

NEW HOME & A.D.U.  
Amodeo

PROJECT ADDRESS:  
1334B WOODZY PLACE  
NEVADA CITY, CA

OWNER:  
JASPEN AMODEO

OWNER CURRENT ADDRESS:  
RED GATE ROAD  
NEVADA CITY, CA

CONTRACTOR:  
CONDER CONSTRUCTION (530) 913-2414

PARCEL INFORMATION:  
APN. : 036-170-045  
ZONING: RA-5

LOT COVERAGE, EXISTING, PROPOSED, OCCUPANCY, CONST. TYPE  
CONSTRUCTION TYPE: TYPE VB  
LOT AREA: 5 ACRES (217,800 SF.)  
(N) RESIDENCE, 1834 SF., 'R3' OCCUPANCY  
(N) ATTACHED GARAGE, 507 SF., 'U' OCCUPANCY  
(N) COVERED PORCHES & PATIOS, 721 SF.  
(N) ADU, 572 SF. WITH 125 SF. STORAGE LOFT, 'R3'.

GENERAL PROJECT SCOPE :  
NEW HOME, 3 BEDROOM ONE BATH RESIDENCE WITH COVERED PORCHES AND PATIOS, ATTACHED GARAGE AND ONE BED ONE BATH, 572 SF. ADU WITH 125 SF. STORAGE LOFT.

IS PROPOSED BUILDING SPRINKLERED ?  
☒ YES ☐ NO

DEFERRED SUBMITTAL ITEMS:  
IT IS THE BUILDER'S RESPONSIBILITY TO COORDINATE DEFERRED ITEMS.  
1. FIRE SPRINKLER DESIGN  
2. SOLAR SYSTEM DESIGN. SHALL MEET MINIMUM REQUIREMENTS LISTED IN THE ENERGY CALCULATIONS  
3. TRUSS CALCULATIONS

IS SPECIAL INSPECTION REQUIRED ?  
☐ YES ☒ NO  
SHALL BE CONDUCTED BY AN INSPECTOR THAT HAS BEEN APPROVED BY THE LOCAL BUILDING OFFICIAL HAVING JURISDICTION AND SHALL BE EMPLOYED BY THE OWNER. SPECIAL INSPECTION FORM SHALL BE PROVIDED BEFORE PERMIT IS ISSUED.

DESIGN CRITERIA  
Design Conditions:  
Ground Snow Load 77 psf  
Roof Live Load 59 psf  
Basic Wind Speed 85 mph  
Exposure B  
Site Class D  
Seismic Design Category D  
Soil Bearing Capacity: 1500 psf

SHEET INDEX:  
T TITLE SHEET  
GN1 GENERAL NOTES  
GN2 GENERAL NOTES, ELECT. & MECH.  
G1 GRADING NOTES  
G2 GRADING PLAN  
G3 GRADING SECTIONS  
G4 GRADING PLAN  
A11 MAIN HOUSE FLOOR PLAN  
A12 GARAGE FLOOR PLAN & EXTERIORS  
A13 ADU FLOOR PLANS  
A21 MAIN HOUSE EXTERIOR ELEVATIONS  
A22 MAIN HOUSE EXTERIOR ELEVATIONS  
A23 ADU EXTERIORS & SECTIONS  
A24 ADU FOUNDATION, LOFT & ROOF FRMG.  
A31 MAIN HOUSE FOUNDATION PLAN  
A32 GARAGE FOUNDATION & ROOF PLANS SECTION  
A33 INTERIOR ELEVATIONS/SECTIONS  
A41 ROOF PLAN  
A42 CEILING PLAN  
D1 DETAILS  
E1 MAIN HOUSE ELECTRICAL PLAN  
E2 ADU ELECTRICAL PLAN  
SN STRUCTURAL NOTES  
SD1 STRUCTURAL DETAILS  
SD2 STRUCTURAL DETAILS  
SD3 STRUCTURAL DETAILS  
M01 RADIANT HEAT NOTES  
M11 RADIANT HEAT MAIN HOUSE  
MP2.1 GAS PIPING ADU  
MP2.2 GAS PIPING MAIN HOUSE  
T24.1 ENERGY CALCULATIONS  
T24.2 ENERGY CALCULATIONS  
T24.3 ENERGY CALCULATIONS

ABBREVIATIONS :  
AP Anchor Bolt  
APA American Plywood Association  
ARCH Architectural  
ALT Alternate  
  
BRG Bearing  
C Channel  
CBC California Building Code  
CL Center Line  
CLR Clear  
COL Column  
CONC Concrete  
CONT Continuous  
DPL Double  
DIA Diameter  
DF Douglas Fir  
DNL Dowel  
DWG Drawing  
(E) Existing  
EA Each  
EF Each Face  
EOS Edge of Slab  
ELEV Elevation  
EN Edge Nailing  
EQ Equal  
EW Each Way  
FF Finished Floor  
FLR Floor  
FT Foot / Feet  
FTG Footing  
GA Gage  
GLB Glue-Laminated Beam  
GSN General Structural Notes  
HGR Hanger  
HOR Horizontal  
HSS Hollow Structural Steel  
IN Inch  
INFO Information  
K Kip (1000 lbs)  
KSI Kips Per Square Inch  
L Angle  
LB Pound  
LSL Laminated Strand Lumber  
LVL Laminated Veneer Lumber  
MFR Manufacturer  
MAX Maximum  
MECH Mechanical  
MIN Minimum  
MISC Miscellaneous  
NTS Not To Scale  
OC On Center  
OPP Opposite  
PL Plate  
PLF Pounds Per Linear Foot  
PSF Pounds Per Square Foot  
PSI Pounds Per Square Inch  
PSL Parallel Strand Lumber  
PT Pressure Treated  
REQD Required  
SIM Similar  
SPEC Specification  
STAGG Staggered  
STD Standard  
TAB Top And Bottom  
T&G Tongue And Groove  
TYP Typical  
UPC Uniform Building Code  
UNO Unless Noted Otherwise  
VERT Vertical  
W/ With  
W/O Without  
Diam Diameter

CONSTRUCTION KNOWLEDGE:  
ALL OF THE INFORMATION INCLUDED IN THIS SET OF DRAWINGS AND ATTACHMENTS IS INTENDED TO AD IN THE COMPLETION OF THIS PROJECT. THE INFORMATION CONTAINED IN THIS SET IS BY NO MEANS A COMPLETE DESCRIPTION OF ALL CODES, REQUIREMENTS, KNOWLEDGE AND EXPERIENCE NEEDED TO COMPLETE THIS PROJECT. ALL OWNERS, WORKERS, AND CONTRACTORS PERFORMING WORK ON THIS PROJECT SHALL POSSESS THE REQUIRED LICENSES, SKILLS AND KNOWLEDGE NECESSARY TO PERFORM THERE RESPECTIVE TRADE TASKS. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO WHOM THE OWNER MAKES PROGRESS PAYMENTS TO SUPERVISE, INSPECT, AND MAKE WRITTEN NOTES OF SUB-STANDARD WORK HE IS BEING PAID TO COMPLETE. THE PROPER TRADE CONTRACTOR SHALL REMEDY ALL SUB-STANDARD WORK AS NOTIFIED IN WRITING BY THE INSPECTOR, OWNER, OWNER'S AGENT, OR ANOTHER CONTRACTOR. IT IS RECOMMENDED THAT ALL INDIVIDUALS PERFORMING WORK ON THIS PROJECT READ AND BECOME FAMILIAR WITH ALL NOTES AND DRAWINGS TO AVOID TRADE CONFLICTS.

GENERAL SYMBOLS :  
DETAIL BUBBLE  
DETAIL NUMBER  
SHEET REFERENCE NUMBER  
  
ROOF PITCH (RISE) # " 12 " (RUN)  
  
SECTION DETAIL  
DETAIL NUMBER  
SHEET REFERENCE NUMBER

GENERAL NOTES: (SEE 'GN' SHEETS FOR ADDITIONAL NOTES)  
61. THE APPROVAL OF THIS DOCUMENT DESIGN PACKAGE DOES NOT PERMIT THE VIOLATION OF ANY SECTION OF THE BUILDING CODE OR OTHER COUNTY ORDINANCE, STATE OR FEDERAL LAW.  
62. ALL NOTES LISTED IN THIS DOCUMENT PACKAGE APPLY TO ALL NEW PORTIONS OF CONSTRUCTION, REMODEL, OR ADDITION.  
63. STRUCTURAL, CIVIL AND SOILS ENGINEERING NOTES AND DETAILS SHALL TAKE PRECEDENCE OVER OTHER DESIGN NOTES AND DRAWINGS IF A CONFLICT OCCURS. FINAL WORKING DIMENSIONS SHALL BE DETERMINED FROM ACTUAL SITE CONDITIONS AND MATERIALS USED. LARGER SCALE DRAWINGS SHALL TAKE PRECEDENCE OVER SMALLER SCALE DRAWINGS.  
64. THE OWNER OR CONTRACTOR SHALL PROCEED PER WRITTEN DIMENSIONS, NOT BY SCALING DRAWINGS.  
65. THE OWNER OR CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL EXISTING BUILDING AND SITE CONDITIONS PROPOSED TO BE AFFECTED BY THE PROJECT. THIS INCLUDES THE LOCATION OF ALL UTILITIES SERVING OR CROSSING THE PROPERTY, ABOVE OR BELOW GRADE PRIOR TO STARTING WORK FOR THE PROJECT. THIS ALSO INCLUDES VERIFYING ALL LISTED DIMENSIONS ONCE REQUIRED DEMOLITION HAS BEEN PERFORMED, TO VERIFY TRUSSES AND BEAM SPANS, ETC. IF DISCREPANCIES ARE FOUND, WORK SHALL NOT PROCEED UNTIL CLARIFICATION HAS BEEN MADE.  
66. CONTRACTOR IS REQUIRED TO DO ALL NECESSARY EXCAVATION, GRADING & DEMOLITION FOR ALL ASPECTS OF PROJECT THAT REQUIRE DISTURBING ANY PORTION OR PART OF THE EXISTING SITE, STRUCTURE, OR SYSTEM THEREIN. CONTRACTOR IS ALSO REQUIRED TO MAINTAIN, FIX, REPLACE AND RESTORE SITE, STRUCTURE, AND ALL SYSTEMS TO COMPLETE WORKING AND FINISHED ORDER, UNLESS SPECIFIC WRITTEN NOTE IS MADE BY CONTRACTOR TO OWNER PRIOR TO THE BEGINNING OF CONSTRUCTION.  
67. DURING CONSTRUCTION, NEW AND EXISTING STRUCTURES EFFECTED BY PROJECT SHALL BE PROTECTED FROM WEATHER DAMAGE AND SUPPORTED BY BRACING AND SHORING AS REQUIRED UNTIL PROJECT IS FINISHED.  
68. MANUFACTURER'S WRITTEN INSTRUCTIONS, INDUSTRY STANDARDS AND LOCAL ORDINANCES FOR EACH TRADE AND REQUIRED TASK SHALL BE FOLLOWED UNLESS SPECIFICALLY DETAILED OR NOTED OTHERWISE. INSTALLATION AND MAINTENANCE MANUALS FOR ALL FIXTURES AND EQUIPMENT SHALL BE AT THE PROJECT SITE FOR INSPECTOR'S REVIEW.  
69. ALL NOTED DIMENSIONS ARE TO FACE OF FRAMING, (STUD, INSIDE OR OUTSIDE CORNER, BEAM, ETC.) NOT FINISHED WALL OR FLOOR, ETC., UNLESS NOTED OTHERWISE.

HERDGER HOME DESIGN assumes that the General Contractor and all involved parties have read, thoroughly reviewed and understand these plans after a building permit has been issued.  
  
GENERAL INFORMATION:  
1. All work, details of design, workmanship, and materials shall conform to requirements of the 2021 CBC, CALIFORNIA ELECTRICAL CODE and 2022 California Energy Code, 2022 CAL Green Code, and all local amendments.  
2. HERDGER HOME DESIGN expressly reserves its common law copyright and other property rights in these plans. These plans are not to be reproduced, changed, or copied in any manner whatsoever Without the express written consent of HERDGER HOME DESIGN. In the event of unauthorized reuse of these plans by a third party, the third party shall hold HERDGER HOME DESIGN harmless.  
3. HERDGER HOME DESIGN reserves the right to perform observation visits to the site at any time. Observations do not guarantee contractor's performance and are not to be construed as supervision of the project.  
4. In the event that certain existing dimensions and/or conditions are found to be different from those shown on the plans and details, the designer shall be immediately notified so that the proper revisions can be made if necessary.  
5. The contractor shall be responsible for verification of all dimensions, conditions and elevations with design drawings prior to start of construction. The contractor shall inform the designer in writing of any discrepancies or omissions noted on the drawings. Any such discrepancy, omission or variation not reported before start of construction shall be the responsibility of the contractor.  
6. NO changes shall be made to plans approved by the local building official without first notifying HERDGER HOME DESIGN in writing. Requested changes will require premium charges to Owner to be expedited. Work shall stop until changes have been approved by local building official.  
7. The contractor shall be solely responsible for the construction means, methods, techniques, sequences and procedures. It shall be the contractor's responsibility to design and provide adequate shoring, bracing, form-work, etc. as required for the protection of life and property during construction.

The following department(s) require a final inspection and sign-off prior to certificate of occupancy  
☐ Local Fire Department  
☐ Planning Department  
☐ Public Works - Encroachment  
☐ Public Works - Sewer Connection  
☒ Environmental Health Dept  
☐ Code Compliance Department  
☐ Cannabis Department

REVIEWED FOR CODE COMPLIANCE  
with County of Nevada Building Regulation Ordinance & current California Codes. The stamping of this plan and specifications SHALL NOT be held to permit or to be an approval of violation of any County Ordinance or State Law  
County of Nevada Building Department  
Nicholas McBurney  
Jul 16, 2025  
3:20 pm  
Authorized Signature  
These plans shall be kept on the premises and accessible to the inspector at all times.

SUBJECT TO FIELD INSPECTION  
Plans shall reflect the scope of work of the project. Any changes or deviations must be submitted and reviewed by the Building Department prior to inspection.

consulting engineer:  
Robert Lawless Engineering  
(530) 263-2757  
T-24 energy consultant:  
Melas Energy Engineering  
(530) 265-2492

DATE

REVISIONS

NO.

scale:  
As Noted  
DATE  
May 2025  
SHEET  
T  
OF

Review all Notes on sheet 'GN'

VICINITY MAP  
(NOT TO SCALE)

JOB SET



ELECTRICAL (2022 CEC)

Never install electrical panels in closets or bathrooms. Maintain a clearance of 36" inches in front of panels, 30" wide or width of equipment and 6'-6" high for headroom (CEC 110.26).

Provide a minimum of one 20A receptacle to be used as a laundry receptacle (CEC 210.11 (C) (2)). Provide a minimum of one 20A circuit for bathroom receptacle outlets (CEC 210.11 (C)).

Kitchens, dining rooms, pantries, breakfast nooks, and similar areas must have a minimum of two 20A circuits. Kitchen, pantry, breakfast nooks, dining rooms, work surfaces, and similar areas counter outlets must be installed in every counter space 12" inches or wider, not greater than 4' o.c., within 24" inches of the end of any counter space and not higher than 20" above counter (CEC 210.52 (C)). *A minimum of 1 receptacle is required at each kitchen island as follows: one receptacle is required for first 9 ft² two receptacles required from 10 ft² – 27 ft² three receptacles required for 28 ft² – 47 ft² and four receptacles required for 48 ft² or more.* 1 receptacle is required for peninsular counter spaces. Receptacles shall be located behind kitchen sinks if the counter area depth behind the sink is more than 12" for straight counters and 18" for corner installations. (CEC Figure 210.52(C)(1))

Provide at least 1 outlet in basements, garages, laundry rooms, decks, balconies, porches and within 3' of the outside of each bathroom basin. (CEC 210.52 (D), (F) & (G)) At least one receptacle shall be installed for each vehicle space.

At least one wall switched lighting outlet or fixture shall be installed in every habitable room, bathroom, hallways, stairways, attached garages and detached garages with electrical power, equipment spaces (attics, basements, etc). (CEC 210.70).

Stairways with 6 or more risers shall have wall switch at each floor level at the stair landings. (CEC 210.70(A)(2))

Receptacles shall not be installed within or directly over a bathtub or shower stall. (CEC 406.9(C)) Light pendants, ceiling fans, lighting tracks, etc shall not be located within 3ft horizontally and 8ft vertically above a shower and/or bathtub threshold. (CEC 410.10(D))

GFCI outlets are required for all kitchen receptacles that are designed to serve countertop surfaces, bathrooms, in under-floor spaces or below grade level, in exterior outlets, laundry areas, within 6' of utility/wet bar sinks, dishwashers, *mud rooms, finished basements and* in all garage outlets including outlets dedicated to a single device or garage door opener (CEC 210.8 (A)).

All 15/20 ampere receptacles installed in dwelling units, *attached and detached garages and accessory buildings* per CEC 406.12 shall be listed tamper-resistant receptacles. (406.12)

Receptacles shall be installed at 12' o.c. maximum in walls starting at 6' maximum from the wall end. Walls longer than two feet shall have a receptacle. Hallway walls longer than 10 ft shall have a receptacle in hallways. (CEC 210.52(A))

Bond all metal gas and water pipes and exposed structural steel to ground. All ground clamps shall be accessible and of an approved type (CEC 250.104).

Furnaces installed in attics and crawl spaces shall have an access platform (catwalk in attics), light switch and receptacle in the space. Provide a service receptacle for the furnace.

Carbon-monoxide alarms shall be installed in dwelling units with fuel-burning appliances or with attached garages (R315):

- Outside of each separate sleeping area in the immediate vicinity of bedrooms
- On every level of a dwelling unit including basements
- Alterations, repairs, or additions exceeding 1,000 dollars (May be battery operated)

Smoke alarms shall be installed (R314):

- In each room used for sleeping purposes.
- Outside of each separate sleeping area in the immediate vicinity of bedrooms.
- In each story, including basements.
- Shall not be installed within 20ft horizontally of cooking appliances and no closer than 3ft to bathroom doors (with a bathtub or shower), mechanical registers or ceiling fans.
- Alterations, repairs, or additions exceeding 1,000 dollars. (May be battery operated.)

All smoke and carbon-monoxide alarms shall be hardwired with a battery backup (smoke alarms shall have a 10-year sealed battery). (R314.4 & R315.15)

All branch circuits supplying 15/20 ampere outlets in family rooms, dining rooms, living rooms, parlors, libraries, dens, bedrooms, sunrooms, recreation rooms, closets, hallways, kitchen, laundry areas or similar rooms/areas shall be protected by a listed combination type arc-fault circuit interrupter.

All 15/20 ampere receptacles in wet locations shall have in-use (hubbie) covers installed. All receptacles in wet locations shall also be listed weather-resistant type. (CEC 406.9(B)(1))

All lighting/fan fixtures located in wet or damp locations shall be rated for the application. (CEC 410.10)

Minimum 3-lug intersystem bonding busbar required for electrical services per CEC 250.94.

LIGHTING (2022 CEC)

All high efficacy light fixtures shall be certified as "high-luminous efficacy" light fixtures by the California Energy Commission.

Luminaries recessed in insulated ceilings must meet three requirements (150(k)(1)):

- They must be rated for direct insulation contact (IC).
- They must be certified as airtight (AT) construction.
- They must have a sealed gasket or caulking between the housing and ceiling to prevent flow of heated or cooled air out of living areas and into the ceiling cavity.
- Recessed downlights shall not have screw based sockets.

All interior and exterior lighting shall be certified as "high luminous efficacy." (150.0(k)(1)(A))

*All lighting in habitable spaces shall be controlled by a dimmer switch*

Lighting installed in garages, laundry rooms, *walk-in closets*, bathrooms and utility rooms shall have high efficacy lighting AND a minimum of 1 fixture controlled by a vacancy sensor. (150.0(k))

Exterior lighting shall be high efficacy, controlled by a manual ON and OFF switch, and comply with one of the following: (150.0(k)(3))

- Photo-control with motion sensor not having an override or bypass switch.
- Astronomical time clock not having an override or bypass switch.
- Photo-control and automatic time switch control not having an override or bypass control.

The number of blank electrical boxes over 5ft above the floor is limited to the total number of bedrooms. The boxes shall be served by a dimmer, vacancy sensor or fan speed control. (150.0(k)(1)(B))

All under-cabinet lighting shall be separately switched. (150.0(k)(2)(K))

CF2R-LTG-01-E energy forms onsite at time of final inspection.

PLUMBING (2022 CPC)

Provide pressure relief valve with drain to outside for water heater. (CPC 504.6). Provide seismic strapping in the upper & lower third of the water heater a minimum of 4" above controls. (CPC 507.2)

Gas line sizing calculations are required at time of gas line inspection per the CA Plumbing Code when instantaneous water heaters are installed.

Gas shut-off valves provided within 6ft of appliances in an accessible location. (CPC 1212.5)

Water heaters located in attics, ceiling assemblies and raised floor assemblies shall show a water-tight corrosion resistant pan minimum 1.5" in depth under the water heater with a minimum ¾ inch drain to the exterior of the building.

Underground plastic water service lines require 14awg blue tracer wire. (604.10.1)

Rain gutters and downspouts required for projects below 4,000ft elevation with approved leaf/debris guards.

Water closet shall be located in a space not less than 30" in width, with 24" minimum clearance in front (CPC 402.5).

Showers and tubs with showers require a non-absorbent surface up to 6' above the floor. (R307.2) Provide curtain rod or door a minimum of 22" in width (CPC 408.5).

Maximum hot water temperature discharging from a bathtub or whirlpool bathtub filler shall not exceed 120 degrees F. (CPC 409.4)

Provide anti-siphon valves on all hose bibs (CPC 603.5.7).

Fixtures on floor levels below the closest upstream manhole and/or septic system shall be provided with an approved backwater valve. Fixtures on floor levels above shall not discharge into the backwater valve. (CPC 710)

Fixture water flow rates per the CPC:

- Water Closets: 1.28gpf
- Urinals: .125gpf
- Kitchen Faucets: 1.8gpm @ 60psi
- Lavatory Faucets: 1.2gpm @ 60psi
- Showerheads: 1.8gpm

Insulate first 5ft of hot/cold water lines from water heater, all hot water lines, all recirculation piping and piping to storage tanks (150(j)(2))

Gas vents through an insulated assembly shall have a metal insulation shield extending 2" above insulation. (R1005.8)

CF2R-PLB-02b energy forms onsite at time of final inspection.

MECHANICAL (2022 CMC)

Wood burning appliances shall be U.S. EPA Phase II listed.

Provide combustion air for all gas fired appliances per CMC Chapter 7.

Vent dryer to outside of building with maximum vent length of 14ft and terminating 3ft to openings into the building and property lines. (CMC 504.4) Provide minimum 100sq. inches of makeup air for laundry rooms. (CMC 504.4.1)

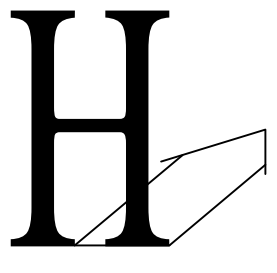
Hood exhausts shall terminate 10ft from property lines, buildings, operable openings and above grade. Shall also be directed a minimum of 40" away from the roof surface. (519.5)

Heating system is required to maintain 68 degrees at 3ft above floor level & 2ft from exterior walls. (R303.10)

Duct openings shall be covered with tape, plastic or other approved methods during construction (CGBSC 4.504)

Appliances in garages require protection (bollard) from vehicles unless 6ft above the floor or out of vehicular paths (406.2.9.3)

Applicable CF2R-MCH & CF3R-MCH energy forms onsite at time of final inspection.

H

HEDGER  
HOME  
DESIGN

Nevada City, CA.  
(530) 277-0763  
Mark Hedger  
Residential  
Design Specialist



General Notes, Elect. & Mech.

|      |   |  |  |
|------|---|--|--|
| DATE |   |  |  |
| NO.  | △ |  |  |

|           |  |  |  |
|-----------|--|--|--|
| REVISIONS |  |  |  |
| As Noted  |  |  |  |
| DATE      |  |  |  |
| SHEET     |  |  |  |
| GN2       |  |  |  |
| OF        |  |  |  |

JOB SET

# EH Conditions of Approval

NEVADA COUNTY ENVIRONMENTAL HEALTH DEPARTMENT

Reviewed and accepted in conformance with NCDEH Local Area Management Plan (LAMP) and other applicable requirements. Structures on this site plan have not been reviewed for approval.

By: Carrie McReynolds Date: 07/02/2025

Permit Number: 251260

Conditions: BH25-0152 Septic must be final prior to occupancy. All portions of the primary septic and repair areas shall remain protected during all phases of construction.

AREA GREATER THAN 30% SLOPE

WOODZY PLACE

QUAKER HILL CROSS ROAD

APN 036-170-043  
PARCEL 1  
19 PM 094

APN 036-170-045  
PARCEL 3  
19 PM 094

APN 036-170-046  
PARCEL 4  
19 PM 094

APN 036-170-044  
PARCEL 2  
19 PM 094

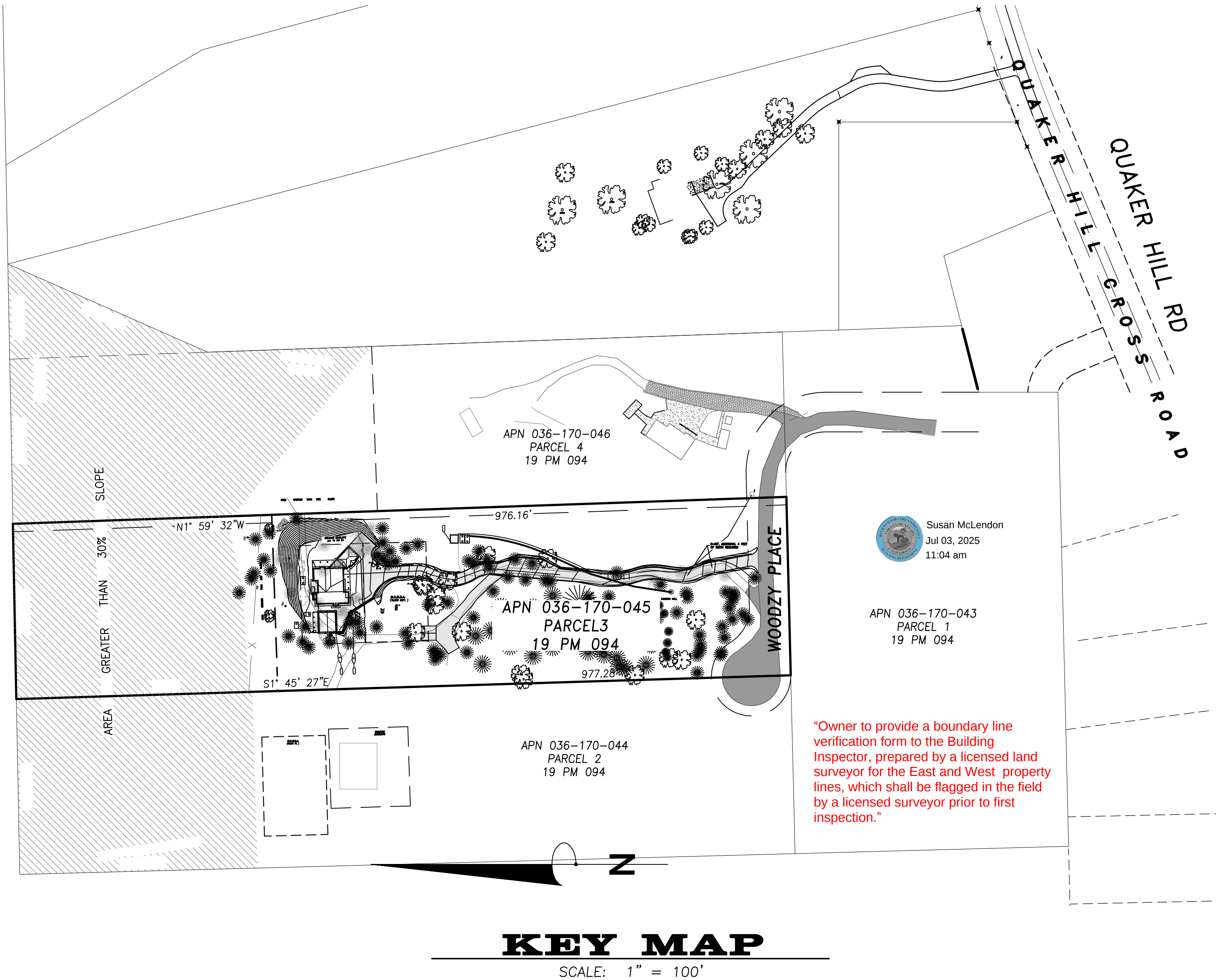
KEY MAP

SCALE: 1" = 100'

| <u>DESCRIPTION</u>            | <u>SQUARE FOOTAGE</u> | <u>PERCENTAGE</u> |
|-------------------------------|-----------------------|-------------------|
| SHED AREA                     | 200 s.f.              | 0.09%             |
| HOUSE & GARAGE AREA           | 3,158 s.f.            | 1.45%             |
| ADU AREA                      | 867 s.f.              | 0.40%             |
| GRAVEL DRIVEWAY AREA          | 7,550 s.f.            | 3.47%             |
| PARKING AREA AND ACCESS       | 2,222 s.f.            | 1.02%             |
| UNDISTURBED AREA / OPEN SPACE | 203,803 s.f.          | 93.6%             |
| TOTALS:                       | 217,800 s.f.          | 100.00%           |

C-1  
1 of 4

SITE PLAN FOR:  
**13348 WOODZY PLACE**  
A.P.N. 036-170-045



**SITE STATISTICS:**

| DESCRIPTION                   | SQUARE FOOTAGE | PERCENTAGE |
|-------------------------------|----------------|------------|
| SHED AREA                     | 200 s.f.       | 0.09%      |
| HOUSE & GARAGE AREA           | 3,158 s.f.     | 1.45%      |
| ADU AREA                      | 867 s.f.       | 0.40%      |
| GRAVEL DRIVEWAY AREA          | 7,550 s.f.     | 3.47%      |
| PARKING AREA AND ACCESS       | 2,222 s.f.     | 1.02%      |
| UNDISTURBED AREA / OPEN SPACE | 203,803 s.f.   | 93.6%      |
| TOTALS:                       | 217,800 s.f.   | 100.00%    |

TOTAL IMPERVIOUS SQUARE FOOTAGE = 13,997 s.f. - 6.4%

**EARTHWORK QUANTITIES:**

NOTE TO CONTRACTOR: THE CALCULATION OF EARTHWORK QUANTITIES, AND THE DETERMINATION OF ANY REQUIRED IMPORT OR EXPORT SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR. THE FOLLOWING QUANTITIES CALCULATED BY ROBERT LAWLESS ENGINEERING ARE FOR FEE CALCULATION.

|                   |   |       |    |
|-------------------|---|-------|----|
| EXCAVATION        | = | 380   | CY |
| FILL (10% SHRINK) | = | 2,180 | CY |
| IMPORT            | = | 1,800 | CY |

ANY IMPORT OR EXPORT REQUIREMENTS WILL BE THE RESPONSIBILITY OF THE CONTRACTOR.

**EROSION CONTROL NOTES**

- ALL SURFACES DAMAGED BY THE ACTIONS OF THE CONTRACTOR SHALL BE RESTORED TO EQUAL OR BETTER THAN THE ORIGINAL CONDITION.
- ALL EXCAVATED AREAS SHALL BE KEPT WATERED OR COVERED WITH A PALLIATIVE TO PREVENT EMISSION OF FUGITIVE DUST. DUST AND MUD CONTROL SHALL BE PROVIDED AT ALL TIMES INCLUDING EVENINGS, WEEKENDS, AND HOLIDAYS. AT LEAST ONE MOBILE UNIT WITH A MINIMUM CAPACITY OF 1000 GALLONS SHALL BE AVAILABLE AT ALL TIMES FOR APPLYING WATER ON THE AFFECTED AREAS. WATER SHALL BE OBTAINED FROM A SOURCE APPROVED BY THE NORTHERN SIERRA AIR QUALITY MANAGEMENT DISTRICT.
- SEED, FERTILIZER, AND MULCH SHALL BE APPLIED BETWEEN SEPTEMBER 15 AND OCTOBER 15. REMOVAL OF NATIVE VEGETATION SHALL BE MINIMIZED.
- SEED, FERTILIZER, AND MULCH SHALL BE APPLIED TO ALL DISTURBED SOILS AND ALL EXPOSED CUT & FILL SLOPES\* NOT PROTECTED BY ROCK IN THE FOLLOWING RATES:

|           |                                |            |
|-----------|--------------------------------|------------|
| SEED MIX: | BLANDO BROME                   | 12 LBS/AC  |
|           | ZORRO ANNUAL FESCUE            | 4 LBS/AC   |
|           | HYKON ROSE CLOVER (INOCULATED) | 9 LBS/AC   |
| SEED MIX: | AMMONIUM PHOSPHATE (16-20-0)   | 300 LBS/AC |
| SEED MIX: | CLEAN STRAW                    | 2.5 LBS/AC |

\*SLOPES WITH GLAZED OR SMOOTH SURFACES SHALL BE SCARIFIED TO A DEPTH OF 2-4 INCHES TO PROVIDE AN ADEQUATE SEED BED.

\*\*LEGUMES SHALL BE INOCULATED WITH APPROPRIATE BACTERIA AT ACCEPTED RATES AT TIME OF SEEDING

SEED AND FERTILIZER SHALL BE APPLIED USING BROADCAST METHOD ON SLOPES GREATER THAN 2:1. OTHER MEASURES SUCH AS NETTING OR TACKIFIERS SHALL BE UTILIZED TO HOLD MATERIALS IN PLACE UNTIL VEGETATION IS ESTABLISHED

IN THE FIELD AFTER CONSULTING WITH THE NEVADA COUNTY RESOURCE CONSERVATION DISTRICT. IF PERMANENT EROSION CONTROL MEASURES ARE NOT INSTALLED BY OCTOBER 15 OF CONSTRUCTION SEASON, TEMPORARY MEASURES SUCH AS STRAW BALE SEDIMENT BARRIERS, CHECK DAMS, SEDIMENT TRAPS SHALL BE EMPLOYED NO LATER THAN NOVEMBER 1. THE ACTUAL LOCATIONS FOR SPECIFIC MEASURES MAY BE DETERMINED

NO ON-SITE ROAD CONSTRUCTION SHALL OCCUR BETWEEN OCTOBER 15 AND MAY 1 WITHOUT PRIOR WRITTEN APPROVAL

**AIR QUALITY AND DUST CONTROL NOTES**

- THE APPLICANT SHALL BE RESPONSIBLE FOR ENSURING THAT ALL ADEQUATE DUST CONTROL MEASURES ARE IMPLEMENTED IN A TIMELY MANNER DURING ALL PHASES OF PROJECT DEVELOPMENT AND CONSTRUCTION.
- ALL MATERIAL EXCAVATED, STOCKPILED, OR GRADED SHALL BE SUFFICIENTLY WATERED, TREATED, OR COVERED TO PREVENT DUST FROM LEAVING THE PROPERTY BOUNDARIES AND CAUSING A PUBLIC NUISANCE OR A VIOLATION OF AN AMBIENT AIR STANDARD. WATERING SHOULD OCCUR AT LEAST TWICE DAILY, WITH COMPLETE SITE COVERAGE.
- ALL LAND CLEARING, GRADING, EARTH MOVING, OR EXCAVATION ACTIVITIES ON THE PROJECT SHALL BE SUSPENDED AS NECESSARY TO PREVENT EXCESSIVE WINDBLOWN DUST WHEN WINDS ARE EXPECTED TO EXCEED 20 MPH.
- ALL INACTIVE PORTIONS OF THE DEVELOPMENT SITE SHALL BE COVERED, SEEDED, OR WATERED UNTIL A SUITABLE COVER IS ESTABLISHED. ALTERNATELY, THE APPLICANT SHALL BE RESPONSIBLE FOR APPLYING CITY APPROVED NON-TOXIC SOIL STABILIZERS (ACCORDING TO MANUFACTURERS SPECIFICATIONS) TO ALL INACTIVE CONSTRUCTION AREAS (PREVIOUSLY GRADED AREAS WHICH REMAIN INACTIVE FOR 96 HOURS) IN ACCORDANCE WITH THE LOCAL GRADING ORDINANCE.
- ALL AREAS WITH VEHICLE TRAFFIC SHALL BE WATERED OR HAVE DUST PALLIATIVE APPLIED AS NECESSARY FOR REGULAR STABILIZATION OF DUST EMISSIONS.
- ALL MATERIAL TRANSPORTED OFFSITE SHALL BE EITHER SUFFICIENTLY WATERED OR SECURELY COVERED TO PREVENT PUBLIC NUISANCE.
- PAVED STREETS ADJACENT TO THE PROJECT SHALL BE SWEEPED OR WASHED AT THE END OF EACH DAY, OR AS REQUIRED TO REMOVE EXCESSIVE ACCUMULATIONS OF SILT AND/OR MUD WHICH MAY HAVE RESULTED FROM ACTIVITIES AT THE PROJECT SITE.
- NO BURNING OF WASTE MATERIAL OR VEGETATION SHALL TAKE PLACE ON-SITE. ALTERNATIVES TO BURNING INCLUDE CHIPPING, MULCHING OR CONVERTING TO BIOMASS.

**PROJECT CONSULTANTS**

**PROPERTY CONTACT:**

JASPEN AMADEO  
12102 RED GATE ROAD  
NEVADA CITY, CA 95959  
(530) 477-9147  
EMAIL: Jaspensji@yahoo.com

**CIVIL ENGINEER/SURVEYOR:**

ROBERT J. LAWLESS, PE, PLS.  
ROBERT LAWLESS ENGINEERING  
159 S. AUBURN STREET  
GRASS VALLEY, CA 95945  
(530) 263-2757  
EMAIL: Rob@lawlesseng.com

**ASSESSOR'S PARCEL NUMBER:**

036-170-045

**UTILITY CONTACTS**

**SEWER:**

ON-SITE SEPTIC

**WATER:**

TRICIA J. PANOCK  
NEVADA IRRIGATION DISTRICT  
1036 WEST MAIN STREET  
GRASS VALLEY, CA 95945  
(530) 273-6185

**FIRE PROTECTION:**

BANNER MOUNTAIN FIRE DISTRICT

**ELECTRICITY/GAS:**

LEE WELLS  
PACIFIC, GAS & ELECTRIC  
TAYLORVILLE ROAD  
GRASS VALLEY, CA 95945  
(530) 477-3260

**DRAWING SHEET INDEX**

- 1 - TITLE SHEET
- 2 - GRADING PLAN
- 3 - SECTIONS

**CONTRACTOR'S NOTES**

PROJECT SHALL COMPLY WITH THE 2022 CBC, CEC, CPC, CGBSC, CALIFORNIA ENERGY CODE AND THE NEVADA COUNTY GRADING ORDINANCE TITLE 3, CHAPTER V, ALL CODES AS AMENDED BY NEVADA COUNTY, CALIFORNIA.

**GENERAL NOTES:**

- THE CONTRACTOR IS HEREBY NOTIFIED THAT PRIOR TO COMMENCING CONSTRUCTION, HE IS RESPONSIBLE FOR CONTACTING ALL UTILITY COMPANIES FOR VERIFICATION AT THE CONSTRUCTION SITE OF THE LOCATIONS OF ALL UNDERGROUND FACILITIES WHERE SUCH FACILITIES MAY POSSIBLY CONFLICT WITH THE PLACEMENT OF THE IMPROVEMENTS SHOWN ON THESE PLANS. CALL "UNDERGROUND SERVICE ALERT" AT (800) 227-2600 TWO (2) DAYS MINIMUM TO FOURTEEN (14) DAYS MAXIMUM BEFORE ANY EXCAVATION IS STARTED.
- THE CONTRACTOR SHALL ARRANGE FOR ALL INSPECTIONS, AND/OR REPORTS AS DEEMED NECESSARY BY NEVADA COUNTY. THE CONTRACTOR SHALL CONTACT NEVADA COUNTY AT LEAST 48 HOURS PRIOR TO CONSTRUCTION ACTIVITIES.
- THE CONTRACTOR SHALL PERFORM ALL GRADING, EXCAVATION, EMBANKMENT AND COMPACTION OPERATIONS IN ACCORDANCE WITH THE APPROVED RECOMMENDATIONS UNDER THE INSPECTION OF THE SOILS ENGINEER.
- ALL FILLS SHALL BE CONSTRUCTED TO 90% RELATIVE COMPACTION, EXCEPTING THE UPPER 6" SHALL BE CONSTRUCTED TO 95% RELATIVE COMPACTION. ALL EXCAVATION AREAS SHALL BE SACRIFICED TO 6" BELOW SUBGRADE AND REPLACED AT 95% RELATIVE COMPACTION. COMPACTION TESTING SHALL BE IN ACCORDANCE WITH COUNTY SPECIFICATIONS AND COMPACTION REPORTS SHALL BE PREPARE BY THE SOILS ENGINEER AND SUBMITTED TO THE COUNTY BUILDING DEPARTMENT PRIOR TO ANY FOUNDATION, FOOTING INSPECTIONS.
- THE ENGINEER OF RECORD SHALL PROVIDE A FINAL LETTER OF ACCEPTANCE TO THE BUILDING DEPARTMENT, PRIOR TO FINAL INSPECTION, STIPULATING THAT ALL WORK CONFORMS TO THE APPROVED PLANS AND LOCAL GRADING ORDINANCE.
- ALL FOOTINGS WILL BE SUPPORTED BY UNDISTURBED, NATIVE SOIL.
- APPROVAL SHALL BE OBTAINED FROM THE BUILDING OFFICIAL PRIOR TO ANY GRADING ACTIVITY OCCURRING BETWEEN OCTOBER 15TH - APRIL 15TH.
- FIRST 30' OF DRIVEWAY ENCROACHMENT SHALL CONFORM TO COUNTY DRIVEWAY STANDARDS(B-1 & B-8).
- ENTIRE DRIVEWAY TO QUAKER HILL ROAD SHALL CONFORM TO COUNTY DRIVEWAY STANDARDS.
- ANY CULVERT PORTIONS UNDER DRIVEWAY SHALL SUPPORT 40,000 POUND LEGALLY LOADED VEHICLE.
- FUEL MODIFICATION TO BE PROVIDED 10 FEET TO EACH SIDE OF DRIVEWAY.
- MAINTAIN 15' VERTICAL CLEARANCE ALONG DRIVEWAY, MEASURED FROM OUTSIDE EDGE OF SHOULDER.
- OWNER/CONTRACTOR TO OBTAIN INSPECTIONS PER SPECIAL INSPECTIONS AGREEMENT WITH COUNTY.
- CONTRACTOR TO VERIFY MEETS DRIVEWAY AND FIRE STANDARDS per COUNTY DRIVEWAY STANDARDS
- CONTRACTOR TO VERIFY NO GRADING TO TAKE PLACE IN 30% SLOPE AREAS, WITHOUT EROSION CONTROL PLAN
- BOUNDARY LINE VERIFICATION REQUIRED TO BE PROVIDED BY A LICENSED SURVEYOR PRIOR TO FIRST INSPECTION

**SPECIAL INSPECTION AND TESTING:**

- COMPACTION TESTING

- OWNER TO PROVIDE A BOUNDARY LINE VERIFICATION FORM TO THE BUILDING INSPECTOR, PREPARED BY A LICENSED LAND SURVEYOR FOR ALL PROPERTY LINES, WHICH SHALL BE FLAGGED IN THE FIELD BY A LICENSED SURVEYOR PRIOR TO FIRST INSPECTION.

TITLE SHEET FOR:  
**JASPEN AMADEO PROPERTY**  
13348 WOODZY PLACE, NEVADA CITY, CALIFORNIA

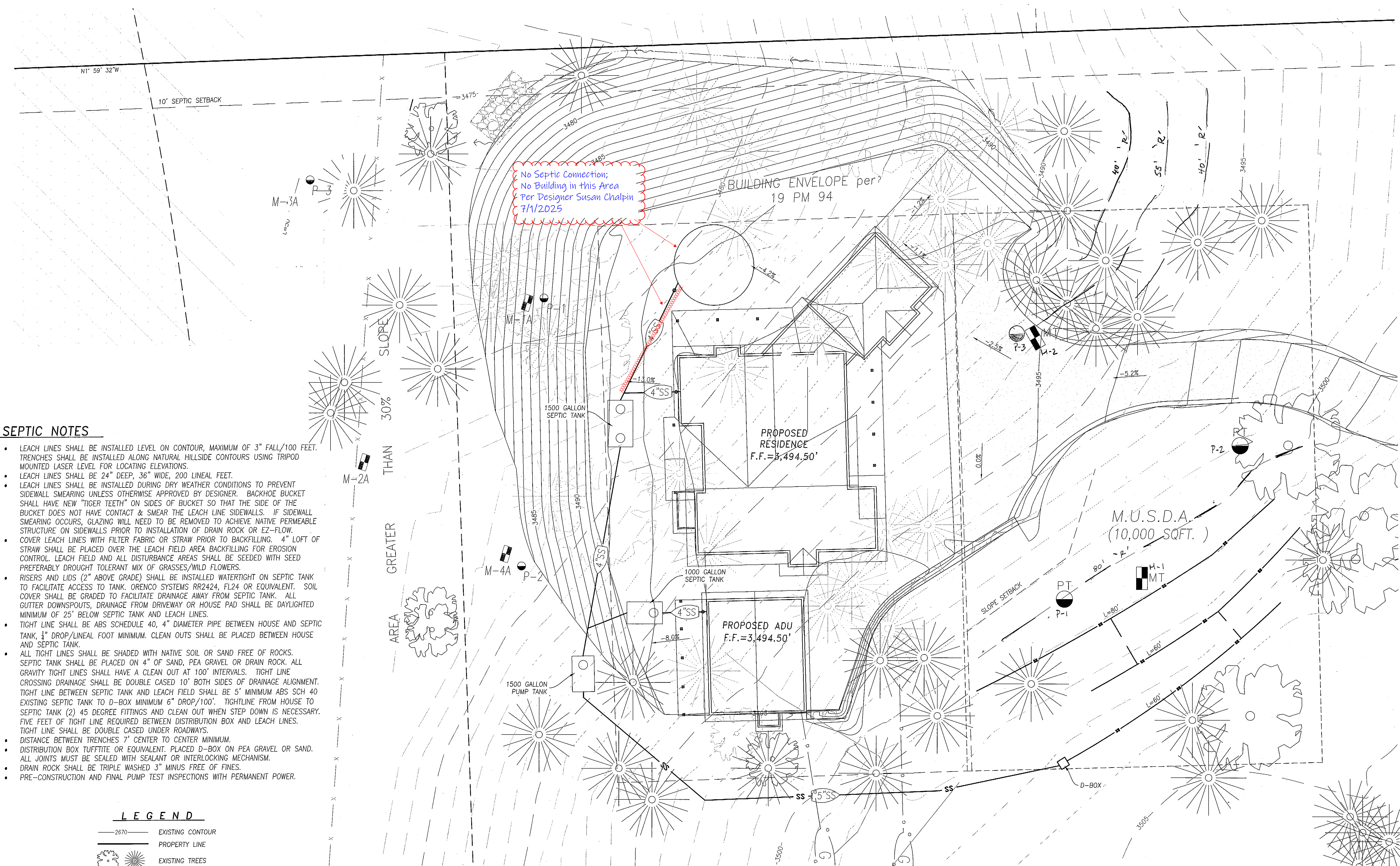
**Robert Lawless Engineering**  
CIVIL ENGINEERING & LAND SURVEYING  
169 South Auburn Street  
Grass Valley, CA 95945  
Phone: (530) 263-2757

SEPTIC NOTES

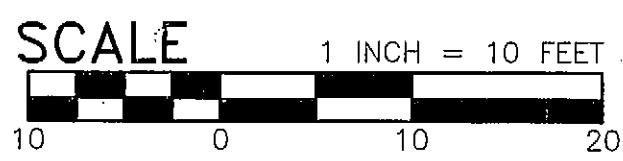
- LEACH LINES SHALL BE INSTALLED LEVEL ON CONTOUR, MAXIMUM OF 3" FALL/100 FEET. TRENCHES SHALL BE INSTALLED ALONG NATURAL HILLSIDE CONTOURS USING TRIPOD MOUNTED LASER LEVEL FOR LOCATING ELEVATIONS.
- LEACH LINES SHALL BE 24" DEEP, 36" WIDE, 200 LINEAL FEET.
- LEACH LINES SHALL BE INSTALLED DURING DRY WEATHER CONDITIONS TO PREVENT SIDEWALL SMEARING UNLESS OTHERWISE APPROVED BY DESIGNER. BACKHOE BUCKET SHALL HAVE NEW "TIGER TEETH" ON SIDES OF BUCKET SO THAT THE SIDE OF THE BUCKET DOES NOT HAVE CONTACT & SMEAR THE LEACH LINE SIDEWALLS. IF SIDEWALL SMEARING OCCURS, GLAZING WILL NEED TO BE REMOVED TO ACHIEVE NATIVE PERMEABLE STRUCTURE ON SIDEWALLS PRIOR TO INSTALLATION OF DRAIN ROCK OR EZ-FLOW.
- COVER LEACH LINES WITH FILTER FABRIC OR STRAW PRIOR TO BACKFILLING. 4" LOFT OF STRAW SHALL BE PLACED OVER THE LEACH FIELD AREA BACKFILLING FOR EROSION CONTROL. LEACH FIELD AND ALL DISTURBANCE AREAS SHALL BE SEEDED WITH SEED PREFERABLY DROUGHT TOLERANT MIX OF GRASSES/WILD FLOWERS.
- RISERS AND LIDS (2" ABOVE GRADE) SHALL BE INSTALLED WATERTIGHT ON SEPTIC TANK TO FACILITATE ACCESS TO TANK. ORENCO SYSTEMS RR2424, FL24 OR EQUIVALENT. SOIL COVER SHALL BE GRADED TO FACILITATE DRAINAGE AWAY FROM SEPTIC TANK. ALL GUTTER DOWNSPOUTS, DRAINAGE FROM DRIVEWAY OR HOUSE PAD SHALL BE DAYLIGHTED MINIMUM OF 25' BELOW SEPTIC TANK AND LEACH LINES.
- TIGHT LINE SHALL BE ABS SCHEDULE 40, 4" DIAMETER PIPE BETWEEN HOUSE AND SEPTIC TANK, 1/2" DROP/LINEAL FOOT MINIMUM. CLEAN OUTS SHALL BE PLACED BETWEEN HOUSE AND SEPTIC TANK.
- ALL TIGHT LINES SHALL BE SHADED WITH NATIVE SOIL OR SAND FREE OF ROCKS. SEPTIC TANK SHALL BE PLACED ON 4" OF SAND, PEA GRAVEL OR DRAIN ROCK. ALL GRAVITY TIGHT LINES SHALL HAVE A CLEAN OUT AT 100' INTERVALS. TIGHT LINE CROSSING DRAINAGE SHALL BE DOUBLE CASED 10" BOTH SIDES OF DRAINAGE ALIGNMENT. TIGHT LINE BETWEEN SEPTIC TANK AND LEACH FIELD SHALL BE 5' MINIMUM ABS SCH 40 EXISTING SEPTIC TANK TO D-BOX MINIMUM 6" DROP/100'. TIGHTLINE FROM HOUSE TO SEPTIC TANK (2) 45 DEGREE FITTINGS AND CLEAN OUT WHEN STEP DOWN IS NECESSARY. FIVE FEET OF TIGHT LINE REQUIRED BETWEEN DISTRIBUTION BOX AND LEACH LINES. TIGHT LINE SHALL BE DOUBLE CASED UNDER ROADWAYS.
- DISTANCE BETWEEN TRENCHES 7' CENTER TO CENTER MINIMUM.
- DISTRIBUTION BOX TUFFITE OR EQUIVALENT. PLACED D-BOX ON PEA GRAVEL OR SAND. ALL JOINTS MUST BE SEALED WITH SEALANT OR INTERLOCKING MECHANISM.
- DRAIN ROCK SHALL BE TRIPLE WASHED 3" MINUS FREE OF FINES.
- PRE-CONSTRUCTION AND FINAL PUMP TEST INSPECTIONS WITH PERMANENT POWER.

LEGEND

- EXISTING CONTOUR
- PROPERTY LINE
- EXISTING TREES
- PROPOSED 4" GRAVEL DRIVEWAY
- EXISTING DRAINAGE
- EXISTING WIRE FENCE
- PROPOSED WATER
- PROPOSED SEWER
- PROPOSED ELECTRICAL



SEPTIC DETAILS



DESIGNED: ROBERT J. LAWLESS  
DRAWN: R/JL  
DATE: APRIL 10, 2025  
PROJECT No.: DWG. NAME: 24-365

NO. REVISIONS

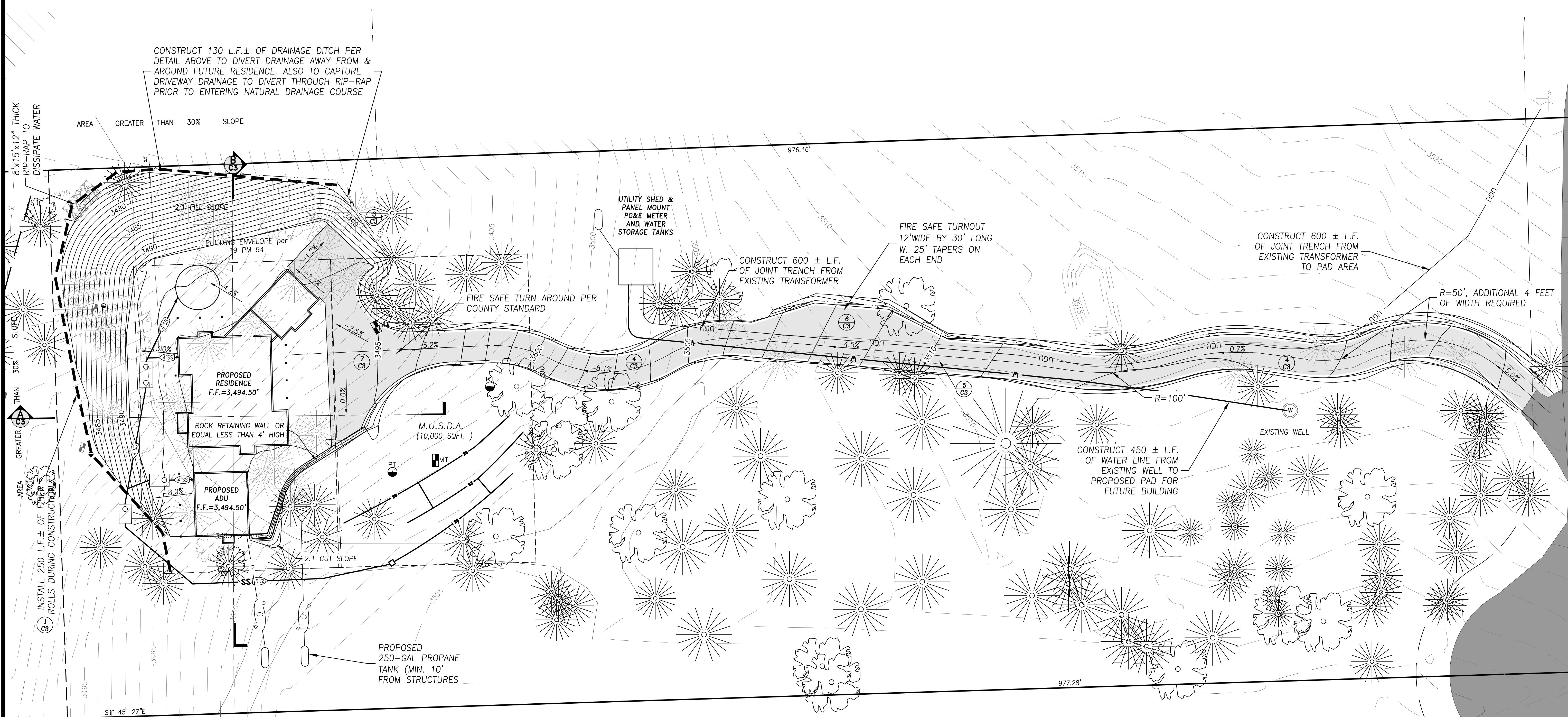
SECTIONS FOR:  
JASPEN AMODEO PROPERTY  
13348 WOODY PLACE, NEVADA CITY, CALIFORNIA  
COUNTY OF NEVADA

Robert Lawless Engineering  
CIVIL ENGINEERING & LAND SURVEYING  
159 South Auburn Street  
Grass Valley, CA 95945  
Phone: (530) 263-2757

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GENERAL NOTES

ALL CONTRACTORS AND CONSTRUCTION PERSONNEL INVOLVED IN ANY FORM OF GROUND DISTURBANCE, I.E. UTILITY PLACEMENT OR MAINTENANCE, GRADING, ETC. ARE HERE BY ADVISED OF THE REMOTE POSSIBILITY OF ENCOUNTERING SUBSURFACE CULTURAL RESOURCES. IF SUCH RESOURCES ARE ENCOUNTERED OR SUSPECTED, WORK SHALL BE HALTED IMMEDIATELY AND THE NEVADA COUNTY PLANNING DEPARTMENT CONTACTED. A PROFESSIONAL ARCHAEOLOGIST SHALL BE CONSULTED TO ASSESS ANY DISCOVERIES AND DEVELOP APPROPRIATE MANAGEMENT RECOMMENDATIONS FOR ARCHAEOLOGICAL RESOURCE TREATMENT. IF BONES ARE ENCOUNTERED AND APPEAR TO BE HUMAN, CALIFORNIA LAW REQUIRES THAT THE NEVADA COUNTY CORONER AND THE NATIVE AMERICAN HERITAGE COMMISSION BE CONTACTED. AND IF NATIVE AMERICAN RESOURCES ARE INVOLVED, NATIVE AMERICAN ORGANIZATIONS AND INDIVIDUALS RECOGNIZED BY THE COUNTY SHALL BE NOTIFIED AND CONSULTED ABOUT ANY PLANS FOR TREATMENT.



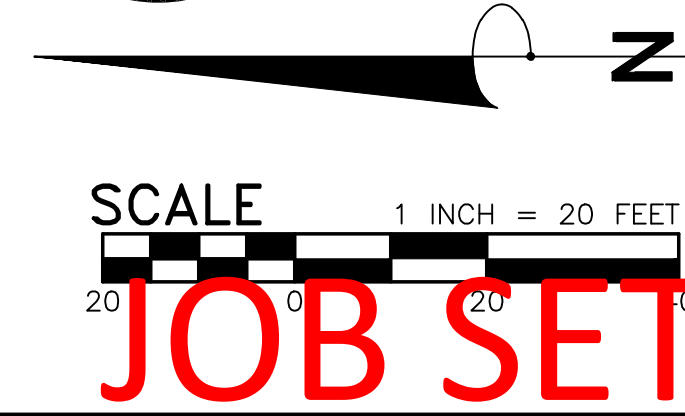
DRIVEWAY NOTES

- A. DRIVEWAY GRADE
- A.A. BELOW 4,000 FEET ELEVATION, DRIVEWAY GRADE SHALL NOT EXCEED 20% UNLESS A PETITION FOR EXCEPTIONS IS SUPPORTED BY THE COUNTY FIRE MARSHAL OR HIS OR HER APPOINTED DESIGNEE AND GRANTED BY THE PLANNING AGENCY HAVING JURISDICTION OVER THE LAND USE ENTITLEMENT. NOTWITHSTANDING SEC. L-XVI 2.6, EXCEPTIONS TO STANDARDS, THERE SHALL BE NO EXCEPTIONS FOR GRADES IN EXCESS OF 25%.
- A.B. AT OR ABOVE 4,000 FEET ELEVATION, DRIVEWAY GRADE SHALL NOT EXCEED 16% MAXIMUM. NOTWITHSTANDING SEC. L-XVI 2.6, WHERE ELEVATIONS RANGE ABOVE 4,000 FEET.
- B. DRIVEWAY SURFACE
- B.A. DRIVEWAY SURFACES SHALL BE CAPABLE OF SUPPORTING A 40,000 POUND LEGALLY-LOADED VEHICLE AS OUTLINED BELOW
- B.A.A. DRIVEWAYS AND SEGMENTS THEREOF THAT ARE 16.1% GRADE AND ABOVE, SHALL BE DESIGNED AND CERTIFIED BY A REGISTERED CIVIL ENGINEER. PRIOR TO THE FOUNDATION INSPECTION, THE ENGINEER SHALL PROVIDE STAMPED AND SIGNED WRITTEN VERIFICATION TO THE COUNTY FIRE MARSHAL OR HIS OR HER APPOINTED DESIGNEE THAT THE ROUGH GRADE COMPLIES WITH THE SITE PLAN. PRIOR TO, OR CONCURRENT WITH, FINAL INSPECTION, THE ENGINEER SHALL PROVIDE STAMPED AND SIGNED WRITTEN VERIFICATION THAT THE FINAL DRIVEWAY COMPLIES WITH THE SITE PLAN.
- B.A.B. DRIVEWAYS BETWEEN 16.1% AND 20% GRADE SHALL BE ENGINEERED ALL WEATHER SURFACE.
- C. DRIVEWAY DESIGN
- C.A. AT LEAST THE FIRST 30 FEET OF THE DRIVEWAY ENCROACHMENT FROM THE EDGE OF THE PAVEMENT OF THE PRIMARY ROADWAY SHALL CONFORM TO THE DRIVEWAY DESIGN STANDARDS FOR ENCROACHMENTS AS ILLUSTRATED IN THE NEVADA COUNTY PUBLIC WORKS DEPARTMENT STANDARD DRAWINGS. THE DRIVEWAY MUST BE BUILT WITHIN 50 FEET OF THE NEAREST POINT OF EACH DWELLING UNIT.
- C.B. SURFACE WIDTH SHALL BE TEN FEET MINIMUM WITH ONE FOOT SHOULDERS FOR DRIVEWAY GRADES UP TO 16%. FOR GRADES BETWEEN 16.1% AND 20%.
- C.C. FOR GRADES ABOVE 20%, 12-FOOT WIDTH IS REQUIRED WITH 1 FOOT SHOULDERS.
- C.D. VERTICAL CLEARANCE SHALL BE 15 FEET FORM THE OUTSIDE EDGE OF SHOULDER.

- C.E. CURVE RADIUS SHALL BE 50 FEET MINIMUM. LESS THAN 100 FOOT RADIUS REQUIRES AN ADDITIONAL 4 FEET OF SURFACING ON SAID CURVES AND SHALL COMPLY (L-XVI 3.4)
- C.F. BACK OUT MANEUVERING AREA IN FRONT OF PARKING GARAGE AND OPEN STALLS SHALL BE 24 FEET.
- D. TURNOUTS AND TURNAROUNDS
- D.A. FOR DRIVEWAYS THAT 300 FEET OR MORE IN LENGTH SHALL PROVIDE A TURNAROUND OR HAMMERHEAD WITH A MAX GRADE OF 12% SHALL BE PROVIDED WITHIN 50 FEET OF THE DWELLING.
- D.B. DRIVEWAYS EXCEEDING 150 FEET, BUT LESS THAN 800 FEET IN LENGTH SHALL PROVIDE 1 TURNOUT NEAR THE MIDPOINT OF THE DRIVEWAY
- D.C. DRIVEWAYS EXCEEDING 800 FEET SHALL PROVIDE TURNOUTS NO MORE THAN 400 FEET APART.
- D.D. TURNAROUND: THE TERMINUS BULB HAVE SHALL HAVE A MIN. 40-FOOT RADIUS
- D.E. HAMMERHEAD T: THE LONG AXIS SHALL BE 60 FEET MINIMUM AND LEG SHALL BE 40 FEET MINIMUM.
- D.F. TURNOUTS SHALL BE A MINIMUM 12 FEET WIDE, 30 FEET LONG WITH 25 FOOT TAPERS ON EACH END.
- E. ALL BRIDGE CULVERTS SHALL SUPPORT A 40,000 POUND LEGALLY LOADED VEHICLE
- F. ROADSIDE VEGETATION: FUEL MODIFICATION AREA SHALL BE CLEARED FOR 10 FEET ON EACH SIDE OF THE DRIVEWAY
- G. ALL APPROPRIATE GRADING, DRAINAGE, & EROSION CONTROL SHALL BE INCLUDED PURSUANT TO CHAPTER V OF LAND USE CODE.
- H. LATERAL SLOPES MUST BE DESIGNED AND INSTALLED TO ACCOMMODATE A MINIMUM 2% AND MAX 4% CROSS SLOPES TAKING TOPOGRAPHIC INTO CONSIDERATION.

LEGEND

- 2670— EXISTING CONTOUR
- — — — — PROPERTY LINE
- EXISTING TREES
- PROPOSED 4" GRAVEL DRIVEWAY
- EXISTING DRAINAGE
- EXISTING WIRE FENCE
- PROPOSED WATER
- PROPOSED SEWER
- PROPOSED ELECTRICAL

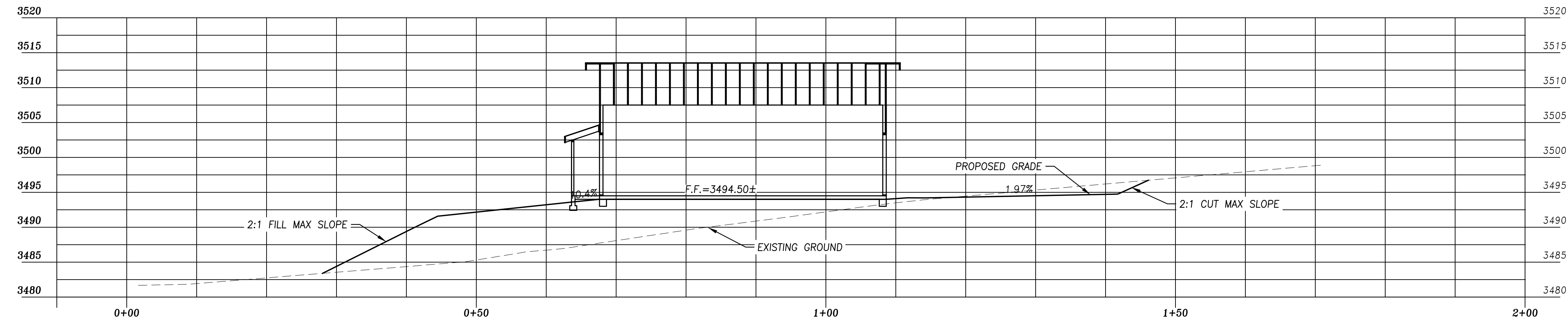


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| DESIGNED: | ROBERT J. LAWLESS | DATE |            | NO. REVISIONS |  |
| DRAWN:    | R/JL              |      |            |               |  |
| DATE:     | APRIL 10, 2025    |      |            |               |  |
| PROJECT   | No.:              | DWG. | NAME       |               |  |
|           | 24-365            |      | 24-365 P/M |               |  |

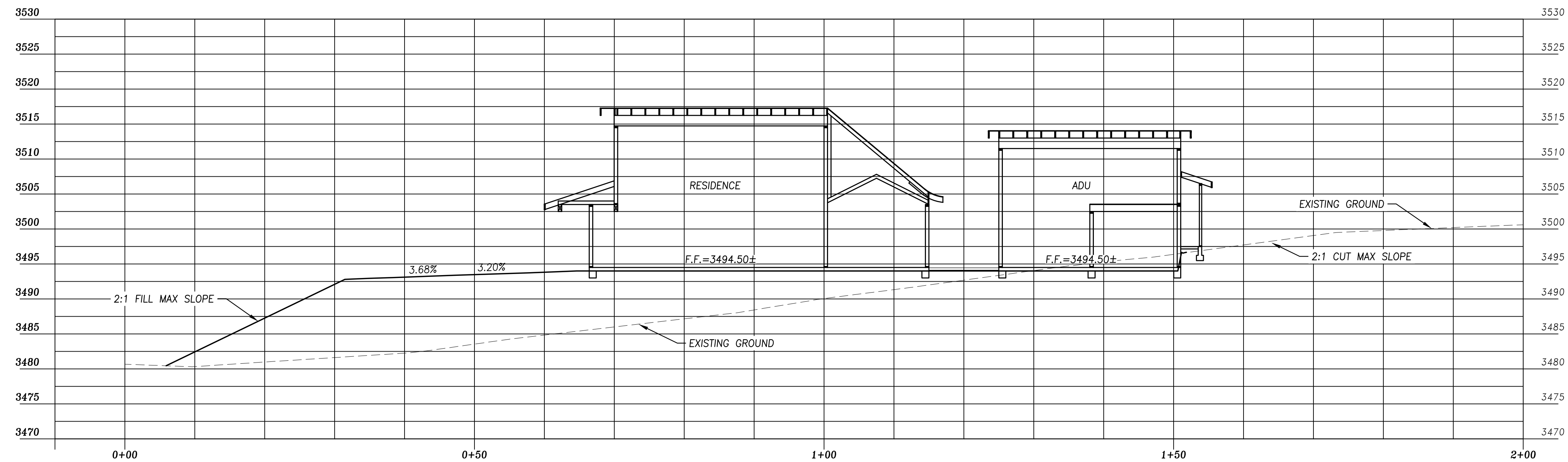
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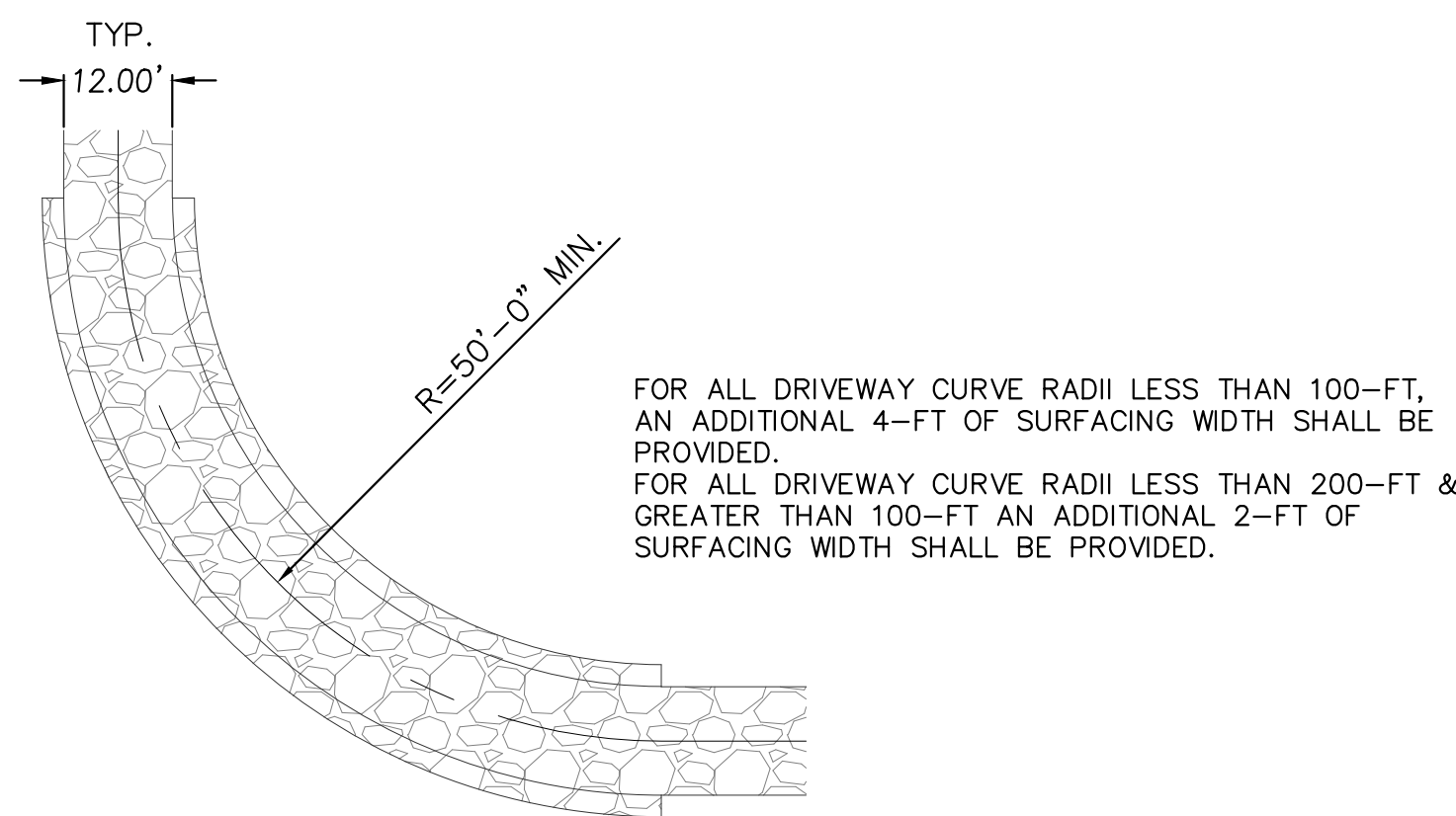
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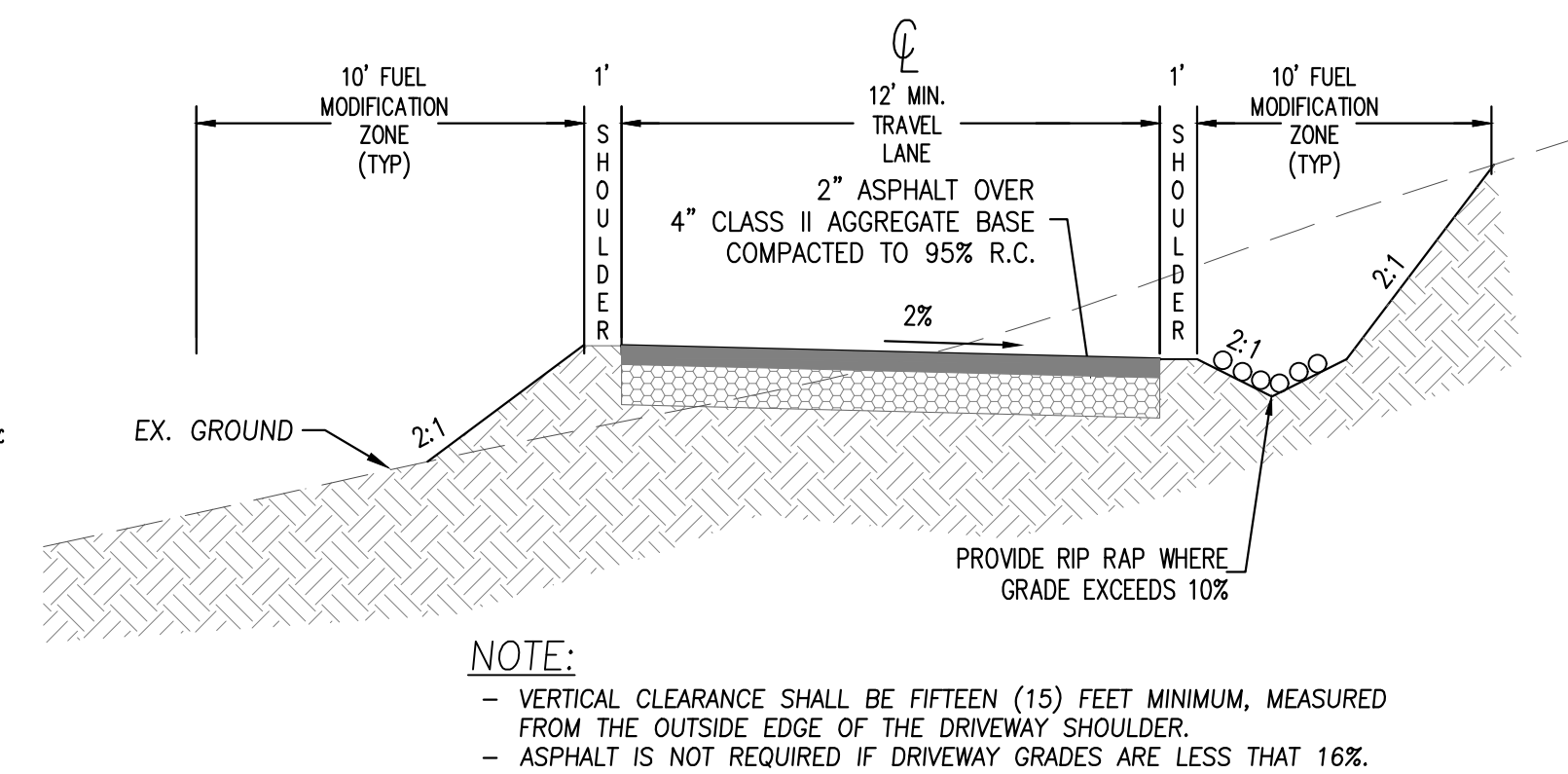
**NORTH - SOUTH SECTION** **A-3**  
HOR. SCALE: 1" = 10'  
VERT. SCALE: 1" = 10'



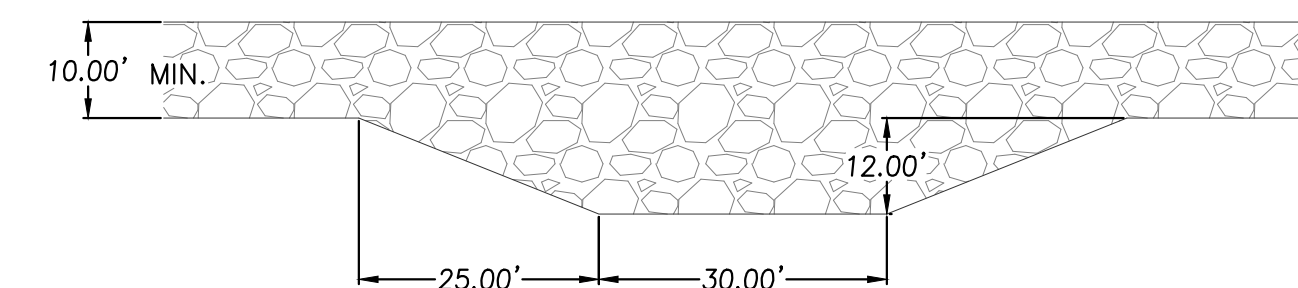
**EAST WEST SECTION** **B-3**  
HOR. SCALE: 1" = 10'  
VERT. SCALE: 1" = 10'



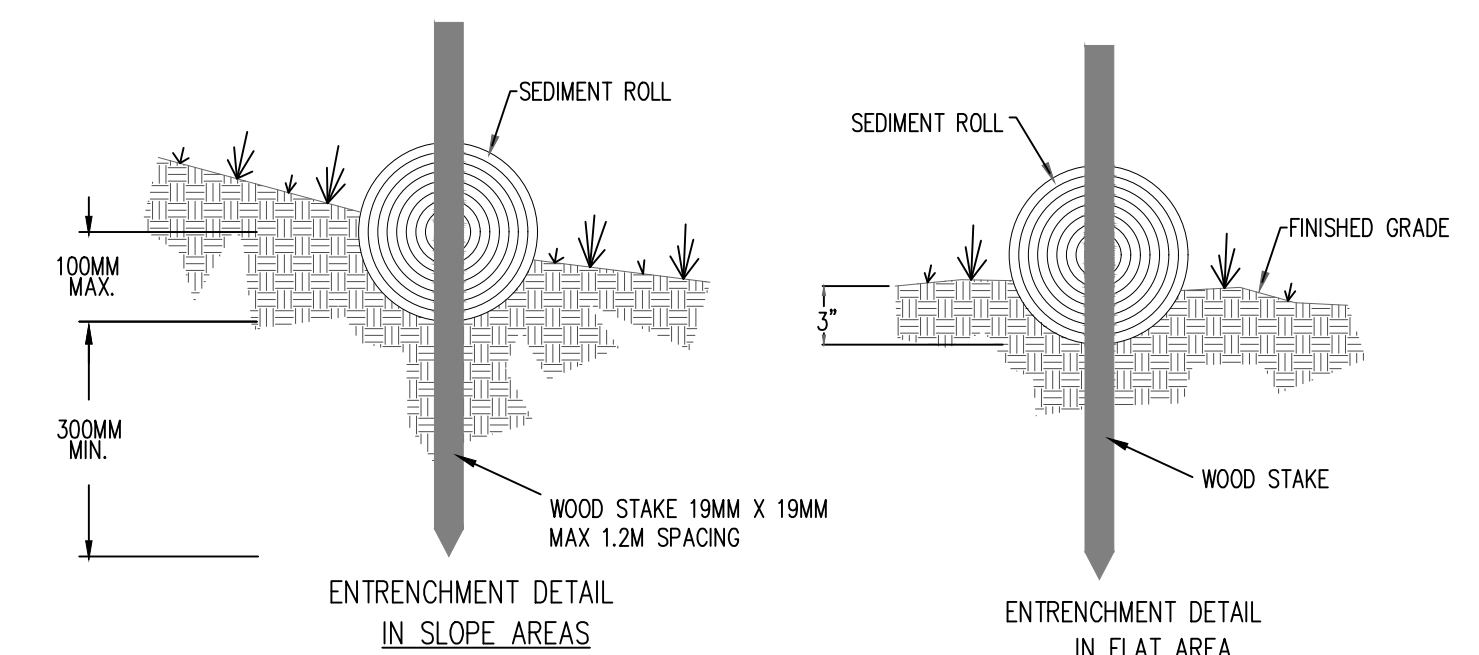
**4** **TYPICAL CURVE RADIUS DETAIL**  
**C3** NTS



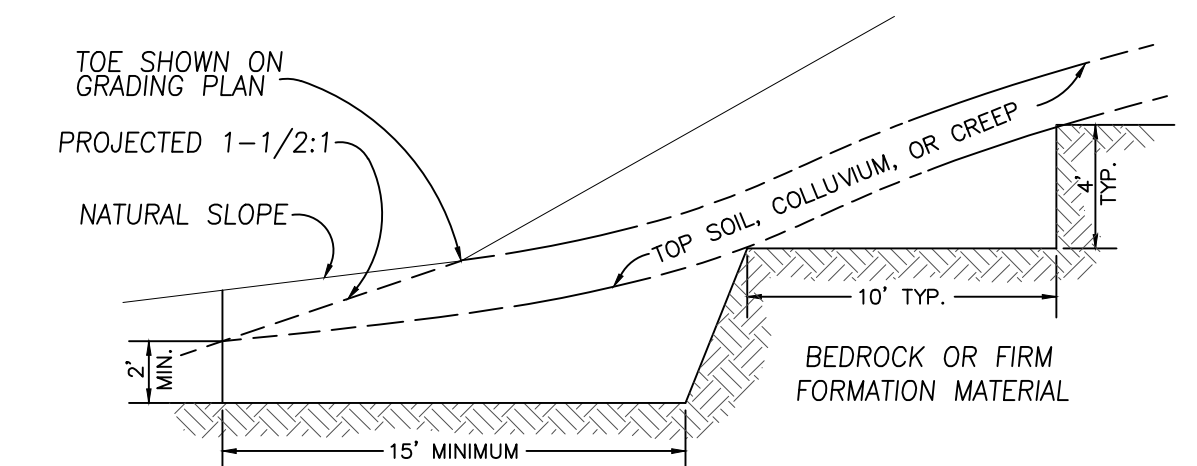
**5** **TYPICAL 10' DRIVEWAY SECTION**  
**C3** NTS



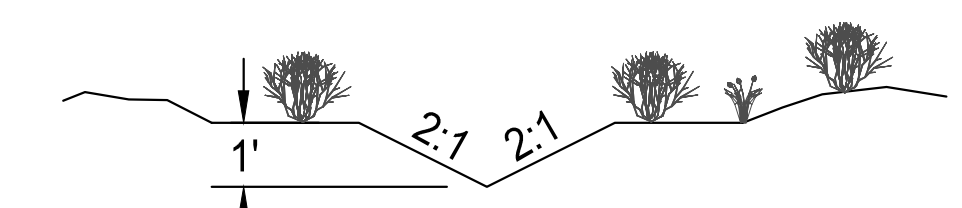
**6** **DRIVEWAY TURNOUT DETAIL**  
**C3** NTS



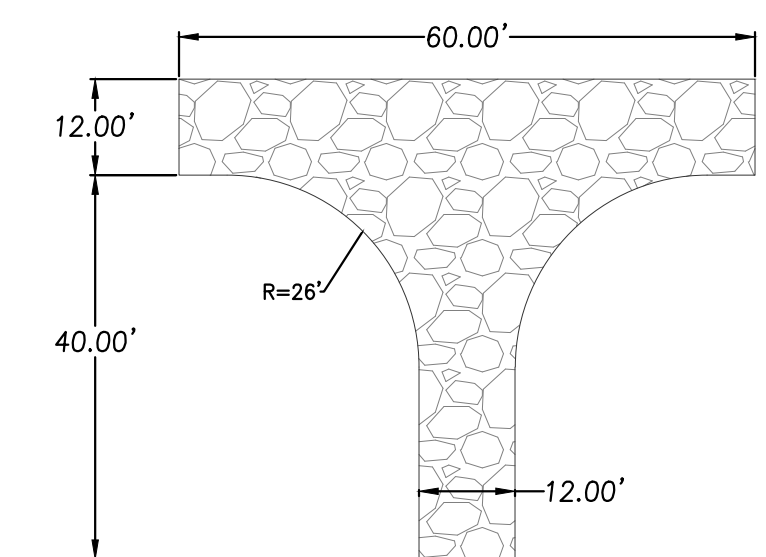
**1** **FIBER ROLL DETAIL**  
**C3** NTS



**2** **BENCH DETAIL FOR CUT**  
**C3** NTS



**3** **EARTH V-DITCH**  
**C3** NTS



**7** **HAMMERHEAD TURNAROUND DETAIL**  
**C3** NTS

**JOB SET**

SECTIONS FOR:  
**JASPEN AMODEO PROPERTY**  
13348 WOODZY PLACE, NEVADA CITY, CALIFORNIA  
COUNTY OF NEVADA

**Robert Lawless Engineering**  
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**C-3**  
3 of 4

DESIGNED: **ROBERT J. LAWLESS**  
DRAWN: **R/JL**  
DATE: **APRIL 10, 2025**  
PROJECT No.: **24-365**  
DWG. NAME: **24-365 P/M**

| NO. | REVISIONS | DATE |
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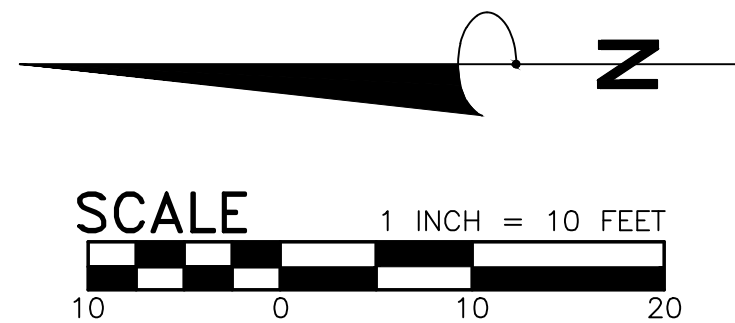
SEPTIC NOTES

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- DISTANCE BETWEEN TRENCHES 7' CENTER TO CENTER MINIMUM.
- DISTRIBUTION BOX TUFFTITE OR EQUIVALENT. PLACED D-BOX ON PEA GRAVEL OR SAND. ALL JOINTS MUST BE SEALED WITH SEALANT OR INTERLOCKING MECHANISM.
- DRAIN ROCK SHALL BE TRIPLE WASHED 3" MINUS FREE OF FINES.
- PRE-CONSTRUCTION AND FINAL PUMP TEST INSPECTIONS WITH PERMANENT POWER.

LEGEND

- EXISTING CONTOUR
- PROPERTY LINE
- EXISTING TREES
- PROPOSED 4" GRAVEL DRIVEWAY
- EXISTING DRAINAGE
- EXISTING WIRE FENCE
- PROPOSED WATER
- PROPOSED SEWER
- PROPOSED ELECTRICAL

AREA GREATER THAN 30% SLOPE



SEPTIC DETAILS

SCALE: 1" = 10'

JOB SET

SECTIONS FOR:  
JASPEN AMODEO PROPERTY  
13348 WOODZY PLACE, NEVADA CITY, CALIFORNIA  
COUNTY OF NEVADA

Robert Lawless Engineering  
CIVIL ENGINEERING & LAND SURVEYING  
169 South Auburn Street  
Grass Valley, CA 95945  
Phone: (530) 263-2757

C-4  
4 of 4

DESIGNED: ROBERT J. LAWLESS  
DRAWN: R/JL  
DATE: APRIL 10, 2025  
PROJECT No.: 24-365  
DWG. NAME: 24-365 P/M

| NO. | REVISIONS | DATE |
|-----|-----------|------|
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|     |           |      |
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GENERAL NOTES:

ALL MATERIALS, EQUIPMENT AND FIXTURES SHALL BE INSTALLED PER THE MANUFACTURERS PRINTED INSTRUCTIONS.  
VERIFY ALL MATERIALS AND EQUIPMENT WITH OWNER, PRIOR TO ORDERING.

NOTE:  
COORDINATE SHOWER PAN INSTALLATION METHOD WITH TILE INSTALLER AND SHOWER GLASS INSTALLER BEFORE INSTALL BEGINS, TYPICAL ALL SHOWERS

Approved site address shall be placed in a position that is plainly legible and visible from the street or road fronting the property. These numbers shall contrast with their background. Address numbers shall be minimum of 4 inches high with a minimum width of 1/2 inch.

SEE SHEARWALL AND HOLD DOWN SCHEDULE ON SHEET A3)

Whole house fans used to comply with the Standards must be listed in the Energy Commissions Appliance Database which can be accessed at: <https://cacetappliances.energy.ca.gov/Pages/ApplianceSearch.aspx>

FINAL WALL FINISHES LAYOUT (TYPICALLY SHOWER TILE) MUST BE COORDINATED WITH BLOCKING LAYOUT FOR HINGES OR OTHER SUPPORT FEATURES

PROVIDE SOLID BLOCKING TO ANCHOR CABINETS, BARN-DOOR HARDWARE, TOILET ROOM ACCESSORIES (MIRRORS, TISSUE DISPENSERS, TOWEL BARS), SHOWER DOOR HARDWARE & HINGES.

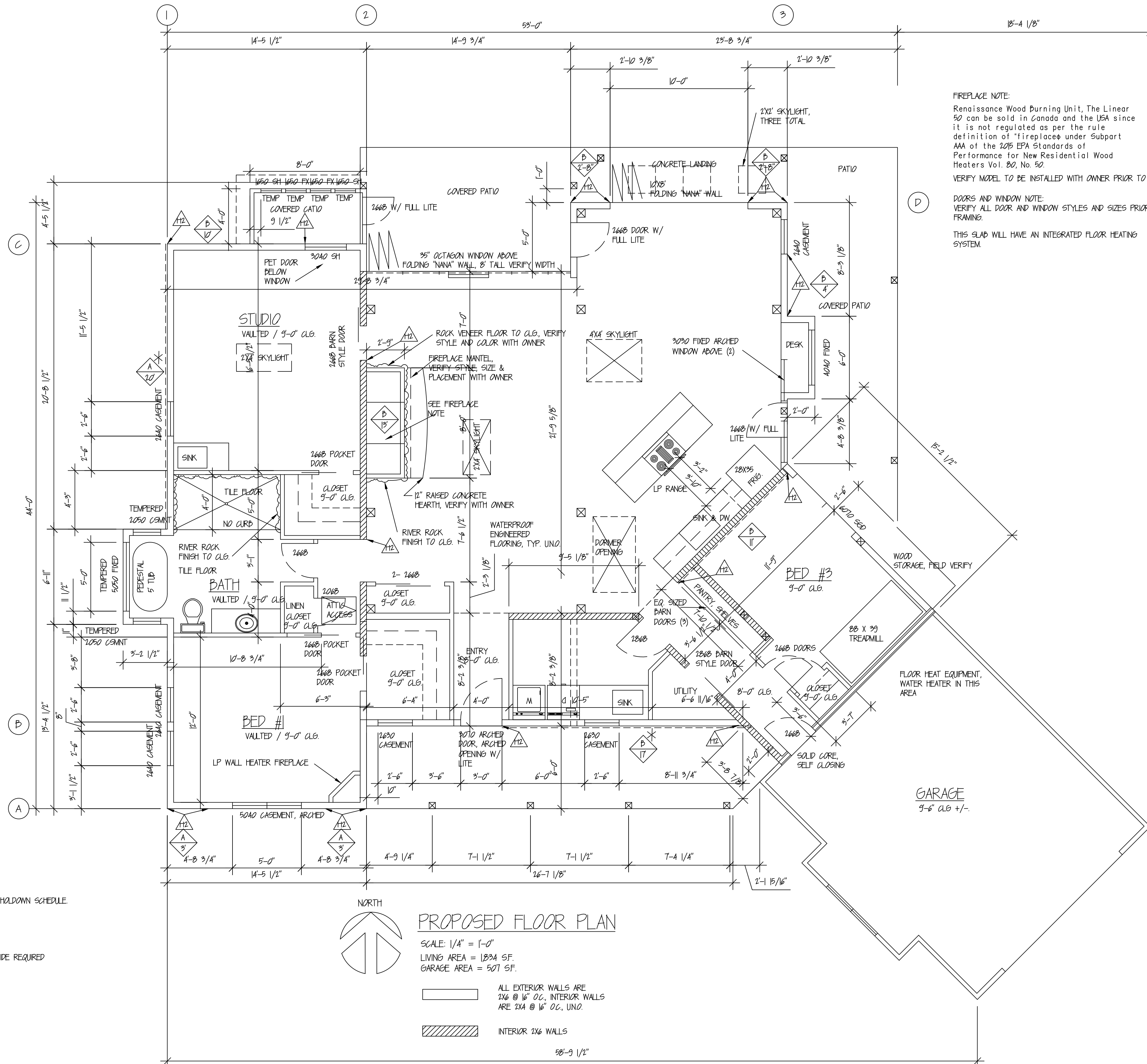
ENGINEERING NOTES:

SEE SHEET 'SD-1' FOR SHEARWALL SCHEDULE AND SEE SHEET 'SN' FOR HOLDDOWN SCHEDULE

SEE SHEET 'SN' FOR ADDITIONAL NOTES AND SPECIFICATIONS.

TYPICAL WINDOW AND DOOR HEADER TO BE 6X6 DF #1 UNO.

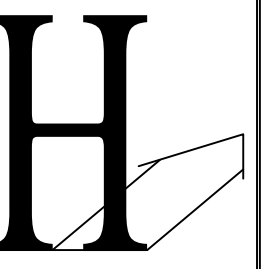
\* INDICATES A PERFORATED SHEARWALL FOR ENTIRE LENGTH NOTED. PROVIDE REQUIRED NAILING ABOVE AND BELOW THE OPENING.



FIREPLACE NOTE:  
Renaissance Wood Burning Unit, The Linear 50 can be sold in Canada and the USA since it is not regulated as per the rule definition of 'fireplace' under Subpart AAA of the 2015 EPA Standards of Performance for New Residential Wood Heaters Vol. 80, No. 50.  
VERIFY MODEL TO BE INSTALLED WITH OWNER PRIOR TO ORDER.

DOORS AND WINDOW NOTE:  
VERIFY ALL DOOR AND WINDOW STYLES AND SIZES PRIOR TO FRAMING.

THIS SLAB WILL HAVE AN INTEGRATED FLOOR HEATING SYSTEM.



HEDGER  
HOME  
DESIGN

Nevada City, CA.

(530) 277-0763

Mark Hedger

Residential  
Design Specialist

NEW HOME & A.D.U.

for:  
Amodeo  
13348 Woody Place  
Nevada County

consulting engineer:  
Robert Lawless Engineering  
(530) 263-2757

T-24 energy consultant:  
Melas Energy Engineering  
(530) 265-2492

DATE

REVISIONS

NO.

scale:

As Noted

DATE

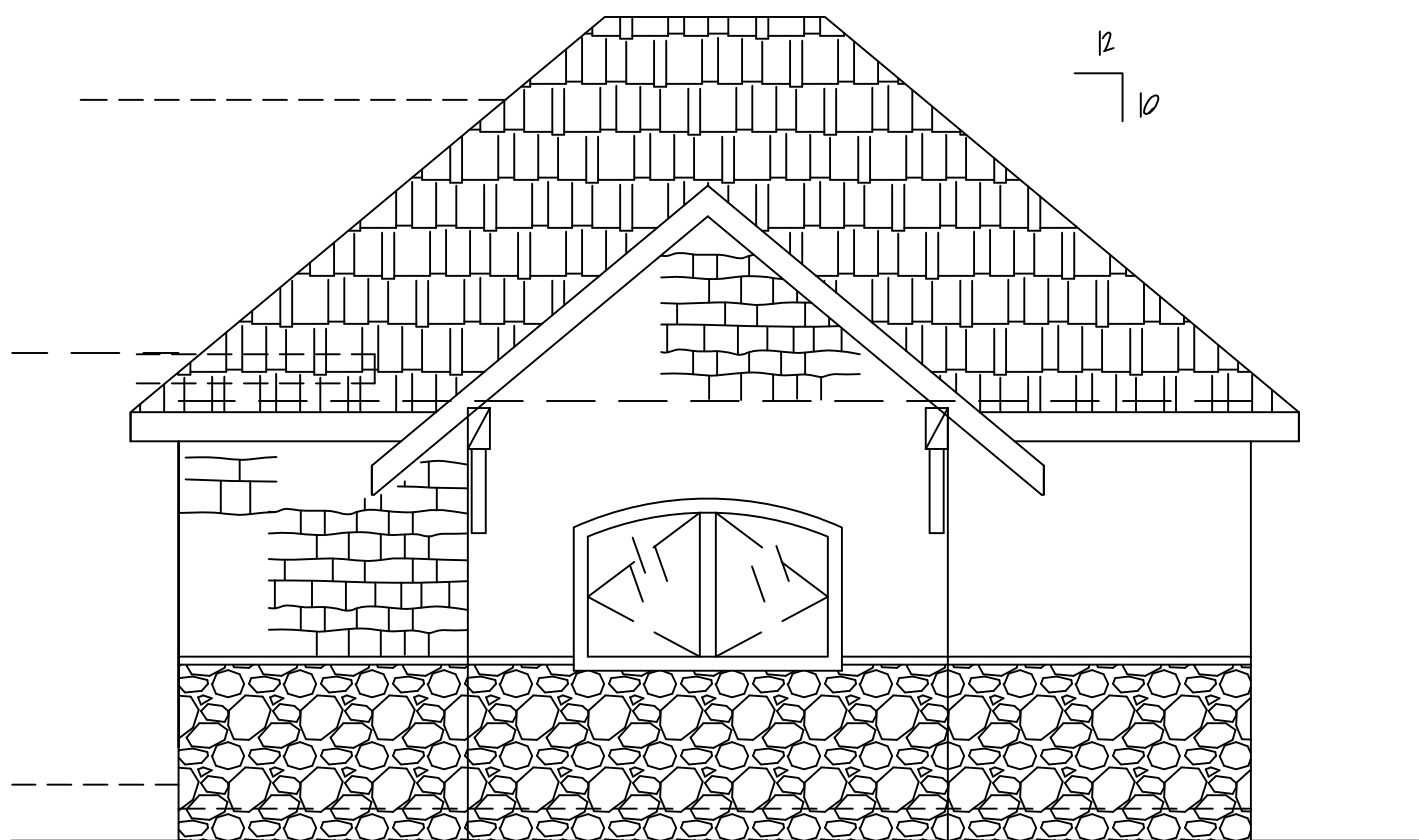
May 2025

SHEET

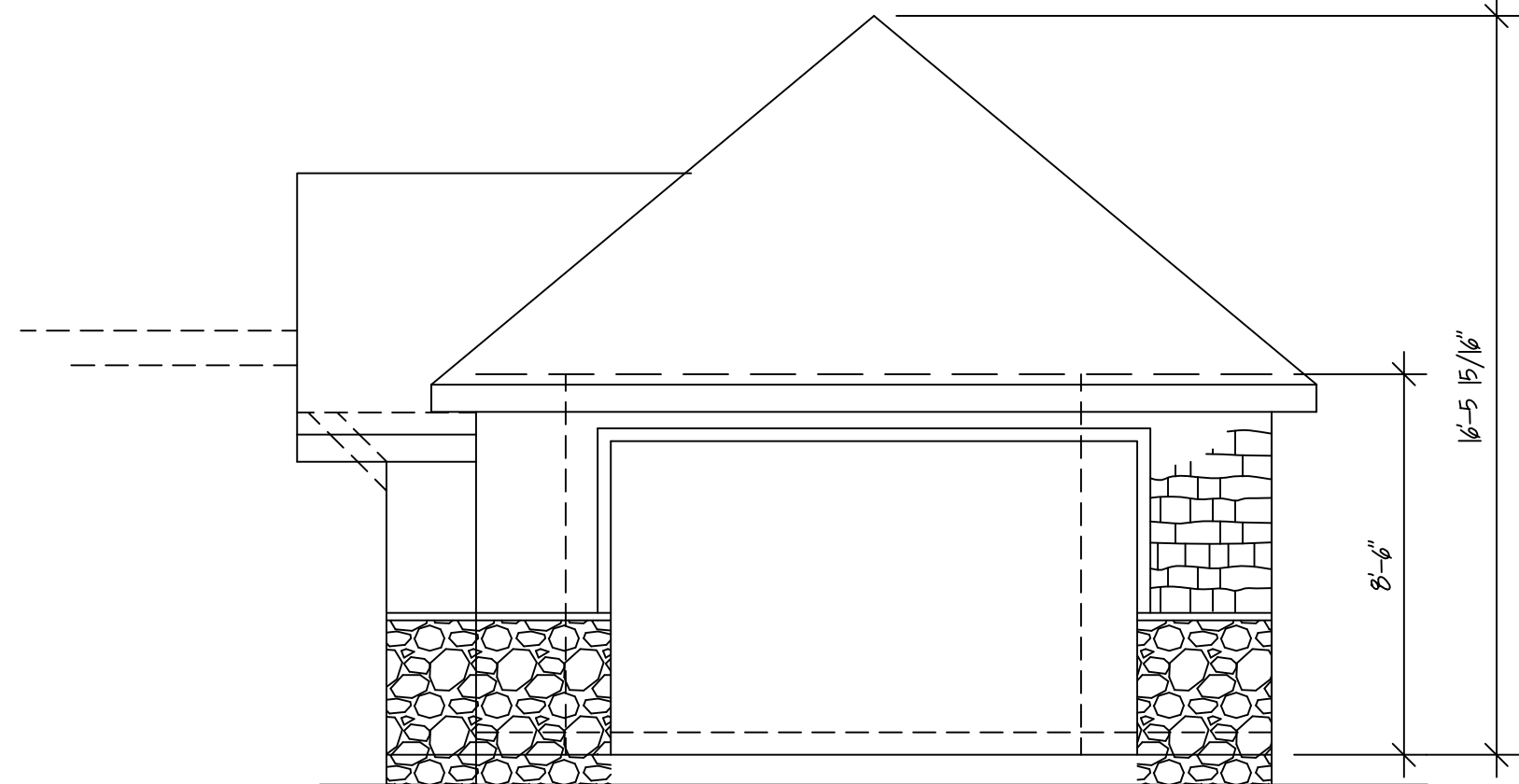
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OF

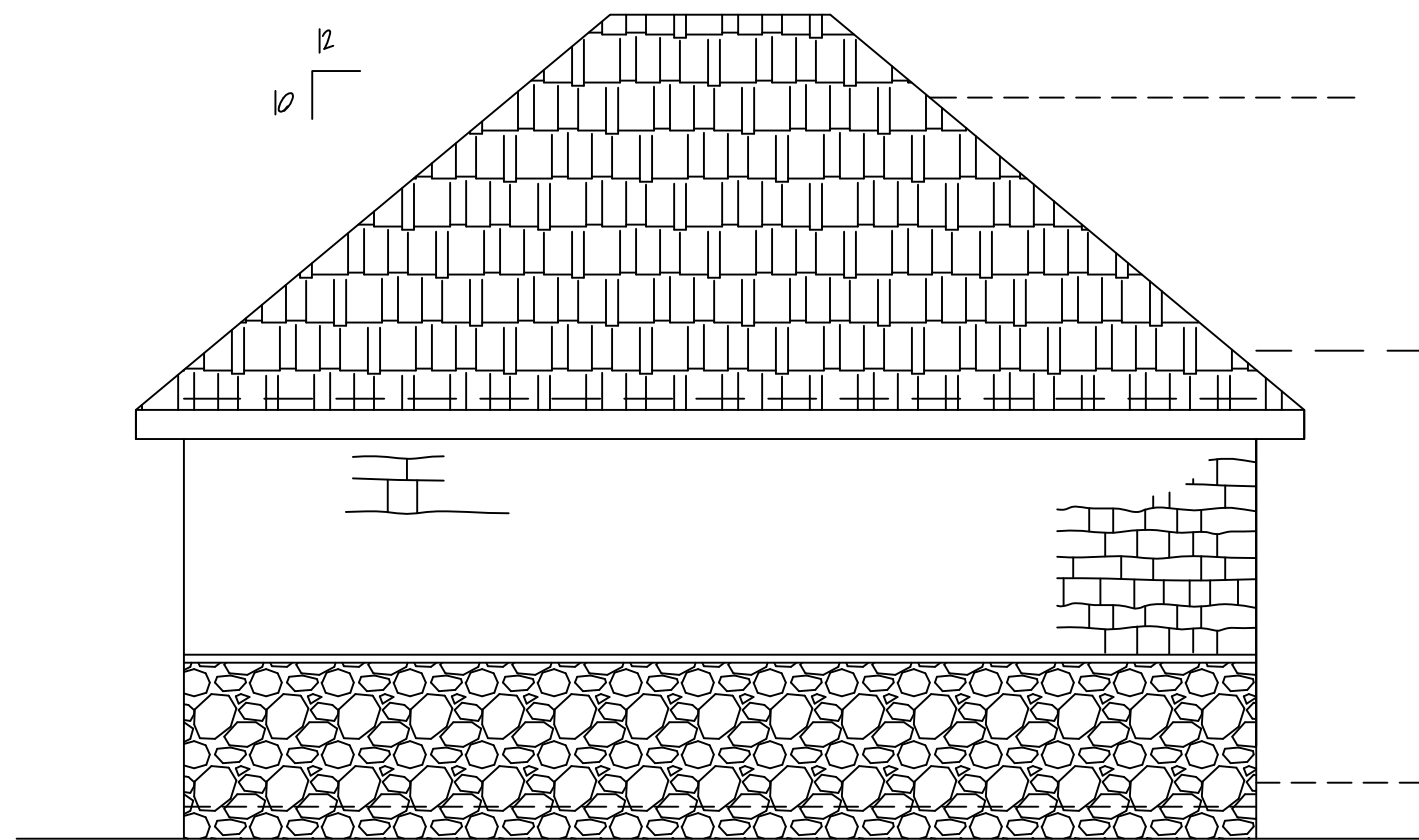
JOB SET



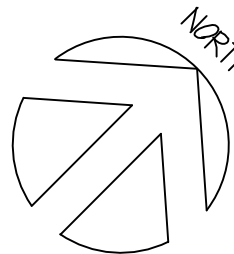
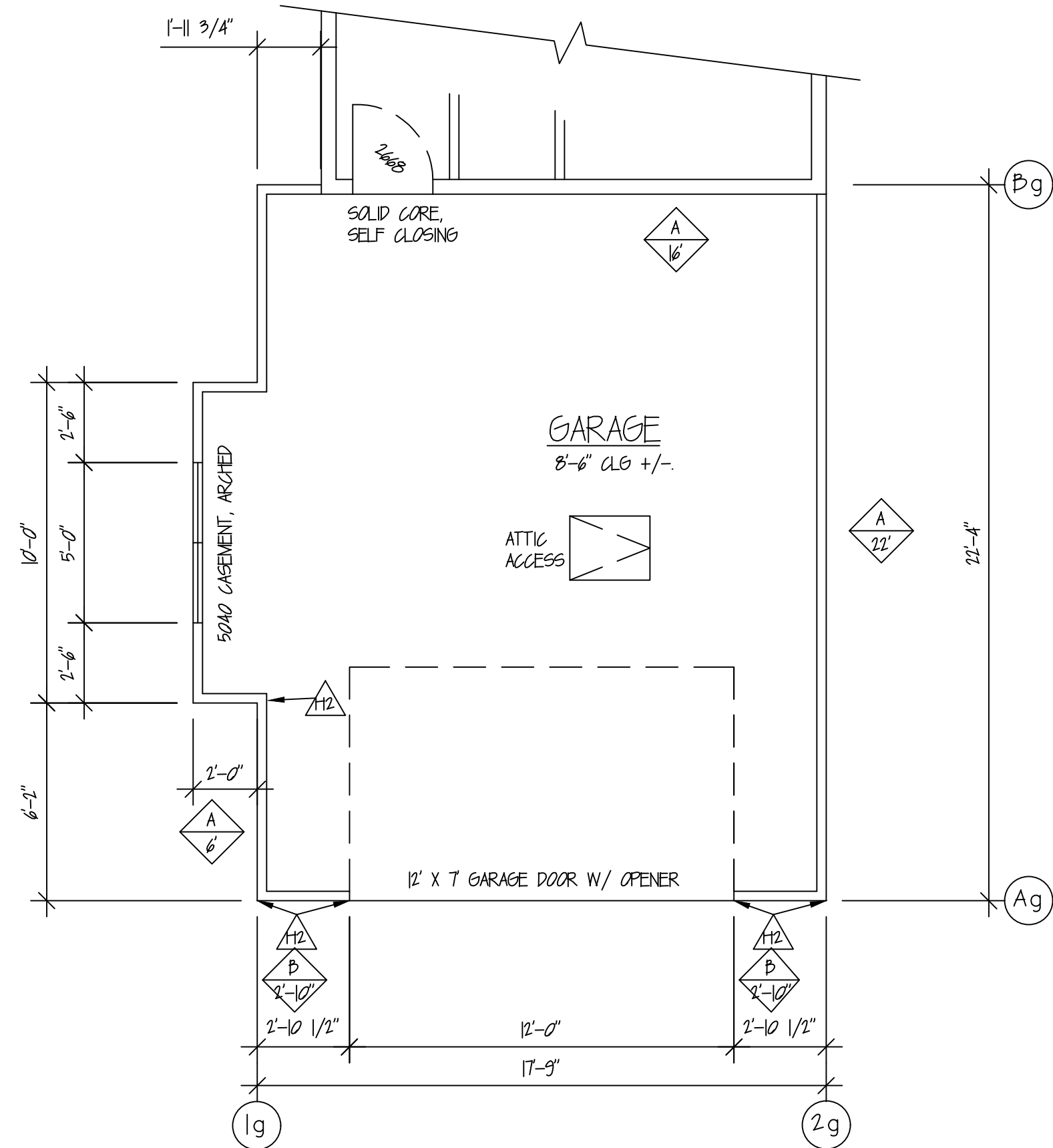
GARAGE (SOUTHWEST) ELEVATION  
SCALE: 1/4" = 1'-0"



GARAGE (SOUTHEAST) ELEVATION  
SCALE: 1/4" = 1'-0"



GARAGE (NORTHWEST) ELEVATION  
SCALE: 1/4" = 1'-0"



PROPOSED GARAGE FLOOR PLAN  
SCALE: 1/4" = 1'-0"

ENGINEERING NOTES:  
SEE SHEET 'SD-1' FOR SHEARWALL SCHEDULE AND SEE SHEET 'SN' FOR HOLDOWN SCHEDULE.  
SEE SHEET 'SN' FOR ADDITIONAL NOTES AND SPECIFICATIONS.  
\* INDICATES A PERFORATED SHEARWALL FOR ENTIRE LENGTH NOTED. PROVIDE REQUIRED NAILING ABOVE AND BELOW THE OPENING.



JOB SET

H

HEDGER  
HOME  
DESIGN

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Mark Hedger  
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NEW HOME & A.D.U.

for:  
Amodeo  
at:  
13348 Woody Place  
Nevada County

consulting engineer:  
Robert Lawless Engineering  
(530) 263-2757  
T-24 energy consultant:  
Melas Energy Engineering  
(530) 265-2492

| NO. | REVISIONS | DATE |
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scale:  
As Noted

DATE  
April 2025

SHEET  
A1.2  
OF

GENERAL NOTES:

ALL MATERIALS, EQUIPMENT AND FIXTURES SHALL BE INSTALLED PER THE MANUFACTURERS PRINTED INSTRUCTIONS.  
VERIFY ALL MATERIALS AND EQUIPMENT WITH OWNER, PRIOR TO ORDERING.

NOTE:  
COORDINATE SHOWER PAN INSTALLATION METHOD WITH TILE INSTALLER AND SHOWER GLASS INSTALLER BEFORE INSTALL BEGINS, TYPICAL ALL SHOWERS

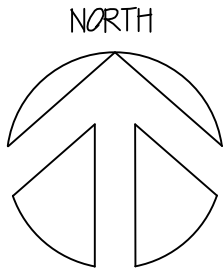
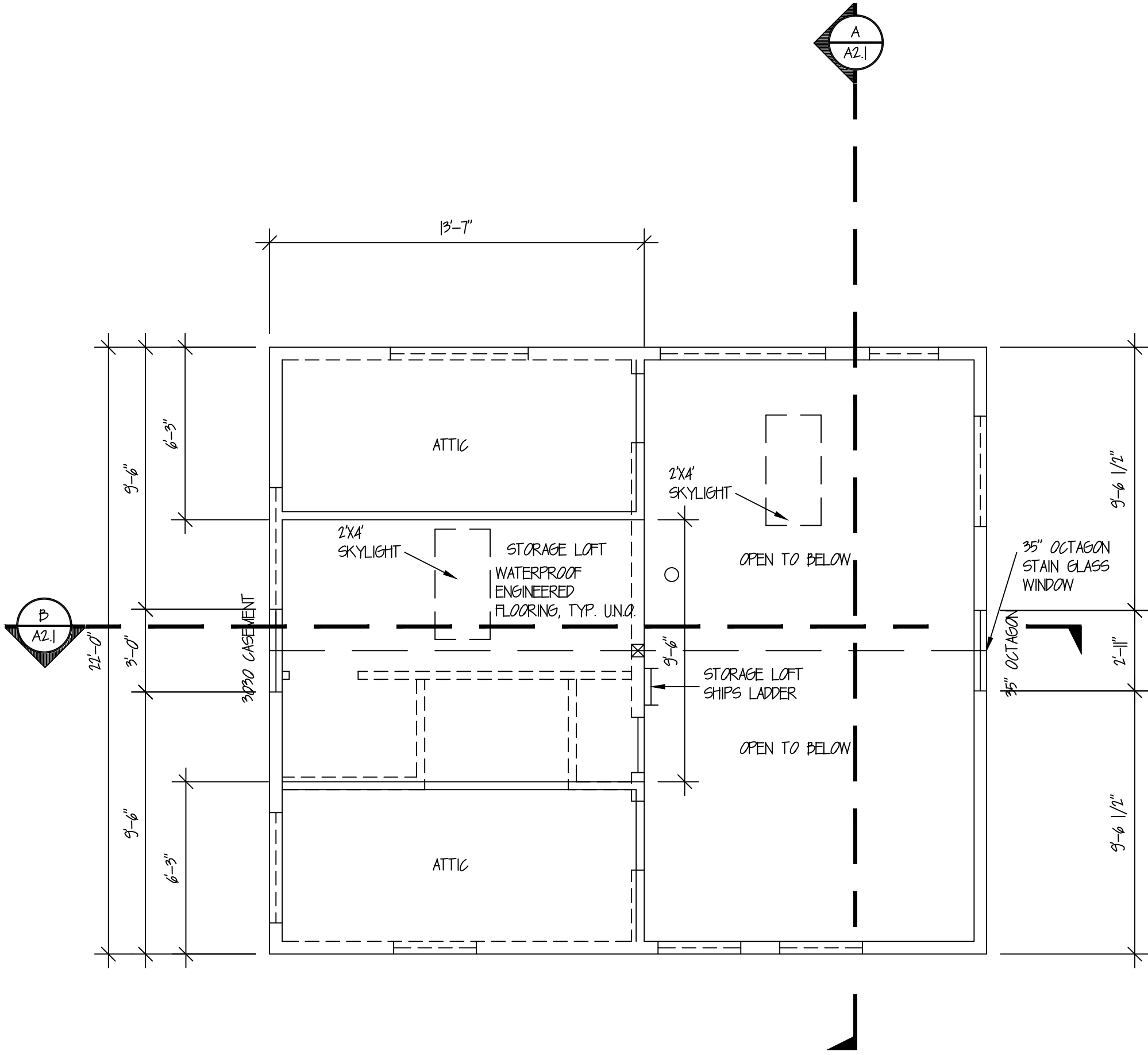
Approved site address shall be placed in a position that is plainly legible and visible from the street or road fronting the property. These numbers shall contrast with their background. Address numbers shall be minimum of 4 inches high with a minimum width of 1/2 inch.

SEE SHEARWALL AND HOLD DOWN SCHEDULE ON SHEET A31

Whole house fans used to comply with the Standards must be listed in the Energy Commission's Appliance Database which can be accessed at: <https://cacertappliances.energy.ca.gov/Pages/ApplianceSearch.aspx>

FINAL WALL FINISHES LAYOUT (TYPICALLY SHOWER TILE) MUST BE COORDINATED WITH BLOCKING LAYOUT FOR HINGES OR OTHER SUPPORT FEATURES

PROVIDE SOLID BLOCKING TO ANCHOR CABINETRY, BARN-DOOR HARDWARE, TOILET ROOM ACCESSORIES (MIRRORS, TISSUE DISPENSERS, TOWEL BARS), SHOWER DOOR HARDWARE & HINGES.



PROPOSED STORAGE LOFT PLAN

SCALE: 1/4" = 1'-0"

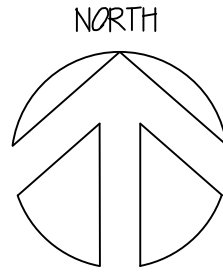
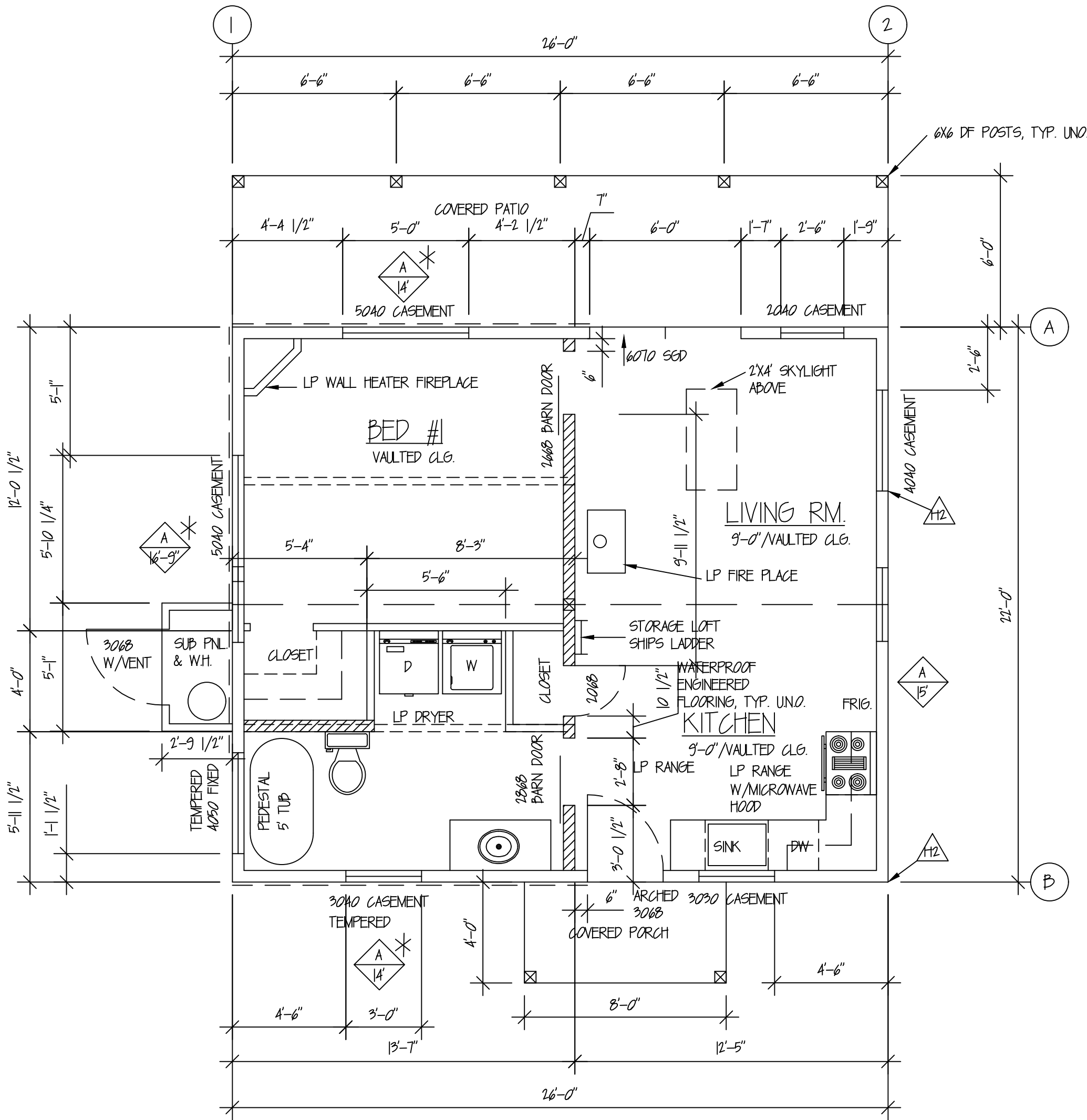
ENGINEERING NOTES:

SEE SHEET 'SD-1' FOR SHEARWALL SCHEDULE AND SEE SHEET 'SN' FOR HOLDOWN SCHEDULE.

SEE SHEET 'SN' FOR ADDITIONAL NOTES AND SPECIFICATIONS.

TYPICAL WINDOW AND DOOR HEADER TO BE 6X6 DF #1 UNO.

\* INDICATES A PERFORATED SHEARWALL FOR ENTIRE LENGTH NOTED. PROVIDE REQUIRED NAILING ABOVE AND BELOW THE OPENING.



PROPOSED ADU FLOOR PLAN

SCALE: 1/4" = 1'-0"

LIVING AREA = 572 SF.

STORAGE LOFT = 125 SF.

ALL EXTERIOR WALLS ARE 2X6 @ 16" O.C., INTERIOR WALLS ARE 2X4 @ 16" O.C., UNO.

INTERIOR 2X6 WALLS

FIREPLACE NOTE:

Renaissance Wood Burning Unit, The Linear 50 can be sold in Canada and the USA since it is not regulated as per the rule definition of "fireplace" under Subpart AAA of the 2015 EPA Standards of Performance for New Residential Wood Heaters Vol. 80, No. 50.

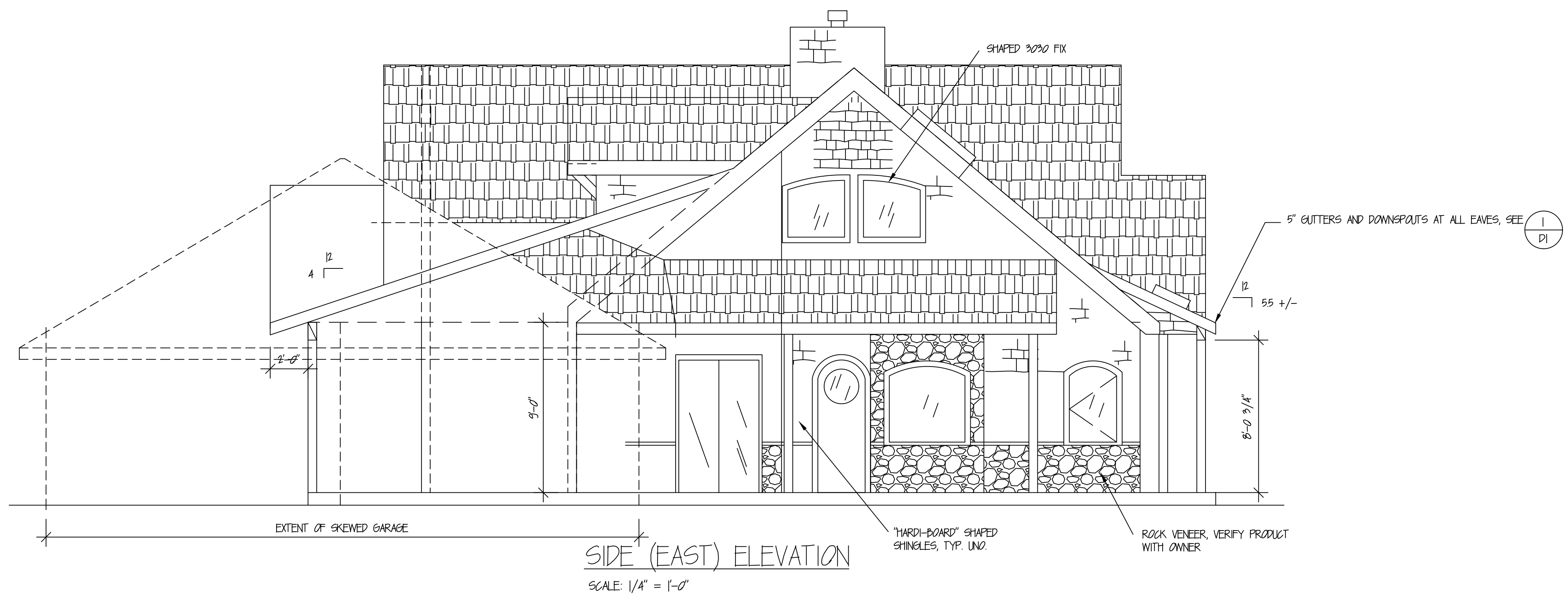
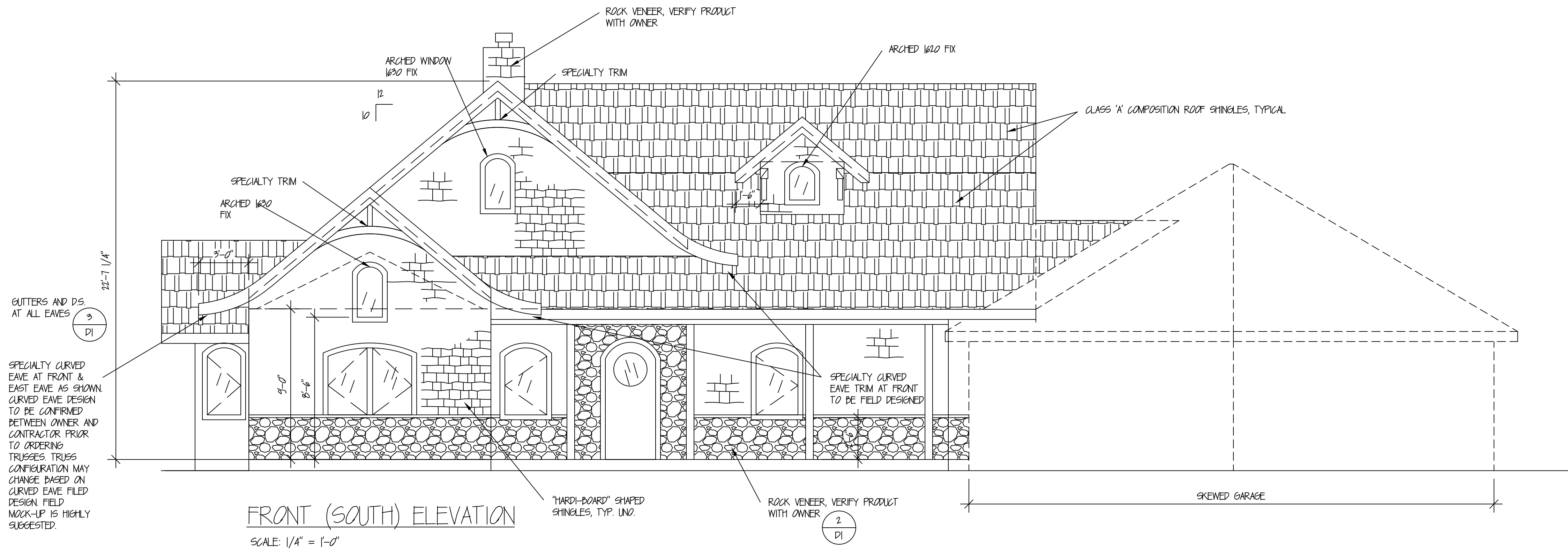
VERIFY MODEL TO BE INSTALLED WITH OWNER PRIOR TO ORDER.

DOORS AND WINDOW NOTE:

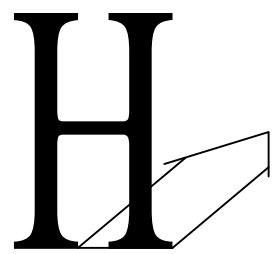
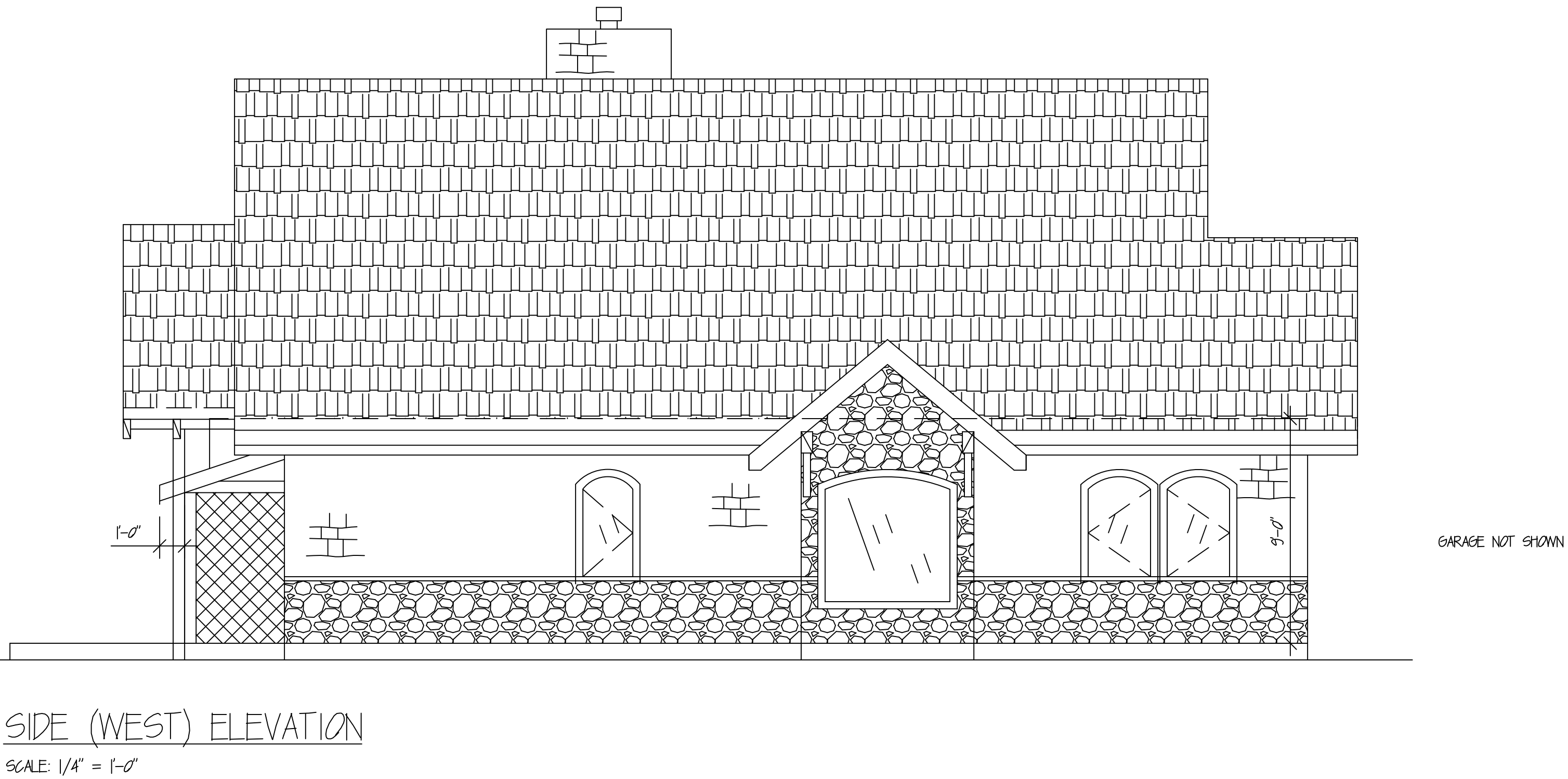
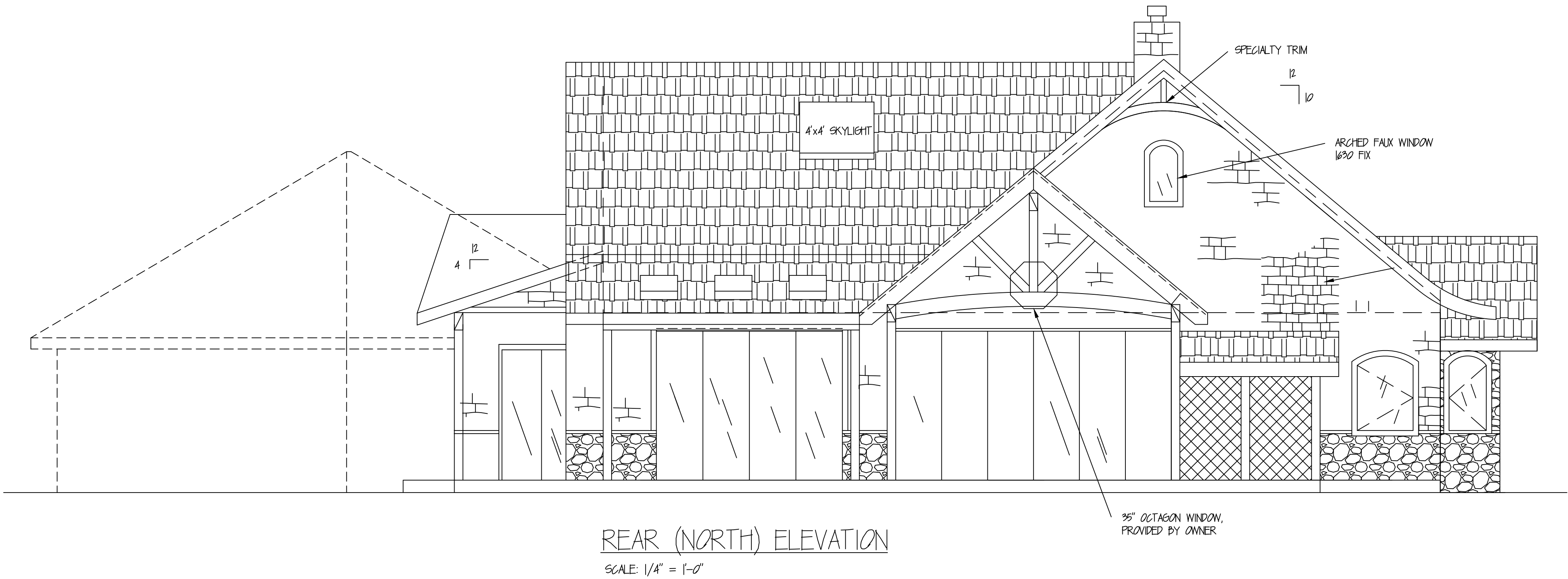
VERIFY ALL DOOR AND WINDOW STYLES AND SIZES PRIOR TO FRAMING.

THIS SLAB WILL HAVE AN INTEGRATED FLOOR HEATING SYSTEM.

| DATE | REVISIONS | NO. |
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|      |           |     |          |          | OF    |



HEDGER  
HOME  
DESIGN

Nevada City, CA.

(530) 277-0763

Mark Hedger  
Residential  
Design Specialist

NEW HOME & A.D.U.

for:  
Amodeo  
13348 Woody Place  
Nevada County

consulting engineer:  
Robert Lawless Engineering  
(530) 263-2757

T-24 energy consultant:  
Melas Energy Engineering  
(530) 265-2492

DATE

REVISIONS

NO.

scale:

As Noted

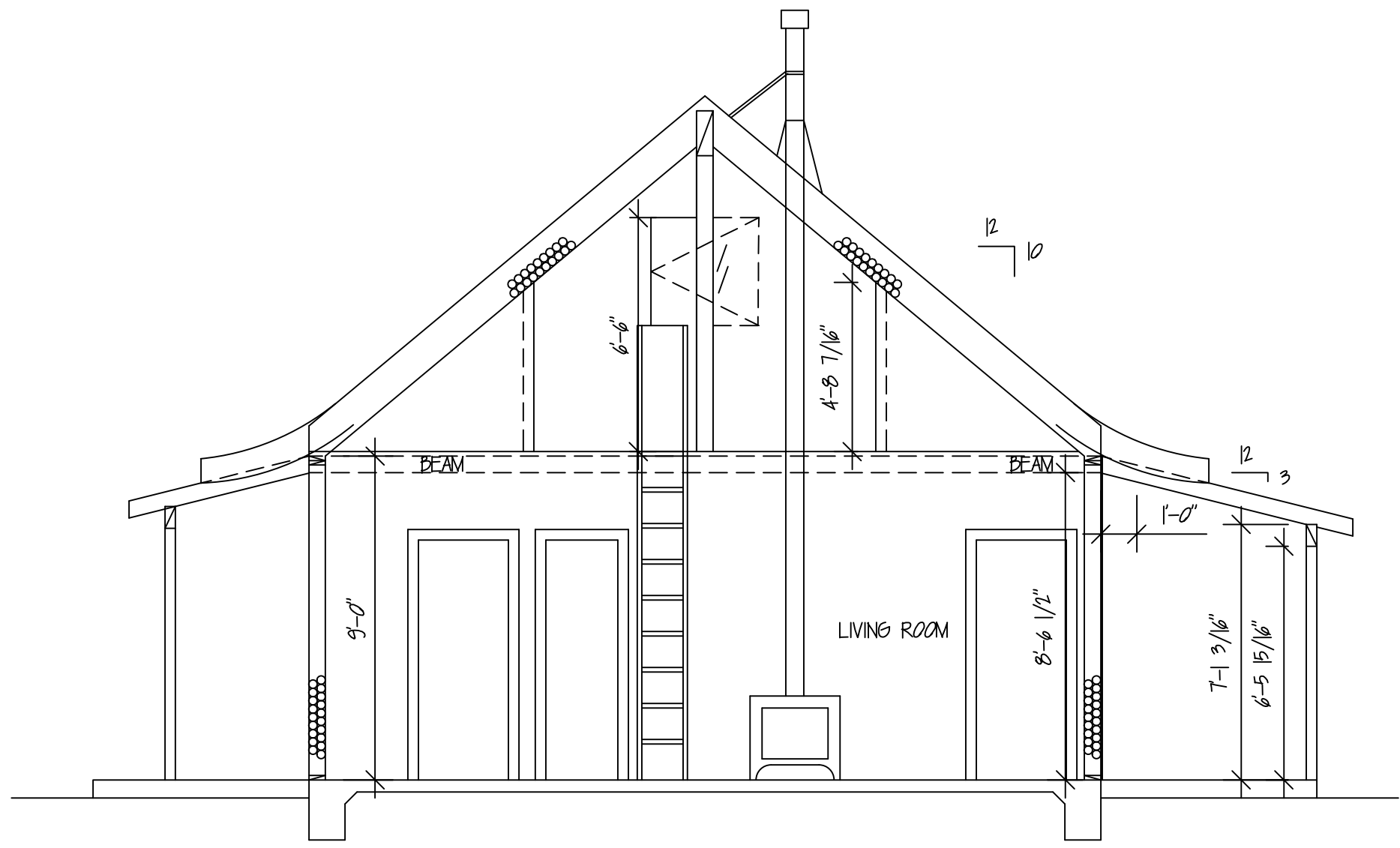
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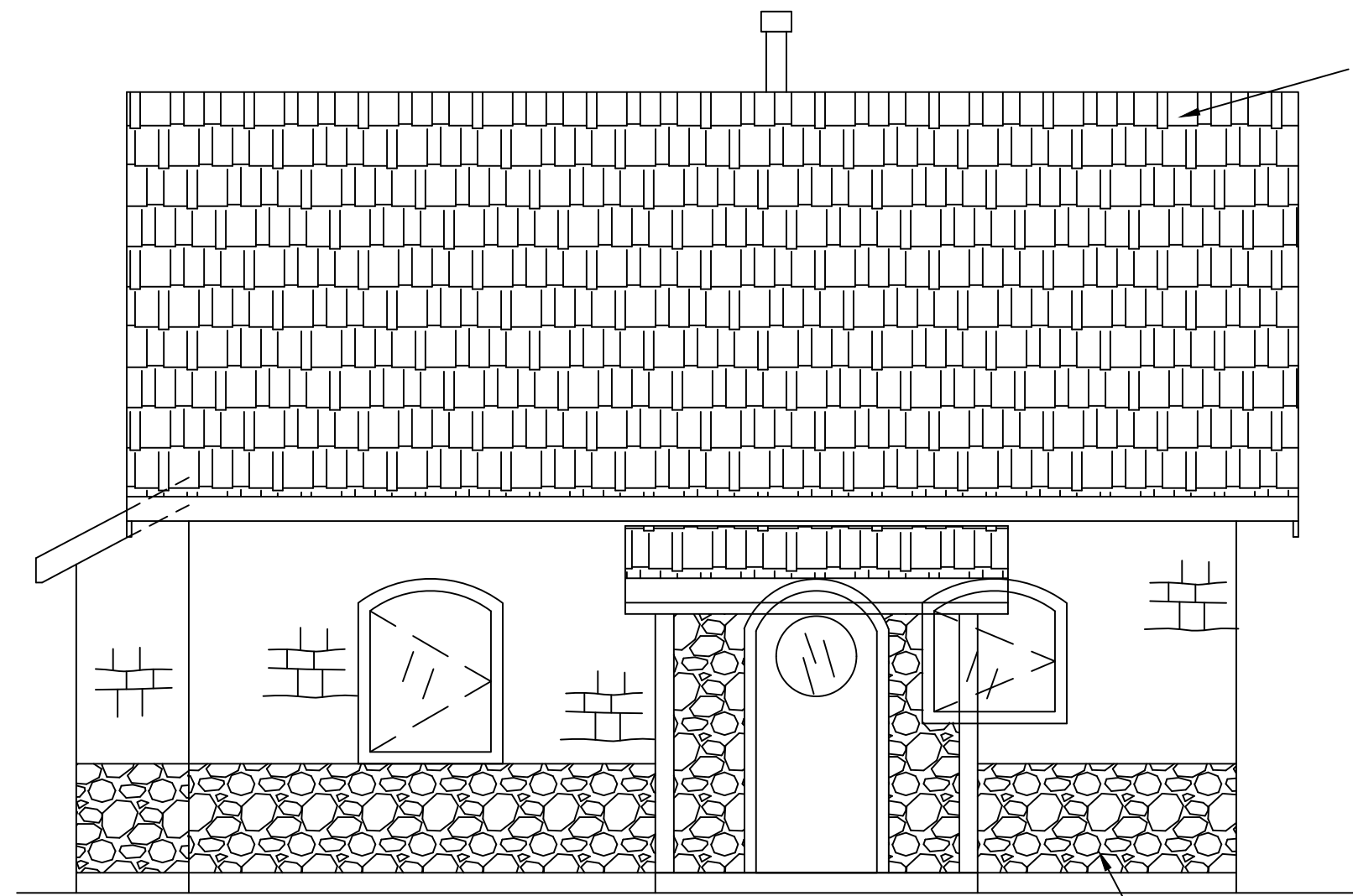
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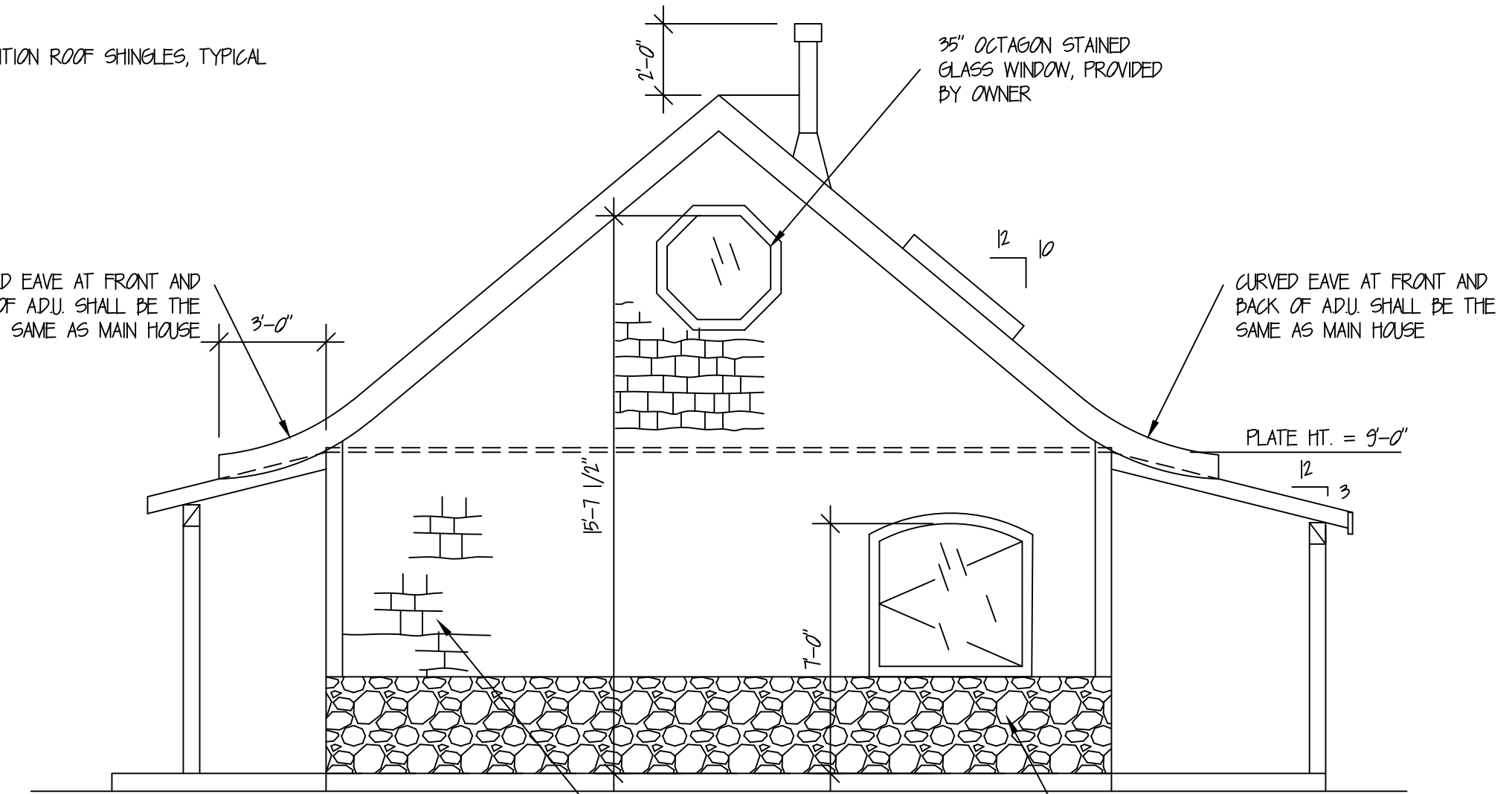
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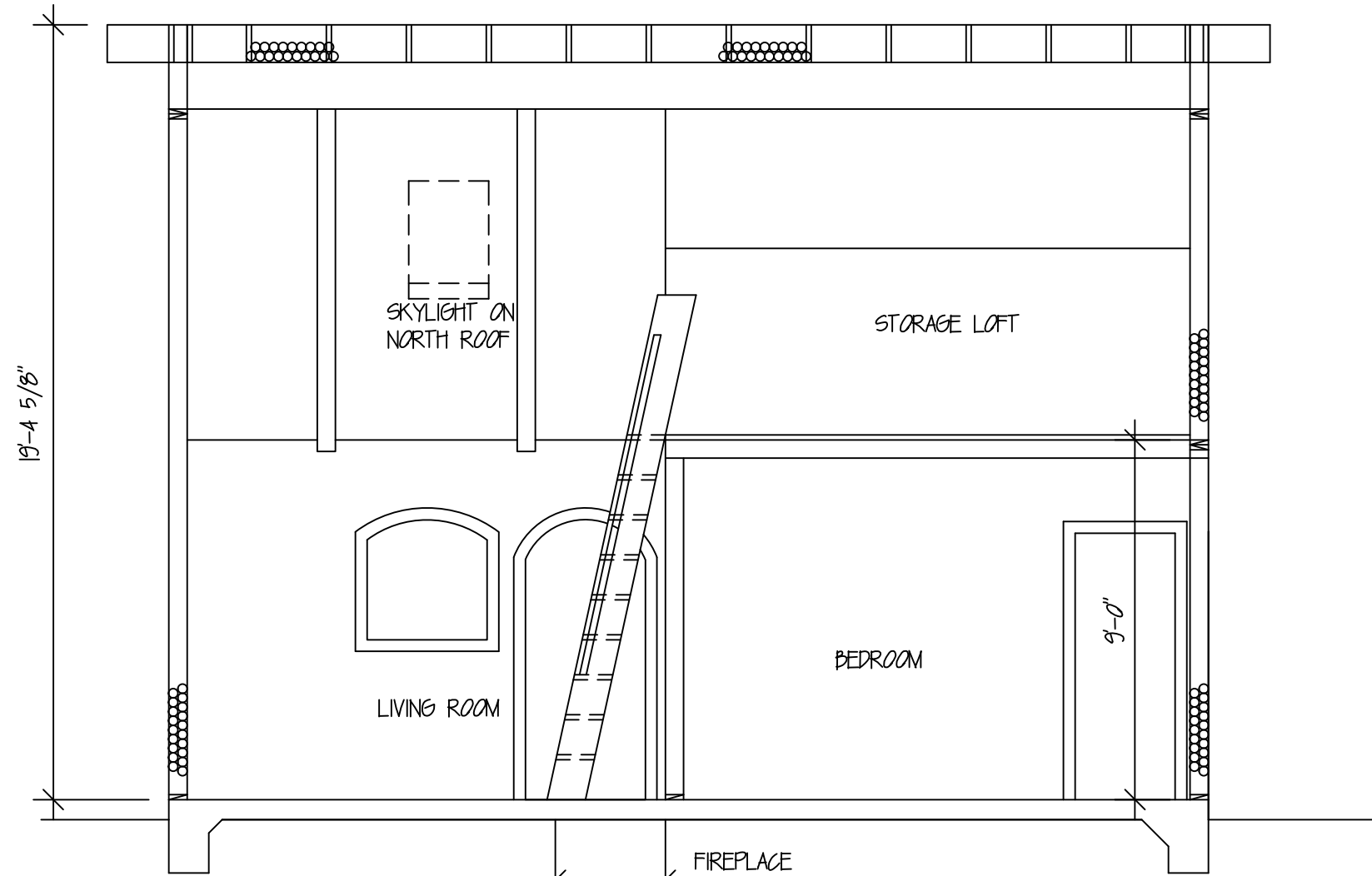
SECTION 'A'  
SCALE: 1/4" = 1'-0"



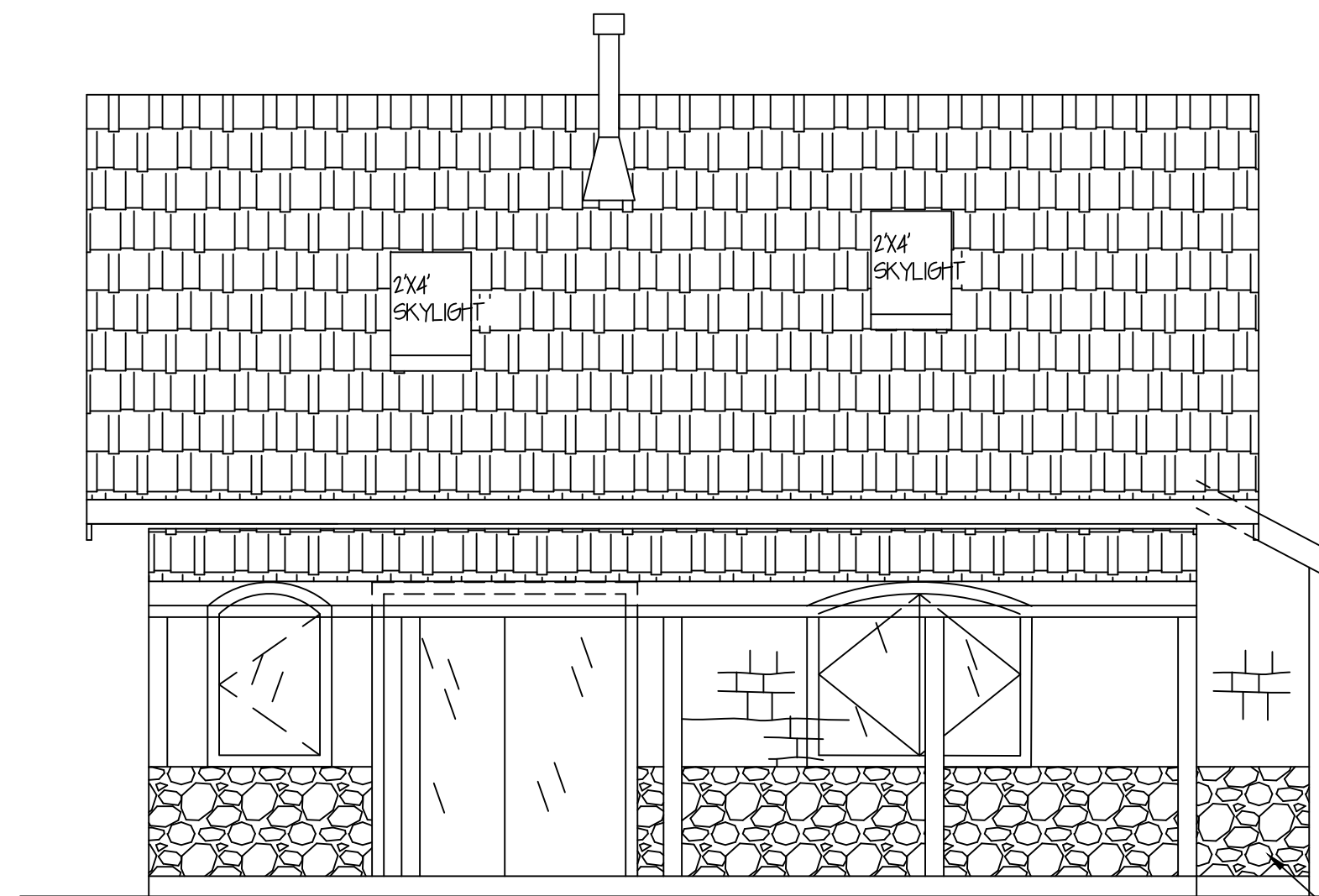
FRONT (SOUTH) ELEVATION  
SCALE: 1/4" = 1'-0"



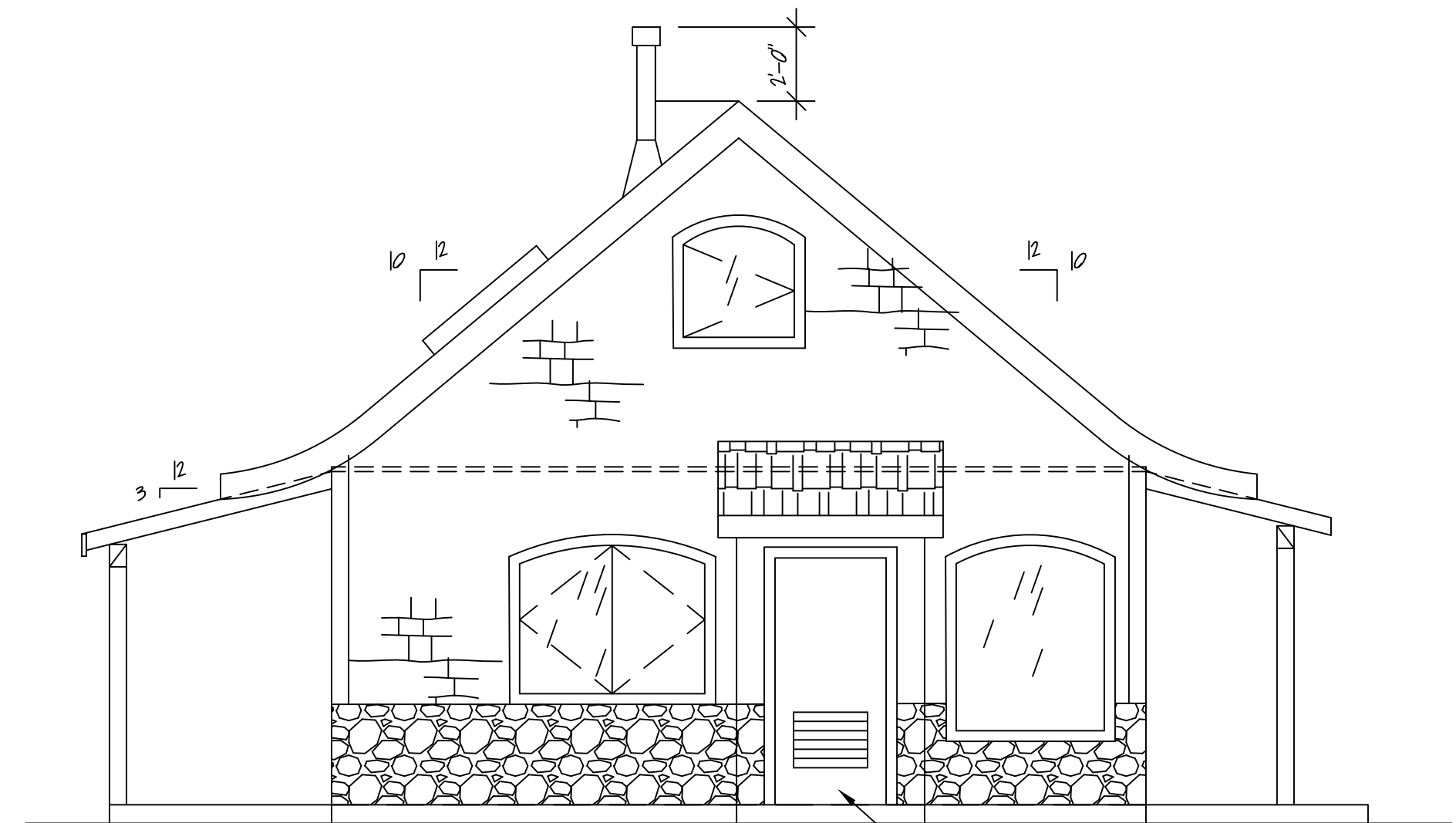
SIDE (EAST) ELEVATION  
SCALE: 1/4" = 1'-0"



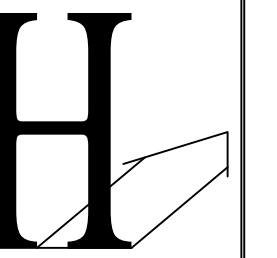
SECTION 'B'  
SCALE: 1/4" = 1'-0"



REAR (NORTH) ELEVATION  
SCALE: 1/4" = 1'-0"



SIDE (WEST) ELEVATION  
SCALE: 1/4" = 1'-0"



HEDGER  
HOME  
DESIGN  
Nevada City, CA.  
(530) 277-0763  
Mark Hedger  
Residential  
Design Specialist

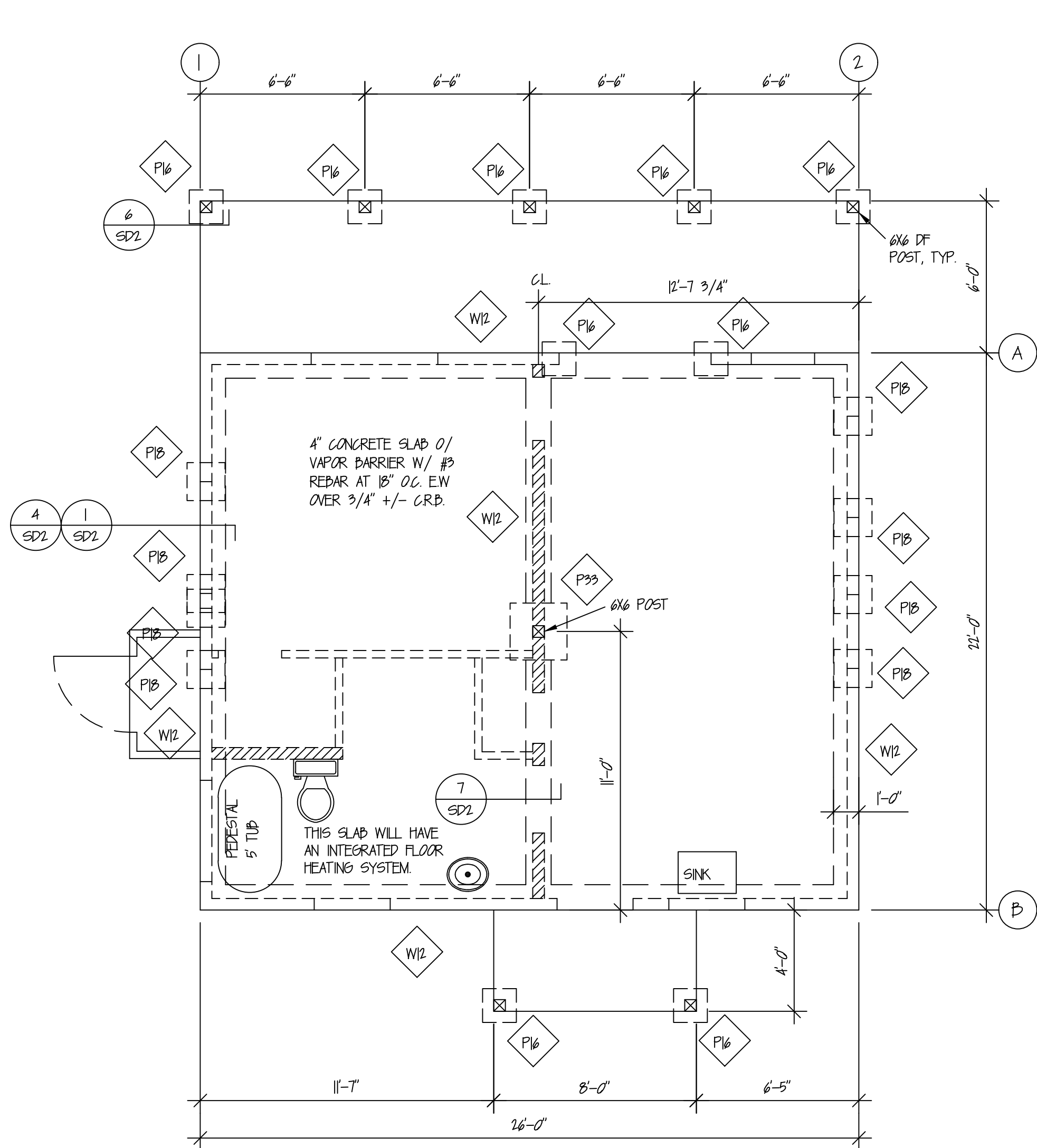
NEW HOME & A.D.U.  
for:  
Amodeo  
13348 Woody Place  
Nevada County

consulting engineer:  
Robert Lawless Engineering  
(530) 263-2757  
T-24 energy consultant:  
Molas Energy Engineering  
(530) 265-2492

| NO. | REVISIONS | DATE |
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As Noted  
DATE  
May 2025  
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OF

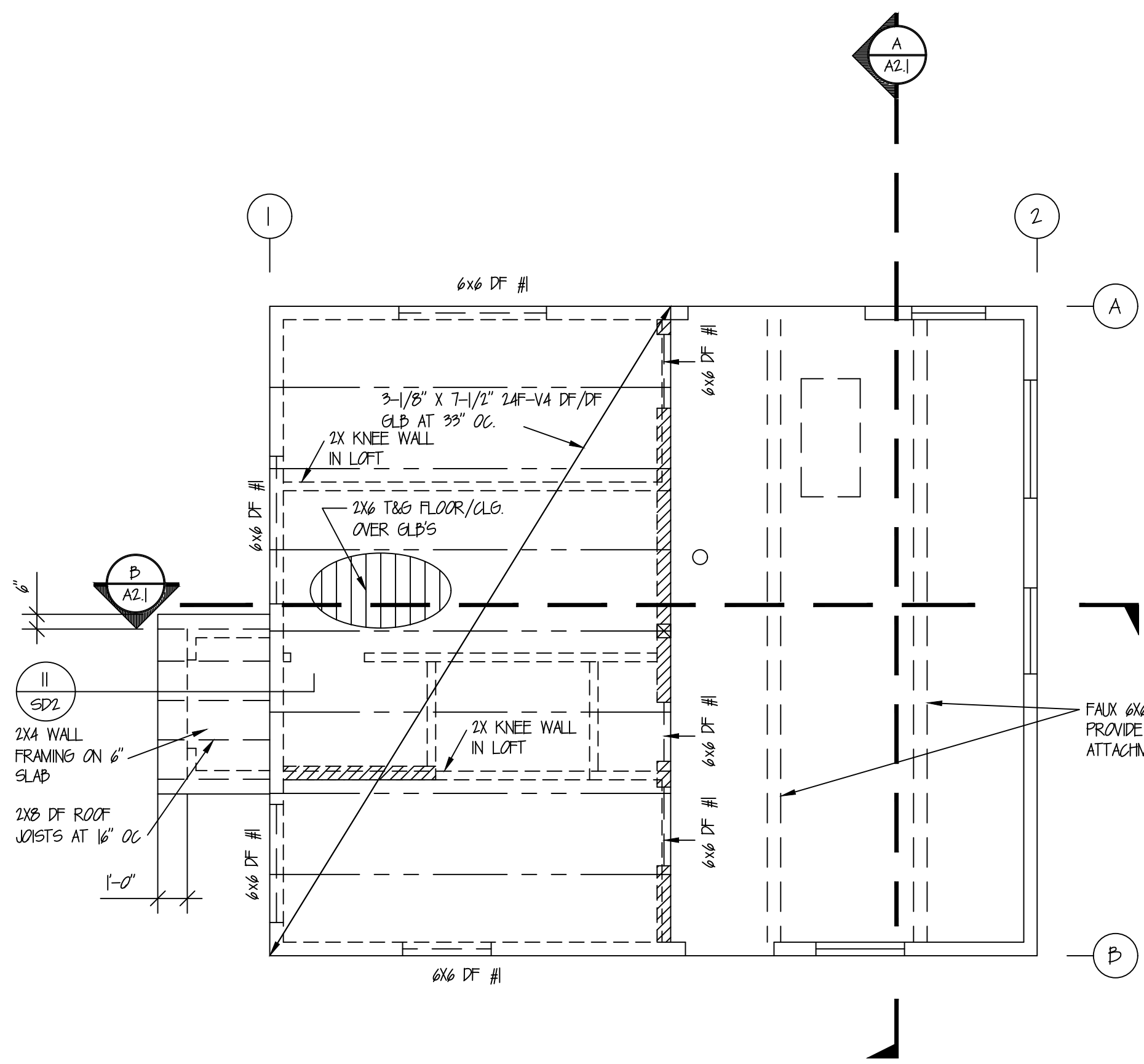
JOB SET



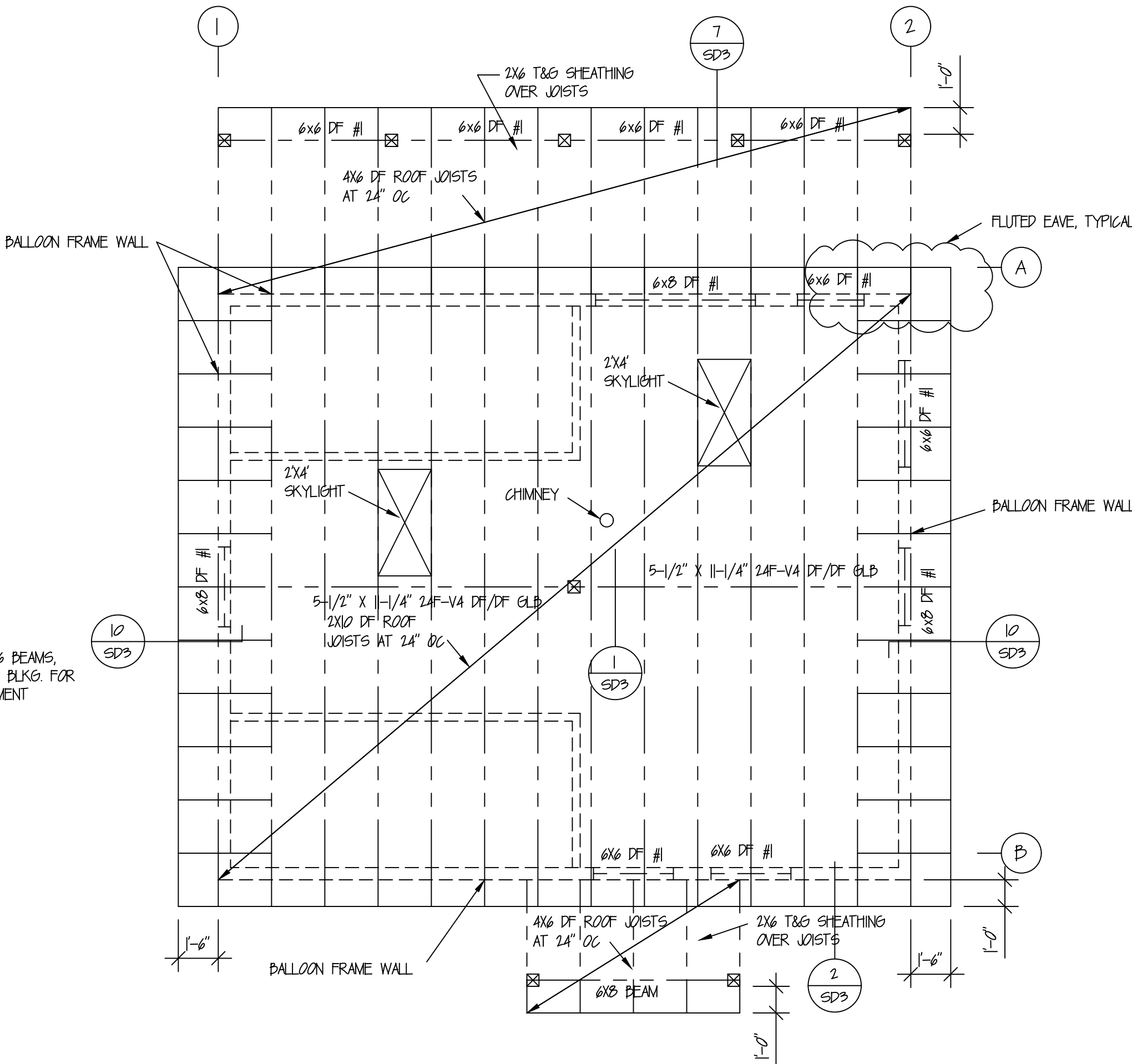
NORTH  
FOUNDATION PLAN  
SCALE: 1/4" = 1'-0"

| FOOTING SCHEDULE |       |        |           |                                                   |           |                    |
|------------------|-------|--------|-----------|---------------------------------------------------|-----------|--------------------|
|                  | WIDTH | LENGTH | THICKNESS | REINFORCEMENT                                     | EMBEDMENT | STEMWALL THICKNESS |
| W12              | 12"   | CONT.  | 8" MIN.   | #4 REBAR IN BOTTOM OF FOOTING & TOP OF STEM WALL. | 12"       | 8"                 |
| P16              | 16"   | 16"    | 12"       | #4 REBAR @ 6" OC EW, 5" OFF BOTTOM                | 12"       | N/A                |
| P18              | 18"   | 18"    | 12"       | #4 REBAR @ 6" OC EW, 5" OFF BOTTOM                | 12"       | N/A                |
| P33              | 33"   | 33"    | 12"       | #4 REBAR @ 6" OC EW, 5" OFF BOTTOM                | 12"       | N/A                |

SEE FOUNDATION NOTE # ON SHEET 'SN' FOR ADDITIONAL SPECIFICATIONS.  
MINIMUM FOOTING EMBEDMENT DEPTH IS 12" INTO NATIVE SOIL. EXTERIOR FINISH GRADE SHALL PROVIDE A MINIMUM FOOTING COVERAGE OF 18".



NORTH  
LOFT FRAMING PLAN  
SCALE: 1/4" = 1'-0"



NORTH  
ROOF FRAMING PLAN  
SCALE: 1/4" = 1'-0"

JOB SET





Nevada City, CA.  
(530) 277-0763  
Mark Hedger  
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Design Specialist

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Amedeo  
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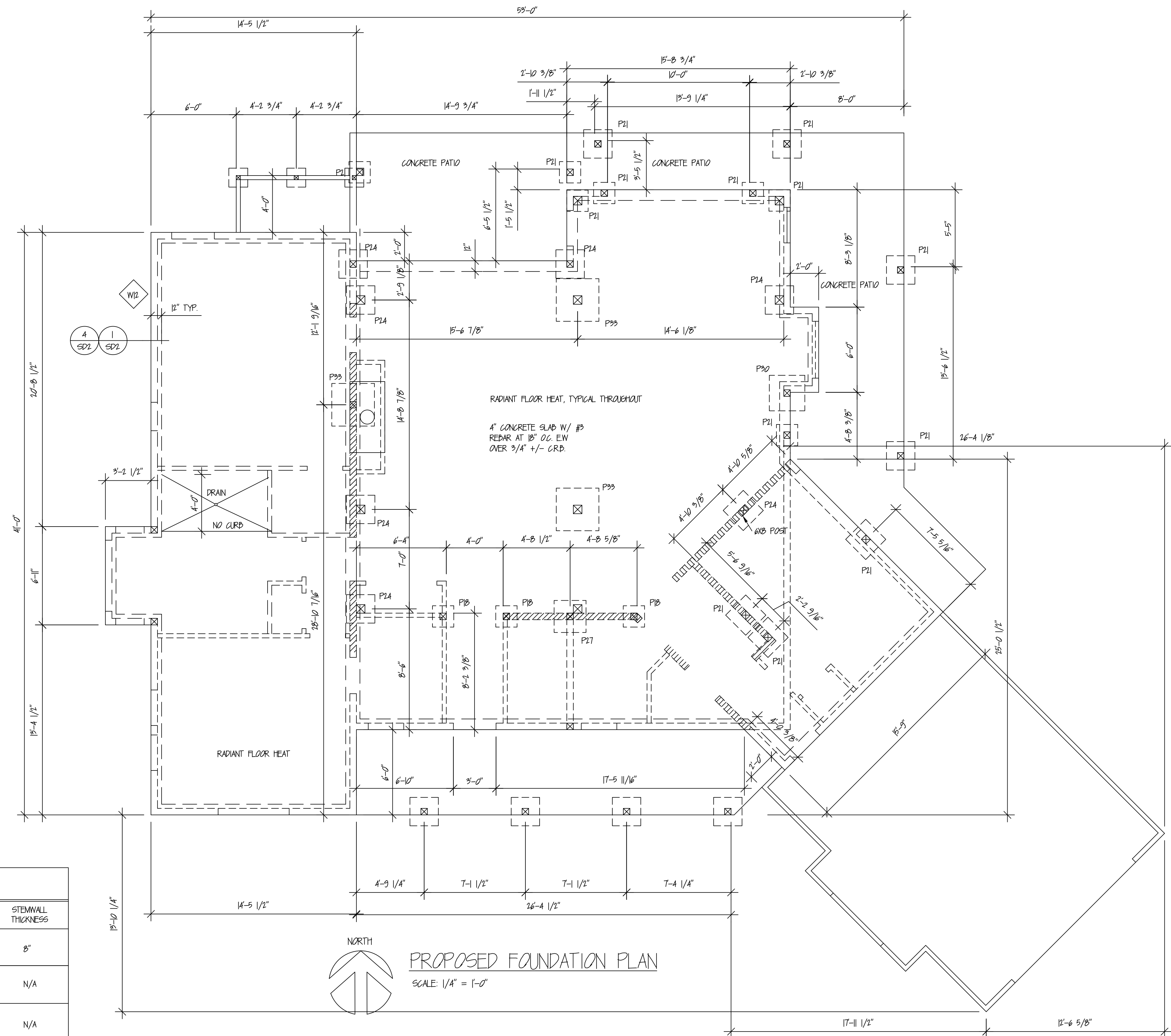
T-24 energy consultant:  
Melas Energy Engineering  
(530) 265-2492

| NO. | REVISIONS | DATE |
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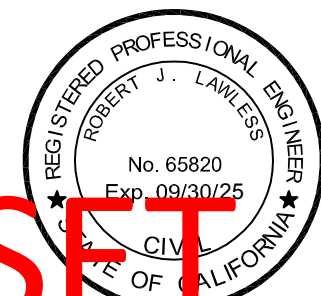
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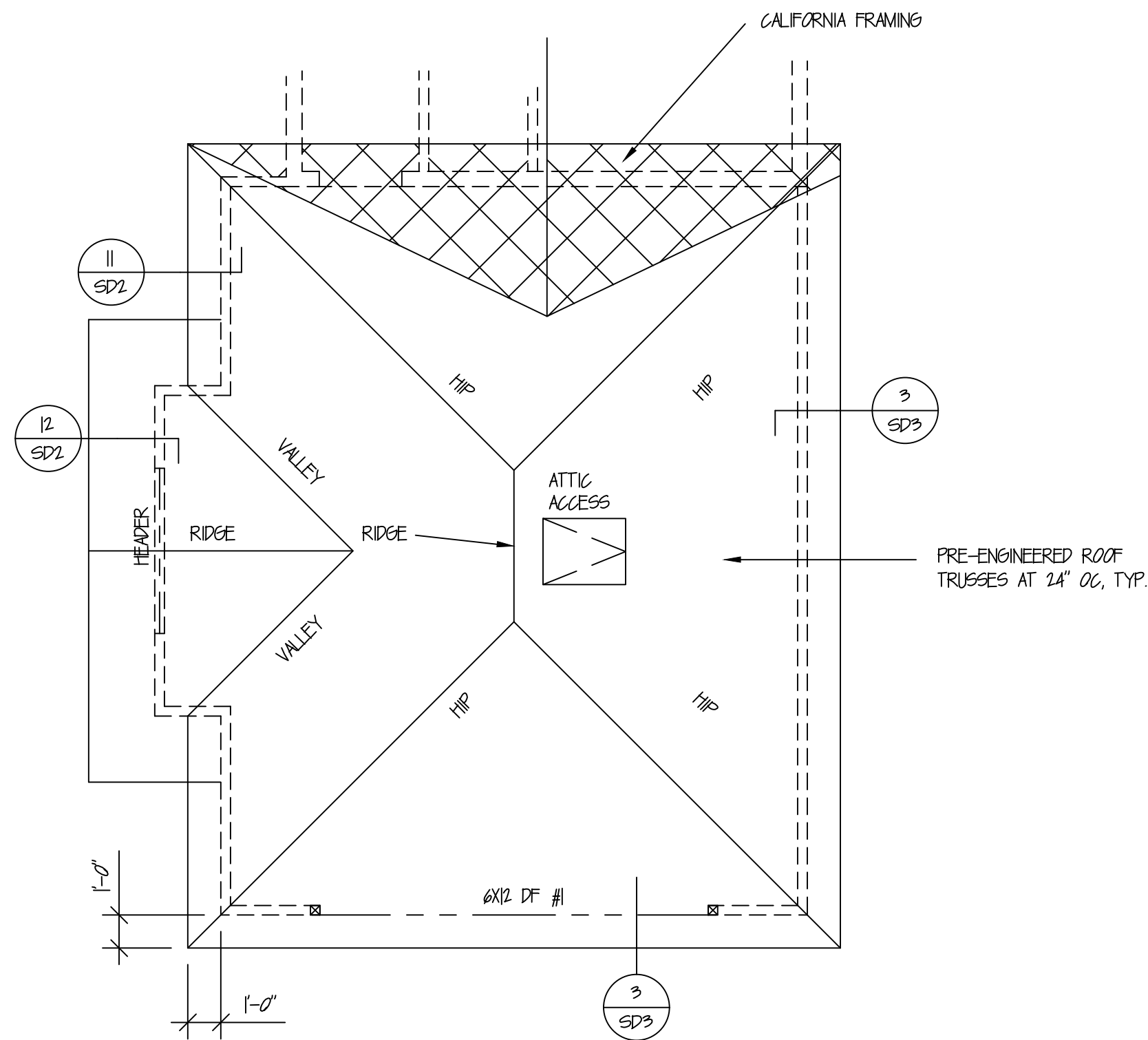


| FOOTING SCHEDULE |       |        |           |                                                  |           |                     |
|------------------|-------|--------|-----------|--------------------------------------------------|-----------|---------------------|
|                  | WIDTH | LENGTH | THICKNESS | REINFORCEMENT                                    | EMBEDMENT | STEM WALL THICKNESS |
| W12              | 12"   | CONT.  | 8" MIN.   | #4 REBAR IN BOTTOM OF FOOTING & TOP OF STEM WALL | 18"       | 8"                  |
| P21              | 21"   | 21"    | 12"       | #4 REBAR @ 6" OC EW, 3" OFF BOTTOM               | 18"       | N/A                 |
| PLA              | 24"   | 24"    | 12"       | #4 REBAR @ 6" OC EW, 3" OFF BOTTOM               | 18"       | N/A                 |
| P21              | 21"   | 21"    | 12"       | #4 REBAR @ 6" OC EW, 3" OFF BOTTOM               | 18"       | N/A                 |
| P30              | 30"   | 30"    | 12"       | #4 REBAR @ 6" OC EW, 3" OFF BOTTOM               | 18"       | N/A                 |
| P33              | 33"   | 33"    | 12"       | #4 REBAR @ 6" OC EW, 3" OFF BOTTOM               | 18"       | N/A                 |

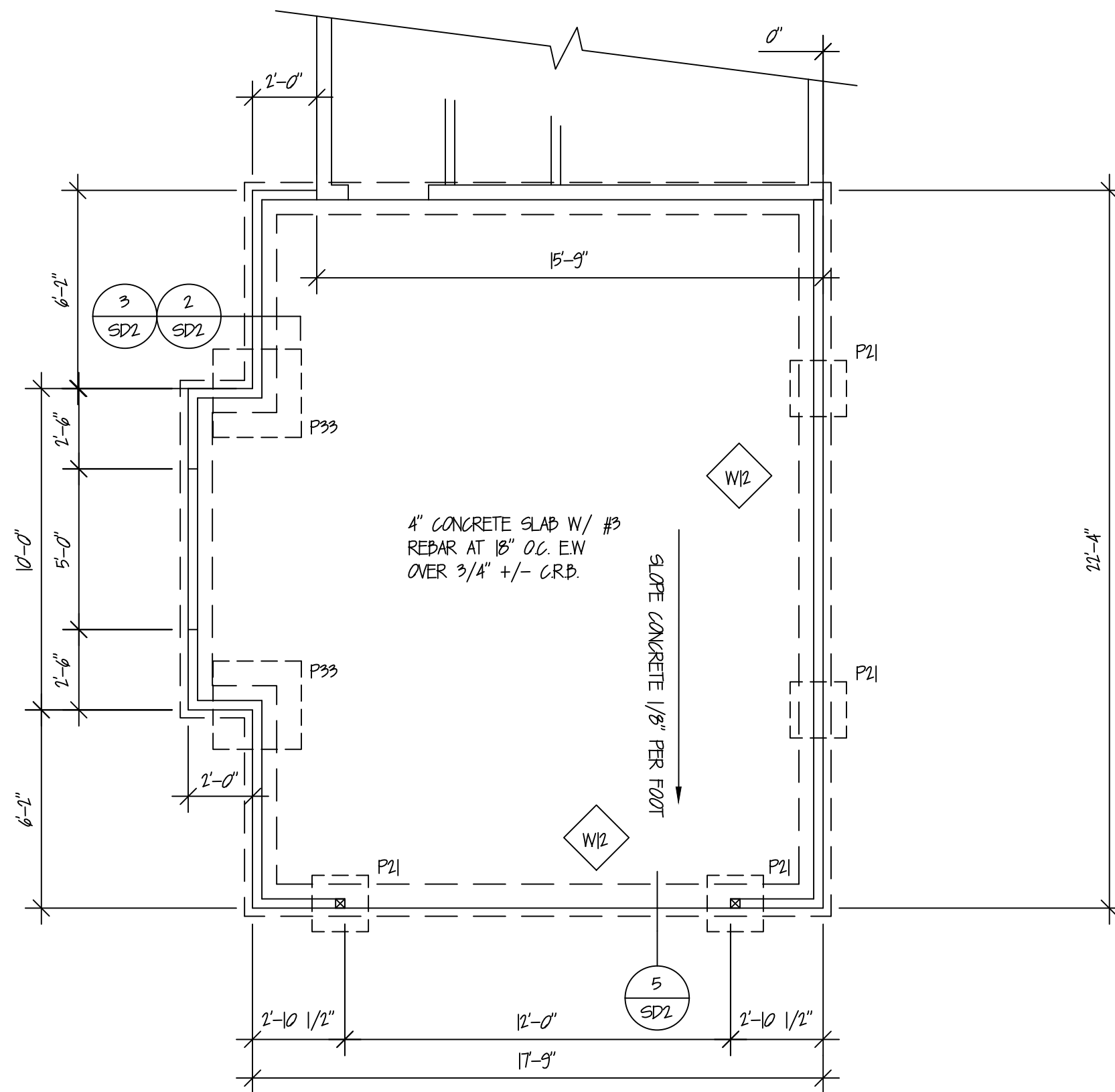
SEE FOUNDATION NOTE 6 ON SHEET 'GN' FOR ADDITIONAL SPECIFICATIONS.  
MINIMUM FOOTING EMBEDMENT DEPTH IS 12" INTO NATIVE SOIL EXTERIOR FINISH GRADE SHALL  
PROVIDE A MINIMUM FOOTING COVERAGE OF 18".



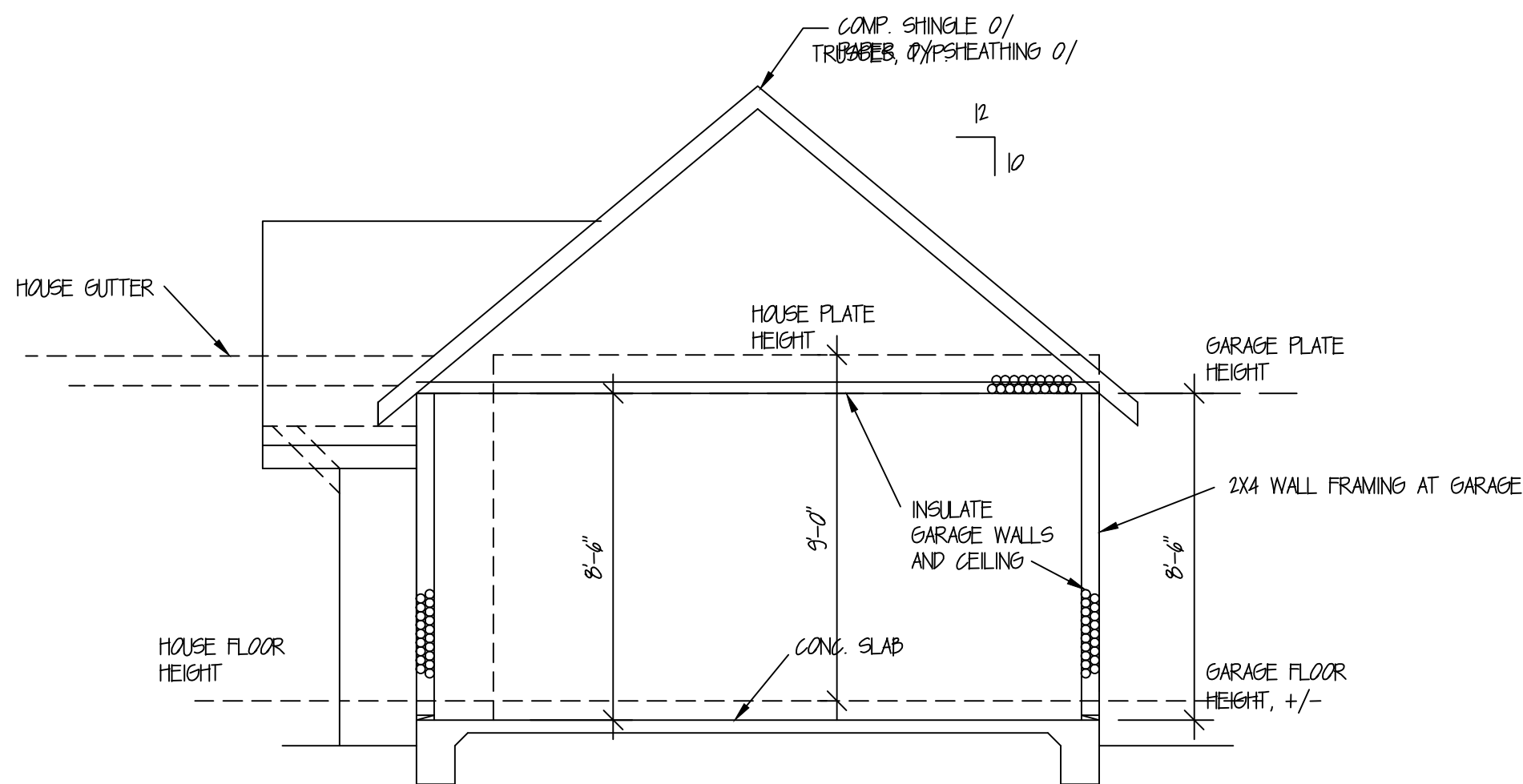
# JOB SET



PROPOSED GARAGE ROOF PLAN  
SCALE: 1/4" = 1'-0"



PROPOSED GARAGE FOUNDATION PLAN  
SCALE: 1/4" = 1'-0"



SECTION  
SCALE: 1/4" = 1'-0"

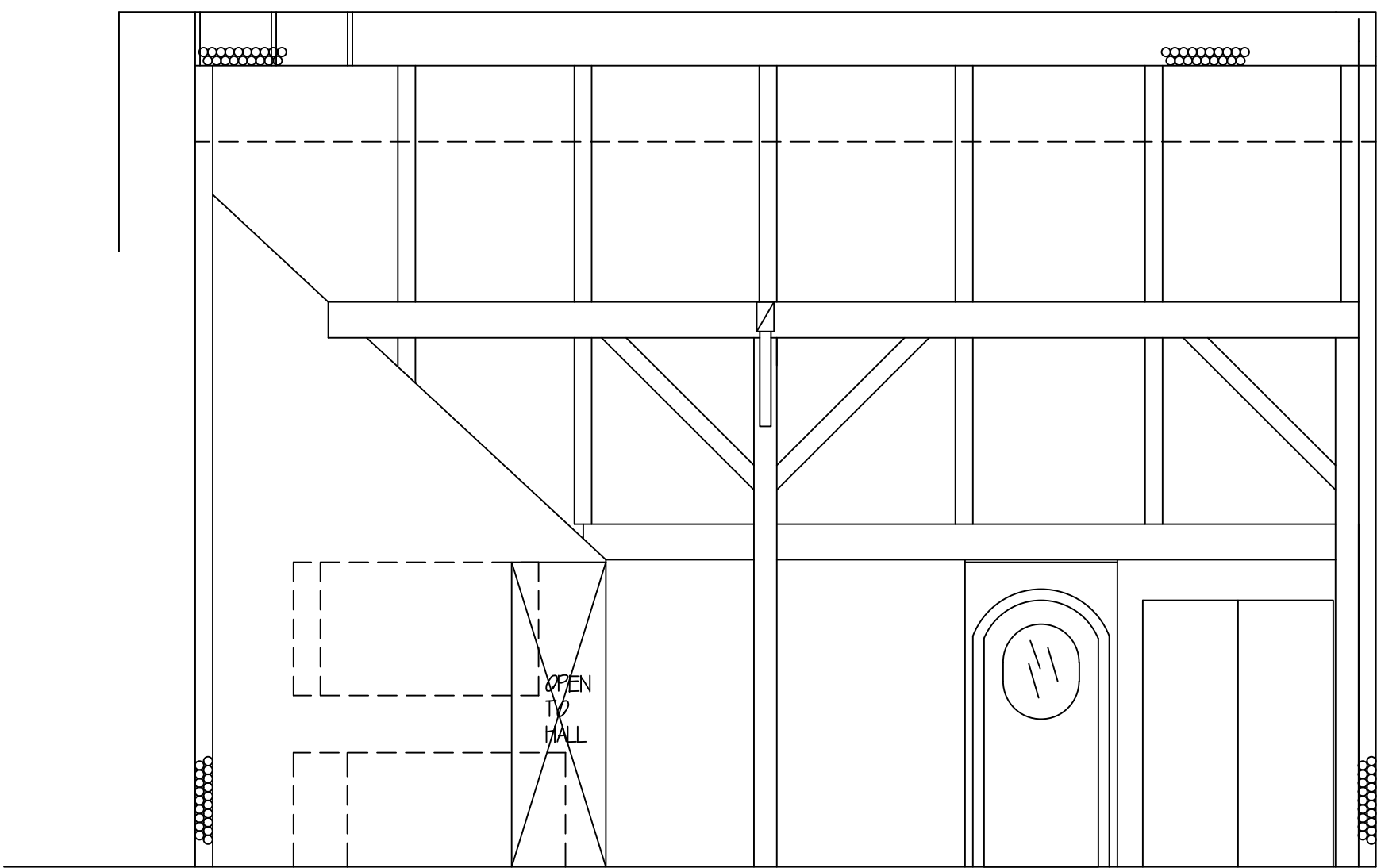
| FOOTING SCHEDULE |       |        |           |                                                  |           |                     |
|------------------|-------|--------|-----------|--------------------------------------------------|-----------|---------------------|
|                  | WIDTH | LENGTH | THICKNESS | REINFORCEMENT                                    | EMBEDMENT | STEM WALL THICKNESS |
| W12              | 12"   | CONT.  | 8" MIN.   | #4 REBAR IN BOTTOM OF FOOTING & TOP OF STEM WALL | 15"       | 8"                  |
| P11              | 21"   | 21"    | 12"       | #4 REBAR @ 6" OC EW, 3" OFF BOTTOM               | 15"       | N/A                 |
| P12              | 24"   | 24"    | 12"       | #4 REBAR @ 6" OC EW, 3" OFF BOTTOM               | 15"       | N/A                 |
| P17              | 27"   | 27"    | 12"       | #4 REBAR @ 6" OC EW, 3" OFF BOTTOM               | 15"       | N/A                 |
| P30              | 30"   | 30"    | 12"       | #4 REBAR @ 6" OC EW, 3" OFF BOTTOM               | 15"       | N/A                 |
| P33              | 33"   | 33"    | 12"       | #4 REBAR @ 6" OC EW, 3" OFF BOTTOM               | 15"       | N/A                 |

SEE FOUNDATION NOTE 6 ON SHEET 'SN' FOR ADDITIONAL SPECIFICATIONS.  
MINIMUM FOOTING EMBEDMENT DEPTH IS 12" INTO NATIVE SOIL. EXTERIOR FINISH GRADE SHALL PROVIDE A MINIMUM FOOTING COVERAGE OF 15".

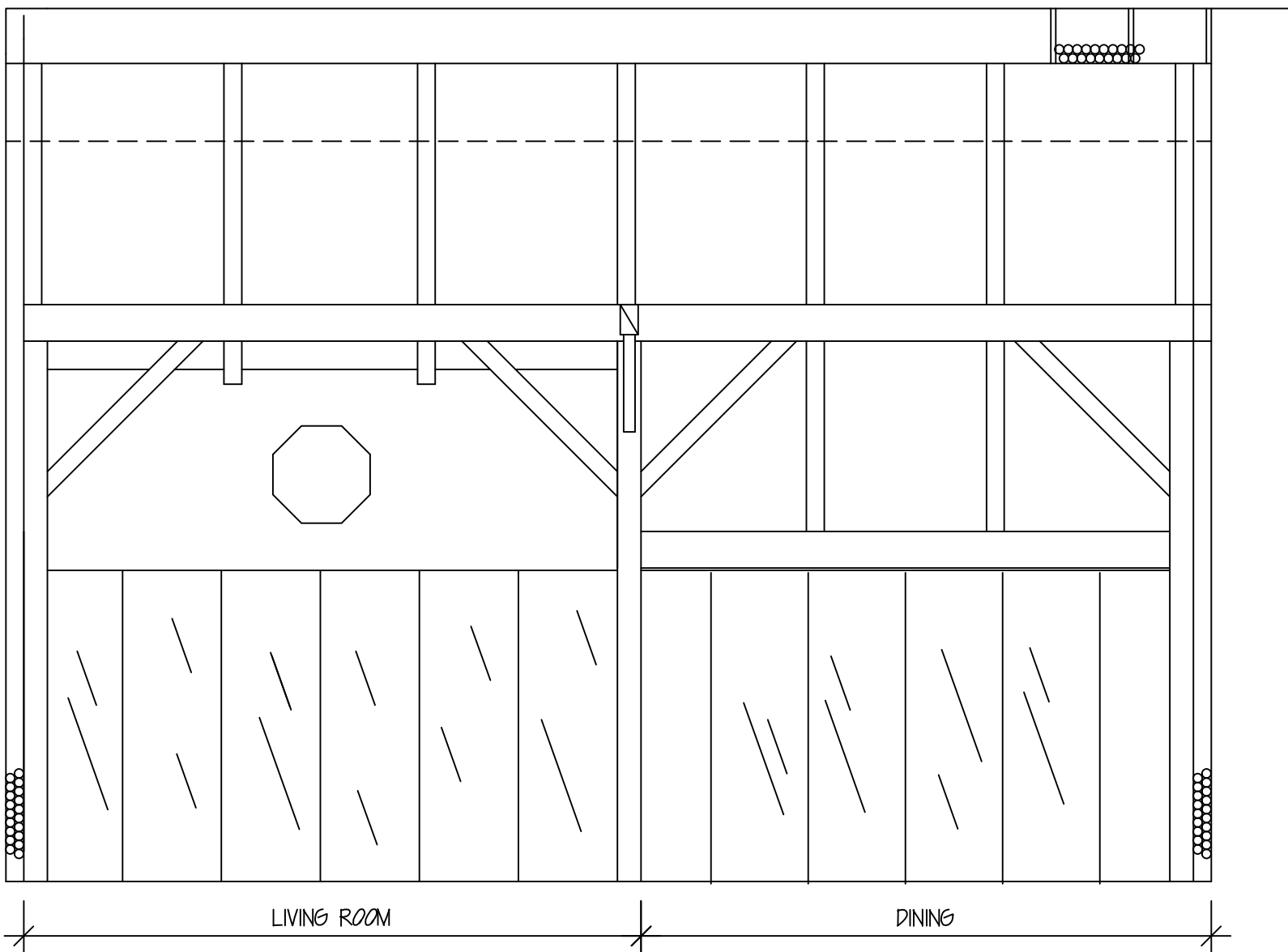
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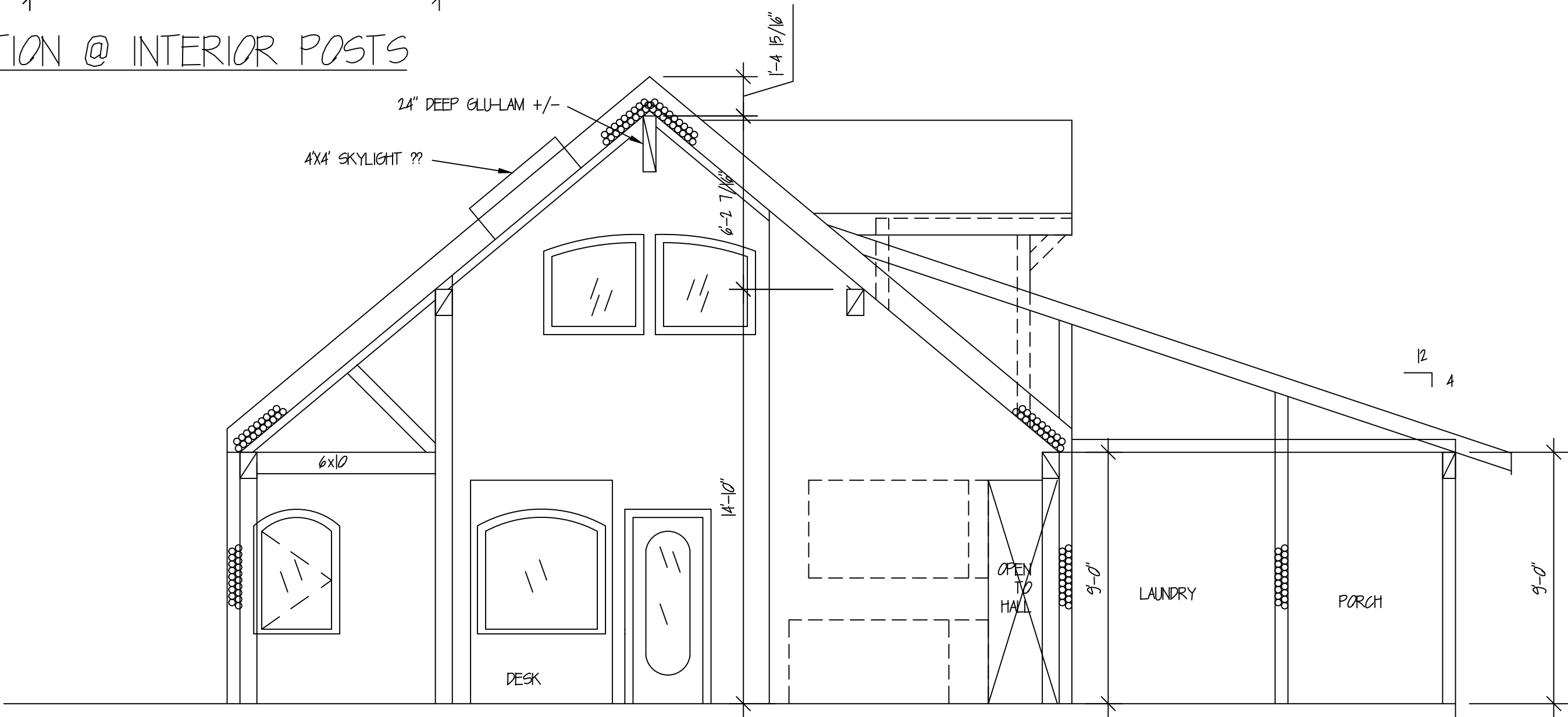
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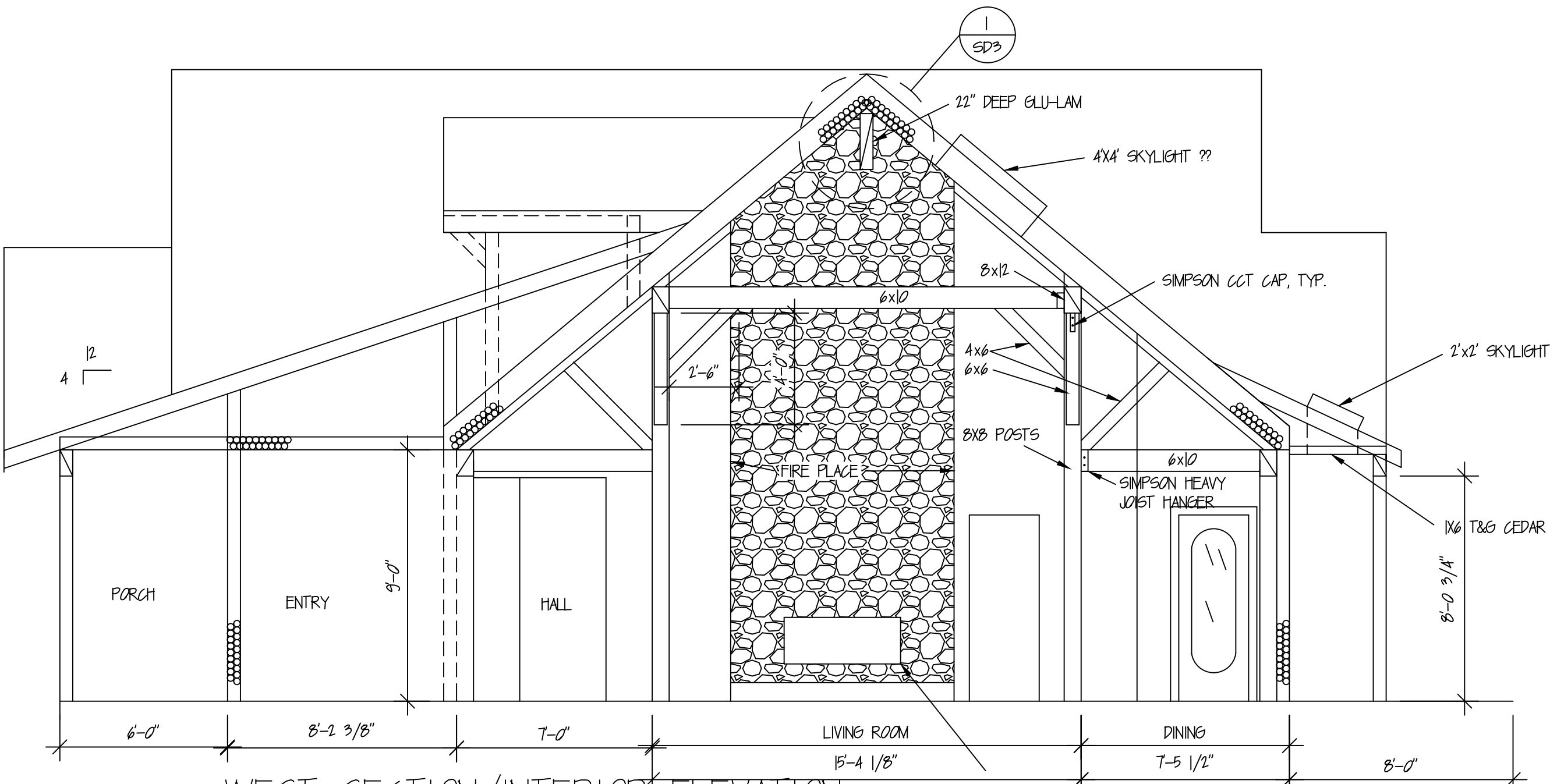
SOUTH INTERIOR ELEVATION  
SCALE: 1/4" = 1'-0"



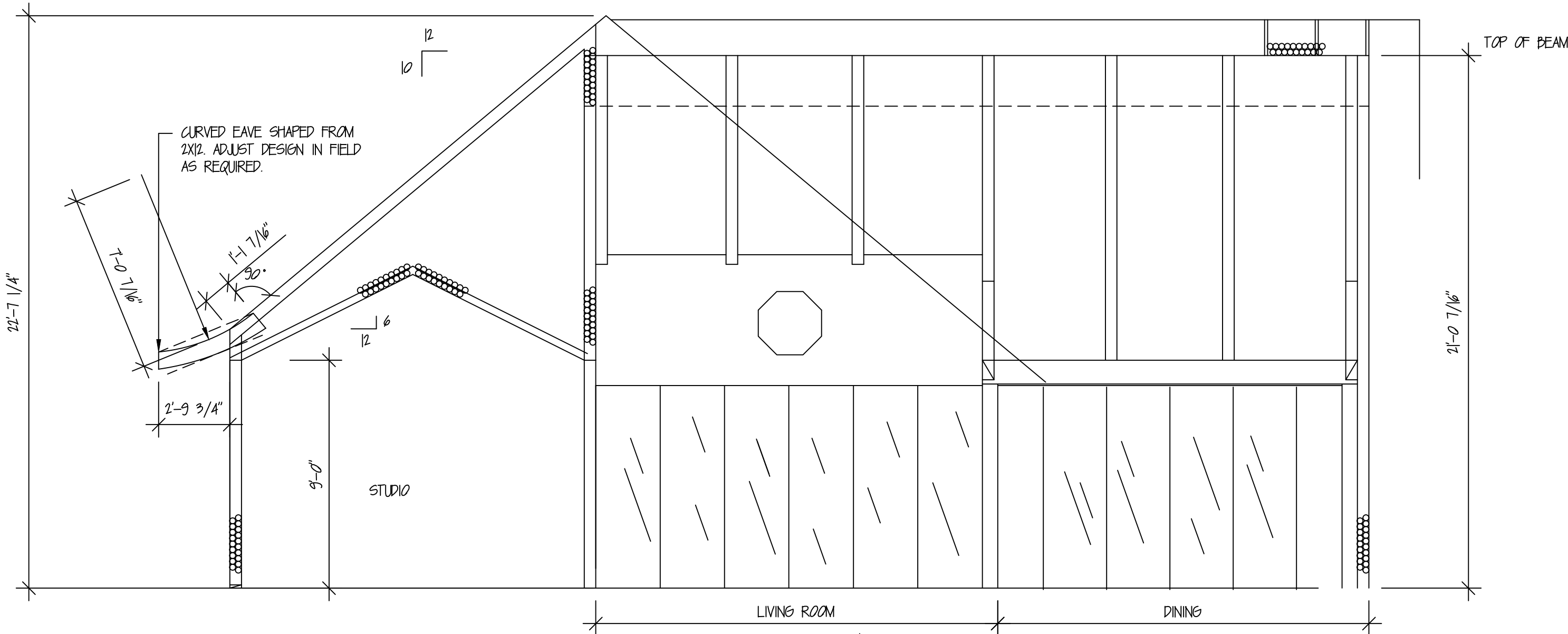
NORTH INTERIOR ELEVATION @ INTERIOR POSTS  
SCALE: 1/4" = 1'-0"



SOUTH SECTION/INTERIOR ELEVATION  
SCALE: 1/4" = 1'-0"



WEST SECTION/INTERIOR ELEVATION  
SCALE: 1/4" = 1'-0"



NORTH SECTION/INTERIOR ELEVATION  
SCALE: 1/4" = 1'-0"

Renaissance Wood Burning Unit, The Linear 50 can be sold in Canada and the USA since it is not regulated as per the rule definition of "fireplaces" under Subpart AAA of the 2015 EPA Standards of Performance for New Residential Wood Heaters Vol. 80, No. 50.  
VERIFY MODEL TO BE INSTALLED WITH OWNER PRIOR TO ORDER.

JOB SET



**H**  
HEDGER  
HOME  
DESIGN  
Nevada City, CA.  
(530) 277-0763  
Mark Hedger  
Residential  
Design Specialist

NEW HOME & A.D.U.  
for:  
Amodeo  
at:  
13348 Woody Place  
Nevada County

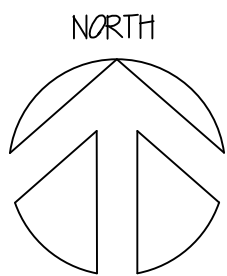
consulting engineer:  
Robert Lawless Engineering  
(530) 263-2757  
T-24 energy consultant:  
Melas Energy Engineering  
(530) 265-2492

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|      |           |     | As Noted | April 2025 | A3.3  |
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SEE ALL NOTES ON SHEETS 'T' & 'GN' FOR  
ADDITIONAL CONSTRUCTION REQUIREMENTS.

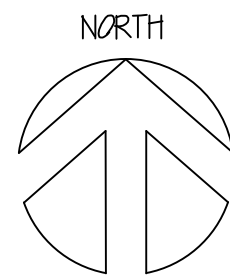
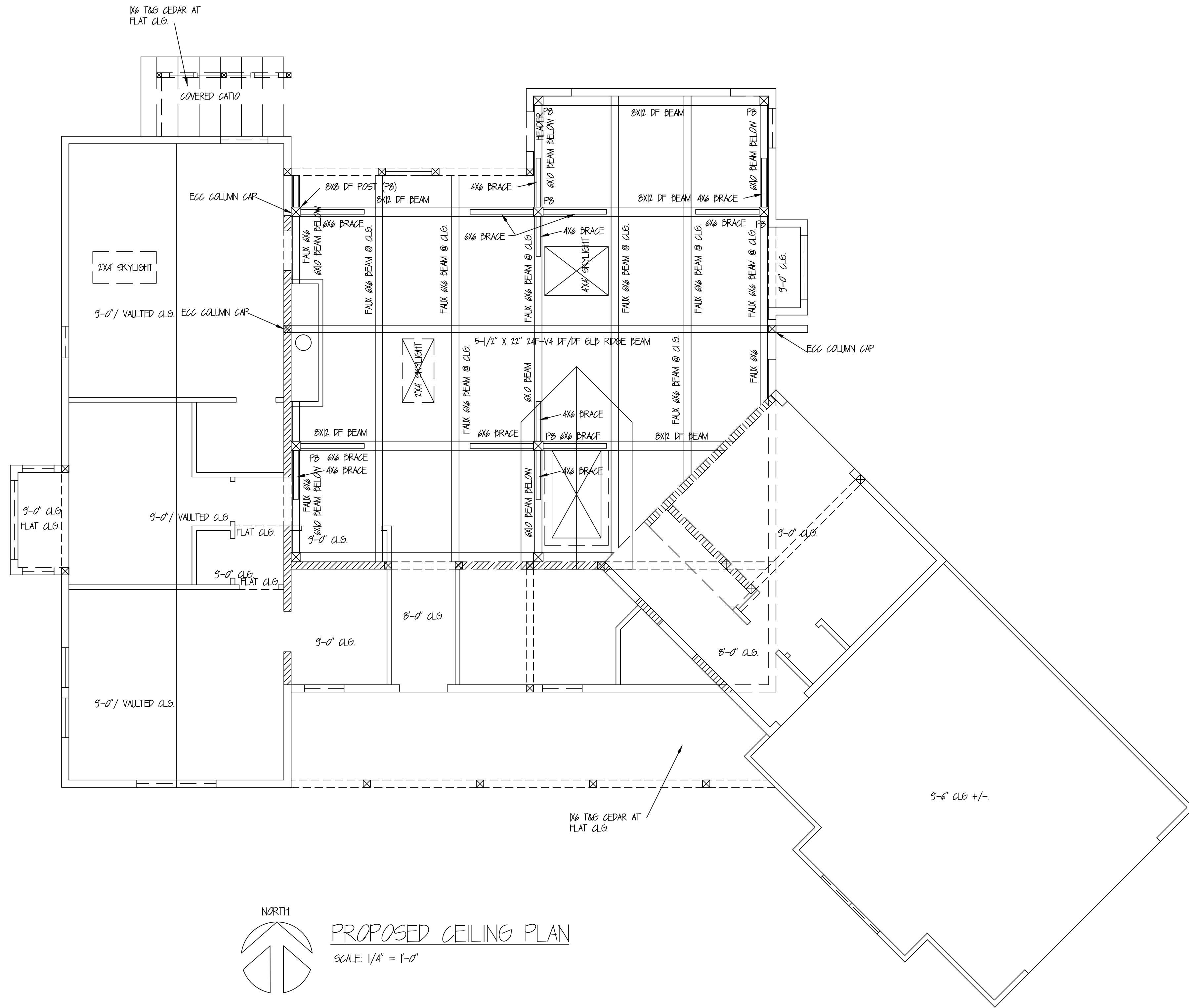
- CALIFORNIA FRAMING, SEE 

SPECIALTY CURVED EAVE AT FRONT & EAST EAVE OF MAIN HOUSE AND FRONT AND BACK OF ADJ. AS SHOWN ON ELEVATIONS. CURVED EAVE DESIGN TO BE CONFIRMED BETWEEN OWNER AND CONTRACTOR PRIOR TO ORDERING ROOF TRUSSES. TRUSS CONFIGURATION MAY CHANGE BASED ON CURVED EAVE FILED DESIGN. FIELD MOCK-UP IS HIGHLY SUGGESTED.



PROPOSED ROOF PLAN  
SCALE:  $1/4" = 1'-0"$

# JOB SET

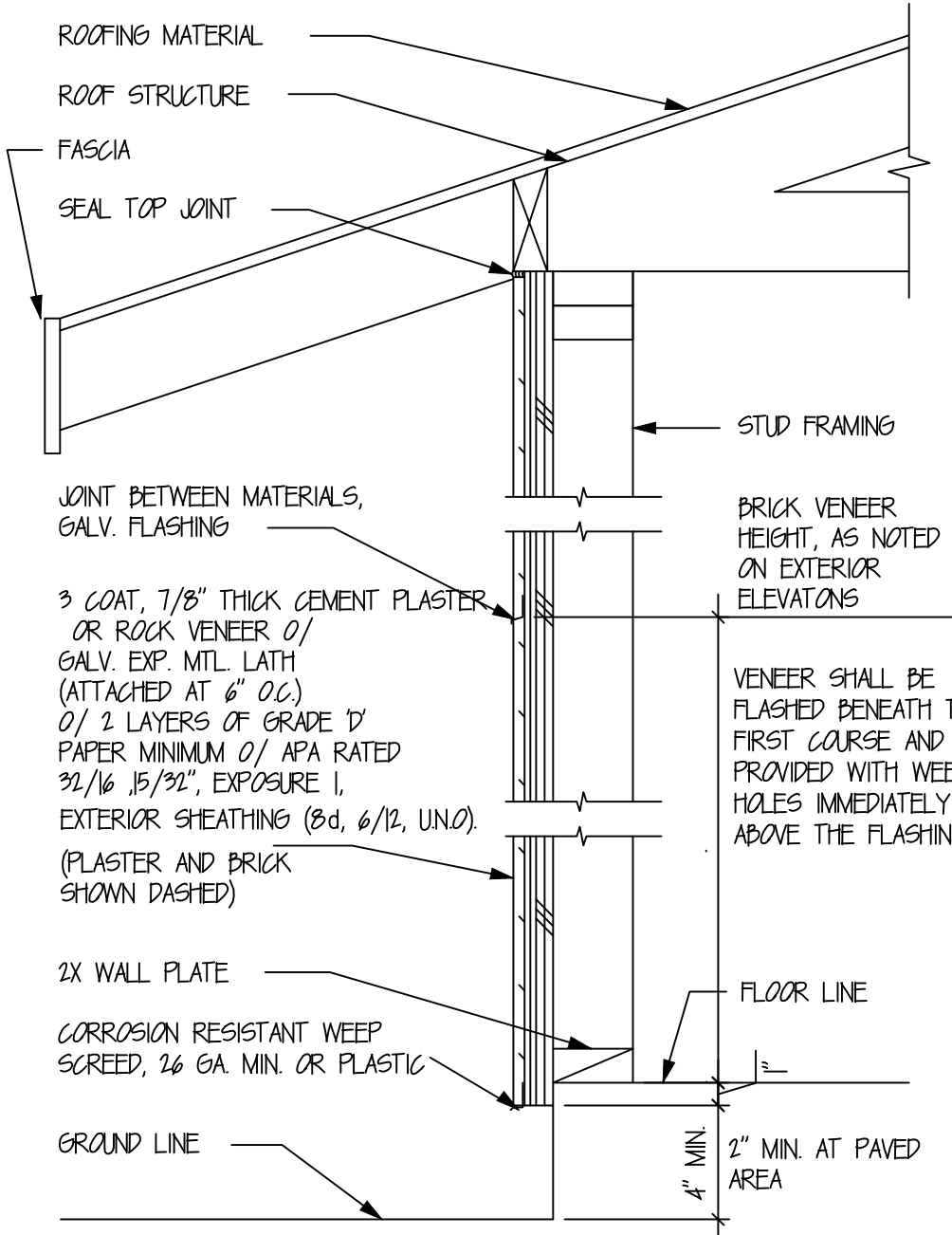


PROPOSED CEILING PLAN  
SCALE: 1/4" = 1'-0"

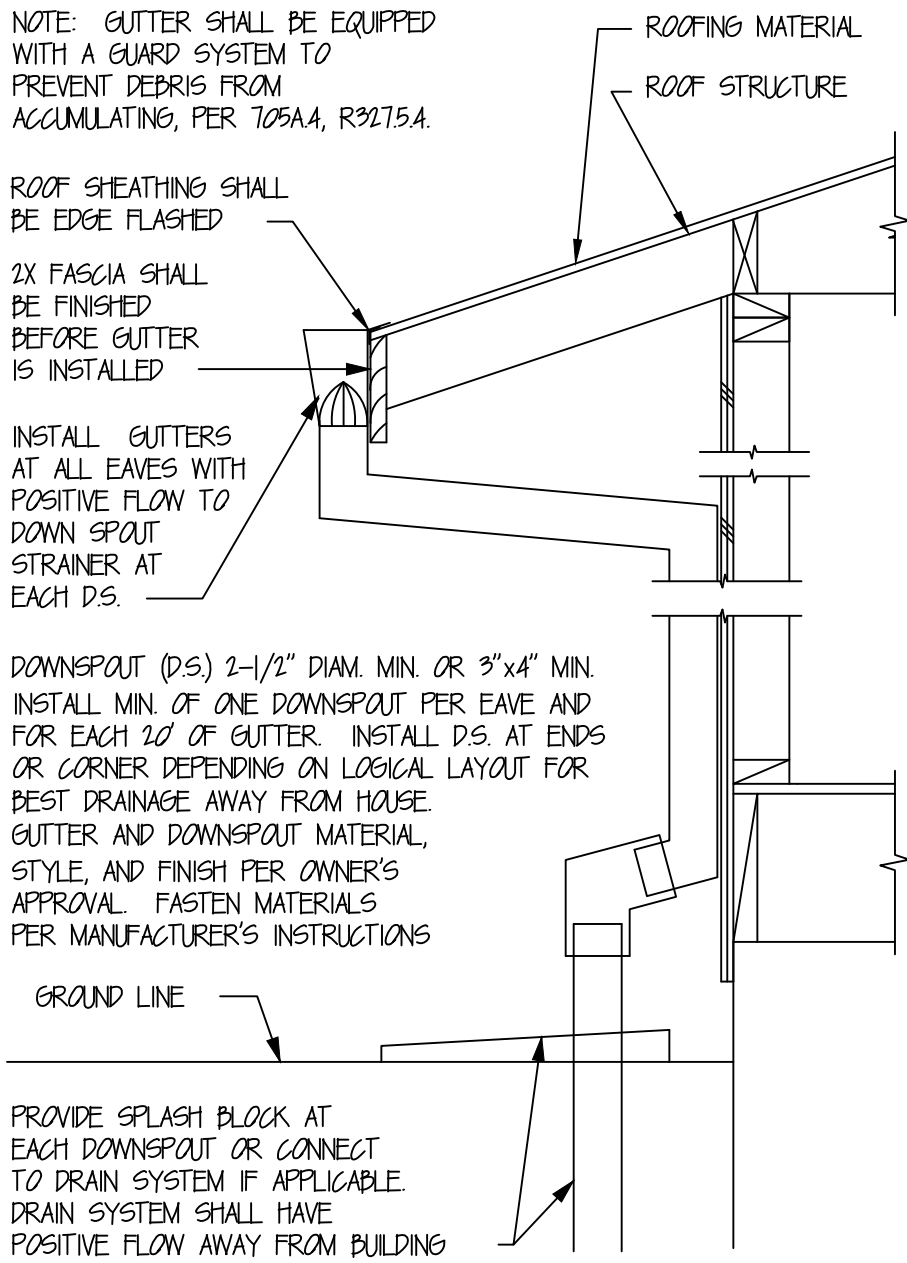


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| SHEET     |      | A4.2       |
| OF        |      |            |



1 CEM. PLASTER OR VENEER  
DI SCALE: 1" = 1'-0"



2 GUTTERS & DOWNSPOUTS  
DI SCALE: 1" = 1'-0"

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| OF        |      |          |  |

ELECTRICAL:

SEE ALL NOTES ON SHEETS 'T' & 'GN' FOR ADDITIONAL CONSTRUCTION REQUIREMENTS.

- E1 FOR NEW DWELLINGS: INSTALL A MINIMUM 200 AMP SERVICE PANEL WITH ROOM FOR FUTURE DOUBLE-POLE CIRCUIT FOR SOLAR SYSTEMS AND SHALL BE INSTALLED PER THE CA ENERGY CODE.
- E2 INSTALL AT LEAST ONE OUTDOOR RECEPTACLE OUTLET AT THE FRONT AND BACK OF THE DWELLING UNIT. OUTDOOR RECEPTABLES AND OUTLETS SHALL NOT BE MORE THAN 6'-6" ABOVE FLOOR OR GRADE LEVEL AND SHALL HAVE WEATHERPROOF COVER AND BE GROUND FAULT CIRCUIT INTERRUPTER (GFCI) PROTECTED.
- E3 CONTRACTOR IS RESPONSIBLE FOR INSTALLING ALL FIXTURES AND EQUIPMENT PER MANUFACTURER'S INSTRUCTIONS. IT IS RECOMMENDED THAT REQUIRED CLEARANCES FOR ALL FIXTURES AND EQUIPMENT BE VERIFIED PRIOR TO ORDERING. IF DESIGN MODIFICATIONS BECOME NECESSARY DUE TO NON-COMPLIANCE BETWEEN DESIGN AND EQUIPMENT TO BE ORDERED, THE CONTRACTOR BECOMES RESPONSIBLE FOR THOSE CHANGES.
- E4 INTERIOR OUTLETS AND FIXTURES SHALL BE WIRED SEPARATELY FROM EXTERIOR OUTLETS AND FIXTURES.
- E5 EXTERIOR OUTLETS AND FIXTURES SHALL BE WEATHERPROOF.
- E6 NON-METALLIC SHEATHED CABLE SHALL BE SECURED BY STAPLES, CABLE TIES, STRAPS OR HANGERS AT INTERVALS NOT EXCEEDING 54" AND WITHIN 12" OF EVERY CABINET, BOX OR FITTING. FLAT CABLES SHALL NOT BE STAPLED ON EDGE.
- E7 ANY ELECTRICAL WITHIN 6 FEET OF ATTIC ACCESS SHALL BE PROTECTED BY CONDUIT OR BOXING.
- E8 SURFACE MOUNTED LIGHTING FIXTURES IN CLOSETS SHALL BE 6 INCHES MINIMUM FROM STORAGE SHELVING.
- E9 KITCHEN HOOD EXHAUST FAN OPTIONS AS NOTED ON SHEET 'T24', ENERGY MEASURES SUMMARY.
- E10 OUTLET BOXES OR OUTLET BOX SYSTEMS USED AS THE SOLE SUPPORT FOR CEILING (PADDED) FANS SHALL BE LISTED, SHALL BE MARKED BY THE MANUFACTURER AS SUITABLE FOR THIS PURPOSE AND SHALL NOT SUPPORT CEILING-SUSPENDED (PADDED) FANS THAT WEIGH MORE THAN 70 POUNDS.
- E11 SINGLE-WALL METAL FLUE PIPE SHALL TERMINATE AT LEAST 5 FEET IN VERTICAL HEIGHT ABOVE THE HIGHEST CONNECTED APPLIANCE DRAFT HOOD OR FLUE COLLAR.
- E12 THE NUMBER OF BLANK ELECTRICAL BOXES MORE THAN 5 FEET ABOVE THE FLOOR SHALL NOT BE GREATER THAN THE NUMBER OF BEDROOMS. THESE ELECTRICAL BOXES MUST BE SERVED BY A DIMMER, VACANCY SENSOR, OR FAN SPEED CONTROL.
- E13 PROVIDE: Dedicated 20-amp circuit to serve garage receptacles. *CEC 240.11(C)(4)*  
AND Dedicated 20-amp circuit for furnace. *CEC 424.12*

PLUMBING

- P1 GAS LINE SIZING AND CALCULATIONS SHALL BE PER THE CA PLUMBING CODE. GAS SHUT-OFF VALVES SHALL BE INSTALLED WITHIN 6 FEET OF EACH APPLIANCE IN AN ACCESSIBLE LOCATION.
- P2 PROVIDE WEATHER-PROOF FLASHING AT ALL OPENINGS IN EXTERIOR WALLS, ROOF AND FOUNDATION SUCH AS DOORS, WINDOWS, SKYLIGHTS, VENTS, PIPES, DUCTS, ETC. METAL FLASHINGS SHALL BE GALVANIZED 24 GAUGE METAL MINIMUM.
- P3 FIRE RESISTIVE CAULKING MAY BE USED AT WALL AND FOUNDATION OPENINGS ONLY WHERE OPENINGS ARE CIRCULAR AND PREVENT PRACTICAL USE OF METAL FLASHING.
- P4 GAS LINE PRESSURE TESTING SHALL BE CONDUCTED PER THE CURRENT CMG.
- P5 PLASTIC PIPE AND FITTINGS, OTHER THAN THOSE USED FOR GAS, SHALL MEET THE REQUIREMENTS OF THE NATIONAL SANITATION FOUNDATION #1.
- P6 ALL PIPE, TUBE, FITTINGS, SOLVENT, CEMENT, THREAD SEALANT, SOLDER, AND OR FLUX USED IN POTABLE WATER SYSTEMS INTENDED TO SUPPLY DRINKING WATER SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF NATIONAL SANITATION FOUNDATION #1.
- P7 SHOWER AND TUB/SHOWER COMBINATIONS SHALL HAVE INDIVIDUAL CONTROL VALVES OF THE PRESSURE BALANCE OR THE THERMOSTATIC MIXING VALVE TYPE.
- P8 RESIDENTIAL BUILDINGS UNDERGOING PERMITTED ALTERATIONS, ADDITIONS OR IMPROVEMENTS SHALL REPLACE ALL NON-COMPLIANT PLUMBING FIXTURES (EXAMPLE: A KITCHEN OR BATHROOM(S) THAT ARE NOT INCLUDED IN THE PROJECT SCOPE OF WORK) WITH WATER CONSERVING PLUMBING FIXTURES.

MECHANICAL

- M1 RESIDENTIAL HVAC SYSTEMS BOTH EXISTING AND NEW, AND PARTS THEREOF SHALL BE INSPECTED IN ACCORDANCE WITH ACCA 4 QM. THE OWNER OR THE OWNER'S DESIGNATED AGENT SHALL BE RESPONSIBLE FOR THE MAINTENANCE OF MECHANICAL SYSTEMS AND EQUIPMENT. THE AUTHORITY HAVING JURISDICTION SHALL BE PERMITTED TO CAUSE AN HVAC SYSTEM TO BE REINSPECTED. *CMG 102.1.2*
- M2 FOR A GAS FUELED WATER HEATER INSTALLED IN A CLOSET, PROVIDE COMBUSTION AIR. USE COVERED/VENTED DOOR. DOOR VENTS SHALL BE WITHIN 12" OF THE TOP AND BOTTOM OF CLOSET ENCLOSURE.
- M3 a. Minimum 50 cfm/unit continuous or 100 cfm/unit intermittent exhaust rate is required at the kitchen range. Hood must be HVI rated.  
b. Minimum 25 cfm/unit continuous or 50 cfm/unit intermittent exhaust rate is required at the bathrooms.
- M4 a. PROVIDE ANCHORAGE FOR ALL HVAC UNITS PER CMG AND A DEDICATED 20 AMP CIRCUIT.
- M5 Island drain and venting shall be installed per section 909 of the CFC. Trap arm length shall be determined by table 1002.1 of the CFC.
- M6 WHOLE HOUSE FANS: INSTALL PER MANUFACTURER'S INSTRUCTIONS, SHALL BE UL LISTED. *CEC 240.5A & 240.55*

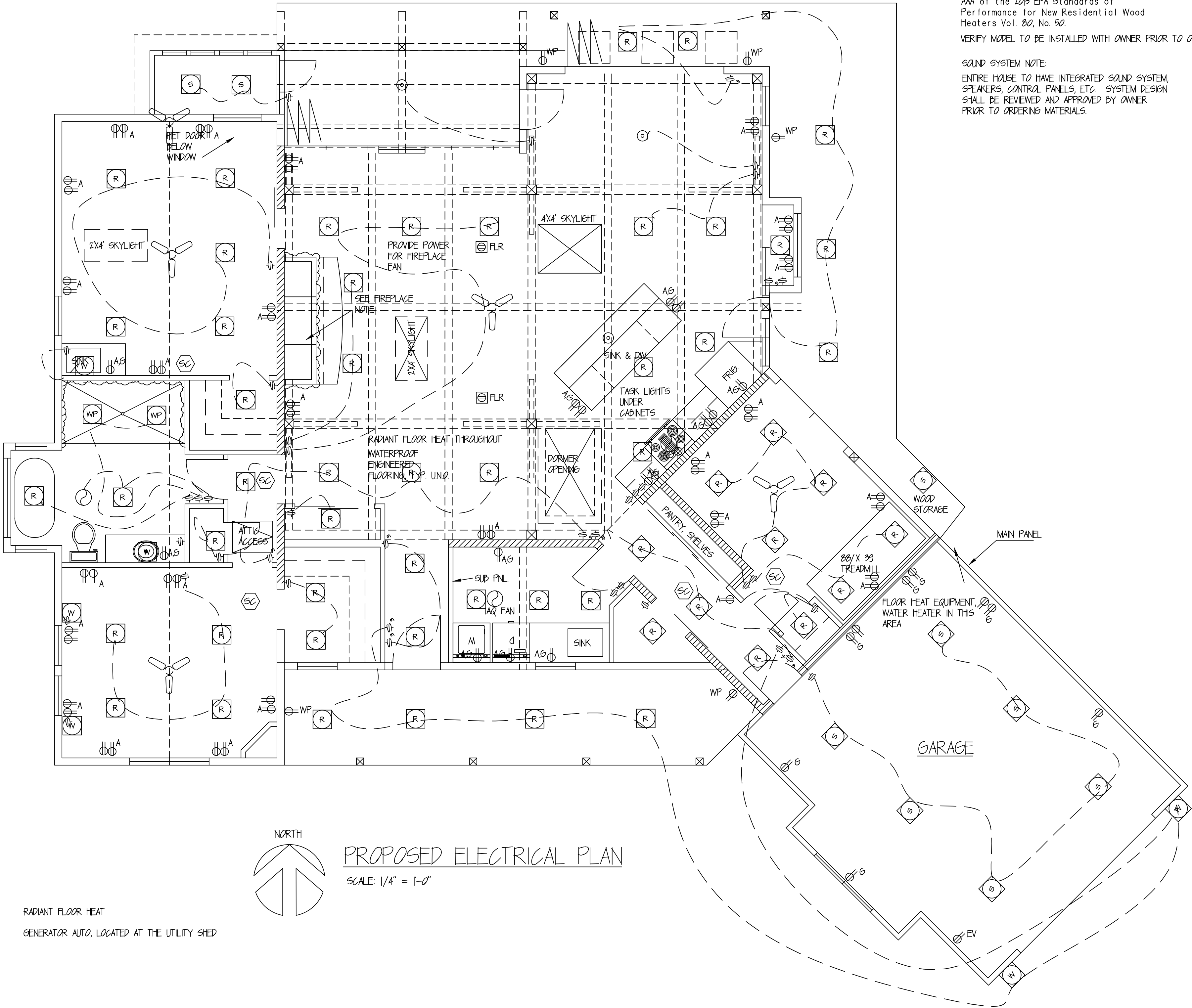
SYMBOL LEGEND

SEE SHEET 'GN' & 'GN2' FOR ADDITIONAL ELECTRICAL, LIGHTING, PLUMBING & MECHANICAL SYSTEMS NOTES

- ⚡ (N) SWITCH W/ DIMMER
- ⊖ A (N) DUPLEX AFCI OUTLET, 110 VOLT
- ⊖ G (N) DUPLEX GFCI OUTLET, 110 VOLT
- ⊖ EV ELECTRIC VEHICLE OUTLET, SEE NOTES ON 'GN'
- ⊖ WP (N) DUPLEX GFCI, WATERPROOF OUTLET, 110 VOLT
- ⊖ (N) DUPLEX GFCI CEILING OUTLET, 110 VOLT
- ⊖ (N) DUPLEX GFCI OUTLET, 220 VOLT
- ⊖ FLR (N) FLOOR DUPLEX AFCI CEILING OUTLET, 110 VOLT
- ⊖ A (N) DBL DUPLEX AFCI OUTLET, 110 VOLT
- ⊖ R (N) ADJUSTABLE RECESSED LIGHT FIXTURE, 16 & AT RATED W/ SEALED GASKET OR CAULK BETWEEN HOUSING & CEILING MATERIAL. THEY MAY NOT CONTAIN SCREW BASE SOCKETS & SHALL CONTAIN JAB COMPLIANT LIGHT SOURCE.
- ⊖ WP (N) RECESSED MOISTURE RESISTANT LIGHT FIXTURE
- ⊖ S (N) SURFACE MOUNTED LIGHT FIXTURE
- ⊖ W (N) WALL MOUNTED LIGHT FIXTURE
- ⊖ (N) CEILING MOUNTED PENDANT/CHAIN FIXTURE
- TASK --- UNDER CABINET FIXTURE, SHALL BE SWITCHED SEPARATELY FROM OTHER LIGHTING SYSTEMS.
- ⊖ EC WALL MOUNTED IONIZATION SMOKE/ CARBON MONOXIDE DETECTOR. ALL SMOKE ALARMS SHALL BE INTERCONNECT IN SUCH A MANNER THAT THE ACTUATION OF ONE ALARM WILL ACTIVATE ALL OF THE ALARMS IN THE DWELLING. ALARMS SHALL BE CLEARLY AUDIBLE IN ALL BEDROOMS OVER BACKGROUND NOISE LEVELS WITH ALL INTERVENING DOORS CLOSED.
- ⊖ S WALL OR CEILING MOUNTED IONIZATION SMOKE DETECTOR W/ SILENCING SWITCH. WHEN MORE THAN ONE CARBON MONOXIDE ALARM IS INSTALLED, THEY SHALL BE INTERCONNECT IN SUCH A MANNER THAT THE ACTUATION OF ONE ALARM WILL ACTIVATE ALL OF THE ALARMS IN THE DWELLING.
- ⊖ C SATELLITE / CABLE, T.V. OUTLET
- ⊖ TELEPHONE OUTLET
- ⊖ (N) CEILING MOUNTED EXHAUST FAN, UOIN.
- ⊖ IAQ FAN (N) CEILING MOUNTED INDOOR AIR QUALITY EXHAUST FAN, PROVIDE LABEL AT CONTROL SWITCH STATING "FAN TO REMAIN ON WHEN HOUSE IS OCCUPIED"
- ⊖ T THERMOSTAT
- ⊖ (N) CEILING FAN W/ LIGHT

NOTES:

1. DRYER VENT, 3" MIN. FROM WINDOW OPENINGS  
The dryer exhaust duct shall include the following:  
a. rigid material  
b. smooth interior surface  
c. minimum 4" diameter  
d. minimum thickness 0.016-inch  
e. backdraft damper



FIREPLACE NOTE:

Renaissance Wood Burning Unit, The Linear 50 can be sold in Canada and the USA since it is not regulated as per the rule definition of "fireplaces" under Subpart AAA of the 2015 EPA Standards of Performance for New Residential Wood Heaters Vol. 80, No. 50.

VERIFY MODEL TO BE INSTALLED WITH OWNER PRIOR TO ORDER.

SOUND SYSTEM NOTE:

ENTIRE HOUSE TO HAVE INTEGRATED SOUND SYSTEM, SPEAKERS, CONTROL PANELS, ETC. SYSTEM DESIGN SHALL BE REVIEWED AND APPROVED BY OWNER PRIOR TO ORDERING MATERIALS.

H

HEDGER  
HOME  
DESIGN

Nevada City, CA.

(530) 277-0763

Mark Hedger  
Residential  
Design Specialist

NEW HOME & A.D.U.

for:

Amodeo

at:

13348 Woody Place

Nevada County

consulting engineer:  
Robert Lawless Engineering  
(530) 263-2757  
T-24 energy consultant:  
Melas Energy Engineering  
(530) 265-2492

DATE

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As Noted

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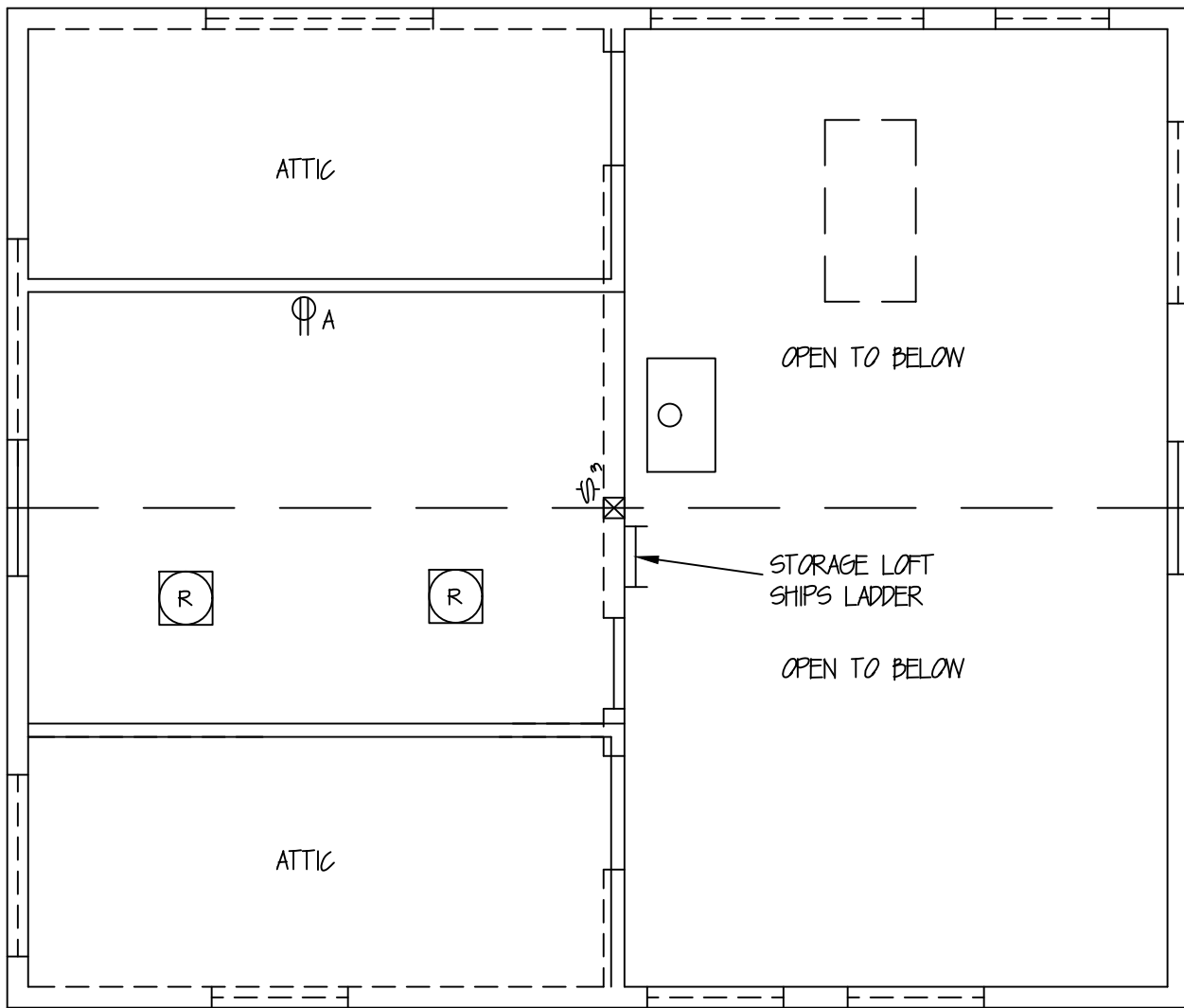
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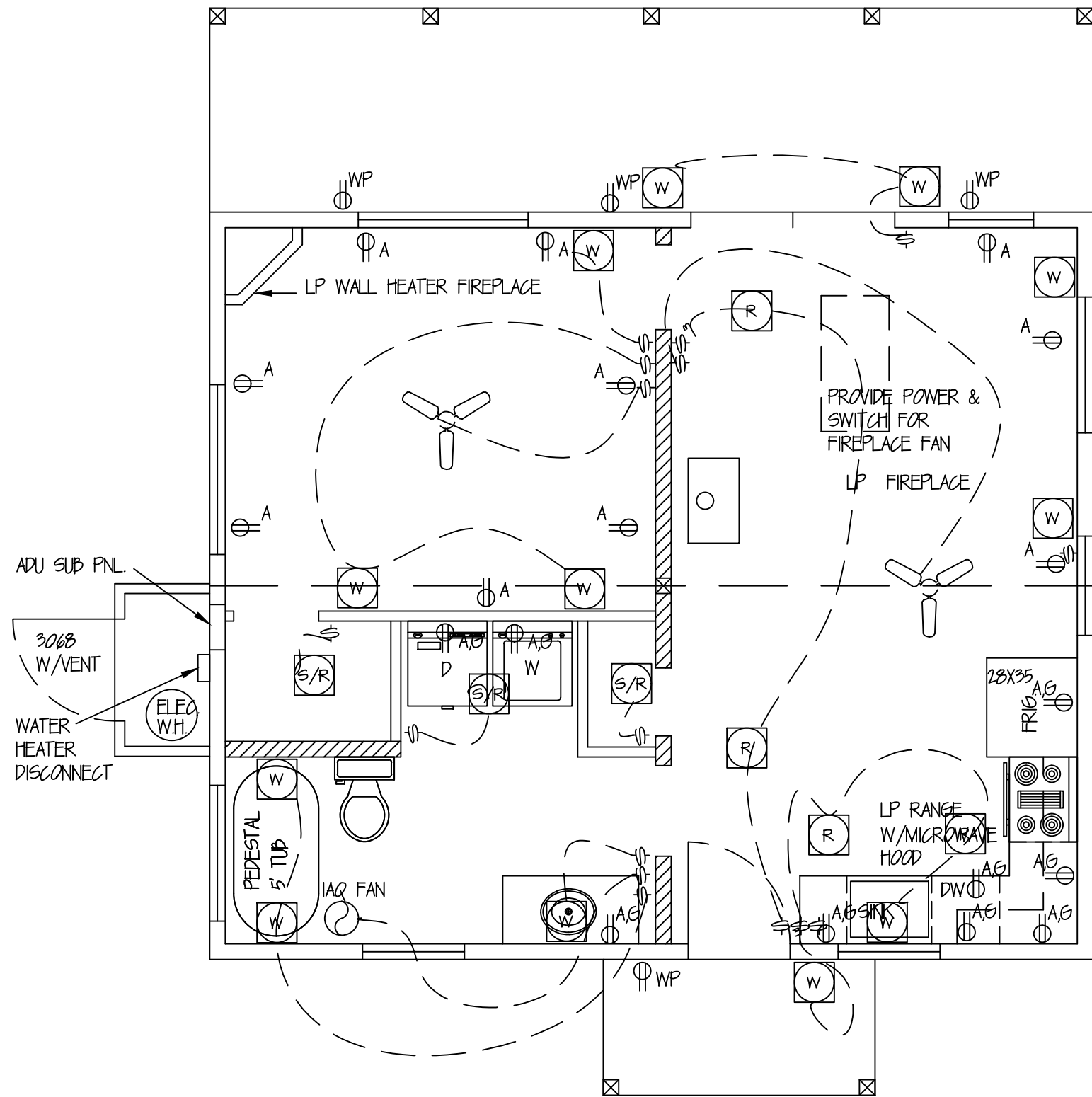
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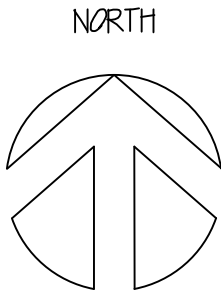
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LOFT PLAN



A.D.U. PLAN



A.D.U. ELECTRICAL PLANS  
SCALE: 1/4" = 1'-0"

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DATE  
May 2025  
SHEET

Robert Lawless assumes that the General Contractor and all involved parties have read and understand notes listed in plans.

GENERAL

1. All work, details of design, workmanship, and materials shall conform to requirements of the **2022 edition of the California Building Code (CBC)** of the International Conference of Building Officials and the applicable **Nevada County** building codes.
2. Robert Lawless expressly reserves its common law copyright and other property rights in these plans. These plans are not to be reproduced, changed, or copied in any manner whatsoever, nor are they to be assigned to a third party without the express written consent of Robert Lawless in the event of unauthorized reuse of these plans by a third party, the third party shall hold Robert Lawless harmless.
3. Robert Lawless reserves the right to perform observation visits to the site at any time. Observations are performed solely for the purpose of determining if the contractor understands design intent conveyed in the plans. Observations do not guarantee contractor's performance and are not to be construed as supervision of the project.
4. All inspections required by the building codes, local building departments, or by these plans shall be provided by an independent inspection company or the building department. Site visits by the engineer of record do not constitute an inspection, unless specifically contracted.
5. In the event that certain existing dimensions and/or conditions are found to be different from those shown on the plans and details, the engineer shall be immediately notified so that the proper revisions can be made if necessary. The Contractor shall be held responsible for the results of any errors, discrepancies, or omissions which the Contractor failed to notify Robert Lawless of before construction and/or fabrication of the work.
6. The contractor shall be responsible for verification of all dimensions, conditions and elevations with architectural drawings prior to start of construction. The contractor shall inform the architect in writing of any discrepancies or omissions noted on the drawings. Any such discrepancy, omission or variation not reported before start of construction shall be the responsibility of the contractor. Where discrepancies occur in these drawings, notes and details on drawings shall take precedence over general structural notes and typical details.
7. Robert Lawless is responsible for the structural items in the plans only. Should any changes be made, or should the results of these calculations not be fully or properly transferred to the plans, Robert Lawless assumes no responsibility for the structure.
8. The details shown on the drawings are typical. Similar details apply to similar conditions. No deviations from structural details shall be made without the prior written approval of Robert Lawless
9. These drawings represent the final structure and do not indicate the method of construction. The contractor shall be solely responsible for the construction means, methods, techniques, sequences and procedures. It shall be the contractor's responsibility to design and provide adequate shoring, bracing, form-work, etc. as required for the protection of life and property during construction. Construction materials shall be uniformly spread out such that the design live load per square foot as specified herein is not exceeded. Should an unfinished structure be subject to excessive loads, Robert Lawless should be consulted for an interim design or if not, will assume no liability.
10. Typical details and notes shall apply, though not necessarily indicated at a specific location on plans. Where no details are shown, construction shall conform to similar work on the project. Details may show only one side of connection or may omit information for clarity.
11. All hardware and framing members specified in the calculations and/or plans are minimums and larger members of equal or better grade may be substituted.
12. These plans have been prepared using standards of care and completeness normally exercised under similar circumstances by reputable engineers in this or similar localities. They necessarily assume that the work depicted will be performed by an experienced contractor and/or workmen who have a working knowledge of the applicable code standards and requirements and of industry standard good practice. As not every condition or element is (or can be) explicitly shown on these drawings, it is understood that the contractor will use industry accepted standard good practice for all miscellaneous work not explicitly shown.
13. Calculation and design of miscellaneous non-structural items, such as stairs, railings, non-structural walls and prefabricated items, such as floor and roof trusses, are not included and are to be provided by others unless specifically noted on these drawings.
14. All work or construction shall comply with all applicable building codes, regulations and safety requirements.
15. Where reference is made to various test standards for materials, such standards shall be the latest edition and/or addenda.
16. Establish and verify all openings and inserts for architectural, mechanical, plumbing and electrical with appropriate trades, drawings and subcontractors prior to construction.
17. Shop drawings shall be submitted for all structural items. Shop drawings are reviewed only for general compliance with the structural drawings. Review does not indicate that the shop drawings are correct or complete. Responsibility for correctness shall rest with the contractor. Any changes, substitutions or deviations from contract drawings shall be clouded. Any of the aforementioned shall not be considered approved after engineers review unless specifically noted accordingly. The shop drawings do not supersede or replace the original contract drawings. Any engineering provided by others and submitted for review shall bear the seal of an appropriately registered engineer. The engineer of record shall not be responsible for the adequacy of engineering designs performed by others. Allow five working days for the engineers review. One copy of each submittal shall be retained for our records.

SITE WORK

1. Robert Lawless has not made a geotechnical review of the building site and is not responsible for general site stability or soil suitability for the proposed project. Robert Lawless recommends a review of the site by a geological engineer or a qualified civil engineer to determine general site stability and soil suitability for the project.

2. Building sites are assumed to be drained and free of clay or expansive soil.
3. All footings shall be level or stepped and bear on firm, stable, natural, undisturbed soil or an approved compacted fill.
4. All footings shall bottom 12" minimum below natural undisturbed grade.
5. All finish grades shall slope a min. of 5% away from foundation (for a min. of 10 feet) and drain away from building footings. Adequate drainage away from the structure shall be provided by contractor or others, as required.

6. Assume allowable soil bearing pressure of 1500 psf.

7. The contractor shall be responsible for all excavation procedures including shoring and protection of adjacent property, structures, streets and utilities in accordance with the local building department. Any damage to an existing structure as a result of any action of the contractor shall be repaired and/or replaced at the contractor's expense.
8. All materials from demolition shall be removed from site and disposed of by the contractor, unless otherwise instructed by owner.
9. Contractor shall provide barricades, warning sign, etc. as required by local codes.
10. Contractor shall locate and clearly mark the location of all utilities prior to construction. Contractor shall relocate utility lines as required.

CONCRETE

1. Reinforced concrete work, mixing, placement and quality shall conform to applicable requirements of the CBC and ACI Standard 318.
2. Aggregate shall conform to ASTM C33 for stone concrete.
3. Concrete to be machined mixed and placed in accordance with CBC Section 1905.
4. Minimum 28-day compression strength, f'c:
- Slab .....2500 psi
- Footings .....2500 psi
- Walls .....2500 psi
5. Use normal weight concrete (145 pcf) for all concrete. Use type II cement typical. If soil contains sulfate concentrations of 0.2% or more, use type V cement.
6. The maximum slump shall not exceed 4". Plasticizers may be used to increase slump to 8" maximum provided they do not increase shrinkage and the slump was no more than 4" prior to plasticizer.
7. Maximum water/cement ratio shall be 0.50.
8. Exterior slabs on grade shall contain not less than 5% nor more than 6% entrained air.
9. Follow recommended practices for hot and cold weather concreting by observing ACI 305 and ACI 306 guidelines.
10. Provide standard crack control joints in all slabs on grade at 2 to 3 times the slab thickness (in.) in feet o.c. each way (max.), (ie: 4" slab = 8 foot to 12 foot joint spacing). Maximum control joint spacing not to exceed 15 feet. Joints shall be saw cut such that the enclosed area does not exceed 150 square feet. Joint depth shall not exceed one-fourth of slab depth.
11. Slab on grade concrete aggregate not to exceed 1½".
12. Top of concrete slabs shall be minimum 6" above finished grade.
13. 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 structural concrete.
14. Do not place concrete until all reinforcement, conduit, outlet boxes, anchors, hangers, sleeves, bolts, holdowns, anchor bolts or other embedded materials and items are securely and properly fastened in their proper places and positions.
15. No more than 90 minutes shall elapse between concrete batching and concrete placement unless approved by the engineer or authorized testing agency.
16. Mechanically vibrate all concrete when placed except slab on grade or on composite steel deck which need be vibrated only around and under floor ducts or similar elements. Remove all debris from forms before placing concrete. Concrete shall not be dropped through reinforcing steel (as in walls and columns) so as to cause segregation of aggregates. Unconfined fall of concrete shall not exceed five feet. Care shall be taken in placing slabs on grade not to disturb fill material.

REINFORCING STEEL

1. Reinforcing bars shall be deformed bars conforming to the requirements of ASTM A615. Reinforcing shall be Grade 40 (fy = 40 ksi) deformed bars for all bars #5 and smaller U.N.O. on plans and details.

2. All details of fabrication and installation of reinforcing steel shall be in accordance with the ACI Manual of Standard Practice.

3. Welded fabric (mesh) shall conform to latest revised ASTM A185 and be furnished in flat sheets. Smooth wire fabric shall conform to ASTM A85 having a yield strength of 40 ksi.

4. Welding of reinforcing steel shall conform to ASTM A706 Grade 60 alloy weldable steel and AWS D12-1 using low hydrogen electrodes.

5. All dimensions showing the location of reinforcing steel not noted as "CLR" are to center of steel.

6. Stagger splices a minimum of one lap length.

7. No tack welding of reinforcement bars allowed. Latest ACI code and detailing manual apply. Provide bent corner bars to match and lap with horizontal bars at all corners and intersections per typical details where provided. Vertical wall bars shall be spliced at or near floor lines. Splice to bars at centerline of span and bottom bars at the support in spandrels, beams, grade beams, etc.,., U.N.O.

8. Mechanical splice couplers shall have current ICC approval and shall be capable of developing 125% of the strength of the bar.

9. All reinforcing steel be bent cold. Bars shall not be unbent and re-bent.

10. All bars shall be lapped with a minimum of 40 bar diameters (2' minimum) at all splices staggered at least one lap length. Where more than ½ of bars are spliced at one location, bars shall be lapped with a minimum of 68 bar diameters.

11. Splices of horizontal rebar in walls and footings shall be staggered 4' minimum.

12. Dowels for walls and columns shall be the same size and spacing as the wall/column reinforcing.

13. All reinforcing steel shall be accurately located and adequately secured in position before and during placement of concrete.

14. Reinforcement cover in cast-in-place concrete shall be as follows:

- a. 3" – concrete cast against and permanently exposed to earth

- b. 2" – formed surfaces exposed to ground or weather.

WOOD FRAMING NOTES

1. All sawn lumber shall be stamped with the grade mark of an approved lumber grading agency.
2. All lumber framing and bearing studs to be Douglas Fir-Larch (N) with moisture content less than 19%.
3. All glue laminated (glulams) beams shall be marked ANSI/AITC Standard A 190.1
4. Glue laminated (glulams) timber beams to be APA/EWS Douglas Fir marked 24F-V4 for simple spans and 24F-V8 for cantilever or multi-spans. Glulams to be 1.8E, fb = 2400 psi. Beams shall be manufactured w/ 2000' radius min. camber unless camber is specifically noted on the drawings. All laminations shall be 1½" min. thick.
5. Glulams exposed to weather shall be rated for exterior use by the manufacturer or an approved protection from exposure shall be provided.
6. Laminated veneer lumber (LVL) to be 1.9E, fb = 2600 psi. For members less than 10" deep, connect plies with (2) rows 16d box nails @ 12" o.c. For members greater than 10" deep, connect plies with (3 rows 16d box nails @ 12" o.c. For three piece member, nailing specified is from each side.
7. Parallel strand lumber (PSL) to be 2.0E, fb = 2900 psi.
8. Laminated strand lumber (LSL) to be 1.7E, fb = 2600 psi.
9. 4x and smaller framing to be DF #2.
10. 6x and larger framing to be DF #1.
11. Field inspector shall be provided with approved "Certificate of Inspection". Certificate to identify beam stress ratings and exterior grade where required.
12. Interior non-bearing studs and plates may be construction grade or better.
13. APA rated sheathing shall be manufactured with exterior glue in accordance with the requirements of the CBC and PS 1-1, PS-2, or APA PRP-108. Shear plywood shall be C-D, C-C, 303 (11-11), or an approved equal.
14. All resawn and rough sawn beams are to be free of heart center.
15. Any bottom plate or sole plates resting on concrete or masonry shall be pressure treated Douglas Fir or foundation grade redwood.
16. All framing clips and devices shall be "Simpson Tie" or ICBO approved equal.
17. Minimum nailing for connection not indicated on the drawings shall be in accordance with the Table 2304.10.1 of the CBC.
18. All multiple trimmers, multiple studs, or posts shall be stacked in all wall framing connected with positive connections. Solid blocking similar in size to framing above shall be provided at all floors all the way down to the foundation.
19. Do not notch beams, joists, or studs.
20. All nails, except 16d, shall be common wire (U.N.O.). 16d nails may be sinkers or box (U.N.O.). Nail heads shall be driven flush with th wood surface. Over or under driven nails are not acceptable. No substitutions unless approved in writing by Robert Lawless or specifically addressed in these calculations or the plans.
21. Sheath and nail all shear panels and gable end trusses the same as the shear wall above or below.
22. Connect double studs, double joists, or any other multiple piece member with minimum (2) rows 16d box nails @ 12" o.c. U.N.O.
23. Typical load bearing and exterior studwall construction to be 2x6 @ 16" o.c.
24. Use (2) continuous king studs each side of openings where stud height exceeds 10'-6" U.N.O.
25. Do not break continuous king studs by spanning headers over multiple openings.
26. Where applicable, always rake/balloon frame studwalls.
27. All exterior walls shall be considered shear walls nailed as "A"-Nailing U.N.O. (see shearwall schedule).
28. Provide full bearing, full depth blocking up to floor to support posts, double studs or double trimmers above.
29. All bolts shall be installed in holes ⅙" larger than the diameter of the bolt. Bolts and nuts seating on wood shall have cut steel washers under heads and nuts. Ding threads after installation to prevent loosening. Lag bolts shall be installed in pre-drilled holes by turning a wrench.
30. Where metal connectors are installed in, or exposed to potentially corrosive environments or materials, follow manufacturer's recommendations in order to protect the connectors against damage that may adversely affect the long term performance of the hardware.
31. All post to beam connections to be positive. Use a Simpson AC column cap or better.

FOUNDATION

1. All hold down devices shall be secured in place prior to foundation inspection and according to manufacturer's specification.
2. If structure is multiple stories, as much as possible, line floor-to-floor holdowns up with floor-to-foundation holdowns so that holdowns are attached to common members. Use shear ply nailing to all holdown members.
3. Where column base or post base is called out on a pier beneath the subfloor, provide post up to subfloor to support identical post above. Use (2) Simpson ST6224 on opposite sides of post to strap post above through the floor to the post below.
4. For all sill plates not noted, a 2x pressure treated Douglas Fir or foundation grade redwood sill with ⅝" anchor bolts spaced at 48" o.c. max. and with minimum 2 bolts each sill board shall be used. Bolts shall be located not more than 12" or less than 7 bolt diameters from each end of the sill piece. Anchor bolts to have a min. 7" embedment into concrete. All foundation bolts shall be ASTM A36 galvanized all thread or ASTM A307 unfinished bolts. Bolt holes to be one-thirty-seconds of an inch to one-sixteenth of an inch larger than specified bolt.
5. Anchor bolts shall be installed with 3" x 3" x 0.229" square steel plate washers in Seismic Design Category D, E or F. Washers in Seismic Design Category D, E or F are permitted to have a diagonal slot with a width of up to ⅙" larger than the bolt diameter and a slot length not to exceed 1¾" provided a standard cut washer is placed between the plate washer and the nut. The plate washer shall extend to within ½" of the edge of the bottom plate on the sheathed side.
6. An 8" wide x 24" high max. concrete foundation wall shall be centered on continuous footing below with (1) #4 continuous at top of wall and #4 verticals at 32" o.c. max. hooked at footing (alternate hooks). If height of stemwall is between 25" and 48" above top of footing, increase footing to 36" wide x 10" deep and use #4's at 12" o.c. continuous (horizontal) and #4's at 16" o.c. vertical. If height of stemwall exceeds 48" and no retaining wall detail is available, contact Robert Lawless immediately.
7. Continuous concrete footings to be as shown on plan and SD sheets. Step footing as required to bear on native grade or as directed by soils engineer.
8. All footings shall meet minimum embedment below grade as noted in basis for design. Grade shall be defined as the lowest of the following:
- \* Building pad subgrade
  - \* Lowest grade within 5 feet of building.
9. The following column/post bases are interchangeable: CB & CBQ or CBS & CBSQ.
10. All slabs to be 4" thick concrete with #3 reinforcing bars @ 18" o.c. each way. Slab shall be placed over 4" type-II base compacted to 95% relative compaction (ASTM D1557) or underslab mix (pea gravel) over undisturbed native soil. Fill material should be moistened but not saturated just prior to concrete placement. Care shall be taken when placing slabs on grade not to disturb fill material.

ROOF NOTES

1. Roof structural panels (sheathing) shall be 7/16" thick with an APA span rating of 24/16.
2. Stagger roof structural panels with long dimension perpendicular with supports (roof rafters / trusses).
3. Roof structural panels shall be nailed with 8d common nails (2 1/2" x 0.131") at 6" on center at all supported edges and with 10d common nails (2 1/2" x 0.131") at 12" on center at all intermediate supports.
4. Connect truss blocking and gable end trusses to top plate or beam below with A35's, LTP4's, L70's or L550's @ 48" o.c. U.N.O.
5. Double top plate lap splices shall be 48" minimum and face nailed with (8) 16d nails U.N.O.
6. The following column/post caps are interchangeable: CC, ECC, CCQ & ECCQ.
7. Where headers are placed high in the wall and break the double top plate, a MSTC28 shall connect the header to the top plate at each end.

PRE-MANUFACTURED ROOF TRUSSES

1. Truss manufacturer shall be responsible for all engineering, layout drawings, connections, blocking, bracing, and truss erection information. The contractor shall be responsible for proper coordination between Engineer/Architect drawings, truss manufacturer information, any required field changes, proper installation of final product and its conformance to the architect's design. The architect and engineer assume no liability for said product.
2. Truss manufacturer to verify location of and design accordingly for the support of any mechanical equipment, overhead doors, roof overbuilds, up or down lateral overturning forces where occurring.
3. Trusses shall be designed per the latest building code and local ordinances. Design must also take into account unbalanced snow loads, snow drifting, increased snow loads on eaves and in valleys, impact loads from falling snow and ice, etc.
4. Truss manufacturer to verify location of and design for all ceiling height changes, attic accesses, return air grills, etc. Truss manufacturer to coordinate any findings to both Dundas Geomatics, Inc. and the Architect. All dimensions shall be verified prior to fabrication.
5. Live load deflection shall be limited to 1/360. Total (dead + live) load deflections shall be limited to 1/240.
6. Gable end trusses shall be structurally designed to support overhang and to allow a top chord notch of 1½ inches.
7. All non-bearing walls are to have a ⅙ inch gap to the bottom chord of the trusses. Secure bottom chord to wall below with Simpson DTC clips.
8. Use pre-engineered manufactured trusses @ 24" o.c. Solid block at all supports and per manufacturer's specifications. Use Simpson H1 @ each support wall/beam to each truss and H6 @ each support wall/beam to each girder truss U.N.O.
9. Hang trusses and girder trusses with Simpson HUS26 or as specified on plan. Truss calculations hold precedence over plan at all truss to truss connections.
10. Trusses are to be handled, installed, and braced in accordance with H1B-91 of the Truss Plate Institute (TPI). Truss manufacturer shall indicate proper bracing of members as well as bracing for truss erection.
11. Bottom of chords of trusses, acting as ceiling members, must be able to support a 10 psf concurrent live load per CBC required.

BASIS FOR DESIGN

Governing code: 2022 CBC

Gravity Design: Roof Dead Load = 20 psf  
Roof Live Load = 20 psf  
Roof Snow Load = 59 psf  
Floor Dead Load = 15 psf  
Floor Live Load = 40 psf  
Exterior Wall Dead Load = 13 psf  
Interior Wall Dead Load = 11 psf  
Deck Dead Load = N/A psf  
Deck Live Load = 60 psf

Wind Design: Basic Wind Speed = 90 (ASD) mph  
Exposure = B  
Importance Factor = 1.0

Seismic Design: Site Class (Soil Classification) = D  
S<sub>w</sub> = 0.535  
S<sub>w</sub> = 0.340  
R = 6.5  
F<sub>max</sub> (House Roof) = 6,800 lbs  
F<sub>max</sub> (ADU Roof) = 2,121 LBS  
Seismic Design Category = D  
Importance Factor = 1.0

Foundation: Allowable Bearing Pressure = 1500 psf (D+L)  
Allowable Bearing Pressure = 1500 psf (W or S)  
Minimum Embedment = 12 in.

| HOLDOWN SCHEDULE <sup>1,2</sup>                                                       |              |                        |                                |                                     |          |
|---------------------------------------------------------------------------------------|--------------|------------------------|--------------------------------|-------------------------------------|----------|
|                                                                                       | HOLDOWN TYPE | END POST               | CONCRETE <sup>3,6</sup> ANCHOR | FASTENERS                           | CAPACITY |
|    | HDU2-SDS2.5  | DOUBLE 2X <sup>4</sup> | SSTB24                         | 6-SDS ⅜"X2 ½"                       | 2865 LB  |
|    | HDU5-SDS2.5  | DOUBLE 2X <sup>4</sup> | SSTB28                         | 14-SDS ⅜"X2 ½"                      | 4185 LB  |
|    | HDU8-SDS2.5  | 6X6 DF #1              | SSTB28                         | 20-SDS ⅜"X2 ½"                      | 7870 LB  |
|  | HDU11-SDS2.5 | 6X6 DF #1              | SPECIAL DESIGN                 | 30-SDS ⅜"X2 ½"                      | 9335 LB  |
|  | HDU14-SDS2.5 | 6X6 DF #1              | SPECIAL DESIGN                 | 36-SDS ⅜"X2 ½"                      | 14445 LB |
|  | MST37-STRAP  | DOUBLE 2X <sup>4</sup> | N/A                            | 20-16d (16d = .162 x 3 ½")          | 2465 LB  |
|  | MST48-STRAP  | DOUBLE 2X <sup>4</sup> | N/A                            | 32-16d (16d = .162 x 3 ½")          | 3695 LB  |
|  | MSTC66-STRAP | DOUBLE 2X <sup>5</sup> | N/A                            | 64 - 16d SINKERS (.148 X 3 ¾" long) | 5860 LB  |

1. ITEM NUMBERS LISTED ARE SIMPSON PRODUCTS
2. ALLOWABLE LOADS BASED ON SIMPSON WOOD CONSTRUCTION CONNECTORS MANUAL C-2009
3. FOR DOUBLE POUR USE LONGER CONCRETE ANCHORS
4. SPLICE DOUBLE 2X END POSTS w/ 16d'S @ 6" OC STAGGERED (NOT IN AREA OF HOLDOWN)
5. SPLICE DOUBLE 2X END POSTS w/ ⅜"Øx3" SDS WOOD SCREWS @ 6" OC STAGGERED (NOT IN AREA OF HOLDOWN)
6. ORDER SSTBL MODELS FOR LONGER THREADS OR WHEN 3X SILL PLATES REQUIRED

JASPEN AMODEO RESIDENCE & ADU

1338 WOODZY PLACE, NEVADA CITY, CALIFORNIA

COUNTY OF NEVADA

Robert Lawless Engineering

CIVIL ENGINEERING & LAND SURVEYING

159 South Auburn Street

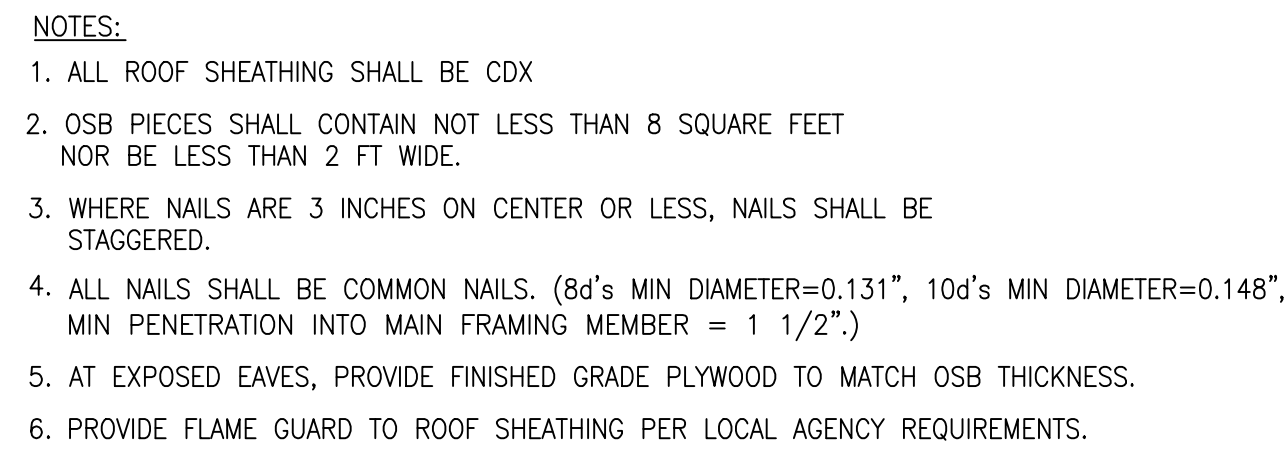
Grass Valley, CA 95945

Phone: (530) 263-2757

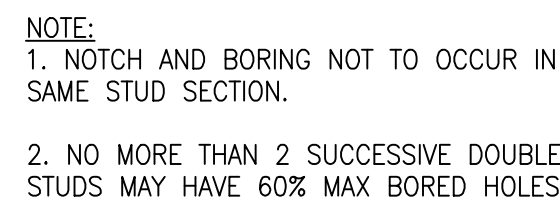


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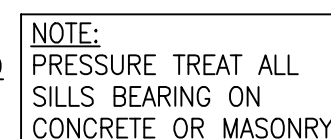


|                  |   |
|------------------|---|
| $1'' = 1' - 0''$ | 2 |
|------------------|---|

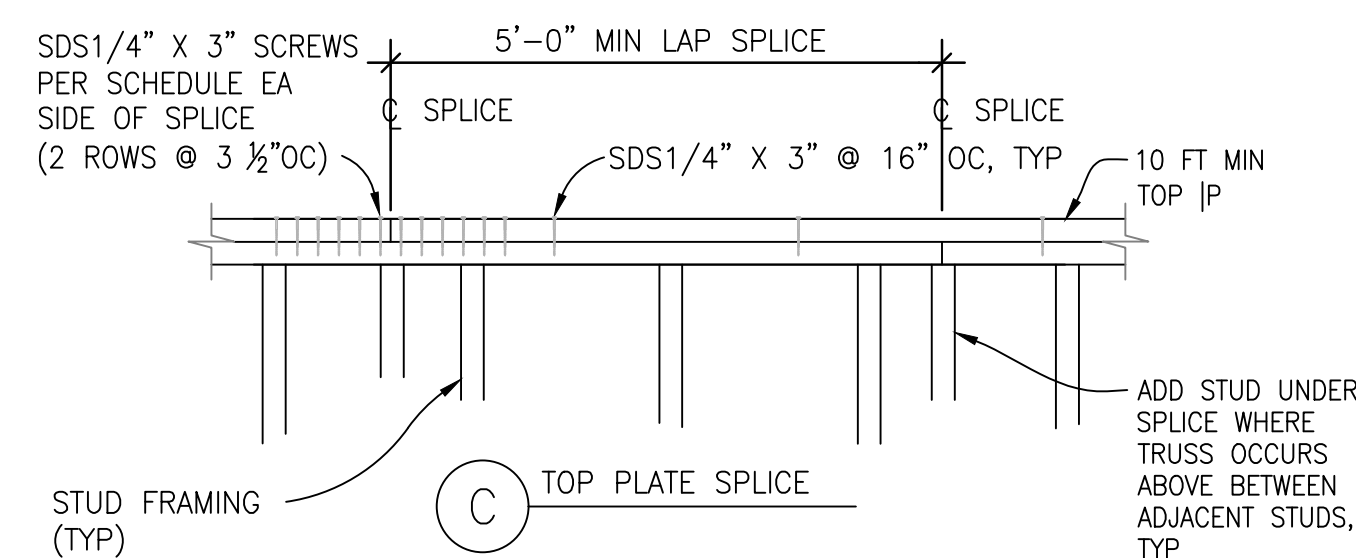


| NOTCH/BORE % | 2x4               | 2x6               |
|--------------|-------------------|-------------------|
| 25%          | $\frac{7}{8}$ "   | 1 $\frac{3}{8}$ " |
| 33%          | 1 $\frac{1}{8}$ " | 1 $\frac{3}{4}$ " |
| 40%          | 1 $\frac{3}{8}$ " | 2 $\frac{1}{8}$ " |
| 60%          | 2"                | 3 $\frac{1}{4}$ " |

|                  |   |
|------------------|---|
| $1'' = 1' - 0''$ | 3 |
|------------------|---|

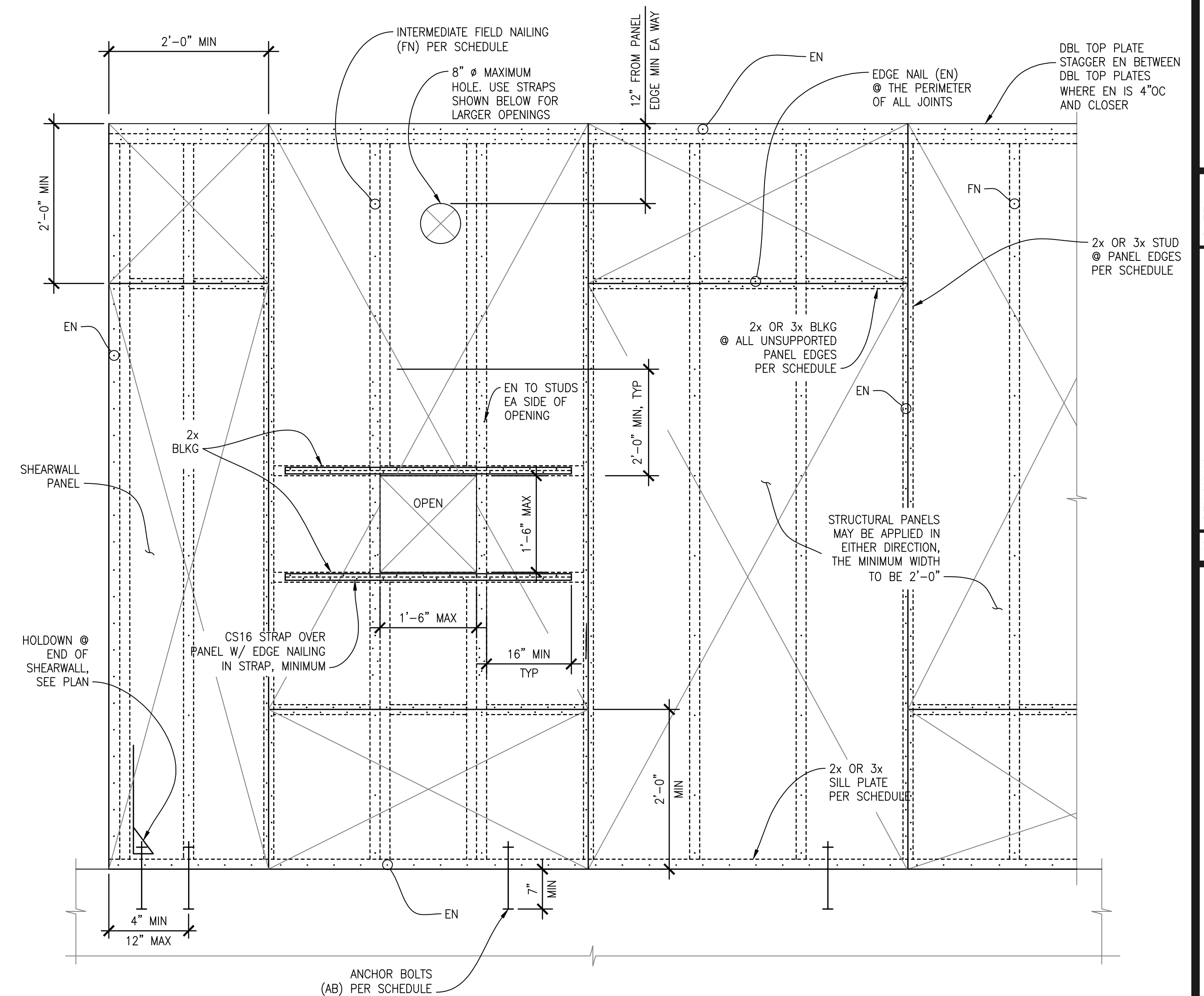


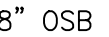
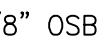
|                  |   |
|------------------|---|
| $1'' = 1' - 0''$ | 5 |
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NOTE: CAPACITIES SHOWN ARE FOR STUD GRADE TOP PLATES.

$$1'' = 1' - 0'' \quad 4$$



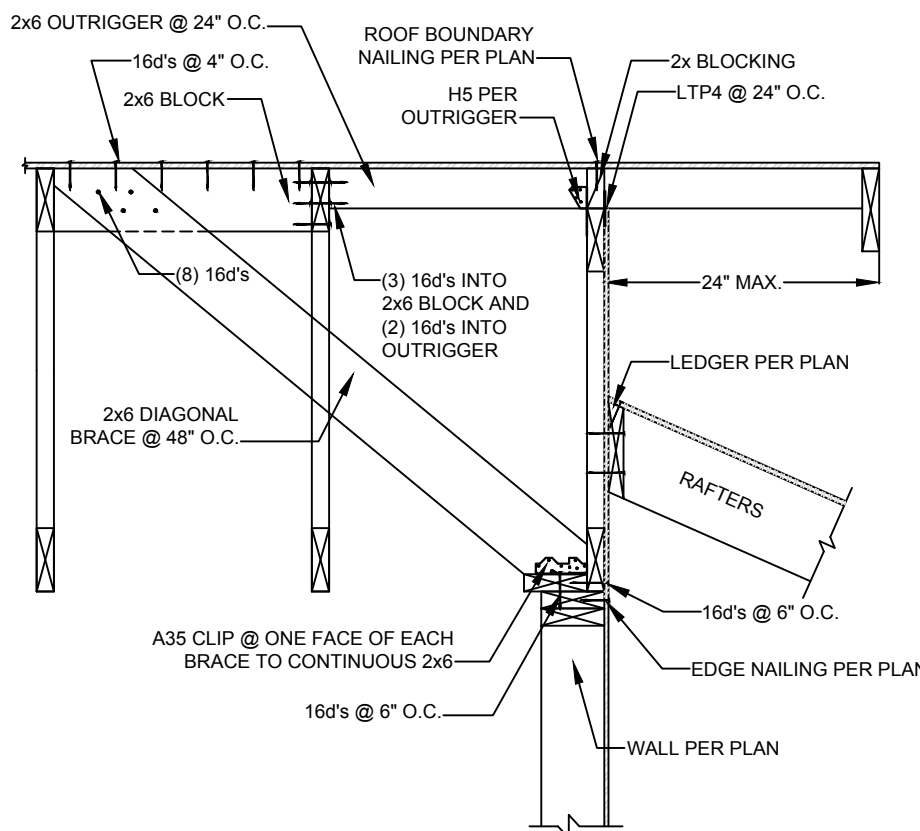
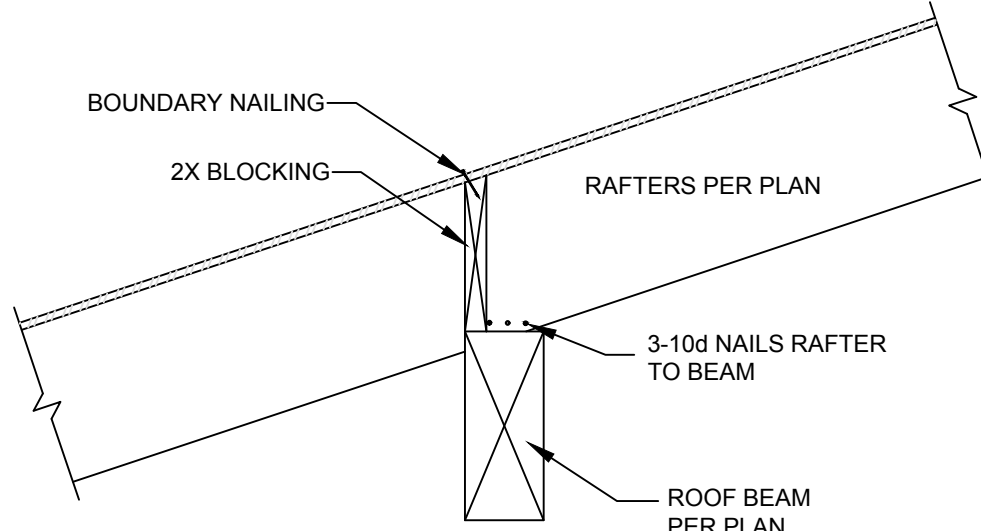
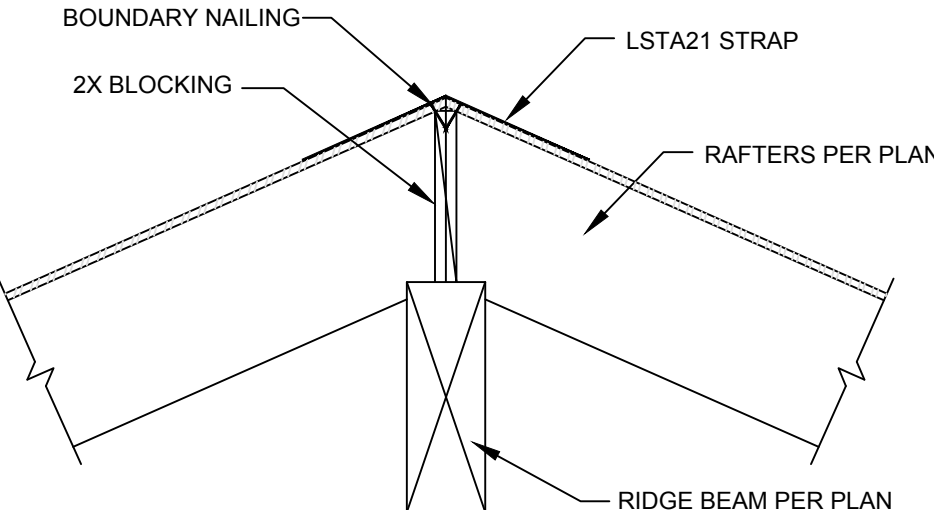
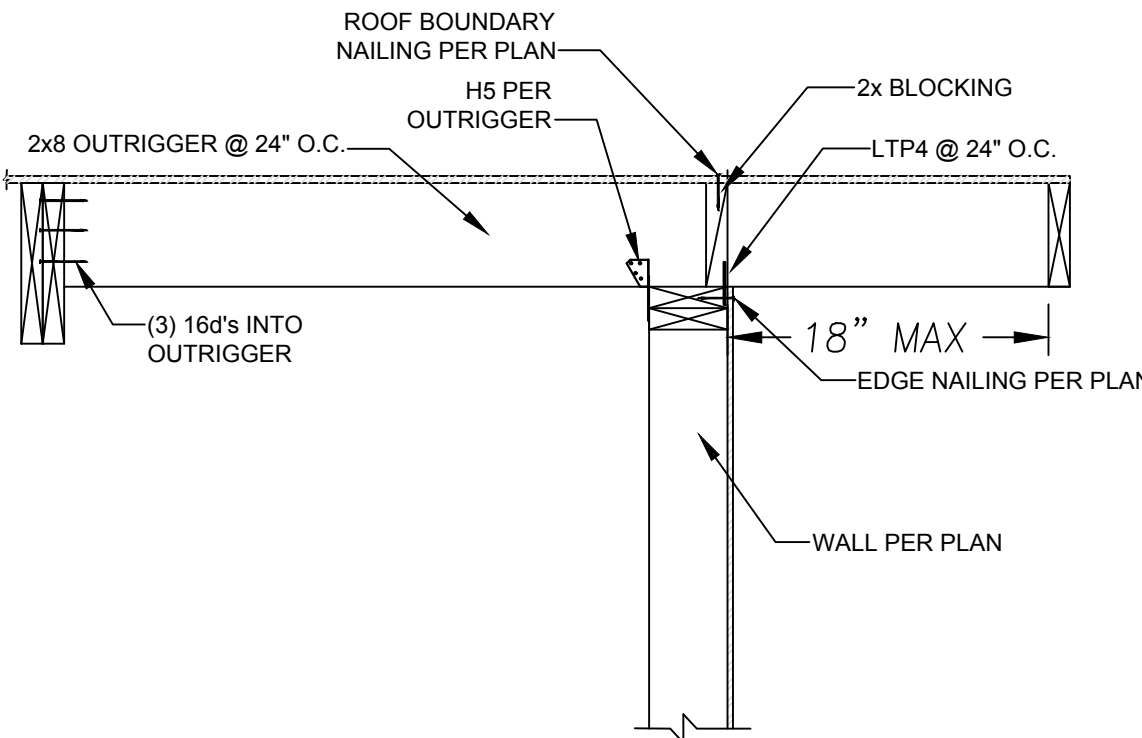
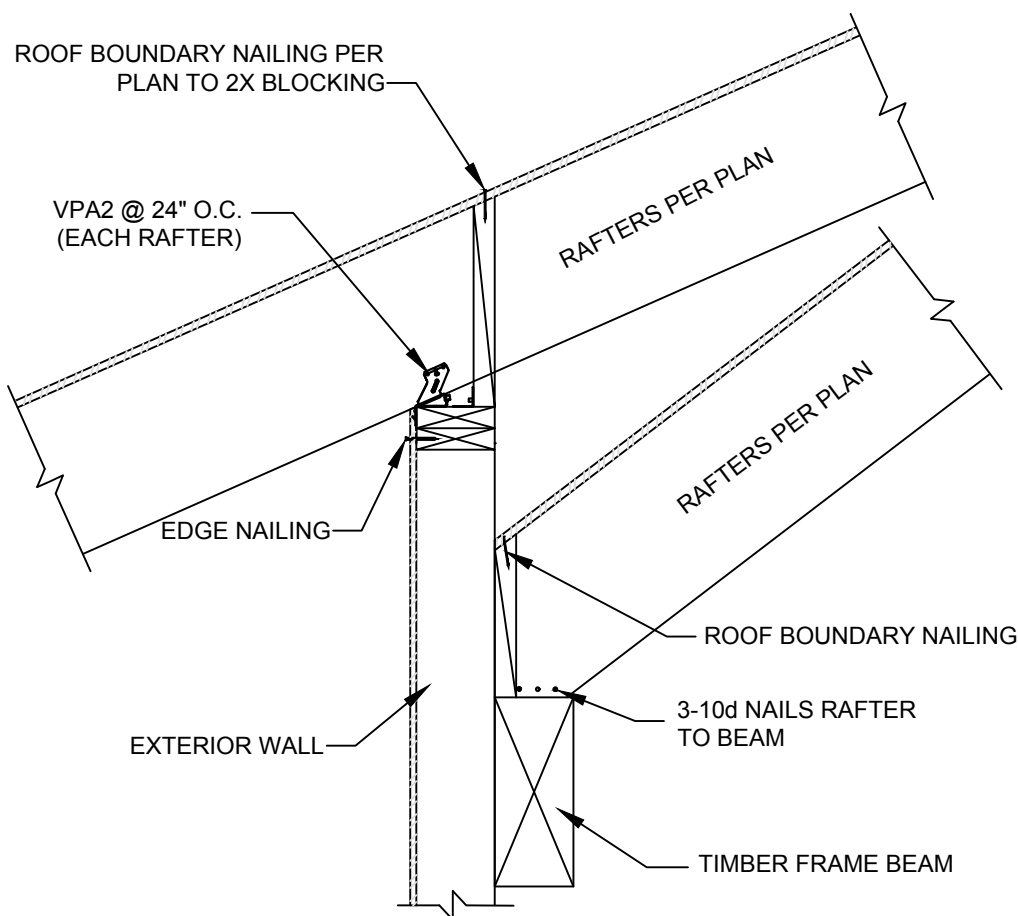
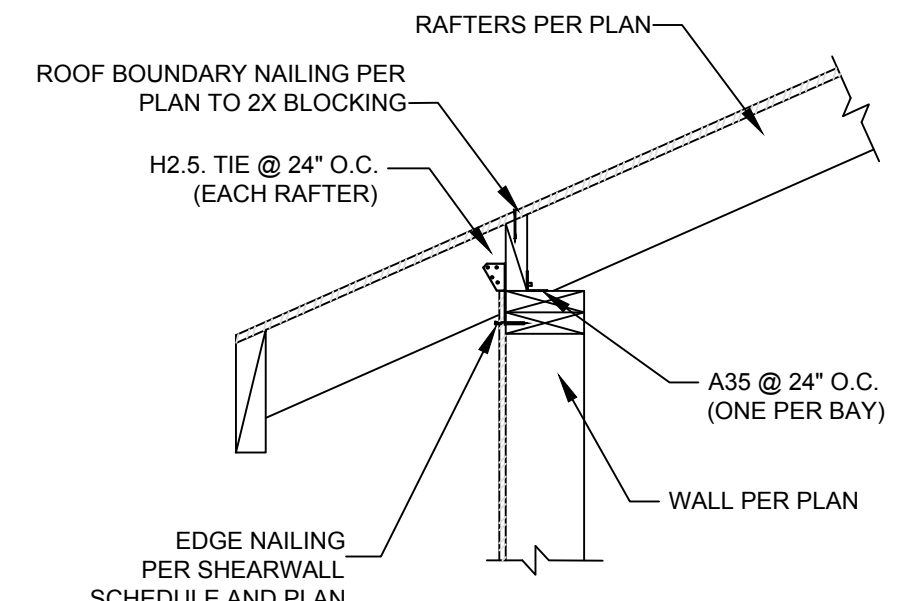
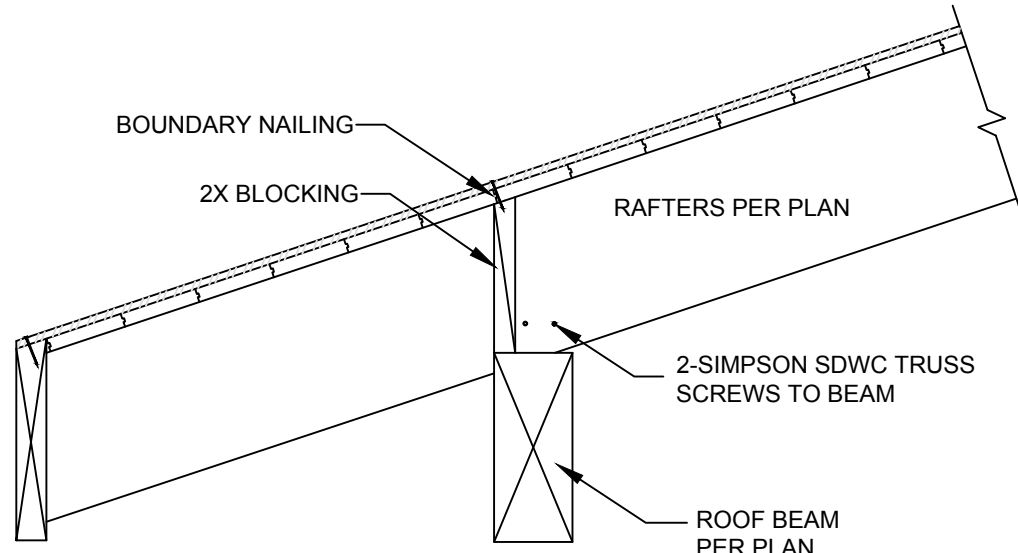
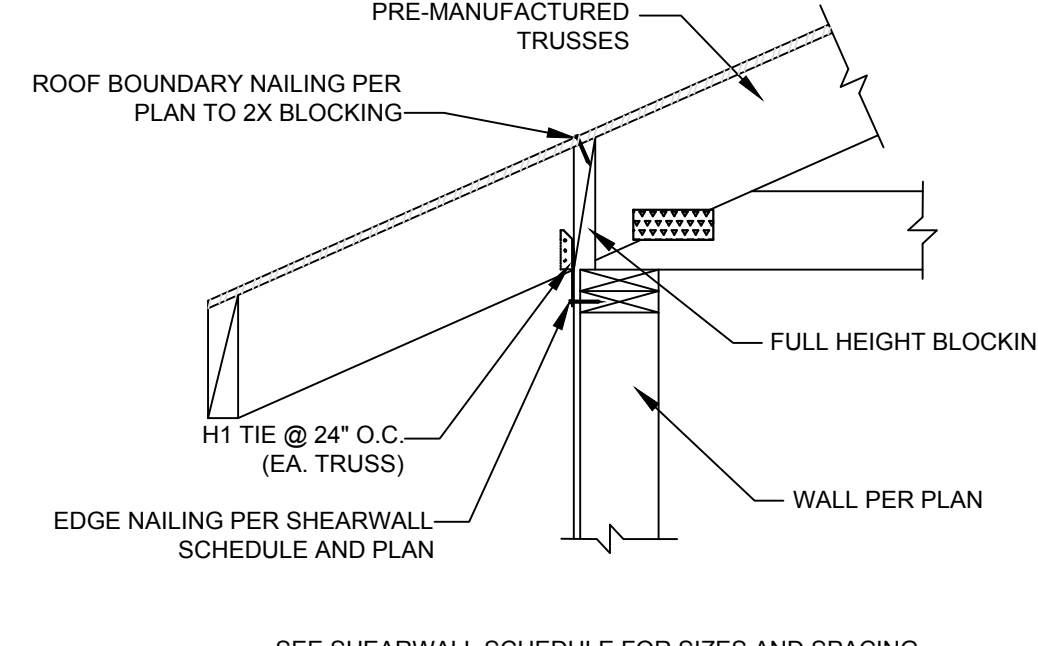
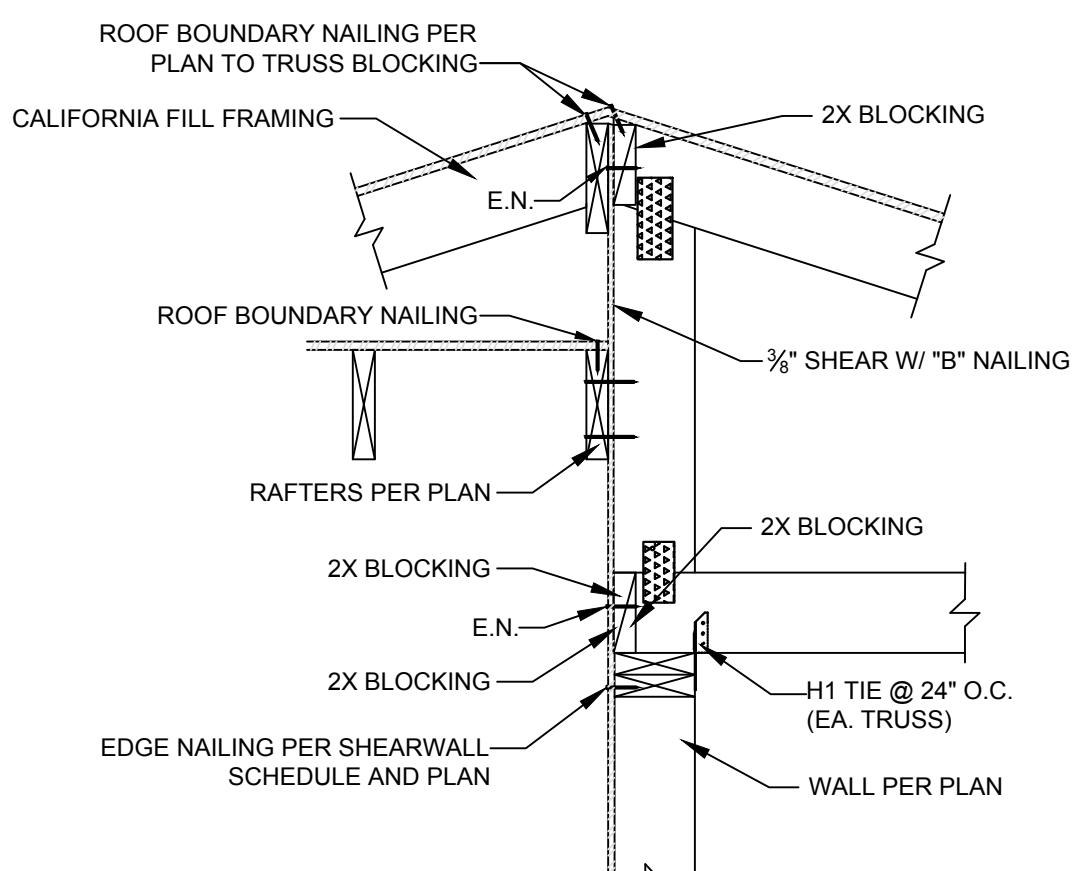
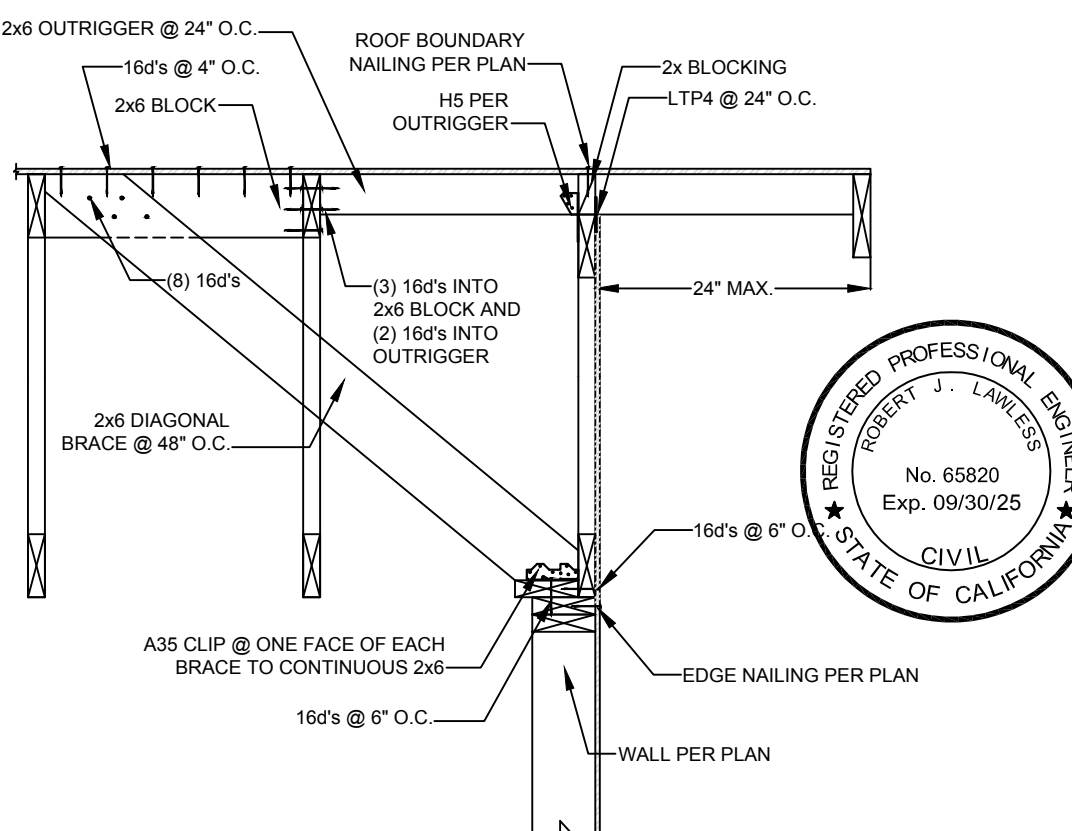
| SHEAR WALL SHEATHING / NAILING SCHEDULE                                               |                            |            |                            |                                       |                                         |                            |                                           |                                             |                |
|---------------------------------------------------------------------------------------|----------------------------|------------|----------------------------|---------------------------------------|-----------------------------------------|----------------------------|-------------------------------------------|---------------------------------------------|----------------|
| PLAN ID#                                                                              | STRUCT SHEATHING THICKNESS | NAILING    |                            | SILL NAILING (SN)                     |                                         | SILL PLATE SIZE (ON FLOOR) | STUDS @ PANEL EDGES & BLKG. @ PANEL EDGES | SILL PLATE ANCHOR BOLT @ SPACING (ON FLOOR) | ALLOWABLE LOAD |
|                                                                                       |                            | EDGE(EN)   | INTERMEDIATE SUPPORTS (FN) | NAILS /LAG SCREWS                     | SHEAR TRANSFER CLIPS                    |                            |                                           |                                             |                |
|  | 3/8" OSB                   | 8d @ 6" OC | 8d @ 12" OC                | 16d @ 6" OC                           | LTP4 @ 30" O.C.<br>OR<br>A35 @ 20" O.C. | 2x6                        | 2x6                                       | 5/8" @ 48" OC MIN (2) PER SILL              | 260 PLF        |
|  | 3/8" OSB                   | 8d @ 4" OC | 8d @ 12" OC                | 16d @ 6" OC                           | LTP4 @ 22" O.C.<br>OR<br>A35 @ 15" O.C. | 2x6                        | 2x6                                       | 5/8" @ 42" OC MIN (2) PER SILL              | 350 PLF        |
|  | 3/8" OSB                   | 8d @ 4" OC | 8d @ 12" OC                | SDS 1/4" x 6"<br>OR<br>A35 @ 14" O.C. | LTP4 @ 21" O.C.<br>OR<br>A35 @ 14" O.C. | 3x6                        | 3x6                                       | 5/8" @ 38" OC MIN (2) PER SILL              | 380 PLF        |
|  | 3/8" OSB                   | 8d @ 3" OC | 8d @ 12" OC                | SDS 1/4" x 6"<br>12" OC               | LTP4 @ 16" O.C.<br>OR<br>A35 @ 11" O.C. | 3x6                        | 3x6                                       | 5/8" @ 30" OC MIN (2) PER SILL              | 490 PLF        |
|  | 3/8" OSB                   | 8d @ 2" OC | 8d @ 12" OC                | SDS 1/4" x 6"<br>12" OC               | LTP4 @ 12" O.C.<br>OR<br>A35 @ 8" O.C.  | 3x6                        | 3x6                                       | 5/8" @ 24" OC MIN (2) PER SILL              | 640 PLF        |

- NOTES:**
1. ALL SHEATHING SHALL BE CD MINIMUM AND ALL PANEL EDGES SHALL BE BLOCKED.
  2. ALL NAILS SHALL BE COMMON NAILS. (MIN DIAMETER=0.131", MIN PENETRATION INTO MAIN FRAMING MEMBER=1 3/8").
  3. PROVIDE EN AT ALL END STUDS, BLKG @ PANEL EDGES, SILL PLATES AND TOP PLATES.
  4. WHERE 8d NAILS ARE 3 INCHES ON CENTER OR LESS, NAILS SHALL BE STAGGERED.
  5. NAILS SHALL BE 1/2 INCH MINIMUM FROM PLYWOOD PANEL EDGE AND 3/8 INCH FROM CONNECTING MEMBER @ WALLS.
  6. WHERE DOUBLE SIDED SHEATHING OCCURS, PLYWOOD PANEL JOINTS ON EACH SIDE SHALL BE OFFSET TO FALL ON DIFFERENT FRAMING MEMBERS AND NAILS SHALL BE STAGGERED.
  7. #--##" INDICATES MINIMUM SHEARWALL LENGTH.
  8. ALL SILL PLATES IN CONTACT WITH CONCRETE SHALL BE PRESSURE TREATED.
  9. ALL ANCHOR BOLTS SHALL HAVE 3"x3"x1/4" PLATE WASHERS, MIN THAT EXTEND TO WITHIN 1/2" OF THE EDGE OF THE SILL PLATE ON THE SHEATHED SIDE.
  10. ALL NAILS INTO PRESSURE TREATED MATERIAL SHALL BE GALVANIZED OR STAINLESS STEEL.
  11. 2x STUD FRAMED WALLS SHALL HAVE MAXIMUM 24" OC STUD SPACING.



# JOB SET



|    |        |        |    |        |                                                                                     |                                                                                     |                                                                                                                                                                                                                                                                                              |                                                                                     |                                                                                       |                                                                                     |                                                                                       |   |                   |        |
|----|--------|--------|----|--------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---|-------------------|--------|
|    |        |        |    |        |  |                                                                                     |                                                                                                                                                                                                           |                                                                                     |    |                                                                                     |                                                                                       |   |                   |        |
| 17 | DETAIL | N.T.S. | 13 | DETAIL |                                                                                     | 9                                                                                   | CONNECTION DETAIL                                                                                                                                                                                                                                                                            | N.T.S.                                                                              | 5                                                                                     | CONNECTION DETAIL                                                                   | N.T.S.                                                                                | 1 | CONNECTION DETAIL | N.T.S. |
|    |        |        |    |        |                                                                                     |  |                                                                                                                                                                                                                                                                                              |  |                                                                                       |  |                                                                                       |   |                   |        |
| 18 | DETAIL | N.T.S. | 14 | DETAIL | N.T.S.                                                                              | 10                                                                                  | DETAIL                                                                                                                                                                                                                                                                                       | N.T.S.                                                                              | 6                                                                                     | CONNECTION DETAIL                                                                   | N.T.S.                                                                                | 2 | CONNECTION DETAIL | N.T.S. |
|    |        |        |    |        |                                                                                     |                                                                                     |                                                                                                                                                                                                                                                                                              |                                                                                     |  |                                                                                     |  |   |                   |        |
| 19 | DETAIL | N.T.S. | 15 | DETAIL | N.T.S.                                                                              | 11                                                                                  | DETAIL                                                                                                                                                                                                                                                                                       | N.T.S.                                                                              | 7                                                                                     | CONNECTION DETAIL                                                                   | N.T.S.                                                                                | 3 | CONNECTION DETAIL | N.T.S. |
|    |        |        |    |        |                                                                                     |                                                                                     |  |                                                                                     |  |                                                                                     |                                                                                       |   |                   |        |
| 20 | DETAIL | N.T.S. | 16 | DETAIL | N.T.S.                                                                              | 12                                                                                  | DETAIL                                                                                                                                                                                                                                                                                       | N.T.S.                                                                              | 8                                                                                     | CONNECTION DETAIL                                                                   | N.T.S.                                                                                | 4 | CONNECTION DETAIL | N.T.S. |

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|                             |      |  |               |                                                                                                 |
|-----------------------------|------|--|---------------|-------------------------------------------------------------------------------------------------|
| DESIGNED: ROBERT J. LAWLESS | DATE |  | NO. REVISIONS | JASPEN AMODEO RESIDENCE & ADU<br>1338 WOODZY PLACE, NEVADA CITY, CALIFORNIA<br>COUNTY OF NEVADA |
| DRAWN: R/J                  |      |  |               |                                                                                                 |
| DATE: FEBRUARY 8, 2024      |      |  |               |                                                                                                 |
| PROJECT No.: 24-365         |      |  |               |                                                                                                 |
| DWG. NAME                   |      |  |               |                                                                                                 |
| 24-365 STRUC DETAILS        |      |  |               |                                                                                                 |
| SD-3                        |      |  |               |                                                                                                 |

JOB SET

RADIANT SPECIFICATIONS

15.1. GENERAL PROVISIONS

- 1.1 FINAL SELECTION AND SIZING OF ALL WATER AND SPACE HEATING AND VENTILATION SYSTEM COMPONENTS, INCLUDING DUCTING, IS TO BE BY INSTALLING SUBCONTRACT PRIOR TO ORDERING. MICHAEL MELAS, OF MELAS ENERGY ENGINEERING (530) 265-2492, IS TO BE NOTIFIED IF ANY CHANGES ARE RECOMMENDED.
- 1.2 IT IS THE INSTALLER'S RESPONSIBILITY TO ENSURE THE SYSTEM FUNCTIONS PROPERLY, SAFELY, AND MEETS ALL LOCAL, STATE AND REGIONAL CODES.
- 1.3 ALL WORK IS TO CONFORM TO THE HIGHEST STANDARDS OF THE TRADE, WHERE A PARTICULAR COMPONENT IS NOT CALLED OUT IT IS TO BE SELECTED BY THE INSTALLING CONTRACTOR.
- 1.4 FURNISH AND INSTALL ALL MATERIALS AND PERFORM ALL LABOR NECESSARY FOR A COMPLETE INSTALLATION OF HYDRONIC WORK INDICATED ON THE DRAWINGS AND AS DESCRIBED IN THESE SPECIFICATIONS. ALSO, PROVIDE ANY INCIDENTAL WORK NOT SHOWN OR SPECIFIED, WHICH CAN BE REASONABLY INFERRED OR TAKEN AS BELONGING TO THE WORK AND NECESSARY TO PROVIDE THE COMPLETE SYSTEM.
- 1.5 NO SUBSTITUTIONS ARE TO BE MADE WITHOUT PRIOR APPROVAL FROM THE ARCHITECT. IF ANY SUBSTITUTIONS ARE MADE IT SHALL BE THE RESPONSIBILITY OF THE INSTALLING SUB-CONTRACTOR TO PROVE IT EQUAL TO THE DESIGN. ANY ENGINEERING TIME REQUIRED TO APPROVE SUBSTITUTIONS WILL BE THE CONTRACTOR'S RESPONSIBILITY.
- 1.6 PROVIDE ALL NECESSARY PLUMBING CONNECTIONS TO EQUIPMENT FURNISHED UNDER OTHER DIVISIONS OR SECTIONS BY OWNERS. PROVIDE SHUTOFF VALVES OR STOPS AT EACH CONNECTION. AT GAS CONNECTIONS, PROVIDE GAS COCK, DIRT LEG AND UNION. PROVIDE PRESSURE/TEMPERATURE RELIEF VALVE & DRAIN AT WATER HEATER.
- 1.7 THESE SPECIFICATIONS DO NOT CONSTITUTE A COMPLETE INSTALLATION GUIDE FOR A HYDRONIC SYSTEM. THE INSTALLER SHALL BE PROPERLY LICENSED AND REASONABLY EXPERIENCED IN INSTALLATION OF THIS TYPE OF HEATING SYSTEM. I+B+R INSTALLATION PROCEDURES AND RECOMMENDATIONS ARE TO BE FOLLOWED IN EFFECTING THE INSTALLATION.
- 1.8 MANUFACTURER'S INSTALLATION PROCEDURES AND RECOMMENDATIONS ARE TO BE FOLLOWED IN EFFECTING THE INSTALLATION.

15.5 HYDRONIC SPACE HEATING SYSTEM

PRIMARY COMPONENTS (REFER TO SCHEMATIC)

- 1.01 BOILER (WH-1)  
SUPPLY AND INSTALL ONE (1) CONDENSING, COMBINED SPACE HEATING & DHW ON-DEMAND, GAS FIRED WATER HEATER MODEL NCB-240E, MANUFACTURED BY NAVIEN. WATER HEATER IS POWER VENTED SEALED COMBUSTION.  
a) SPACE HEATING INPUT = 18,000 - 120,000 BTUH.  
b) DHW INPUT = 18,000 - 199,900 BTUH  
c) SPACE HEATING AFUE = 0.95  
d) ENERGY FACTOR = 0.96  
e) 4.5 GPM/1°F RISE.  
f) DIMENSIONS: WIDTH = 11", HEIGHT = 28", DEPTH = 12", WEIGHT = 84 LBS  
g) PROVIDE A MINIMUM OF 3/4" GAS PIPE TO WATER HEATER  
h) SPACE HEATING WATER CONNECTIONS ARE 1" NPT  
i) DOMESTIC HOT WATER CONNECTIONS ARE 3/4" NPT  
j) SPACE HEATING PRESSURE RELIEF VALVE IS INCLUDED WITH

- THE WATER HEATER; PIPE WITH 3/4" PIPING AND DRAIN TO APPROPRIATE TERMINATION.  
k) PROVIDE AND INSTALL NAVIEN "PLUMB EASY" VALVE SET KIT, MODEL # 30003323A, TO BE 3/4" CONNECTIONS. INCLUDED ARE SHUTOFF BALL VALVES, PURGE/DRAIN VALVE, AND POTABLE SYSTEM PRESSURE RELIEF VALVE. DRAIN PRESSURE RELIEF LINE TO APPROPRIATE TERMINATION.  
l) COMBUSTION AND EXHAUST VENTING AND COMPONENTS SHALL BE 2" PVC VENTING PER MFG RECOMMENDATION.  
m) SET SPACE HEATING WATER TEMPERATURE TO 120 °F  
n) PROVIDE & INSTALL THE NAVIEN NCB-H MANIFOLD SYSTEM (PART NUMBER: 30026516A)  
o) PROVIDE & INSTALL NAVIEN CONDENSATE NEUTRALIZER IF REQUIRED BY CODE.

1.02 GENERAL REQUIREMENTS

- a) INSTALL ACCORDING TO MANUFACTURER'S INSTALLATION INSTRUCTIONS.  
b) INSTALL INCLUDED PRESSURE RELIEF VALVE TERMINATING AT AN APPROPRIATE LOCATION.  
c) PROVIDE 2" PVC VENTING THROUGH ROOF PER MANUFACTURER'S RECOMMENDATION.  
d) TERMINATE INTAKE AND EXHAUST THROUGH ROOF AND PROVIDE SEPARATION AS RECOMMENDED BY MANUFACTURER.  
e) PROVIDE VENT CLEARANCES AND TERMINATIONS IN ACCORDANCE WITH CHAPTER 8 OF THE 2022 UMC AND MANUFACTURER RECOMMENDATIONS.  
f) WATER HEATER SHALL BE LISTED FOR LPG FUEL.  
g) CONDENSATE CONTROL FOR EQUIPMENT SHALL COMPLY WITH SECTION 3410 OF THE UMC. IF BOILER IS BELOW GRADE, PROVIDE A CONDENSATE PUMP. ALL CONDENSATE PIPE SHALL BE PLASTIC (I.E. PVC, PEX, ETC). PROVIDE A CONDENSATE NEUTRALIZER IF REQUIRED BY LOCAL CODE.

1.03 HYDRONIC RADIANT FLOOR CONTROLS

CONTROL NARRATIVE: THE MECHANICAL SYSTEM CONSISTS OF A HYDRONIC HOT WATER RADIANT FLOOR HEATING SYSTEM EMBEDDED IN THE SLAB ON GRADE TO BE USED AS THE PRIMARY HEATING SYSTEM. THE SPACE HEATING SOURCE WILL BE A PROPANE GAS WALL-MOUNTED COMBINED SPACE HEATING & DHW COMBI BOILER, BUT ONLY THE SPACE HEATING COMPONENT WILL BE USED.

THE BOILER WILL PROVIDE A MAXIMUM OF 120 °F WATER IN THE RADIANT FLOOR DISTRIBUTION LOOP.

A SEPARATE TACO ZONE VALVE CONTROLLER WILL CONTROL THE SOLENOID ZONE VALVES & SEND AN ACTIVATION COMMAND TO THE BOILER WITH A CALL FOR HEAT FROM ANY THERMOSTAT. ONE OF THE MANIFOLDS WILL BE AN ACTUATED ZONE VALVE MANIFOLD WITH TWO THERMOSTATS, ONE SERVING THE RADIANT FLOOR CIRCUIT AND ONE SERVING THE RADIATOR CIRCUIT.

WHEN ANY HYDRONIC ZONE CALLS FOR HEAT, THE ZONE VALVE CONTROLLER WILL OPEN THE SOLENOID ZONE VALVE SERVING THAT ZONE AND SEND AN ACTIVATION COMMAND TO THE BOILER. THE BOILER WILL ACTIVATE THE VARIABLE SPEED DISTRIBUTION PUMP (VP-1). THE VARIABLE SPEED DISTRIBUTION PUMP WILL USE ON-BOARD CONTROLS & THE PROVIDED TEMPERATURE SENSORS (ONE ON EACH THE SUPPLY & RETURN LINES AS SHOWN IN THE HEATING SCHEMATIC) TO MAINTAIN A SET DIFFERENTIAL TEMPERATURE DROP OF 20 °F ACROSS THE SUPPLY & RETURN DISTRIBUTION PIPING.

PROVIDE THE FOLLOWING CONTROLS:

- a) THE ON-BOARD BOILER CONTROLLER SHALL CONTROL THE BOILER SETPOINT SUPPLY TEMPERATURE AT 120 °F  
b) SUPPLY AND INSTALL FOUR (4) HEATING ONLY SETBACK THERMOSTATS TO CONTROL ALL ZONES. INSTALL THERMOSTATS IN A CENTRALLY LOCATED AREA AT 60" ABOVE FLOOR LEVEL, OUT OF DIRECT SUN AND DRAFTS.

- c) SUPPLY AND INSTALL ONE (1) TACO "ZVC404EXP ZONE VALVE CONTROL MODULE, OR EQUAL. CONTROLLER SHALL TIE INTO THE BOILER CONTROLLER AS RECOMMENDED BY MANUFACTURER. EACH THERMOSTAT SHALL OPEN ITS ZONE VALVE AND PUMP (VP-1).  
d) ALL LOW VOLTAGE WIRING FOR CONTROLS AND SENSORS IS THE RESPONSIBILITY OF THE MECHANICAL/HVAC CONTRACTOR. ALL CONDUIT FULLS (AND LOW VOLTAGE WIRING INSTALLATION) IS TO BE COORDINATED WITH ELECTRICAL CONTRACTOR DURING CONSTRUCTION.  
e) INSTALLING SUBCONTRACTOR IS TO SELECT, SUPPLY, & INSTALL REQUIRED RELAYS, TRANSFORMERS, AND OTHER MISCELLANEOUS CONTROL SYSTEM COMPONENTS.

1.04 MANIFOLDS

SUPPLY AND RETURN MANIFOLD ASSEMBLIES SHALL BE AS MANUFACTURED BY VIEGA, OR EQUIVALENT. MANIFOLDS SHALL BE VIEGA "FRORADIANT" 1-1/4" DIAMETER MODULAR STAINLESS STEEL WITH A BALANCING VALVE AND FLOW METER FOR EACH CIRCUIT. MANIFOLD COME EQUIPPED WITH A PURGE VALVE AND MOUNTING BRACKETS. PROVIDE ONE (1) AUTOMATIC AIR VENT PER MANIFOLD, MODEL #81TL. EACH MANIFOLD SHALL INCLUDE END CAP WITH VENT AND PURGE VALVE. PROVIDE ALL VIEGA RECOMMENDED COMPONENTS FOR 3/4" TUBING TO PROVIDE A COMPLETE SYSTEM. PROVIDE TWO (2) MANIFOLDS AS FOLLOWS:

|              | No. OF CIRCUITS | MODEL * | MANIFOLD LENGTH |
|--------------|-----------------|---------|-----------------|
| MANIFOLD #1: | 4               | 15902   | 19.2"           |
| MANIFOLD #2: | 5               | 15903   | 20.3"           |

MANIFOLD LENGTH INCLUDES ANGLE PIECE AND CLEARANCES. EACH MANIFOLD SHALL HAVE A HOMERUN OF 3/4" OXYGEN BARRIER PEX SUPPLY AND RETURN PIPING RUN IN THE CRAWLSPACE; INSULATE THIS PIPING (SEE SECTION 1.12 BELOW).

INSTALL MANIFOLD IN WALL CAVITY AS SHOWN ON PLANS OR OTHER CENTRAL AREA APPROVED BY OWNER. IF MANIFOLDS ARE NOT INSTALLED AS INDICATED ON PLANS, MAKE APPROPRIATE REVISIONS TO THE TUBING LENGTHS INDICATED IN THE TABLE ABOVE.

PROVIDE WITHER STANDARD MANIFOLD CABINET VIEGA MODEL #3819.6US OR PROVIDE A CUSTOM ACCESS COVER.

1.05 PUMP (VP-1): VARIABLE SPEED DISTRIBUTION PUMP

TO BE TACO MODEL #2008-VDT66 VARIABLE SPEED PUMP, OR EQUAL. CAST IRON CASING WITH STAINLESS STEEL CARTRIDGE. PROVIDE 1" FLANGE FITTINGS. UNIT SPECIFICATIONS ARE: 1/25 HP, 115 VOLTS/0.79 AMPS, & 13 FT HEAD AT 5 GPM. SET PUMP TO BE DIRECT ACTING TO MAINTAIN A 20°F TEMPERATURE DROP BETWEEN THE SUPPLY WATER FROM THE BOILER AND THE RETURN WATER TO THE BOILER. INSTALL TEMP. SENSORS AS SHOWN IN SCHEMATIC. USE TACO SHUTOFF FREEDOM FLANGES MODEL # SFL-0759; 3/4" SWAT.

1.06 AIR ELIMINATOR

TO BE VORTTECH MICROBUBBLE AIR ELIMINATOR WITH TACO BRONZE AIR SEPARATOR MODEL #VRTX100B-1. 1" CONNECTIONS, BRONZE BODY.

1.07 SOLENOID ZONE VALVE

SUPPLY AND INSTALL ONE (1) TACO "ZONE SENTRY" ZONE VALVE MODEL #Z07B1Z2, OR EQUAL. UNIT SPECIFICATIONS ARE: 3/4" (SIZED ACCORDING TO THE LINE IT IS TO BE INSTALLED ON). CONNECTIONS, 24VAC, 60 HZ, 0.48 AMPS. THE THERMOSTAT FOR EACH ZONE SHALL OPEN ZONE VALVES, WITH A CALL FOR HEAT, AND ENERGIZE THE VARIABLE SPEED PUMP VP-1 AND THE BOILER PUMP P-1.

1.08 MANIFOLD ACTUATOR ZONE VALVES

SUPPLY AND INSTALL SEVEN (7) VIEGA "POWERHEAD" ACTUATED MANIFOLD ZONE VALVE MODEL #81TL PART #5069, OR EQUAL. UNIT SPECIFICATIONS ARE: SIZED TO FIT ON VIEGA MANIFOLD INDIVIDUAL CIRCUITS, 24VAC, 60 HZ, 4 WIRE. THE THERMOSTAT FOR EACH ZONE SHALL OPEN ZONE VALVES, WITH A CALL FOR HEAT, AND ENERGIZE THE VARIABLE SPEED PUMP VP-1.

1.09 CLOSED SYSTEM RADIANT EXPANSION TANK (EXP-1)

EXPANSION TANK SHALL BE VENT-RITE DIAPHRAGM TYPE EXPANSION TANK, MODEL #HTX 15, AS MANUFACTURED BY FLEXCON INDUSTRIES, RANDOLPH, MASS, (401) 941-0480, OR EQUAL. UNIT SPECIFICATIONS ARE: TANK VOLUME = 21 GALLONS, ACCEPTANCE VOLUME = 10 GALL, CONNECTION = 1/2", DIA=8", HT=12.5". TANK IS PRECHARGED TO 12 PSIG, MAX. TEMP. = 240°F, MAX. PRESSURE = 60 PSIG.

1.10 PIPING

ALL PIPING LOCATED WITHIN THE MECHANICAL ROOM IS TO BE TYPE M COPPER PIPE. ALL PIPING IN GROUND BELOW BUILDING IS TO BE VIEGAPEX OXYGEN-BARRIER PEX PIPING. NO PIPE FITTINGS ARE ALLOWED IN PIPING BELOW GRADE. PIPE SIZES ARE TO BE AS INDICATED ON THE SYSTEM SCHEMATIC AND/OR AS RECOMMENDED BY THE SYSTEM INSTALLER AND BOILER MANUFACTURER. USE MANUFACTURE RECOMMENDED FITTINGS ONLY. ALL PIPING IS TO BE INSULATED.

1.11 HYDRONIC TUBING

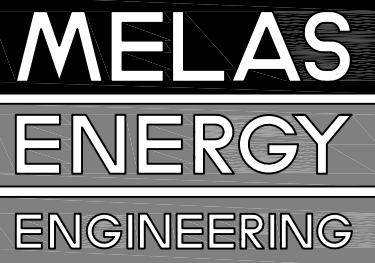
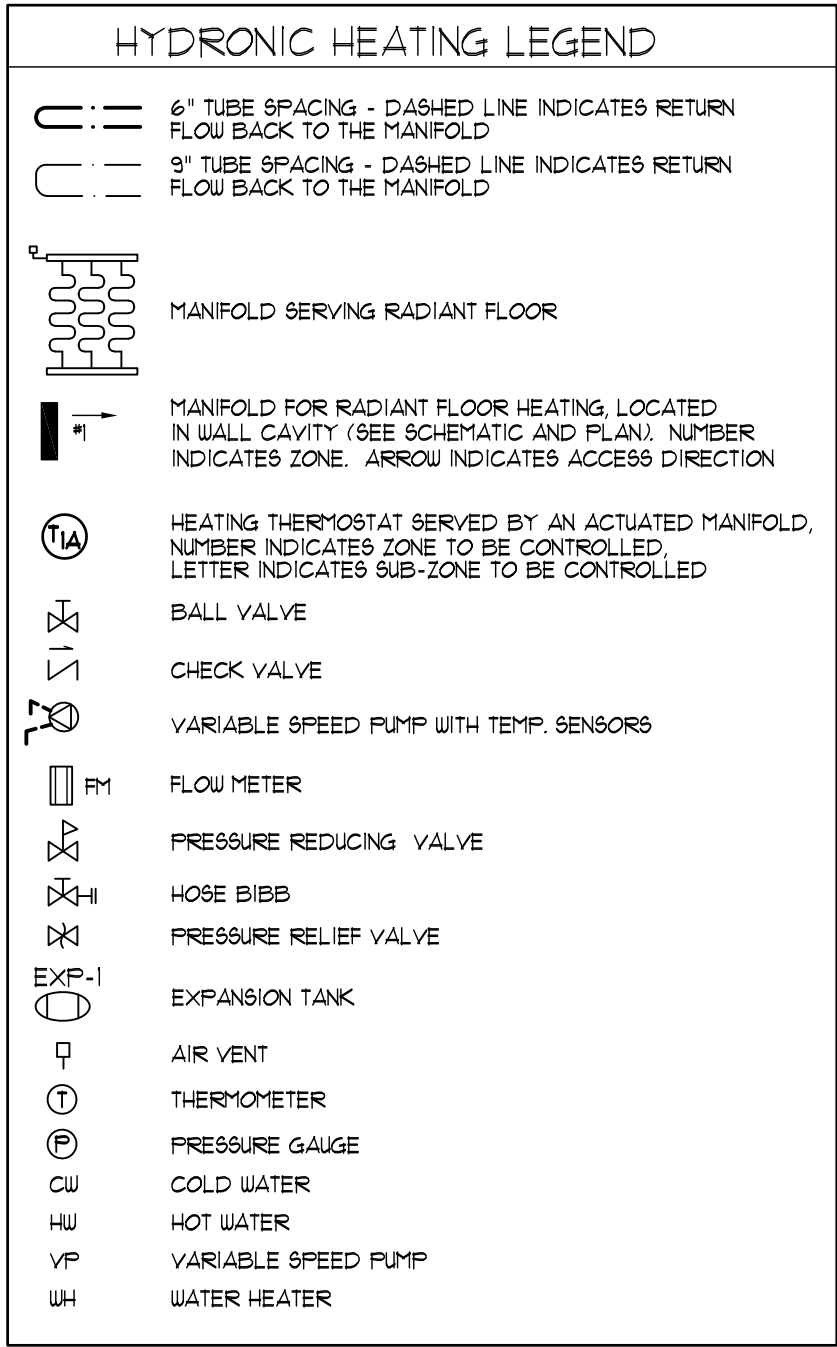
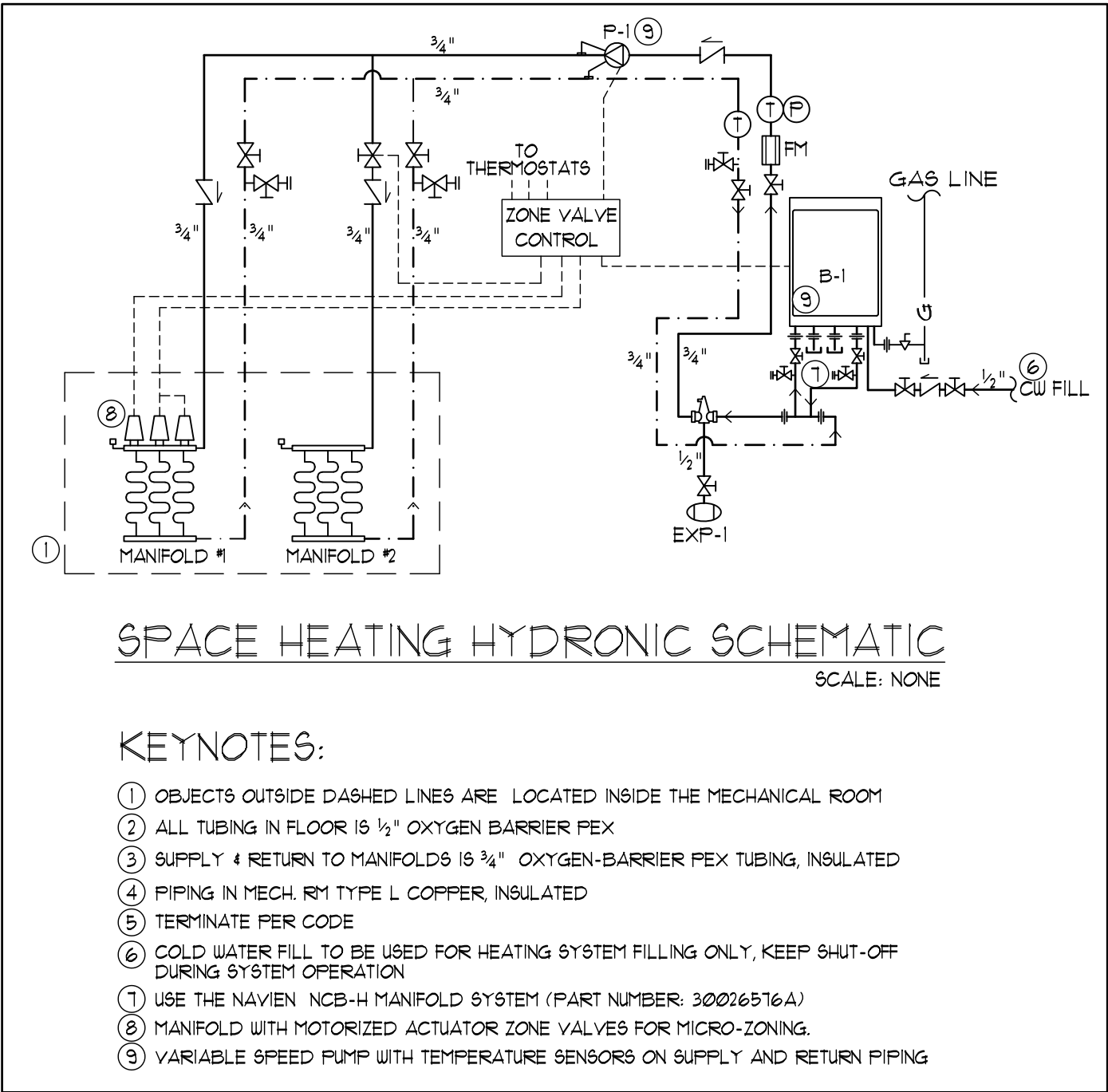
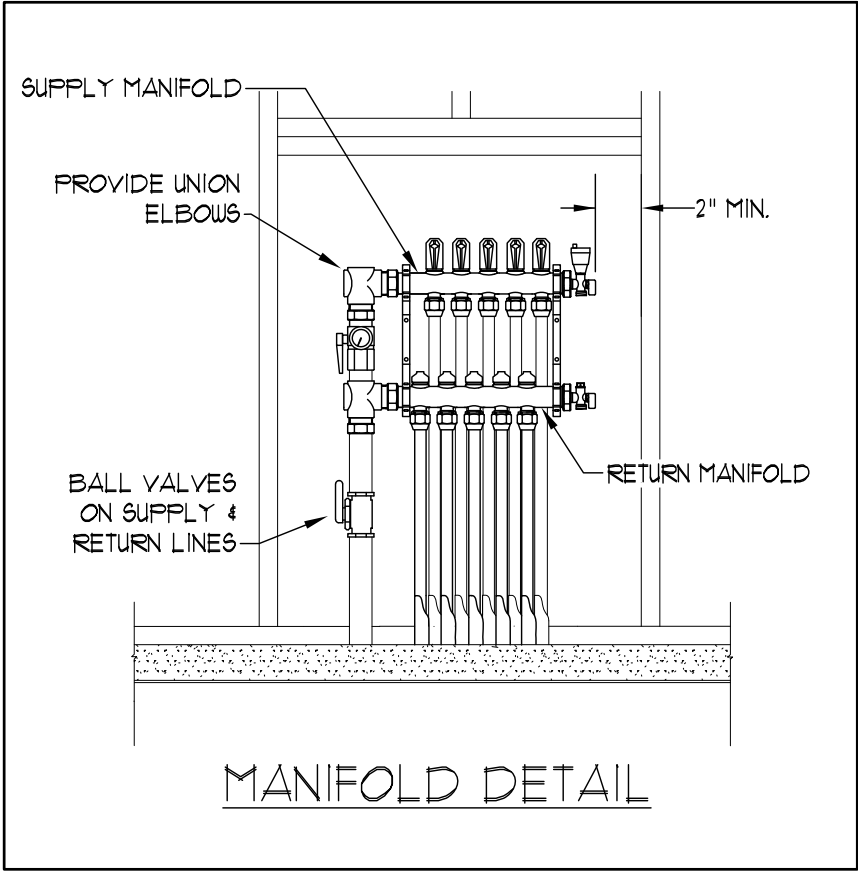
RADIANT FLOOR TUBING IS TO BE 1/2" NOMINAL DIAMETER "VIEGAPEX" OXYGEN BARRIER PEX BY VIEGA. PROVIDE RADIANT HEATING COILS IN LOCATIONS, SPACING, TUBE DIAMETER, NUMBER OF CIRCUITS, AND LENGTHS AS INDICATED ABOVE AND IN TUBING LAYOUT PLAN. IF TUBING LENGTHS INSTALLED VARY FROM LENGTHS SPECIFIED, THE INSTALLER SHALL OBTAIN APPROVAL OF MELAS ENERGY ENGINEERING. SUBMIT MAINTENANCE INSTRUCTIONS, INCLUDING LUBRICATION AND SPARE PARTS LISTS TO OWNER. INCLUDE THIS DATA IN MAINTENANCE MANUALS. TUBING SHALL BE MANUFACTURED IN ACCORDANCE WITH ASTM F8916/F811T, AND MADE FROM CROSS-LINKED POLYETHYLENE. TUBING SHALL BE RATED AT 100 PSIG/180°F. TOLERANCES SHALL MEET THE REQUIREMENTS SET FORTH BY ASTM D-3309 FOR SDR-9 TUBING. DO NOT USE ADHESIVE TAPE ON TUBING, IT MAY CAUSE ACCELERATED AGING OF THE TUBING.

1.12 PIPE INSULATION

TO BE (MIN) 3/4" WALL THICKNESS K-FLEX L6 SELF-SEAL PIPE INSULATION, OR EQUAL. SPECIFICATIONS ARE: R-5. IN OUTDOOR EXPOSED AREAS USE R-314 PROTECTIVE COATING OR K-FLEX AL CLAD TO PROTECT AGAINST UV DAMAGE. FOR BELOW GRADE APPLICATIONS THE PIPE AND INSULATION SHOULD BE ENCASED IN CONDUIT OR OTHERWISE PROTECTED WITH POLYGUARD INSULSHIELD, OR EQUIVALENT. INSTALL ON ALL DOMESTIC HOT WATER AND SPACE HEATING PIPING.

1.13 FREEZE PROTECTION

THE CONTRACTOR IS RESPONSIBLE FOR FREEZE-PROTECTING THE TUBING WHILE THE WORK IS BEING DONE AND FOR ADDING ANTIFREEZE, IF CLIMATIC CONDITIONS WARRANT IT, UPON COMPLETION OF WORK. IF FREEZE PROTECTION IS REQUIRED, ADD DOWFROST HD HEAT TRANSFER FLUID, AS MANUFACTURED BY DOW CHEMICALS. ADD GLYCOL IN CONCENTRATIONS PER MANUFACTURER'S RECOMMENDATIONS. 94% PROPYLENE GLYCOL, FLUORESCENT YELLOW (TO ALLOW AN IN-PIPE LEAK IS PRESENT), TEMPERATURE RANGE OF -60°F TO 325°F.



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RADIANT HEATING NOTES AND SPECIFICATIONS

AMODEO RESIDENCE

13348 WOODYZ PLACE  
NEVADA CITY, CA

Project Title:

Project Location:

Sheet Title:

Revisions:

| No. | Date: | By: | Description: |
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Plot Date: 4/24/2025

Job # 25-057

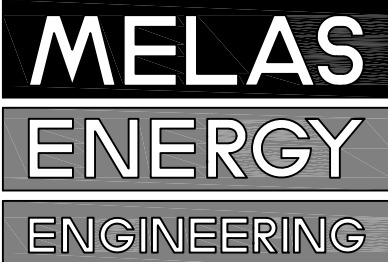
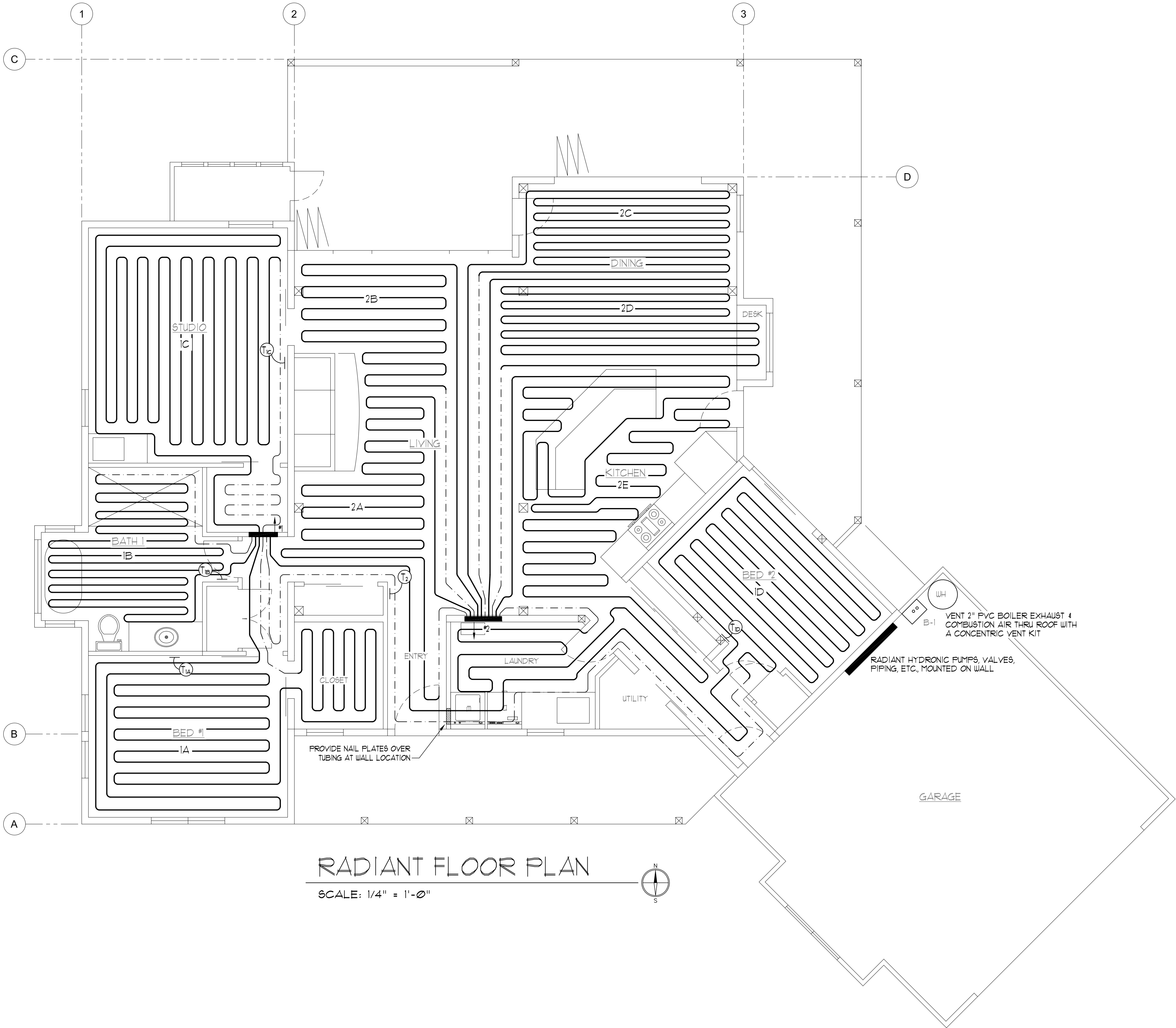
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Issued 3-24-2025

Sheet Number M0.1

JOB SET

| RADIANT FLOOR TUBING SUMMARY                                                                        |                |                 |                    |                       |            |                        |                 |
|-----------------------------------------------------------------------------------------------------|----------------|-----------------|--------------------|-----------------------|------------|------------------------|-----------------|
| Room Name                                                                                           | Circuit Number | Thermostat Name | Tubing Length (ft) | Tube Spacing (inches) | Flow (GPM) | Head (1) Pressure (ft) | Floor Coverings |
| Bed 1                                                                                               | 1A             | T1A             | 257                | 9                     | 0.3        | 1.3                    | Wood            |
| Bath 1                                                                                              | 1B             | T1B             | 188                | 6                     | 0.3        | 1.0                    | Tile            |
| Studio                                                                                              | 1C             | T1C             | 299                | 9                     | 0.3        | 1.6                    | Wood            |
| Bed 2                                                                                               | 1D             | T1D             | 289                | 9                     | 0.3        | 1.5                    | Wood            |
| Subtotal                                                                                            |                |                 | 1033               |                       | 1.2        | 1.6                    |                 |
| Living                                                                                              | 2A             | T2              | 145                | 9                     | 0.4        | 1.3                    | Tile            |
| Living                                                                                              | 2B             | T2              | 148                | 9                     | 0.4        | 1.3                    | Wood            |
| Dining                                                                                              | 2C             | T2              | 223                | 6                     | 0.3        | 1.2                    | Wood            |
| Dining                                                                                              | 2D             | T2              | 243                | 6                     | 0.3        | 1.5                    | Wood            |
| Kitchen/Laundry                                                                                     | 2E             | T2              | 269                | 9                     | 0.2        | 0.7                    | Wood            |
| Subtotal                                                                                            |                |                 | 1028               |                       | 1.6        | 1.5                    |                 |
| Total                                                                                               |                |                 | 2061               | m                     | 2.8        | 1.6                    |                 |
| Notes:<br>(1) Includes circuit pressure drop only<br>(2) Tube spacing varies, refer to radiant plan |                |                 |                    |                       |            |                        |                 |



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Project Title: AMODEO RESIDENCE

Project Location: 13348 WOODYZ PLACE  
NEVADA CITY, CA

Sheet Title: RADIANT HEATING FLOOR PLAN

Project Title:

Project Location:

Sheet Title:

Revisions:

| No. | Date: | By: | Description: |
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Plot Date: 4/24/2025

Job # 25-057

Scale as noted

Issue 1st 3-24-2025

Sheet Number M1.1

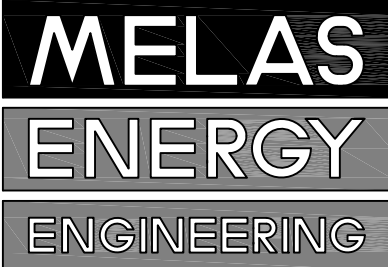
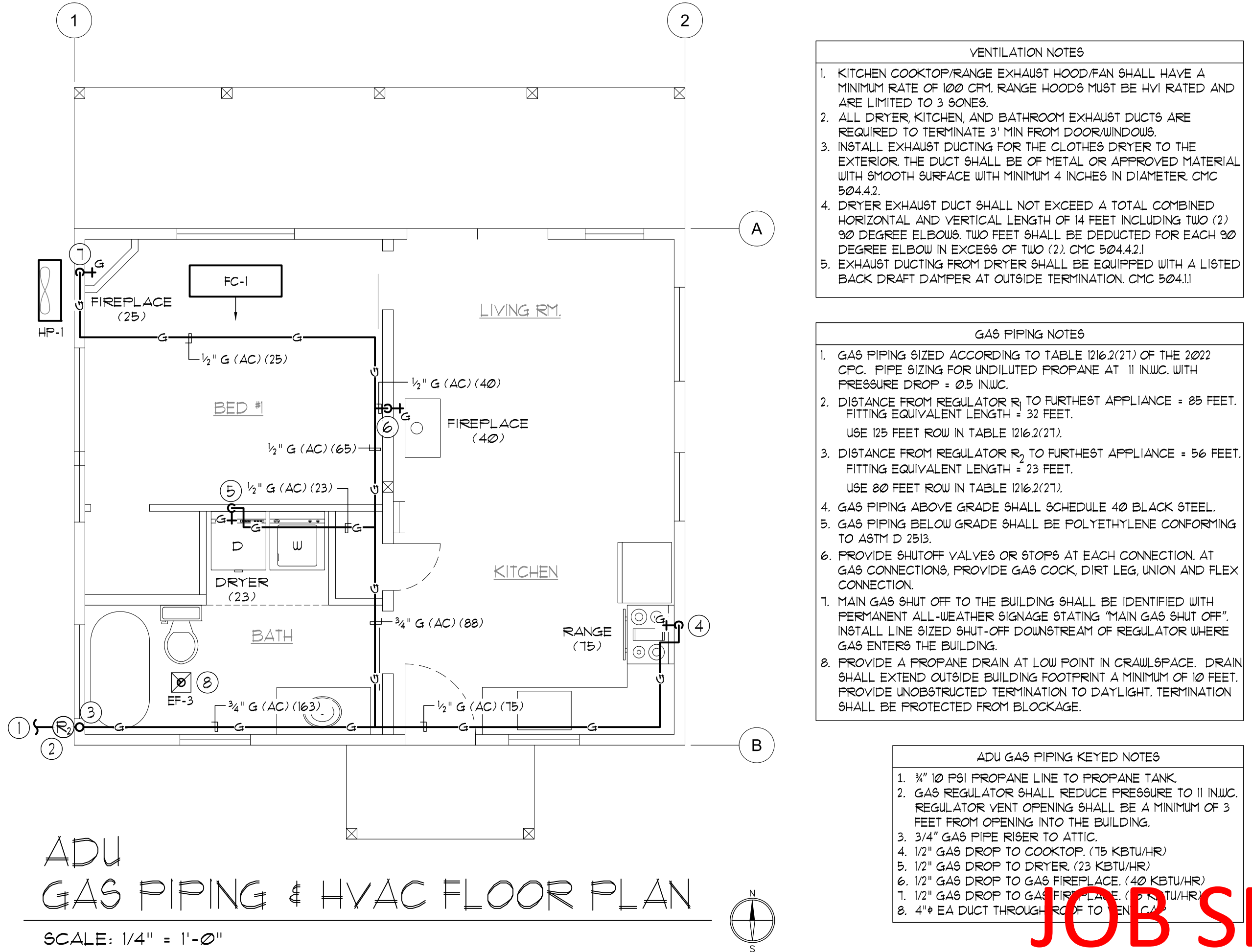
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| HVAC EQUIPMENT SCHEDULE                                                                |               |                |                   |                   |                            |         |     |           |                  |                    |      |           |           |                         |              |                                             |                                                                                                                    |
|----------------------------------------------------------------------------------------|---------------|----------------|-------------------|-------------------|----------------------------|---------|-----|-----------|------------------|--------------------|------|-----------|-----------|-------------------------|--------------|---------------------------------------------|--------------------------------------------------------------------------------------------------------------------|
|                                                                                        |               | COOLING        |                   |                   | HEATING                    |         | FAN |           |                  | ELECT.             |      |           |           |                         |              |                                             |                                                                                                                    |
| SYMBOL                                                                                 | AREA SERVED   | TOTAL (BTU/HR) | SENSIBLE (BTU/HR) | COIL EDB/EWB (°F) | HIGH INPUT/OUTPUT (BTU/HR) | DB (°F) | CFM | S.P. (WC) | O.A. (CFM) (MIN) | VOLTAGE            | MCA  | COMP. LRA | FUSE/MOCP | MFR & MODEL NO.         | WEIGHT (LBS) | EFFICIENCY                                  | REMARKS                                                                                                            |
| FC-1                                                                                   | ADU BEDROOM 1 | 12,000         | 8,800             | 80/65             | 15,400                     | 47      | 282 | ---       | ---              | (1)                | 1.00 | ---       | (1)       | MITSUBISHI #MLZ-KP12NA2 | 34           | ---                                         | INDOOR HEAT PUMP WALL MOUNTED UNIT<br>DIMENSIONS: H=7-5/16", W=43-3/8", D=14-3/16"<br>FAN SET AT HIGH SPEED 44 Dba |
| HP-1                                                                                   | ADU BEDROOM 1 | 12,000         | 8,800             | 80/65             | 15,400                     | 47      | --- | ---       | ---              | 208/230 V. 1 PHASE | 9    | ---       | 16        | MITSUBISHI #SUZ-KA12NA2 | 88           | HSPF2 = 10.9<br>SEER2 = 21.7<br>EER2 = 12.2 | SINGLE ZONE GROUND MOUNTED OUTDOOR HEAT PUMP<br>DIMENSIONS: H=21-5/8", W=31-1/2", D=11-1/4"                        |
| NOTES:<br>1. ELECTRICAL FOR INDOOR UNITS, FC-#, WILL BE PROVIDED BY OUTDOOR UNIT HP-#. |               |                |                   |                   |                            |         |     |           |                  |                    |      |           |           |                         |              |                                             |                                                                                                                    |

| EXHAUST FAN SCHEDULE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |      |                      |                     |     |           |     |                |     |       |                                             |              |       |                                                                                                                                                                                                                                                                            |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|----------------------|---------------------|-----|-----------|-----|----------------|-----|-------|---------------------------------------------|--------------|-------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SYMBOL                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | QTY. | AREA SERVED          | COOLING DESCRIPTION | FAN |           |     | ELECT.         |     |       | MFGR & MODEL NO.                            | WEIGHT (LBS) | SONES | REMARKS                                                                                                                                                                                                                                                                    |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |      |                      |                     | CFM | S.P. (WC) | RPM | VOLTAGE        | BHP | WATTS |                                             |              |       |                                                                                                                                                                                                                                                                            |
| EF-1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 1    | MAIN HOUSE FULL BATH | CEILING CABINET FAN | 110 | 0.25      | --- | 115 V. 1 PHASE | --- | 6.2   | PANASONIC WHISPERGREEN® SELECT™ FV-0511VKS2 | 11.9         | <0.3  | AIRFLOW INDICATED IS SETTING FOR "BOOST" AIRFLOW. PROVIDE CONDENSATION SENSOR ACCESSORY #FVCSVK1 EXHAUST FAN SHALL HAVE 6" DUCT CONNECTION FAN HAS 3 SETTINGS: 50, 80, OR 110 CFM SET FAN FOR <b>60 CFM CONTINUOUS</b> , SEPARATE SWITCH SHALL ENERGIZE FAN TO HIGH SPEED. |
| EF-2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 1    | MAIN HOUSE LAUNDRY   | CEILING CABINET FAN | 80  | 0.25      | --- | 115 V. 1 PHASE | --- | 6.2   | PANASONIC WHISPERGREEN® SELECT™ FV-0511VKS2 | 11.9         | <0.3  | AIRFLOW INDICATED IS SETTING FOR "BOOST" AIRFLOW. PROVIDE CONDENSATION SENSOR ACCESSORY #FVCSVK1 EXHAUST FAN SHALL HAVE 4" DUCT CONNECTION FAN HAS 3 SETTINGS: 50, 80, OR 110 CFM SET FAN FOR <b>30 CFM CONTINUOUS</b> , SEPARATE SWITCH SHALL ENERGIZE FAN TO HIGH SPEED. |
| EF-3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 1    | ADU BATH             | CEILING CABINET FAN | 80  | 0.25      | --- | 115 V. 1 PHASE | --- | 6.2   | PANASONIC WHISPERGREEN® SELECT™ FV-0511VKS2 | 11.9         | <0.3  | AIRFLOW INDICATED IS SETTING FOR "BOOST" AIRFLOW. PROVIDE CONDENSATION SENSOR ACCESSORY #FVCSVK1 EXHAUST FAN SHALL HAVE 4" DUCT CONNECTION FAN HAS 3 SETTINGS: 50, 80, OR 110 CFM SET FAN FOR <b>40 CFM CONTINUOUS</b> , SEPARATE SWITCH SHALL ENERGIZE FAN TO HIGH SPEED. |
| NOTES:<br>(1) INSTALL/MOUNT EXHAUST FANS ACCORDING TO MANUFACTURER'S RECOMMENDATIONS.<br>(2) THE CONTINUOUS FLOW RATE OF EXHAUST FANS EF-1 AND EF-2 IS 90 CFM, THE CONTINUOUS FLOW RATE OF EXHAUST FAN EF-3 IS 40 CFM. THIS MEETS THE REQUIRED VENTILATION ACCORDING TO ASHRAE STANDARD 62.2.; FLR. AREA x .03 + (7.5 x (# OF BEDROOMS +1))<br>MAIN HOUSE: 1834 x .03 + (7.5 x 4) = 85 CFM<br>ADU: 575 x .03 + (7.5 x 2) = 32 CFM<br>(3) FIELD LOCATE DUCT TERMINATIONS FOR EXHAUST FANS. THEY SHALL NOT TERMINATE IN ATTIC OR WITHIN 3 FEET OF OPERABLE DOOR OR WINDOW. |      |                      |                     |     |           |     |                |     |       |                                             |              |       |                                                                                                                                                                                                                                                                            |

| HVAC LEGEND |                     |
|-------------|---------------------|
|             | CEILING EXHAUST FAN |
|             | HEAT PUMP UNIT      |
|             | FANCOIL UNIT        |

| GAS SYMBOLS AND LEGEND |                                                      |
|------------------------|------------------------------------------------------|
|                        | ABOVE CEILING                                        |
|                        | GAS REGULATOR                                        |
|                        | GAS SHUT-OFF BIBB                                    |
|                        | GAS PIPING, SIZE LISTED<br>W/ KBTU/hr IN PARENTHESES |



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Project Title:  
AMODEO RESIDENCE

Project Location:  
13348 WOODZY PLACE  
NEVADA CITY, CA

Sheet Title:  
GAS PIPING AND HVAC PLAN AND SPECIFICATIONS

Project Title:

| Revisions: |       |     |              |
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| No.        | Date: | By: | Description: |
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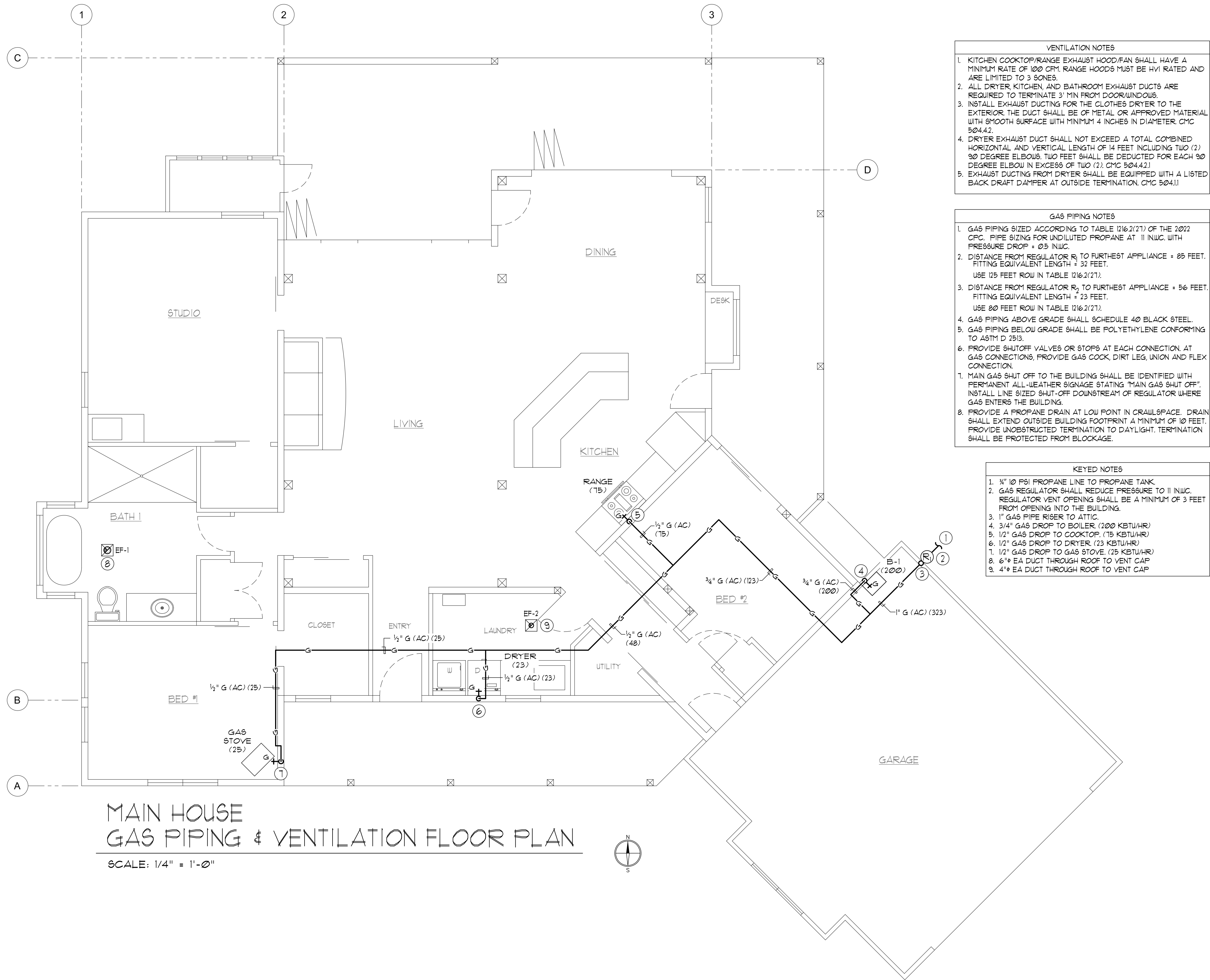
Plot Date: 3/28/2025

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Drawn by: 1st  
sued 3-24-2025

Sheet Number MP2.1



MAIN HOUSE  
GAS PIPING & VENTILATION FLOOR PLAN  
SCALE: 1/4" = 1'-0"



JOB SET

AMODEO RESIDENCE

13348 WOODZY PLACE  
NEVADA CITY, CA

GAS PIPING AND VENTILATION FLOOR PLAN

Project Title:

Project Location:

Sheet Title:

Revisions:

| No. | Date: | By: | Description: |
|-----|-------|-----|--------------|
| -   | -     | -   | -            |
| -   | -     | -   | -            |

Plot Date: 3/31/2025

Job # 25-057

Scale as noted

Issued 3-24-2025

Sheet Number MP2.2

Registration Number: 425-P01007949A-000-000-00000000-0000  
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|                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                            |                                                                |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------|
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|                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                           |                                                                |
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| ATTIC            |                        |              |                     |                  |                |                 |           |
|------------------|------------------------|--------------|---------------------|------------------|----------------|-----------------|-----------|
| 01               | 02                     | 03           | 04                  | 05               | 06             | 07              | 08        |
| Name             | Construction           | Type         | Roof Rise (x in 12) | Roof Reflectance | Roof Emittance | Radiant Barrier | Cool Roof |
| Attic_Garage_    | Attic Garage Roof Cons | Ventilated   | 10                  | 0.1              | 0.85           | No              | No        |
| Attic House Zone | Attic Roof/House Zone  | Unventilated | 10                  | 0.1              | 0.85           | No              | No        |

|                                                                                                                                                                                                                                                                                                            |                                          |                                       |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------|---------------------------------------|
| Registration Number: 425-P0100979494-000-0000000-0000                                                                                                                                                                                                                                                      | Registration Date/Time: 04/01/2025 11:25 | HERS Provider: CHEERS                 |
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| CA Building Energy Efficiency Standards - 2022 Residential Compliance                                                                                                                                                                                                                                      | Report Version: 2022.0.0.00              | Report Generated: 2025-04-01 11:09:52 |
| Schema Version: r00.20220901                                                                                                                                                                                                                                                                               |                                          |                                       |

NA - EXCEPTION 1: SARA <850 FT NONE  
HYDRONIC HEATING SERVED BY GAS ON DEMAND BOILER (AFUE=99%)  
NA  
HEAT: 27,525 BTU/HR COOL: 17,892 BTU/HR  
NA  
NEEA RATED HOT PUMP WATER HEATER (UEF=3.1)  
MANUF/MODEL: RHEEM/XE80TH45U0  
ALL DHW PIPING SHALL BE INSULATED WITH 1"THICK OR MINIMUM R-VALUE 7.7  
NA  
INDOOR AIR QUALITY VENTILATION, KITCHEN RANGE HOOD, QUALITY INSULATION INSPECTION (QI)  
0.03"/BUILDING SQUARE FOOTAGE + OCCUPANTS \* 7.5 = 0.03\* 1837+ 47.5 = 82 CFM  
KITCHEN RANGE HOOD GPM REQUIREMENTS VARY BASED ON DWELLING UNIT SQUARE FOOTAGE.  
SEE TABLE BELOW OF REQUIRED CFM. A SOUND RATING OF 3 SONES OR LESS FOR NOISE  
REDUCTION. THE EXHAUST FAN IS 400 CFM OR GREATER, 0.25"EXTERNAL STATIC PRESSURE HOOD,  
DUCT VENT FANS REQUIRE 7"DUCT MIN. OTHER COMPLIANCE OPTIONS ARE LISTED UNDER TITLE  
24, PART 6 SECTION 150.0.  
THE MINIMUM BATHROOM INTERMITTENT VENTILATION AIRFLOW SHALL BE 50 CFM.  
ENV-01 -- FENESTRATION, ENV-03 -- INSULATION, LTG-01 -- LIGHTING, MCH-01 -- SPACE  
CONDITIONING SYSTEMS, PLB-22 -- WATER HEATERS, PVB-01 -- PVS SYSTEMS  
R-21  
R-42  
SLAB ON GRADE WITH R-10 EDGE INSULATION (HEATED)  
NON-METAL FRAMED, DOUBLE PANE WITH LOW-E GLASS (U-VALUE=0.28, SHGC=0.22)  
NON-METAL FRAMED, DOUBLE PANE WITH LOW-E GLASS (U-VALUE=0.28, SHGC=0.22)  
SOLID CORE FRAM AT R-5 (U-FACTOR=0.20)  
NON-METAL FRAMED, DOUBLE PANE WITH LOW-E GLASS (U-VALUE=0.45, SHGC=0.28)

| REQUIRED KITCHEN RANGE HOOD AIRFLOW RATES (CFM) |                          |                     |
|-------------------------------------------------|--------------------------|---------------------|
| DWELLING UNIT FLOOR AREA (FT <sup>2</sup> )     | HOOD OVER ELECTRIC RANGE | HOOD OVER GAS RANGE |
| > 1500                                          | 110 CFM                  | 180 CFM             |
| < 1000 - 1500                                   | 110 CFM                  | 240 CFM             |
| 750-1000                                        | 130 CFM                  | 300 CFM             |
| < 750                                           | 160 CFM                  | 280 CFM             |

# JOB SET

**SPECIAL HERS VERIFICATION QII REQUIRED**  
CONTACT ENERGY CONSULTANT OR HERS RATER  
DURING FRAMING STAGE OF PROJECT

**KITCHEN RANGE HOOD MUST BE HVI OR AHAM CERTIFIED**



**CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD**

Project Name: Amodeo Residence

Calculation Description: Title 24 Analysis

Calculation Date/Time: 2025-04-01T11:09:48:00

Input File Name: Amodeo Residence - 25057-rbd22x

**CFR-PRI-01-13**  
(Page 12 of 13)

| 01             | 02              | 03              | 04                   | 05                        | 06                    | 07                               |
|----------------|-----------------|-----------------|----------------------|---------------------------|-----------------------|----------------------------------|
| Name           | Pipe Insulation | Parallel Piping | Compact Distribution | Compact Distribution Type | Recirculation Control | Shower Drain Water Heat Recovery |
| DHW Sys 1: 1/2 | Not Required    | Not Required    | Not Required         | None                      | Not Required          | Not Required                     |

**SPACE CONDITIONING SYSTEMS**

| 01    | 02                               | 03                  | 04                      | 05                  | 06                      | 07       | 08                |
|-------|----------------------------------|---------------------|-------------------------|---------------------|-------------------------|----------|-------------------|
| Name  | System Type                      | Heating Unit Name   | Heating Equipment Count | Cooling Unit Name   | Cooling Equipment Count | Fan Name | Distribution Name |
| HVAC1 | Heating and cooling system other | Heating Component 1 | 1                       | Cooling Component 1 | 1                       | n/a      | n/a               |

**HVAC - HEATING UNIT TYPES**

| 01                  | 02          | 03              | 04                 | 05                 |
|---------------------|-------------|-----------------|--------------------|--------------------|
| Name                | System Type | Number of Units | Heating Efficiency | Heating Unit Brand |
| Heating Component 1 | Boiler      | 1               | AFUE: 99           | n/a                |

**INDOOR AIR QUALITY (IAQ) FANS**

| 01              | 02            | 03                     | 04           | 05                             | 06                                    | 07                                | 08                | 09     |
|-----------------|---------------|------------------------|--------------|--------------------------------|---------------------------------------|-----------------------------------|-------------------|--------|
| Dwelling Unit   | Airflow (CFM) | Fan Efficiency (W/CFM) | IAQ Fan Type | Includes Heat/Energy Recovery? | IAQ Recovery Effectiveness - SRE/ASRE | Includes Fault Indicator Display? | HERS Verification | Status |
| Sfam IAQVentHpt | 82            | 0.35                   | Exhaust      | No                             | n/a / n/a                             | No                                | Yes               |        |

Registration Number: 425-P0100079464-000-000-0000000-0000

CA Building Energy Efficiency Standards - 2022 Residential Compliance

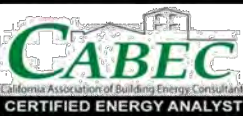
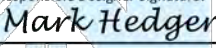
Registration Date/Time: 04/01/2025 11:25

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HERS Provider: CHEERS

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|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |  |                                                                                                                        |  |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|------------------------------------------------------------------------------------------------------------------------|--|
| <b>CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD</b><br>PROJECT NAME: Amodeo Residence<br>Calculation Date: 2025-04-01T11:09:18Z-07:00<br>Input File Name: Amodeo Residence - 25057.rbd22x                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |  | CITR-PRF-0-E<br>(Page 13 of 13)                                                                                        |  |
| <b>Documentation Description: Title 24 Analysis</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |                                                                                                                        |  |
| <b>DOCUMENTATION AUTHOR'S DECLARATION STATEMENT</b><br>I, certify that this Certificate of Compliance documentation is accurate and complete.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |  |                                                                                                                        |  |
| Documentation Author Name:<br>Nicole Porter                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |  | Documentation Author Signature:<br> |  |
| Company:<br>Melas Energy Engineering                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |  | Signature Date:<br>04/01/2025                                                                                          |  |
| Address:<br>547 Union Street<br>City/State/Zip:<br>Nevada City, CA 95959                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  | ECU HERC Certification Identification (If applicable):<br>R19-17-30033<br>Phone:<br>530-265-2492                       |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |  |                                                                                                                        |  |
| <b>RESPONSIBLE PERSON'S DECLARATION STATEMENT</b><br>I certify the following under penalty of perjury under the laws of the State of California:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |  |                                                                                                                        |  |
| 1. I am eligible under Division 3 of the Business and Professions Code to accept responsibility for the building design identified on this Certificate of Compliance.<br>2. I certify that the energy features and performance specifications identified on this Certificate of Compliance conform to the requirements of Title 24, Part 1 and Part 6 of the California Code of Regulations.<br>3. The building design features or system design features identified on this Certificate of Compliance are consistent with the information provided on other applicable compliance documents, worksheets, calculations, plans and specifications submitted to the enforcement agency for approval with this building application. |  |                                                                                                                        |  |
| Responsible Designer Name:<br>Mark Hedger                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |  | Responsible Designer Signature:<br> |  |
| Company:<br>Hedger Home Design                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  | Date Signed:<br>04/01/2025                                                                                             |  |
| Address:<br>11538 Forest View Dr<br>City/State/Zip:<br>Nevada City, CA 95959                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |  | License:<br><br>Phone:<br>5302770763                                                                                   |  |

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 Schema Version: nov 20220001  
 Report Generated: 2025-04-01 11:09:52

| ENERGY CALCULATIONS ENERGY CONSERVATION MEASURES SUMMARY |                                                                                                                                                                                                                                                                                                                                                            |  |
|----------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| PV SYSTEM:                                               | NA – EXCEPTION 1: SARA <805 FT                                                                                                                                                                                                                                                                                                                             |  |
| SPECIAL FEATURES:                                        | NONE                                                                                                                                                                                                                                                                                                                                                       |  |
| SPACE HEATING:                                           | HYDRONIC HEATING SERVICED BY GAS ON DEMAND BOILER (AFUE=99%)                                                                                                                                                                                                                                                                                               |  |
| SPACE COOLING:                                           | NA                                                                                                                                                                                                                                                                                                                                                         |  |
| HEAT & COOL LOADS:                                       | HEAT: 27,525 BTU/HR COOL: 17,892 BTU/HR                                                                                                                                                                                                                                                                                                                    |  |
| DUCT INSULATION:                                         | NA                                                                                                                                                                                                                                                                                                                                                         |  |
| WATER HEATING:                                           | NEEA RATED HEAT PUMP WATER HEATER (UEF=3.1)                                                                                                                                                                                                                                                                                                                |  |
|                                                          | MANUF/MODEL: RHEM/XE8010H45U0                                                                                                                                                                                                                                                                                                                              |  |
| PIPE INSULATION:                                         | ALL DHW PIPING SHALL BE INSULATED WITH 1" THICK OR MINIMUM R-VALUE 7.7                                                                                                                                                                                                                                                                                     |  |
| RADIANT BARRIER:                                         | NA                                                                                                                                                                                                                                                                                                                                                         |  |
| HERS TESTS:                                              | INDOOR AIR QUALITY VENTILATION, KITCHEN RANGE HOOD, QUALITY INSULATION INSPECTION (Q                                                                                                                                                                                                                                                                       |  |
| IAQ VENTILATION:                                         | 0.03/BUILDING SQUARE FOOTAGE + OCCUPANTS* 7.5 = 0.03* 1837+ 4*7.5 = 82 CFM                                                                                                                                                                                                                                                                                 |  |
| KITCHEN VENTILATION:                                     | KITCHEN RANGE HOOD CFM REQUIREMENTS VARY BASED ON DWELLING UNIT SQUARE FOOTAGE. SEE TABLE BELOW OF REQUIRED CFM. A SOUND RATING OF 3 SONES OR LESS FOR NOISE UNLESS THE EXHAUST FAN IS 400 CFM OR GREATER, 0.25"EXTERNAL STATIC PRESSURE HOOD DUCT VENT FANS REQUIRE 7"DUCT MIN. OTHER COMPLIANCE OPTIONS ARE LISTED UNDER TITLE 24, PART 6 SECTION 150.0. |  |
| BATHROOM VENTILATION:                                    | THE MINIMUM BATHROOM INTERMITTENT VENTILATION AIRFLOW SHALL BE 50 CFM.                                                                                                                                                                                                                                                                                     |  |
| REQUIRED CF2R'S:                                         | ENV-01 – FENESTRATION, ENV-03 – INSULATION, LTG-01 – LIGHTING, MCH-01 – SPACE CONDITIONING SYSTEMS, PLB-22 – WATER HEATERS, PVB-01 – PV SYSTEMS                                                                                                                                                                                                            |  |
| EXTERIOR WALLS:                                          | R-21                                                                                                                                                                                                                                                                                                                                                       |  |
| ROOF ATTIC:                                              | R-42                                                                                                                                                                                                                                                                                                                                                       |  |
| FLOOR:                                                   | SLAB ON GRADE WITH R-10 EDGE INSULATION (HEATED)                                                                                                                                                                                                                                                                                                           |  |
| WINDOWS:                                                 | NON-METAL FRAMED, DOUBLE PANE WITH LOW-E GLASS (U-VALUE=0.28, SHGC=0.22)                                                                                                                                                                                                                                                                                   |  |
| GLASS DOORS:                                             | NON-METAL FRAMED, DOUBLE PANE WITH LOW-E GLASS (U-VALUE=0.28, SHGC=0.22)                                                                                                                                                                                                                                                                                   |  |
| EXTERIOR SC DOOR:                                        | SOLID CORE AT R-5 (U-FACTOR=0.20)                                                                                                                                                                                                                                                                                                                          |  |
| SKYLIGHTS:                                               | NON-METAL FRAMED, DOUBLE PANE WITH LOW-E GLASS (U-VALUE=0.45, SHGC=0.28)                                                                                                                                                                                                                                                                                   |  |

| REQUIRED KITCHEN RANGE HOOD AIRFLOW RATES (CFM) |                          |                     |
|-------------------------------------------------|--------------------------|---------------------|
| DWELLING UNIT FLOOR AREA (FT2)                  | HOOD OVER ELECTRIC RANGE | HOOD OVER GAS RANGE |
| > 1500                                          | 110 CFM                  | 180 CFM             |
| < 1000 – 1500                                   | 110 CFM                  | 200 CFM             |
| 750–1000                                        | 130 CFM                  | 280 CFM             |
| < 750                                           | 160 CFM                  | 280 CFM             |

[illegible]

**SPECIAL HERS VERIFICATION QII REQUIRED**  
CONTACT ENERGY CONSULTANT OR HERS RATER  
DURING FRAMING STAGE OF PROJECT

**KITCHEN RANGE HOOD MUST BE HVI OR AHAM CERTIFIED**

# JOB SET

|                                                                       |                                                                                                                                                                     |  |                                                  |  |               |  |
|-----------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--------------------------------------------------|--|---------------|--|
| CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD |                                                                                                                                                                     |  |                                                  |  | CF18-PRF-01-E |  |
| Project Name: Amodeo ADU                                              |                                                                                                                                                                     |  | Calculation Date/Time: 2025-04-01T11:08:04-07:00 |  |               |  |
| Calculation Description: Title 24 Analysis                            |                                                                                                                                                                     |  | Input File Name: Amodeo ADU - 25057.rbd22x       |  |               |  |
| GENERAL INFORMATION                                                   |                                                                                                                                                                     |  |                                                  |  |               |  |
| 01                                                                    | Project Name: Amodeo ADU                                                                                                                                            |  |                                                  |  |               |  |
| 02                                                                    | Run Title: Title 24 Analysis                                                                                                                                        |  |                                                  |  |               |  |
| 03                                                                    | Project Location: 13348 Woodyly Place                                                                                                                               |  |                                                  |  |               |  |
| 04                                                                    | City: Nevada City                                                                                                                                                   |  |                                                  |  |               |  |
| 05                                                                    | Zip code: 95959                                                                                                                                                     |  |                                                  |  |               |  |
| 06                                                                    | Climate Zone: 11                                                                                                                                                    |  |                                                  |  |               |  |
| 07                                                                    | Software Version: EnergyPro 3.4                                                                                                                                     |  |                                                  |  |               |  |
| 08                                                                    | Front Orientation (deg/Compass): 180                                                                                                                                |  |                                                  |  |               |  |
| 09                                                                    | Building Type: Single family                                                                                                                                        |  |                                                  |  |               |  |
| 10                                                                    | Number of Dwelling Units: 1                                                                                                                                         |  |                                                  |  |               |  |
| 11                                                                    | Project Scope: Newly Constructed                                                                                                                                    |  |                                                  |  |               |  |
| 12                                                                    | Addition Cond. Floor Area (ft²): 0                                                                                                                                  |  |                                                  |  |               |  |
| 13                                                                    | Number of Stories: 1                                                                                                                                                |  |                                                  |  |               |  |
| 14                                                                    | Existing Cond. Floor Area (ft²): n/a                                                                                                                                |  |                                                  |  |               |  |
| 15                                                                    | Penetration Average U-factor: 0.29                                                                                                                                  |  |                                                  |  |               |  |
| 16                                                                    | Total Cond. Floor Area (ft²): 572                                                                                                                                   |  |                                                  |  |               |  |
| 17                                                                    | Glazing Percentage (%): 23.84%                                                                                                                                      |  |                                                  |  |               |  |
| 18                                                                    | ADU Bedroom Count: n/a                                                                                                                                              |  |                                                  |  |               |  |
| 19                                                                    | ADU Conditioned Floor Area: n/a                                                                                                                                     |  |                                                  |  |               |  |
| 20                                                                    | Fuel Type: Propane                                                                                                                                                  |  |                                                  |  |               |  |
| 21                                                                    | No Dwelling Unit: No                                                                                                                                                |  |                                                  |  |               |  |
| COMPLIANCE RESULTS                                                    |                                                                                                                                                                     |  |                                                  |  |               |  |
| 01                                                                    | Building Complex with Computer Performance                                                                                                                          |  |                                                  |  |               |  |
| 02                                                                    | This building incorporates features that require field testing and/or verification by a certified HERS rater under the supervision of a CEC-approved HERS provider. |  |                                                  |  |               |  |
| 03                                                                    | This building incorporates one or more Special Features shown below:                                                                                                |  |                                                  |  |               |  |

Registration Number: 425-P010097940A-000-000-0000000-0000  
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Report Version: 2022.0.000  
Schema Version: rev 20220901

Registration Date/Time: 04/01/2025 11:28  
HERS Provider: CHEERS  
Report Generated: 2025-04-01 11:08:22

CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD

Project Name: Amodeo ADU

Calculation Date/Time: 2025-04-01T11:08:04-07:00

CF18-PRF-01-E

Calculation Description: Title 24 Analysis

Input File Name: Amodeo ADU - 25057.rbd22x

(Page 2 of 11)

ENERGY DESIGN RATINGS

|                 | Energy Design Ratings |                                              |                                    | Compliance Margins   |                                              |                                    |
|-----------------|-----------------------|----------------------------------------------|------------------------------------|----------------------|----------------------------------------------|------------------------------------|
|                 | Source Energy (EOR1)  | Efficiency <sup>1</sup> EDR (EOR2efficiency) | Total <sup>2</sup> EDR (EOR2total) | Source Energy (EOR1) | Efficiency <sup>1</sup> EDR (EOR2efficiency) | Total <sup>2</sup> EDR (EOR2total) |
| Standard Design | 41.2                  | 34.2                                         | 46.3                               |                      |                                              |                                    |
| Proposed Design | 38.7                  | 34                                           | 46.2                               | 2.5                  | 0.2                                          | 0.1                                |

RESULTS: PASS

<sup>1</sup>Efficiency EDR includes improvements like a better building envelope and more efficient equipment.  
<sup>2</sup>Total EDR includes efficiency and demand response measures such as photovoltaic (PV) system and batteries.  
Building complex when source energy, efficiency and total compliance margins are greater than or equal to zero and unit test hour limits are not exceeded.

- \* Standard Design PV Capacity: 0.00 kWdc

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| CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD |                                                      |                                                  |                                                      | CF18-PRF-01-E                                    |               |               |
|-----------------------------------------------------------------------|------------------------------------------------------|--------------------------------------------------|------------------------------------------------------|--------------------------------------------------|---------------|---------------|
| Project Name: Amodeo ADU                                              |                                                      | Calculation Date/Time: 2025-04-01T11:08:04-07:00 |                                                      | (Page 3 of 11)                                   |               |               |
| Calculation Description: Title 24 Analysis                            |                                                      | Input File Name: Amodeo ADU - 25057.rbd22x       |                                                      |                                                  |               |               |
| ENERGY USE SUMMARY                                                    |                                                      |                                                  |                                                      |                                                  |               |               |
| Energy Use                                                            | Standard Design Source Energy (EOR1) (kBtu/ft² · yr) | Standard Design TDV Energy (EOR2) (kWh/ft² · yr) | Proposed Design Source Energy (EOR1) (kBtu/ft² · yr) | Proposed Design TDV Energy (EOR2) (kWh/ft² · yr) | MargIn (EOR1) | MargIn (EOR2) |
| Space Heating                                                         | 7.03                                                 | 47.71                                            | 7.08                                                 | 54.9                                             | -0.05         | 7.39          |
| Space Cooling                                                         | 2.56                                                 | 57                                               | 2.59                                                 | 67.12                                            | -0.03         | -10.12        |
| IAQ Ventilation                                                       | 0.41                                                 | 4.41                                             | 0.41                                                 | 4.41                                             | 0             | 0             |
| Water Heating                                                         | 4.2                                                  | 41.79                                            | 2.26                                                 | 23.83                                            | 1.94          | 17.96         |
| Self Utilization/Health/Credit                                        |                                                      |                                                  | 0                                                    |                                                  | 0             | 0             |
| Efficiency Compliance Total                                           | 14.2                                                 | 150.91                                           | 12.34                                                | 150.26                                           | 1.86          | 0.65          |
| Photovoltaics                                                         | 0                                                    | 0                                                | 0                                                    |                                                  |               |               |
| Battery                                                               | 0                                                    | 0                                                | 0                                                    |                                                  |               |               |
| Flexibility                                                           | 0                                                    | 0                                                | 0                                                    |                                                  |               |               |
| Indoor Lighting                                                       | 1.09                                                 | 10.82                                            | 1.09                                                 | 10.82                                            |               |               |
| Appt. & Cooking                                                       | 9.07                                                 | 72.39                                            | 9.06                                                 | 72.01                                            |               |               |
| Plug Loads                                                            | 6.28                                                 | 65.62                                            | 6.28                                                 | 65.62                                            |               |               |
| Outdoor Lighting                                                      | 0.22                                                 | 2.03                                             | 0.22                                                 | 2.03                                             |               |               |
| TOTAL COMPLIANCE                                                      | 30.86                                                | 301.57                                           | 28.99                                                | 300.74                                           |               |               |

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| CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                   |                                            |                        | Calculation Date/Time: 2025-04-01T11:08:04-07:00 |      | CF18-PRF-01-E   |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------|--------------------------------------------|------------------------|--------------------------------------------------|------|-----------------|
| Project Name: Amodeo ADU                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                   | Calculation Description: Title 24 Analysis |                        |                                                  |      | (Page 4 of 11)  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                   | Input File Name: Amodeo ADU - 25057.rbd22x |                        |                                                  |      |                 |
| ENERGY USE INTENSITY                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                   |                                            |                        |                                                  |      |                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Standard Design (kBtu/ft² · yr)                                   | Proposed Design (kBtu/ft² · yr)            | MargIn (kBtu/ft² · yr) | Margin Percentage                                |      |                 |
| Gross EU <sup>1</sup>                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 36.74                                                             | 34.38                                      | 2.36                   | 6.42                                             |      |                 |
| Net EU <sup>2</sup>                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 36.74                                                             | 34.38                                      | 2.36                   | 6.42                                             |      |                 |
| Notes:<br>1. Gross EU is Energy Use Total (not including PV) / Total Building Area.<br>2. Net EU is Energy Use Total (including PV) / Total Building Area.                                                                                                                                                                                                                                                                                                             |                                                                   |                                            |                        |                                                  |      |                 |
| REQUIRED PV SYSTEMS                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                   |                                            |                        |                                                  |      |                 |
| 01                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 02                                                                | 03                                         | 04                     | 05                                               | 06   | 07              |
| DC System Size (kWdc)                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Exception                                                         | Module Type                                | Array Type             | Power Electronics                                | CFI  | AlumIneth (deg) |
| 08                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 09                                                                | 10                                         | 11                     | 12                                               |      |                 |
| Tilt Inp (deg)                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Array Angle (deg)                                                 | Tilt In (1 to 32)                          | Inverter Eff (%)       | Annual Solar Effic (%)                           |      |                 |
| 0                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | No PV - SARA less than 80 contiguous sq ft (Trigger CF28-SARA-01) | Standard (14-17%)                          | Fixed                  | none                                             | true | n/a             |
| n/a                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | n/a                                                               | n/a                                        | n/a                    | n/a                                              | n/a  | n/a             |
| REQUIRED SPECIAL FEATURES                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                   |                                            |                        |                                                  |      |                 |
| The following are features that must be installed as condition for meeting the modeled energy performance for this computer analysis.<br>• PV exception 1: No PV required if the SARA < 80 ft² (0 kW)<br>• Window overhangs and/or fins<br>• Northwest Energy Efficiency Alliance (NEEA) rated heat pump water heater; specific brand/model, or equivalent, must be installed<br>• One or more heat pump water heaters have been modeled as demand response compatible |                                                                   |                                            |                        |                                                  |      |                 |
| HERS FEATURE SUMMARY                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                   |                                            |                        |                                                  |      |                 |
| The following is a summary of the features that must be field-verified by a certified HERS Rater as a condition for meeting the modeled energy performance for this computer analysis. Additional detail is provided in the building tables below. Registered CF28s and CF38s are required to be completed in the HERS Registry.<br>• Indoor air quality ventilation<br>• Kitchen range hood<br>• Verified heat pump rated heating capacity                            |                                                                   |                                            |                        |                                                  |      |                 |

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| CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD |                              |                                                  |                       | CF18-PRF-01-E       |                                       |                            |                |          |                |           |
|-----------------------------------------------------------------------|------------------------------|--------------------------------------------------|-----------------------|---------------------|---------------------------------------|----------------------------|----------------|----------|----------------|-----------|
| Project Name: Amodeo ADU                                              |                              | Calculation Date/Time: 2025-04-01T11:08:04-07:00 |                       |                     |                                       |                            |                |          |                |           |
| Calculation Description: Title 24 Analysis                            |                              | Input File Name: Amodeo ADU - 25057.rbd22x       |                       |                     |                                       |                            |                |          |                |           |
| BUILDING - FEATURES INFORMATION                                       |                              |                                                  |                       |                     |                                       |                            |                |          |                |           |
| 01                                                                    | 02                           | 03                                               | 04                    | 05                  | 06                                    | 07                         |                |          |                |           |
| Project Name                                                          | Conditioned Floor Area (ft²) | Number of Dwelling Units                         | Number of Bedrooms    | Number of Zones     | Number of Ventilation Cooling Systems | Number of Heating Systems  |                |          |                |           |
| Amodeo ADU                                                            | 572                          | 1                                                | 1                     | 3                   | 0                                     | 1                          |                |          |                |           |
| ZONE INFORMATION                                                      |                              |                                                  |                       |                     |                                       |                            |                |          |                |           |
| 01                                                                    | 02                           | 03                                               | 04                    | 05                  | 06                                    | 07                         |                |          |                |           |
| Zone Name                                                             | Zone Type                    | HVAC System Name                                 | Zone Floor Area (ft²) | Avg. Ceiling Height | Water Heating System 1                | Status                     |                |          |                |           |
| ADU Zone                                                              | Conditioned                  | HVAC1                                            | 572                   | 13.6                | DHW Sys 1                             | Now                        |                |          |                |           |
| OPAQUE SURFACES                                                       |                              |                                                  |                       |                     |                                       |                            |                |          |                |           |
| 01                                                                    | 02                           | 03                                               | 04                    | 05                  | 06                                    | 07                         | 08             |          |                |           |
| Name                                                                  | Zone                         | Construction                                     | Asimuth               | Orientation         | Gross Area (ft²)                      | Window and Door Area (ft²) | TiB (deg)      |          |                |           |
| Front Wall                                                            | ADU Zone                     | R-21 Wall                                        | 180                   | Front               | 234                                   | 42                         | 90             |          |                |           |
| Right Wall                                                            | ADU Zone                     | R-21 Wall                                        | 90                    | Right               | 239.2                                 | 22.68                      | 90             |          |                |           |
| Back Wall                                                             | ADU Zone                     | R-21 Wall                                        | 0                     | Back                | 234                                   | 70                         | 90             |          |                |           |
| Left Wall                                                             | ADU Zone                     | R-21 Wall                                        | 270                   | Left                | 259.2                                 | 49                         | 90             |          |                |           |
| OPAQUE SURFACES - CATHEDRAL CEILINGS                                  |                              |                                                  |                       |                     |                                       |                            |                |          |                |           |
| 01                                                                    | 02                           | 03                                               | 04                    | 05                  | 06                                    | 07                         | 08             | 09       | 10             | 11        |
| Name                                                                  | Zone                         | Construction                                     | Asimuth               | Orientation         | Area (ft²)                            | Skylight Area (ft²)        | Roof R18 In 12 | R18 Roof | Roof Emittance | Cool Roof |
| Front Roof                                                            | ADU Zone                     | R-42 Roof Cathedral                              | 180                   | Front               | 372.3                                 | 0                          | 10             | 0.1      | 0.85           | No        |
| Back Roof                                                             | ADU Zone                     | R-42 Roof Cathedral                              | 0                     | Back                | 372.3                                 | 8                          | 10             | 0.1      | 0.85           | No        |

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|-----------------------------------------------------------------------|----------|------------|-------------|--------------------------------------------------|------------|-------------|------------|----------|-----------------|------|-------------|------------------|----------------|--|
| Project Name: Amodeo ADU                                              |          |            |             | Calculation Date/Time: 2025-04-01T11:08:04-07:00 |            |             |            |          |                 |      |             |                  | (Page 6 of 11) |  |
| Calculation Description: Title 24 Analysis                            |          |            |             | Input File Name: Amodeo ADU - 25057.rbd22x       |            |             |            |          |                 |      |             |                  |                |  |
| FENESTRATION / GLAZING                                                |          |            |             |                                                  |            |             |            |          |                 |      |             |                  |                |  |
| 01                                                                    | 02       | 03         | 04          | 05                                               | 06         | 07          | 08         | 09       | 10              | 11   | 12          | 13               | 14             |  |
| Name                                                                  | Type     | Surface    | Orientation | Asimuth                                          | Width (ft) | Height (ft) | Area (ft²) | U-factor | U-factor Source | SHGC | SHGC Source | Exterior Shading |                |  |
| Front Window (WP)                                                     | Window   | Front Wall | Front       | 180                                              | 1          | 4           | 1          | 0.28     | NFRC            | 0.22 | NFRC        | Bag Screen       |                |  |
| Front Window (WP2)                                                    | Window   | Front Wall | Front       | 180                                              | 1          | 3           | 1          | 0.28     | NFRC            | 0.22 | NFRC        | Bag Screen       |                |  |
| Right Window (WP)                                                     | Window   | Right Wall | Right       | 90                                               |            |             | 16         | 0.28     | NFRC            | 0.22 | NFRC        | Bag Screen       |                |  |
| Right Window (WP2)                                                    | Window   | Right Wall | Right       | 90                                               |            |             | 6.68       | 0.28     | NFRC            | 0.22 | NFRC        | Bag Screen       |                |  |
| Back Window (WP)                                                      | Window   | Back Wall  | Back        | 0                                                |            |             | 20         | 0.28     | NFRC            | 0.22 | NFRC        | Bag Screen       |                |  |
| Back Window (WP2)                                                     | Window   | Back Wall  | Back        | 0                                                |            |             | 8          | 0.28     | NFRC            | 0.22 | NFRC        | Bag Screen       |                |  |
| Back Patio Door                                                       | Window   | Back Wall  | Back        | 0                                                |            |             | 42         | 0.28     | NFRC            | 0.22 | NFRC        | Bag Screen       |                |  |
| Left Window (WP)                                                      | Window   | Left Wall  | Left        | 270                                              |            |             | 20         | 0.28     | NFRC            | 0.22 | NFRC        | Bag Screen       |                |  |
| Left Window (WP2)                                                     | Window   | Left Wall  | Left        | 270                                              |            |             | 1          | 0.28     | NFRC            | 0.22 | NFRC        | Bag Screen       |                |  |
| Left Window (WP2)                                                     | Window   | Left Wall  | Left        | 270                                              |            |             | 1          | 0.28     | NFRC            | 0.22 | NFRC        | Bag Screen       |                |  |
| Skylight                                                              | Skylight | Back Roof  | Back        | 0                                                |            |             | 8          | 0.45     | NFRC            | 0.28 | NFRC        |                  |                |  |

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|-----------------------------------------------------------------------|--|----------------|--|-------------------|--|--------------------|--|-------------------------------|--|--------------------------------------------------|--|-------------------|--|---------------------------------------------------------------------------------------------|--|--------|--|-----------|--|-------|--|--------|--|--------|--|--------|--|
| Project Name: Amodeo ADU                                              |  |                |  |                   |  |                    |  |                               |  | Calculation Date/Time: 2025-04-01T11:08:04-07:00 |  |                   |  |                                                                                             |  |        |  |           |  |       |  |        |  |        |  |        |  |
| Calculation Description: Title 24 Analysis                            |  |                |  |                   |  |                    |  |                               |  | Input File Name: Amodeo ADU - 25057.rbd22x       |  |                   |  |                                                                                             |  |        |  |           |  |       |  |        |  |        |  |        |  |
| OPAQUE DOORS                                                          |  |                |  |                   |  |                    |  |                               |  |                                                  |  |                   |  |                                                                                             |  |        |  |           |  |       |  |        |  |        |  |        |  |
| 01                                                                    |  | 02             |  |                   |  |                    |  | 03                            |  |                                                  |  | 04                |  |                                                                                             |  |        |  |           |  |       |  |        |  |        |  |        |  |
| Name                                                                  |  | Front Door     |  | Side of Building  |  | Front Wall         |  | Area (ft²)                    |  | U-factor                                         |  |                   |  |                                                                                             |  |        |  |           |  |       |  |        |  |        |  |        |  |
|                                                                       |  |                |  |                   |  |                    |  | 20                            |  | 0.2                                              |  |                   |  |                                                                                             |  |        |  |           |  |       |  |        |  |        |  |        |  |
| OVERBROWS AND FINIS                                                   |  |                |  |                   |  |                    |  |                               |  |                                                  |  |                   |  |                                                                                             |  |        |  |           |  |       |  |        |  |        |  |        |  |
| 01                                                                    |  | 02             |  | 03                |  | 04                 |  | 05                            |  | 06                                               |  | 07                |  | 08                                                                                          |  | 09     |  | 10        |  | 11    |  | 12     |  | 13     |  | 14     |  |
| Window                                                                |  |                |  |                   |  | Overhang           |  |                               |  |                                                  |  | Left Fin          |  |                                                                                             |  |        |  | Right Fin |  |       |  |        |  |        |  |        |  |
|                                                                       |  | Depth          |  | Dist Up           |  | Left Extent        |  | Right Extent                  |  | Flap Ht.                                         |  | Depth             |  | Top Up                                                                                      |  | Dist L |  | Bot Up    |  | Depth |  | Top Up |  | Dist R |  | Bot Up |  |
| Front Window [OP]                                                     |  | 1              |  | 0.1               |  | 20                 |  | 6                             |  | 0                                                |  | 0                 |  | 0                                                                                           |  | 0      |  | 0         |  | 0     |  | 0      |  | 0      |  | 0      |  |
| Front Window [DP]                                                     |  | 1              |  | 0.1               |  | 5                  |  | 20                            |  | 0                                                |  | 0                 |  | 0                                                                                           |  | 0      |  | 0         |  | 0     |  | 0      |  | 0      |  | 0      |  |
| SLAB FLOORS                                                           |  |                |  |                   |  |                    |  |                               |  |                                                  |  |                   |  |                                                                                             |  |        |  |           |  |       |  |        |  |        |  |        |  |
| 01                                                                    |  | 02             |  | 03                |  | 04                 |  | 05                            |  | 06                                               |  | 07                |  | 08                                                                                          |  |        |  |           |  |       |  |        |  |        |  |        |  |
| Name                                                                  |  | Zone           |  | Area (ft²)        |  | Perimeter (ft)     |  | Edge Insul. R-value and Depth |  | Edge Insul. R-value and Depth                    |  | Carpeted Fraction |  | Heated                                                                                      |  |        |  |           |  |       |  |        |  |        |  |        |  |
| Slab-on Grade                                                         |  | ADU Zone       |  | 172               |  | 96                 |  | none                          |  | none                                             |  | 80%               |  | No                                                                                          |  |        |  |           |  |       |  |        |  |        |  |        |  |
| OPAQUE SURFACE CONSTRUCTIONS                                          |  |                |  |                   |  |                    |  |                               |  |                                                  |  |                   |  |                                                                                             |  |        |  |           |  |       |  |        |  |        |  |        |  |
| 01                                                                    |  | 02             |  | 03                |  | 04                 |  | 05                            |  | 06                                               |  | 07                |  | 08                                                                                          |  |        |  |           |  |       |  |        |  |        |  |        |  |
| Construction Name                                                     |  | Surface Type   |  | Construction Type |  | Framing            |  | Total Cavity R-value          |  | Interior / Exterior Continuous R-value           |  | U-factor          |  | Assembly Layers                                                                             |  |        |  |           |  |       |  |        |  |        |  |        |  |
| R-21 Wall                                                             |  | Exterior Walls |  | Wood Framed Wall  |  | 2x6 @ 16 in. O. C. |  | R-21                          |  | None / None                                      |  | 0.069             |  | Inside Finish: Gypsum Board<br>Cavity / Frame: R-21 / 2x6<br>Exterior Finish: 3-Coat Stucco |  |        |  |           |  |       |  |        |  |        |  |        |  |

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|-----------------------------------------------------------------------|--|---------------------------|--|--------------------------------------------------|--|-------------------------|--|---------------------------|--|------------------------------|--|
| Project Name: Amodeo ADU                                              |  |                           |  | Calculation Date/Time: 2025-04-01T11:08:04-07:00 |  |                         |  |                           |  | (Page 9 of 11)               |  |
| Calculation Description: Title 24 Analysis                            |  |                           |  | Input File Name: Amodeo ADU - 25057.rbd22x       |  |                         |  |                           |  |                              |  |
| WATER HEATING - HERS VERIFICATION                                     |  |                           |  |                                                  |  |                         |  |                           |  |                              |  |
| 01                                                                    |  | 02                        |  | 03                                               |  | 04                      |  | 05                        |  | 06                           |  |
| Name                                                                  |  | Pipe Insulation           |  | Parallel Piping                                  |  | Compact Distribution    |  | Compact Distribution Type |  | Recirculation Control        |  |
| DHW Sys 1 - 1/1                                                       |  | Not Required              |  | Not Required                                     |  | Not Required            |  | None                      |  | Not Required                 |  |
| SPACE CONDITIONING SYSTEMS                                            |  |                           |  |                                                  |  |                         |  |                           |  |                              |  |
| 01                                                                    |  | 02                        |  | 03                                               |  | 04                      |  | 05                        |  | 06                           |  |
| Name                                                                  |  | System Type               |  | Heating Unit Name                                |  | Heating Equipment Count |  | Cooling Unit Name         |  | Cooling Equipment Count      |  |
| HVAC1                                                                 |  | Heat pump heating cooling |  | Heat Pump System 1                               |  | 1                       |  | Heat Pump System 1        |  | 1                            |  |
|                                                                       |  |                           |  |                                                  |  |                         |  |                           |  | n/a                          |  |
|                                                                       |  |                           |  |                                                  |  |                         |  |                           |  | n/a                          |  |
| HVAC - HEAT PUMPS                                                     |  |                           |  |                                                  |  |                         |  |                           |  |                              |  |
| 01                                                                    |  | 02                        |  | 03                                               |  | 04                      |  | 05                        |  | 06                           |  |
| Name                                                                  |  | System Type               |  | Number of Units                                  |  | Heating Efficiency Type |  | Cooling Efficiency Type   |  | Zonally Controlled           |  |
| Heat Pump System 1                                                    |  | Ductless MiniSplit HP     |  | 1                                                |  | HSPF2                   |  | SEER2                     |  | Not Zonal                    |  |
|                                                                       |  |                           |  |                                                  |  | 7.5                     |  | 14.3                      |  | Single-Speed                 |  |
|                                                                       |  |                           |  |                                                  |  | 10000                   |  | 8                         |  | Heat Pump System 1-heat pump |  |
| HVAC HEAT PUMPS - HERS VERIFICATION                                   |  |                           |  |                                                  |  |                         |  |                           |  |                              |  |
| 01                                                                    |  | 02                        |  | 03                                               |  | 04                      |  | 05                        |  | 06                           |  |
| Name                                                                  |  | Verified Airflow          |  | Airflow Target                                   |  | Verified EER/SEER       |  | Verified SEER/SEER2       |  | Verified Heating Capacity    |  |
| Heat Pump System 1-Heat Pump                                          |  | Not Required              |  | 0                                                |  | Not Required            |  | Not Required              |  | No                           |  |
|                                                                       |  |                           |  |                                                  |  |                         |  |                           |  | Yes                          |  |
|                                                                       |  |                           |  |                                                  |  |                         |  |                           |  | Cap 47                       |  |

Registration Number: 425-P010097940A-000-000-0000000-0000  
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| CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE |
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