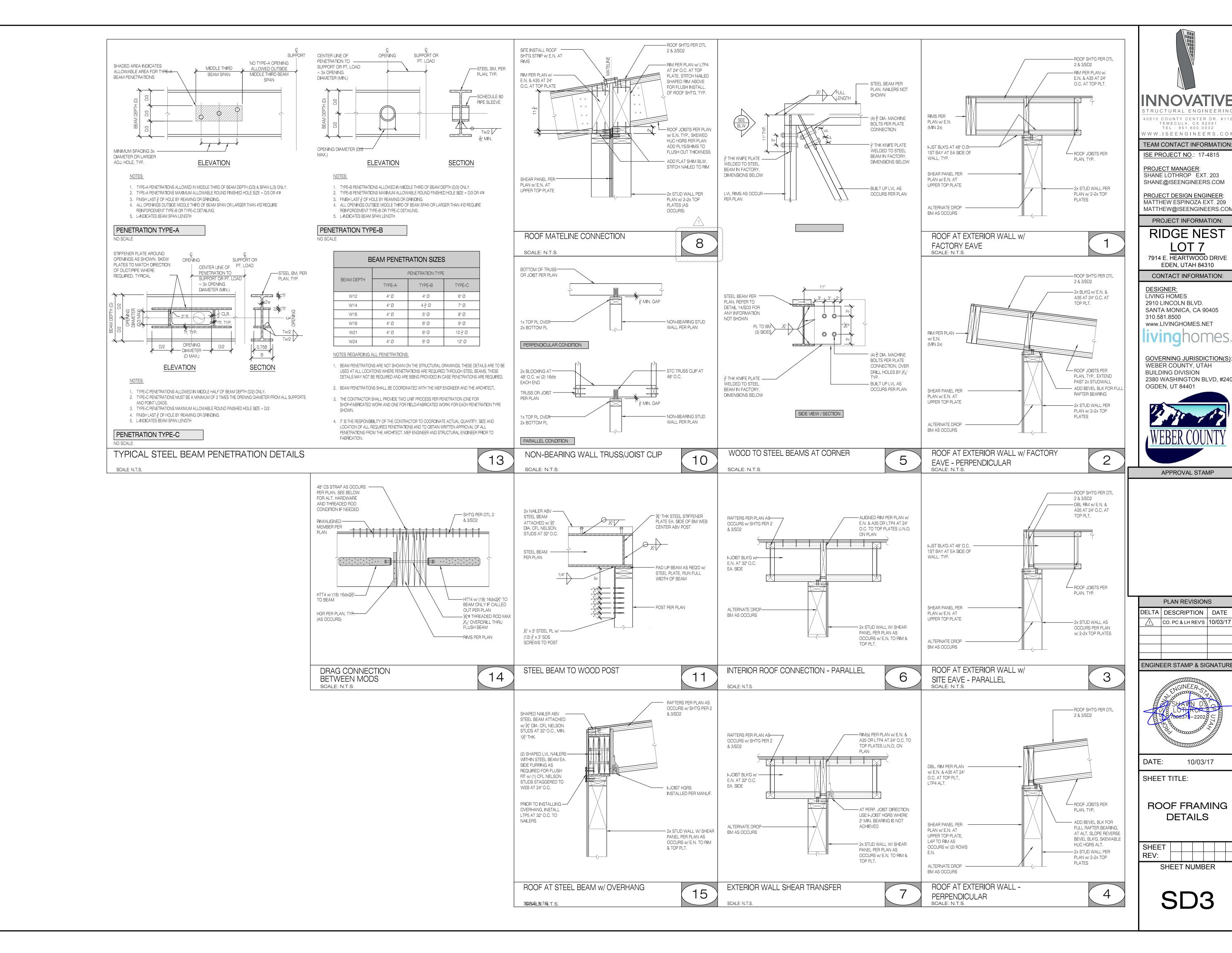
SHEET SHEET NUMBER

ROOF/WALL FRAMING PLAN

SCALE : $\frac{1}{4}$ = 1'-0", DO NOT SCALE PLANS FOR CONSTRUCTION DIMENSIONS. ALL CONSTRUCTION DIMENSIONS MUST BE VERIFIED WITH THE ARCH. PLANS







BOILER SCHEDULE MARK 80,000 EACH INPUT (BTUH) 72,000 EACH OUTPUT (BTUH) 3"Ø VENT SIZE (INCHES) MODEL NUMBER NAVIEN NCB-180E 95% MIN THERMAL EFFICIENCY 50/120 DHW, 100/120 HEATING DUAL TEMP (INPUT/OUTPUT) FLOW RATE 0.5 - 3.4 GPM PRESSURE DROP 12 FT HD MAX PROPANE PRESSURE 8.0 PSI MIN / 13.5 PSI MAX OPERATING WEIGHT 80 LBS ELECTRICAL 120/1/60 2 AMPS

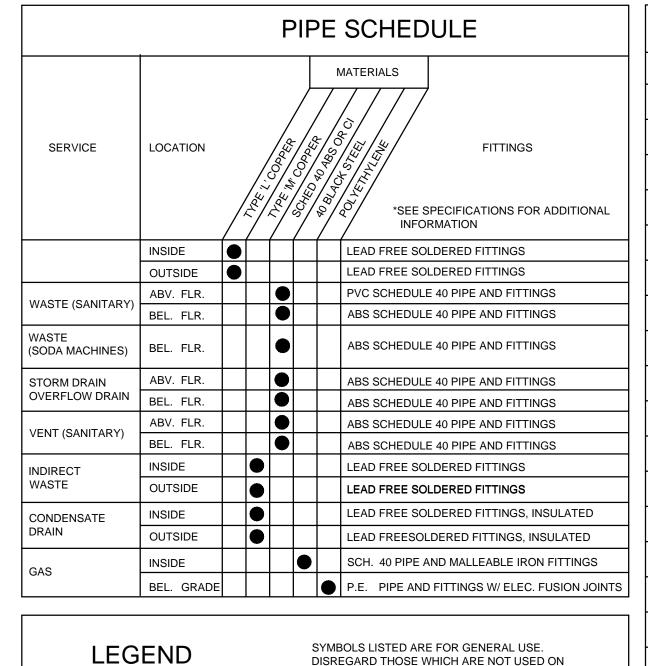
DUAL S.S. HEAT EXCHANGER, DUAL SUPPLY/CONTROL FOR DOMESTIC HOT WATER AND HEATING. PROVIDE PROPANE CONVERSION KIT, NCB MANIFOLD, EASY VALVE KIT, CONDENSATE NEUTRALIZER, AND VENT TERMINATION CAPS AND ROOF FLANGES.

HOT WATER DEMAND						
ITEM	QTY.	GPH	TOTAL GPH			
LAVATORY	1	4	4			
KITCHEN SINK	0	5	10			
DISH WASHER	1	15	15			
WASHING MACHINE	1	20	20			
BATH TUB	1	20	20			
SERVICE SINK	0	20	0			
SHOWER	0	20	0			
TOTAL	69					

- HOT WATER CALCULATION:
- 1. 69 GPH (MAX. DEMAND) X 0.30 (PROBABLE DEMAND) = 20.7 GPH
- 2. 20.7 GPH (PROBABLE DEMAND) X 0.7 (STORAGE FACTOR) = 14.5 GALS
- 3. 20.7 GPH (MAX DEMAND) / 60 MIN./HR = 0.35 GPM
- 4. (500) X (GPM) X (T) = BTUH REQUIRED AT HEATER (500)(0.35)(70) = 12,250 BTUH

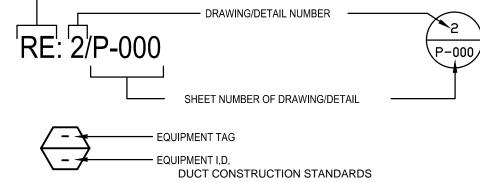
HEATING WATER DEMAND

- HEATING WATER CALCULATION:
- 1. 15,134 BTUH HEATING LOAD
- 2. GPM = (BTUH) / (500 * DELTA T) (15,134) / (500 * 20) 1.5 GPM
- 3. 0.35 GPM + 1.5 GPM = 1.85 GPM
- 4. DWH-1 CAPACITY: 3.4 GPM

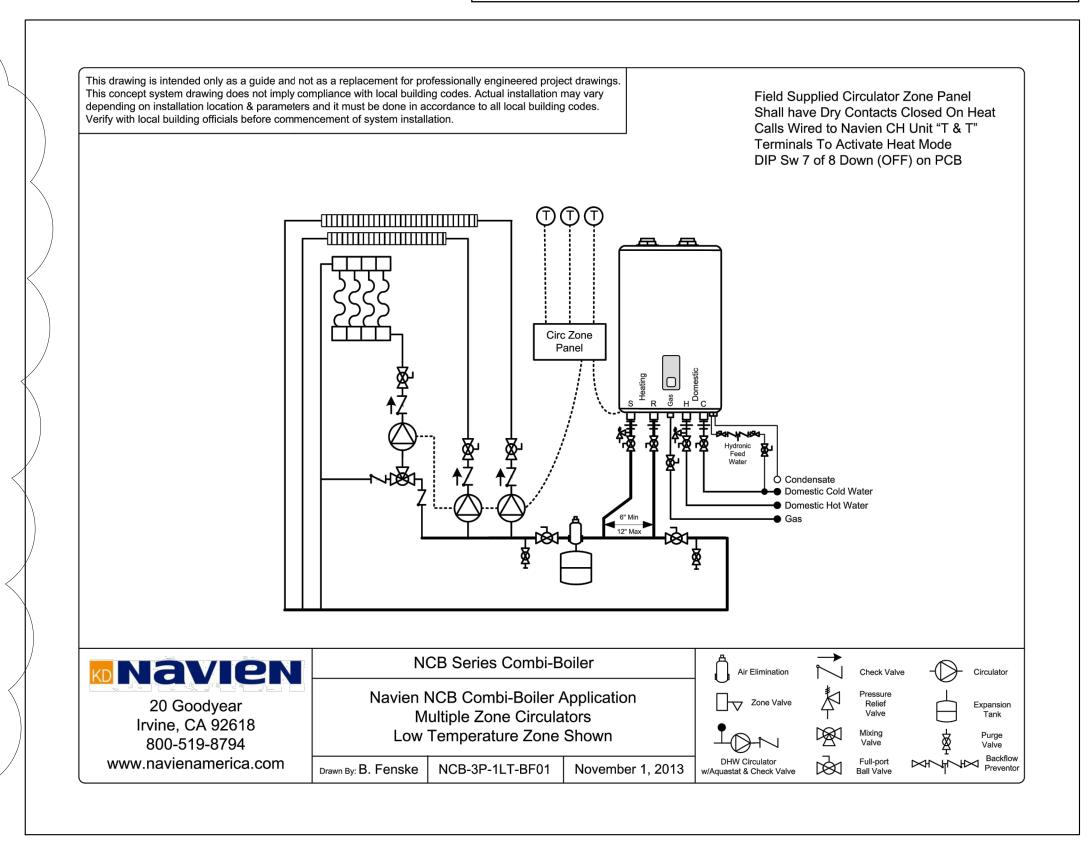


DRAWING. **DESCRIPTION** SYMBOL PLAN REFERENCE / KEY NOTE REVISION AIR DEVICE CALLOUT POINT OF CONNECTION POINT OF DISCONNECTION/DEMOLITION REFER TO - DRAWING/DETAIL NUMBER

DISREGARD THOSE WHICH ARE NOT USED ON



Concentric Vent Termination Sidewall installation Combustion Air Combustion Air Maintain 12" min. clearance above **→** 1" (25mm) min highest anticipated snow level or grade.



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PLUMBING LEGEND

SANITARY VENT

COLD WATER LINE

HOT WATER LINE

FIRE MAIN

COMPRESSED AIR LINE

INDIRECT DRAIN LINE

PROPANE GAS LINE

UNION

BALL VALVE

CHECK VALVE

CONDENSATE DRAIN LINE

HOSE-BIBB / WALL HYDRANT

WATER HAMMER ARRESTOR

PRESSURE REDUCING VALVE

THERMOSTATIC MIXING VALVE

GAS SYSTEM SOLENOID INTERLOCK VALVE

VENT THRU ROOF

FLOOR CLEAN-OUT

FLOOR DRAIN

FLOOR SINK

DOWN

RISE

ABOVE

BELOW

CEILING

EXISTING

FLOOR

CONTINUATION

FIRE DEPARTMENT CONNECTION

FINISHED FLOOR ELEVATION

VENT THROUGH ROOF

INVERT ELEVATION

WALL CLEANOUT

CLEAN-OUT TO GRADE

2-WAY CLEAN-OUT TO GRADE

WATER HAMMER ARRESTOR

PUMPED CONDENSATE DRAIN

ABOVE FINISHED FLOOR

ACCESS PANEL

REDUCED PRESSURE BACKFLOW PREVENTER

POINT OF CONNECTION

GAS COCK

DOMESTIC COLD WATER ANGLE STOP

DOMESTIC COLD WATER ANGLE STOP

INDUSTRIAL COLD WATER LINE

HOT WATER RECIRCULATION LINE

AUTOMATIC FIRE SPRINKLER LINE

AUTOMATIC SPRINKLER DRAIN LINE

S OR W

S OR W

GW

SD

SD

OD

OD

CW

ICW

HW

ASD

PRV

2-WAY COTG

WHA

ABV

BEH

CLG

CONT

EXIST

FDC

FLR

VTR

I.E.

DESCRIPTION

SOIL OR WASTE LOCATED ABOVE FLOOR OR GRADE

SOIL OR WASTE LOCATED ABOVE FLOOR OR GRADE

GREASE WASTE LOCATED BELOW FLOOR OR GRADE

STORM DRAIN LOCATED ABOVE FLOOR OR GRADE

STORM DRAIN LOCATED ABOVE FLOOR OR GRADE

OVERFLOW DRAIN LOCATED ABOVE FLOOR OR GRADE

OVERFLOW DRAIN LOCATED ABOVE FLOOR OR GRADE

SYMBOL

— GW —

SD

- - SD - -

— OD —

— OD — —

— ICW ——

—— AS ———

---- ASD -----

— CD ——

— LPG —

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____ PCD ____

GENERAL CONTRACTOR BLUE WILLOW BUILDERS INC. 7103 SOUTH REDWOOD RD. SUITE 426 WEST JORDAN, UT 84084 TEL: 801 910 7614

SURVEYOR + CIVIL ENGINEER TALISMAN CIVIL CONSULTANTS 5217 SOUTH STATE ST. SUITE 200 MURRAY, UT 84107 TEL: 801 743 1300

STRUCTURAL ENGINEER INNOVATIVE STRUCTURAL ENG'G 40810 COUNTY CENTER DR. SUITE 110 TEMECULA, CA 92591 TEL: 951 600 0036

SOILS ENGINEER INTERMOUNTAIN GEOENVIRON -MENTAL SERVICES, INC. 12429 SOUTH 300 EAST, SUITE 100, DRAPER, UT, 84120 TEL: 801 748 4044

ELECTRICAL ENGINEER BIABANI AND ASSOCIATES, INC. 1600 SAWTELLE BLVD, SUITE 104 LOS ANGELES, CA 90025 TEL: 310 268 1665

MECHANICAL ENGINEER TREK ENGINEERING, INC. 321 RAMPART STREET SUITE 203 ORANGE, CA 92868 TEL:714.769.9700

PLUMBING ENGINEER TREK ENGINEERING, INC. 321 RAMPART STREET SUITE 203 ORANGE, CA 92868 TEL:714.769.9700

PROJECT:

RIDGE NEST UNIT 7 Address: SUMMIT POWDER MOUNTAIN

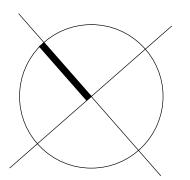
7914 E.HEARTWOOD DR. UNIT 7, EDEN, UT 84310

30, AUG 2017

DATE:

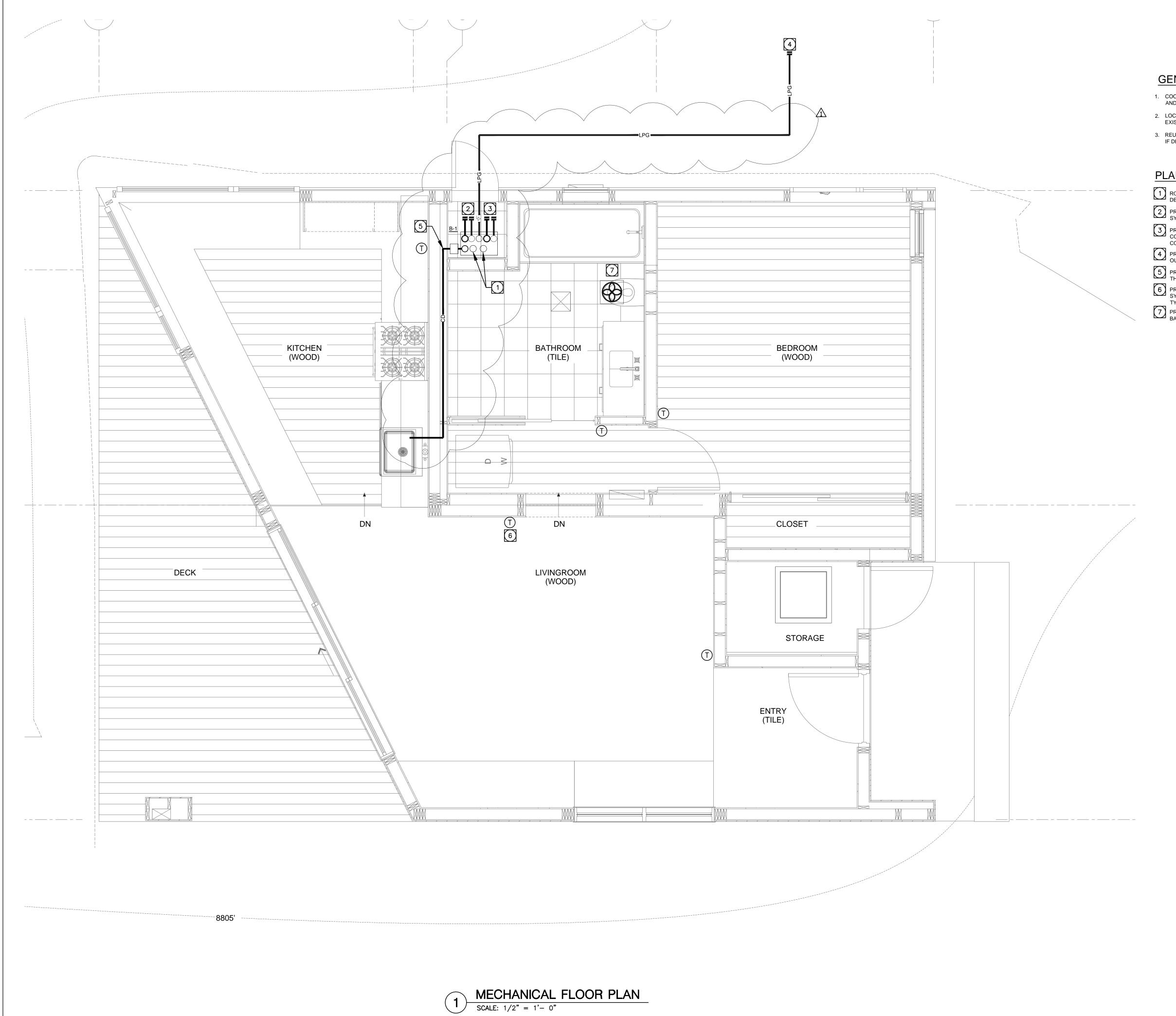
DRAWN BY:

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#	DESCRIPTION	DAT
	ISSUE FOR PERMIT	09.05.20
1	REISSUE FOR PERMIT	10.05.20
	1	



SHEET NUMBER:

MECHANICAL **COVER SHEET**



GENERAL NOTES:

- COORDINATE ALL WORK WITH GENERAL CONTRACTOR AND OTHER TRADES.
- 2. LOCATION OF FCU'S ARE APPROXIMATE. FIELD VERIFY EXISTING CONDITIONS PRIOR TO CONSTRUCTION.
- 3. REUSE ALL EXISTING THERMOSTATS, REPLACE WITH NEW IF DEFECTIVE.

PLAN NOTES:

- ROUTE 3"Ø COMBUSTION PIPE AND 3"Ø FLUE TO WALL. REFER TO DETAIL ON M-0.
- PROVIDE 3/4" HW AND 1" CW TO PRE-FABRICATED PLUMBING SYSTEM. VERIFY POINT OF CONNECTION WITH MANUFACTURER.
- PROVIDE 3/4" HWS AND 3/4" HWR TO RADIANT HEATING SYSTEM CONNECTIONS (BY OTHERS), COORDINATE ACTUAL POINT OF CONNECTION.
- PROVIDE 3/4" LPG LINE (80,000 BTUH, 150 FTTDL), CONNECT 5' OUTSIDE OF BUILDING TO LPG SUPPLY LINE (BY OTHERS).
- PROVIDE 1/2" CONDENSATE LINE, CONNECT TO NEUTRALIZER, THEN TO TAIL PIECE OF KITCHEN SINK.
- 6 PROVIDE THERMOSTAT COMPATIBLE WITH RADIANT HEATING SYSTEM. CONFIRM WITH MANUFACTURER, MOUNT AT 48" AFF.
- PROVIDE EXHAUST FAN WITH 5"Ø EA DUCT AND WALL CAP. BALANCE TO 60 CFM AT 0.25" ESP.

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PLUMBING ENGINEER

PROJECT:

RIDGE NEST UNIT 7

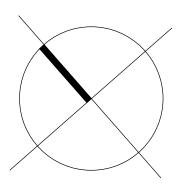
Address: SUMMIT POWDER MOUNTAIN

7914 E.HEARTWOOD DR. UNIT 7, EDEN, UT 84310

DATE: 30, AUG 2017 DRAWN BY: CHECKED BY: WN

DESCRIPTION DATE ISSUE FOR PERMIT

1 REISSUE FOR PERMIT 09.05.2017 10.05.2017



SHEET NUMBER:

MECHANICAL FLOOR PLAN

GENERAL CONDITIONS

- 1.1 FURNISH AND INSTALL MATERIALS AND PERFORM ALL LABOR NECESSARY FOR THE WORK SHOWN OR SPECIFIED, INCLUDING ALL CONNECTIONS TO EXISTING SYSTEMS, RESULTING IN A COMPLETE AND OPERATING INSTALLATION, IN ACCORDANCE WITH MCI'S REQUIREMENTS.
- 1.2 DRAWINGS ARE DIAGRMMATIC AND ARE NOT INTENDED TO INDICATE EVERY OFFSET, FITTING AND COMPONENT. BASED ON THE SYSTEM CONCEPT, THE CONTRACTOR SHALL PROVIDE ALL COMPONENTS AND MATERIALS NECESSARY FOR A FULLY COMPLETE AND OPERATIONAL SYSTEM TO SATISFY THE DESIGN INTENT.
- .3 BEFORE SUBMITTING BID, VISIT AND EXAMINE SITE TO IDENTIFY EXISTING CONDITIONS AND CONDITIONS THAT WILL ADVERSELY AFFECT THE WORK. NO ADDITIONAL PAYMENT WILL BE ALLOWED FOR ADDITIONAL WORK CAUSED BY UNFAMILIARITY OF SITE CONDITIONS THAT ARE VISIBLE OR READILY DETERMINABLE BY AN EXPERIENCED OBSERVER. NOTIFY CLIENT PRIOR TO SCHEDULE VISIT.
- 1.4 INTERRUPTIONS TO EXISTING SERVICES AND SYSTEMS SHALL BE AS SHORT AS POSSIBLE. INTERRUPTIONS SHALL BE SCHEDULED AT A TIME AND FOR A DURATION ACCEPTABLE TO THE OWNER/TENANT.
- 1.5 TEST AND BALANCING: ADJUST DAMPERS, AIR OUTLETS, FANS AND PUMPS TO FLOW QUANTITIES INDICATED ON THE DRAWINGS. TEST AND BALANCE REPORT SHALL INCLUDE REGISTER SIZE AND MANUFACTURER, DESIGN CFM AND FINAL CFM. ENGINEER SHALL HAVE SELECTED DIFFUSERS DEMONSTRATED AFTER COMPLETION OF THE WORK.
- 1.6 CODES: ENTIRE INSTALLATION SHALL COMPLY WITH ALL GOVERNING CODE AND LOCAL AUTHORITY HAVING JURISDICTION REQUIREMENTS AND SHALL BE COMPATIBLE WITH THE BASE BUILDING SYSTEMS
- 1.7 SUBMITTAL/SHOP DRAWINGS: CONTRACTOR SHALL SUBMIT A COMPLETE SUBMITTAL FOR THE FOLLOWING EQUIPMENT/DEVICES TO THE MEOR, FOR REVIEW & APPROVAL: GRILLES, REGISTERS AND DIFFUSERS
 - EQUIPMENT
 SHEET METAL SHOP DRAWING
 TEST AND BALANCE REPORT
- 2. BASIC MATERIAL AND METHODS
- 2.1 PIPE AND FITTINGS:
- 2.1.1 HEATING HOT WATER: BLACK STEEL SEAMLESS PIPE, WITH SCREWED OR FLANGED OR BUTT-WELDED JOINTS. MAXIMUM 0.375-IN. WALL THICKNESS, CONFORMING TO ASTM A53. SCHEDULE 40.
- 2.2 PIPE SPECIALITIES:
- 2.2.1. SHUT-OFF VALVES: FOR 2" PIPE AND SMALLER SHALL BE 2-PIECE BRONZE BODY BALL VALVE WITH BRONZE TRIM. FULL PORT DESIGN, CHROME PLATED BRONZE, BLOWOUT-PROOF STEM WITH EXTENSION FOR INSULATED SERVICE. SHUTOFF VALVES FOR 2 1/2" PIPE AND LARGER SHALL BE LOG STYLE BUTTERFLY VALVES. PROVIDE VALVES WITH MEMORY STOP WHEN USED FOR BALANCING SERVICE. DUCTILE IRON WITH EPDM TRIM, 150 PSIG, ASTM_.

2.2.2. CHECK VALVES:

		HEATING WATER SERVCE MAXIMUM 300°F AND 150 PSIG (1/2"- 12")/125 PSIG (14"-24")						
SPECIALTY APPLICATION TYPE SIZE BODY/SEAT BODY/TRIM CONNECTION MINIM							MINIMUM RATING	
	CHECK VALVE	CK VALVE PUMPS SILENT		1/2"-2"	BRONZE/BRONZE	THREADED	200 PSIG WOG	
		SILENT GLOBE PIPING Y-PATTERN SWING		2½"-24"	IRON/BRONZE	FLANGED	CLASS 125	
				1/2"-2"	BRONZE/BRONZE	THREADED	200 PSIG WOG	
				2½"-24"	IRON/BRONZE	FLANGED	CLASS 125	

2.2.3. STRAINERS:

HEATING WATER SERVICE MAXIMUM 300°F AND 150 PSIG (1/2"- 12")/125 PSIG (14"-24")								
SPECIALTY	APPLICATION	TYPE	SIZE	BODY/SEAT BODY/TRIM	CONNECTION	MINIMUM RATING		
STRAINER	CONTROL VALVES AIR FLOW METERS	Y-TYPE	½"-2"	BRONZE/STAINLESS (½ ₁₆ " DIA,)	THREADED	200 PSIG WOG		
			2½"-4"	IRON/STAINLESS (½ ₁₆ " DIA,)	FLANGED	CLASS 125		
	PUMP SUCTION	IN-LINE Y-TYPE	½"-2"	BRONZE/STAINLESS (½6" DIA,)	THREADED	200 PSIG WOG		
			2½"-4"	IRON/STAINLESS (¾6" DIA.)	FLANGED	CLASS 125		
	ANGLE SUCTION DIFFUSER END SUCTION PUMPS		2"-12"	IRON/STAINLESS (¾6" DIA.) STARTUP STRAINER- 16 MESH BRONZE	FLANGED	CLASS 125		

2.3 INSULATION:

2.3.1 WATER PIPE: ONE OR TWO PIECE FIBERGLASS PIPE INSULATION WITH ALL PURPOSE SERVICE JACKET, WITH OR WITHOUT SELF SEALING LAP. JACKET-LAMINATED ALUMINUM FOIL AND GLASS REINFORCED VINYL COATED KRAFT PAPER. 1" THICK. COLD PIPING SHALL BE INSTALLED USING VAPOR PROOF METHODS.

2.4 HANGERS:

2.4.1 SUPPORT HANGERS FROM SIDES OF BEAMS OR JOISTS USING POWERED ACTUATED FASTENERS OR CONCRETE ANCHORS.

COPPER PIPE - GRINNEL CT-65 OR APPROVED EQUAL. STEEL OR CAST IRON PIPE - GRINNEL CT-65 OR EQUAL.

2.4.2 SUPPORT SPACING:

CODDED DIDE:

UP TO 1" 6 FT - 3/8" ROD 1-1/4" AND 1-1/2" 8 FT - 3/8" ROD

STEEL OR CAST IRON PIPE: UP TO 2" 8 FT - 3/8" ROD 2-1/2" AND OVER 10 FT - 1/2" ROD

2.5 TAGS

2.5.1 UPON COMPLETION OF WORK, ATTACH ENGRAVED LAMINATED TAGS TO ALL VALVES. VALVE TAGS SHALL HAVE BLACK CHARACTERS ON WHITE FACES CONSECUTIVELY NUMBERED AND PREFIXED BY LETTER "V". EQUIPMENT TAGS SHALL HAVE BLACK CHARACTERS ON WHITE FACE, WITH LABELS CORRESPONDING TO DRAWING SCHEDULE NUMBERS.

2.5.2 PROVIDE FLOW ARROWS FOR ALL PIPING.

2.5.3. PIPE IDENTIFICATION

- 1. PIPING IDENTIFICATION PER ANSI AND OSHA STANDARDS: EACH INDIVIDUAL PIPELINE SHALL BE MARKED FOR QUICK AND EASY IDENTIFICATION AS TO CONTENT AND CHARACTER OF MATERIAL CARRIED IN THE PIPES BY SET ON SNA OR STR MARKER.
- 2. MARKERS SHALL BE INSTALLED AND SPACED AT NOT MORE THAN 8 FT. INTERVALS AND SO LOCATED THAT MARKERS SHALL BE VISIBLE WHERE PIPING SYSTEM IS EXPOSED.
- 3. COLOR SCHEME SHALL BE APPROVED. BASE COLOR FOR MARKERS SHALL BE AS FOLLOWS:

DOMESTIC HOT WATER ----- YELLOW DOMESTIC COLD WATER ----- GREEN FUEL GAS ----- YELLOW SANITARY SEWER ----- GREEN SANITARY VENT ----- GREEN STORM DRAINS ----- GREEN COMPRESSED AIR ----- BLUE

- A. ONE MARKER SHALL BE INSTALLED AT EACH SIDE OF VALVES, SPECIAL FITTINGS AND AT BRANCH TAKE-OFF. IN FURRED SPACES INSTALL ONE BAND 2 FT. ABOVE FLOOR AND 19 IN. BELOW CEILING LINE.
- B. FURNISH TWO IDENTIFICATION CHARTS COMPLETE WITH GLASS AND FRAME SHOWING LIST OF MATERIALS CARRIED IN THE PIPING SYSTEM, CLASSIFIED BY NATURE OF ITS CONTENTS AND RESPECTIVE IDENTIFYING COLORS.
- C. MATERIALS: MATERIALS WHEN NOT OTHERWISE DEFINITELY SPECIFIED SHALL CONFORM TO THE APPLICABLE ASTM, ASME, AGA, AND ASA STANDARDS.

3. DEFINITIONS

- A. PROVIDE MEANS "FURNISH AND INSTALL"
- B. "FURNISH" MEANS "TO PURCHASE AND DELIVER TO THE PROJECT SITE COMPLETE WITH NECESSARY APPURTENANCE AND SUPPORT."
- C. "INSTALL" MEANS "TO UNLOAD AT THE SITE DELIVERY POINT AND PERFORM EVERY OPERATION NECESSARY TO ESTABLISH SECURE MOUNTING AND CORRECT OPERATION AT THE PROPER LOCATION IN THE PROJECT."
- D. "ENGINEER" MEANS "PRIME DESIGN CONSULTANT."
- E. PERFORM WORK, PROVIDE MATERIALS AND EQUIPMENT FOR SYSTEMS SHOWN, SPECIFIED AND DESCRIBED ON DRAWINGS. COMPLETELY COORDINATE WORK WITH WORK OF OTHER CONTRACTORS AND PROVIDE COMPLETE AND FULLY FUNCTIONAL INSTALLATION. REMOVE ALL DEBRIS CAUSED BY THIS CONTRACTOR'S WORK.
- F. ADDRESS QUESTIONS REGARDING DRAWINGS TO ARCHITECT IN WRITING BEFORE AWARD OF CONTRACT.
 OTHERWISE, ARCHITECT'S INTERPRETATION OF MEANING AND INTENT OF DRAWINGS SHALL BE FINAL.
- G. CONTRACTOR TO GIVE NOTICES, FILE PLANS, OBTAIN PERMITS AND LICENSES, PAY FEES AND BACK CHARGES AND OBTAIN NECESSARY APPROVALS FROM AUTHORITIES THAT HAVE JURISDICTION.
- H. GUARANTEE WORK OF THIS CONTRACTOR IN WRITING FOR ONE YEAR FROM THE DATE OF OWNER'S ACCEPTANCE OF CERTIFICATE OF SUBSTANTIAL COMPLETION. PROMPTLY, REPAIR OR REPLACE DEFECTIVE MATERIALS, EQUIPMENT, WORKMANSHIP AND INSTALLATIONS THAT DEVELOP DEFECTS WITHIN THIS PERIOD. PROMPTLY AND TO OWNERS SATISFACTION, CORRECT DAMAGE CAUSED IN MAKING NECESSARY REPAIRS AND REPLACEMENTS UNDER GUARANTEE AT NO ADDITIONAL COST TO OWNER. SUBMIT GUARANTEE TO ARCHITECT BEFORE FINAL PAYMENT. STATEMENT OF GUARANTEE REQUIREMENTS SHALL NOT BE INTERPRETED TO LIMIT OWNER'S RIGHTS UNDER LAW AND THIS CONTRACT.
- I. ALL MATERIALS, EQUIPMENT, AND METHOD OF INSTALLATION SHALL BE IN ACCORDANCE WITH THE STANDARDS, REGULATIONS, CODES, ORDINANCES, AND LAWS OF LOCAL, STATE, AND FEDERAL GOVERNMENTS, AND OTHER AUTHORITIES THAT HAVE LAWFUL JURISDICTION.
- J. PRIOR TO COMMENCING WORK, CONTRACTOR SHALL SUBMIT THREE COPIES OF THE SHOP DRAWINGS AND EQUIPMENT DATA FOR MATERIALS AND EQUIPMENT TO THE ARCHITECT FOR REVIEW AND APPROVAL. MATERIALS AND EQUIPMENT SHALL NOT BE INSTALLED BEFORE SHOP DRAWINGS ARE REVIEWED AND APPROVED. SCHEDULE AT LEAST FIVE WORKING DAYS, EXCLUSIVE OF TRANSMITTAL TIME, FOR SUBMITTAL REVIEW.
- K. DEVIATION FROM CONTRACT DOCUMENTS, OR PROPOSED SUBSTITUTION OF MATERIALS OR EQUIPMENT FOR THOSE SPECIFIED, SHALL BE REQUESTED IN SEPARATE LETTER, WHETHER DEVIATIONS ARE DUE TO FIELD CONDITIONS, STANDARD SHOP PRACTICE OR OTHER CAUSE.
- .. GENERAL NOTES, SYMBOLS LIST AND DETAILS ARE APPLICABLE TO ALL DRAWINGS OF THIS SECTION.
- M. WORK SHALL BE EXECUTED IN A WORKMANLIKE MANNER AND SHALL PRESENT NEAT, RECTILINEAR APPEARANCE WHEN COMPLETED. MAINTAIN MAXIMUM HEADROOM AT ALL TIMES. DO NOT RUN PIPES AND DUCTS EXPOSED UNLESS SHOWN AND NOTED TO BE EXPOSED ON DRAWINGS. MATERIALS AND EQUIPMENT SHALL BE NEW AND INSTALLED ACCORDING TO MANUFACTURER'S INSTRUCTIONS AND RECOMMENDATIONS, SO THAT COMPLETED INSTALLATION SHALL OPERATE SAFELY AND EFFICIENTLY.
- N. AS WORK PROGRESSES AND FOR DURATION OF CONTRACT, MAINTAIN A COMPLETE SET OF PRINTS AND CONTRACT DRAWINGS AT JOB SITE AT ALL TIMES. RECORD WORK COMPLETED AND ALL CHANGES FROM ORIGINAL CONTRACT DRAWINGS CLEARLY AND ACCURATELY INCLUDING WORK INSTALLED AS A MODIFICATION OR ADDITION TO THE ORIGINAL DESIGN.
- O. INTERRUPTIONS TO EXISTING SERVICES AND SYSTEMS SHALL BE AS SHORT AS POSSIBLE AND AT A TIME AND DURATION APPROVED BY THE ARCHITECT OR OWNER. INCLUDE ALL PREMIUM TIME ASSOCIATED WITH INTERRUPTIONS.

PART 2 - PRODUCTS

- 2.1 PIPING AND FITTINGS
- A. GENERAL
- 1. PIPE MATERIALS AND FITTING MATERIALS SHALL BE AS INDICATED IN SCHEDULE OF PIPE AND FITTING MATERIALS, PROVIDE DIELECTRIC FITTING TO CONNECT DIFFERENT PIPING MATERIALS.
- B. SPECIAL REQUIREMENTS FOR HYDRONIC SYSTEMS.
- 1. PROVIDE AIR VENT AT EACH HIGH POINT AND DRAIN VALVE AT EACH LOW POINT FOR COMPLETE SYSTEM DRAINAGE AND FOR MANUAL VENTING OF AIR FROM SYSTEM.
- 2. PROVIDE A SHUTOFF/ISOLATION VALVE AT THE SUPPLY AND RETURN TO EACH PIECE OF EQUIPMENT AND AS INDICATED ON DRAWINGS.
- 3. EQUIPMENT COOLING COIL CONDENSATE DRAINS SHALL BE TRAPPED AT EQUIPMENT CONNECTION. DRAIN LINES SHALL RUN FULL SIZE OF DRAIN TAPPING TO NEAREST FLOOR DRAIN OR AS SHOWN ON DRAWINGS. INSTALL WITH A PITCH OF 1" IN 20 FEET.

C. SCHEDULE OF PIPE AND FITTING MATERIALS:

SERVICE PSI	PIPE MATERIAL WEIGHT	TYPE OF JOINTS	_	ESSURE RATING WP. OR WEIGHT
HEATING WATER 2" AND SMALLER	STEEL SCHEDULE 40	SCREWED IRON	MALLEABLE	150
HEATING WATER	STEEL			

2-1/2" AND LARGER SCHEDULE 40

D. CONNECTIONS1. PROVIDE ECCENTRIC REDUCING COUPLINGS TO ALIGN HYDRONIC PIPES FLUSH ON TOP.

2. BRANCH LINES IN WELDED PIPING SHALL BE MADE WITH WELDING TEES EXCEPT THAT BRANCH LINES LESS THAN ONE-HALF DIAMETER OF MAIN MAY BE MADE WITH WELD-O-LETS.

WELDED STEEL SCHEDULE 40

3. NIPPLES SHALL BE SAME MATERIAL, MAKE AND THICKNESS AS PIPE WITH WHICH THEY ARE USED. CLOSE NIPPLES SHALL NOT BE USED.

- 4. MAKE PIPING CONNECTIONS 2-1/2" DIAMETER AND LARGER TO VALVES AND EQUIPMENT WITH FLAT FACE WELDING NECK FLANGES FOR PRESSURES 125 PSIG AND LESS.
- 5. MAKE PIPING CONNECTIONS 2" DIA. AND SMALLER TO VALVES AND EQUIPMENT WITH 300 PSI
- BRASS SEAT UNIONS ON STEEL PIPING AND WITH HEAVY SEMI-FLUSHED BRASS UNIONS ON COPPER TUBING.

 6. FIT FLANGED JOINTS WITH JOHNS-MANVILLE OR APPROVED EQUAL RING GASKETS. FLANGES
- SHALL BE FACED AND DRILLED TO ASA STANDARDS AND FITTED WITH SEMI-FINISHED HEXAGON MACHINE BOLTS AND NUTS OF PROPER NUMBER AND SIZE.
- 7. MAKE SCREW JOINTS TIGHT WITH TEFLON (POLYTETRAFLUOROETHYLENE) TAPE APPLIED TO MALE THREADS. USE TAPERED THREADS.
- 8. MAKE FUSION WELDED JOINTS AS REQUIRED BY ANSI B31.1. MAKE CHANGES IN DIRECTION OF PIPE WITH WELDED FITTINGS ONLY. BEVEL CONNECTIONS BEFORE WELDING, MECHANICALLY OR BY FLAME-CUTTING.

2.2 VALVES AND STRAINERS

- A. VALVES ON CONDENSATE, CONDENSER WATER, CHILLED WATER, HOT WATER, AND GLYCOL SERVICES SHALL BE AS SHOWN ON TABLES.
- B. VALVES SHALL HAVE NAME OF MANUFACTURER AND GUARANTEED WORKING PRESSURE CAST OR STAMPED ON BODIES. VALVES OF SIMILAR TYPE SHALL BE BY SINGLE MANUFACTURER.
- C. BUTTERFLY VALVES: PROVIDE LUB STYLE BUTTERFLY VALVES SHOWN IN TABLES. PROVIDE BALANCING STOP ON AT LEAST ONE VALVE FOR EACH EQUIPMENT CONNECTION AND AS NECESSARY FOR BALANCING SERVICES. WHEN MANUFACTURER REQUIRES, VALVES MUST BE INSTALLED IN PROPER DIRECTION FOR SHUTOFF AND DEAD END SERVICE.
- 1. GENERAL SERVICE VALVES SHALL BE BY CENTERLINE, DEZURIK, KEYSTONE OR GRINNELL.
- 2. VALVES 6" AND LARGER SHALL HAVE GEAR OPERATOR.
- 3. VALVES SMALLER THAN 6" SHALL HAVE SEVEN-POSITION LEVER.
- D. BALL VALVES: PROVIDE BALANCING STOP ON AT LEAST ONE VALVE PER EQUIPMENT CONNECTION AND AS NECESSARY FOR BALANCING SERVICE. VALVES ON INSULATED PIPING SHALL HAVE 2" EXTENDED STEMS. ALL BALL VALVES SHALL HAVE LOCKING HANDLES TO ALLOW SERVICING AND REMOVAL OF EQUIPMENT. VALVES SHALL BE BY APOLLO, CANNON, KITZ, MILWAUKEE, ROCKWELL, STOCKHAM, GRINNELL OR WATTS.
- E. GLOBE VALVES: PROVIDE GLOBE VALVES AS SHOWN IN TABLE BY CRANE, JENKINS, MILWAUKEE, STOCKHAM, GRINNELL OR WALWORTH. ALL PACKING SHALL BE NON-ASBESTOS
- F. PLUG VALVES: PROVIDE PLUG VALVES WITH 70 % PORT OPENING SHOWN IN TABLES FOR BALANCING. VALVES SHALL BE BY DEZURIK, MUELLER, ROCKEWELL, STOCKHAM OR WALWORTH. PROVIDE GEAR OPERATOR WITH MEMORY INDICATOR.
- G. CHECK VALVES: PROVIDE CHECK VALVES SHOWN IN TABLES BY APCO, MILWAUKEE, MUELLER, STOCKHAM, GRINNELL OR METRAFLEX.
- H. SPRING LOADED RELIEF VALVES: RELIEFS SHALL BE BRASS WITH EXTERNAL LEVER, ASME-APPROVED. FOR WATER RELIEFS, PIPE DISCHARGE TO INDIRECT DRAIN. PIPE CHILLER REFRIGERANT AND STEAM RELIEF DEVICES THROUGH BUILDING ENVELOPE.
- I. GATE VALVES: PROVIDE GATE VALVES SHOWN IN TABLES BY CRANE, MILWAUKEE OR STOCKHAM. ALL PACKING SHALL BE NON-ASBESTOS TYPE.
- J. IN GENERAL, VALVES SHALL HAVING OS&Y RISING STEMS TO INDICATE POSITION. FOR RESTRICTED CLEARANCES, VALVES SHALL HAVE NON-RISING STEMS. CONTRACTOR SHALL SUBMIT WHERE EACH TYPE IS USED.

K. STRAINERS

- FOR WATER SERVICE, STRAINERS SHALL BE FULL SIZE OF ENTERING PIPE SIZE AND HAVE A MAXIMUM CLEAN PRESSURE DROP OF ONE PSIG STRAINERS SHALL BE PER TABLES BY SARCO, MUELLER, WATTS OR ARMSTRONG.
- 2. PUMP START UP STRAINER SCREENS SHALL BE USED FOR CLEANING AND REMOVED AFTERWARDS.

3. PROVIDE BLOW-OFF VALVE ON EACH STRAINER.

- K. VACUUM BREAKER: PROVIDE VACUUM BREAKERS AT DOMESTIC WATER SUPPLIES. BREAKER SHALL BE STOCKHAM FIGURE B-320T 415.
- L. PROVIDE UNIONS FOR THREADED END VALVES TO FACILITATE REMOVAL FROM PIPE.
- M. COMBINATION BALANCING/SHUTOFF VALVES
- 1. PROVIDE COMBINATION BALANCING/SHUTOFF VALVES FOR BALANCING VALVE SERVICE VALVE SHALL BE BRONZE BODY/BRASS BALL VALVE CONSTRUCTION WITH TFE SEAT RINGS. VALVES SHALL BE RATED FOR OPERATING PRESSURES. VALVES SHALL HAVE DIFFERENTIAL PRESSURE READOUT PORTS ACROSS VALVE SEAT. MEMORY STOP SHALL ALLOW VALVE TO BE USED AS ISOLATION VALVE WITHOUT DISTURBING BALANCED SET POINT POSITION.
- A. THESE ARE MINIMUM RATINGS FOR ASTM A126, CLASS B AND ASTM B-61 AND 62. FOR HIGHER PRESSURES AND TEMPERATURES, ADJUST THESE VALUES TO INCLUDE STATIC HEAD PLUS 1.1 TIMES PRESSURE RELIEF VALVE SETTING PLUS PUMP SHUTOFF HEAD PRESSURE. FOR ACTUAL MAXIMUM ALLOWABLE VALVE AND STRAINER RATINGS, REFER TO "PRESSURE-TEMPERATURE RATINGS-NON SHOCK" TABLES AND ADJUSTED PRESSURE RATINGS" FOR COPPER TUBE, SOLDERED END VALVES [AND STRAINERS].
- 2. SWP = STEAM WORKING PRESSURE CWP = COLD WATER WORKING PRESSURE

 WSP = WORKING STEAM PRESSURE WOG = WATER, OIL OR GAS

 CLASS = ANSI STANDARD
- 3. USE 1/8" DIA FOR PLATE HEAT EXCHANGER APPLICATION.

2.3 PIPE INSULATION

- A. INSULATION SHALL BE FIBROUS GLASS INSULATION WITH FACTORY-APPLIED FIRE RETARDANT VAPOR BARRIER JACKET: BY OWENS CORNING, CERTAIN-TEED, MANVILLE OR KNAUF, INSTALLED AS REQUIRED BY MANUFACTURER. ASTM E-84 FIRE HAZARD RATING SHALL BE 25 FLAME SPREAD, 50 SMOKE DEVELOPED AND 50 FUEL CONTRIBUTED.
- B. ON INSULATED PIPING EXPOSED TO THE OUTDOOR WATERPROOF WITH 0.016" THICK ALUMINUM. JACKET WITH 2" TRANSVERSE AND LONGITUDINAL LAPPED SEAMS ORIENTED TO SHED WATER.

MECHANICAL SPECIFICATIONS

INSULATION THICKNESS

PIPING SYSTEM FLUID RUNOUTS CONDUCTIVITY
INSULATION TEMPERATURE 12' LONG BTUH-IN/HR-F-SF
TYPES RANGE, F OR LESS AT MEAN TEMP F

UP TO 2" 1" & 1-1/4" 2-1/2" 5" TO LESS TO 2" TO 4" 6"

HEATING WATER 140-200 2.0 2.0 2.0 2.0 0.23 @ 75"

C. INSULATION ON FITTINGS, VALVES AND FLANGES

- 1. FITTINGS, VALVES AND FLANGES SHALL BE INSULATED WITH SAME MATERIAL AND TO SAME THICKNESS AS ADJOINING PIPE INSULATION, WITH PRESENT SECTIONS. R
- FOR STRAINERS AND OTHER VALVES OR FITTINGS WHICH NEED MAINTENANCE, PROVIDE PREFORMED REMOVABLE INSULATION SECTION.

2.4 PIPE HANGERS AND SUPPORTS

- A. PROVIDE PIPE STANDS, SUPPORTS, HANGERS AND OTHER SUPPORTING APPLIANCES AS NECESSARY TO SUPPORT WORK REQUIRED BY CONTRACT DOCUMENTS. SPACING OF HANGERS SHALL BE INSTRUCTED IN ACCORDANCE WITH APPLICABLE BUILDING AND MECHANICAL CODES.
- B. PROVIDE PREFABRICATED RAIL TYPE ROOF CURBS FOR ROOF MOUNTED PIPING, U-BOLT PIPES TO CURB, SPACING SHALL BE IN ACCORDANCE WITH APPLICABLE BUILDING AND MECHANICAL CODES

2.5 SLEEVES AND PENETRATIONS

A. PIPE SLEEVES

- 1. SLEEVES THROUGH FLOORS AND THROUGH EXTERIOR, STRUCTURAL AND FIRE-RATED CONSTRUCTION SHALL BE HOT-DIPPED GALVANIZED SCHEDULE 40 STEEL PIPE.
- 2. SLEEVES THROUGH PARTITIONS AND NON-FIRE-RATED CONSTRUCTION SHALL BE 26 GAUGE GALVANIZED STEEL WITH LOCK LONGITUDINAL SEAMS, OR APPROVED PLASTIC PIPE.
- 3. PROVIDE WATERPROOFING MEMBRANCE LOCKING DEVICES AT FLOORS. PROVIDE 150 LB. SLIP-ON WELDING FLANGES AT EXTERIOR WALL PENETRATIONS.

B. DUCT SLEEVES AND OPENINGS.

- 1. SLEEVES THROUGH FLOORS, THROUGH EXTERIOR STRUCTURE, THROUGH FIRE-RATED CONSTRUCTION AND THROUGH SMOKE PARTITIONS THAT REQUIRE SMOKE DAMPERS SHALL BE SCHEDULE 40 GALVANIZED STEEL PIPE FOR ROUND DUCT AND SHALL MEET SMACNA FIRE DAMPER AND HEAT STOP GUIDE FOR RECTANGULAR AND FLAT OVAL DUCTS. FIREPROOF PACKING SHALL BE APPLIED TO SEAL ANY OPENINGS BETWEEN SLEEVE AND WALL.
- 2. OPENINGS IN WALLS, PARTITIONS AND OTHER FIRE-RATED CONSTRUCTION THAT DO NOT REQUIRE SMOKE DAMPERS SHALL MEET NFPA 90A, SECTION 3-3.8.

C. PIPE SLEEVE PACKING.

- 1. PACKING BETWEEN THE PIPE AND THE SLEEVE (OR WALL OR SLAB OPENING) IN FIRE RATED WALLS OR SLABS SHALL BE A COMBINATION OF FIREPROOF INSULATION AND FIREPROOF CAULK. THE COMBINATION OF MATERIALS SHALL HAVE THE SAME FIRE RATING IN HOURS, AS THE WALL OR SLAB AS TESTED IN ACCORDANCE WITH THE LATEST EDITION OF ASTM E-814 (UL 1479). THE COMBINATION OF MATERIALS SHALL BE CLASSIFIED BY U.L. (FILL, VOID, OR CAVIPY MATERIALS) FOR THE FIRE RATING REQUIRED AND SHALL BE LISTED AS A NUMBERED SYSTEM IN THE U.L. FIRE RESISTANCE DIRECTORY. FIBROUS GLASS SHALL NOT BE USED AS THE INSULATION MATERIAL.
- 2. ACCEPTABLE FIREPROOF INSULATION MATERIALS SHALL BE: KAOLIN (KAOWOOL BY BABCOCK AND WILCOX); CERAMIC FIBER BLANKET (FIBERFRAX BY STANDARD OIL) OR FIRE RATED MINERAL WOOL (THERMAFIBER BY USG). ACCEPTABLE FIREPROOF CAULK SHALL BE: SILICONE FIRESTOP 2000 BY DOW CORNING, OR INTUMESCENT SYNTHETIC ELASTOMER (FIRE BARRIER CAULK BY 3M, HILTI CS2420).

2.6 ESCUTCHEONS AND DUCT COLLARS

- A. PROVIDE ADJUSTABLE ESCUTCHEONS ON EXPOSED PIPING THAT PASSES THROUGH FINISHED FLOORS, WALLS AND CEILINGS. ESCUTCHEONS SHALL BE CHROMIUM-PLATED CAST BRASS, SIZED TO COVER SLEEVE OPENING AND TO ACCOMMODATE PIPE AND INSULATION.
- B. PROVIDE 4" WIDE 20 GAUGE GALVANIZED SHEET METAL COLLARS AT SLEEVES AND PREPARED OPENINGS, SIZED TO COVER ENTIRE DUCT PENETRATION INCLUDING SLEEVE AND SEAL, AND TO ACCOMMODATE DUCT AND INSULATION AS NECESSARY. EDGES SHALL HAVE MILLED LIPS

2.7 WATER SPECIALTIES

A. PROVIDE WATER SPECIALTIES BY BEEL & GOSSETT, TACO OR AMTROL AS INDICATED ON THE

GROUND SMOOTH. PAINT TO MATCH FINISH OF DUCT OR AS DIRECTED BY ARCHITECT.

B. EXPANSION TANKS SHALL BE ASME CONSTRUCTED, APPROVED STAMPED DIAPHRAM TYPE RATED

FOR 125 PSIG WORKING PRESSURE. 2.8 EQUIPMENT INSULATIONONS. R

2.0 LQOII N

- 1. INSULATION SHALL BE CERTAIN-TEED, KNAUF, MANVILLE OR OWENS CORNING AND SHALL BE
- INSTALLED IN STRICT ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
- 2. INSULATE THE FOLLOWING EQUIPMENT: A. PIPING AND VALVES
- B. EXPANSION TANKS
- C. AIR SEPARATORS
 D. PUMPS
- 3. INSULATION SHALL BE 1" THICK FIBROUS GLASS RIGID BLOCK OR SEMIRIGID BOARD RATED FOR TEMPERATURE INTENDED. INSULATION SHALL BE FORMED OR FABRICATED TO FIT EQUIPMENT. BEVEL EDGES AND BUTT AND STAGGER JOINTS.

<u>END</u>

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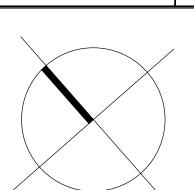
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SPECIFICATIONS