Town of Apple Valley
1777 N Meadowlark Dr
Apple Valley UT 84737
T: 435.877.1190 | F: 435.877.1192
www.applevalleyut.gov

Date Received: 10/13/26
Fee: $800.00
Payment Method: CC
Receipt Number: 332085490

CONDITIONAL USE PERMIT

Applicant Information

Name: Robert Zitting Telephone: [redacted]

Address (City, State, Zip): 1810 E 2000 So.

Agent (If applicable): _____ Agent Phone: _____

Address of Subject Property: 1810 E. 2000 So.

Tax ID of Subject Property: _____

Proposed Conditional Use: 2nd Story floor

_____

_____ 10/ST 2026
Applicant Signature Date

This application shall be accompanied by the following:

- ☑ A vicinity map showing the general location of the application
- ☑ Three (3) copies of a plot plan showing the following:
  - ☑ Property boundaries, dimensions and existing streets
  - ☑ Location of existing and proposed buildings, parking, landscaping and utilities
  - ☑ Adjoining property lines and uses within one hundred feet of subject property
- ☑ A reduced copy of all plans (8.5x11 if readable, or 11x17) if original plans are larger
- ☑ Building elevations for new construction, noting proposed materials and colors
- ☐ Traffic impact analysis, if required by the Town Engineer or the Planning Commission
- ☑ Applicant's responses to the Conditional Use Permit standards for review (attached)
- ☐ A statement indicating whether the applicant will require a variance in connection with the proposed conditional use permit.
- ☐ Warranty deed, preliminary title report, or other document (see Affidavit of Property owner attached) showing evidence that the applicant has control of the property.

Conditional Use Permit Standards for Review

Please provide response to the following for the Commissions review:

a. The harmony and compliance of the proposed use with the objectives and requirements of the Town's General Plan and the Land Use Code;

b. The suitability of the specific property for the proposed use;

c. The development or lack of development adjacent to the proposed site and the harmony of the proposed use with existing uses in the vicinity;

d. Whether or not the proposed use or facility may be injurious to potential or existing development in the vicinity

Elevation of barn

e. The economic impact of the proposed facility o9r use on the surrounding area;

f. The aesthetic impact of the proposed facility or use on the surrounding area;

g. The number of other similar conditional uses in the area and the public need for the proposed conditional use;

h. The present and future requirements for transportation, traffic, water, sewer, and other utilities, for the proposed site and surrounding area;

i. The safeguards proposed or provided to ensure adequate utilities, transportation access, drainage, parking, loading space, lighting, screening, landscaping, open space, fire protection, and pedestrian and vehicular circulation

j. The safeguards provided or proposed to prevent noxious or offensive emissions such as noise, glare, dust, pollutants and odor from the proposed facility or use.

k. The safeguards provided or proposed to minimize other adverse effects from the proposed facility or use on persons or property in the area; and

l. The impact of the proposed facility or use on the health, safety, and welfare of the Town, the area, and persons owning or leasing property in the area.

Applicants Response to:
For a Conditional use Permit Standards

Oct 10 2026

Good Day All:

A- We Intend to build a garage made to look like a barn in harmony with the Mayors vision of having more rural and agricultural use in Apple Valley. We are on a 5 acre lot and wish to keep the look and feel of agricultural living.

B- This is very suitable for our area as a residential, agricultural neighborhood Garage by having the barn look, colors and by having a silo on it. The floor elevation of our barn where it sits is substantially lower than our closest neighbor to the west and to the road to our north. The main floor of our neighbors house that is currently under construction, is approx 10 ft above our floor level and the road on our north border is approx. 15 ft above our floor level. Our Garage sits 38' from our property line and 248 ft from the neighbors home that is under construction.

C- This is a neighborhood of 5 acre and larger lots, giving the look and feel of rural and agricultural living. We are currently testing different verities of Grape Vines to see what will thrive in this region with minimal water in a attempt to keep down the weeds and sagebrush (that we found out my wife is allergic to) and make the property more manageable and appealing to rural and agricultural living.

D- This proposed project will not impact or injure any proposed or future building in the area or vicinity.

E- There is no economic impact to the area or vicinity other than increased Property Tax that will positively impact the city.

F- We believe the aesthetic impact is hugely positive to the area keeping with the look and feal of rural/agricultural living with no negative impact on the surrounding area.

G- There is a very large rusty transmission garage about ¼ mile to our west, I think was built before the city was founded, two lots to our East has a windmill for I assume power generation that we hear when the wind blows, it does not bother us and it was here before we built our house. We believe this looks much better, our garage makes no noise and there are no lights violating the neighborhood light code.

H- We already have our septic tank that was approved for 5 bedroom and 5 bathroom home, we already have our water connection and power connection established when we built our main home. This unit only has a toilet, Hand sink and a 3 compartment sink to wash grapes if we can grow them. This is a private garage and will not impact the traffic or transportation at all.

I- Our utilities, access, drainage, parking, loading, vehicle circulation, lighting, landscaping and open space was all considered and provided for when we built the original home in anticipation of building a detached garage. Also this is just personal use and not for retail or commercial use.

J- There will be no noxious or offensive noise, glare, dust, emissions, pollutants or odors coming from our garage. It is just to store our tractors, old 1977 ford 1956 Airstream and to use as a office. Putting a silo on it and keeping with the Apple Valley Rural feel helps.

K- We are keeping this 38' from the the closest property line, 107 ft from the road the building will be insulated to reduce noise and maximize efficiency.

L- There will be no adverse health, safety or welfare effects on the town. We are building a aesthetically pleasing building that is insulated looks nice and fits with the look and feel the town wants. We are not processing anything except washing grapes if we get lucky, we are not repairing or painting vehicles. There will be No commercial use.

10-10-26

Robert Zitting

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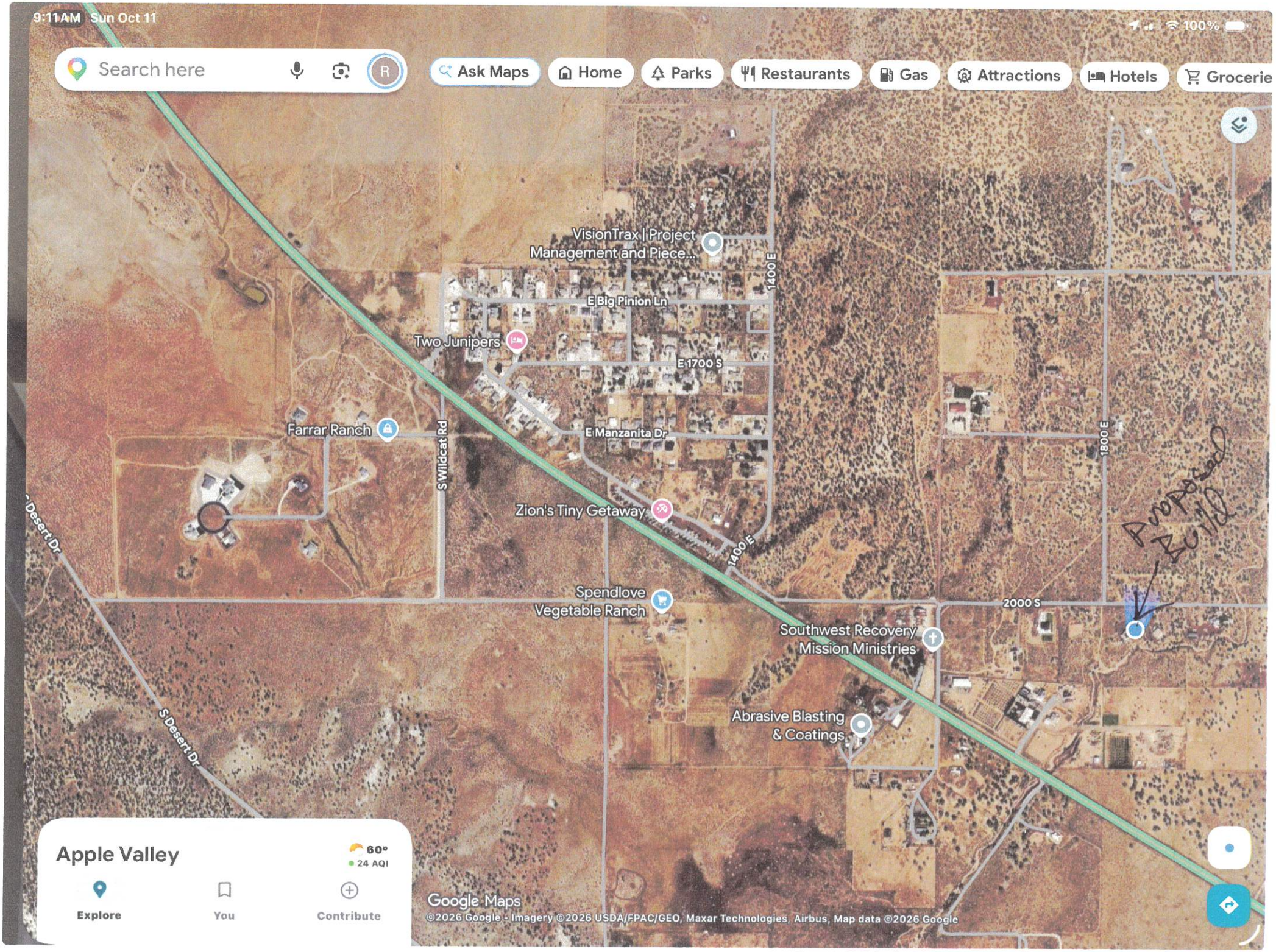
Home
Restaurants
Hotels
Gas
Parks
Groceries
Attraction
Temporarily closed
Eagle Crags West
Smithsonian Butte
Gooseberry Resort
Apple Valley
Lower Mountain West
Canaan Mountain
Canaan Mountain Trail
Elevation40Zion
BIG PLAIN JUNCTION
Zion's Tiny Getaway
Proposed Build
The Peacemaker Ranch
Apple Valley
60°
24 AQI
Explore
You
Contribute
Google Maps
©2026 Google - Imagery ©2026 USDA/FPAC/GEO, Landsat / Copernicus, Airbus, Maxar Technologies, Map data ©2026 Google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Zion's Tiny Getaway
1400 E
Desert Dr
Spendlove Vegetable Ranch
2000 S
Southwest Recovery Mission Ministries
Abrasive Blasting & Coatings
S Desert Dr
Apple Valley
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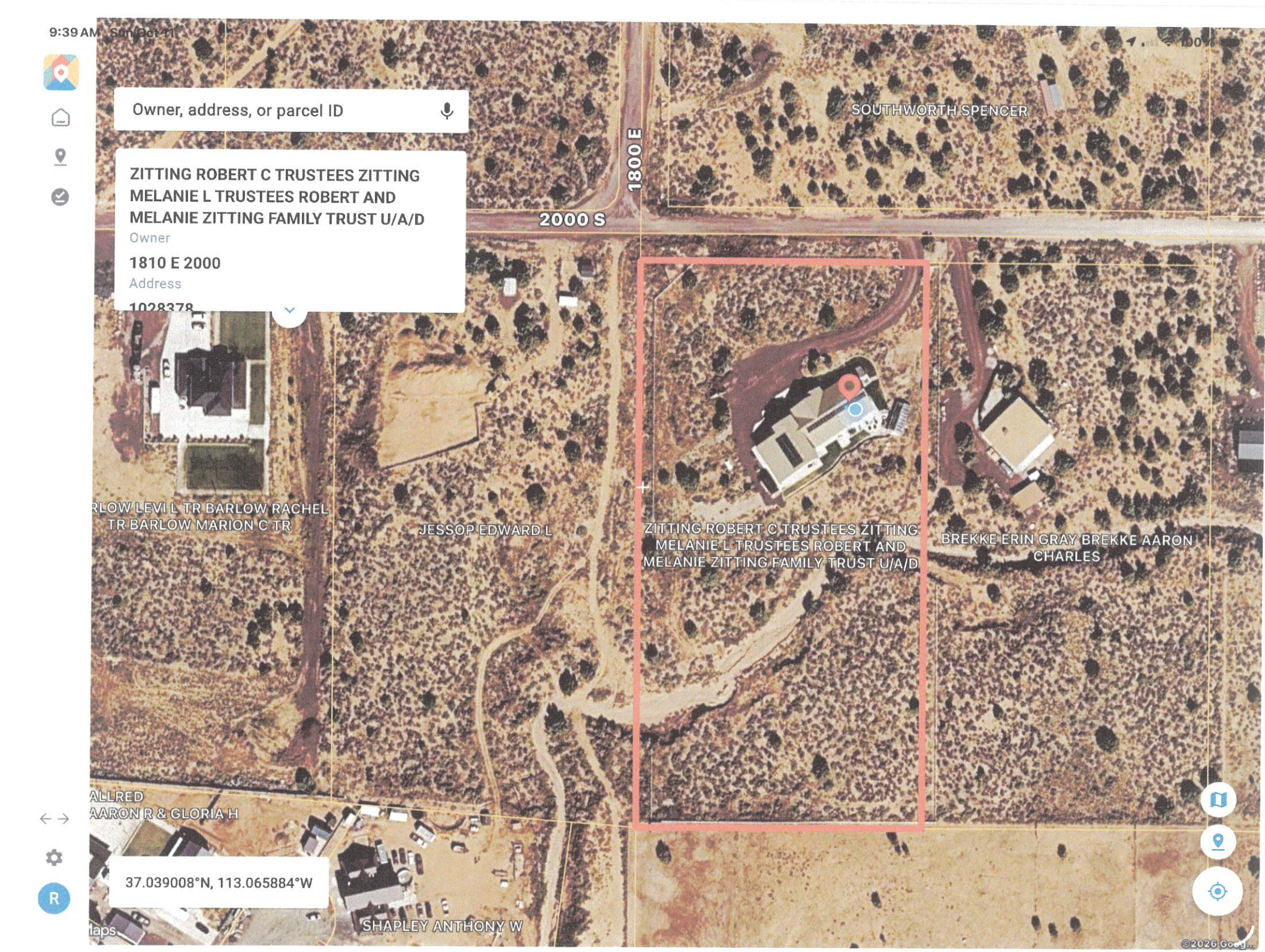
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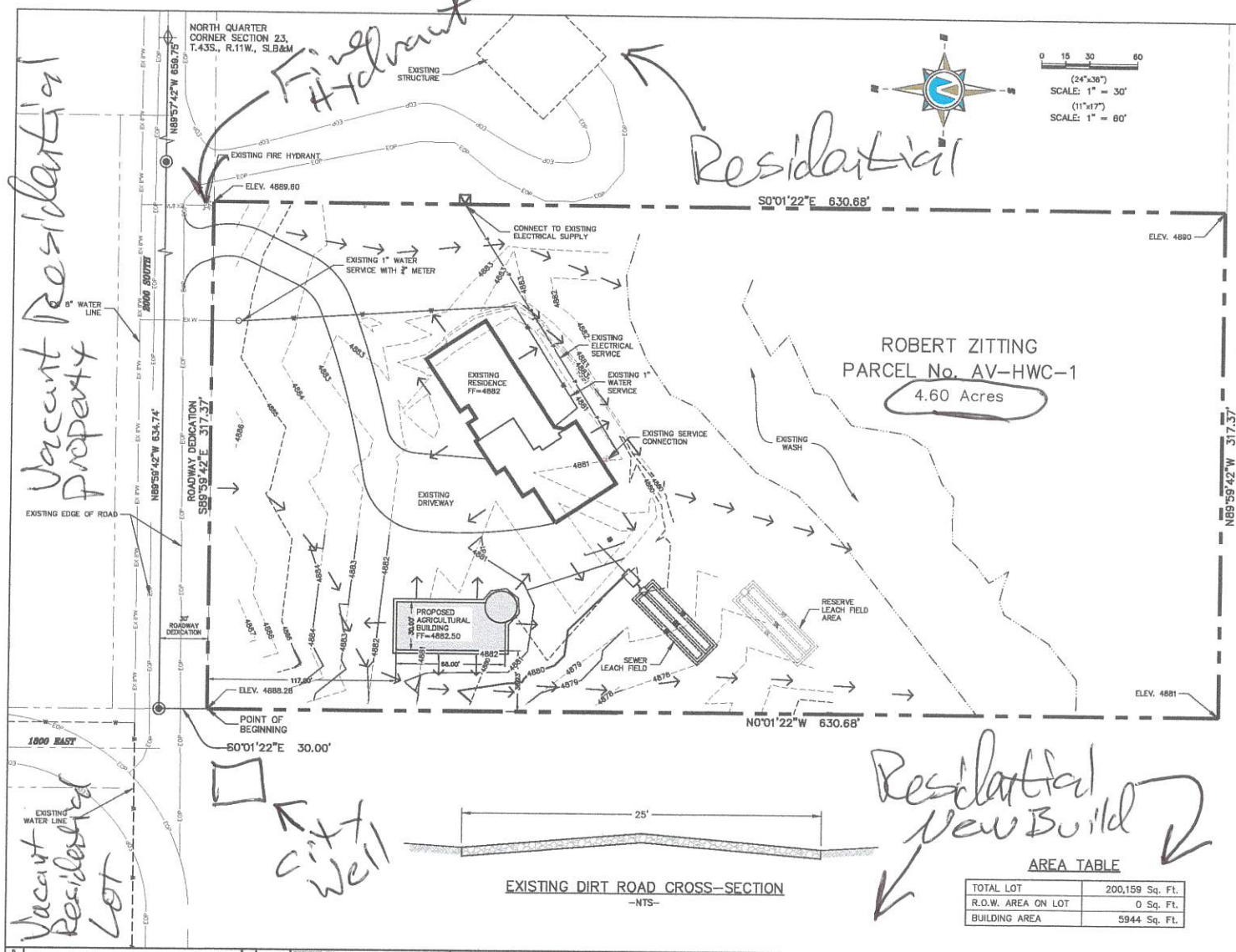
Owner, address, or parcel ID
ZITTING ROBERT C TRUSTEES ZITTING MELANIE L TRUSTEES ROBERT AND MELANIE ZITTING FAMILY TRUST U/A/D
Owner
1810 E 2000
Address
1028378
1800 E
2000 S
SOUTHWORTH SPENCER
RLOW LEVI L TR BARLOW RACHEL TR BARLOW MARION C TR
JESSOP EDWARD L
ZITTING ROBERT C TRUSTEES ZITTING MELANIE L TRUSTEES ROBERT AND MELANIE ZITTING FAMILY TRUST U/A/D
BREKKE ERIN GRAY BREKKE AARON CHARLES
ALLRED AARON R & GLORIA H
37.039008°N, 113.065884°W
SHAPLEY ANTHONY W
©2026 Goog...



Fire Hydrant

Residential

Vacant Residential Property

Vacant Residential Lot

City Well

Residential New Build

PROJECT LOCATION MAP
-NTS-

LEGAL DESCRIPTION

DESCRIBED AS: HWC PROPERTIES LOT SPLIT, LOT #1. LOCATED IN THE NORTHWEST QUARTER OF SECTION 23, TOWNSHIP 43 SOUTH, RANGE 11 WEST, SLB&M.

MORE FULLY DESCRIBED AS:
BEGINNING AT A POINT WHICH IS N.89°57'42"W. 659.75 FEET; THENCE N.89°59'42"W. 634.74 FEET; THENCE S.0°01'22"E. 30.00 FEET.
FROM THE NORTH QUARTER CORNER OF SAID SECTION 23, THENCE S.89°59'42"E. 317.37 FEET; THENCE N.0°01'22"W. 630.68; THENCE N.89°48'52"W. 317.37 FEET; THENCE N.0°01'22"W. 630.68 TO THE POINT OF BEGINNING.

CONTAINING 200,158.86 S.F. (4.60 ACRES).

NOTES:

1. ALL CULINARY WATER SYSTEM IMPROVEMENTS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE BIG PLAINS WATER AND SEWER SPECIAL SERVICE DISTRICT STANDARDS AND SPECIFICATIONS.
2. ALL MATERIALS THAT MAY COME IN CONTACT WITH DRINKING WATER INCLUDING PIPES, GASKETS, LUBRICANTS, AND O-RINGS SHALL BE ANSI CERTIFIED AS MEETING THE REQUIREMENTS OF ANSI/NSF STANDARD 61, DRINKING WATER COMPONENTS – HEALTH EFFECTS. TO PERMIT FIELD VERIFICATION OF THIS CERTIFICATION, ALL COMPONENTS SHALL BE APPROPRIATELY STAMPED WITH THE NSF LOGO.
3. PRIOR TO PLACING WATER IN SERVICE, LINES SHOULD BE DISINFECTED AND TESTED FOR PRESSURE AND LEAKS AS PER AWWA STANDARDS.

SEWER NOTE:

SEWER SEPTIC SYSTEM DESIGNED BY OTHERS.

EXISTING DIRT ROAD CROSS-SECTION
-NTS-

25'

AREA TABLE

TOTAL LOT	200,159 Sq. Ft.
R.O.W. AREA ON LOT	0 Sq. Ft.
BUILDING AREA	5944 Sq. Ft.

ENGINEER
BRANT TUTTLE
NORTHERN ENGINEERING
TEL: 801-802-8992
btuttle@neiutah.com

PROPERTY OWNER:
ROBERT ZITTING
TEL: 801-509-8442
robert@purewater-tech.com

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ENGINEERING-LAND PLANNING CONSTRUCTION MANAGEMENT
1040 E. 800 N.
OREM, UTAH 84097
(801) 802-8992

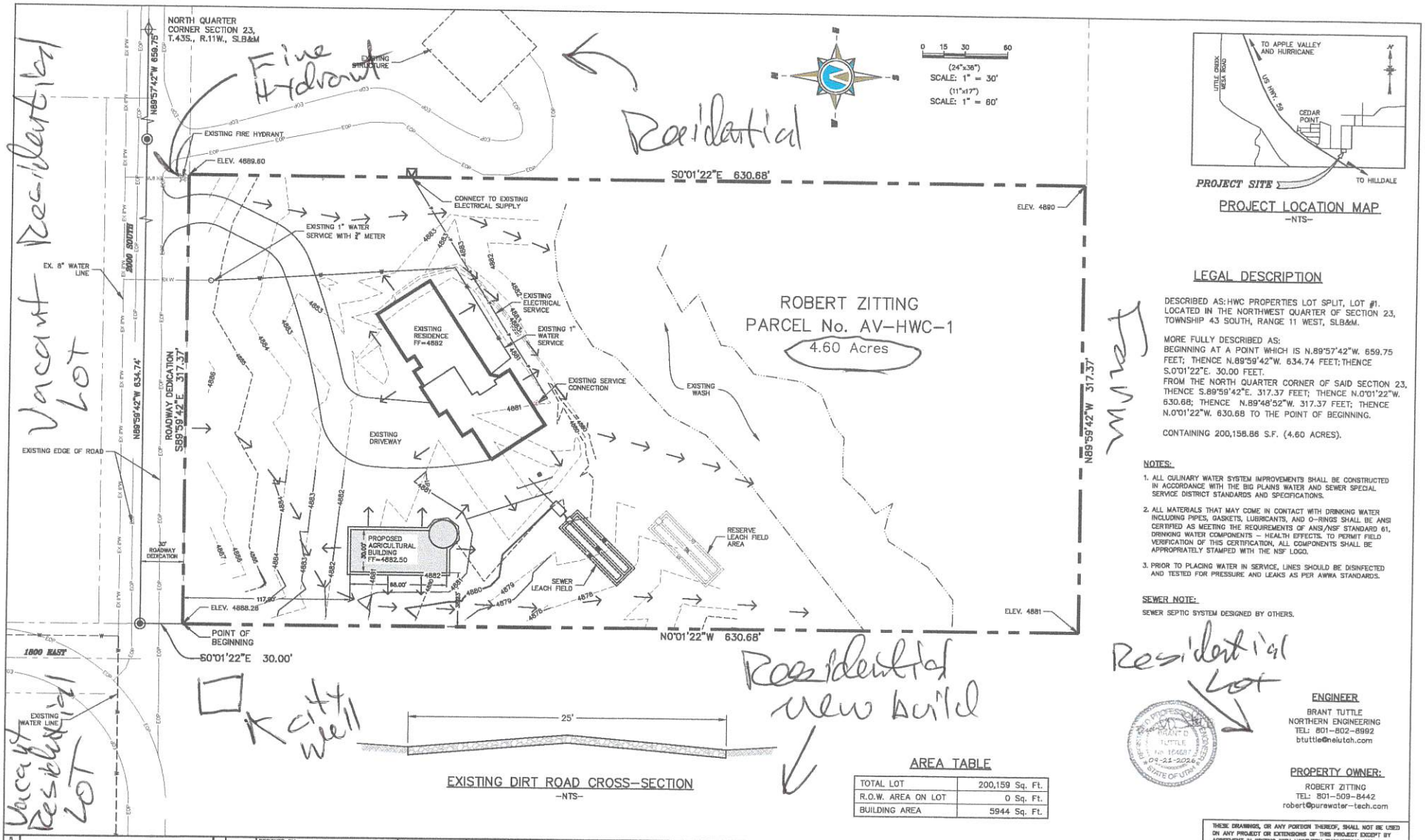
Rock Canyon RESOURCES, LLC

ROCK CANYON RESOURCES, LLC

ROBERT ZITTING

AGRICULTURAL BUILDING
SITE PLAN ADDITION
APPLE VALLEY, UTAH

JOB NO. 3-20-078
SHEET NO. 1



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Residential new build

Residential Lot

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Mine

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EXISTING DIRT ROAD CROSS-SECTION
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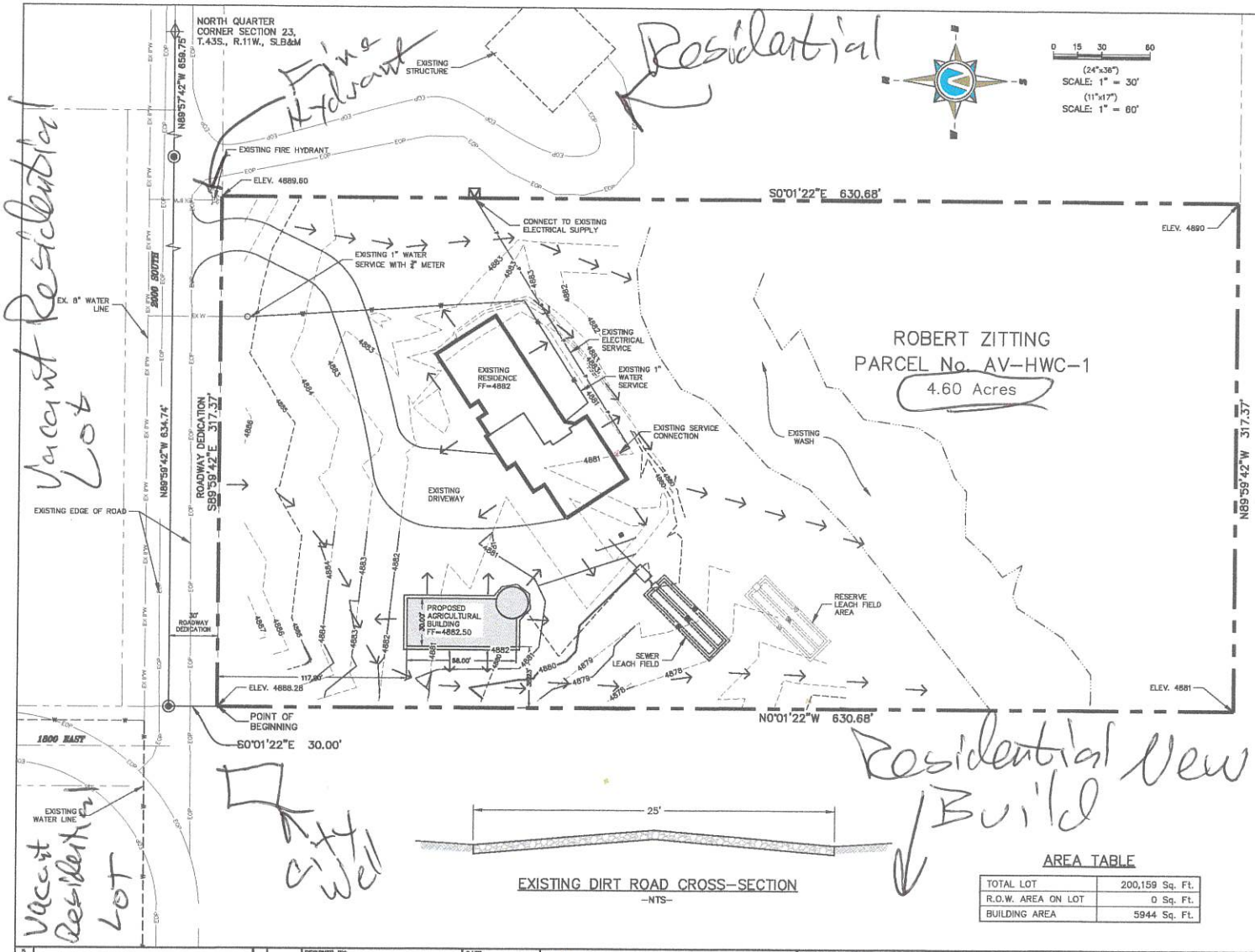

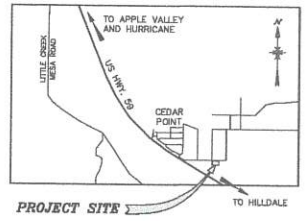

PROJECT LOCATION MAP
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EXISTING DIRT ROAD CROSS-SECTION
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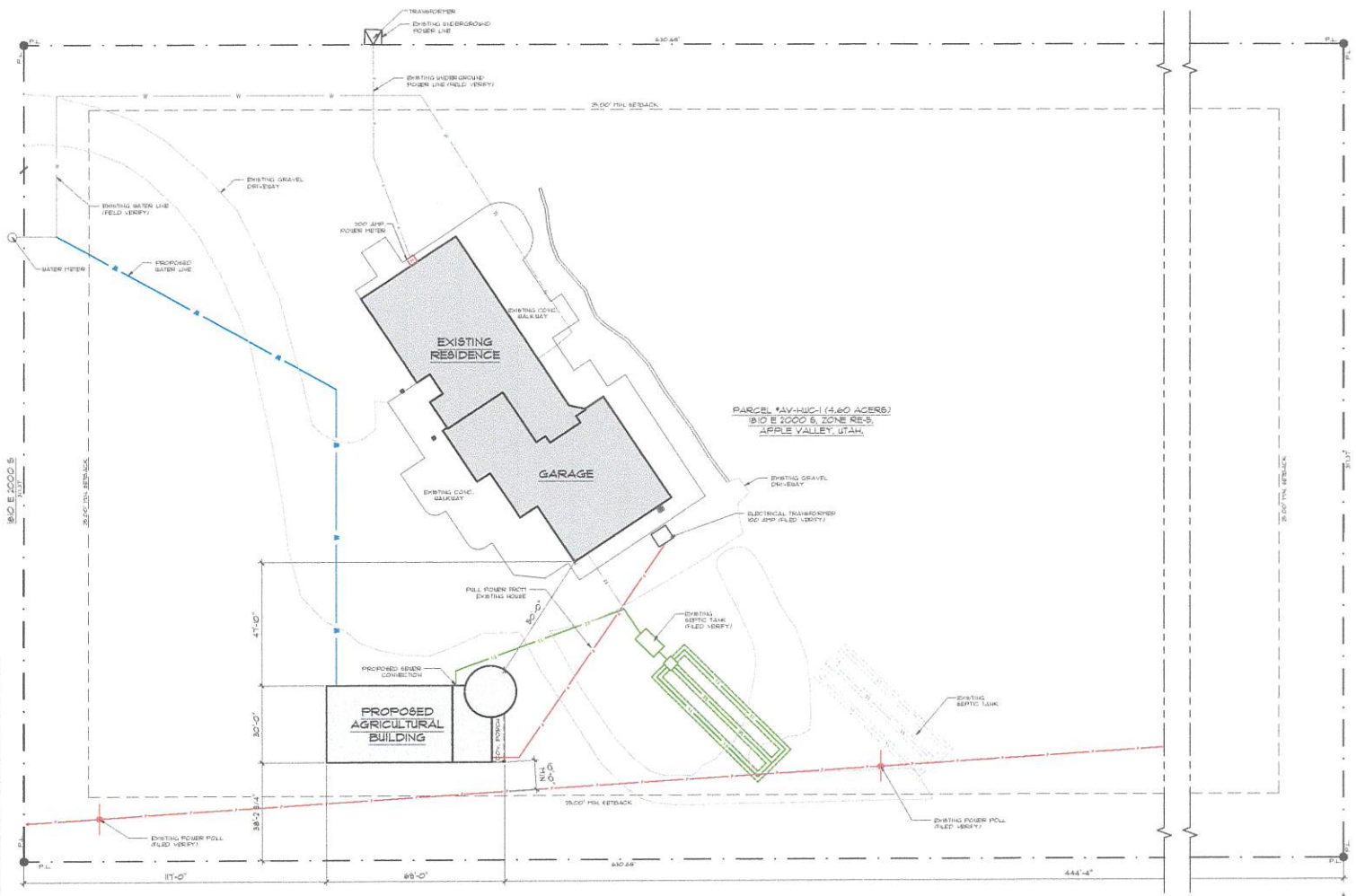


PLOT PLAN

SCALE: 1/8" = 1'-0"

OWNER

NAME: ROBERT & MELANIE ZITTING
E-MAIL: rcz999@hotmail.com
PHONE: 801-509-8462
APPLE VALLEY, UTAH.

BUILDER

OWNER BUILDER / SEE ABOVE

SHEET INDEX

1. PLOT PLAN
2. SLAB EDGE PLAN
3. BASEMENT FLOOR PLAN
4. MAIN FLOOR PLAN
5. UPPER FLOOR PLAN
6. FRONT & REAR ELEVATIONS
7. RIGHT & LEFT ELEVATIONS
8. CROSS SECTION
9. BASMENT ELECTRICAL PLAN
10. MAIN FLOOR ELECTRICAL PLAN
11. UPPER FLOOR ELECTRICAL PLAN

COMMON ABBREVIATIONS

@	AT	D.	DRYER	HGT.	HEIGHT	R	RADIUS
A.F.F.	ABOVE FINISHED FLOOR	DIA.	DIAMETER	INSUL.	INSULATION / INSULATED	REF.	REFRIGERATOR
APPROX.	APPROXIMATE	ELECT.	ELECTRICAL	INT.	INTERIOR	S.H.	SINGLE HUNG WINDOW
BD.	BOARD	ELEV.	ELEVATION	IRON FLTR.	IRON FILTER	SQ.FT.	SQUARE FEET
BLDG.	BUILDING	EXT.	EXTERIOR	LENGTH	LENGTH	STD.	STANDARD
BOT.	BOTTOM OF	FDTN.	FOUNDATION	LVL	LAMINATED VENEER LUMBER	T & G	TONGUE AND GROOVE
CASE.	CASEMENT WINDOW	F.D.	FLOOR DRAIN	LIN.	LINEN	TRANS.	TRANSOM
CLG.	CEILING	F.F.E.	FINISHED FLOOR ELEVATION	L.S.	LAZY SUSAN	T.O.	TOP OF
C.M.U.	CONCRETE MASONRY UNIT	FLR.	FLOOR	MAX.	MAXIMUM	TYP.	TYPICAL
CONC.	CONCRETE	FTG.	FOOTING	MICRO.	MICROWAVE	W	WIDTH
DBL.	DOUBLE	FRZR.	FREEZER	MIN.	MINIMUM	W.	WASHER
D.H.	DOUBLE HUNG WINDOW	GAL.	GALLON	MISC.	MISCELLANEOUS	W/D	WASHER / DRYER STACK
DIA.	DIAMETER	G.I.	GALVANIZED IRON	N.T.S.	NOT TO SCALE	W.H.	WATER HEATER
DW	DISH WASHER	GYP.	GYPSUM	O.C.	ON CENTER	W.S.	WATER SOFTENER
EA.	EACH	HDR.	HEADER	OPNG.	OPENING		

SYMBOLS LEGEND

- P.L. — P.L. — PROPERTY LINE
- W — W — PROPOSED WATER LINE
- G — G — PROPOSED GAS LINE
- P — P — PROPOSED POWER LINE
- S — S — PROPOSED SEWER LINE
- C — C — PROPOSED COMMUNICATIONS LINE

GENERAL NOTES

1. PROVIDE 5% MINIMUM SLOPE TO 10'-0" AWAY ON ALL SIDES OF HOUSE
2. PROPERTY IS SUBJECT TO MINIMUM SETBACKS AS FOLLOWS:
   - 25'-0" FRONT YARD
   - 25'-0" SIDE YARDS (AS SHOWN)
   - 25'-0" REAR YARD
3. UTILITIES ARE REPRESENTATIVE ONLY. CONTRACTOR TO FIELD VERIFY LOCATION AND CONDITION OF ALL UTILITIES

DESIGN CRITERIA

2021	INTERNATIONAL RESIDENTIAL CODE
2021	INTERNATIONAL FIRE CODE
2021	INTERNATIONAL BUILDING CODE
2021	INTERNATIONAL MECHANICAL CODE
2021	INTERNATIONAL PLUMBING CODE
2020	NATIONAL ELECTRICAL CODE N.F.P.A. 70
2021	INTERNATIONAL ENERGY CONSERVATION CODE

BUILDING AREAS

UPPER FLOOR STORAGE:	314 S.F.
MAIN FLOOR OFFICE / STORAGE:	663 S.F.
BASEMENT FLOOR STORAGE:	663 S.F.
TOTAL OFFICE / STORAGE AREA:	1640 S.F.
GARAGE AREA:	1482 S.F.
COVERED OUTDOOR AREA:	80 S.F.

TIMPSON DRAFTING & DESIGN
10 N. CENTRAL ST.
COLORADO CITY, AZ 86021
Phone: (435) 319-5311
AlmaTimpson@yahoo.com

ALL RIGHTS RESERVED

PROPOSED AGRICULTRAL BUILDING FOR ROBERT & MELANIE ZITTING

PARCEL "AV-HJC-1 (4.60 ACRES)
180 E 2000 S, ZONE RE-5,
APPLE VALLEY, UTAH.

ISSUE DATES:
06/10/2022

DESIGN BY:
D.S.T.

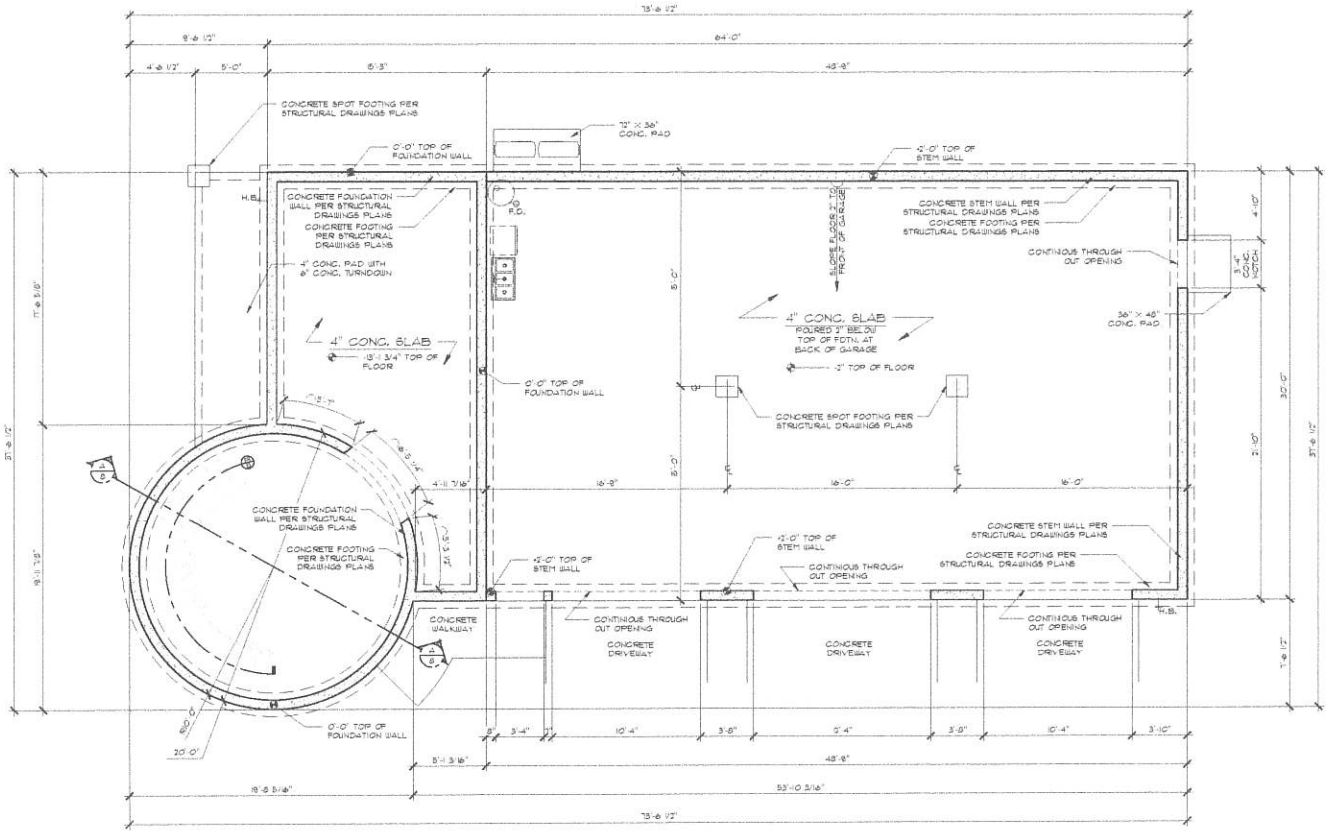
CONSTRUCTION DRAWINGS BY:
J.S.T.

PAGE # 1

PLOT PLAN

FOUNDATION NOTES

1. ANCHOR BOLTS PER STRUCTURAL DRAWINGS.
2. VERIFY ALL DIMENSIONS WITH FRAMING PLANS.
3. BOTTOM OF ALL FOOTINGS TO BE POURED 20" MIN. (FROST DEPTH) BELOW FINISH GRADE.



SLAB EDGE PLAN

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

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PROPOSED AGRICULTRAL BUILDING FOR ROBERT & MELANIE ZITTING

PARCEL #AV-HDC-1-4-80 (40 ACRES)
SEC 8 T20SO R 22WE
APPLE VALLEY, UTAH

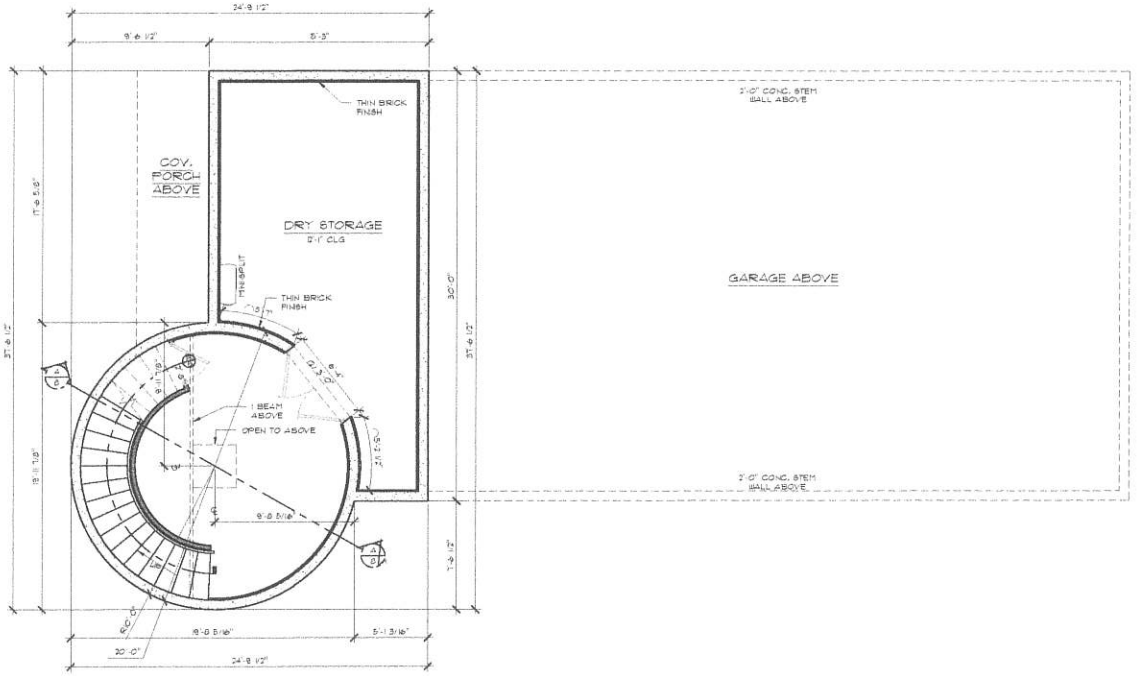
ISSUE DATES:
06/10/2024

DESIGN BY:
D.S.T.

CONSTRUCTION DRAWINGS BY:
J.B.T.

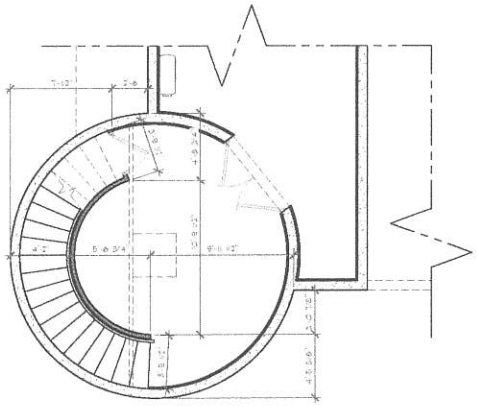
PAGE #
2

SLAB EDGE PLAN



STAIR LOCATION

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



BASEMENT FLOOR PLAN

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

GENERAL NOTES

1. 2x6 EXTERIOR FRAMING, 2x4 INTERIOR FRAMING UNLESS NOTED OTHERWISE ON PLAN.
2. 9'-1" WALL HEIGHT THROUGHOUT UNLESS NOTED OTHERWISE ON PLAN.
3. 8'-0" WINDOW HEADER HEIGHT, & 8'-0" TALL INTERIOR & EXTERIOR DOORS UNLESS NOTED OTHERWISE ON PLAN.
4. FLASH & CAULK ALL PENETRATIONS THROUGH FIREWALLS AND THROUGH ROOF SURFACE
5. REFER TO FRAMING PLANS (SEE STRUCT.) FOR SIZE & LOCATION OF ALL STRUCTURAL MEMBERS.

MECHANICAL NOTES

1. PROVIDE COMBUSTION AIR FOR FURN. FROM OUTSIDE THE HOUSE
2. PROVIDE APPROVED SEISMIC STRAP FOR WATER HEATER
3. PROVIDE APPROVED 2 GAL. THERMAL EXPANSION TANK ABOVE WATER HEATER

BUILDING AREAS

UPPER FLOOR STORAGE:	314 S.F.
MAIN FLOOR OFFICE / STORAGE:	663 S.F.
BASEMENT FLOOR STORAGE:	663 S.F.
TOTAL OFFICE / STORAGE AREA:	1640 S.F.
GARAGE AREA:	1482 S.F.
COVERED OUTDOOR AREA:	80 S.F.

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10 N. CENTRAL ST.
COLORADO CITY, AZ 86021
Phone: (435) 319-5311
AlmaTimpson@yahoo.com

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PROPOSED AGRICULTRAL BUILDING FOR ROBERT & MELANIE ZITTING

PARCEL NO.: 46C-1 (1.640 ACRES)
SUBDIVISION: ESTATES
MOHAVE VALLEY, ARIZONA

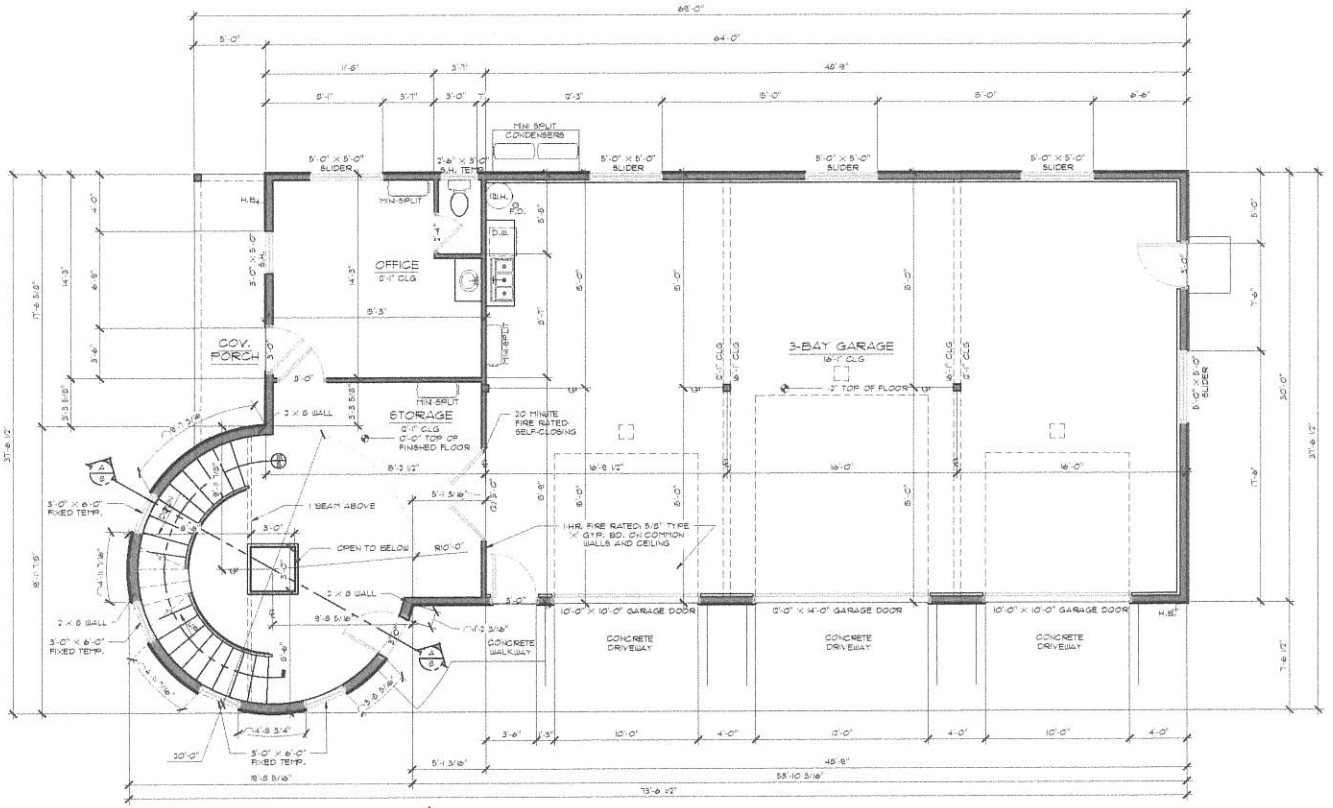
ISSUE DATES:
08/10/2020

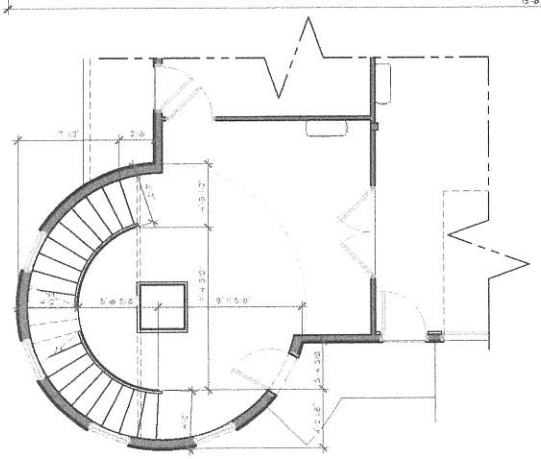
DESIGN BY:
D.S.T.

CONSTRUCTION DRAWINGS BY:
J.S.T.

PAGE #
3

BASEMENT FLOOR PLAN





STAIR LOCATION

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

MAIN FLOOR PLAN

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

GENERAL NOTES

1. 2x6 EXTERIOR FRAMING. 2x4 INTERIOR FRAMING UNLESS NOTED OTHERWISE ON PLAN.
2. 2'-1" WALL HEIGHT THROUGHOUT UNLESS NOTED OTHERWISE ON PLAN.
3. 8'-0" WINDOW HEADER HEIGHT. & 8'-0" TALL INTERIOR & EXTERIOR DOORS UNLESS NOTED OTHERWISE ON PLAN.
4. FLASH & CAULK ALL PENETRATIONS THROUGH FIREWALLS AND THROUGH ROOF SURFACE
5. REFER TO FRAMING PLANS (SEE STRUCT.) FOR SIZE & LOCATION OF ALL STRUCTURAL MEMBERS.

MECHANICAL NOTES

1. PROVIDE COMBUSTION AIR FOR FURN. FROM OUTSIDE THE HOUSE
2. PROVIDE APPROVED SEISMIC STRAP FOR WATER HEATER
3. PROVIDE APPROVED 2 GAL. THERMAL EXPANSION TANK ABOVE WATER HEATER

BUILDING AREAS

UPPER FLOOR STORAGE:	314 S.F.
MAIN FLOOR OFFICE / STORAGE:	663 S.F.
BASEMENT FLOOR STORAGE:	663 S.F.
TOTAL OFFICE / STORAGE AREA:	1,640 S.F.
GARAGE AREA:	1,462 S.F.
COVERED OUTDOOR AREA:	90 S.F.

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PROPOSED AGRICULTRAL BUILDING FOR ROBERT & MELANIE ZITTING

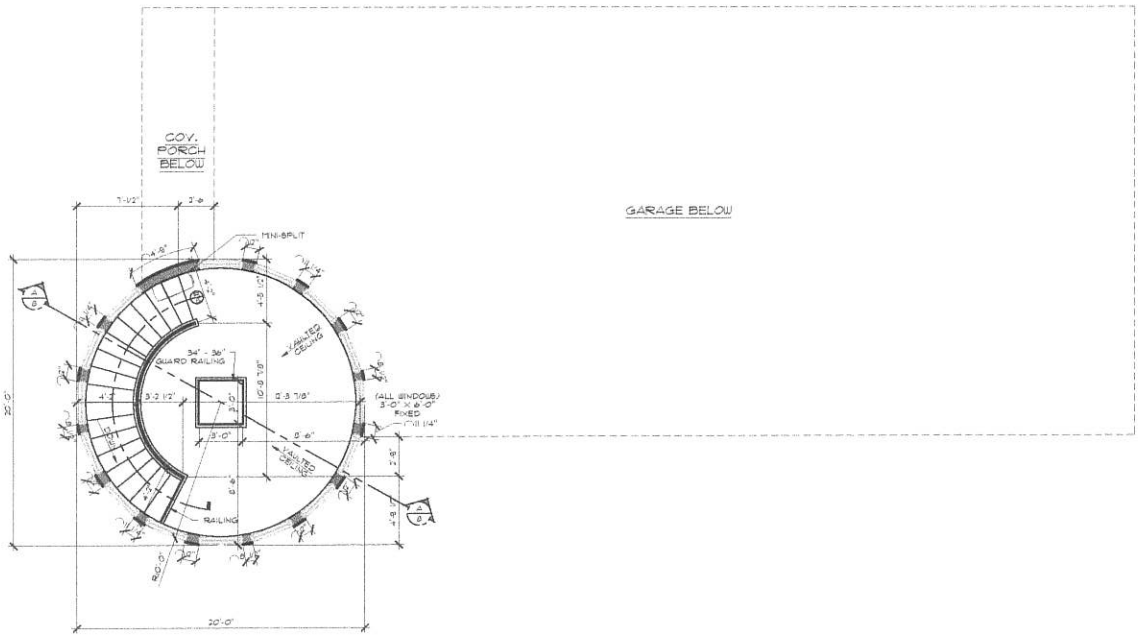
PARCEL #AV-HWC-1 (4.60 ACRES)
810 E 2000 S. ZONE RES.
APPLE VALLEY, UTAH.

ISSUE DATES:
06/10/2026

DESIGN BY:
D.S.T.

CONSTRUCTION DRAWINGS BY:
J.B.T.

MAIN FLOOR PLAN



UPPER FLOOR PLAN

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

GENERAL NOTES

1. 2x8 EXTERIOR FRAMING.
   2x4 INTERIOR FRAMING UNLESS NOTED OTHERWISE ON PLAN.
2. 12'-1" WALL HEIGHT THROUGHOUT UNLESS NOTED OTHERWISE ON PLAN.
3. 8'-0" WINDOW HEADER HEIGHT, & 8'-0" TALL INTERIOR & EXTERIOR DOORS UNLESS NOTED OTHERWISE ON PLAN.
4. FLASH & CAULK ALL PENETRATIONS THROUGH FIREWALLS AND THROUGH ROOF SURFACE
5. REFER TO FRAMING PLANS (SEE STRUCT.) FOR SIZE & LOCATION OF ALL STRUCTURAL MEMBERS.

MECHANICAL NOTES

1. PROVIDE COMBUSTION AIR FOR FURN. FROM OUTSIDE THE HOUSE
2. PROVIDE APPROVED SEISMIC STRAP FOR WATER HEATER
3. PROVIDE APPROVED 2 GAL. THERMAL EXPANSION TANK ABOVE WATER HEATER

BUILDING AREAS

UPPER FLOOR STORAGE:	314 S.F.
MAIN FLOOR OFFICE / STORAGE:	663 S.F.
BASEMENT FLOOR STORAGE:	663 S.F.
TOTAL OFFICE / STORAGE AREA:	1,640 S.F.
GARAGE AREA:	1,462 S.F.
COVERED OUTDOOR AREA:	80 S.F.

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PROPOSED AGRICULTRAL BUILDING FOR ROBERT & MELANIE ZITTING

PARCEL #AV-HUC-1 (4.60 ACERS)
1810 E 2000 S. ZONE RES.
APPLE VALLEY, UTAH.

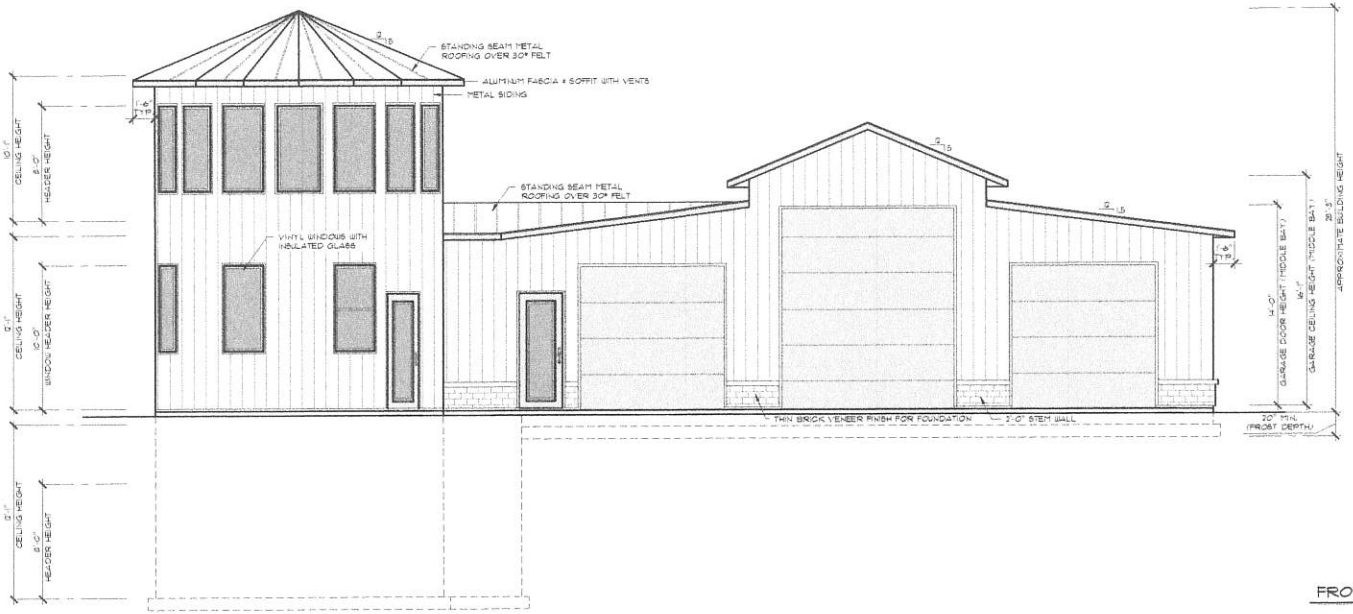
ISSUE DATES:
06/10/2026

DESIGN BY:
D.S.T.

CONSTRUCTION DRAWINGS BY:
J.B.T.

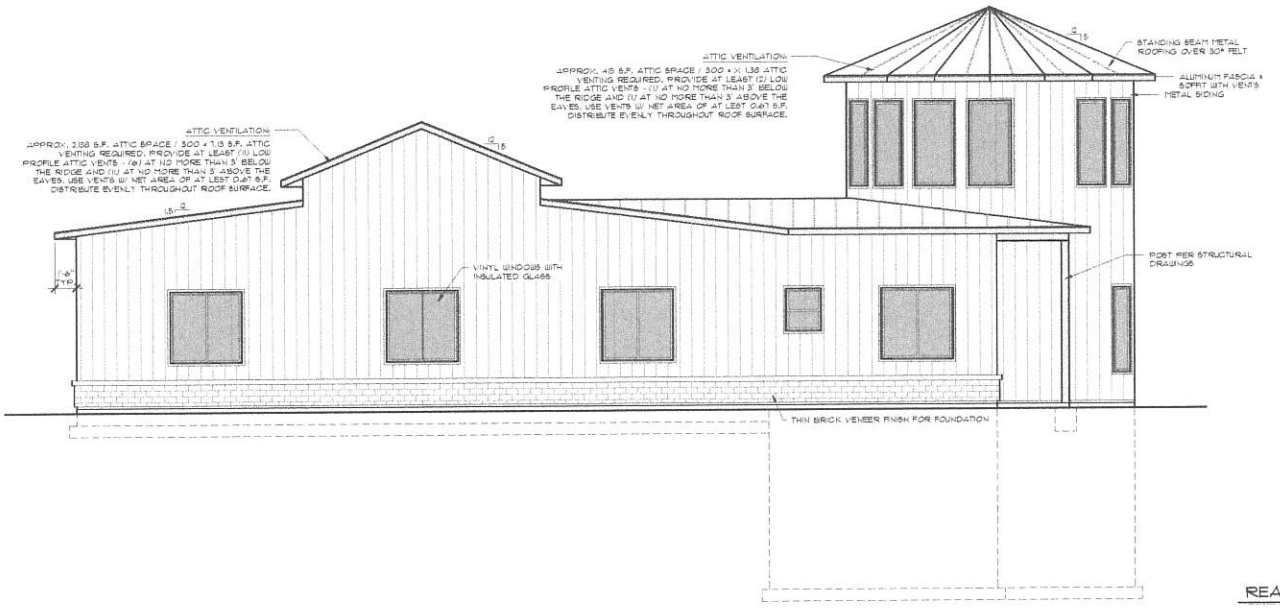
PAGE #
5

UPPER FLOOR PLAN



FRONT ELEVATION

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



REAR ELEVATION

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

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PROPOSED AGRICULTRAL BUILDING FOR ROBERT & MELANIE ZITTING

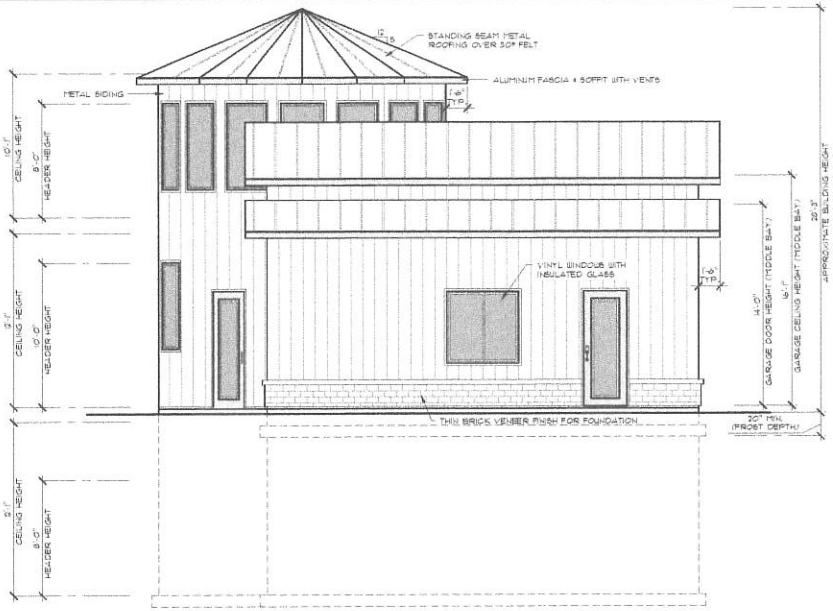
PARCEL #AV-1160 / 1440 ACRES
SEC. 27, T.39 S., R.12 E., SLB&M
MOHAVE VALLEY, AZ.

ISSUE DATES:
06/10/2024
DESIGN BY:
D.S.T.
CONSTRUCTION DRAWINGS BY:
J.S.T.

PAGE #

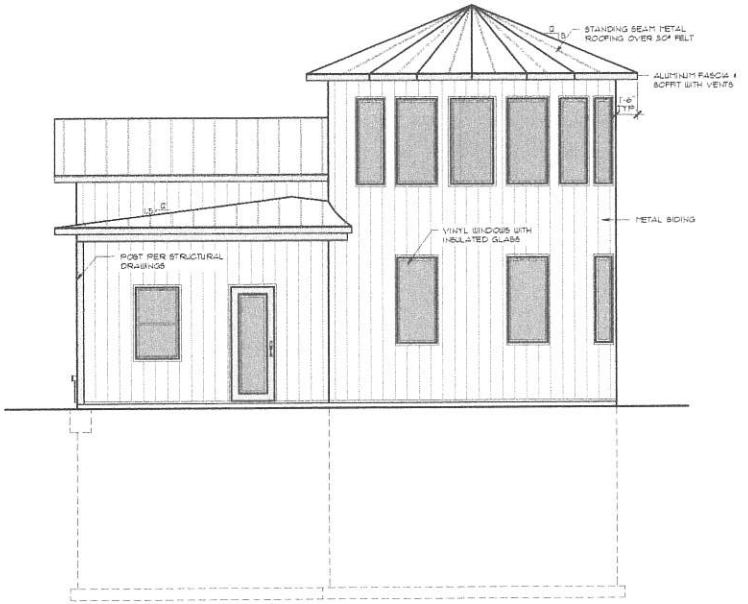
6

FRONT & REAR ELEVATIONS



RIGHT ELEVATION

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



LEFT ELEVATION

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

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PROPOSED AGRICULTRAL BUILDING FOR ROBERT & MELANIE ZITTING

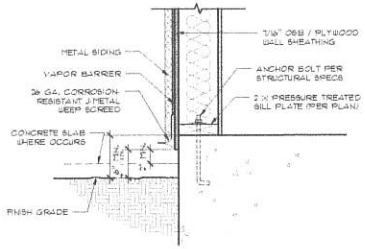
PARCEL #AV-HWC-1 (4.60 ACRES)
1810 E 2000 S. ZONE RES.
APPLE VALLEY, UTAH.

ISSUE DATES:	
06/10/2026	
DESIGN BY:	
D.S.T.	
CONSTRUCTION DRAWINGS BY:	
J.B.T.	

PAGE #

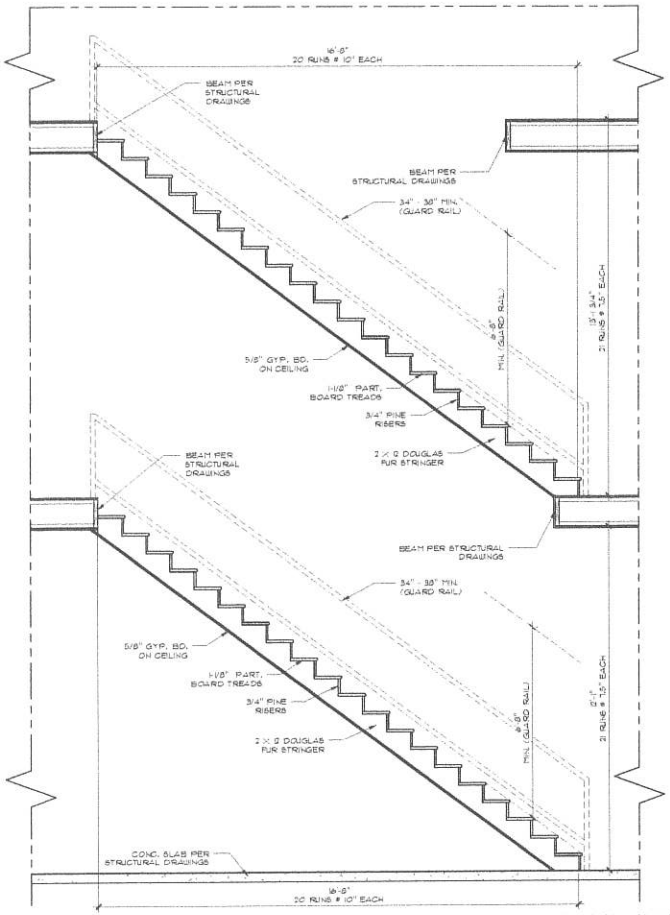
1

RIGHT & LEFT ELEVATIONS



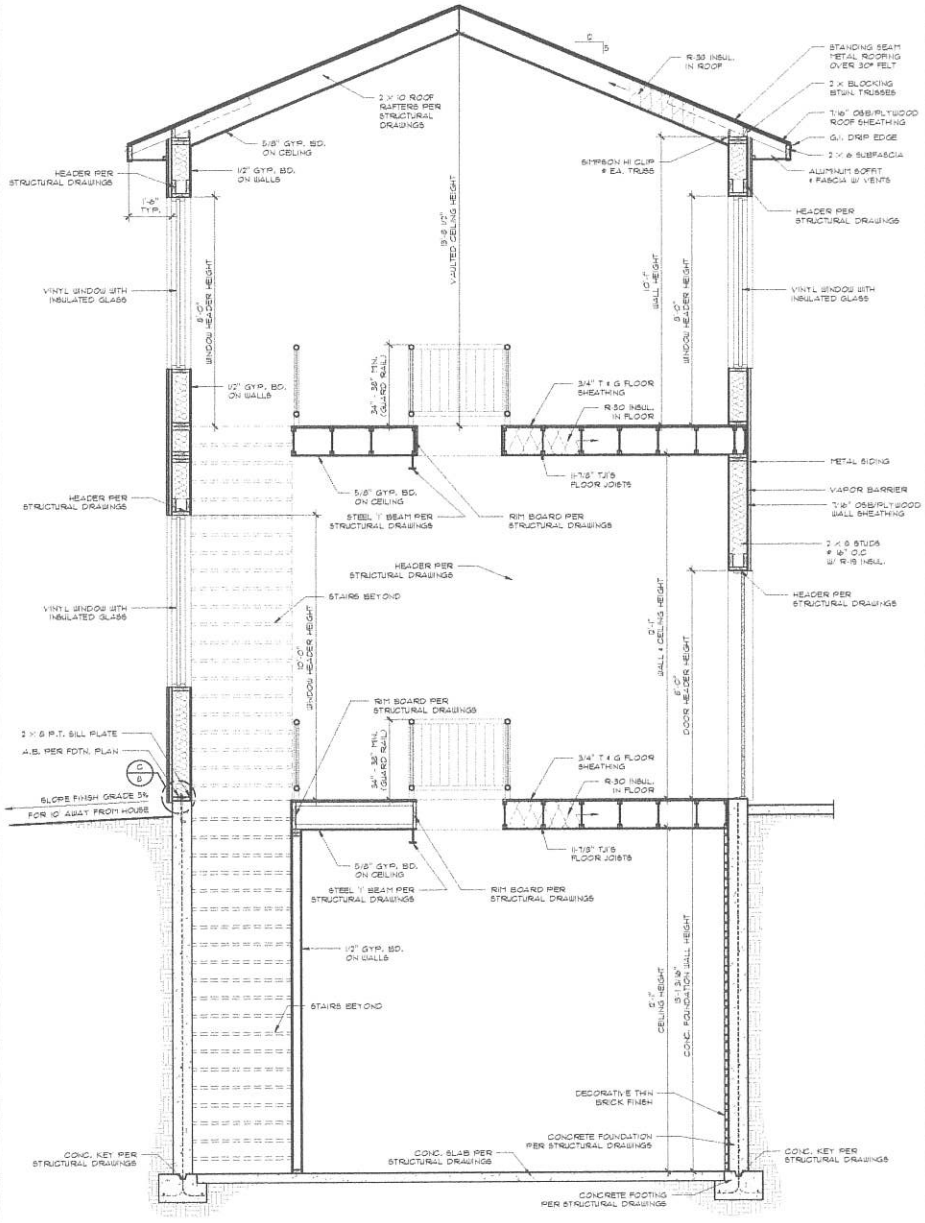
J-METAL WEEP SCREED DETAIL (C/8)

SCALE: 1-1/2" = 1'-0"



STAIR SECTION SECTION (B/8)

SCALE: 1/2" = 1'-0"



CROSS SECTION (A/8)

SCALE: 1/2" = 1'-0"

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PROPOSED AGRICULTRAL BUILDING FOR ROBERT & MELANIE ZITTING

PARCEL #AV-HUC-(4.60 ACERS) 810 E 2000 S. ZONE RE-5 APPLE VALLEY, UTAH.

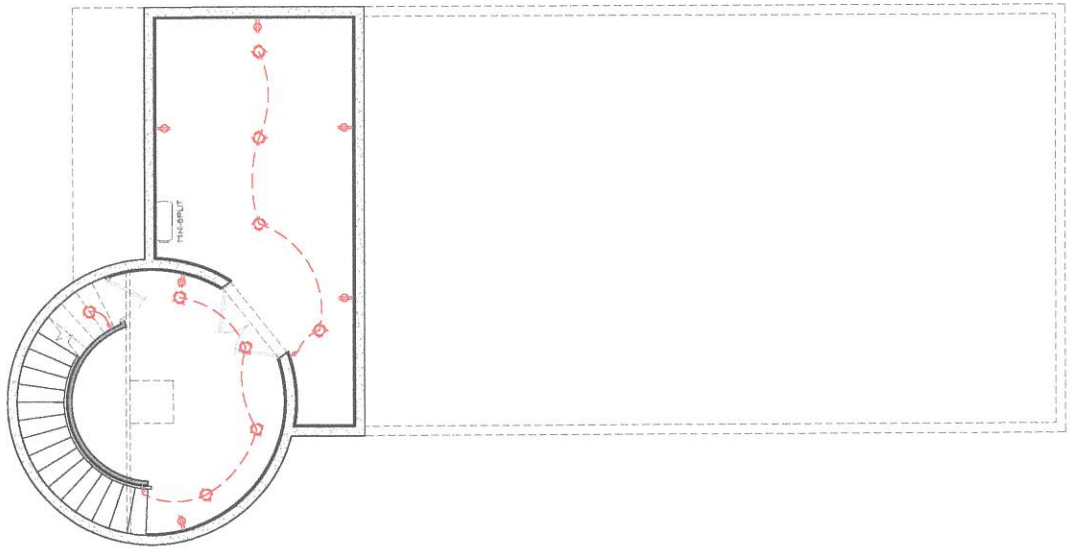
ISSUE DATES: 06/10/2026

DESIGN BY: D.S.T.

CONSTRUCTION DRAWINGS BY: J.B.T.

PAGE # 8

CROSS SECTION



BASEMENT ELECTRICAL PLAN

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

GENERAL NOTES

1. PROVIDE UFER GROUND WIRE AT METER, 20' #4 BARE Cu
2. ARC FAULT ALL BEDROOM CIRCUITS
3. INSTALL DEDICATED GFI BREAKER FOR DISHWASHER

ELECTRICAL LEGEND

- POWER METER
- PANEL BOARD
- VANITY LIGHT FIXTURE
- EXHAUST FAN
- CEILING FAN
- CEILING LIGHT FIXTURE
- P.C. CEILING LIGHT FIXTURE W/ PULL CORD
- WALL SCONCE
- FLUORESCENT LIGHT FIXTURE
- RECESSED LIGHT FIXTURE
- PENDANT / DROP LIGHT FIXTURE
- DOORBELL CHIME
- SINGLE POLE SWITCH
- THREE-WAY SWITCH
- DIMMER SWITCH
- PUSH BUTTON SWITCH
- DUPLEX OUTLET
- AFI ARC FAULT INTERRUPTED CIRCUIT
- DUPLEX OUTLET, GFCI
- DUPLEX OUTLET, SWITCHED
- FOUR-PLEX OUTLET
- 220v OUTLET
- FLOOR OUTLET
- PHONE / DATA PORT / CABLE
- JUNCTION BOX
- SMOKE DETECTOR
- CARBON DETECTOR
- DISCONNECT SWITCH, FUSED
- G GAS VALVE

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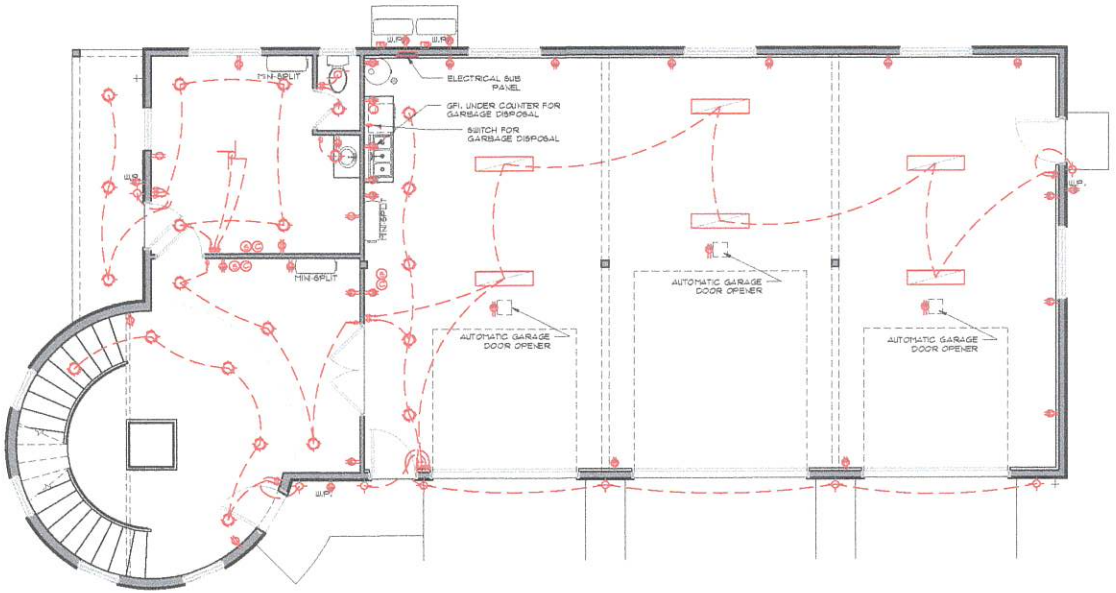
PROPOSED AGRICULTRAL BUILDING FOR ROBERT & MELANIE ZITTING

PARCEL #AV-182-(440 ACRES)
@0 E 2000 S, ZONE RE-5
APPLE VALLEY, UTAH

ISSUE DATES:
06/10/2026
DESIGN BY:
D.S.T.
CONSTRUCTION DRAWINGS BY:
J.S.T.

PAGE # 9

BASEMENT ELECTRICAL PLAN



MAIN FLOOR ELECTRICAL PLAN

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

GENERAL NOTES

1. PROVIDE UFER GROUND WIRE AT METER, 20' #4 BARE Cu
2. ARC FAULT ALL BEDROOM CIRCUITS
3. INSTALL DEDICATED GFI BREAKER FOR DISHWASHER

ELECTRICAL LEGEND

- M — POWER METER
- PANEL BOARD
- VANITY LIGHT FIXTURE
- EXHAUST FAN
- CEILING FAN
- CEILING LIGHT FIXTURE
- P.C. — CEILING LIGHT FIXTURE W/ PULL CORD
- WALL SCONCE
- FLUORESCENT LIGHT FIXTURE
- RECESSED LIGHT FIXTURE
- PENDANT / DROP LIGHT FIXTURE
- CH — DOORBELL CHIME
- SINGLE POLE SWITCH
- THREE-WAY SWITCH
- DIMMER SWITCH
- PUSH BUTTON SWITCH
- DUPLEX OUTLET
- AFCI — ARC FAULT INTERRUPTED CIRCUIT
- DUPLEX OUTLET, GFCI
- DUPLEX OUTLET, SWITCHED
- FOUR-PLEX OUTLET
- 220v OUTLET
- FLOOR OUTLET
- PHONE / DATA PORT / CABLE
- JUNCTION BOX
- SMOKE DETECTOR
- CARBON DETECTOR
- DISCONNECT SWITCH, FUSED
- G — GAS VALVE

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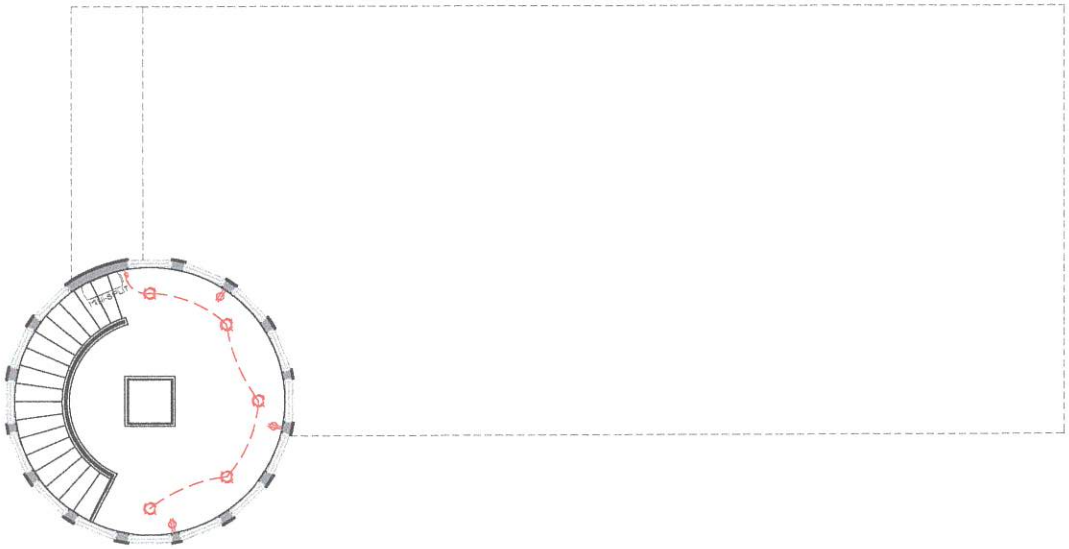
PROPOSED AGRICULTRAL BUILDING FOR ROBERT & MELANIE ZITTING

PARCEL #AV-HUC-1 (440 ACRES)
9100 E 2000 S, ZONE RE-5
APPLE VALLEY, UTAH

ISSUE DATES:
08/10/2026
DESIGN BY:
D.S.T.
CONSTRUCTION DRAWINGS BY:
J.S.T.

PAGE # 10

MAIN FLOOR ELECTRICAL PLAN



UPPER FLOOR ELECTRICAL PLAN

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

GENERAL NOTES

1. PROVIDE UFER GROUND WIRE AT METER, 20' #4 BARE CU.
2. ARC FAULT ALL BEDROOM CIRCUITS
3. INSTALL DEDICATED GFI BREAKER FOR DISHWASHER

ELECTRICAL LEGEND

- POWER METER
- PANEL BOARD
- VANITY LIGHT FIXTURE
- EXHAUST FAN
- CEILING FAN
- CEILING LIGHT FIXTURE
- P.C. CEILING LIGHT FIXTURE W/ PULL CORD
- WALL SCONCE
- FLUORESCENT LIGHT FIXTURE
- RECESSED LIGHT FIXTURE
- PENDANT / DROP LIGHT FIXTURE
- CH DOORBELL CHIME
- SINGLE POLE SWITCH
- THREE-WAY SWITCH
- DIMMER SWITCH
- PUSH BUTTON SWITCH
- DUPLEX OUTLET
- AFI ARC FAULT INTERRUPTED CIRCUIT
- DUPLEX OUTLET, GFCI
- DUPLEX OUTLET, SWITCHED
- FOUR-PLEX OUTLET
- 220v OUTLET
- FLOOR OUTLET
- PHONE / DATA PORT / CABLE
- JUNCTION BOX
- S SMOKE DETECTOR
- C CARBON DETECTOR
- DISCONNECT SWITCH, FUSED
- G GAS VALVE

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PROPOSED AGRICULTRAL BUILDING FOR ROBERT & MELANIE ZITTING

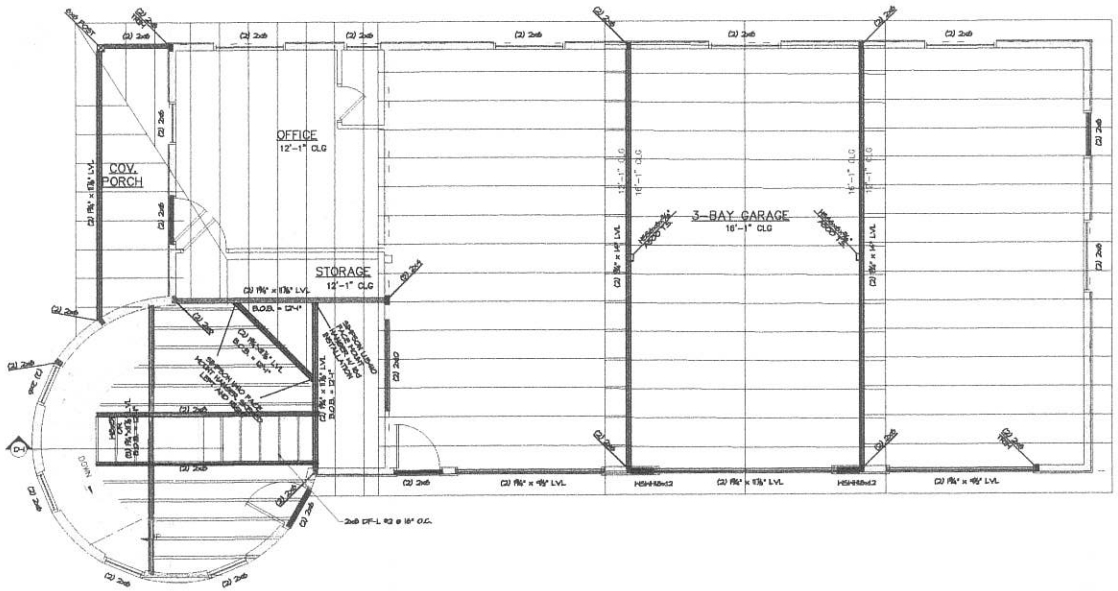
PARCEL #AV-HAC-1440 ACRES)
BOOK 8, PAGE 5, ZONE RE-5
APPLE VALLEY, UTAH

ISSUE DATES:
06/10/2024
DESIGN BY:
D.S.T.
CONSTRUCTION DRAWINGS BY:
J.S.T.

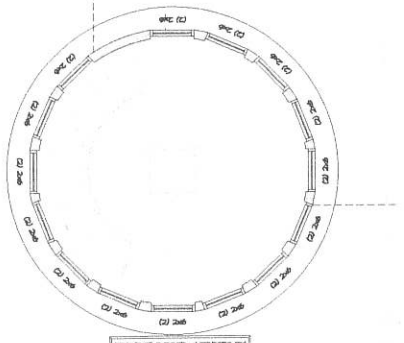
PAGE #

11

UPPER FLOOR ELECTRICAL PLAN

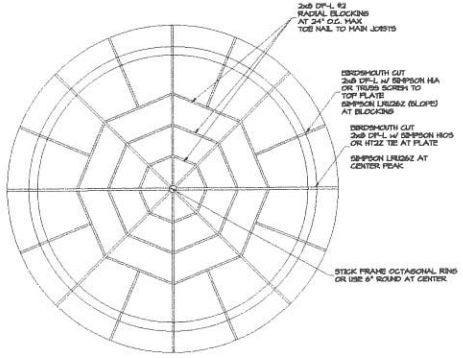


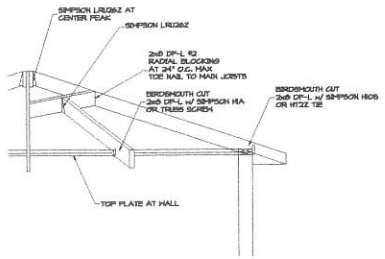
(3) 2x8 KING STUDS AT FULL HEIGHT REQUIRED



FRAME BLD ROOF w/ TRUSSES BY OTHERS OR 2x DF-L RADIAL WITH BIRDSMOUTH CUTS

UPPER ROOF FRAMING PLAN





TRUSS NOTES:

1. THE ENGINEER HAS CORRELATED THIS DESIGN WITH THE PROPOSED LAYOUT SHOWN ON PROJECT CONSTRUCTION PLANS PREPARED BY THE ARCHITECT. PLEASE BE ADVISED THAT THE LAYOUT SUBMITTED BY THE TRUSS COMPANY SHOULD BE COMPARED WITH THE PROJECT CONSTRUCTION PLANS AND SHEET S1 TO VERIFY THE LOCATION OF GIRDER TRUSSES AND BEARING POINTS. ANY DIFFERENCES BETWEEN THE TWO PLANS MUST BE BROUGHT TO THE ATTENTION OF THE ENGINEER.
2. ALL TRUSS HANGERS SHALL BE SPECIFIED BY THE TRUSS DESIGNER. TRUSSES PARALLEL TO INTERIOR SHEARWALLS SHALL BE DESIGNED FOR THE LATERAL LOADS INDICATED ON THE FRAMING PLANS.
3. TRUSSES TO BE DESIGNED FOR FAU LOCATION, SUPPORT, ACCESS AND TO SUPPORT THE WEIGHT OF THE HVAC.

FRAMING NOTES:

1. ALL BEARING WALL DOOR AND WINDOW HEADERS SHALL BE DOUBLE 2x10 HEADERS UNLESS SPECIFIED OTHERWISE.
2. UNLESS NOTED OTHERWISE, ALL EXTERIOR WALLS AND INTERIOR BEARING WALLS SHALL HAVE TRIMMERS AND KING STUDS AS FOLLOWS:
   - OPENINGS 6' WIDE & UNDER: (1) TRIMMER & (1) KING STUD EA. END
   - OPENINGS OVER 6' WIDE: TRIMMERS AS INDICATED & (1) KING STUD EA. END
2. NAIL MULTIPLE 2x TRIMMERS WITH 16d SINKERS AT 6" O.C.
3. ALL GIRDER TRUSSES SHALL BE SET ON DOUBLE 2x TRIMMERS UNLESS NOTED OTHERWISE.
4. DIMENSIONAL SAWN LUMBER SHALL BE AS FOLLOWS:
   - 2x STUDS UP TO 10' TALL: DFL STUD GRD
   - 2x STUDS UP TO 14' TALL: DFL #2
   - BEAMS, HEADERS, RAFTERS, JOISTS: DFL #2
5. STRUCTURAL COMPOSITE LUMBER SHALL HAVE THE FOLLOWING MINIMUM PROPERTIES:
   - LVL: E = 1.8E6 PSI, Fb = 2,800 PSI, Fv = 285 PSI
   - PSL: E = 2.0E6 PSI, Fb = 2,900 PSI, Fv = 290 PSI
   - LSL: E = 1.3E6 PSI, Fb = 1,550 PSI, Fv = 400 PSI
6. GLULAM BEAMS (GLB) SHALL BE SPRUCE 24F-V4 DF/DF.
   - GLB: E = 1.8E6 PSI, Fb = 2,400 PSI, Fv = 240 PSI
7. ALL NAILING SHALL CONFORM TO THE IBC TABLE 2304.10.1
8. ALL TRUSS BEARING AT END OF TRUSS MUST BE FULL-BLOCKED AND ANCHORED WITH TIES AS REQUIRED BY THE IBC. NAIL ROOF SHEATHING TO BLOCKING.
9. ALL BEAMS, HEADERS, AND JOISTS SHALL BE INSTALLED TO MANUFACTURE SPECIFICATIONS AND A MST24 (MIN) TOP STRAP PER CODE SHALL BE INSTALLED IF TOP PLATE IS NOT CONTINUOUS OVER HEADER.

ROOF SHEATHING REQUIREMENTS

- ⅞" APA ROOF SHEATHING
- 24/0 SPAN RATING, EXPOSURE 1
- DIAPHRAGM BOUNDARY NAILING = 8d @ 4" O.C.
- PANEL EDGE NAILING = 8d @ 6" O.C.
- PANEL FIELD NAILING = 8d @ 12" O.C.
- PANEL EDGE BLOCKING = NOT REQUIRED

FLOOR SHEATHING REQUIREMENTS

- ¾" T&G APA FLOOR SHEATHING
- 40/24 SPAN RATING, EXPOSURE 1
- DIAPHRAGM BOUNDARY NAILING = 8d @ 4" O.C.
- PANEL EDGE NAILING = 8d @ 6" O.C.
- PANEL FIELD NAILING = 8d @ 12" O.C.
- PANEL EDGE BLOCKING = NOT REQUIRED

TYPICAL WALL FRAMING SIZES

WALL	WALL STUD SIZE	STUD SPACING	BRACING
8"	2x4 DF STUD	16" O.C.	48" O.C.
9"	2x4 ES* STUD	16" O.C.	48" O.C.
10"	2x4 DF #2	16" O.C.	48" O.C.
12"	2x4 DF #2	12" O.C.	48" O.C.
14"	2x6 DF #2	16" O.C.	48" O.C.

ROOF LEGEND

- G.T. — INDICATES LOCATION OF GIRDER TRUSS
- D.S. — INDICATES LOCATION OF DRAG STRUT OR SHEAR BLOCKING (SEE DETAILS A-1, A-2, A-3 OR A-4)
- BEARING WALL LOCATION, TRUSSES TO BEAR HERE!

BEAM LAMINATION TABLE (16dNAILS)

BEAM SIZE	NUMBER OF ROWS (12" O.C. (0.25 x 5"))	BEAM SIZE	NUMBER OF ROWS (12" O.C. (0.25 x 5"))
(2) 1¾" x 9¼" LVL	3	(3) 1¾" x 9¼" LVL	5
(2) 1¾" x 11⅞" LVL	3	(3) 1¾" x 11⅞" LVL	5
(2) 1¾" x 14" LVL	4	(3) 1¾" x 14" LVL	4
(2) 1¾" x 16" LVL	4	(3) 1¾" x 16" LVL	4
(2) 1¾" x 18" LVL	4	(3) 1¾" x 18" LVL	4

DATE: 5/29/2026
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ROSENBERG ASSOCIATES
CIVIL ENGINEERS • LAND SURVEYORS
1228 East Riverside Drive, Suite A-2
St. George, Utah 84790
Ph (435) 673-8586 Fx (435) 673-8387
www.rosenbergassociates.com

ROOF FRAMING PLAN

FOR

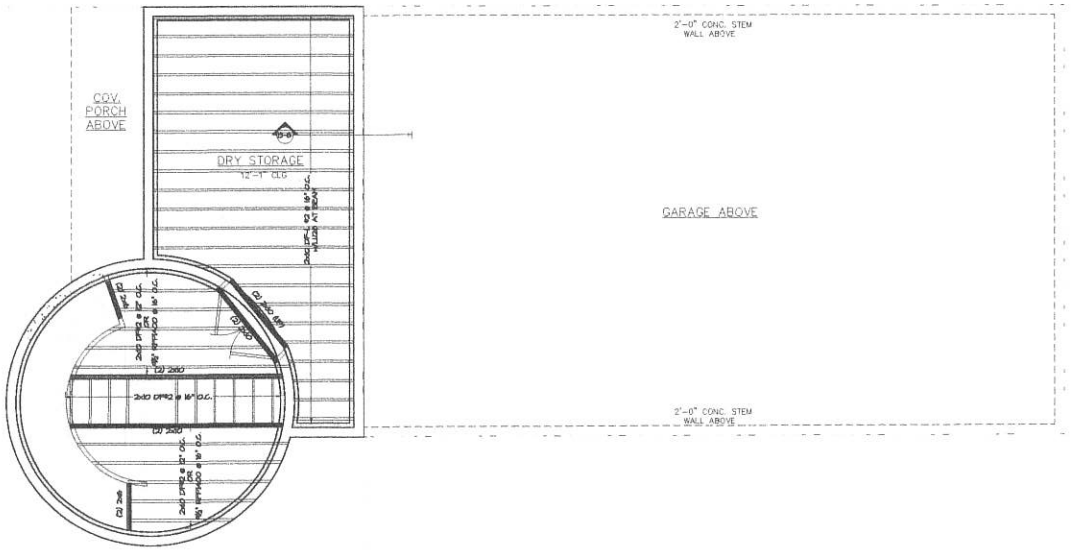
ALMA TIMPSON

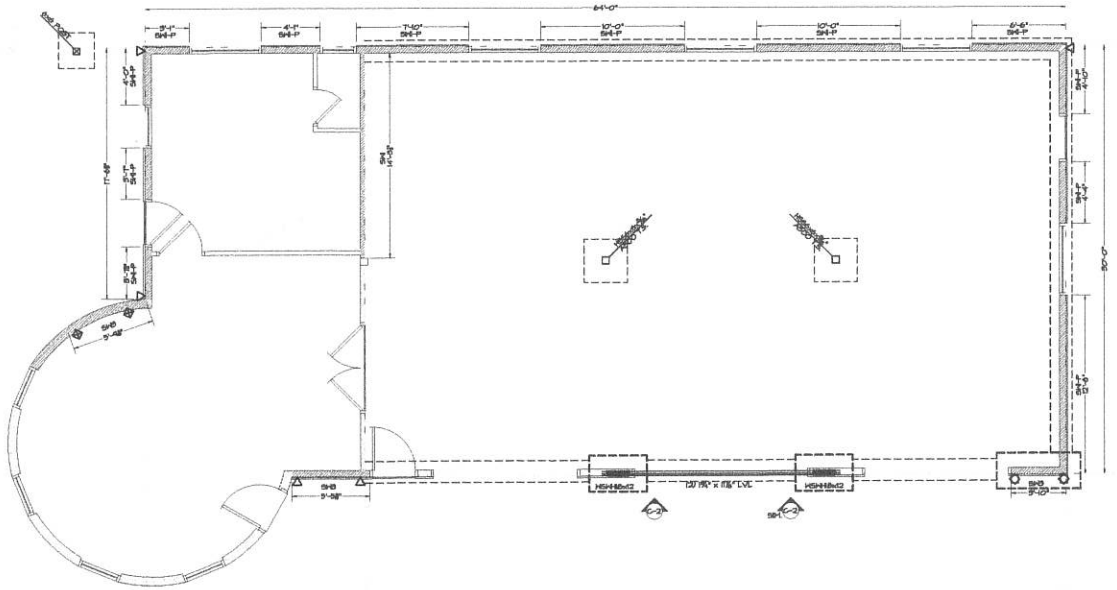
1810 E 2000 S

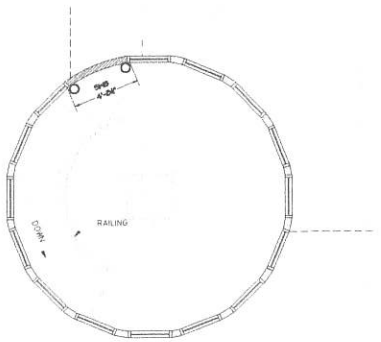
APPLE VALLEY, UTAH

REGISTERED PROFESSIONAL ENGINEER
368610
MICHAEL S. ROBINSON
STATE OF UTAH

SHEET
S1
1 OF 7 SHEETS


COV. PORCH ABOVE
DRY STORAGE
12'-1" CLG
GARAGE ABOVE
2'-0" CONC. STEM WALL ABOVE
2'-0" CONC. STEM WALL ABOVE
2x10 @ 16" O.C.
2x10 @ 12" O.C.
2x10 @ 16" O.C.
(2) 2x10
(2) 2x8
(2) 2x8
2x10 @ 16" O.C.
2x10 @ 12" O.C.
2x10 @ 16" O.C.
(2) 2x8
(2) 2x8
(2) 2x8





UPPER ROOF SHEAR WALL PLAN

LEGEND

SW	INDICATES THE WALL SIDE FOR SHEATHING.
SW-P	THE SHEAR WALL SHEATHING AND NAILING PATTERN TO BE CONTINUED AROUND ALL OPENINGS ALONG WALL LINE. ALL REPLACEMENT STRAPS MUST BE RE-EVALUATED BY ROSENBERG ASSOCIATES
▽	INDICATES LOCATION OF SIMPSON STHD10 TIE DOWN
▼	INDICATES LOCATION OF SIMPSON HTT5 TIE DOWN W/ SIMPSON ⅝"x18" TITEN HD ANCHOR BOLT (SPECIAL INSPECTION REQUIRED)
◇	INDICATES LOCATION OF SIMPSON STHD14 TIE DOWN
◈	INDICATES LOCATION OF SIMPSON HDU8-SDS2.5 TIE DOWN W/ SIMPSON ⅝" x 8" TITEN HD. SEE DETAIL S-7
✪	INDICATES LOCATION OF SIMPSON HDU8-SDS2.5 TIE DOWN W/ SIMPSON PAST-36 ANCHOR BOLT, SEE DETAIL S-5.
○	INDICATES LOCATION OF SIMPSON MSTBO STRAP
	INDICATES PLACEMENT OF SHEAR WALL SHEATHING
_ 2.5 _	INDICATES LOCATION OF DRAG STRUT OR SHEAR BLOCKING (SEE DETAILS A-1, A-2, A-3 OR A-4)

SHEARWALL NOTES:

1. ALL EXTERIOR AND INTERIOR SHEARWALLS SHALL BE ANCHORED TO THE ROOF DIAPHRAGM AS PER APPLICABLE DETAILS A-1, A-2, A-3, A-4 OR AS INDICATED.
2. DRAG STRUT (D.S.) SHALL BE ANCHORED TO SHEARWALL WITH A SIMPSON DSC CONNECTOR OR CONTINUOUS 2x MEMBER FASTENED TO TRUSS AS PER DETAILS A-2 AND A-4 OR AS INDICATED.
3. TRUSSES BEARING ON INTERIOR SHEARWALLS SHALL BE BLOCKED AS PER DETAILS A-3 AND A-4.
4. DRAG STRUT SHALL BE A MIN. (2) 2x4 SOLE PLATE, HEADER, OR GIRDER TRUSS.
5. FRAMING MEMBERS OR BLOCKING SHALL BE PROVIDED AT THE EDGES OF ALL SHEETS IN SHEARWALLS.
6. ALL EXTERIOR WALLS TO BE SHEATHED WITH STD. NAILING PATTERNS, EXCEPT FOR SHEAR PANELS.
7. SHEAR PANELS MUST BE CONTINUOUS ACROSS STORY JOINTS EITHER WITH THE USE OF STRAPS OR CONTINUOUS PANELS WITH BLOCKED JOINTS.
8. NAIL ALL SHEAR BLOCKING TO ROOF SHEATHING.

SHEAR WALL SCHEDULE

MARK	SHEATHING	NAILING	PLATE TO RIM	ANCHORS
SW1	7/16 APA RATED SHEATHING, EXP 1	EDGE - 8d COMMONS @ 6" FIELD - 8d COMMONS @ 12"	* 16d NAILS @ 6" O.C.	1/2"x10" A.B. AT 76" o.c. OR (2) ANCHOR BOLTS PER 4' PANEL
SW2	7/16 APA RATED SHEATHING, EXP 1	EDGE - 8d COMMONS @ 4" FIELD - 8d COMMONS @ 12"	* 16d NAILS @ 4" O.C.	1/2"x10" A.B. AT 24" o.c. OR (2) ANCHOR BOLTS PER 4' PANEL
SW3	7/16 APA RATED SHEATHING, EXP 1	EDGE - 8d COMMONS @ 3" FIELD - 8d COMMONS @ 12"	* 16d NAILS @ 3" O.C.	1/2"x10" A.B. AT 18" o.c. OR (2) ANCHOR BOLTS PER 4' PANEL
	ALL ADJOINING PANEL EDGE NAILING SHALL BE A 3" NOMINAL (BUILT-UP) MEMBER W/ STAGGERED NAILING			
SW4	15/32 APA RATED SHEATHING, EXP 1	EDGE - 2.5" 10d COMMONS @ 3" FIELD - 10d COMMONS @ 12"	* 16d NAILS @ 2.5" O.C.	1/2"x10" A.B. AT 16" o.c. OR (2) ANCHOR BOLTS PER 4' PANEL
	ALL ADJOINING PANEL EDGE NAILING SHALL BE A 3" NOMINAL (BUILT-UP) MEMBER W/ STAGGERED NAILING			
SW5	7/16 APA RATED SHEATHING, EXP 1 (BOTH SIDES)	EDGE - 2.5" 10d COMMONS @ 3" FIELD - 10d COMMONS @ 12"	* 16d NAILS @ 3" O.C.	1/2"x10" A.B. AT 18" o.c. OR (2) ANCHOR BOLTS PER 4' PANEL
	ALL ADJOINING PANEL EDGE NAILING SHALL BE A 3" NOMINAL (BUILT-UP) MEMBER W/ STAGGERED NAILING			
SW6	19/32 APA RATED SHEATHING, EXP 1	EDGE - 2.5" 10d COMMONS @ 3" FIELD - 10d COMMONS @ 12"	* 16d NAILS @ 3" O.C.	1/2"x10" A.B. AT 18" o.c. OR (2) ANCHOR BOLTS PER 4' PANEL
	EXTEND HEADER (2) 9⅞ LVL mn/ FULL HEITH OF OPENING & PANEL. NAIL SHEATHING TO HEADER AT 3" O.C. BOTH SIDES			

NOTES:

* FOR TWO-STORY CONDITION
# SW3 - SHALL BE FRAMED W/ STUD @ 8" O.C. W/ 3x BOTTOM PLATE AND SHEATHING NAILED TO OFFSET
- STUDS OR NO SINGLE STUD IS TO HAVE SHEAR WALL NAILING FROM BOTH SIDES
- ALL 3" NOMINAL MEMBERS MAY BE BUILT-UP COLUMNS

EQUIVALENT STAPLES

8d COMMONS @ 6" = 16 GAGE STAPLES @ 3.5" O.C. EDGE
8d COMMONS @ 12" FIELD = 16 GAGE STAPLES @ 8" O.C.
8d COMMONS @ 4" EDGE = 16 GAGE STAPLES @ 2" O.C.

STAPLES MAY ONLY BE USES ON SW1 & SW2 SHEAR WALLS.

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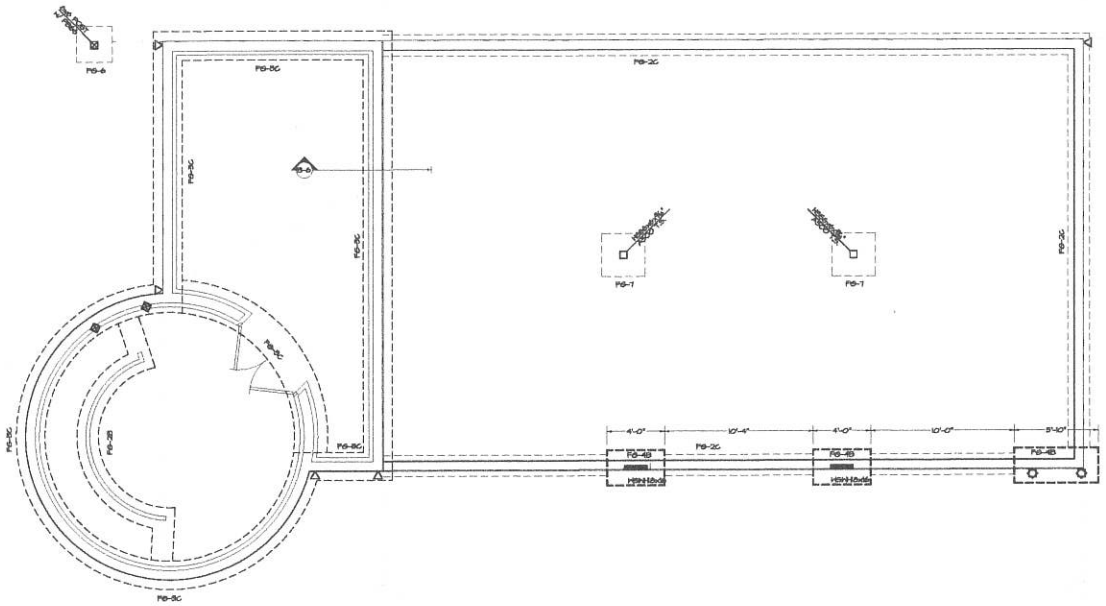
SHEAR WALL PLAN
FOR
ALMA TIMPSON
1810 E 2000 S
APPLE VALLEY, UTAH

366953
MICHAEL S. ROBINSON

SHEET
S3
3 OF 6 SHEETS



LEGEND

SW	INDICATES THE WALL SIDE FOR SHEATHING.
SW-P	THE SHEAR WALL SHEATHING AND NAILING PATTERN TO BE CONTINUED AROUND ALL OPENINGS ALONG WALL LINE. ALL REPLACEMENT STRAPS MUST BE RE-EVALUATED BY ROSENBERG ASSOCIATES.
▽	INDICATES LOCATION OF SIMPSON STHD10 TIE DOWN
▼	INDICATES LOCATION OF SIMPSON HTT5 TIE DOWN W/ SIMPSON ⅝"x8" TITEN HD ANCHOR BOLT (SPECIAL INSPECTION REQUIRED)
◇	INDICATES LOCATION OF SIMPSON STHD14 TIE DOWN
◈	INDICATES LOCATION OF SIMPSON HDU5-SDS2.5 TIE DOWN W/ SIMPSON ⅝" x 8" TITENHD. SEE DETAIL B-7
✪	INDICATES LOCATION OF SIMPSON HDU8-SDS2.5 TIE DOWN W/ SIMPSON PAST-56 ANCHOR BOLT, SEE DETAIL B-5.
○	INDICATES LOCATION OF SIMPSON MST60 STRAP
	INDICATES PLACEMENT OF SHEAR WALL SHEATHING
DS	INDICATES LOCATION OF DRAG STRUT OR SHEAR BLOCKING (SEE DETAILS A-1, A-2, A-3 OR A-4)

FOUNDATIONS NOTES:

1. CONTRACTOR SHALL VERIFY ALL DIMENSIONS WITH ARCHITECTURAL DRAWINGS PRIOR TO CONSTRUCTION.
2. SILL PLATES SHALL BE ANCHORED WITH ½"x10" ANCHOR BOLTS OR ⅝"x8" SIMPSON TITEN HD ANCHOR BOLTS & 3"x3"x¼" SLOTTED WASHERS (MIN) @ 48" O.C. AS PER R602.11 I.R.C. SEE SHEARWALL SCHEDULE FOR ANCHOR BOLT REQUIREMENTS AT SHEARWALLS.
3. SEE THE STRUCTURAL DETAIL SHEET FOR CONCRETE NOTES.
4. FOOTINGS SHALL BE PLACED AS SHOWN ON THE FOUNDATION PLAN PREPARED BY THE ARCHITECT/DESIGNER AND UNDER ALL BEARING WALLS AND SHEARWALLS SHOWN ON SHEARWALL PLAN.

FROST REQUIREMENTS	
FROST DEPTH	20"
STEM WALL HEIGHT (TYP.)	14"

FOUNDATION REQUIREMENTS	
FOUNDATION WALL THICK.	10"
VERTICAL REINFORCEMENT	#5 BARS @ 12" O.C.
HORIZONTAL REINFORCEMENT	#5 BARS @ 12" O.C.

FOOTING TABLE

MARK	W	L	H	REINFORCING STEEL HORIZONTAL	REINFORCING STEEL VERTICAL	DET.
FS-1	12"	CONT.	12"	(2) #4 BARS	#4 BARS @ 24" O.C.	B-2
FS-1B	12"	CONT.	12"	(2) #4 BARS	N/A	B-1
FS-2	18"	CONT.	12"	(2) #4 BARS	#4 BARS @ 24" O.C.	B-2
FS-2B	18"	CONT.	12"	(2) #4 BARS	N/A	B-1
FS-2C	18"	CONT.	12"	(2) #4 BARS	#4 BARS @ 24" O.C.	B-3
FS-3	24"	CONT.	12"	(3) #4 BARS	#4 BARS @ 16" O.C.	B-2
FS-3C	24"	CONT.	12"	(3) #4 BARS	FOUNDATION TABLE	B-4
FS-4	30"	CONT.	12"	(4) #4 BARS	#4 BARS @ 16" O.C.	B-2
FS-4B	30"	CONT.	24"	(6) #4 BARS	#4 BARS @ 12" O.C.	B-3
FS-5	24"	24"	12"	(4) #4 BARS E.W.		
FS-6	30"	30"	12"	(4) #4 BARS E.W.		
FS-7	36"	36"	12"	(5) #4 BARS E.W.		
FS-8	42"	42"	12"	(6) #4 BARS E.W.		
FS-9	48"	48"	12"	(7) #4 BARS E.W.		

SLAB AND FOUNDATION SHALL BE PLACED AS PER GEOTECHNICAL ENGINEER'S SPECIFICATIONS

DATE:	5/29/2026
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DWG:	15405-26

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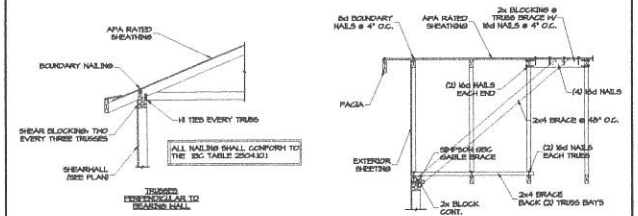
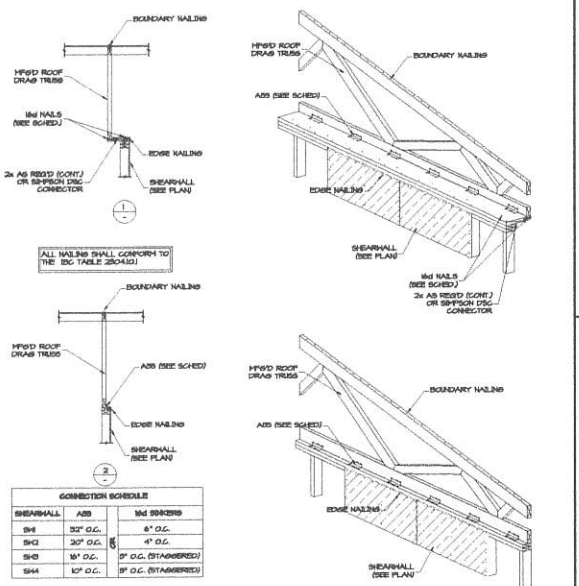
FOUNDATION PLAN
FOR
ALMA TIMPSON
1810 E 2000 S
APPLE VALLEY, UTAH

Registered Professional Engineer
369859
MICHAEL S. ROSENBERG
STATE OF UTAH
U.S.A.

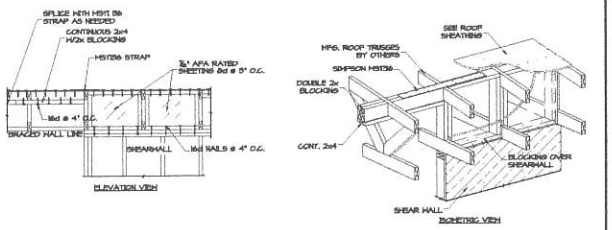
SHEET
S4
4 OF 6 SHEETS



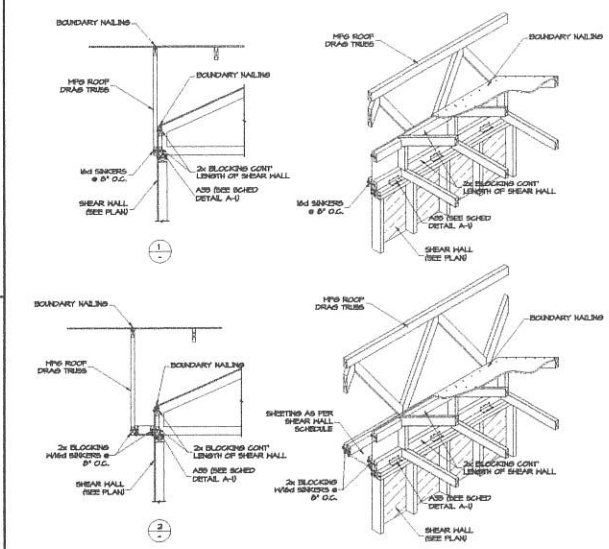
A-1 ROOF TRUSS BEARING (TYPICAL)



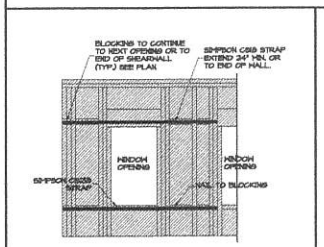
A-2 TRUSSES PARALLEL TO SHEARWALL (TYPICAL)



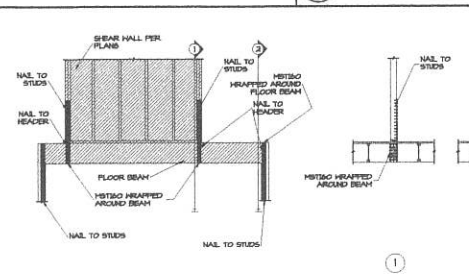
A-3 TRUSSES PERPENDICULAR TO SHEARWALL (TYPICAL)



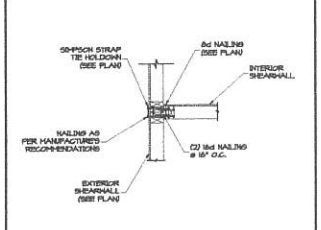
A-4 SPECIAL SHEARWALL DETAIL (ONLY USE WHERE INDICATED)



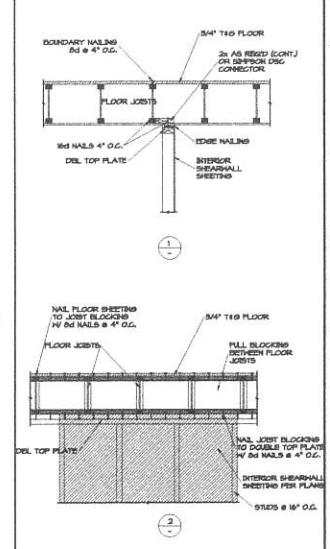
A-5 SPECIAL SHEARWALL DETAIL (ONLY USE WHERE INDICATED)



A-7 SPECIAL SHEARWALL DETAIL (ONLY USE WHERE INDICATED)



A-9 STUD AT SHEAR STRAP CONNECTION (TYPICAL)



A-10 FLOOR SHEATHING TO SHEAR WALL CONN. (ONLY WHERE INDICATED)

GENERAL NOTES

1. THE CONTRACTOR SHALL VERIFY ALL FIELD DIMENSIONS, EXISTING CONDITIONS, AND NOTED ASSUMPTIONS. ANY DISCREPANCIES SHALL BE COORDINATED WITH THE ACTING ENGINEER OF RECORD PRIOR TO PROCEEDING WITH ANY WORK RELATED TO THE DEVIATION.
2. THESE DRAWINGS HAVE BEEN PREPARED USING STANDARDS OF PROFESSIONAL CARE AND COMPLETENESS NORMALLY EXERCISED UNDER SIMILAR CIRCUMSTANCES BY REPUTABLE STRUCTURAL ENGINEERS IN THIS OR SIMILAR LOCALITIES. THEY NECESSARILY ASSUME THAT THE WORK DEPICTED HILL BE PERFORMED BY AN EXPERIENCED CONTRACTOR AND/OR WORKMEN WHO HAVE A WORKING KNOWLEDGE OF THE APPLICABLE CODE STANDARDS AND REQUIREMENTS AND OF INDUSTRY ACCEPTED STANDARD GOOD PRACTICE, AS NOT EVERY CONDITION OR ELEMENT IS OR CAN BY EXPLICITLY SHOWN ON THESE DRAWINGS, IT IS UNDERSTOOD THAT THE CONTRACTOR HILL USE INDUSTRY ACCEPTED STANDARD GOOD PRACTICE FOR ALL MISCELLANEOUS WORK NOT EXPLICITLY SHOWN.
3. THESE DRAWINGS REPRESENT THE FINISHED STRUCTURE. THEY DO NOT INDICATE THE METHOD OF CONSTRUCTION, THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES AND PROCEDURES. IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO DESIGN AND PROVIDE ADEQUATE SHORING, BRACING, FORM-WORK, ETC. AS REQUIRED. OBSERVATION VISITS TO THE SITE BY THE STRUCTURAL ENGINEER SHALL NOT INCLUDE INSPECTION OF THE ABOVE STRUCTURAL ITEMS.
4. BUILDING CODE: INTERNATIONAL BUILDING CODE - 2021 EDITION
5. ASSUMED LOADING:

ROOF LOAD (SNOW):			25 PSF
ROOF LOAD (LIVE):			20 PSF
ROOF LOAD (DEAD):			11 PSF
FLOOR LOAD (LIVE):			40 PSF
FLOOR LOAD (DEAD):			15 PSF
SEISMIC ZONE:			D
SDS	0.430	S1	0.150
SDS	0.401	SD1	0.299

   WIND LOAD: 100 MPH EXPOSURE C
6. CONSTRUCTION MATERIALS SHALL BE SPREAD OUT IF PLACED ON FLOORS OR ROOF. LOAD SHALL NOT EXCEED THE DESIGN LIVE LOAD PER SQUARE FOOT.
7. STRUCTURAL REQUIREMENTS SHOWN ON THE STRUCTURAL PLANS TAKE PRECEDENCE OVER STRUCTURAL CALLOUTS INDICATED ON THE ARCHITECTURAL PLANS. DIMENSIONS SHALL TAKE PRECEDENCE OVER SCALE SHOWN ON DRAWINGS.

CONCRETE:

1. ALL CONCRETE MIXING, PLACEMENT, FORMING, AND REINFORCING INSTALLATION SHALL BE PERFORMED IN ACCORDANCE WITH THE REQUIREMENTS OF INTERNATIONAL BUILDING CODE AND ACI 318 LATEST EDITIONS.
2. CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 4,000 PSI. STRUCTURAL DESIGN IS BASED UPON 2500 PSI, THEREFORE NO SPECIAL INSPECTION IS REQUIRED.
3. CEMENT FOR ALL CONCRETE FOUNDATIONS SHALL BE TYPE V WITH A MINIMUM OF 6% ENTRAINED AIR. MAXIMUM AGGREGATE SIZE SHALL BE ¾".
4. REINFORCING STEEL SHALL BE PER ASTM A615, GRADE 60 (UNLESS NOTED OTHERWISE). REINFORCING BAR SIZES AND PLACEMENT SHALL BE AS INDICATED ON THE PLANS AND DETAILS.

SHEARWALL NOTES:

1. DRAG STRUT SHALL BE A MIN. (2) 2 x 4 SOLE PLATE, HEADER, OR GIRDER TRUSS.
2. DRAG STRUT SHALL BE ANCHORED TO SHEARWALL OR WALL LINE WITH A SIMPSON DSC CONNECTOR OR CONTINUOUS 2x HEADER FASTENED TO TRUSS AND TOP PLATE WITH 16d NAILS @ 6" O.C. OR AS INDICATED. (SEE DETAILS A-4, A-2 & A-4).
3. FRAMING MEMBERS OR BLOCKING SHALL BE PROVIDED AT THE ENDS OF ALL SHEETS IN SHEARWALLS.
4. ALL EXTERIOR WALLS TO BE SHEATHED WITH STD. NAILING PATTERNS, EXCEPT FOR SHEAR PANELS.
5. SHEAR PANELS MUST BE CONTINUOUS ACROSS STORY JOINTS EITHER WITH THE USE OF STRAPS OR CONTINUOUS PANELS WITH BLOCKED JOINTS.
6. TRUSSES BEARING ON INTERIOR SHEAR PANELS SHALL BE BLOCKED USING HANUF. FRAMING OR BUILT UP 6X6 STYD USING 2"x4" BOX FRAMES WITH PLYWOOD SIDE NAILING EDGES W/8d@4" O.C., NAIL ROOF SHEATHING TO BLOCKING @ 4" O.C., AND NAIL BLOCKING INTO TOP PLATE W/8d @ 6" O.C. (SEE DETAILS A-1 & A-2)

STRUCTURAL STEEL:

1. STRUCTURAL STEEL SHALL BE AS FOLLOWS:
   ASTM A992: ALL STEEL WIDE FLANGE BEAMS
   ASTM A36: ALL STEEL PLATES, CHANNELS, & OTHER BEAMS
   ASTM A53 GRD B: ALL STEEL PIPES
   ASTM A500 GRD B: ALL RECTANGULAR TUBE STEEL
2. ALL WELDING SHALL BE PERFORMED WITH E70XX LOW HYDROGEN ELECTRODES BY CERTIFIED WELDERS. FIELD WELDING SHALL HAVE THIRD PARTY SPECIAL INSPECTION.

SPECIAL INSPECTIONS REQUIRED

SPECIAL INSPECTIONS SHALL BE REQUIRED FOR:
1. HIGH STRENGTH BOLTS.
2. EPOXY PLACEMENT.
3. HIGH STRENGTH SHEAR WALLS.

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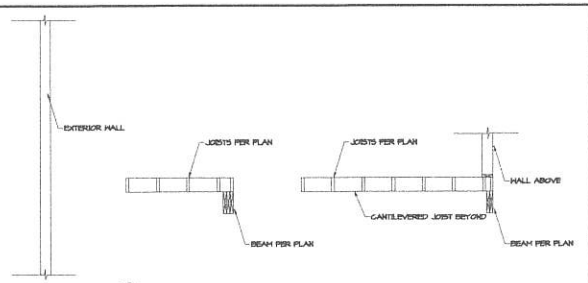
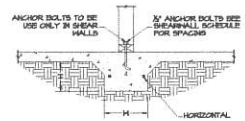
STRUCTURAL DETAIL SHEET
FOR
ALMA TIMPSON
1830 E 2000 S
APPLE VALLEY, UTAH

366855
MICHAEL S. ROSENBERG
REGISTERED PROFESSIONAL ENGINEER
STATE OF UTAH

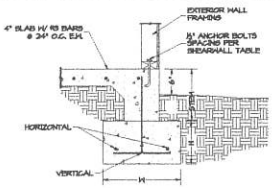
SHEET
S5
5 OF 6 SHEETS



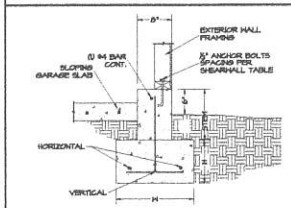
D-1 SILO FRAMING (ONE STORY)



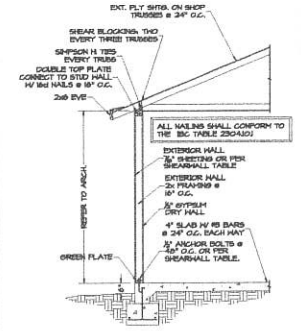
B-1 INTERIOR STRIP FOOTING (TYPICAL)



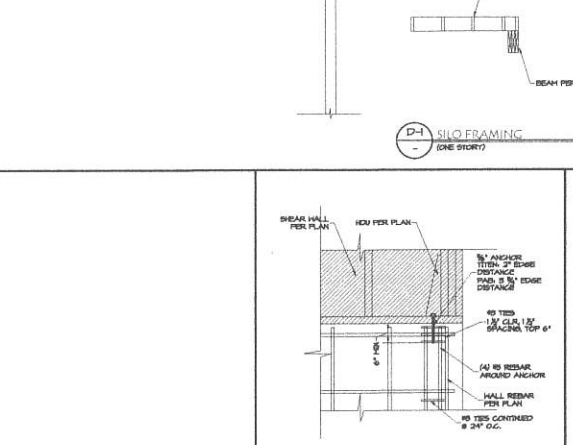
B-2 EXTERIOR STRIP FOOTING (TYPICAL)



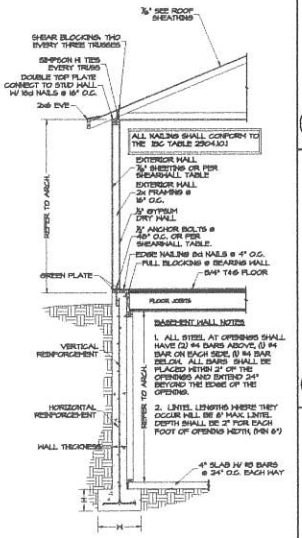
B-3 GARAGE STRIP FOOTING (TYPICAL)



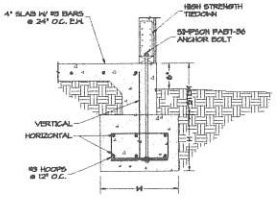
B-4 TYPICAL WALL SECTION (ONE STORY)



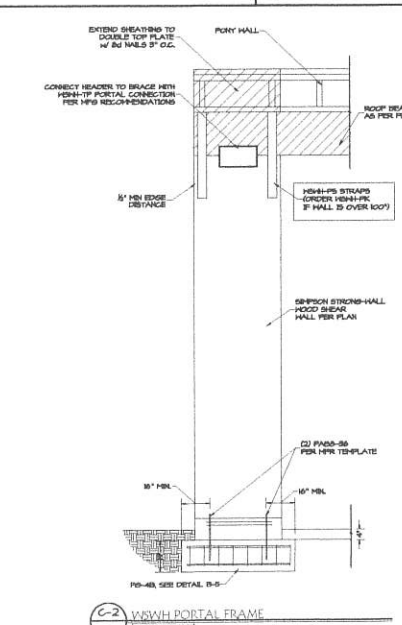
B-7 ANCHOR IN WALL



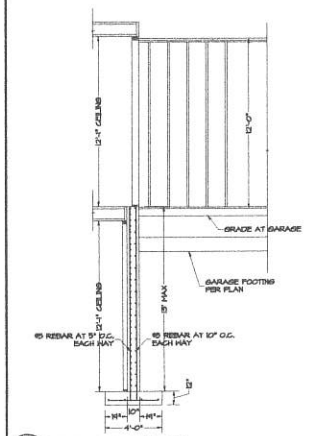
B-4 TYPICAL WALL SECTION (BASEMENT)



B-5 EXTERIOR STRIP FTG FOR H.S. TIEDOWNS (USE ONLY WHERE INDICATED)



C-2 WSWH PORTAL FRAME (PORTAL FRAME)



B-6 TYPICAL WALL SECTION (ONE STORY)

DATE: 3/24/2026
JOB NO.: 5405-26
DESIGNED BY: KAS
CHECKED BY: MSR
DWG: 5405-26

NO.	DATE	REVISION

ROSENBERG ASSOCIATES
CIVIL ENGINEERS • LAND SURVEYORS
352 East Riverside Drive, Suite A-2
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Ph (435) 673-8586 Fx (435) 673-8397
www.rosenet.com

STRUCTURAL DETAIL SHEET
FOR
ALMA TIMPSON
1830 E 2000 S
APPLE VALLEY, UTAH

STATE OF UTAH
398969
MICHAEL D ROBINSON
REGISTERED PROFESSIONAL ENGINEER

SHEET
S6
6 OF 6 SHEETS

Structural Engineering Report

1810 E 2000 S

Apple Valley, Utah

Prepared For

Alma Timpson

Prepared By

ROSENBERG ASSOCIATES
352 East Riverside Drive
Suite A-2
St. George, Utah 84790

June 19, 2026

Project No. 15405-26

Design Loads		1	-	2
Framing Key Plan	K	1	-	1
Gravity Loading	G	1	-	36
Lateral Loading	L	1	-	19
Foundation Design	F	1	-	1

ROSENBERG ASSOCIATES™
CIVIL ENGINEERS LAND SURVEYORS

PROJECT: 1810 E 2000 S	DATE: 6/18/2026	SHEET: 1 of 2
SUBJECT: General Information	BY: KAS	JOB #: 15405-26

Roof Dead Load (ASCE 7, 3.1)

Roofing	Tile	10.0	psf
Sheathing	7/16" OSB	1.5	psf
Trusses	Trusses @ 24" O.C.	2.5	psf
Insulation		1.0	psf
M & E		0.5	psf
Ceiling	1/2" Drywall	2.2	psf
Misc.		1.3	psf
Total Roof Dead Load =		19.0	psf

Adjustments

Roof Pitch	Rise	4	
	Run	12	
Pitch in Degrees		18	
Adjusted *D*		20.0	psf

***Roof Live Load* (ASCE 7, 4.3)**

Roof Tributary Area (span length multiplied by effective wide)	50	sqft
Roof Live Load	20	psf

Roof Snow Load (ASCE 7, 7.1)

Roof Snow Load	15	psf

(Local Building Official)

Floor Dead Load (ASCE 7, 3.1)

Floor Covering	Tile/Carpet	10.0	psf
Floor Covering	3/4" L.W. Concrete	0.0	psf
Sheathing	3/4" OSB	2.5	psf
Framing	TJI/Pro	2.0	psf
Ceiling	1/2" Drywall	2.2	psf
M & E		0.5	psf
Misc.		0.8	psf
Total Floor Dead Load =		18.0	psf
Partition Dead Load =		0.0	psf

***Floor Live Load* (ASCE 7, 4.3)**

L from ASCE, Table 4.3-1	40	psf

Exterior Wall Loads

Exterior Covering	Stucco	8.0	psf
Sheathing	7/16" OSB	1.5	psf
Framing	2x6 Studs @ 16"	1.4	psf
Insulation		1.0	psf
Interior Sheathing	1/2 Drywall	2.5	psf
Misc.		0.6	psf
Total Wall Dead Load =		15.0	psf
Wall Height		10	ft
Total Wall Dead Load		150	plf

ROSENBERG ASSOCIATES™
CIVIL ENGINEERS LAND SURVEYORS

PROJECT: 1810 E 2000 S	DATE: 6/18/2026	SHEET: 2 of 2
SUBJECT: General Information	BY: KAS	JOB #: 15405-26

Member	Species	Grade	Max Load
8' Plate			D.F.=1.0
2x4	DFL	Stud	2400 lb
2x6	DFL	Stud	5700 lb
4x4	DFL	#2	6900 lb
4x6	DFL	#2	10800 lb
4x8	DFL	#2	14000 lb
6x6	DFL	#2	17500 lb
9' Plate			
2x4	DFL	Stud	2000 lb
2x6	DFL	Stud	5000 lb
4x4	DFL	#2	5500 lb
4x6	DFL	#2	8500 lb
4x8	DFL	#2	11500 lb
6x6	DFL	#2	16500 lb
10' Plate			
2x4	DFL	Stud	1600 lb
2x6	DFL	Stud	4500 lb
4x4	DFL	#2	4500 lb
4x6	DFL	#2	7000 lb
4x8	DFL	#2	9500 lb
6x6	DFL	#2	15500 lb
11' Plate			
2x4	DFL	Stud	1400 lb
2x6	DFL	Stud	4400 lb
4x4	DFL	#2	3800 lb
4x6	DFL	#2	6000 lb
4x8	DFL	#2	7900 lb
6x6	DFL	#2	14000 lb
12' Plate			
2x4	DFL	Stud	1200 lb
2x6	DFL	Stud	3900 lb
4x4	DFL	#2	3200 lb
4x6	DFL	#2	5100 lb
4x8	DFL	#2	6700 lb
6x6	DFL	#2	12000 lb

Ftg. Size	Max Load	Rebar
1500 psf		
2x2x12	5400 lb	(3) #4 bars E.W.
2.5x2.5x12	8400	(4) #4 bars E.W.
3x3x12	12000	(5) #4 bars E.W.
1800 psf		
2x2x12	6500 lb	(3) #4 bars E.W.
2.5x2.5x12	10000	(4) #4 bars E.W.
3x3x12	14500	(5) #4 bars E.W.

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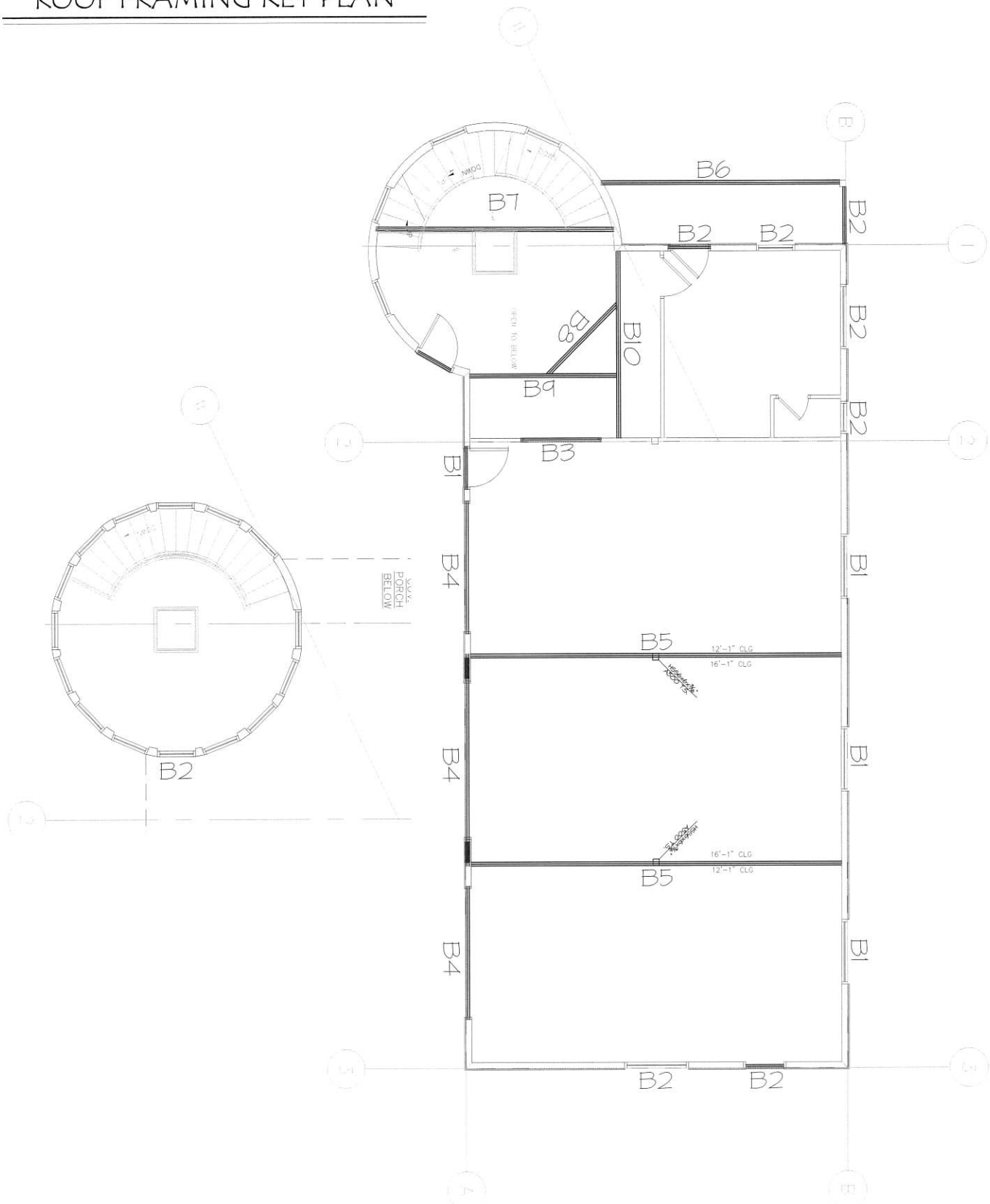
ROOF FRAMING KEY PLAN

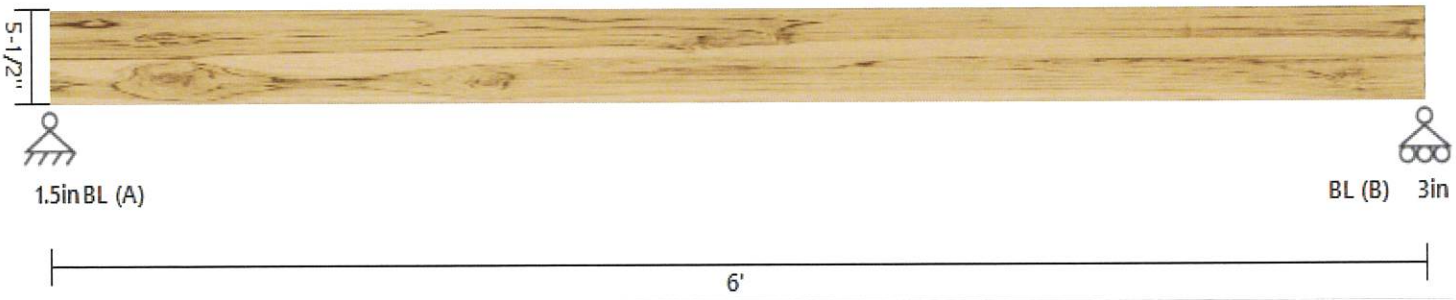


PASS

DATE:	5/27/2026	COMPANY:	Rosenberg Associates
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Krystal Shimabukuro
CUSTOMER:		REVIEWED BY:	--
PROJ. ADDRESS:	--	PROJECT NAME:	15405-26
	--		
LEVEL:	Roof	LOADING:	ASD
MEMBER NAME:	B1	CODE:	2021 International Building Code
MEMBER TYPE:	ROOF BEAM	NDS:	2018 NDS
MATERIAL:	Solid Sawn		

Douglas Fir-Larch	No. 2	(2) 1.5 X 5.5	DRY			

B1 DIAGRAM



BEAM PROPERTIES

Start (ft): 0 End (ft): 6 Member Slope (in): 0/12 Actual Length (ft): 6

Area (in^2)	Ix (in^4)	Iy (in^4)	BSW (lbf/ft)	Lams	G	Kcr Creep Factor
16.5	41.59	12.38	3.76	2	0.5	1

STRENGTH PROPERTIES

	Fb (psi)	Ft (psi)	Fv (psi)	Fc (psi)	Fc⊥ (psi)	E (psi) x10^3	Emin (psi) x10^3
Base Values	900	575	180	1350	625	1600	580
Adjusted Values	1170	748	180	1485	625	1600	580
C_M	1	1	1	1	1	1	1
C_T	1	1	1	1	1	1	1
C_i	1	1	1	1	1	1	1
C_F	1.3	1.3	1	1.1	1	1	1

Bending Adjustment Factors $C_{fu} = 1$ $C_r = 1$

BEAM DATA

Span	Length (ft)	Unbraced Length (ft) Top	Unbraced Length (ft) Bottom	Beam End Elev. Diff (ft)	CL(Top)	CL(Bottom)	CL(Left)	CL(Right)
1	6	0	6	0	1.00	0.99	1.00	1.00

PASS-FAIL

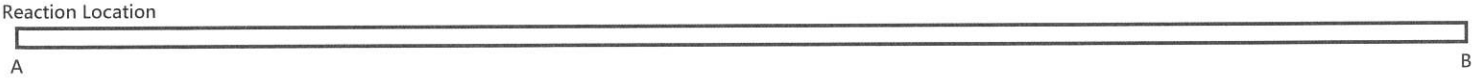
	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	DURATION FACTOR CD
Shear Stress Y (psi)	**PASS (89.8%)**	22.8	225.0	6	D+Lr	1.25
Bending Stress Y (psi)	**PASS (79.6%)**	299.1	1462.5	3	D+Lr	1.25
Deflection Y (in)	**PASS (90.8%)**	0.037	0.400 (=L/180)	3	D+Lr	
Bearing Stress (psi)	**PASS (91.1%)**	55.8	625.0	0	D+Lr	1.25

REACTIONS

Units for V: lbf Units for M: lbf-ft

Y axis	DEAD	LIVE ROOF	TOTAL
A	131	120	251
B	131	120	251

Reaction Location



LOAD LIST

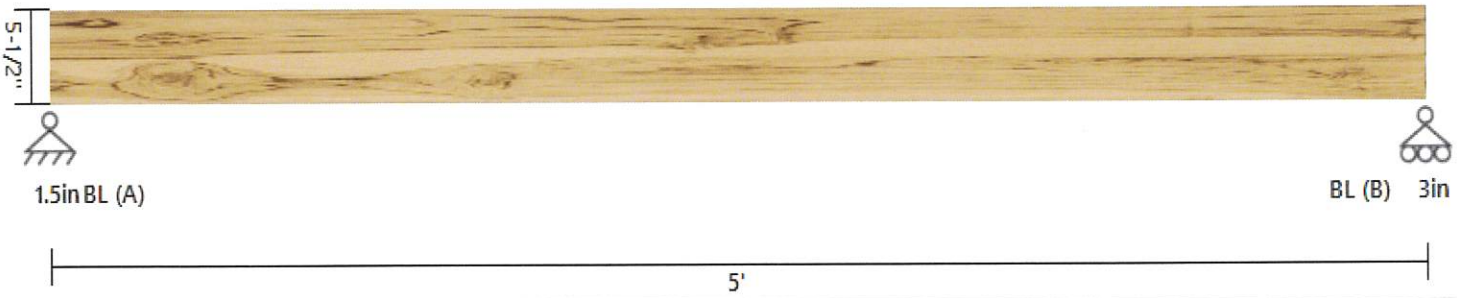
Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft)	Uniform	40	40	0	6	RoofLive	Y
Uniform (lbf/ft)	Uniform	40	40	0	6	Dead	Y
Self Weight (lbf/ft)	-	3.76	3.76	0	6	Dead	Y

PASS

DATE:	5/27/2026	COMPANY:	Rosenberg Associates
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Krystal Shimabukuro
CUSTOMER:		REVIEWED BY:	--
PROJ. ADDRESS:	--	PROJECT NAME:	15405-26
	--		
LEVEL:	Roof	LOADING:	ASD
MEMBER NAME:	B2	CODE:	2021 International Building Code
MEMBER TYPE:	ROOF BEAM	NDS:	2018 NDS
MATERIAL:	Solid Sawn		

Douglas Fir-Larch	No. 2	(2) 1.5 X 5.5	DRY

B2 DIAGRAM



BEAM PROPERTIES

Start (ft): 0 End (ft): 5 Member Slope (in): 0/12 Actual Length (ft): 5

Area (in^2)	Ix (in^4)	Iy (in^4)	BSW (lbf/ft)	Lams	G	Kcr Creep Factor
16.5	41.59	12.38	3.76	2	0.5	1

STRENGTH PROPERTIES

	Fb (psi)	Ft (psi)	Fv (psi)	Fc (psi)	Fc⊥ (psi)	E (psi) x10^3	Emin (psi) x10^3
Base Values	900	575	180	1350	625	1600	580
Adjusted Values	1170	748	180	1485	625	1600	580
C_M	1	1	1	1	1	1	1
C_T	1	1	1	1	1	1	1
C_i	1	1	1	1	1	1	1
C_F	1.3	1.3	1	1.1	1	1	1

Bending Adjustment Factors $C_{fu} = 1$ $C_r = 1$

BEAM DATA

Span	Length (ft)	Unbraced Length (ft) Top	Unbraced Length (ft) Bottom	Beam End Elev. Diff (ft)	CL(Top)	CL(Bottom)	CL(Left)	CL(Right)
1	5	0	5	0	1.00	0.99	1.00	1.00

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	DURATION FACTOR CD
Shear Stress Y (psi)	**PASS (64.3%)**	80.4	225.0	0	D+Lr	1.25
Bending Stress Y (psi)	**PASS (40.0%)**	877.1	1462.5	2.5	D+Lr	1.25
Deflection Y (in)	**PASS (77.6%)**	0.075	0.333 (=L/180)	2.5	D+Lr	
Bearing Stress (psi)	**PASS (68.6%)**	196.5	625.0	0	D+Lr	1.25

REACTIONS

Units for V: lbf Units for M: lbf-ft

Y axis	DEAD	LIVE ROOF	TOTAL
A	447	438	885
B	447	438	885

Reaction Location

LOAD LIST

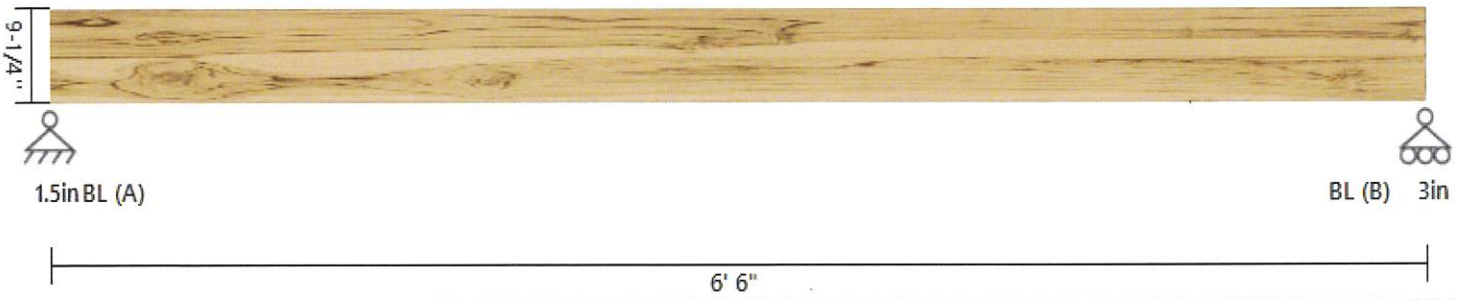
Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft)	Uniform	175	175	0	5	RoofLive	Y
Uniform (lbf/ft)	Uniform	175	175	0	5	Dead	Y
Self Weight (lbf/ft)	-	3.76	3.76	0	5	Dead	Y

PASS

DATE:	5/27/2026	COMPANY:	Rosenberg Associates
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Krystal Shimabukuro
CUSTOMER:		REVIEWED BY:	--
PROJ. ADDRESS:	--	PROJECT NAME:	15405-26
	--		
LEVEL:	Roof	LOADING:	ASD
MEMBER NAME:	B3	CODE:	2021 International Building Code
MEMBER TYPE:	ROOF BEAM	NDS:	2018 NDS
MATERIAL:	Solid Sawn		

Douglas Fir-Larch	No. 2	(2) 1.5 X 9.25	DRY

B3 DIAGRAM



BEAM PROPERTIES

Start (ft): 0 End (ft): 6.5 Member Slope (in): 0/12 Actual Length (ft): 6.5

Area (in^2)	Ix (in^4)	Iy (in^4)	BSW (lbf/ft)	Lams	G	Kcr Creep Factor
27.75	197.86	20.81	6.33	2	0.5	1

STRENGTH PROPERTIES

	Fb (psi)	Ft (psi)	Fv (psi)	Fc (psi)	Fc⊥ (psi)	E (psi) x10^3	Emin (psi) x10^3
Base Values	900	575	180	1350	625	1600	580
Adjusted Values	990	632	180	1350	625	1600	580
C_M	1	1	1	1	1	1	1
C_T	1	1	1	1	1	1	1
C_i	1	1	1	1	1	1	1
C_F	1.1	1.1	1	1	1	1	1

Bending Adjustment Factors $C_{fu} = 1$ $C_r = 1$

BEAM DATA

Span	Length (ft)	Unbraced Length (ft) Top	Unbraced Length (ft) Bottom	Beam End Elev. Diff (ft)	CL(Top)	CL(Bottom)	CL(Left)	CL(Right)
1	6.5	0	6.5	0	1.00	0.99	1.00	1.00

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	DURATION FACTOR CD
Shear Stress Y (psi)	**PASS (72.2%)**	62.6	225.0	0	D+Lr	1.25
Bending Stress Y (psi)	**PASS (57.3%)**	527.9	1237.5	3.25	D+Lr	1.25
Deflection Y (in)	**PASS (89.6%)**	0.045	0.433 (=L/180)	3.25	D+Lr	
Bearing Stress (psi)	**PASS (58.8%)**	257.3	625.0	0	D+Lr	1.25

REACTIONS

Units for V: lbf Units for M: lbf-ft

Y axis	DEAD	LIVE ROOF	TOTAL
A	589	569	1158
B	589	569	1158

Reaction Location

LOAD LIST

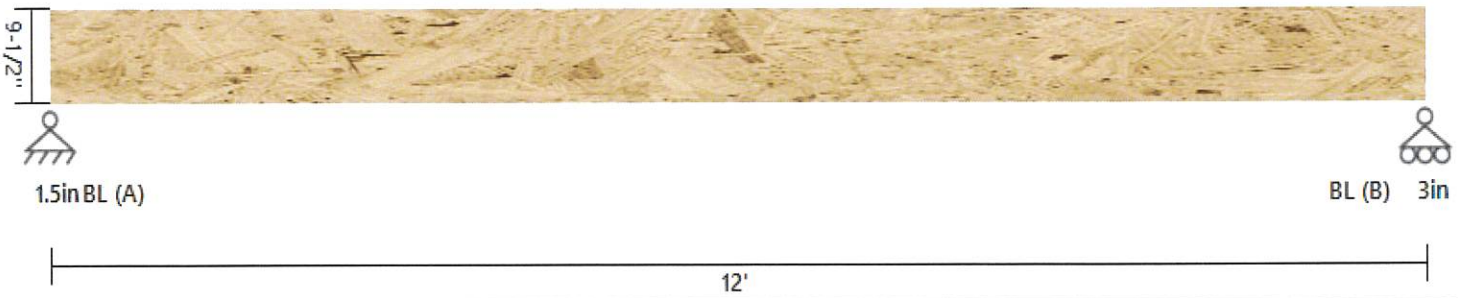
Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft)	Uniform	175	175	0	6.5	RoofLive	Y
Uniform (lbf/ft)	Uniform	175	175	0	6.5	Dead	Y
Self Weight (lbf/ft)	-	6.33	6.33	0	6.5	Dead	Y

PASS

DATE:	5/27/2026	COMPANY:	Rosenberg Associates
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Krystal Shimabukuro
CUSTOMER:		REVIEWED BY:	--
PROJ. ADDRESS:	--	PROJECT NAME:	15405-26
	--		
LEVEL:	Roof	LOADING:	ASD
MEMBER NAME:	B4	CODE:	2021 International Building Code
MEMBER TYPE:	ROOF BEAM	NDS:	2018 NDS
MATERIAL:	Structural Composite Lumber		

Weyerhaeuser	2.0E Microlam LVL	(2) 1.75 X 9.5	DRY

B4 DIAGRAM



BEAM PROPERTIES

Start (ft): 0 End (ft): 12 Member Slope (in): 0/12 Actual Length (ft): 12

Area (in^2)	Ix (in^4)	Iy (in^4)	BSW (lbf/ft)	Lams	Cfn	Kcr Creep Factor
33.25	250.07	8.49	9.7	2	7.35	1

STRENGTH PROPERTIES

	Fb (psi)	Ft (psi)	Fv (psi)	Fc (psi)	Fc⊥ (psi)	E (psi) x10^3	Emin (psi) x10^3
Base Values	2600	1895	285	2510	750	2000	1016.535
Adjusted Values	2600	1895	285	2510	750	2000	1017
C_M	1	1	1	1	1	1	1
C_T	1	1	1	1	1	1	1

Bending Adjustment Factors C_V = 1.03 C_r = 1 Volume factor Is applied on a load combination basis And Is Not reflected in the adjusted values

BEAM DATA

Span	Length (ft)	Unbraced Length (ft) Top	Unbraced Length (ft) Bottom	Beam End Elev. Diff (ft)	CL(Top)	CL(Bottom)	CL(Left)	CL(Right)
1	12	0	12	0	1.00	0.97	1.00	1.00

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	DURATION FACTOR CD
Shear Stress Y (psi)	**PASS (93.2%)**	24.3	356.3	12	D+Lr	1.25
Bending Stress Y (psi)	**PASS (89.0%)**	368.0	3355.0	6	D+Lr	1.25
Deflection Y (in)	**PASS (89.5%)**	0.084	0.800 (=L/180)	6	D+Lr	
Bearing Stress (psi)	**PASS (86.3%)**	102.5	750.0	0	D+Lr	1.25

REACTIONS

Units for V: lbf Units for M: lbf-ft

Y axis	DEAD	LIVE ROOF	TOTAL
A	298	240	538
B	298	240	538

Reaction Location

LOAD LIST

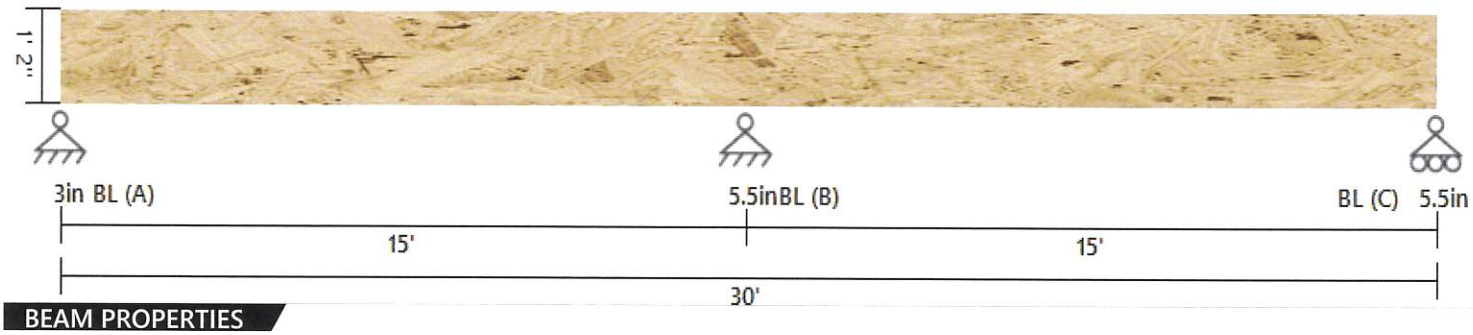
Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft)	Uniform	40	40	0	12	RoofLive	Y
Uniform (lbf/ft)	Uniform	40	40	0	12	Dead	Y
Self Weight (lbf/ft)	-	9.7	9.7	0	12	Dead	Y

PASS

DATE:	5/27/2026	COMPANY:	Rosenberg Associates
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Krystal Shimabukuro
CUSTOMER:		REVIEWED BY:	--
PROJ. ADDRESS:	--	PROJECT NAME:	15405-26
	--		
LEVEL:	Roof	LOADING:	ASD
MEMBER NAME:	B5	CODE:	2021 International Building Code
MEMBER TYPE:	ROOF BEAM	NDS:	2018 NDS
MATERIAL:	Structural Composite Lumber		

Weyerhaeuser	2.0E Microlam LVL	(2) 1.75 X 14	DRY

B5 DIAGRAM



BEAM PROPERTIES

Start (ft): 0 End (ft): 30 Member Slope (in): 0/12 Actual Length (ft): 30

Area (in^2)	Ix (in^4)	Iy (in^4)	BSW (lbf/ft)	Lams	Cfn	Kcr Creep Factor
49	800.33	12.51	14.29	2	7.35	1

STRENGTH PROPERTIES

	Fb (psi)	Ft (psi)	Fv (psi)	Fc (psi)	Fc⊥ (psi)	E (psi) x10^3	Emin (psi) x10^3
Base Values	2600	1895	285	2510	750	2000	1016.535
Adjusted Values	2600	1895	285	2510	750	2000	1017
C_M	1	1	1	1	1	1	1
C_T	1	1	1	1	1	1	1

Bending Adjustment Factors $C_V = 0.98C_r = 1$ Volume factor Is applied on a load combination basis And Is Not reflected in the adjusted values

BEAM DATA

Span	Length (ft)	Unbraced Length (ft) Top	Unbraced Length (ft) Bottom	Beam End Elev. Diff (ft)	CL(Top)	CL(Bottom)	CL(Left)	CL(Right)
1	15	0	15	0	1.00	0.91	1.00	1.00
2	15	0	15	0	1.00	0.91	1.00	1.00

PASS-FAIL

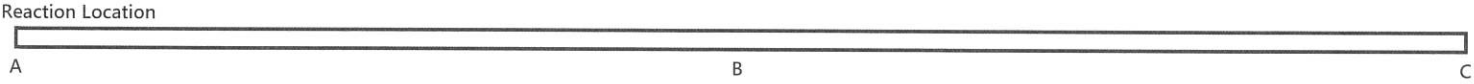
	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	DURATION FACTOR CD
Shear Stress Y (psi)	**PASS (40.0%)**	213.6	356.3	15	D+Lr	1.25
Bending Stress Y (psi)	**PASS (21.3%)**	2196.5	2790.5	15	D+Lr	1.25
Deflection Y (in)	**PASS (78.0%)**	0.220	1.000 (=L/180)	6.3	D+Lr	
Bearing Stress (psi)	**PASS (9.5%)**	724.9	801.1	15	D+Lr	1.25

REACTIONS

Units for V: lbf Units for M: lbf-ft

Y axis	DEAD	LIVE ROOF	TOTAL
A	2134	2053	4187
B	7111	6843	13954
C	2134	2053	4187

Reaction Location



LOAD LIST

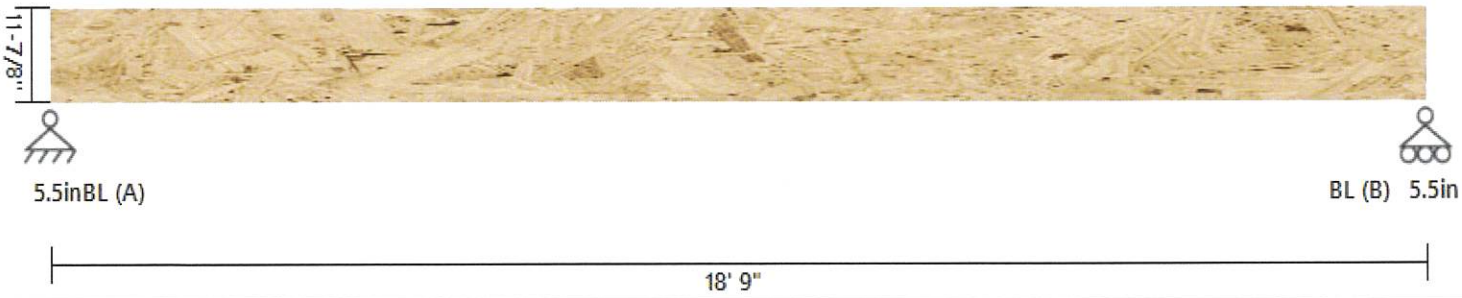
Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft)	Uniform	365	365	0	30	RoofLive	Y
Uniform (lbf/ft)	Uniform	365	365	0	30	Dead	Y
Self Weight (lbf/ft)	-	14.29	14.29	0	30	Dead	Y

PASS

DATE:	5/27/2026	COMPANY:	Rosenberg Associates
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Krystal Shimabukuro
CUSTOMER:		REVIEWED BY:	--
PROJ. ADDRESS:	--	PROJECT NAME:	15405-26
	--		
LEVEL:	Roof	LOADING:	ASD
MEMBER NAME:	B6	CODE:	2021 International Building Code
MEMBER TYPE:	ROOF BEAM	NDS:	2018 NDS
MATERIAL:	Structural Composite Lumber		

Weyerhaeuser	2.0E Microlam LVL	(2) 1.75 X 11.875	DRY

B6 DIAGRAM



BEAM PROPERTIES

Start (ft): 0 End (ft): 18.75 Member Slope (in): 0/12 Actual Length (ft): 18.75

Area (in^2)	Ix (in^4)	Iy (in^4)	BSW (lbf/ft)	Lams	Cfn	Kcr Creep Factor
41.56	488.41	10.61	12.12	2	7.35	1

STRENGTH PROPERTIES

	Fb (psi)	Ft (psi)	Fv (psi)	Fc (psi)	Fc⊥ (psi)	E (psi) x10^3	Emin (psi) x10^3
Base Values	2600	1895	285	2510	750	2000	1016.535
Adjusted Values	2600	1895	285	2510	750	2000	1017
C_M	1	1	1	1	1	1	1
C_T	1	1	1	1	1	1	1

Bending Adjustment Factors C_V = 1 C_r = 1 Volume factor Is applied on a load combination basis And Is Not reflected in the adjusted values

BEAM DATA

Span	Length (ft)	Unbraced Length (ft) Top	Unbraced Length (ft) Bottom	Beam End Elev. Diff (ft)	CL(Top)	CL(Bottom)	CL(Left)	CL(Right)
1	18.75	0	18.75	0	1.00	0.87	1.00	1.00

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	DURATION FACTOR CD
Shear Stress Y (psi)	**PASS (83.7%)**	58.2	356.3	0	D+Lr	1.25
Bending Stress Y (psi)	**PASS (66.1%)**	1103.4	3254.6	9.375	D+Lr	1.25
Deflection Y (in)	**PASS (60.8%)**	0.490	1.250 (=L/180)	9.375	D+Lr	
Bearing Stress (psi)	**PASS (88.8%)**	83.8	750.0	0	D+Lr	1.25

REACTIONS

Units for V: lbf Units for M: lbf-ft

Y axis	DEAD	LIVE ROOF	TOTAL
A	864	750	1614
B	864	750	1614

Reaction Location

LOAD LIST

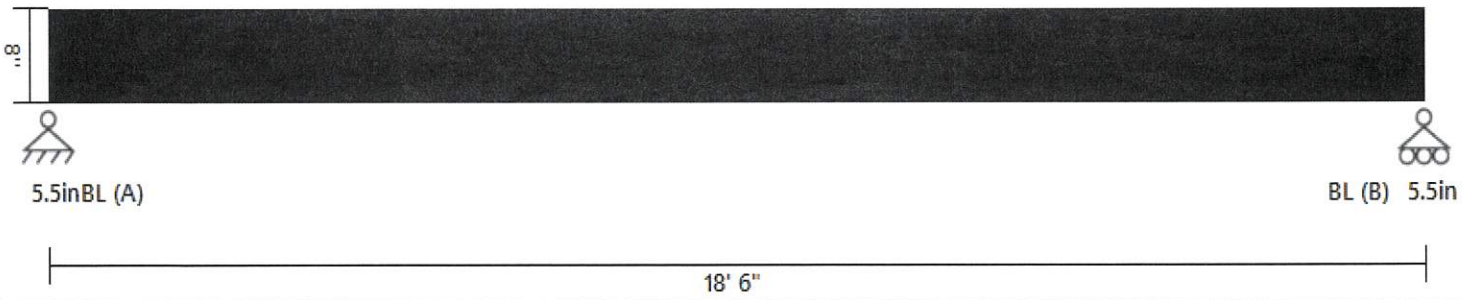
Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft)	Uniform	80	80	0	18.75	RoofLive	Y
Uniform (lbf/ft)	Uniform	80	80	0	18.75	Dead	Y
Self Weight (lbf/ft)	-	12.12	12.12	0	18.75	Dead	Y

PASS

DATE:	5/27/2026	COMPANY:	Rosenberg Associates
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Krystal Shimabukuro
CUSTOMER:		REVIEWED BY:	--
PROJ. ADDRESS:	--	PROJECT NAME:	15405-26
	--		
LEVEL:	Roof	LOADING:	ASD
MEMBER NAME:	B7	CODE:	2021 International Building Code
MEMBER TYPE:	ROOF BEAM	AISC:	AISC 360-16
MATERIAL:	Steel		

W Shapes	W8x31	A992-50

B7 DIAGRAM



BEAM PROPERTIES

Start (ft): 0 End (ft): 18.5 Member Slope (in): 0/12 Actual Length (ft): 18.5

Es x 10^3 (psi)	Fy x 10^3 (psi)	Fu x 10^3 (psi)	Area (in^2)	Depth (in)	tw (in)	tf (in)	bf (in)	Ix (in^4)	Iy (in^4)	Zx (in^3)	Zy (in^3)	J (in^4)	Cw (in^6)
29000	50	65	9.13	8	0.285	0.435	8	110	37.1	30.4	14.1	0.536	530

DESIGN PROPERTIES

Lp (in)	Lr (in)	Flange Flexure	Web Flexure	Flange Compression	Web Compression	Cv	Cv_WA
86	297	Non Compact	Compact	Non-Slender	Non-Slender	1	1

BEAM DATA

Span	Length (ft)	Unbraced Length Top	Unbraced Length Bottom	Beam End Elev. Diff	Pnt/Ω	Pnc/Ω	Mn/Ω	Mn-OOP/Ω	Vn/Ω	Vn-OOP/Ω	Cb	Cb-OOP
1	18.5	0	18.5	0	0	0	0	0	0	0	1.16	1

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	AISC CODE	LOAD COMBO
Shear Force Y (lbf)	**PASS (91.5%)**	-3854.1	45600.0	18.5	G2-1	D+L
Moment Y (lbf-ft)	**PASS (73.4%)**	20175.1	75766.7	9.435	F3-1	D+L
Deflection Y (in)	**PASS (69.1%)**	0.381	1.233 (=L/180)	9.25		D+L

REACTIONS

Units for V: lbf Units for M: lbf-ft

Y axis	DEAD	LIVE	TOTAL
A	1398	2223	3621
B	1476	2378	3854

Reaction Location

LOAD LIST

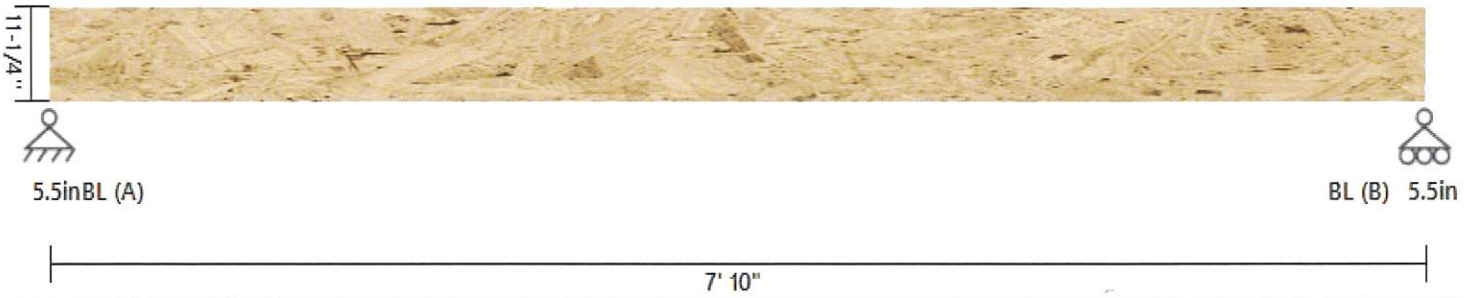
Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft)	Uniform	240	240	5.9	14	Live	Y
Uniform (lbf/ft)	Uniform	120	120	5.9	14	Dead	Y
Trapezoidal (lbf/ft)	Trapezoidal	110	240	0	5.9	Live	Y
Trapezoidal (lbf/ft)	Trapezoidal	55	120	0	5.9	Dead	Y
Trapezoidal (lbf/ft)	Trapezoidal	240	140	14	18.5	Live	Y
Trapezoidal (lbf/ft)	Trapezoidal	120	70	14	18.5	Dead	Y
Trapezoidal (lbf/ft)	Trapezoidal	0	140	4.25	9.75	Live	Y
Trapezoidal (lbf/ft)	Trapezoidal	140	0	9.75	15.25	Live	Y
Trapezoidal (lbf/ft)	Trapezoidal	0	70	4.25	9.75	Dead	Y
Trapezoidal (lbf/ft)	Trapezoidal	70	0	9.75	15.25	Dead	Y
Self Weight (lbf/ft)	-	31	31	0	18.5	Dead	Y

PASS

DATE:	5/27/2026	COMPANY:	Rosenberg Associates
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Krystal Shimabukuro
CUSTOMER:		REVIEWED BY:	--
PROJ. ADDRESS:	--	PROJECT NAME:	15405-26
	--		
LEVEL:	Roof	LOADING:	ASD
MEMBER NAME:	B8	CODE:	2021 International Building Code
MEMBER TYPE:	ROOF BEAM	NDS:	2018 NDS
MATERIAL:	Structural Composite Lumber		

Weyerhaeuser	2.0E Microlam LVL	(2) 1.75 X 11.25	DRY	

B8 DIAGRAM



BEAM PROPERTIES

Start (ft): 0 End (ft): 7.833 Member Slope (in): 0/12 Actual Length (ft): 7.83

Area (in^2)	Ix (in^4)	Iy (in^4)	BSW (lbf/ft)	Lams	Cfn	Kcr Creep Factor
39.38	415.28	10.05	11.48	2	7.35	1

STRENGTH PROPERTIES

	Fb (psi)	Ft (psi)	Fv (psi)	Fc (psi)	Fc⊥ (psi)	E (psi) x10^3	Emin (psi) x10^3
Base Values	2600	1895	285	2510	750	2000	1016.535
Adjusted Values	2600	1895	285	2510	750	2000	1017
C_M	1	1	1	1	1	1	1
C_T	1	1	1	1	1	1	1

Bending Adjustment Factors C_V = 1.01 C_r = 1 Volume factor Is applied on a load combination basis And Is Not reflected in the adjusted values

BEAM DATA

Span	Length (ft)	Unbraced Length (ft) Top	Unbraced Length (ft) Bottom	Beam End Elev. Diff (ft)	CL(Top)	CL(Bottom)	CL(Left)	CL(Right)
1	7.8334	0	7.8334	0	1.00	0.98	1.00	1.00

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	DURATION FACTOR CD
Shear Stress Y (psi)	**PASS (80.6%)**	55.4	285.0	0	D+L	1
Bending Stress Y (psi)	**PASS (82.3%)**	463.1	2622.9	3.917	D+L	1
Deflection Y (in)	**PASS (92.7%)**	0.038	0.522 (=L/180)	3.917	D+L	
Bearing Stress (psi)	**PASS (89.9%)**	75.6	750.0	0	D+L	1

REACTIONS

Units for V: lbf Units for M: lbf-ft

Y axis	DEAD	LIVE	TOTAL
A	515	940	1455
B	515	940	1455

Reaction Location

LOAD LIST

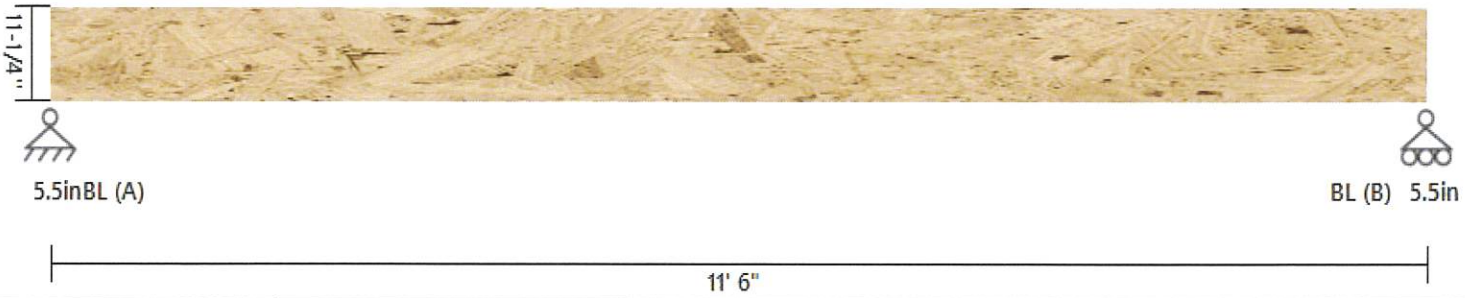
Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft)	Uniform	240	240	0	7.8334	Live	Y
Uniform (lbf/ft)	Uniform	120	120	0	7.8334	Dead	Y
Self Weight (lbf/ft)	-	11.48	11.48	0	7.8334	Dead	Y

PASS

DATE:	5/27/2026	COMPANY:	Rosenberg Associates
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Krystal Shimabukuro
CUSTOMER:		REVIEWED BY:	--
PROJ. ADDRESS:	--	PROJECT NAME:	15405-26
	--		
LEVEL:	Roof	LOADING:	ASD
MEMBER NAME:	B9	CODE:	2021 International Building Code
MEMBER TYPE:	ROOF BEAM	NDS:	2018 NDS
MATERIAL:	Structural Composite Lumber		

Weyerhaeuser	2.0E Microlam LVL	(2) 1.75 X 11.25	DRY

B9 DIAGRAM



BEAM PROPERTIES

Start (ft): 0 End (ft): 11.5 Member Slope (in): 0/12 Actual Length (ft): 11.5

Area (in^2)	Ix (in^4)	Iy (in^4)	BSW (lbf/ft)	Lams	Cfn	Kcr Creep Factor
39.38	415.28	10.05	11.48	2	7.35	1

STRENGTH PROPERTIES

	Fb (psi)	Ft (psi)	Fv (psi)	Fc (psi)	Fc⊥ (psi)	E (psi) x10^3	Emin (psi) x10^3
Base Values	2600	1895	285	2510	750	2000	1016.535
Adjusted Values	2600	1895	285	2510	750	2000	1017
C_M	1	1	1	1	1	1	1
C_T	1	1	1	1	1	1	1

Bending Adjustment Factors C_V = 1.01 C_r = 1 Volume factor Is applied on a load combination basis And Is Not reflected in the adjusted values

BEAM DATA

Span	Length (ft)	Unbraced Length (ft) Top	Unbraced Length (ft) Bottom	Beam End Elev. Diff (ft)	CL(Top)	CL(Bottom)	CL(Left)	CL(Right)
1	11.5	0	11.5	0	1.00	0.96	1.00	1.00

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	DURATION FACTOR CD
Shear Stress Y (psi)	**PASS (69.5%)**	87.0	285.0	0	D+L	1
Bending Stress Y (psi)	**PASS (50.8%)**	1290.6	2622.9	6.21	D+L	1
Deflection Y (in)	**PASS (73.0%)**	0.207	0.767 (=L/180)	5.75	D+L	
Bearing Stress (psi)	**PASS (84.2%)**	118.6	750.0	0	D+L	1

REACTIONS

Units for V: lbf Units for M: lbf-ft

Y axis	DEAD	LIVE	TOTAL
A	785	1498	2283
B	607	1089	1696

Reaction Location

LOAD LIST

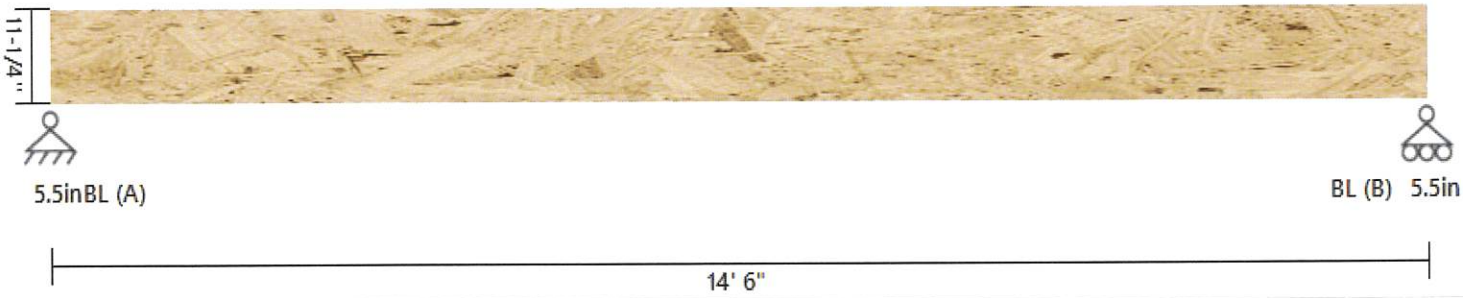
Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft)	Uniform	40	40	0	11.5	Live	Y
Uniform (lbf/ft)	Uniform	18	18	0	11.5	Dead	Y
Trapezoidal (lbf/ft)	Trapezoidal	145	235	0	6.25	Live	Y
Trapezoidal (lbf/ft)	Trapezoidal	66	106	0	6.25	Dead	Y
Point (lbf)	Point	940	-	6.25	-	Live	Y
Point (lbf)	Point	515	-	6.25	-	Dead	Y
Self Weight (lbf/ft)	-	11.48	11.48	0	11.5	Dead	Y

PASS

DATE:	5/27/2026	COMPANY:	Rosenberg Associates
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Krystal Shimabukuro
CUSTOMER:		REVIEWED BY:	--
PROJ. ADDRESS:	--	PROJECT NAME:	15405-26
	--		
LEVEL:	Roof	LOADING:	ASD
MEMBER NAME:	B10	CODE:	2021 International Building Code
MEMBER TYPE:	ROOF BEAM	NDS:	2018 NDS
MATERIAL:	Structural Composite Lumber		

Weyerhaeuser	2.0E Microlam LVL	(2) 1.75 X 11.25	DRY

B10 DIAGRAM



BEAM PROPERTIES

Start (ft): 0 End (ft): 14.5 Member Slope (in): 0/12 Actual Length (ft): 14.5

Area (in^2)	Ix (in^4)	Iy (in^4)	BSW (lbf/ft)	Lams	Cfn	Kcr Creep Factor
39.38	415.28	10.05	11.48	2	7.35	1

STRENGTH PROPERTIES

	Fb (psi)	Ft (psi)	Fv (psi)	Fc (psi)	Fc⊥ (psi)	E (psi) x10^3	Emin (psi) x10^3
Base Values	2600	1895	285	2510	750	2000	1016.535
Adjusted Values	2600	1895	285	2510	750	2000	1017
C_M	1	1	1	1	1	1	1
C_T	1	1	1	1	1	1	1

Bending Adjustment Factors C_V = 1.01 C_r = 1 Volume factor Is applied on a load combination basis And Is Not reflected in the adjusted values

BEAM DATA

Span	Length (ft)	Unbraced Length (ft) Top	Unbraced Length (ft) Bottom	Beam End Elev. Diff (ft)	CL(Top)	CL(Bottom)	CL(Left)	CL(Right)
1	14.5	0	14.5	0	1.00	0.93	1.00	1.00

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	DURATION FACTOR CD
Shear Stress Y (psi)	**PASS (48.7%)**	182.9	356.3	14.5	D+0.75L+0.75Lr	1.25
Bending Stress Y (psi)	**PASS (14.9%)**	2790.0	3278.7	8.12	D+0.75L+0.75Lr	1.25
Deflection Y (in)	**PASS (27.5%)**	0.701	0.967 (=L/180)	7.395	D+Lr	
Bearing Stress (psi)	**PASS (66.7%)**	249.4	750.0	14.5	D+0.75L+0.75Lr	1.25

REACTIONS

Units for V: lbf Units for M: lbf-ft

Y axis	DEAD	LIVE	LIVE ROOF	TOTAL
A	2218	1043	1559	4820
B	2591	986	1961	5538

Reaction Location

LOAD LIST

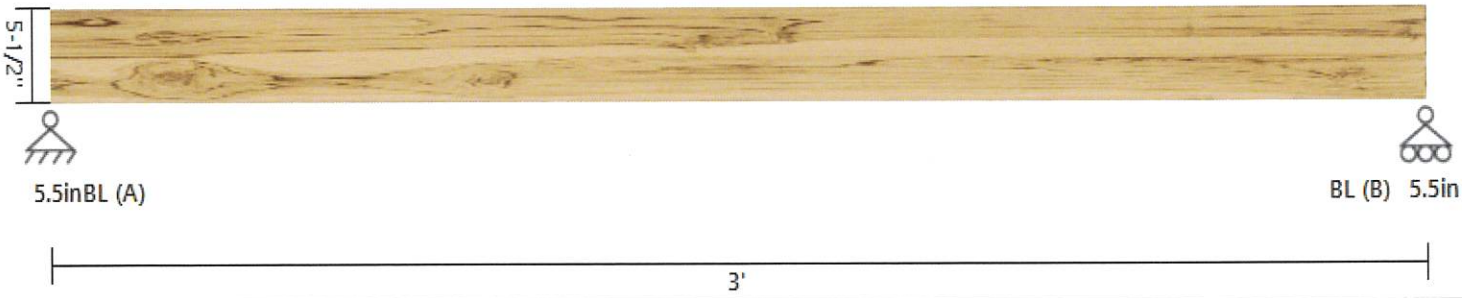
Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Point (lbf)	Point	1089	-	9.67	-	Live	Y
Point (lbf)	Point	607	-	9.67	-	Dead	Y
Uniform (lbf/ft)	Uniform	192.5	192.5	0	14.5	RoofLive	Y
Uniform (lbf/ft)	Uniform	192.5	192.5	0	14.5	Dead	Y
Point (lbf)	Point	940	-	4	-	Live	Y
Point (lbf)	Point	515	-	4	-	Dead	Y
Trapezoidal (lbf/ft)	Trapezoidal	0	50	4	9.67	RoofLive	Y
Trapezoidal (lbf/ft)	Trapezoidal	0	50	4	9.67	Dead	Y
Uniform (lbf/ft)	Uniform	121.6	121.6	9.67	14.5	RoofLive	Y
Uniform (lbf/ft)	Uniform	121.6	121.6	9.67	14.5	Dead	Y
Self Weight (lbf/ft)	-	11.48	11.48	0	14.5	Dead	Y

PASS

DATE:	5/27/2026	COMPANY:	Rosenberg Associates
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Krystal Shimabukuro
CUSTOMER:		REVIEWED BY:	--
PROJ. ADDRESS:	--	PROJECT NAME:	15405-26
	--		
LEVEL:	Roof	LOADING:	ASD
MEMBER NAME:	B11	CODE:	2021 International Building Code
MEMBER TYPE:	ROOF BEAM	NDS:	2018 NDS
MATERIAL:	Solid Sawn		

Douglas Fir-Larch	No. 2	(2) 1.5 X 5.5	DRY

B11 DIAGRAM



BEAM PROPERTIES

Start (ft): 0 End (ft): 3 Member Slope (in): 0/12 Actual Length (ft): 3

Area (in^2)	Ix (in^4)	Iy (in^4)	BSW (lbf/ft)	Lams	G	Kcr Creep Factor
16.5	41.59	12.38	3.76	2	0.5	1

STRENGTH PROPERTIES

	Fb (psi)	Ft (psi)	Fv (psi)	Fc (psi)	Fc⊥ (psi)	E (psi) x10^3	Emin (psi) x10^3
Base Values	900	575	180	1350	625	1600	580
Adjusted Values	1170	748	180	1485	625	1600	580
C_M	1	1	1	1	1	1	1
C_T	1	1	1	1	1	1	1
C_i	1	1	1	1	1	1	1
C_F	1.3	1.3	1	1.1	1	1	1

Bending Adjustment Factors $C_{fu} = 1$ $C_r = 1$

BEAM DATA

Span	Length (ft)	Unbraced Length (ft) Top	Unbraced Length (ft) Bottom	Beam End Elev. Diff (ft)	CL(Top)	CL(Bottom)	CL(Left)	CL(Right)
1	3	0	3	0	1.00	1.00	1.00	1.00

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	DURATION FACTOR CD
Shear Stress Y (psi)	**PASS (96.3%)**	8.4	225.0	0	D+Lr	1.25
Bending Stress Y (psi)	**PASS (96.2%)**	55.1	1462.5	1.5	D+Lr	1.25
Deflection Y (in)	**PASS (99.2%)**	0.002	0.200 (=L/180)	1.5	D+Lr	
Bearing Stress (psi)	**PASS (99.1%)**	5.6	625.0	0	D+Lr	1.25

REACTIONS

Units for V: lbf Units for M: lbf-ft

Y axis	DEAD	LIVE ROOF	TOTAL
A	33	60	93
B	33	60	93

Reaction Location

LOAD LIST

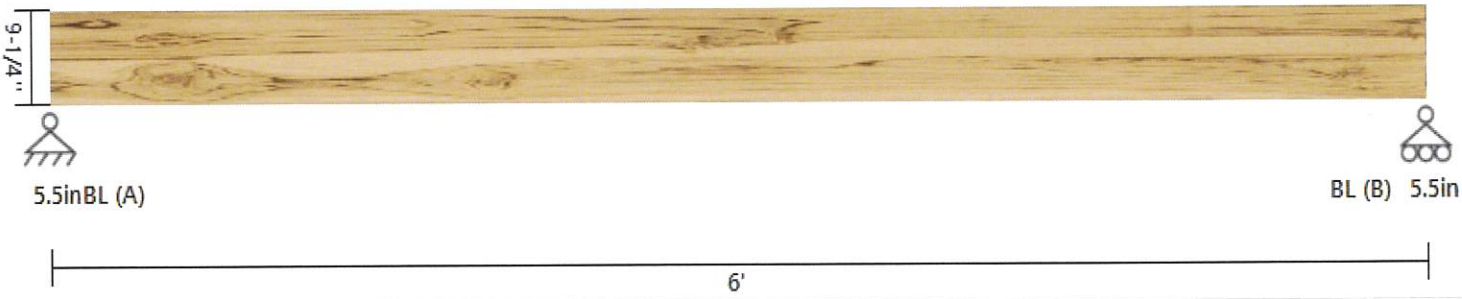
Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft)	Uniform	40	40	0	3	RoofLive	Y
Uniform (lbf/ft)	Uniform	18	18	0	3	Dead	Y
Self Weight (lbf/ft)	-	3.76	3.76	0	3	Dead	Y

PASS

DATE:	5/27/2026	COMPANY:	Rosenberg Associates
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Krystal Shimabukuro
CUSTOMER:		REVIEWED BY:	--
PROJ. ADDRESS:	--	PROJECT NAME:	15405-26
	--		
LEVEL:	Roof	LOADING:	ASD
MEMBER NAME:	B12	CODE:	2021 International Building Code
MEMBER TYPE:	ROOF BEAM	NDS:	2018 NDS
MATERIAL:	Solid Sawn		

Douglas Fir-Larch	No. 2	(2) 1.5 X 9.25	DRY

B12 DIAGRAM



BEAM PROPERTIES

Start (ft): 0 End (ft): 6 Member Slope (in): 0/12 Actual Length (ft): 6

Area (in^2)	Ix (in^4)	Iy (in^4)	BSW (lbf/ft)	Lams	G	Kcr Creep Factor
27.75	197.86	20.81	6.33	2	0.5	1

STRENGTH PROPERTIES

	Fb (psi)	Ft (psi)	Fv (psi)	Fc (psi)	Fc⊥ (psi)	E (psi) x10^3	Emin (psi) x10^3
Base Values	900	575	180	1350	625	1600	580
Adjusted Values	990	632	180	1350	625	1600	580
C_M	1	1	1	1	1	1	1
C_T	1	1	1	1	1	1	1
C_i	1	1	1	1	1	1	1
C_F	1.1	1.1	1	1	1	1	1

Bending Adjustment Factors $C_{fu} = 1$ $C_r = 1$

BEAM DATA

Span	Length (ft)	Unbraced Length (ft) Top	Unbraced Length (ft) Bottom	Beam End Elev. Diff (ft)	CL(Top)	CL(Bottom)	CL(Left)	CL(Right)
1	6	0	6	0	1.00	0.99	1.00	1.00

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	DURATION FACTOR CD
Shear Stress Y (psi)	**PASS (48.8%)**	92.2	180.0	0	D+L	1
Bending Stress Y (psi)	**PASS (29.9%)**	694.2	990.0	2.94	D+L	1
Deflection Y (in)	**PASS (87.3%)**	0.051	0.400 (=L/180)	3	D+L	
Bearing Stress (psi)	**PASS (83.5%)**	103.3	625.0	0	D+L	1

REACTIONS

Units for V: lbf Units for M: lbf-ft

Y axis	DEAD	LIVE	TOTAL
A	545	1160	1705
B	510	1084	1594

Reaction Location

LOAD LIST

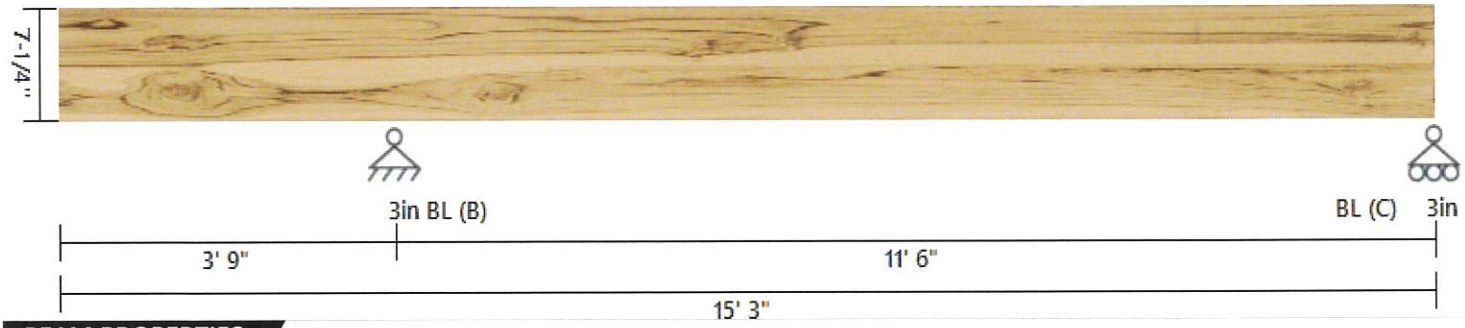
Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft)	Uniform	245	245	0	6	Live	Y
Uniform (lbf/ft)	Uniform	111	111	0	6	Dead	Y
Trapezoidal (lbf/ft)	Trapezoidal	167	91	0	6	Live	Y
Trapezoidal (lbf/ft)	Trapezoidal	76	41	0	6	Dead	Y
Self Weight (lbf/ft)	-	6.33	6.33	0	6	Dead	Y

PASS

DATE:	5/27/2026	COMPANY:	Rosenberg Associates
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Krystal Shimabukuro
CUSTOMER:		REVIEWED BY:	--
PROJ. ADDRESS:	--	PROJECT NAME:	15405-26
	--		
LEVEL:	Main Floor	LOADING:	ASD
MEMBER NAME:	New Floor Joist	CODE:	2021 International Building Code
MEMBER TYPE:	FLOOR JOIST	NDS:	2018 NDS
MATERIAL:	Solid Sawn		

Douglas Fir-Larch	No. 2	(1) 1.5 X 7.25	16 (in) O.C.	DRY

New Floor Joist DIAGRAM



BEAM PROPERTIES

Start (ft): 0 End (ft): 15.25 Member Slope (in): 0/12 Actual Length (ft): 15.25 O.C. Spacing (in): 16

Area (in^2)	Ix (in^4)	Iy (in^4)	BSW (lbf/ft)	Lams	G	Kcr Creep Factor
10.88	47.63	2.04	2.48	1	0.5	1

STRENGTH PROPERTIES

	Fb (psi)	Ft (psi)	Fv (psi)	Fc (psi)	Fc⊥ (psi)	E (psi) x10^3	Emin (psi) x10^3
Base Values	900	575	180	1350	625	1600	580
Adjusted Values	1242	690	180	1418	625	1600	580
C_M	1	1	1	1	1	1	1
C_T	1	1	1	1	1	1	1
C_i	1	1	1	1	1	1	1
C_F	1.2	1.2	1	1.05	1	1	1

Bending Adjustment Factors C_{fu} = 1 C_r = 1.15

BEAM DATA

Span	Length (ft)	Unbraced Length (ft) Top	Unbraced Length (ft) Bottom	Beam End Elev. Diff (ft)	CL(Top)	CL(Bottom)	CL(Left)	CL(Right)
1	3.75	0	3.75	0	1.00	0.95	1.00	1.00
2	11.5	0	11.5	0	1.00	0.63	1.00	1.00

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	DURATION FACTOR CD
Shear Stress Y (psi)	**PASS (61.5%)**	69.3	180.0	3.812	D+L	1
Bending Stress Y (psi)	**PASS (22.5%)**	962.2	1242.0	10.065	D+L	1
Deflection Y (in)	**PASS (45.9%)**	0.135	0.250 (=L/360)	0	L	
Bearing Stress (psi)	**PASS (74.5%)**	179.3	703.1	3.75	D+L	1

REACTIONS

Units for V: lbf Units for M: lbf-ft

Y axis	DEAD	LIVE	TOTAL
A	0	0	0
B	268	539	807
C	136	274	410

Reaction Location

LOAD LIST

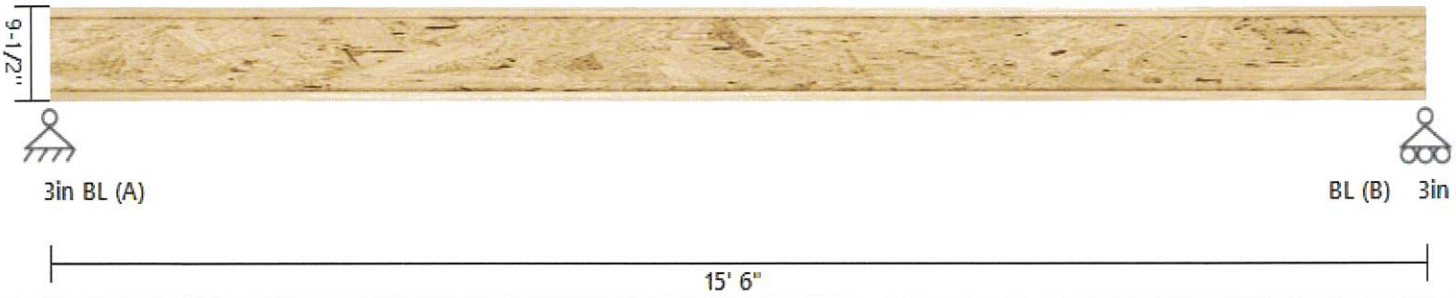
Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft²)	Uniform	40	40	0	15.25	Live	Y
Uniform (lbf/ft²)	Uniform	18	18	0	15.25	Dead	Y
Self Weight (lbf/ft)	-	2.48	2.48	0	15.25	Dead	Y

PASS

DATE:	5/27/2026	COMPANY:	Rosenberg Associates
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Krystal Shimabukuro
CUSTOMER:		REVIEWED BY:	--
PROJ. ADDRESS:	--	PROJECT NAME:	15405-26
	--		
LEVEL:	Main Floor	LOADING:	ASD
MEMBER NAME:	New Floor Joist 2	CODE:	2021 International Building Code
MEMBER TYPE:	FLOOR JOIST	NDS:	2018 NDS
MATERIAL:	I-Joists		

Roseburg	RFPI 400	(1) 9.5	16 (in) O.C.	DRY

New Floor Joist 2 DIAGRAM



BEAM PROPERTIES

Start (ft): 0 End (ft): 15.5 Member Slope (in): 0/12 Actual Length (ft): 15.5 O.C. Spacing (in): 16

EI x 10^6 (lbf-in^2)	BSW (lbf/ft)	Lams	K x 10^6 (lbf)	Mcap (lbf-ft)	Vcap (lbf)	End Rcap 1.75 NS (lbf)	End Rcap 3.5 NS (lbf)	End Rcap 1.75 WS (lbf)	End Rcap 3.5 WS (lbf)	Int Rcap 3.5 NS (lbf)	Int Rcap 5.25 NS (lbf)	Int Rcap 3.5 WS (lbf)	Int Rcap 5.25 WS (lbf)
193	2.3	1	4.94	3345	1220	1025	1220	1220	1220	2150	2300	2250	2440

BEAM DATA

Span	Length (ft)	Unbraced Length (ft) Top	Unbraced Length (ft) Bottom	Beam End Elev. Diff (ft)
1	15.5	0	15.5	0

PASS-FAIL

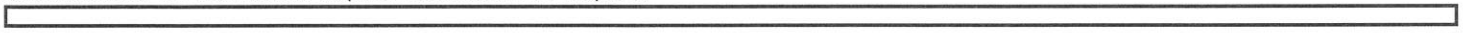
	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	DURATION FACTOR CD
Shear Force (lbf)	**PASS (49.4%)**	617.2	1220.0	15.5	D+L	1
Bending Moment (lbf-ft)	**PASS (28.5%)**	2391.5	3345.0	7.75	D+L	1
Deflection Y (in)	**PASS (30.5%)**	0.359	0.517 (=L/360)	7.75	L	
Bearing Load (lbf)	**PASS (45.5%)**	617.2	1133.3	15.5	D+L	1

REACTIONS

Units for V: lbf Units for M: lbf-ft

Y axis	DEAD	LIVE	TOTAL
A	204	413	617
B	204	413	617

Reaction Location WS-Web Stiffener Required NSR-No Stiffener Required



A NSR B NSR

LOAD LIST

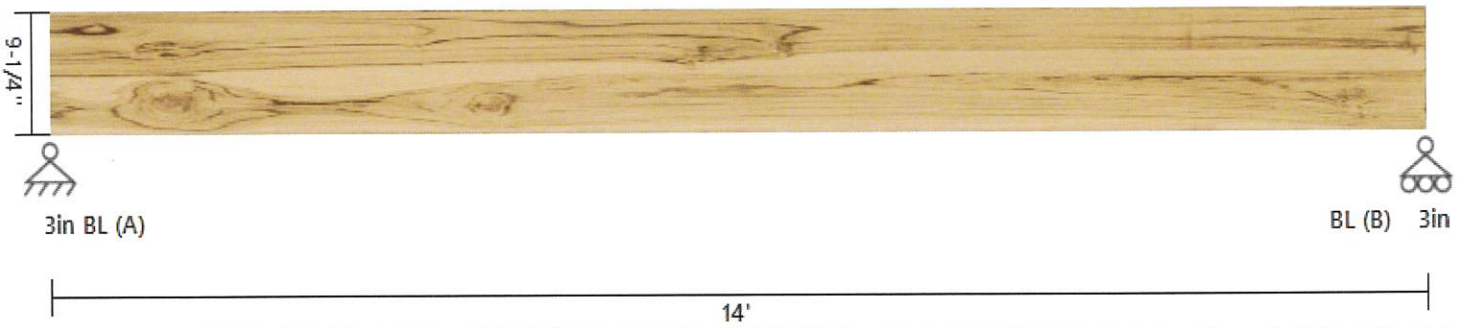
Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft^2)	Uniform	40	40	0	15.5	Live	Y
Uniform (lbf/ft^2)	Uniform	18	18	0	15.5	Dead	Y
Self Weight (lbf/ft)	-	2.3	2.3	0	15.5	Dead	Y

PASS

DATE:	5/27/2026	COMPANY:	Rosenberg Associates
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Krystal Shimabukuro
CUSTOMER:		REVIEWED BY:	--
PROJ. ADDRESS:	--	PROJECT NAME:	15405-26
	--		
LEVEL:	Main Floor	LOADING:	ASD
MEMBER NAME:	Dry Storage	CODE:	2021 International Building Code
MEMBER TYPE:	FLOOR JOIST	NDS:	2018 NDS
MATERIAL:	Solid Sawn		

Douglas Fir-Larch	No. 2	(1) 1.5 X 9.25	16 (in) O.C.	DRY

Dry Storage DIAGRAM



BEAM PROPERTIES

Start (ft): 0 End (ft): 14 Member Slope (in): 0/12 Actual Length (ft): 14 O.C. Spacing (in): 16

Area (in^2)	Ix (in^4)	Iy (in^4)	BSW (lbf/ft)	Lams	G	Kcr Creep Factor
13.88	98.93	2.6	3.16	1	0.5	1

STRENGTH PROPERTIES

	Fb (psi)	Ft (psi)	Fv (psi)	Fc (psi)	Fc⊥ (psi)	E (psi) x10^3	Emin (psi) x10^3
Base Values	900	575	180	1350	625	1600	580
Adjusted Values	1138	632	180	1350	625	1600	580
C_M	1	1	1	1	1	1	1
C_T	1	1	1	1	1	1	1
C_i	1	1	1	1	1	1	1
C_F	1.1	1.1	1	1	1	1	1

Bending Adjustment Factors C_{fu} = 1 C_r = 1.15

BEAM DATA

Span	Length (ft)	Unbraced Length (ft) Top	Unbraced Length (ft) Bottom	Beam End Elev. Diff (ft)	CL(Top)	CL(Bottom)	CL(Left)	CL(Right)
1	14	0	14	0	1.00	0.46	1.00	1.00

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	DURATION FACTOR CD
Shear Stress Y (psi)	**PASS (66.2%)**	60.9	180.0	0	D+L	1
Bending Stress Y (psi)	**PASS (2.8%)**	1106.4	1138.5	7	D+L	1
Deflection Y (in)	**PASS (37.2%)**	0.440	0.700 (=L/240)	7	D+L	
Bearing Stress (psi)	**PASS (80.0%)**	125.2	625.0	0	D+L	1

REACTIONS

Units for V: lbf Units for M: lbf-ft

Y axis	DEAD	LIVE	TOTAL
A	190	373	563
B	190	373	563

Reaction Location

LOAD LIST

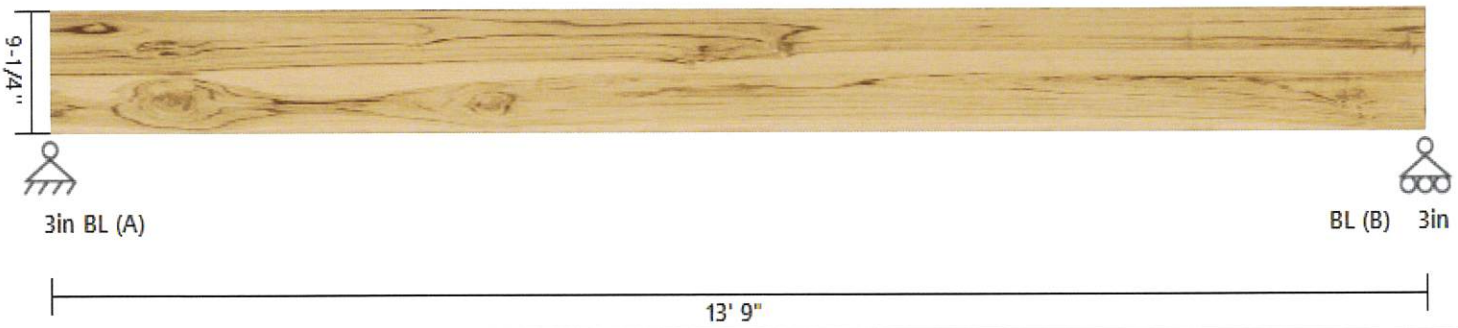
Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft^2)	Uniform	40	40	0	14	Live	Y
Uniform (lbf/ft^2)	Uniform	18	18	0	14	Dead	Y
Self Weight (lbf/ft)	-	3.16	3.16	0	14	Dead	Y

PASS

DATE:	5/27/2026	COMPANY:	Rosenberg Associates
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Krystal Shimabukuro
CUSTOMER:		REVIEWED BY:	--
PROJ. ADDRESS:	--	PROJECT NAME:	15405-26
	--		
LEVEL:	Basement	LOADING:	ASD
MEMBER NAME:	New Floor Beam	CODE:	2021 International Building Code
MEMBER TYPE:	FLOOR BEAM	NDS:	2018 NDS
MATERIAL:	Solid Sawn		

Douglas Fir-Larch	No. 2	(2) 1.5 X 9.25	DRY

New Floor Beam DIAGRAM



BEAM PROPERTIES

Start (ft): 0 End (ft): 13.75 Member Slope (in): 0/12 Actual Length (ft): 13.75

Area (in^2)	Ix (in^4)	Iy (in^4)	BSW (lbf/ft)	Lams	G	Kcr Creep Factor
27.75	197.86	20.81	6.33	2	0.5	1

STRENGTH PROPERTIES

	Fb (psi)	Ft (psi)	Fv (psi)	Fc (psi)	Fc⊥ (psi)	E (psi) x10^3	Emin (psi) x10^3
Base Values	900	575	180	1350	625	1600	580
Adjusted Values	990	632	180	1350	625	1600	580
C_M	1	1	1	1	1	1	1
C_T	1	1	1	1	1	1	1
C_i	1	1	1	1	1	1	1
C_F	1.1	1.1	1	1	1	1	1

Bending Adjustment Factors $C_{fu} = 1$ $C_r = 1$

BEAM DATA

Span	Length (ft)	Unbraced Length (ft) Top	Unbraced Length (ft) Bottom	Beam End Elev. Diff (ft)	CL(Top)	CL(Bottom)	CL(Left)	CL(Right)
1	13.75	0	13.75	0	1.00	0.96	1.00	1.00

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	DURATION FACTOR CD
Shear Stress Y (psi)	**PASS (74.7%)**	45.5	180.0	0	D+L	1
Bending Stress Y (psi)	**PASS (18.1%)**	810.9	990.0	6.875	D+L	1
Deflection Y (in)	**PASS (54.8%)**	0.311	0.688 (=L/240)	6.875	D+L	
Bearing Stress (psi)	**PASS (85.0%)**	93.4	625.0	0	D+L	1

REACTIONS

Units for V: lbf Units for M: lbf-ft

Y axis	DEAD	LIVE	TOTAL
A	291	550	841
B	291	550	841

Reaction Location

LOAD LIST

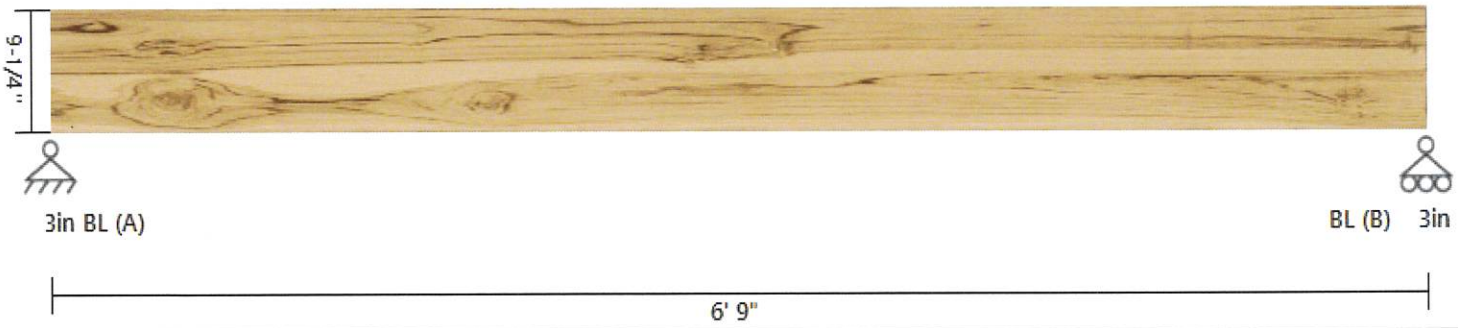
Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft)	Uniform	80	80	0	13.75	Live	Y
Uniform (lbf/ft)	Uniform	36	36	0	13.75	Dead	Y
Self Weight (lbf/ft)	-	6.33	6.33	0	13.75	Dead	Y

PASS

DATE:	5/27/2026	COMPANY:	Rosenberg Associates
STRUCALC BUILD:	StruCalc Pro	DESIGNED BY:	Krystal Shimabukuro
CUSTOMER:		REVIEWED BY:	--
PROJ. ADDRESS:	--	PROJECT NAME:	15405-26
	--		
LEVEL:	Basement	LOADING:	ASD
MEMBER NAME:	Dry Storage Doorway	CODE:	2021 International Building Code
MEMBER TYPE:	FLOOR BEAM	NDS:	2018 NDS
MATERIAL:	Solid Sawn		

Douglas Fir-Larch	No. 2	(2) 1.5 X 9.25	DRY

Dry Storage Doorway DIAGRAM



BEAM PROPERTIES

Start (ft): 0 End (ft): 6.75 Member Slope (in): 0/12 Actual Length (ft): 6.75

Area (in^2)	Ix (in^4)	Iy (in^4)	BSW (lbf/ft)	Lams	G	Kcr Creep Factor
27.75	197.86	20.81	6.33	2	0.5	1

STRENGTH PROPERTIES

	Fb (psi)	Ft (psi)	Fv (psi)	Fc (psi)	Fc⊥ (psi)	E (psi) x10^3	Emin (psi) x10^3
Base Values	900	575	180	1350	625	1600	580
Adjusted Values	990	632	180	1350	625	1600	580
C_M	1	1	1	1	1	1	1
C_T	1	1	1	1	1	1	1
C_i	1	1	1	1	1	1	1
C_F	1.1	1.1	1	1	1	1	1

Bending Adjustment Factors $C_{fu} = 1$ $C_r = 1$

BEAM DATA

Span	Length (ft)	Unbraced Length (ft) Top	Unbraced Length (ft) Bottom	Beam End Elev. Diff (ft)	CL(Top)	CL(Bottom)	CL(Left)	CL(Right)
1	6.75	0	6.75	0	1.00	0.99	1.00	1.00

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	DURATION FACTOR CD
Shear Stress Y (psi)	**PASS (58.9%)**	73.9	180.0	0	D+L	1
Bending Stress Y (psi)	**PASS (34.6%)**	647.5	990.0	3.375	D+L	1
Deflection Y (in)	**PASS (82.0%)**	0.041	0.225 (=L/360)	3.375	L	
Bearing Stress (psi)	**PASS (75.7%)**	152.0	625.0	0	D+L	1

REACTIONS

Units for V: lbf Units for M: lbf-ft

Y axis	DEAD	LIVE	TOTAL
A	440	928	1368
B	440	928	1368

Reaction Location

LOAD LIST

Type	Name	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft)	Uniform	275	275	0	6.75	Live	Y
Uniform (lbf/ft)	Uniform	124	124	0	6.75	Dead	Y
Self Weight (lbf/ft)	-	6.33	6.33	0	6.75	Dead	Y

ROSENBERG ASSOCIATES™
CIVIL ENGINEERS LAND SURVEYORS

PROJECT: 1810 E 2000 S	DATE: 6/19/2026	SHEET: G34 of G36
SUBJECT: Stud Wall	BY: KAS	JOB #: 15405-26

Member Location: _____

Loading:

Live loads:

Roof L_r =	330	plf
Floor L =	0	plf
w_L =	330	

Dead loads:

Roof D =	330	plf
Wall D =	0	plf
Floor D =	0	plf
w_D =	330	plf

Wind =	20	psf
Seismic =	0	psf

Load Case 1: Gravity Loads Only

Load Combinations:

D-only	440 lb	C_D =	0.9
D + L	440 lb	C_D =	1.0
D + L + L_r	880 lb	C_D =	1.25

Column Capacity:

Lx =	9.8	ft
K_{cE} =	0.3	
c =	0.8	

D-only

$$f_c = f_{c\perp} = \frac{P}{A} =$$ 84 psi

$$\left(\frac{l_e}{d}\right)_x =$$ 33.6

E' = E(C_M)(C_t)(C_i) = 1600000 psi

$$F_{cE} = \frac{K_{cE} E'}{(l_e / d)^2} =$$ 425

F_c^* = Fc(CD)(CM)(Ct)(CF)(Ci) 1397

Cp = 0.282

f_c = **84** psi

F'_c = **394** psi **OK**

D + L

F_{cE} =	425	
F_c^* =	1553	
Cp =	0.256	
f_c =	**84**	psi
F'_c =	**398**	psi **OK**

D + L + Lr

F_{cE} =	425	
F_c^* =	1941	
Cp =	0.208	
f_c =	**168**	psi
F'_c =	**404**	psi **OK**

Member (Choose One)

1 = 2x4 Stud
2 = 2x4 DF#2
3 = 2x6 Stud
4 = 2x6 DF#2

Member =	2	
Stud Spacing	16	in
Stud Length	9.8	ft

NDS Supplement Table 4A

F_b =	900	psi
Fc =	1350	psi
E =	1600000	psi

Size factors

CF =	1.5	for bending
CF =	1.15	for compression
CM =	1.0	
Ct =	1.0	
Ci =	1.0	

Section properties

A =	5.25	in2
S =	3.063	in3
dx =	3.5	in

ROSENBERG ASSOCIATES™
CIVIL ENGINEERS LAND SURVEYORS

PROJECT: 1810 E 2000 S	DATE: 6/19/2026	SHEET: G35 of G36
SUBJECT: Stud Wall	BY: KAS	JOB #: 15405-26

Member Location: _____

Loading:

Live loads:

Roof L_r =	330	plf
Floor L =	0	plf
w_L =	330	

Dead loads:

Roof D =	330	plf
Wall D =	0	plf
Floor D =	0	plf
w_D =	330	plf

Wind =	20	psf
Seismic =	0	psf

Load Case 1: Gravity Loads Only

Load Combinations:

D-only 440 lb C_D = 0.9

Member (Choose One)

1 = 2x4 Stud
2 = 2x4 DF#2
3 = 2x6 Stud
4 = 2x6 DF#2

Member =	2	
Stud Spacing	16	in
Stud Length	9.8	ft

NDS Supplement Table 4A

F_b =	900	psi
Fc =	1350	psi
E =	1600000	psi

Size factors

CF = 1.5 for bending

Load Case 2: Gravity Loads + Lateral Forces

BENDING:

Cd =	1.60		
Cr =	1.40		
CL	1.00		
Later Force Controles =	20	psf	
w =	26.7	plf	
M =	320	ft-lf	
fb =	**1254**	psi	
F'b =	**3024**	psi	**OK**

AXIAL:

D + W

Le/d	33.6		
FcE	425		
Fc*	2484		
Cp	0.165		
fc =	**84**	psi	
F'c	**409**	psi	**OK**

D + 0.75(L + Lr + W)

fc =	**147**	psi	
F'c	**409**	psi	**OK**

COMBINED STRESS:

ROSENBERG ASSOCIATES™
CIVIL ENGINEERS LAND SURVEYORS

PROJECT: 1810 E 2000 S	DATE: 6/19/2026	SHEET: G36 of G36
SUBJECT: Stud Wall	BY: KAS	JOB #: 15405-26

Member Location: _____

Loading:

Live loads:

Roof L_r =	330	plf
Floor L =	0	plf
w_L =	330	

Dead loads:

Roof D =	330	plf
Wall D =	0	plf
Floor D =	0	plf
w_D =	330	plf

Wind =	20	psf
Seismic =	0	psf

Load Case 1: Gravity Loads Only

Load Combinations:

D-only 440 lb C_D = 0.9

FcEx = FcE = 425

D + W

Combined Stress **0.559** **OK**

D + 0.75(L + Lr + W)

Combined Stress **0.603** **OK**

Member (Choose One)

1 = 2x4 Stud
2 = 2x4 DF#2
3 = 2x6 Stud
4 = 2x6 DF#2

Member =	2	
Stud Spacing	16	in
Stud Length	9.8	ft

NDS Supplement Table 4A

F_b =	900	psi
Fc =	1350	psi
E =	1600000	psi

Size factors

CF =	1.5	for bending

USE 2x4 DF#2 @ 16in O.C. ←

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CIVIL ENGINEERS LAND SURVEYORS

PROJECT: 1810 E 2000 S	DATE: 6/18/2026	SHEET: L1 of L19
SUBJECT: Wind Loading (2-story)	BY: KAS	JOB #: 15405-26

Main Wind Force Resisting System - Envelope Procedure (Part 2)

Risk Category	II	Table 1.5-1
Basic Wind Speed, V	100	Fig. 26.5-1B
Exposure (B, C, D)	C	Sec. 26.7
Topographic Factor, K_{zt}	1.0	Fig. 26.8-1

Building Geometry

Total Building Height =	27.3	ft	Least Width of Building, b =	18.5
Roof Plate Height =	23.0	ft	Length of Building, L =	18.5
Mean Roof Height, h_{mean} =	25.165	ft	$0.4*h_{mean}$ =	10.066
Roof Pitch	4	/12	0.1 (least width of structure), $0.1b$ =	1.85
			a = lesser of above =	3
			2a =	6

Wind Pressures

Exposure (A, B, C, D) C

Height & Exposure Adjustment Coef., λ 1.35

All values below have been adjusted for ASD design (IBC Table 1609.6.2.1(4))

Wall forces - End Zone A

p_{s30} = 13.20 psf

$p_s = \lambda K_{zt} p_{s30}$ = 17.82 psf

Wall forces - Interior Zone C

p_{s30} = 8.76 psf

$p_s = \lambda K_{zt} p_{s30}$ = 11.83 psf

Roof forces - End Zone B

p_{s30} = -3.48 psf

$p_s = \lambda K_{zt} p_{s30}$ = -4.70 psf

Roof forces - End Zone D

p_{s30} = -1.92 psf

$p_s = \lambda K_{zt} p_{s30}$ = -2.59 psf

Load to Diaphragm

2nd Floor Dia. Height	13.0	ft
Roof Plate Height	23.0	ft
Avg. Roof Height (Transverse)	27.3	ft

Transverse Loading Roof:

w_{end} =	89.1 plf
w_{int} =	59.1 plf
$W = w_{end}(2a) + w_{int}(L - 2a)$ =	1273.7 lb
R_A =	697.6 lb
R_B =	576.1 lb
Roof Loading, w_r =	75.4 plf
Wind Loading Min.	71.7 plf

Transverse Loading Floor:

w_{end} =	204.9 plf
w_{int} =	136.0 plf
$W = w_{end}(2a) + w_{int}(L - 2a)$ =	2929.6 lb
R_A =	1604.5 lb
R_B =	1325.1 lb
Floor Loading, w_r =	173.5 plf
Wind Loading Min., w_f =	115.0 plf

Longitudnal Loading Roof:

Gable or Hip Roof (G or H)	H
Avg. Roof Height (Long.)	27.33 ft
w_{end} =	89.1 plf
w_{int} =	59.1 plf
$W = w_{end}(2a) + w_{int}(B - 2a)$ =	1273.7 lb
R_A =	697.6125 lb
R_B =	576.1125 lb
Roof Loading, w_r	75.4 plf
Wind Loading Min.	71.7 plf

Longitudnal Loading Floor:

w_{end} =	204.9 plf
w_{int} =	136.0 plf
$W = w_{end}(2a) + w_{int}(B - 2a)$ =	2929.6 lb
R_A =	1604.5 lb
R_B =	1325.1 lb
Floor Loading, w_r =	173.5 plf
Wind Loading Min., w_f =	115.0 plf

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CIVIL ENGINEERS LAND SURVEYORS

PROJECT: 1810 E 2000 S	DATE: 6/18/2026	SHEET: L2 of L19
SUBJECT: Seismic Loading (2-story)	BY: KAS	JOB #: 15405-26

Seismic Design

		ASCE 7
Risk Category	2	Table 1.5-1
Sweismic Importance Factor	1	Table 1.5-2
Soil Site Clases	D	Ch. 20
S_s	0.43	(Figure 22-1)
S_1	0.130	(Figure 22-2)
$S_{MS}=F_a S_s$	0.610	(Eq. 11.4-1)
$S_{M1}=F_v S_1$	0.350	(Eq. 11.4-2)
$S_{DS}=2/3 S_{MS}$	0.41	(Eq. 11.4-3)
$S_{D1}=2/3 S_{M1}$	0.23	(Eq. 11.4-4)

Seismic Base Shear (Simplified Analysis)

Response modification factor, R 6.5 Table 12.14-1

$$V = \frac{IeS_{DS}}{R} W =$$ 0.063 W

Redundancy Factor, *p* 1.0 12.3.4.1

Vertical Distribution

Building Depth	50.3	ft		
Building Width	29.3	ft		
First floor wall height	10.0	ft		
Second floor wall height	11.5	ft		
Total Roof Dead Loads			$W'_r = \sum W_1 =$	33.87 Kips
Roof DL =	1008.0	plf		
Wall DL=	150	plf	*DL of 2 end walls* =	7.55 Kips
DL of 1-ft strip @ roof, W_1	1158.0	plf	Total DL trib. To roof =	41.42 Kips
Total Floor Dead Loads				
Floor DL =	905.9	plf	$W_2 = \sum W_1 =$	31.215308 Kips
Partition DL =	0	plf		
Wall DL=	161.25	plf	*DL of 2 end walls* =	16.23 Kips
DL of 1-ft strip @ floor, W_1	1067.2	plf	Total DL trib. To second floor	*47.45* Kips

Total roof base shear reduced by 0.7	1.81 Kips	Reduced by 0.7 for ASD
Roof Loading (seismic), w_r	62.0 plf	
Total floor base shear reduced by 0.7	2.1 Kips	Reduced by 0.7 for ASD
Floor Loading (seismic), w_2	71.0 plf	
Total base shear	3.89 Kips	Reduced by 0.7 for ASD
Total base loading	133.1 plf	

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CIVIL ENGINEERS LAND SURVEYORS

PROJECT: 1810 E 2000 S	DATE: 6/18/2026	SHEET: L3 of L19
SUBJECT: Wind Loading	BY: KAS	JOB #: 15405-26

Main Wind Force Resisting System - Envelope Procedure (Part 2)

Risk Category	II	Table 1.5-1
Basic Wind Speed, V	110	Fig. 26.5-1A
Exposure (B, C, D)	C	Sec. 26.7
Topographic Factor, K_{zt}	1.0	Fig. 26.8-1

Building Geometry

Total Building Height =	19.8	ft	$0.4*h_{mean}$ =	6
Eave Height =	10.0	ft	0.1 (least width of structure), $0.1b$ =	1.58
Mean Roof Height, h_{mean} =	15	ft	a = lesser of above =	3
Roof Pitch	4	/12	2a =	6
Least Width of Building, b =	15.75			
Length of Building, L =	30			

Wind Pressures

All values below have been adjusted for ASD design

Height & Exposure Adjustment Coef., λ 1.21 Fig. 28.6-1

Wall forces - End Zone A

p_{s30} = 13.20 psf

$p_s = \lambda K_{zt} p_{s30}$ = 15.97 psf

Wall forces - Interior Zone C

p_{s30} = 8.76 psf

$p_s = \lambda K_{zt} p_{s30}$ = 10.60 psf

Roof forces - End Zone B

p_{s30} = -3.48 psf

$p_s = \lambda K_{zt} p_{s30}$ = -4.21 psf

Roof forces - End Zone D

p_{s30} = -1.92 psf

$p_s = \lambda K_{zt} p_{s30}$ = -2.32 psf

Load to Diaphragm

Roof Plate Height	10.0	ft		
Avg. Roof Height (Transverse)	19.8	ft		
Transverse Loading				
w_{end} =	79.9	plf		
w_{int} =	53.0	plf		
$W = w_{end}(2a) + w_{int}(L - 2a)$ =	1751.1	lb		
R_A =	940.0248	lb	14.33	
R_B =	811.1	lb	11.83	
Roof Loading, w_r =	62.7	plf	13.08	
Wind Loading Min., w_r =	99.15	plf	<< USE	
Longitudinal Loading				
Gable or Hip Roof (G or H)	G			
Avg. Roof Height (Longitudinal)	13.08	ft		
w_{end} =	129.1	plf		
w_{int} =	85.6	plf		
$W = w_{end}(2a) + w_{int}(B - 2a)$ =	1609.4	lb		
R_A =	885.29622	lb		
R_B =	724.06282	lb		
Roof Loading, w_r =	112.4	plf		
Wind Loading Min., w_r =	65.4	plf		

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CIVIL ENGINEERS LAND SURVEYORS

PROJECT: 1810 E 2000 S	DATE: 6/18/2026	SHEET: L4 of L19
SUBJECT: Seismic Loading	BY: KAS	JOB #: 15405-26

Seismic Design

		ASCE 7
Risk Category	2	Table 1.5-1
Sweismic Importance Factor	1	Table 1.5-2
Site Soil Classification	D	Ch. 20
S_s	0.43	(Figure 22-1)
S_1	0.130	(Figure 22-2)
$S_{MS} = F_a S_s$	0.610	(Eq. 11.4-1)
$S_{M1} = F_v S_1$	0.350	(Eq. 11.4-2)
$S_{DS} = 2/3 S_{MS}$	0.407	(Eq. 11.4-3)
$S_{D1} = 2/3 S_{M1}$	0.233	(Eq. 11.4-4)

Seismic Base Shear (Equivalent Lateral Force Procedure)

Response modification factor, R	6.5		Table 12.14-1
$V = \frac{IeS_{DS}}{R} W =$	0.063	W	

Vertical Distribution

Building Depth	30.0	ft
Building Width	15.8	ft
Wall Height	10.0	ft
Total Roof Dead Loads		
Roof DL =	600.8	plf
Wall DL=	150	plf
DL of 1-ft strip @ roof, W_1	750.8	plf
$W'_r = \sum W_1 =$	11.825616	Kips
DL of 2 end walls =	4.50	Kips

Total Base Shear	1.0	Kips	
For use with ASD times by 0.7	0.71	Kips	
Redundancy Factor, *p*	1.3		12.3.4.1
Total ASD W/ Overstrength	0.93		

Roof Loading (seismic), w_r	59.0	plf

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CIVIL ENGINEERS LAND SURVEYORS

PROJECT: 1810 E 2000 S	DATE: 6/18/2026	SHEET: L5 of L19
SUBJECT: Wind Loading	BY: KAS	JOB #: 15405-26

Main Wind Force Resisting System - Envelope Procedure (Part 2)

Risk Category	II	Table 1.5-1
Basic Wind Speed, V	110	Fig. 26.5-1A
Exposure (B, C, D)	C	Sec. 26.7
Topographic Factor, K_{zt}	1.0	Fig. 26.8-1

Building Geometry

Total Building Height =	19.8	ft	$0.4*h_{mean}$ =	6
Eave Height =	10.0	ft	0.1 (least width of structure), $0.1b$ =	3.00
Mean Roof Height, h_{mean} =	15	ft	a = lesser of above =	3
Roof Pitch	4	/12	2a =	6
Least Width of Building, b =	30			
Length of Building, L =	64			

Wind Pressures

All values below have been adjusted for ASD design

Height & Exposure Adjustment Coef., λ 1.21 Fig. 28.6-1

Wall forces - End Zone A

p_{s30} = 13.20 psf

$p_s = \lambda K_{zt} p_{s30}$ = 15.97 psf

Wall forces - Interior Zone C

p_{s30} = 8.76 psf

$p_s = \lambda K_{zt} p_{s30}$ = 10.60 psf

Roof forces - End Zone B

p_{s30} = -3.48 psf

$p_s = \lambda K_{zt} p_{s30}$ = -4.21 psf

Roof forces - End Zone D

p_{s30} = -1.92 psf

$p_s = \lambda K_{zt} p_{s30}$ = -2.32 psf

Load to Diaphragm

Roof Plate Height	16.0	ft
Avg. Roof Height (Transverse)	19.3	ft

Transverse Loading

w_{end} =	127.8	plf
w_{int} =	84.8	plf
$W = w_{end}(2a) + w_{int}(L - 2a)$ =	5684.9	lb
R_A =	2959.2849	lb
R_B =	2725.6	lb
Roof Loading, w_r =	92.5	plf
Wind Loading Min., w_r =	96.665	plf

<< USE

Longitudinal Loading

Gable or Hip Roof (G or H)	G	
Avg. Roof Height (Longitudinal)	18.165	ft
w_{end} =	162.4	plf
w_{int} =	107.7	plf
$W = w_{end}(2a) + w_{int}(B - 2a)$ =	3560.0	lb
R_A =	1911.0704	lb
R_B =	1648.9403	lb
Roof Loading, w_r =	127.4	plf
Wind Loading Min., w_r =	90.825	plf

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CIVIL ENGINEERS LAND SURVEYORS

PROJECT: 1810 E 2000 S	DATE: 6/18/2026	SHEET: L6 of L19
SUBJECT: Seismic Loading	BY: KAS	JOB #: 15405-26

Seismic Design

		ASCE 7
Risk Category	2	Table 1.5-1
Sweismic Importance Factor	1	Table 1.5-2
Site Soil Classification	D	Ch. 20
S_s	0.43	(Figure 22-1)
S_1	0.130	(Figure 22-2)
$S_{MS} = F_a S_s$	0.610	(Eq. 11.4-1)
$S_{M1} = F_v S_1$	0.350	(Eq. 11.4-2)
$S_{DS} = 2/3 S_{MS}$	0.407	(Eq. 11.4-3)
$S_{D1} = 2/3 S_{M1}$	0.233	(Eq. 11.4-4)

Seismic Base Shear (Equivalent Lateral Force Procedure)

Response modification factor, R	6.5		Table 12.14-1
$V = \frac{IeS_{DS}}{R} W =$	0.063	W	

Vertical Distribution

Building Depth	64.0	ft
Building Width	30.0	ft
Wall Height	16.0	ft
Total Roof Dead Loads		
Roof DL =	1281.8	plf
Wall DL=	240	plf
DL of 1-ft strip @ roof, W_1	1521.8	plf
$W'_r = \sum W_1 =$	45.653296	Kips
DL of 2 end walls =	15.36	Kips

Total Base Shear	3.8	Kips
For use with ASD times by 0.7	2.67	Kips
Redundancy Factor, *p*	1.3	12.3.4.1
Total ASD W/ Overstrength	3.47	

Roof Loading (seismic), w_r	115.8 plf

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CIVIL ENGINEERS LAND SURVEYORS

PROJECT: 1810 E 2000 S	DATE: 6/18/2026	SHEET: L7 of L19
SUBJECT: Wind Loading	BY: KAS	JOB #: 15405-26

Office

Main Wind Force Resisting System - Envelope Procedure (Part 2)

Risk Category	II	Table 1.5-1
Basic Wind Speed, V	110	Fig. 26.5-1A
Exposure (B, C, D)	C	Sec. 26.7
Topographic Factor, K_{zt}	1.0	Fig. 26.8-1

Building Geometry

Total Building Height =	14.5	ft	$0.4*h_{mean}$ =	6
Eave Height =	12.0	ft	0.1 (least width of structure), $0.1b$ =	1.50
Mean Roof Height, h_{mean} =	15	ft	a = lesser of above =	3
Roof Pitch	4	/12	2a =	6
Least Width of Building, b =	15			
Length of Building, L =	30			

Wind Pressures

All values below have been adjusted for ASD design

Height & Exposure Adjustment Coef., λ 1.21 Fig. 28.6-1

Wall forces - End Zone A

p_{s30} = 13.20 psf

$p_s = \lambda K_{zt} p_{s30}$ = 15.97 psf

Wall forces - Interior Zone C

p_{s30} = 8.76 psf

$p_s = \lambda K_{zt} p_{s30}$ = 10.60 psf

Roof forces - End Zone B

p_{s30} = -3.48 psf

$p_s = \lambda K_{zt} p_{s30}$ = -4.21 psf

Roof forces - End Zone D

p_{s30} = -1.92 psf

$p_s = \lambda K_{zt} p_{s30}$ = -2.32 psf

Load to Diaphragm

Roof Plate Height	12.0	ft
Avg. Roof Height (Transverse)	14.5	ft

Transverse Loading

w_{end} =	95.8	plf
w_{int} =	63.6	plf
$W = w_{end}(2a) + w_{int}(L - 2a)$ =	2101.3	lb
R_A =	1128.0298	lb
R_B =	973.3	lb
Roof Loading, w_r =	75.2	plf
Wind Loading Min., w_r =	72.5	plf

Longitudinal Loading

Gable or Hip Roof (G or H)	H	
Avg. Roof Height (Longitudinal)	14.5	ft
w_{end} =	95.8	plf
w_{int} =	63.6	plf
$W = w_{end}(2a) + w_{int}(B - 2a)$ =	1147.4	lb
R_A =	631.70712	lb
R_B =	515.66328	lb
Roof Loading, w_r =	84.2	plf
Wind Loading Min., w_r =	72.5	plf

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CIVIL ENGINEERS LAND SURVEYORS

PROJECT: 1810 E 2000 S	DATE: 6/18/2026	SHEET: L8 of L19
SUBJECT: Seismic Loading	BY: KAS	JOB #: 15405-26

Seismic Design

		ASCE 7
Risk Category	2	Table 1.5-1
Sweismic Importance Factor	1	Table 1.5-2
Site Soil Classification	D	Ch. 20
S_s	0.43	(Figure 22-1)
S_1	0.130	(Figure 22-2)
$S_{MS}=F_a S_s$	0.610	(Eq. 11.4-1)
$S_{M1}=F_v S_1$	0.350	(Eq. 11.4-2)
$S_{DS}=2/3 S_{MS}$	0.407	(Eq. 11.4-3)
$S_{D1}=2/3 S_{M1}$	0.233	(Eq. 11.4-4)

Seismic Base Shear (Equivalent Lateral Force Procedure)

Response modification factor, R	6.5		Table 12.14-1
$V=\frac{IeS_{DS}}{R}W=$	0.063	W	

Vertical Distribution

Building Depth	30.0	ft
Building Width	15.0	ft
Wall Height	12.0	ft
Total Roof Dead Loads		
Roof DL =	600.8	plf
Wall DL=	180	plf
DL of 1-ft strip @ roof, W_1	780.8	plf
$W'_r=\sum W_1=$	11.712491	Kips
DL of 2 end walls =	5.40	Kips

Total Base Shear	1.1	Kips
For use with ASD times by 0.7	0.75	Kips
Redundancy Factor, *p*	1.3	12.3.4.1
Total ASD W/ Overstrength	0.97	

Roof Loading (seismic), w_r	65.0 plf

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CIVIL ENGINEERS LAND SURVEYORS

PROJECT: 1810 E 2000 S	DATE: 6/18/2026	SHEET: L9 of L19
SUBJECT: Shear Wall (2-story)	BY: KAS	JOB #: 15405-26

Line: II

Wind, w_r =	75	plf	
Wind, w_l =	175	plf	
Seismic, w_r =	75	plf	
Seismic, w_l =	75	plf	
Length, $L_{R\ (Both\ Sids\ of\ SW)}$ =	20	ft	
Length, $L_{l\ (Both\ Sids\ of\ SW)}$ =	20	ft	
Base, B_r =	4.67	ft	
Base, B_l =	5.75	ft	

$$v = \frac{w * L}{2 * B} = \qquad V = \frac{w * L}{2} =$$

Wind:	V_r =	750.0	lb	USE SW1 ←
	v_r =	**160.6**	plf	
	V_l =	2500.0	lb	USE SW2 ←
	v_l =	**434.8**	plf	
Seismic:	V_r =	750.0	lb	USE SW1 ←
	v_r =	**160.6**	plf	
	V_l =	1500.0	lb	USE SW2 ←
	v_l =	**260.9**	plf	

Shearwall height, h_r =	10	ft
Shearwall height, h_l =	12	ft
Roof Tributary Length	10	ft
Roof DL	200.3	plf
Floor Tributary Length	2	ft
Floor DL	36.0	plf
Individual shearwall base (usually worst case)	5.75	ft
Stud Capacity (Second Floor)	4500	lb
Stud Capacity (First Floor)	3900	lb

Reactions with no dead loads added (conservative)

Wind	T_r =	1606.0	lb
	T_l =	6823.4	lb
Seismic	T_r =	1606.0	lb
	T_l =	4736.4	lb

Reactions (Tension) with dead loads added

Wind	T_r =	1001.8	lb
	T_l =	5323.3	lb
Seismic	T_r =	1001.8	lb
	T_l =	3236.4	lb

SW1 = 7/16 OSB, 4' min
8d Nails, 6" Edge & 12" Field

SW2= 7/16 OSB, 2'-8" min
8d Nails, 4" Edge & 12" Field

SW3= 7/16 OSB, 2'-8" min
8d Nails, 3" Edge & 12" Field

SW4= 15/32 OSB, 2'-8" min
10d Nails, 3" Edge & 12" Field

Floor Straps		Capacity	
MST60		4415 lb	
MSTC66		5855 lb	
Holdowns		**Midwall**	**Corner**
STHD10	Wind	4755	4075
	Seismic	3400	2940
STHD14	Wind	5345	5345
	Seismic	3815	3815
HDU8 ((3)2x)	Wind	7870	7870
	Seismic	7870	7870
Interior Holdowns			
HTT5	Wind	4670	
	Seismic	4670	

USE 1 Studs Each Side ←
USE 2 Studs Each Side
USE 1 Studs Each Side ←
USE 2 Studs Each Side

Floor Strap	**USE: MST60Strap**	
Normal	**USE: STHD14**	←
Corner	**USE: STHD14**	
Interior	**USE: STHD14**	
Floor Strap	**USE: MST60Strap**	
Normal	**USE: STHD10**	←
Corner	**USE: STHD14**	
Interior	**USE: HTT5**	

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CIVIL ENGINEERS LAND SURVEYORS

PROJECT: 1810 E 2000 S	DATE: 6/18/2026	SHEET: L10 of L19
SUBJECT: Shear Wall	BY: KAS	JOB #: 15405-26

Line: 1

Wind, w_r =	100	plf
Seismic, w_r =	100	plf
Length, $L_{R\ (Both\ Sids\ of\ SW)}$ =	15	ft
Base, B_r =	7.91	ft

Wind:

$$V = \frac{w * L}{2} = V_r =$$ 750.0 lb

$$v = \frac{w * L}{2 * B} = v_r =$$ **94.9** plf

Seismic:

V_r =	750.0	lb
v_r =	**94.9**	plf

Shearwall height, h_r =	12	ft
Min. Shearwall Width, b =	3.43	ft
Roof Tributary Length	4	ft
Roof DL	80.1	plf
Individual shearwall base (usually worst case)	4	ft
Stud Capacity (First Floor)	2300	lb

Reactions with no dead loads added (conservative)

Wind:	T_r =	1138.4 lb
Seismic:	T_r =	1138.4 lb

Reactions (Tension) with dead loads added

Wind:	T_l =	462.3 lb
Seismic:	T_l =	462.3 lb

Type Wood Shear Walls

SW1	7/16 OSB, 4' min, 8d Nails, 6" Edge & 12" Field
SW2	7/16 OSB, 2'-8" min, 8d Nails, 4" Edge & 12" Field
SW3	7/16 OSB, 2'-8" min, 8d Nails, 3" Edge & 12" Field
SW4	15/32 OSB, 2'-8" min, 10d Nails, 3" Edge & 12" Field

Wind: **USE SW1** ←

Seismic: **USE SW1**

Floor Straps		**Capacity**	
MST60		4415 lb	
MSTC66		5855 lb	
Holdowns		**Midwall**	**Corner**
STHD10	Wind	4755	4075
	Seismic	3400	2940
STHD14	Wind	5345	5345
	Seismic	3815	3815
HDU8 ((3)2x)	Wind	7870	7870
	Seismic	7870	7870
Interior Holdowns			
HTT5	Wind	4670	
	Seismic	4670	

Note:

9' 2x4 Stud = 2300 lb	9' 2x6 Stud = 5000 lb
10' 2x4 Stud = 1850 lb	10' 2x6 Stud = 4500 lb
12' 2x4 Stud = 1250 lb	12' 2x6 Stud = 3900 lb

USE 1 Studs Each Side ←

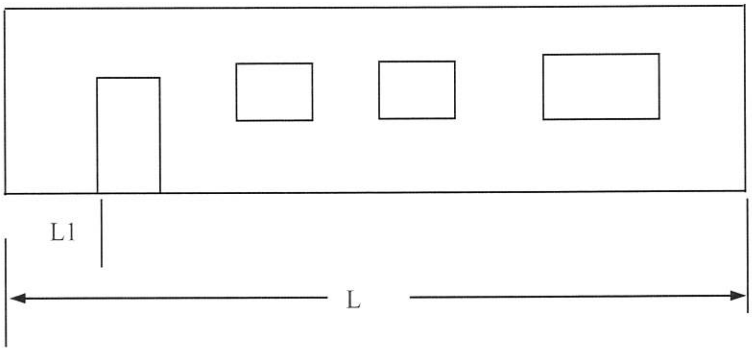
USE 1 Studs Each Side

Normal	**USE: STHD10**
Corner	**USE: STHD10** ←
Interior	**USE: HTT5**
Normal	**USE: STHD10**
Corner	**USE: STHD10**
Interior	**USE: HTT5**

ROSENBERG ASSOCIATES™
CIVIL ENGINEERS LAND SURVEYORS

PROJECT: 1810 E 2000 S		DATE: 6/18/2026	SHEET: L11 of L19
SUBJECT: Shear Wall		BY: KAS	JOB #: 15405-26

Line 1



Wind, w_1 =	100	plf
Seismic, w_1	100	plf
Length, L_1 =	15	ft

$$V = \frac{w * L}{2} =$$

Wind	750	lb
	94.9	plf
Seismic	750	lb
	94.9	plf

Wall Dimensions

L	17.5
L1	3.583
L2	3.583
L3	4
L4	0
L5	0
Wall Height	12
Max. opening height	8
Percent Full Height Sheathing	63.81
Max. opening height ration	0.67
C_O	0.708

Floor Straps		Capacity	
MST60		4415 lb	
MSTC66		5855 lb	
Holdowns		**Midwall**	**Corner**
STHD10	Wind	4755	4075
	Seismic	3400	2940
STHD14	Wind	5345	5345
	Seismic	3815	3815
HDQ8 ((3) 2x)	Wind	9230	9230
	Seismic	9230	9230
Interior Holdowns			
HTT5	Wind	4670	
	Seismic	4670	

	SW1	
Vwind=	365	plf
Enter SW (SW1, SW2, S Vseismic=	260	plf

$$V_{wall} = vC_O \sum L_i =$$

	2885.52	<< Ok
	2055.44	<< Ok

USE SW1

Wind	4380	lb
Seismic	3120	lb

$$T = \frac{Vh}{C_O \sum Li} =$$

Normal	**USE: STHD10**
Corner	**USE: STHD14**
Interior	**USE: HTT5**
Normal	**USE: STHD10**
Corner	**USE: STHD14**
Interior	**USE: HTT5**

ROSENBERG ASSOCIATES™
CIVIL ENGINEERS LAND SURVEYORS

PROJECT: 1810 E 2000 S	DATE: 6/18/2026	SHEET: L12 of L19
SUBJECT: Shear Wall	BY: KAS	JOB #: 15405-26

Line: 2

Wind, w_r =	113	plf
Seismic, w_r =	100	plf
Length, $L_{R\ (Both\ Sids\ of\ SW)}$ =	64	ft
Base, B_r =	14.25	ft

Wind:

$$V = \frac{w * L}{2} = V_r =$$ 3616.0 lb

$$v = \frac{w * L}{2 * B} = v_r =$$ **253.8** plf

Seismic:

V_r =	3200.0	lb
v_r =	**224.6**	plf

Shearwall height, h_r =	12	ft
Min. Shearwall Width, b =	3.43	ft
Roof Tributary Length	8.5	ft
Roof DL	170.2	plf
Individual shearwall base (usually worst case)	14.25	ft
Stud Capacity (First Floor)	3900	lb

Reactions with no dead loads added (conservative)

Wind:	T_r =	3045.1 lb
Seismic:	T_r =	2694.7 lb

Reactions (Tension) with dead loads added

Wind:	T_l =	251.0 lb
Seismic:	T_l =	-99.3 lb

Type Wood Shear Walls

SW1	7/16 OSB, 4' min, 8d Nails, 6" Edge & 12" Field
SW2	7/16 OSB, 2'-8" min, 8d Nails, 4" Edge & 12" Field
SW3	7/16 OSB, 2'-8" min, 8d Nails, 3" Edge & 12" Field
SW4	15/32 OSB, 2'-8" min, 10d Nails, 3" Edge & 12" Field

Wind: **USE SW1** ←

Seismic: **USE SW1**

Floor Straps		**Capacity**	
MST60		4415 lb	
MSTC66		5855 lb	
Holdowns		**Midwall**	**Corner**
STHD10	Wind	4755	4075
	Seismic	3400	2940
STHD14	Wind	5345	5345
	Seismic	3815	3815
HDU8 ((3)2x)	Wind	7870	7870
	Seismic	7870	7870
Interior Holdowns			
HTT5	Wind	4670	
	Seismic	4670	

Note:

9' 2x4 Stud = 2300 lb	9' 2x6 Stud = 5000 lb
10' 2x4 Stud = 1850 lb	10' 2x6 Stud = 4500 lb
12' 2x4 Stud = 1250 lb	12' 2x6 Stud = 3900 lb

USE 1 Studs Each Side ←

USE 1 Studs Each Side

Normal	**USE: STHD10**
Corner	**USE: STHD10** ←
Interior	**USE: HTT5**
Normal	**USE: No Strap Req.**
Corner	**USE: No Strap Req.**
Interior	**USE: No Strap Req.**

ROSENBERG ASSOCIATES™
CIVIL ENGINEERS LAND SURVEYORS

PROJECT: 1810 E 2000 S	DATE: 6/18/2026	SHEET: L13 of L19
SUBJECT: Shear Wall	BY: KAS	JOB #: 15405-26

Line: 3

Wind, w_r =	100	plf
Seismic, w_r =	100	plf
Length, $L_{R\ (Both\ Sids\ of\ SW)}$ =	48.75	ft
Base, B_r =	16.53	ft

Wind:

$$V = \frac{w * L}{2} = V_r =$$ 2437.5 lb

$$v = \frac{w * L}{2 * B} = v_r =$$ **147.5** plf

Seismic:

V_r =	2437.5	lb
v_r =	**147.5**	plf

Shearwall height, h_r =	12	ft
Min. Shearwall Width, b =	3.43	ft
Roof Tributary Length	8.5	ft
Roof DL	170.2	plf
Individual shearwall base (usually worst case)	4	ft
Stud Capacity (First Floor)	3900	lb

Reactions with no dead loads added (conservative)

Wind:	T_r =	1769.9 lb
Seismic:	T_r =	1769.9 lb

Reactions (Tension) with dead loads added

Wind:	T_l =	985.6 lb
Seismic:	T_l =	985.6 lb

Type	Wood Shear Walls
SW1	7/16 OSB, 4' min, 8d Nails, 6" Edge & 12" Field
SW2	7/16 OSB, 2'-8" min, 8d Nails, 4" Edge & 12" Field
SW3	7/16 OSB, 2'-8" min, 8d Nails, 3" Edge & 12" Field
SW4	15/32 OSB, 2'-8" min, 10d Nails, 3" Edge & 12" Field

Wind: **USE SW1** ←

Seismic: **USE SW1**

Floor Straps		Capacity	
MST60		4415 lb	
MSTC66		5855 lb	
Holdowns		**Midwall**	**Corner**
STHD10	Wind	4755	4075
	Seismic	3400	2940
STHD14	Wind	5345	5345
	Seismic	3815	3815
HDU8 ((3)2x)	Wind	7870	7870
	Seismic	7870	7870
Interior Holdowns			
HTT5	Wind	4670	
	Seismic	4670	

Note:

9' 2x4 Stud = 2300 lb	9' 2x6 Stud = 5000 lb
10' 2x4 Stud = 1850 lb	10' 2x6 Stud = 4500 lb
12' 2x4 Stud = 1250 lb	12' 2x6 Stud = 3900 lb

USE 1 Studs Each Side ←

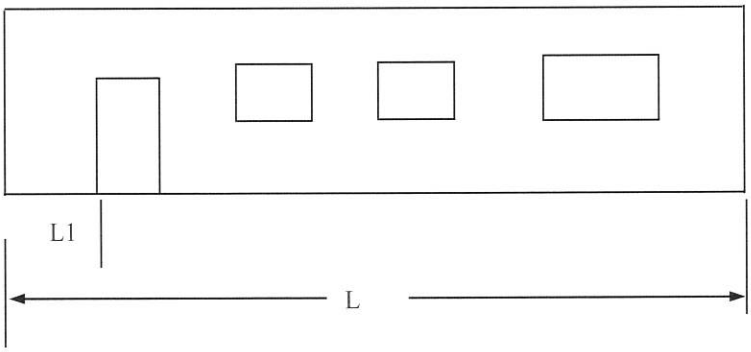
USE 1 Studs Each Side

Normal	**USE: STHD10**
Corner	**USE: STHD10** ←
Interior	**USE: HTT5**
Normal	**USE: STHD10**
Corner	**USE: STHD10**
Interior	**USE: HTT5**

ROSENBERG ASSOCIATES™
CIVIL ENGINEERS LAND SURVEYORS

PROJECT: 1810 E 2000 S		DATE: 6/18/2026	SHEET: L14 of L19
SUBJECT: Shear Wall		BY: KAS	JOB #: 15405-26

Line 3



Wind, w_1 =	100	plf
Seismic, w_1	100	plf
Length, L_1 =	48.75	ft

$$V = \frac{w * L}{2} =$$

Wind	2438	lb
	147.5	plf
Seismic	2438	lb
	147.5	plf

Wall Dimensions

L	30
L1	12.5
L2	4.33
L3	4.83
L4	0
L5	0
Wall Height	12
Max. opening height	8
Percent Full Height Sheathing	72.20
Max. opening height ration	0.67
C_O	0.763

Floor Straps		Capacity	
MST60		4415 lb	
MSTC66		5855 lb	
Holdowns		**Midwall**	**Corner**
STHD10	Wind	4755	4075
	Seismic	3400	2940
STHD14	Wind	5345	5345
	Seismic	3815	3815
HDQ8 ((3) 2x)	Wind	9230	9230
	Seismic	9230	9230
Interior Holdowns			
HTT5	Wind	4670	
	Seismic	4670	

	SW1	
Vwind=	365	plf
Enter SW (SW1, SW2, S Vseismic=	260	plf

	6032.20	<< Ok
	4296.91	<< Ok

USE SW1

$$V_{wall} = vC_O \sum L_i =$$

Wind	4380	lb

$$T = \frac{Vh}{C_O \sum Li} =$$

Seismic	3120	lb

Normal	**USE: STHD10**
Corner	**USE: STHD14**
Interior	**USE: HTT5**
Normal	**USE: STHD10**
Corner	**USE: STHD14**
Interior	**USE: HTT5**

ROSENBERG ASSOCIATES™
CIVIL ENGINEERS LAND SURVEYORS

PROJECT: 1810 E 2000 S	DATE: 6/18/2026	SHEET: L15 of L19
SUBJECT: Shear Wall	BY: KAS	JOB #: 15405-26

Line: **A**

Wind, w_r =	100	plf
Seismic, w_r =	116	plf
Length, $L_{R\ (Both\ Sids\ of\ SW)}$ =	30	ft
Base, B_r =	5.42	ft

Wind:

$$V = \frac{w * L}{2} = V_r =$$ 1500.0 lb

$$v = \frac{w * L}{2 * B} = v_r =$$ **277.0** plf

Seismic:

V_r = 1740.0 lb

v_r = **321.3** plf

Shearwall height, h_r =	12	ft
Min. Shearwall Width, b =	3.43	ft
Roof Tributary Length	2	ft
Roof DL	40.1	plf
Individual shearwall base (usually worst case)	5.42	ft
Stud Capacity (First Floor)	3900	lb

Reactions with no dead loads added (conservative)

Wind:	T_r =	3323.5 lb
Seismic:	T_r =	3855.2 lb

Reactions (Tension) with dead loads added

Wind:	T_f =	2473.1 lb
Seismic:	T_f =	3004.8 lb

Type	Wood Shear Walls
SW1	7/16 OSB, 4' min, 8d Nails, 6" Edge & 12" Field
SW2	7/16 OSB, 2'-8" min, 8d Nails, 4" Edge & 12" Field
SW3	7/16 OSB, 2'-8" min, 8d Nails, 3" Edge & 12" Field
SW4	15/32 OSB, 2'-8" min, 10d Nails, 3" Edge & 12" Field

Wind: **USE SW1** ←

Seismic: **USE SW2**

Floor Straps		**Capacity**	
MST60		4415 lb	
MSTC66		5855 lb	
Holdowns		**Midwall**	**Corner**
STHD10	Wind	4755	4075
	Seismic	3400	2940
STHD14	Wind	5345	5345
	Seismic	3815	3815
HDU8 ((3)2x)	Wind	7870	7870
	Seismic	7870	7870
Interior Holdowns			
HTT5	Wind	4670	
	Seismic	4670	

Note:

9' 2x4 Stud = 2300 lb	9' 2x6 Stud = 5000 lb
10' 2x4 Stud = 1850 lb	10' 2x6 Stud = 4500 lb
12' 2x4 Stud = 1250 lb	12' 2x6 Stud = 3900 lb

USE 1 Studs Each Side ←

USE 1 Studs Each Side

Normal	**USE: STHD10**
Corner	**USE: STHD10** ←
Interior	**USE: HTT5**
Normal	**USE: STHD10**
Corner	**USE: STHD14**
Interior	**USE: HTT5**

ROSENBERG ASSOCIATES™
CIVIL ENGINEERS LAND SURVEYORS

PROJECT: 1810 E 2000 S	DATE: 6/18/2026	SHEET: L16 of L19
SUBJECT: Shear Wall	BY: KAS	JOB #: 15405-26

Line: **A**

Wind, w_r =	100	plf
Seismic, w_r =	116	plf
Length, $L_{R\ (Both\ Sids\ of\ SW)}$ =	30	ft
Base, B_r =	3.83	ft

Wind:

$$V = \frac{w * L}{2} = V_r =$$ 1500.0 lb

$$v = \frac{w * L}{2 * B} = v_r =$$ **391.6** plf

Seismic:

V_r = 1740.0 lb

v_r = **454.3** plf

Shearwall height, h_r =	12	ft
Min. Shearwall Width, b =	3.43	ft
Roof Tributary Length	2	ft
Roof DL	40.1	plf
Individual shearwall base (usually worst case)	3.83	ft
Stud Capacity (First Floor)	3900	lb

Reactions with no dead loads added (conservative)

Wind:	T_r =	4699.7 lb
Seismic:	T_r =	5451.7 lb

Reactions (Tension) with dead loads added

Wind:	T_l =	4098.4 lb
Seismic:	T_l =	4850.3 lb

Type Wood Shear Walls

SW1	7/16 OSB, 4' min, 8d Nails, 6" Edge & 12" Field
SW2	7/16 OSB, 2'-8" min, 8d Nails, 4" Edge & 12" Field
SW3	7/16 OSB, 2'-8" min, 8d Nails, 3" Edge & 12" Field
SW4	15/32 OSB, 2'-8" min, 10d Nails, 3" Edge & 12" Field

Wind: **USE SW2** ←

Seismic: **USE SW3**

Floor Straps		**Capacity**	
MST60		4415 lb	
MSTC66		5855 lb	
Holdowns		**Midwall**	**Corner**
STHD10	Wind	4755	4075
	Seismic	3400	2940
STHD14	Wind	5345	5345
	Seismic	3815	3815
HDU8 ((3)2x)	Wind	7870	7870
	Seismic	7870	7870
Interior Holdowns			
HTT5	Wind	4670	
	Seismic	4670	

Note:

9' 2x4 Stud = 2300 lb	9' 2x6 Stud = 5000 lb
10' 2x4 Stud = 1850 lb	10' 2x6 Stud = 4500 lb
12' 2x4 Stud = 1250 lb	12' 2x6 Stud = 3900 lb

USE 2 Studs Each Side ←

USE 2 Studs Each Side

Normal	**USE: STHD10**
Corner	**USE: STHD14** ←
Interior	**USE: HTT5**
Normal	**USE: HDU8 ((3)2x)**
Corner	**USE: HDU8 ((3)2x)**
Interior	**USE: HDU8 ((3)2x)**

ROSENBERG ASSOCIATES™
CIVIL ENGINEERS LAND SURVEYORS

PROJECT: 1810 E 2000 S		DATE: 6/18/2026	SHEET: L17 of L19
SUBJECT: Shear Wall		BY: KAS	JOB #: 15405-26

Line: **A** RV Garage

Wind, w_r =	100	plf
Seismic, w_r =	116	plf
Length, $L_{R\ (Both\ Sids\ of\ SW)}$ =	30	ft
Base, B_r =	5.66	ft

Wind:

$$V = \frac{w * L}{2} = V_r =$$ 1500.0 lb

$$v = \frac{w * L}{2 * B} = v_r =$$ **265.0** plf

Seismic:

V_r =	1740.0	lb
v_r =	**307.4**	plf

Shearwall height, h_r =	14	ft
Min. Shearwall Width, b =	4.00	ft
Roof Tributary Length	2	ft
Roof DL	40.1	plf
Individual shearwall base (usually worst case)	5.66	ft
Stud Capacity (First Floor)	3900	lb

Reactions with no dead loads added (conservative)

Wind:	T_r =	3710.2 lb
Seismic:	T_r =	4303.9 lb

Reactions (Tension) with dead loads added

Wind:	T_l =	2821.5 lb
Seismic:	T_l =	3415.2 lb

Type Wood Shear Walls

SW1	7/16 OSB, 4' min, 8d Nails, 6" Edge & 12" Field
SW2	7/16 OSB, 2'-8" min, 8d Nails, 4" Edge & 12" Field
SW3	7/16 OSB, 2'-8" min, 8d Nails, 3" Edge & 12" Field
SW4	15/32 OSB, 2'-8" min, 10d Nails, 3" Edge & 12" Field

Wind: **USE SW1** ←

Seismic: **USE SW2**

Floor Straps		**Capacity**	
MST60		4415 lb	
MSTC66		5855 lb	
Holdowns		**Midwall**	**Corner**
STHD10	Wind	4755	4075
	Seismic	3400	2940
STHD14	Wind	5345	5345
	Seismic	3815	3815
HDU8 ((3)2x)	Wind	7870	7870
	Seismic	7870	7870
Interior Holdowns			
HTT5	Wind	4670	
	Seismic	4670	

Note:

9' 2x4 Stud = 2300 lb	9' 2x6 Stud = 5000 lb
10' 2x4 Stud = 1850 lb	10' 2x6 Stud = 4500 lb
12' 2x4 Stud = 1250 lb	12' 2x6 Stud = 3900 lb

USE 1 Studs Each Side ←
USE 2 Studs Each Side

Normal	**USE: STHD10**
Corner	**USE: STHD10** ←
Interior	**USE: HTT5**
Normal	**USE: STHD14**
Corner	**USE: STHD14**
Interior	**USE: HTT5**

ROSENBERG ASSOCIATES™
CIVIL ENGINEERS LAND SURVEYORS

PROJECT: 1810 E 2000 S	DATE: 6/18/2026	SHEET: L18 of L19
SUBJECT: Shear Wall	BY: KAS	JOB #: 15405-26

Line: **B**

Wind, w_r =	100	plf
Seismic, w_r =	116	plf
Length, $L_{R\ (Both\ Sids\ of\ SW)}$ =	30	ft
Base, B_r =	38.15	ft

Wind:

$$V = \frac{w * L}{2} = V_r =$$ 1500.0 lb

$$v = \frac{w * L}{2 * B} = v_r =$$ **39.3** plf

Seismic:

V_r =	1740.0	lb
v_r =	**45.6**	plf

Shearwall height, h_r =	12	ft
Min. Shearwall Width, b =	3.43	ft
Roof Tributary Length	2	ft
Roof DL	40.1	plf
Individual shearwall base (usually worst case)	4	ft
Stud Capacity (First Floor)	3900	lb

Reactions with no dead loads added (conservative)

Wind:	T_r =	471.9 lb
Seismic:	T_r =	547.3 lb

Reactions (Tension) with dead loads added

Wind:	T_l =	-156.2 lb
Seismic:	T_l =	-80.7 lb

Type Wood Shear Walls

SW1	7/16 OSB, 4' min, 8d Nails, 6" Edge & 12" Field
SW2	7/16 OSB, 2'-8" min, 8d Nails, 4" Edge & 12" Field
SW3	7/16 OSB, 2'-8" min, 8d Nails, 3" Edge & 12" Field
SW4	15/32 OSB, 2'-8" min, 10d Nails, 3" Edge & 12" Field

Wind: **USE SW1** ←

Seismic: **USE SW1**

Floor Straps		**Capacity**	
MST60		4415 lb	
MSTC66		5855 lb	
Holdowns		**Midwall**	**Corner**
STHD10	Wind	4755	4075
	Seismic	3400	2940
STHD14	Wind	5345	5345
	Seismic	3815	3815
HDU8 ((3)2x)	Wind	7870	7870
	Seismic	7870	7870
Interior Holdowns			
HTT5	Wind	4670	
	Seismic	4670	

Note:

9' 2x4 Stud = 2300 lb	9' 2x6 Stud = 5000 lb
10' 2x4 Stud = 1850 lb	10' 2x6 Stud = 4500 lb
12' 2x4 Stud = 1250 lb	12' 2x6 Stud = 3900 lb

USE 1 Studs Each Side ←

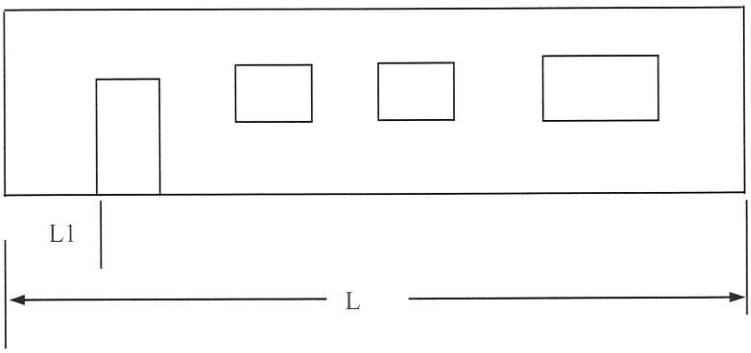
USE 1 Studs Each Side

Normal	**USE: No Strap Req.**
Corner	**USE: No Strap Req.** ←
Interior	**USE: No Strap Req.**
Normal	**USE: No Strap Req.**
Corner	**USE: No Strap Req.**
Interior	**USE: No Strap Req.**

ROSENBERG ASSOCIATES
CIVIL ENGINEERS LAND SURVEYORS

PROJECT: 1810 E 2000 S		DATE: 6/18/2026	SHEET: L19 of L19
SUBJECT: Shear Wall		BY: KAS	JOB #: 15405-26

Line **B**



Wind, w_1 =	100	plf
Seismic, w_1	116	plf
Length, L_1 =	30	ft

$$V = \frac{w * L}{2} =$$

Wind	1500	lb
	39.3	plf
Seismic	1740	lb
	45.6	plf

Wall Dimensions

L	64
L1	3
L2	4
L3	7.83
L4	20
L5	6.5
Wall Height	12
Max. opening height	5
Percent Full Height Sheathing	64.58
Max. opening height ration	0.42
C_O	0.923

Floor Straps		Capacity	
MST60		4415 lb	
MSTC66		5855 lb	
Holdowns		**Midwall**	**Corner**
STHD10	Wind	4755	4075
	Seismic	3400	2940
STHD14	Wind	5345	5345
	Seismic	3815	3815
HDQ8 ((3) 2x)	Wind	9230	9230
	Seismic	9230	9230
Interior Holdowns			
HTT5	Wind	4670	
	Seismic	4670	

	SW1	
Vwind=	365	plf
Enter SW (SW1, SW2, S Vseismic=	260	plf
	13923.87 << Ok	**USE SW1**
	9918.37 << Ok	

$$V_{wall} = vC_O \sum L_i =$$

$$T = \frac{Vh}{C_O \sum Li} =$$

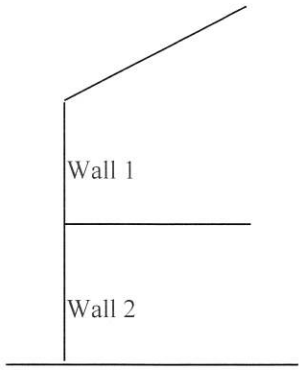
Wind	4380	lb	
		Normal	**USE: STHD10**
		Corner	**USE: STHD14**
		Interior	**USE: HTT5**
Seismic	3120	lb	
		Normal	**USE: STHD10**
		Corner	**USE: STHD14**
		Interior	**USE: HTT5**

ROSENBERG ASSOCIATES™
CIVIL ENGINEERS LAND SURVEYORS

PROJECT: 1810 E 2000 S	DATE: 6/19/2026	SHEET: F1 of F1
SUBJECT: Strip Footing	BY: KAS	JOB #: 15405-26

Footing Properties

Ws	8	in
Ds	8	in
Df	12	in
Wf (footing width)	18	in



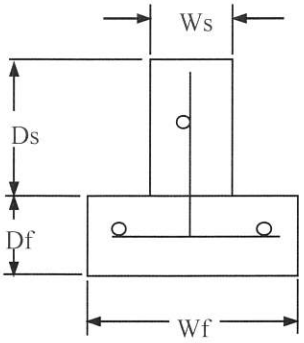
Loading

Roof DL	330	plf
Roof LL	330	plf
Wall (1) DL	150	plf
Wall (2) DL	0	plf
Footing DL	292	plf
Floor DL	0	plf
Floor LL	0	plf
Misc DL	0	plf
Misc LL	0	plf
Total Load	1102	plf

Soil Loading

qall (UBC table 18-1-A) 1500 psf

$$q = \frac{T.L.}{W} =$$ 734 plf << OK



Concrete Design

Main Rebar Size, ϕ = 4 #

$A_s = 0.0018*W*df =$ 0.3888 in^2

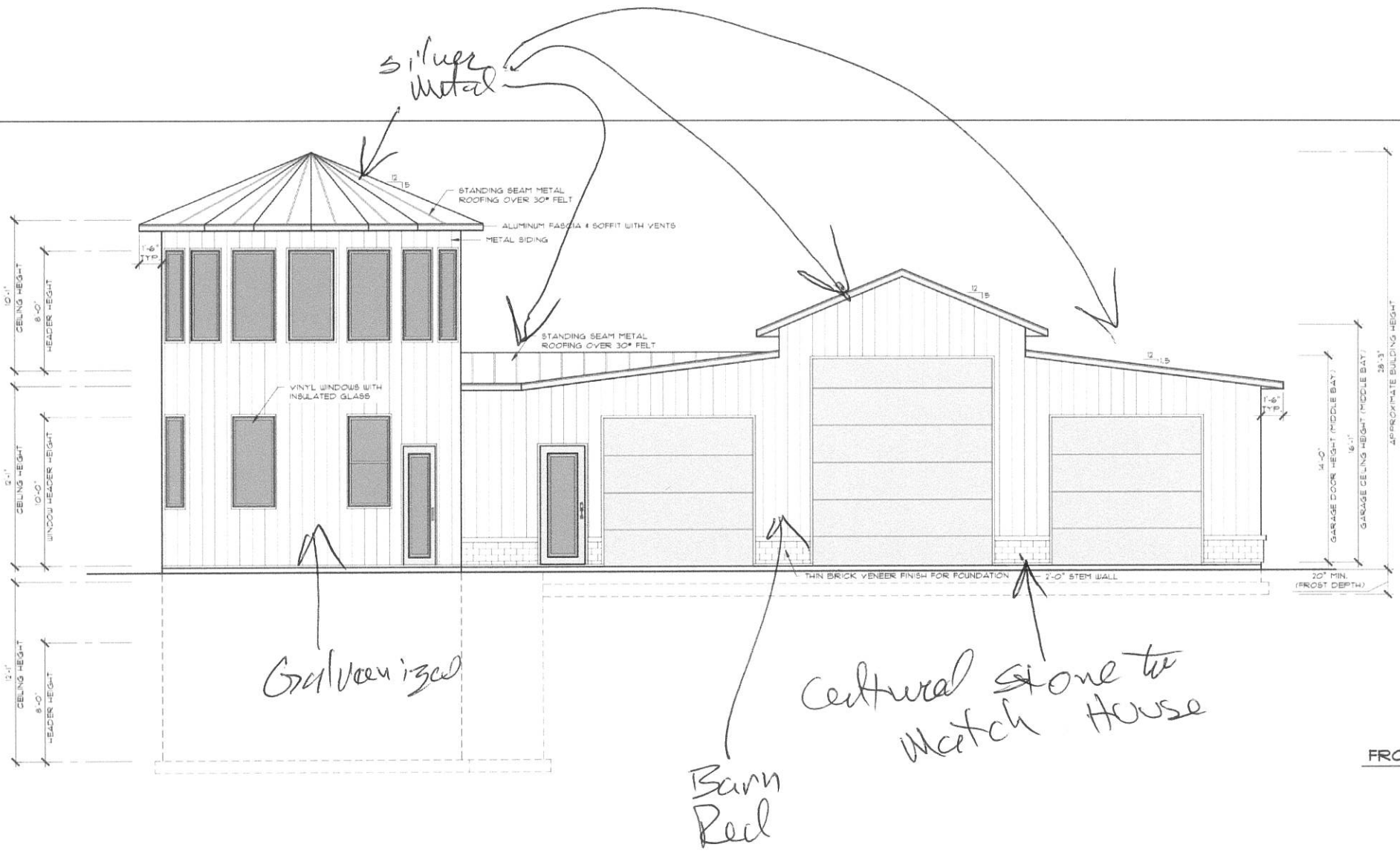
Use 2 No. 4 bars continious in footing

$A_s = 0.0018*Ws*Ds =$ 0.1152 in^2

Use 1 No. 4 bars continious in stem wall

Silver Metal
Galvanized
Barn Red
Brown

Metal


Silver Metal
STANDING SEAM METAL ROOFING OVER 30# FELT
ALUMINUM FASCIA & SOFFIT WITH VENTS
METAL SIDING
STANDING SEAM METAL ROOFING OVER 30# FELT
VINYL WINDOWS WITH INSULATED GLASS
THIN BRICK VENEER FINISH FOR FOUNDATION
2'-0" STEM WALL
20" MIN. (FROST DEPTH)
APPROXIMATE BUILDING HEIGHT
GARAGE DOOR HEIGHT (MIDDLE BAY)
GARAGE CEILING HEIGHT (MIDDLE BAY)
CEILING HEIGHT
HEADER HEIGHT
WINDOW HEADER HEIGHT
1'-6" TYP.
Galvanized
Barn Red
Cultural Stone to Match House

FRONT EL