

Washoe County Development Application

Your entire application is a public record. If you have a concern about releasing personal information, please contact Planning and Building staff at 775.328.6100.

Project Information		Staff Assigned Case No.: _____	
Project Name: Hinson Project			
Project Description: Building a 546 sq. ft detached garage and a 602 sq. ft accessory dwelling unit.			
Project Address: 3787 Portland Dr Reno, NV 89511			
Project Area (acres or square feet): 546 sq ft of garage and 602 sq ft of ADU, total of 1,148 sq. ft.			
Project Location (with point of reference to major cross streets AND area locator): N. side of home at 3787 Portland Dr Reno 89511			
Assessor's Parcel No.(s):	Parcel Acreage:	Assessor's Parcel No.(s):	Parcel Acreage:
144-042-02	.394		
Indicate any previous Washoe County approvals associated with this application: Case No.(s).			
Applicant Information (attach additional sheets if necessary)			
Property Owner:		Professional Consultant:	
Name: Todd and Heather Hinson		Name: GEM Drafting	
Address: 3787 Portland Dr		Address:	
Reno, NV	Zip: 89511	Fallon, NV	Zip:
Phone: 775-287-0992	Fax:	Phone: 775-387-0585	Fax:
Email: toddhinson@yahoo.com		Email: eddie@gemdrafting.com	
Cell:	Other:	Cell:	Other:
Contact Person: Todd Hinson		Contact Person: Eddie	
Applicant/Developer:		Other Persons to be Contacted:	
Name: By Owner		Name: RW Engineering	
Address:		Address:	
	Zip:	Reno, NV	Zip:
Phone:	Fax:	Phone: 775-393-9128	Fax:
Email:		Email: russ@rwengineering.net	
Cell:	Other:	Cell:	Other:
Contact Person:		Contact Person: Russell Wallace	
For Office Use Only			
Date Received:	Initial:	Planning Area:	
County Commission District:		Master Plan Designation(s):	
CAB(s):		Regulatory Zoning(s):	

Special Use Permit Application Supplemental Information

(All required information may be separately attached)

1. What is the project being requested?

Requesting a permit to build a 546 sq. ft detached garage and a 602 sq. ft. accessory dwelling unit (mancave) on the N. side of our existing home.

2. Provide a site plan with all existing and proposed structures (e.g. new structures, roadway improvements, utilities, sanitation, water supply, drainage, parking, signs, etc.)

Per page A1.0 of attached architectural plans.

3. What is the intended phasing schedule for the construction and completion of the project?

Planning to complete foundation for ADU and slabwork for garage by end of 2022. Framing, roof and interior to be completed 6-9 months following completion of foundation/garage slab.

4. What physical characteristics of your location and/or premises are especially suited to deal with the impacts and the intensity of your proposed use?

Our lot is very large, nearly half an acre. The area planned for use is currently dirt and grass and being used as outdoor storage. The lot is well suited for this improvement project.

5. What are the anticipated beneficial aspects or affects your project will have on adjacent properties and the community?

The project will be a major improvement by removing existing dirt/mud and reducing dust. Also, removal of some existng grass will reduce water consumption for landscaping. The project will also enhance the privacy of our neighbor's property.

6. What are the anticipated negative impacts or affect your project will have on adjacent properties? How will you mitigate these impacts?

We have discussed the project with our most impacted neighbors, Robert and Cheryl Duncan. They, similar to us, feel the project will be an improvement and will enhance the existing area. Window size on the garage closest to our neighbor has been minimized (1x6) to reduce any lighting impact.

7. Provide specific information on landscaping, parking, type of signs and lighting, and all other code requirements pertinent to the type of use being purposed. Show and indicate these requirements on submitted drawings with the application.

Per the attached architectural and engineering plans, this is a simple, clean, detached garage and ADU project.

8. Are there any restrictive covenants, recorded conditions, or deed restrictions (CC&Rs) that apply to the area subject to the special use permit request? (If so, please attach a copy.)

<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
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9. Utilities:

a. Sewer Service	Municipal
b. Electrical Service	NV energy
c. Telephone Service	
d. LPG or Natural Gas Service	NV energy
e. Solid Waste Disposal Service	WM
f. Cable Television Service	
g. Water Service	Municipal

For most uses, Washoe County Code, Chapter 110, Article 422, Water and Sewer Resource Requirements, requires the dedication of water rights to Washoe County. Please indicate the type and quantity of water rights you have available should dedication be required.

h. Permit #		acre-feet per year	
i. Certificate #		acre-feet per year	
j. Surface Claim #		acre-feet per year	
k. Other #		acre-feet per year	

Title of those rights (as filed with the State Engineer in the Division of Water Resources of the Department of Conservation and Natural Resources).

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10. Community Services (provided and nearest facility):

a. Fire Station	
b. Health Care Facility	
c. Elementary School	
d. Middle School	
e. High School	
f. Parks	
g. Library	
h. Citifare Bus Stop	

Property Owner Affidavit

Applicant Name: Heather Megan Hinson

The receipt of this application at the time of submittal does not guarantee the application complies with all requirements of the Washoe County Development Code, the Washoe County Master Plan or the applicable area plan, the applicable regulatory zoning, or that the application is deemed complete and will be processed.

STATE OF NEVADA)
COUNTY OF WASHOE)

I, Heather Megan Hinson
(please print name)

being duly sworn, depose and say that I am the owner* of the property or properties involved in this application as listed below and that the foregoing statements and answers herein contained and the information herewith submitted are in all respects complete, true, and correct to the best of my knowledge and belief. I understand that no assurance or guarantee can be given by members of Planning and Building.

(A separate Affidavit must be provided by each property owner named in the title report.)

Assessor Parcel Number(s): 144-042-02

Printed Name Heather Megan Hinson

Signed Heather Megan Hinson

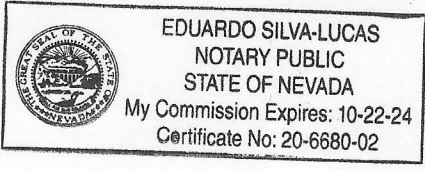
Address 3787 Portland Dr
Reno, NV 89511

Subscribed and sworn to before me this
4th day of August, 2022.

[Signature]
Notary Public in and for said county and state

My commission expires: 10/22/2024

(Notary Stamp)



*Owner refers to the following: (Please mark appropriate box.)

- Owner
 Corporate Officer/Partner (Provide copy of record document indicating authority to sign.)
 Power of Attorney (Provide copy of Power of Attorney.)
 Owner Agent (Provide notarized letter from property owner giving legal authority to agent.)
 Property Agent (Provide copy of record document indicating authority to sign.)
 Letter from Government Agency with Stewardship

Property Owner Affidavit

Applicant Name: TODD J HINSON

The receipt of this application at the time of submittal does not guarantee the application complies with all requirements of the Washoe County Development Code, the Washoe County Master Plan or the applicable area plan, the applicable regulatory zoning, or that the application is deemed complete and will be processed.

STATE OF NEVADA)
COUNTY OF WASHOE)

I, TODD J HINSON
(please print name)

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Assessor Parcel Number(s): 144-042-02

Printed Name Todd J Hinson

Signed [Signature]

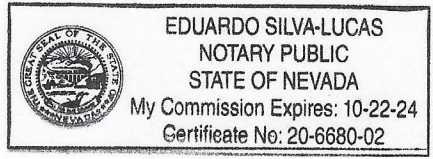
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Notary Public in and for said county and state

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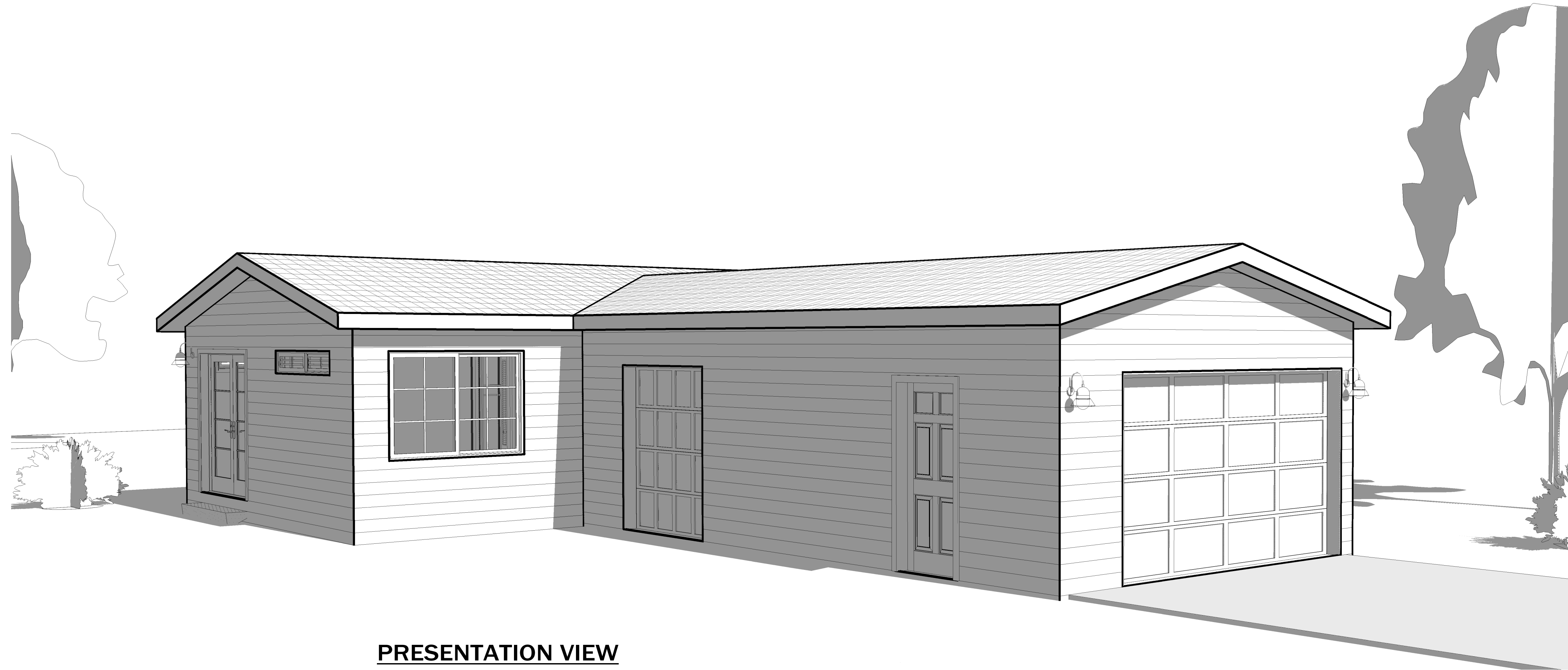


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- Letter from Government Agency with Stewardship

HINSON DETACHED GARAGE WITH ACCESSORY DWELLING NEW BUILD

APN: 144-042-02
 3787 PORTLAND DR.
 WASHOE COUNTY, NV, 89511



PRESENTATION VIEW
 FOR PRESENTATION ONLY NO SCALE

DESIGN CRITERIA	
ROOF SNOW LOAD	30-PSF
WIND SPEED	126 MPH EXPOSURE C
SEISMIC	E
FROST DEPTH	24"
ZONE	200

CODES		
2018 INTERNATIONAL BUILDING CODE	OCCUPANCY GROUP	R-3
2018 INTERNATIONAL RESIDENTIAL CODE	CONSTRUCTION TYPE	V-B
2018 INTERNATIONAL EXISTING BUILDING CODE	FLOOR AREA (GROSS SQ FT)	LIVING: 520 S.F. GARAGE: 470 S.F.
2018 INTERNATIONAL ENERGY CONSERVATION CODE	REQUIRED SEPARATION	1-HOUR BETWEEN DWELLING AND GARAGE
2018 UNIFORM PLUMBING CODE	# OF STORIES	1
2018 UNIFORM MECHANICAL CODE	FULLY SPRINKLERED	NO
2018 INTERNATIONAL MECHANICAL CODE		
2018 INTERNATIONAL FUEL GAS CODE		
2018 INTERNATIONAL WILDLAND-URBAN INTERFACE CODE		
2018 SWIMMING POOL AND SPA CODE		
2018 NATIONAL FIRE PROTECTION ASSOCIATION		
2017 NATIONAL ELECTRICAL CODE		
2018 NORTHERN NEVADA AMENDMENTS BY THE NORTHERN NEVADA CHAPTER OF THE INTERNATIONAL CODE COUNCIL		

PROJECT TEAM	
OWNER	
TODD HINSON 3787 PORTLAND DR. RENO, NV 89511	(775) 287-0917 TODDHINSON@YAHOO.COM
DRAFTER	
GEM DRAFTING, LLC P.O. BOX 5298 FALLON, NV, 89407	EDDIE GELINEAU (775) 387-0585 EDDIE@GEMDRAFTING.COM
ARCHITECT	
NA DESIGN SERVICES 3163 OWYHEE STREET POCATELLO, ID 83201	NELSON ARAVE (208) 221-3000 NELSON@GEMDRAFTING.COM

DESCRIPTION OF WORK
• 546 S.F. DETACHED GARAGE WITH 602 S.F. DETACHED ACCESSORY DWELLING.

DRAWING INDEX	
SHEET NUMBER	SHEET NAME
A0.1	COVER SHEET
A0.2	SYMBOL LIST AND GENERAL NOTES
A1.0	SITE PLAN
A1.1	PROPOSED MAIN FLOOR PLAN
A2.1	EXTERIOR ELEVATIONS
A2.2	EXTERIOR ELEVATIONS
A2.3	INTERIOR ELEVATIONS
A4.1	BUILDING SECTION
E1.1	ELECTRICAL PLAN



ADDRESS ©2021
 4082 RENO HIGHWAY
 FALLON, NV 89406
 WWW.GEMDRAFTING.COM

SHEET NAME	COVER SHEET
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3787 PORTLAND DR.
 WASHOE COUNTY, NV, 89511
 HINSON DETACHED GARAGE WITH
 ACCESSORY DWELLING NEW BUILD

DATE: 04/08/2022
 PROJECT NO: 21-043
 REVISION: DATE



04/19/2022
 SCALE: 1/4" = 1'-0"
 SHEET NUMBER

A0.1
 DRAWN BY: LK

GENERAL NOTES

- THESE GENERAL NOTES PERTAIN TO WORK DESCRIBED ON ALL CONTRACT DOCUMENTS.
- THE CONTRACT DOCUMENTS CONSIST OF THE OWNER CONTRACTOR AGREEMENT, THE CONDITIONS OF CONTRACT (GENERAL, SUPPLEMENTARY, AND OTHER CONDITIONS), THE DRAWINGS, THE SPECIFICATIONS, AND ALL ADDENDA ISSUED PRIOR TO AND ALL MODIFICATIONS ISSUED AFTER EXECUTION OF THE CONTRACT.
- GEM DRAFTING, LLC IS THE AUTHOR OF THESE PLANS AND CLAIMS A COPYRIGHT IN THESE PLANS AND THE DESIGNS CONTAINED IN THESE PLANS. THIS CLAIM IS MADE UNDER TITLE 17 OF THE UNITED STATES CODE AND ALL APPLICABLE TREATIES AND FOREIGN LAWS. THESE COPYRIGHTED DRAWING FILES ARE TO BE USED FOR REFERENCE ONLY. GEM DRAFTING, LLC WILL TAKE NO RESPONSIBILITY FOR ANY CHANGES MADE TO THESE DOCUMENTS BY ANOTHER PARTY AND NO LICENSE IS GIVEN FOR TRANSFER OF THESE COPYRIGHTS TO ANOTHER PARTY.
- THE WORK COMPRISES THE COMPLETED CONSTRUCTION REQUIRED BY THE CONTRACT DOCUMENTS AND INCLUDES ALL LABOR NECESSARY TO PRODUCE SUCH CONSTRUCTION, AND ALL MATERIALS AND EQUIPMENT INCORPORATED OR TO BE INCORPORATED IN SUCH CONSTRUCTION.
- SHOP DRAWINGS, PRODUCT DATA AND SAMPLES ARE NOT A PART OF THE CONTRACT DOCUMENTS. THE ARCHITECT/DESIGNER WILL REVIEW THEM, BUT ONLY FOR CONFORMANCE WITH THE DESIGN CONCEPT OF THE WORK AND WITH THE INFORMATION GIVEN IN THE CONTRACT DOCUMENTS. THE CONTRACTOR SHALL NOT BE RELIEVED OF RESPONSIBILITY FOR ANY DEVIATION FROM THE REQUIREMENTS OF THE CONTRACT DOCUMENTS BY THE ARCHITECTS/DESIGNERS REVIEW OF SHOP DRAWINGS, PRODUCT DATA OR SAMPLES.
- THE CONTRACTOR SHALL CAREFULLY STUDY AND COMPARE THE CONTRACT DOCUMENTS AND SHALL AT ONCE REPORT TO THE ARCHITECT/DESIGNER ANY ERROR, INCONSISTENCY OR OMISSIONS HE MAY DISCOVER. THE CONTRACTOR SHALL PERFORM NO PORTION OF THE WORK AT ANY TIME WITHOUT CONTRACT DOCUMENTS OR, WHERE REQUIRED, APPROVED SHOP DRAWINGS, PRODUCT DATA OR SAMPLES FOR SUCH PORTION OF THE WORK.
- ALL WORK IS TO CONFORM WITH THE CONTRACT DOCUMENTS. DRAWINGS ARE NOT TO BE SCALED FOR INFORMATION IF UNABLE TO LOCATE DIMENSIONS FOR ANY ITEM OF WORK, CONSULT WITH THE ARCHITECT/DESIGNER BEFORE PROCEEDING WITH CONSTRUCTION.
- IN THE EVENT CERTAIN FEATURES OF THE CONSTRUCTION ARE NOT FULLY SHOWN ON THE CONTRACT DOCUMENTS, THEN THEIR CONSTRUCTION SHALL BE OF THE SAME CHARACTER AS FOR SIMILAR CONDITIONS THAT ARE SHOWN OR CALLED FOR AND SHALL BE REVIEWED BY THE ARCHITECT/DESIGNER.
- ALL WORK SHALL BE PERFORMED WITHIN STRICT CONFORMANCE TO THE MINIMUM STANDARDS OF THE CURRENT EDITION OF THE INTERNATIONAL BUILDING CODE AND ALL APPLICABLE NATIONAL, STATE, AND LOCAL LAWS, REGULATIONS AND ORDINANCES.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE GENERAL SAFETY DURING CONSTRUCTION, AND ALL WORK SHALL CONFORM TO PERTINENT SAFETY REGULATIONS.
- THE CONTRACTOR SHALL COORDINATE LOCATIONS OF ANY AND ALL MECHANICAL, TELEPHONE, ELECTRICAL, LIGHTING AND PLUMBING INCLUDING ALL PIPING, DUCT WORK AND CONDUIT. COORDINATE ALL REQUIRED CLEARANCES FOR INSTALLATION AND MAINTENANCE OF THE ABOVE EQUIPMENT.
- THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK USING HIS/HER BEST SKILL AND ATTENTION, HE/SHE SHALL BE SOLELY RESPONSIBLE FOR ALL CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES AND PROCEDURES AND FOR COORDINATING ALL PORTIONS OF THE WORK UNDER THE CONTRACT.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE ACTS AND OMISSIONS OF HIS/HER EMPLOYEES, SUBCONTRACTORS AND THEIR AGENTS AND EMPLOYEES, AND OTHER PERSONS PERFORMING ANY WORK UNDER A CONTRACT WITH THE CONTRACTOR.
- THE CONTRACTOR SHALL PURSUE WORK IN A CONTINUOUS AND DILIGENT MANNER TO INSURE TIMELY COMPLETION OF THE PROJECT.
- THE CONTRACTOR AT ALL TIMES SHALL KEEP THE PREMISES FREE FROM ACCUMULATION OF WASTE MATERIALS OR RUBBISH CAUSED BY HIS/HER OPERATIONS. AT THE COMPLETION OF THE WORK, HE/SHE SHALL REMOVE ALL HIS/HER WASTE MATERIALS AND RUBBISH FROM AND ABOUT THE PROJECT AS WELL AS ALL HIS/HER TOOLS, CONSTRUCTION EQUIPMENT, MACHINERY, AND SURPLUS MATERIALS.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE LOCATION AND/OR PROTECTION OF ALL EXISTING AND PROPOSED PIPING, UTILITIES, STRUCTURES, ADJACENT STREETS, AND IMPROVEMENTS DURING THE PERIOD OF CONSTRUCTION.
- UNLESS OTHERWISE PROVIDED IN THE CONTRACT DOCUMENTS, THE CONTRACTOR SHALL PROVIDE AND PAY FOR ALL LABOR, MATERIAL, EQUIPMENT, TOOLS, CONSTRUCTION EQUIPMENT, MACHINERY, WATER, HEAT, UTILITIES, TRANSPORTATION, AND OTHER FACILITIES AND SERVICES NECESSARY FOR THE PROPER EXECUTION AND COMPLETION OF THE WORK.
- THE CONTRACTOR SHALL SUBMIT WEEKLY JOB STATUS REPORTS TO THE ARCHITECT/DESIGNER. THE REPORT SHALL STATE ACTUAL PROGRESS OF THE JOB AND LIST ANY CHANGES OR CONDITIONS WITHIN THE SCOPE OF THE CONTRACT DOCUMENTS AFFECTING THE JOB PROGRESS.
- WHERE CONFLICTS OCCUR, COORDINATE THE LAYOUT AND EXACT LOCATION OF ALL PARTITIONS, DOORS, TELEPHONES AND ELECTRICAL/COMMUNICATION OUTLETS AND SWITCHES WITH ARCHITECT/DESIGNER IN THE FIELD BEFORE PROCEEDING WITH CONSTRUCTION.
- WHERE CONFLICT IS ENCOUNTERED BETWEEN THE CONTRACT DOCUMENTS THAT WILL MATERIALLY AFFECT THE QUALITY OR EXTENT OF THE WORK, SUCH CONFLICT SHALL BE RESOLVED TO THE SATISFACTION OF THE ARCHITECT/DESIGNER BEFORE THE AFFECTED ITEMS AND/OR MATERIALS ARE PURCHASED, FABRICATED AND/OR INSTALLED.
- WHERE PRE-MANUFACTURED OR PRE-FABRICATED ITEMS AND/OR MATERIALS ARE TO BE INSTALLED - THE CONTRACTOR SHALL VERIFY ROUGH OR FINISHED DIMENSIONS IN THE FIELD PRIOR TO PURCHASE OR FABRICATION.
- THE CONTRACTOR SHALL GUARANTEE ALL WORK AND MATERIALS TO BE FREE FROM DEFECTS FOR A MINIMUM OF ONE YEAR FROM DATE OF FINAL ACCEPTANCE, AND PROMPTLY REMEDY SUCH DEFECTS AND ANY SUBSEQUENT DAMAGE CAUSED BY THE DEFECTS OR REPAIR THEREOF, AT NO EXPENSE TO THE OWNER. GUARANTEE PERIODS OF GREATER THAN ONE YEAR MAY BE REQUIRED AND CONTAINED WITHIN THE CONTRACT DOCUMENTS.
- UNLESS OTHERWISE PROVIDED IN THE CONTRACT DOCUMENTS THE CONTRACTOR SHALL SECURE AND PAY FOR THE BUILDING PERMIT AND FOR ALL OTHER PERMITS AND GOVERNMENTAL FEES, LICENSES AND INSPECTIONS NECESSARY FOR THE PROPER EXECUTION AND COMPLETION OF THE WORK.
- WHERE ANY ITEM AND/OR MATERIAL IS INDICATED IN THE CONTRACT DOCUMENTS, AND NOT NECESSARILY DETAILED IN EACH SPECIFIC CASE, BUT IS REQUIRED FOR A COMPLETE AND PROFESSIONAL INSTALLATION - SUCH ITEM AND/OR MATERIAL SHALL BE PROVIDED AS IF SHOWN AND DETAILED IN FULL. PROVIDE MEANS TO FURNISH AND INSTALL.

ABBREVIATIONS

A.C.I.	AMERICAN CONCRETE INSTITUTE
BLDG.	BUILDING
CONC.	CONCRETE
C.J.	CONTROL JOINT
COL.	COLUMN
DET.	DETAIL
DIA.	DIAMETER
DN.	DOWN
EL./ELEV.	ELEVATION
ELEC.	ELECTRICAL
EQ.	EQUAL
FIN.	FINISH
FLR.	FLOOR
GALV.	GALVANIZED
GYP.	GYPSUM
I.D.	INSIDE DIAMETER
JT.	JOINT
MECH.	MECHANICAL
MIN.	MINIMUM
N.T.S.	NOT TO SCALE
NO.	NUMBER
O.C.	ON CENTER
OPG.	OPENING
O.D.	OUTSIDE DIAMETER
U.N.O.	UNLESS NOTED OTHERWISE
REF.	REFERENCE
R.	RISER
R.O.	ROUGH OPENING
RM.	ROOM
S/STL.	STAINLESS STEEL
STRUCT.	STRUCTURAL
SPEC.	SPECIFICATIONS
T.O.	TOP OF (...)
T.O. CONC.	TOP OF CONCRETE
T.O.F.	TOP OF FRAMING
T.O.STL.	TOP OF STEEL
T.O.W.	TOP OF WALL
T.	TREAD
TYP.	TYPICAL
@	AT
BD.	BOARD
A.F.F.	ABOVE FINISHED FLOOR
V.I.F.	VERIFY IN FIELD

LEGEND

COLUMN GRID	
CENTERLINE	
INTERIOR ELEVATION	
REVISION TAG	
ELEVATION	
DETAIL/SECTION	
WINDOW TAG	
WALL TAG	
ROOM TAG	
DOOR TAG	
STAIRS	
SINGLE STEP	
TOILET	
WINDOW	
FLR GRILLE	
CALLOUT TAG	
SPIRAL STAIR (WITH TREAD SHADING) DRAFTING GUIDE	
SWINGING DOOR	
SCREEN DOOR	
POCKET DOOR	

NA
NELSON ARAVE
DESIGN SERVICES



ADDRESS 02021

4082 RENO HIGHWAY
FALLON, NV 89406

WWW.GEMDRAFTING.COM

SHEET NAME
SYMBOL LIST AND GENERAL
NOTES

3787 PORTLAND DR.
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HINSON DETACHED GARAGE WITH
ACCESSORY DWELLING NEW BUILD

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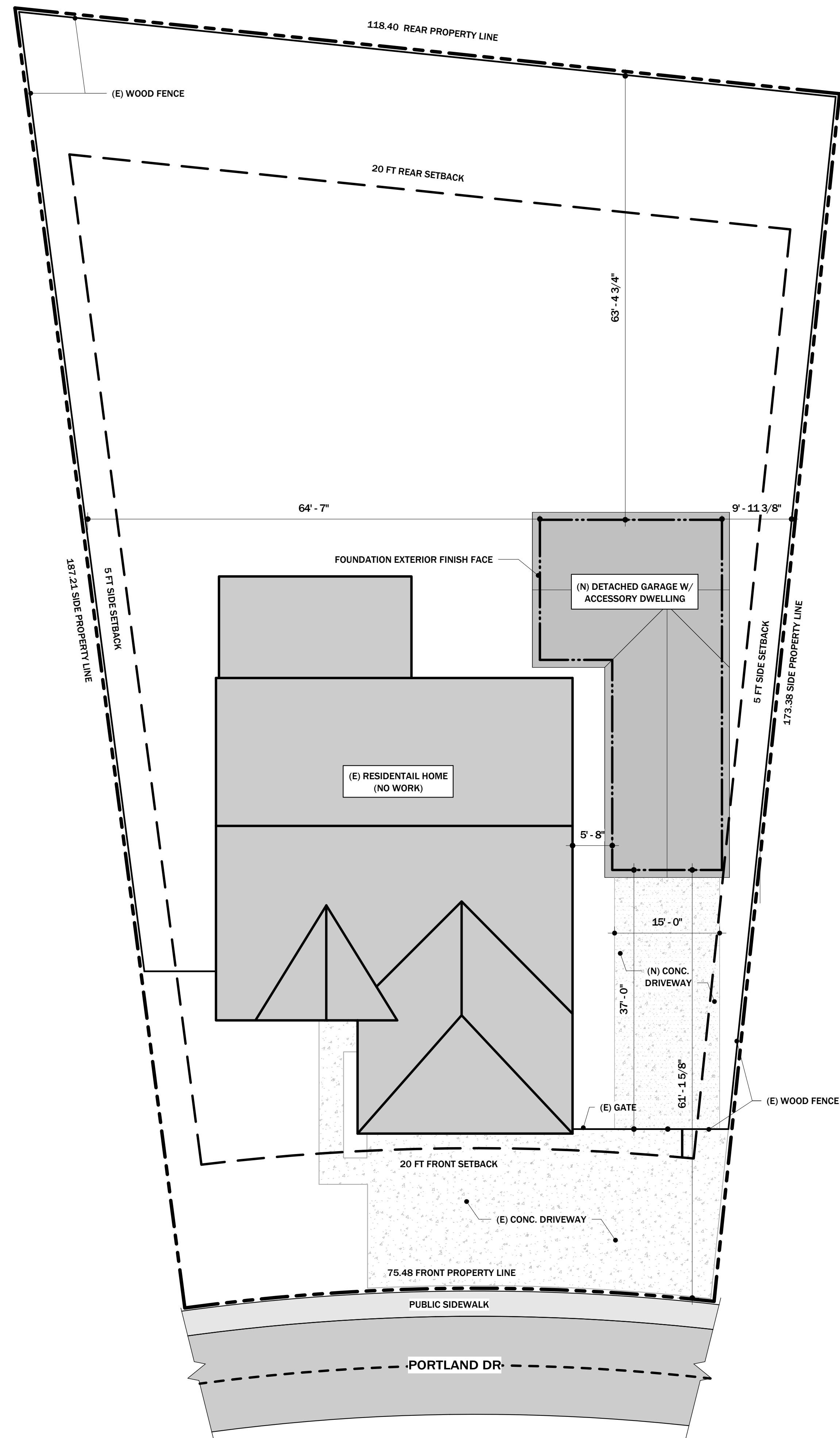
04/19/2022

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

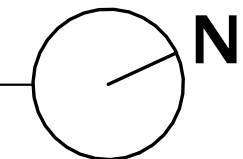
SHEET NUMBER

A0.2

DRAWN BY: LK



A SITE
SCALE: 1" = 10'-0"



SHEET NAME	SITE PLAN
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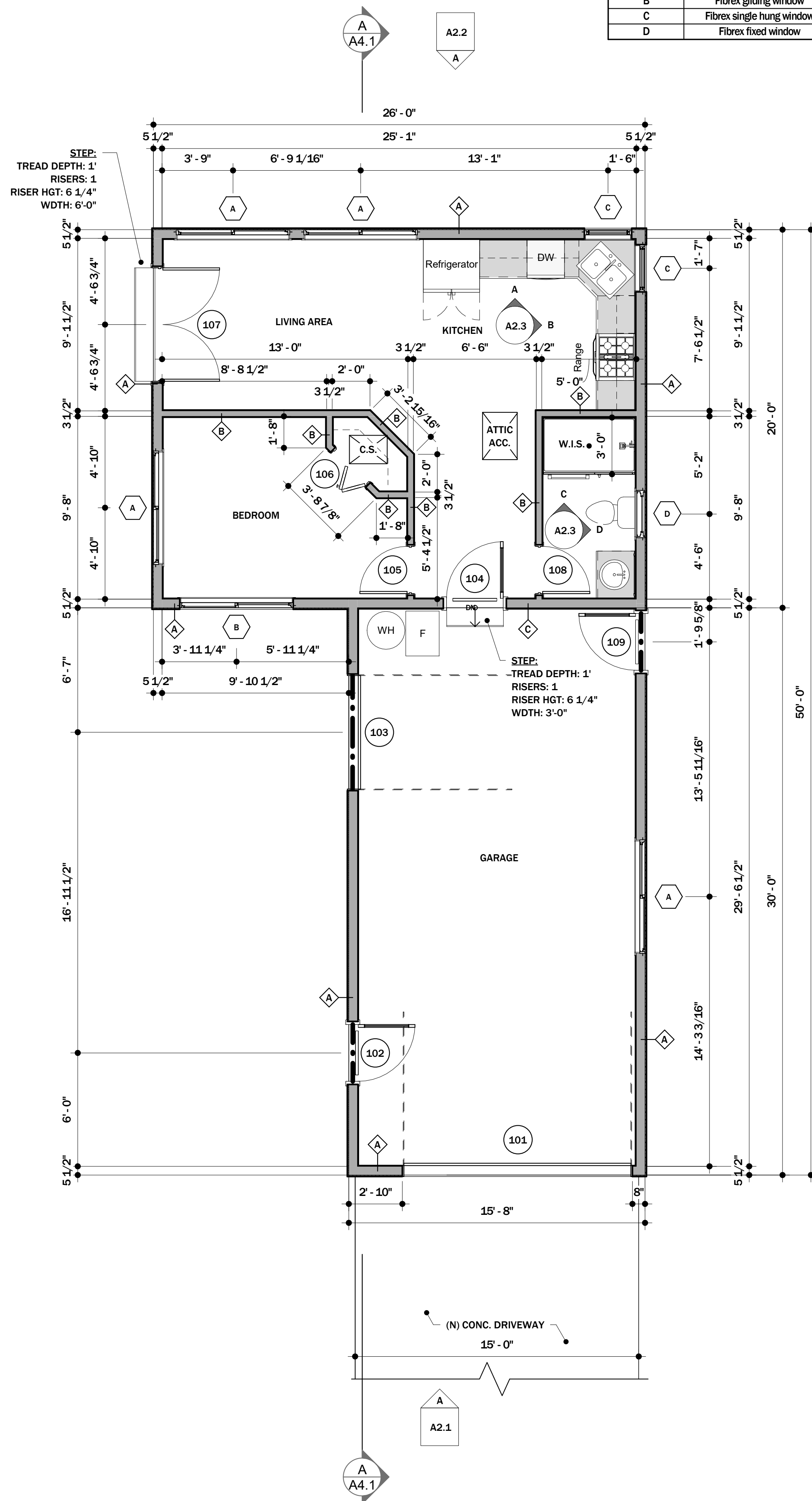
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A1.0
DRAWN BY: LK



PROPOSED MAIN FLOOR PLAN

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

WINDOW SCHEDULE									
Type Mark	Type Comments	Count	Width	Height	Header Size	Tempered	SHGC (Max)	U-Factor (Max)	Comments
A	Fibrex gliding window	4	6'-0"	1'-0"	(2) 2x10, UNO.				
B	Fibrex gliding window	1	6'-0"	4'-6"	(2) 2x10				
C	Fibrex single hung window	2	2'-6"	3'-0"	(2) 2x6				
D	Fibrex fixed window	1	2'-6"	1'-3"	(2) 2x6				

DOOR SCHEDULE					
Mark	Door Type	Width	Height	Header Size	Comments
101	Exterior door	12'-0"	7'-0"	(2) 2x10	
102	Garage door	6'-0"	7'-0"	(3) 2x10	
103	Exterior door	3'-0"	6'-8"	(2) 2x6	
104	Interior door	2'-6"	6'-8"		
105	2 panel bifold door	2'-6"	6'-8"		
106	Exterior french door	6'-0"	6'-8"	(2) 2x6	
107	Interior door	2'-6"	6'-8"		
108	Exterior door	3'-0"	6'-8"	(2) 2x6	
109	Exterior door	3'-0"	6'-8"	(2) 2x6	

WALL SCHEDULE						
Type Mark	Wall type	Sheathing thickness	Stud size	Stud spacing	Exterior finish	Interior finish
A	Exterior	1/2"	2x6	SEE STRUCTURAL	Board and batten siding	GWB
B	Interior	1/2"	2x4	SEE STRUCTURAL	GWB	GWB
C	Interior Fire Wall	1/2"	2x6	SEE STRUCTURAL	5/8" Type 7X GWB	GWB

CRAWL SPACE VENTILATION		
PER R408.1: ONE VENT OPENING SHALL BE WITHIN 3 FEET OF EACH CORNER. 1/1500 SQ. FT. REQUIRED W/ VAPOR BARRIER.		
6"x14" STANDARD VENT	(2) 6"x14" @ .58 S.F. = 1.16 S.F.	
TOTAL VENT AREA PROVIDED	1.16 S.F.	
REQUIRED = 1.150.33 S.F. / 1500 = .76 S.F.		

ATTIC VENTILATION		
ATTIC SPACE (ADDITION)		
GABLE END VENTS	(2) 15"x18" @ 1.87 S.F. EA = 3.74 S.F.	
TOTAL VENT AREA PROVIDED	3.74 S.F.	
REQUIRED = 600 S.F. / 1,150.33 = 1.91 S.F.		

FLOOR PLAN NOTES

- ALL DIMENSIONS & SITE CONDITIONS TO BE VERIFIED BY CONTRACTOR PRIOR TO CONSTRUCTION.
- ALL FINISHES (INTERIOR & EXTERIOR) TO BE VERIFIED WITH OWNER PRIOR TO CONSTRUCTION.
- VERIFY ALL DOOR AND WINDOW STYLES AND SIZES WITH OWNER PRIOR TO CONSTRUCTION. MANUFACTURER TO SUPPLY ALL ROUGH OPENING SIZES.
- CONTRACTOR TO VERIFY ALL CLEARANCES OF ALL DOORS, WINDOWS AND OTHER ITEMS THAT ARE CRITICAL, PRIOR TO CONSTRUCTION.
- CONTRACTOR TO ADAPT PLANS AS REQUIRED TO MEET ALL APPLICABLE CODES AT SITE.
- ALL BEAMS TO BE SIZED BY A LICENSED STRUCTURAL ENGINEER.
- PORCHES, BALCONIES OR RAISED FLOOR SURFACES LOCATED MORE THAN 30 INCHES ABOVE THE FLOOR OR GRADE BELOW AT ANY POINT WITHIN 36 INCHES HORIZONTALLY SHALL HAVE GUARDS NOT LESS THAN 36 INCHES IN HEIGHT. OPEN SIDES OF STAIRS WITH A TOTAL RISE OF MORE THAN 30 INCHES ABOVE THE FLOOR OR GRADE BELOW SHALL HAVE GUARDS NOT LESS THAN 34 INCHES IN HEIGHT MEASURED VERTICALLY FROM THE NOSING OF THE TREADS. INSECT SCREENING SHALL NOT BE CONSIDERED AS A GUARD. IRC 2018, R312.1.1 & R312.1.2.
- M1305.1.3 APPLIANCES IN ATTICS. ATTICS CONTAINING APPLIANCES SHALL BE PROVIDED WITH AN OPENING AND A CLEAR AND UNOBSTRUCTED PASSAGEWAY LARGE ENOUGH TO ALLOW REMOVAL OF THE LARGEST APPLIANCE, BUT NOT LESS THAN 30 INCHES HIGH AND 22 INCHES WIDE AND NOT MORE THAN 20 FEET LONG MEASURED ALONG THE CENTERLINE OF THE PASSAGEWAY FROM THE OPENING TO THE APPLIANCE. THE PASSAGEWAY SHALL HAVE CONTINUOUS SOLID FLOORING IN ACCORDANCE WITH CHAPTER 5 NOT LESS THAN 24 INCHES WIDE. A LEVEL SERVICE SPACE AT LEAST 30 INCHES DEEP AND 30 INCHES WIDE SHALL BE PRESENT ALONG ALL SIDES OF THE APPLIANCE WHERE ACCESS IS REQUIRED. THE CLEAR ACCESS OPENING DIMENSIONS SHALL BE A MINIMUM OF 20 INCHES BY 30 INCHES, AND LARGE ENOUGH TO ALLOW REMOVAL OF THE LARGEST APPLIANCE. EXCEPTIONS:
 - THE PASSAGEWAY AND LEVEL SERVICE SPACE ARE NOT REQUIRED WHERE THE APPLIANCE CAN BE SERVICED AND REMOVED THROUGH THE REQUIRED OPENING.
 - WHERE THE PASSAGEWAY IS UNOBSTRUCTED AND NOT LESS THAN 6 FEET HIGH AND 22 INCHES WIDE FOR ITS ENTIRE LENGTH, THE PASSAGEWAY SHALL BE NOT MORE THAN 50 FEET LONG.
- APPLIANCE ACCESS FOR INSPECTION SERVICE, REPAIR AND REPLACEMENT. APPLIANCES SHALL BE ACCESSIBLE FOR INSPECTION, SERVICE, REPAIR AND REPLACEMENT WITHOUT REMOVING PERMANENT CONSTRUCTION, OTHER APPLIANCES, OR ANY OTHER PIPING OR DUCTS NOT CONNECTED TO THE APPLIANCE BEING INSPECTED, SERVICED, REPAIRED OR REPLACED. A LEVEL WORKING SPACE AT LEAST 30 INCHES DEEP AND 30 INCHES WIDE SHALL BE PROVIDED IN FRONT OF THE CONTROL SIDE TO SERVICE AN APPLIANCE. INSTALLATION OF ROOM HEATERS SHALL BE PERMITTED WITH AT LEAST AN 18-INCH WORKING SPACE. A PLATFORM SHALL NOT BE REQUIRED FOR ROOM HEATERS. M1305.1.1 FURNACES AND AIR HANDLERS. FURNACES AND AIR HANDLERS WITHIN COMPARTMENTS OR ALCOVES SHALL HAVE A MINIMUM WORKING SPACE CLEARANCE OF 3 INCHES ALONG THE SIDES, BACK AND TOP WITH A TOTAL WIDTH OF THE ENCLOSING SPACE BEING AT LEAST 12 INCHES WIDER THAN THE FURNACE OR AIR HANDLER. FURNACES HAVING A FIREBOX OPEN TO THE ATMOSPHERE SHALL HAVE AT LEAST A 6-INCH WORKING SPACE ALONG THE FRONT COMBUSTION CHAMBER SIDE. COMBUSTION AIR OPENINGS AT THE REAR OR SIDE OF THE COMPARTMENT SHALL COMPLY WITH THE REQUIREMENTS OF CHAPTER 17. EXCEPTION: THIS SECTION SHALL NOT APPLY TO REPLACEMENT APPLIANCES INSTALLED IN EXISTING COMPARTMENTS AND ALCOVES WHERE THE WORKING SPACE CLEARANCES ARE IN ACCORDANCE WITH THE EQUIPMENT OR APPLIANCE MANUFACTURER'S INSTALLATION INSTRUCTIONS.
- EMERGENCY ESCAPE AND RESCUE OPENINGS SHALL BE OPERATIONAL FROM THE INSIDE OF THE ROOM WITHOUT THE USE OF KEYS, TOOLS OR SPECIAL KNOWLEDGE. WINDOW OPENING CONTROL DEVICES COMPLYING WITH ASTM F 2090 SHALL BE PERMITTED FOR USE ON WINDOWS SERVING AS A REQUIRED EMERGENCY ESCAPE AND RESCUE OPENING. ALL SLEEPING ROOMS TO HAVE AN EXTERIOR ACCESS THROUGH A DOOR OR WINDOW WITH A MINIMUM OF 5.7 SQUARE FEET NET CLEAR OPENING AS PER IRC 2018 R310.2.1. EXCEPTION: GRADE FLOOR OR BELOW GRADE OPENINGS SHALL HAVE A MINIMUM NET CLEAR OPENING OF 5 SQUARE FEET. MAXIMUM SILL HEIGHT TO BE 44 INCHES. MINIMUM NET CLEAR OPENING HEIGHT TO BE 24 INCHES. MINIMUM NET CLEAR OPENING WIDTH TO BE 20 INCHES.
- ALL RETURN AIR GRILLS ARE TO BE LOCATED TO COMPLY WITH SECTION M1602 OF THE IRC 2018.
- ALL SQUARE FOOTAGE MEASUREMENTS ARE APPROXIMATE AND MAY DIFFER FROM ACTUAL CONSTRUCTED RESIDENCE OR BUILDING.
- FIRE SPRINKLER SYSTEM TO BE DESIGNED AND INSTALLED (IF REQUIRED BY LOCAL CODES) AS PER THE IRC 2018 AND BY A LICENSED PROFESSIONAL IN THE AREA OF CONSTRUCTION.
- ALL BATHROOM EXHAUST VENTS SHALL BE VENTED DIRECTLY TO THE EXTERIOR OF THE HOME AND NOT INTO THE ATTIC. IRC 2018, M1507.2

DOOR NOTES

- ALL DOORS SHALL BE SOLID CORE 1 3/4" THICK, UNO.
- INTERIOR DOORS SHALL BE STAINED -OR- PAINTED, VERIFY WITH OWNER.
- EXTERIOR EXIT DOORS SHALL BE 36" MIN. NET CLEAR DOOR WAY SHALL BE 32" MIN. DOOR SHALL BE OPENABLE FROM INSIDE.
- ALL GLAZING WITHIN 18 IN. OF THE FLOOR AND/OR WITHIN 24 IN. OF ANY DOOR (REGARDLESS OF WALL PLANE) ARE TO HAVE SAFETY GLAZING.

WINDOW NOTES

- WOOD WINDOWS WITH CLAD EXTERIOR SEE ENERGY RATINGS.
- INTERIOR WINDOW MATERIALS: STAINED WITH FACTORY FINISH, VERIFY WITH OWNER.
- WINDOW HARDWARE TO BE OWNER SELECTED AT TIME OF ORDER.
- WINDOW ROUGH OPENING: 1/2" FOR TOP/BOTTOM & 1/2" FOR SIDES, UNO BY MFG.
- SEE WINDOW SCHEDULE CALLOUT FOR WINDOWS THAT USE A WOOD OR STEEL BEAM FOR THE HEADER.

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SHEET NAME
PROPOSED MAIN FLOOR PLAN

3787 PORTLAND DR.
WASHOE COUNTY, NV, 89511
HINSON DETACHED GARAGE WITH
ACCESSORY DWELLING NEW BUILD

DATE: 04/08/2022
PROJECT NO: 21-043

REVISION DATE



04/19/2022

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

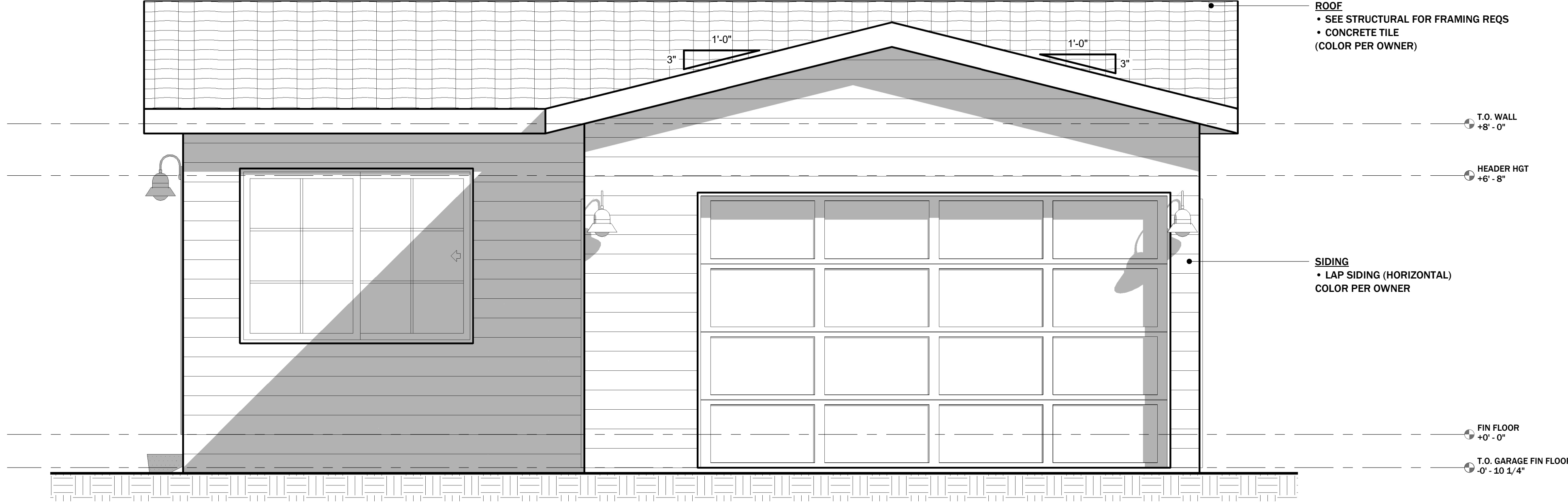
A1.1
DRAWN BY: LK

EXTERIOR ELEVATION NOTES

1. CONTRACTOR TO VERIFY ALL WINDOW AND DOOR STYLES AND SIZES WITH OWNER PRIOR TO CONSTRUCTION.
2. PROVIDE STEPS AND GUARD RAILS AS PER CODE BASED ON SITE CONDITIONS.
3. GROUND LINES SHOWN FOR REFERENCE ONLY AND VARY DEPENDING ON SITE CONDITIONS.
4. ALL FINISH MATERIALS TO BE VERIFIED WITH OWNER PRIOR TO CONSTRUCTION.
5. REFER TO TYPICAL WALL DETAIL FOR FRAMING METHODS AND OTHER MISC. INFORMATION.
6. CONTRACTOR TO PROVIDE ADEQUATE ROOF VENTILATION AS REQ'D BY CURRENT CODES.



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A FRONT ELEVATION
SCALE: 1/2" = 1'-0"



B RIGHT ELEVATION
SCALE: 1/2" = 1'-0"

SHEET NAME
EXTERIOR ELEVATIONS

3787 PORTLAND DR.
WASHOE COUNTY, NV, 89511
HINSON DETACHED GARAGE WITH
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DATE: 04/08/2022
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REVISION: DATE:



04/19/2022
SCALE: As indicated
SHEET NUMBER

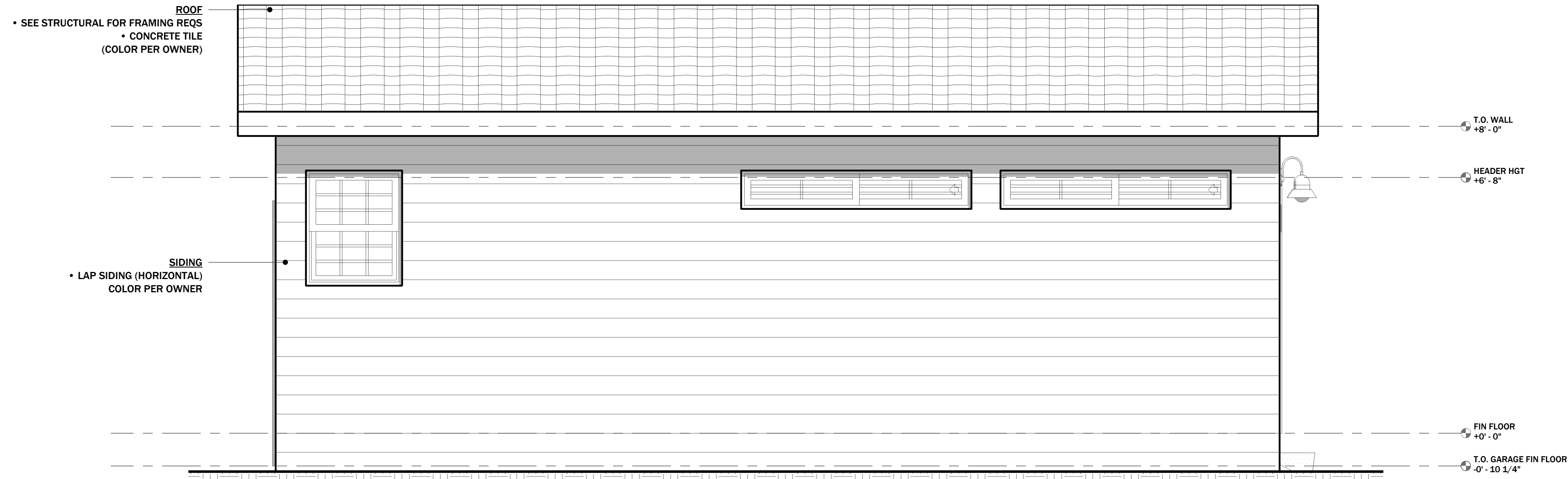
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EXTERIOR ELEVATION NOTES

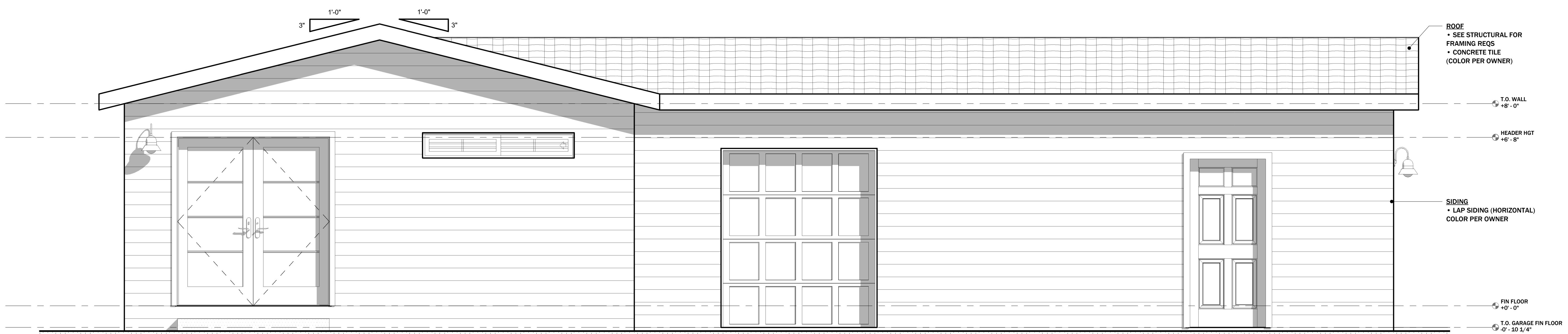
1. CONTRACTOR TO VERIFY ALL WINDOW AND DOOR STYLES AND SIZES WITH OWNER PRIOR TO CONSTRUCTION.
2. PROVIDE STEPS AND GUARD RAILS AS PER CODE BASED ON SITE CONDITIONS.
3. GROUND LINES SHOWN FOR REFERENCE ONLY AND VARY DEPENDING ON SITE CONDITIONS.
4. ALL FINISH MATERIALS TO BE VERIFIED WITH OWNER PRIOR TO CONSTRUCTION.
5. REFER TO TYPICAL WALL DETAIL FOR FRAMING METHODS AND OTHER MISC. INFORMATION.
6. CONTRACTOR TO PROVIDE ADEQUATE ROOF VENTILATION AS REQ'D BY CURRENT CODES.



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A REAR ELEVATION
 SCALE: 1/2" = 1'-0"



B LEFT ELEVATION
 SCALE: 1/2" = 1'-0"

SHEET NAME
 EXTERIOR ELEVATIONS

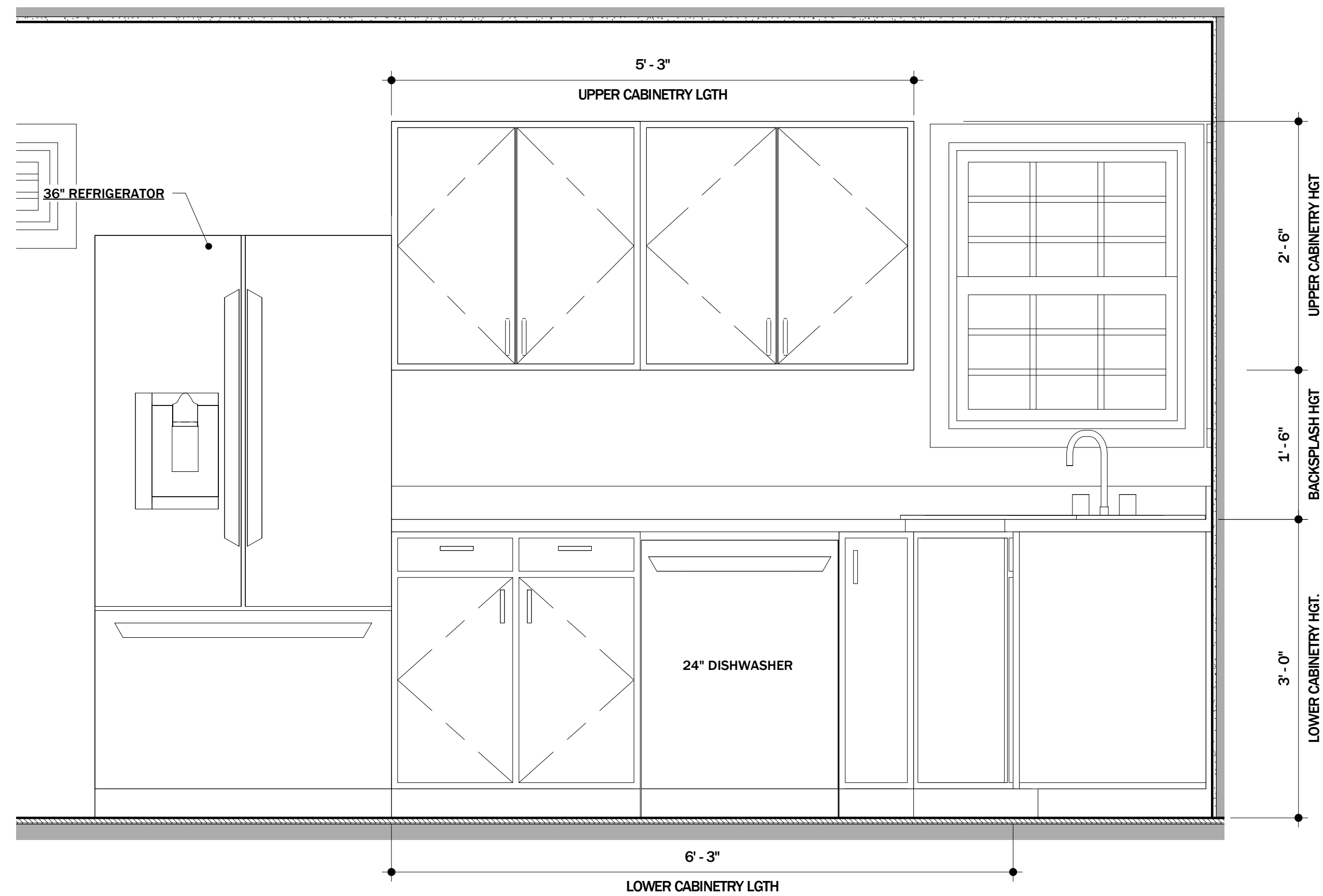
3787 PORTLAND DR.
 WASHOE COUNTY, NV, 89511
 HINSON DETACHED GARAGE WITH
 ACCESSORY DWELLING NEW BUILD

DATE: 04/08/2022
 PROJECT NO: 21-043
 REVISION: DATE

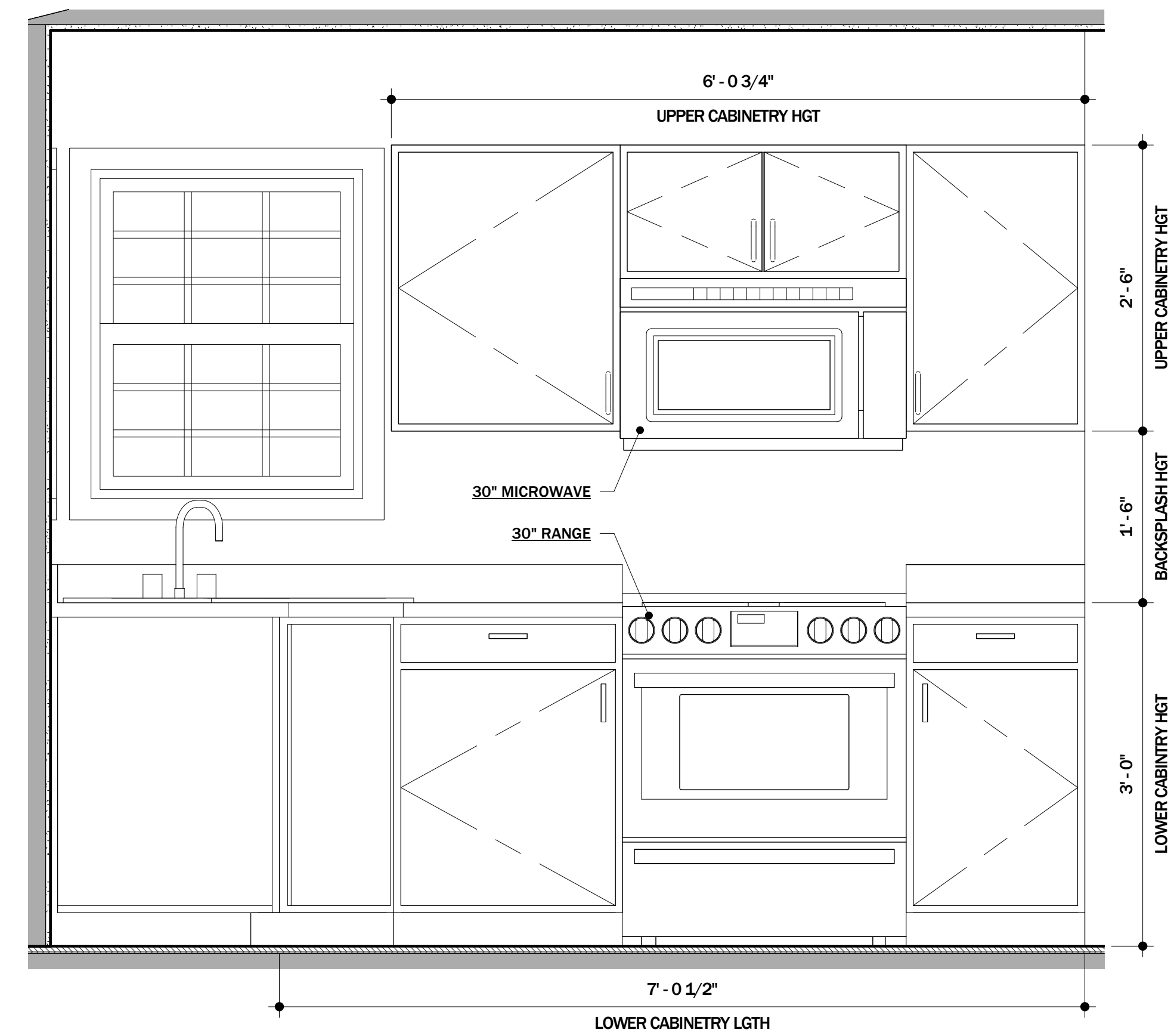


04/19/2022
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 SHEET NUMBER

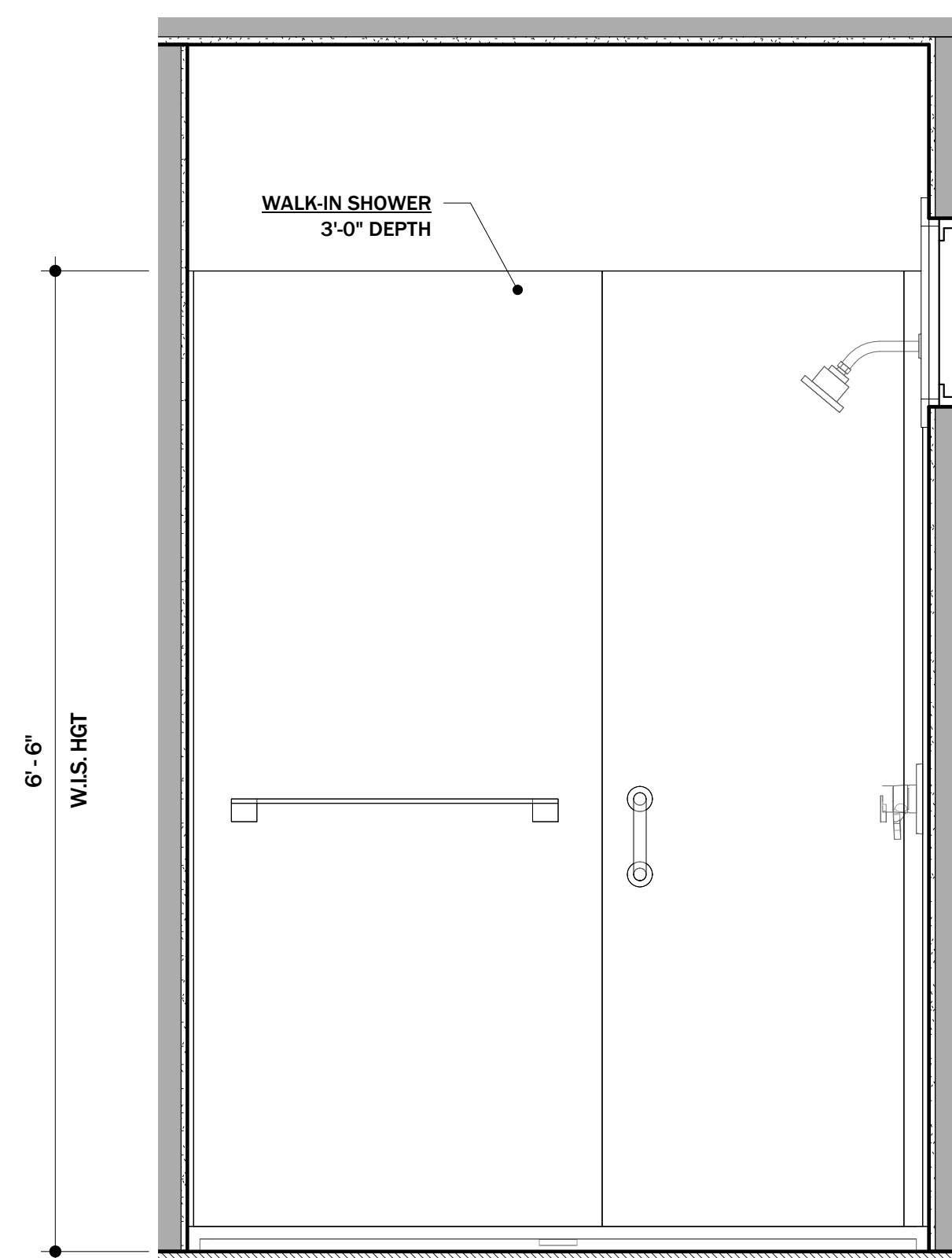
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 DRAWN BY: LK



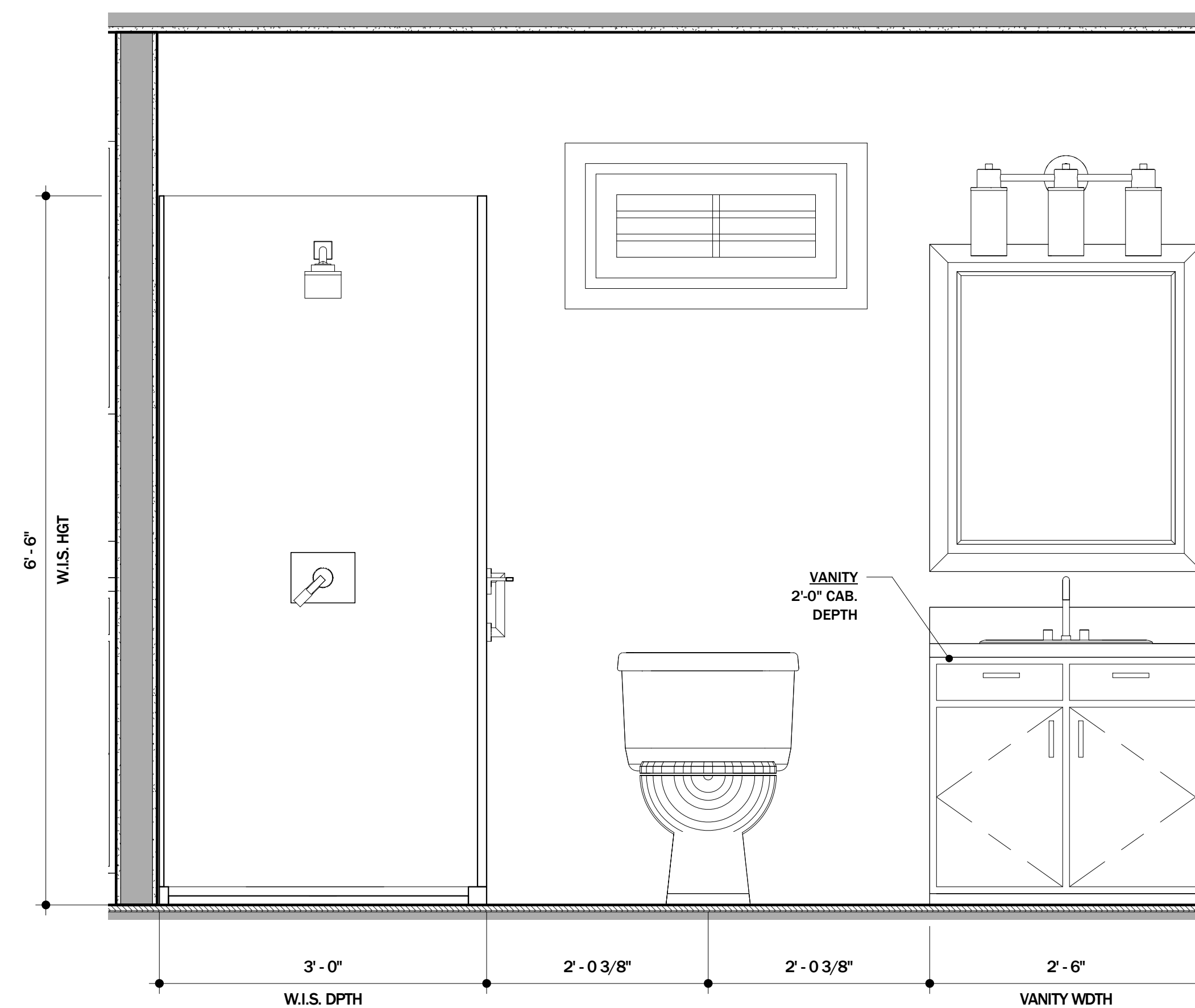
A INTERIOR KITCHEN VIEW "A"
SCALE: 1" = 1'-0"



B INTERIOR KITCHEN VIEW "B"
SCALE: 1" = 1'-0"



C INTERIOR BATHROOM VIEW "A"
SCALE: 1" = 1'-0"



D INTERIOR BATHROOM VIEW "B"
SCALE: 1" = 1'-0"

BUILDING SECTION NOTES

1. CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE CODES AT SITE.
2. CONTRACTOR TO THOROUGHLY WATERPROOF ALL EXTERIOR INTERSECTIONS AS PER CODE AND TYPICAL BUILDING PRACTICES.
3. ALL BEAMS, HEADERS, AND SPACING TO BE VERIFIED BY LICENSED STRUCTURAL ENGINEER.
4. PRE-MANUFACTURED TRUSSES TO BE DESIGNED AND VERIFIED BY LICENSED TRUSS ENGINEER.
5. CONTRACTOR TO PROVIDE ADEQUATE ROOF VENTILATION AS REQUIRED BY CODE.

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SHEET NAME
BUILDING SECTION

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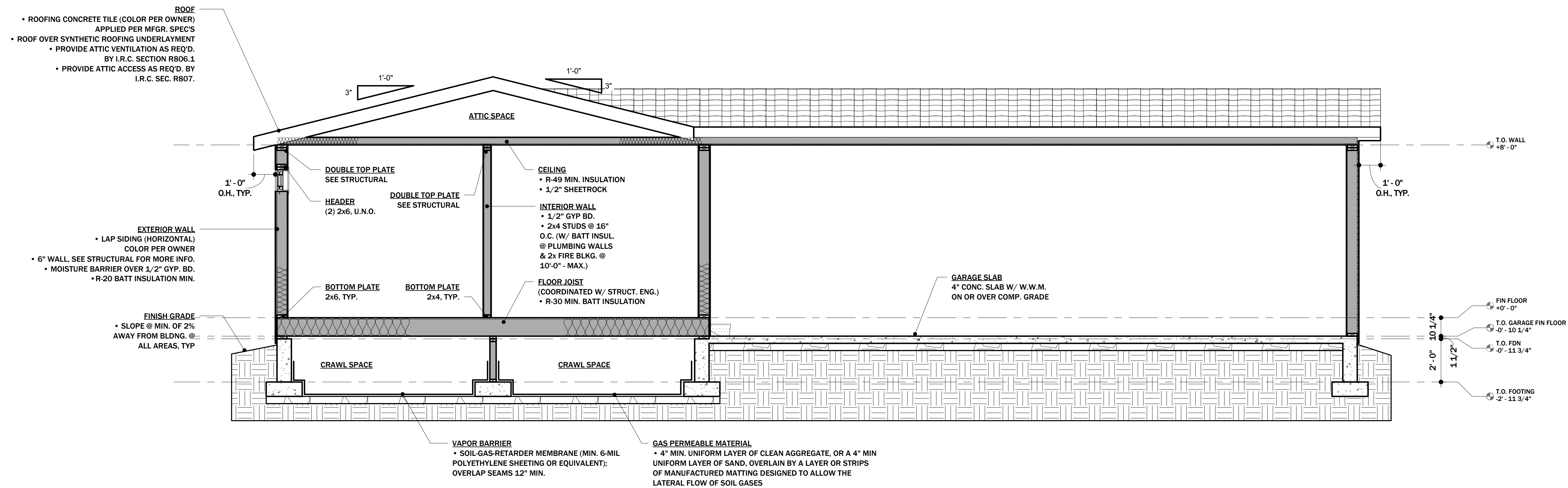
DATE: 04/08/2022
PROJECT NO: 21-043
REVISION: DATE:



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SCALE: As indicated
SHEET NUMBER

A4.1
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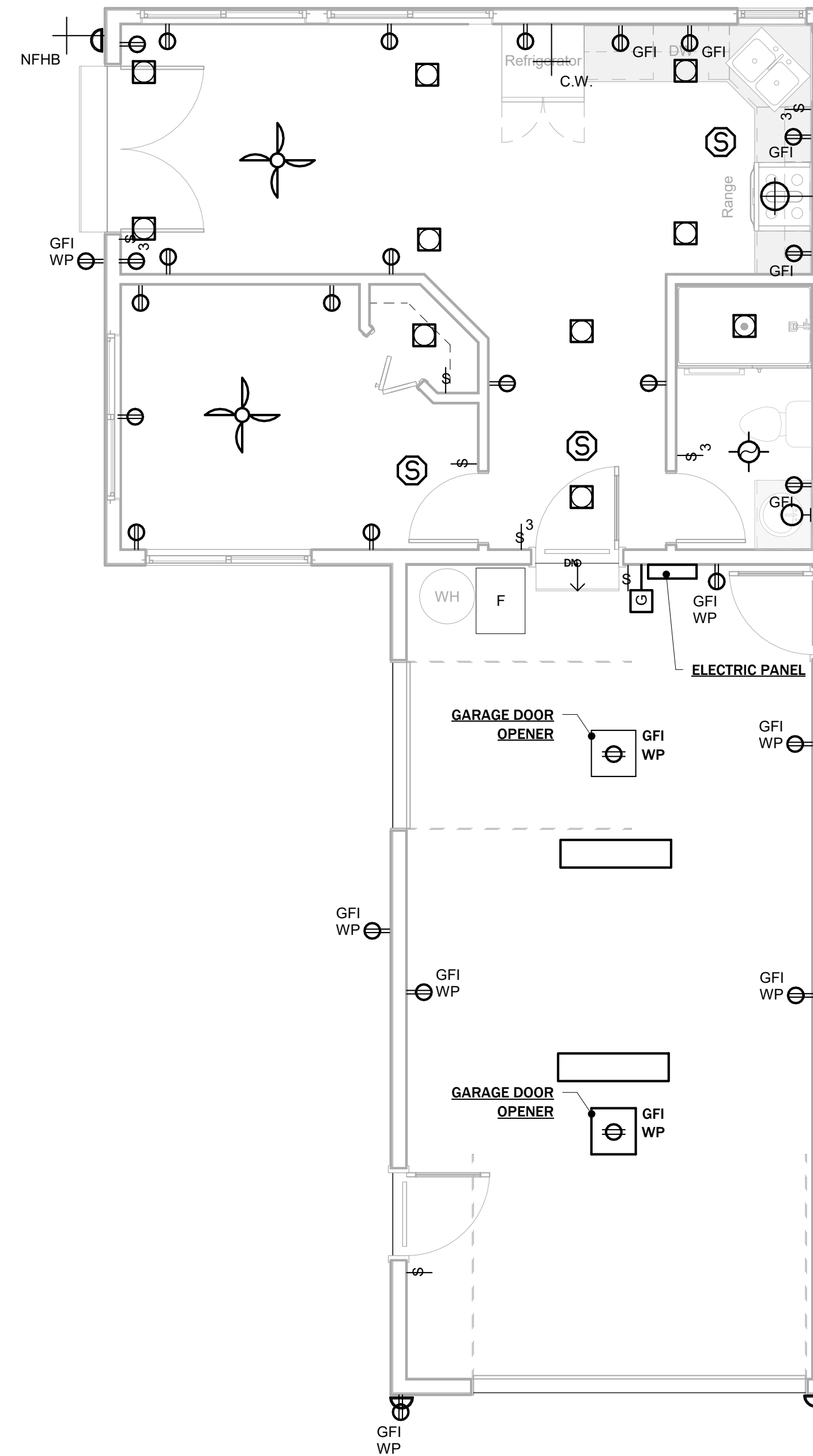
A BUILDING SECTION
SCALE: 3/8" = 1'-0"

ELECTRICAL NOTES

1. ALL WORK SHALL COMPLY WITH ALL APPLICABLE CODES.
2. OWNER SHALL DO A WALK THRU WITH ELECTRICAL CONTRACTOR TO VERIFY EXACT LOCATION FOR OUTLETS, LIGHTING, SWITCHES, ETC.
3. ALL APPLIANCES & UTILITIES SHALL HAVE DEDICATED CIRCUITS.
4. APPLIANCES AND FIXTURES TO BE CHOSEN BY OWNER.
5. ALL ROOM CIRCUITS TO BE AFCI PROTECTED.
6. IN EVERY HABITABLE ROOM, RECEPTACLE OUTLETS SHALL BE INSTALLED SO THAT NO POINT ALONG THE FLOOR LINE IN ANY WALL SPACE, INCLUDING ANY WALL SPACE 2 FEET OR MORE IN WIDTH, IS MORE THAN 6 FEET MEASURED HORIZONTALLY FROM AN OUTLET IN THAT SPACE SO THAT THERE WILL BE AN OUTLET FOR EVERY 12 LINEAR FEET OR FRACTION THEREOF OF WALL LENGTH.
7. ALL RECEPTACLES INSTALLED WITHIN 6 FEET OF A LAUNDRY, UTILITY OR WET BAR SINK SHALL BE PROTECTED BY GROUND- FAULT CIRCUIT INTERRUPTERS.

ELECTRICAL LEGEND

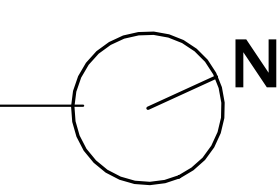
- 110 V. ARC FAULT CIRCUIT INTERRUPTER DUPLEX OUTLET
- 220 V. APPLIANCE OUTLET
- 110 V. ARC FAULT CIRCUIT INTERRUPTER DUPLEX CEILING OUTLET
- 110 V. ARC FAULT CIRCUIT INTERRUPTER FLOOR OUTLET
- 110 V. ARC FAULT CIRCUIT INTERRUPTER DUPLEX CEILING OUTLET W/WATER PROOF OUTLET
- 110 V. GROUND FAULT INTERRUPTER PROTECTED DUPLEX OUTLET
- 110 V. GROUND FAULT INTERRUPTER PROTECTED DUPLEX OUTLET W/WATER PROOF OUTLET
- SINGLE POLE SWITCH
- THREE-WAY SWITCH
- DIMMER SWITCH
- CEILING MOUNTED LIGHT FIXTURE
- RECESSED CAN LIGHT FIXTURE
- WALL MOUNTED LIGHT FIXTURE
- 1' X 4' LIGHT FIXTURE
- CEILING MOUNTED EXHAUST FAN
- CEILING MOUNTED EXHAUST FAN WITH LIGHT
- GARAGE DOOR OPENER
- THERMOSTAT
- SMOKE / CARBON MONOXIDE COMBINATION DETECTOR
- PHONE JACK
- TELEVISION CABLE OUTLET
- DATA OUTLET
- C.W.
- NFHB
- GAS OUTLET
- GAS KEY
- FLOOR MOUNTED HVAC SUPPLY REGISTER
- SINGLE TUBE FLOURESCENT MOUNTED UNDER CABINET
- CEILING FAN WITH FLUORESCENT LIGHT FIXTURE
- JUNCTION BOX
- ILLUMINATED EXIT SIGN - CEILING MOUNTED
- ILLUMINATED EXIT SIGN - WALL MOUNTED
- JUNCTION BOX
- PENDANT LIGHT FIXTURE
- WALL SCONCE



A

ELECTRICAL PLAN

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



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SHEET NAME
ELECTRICAL PLAN

3787 PORTLAND DR.
WASHOE COUNTY, NV, 89511
HINSON DETACHED GARAGE WITH
ACCESSORY DWELLING NEW BUILD

DATE: 04/08/2022
PROJECT NO: 21-043
REVISION: _____ DATE: _____



04/19/2022
SCALE: 1/4" = 1'-0"
SHEET NUMBER

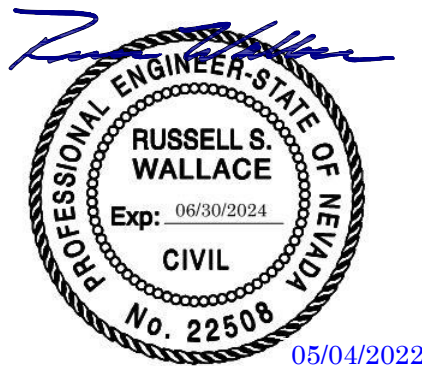
E1.1
DRAWN BY: LK

STRUCTURAL CALCULATIONS

Hinson Detached Garage / ADU 22-011

3787 Portland Dr.
Washoe County, NV 89511
APN: 144-042-02

May 4, 2022



Russell S. Wallace, PE

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DESIGN PARAMETERS:

Code:	2018 IBC	Soil Site Class:	D
Wind Speed:	120 mph (3 second gust)	Soil Bearing Pressure:	1500 psf
Wind Exposure:	C	Seismic Design Category:	D

RW Engineering LLC

Job. No. **22-011** Initials: **NB** Date: **5/4/22**

Job Name: **Hinson Detached Garage / Accessory Dwelling**
 Architect: **Nelson Agave, Architect**
 Job Address: **3787 Portland Dr.**
Reno, NV 89511
APN: 144-042-02

Description: **Detached Garage / Accessory Dwelling Unit, Wood Framed, Trussed Roof**

Wood:

Douglas Fir-Larch (G = 0.5) Moisture content not to exceed 19%	Size Classification	Bending Fb (PSI)	Tension Parallel to Grain (PSI)	Shear Parallel to Grain Fv (PSI)	Compression Perpendicular to Grain	Compression Parallel to Grain	Modulus of Elasticity (PSI)
4X or Less							
#2	2" and Wider	900	575	180	625	1350	1600000
Stud Grade		525	450	180	625	775	1400000
6X or Greater							
#1		1350	675	170	625	925	1600000
Microllam LVL							
	1-3/4" Wide	2600		285	750	2310	1900000
Parallam PSL							
		2900		290	650	2900	2000000
Glu-Lam Beams							
Unbalanced Dry Use	24F-V4 DF/DF	2400	1150	190	650	1650	1800000
Balanced for Cont. or Cantilevered	24F-V8 DF/DF	2400	1150	190	650	1650	1800000

Wood Framing per 2018 National Design Specifications

Code: **I.B.C. 2018 Edition**

Steel: **Anchor Bolts - A307, Threaded Rods - A307, Rebar - f_s=40ksi or better**

Structural Wide Flange - F_y=50 ksi, Structural Tubes - F_y=46 ksi

Steel Moment Frames - A992 Grade 50 Steel - special inspection and UT testing required

Concrete: **f_c=2,500 psi for all slabs, continuous foundations and spread footings - no inspection required.**

f_c=3,000 psi for all structural grade beams - inspection required.

Masonry: **f_m=1,500 psi - inspection required, f_m=750 psi - no inspection required**

NOTES:

GENERAL

- a) All work shall conform to the 2018 IBC and applicable local codes.
- b) Where applicable allowable stresses have been increased 15% (Except Alpine and Placer Counties) for short duration and 60% for seismic and wind loading.
- c) RW Engineering LLC. is responsible for the structural items in the plans only. Should any changes be made, or should the results of these calculations not be fully or properly transferred to the plans, RW Engineering LLC. assumes no responsibility for the structure.
- d) All codes and standards shall be the most current edition as of the date of the calculations.
- e) The details shown on the drawings are typical. Similar details apply to similar conditions.
- f) The calculations are based upon a complete structure. Should an unfinished structure be subjected to loads, RW Engineering LLC. should be consulted for an interim design or if not, will assume no liability.
- g) Engineer shall be notified of existing conditions that differ from those shown on these details and plans.

SITE WORK

- a) Building sites are assumed to be drained and free of clay or expansive soil. Any other conditions should be brought to the attention of RW Engineering LLC.
- b) These calculations assume stable, undisturbed soils and level or stepped footings. Any other conditions should be reported to RW Engineering LLC.
- c) All footings shall bear on undisturbed soil or compacted structural fill.
- d) All finish grade shall slope away from foundation for a minimum of 10'-0".
- e) An assumed soil bearing pressure is determined and will be increased in accordance with IBC Table 1806.2.
- f) No snow or water is to be allowed to collect around foundation during construction. It is the contractor's responsibility to ensure that the building site drains freely, and that any standing water or snow is removed immediately.

FILL AND BACKFILL

- a) Fill material shall be free from debris, vegetation, and other foreign substances.
- b) Backfill trenches shall be compacted to 90% relative density per ASTM D1557 to within 12" of finished grade. The top 12" shall be landscape fill.
- c) Backfill at pipe trenches shall be compacted on both sides of pipe in 6" lifts.
- d) Waterproof exterior faces of all foundation walls adjacent to usable spaces. Waterproofing of all foundation and retaining walls to be the responsibility of the owner and/ or contractor.
- e) All backfill against foundation walls must be compacted to 90% relative density, unless otherwise directed by a soils report.
- f) Perforated pipe sub-drain typical behind all retaining walls. Use 4" ϕ PVC except where noted otherwise. Slope pipe to drain to daylight and drywell.

CONCRETE

- a) All concrete shall have a minimum 28-day compressive strength of 3000 psi for footings and 3000 psi for retaining walls, U.N.O.
- b) Structural design based on compressive strength of 2500 psi (special inspection not required).
- c) Concrete shall be air-entrained to 5% \pm 1%.
- d) Reinforcement shall be ASTM A615, grade 60 ksi, U.N.O.
- e) Lap reinforcing a minimum of 40 bar diameters at all splices, U.N.O.

NOTES (continued)

- f) All slabs on grade (SOG) shall have a minimum thickness of 4" and be reinforced with WWF 6x6 – W10xW10 as per ASTM A185, or with Fibermesh as per manufacturer's specifications equivalent to mesh specified above, U.N.O. All SOG have been designed assuming an f'_c of 2500 psi, but shall be constructed with 3500 psi concrete.
- g) Waterproofing of foundations and retaining walls is the responsibility of the owner.
- h) Reinforcement cover in cast-in-place concrete shall be as follows:
 - 3" - Concrete cast against and permanently exposed to earth.
 - 1-1/2" - Concrete exposed to earth or weather with #5 bars or smaller.
 - 1-1/2" - Concrete not exposed to weather or in contact with ground, #11 bars and smaller.
 - 1-1/2" - Beams, columns, and pilaster, cover over ties.
 - 1-1/2" - Clear to top for reinforcement in slabs on grade.
- i) Provide slab control joints (saw cut or plastic inserts) at 10'-0" maximum spacing each way for 4" slabs and 12'-0" maximum for 6" slabs U.N.O. Joint depth to be 1/4 of slab depth.

MASONRY

- a) All masonry units shall conform to ASTM C90 grade N units, U.N.O.
- b) All masonry cells are to be solid grouted with mortar conforming to ASTM C279, type S, with a 28 day compressive strength of 2000 psi, minimum, U.N.O.
- c) Vertical steel placement in masonry stem walls to be #4 bars at 16" o.c. maximum spacing, U.N.O.
- d) Horizontal steel placement in masonry stem walls to be #4 bars at 24" o.c. maximum spacing, U.N.O.

LUMBER/FRAMING

- a) All lumber framing shall be Douglas Fir Larch with moisture content < 19%, U.N.O.
- b) Glu-Lams used for simple spans shall be 24F-V4, U.N.O. Glu-lams used for continuous spans, or for cantilevered conditions, shall be 24F-V8, U.N.O. Glu-Lams exposed to weather shall be rated for exterior use by manufacturer or approved protection from exposure to be provided.
- c) All plywood shall conform to APA PS 1. All shear plywood shall be C-D, C-C, 303 (T1-11), or approved equal. (i.e. - Masonite Omniwood or LPI Inner-Seal vertical groove siding).
- d) Where multiple trimmers or studs are specified, those trimmers are to be stacked in all wall framing and solid blocking to be provided at all floors down to the foundation.
- e) Where posts with column caps, straps, or bearing plates are called for, the load is to be transferred to the foundation with posts as specified in the plans and solid vertical grain blocking at all floors.
- f) All 6x framing members to be DF #1 or better, U.N.O.
- g) All 4x framing members to be DF #2 or better, U.N.O.
- h) All studs to be stud grade or better, U.N.O. In no instance shall a stud wall be used to resist lateral pressures due to snow or soil. It is the owner and/or contractors responsibility to eliminate snow and/or soil to stud wall contact.
- i) All laminated veneer lumber (LVL) and parallel strand lumber (PSL) specified shall have the following minimum design strengths:
 - 1-3/4" wide: $F_b=2600$ psi, $F_v=220$ psi, $E=1,800,000$ psi.
 - 2-11/16 wide and greater: $F_b=2900$ psi, $F_v=290$ psi, $E=2,000,000$ psi.
- j) All multiple-ply LVL members to be attached with (3) rows of 16d common nails at 12" o.c. for entire length of member. For a three-piece member the nailing is from each side.
- k) Foundation sill plates, nailers, and ledgers in direct contact with concrete and within 6" of ground to be preservative treated Douglas Fir.

NOTES (continued)

- l) All framing members specified in these calculations and/or plans are minimums, and larger members of equal or better grade may be substituted.
- m) No green lumber shall be used on this project.

HARDWARE / STRUCTURAL STEEL

- a) All hardware called for shall be Simpson Strong-Tie Co. and installed per the manufacturers specifications, U.N.O.
- b) Structural steel shall conform to ASTM A992 grade 50. Steel pipe columns shall conform to ASTM A53, Type E or S. Steel tube sections shall conform ASTM A500, Grade B.
- c) All welding shall conform to the American Welding Society specifications. Certified welders approved by the local building authority shall perform all welding. All shop welding shall be in an approved fabricators shop authorized by the local building authority or specific inspection per IBC Section 1704.
- d) All welding electrodes shall be E70XX or shielded wires with $F_y \geq 70$ ksi.
- e) All nails specified are common nails. No substitutions unless approved in writing by RW Engineering LLC. or specifically addressed in these calculations or the plans. All nails exposed to weather shall be galvanized.
- f) The minimum nailing for all framing shall conform to IBC Table 2304.9.1.
- g) All bolts specified must meet ASTM A307. Bolt holes to be 1/32" to 1/16" larger than specified bolt. Washers shall be used at each bolt head and nut next to wood. All washers to be not less than standard cut washers.

ROOF DESIGN CRITERIA

Hinson Detached Garage / Accessroy Dwelling

2018 International Building Code (IBC)
 Local Building Department Standards
 Wind Speed = 120 mph (3 sec Gust)
 Exposure = C
 Soil Site Class = D
 Risk Category = II

ROOF FRAMING DESIGN LOADS

SNOW LOADS:

Site Elevation: 5,100 ft
 Ground Snow Load: 41 psf

TRUSSES

- Engineering to be provided by truss manufacturer.
- The truss manufacturer shall provide shop drawings for approval by this engineer and shall be responsible for the design and certification of the trusses.
- It is the responsibility of the truss manufacturer to conform the truss design according to the loading conditions as called for in these calculations, such as (1) snow, live and dead loads; (2) truss spacing; (3) spans and eave overhangs and their loading; (4) roof pitch; and (5) bearing points of all trusses.
- When trusses are space at 16" o.c. the truss manufacturer shall provide a means of attic access.
- When snow loads exceed 30 psf the trusses shall be designed to stack over wall studs at bearing points unless truss manufacturer provides alternate design.
- All girder trusses are to be supported by multiple studs, unless noted otherwise on the plans.
- Gable end trusses shall be structural; designed to support the overhang and to allow a top chord notch of 1-1/2". Use min. drag of 200 P.L.F.
- All non bearing walls are to have a 1/4" gap to the bottom chord of the trusses. Secure bottom chord to wall with Simpson STC clip on truss layout.
- Trusses are to be handled, installed, and braced in accordance with HIB-91 of the Truss Plate Institute
- Truss Spacing = 24" o.c.

TRUSS LOADING:

Top Chord Live / Snow Load =	31 psf	
Top Chord Dead Load =	20 psf	ROOF SLOPE
Bottom Chord Live Load =	0 psf	3 :12
<u>Bottom Chord Dead Load =</u>	<u>10 psf</u>	Snow Load @ Eave: 62 psf
Total Load =	61 psf	



Ground Snow Loads Northern Nevada

For:
Hinson Detached Garage / Accessroy Dwelling

Project Region: West of U.S. Hwy 395 Sierra Slope

Project Elevation: 5100'

Table 1608.2.1				
Elevation (ft)	West of U.S. Hwy 395 Sierra Slope	East of U.S. Hwy 395	Lyon & Story Counties	Lake Tahoe Basin
	Carson, Douglas, Washoe, Reno	Carson, Douglas, Washoe Counties, Reno & Sparks	Lyon & Story Counties	All Nevada Countries
4500	30	30	10	-
5000	30	30	30	-
5100	41	31	31	-
5200	52	33	33	-
5300	64	34	34	-
5400	75	35	35	-
5500	86	37	37	-
6000	142	43	43	220
6500	171	43	43	235
7000	200	57	57	250
7500	215	57	57	265
8000	229	86	86	280
8500	243	86	86	295
9000	271	114	114	330
9500	300	142	142	390
10000	357	142	142	420

Ground Snow Load, p_g = 41 psf

1. Drift load design in the 30-psf zones may utilize ASCE 7 table C7-1 ground snow values
2. The final roof design snow loads shall not be less than 20 psf after all reductions are factored, except for Lyon and Story Counties
3. Intermediate values may be interpolated by proportion

Snow Loads

Pitch = 3 :12

Flat-roof snow load, $p_f = 0.7C_eC_tI_s p_g$ Eq. 7.3-1
 Ground snow load, $p_g = 41$ psf Figure 7-1 Or Per Local Building Official

Terrain Category = C (see Section 1609.4)
 Exposure of Roof = Fully Exposed
 Thermal Condition = Unheated structures

Snow load importance factor, $I_s = 1$ Table 1604.5, ASCE Table 11.5-1
 Snow exposure factor, $C_e = 0.9$ ASCE Table 7-2
 Thermal factor, $C_t = 1.2$ ASCE Table 7-3

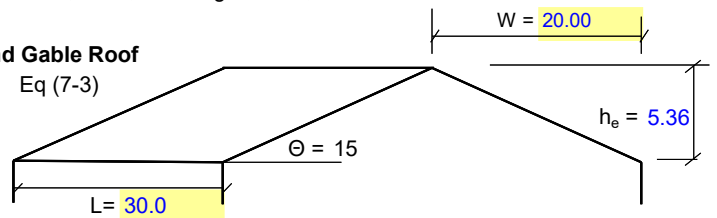
Flat-roof snow load, $p_f = 30.996$ psf
 Min $p_f = 20$ psf
 Design $p_f = 31.00$ psf

1608.4 SLOPE ROOF SNOW LOAD (slope > 5°)

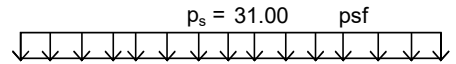
$p_s = C_s p_f$ Eq. 7-2
 Design $p_f = 31.00$ psf
 Slope $\Theta = 15^\circ$ All Other Surfaces
 $C_t = 1.2$
 Slope factor $C_s = 1.00$ 7.4.1, 7.4.2, 7.4.3 Figure 7.2a,b and c

Balanced and Unbalanced Snow Load for Hip and Gable Roof

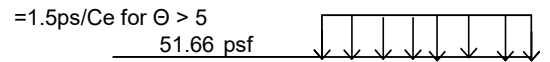
Snow Density $\gamma = .13p_g + 14 \leq 30$ pcf Eq (7-3)
 $= 19.33$ pcf
 $L/W = 1.50$
 $\beta = 0.58$
 $\Theta > 275\beta p_f / \gamma W = 12.80$



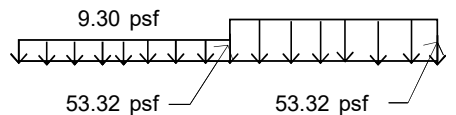
BALANCED



UNBALANCED $W \leq 20$



UNBALANCED $W > 20$ N/A
 $\Theta > 275\beta p_f / \gamma W$



See Figure 7.3 for Curved Roof
 See Figure 7.4 for Cont Beam
 See Figure 7-6 for Sawtooth Roof
 See Figure 7-8 for Snow Drifts

Seismic Design Criteria

Seismic Design Based on **IBC 2018** and **ASCE 7-16**

Risk Category = II (unless noted otherwise)

Corresponding I factor (per IBC Table 1604.5, ASCE Table 1.5-2) = 1.0

S_S = The mapped spectral accelerations for short periods determined in IBC Section 1613.3.1 (per Figures 1613.3.1 (1-6))

S_1 = The mapped spectral accelerations for a 1-second period as determined in IBC Section 1613.3.1 (per Figures 1613.3.1 (1-6))

SOIL SITE CLASS = D

(per ASCE Table 20.3-1)

F_a = site coefficient per IBC Table 1613.3.3 (1)

(1.0 for site class D and $S_S > 1.25g$)

F_V = site coefficient per IBC Table 1613.3.3 (2)

(1.5 for site class D and $S_1 > 0.5g$)

MCE (Maximum considered earthquake) spectral response accelerations (5% damped):

$$S_{DS} = (2/3) * F_a * S_S \quad S_{D1} = (2/3) * F_V * S_1$$

SEISMIC DESIGN CATEGORY = D

(per IBC Tables 1613.3.5 (1, 2))

SEISMIC BASE SHEAR

(Simplified analysis procedure for seismic design of buildings per ASCE Section 12.14.8)

$$V = \left[\frac{\rho * F * S_{DS}}{1.4 * R} \right] * W$$

where:

R = response modification factor per Table ASCE Table 12.14-1 (6.5 for light framed walls w/ shear (wood structural / sheet steel panels U.N.O.))

W = total seismic dead load + factored snow load (where required)

1.4 = Allowable Stress Design Factor

F = Story Force Factor per ASCE Section 12.14.8.1

ρ = 1.3 per ASCE Section 12.3.4.2

DESIGN LIVE AND DEAD LOADS

ROOF DEAD LOAD:				ROOF DEAD LOAD:				
Roofing Material (Conc. Tiles)	=	14.0	PSF	N/A	=	N/A	PSF	
Roof Felt (Assume 5-ply)	=	2.5	PSF		=		PSF	
	=	2.0	PSF		=		PSF	
Roof Trusses @ 24" O.C.	=	5.0	PSF		=		PSF	
Gypsum Board (Assume 5/8")	=	3.0	PSF		=		PSF	
Insulation	=	1.0	PSF		=		PSF	
Mech., Elec., Sprinklers	=	1.0	PSF		=		PSF	
SUB-TOTAL	=	28.5	PSF	SUB-TOTAL	=	0.0	PSF	
Slope Correction "X":12"	=	3.00	1.03	PSF	Slope Correction "X":12"	=	0.00	0.00
Miscellaneous	=	1.0	PSF	Miscellaneous	=	0.0	PSF	
ROOF DEAD LOAD	=	30	PSF	ROOF DEAD LOAD	=	0	PSF	
ROOF LIVE/SNOW LOAD	=	31	PSF	ROOF LIVE/SNOW LOAD	=	0	PSF	
TOTAL ROOF LOAD	=	61	PSF	TOTAL ROOF LOAD	=	0	PSF	
EXTERIOR WALL LOADS:				FLOOR DEAD LOAD:				
Horiz. Lap Siding	=	4.0	PSF	Floor Finish	=	2.0	PSF	
Wall Sheathing (Assume 15/32")	=	1.5	PSF	Floor Sheathing (Assume 3/4")	=	2.5	PSF	
Wall Studs (Assume 2x6's at 16" o.c.)	=	1.0	PSF	Floor Joists	=	3.0	PSF	
Insulation	=	0.5	PSF	Insulation	=	1.0	PSF	
Gypsum Board (Assume 1/2")	=	2.5	PSF	Mech., Elec., Sprinklers	=	1.0	PSF	
Miscellaneous	=	0.5	PSF	SUB-TOTAL	=	9.5	PSF	
SUB-TOTAL	=	10.0	PSF	LOWER FLOOR DEAD LOAD	=	10	PSF	
TOTAL EXTERIOR WALL	=	10	PSF	FLOOR LIVE LOAD	=	40	PSF	
INTERIOR WALL LOADS:				DECK LOADS:				
Finishes	=	0.5	PSF	Finishes	=	4.0	PSF	
Gypsum Board (Assume 1/2")	=	2.5	PSF	Floor Sheathing (Assume 3/4")	=	2.0	PSF	
Wall Studs (Assume 2x6's at 16" o.c.)	=	1.0	PSF	Floor Joists	=	4.0	PSF	
Miscellaneous	=	3.0	PSF	SUB-TOTAL	=	10.0	PSF	
SUB-TOTAL	=	7.0	PSF	DECK DEAD LOAD	=	10	PSF	
TOTAL INTERIOR WALL	=	10	PSF	DECK LIVE LOAD	=	40	PSF	

NOTE: SOME LOADS MAY NOT BE APPLICABLE

WIND LOADS

WIND LOADS:			
Wind Speed (V_{ult}):	=	120	MPH
Wind Speed (V_{ASD}):	=	93	MPH
Exposure Category:	=	C	
Risk Category:	=	II	
Topographic Factor (K_{zt}):	=	1.0	
Internal Pressure Coefficient:	=	+/- 0.18	
Components & Cladding Press. Wall	=	35.1	PSF
Components & Cladding Press. Roof	=	17.9	PSF

ASCE 7-16 Low Rise Building Method Ch. 28

Velocity Pressure $q_z = 0.00256 K_z K_{zt} K_d V^2$ (Eq. 26.10-1)

Horizontal Pressures $p_s = \lambda K_{zt} p_{s30}$ (Eq. 28.5-1)

ASCE 7-16 Low Rise Buildings Simplified Ch. 30

Components and Cladding $p_{net} = \lambda K_{zt} p_{net30}$ (Eq. 30.4-1)

SEISMIC AND SOURCE DATA

Site Class: D ASCE7-16 Ch. 20 Ss (%g): 2.041 IBC Figures 1613.3.1 S1 (%g): 0.716 IBC Figures 1613.3.1 Importance Factor: 1.0 ASCE7-16 Table 1.5-2 Response Coef. (R): 6.5 ASCE7-16 Table 12.2-1 Story Force Factor (F): 1 ASCE7-16 12.14.8.1 Site Coefficient (Fv): 1.7 IBC Table 1613.3.3 (2) Site Coefficient (Fa): 1.2 IBC Table 1613.3.3 (1)	Seismic Design Category: D IBC Table 1613.3.5 (1,2) Sds: 1.633 IBC EQ. 16-39 Sd1: 0.811 IBC EQ. 16-40 Resisting System: A.15 ASCE 7-16 Table 12.2-1 Redundancy Factor (p): 1.3 ASCE 7-16 Table 12.3.4.2
BASE SHEAR EQUATION (ASCE 7-16, 12.14.8.1) $V = [(I * p * F * Sds) / (1.4 * R)] * W$ V = 0.233 W	

IBC Chapter 16

SOILS DATA

SOILS REPORT : None Provided - Assume Code Minimums			
GEOTECHNICAL ENGINEER : N/A		DATE OF REPORT : N/A	
BASIC BEARING PRESSURE:			
PADS & CONT. FNDD. = Q_a	=	1,500	PSF
INCREASE FOR WIDTH	=	N/A	%
INCREASE FOR DEPTH	=	N/A	%
MAX. SOIL PRESSURE - Q_a	=	N/A	PSF
ALLOW PASSIVE PRESSURE	=	135.0	PCF
USE SOIL BEARING PRESSURE	=	1,500	PSF
EQUIV. FLUID PRESSURE	=	35.0	PCF

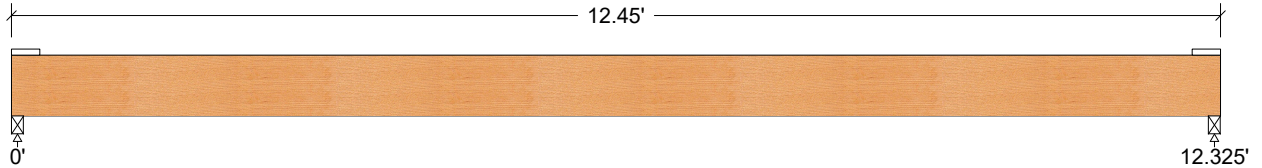


Design Check Calculation Sheet
WoodWorks Sizer 2019 (Update 4)

Loads:

Load	Type	Distribution	Pat-tern	Location [ft]		Magnitude		Unit
				Start	End	Start	End	
Load1	Dead	Full Area				30.00 (3.00')		psf
Load2	Snow	Full Area				31.00 (3.00')		psf
Self-weight	Dead	Full UDL				9.8		plf

Maximum Reactions (lbs) and Bearing Lengths (in) :



Unfactored:			
Dead	621		621
Snow	579		579
Factored:			
Total	1200		1200
Bearing:			
Length	1.50*		1.50*
Min req'd	1.50*		1.50*

*Minimum bearing length setting used: 1-1/2" for end supports

Timber-soft, D.Fir-L, No. 1, 6x8 (5-1/2"x7-1/2")

Supports: All - Timber-soft Beam, D.Fir-L No. 1
Total length: 12.44'; Clear span: 12.188'; Volume = 3.6 cu.ft.; Post or timber
Lateral support: top = at supports, bottom = at supports;
This section PASSES the design code check.

Analysis vs. Allowable Stress and Deflection using NDS 2018 :

Criterion	Analysis Value	Design Value	Unit	Analysis/Design
Shear	$f_v = 38$	$F_v' = 195$	psi	$f_v/F_v' = 0.20$
Bending(+)	$f_b = 852$	$F_b' = 1380$	psi	$f_b/F_b' = 0.62$
Dead Defl'n	$0.17 = L/883$			
Live Defl'n	$0.16 = L/947$	$0.41 = L/360$	in	0.38
Total Defl'n	$0.41 = L/363$	$0.62 = L/240$	in	0.66

Additional Data:

FACTORS:	F/E (psi)	CD	CM	Ct	CL	CF	Cfu	Cr	Cfrt	Ci	LC#
Fv'	170	1.15	1.00	1.00	-	-	-	-	1.00	1.00	2
Fb'+	1200	1.15	1.00	1.00	1.000	1.000	-	1.00	1.00	1.00	2
Fcp'	625	-	1.00	1.00	-	-	-	-	1.00	1.00	-
E'	1.6 million	1.00	1.00	1.00	-	-	-	-	1.00	1.00	2

CRITICAL LOAD COMBINATIONS:

Shear : LC #2 = D + S
Bending(+): LC #2 = D + S
Deflection: LC #2 = D + S (live)
 LC #2 = D + S (total)

D=dead S=snow

All LC's are listed in the Analysis output

Load combinations: ASD Basic from ASCE 7-16 2.4 / IBC 2018 1605.3.1

CALCULATIONS:

V max = 1188, V design = 1056 lbs; M(+) = 3661 lbs-ft
Ely = 309.37 lb-in²

"Live" deflection is due to all non-dead loads (live, wind, snow...)

Total deflection = 1.5 dead + "live"

Design Notes:

1. Analysis and design are in accordance with the ICC International Building Code (IBC 2018) and the National Design Specification (NDS 2018), using Allowable Stress Design (ASD). Design values are from the NDS Supplement.
2. Please verify that the default deflection limits are appropriate for your application.
3. Sawn lumber bending members shall be laterally supported according to the provisions of NDS Clause 4.4.1.

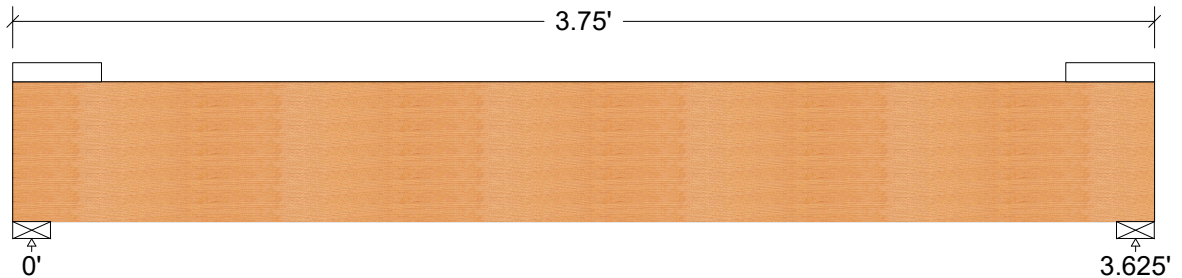


Design Check Calculation Sheet
WoodWorks Sizer 2019 (Update 4)

Loads:

Load	Type	Distribution	Pat-tern	Location [ft]		Magnitude		Unit
				Start	End	Start	End	
Load1	Dead	Full Area				30.00	(10.60')	psf
Load2	Snow	Full Area				31.00	(10.60')	psf
Self-weight	Dead	Full UDL				7.2		plf

Maximum Reactions (lbs) and Bearing Lengths (in) :



Unfactored:			
Dead	609		609
Snow	616		616
Factored:			
Total	1225		1225
Bearing:			
Length	1.50*		1.50*
Min req'd	1.50*		1.50*

*Minimum bearing length setting used: 1-1/2" for end supports

Timber-soft, D.Fir-L, No. 1, 6x6 (5-1/2"x5-1/2")
 Supports: All - Timber-soft Beam, D.Fir-L No. 1
 Total length: 3.75'; Clear span: 3.5'; Volume = 0.8 cu.ft.; Post or timber
 Lateral support: top = at supports, bottom = at supports;
This section PASSES the design code check.

Analysis vs. Allowable Stress and Deflection using NDS 2018 :

Criterion	Analysis Value	Design Value	Unit	Analysis/Design
Shear	$f_v = 42$	$F_v' = 195$	psi	$f_v/F_v' = 0.21$
Bending (+)	$f_b = 465$	$F_b' = 1380$	psi	$f_b/F_b' = 0.34$
Dead Defl'n	$0.01 = < L/999$			
Live Defl'n	$0.01 = < L/999$	$0.12 = L/360$	in	0.09
Total Defl'n	$0.03 = < L/999$	$0.18 = L/240$	in	0.14

Design Notes:

1. Analysis and design are in accordance with the ICC International Building Code (IBC 2018) and the National Design Specification (NDS 2018), using Allowable Stress Design (ASD). Design values are from the NDS Supplement.
2. Please verify that the default deflection limits are appropriate for your application.
3. Sawn lumber bending members shall be laterally supported according to the provisions of NDS Clause 4.4.1.

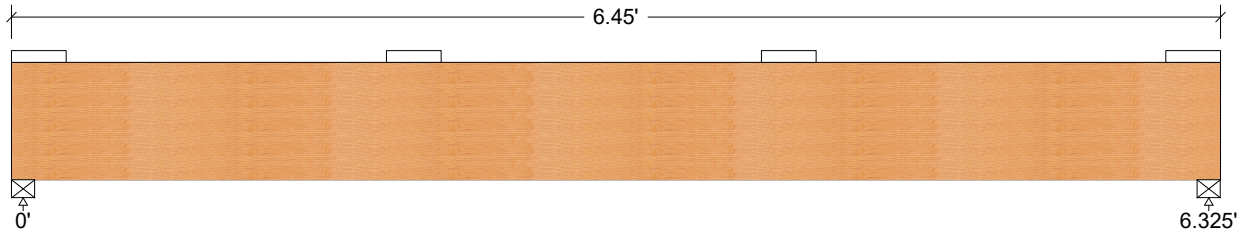


Design Check Calculation Sheet
WoodWorks Sizer 2019 (Update 4)

Loads:

Load	Type	Distribution	Pat-tern	Location [ft]		Magnitude		Unit
				Start	End	Start	End	
Load1	Dead	Full Area				30.00	(10.60')	psf
Load2	Snow	Full Area				31.00	(10.60')	psf
Self-weight	Dead	Full UDL				9.8		plf

Maximum Reactions (lbs) and Bearing Lengths (in) :



Unfactored:			
Dead	1057		1057
Snow	1060		1060
Factored:			
Total	2116		2116
Bearing:			
Length	1.50*		1.50*
Min req'd	1.50*		1.50*

*Minimum bearing length setting used: 1-1/2" for end supports

Timber-soft, D.Fir-L, No. 1, 6x8 (5-1/2"x7-1/2")

Supports: All - Timber-soft Beam, D.Fir-L No. 1
Total length: 6.44'; Clear span: 6.188'; Volume = 1.8 cu.ft.; Post or timber
Lateral support: top = 2'-0" bottom = at supports; (in);
This section PASSES the design code check.

Analysis vs. Allowable Stress and Deflection using NDS 2018 :

Criterion	Analysis Value	Design Value	Unit	Analysis/Design
Shear	fv = 59	Fv' = 195	psi	fv/Fv' = 0.30
Bending(+)	fb = 764	Fb' = 1380	psi	fb/Fb' = 0.55
Dead Defl'n	0.04 = < L/999			
Live Defl'n	0.04 = < L/999	0.21 = L/360	in	0.18
Total Defl'n	0.10 = L/794	0.32 = L/240	in	0.30

Additional Data:

FACTORS:	F/E(psi)	CD	CM	Ct	CL	CF	Cfu	Cr	Cfrt	Ci	LC#
Fv'	170	1.15	1.00	1.00	-	-	-	-	1.00	1.00	2
Fb'+	1200	1.15	1.00	1.00	1.000	1.000	-	1.00	1.00	1.00	2
Fcp'	625	-	1.00	1.00	-	-	-	-	1.00	1.00	-
E'	1.6 million	1.00	1.00	1.00	-	-	-	-	1.00	1.00	2

CRITICAL LOAD COMBINATIONS:

Shear : LC #2 = D + S
Bending(+): LC #2 = D + S
Deflection: LC #2 = D + S (live)
 LC #2 = D + S (total)

D=dead S=snow

All LC's are listed in the Analysis output

Load combinations: ASD Basic from ASCE 7-16 2.4 / IBC 2018 1605.3.1

CALCULATIONS:

V max = 2076, V design = 1625 lbs; M(+) = 3282 lbs-ft
Ely = 309.37 lb-in²

"Live" deflection is due to all non-dead loads (live, wind, snow...)
Total deflection = 1.5 dead + "live"

Design Notes:

1. Analysis and design are in accordance with the ICC International Building Code (IBC 2018) and the National Design Specification (NDS 2018), using Allowable Stress Design (ASD). Design values are from the NDS Supplement.
2. Please verify that the default deflection limits are appropriate for your application.
3. Sawn lumber bending members shall be laterally supported according to the provisions of NDS Clause 4.4.1.

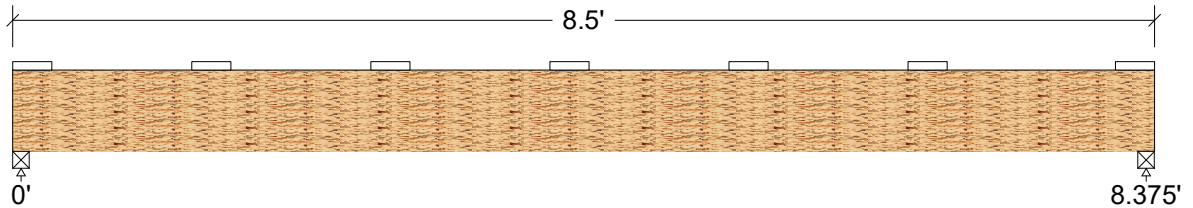


Design Check Calculation Sheet
WoodWorks Sizer 2019 (Update 4)

Loads:

Load	Type	Distribution	Pat-tern	Location [ft]		Magnitude		Unit
				Start	End	Start	End	
Load1	Dead	Full Area				10.00	(10.00')	psf
Load2	Live	Full Area				40.00	(10.00')	psf
Self-weight	Dead	Full UDL				7.3		plf

Maximum Reactions (lbs) and Bearing Lengths (in) :



Unfactored:			
Dead	456		456
Live	1700		1700
Factored:			
Total	2156		2156
Bearing:			
Length	1.50*		1.50*
Min req'd	1.50*		1.50*

*Minimum bearing length setting used: 1-1/2" for end supports

LVL n-ply, 2.0E, 2600Fb, 1-3/4"x7-1/4", 2-ply (3-1/2"x7-1/4")

Supports: All - Timber-soft Beam, D.Fir-L No. 1
Total length: 8.5'; Clear span: 8.25'; Volume = 1.5 cu.ft.
Lateral support: top = 1'-4 bottom = at supports; (in);
This section PASSES the design code check.

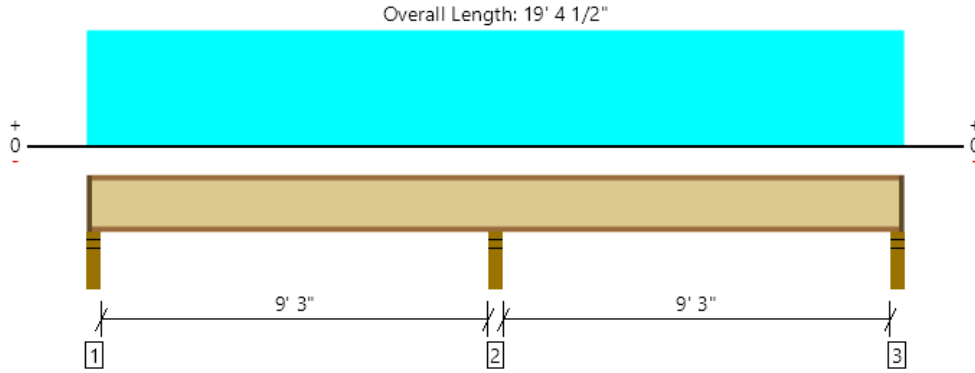
Analysis vs. Allowable Stress and Deflection using NDS 2018 :

Criterion	Analysis Value	Design Value	Unit	Analysis/Design
Shear	$f_v = 106$	$F_v' = 285$	psi	$f_v/F_v' = 0.37$
Bending (+)	$f_b = 1741$	$F_b' = 2778$	psi	$f_b/F_b' = 0.63$
Dead Defl'n	$0.05 = < L/999$			
Live Defl'n	$0.20 = L/504$	$0.28 = L/360$	in	0.71
Total Defl'n	$0.28 = L/359$	$0.42 = L/240$	in	0.67

Design Notes:

- Analysis and design are in accordance with the ICC International Building Code (IBC 2018) and the National Design Specification (NDS 2018), using Allowable Stress Design (ASD). Design values are from the NDS Supplement.
- Please verify that the default deflection limits are appropriate for your application.
- BUILT-UP BEAMS:** it is assumed that each ply is a single continuous member (that is, no butt joints are present) fastened together securely at intervals not exceeding 4 times the depth and that each ply is equally top-loaded. Where beams are side-loaded, special fastening details may be required.
- FIRE RATING:** Joists, wall studs, and multi-ply members are not rated for fire endurance.
- SCL:** Structural composite lumber design has assumed: - dry service conditions - no preservative or fire-retardant treatment - no notches
- BUILT-UP SCL:** Contact manufacturer for connection details when side-loaded or when loads are not applied equally to all plies.
- SCL:** Deflection is calculated using an apparent modulus of elasticity E that incorporates the effect of shear deflection.

Level, Floor: Joist
 1 piece(s) 9 1/2" TJI® 210 @ 16" OC



All locations are measured from the outside face of left support (or left cantilever end). All dimensions are horizontal.

Design Results	Actual @ Location	Allowed	Result	LDF	Load: Combination (Pattern)
Member Reaction (lbs)	869 @ 9' 8 1/4"	2145 (3.50")	Passed (41%)	1.00	1.0 D + 1.0 L (All Spans)
Shear (lbs)	405 @ 9' 10"	1463	Passed (28%)	1.00	1.0 D + 1.0 L (All Spans)
Moment (Ft-lbs)	-824 @ 9' 8 1/4"	3000	Passed (27%)	1.00	1.0 D + 1.0 L (All Spans)
Live Load Defl. (in)	0.043 @ 14' 8 1/4"	0.237	Passed (L/999+)	--	1.0 D + 1.0 L (All Spans)
Total Load Defl. (in)	0.054 @ 4' 7 1/16"	0.316	Passed (L/999+)	--	1.0 D + 1.0 L (All Spans)
TJ-Pro™ Rating	61	45	Passed	--	--

System : Floor
 Member Type : Joist
 Building Use : Residential
 Building Code : IBC 2018
 Design Methodology : ASD

- Deflection criteria: LL (L/480) and TL (L/360).
- Allowed moment does not reflect the adjustment for the beam stability factor.
- A structural analysis of the deck has not been performed.
- Deflection analysis is based on composite action with a single layer of 23/32" Panel (24" Span Rating) that is glued and nailed down.
- Additional considerations for the TJ-Pro™ Rating include: None.

Supports	Bearing Length			Loads to Supports (lbs)			Accessories
	Total	Available	Required	Dead	Floor Live	Total	
1 - Stud wall - SPF	3.50"	2.25"	1.75"	75	232/-26	307/-26	1 1/4" Rim Board
2 - Stud wall - SPF	3.50"	3.50"	3.50"	237	632	869	None
3 - Stud wall - SPF	3.50"	2.25"	1.75"	75	232/-26	307/-26	1 1/4" Rim Board

- Rim Board is assumed to carry all loads applied directly above it, bypassing the member being designed.

Lateral Bracing	Bracing Intervals	Comments
Top Edge (Lu)	8' 7" o/c	
Bottom Edge (Lu)	7' 3" o/c	

- TJI joists are only analyzed using Maximum Allowable bracing solutions.
- Maximum allowable bracing intervals based on applied load.

Vertical Load	Location	Spacing	Dead (0.90)	Floor Live (1.00)	Comments
1 - Uniform (PSF)	0 to 19' 4 1/2"	16"	15.0	40.0	Default Load

Weyerhaeuser Notes

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The product application, input design loads, dimensions and support information have been provided by ForteWEB Software Operator

ForteWEB Software Operator	Job Notes
Nathan Barber RW Engineering (775) 393-9128 nathan@rwengineering.net	



Posts

AXIAL COMPRESSION LOADS (pounds) WITH Cd=1.0								
HEIGHT	Douglas Fir-Larch #2					Douglas Fir Larch #1		
	2x4	2x6	4x4	4x6	4x8	6x6	6x8	8x8
2			18,385	27,680	34,890	30,000	40,900	56,000
4	6,770	11,600	15,793	24,001	30,533	29,200	39,800	55,200
6	4,690	10,500	10,935	16,923	21,935	27,600	37,600	53,800
8	3,000	8,710	7,001	10,929	14,304	24,800	33,900	51,600
10	2,010	6,700	4,694	7,352	9,656	21,000	28,600	48,200
12			3,332	5,226	6,871	16,900	23,000	43,500
14			2,478	3,888	5,119	13,400	18,300	38,000
16			1,911	2,999	3,950	10,700	14,600	32,400

* Use minimum one stud per each girder truss ply under all girder truss bearing points, U.N.O.

Please Note: Reactions from beam and truss calculations have been considered and compared with the values in the above table



RW ENGINEERING

PERIMETER FOOTINGS

<u>SYMBOL</u>		<u>WIDTH</u> N/A to monopour	<u>DEPTH</u>	<u>STEEL</u> continuous	<u>CAPACITY</u> (Point)	<u>CAPACITY</u> (Linear)
12	(1-story only)	12"	10"	(2) #4	6000 LBS	1500 PLF
16		16"	10"	(2) #4's	8000 LBS	2000 PLF
18		18"	10"	(2) #4's	9000 LBS	2250 PLF
21		21"	10"	(2) #4's	10500 LBS	2625 PLF
24		24"	10"	(3) #4's	12000 LBS	3000 PLF
28		28"	10"	(3) #4's	14000 LBS	3500 PLF
32		32"	10"	(3) #4's	16000 LBS	4000 PLF
36		36"	10"	(4) #4's	18000 LBS	4500 PLF

- All Footings Shall Bear on Undisturbed Soil
- Assume Soil Bearing Pressure has been Determined and Increased in Accordance with chapter 18 of IBC
- Exterior Footings shall bear @ or below the frostline per applicable local codes

STEMWALL

- 8" Wide
- (1) #4 Continuous at the Top and Btm
- (1) #4 Vertical @ 24" on center Hooked at Footing (Alternate Hooks)



RW ENGINEERING

PIER FOOTINGS

<u>SYMBOL</u>	<u>WIDTH</u> (each side)	<u>DEPTH</u>	<u>STEEL</u> (each way)	<u>CAPACITY</u>
12	12"	10"	(2) #4's	1500 LBS
14	14"	10"	(2) #4's	2042 LBS
16	16"	10"	(2) #4's	2667 LBS
18	18"	10"	(3) #4's	3375 LBS
21	21"	10"	(3) #4's	4594 LBS
24	24"	10"	(3) #4's	6000 LBS
28	28"	12"	(3) #4's	8167 LBS
32	32"	12"	(4) #4's	10667 LBS
36	36"	12"	(5) #4's	13500 LBS
42	42"	12"	(6) #4's	18375 LBS
48	48"	14"	(7) #4's	24000 LBS
54	54"	14"	(8) #4's	30375 LBS
60	60"	14"	(9) #4's	37500 LBS

Please Note: Reactions from beam calculations have been considered and compared with the pier schedule above

All Footings Shall Bear on Undisturbed Soil

Assume Soil Bearing Pressure has been Determined and Increased in Accordance with chapter 18 of IBC

Exterior Footings shall bear @ or below the frostline per applicable local codes



2018 IBC Lateral Design

Lateral Design Criteria

Subject Hinson Detached Garage / Accessroy Dwelling
 Job # 22-011
 Date 5/4/2022
 By RSW

Lateral Design Loads

Wind Load (Envelope Procedure Simple Diaphragm)

Width 50 ft
 Length 26 ft
 Mean Roof Height 9 ft

End Zone 2a= 6 ft

Roof Pitch Gable End Roof Slope 3 See Printout to Follow

Zone	$p_{s(120)}$ (psf)	$p_{s(120)}$ (psf)
A	27.6	31.1
B	0.0	21.3
C	18.3	24.7
D	0.0	16.9

Seismic Loads

See Printout to Follow

S_S	2.04
S_1	0.72
F_A	1.20
F_V	1.70
F	1.00
I	1.00
ρ	1.30

S_{DS}	1.63
S_{D1}	0.81
R	6.5

$$V = [\rho * F * S_{DS} / 1.4 * R] * W = 0.233 * W$$

Weight		Base Shear	
Type	(psf)	Type	(psf)
W_{Roof}	36.1992	W_{Roof}	8.5
W_{Floor}	15	W_{Floor}	3.5
W_{Wall}	10	W_{Wall}	2.4

2018 IBC Wind Design Pressures

Envelope Procedure

120 mph (3 second gust)

Exposure **C**
Mean Roof Height **9**

4/12 Pitch

Zone	$P_{s30(120)}$	λ	$P_{s(120)}$	$P_{s(ASD)}$
A	30.69224	1.21	37.1	22.28257
B	-8.67562	1.21	-10.5	-6.2985
C	20.47396	1.21	24.8	14.86409
D	-4.85042	1.21	-5.9	-3.5214
E	-27.4	1.21	-33.2	-19.8924
F	-18.7244	1.21	-22.7	-13.5939
G	-19.1	1.21	-23.1	-13.8666
H	-14.2496	1.21	-17.2	-10.3452
E_{OH}	-38.4	1.21	-46.5	-27.8784
G_{OH}	-30.1	1.21	-36.4	-21.8526

Flat / Gable End

Zone	$P_{s30(120)}$	λ	$P_{s(120)}$	$P_{s(ASD)}$
A	22.8	1.21	27.6	16.5528
B	-11.9	1.21	-14.4	-8.6394
C	15.1	1.21	18.3	10.9626
D	-7	1.21	-8.5	-5.082
E	-27.4	1.21	-33.2	-19.8924
F	-15.6	1.21	-18.9	-11.3256
G	-19.1	1.21	-23.1	-13.8666
H	-12.1	1.21	-14.6	-8.7846
E_{OH}	-38.4	1.21	-46.5	-27.8784
G_{OH}	-30.1	1.21	-36.4	-21.8526

Search Information

Address:	3787 Portland Dr, Reno, NV 89511, USA
Coordinates:	39.3875476, -119.7866182
Elevation:	5090 ft
Timestamp:	2022-04-29T23:59:24.400Z
Hazard Type:	Seismic
Reference Document:	ASCE7-16
Risk Category:	II
Site Class:	D-default



Basic Parameters

Name	Value	Description
S_S	2.041	MCE_R ground motion (period=0.2s)
S_1	0.716	MCE_R ground motion (period=1.0s)
S_{MS}	2.45	Site-modified spectral acceleration value
S_{M1}	* null	Site-modified spectral acceleration value
S_{DS}	1.633	Numeric seismic design value at 0.2s SA
S_{D1}	* null	Numeric seismic design value at 1.0s SA

* See Section 11.4.8

▼Additional Information

Name	Value	Description
SDC	* null	Seismic design category
F_a	1.2	Site amplification factor at 0.2s
F_v	* null	Site amplification factor at 1.0s
CR_S	0.877	Coefficient of risk (0.2s)
CR_1	0.877	Coefficient of risk (1.0s)
PGA	0.887	MCE_G peak ground acceleration
F_{PGA}	1.2	Site amplification factor at PGA
PGA_M	1.065	Site modified peak ground acceleration

T _L	6	Long-period transition period (s)
SsRT	2.041	Probabilistic risk-targeted ground motion (0.2s)
SsUH	2.327	Factored uniform-hazard spectral acceleration (2% probability of exceedance in 50 years)
SsD	2.956	Factored deterministic acceleration value (0.2s)
S1RT	0.716	Probabilistic risk-targeted ground motion (1.0s)
S1UH	0.817	Factored uniform-hazard spectral acceleration (2% probability of exceedance in 50 years)
S1D	1.13	Factored deterministic acceleration value (1.0s)
PGAd	1.198	Factored deterministic acceleration value (PGA)

* See Section 11.4.8

The results indicated here DO NOT reflect any state or local amendments to the values or any delineation lines made during the building code adoption process. Users should confirm any output obtained from this tool with the local Authority Having Jurisdiction before proceeding with design.

Disclaimer

Hazard loads are provided by the U.S. Geological Survey [Seismic Design Web Services](#).

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LATERAL DESIGN

Subject Hinson Detached Garage / Accessroy Dwelling

Job # 22-011

Date 5/4/2022

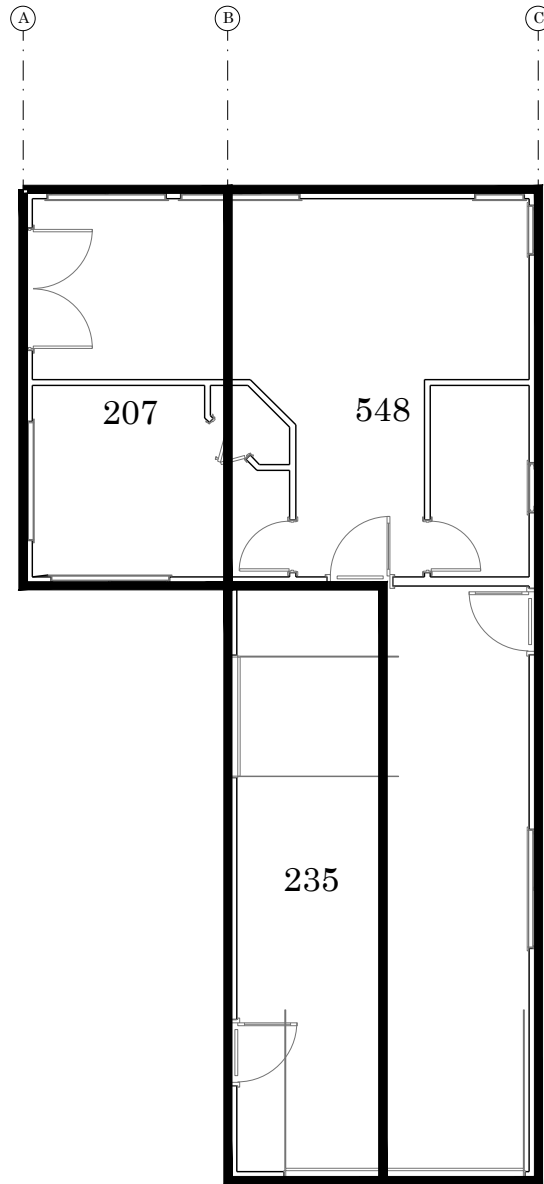
By NB

Wind Load (psf) Gable End			
Roof (E)	Wall (E)	Roof (I)	Wall (I)
0.0	16.6	0.0	11.0

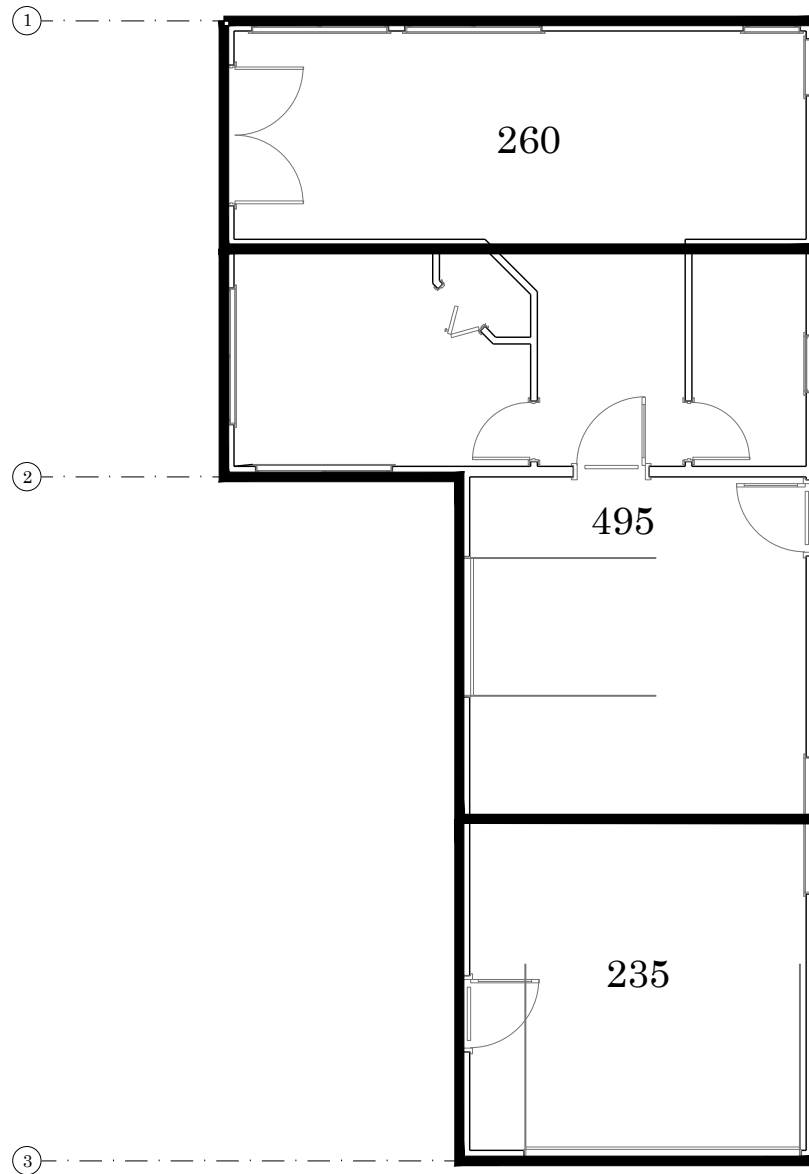
Wind Load (psf) 3 : 12			
Roof (E)	Wall (E)	Roof (I)	Wall (I)
12.8	18.7	10.2	14.8

Seismic Load (psf)		
Roof	Floor	Wall
8.5	3.5	2.4

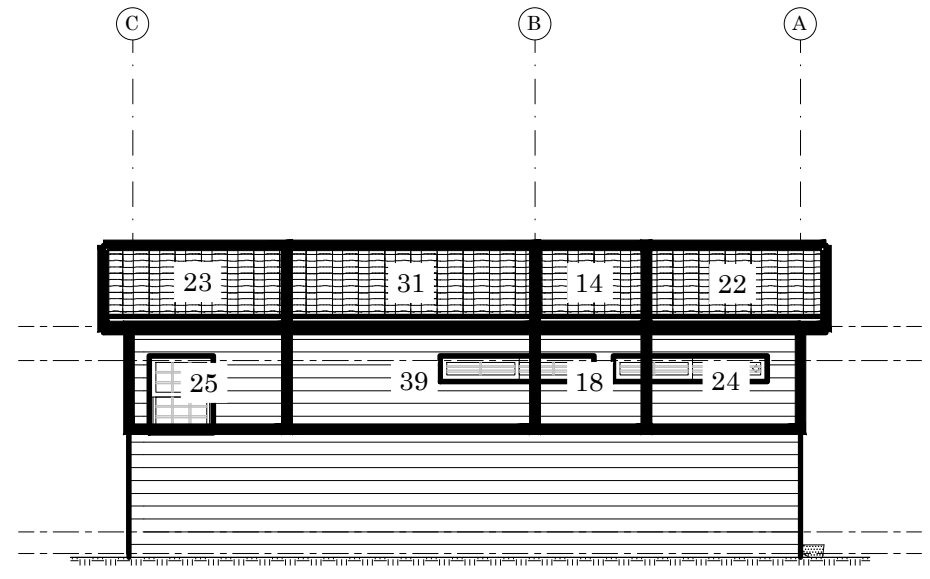
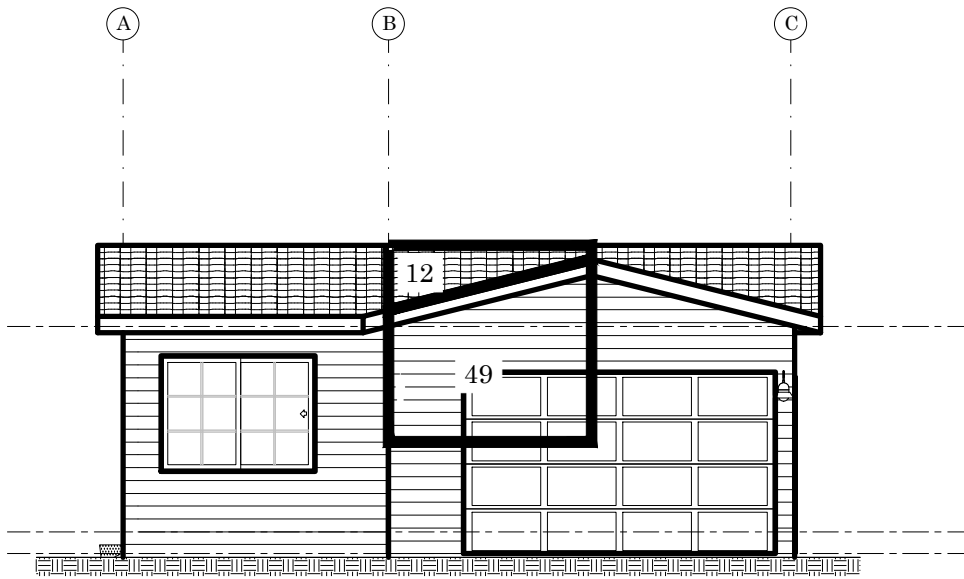
Grid	Gable	Level	Wind Area (sq. ft.)				Wind Force (lbs.)			Seismic Area (sq. ft.)			Seismic Force (lbs.)			Design Load (lbs.)
			Roof (E)	Wall (E)	Roof (I)	Wall (I)	Level	Added	Total	Roof	Floor	Wall	Level	Added	Total	
A		Main	22	24	14	18	1138	0	1138	207	0	42	1860	0	1860	1860
B		Main	12	49	0	0	1068	0	1068	235	0	32	2074	0	2074	2074
C		Main	23	25	31	39	1653	0	1653	548	0	64	4812	0	4812	4812
1		Main	0	33	0	27	1016	0	1016	260	0	40	2306	0	2306	2306
2		Main	0	0	41	126	2344	0	2344	563	0	200	5266	0	5266	5266
3		Main	19	25	24	36	1486	0	1486	235	0	60	2142	0	2142	2142



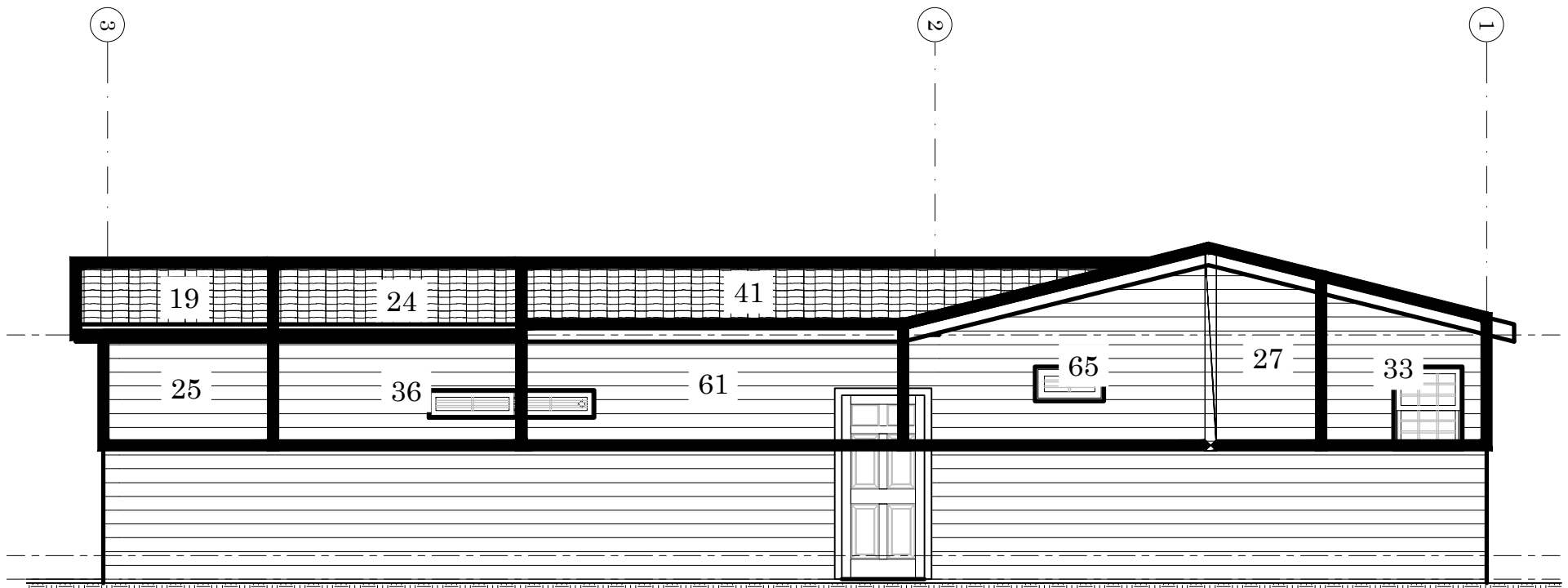
Seismic Areas (Letter Grids)



Seismic Areas (Number Grids)



Wind Areas (Letter Grids)



Wind Areas (Number Grids)



SHEAR WALL SCHEDULE

SYMBOL	SHEAR PLYWOOD	CAPACITY LBS. PER FT.	EDGE NAIL SPACING	16d NAIL SPACING	SDS 1/4 SPACING	3x FRAMING AT ADJOINING PANEL EDGES	***5/8"∅ AB SPACING	***1/2"∅ AB SPACING	**MASA SPACING
6	3/8"	260	8d @ 6" o.c.	6" o.c.	16" o.c	No	48	48	48
4	3/8"	350	8d @ 4" o.c.	4" o.c.	12" o.c	No	48	35	48
3		490	8d @ 3" o.c.	3" o.c.	8" o.c	Yes*	46	30	38
2	3/8"	640	8d @ 2" o.c.	2" o.c.	6" o.c	Yes	35	23	29
4/2	3/8" B/S	700	8d @ 4" o.c.	2" o.c.	5-1/2" o.c.	Yes	32	21	26
3/2	3/8" B/S	980	8d @ 3" o.c.		4" o.c.	Yes	23	15	19
2/2	3/8" B/S	1,280	8d @ 2" o.c.		3" o.c	Yes	18	11	14
A	1/2"	770	10d @ 2" o.c.		6" o.c.	Yes	29	19	24
B	5/8"	870	10d @ 2" o.c.		5-1/2" o.c.	Yes	26	16	21
L6	7/16" Smart Panel Siding	220	8d @ 6" o.c.	6" o.c.	16" o.c.	No	48	48	48
L4	7/16" Smart Panel Siding	320	8d @ 4" o.c.	4" o.c.	16" o.c.	No	48	39	48
L3	7/16" Smart Panel Siding	410	8d @ 3" o.c.	3" o.c.	12" o.c.	Yes*	48	36	45
L2	7/16" Smart Panel Siding	530	8d @ 2" o.c.	2" o.c.	8" o.c.	Yes*	42	27	35

- Use APA rated shear plywood / OSB / TI-11 sheathing or an approved equal U.N.O.
- Nails shall be common or galvanized box. Nail heads are not to penetrate plywood.
- All field nailing shall be at 12" o.c., U.N.O.
- All shear wall studs shall be Douglas Fir-Larch spaced at 16" o.c.
- Nail all shear ply with edge nail spacing at top plates, mud sill, all posts, all king studs, and all studs with holdowns.
- Where applicable, plywood joint and sill plate nailing shall be staggered in all cases.
- For all shear walls except types 6, 4, L6, & L4 use:
 - 3 inch nominal or thicker sill plates with 5/8" x 12 AB's.*
 - 3 inch nominal or thicker framing members, or double 2x framing members stitched together with minimum (2) rows of 16d nails @ 12" o.c. at all adjoining panel edges.
- *For shear wall type 3, L3, & L2, a 2 inch nominal sill plate may be used if anchor bolts are spaced @ half the specified spacing.
- Provide blocking or solid framing @ all panel edges.
- Double shear walls to have shear ply with specified nailing both sides. Provide 3 inch nominal or thicker framing members on all abutting panel edges. B/S is Both Sides.
- Use Simpson MST48 or MSTC52 to strap across beams at any break in top plates, U.N.O.
- Foundation sill anchor bolts shall be 5/8"x10" spaced at 48" o.c. on all exterior walls U.N.O.
- Use 3"x3"x1/4" thick steel plate washers at all wood sill plates for shear walls.
- ** All MASA mudsill anchors to be installed with both legs fully nailed into side and top of sill plate.
- ***5/8" and 1/2" Titen HD anchors with 6" minimum concrete embedment may be used as a retrofit solution to substitute AB's with equal diameter.
- All notes are typical U.N.O.



Holdown Schedule

Symbol (7)	Capacity	Holdown Options (1)	Min. Vert. Wood Thickness (2)	Foundation Installation Options (10)			CL (8)	Screws, Bolts, or Nails (6)
				Threaded Rod with Double Nuttled BP @ Bottom	SB Anchor Bolt (4)	Threaded Rod Retrofit with SET-XP Epoxy (5)		
H-10	2,175	STHD10 (9)	2-2x	N/A	N/A	N/A	N/A	20-16d
		HTT4	2-2x	5/8" w/ 12" Embed	SB 5/8x24 w/ 18" Embed	5/8" w/ 12" Embed	1-3/8"	18-16d
		HDU2-SDS2.5	2-2x	5/8" w/ 14" Embed	SB 5/8x24 w/ 18" Embed	5/8" w/ 12" Embed	1-5/16"	6-SDS
H-11	3,500	STHD14 (9)	2-2x	N/A	N/A	N/A	N/A	24-16d
		HTT5	2-2x	5/8" w/ 14" Embed	SB 5/8x24 w/ 18" Embed	5/8" w/ 12" Embed	1-3/8"	26-16d
		HDU4-SDS2.5	2-2x	5/8" w/ 14" Embed	SB 5/8x24 w/ 18" Embed	5/8" w/ 12" Embed	1-5/16"	10-SDS
H-12	5,645	HDU5-SDS2.5	2-2x	5/8" w/ 20" Embed	SB 5/8x24 w/ 18" Embed	5/8" w/ 16" Embed	1-5/16"	14-SDS
		HD7B	2-2x	7/8" w/ 20" Embed	SB 7/8x24 w/ 18" Embed	7/8" w/ 16" Embed	1-1/4"	3-3/4" Bolts
H-13	7,630	HDQ8-SDS3	3-1/2"	7/8" w/ 20" Embed (3)	SB 7/8x24 w/ 18" Embed	N/A	1-1/4"	20-SDS
		HD9B	3-1/2"	7/8" w/ 20" Embed (3)	SB 7/8x24 w/ 18" Embed	N/A	2-1/8"	3-7/8" Bolts
H-14	11,810	HHDQ11	5-1/2"	1" w/ 8" Embed into Footing	N/A	N/A	1-1/2"	24-SDS
		HD12	5-1/2"	1" w/ 8" Embed into Footing	N/A	N/A	2-1/8"	4-1" Bolts
H-15	13,710	HHDQ14	5-1/2"	1" w/ 8" Embed into Footing	N/A	N/A	1-1/2"	30-SDS
		HHDU14-SDS2.5	5-1/2"	1" w/ 8" Embed into Footing	N/A	N/A	1-9/16"	36-SDS

1. Install all holdowns per Simpson's specifications maintaining required edge clearances.
2. Double studs to be connected by (2)-Rows of 16d nails @ 4" O.C. staggered.
3. Use (1) #4 vert. each side of 7/8" threaded rod (total of 2) to connect stemwall to footing.
4. SB embedments are for Single Pour Installation Only. Refer to latest version of Simpson Catalog for double pour applications.
5. Structural Observation Required @ all epoxy-set anchors. Contact Engineer of Record 2-working days in advance prior to installation.
6. Bolt holes shall be minimum 1/32" and no more than 1/16" larger than the specified bolt diameter.
7. It is acceptable to substitute holdowns specified higher in the table with holdowns occurring lower in the table.
8. "CL" is the dimension to centerline of AB hole in holdown.
9. Use STHDRJ when rim joist is present.
10. Use ASTM A307 All Threaded Rods Typical.

Main Floor Shear Wall Analysis

JOB #: 22-011	NOTES:	Main Level Roof Diaphragm, Worst Case Loading
SUBJECT: Hinson Detached Garage / Accessroy Dwelling		
BY: NB		

		A	B	C	1	2	3	XX	XX	XX
		1st	2nd	3rd	4th	5th	6th	7th	8th	9th
SEISMIC STRUT FORCE (LBS)		1860	2074	4812	2306	5266	2142	0	0	0
WIND STRUT FORCE (LBS)		1138	1068	1653	1016	2344	1486	0	0	0
SEISMIC ADD/ADJ (LBS)		0	0	0	527	-527	0	0	0	0
WIND ADD/ADJ (LBS)		0	0	0	234	-234	0	0	0	0
TOTAL SEISMIC FORCE (LBS)		1860	2074	4812	2833	4739	2142	0	0	0
TOTAL WIND FORCE (LBS)		1138	1068	1653	1250	2110	1486	0	0	0
MAX UNADJUSTED WALL SHEAR (PLF)		520	122	412	321	263	757	#DIV/0!	#DIV/0!	#DIV/0!
SHEAR PANEL 1	LENGTH	3.58	12.2	11.667	8.83	18	2.83	0	0	0
	HEIGHT	8	8	8	8	8	6.5	0	0	0
	DL (PLF)	152	406	0	460	0	137	0	0	0
	Aspect Ratio	2.23463687	0.655738	0.685695	0.906002	0.444444	2.29682	#DIV/0!	#DIV/0!	#DIV/0!
	Seismic Factor	0.895	1	1	1	1	0.870769	#DIV/0!	#DIV/0!	#DIV/0!
	Vseismic	580.6	122.4	412.4	320.8	263.3	869.0	#DIV/0!	#DIV/0!	#DIV/0!
	Vwind	227.0	45.0	101.2	101.1	83.7	375.1	#DIV/0!	#DIV/0!	#DIV/0!
	O.M.	16628	11944	#VALUE!	22660	#VALUE!	15986	#DIV/0!	#DIV/0!	#DIV/0!
	R.M.	830	25669	0	15246	0	468	#DIV/0!	#DIV/0!	#DIV/0!
	UPLIFT	4413	-1125	#VALUE!	840	#VALUE!	5483	#DIV/0!	#DIV/0!	#DIV/0!
	HOLDOWN	H-12	nothing	SEE	H-10	SEE	H-12	#DIV/0!	#DIV/0!	#DIV/0!
	SHEAR NAILING	581	122	PERF	321	PERF	869	#DIV/0!	#DIV/0!	#DIV/0!
	2	6	MAIN C	4	MAIN 2	3/2	#DIV/0!	#DIV/0!	#DIV/0!	
SHEAR PANEL 2	LENGTH	0	4.75	0	0	0	0	0	0	0
	HEIGHT	0	8	0	0	0	0	0	0	0
	DL (PLF)	0	406	0	0	0	0	0	0	0
	Aspect Ratio	#DIV/0!	1.684211	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
	Seismic Factor	#DIV/0!	1	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
	Vseismic	#DIV/0!	122.4	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
	Vwind	227.0	45.0	101.2	101.1	83.7	375.1	#DIV/0!	#DIV/0!	#DIV/0!
	O.M.	#DIV/0!	4650	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
	R.M.	#DIV/0!	3891	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
	UPLIFT	#DIV/0!	-40	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
	HOLDOWN	#DIV/0!	nothing	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
	SHEAR NAILING	#DIV/0!	122	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
	#DIV/0!	6	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	
SHEAR PANEL 3	LENGTH	0	0	0	0	0	0	0	0	0
	HEIGHT	0	0	0	0	0	0	0	0	0
	DL (PLF)	0	0	0	0	0	0	0	0	0
	Aspect Ratio	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
	Seismic Factor	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
	Vseismic	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
	Vwind	227.0	45.0	101.2	101.1	83.7	375.1	#DIV/0!	#DIV/0!	#DIV/0!
	O.M.	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
	R.M.	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
	UPLIFT	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
	HOLDOWN	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
	SHEAR NAILING	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	
SHEAR PANEL 4	LENGTH	0	0	0	0	0	0	0	0	0
	HEIGHT	0	0	0	0	0	0	0	0	0
	DL (PLF)	0	0	0	0	0	0	0	0	0
	Aspect Ratio	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
	Seismic Factor	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
	Vseismic	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
	Vwind	227.0	45.0	101.2	101.1	83.7	375.1	#DIV/0!	#DIV/0!	#DIV/0!
	O.M.	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
	R.M.	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
	UPLIFT	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
	HOLDOWN	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
	SHEAR NAILING	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	

PERFORATED SHEARWALL DESIGN-

Grid: C Shear Load at Shearwall (V,lbs): 4812

Total Length of Shearwalls (L₁, ft): 34.3 Maximum Opening Height (H₁, ft): 6.7
 Total Panel Length (L, ft): 46.7 Wall Height (H, ft): 8.0

$L_1/L = 0.74$

$H_1/H = 0.83$

Use: 70%

Use: 1

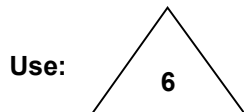
TABLE 4.3.3.5 SHEAR CAPACITY ADJUSTMENT FACTOR, C₀

WALL HEIGHT, H	MAXIMUM OPENING HEIGHT (H ₁ /H)				
	H/3 (.33)	H/2 (.50)	2H/3 (.67)	5H/6 (.83)	H (1)
8' wall	2' 8"	4' 0"	5' 4"	6' 8"	8' 0"
10' wall	3' 4"	5' 0"	6' 8"	8' 4"	10' 0"
Percent Full Height Sheathing (L ₁ /L)	Shear Resistance Adjustment Factor				
10%	1.00	0.69	0.53	0.43	0.36
20%	1.00	0.71	0.56	0.45	0.38
30%	1.00	0.74	0.59	0.49	0.42
40%	1.00	0.77	0.63	0.53	0.45
50%	1.00	0.80	0.67	0.57	0.50
60%	1.00	0.83	0.71	0.63	0.56
70%	1.00	0.87	0.77	0.69	0.63
80%	1.00	0.91	0.83	0.77	0.71
90%	1.00	0.95	0.91	0.87	0.83
100%	1.00	1.00	1.00	1.00	1.00

$C_0 = 0.63$

$V_{\text{perf}} = V/(L_1 * C_0) = 222$

O.T.perf = (V*H)/(L₁*C₀) = 1309



PERFORATED SHEARWALL DESIGN-

Grid: 2 Shear Load at Shearwall (V,lbs): 4739

Total Length of Shearwalls (L₁, ft): 14.7 Maximum Opening Height (H₁, ft): 6.7
 Total Panel Length (L, ft): 18.0 Wall Height (H, ft): 8.0

$L_1/L = \underline{0.82}$

$H_1/H = \underline{0.83}$

Use: 80%

Use: 1

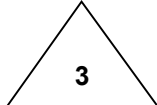
TABLE 4.3.3.5 SHEAR CAPACITY ADJUSTMENT FACTOR, C₀

WALL HEIGHT, H	MAXIMUM OPENING HEIGHT (H ₁ /H)				
	H/3 (.33)	H/2 (.50)	2H/3 (.67)	5H/6 (.83)	H (1)
8' wall	2' 8"	4' 0"	5' 4"	6' 8"	8' 0"
10' wall	3' 4"	5' 0"	6' 8"	8' 4"	10' 0"
Percent Full Height Sheathing (L ₁ /L)	Shear Resistance Adjustment Factor				
10%	1.00	0.69	0.53	0.43	0.36
20%	1.00	0.71	0.56	0.45	0.38
30%	1.00	0.74	0.59	0.49	0.42
40%	1.00	0.77	0.63	0.53	0.45
50%	1.00	0.80	0.67	0.57	0.50
60%	1.00	0.83	0.71	0.63	0.56
70%	1.00	0.87	0.77	0.69	0.63
80%	1.00	0.91	0.83	0.77	0.71
90%	1.00	0.95	0.91	0.87	0.83
100%	1.00	1.00	1.00	1.00	1.00

$C_0 = \underline{0.71}$

$V_{\text{perf}} = V/(L_1 * C_0) = \underline{455}$

$O.T.\text{perf} = (V * H)/(L_1 * C_0) = \underline{2966}$

Use:  3

Use:  H-11

Anchor Bolts

Table 11E per 2018 NDS

For Wood to Concrete:

G = 0.50

Embed = 6" min.

695 lbs.

For 1/2" Anchor Bolt and 2x Sill

$$V_{allowable} = 650 * 1.6 = 1040$$

For 1/2" Anchor Bolt and 3x Sill

$$V_{allowable} = 770 * 1.6 = 1232$$

For 5/8" Anchor Bolt and 2x Sill

$$V_{allowable} = 930 * 1.6 = 1488$$

For 5/8" Anchor Bolt and 3x Sill

$$V_{allowable} = 1180 * 1.6 = 1888$$

Example Calculations for 5/8" Anchor Bolts:

$$V_{allowable} = 930 * 1.6 = 1488$$

• **Typical Type 6 Walls with 2x sill:**

$$v = 260 \frac{lb}{ft} \quad \text{Required Spacing} = \left(\frac{V_{allowable}}{v} \right) * 12 = \mathbf{69 \text{ in.}}$$

Use 5/8" x 10" Anchor Bolts with 3" x 3" x 1/4" thick Plate Washers. @ 48" o.c. to connect 2x P.T. sill plate to stemwall (U.N.O.)

• **Typical Type 4 Walls with 2x sill:**

$$v = 350 \frac{lb}{ft} \quad \text{Required Spacing} = \left(\frac{V_{allowable}}{v} \right) * 12 = \mathbf{51 \text{ in.}}$$

$$V_{allowable} = 1180 * 1.6 = 1888$$

• **Typical Type 3 Walls with 2x sill:**

$$v = 490 \frac{lb}{ft} \quad \text{Required Spacing} = \left(\frac{V_{allowable}}{v} \right) * \frac{12}{2} = \mathbf{23 \text{ in.}}$$

• **Typical Type 3 Walls with 3x sill:**

$$v = 490 \frac{lb}{ft} \quad \text{Required Spacing} = \left(\frac{V_{allowable}}{v} \right) * 12 = \mathbf{46 \text{ in.}}$$

• **Typical Type 2 Walls with 3x sill:**

$$v = 640 \frac{lb}{ft} \quad \text{Required Spacing} = \left(\frac{V_{allowable}}{v} \right) * 12 = \mathbf{35 \text{ in.}}$$

• **Typical Type A Walls with 3x sill:**

$$v = 770 \frac{lb}{ft} \quad \text{Required Spacing} = \left(\frac{V_{allowable}}{v} \right) * 12 = \mathbf{29 \text{ in.}}$$

• **Typical Type 3/2 Walls with 3x sill:**

$$v = 980 \frac{lb}{ft} \quad \text{Required Spacing} = \left(\frac{V_{allowable}}{v} \right) * 12 = \mathbf{23 \text{ in.}}$$

• **Typical Type 2/2 Walls with 3x sill:**

$$v = 1280 \frac{lb}{ft} \quad \text{Required Spacing} = \left(\frac{V_{allowable}}{v} \right) * 12 = \mathbf{18 \text{ in.}}$$

Roof Diaphragm

Shear Transfer per
Simpson H1 Clip = **485 lbs.**

H1 @ 24" o.c.

$$H1 = \frac{485 \text{ lbs}}{2 \text{ ft}} = 242 \text{ plf}$$

Shear Transfer per
Simpson A35 Clip = **695 lbs.**

A35 @ 48" o.c.

$$A35 = \frac{695 \text{ lbs}}{4 \text{ ft}} = 174 \text{ plf}$$

If Trusses or Rafters are Perpendicular to Supporting Wall, Then:

$$\text{Shear Transfer} = H1 + A35 = \mathbf{416 \text{ plf}}$$

USE A35 @ 48" O.C. AND H1 @ 24" O.C. MAX TYPICAL, UNLESS
NOTED OTHERWISE

If Trusses or Rafters are Parallel to Supporting Wall, Then:

$$\text{Shear Transfer} = A35 = \mathbf{174 \text{ plf}}$$

USE A35 @ 48" O.C. MAX TYPICAL,
UNLESS NOTED OTHERWISE

Please Note:

Drag Framing has been oversized for safety. No connections of Drag Framing require a transfer load exceeding 6 kips. Remaining loads are absorbed in the diaphragm.

DIAPHRAGM CALCULATION

Subject: Hinson Detached Garage / Accessi

Job: 22-011

Date: 5/4/2022

By: NB

Main level

Grid	A	B	C	1	2	3	XX	XX	XX	XX
Strut Length	20	30	50	26	26	16	0	0	0	0
Diaph. Width	26	16	26	20	50	30	0	0	0	0
Seismic Strut	1860	2074	4812	2306	5266	2142	0	0	0	0
Wind Strut	1138	1068	1653	1016	2344	1486	0	0	0	0
Governing Strut	1860	2074	4812	2306	5266	2142	0	0	0	0
Unit Shear (plf)	93	69	96	89	203	134	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!

Common Nail Size = 10d

Nominal Panel Thickness (in) = 5/8

	SEISMIC		WIND	
Unblocked Diaphragm with edge nails spaced @ 6" o/c	215	plf	301	plf
Blocked Diaphragm with edge nails spaced @ 4" o/c	425	plf	595	plf
Blocked Diaphragm with edge nails spaced @ 2.5" o/c	640	plf	896	plf

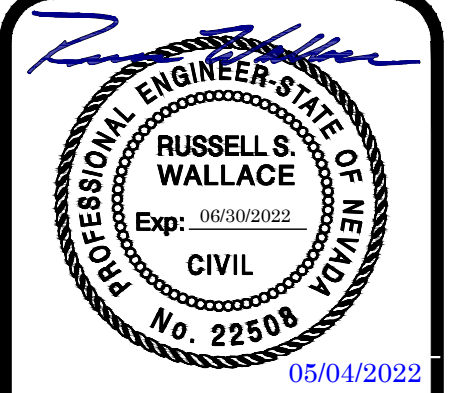
Use Typical: Nails Spaced 12" o/c in the Field

<p style="text-align: center; border: 1px solid black; margin-bottom: 5px;">GRID: A</p> <p><u>Blocking Requirements</u> NO BLOCKING REQUIRED, EDGE NAIL @ 6 in o/c</p> <p><u>Distance to Block</u> MINIMUM DISTANCE TO BLOCK (ft) = NO BLOCKING REQUIRED</p>	<p style="text-align: center; border: 1px solid black; margin-bottom: 5px;">GRID: 3</p> <p><u>Blocking Requirements</u> NO BLOCKING REQUIRED, EDGE NAIL @ 6 in o/c</p> <p><u>Distance to Block</u> MINIMUM DISTANCE TO BLOCK (ft) = NO BLOCKING REQUIRED</p>
<p style="text-align: center; border: 1px solid black; margin-bottom: 5px;">GRID: B</p> <p><u>Blocking Requirements</u> NO BLOCKING REQUIRED, EDGE NAIL @ 6 in o/c</p> <p><u>Distance to Block</u> MINIMUM DISTANCE TO BLOCK (ft) = NO BLOCKING REQUIRED</p>	<p style="text-align: center; border: 1px solid black; margin-bottom: 5px;">GRID: XX</p> <p><u>Blocking Requirements</u> NOT APPLICABLE</p> <p><u>Distance to Block</u> MINIMUM DISTANCE TO BLOCK (ft) = NOT APPLICABLE</p>
<p style="text-align: center; border: 1px solid black; margin-bottom: 5px;">GRID: C</p> <p><u>Blocking Requirements</u> NO BLOCKING REQUIRED, EDGE NAIL @ 6 in o/c</p> <p><u>Distance to Block</u> MINIMUM DISTANCE TO BLOCK (ft) = NO BLOCKING REQUIRED</p>	<p style="text-align: center; border: 1px solid black; margin-bottom: 5px;">GRID: XX</p> <p><u>Blocking Requirements</u> NOT APPLICABLE</p> <p><u>Distance to Block</u> MINIMUM DISTANCE TO BLOCK (ft) = NOT APPLICABLE</p>
<p style="text-align: center; border: 1px solid black; margin-bottom: 5px;">GRID: 1</p> <p><u>Blocking Requirements</u> NO BLOCKING REQUIRED, EDGE NAIL @ 6 in o/c</p> <p><u>Distance to Block</u> MINIMUM DISTANCE TO BLOCK (ft) = NO BLOCKING REQUIRED</p>	<p style="text-align: center; border: 1px solid black; margin-bottom: 5px;">GRID: XX</p> <p><u>Blocking Requirements</u> NOT APPLICABLE</p> <p><u>Distance to Block</u> MINIMUM DISTANCE TO BLOCK (ft) = NOT APPLICABLE</p>
<p style="text-align: center; border: 1px solid black; margin-bottom: 5px;">GRID: 2</p> <p style="text-align: center; font-size: small;">D.T. = 5.5K w/ A35's AT 24" O.C.</p> <p><u>Blocking Requirements</u> NO BLOCKING REQUIRED, EDGE NAIL @ 6 in o/c</p> <p><u>Distance to Block</u> MINIMUM DISTANCE TO BLOCK (ft) = NO BLOCKING REQUIRED</p>	<p style="text-align: center; border: 1px solid black; margin-bottom: 5px;">GRID: XX</p> <p><u>Blocking Requirements</u> NOT APPLICABLE</p> <p><u>Distance to Block</u> MINIMUM DISTANCE TO BLOCK (ft) = NOT APPLICABLE</p>

**Hinson Detached
 Garage / ADU**

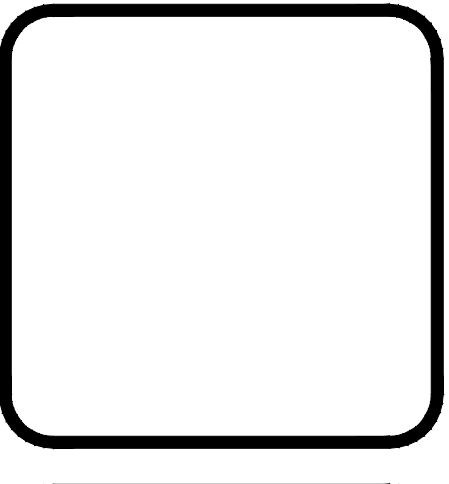
Project Address:
 3787 Portland Dr.
 Reno, NV 89511
 APN: 144-042-02

Date: 05/04/22
 Drawn: NB / RW
 Project #: 22-011



Russell S. Wallace, PE

Revisions:



FOUNDATION PLAN LEGEND

SEE SHEET SD-1 FOR ADDITIONAL NOTES AND SCHEDULES

(N) STANDARD CONC. STEMWALL AND FOOTING w/ HOLDOWN AS OCCURS
 H-11

P.T. 3x SILL PLATE w/ 1/2" O.D. x 12" A.B. SPACING AS INDICATED ON PLANS. AT TYPE 3 WALLS, 2x SILL PLATE MAY BE USED w/ 1/2" O.D. x 10" A.B. @ HALF THE SPECIFIED SPACING.

(N) WOOD BEAM

(N) FLOOR JOIST

48 1/2" O ANCHOR BOLT SPACING, 48" o/c TYP. U.N.O.

16 CONT. STRIP FOOTING PER SCHEDULE ON SHEET SD-1

24 INDICATES CONCRETE PIER FOOTING PER SCHEDULE ON SHEET SD-1

X SD2 DETAIL CALLOUT - SEE STRUCT. DETAIL SHEETS (SD's)

ALL DIMENSIONS SHOWN ARE APPROXIMATE. SEE ARCH. PLANS AND FIELD VERIFY TO CONFIRM DIMENSIONS FOR CONSTRUCTION.

CONCRETE NOTES

SOILS ENGINEER SHALL EXAMINE SITE AFTER EXCAVATION & PRIOR TO SETTING ANY CONC. FORMS. SOIL ENGINEER'S RECOMMENDATIONS CONCERNING OVER EXCAVATION, COMPACTION, ETC. SHALL BE FOLLOWED.

USE MIN. 3000 PSI COMPRESSIVE STRENGTH (28 DAY) CONC. FOR ALL FOOTINGS, RETAINING WALLS, AND PEDESTALS U.N.O. USE MIN. 4000 PSI COMPRESSIVE STRENGTH CONC. FOR ALL CONCRETE SLABS U.N.O. (NO SPECIAL INSPECTION REQ'D. DESIGN BASED ON 2,500 PSI CONC.)

CONC. FOOTINGS 16" x 10" w/ 2-#4 REBAR CONT., TYP. U.N.O. STEP FOOTINGS AS REQ'D. TO BEAR ON NATIVE GRADE OR AS DIRECTED BY SOILS ENGINEER. FOOTING SHALL BE A MIN. OF 2'-0" BELOW FINISHED GRADE.

8" CONC. FOUNDATION WALL w/ 1-#4 @ TOP & BTM. AND #4 VERT. @ 24" O.C. TYP. (ALT. HOOKS) U.N.O. PROVIDE 1/2" O x 10" A.B.S @ 48" O.C. TO 2x6 P.T. SILL U.N.O. IN SHEAR WALL PLAN. PROVIDE 2x6 P.T. SOLE PLATE @ GARAGE U.N.O.

ALL SLABS TO BE 4" THICK CONCRETE w/ #3 BARS @ 18" O.C. E.W. OR 6x6 10/10 WELDED WIRE FABRIC REINFORCING AND MIN. 1L/2CU. FT. FIBERMESH ADDITIVE. SLABS SHALL BE PLACED OVER 6" MIN. TYPE-II BASE COMPACTED TO 95% ON COMPACTED NATIVE SOIL. PER SOILS REPORT. INSTALL MIN. 6-MIL APPROVED VAPOR BARRIER w/ 6" LAPPED JOINTS RW SLAB AND BASE COURSE @ LIVING AREAS U.N.O. SLOPE GARAGE SLAB SURFACE TO FLOOR DRAINS OR TOWARD GARAGE DOORS PER IRC R309.1. ALL PAVER SYSTEMS TO BE INSTALLED @ 6" MIN. COMPACTED BASE/GRADE AND SAND PER CONTRACTOR & SOILS REPORT

FOR 2x SILL PLATE, USE 1/2" O x 10" A.B. FOR 3x OR DOUBLE SILL PLATE, USE 1/2" O x 12" A.B. EXTEND SILL BOLTS 7" INTO FOUNDATION MINIMUM. MAXIMUM SPACING SHALL BE 1'-0" O.C. WITH MINIMUM (2) BOLTS IN EACH SILL BOARD. BOLTS SHALL BE LOCATED NOT MORE THAN (12) NOR LESS THAN (7) BOLT DIAMETERS FROM EACH END OF SILL PIECE. MINIMUM 3/8" x 3/4" THICK PLATE WASHERS SHALL BE INSTALLED ON EACH SILL BOLT.

SILL PLATE: USE FOUNDATION GRADE REDWOOD OR TIMBERSTRAND LSL. TREATED w/ ZINC BORATE OR PRESSURE TREATED DOUGLAS FIR MUDDSILL. SEE SHEARWALL SCHEDULE FOR IMPORTANT INFORMATION REGARDING SILL PLATES. FOR ALL SILL PLATES NOTED, USE 2x WALL WIDTH WOOD SILL. ALL SHEAR WALLS, EXCEPT TYPE "6" & "4", REQUIRE FOUNDATION SILL PLATES & ALL FRAMING MEMBERS RECEIVING EDGE NAILING FROM ABUTTING PANELS TO BE NOT LESS THAN A SINGLE 3" NOMINAL MEMBER. PLYWOOD JOINT & SILL PLATE NAILING SHALL BE STAGGERED IN ALL CASES.

FLOOR FRAMING NOTES

3/4" T&G PLYWOOD APA RATED STURD-I-FLOOR - 4824 w/ 10d @ 6" O.C. BOUNDARY, EDGES, & DRAG STRUTS w/ 10d @ 10" O.C. FIELD - GLUE & NAIL THROUGHOUT, TYP.

9 1/2" TJH 210 FLOOR JOISTS @ 16" O.C. TYP. BLK. SOLID @ ALL SUPPORT LINES. PROVIDE 1 1/2" LSL RIM BOARD THROUGHOUT, TYP. BLOCK SOLID UNDER ALL HOLDDOWNS. PROVIDE CRUSH BLOCK, WEB STIFFENERS, ETC. PER MFR.

TYPICAL FLOOR GIRDERS SHALL BE DBL. 1 1/2" x 7 1/2" 2.0E W.S. LVL'S, MAX. SPAN 8'-6" U.N.O. NAIL LVL'S TOGETHER w/ MIN. 2 ROWS OF 16d @ 12" O.C.

PROVIDE INSULATION @ RIM JOISTS & FLOOR.

INSULATE ALL PIPES & DUCTWORK.

PROVIDE SOLID BLKG. UP TO SUB-FLOOR, AS REQUIRED, TO SUPPORT POSTS ABOVE.

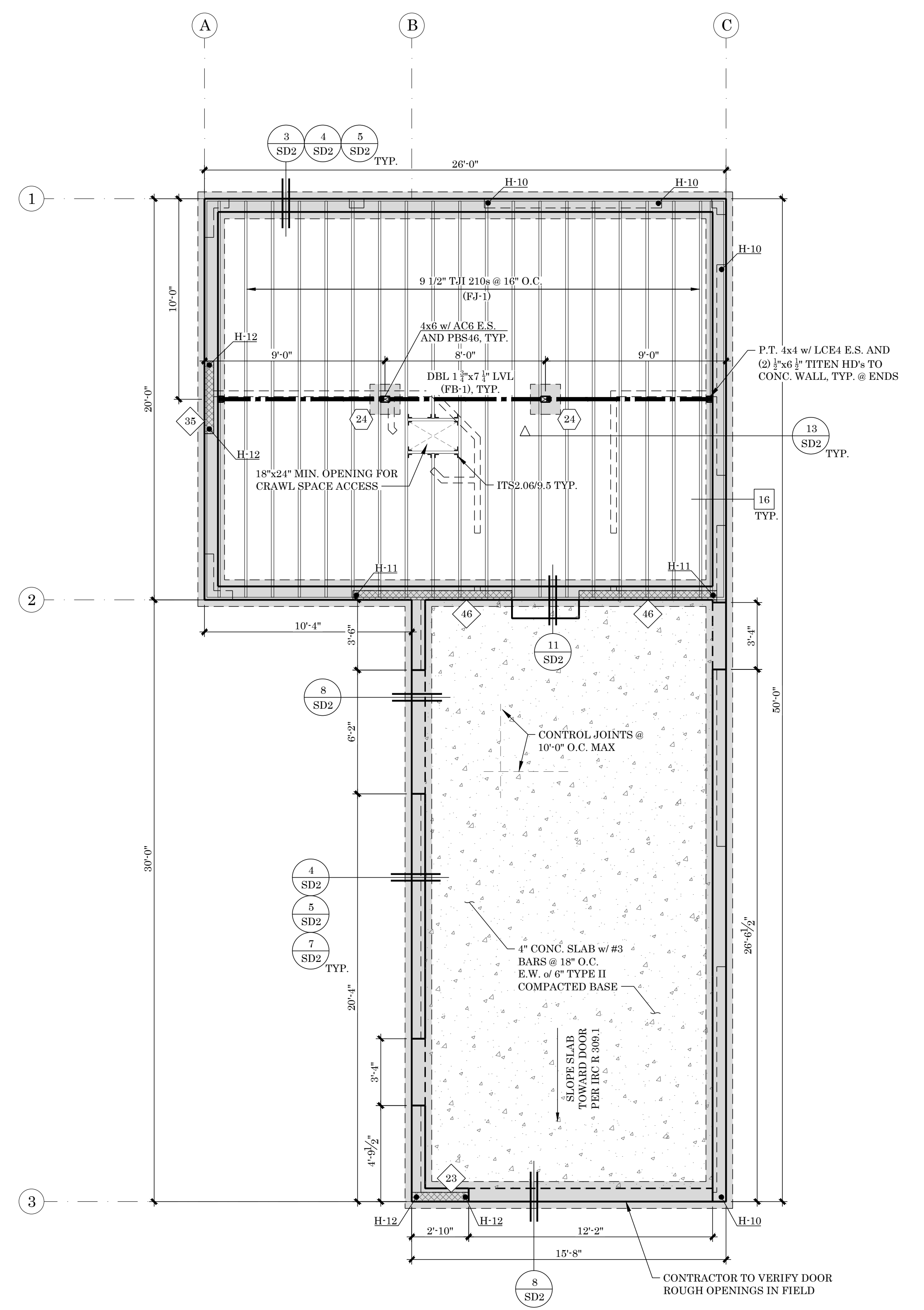
ALL FRAMING HARDWARE SHALL BE 'SIMPSON'. INSTALL PER MANUF. REQUIREMENTS.

PROVIDE CRAWL SPACE VENTILATION PER ARCHITECT (FOLLOW I.R.C. SECTION R408. INSTALL ONE 6"x14" VENT @ EVERY 25 L.F. AND WITHIN 3' OF EACH CORNER U.N.O.)

VERIFY THE ENTIRE CRAWLSPACE IS COVERED BY MIN. 6-MIL. APPROVED VAPOR BARRIER w/ 6" LAPPED JOINTS SEALED OR TAPE AND EXTENDING 6" MIN. UP AND SEALED TO THE FACE OF PERIMETER STEMWALLS U.N.O.

MINIMUM CLEARANCE FROM GROUND UNDER GIRDERS SHALL BE 12 INCHES. UNDER JOISTS SHALL BE 18 INCHES.

ALL EXTERIOR WALLS SHALL BE CONSIDERED SHEARWALLS NAILED AS TYPE "6" WALLS U.N.O. (SEE SHEARWALL SCHEDULE).



FOUNDATION PLAN
 SCALE 1/4" = 1'-0"
 N

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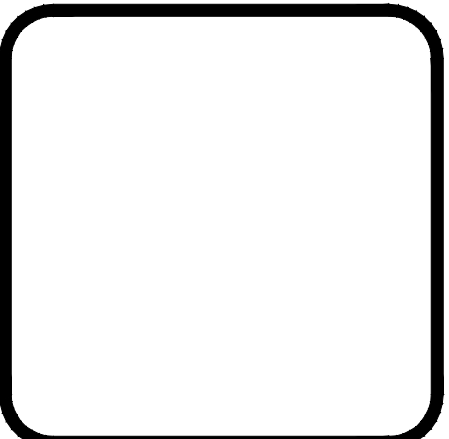
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Revisions:

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▲	
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▲	



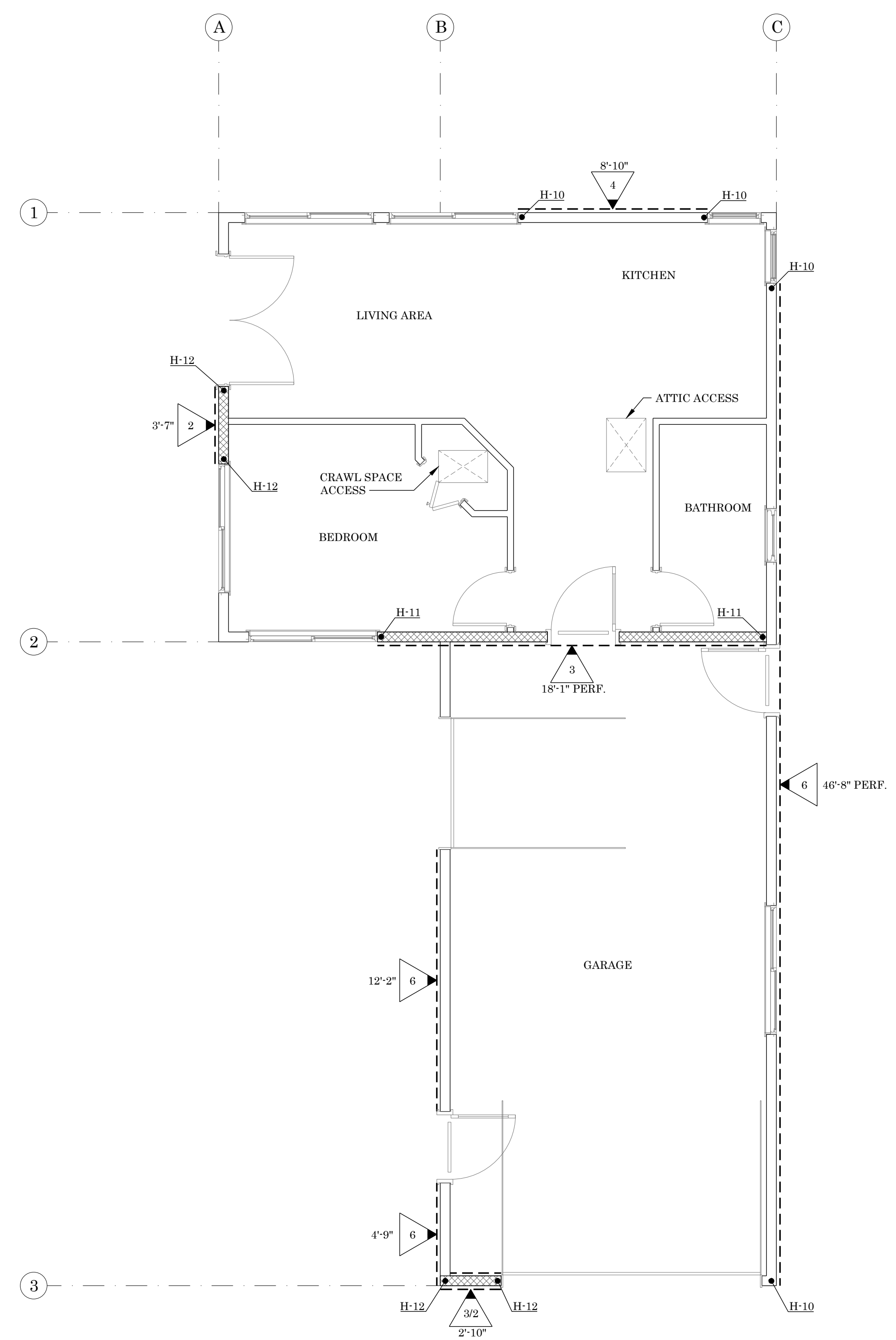
SHEARWALL PLAN LEGEND

SEE SHEET SD-1 FOR ADDITIONAL NOTES AND SCHEDULES

6 10'-0" SHEARWALL TYPE - SEE SHEET SD1 FOR ADDITIONAL INFORMATION

TYPICAL WALL w/ SHEARPLY AND HOLD-DOWNS. SEE SCHEDULES ON SHEET SD-1.

3x OR DBL 2x FRAMING MEMBERS CONNECTED W/ (2) 16d's @ 12" O/C AT ADJOINING PANEL EDGES

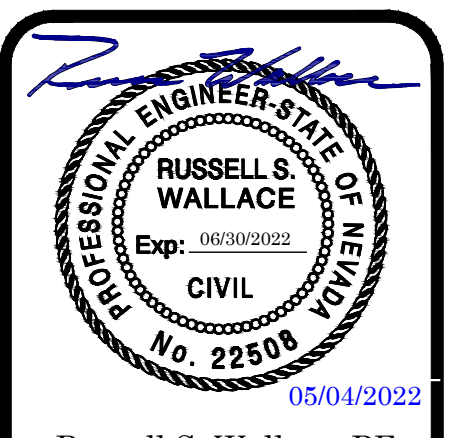


SHEARWALL PLAN → N
 SCALE 1/4" = 1'-0"

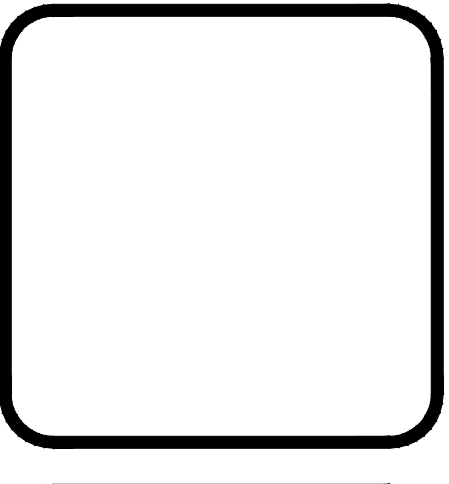
**Hinson Detached
 Garage / ADU**

Project Address:
 3787 Portland Dr.
 Reno, NV 89511
 APN: 144-042-02

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 Drawn: NB / RW
 Project #: 22-011



Revisions:



FRAMING PLAN LEGEND

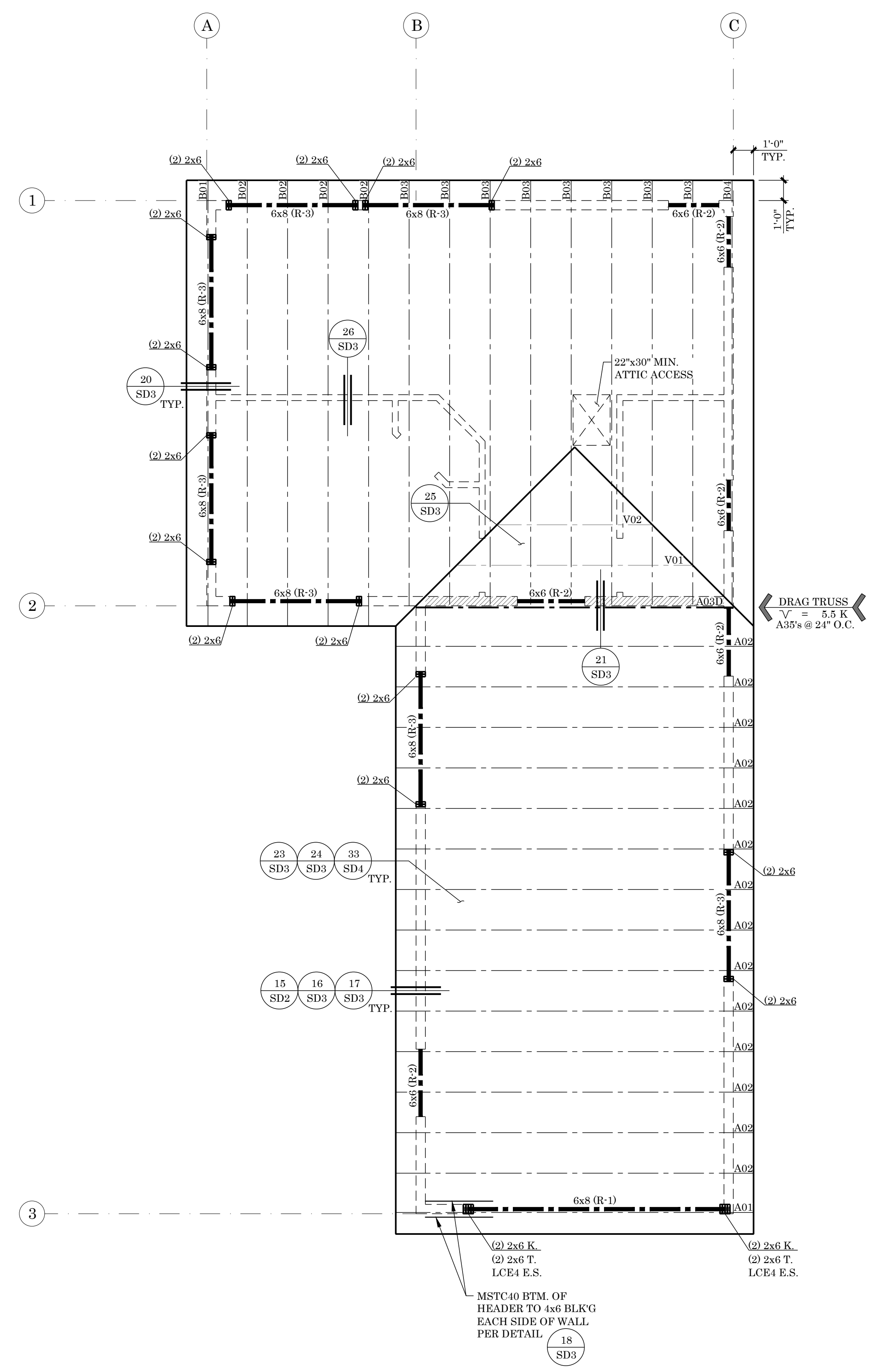
SEE SHEET SD-1 FOR ADDITIONAL NOTES AND SCHEDULES

- (N) WOOD HEADER / BEAM
- (N) PRE MANUFACTURED TRUSSES
- (N) WALL
- INTERIOR BEARING WALL
- X / SD2 DETAIL CALLOUT - SEE STRUCT. DETAIL SHEETS (SD's)

ALL DIMENSIONS SHOWN ARE APPROXIMATE. SEE ARCH. PLANS AND FIELD VERIFY TO CONFIRM DIMENSIONS FOR CONSTRUCTION.

ROOF FRAMING NOTES

- ROOF LOADS: SNOW 31# SQ. FT. : DEAD 30# SQ. FT.
- USE (1) LAYER 5/8" (4020) CDX APA RATED ROOF SHEATHING OR OSB EQUIVALENT. APPLY FACE GRAIN/LONG DIMENSION PERPENDICULAR TO SUPPORT FRAMING. STAGGER PANELS & NAIL w/ 10d'S @ 6" O.C. EDGES & BOUNDARIES & 10d'S @ 12" O.C. FIELD. NAIL ALL DRAG MEMBERS, SHEAR PANELS, BLOCKING, E.T.C. w/ NAILS SPACED @ 4" O.C. SEE DETAILS FOR ADDITIONAL NAILING REQUIREMENTS.
- ALL FRAMING HARDWARE NOTED SHALL BE "SIMPSON" INSTALL PER MANUFACTURES REQUIREMENTS.
- PROVIDE MIN. DOUBLE STUDS BELOW ALL (1) & (2) PLY GIRDER TRUSSES w/ SIMPSON H6. USE (3) STUDS @ 3-PLY TRUSSES & (4) STUDS @ 4-PLY TRUSSES. U.N.O. CONNECT GIRDER TRUSS TO POST w/ SIMPSON H6 U.N.O.
- ALL GLU-LAM BEAMS SHALL BE DOUG-FIR 24F-V4 U.N.O.
- TYP HEADER U.N.O. USE 6x8 D.F. #1 w/ 2x6 KING AND TRIMMER
- USE 12-16d BETWEEN TOP PLATE SPLICES. TYP U.N.O.
- USE 2x4 FLAT OUTLOOKERS @ 24" O.C. w/ 2x6 STRONGBACK @ 48" O.C. @ GABLE END FRAMING
- PROVIDE G.I. FLASHING @ ALL VALLEYS & ROOF-TO-WALL CONNECTIONS. TYP PROVIDE BITUTHANE MEMBRANE @ CRICKETS SLOPING LESS THAN 3:12 & AS NOTED ON ROOF PLAN
- USE BOUNDARY NAILING @ ALL DRAG TRUSSES U.N.O.
- PROVIDE H1'S @ EACH TRUSS AND A35'S @ 48" O.C. TRUSS BL'G TO TOP PLATE TYP U.N.O.
- PROVIDE ICE & WATER DAM MEMBRANE @ HIPS, EAVES, VALLEYS & RIDGES AS PER LOCAL BLDG DEPT STANDARDS
- PROVIDE SNOW DIVERTERS @ ALL ROOF PENETRATIONS
- PROVIDE ATTIC ACCESS (22"x30") PER I.R.C. SECTION R807.1
- PROVIDE ROOF VENTILATION PER ARCHITECT (FOLLOW I.R.C. SECTION R806.1 U.N.O.)
- PROVIDE BLOCKING @ ALL RIDGES, HIPS & VALLEYS TYP
- PROVIDE CONT ROOF PLY UNDER ALL ROOF OVER FRAMING



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

Project Standard Structural Notes

THE GENERAL CONTRACTOR AND ALL INVOLVED PARTIES ARE RESPONSIBLE FOR READING AND UNDERSTANDING THE NOTES LISTED IN THE PLANS. RW ENGINEERING ASSUMES NO LIABILITY IF ANY INVOLVED PARTY FAILS TO COMPLY WITH THE NOTES AND SPECIFICATIONS IN THE PLANS.

1.0 GENERAL

- GENERAL NOTES LISTED ON THIS SHEET ARE APPLICABLE TO ALL WORK SHOWN IN THE STRUCTURAL DRAWINGS. IT IS THE RESPONSIBILITY OF THE GENERAL CONTRACTOR AND ALL INVOLVED PARTIES TO READ AND COMPLY WITH ALL INFORMATION PROVIDED IN THE STRUCTURAL DRAWINGS AND SPECIFICATIONS.
- ALL WORK SHALL COMPLY WITH THE MINIMUM STANDARDS OF THE CURRENT EDITION OF THE INTERNATIONAL BUILDING CODE (IBC), AND ALL OTHER APPLICABLE STANDARDS REFERENCED IN THE PLANS. LOCAL, STATE AND FEDERAL REQUIREMENTS AND REGULATIONS SHALL BE FOLLOWED. FOR ITEMS, METHODS, AND/OR MATERIALS NOT SHOWN SPECIFICALLY IN THE PLANS, ALL WORK SHALL CONFORM TO THE MINIMUM STANDARDS OF THE REGULATING AGENCIES THAT HAVE AUTHORITY OVER SUCH ITEMS.
- THE CONTRACTOR SHALL COMPLY WITH ALL GENERAL NOTES AND TYPICAL DETAILS SHOWN IN THE DRAWINGS. WHETHER OR NOT SPECIFIC FLAGGING OR REFERENCE HAS BEEN MADE TO THE APPLICABLE GENERAL NOTE OR TYPICAL DETAIL, PROJECT SPECIFIC NOTES AND DETAILS SHOWN ON THE DRAWINGS SHALL TAKE SUPREMACY OVER GENERAL NOTES AND TYPICAL DETAILS.
- THE STRUCTURAL DRAWINGS AND SPECIFICATIONS REPRESENT THE FINISHED STRUCTURE. THEY DO NOT INDICATE MEANS OR METHODS OF CONSTRUCTION. THE CONTRACTOR SHALL PROVIDE ALL MEASURES NECESSARY TO PROTECT THE STRUCTURE, WORKERS, AND OTHER INVOLVED PARTIES DURING CONSTRUCTION. SUCH MEASURES SHALL INCLUDE, BUT NOT BE LIMITED TO, PREPARATION AND EXECUTION OF A SAFETY PROGRAM AND THE DESIGN AND INSTALLATION OF BRACING, SHORING, FORMS AND SCAFFOLDING. THE CONTRACTOR SHALL CONSULT RW ENGINEERING AND/OR RETAIN HIS/HER OWN ENGINEER AS REQUIRED FOR MEANS AND METHODS AS WELL AS ANY OTHER DELEGATED DESIGN ITEMS. RW ENGINEERING DOES NOT ASSUME LIABILITY FOR THE REVIEW, APPROVAL OR DESIGN OF PROPOSED MEANS AND METHODS PROVIDED BY THE CONTRACTOR OR HIRED THIRD PARTIES.
- THE CONTRACTOR IS DIRECTLY RESPONSIBLE FOR VERIFYING ALL DIMENSIONS, ELEVATIONS AND CONDITIONS BETWEEN ARCHITECTURAL, STRUCTURAL AND OTHER DRAWINGS (I.E. CIVIL, MECHANICAL, PLUMBING, ELECTRICAL, ETC) PRIOR TO CONSTRUCTION. RW ENGINEERING SHALL BE NOTIFIED OF ANY DISCREPANCIES, OMISSIONS OR INCONSISTENCIES BETWEEN DRAWINGS OR CONDITIONS IN THE PLANS PRIOR TO CONSTRUCTION. CORRECTIONS AND DETAILS, REVISIONS OR CLARIFICATIONS WILL BE MADE IF DEEMED NECESSARY TO CONTINUE THE PROJECT. THE CONTRACTOR SHALL BE HELD RESPONSIBLE FOR THE RESULTS OF ANY ERRORS, DISCREPANCIES, OR OMISSIONS WHICH THE CONTRACTOR FAILED TO NOTIFY RW ENGINEERING OF BEFORE CONSTRUCTION AND/OR FABRICATION OF THE WORK.
- THE CONTRACTOR IS DIRECTLY RESPONSIBLE FOR COORDINATING THE FOLLOWING TYPES OF ITEMS, WHICH ARE TYPICALLY SHOWN ON MECHANICAL, PLUMBING, AND ELECTRICAL DRAWINGS: SIZES AND LOCATIONS OF WINDOW OPENINGS, CONCRETE CURBS, FLOOR DRAINS AND DERESSED SLAB AREAS, FLOOR AND INTERIOR OR EXTERIOR NON-STRUCTURAL WALLS PARTITIONS, ETC.
- THE CONTRACTOR IS DIRECTLY RESPONSIBLE FOR COORDINATING THE FOLLOWING TYPES OF ITEMS WHICH ARE TYPICALLY SHOWN ON MECHANICAL, PLUMBING, AND ELECTRICAL DRAWINGS: SIZES AND LOCATIONS OF MECHANICAL EQUIPMENT, DUCTWORK RUNS, CONDUIT OR CABLE TRAY RUNS, PIPE RUNS, AND ALL ASSOCIATED SLEEVES, PENETRATIONS, OPENINGS, HANGERS, INSERTS, ETC.
- WHERE SHOP DRAWINGS ARE REQUIRED TO BE SUBMITTED FOR REVIEW AND APPROVAL, THEY SHALL BE COMPLETE AND COORDINATED BY THE CONTRACTOR.
- DO NOT SCALE THE DRAWINGS. THEY ARE DIAGRAMMATIC AND MAY NOT SCALE ACCURATELY.
- THE CONTRACTOR AGREES TO CONSTRUCT THE PROJECT IN ACCORDANCE WITH THE SEALED AND APPROVED STRUCTURAL DESIGN. ANY MODIFICATIONS TO THE APPROVED DESIGN SHALL BE APPROVED BY RW ENGINEERING AND ALL NECESSARY REVIEWING AGENCIES PRIOR TO IMPLEMENTATION.
- RW ENGINEERING SHALL RETAIN ALL COMMON LAW, STATUTORY AND OTHER RESERVED RIGHTS, INCLUDING COPYRIGHT OF THESE PLANS, NO REPRODUCTIONS, MODIFICATIONS, CHANGES TO THE INTENDED USE, OR ASSIGNMENT OF THE PLANS AND/OR SPECIFICATIONS TO A THIRD PARTY WITHOUT THE PRIOR WRITTEN AUTHORIZATION OF RW ENGINEERING IS PERMITTED. THE CLIENT OR INVOLVED THIRD PARTY AGREES TO DEFEND, INDEMNIFY AND HOLD RW ENGINEERING HARMLESS FROM CLAIMS ARISING OUT OF THE UNAUTHORIZED REUSE OF THESE PLANS.
- IT IS RW ENGINEERING'S RIGHT TO PERFORM OBSERVATION VISITS TO THE SITE AT ANY TIME. OBSERVATIONS ARE PERFORMED SPECIFICALLY TO DETERMINE IF THE CONTRACTOR UNDERSTANDS DESIGN INTENT CONVEYED IN THE PLANS. AN OBSERVATION DOES NOT GUARANTEE THE CONTRACTOR'S PERFORMANCE, NOR IS IT TO BE CONSTRUED AS SUPERVISION OF THE PROJECT.
- ALL NOTES AND DETAILS SHOWN IN THE DRAWINGS ARE TYPICAL U.N.O. SIMILAR NOTES AND DETAILS APPLY TO SIMILAR CONDITIONS. NO REFERENCES FROM STRUCTURAL NOTES OR DETAILS SHALL BE MADE WITHOUT THE PRIOR WRITTEN APPROVAL OF RW ENGINEERING.

2.0 SITE/EARTH WORK & FILL/BACKFILL

- RW ENGINEERING HAS NOT MADE A GEOTECHNICAL REVIEW OF THE BUILDING SITE, THEREFORE THE EARTHWORK REQUIREMENTS AND NOTES ARE BASED ON THE ASSUMED CONDITIONS AND ASSUME THE PRESENCE OF ADEQUATE NATIVE SOILS TO BUILD ON. RW ENGINEERING IS NOT RESPONSIBLE FOR GENERAL SITE STABILITY OR SOIL SUITABILITY FOR THE PROPOSED PROJECT. IT IS RECOMMENDED A REVIEW OF THE SITE BY A GEOTECHNICAL ENGINEER OR A QUALIFIED CIVIL ENGINEER TO DETERMINE GENERAL SITE STABILITY AND SOIL SUITABILITY FOR THE PROJECT IS PERFORMED.
- BUILDING SITES ARE ASSUMED TO BE DRAINED AND FREE OF CLAY OR EXPANSIVE SOIL. ALL FOOTINGS SHALL BE EMBEDDED AND APPROVED COMPACTED FILL. PERIMETER OR EXTERIOR FOOTING DEPTHS MUST EXTEND BELOW FROSTLINE 6" OR 24" AS PER LOCAL CODE REQUIREMENTS. ALL OTHER FOOTINGS (INTERIOR) SHALL BOTTOM 12" MINIMUM BELOW NATURAL UNDISTURBED GRADE.
- BUILDING PADS SHALL BE GRADED 2% TOWARD APPROVED DRAINAGE FACILITIES AND PROVISIONS SHALL BE MADE TO CONTROL AND DRAIN SURFACE WATER AROUND BUILDING.
- ASSUME CLASS II SOILS WITH ALLOWABLE SOIL BEARING PRESSURE OF 1500 PSF WITH A CONSTANT EXPANSION INDEX LESS THAN 20. U.N.O. SOIL BEARING PRESSURE HAS BEEN DETERMINED IN ACCORDANCE WITH TABLE 1806.2.
- FILL MATERIAL SHALL BE FREE FROM DEBRIS, VEGETATION, AND OTHER FOREIGN SUBSTANCES.
- BACKFILL TRENCHES SHALL BE COMPACTED TO 90% DENSITY PER ASTM 1557 TO WITHIN 12" OF FINISHED GRADE. THE TOP 12" SHALL BE LANDSCAPE FILL. BACKFILL AT PIPE TRENCHES SHALL BE COMPACTED ON BOTH SIDES OF PIPE IN 6" LIFTS.
- WATERPROOF EXTERIOR FACES OF ALL FOUNDATION WALLS ADJACENT TO USABLE SPACES. WATERPROOFING OF ALL FOUNDATION AND RETAINING WALLS TO BE THE RESPONSIBILITY OF THE OWNER AND/OR CONTRACTOR.
- ALL BACKFILL AGAINST FOUNDATION WALLS MUST BE COMPACTED TO 90% RELATIVE DENSITY.
- PROVIDE A 4" DIAMETER PVC PERFORATED DRAINPIPE AT GRADE SIDE OF ALL RETAINING WALLS. SLOPE PIPE TO DRAIN TO DAYLIGHT AND DRYWELL.

3.0 CONCRETE

- REINFORCED CONCRETE WORK SHALL CONFORM TO APPLICABLE REQUIREMENTS OF THE IBC AND ACI STANDARD 318.
- AGGREGATE SHALL CONFORM TO ASTM C33 FOR STONE CONCRETE. COMPRESSION STRENGTH OF ALL REINFORCED CONCRETE SHALL NOT BE LESS THAN 3000 PSI AT 28 DAYS. STRUCTURAL DESIGN BASED ON $F_c = 2500$ PSI (SPECIAL INSPECTION NOT REQUIRED).
- USE NORMAL WEIGHT CONCRETE (145 PCF) FOR ALL CONCRETE. USE TYPE II CEMENT TYPICAL. IF SOIL CONTAINS SULFATE CONCENTRATIONS OF 2% OR MORE, USE TYPE V CEMENT.
- MAXIMUM WATER/CEMENT RATIO SHALL BE .55 FOR 3000 PSI CONCRETE. THE MAXIMUM SLUMP SHALL NOT EXCEED 3". PLASTICIZERS MAY BE USED TO INCREASE SLUMP TO 4" MAXIMUM PROVIDED THEY DO NOT INCREASE SHRINKAGE.
- FOLLOW RECOMMENDED PRACTICES FOR HOT AND COLD WEATHER CONCRETING BY OBSERVING ACI 305 AND ACI 306 GUIDELINES.
- PROVIDE STANDARD CRACK CONTROL JOINTS IN ALL SLABS ON GRADE USING MAXIMUM DIMENSION OF 10 FEET FOR 4" SLABS AND 12 FEET FOR 6" SLABS. U.N.O. JOINT DEPTH SHALL NOT EXCEED ONE-FOURTH OF SLAB DEPTH.
- TOP OF CONCRETE SLABS SHALL BE FINISHED TO U.N.O. EXTERIOR SLABS ON GRADE SHALL CONTAIN NOT LESS THAN 1% NOR MORE THAN 6% ENTRAINED AIR. CONCRETE STOOFS TO BE MACHINED MIXED AND PLACED IN ACCORDANCE WITH THE IBC.
- PIPES MAY PASS THROUGH STRUCTURAL CONCRETE IN SLEEVES, BUT SHALL NOT BE EMBEDDED THEREIN. PIPES OR DUCTS EXCEEDING ONE-THIRD THE SLAB OR WALL THICKNESS SHALL NOT BE PLACED IN STRUCTURAL CONCRETE. DO NOT PLACE CONCRETE UNTIL ALL REINFORCEMENT, CONDUIT, OUTLET BOXES, ANCHORS, HANGERS, SLEEVES, BOLTS, HOLD-DOWNS, ANCHOR BOLTS OR OTHER EMBEDDED MATERIALS AND ITEMS ARE SECURELY AND PROPERLY FASTENED IN THEIR PROPER PLACES AND POSITIONS.

4.0 REINFORCING STEEL

- REINFORCING BARS SHALL BE DEFORMED BARS CONFORMING TO THE REQUIREMENTS OF ASTM A615 GRADE 60 FOR ALL #5 AND LARGER BARS AND GRADE 40 FOR ALL #1 AND SMALLER BARS.
- ALL DETAILS OF FABRICATION AND INSTALLATION OF REINFORCING STEEL SHALL BE IN ACCORDANCE WITH THE ACI MANUAL OF STANDARD PRACTICE.
- WELDED FABRIC (MESH) SHALL CONFORM TO LATEST REVISED ASTM A185 AND BE FURNISHED IN FLAT SHEETS. SMOOTH WIRE FABRIC SHALL CONFORM TO ASTM A-85 HAVING A YIELD STRENGTH OF 60 KSI.
- ALL BARS SHALL BE LAPPED WITH A MINIMUM OF 40 BAR DIAMETERS (2' MINIMUM) AT ALL SPLICES. SPLICES OF HORIZONTAL REBAR IN WALLS AND FOOTINGS SHALL BE STAGGERED 4' MINIMUM.
- WOWELS FOR WALLS AND COLUMNS SHALL BE THE SAME SIZE AND SPACING AS THE WALL/COLUMN REINFORCING.
- WELDING OF REINFORCING STEEL SHALL CONFORM TO AWS D12-1 USING LOW HYDROGEN ELECTRODES.
- ALL REINFORCING STEEL SHALL BE ACCURATELY LOCATED AND ADEQUATELY SECURED IN POSITION BEFORE AND DURING PLACEMENT OF CONCRETE.
- MASONRY REINFORCEMENT, BOLTS, ETC. SHALL HAVE MINIMUM GROUT COVERAGE OF THREE-FOURTHS OF AN INCH. REINFORCEMENT COVER IN CAST-IN-PLACE CONCRETE SHALL BE AS FOLLOWS: 3" - CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH 2" - FORMED SURFACES EXPOSED TO GROUND OR WEATHER.

5.0 MASONRY

- ALL CONCRETE MASONRY UNITS SHALL CONFORM TO ASTM C90, GRADE N, $F_m = 1500$ PSI. USE 85 PCF MINIMUM WEIGHT UNITS ABOVE GRADE AND 110 PCF MINIMUM WEIGHT UNITS BELOW GRADE. USE MOISTURE CONTROLLED UNITS ONLY. USE UNITS AS SHOWN IN THE PLANS AS MUCH AS POSSIBLE AND AT WALL PENETRATIONS.
- ALL BRICK SHALL CONFORM TO ASTM C92, GRADE MW, MORTAR FOR CONCRETE MASONRY SHALL CONFORM TO ASTM C270, TYPE S.
- GROUT FOR CONCRETE MASONRY SHALL BE IN ACCORDANCE WITH IBC SECTION 2103. MINIMUM 28-DAY COMPRESSIVE STRENGTH SHALL NOT BE LESS THAN 3000 PSI.
- ALL WALLS SHALL BE GROUDED SOLO. GROUT SHALL BE VIBRATED INTO PLACE AND SHALL BE PLACED IN LIFTS NOT EXCEEDING 4' UNLESS APPROPRIATE CLEARANCE HOLES ARE PROVIDED IN ACCORDANCE WITH IBC.
- AGGREGATES FOR MORTAR AND GROUT SHALL BE NATURAL SAND AND ROCK CONFORMING TO ASTM C-114 (MORTAR) AND C-404 (GROUT). CEMENT SHALL BE PORTLAND CEMENT CONFORMING TO ASTM C-150, TYPE I OR II (ALL ALKAL) AND ALL CONCRETE BLOCK AND BRICK SHALL BE LAID IN RUNNING BOND.
- WHEN ABSOLUTELY NECESSARY FOR CONSTRUCTION PURPOSES TO STOP OFF LONGITUDINAL RUNS OF MASONRY, STOP OFF ONLY BY RACKING BACK ONE-HALF UNIT LENGTH IN EACH COURSE. TOOTHING SHALL NOT BE PERMITTED. UNLESS NOTED OTHERWISE, MASONRY WALLS SHALL BE REINFORCED WITH #1 VERTS. AND HORIZ. @ 16" O.C. BAR SPLICES SHALL BE STAGGERED.

6.0 STRUCTURAL STEEL

- STRUCTURAL STEEL AND MISCELLANEOUS IRON SHALL CONFORM TO ASTM A-36. W SECTIONS SHALL CONFORM TO ASTM A992, GRADE 50.
- STEEL PIPE COLUMNS SHALL CONFORM TO ASTM A-53, TYPE E OR S, GRADE B.
- STEEL TUBE SECTIONS SHALL CONFORM TO ASTM A500, GRADE B.
- STEEL PLATES SHALL CONFORM TO ASTM A36. W PLATES SHALL CONFORM TO ASTM A572, Fy = 36 to 50 MIN.
- ALL DETAILING SHALL CONFORM TO CURRENT AISC SPECIFICATIONS.
- ALL WELDING SHALL CONFORM TO CURRENT AISC AND AWS 1 SPECIFICATIONS, AND SHALL PERFORMED BY CERTIFIED WELDERS APPROVED BY THE LOCAL BUILDING AUTHORITY. ALL SHOP WELDING SHALL BE IN AN APPROVED FABRICATORS SHOP AUTHORIZED BY THE BUILDING AUTHORITY OR SPECIFIC INSPECTION PER IBC.
- ALL COMPLETE JOINT PENETRATION WELDS REQUIRE SPECIAL INSPECTION AND UT TESTING.
- ALL WELDING ELECTRODES SHALL BE E70XX OR SHIELDED WIRES WITH Fy GREATER THAN OR EQUAL TO 70 KSI.
- BOLTS, NUTS, AND SCREWS SHALL CONFORM TO ASTM A307 GRADE A7.
- HIGH STRENGTH BOLTS SHALL BE ASTM A325. CONTACT FACES OF STEEL CONNECTIONS WITH HIGH STRENGTH BOLTS ARE TO BE USED SHALL NOT BE PAINTED.
- ALL FOUNDATION BOLTS SHALL BE ASTM A-36 GALVANIZED ALL THREAD OR ASTM A307 UNFINISHED BOLTS. ALL SILL BOLTS IN SEISMIC ZONE 4 SHALL BE FIVE-EIGHTHS INCHES IN DIAMETER. BOLT HOLES TO BE ONE-THIRTY-SECONDS OF AN INCH TO ONE-SIXTEENTH OF AN INCH LARGER THAN SPECIFIED BOLT.
- ALL STRUCTURAL, STEEL AND MISCELLANEOUS IRON NOT ENCASED IN CONCRETE SHALL RECEIVE ONE SHOP COAT OF APPROVED PRIMER PAINT.
- ALL STEEL EXPOSED TO WEATHER SHALL BE HOT-DIP GALVANIZED AFTER FABRICATION OR OTHER APPROVED WEATHER PROOFING METHOD HAVING EQUIVALENT RESULTS MAY BE USED.
- WHERE NECESSARY, PROVIDE ONE-HALF INCH DIAMETER X THREE INCH NELSON STUDS AT 36" O.C.
- ALL GROUT UNDER STEEL BEARING PLATES SHALL BE SOLID DRYPACK OR NON-SHRINK GROUT PLACED AS DIRECTED BY THE MANUFACTURER.
- PROVIDE WELDERS CERTIFICATE FOR ALL SINGLE-PASS FILLET WELDS NOT EXCEEDING 5/16" IN SIZE, OR PROVIDE THE CERTIFICATE OF COMPLIANCE THAT THE WORK WAS PERFORMED IN AN APPROVED FABRICATORS SHOP.

7.0 WOOD FRAMING NOTES

- ALL LUMBER FRAMING AND BEARING STUDS TO BE DOUGLAS FIR-LARCH WITH MOISTURE CONTENT LESS THAN 19%.
 - 1x AND SMALLER FRAMING TO BE DF #2
 - 6x AND LARGER FRAMING TO BE DF #1
 - GLUE LAMINATED TIMBER BEAMS TO BE APAWEWS MARKED 24FV4. GLU-LAMS EXPOSED TO WEATHER SHALL BE RATED FOR EXTERIOR USE BY THE MANUFACTURER OR AN APPROVED PROTECTION FROM EXPOSURE SHALL BE PROVIDED.
- LAMINATED VENEER LUMBER (LVL) TO BE 2.0E, Fy=2600 PSI, Fv= 285 PSI EQUIVALENT OR BETTER FOR MEMBERS LESS THAN 10" DEEP. CONNECT PLIES WITH (2) ROWS 16d BOX NAILS AT 12" O.C. FOR MEMBERS GREATER THAN 10" DEEP, CONNECT PLIES WITH (2) ROWS 16d BOX NAILS AT 12" O.C. FOR THREE PIECE MEMBER, NAILING SPECIFIED IS FROM EACH SIDE.
- PARALLEL STRAND LUMBER (PSL) TO BE 2.2E, Fy= 2900 PSI, Fv= 290 PSI EQUIVALENT OR BETTER.
- INTERIOR NON-BEARING STUDS AND PLATES MAY BE 2E GRADE OR BETTER.
- APA RATED SHEATHING SHALL BE MANUFACTURED WITH EXTERIOR GRADE IN ACCORDANCE WITH THE REQUIREMENTS OF THE IBC AND PS 1-1, Fy=2, OR APA FRP-108, SHEAR PLYWOOD SHALL BE C.D. C.C., 303 (7)-11, OR AN APPROVED EQUAL.
- ALL FRAMING AND EACH WASHERS SHALL BE FREE OF HEAT CENTER.
- ALL FRAMING CLIPS AND DEVICES SHALL BE "SIMPSON TIE" OR IBC APPROVED EQUAL.
- MINIMUM NAILING FOR CONNECTION NOT INDICATED ON THE DRAWINGS SHALL BE IN ACCORDANCE WITH IBC.
- ALL MULTIPLE TRIMMERS, MULTIPLE STUDS, OR POSTS SHALL BE STACKED IN ALL WALL FRAMING CONNECTED WITH POSITIVE CONNECTIONS. SOLID BLOCKING SIMILAR IN SIZE TO FRAMING ABOVE SHALL BE PROVIDED AT ALL FLOORS ALL THE WAY DOWN TO THE FOUNDATION.
- DO NOT NAIL BEAMS, JOISTS, OR STUDS.
- ALL NAILS SHALL BE "COMMON" WIRE NAILS AND SHALL CONFORM TO THE FOLLOWING:

SIZE	SHANK DIA.	LENGTH	EQUIVALENT STAPLE SIZES
8d	0.131"	2 1/2"	13 GA x 1-3/4"
10d	0.148"	3"	12 GA x 1-3/4"
16d	0.162"	3 1/2"	N/A

- NO SUBSTITUTIONS UNLESS APPROVED IN WRITING BY RW ENGINEERING OR SPECIFICALLY ADDRESSED IN THESE CALLOUTS OR THE PLANS. ALL NAILS EXPOSED TO WEATHER SHALL BE GALVANIZED.
- REFER TO SIMPSON SPECIFICATIONS FOR FRAMING HARDWARE ATTACHMENT REQUIREMENTS. ALL NAILS SHALL MEET THE REQUIREMENTS OF ASTM F 1667.
- FASTENERS (NAILS, SCREWS, ANCHOR BOLTS, ETC) WHICH ARE TO BE INSTALLED IN PRESERVATIVE TREATED WOOD (I.E. SILL PLATES) SHALL MEET THE REQUIREMENTS OF IBC 2304.10.5.
- SHEATH AND ALL SHEAR PANELS AND GABLE END TRUSSES THE SAME AS THE SHEAR WALL ABOVE OR BELOW.
- CONNECT DOUBLE STUDS, DOUBLE JOISTS, OR ANY OTHER MULTIPLE PIECE MEMBER W/ MIN. (2) ROWS 16d BOX NAILS @ 12" O.C.
- TYPICAL LOAD BEARING AND EXTERIOR STUDWALL CONSTRUCTION:
 - 11.1. STUD HEIGHT $\leq 10'-0"$ 2x4 @ 16" O.C.
 - 11.2. STUD HEIGHT $\leq 10'-0"$ 2x6 @ 16" O.C.
 - 11.3. STUD HEIGHT $\leq 15'-0"$ 1-3/4" x 5 1/2" LVL @ 12" O.C.
 - 11.4. STUD HEIGHT $\leq 22'-0"$ 1-3/4" x 7 1/4" LVL @ 12" O.C.
 - 11.5. STUD HEIGHT $\leq 27'-0"$ 1-3/4" x 9 1/4" LVL @ 12" O.C.
- USE (2) CONT. KING STUDS E.S. OF OPENINGS WHERE STUD HEIGHT EXCEEDS 10'-0" U.N.O. DO NOT BREAK CONT. KING STUDS BY SPANNING HEADER OVER MULTIPLE OPENINGS. ALWAYS RAKE/BALLOON FRAME STUDWALLS.
- PORTIONS OF STRUCTURAL GLU-LAM BEAMS, WHICH ARE EXPOSED TO WEATHER, SHALL BE PRESSURE TREATED OR WOOD OF NATURAL RESISTANCE TO DECAY. EQUIVALENT PROTECTION MAY BE PROVIDED WITH TWO COATS MINIMUM OF SEALER.
- ALL WOOD IN DIRECT CONTACT WITH CONCRETE SHALL BE PRESURE TREATED IN ACCORDANCE w/ IBC 2304.10.5.

8.0 ROOF FRAMING NOTES

- ROOF LOADS: SNOW = 21 PSF, DEAD = 30 PSF
- USE (1) LAYER 2x8 (602) CIX APA RATED ROOF SHEATHING OR OSB EQUIVALENT. APPLY FACE GRAIN/LONG DIMENSION PERPENDICULAR TO SUPPORT FRAMING, STAGGER PANELS AND NAIL WITH 10dS AT 6" O.C. EDGES AND BOUNDARIES AND 10dS AT 12" O.C. FIELD. NAIL ALL DRAG MEMBERS, SHEAR PANELS, BLOCKING, E.T.C. w/ NAILS SPACED AT 4" O.C. SEE DETAIL. FOR ADDITIONAL NAILING REQUIREMENTS.
- USE (2) TRIMMERS AND (1) KING STUD UNDER ALL OPENINGS 6'-0" OR GREATER.
- CONNECT TRUSS BLOCKING AND GABLE END TRUSSES TO TOP PLATE OR BEAM BELOW WITH A35s, LTPs, L70s, OR 1550s @ 48" O.C. UNLESS NOTED OTHERWISE.
- DOUBLE TOP PLATE LAP SPLICES SHALL BE 4'-0" MINIMUM AND FACE NAILLED WITH (16) 16d NAILS.
- THE FOLLOWING COLUMN/POST CAPS ARE INTERCHANGEABLE, C.C. C.C.C. C.C. C.C. & ECQ.
- WHERE HEADERS ARE PLACED HIGH IN THE WALL AND BREAK THE DOUBLE TOP PLATE, AN M5T2C8 SHALL CONNECT THE HEADER TO THE TOP PLATE AT EACH END.
- ENCLOSED ATTIC AND RAFTER SPACES SHALL HAVE CROSS VENTILATION BY OPENINGS EQUAL TO 1/10TH OF THE AREA, WHERE EAVE OR CORNIC EAVES ARE INSTALLED. INSULATION SHALL NOT BLOCK THE FREE FLOW OF AIR. A MINIMUM OF 1" OF AIR SPACE SHALL BE PROVIDED BETWEEN THE INSULATION AND ROOF SHEATHING. ROOFS WITH RAFTERS, BAYS AND/OR VAULTED CEILINGS MUST BE VENTILATED TO OUTSIDE AT RIDGE.

9.0 PRE-MANUFACTURED WOOD TRUSSES

- TRUSS MANUFACTURER SHALL BE RESPONSIBLE FOR ALL ENGINEERING, LAYOUT DRAWINGS, CONNECTIONS, BLOCKING, BRACING, AND TRUSS ERECTION INFORMATION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROPER COORDINATION BETWEEN ENGINEER/ARCHITECT DRAWINGS, TRUSS MANUFACTURER INFORMATION, ANY REQUIRED FIELD CHANGES, PROPER INSTALLATION OF FINAL PRODUCT, AND ITS CONFORMANCE TO THE ARCHITECT'S DESIGN. THE ARCHITECT AND ENGINEER ASSUME NO LIABILITY FOR SAID PRODUCT.
- TRUSS MANUFACTURER TO VERIFY LOCATION OF AND PROVIDE REINFORCED TRUSSES FOR THE SUPPORT OF ANY MECHANICAL EQUIPMENT WHERE OCCURRING.
- TRUSS MANUFACTURER TO VERIFY LOCATION OF AND DESIGN FOR ALL CEILING HEIGHT CHANGES, ATTIC ACCESSSES, RETURN AIR GRILLS, ETC. TRUSS MANUFACTURER TO COORDINATE ANY FINDINGS TO BOTH RW ENGINEERING AND THE ARCHITECT.
- DEAD LOAD DEFLECTIONS SHALL BE LIMITED TO L2/40.
- GABLE END TRUSSES SHALL BE STRUCTURAL, DESIGNED TO SUPPORT OVERHANG AND TO ALLOW A TOP CHORD NOTCH OF ONE AND A HALF INCHES.
- ALL NON-BEARING WALLS ARE TO HAVE A ONE-FOURTH OF AN INCH GAP TO THE BOTTOM CHORD OF THE TRUSSES. SECURE BOTTOM CHORD TO WALL BELOW WITH SIMPSON STC CLIPS.
- USE PRE-ENGINEERED MANUFACTURED TRUSSES @ 24" O.C. SOLID BLOCK @ ALL SUPPORTS AND PER MANUFACTURER'S SPECIFICATIONS. USE SIMPSON H1 @ EACH SUPPORT WALL/BEAM TO EACH TRUSS AND H6 @ EACH SUPPORT WALL/BEAM TO EACH GIRDER TRUSS.
- HANG TRUSSES AND GIRDERS TRUSSES W/ SIMPSON H26 OR AS SPECIFIED ON PLAN. TRUSS CALCULATIONS HOLD PRECEDENCE OVER PLAN AT ALL TRUSS TO TRUSS CONNECTIONS.
- TRUSSES ARE TO BE HANDLED, INSTALLED, AND BRACED IN ACCORDANCE WITH HB-91 OF THE TRUSS PLATE INSTITUTE (PTP).

10.0 FOUNDATION/FLOOR FRAMING

- ALL EXTERIOR WALLS SHALL BE CONSIDERED SHEARWALLS NAILED AS TYPE "F" WALLS (SEE SHEARWALL SCHEDULE).
- FLOOR SHEATHING SHALL BE 1/2" G. APA RATED STURD-1 FLOOR. APPLY FACE GRAIN/LONG DIMENSION PERPENDICULAR TO SUPPORT FRAMING. STAGGER PANELS AND NAIL WITH 10d AT 6" O.C. AT ALL EDGES AND BOUNDARIES (BLOCKING AT INTERIOR SHEAR WALLS, DRAG MEMBERS, ETC.) AND 10d @ 10" O.C. FIELD. GLUE AND NAIL THROUGHOUT.
- FLOOR JOISTS SHALL BE BLOCKED SOLD @ ALL SUPPORT LINES (CONNECT BLOCKING TO WALL/BEAM BELOW WITH A35s @ TWICE THE JOIST SPACING. BENEATH ALL INTERIOR-BEARING WALLS, AND UNDER ALL HOLD-DOWNS. USE DOUBLE JOISTS BELOW ALL PARALLEL INTERIOR-BEARING WALLS. PROVIDE 1.5 L. RIM BOARD THROUGHOUT. PROVIDE CRUSH BLOCKS, WEB STIFFENERS, ETC. PER MANUFACTURER'S SPECIFICATIONS.
- ALL FLOOR OPENINGS SHALL BE BETWEEN JOISTS.
- ALL HOLD-DOWNS SHALL BE INSTALLED AT THE TIME APPROPRIATE MEMBERS ARE FRAMED AND ACCORDING TO MANUFACTURER'S SPECIFICATIONS. IF STRUCTURE IS MULTIPLE STORIES, AS MUCH AS POSSIBLE, LINE FLOOR-TO-FLOOR HOLD-DOWNS UP WITH FLOOR-TO-FOUNDATION HOLD-DOWNS SO THAT HOLD-DOWNS ARE ATTACHED TO COMMON MEMBERS. USE SHEARLY NAILING TO ALL HOLD-DOWN MEMBERS.
- PROVIDE FULL BEARING, FULL DEPTH BLOCKING UP TO FLOOR TO SUPPORT POSTS, DOUBLE STUDS, OR DOUBLE TRIMMERS ABOVE.
- WHERE COLUMN BASE OR POST BASE IS CALLED OUT ON A PIER BENEATH THE SUBFLOOR, PROVIDE POST UP TO SUBFLOOR TO SUPPORT IDENTICAL POST ABOVE. USE (2) SIMPSON ST624 ON OPPOSITE SIDES OF POST TO STRAP POST ABOVE THROUGH THE FLOOR TO THE POST BELOW.
- ANCHOR BOLT:
 - FOR 2x8 SILL PLATE, USE 1/2" DIAM. x 10" A.B.
 - FOR 3x8 OR DOUBLE SILL PLATE, USE 1/2" DIAM. x 12" A.B. EXTEND SILL BOLTS 7" INTO FOUNDATION MINIMUM. MAXIMUM SPACING SHALL BE 4'-0" O.C. WITH MINIMUM (2) BOLTS IN EACH BOARD. BOLTS SHALL BE LOCATED NOT MORE THAN (2) NOR LESS THAN (7) BOLT DIAMETERS FROM EACH END OF SILL PLICE. MINIMUM 5"x3"-1" THICK PLATE WASHERS SHALL BE INSTALLED ON EACH SILL BOLT. SPACE WASHER 1/2" FROM SHEATHING OR RIM. SILL PLATES USE FOUNDATION GRADE REDWOOD OR TIMBERSTRAND L.S.L. TREATED WITH ZINC BORATE OR PRESSURE TREATED MUDDSILL. SEE SHEARWALL SCHEDULE FOR IMPORTANT INFORMATION REGARDING SILL PLATES. FOR ALL SILL PLATES NOT NOTED, USE 2"x WALL WIDTH WOOD SILL. ALL SHEAR WALLS, EXCEPT TYPE "F" AND "F", REQUIRE FOUNDATION SILL PLATES AND FLOOR MEMBERS RECEIVING EDGE NAILING FROM ABUTTING PANELS TO BE NOT LESS THAN A 2"x6" NOMINAL MEMBER. PLYWOOD JOINT AND SILL PLATE NAILING SHALL BE STAGGERED IN ALL CASES.
- AN 8" WIDE CONCRETE FOUNDATION WALL SHALL BE CENTERED ON CONTINUOUS FOOTING BELOW W/ (1) #4 CONTINUOUS @ TOP & BTM. OF WALL & #4 VERTICALS @ 24" O.C. MAX HOOKED AT FOOTING (ALTERNATE HOOKS).
- CONTINUOUS CONCRETE FOOTINGS TO BE 16"x10" W/ (2) #4s CONT. STEP FOOTING AS REQUIRED TO BEAR ON NATIVE GRADE OR AS DIRECTED BY SOILS ENGINEER. EXTEND EXTERIOR FOOTING DEPTHS TO FROST LINE (2'-0" U.N.O.).
- THE FOLLOWING COLUMN/POST BASES ARE INTERCHANGEABLE: C8 x C8Q OR C8S x C8SQ.
- ALL SLABS TO BE 4" THICK CONCRETE W/ #3 BARS @ 18" O.C. E/F. OR #6 @ 18" O.C. WELDED WIRE FABRIC REINFORCING AND PLACED OVER 4" TYPE-II BASE COMPACTED TO 90% RELATIVE DENSITY ON UNDISTURBED NATIVE SOIL U.N.O.
- REFERENCE HOLD-DOWN SCHEDULE FOR IMPORTANT INFORMATION PERTAINING TO FOOTINGS.
- STAIRWAYS SHALL NOT BE LESS THAN 36" IN WIDTH. EVERY STAIRWAY SHALL HAVE MINIMUM 6'-8" HEADROOM. THE MAXIMUM VERTICAL HEIGHT ALLOWED BETWEEN LANDINGS IS 12'-0". THE RISE OF STEPS IN THE STAIRWAY SHALL NOT EXCEED 6". AND THE TREAD SHALL BE NOT LESS THAN 9".
- STAIR HANDRAILS SHALL BE PLACED NOT LESS THAN 3" NOR MORE THAN 38" ABOVE LANDINGS AND THE NOSING OF THE TREADS. THEY SHALL BE CONTINUOUS FOR THE FULL LENGTH OF THE STAIRS AND THE ENDS SHALL BE RETURNED. IN RESIDENTIAL OCCUPANCIES HANDRAILS MAY HAVE STARTING NEWELS WITHIN THE FIRST TREAD. HANDGRIP PORTION OF HANDRAILS SHALL BE NOT LESS THAN 1" NOR MORE THAN 1" IN CROSS-SECTIONAL DIMENSION AND HAVE A SMOOTH GRIPPING SURFACE. A SPACE OF NOT LESS THAN 1" SHALL BE PROVIDED BETWEEN THE WALL AND THE RAIL.
- GUARDRAILS SHALL BE A MINIMUM OF 42" HIGH. U.N.O. NO OPENINGS OVER 4". TRIANGULAR OPENINGS FORMED BY THE RISER, TREAD AND BOTTOM RAIL OF A GUARD AT THE OPEN SIDE OF A STAIRWAY ARE PERMITTED TO BE OF SUCH SIZE THAT A SPHERE 6" IN DIAMETER CANNOT PASS THROUGH.
- FIRE BLOCKING BETWEEN CHIMNEYS AND COMBUSTIBLE CONSTRUCTION SHALL BE INSTALLED AT 10'-0" INTERVALS, BOTH VERTICAL AND HORIZONTAL.
- INSTALL ADHERED VENEER IN COMPLIANCE WITH LOCAL CODES. FOUNDATION SUPPORT REQUIRED FOR EXTERIOR ROCK VENEER. ANCHOR TIES SHALL BE PROVIDED TO HORIZONTAL JOINT REINFORCEMENT WIRE OF NO. 9 GAUGE OR EQUIVALENT.
- EXTERIOR STUCCO WALLS SHALL HAVE A WEEP SCREEEN AT OR BELOW THE FOUNDATION PLATE LINE AND 4" ABOVE GRADE OR 2" ABOVE PAVED AREAS THAT WILL ALLOW TRAPPED WATER TO DRAIN TO THE EXTERIOR OF THE BUILDING. THE WEATHER-RESISTIVE BARRIER SHALL LAP THE ATTACHMENT FLANGE, AND THE EXTERIOR LATH SHALL COVER AND TERMINATE ON THE ATTACHMENT FLANGE OF THE SCREEEN.
- COLUMNS OR POSTS LOCATED ON CONCRETE OR MASONRY FLOORS AND THAT SUPPORT PERMANENT STRUCTURES SHALL BE SUPPORTED BY CONCRETE PIERS OR METAL PEDESTALS PROJECTING ABOVE EXPOSED EARTH A MINIMUM OF 6" AND AT LEAST 1" ABOVE SUCH FLOORS UNLESS TREATED WOOD IS USED. INDIVIDUAL CONCRETE OR MASONRY PIERS SHALL PROJECT AT LEAST 8" ABOVE EXPOSED GROUND UNLESS THE COLUMNS OR POSTS THAT THEY SUPPORT ARE OF WOOD RESISTANT TO DECAY.
- MINIMUM CLEARANCE FROM GROUND UNDER GIRDERS SHALL BE 18 INCHES.
- UNDERFLOOR VENTS SHALL EQUAL 1 SQUARE FOOT FOR EACH 150 SQUARE FEET OF UNDERFLOOR AREA, AND MUST PROVIDE CROSS VENTILATION.

Beam Equivalent Table

DF No. 1 BEAM	EQUIVALENT BEAM
6x8	4x6 DF No. 2 RMT / (2) 1-3/4x5-1/2 LVL 1.9E 5-1/4x9-1/2 PSL 2.0E / 5-1/8x7-1/2 GLB 24F V4
6x10	6x10 DF No. 1 RMT / (2) 1-3/4x7-1/4 LVL 1.9E 5-1/4x9-1/2 PSL 2.0E / 5-1/8x10-1/2 GLB 24F V4
6x12	6x12 DF No. 1 RMT / (2) 1-3/4x11 LVL 1.9E 5-1/4x11-7/8 PSL 2.0E / 5-1/8x10-1/2 GLB 24F V4
6x14	6x14 DF No. 1 RMT / (2) 1-3/4x16 LVL 1.9E 5-1/4x11-7/8 PSL 2.0E / 5-1/8x13-1/2 GLB 24F V4

Beam Equivalent Table

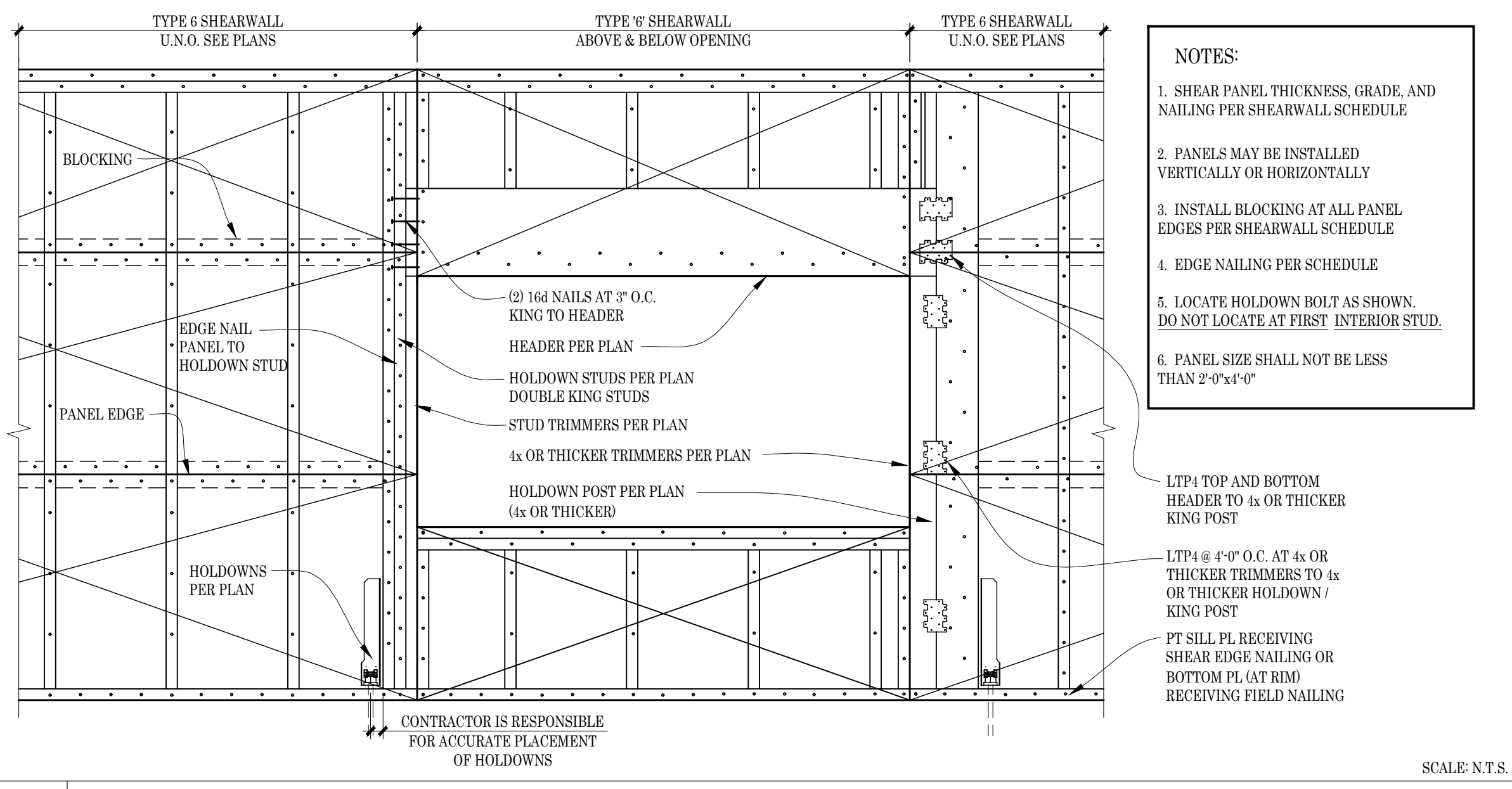
DF No. 2 BEAM	EQUIVALENT BEAM
4x6	4x6 DF No. 2 RMT / (2) 1-3/4x5-1/2 LVL 1.9E 3-1/2x9-1/2 PSL 2.0E / 3-1/8x6 GLB 24F V4
4x8	4x8 DF No. 2 RMT / (2) 1-3/4x7-1/4 LVL 1.9E 3-1/2x9-1/2 PSL 2.0E / 3-1/8x7-1/2 GLB 24F V4
4x10	4x10 DF No. 2 RMT / (2) 1-3/4x9-1/2 LVL 1.9E 3-1/2x9-1/2 PSL 2.0E / 3-1/8x10-1/2 GLB 24F V4
4x12	4x12 DF No. 2 RMT / (2) 1-3/4x11-7/8 LVL 1.9E 3-1/2x11-7/8 PSL 2.0E / 3-1/8x12 GLB 24F V4

Continuous Footing Schedule

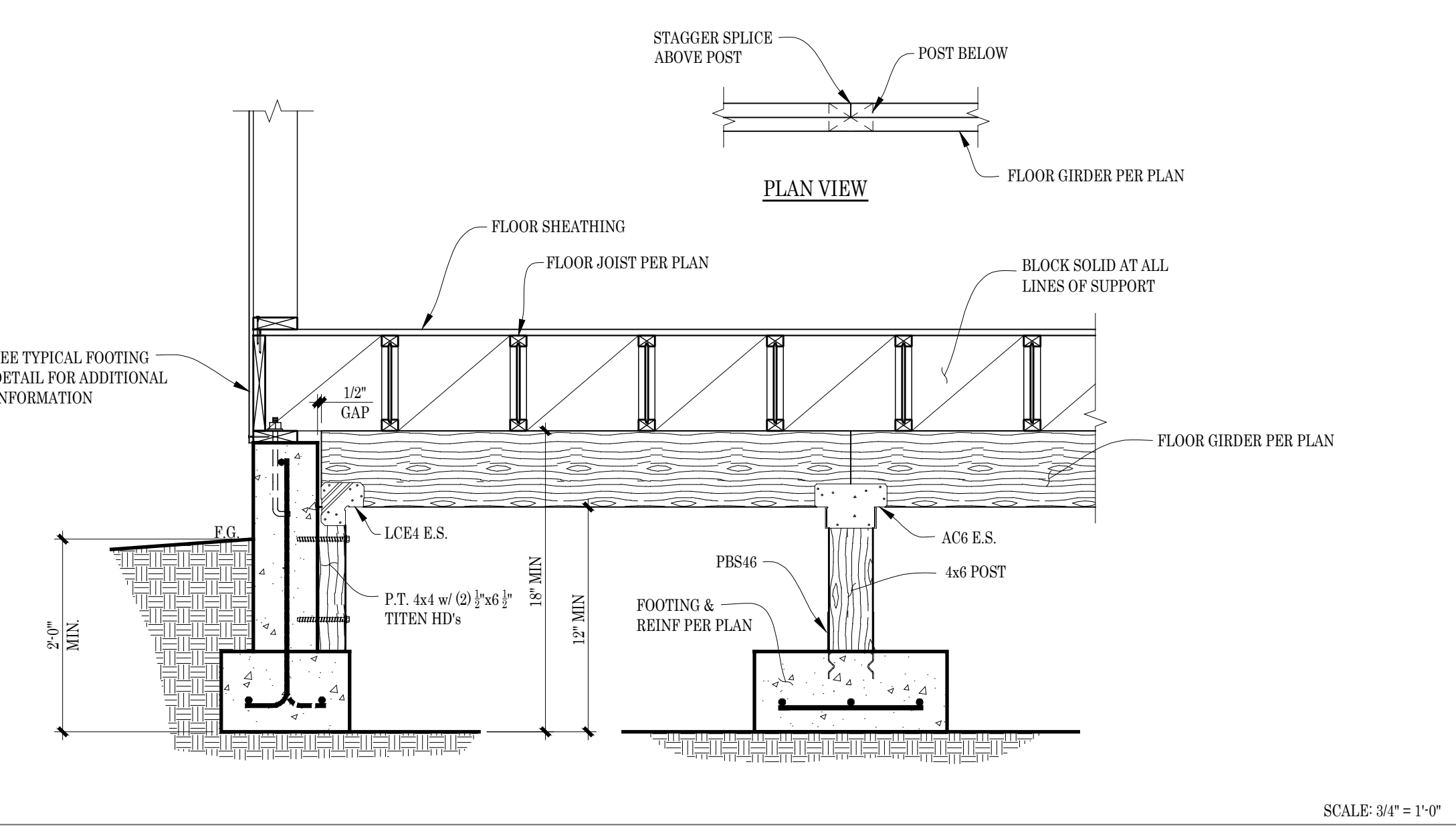
SYMBOL	WIDTH (NA TO MONOPOUR)	DEPTH (MIN)	STEEL (CONTINUOUS)	DENOTES FOOTING SIZE			
				WIDTH (EACH SIDE)	DEPTH	STEEL (EACH WAY)	
12	12"	10"	(2) #4	12	12"	10"	(2) #4s
16	16"	10"	(2) #4s	14	14"	10"	(2) #4s
18	18"	10"	(2) #4s	16	16"	10"	(2) #4s
21	21"	10"	(2) #4s	18	18"	10"	(3) #4s
24	24"	10"	(3) #4s	21	21"	10"	(3) #4s
28	28"	10"	(3) #4s	24	24"	10"	(3) #4s
32	32"	10"	(3) #4s	28	28"	12"	(3) #4s
36	36"	10"	(4) #4s	32	32"	12"	(4) #4s
				36	36"	12"	(5) #4s
				42	42"	12"	(6) #4s
				48	48"	14"	(7) #4s
				54	54"	14"	(8) #4s
				60	60"	14"	(9) #4s

Pier Footing Schedule

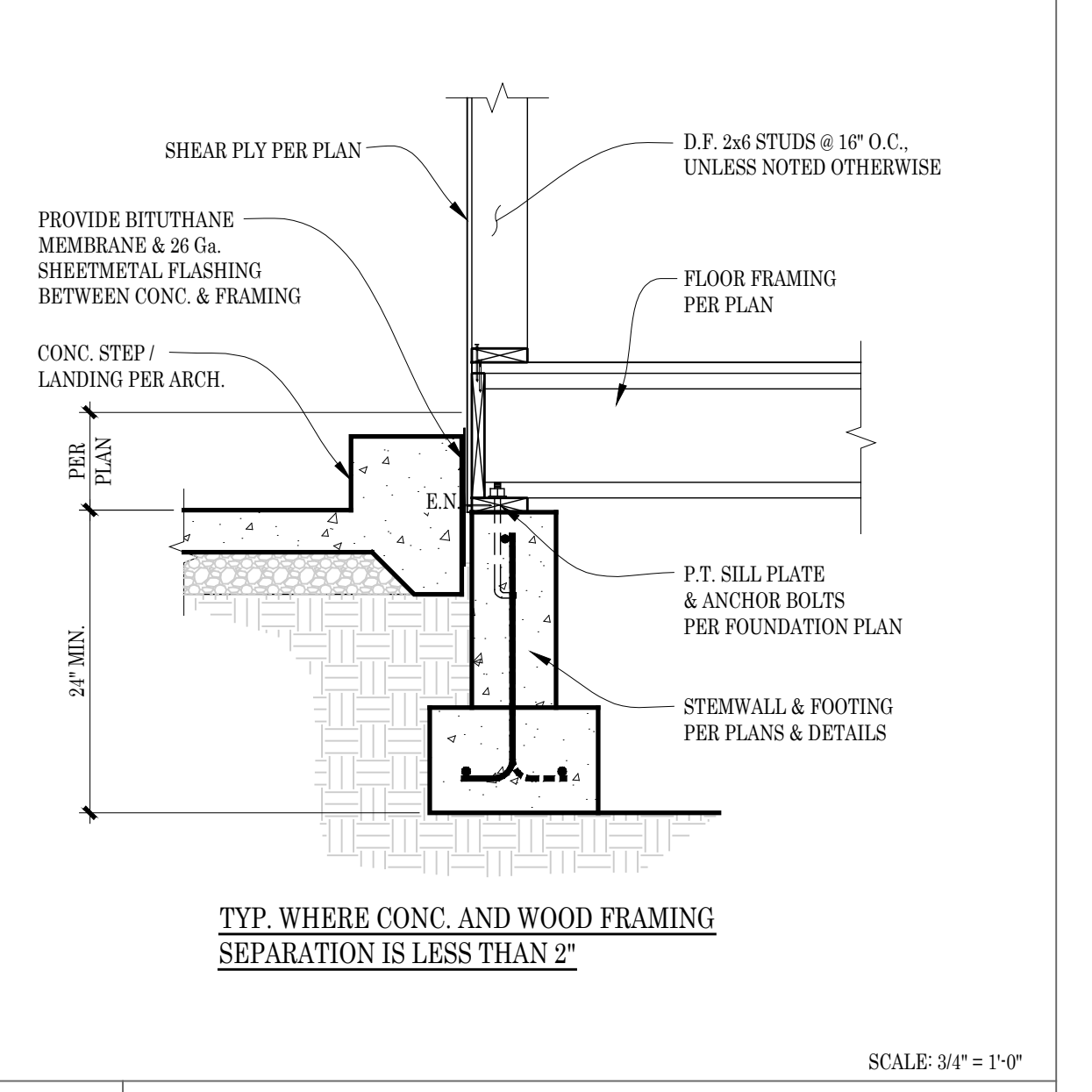
SYMBOL	WIDTH (EACH SIDE)	DEPTH	STEEL (EACH WAY)	DENOTES FOOTING SIZE			
				WIDTH (EACH SIDE)	DEPTH	STEEL (EACH WAY)	
12	12"	10"	(2) #4s	12	12"	10"	(2) #4s
14	14"	10"	(2) #4s	14	14"	10"	(2) #4s
16	16"	10"	(2) #4s	16	16"	10"	(2) #4s
18	18"	10"	(3) #4s	18	18"	10"	(3) #4s
21	21"	10"	(3) #4s	21	21"	10"	(3) #4s
24	24"	10"	(3) #4s				



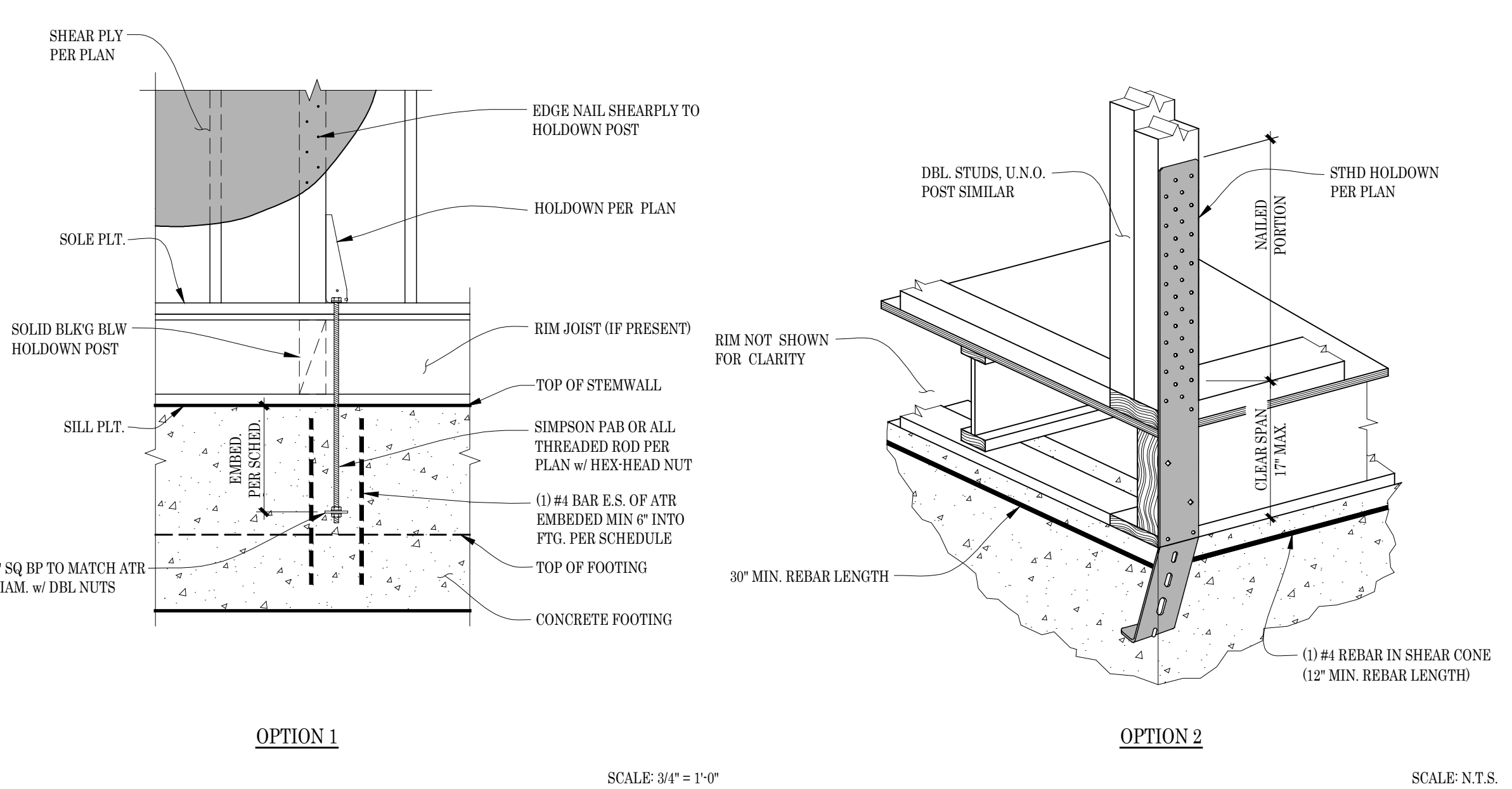
15 Typical Shearwall / Header



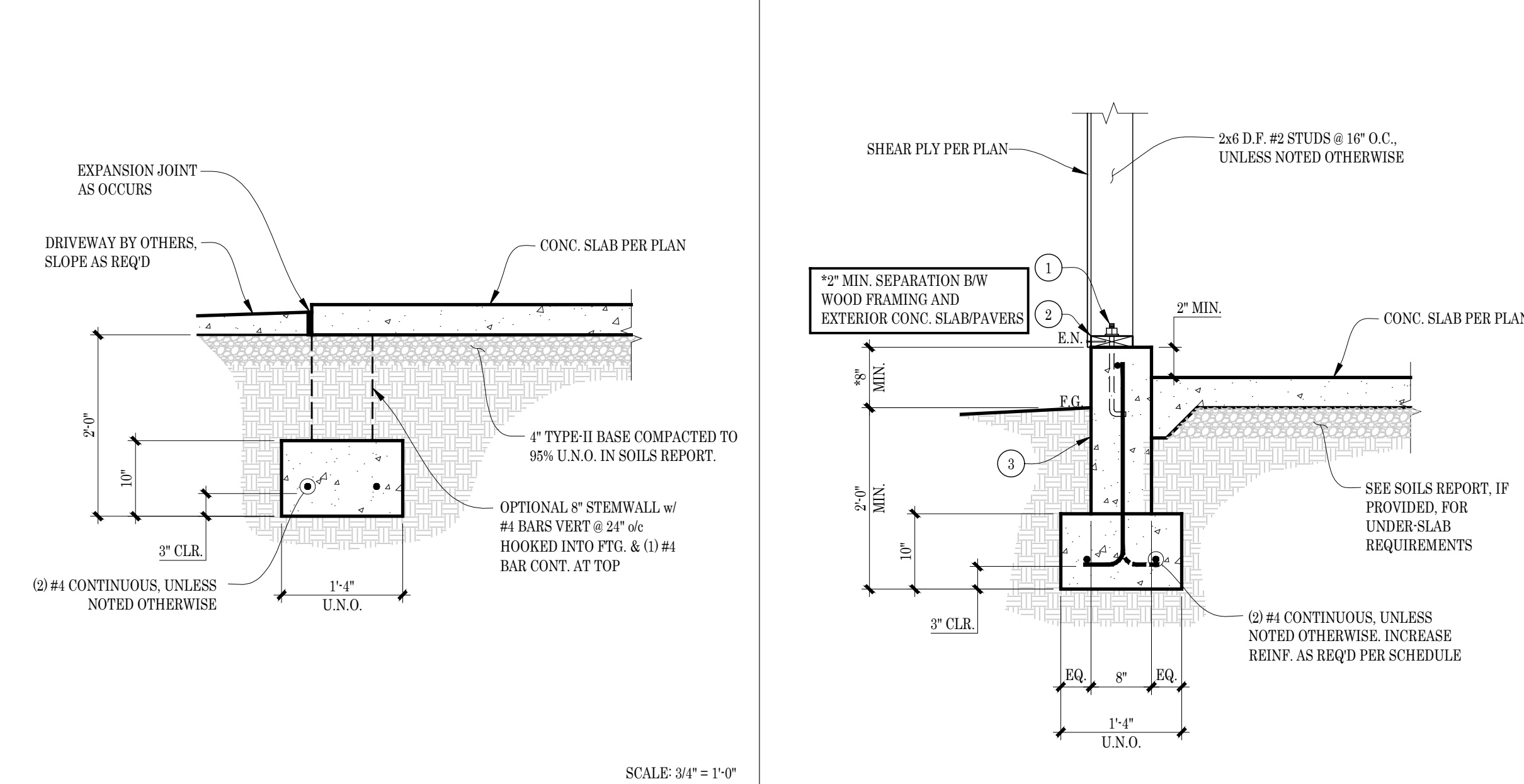
13 Post and Girder Detail



11 Floor Framing @ Conc. Steps

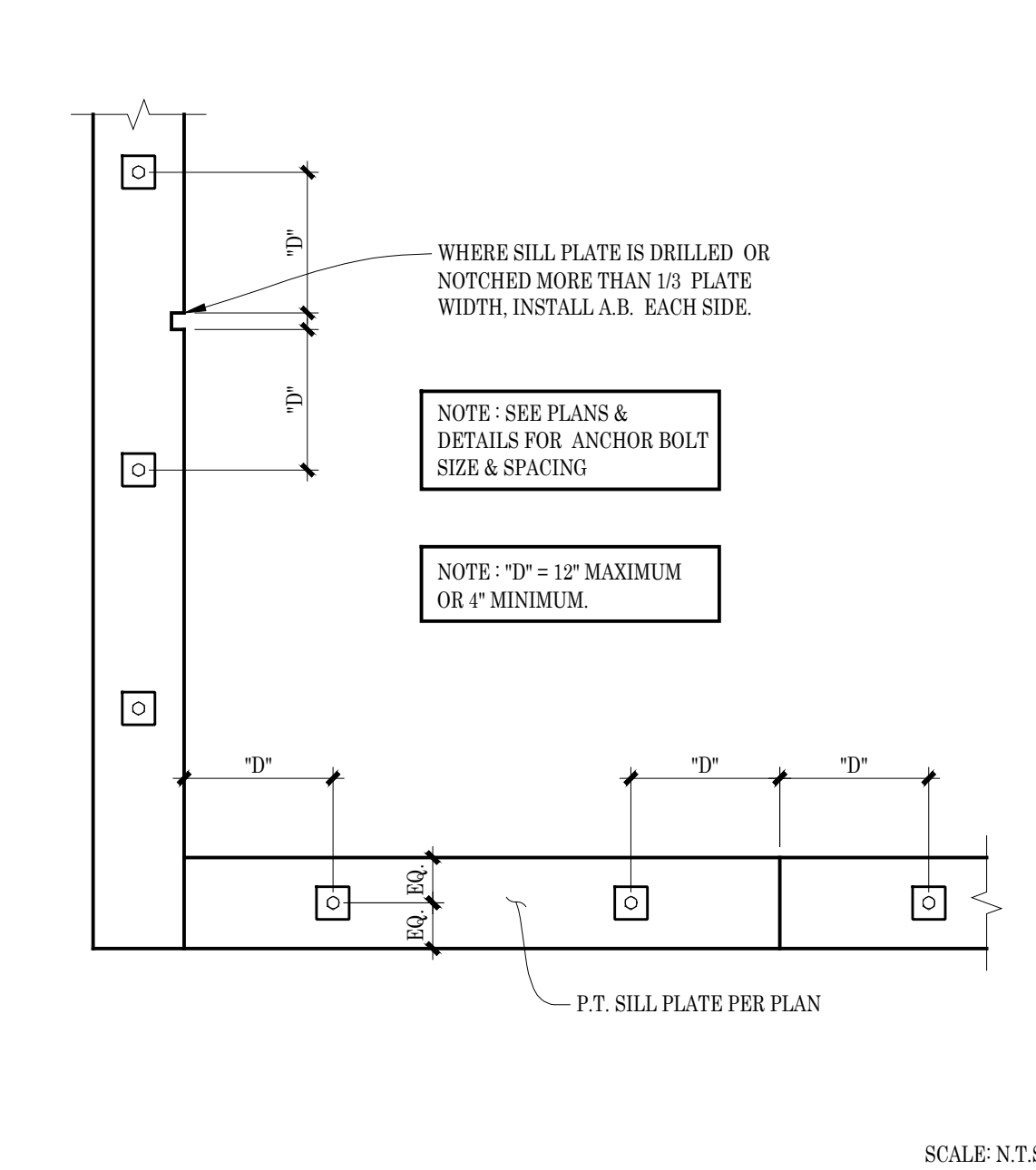


10 Holdown Embedment Detail

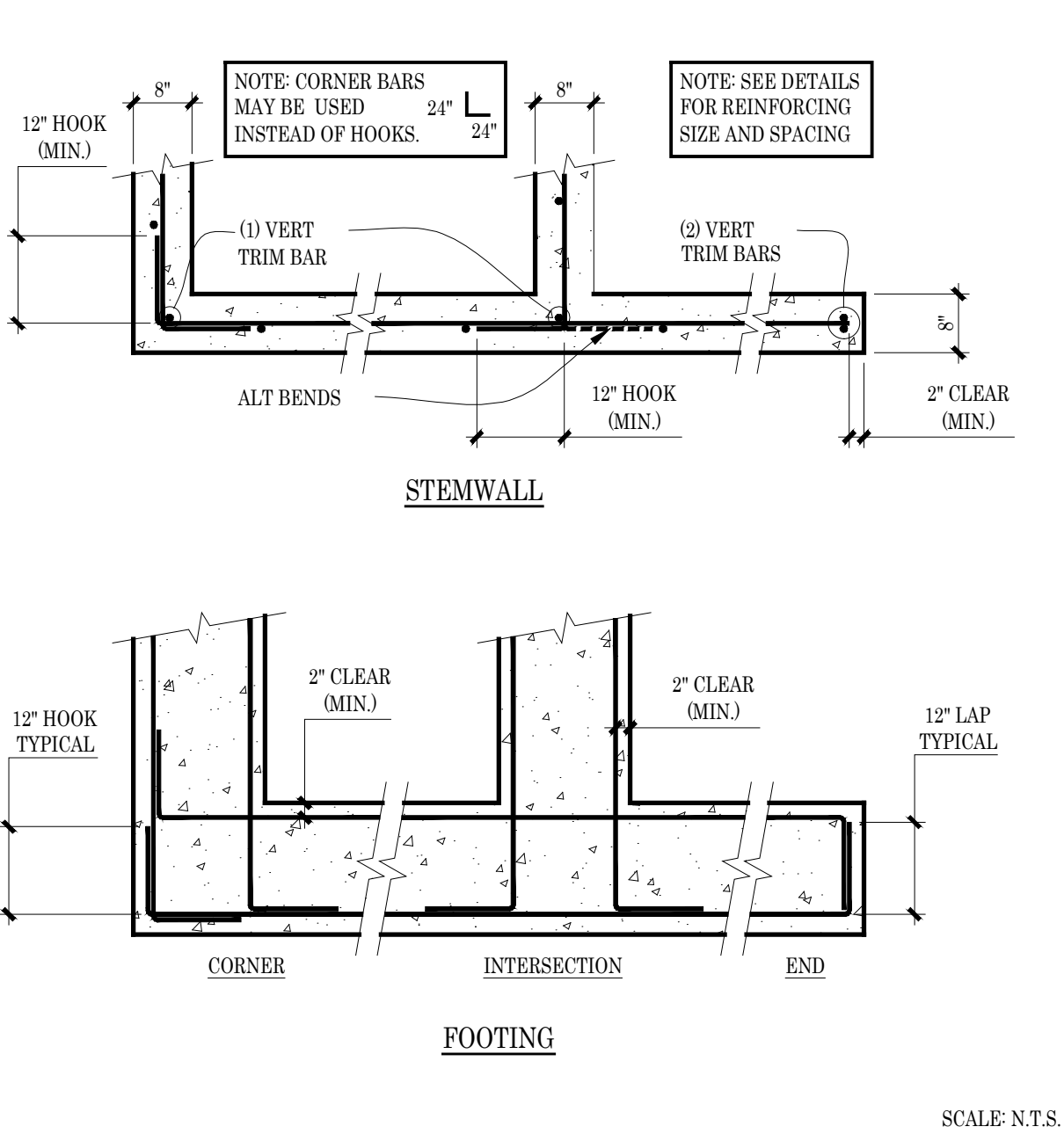


8 Slab @ Garage Door

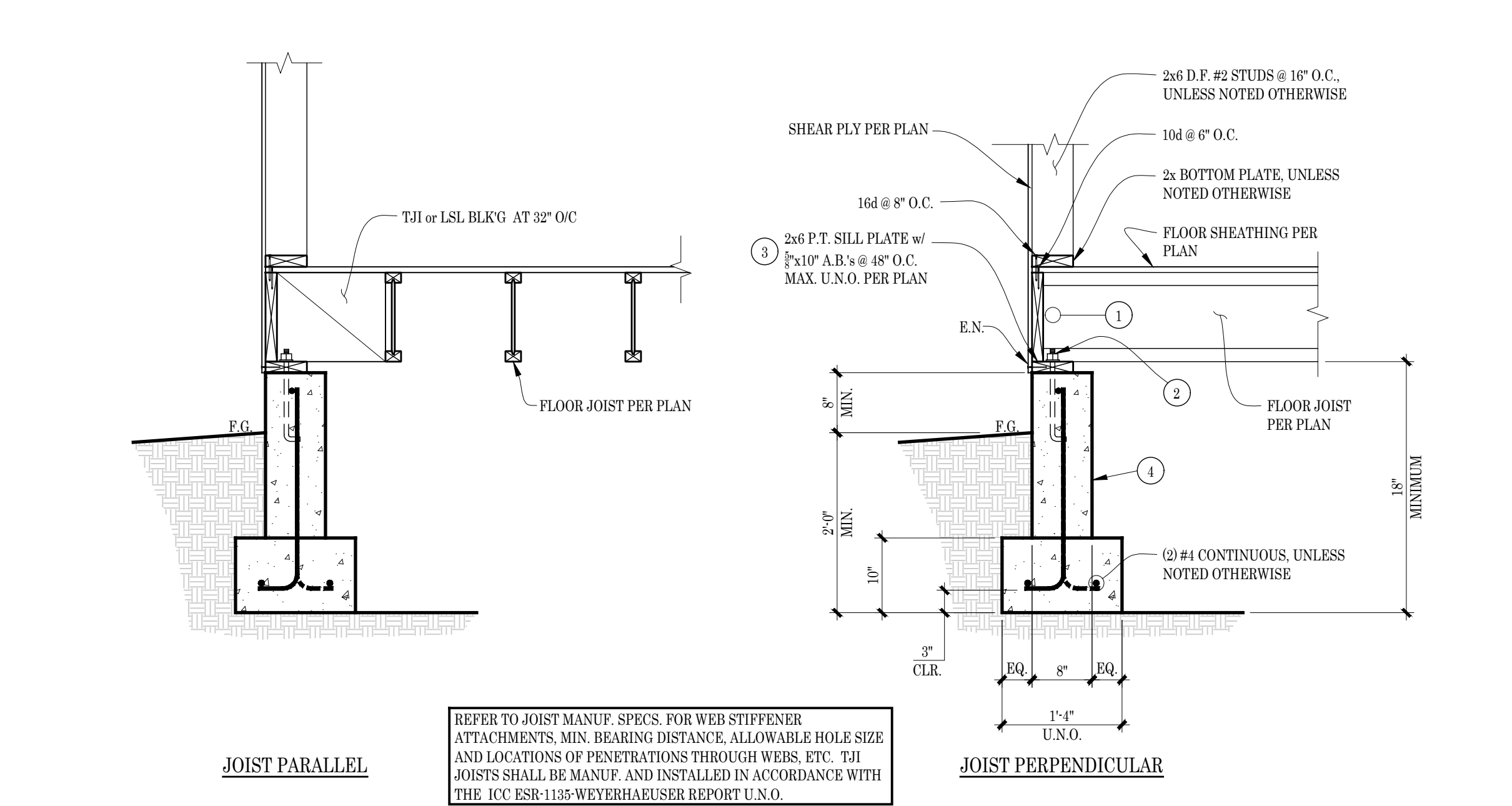
7 Typ Garage Footing



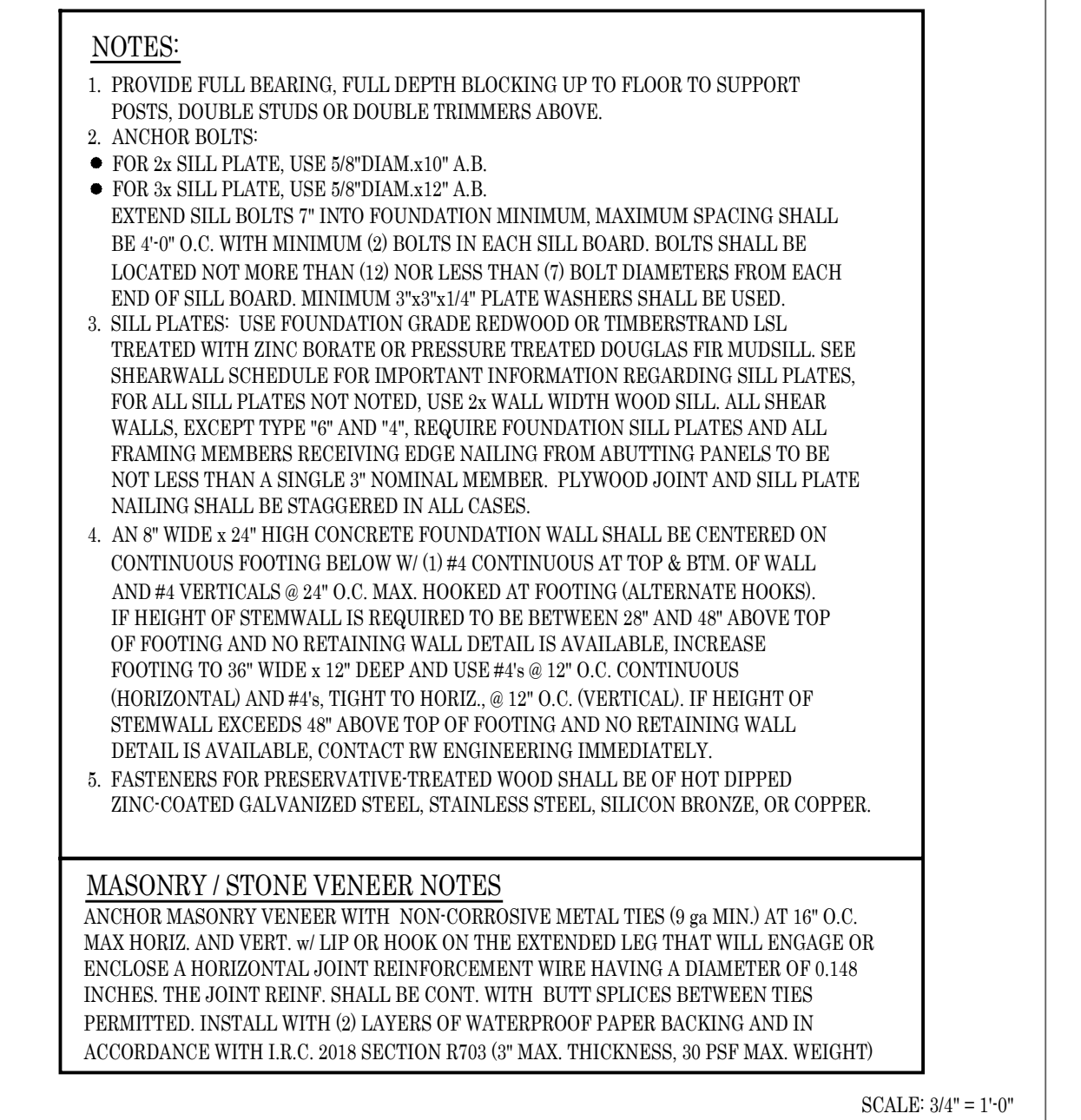
5 Sill Plate Bolting



4 Rebar Reinf. Placement



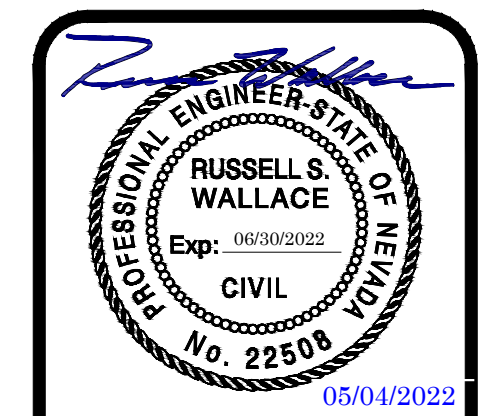
3 Typical Footing & Stemwall



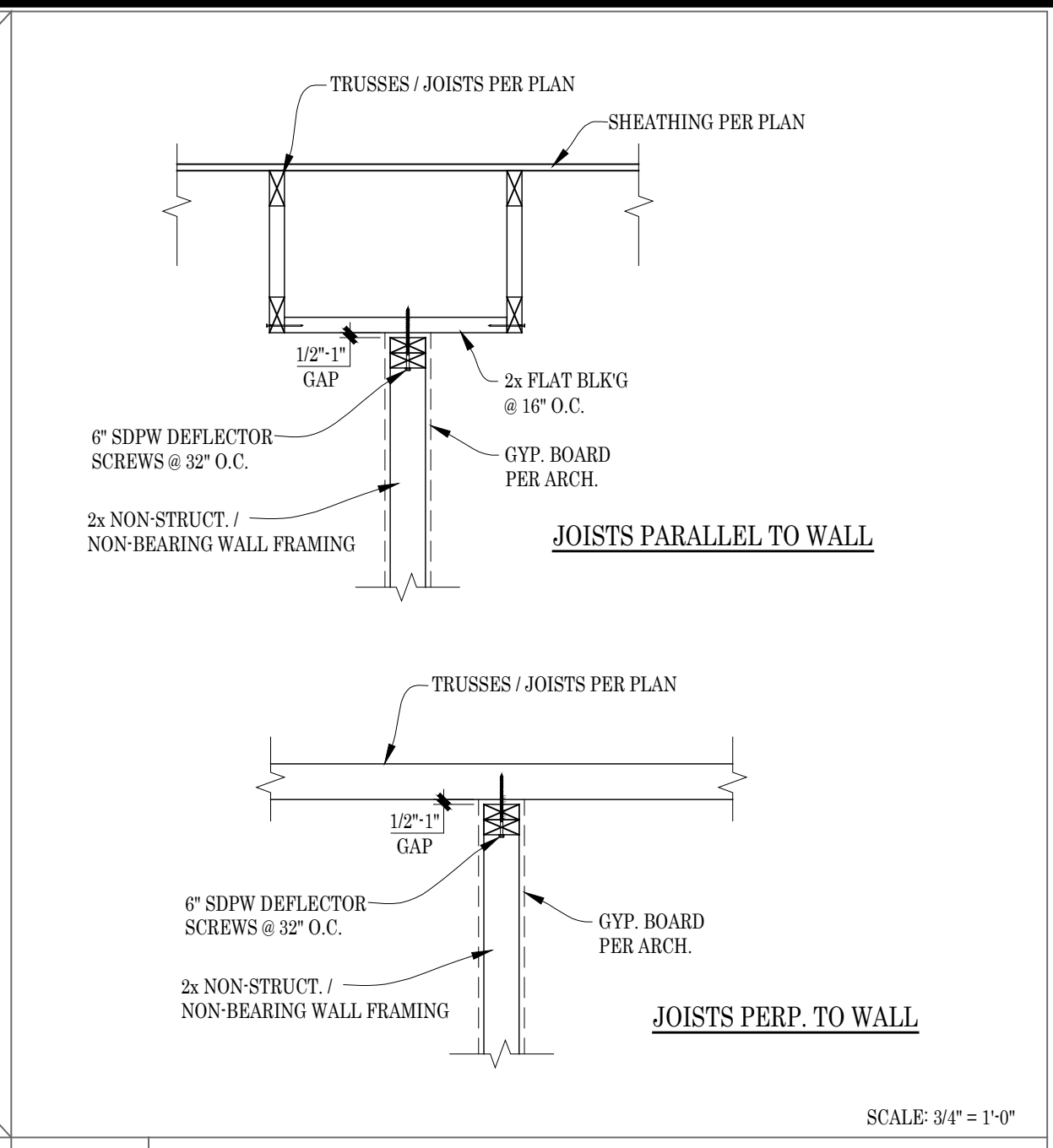
**Hinson Detached
 Garage / ADU**

Project Address:
 3787 Portland Dr.
 Reno, NV 89511
 APN: 144-042-02

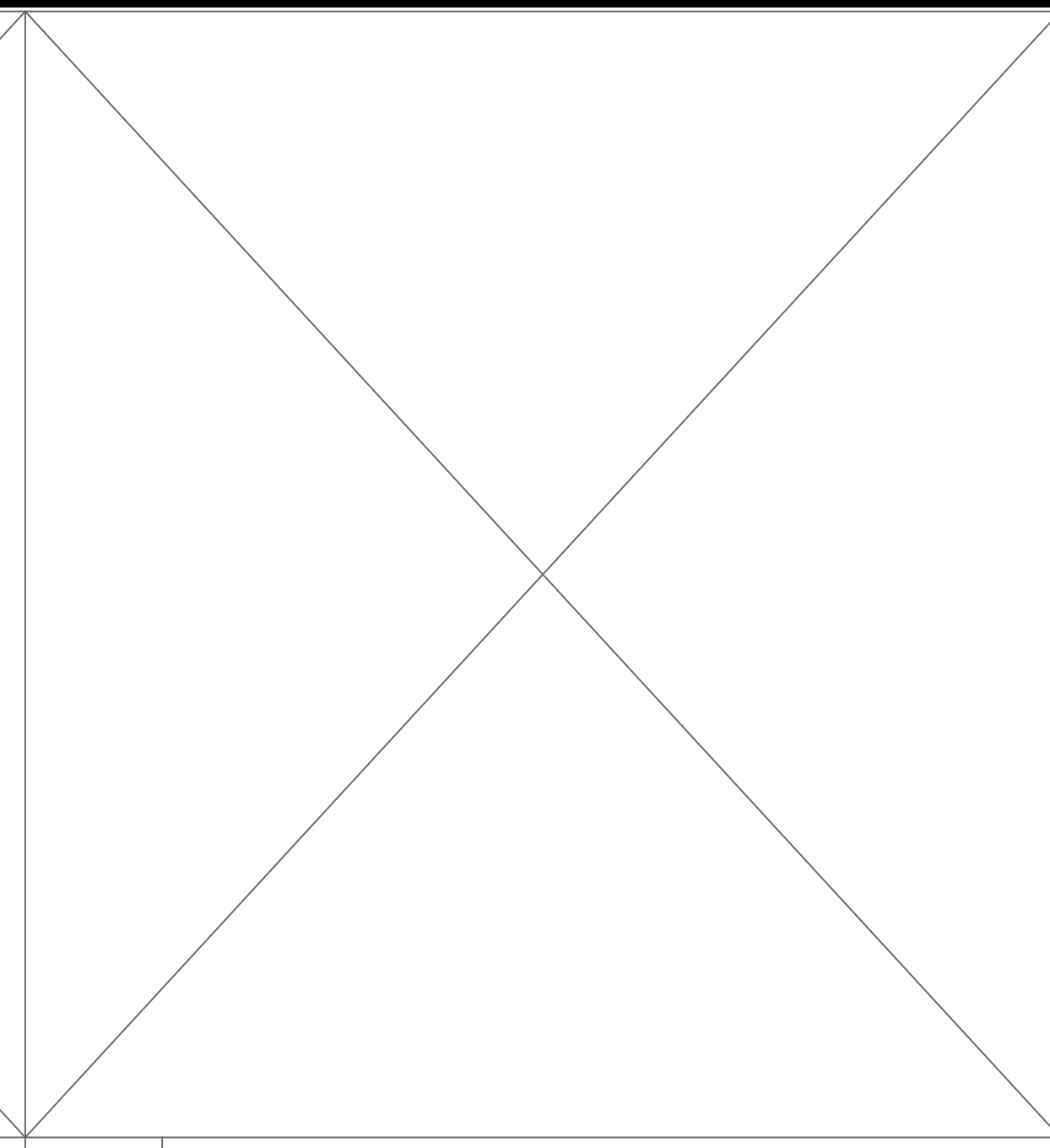
Date: 05/04/22
 Drawn: NB / RW
 Project #: 22-011



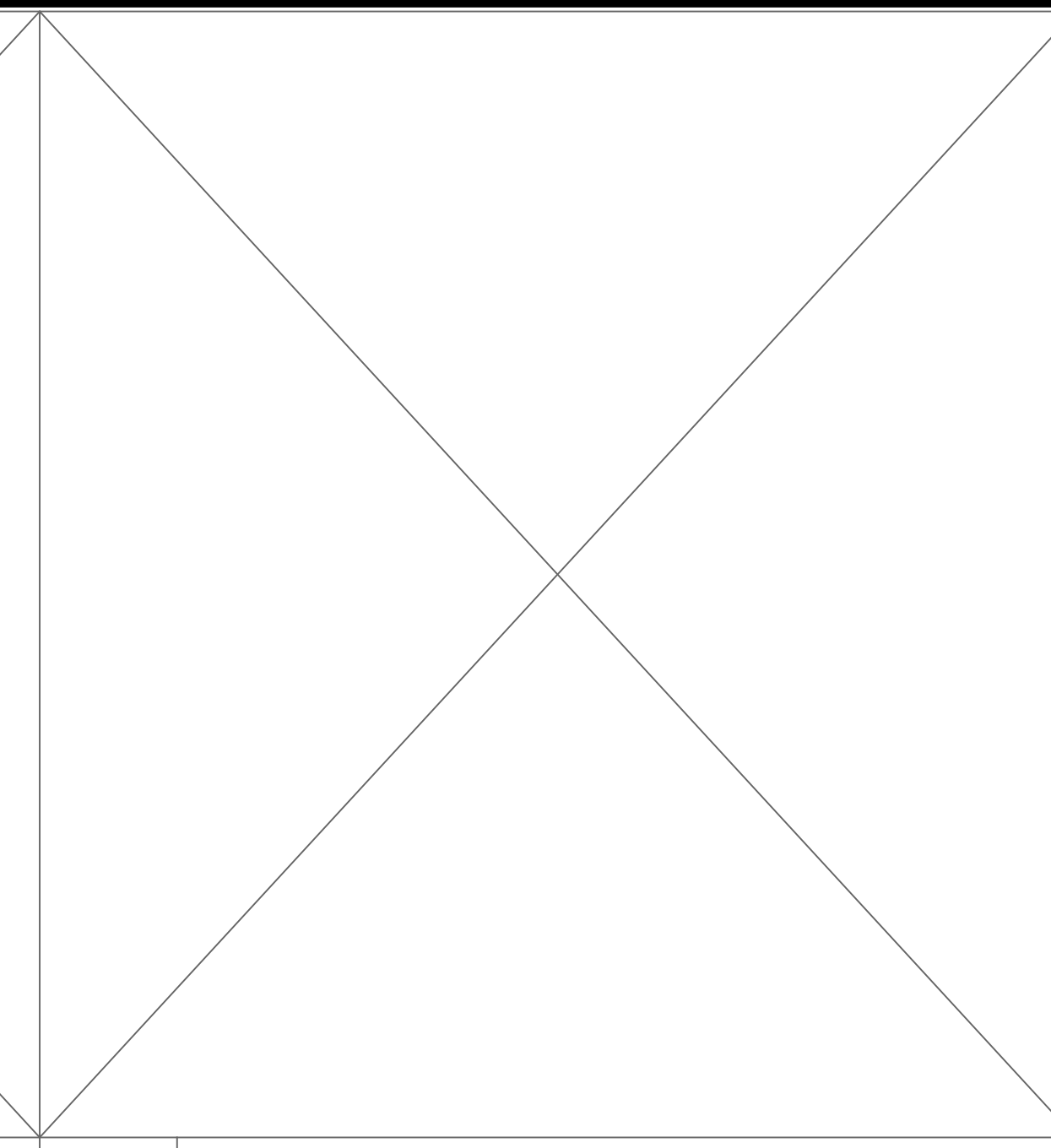
Revisions:



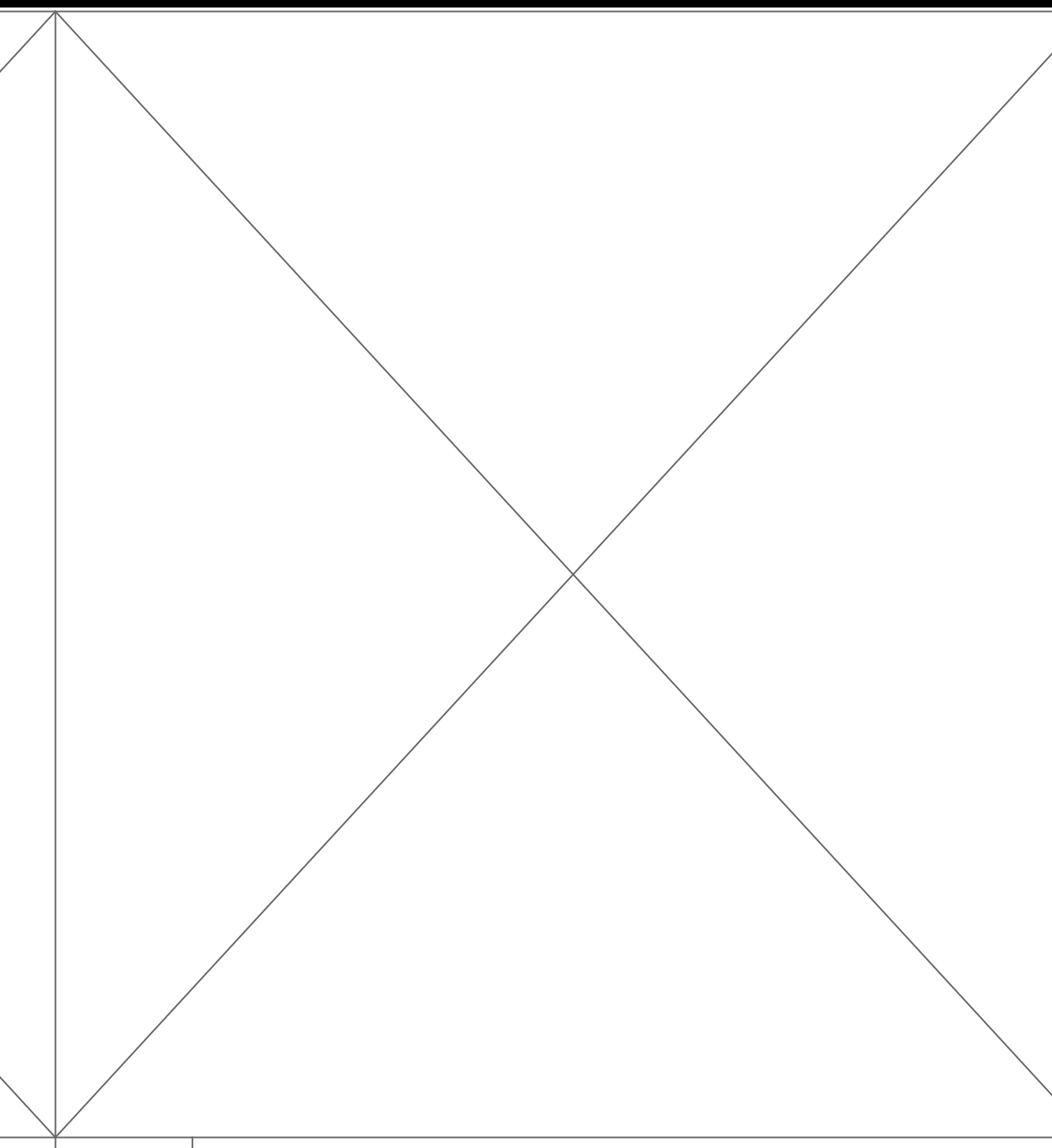
26 Non-Bearing Wall at Roof / Floor
 SCALE: 3/4" = 1'-0"



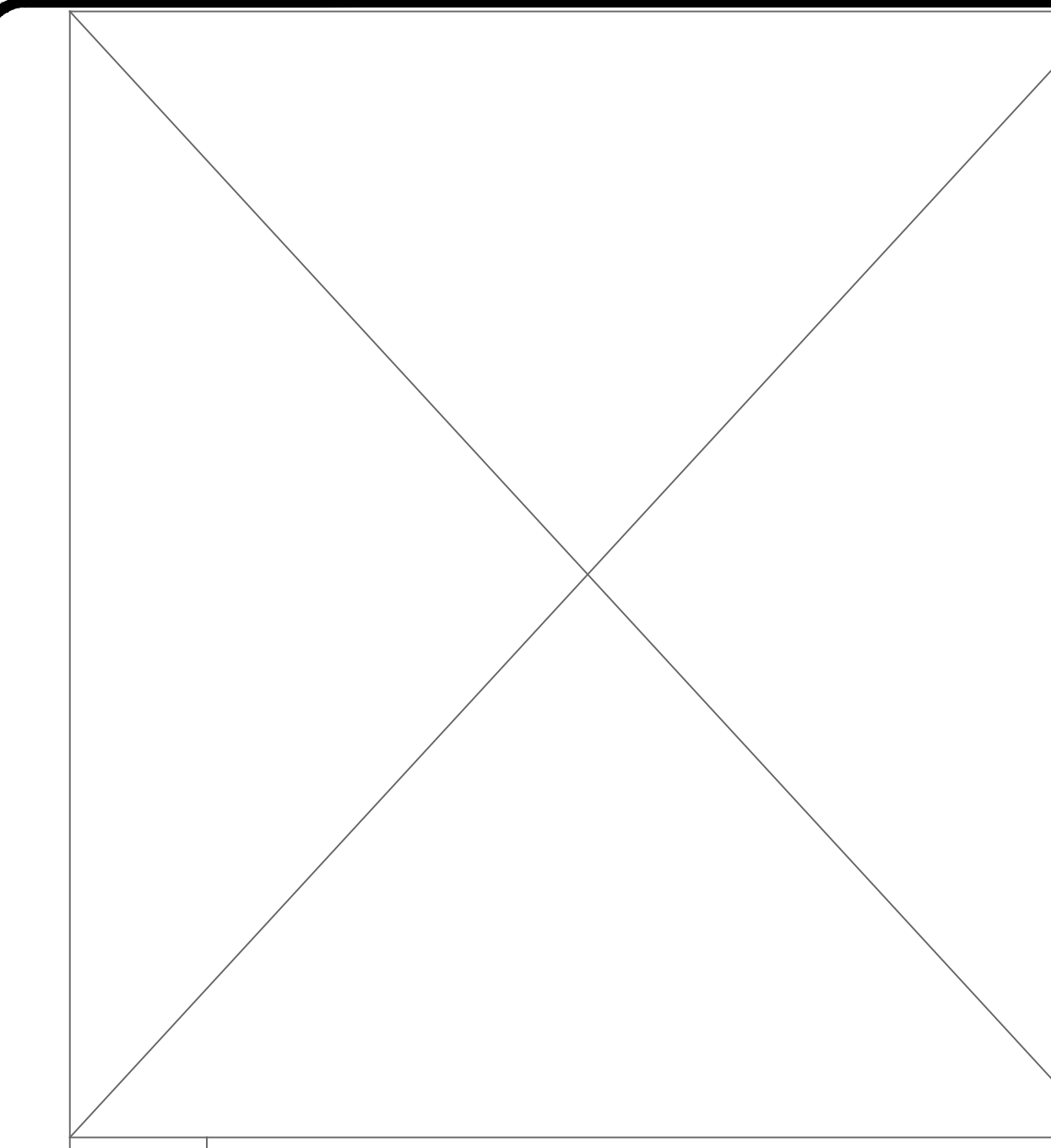
27 NOT USED



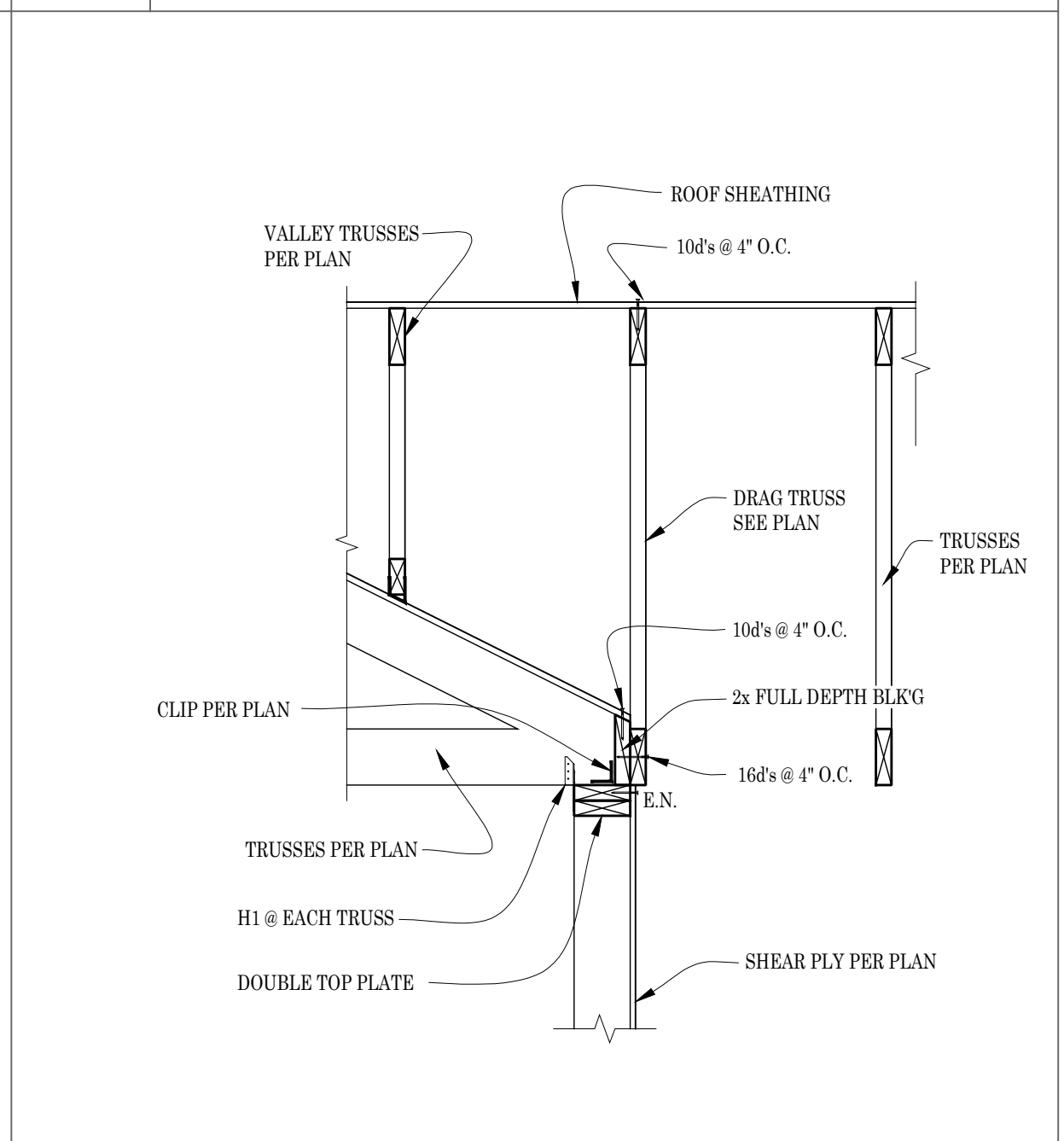
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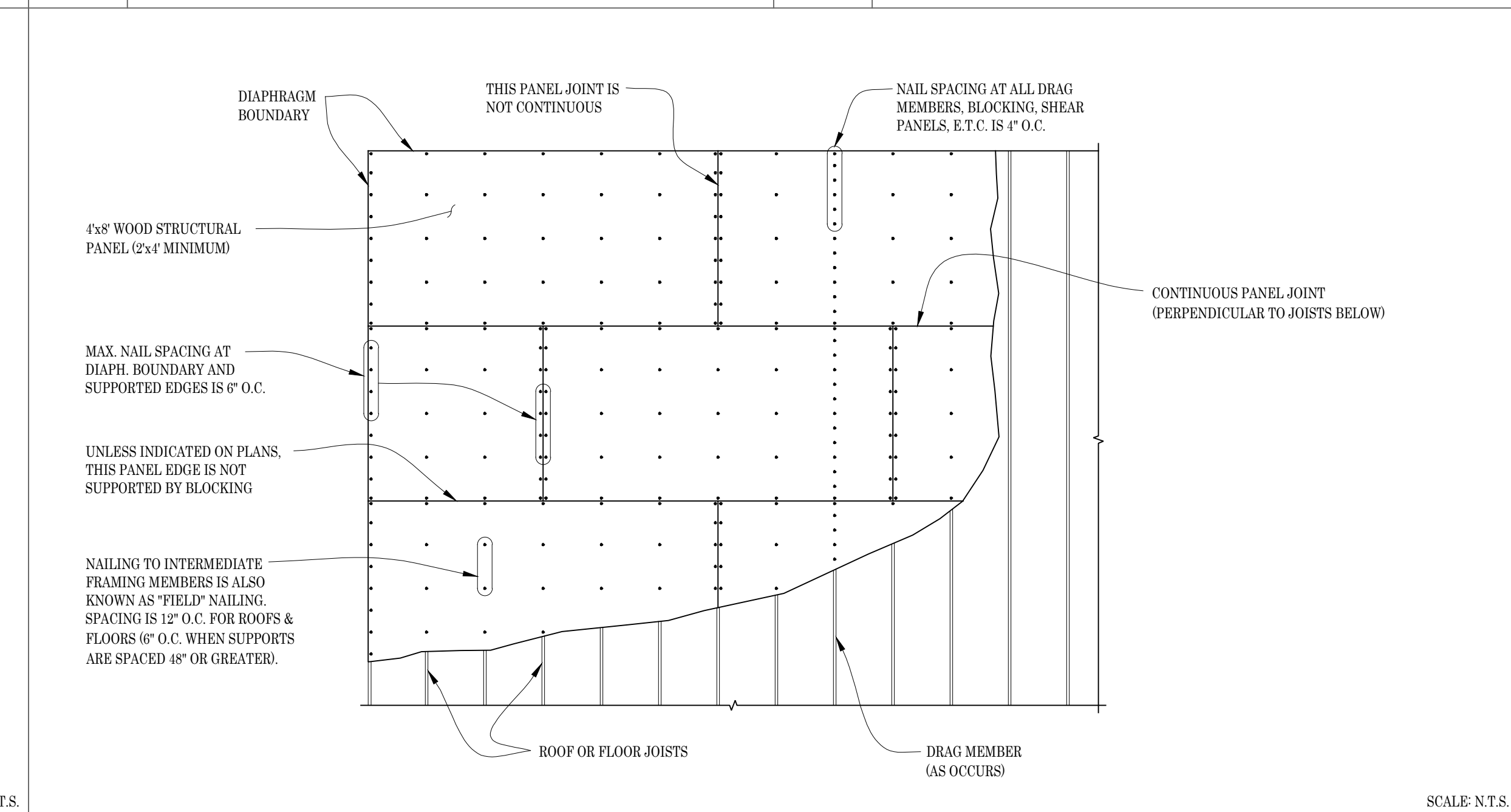
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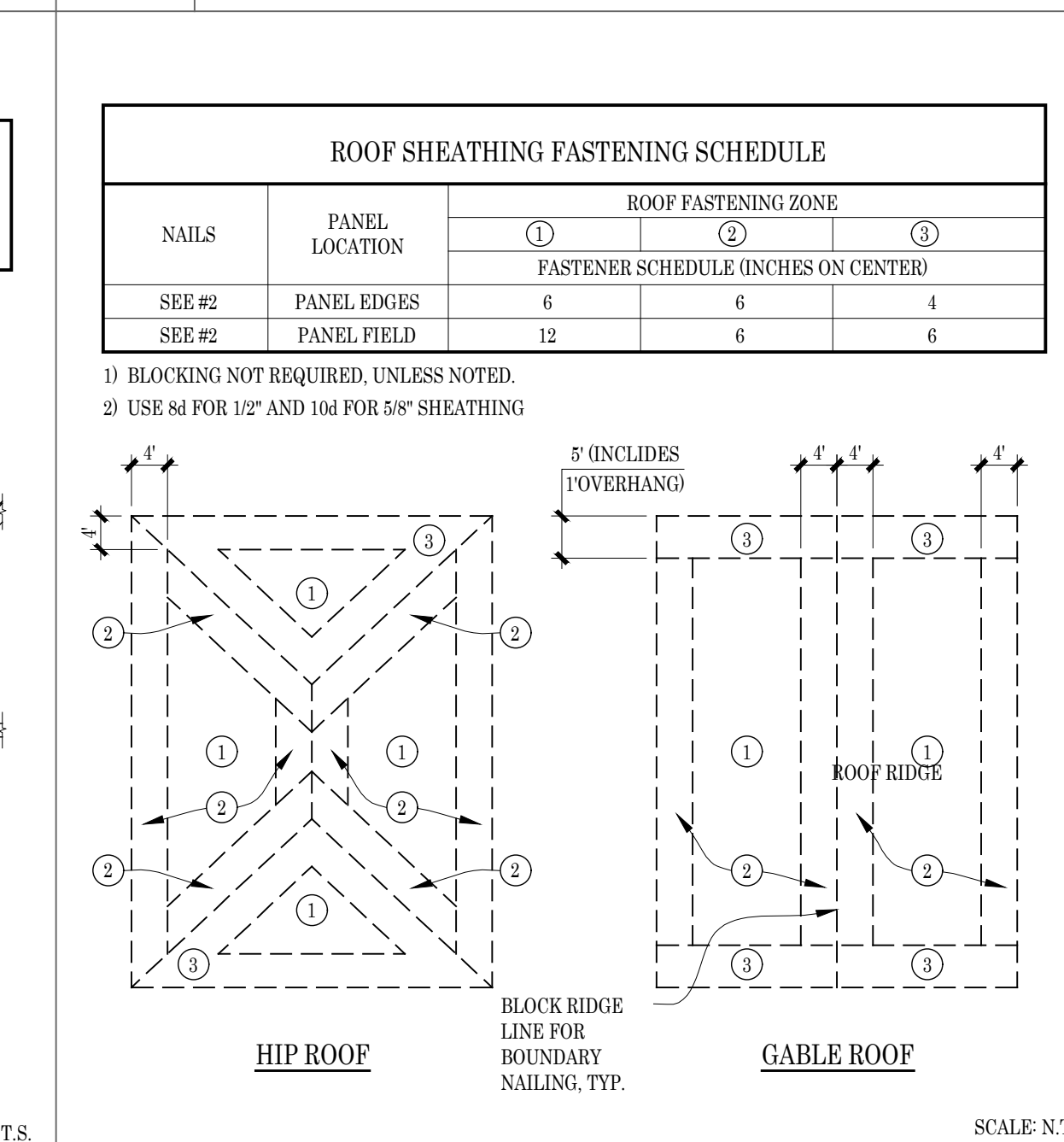
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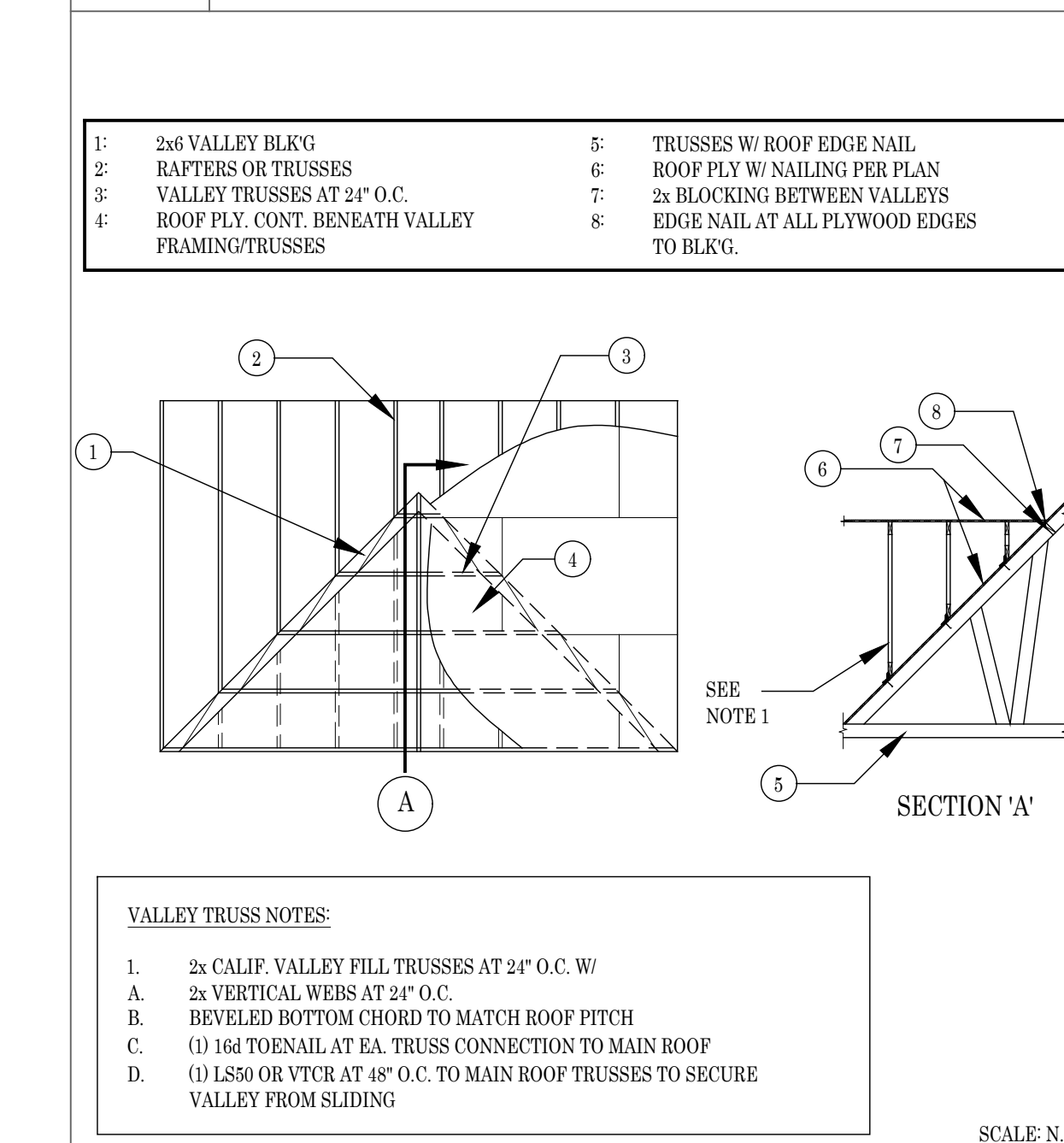
21 Drag Truss Detail
 SCALE: N.T.S.



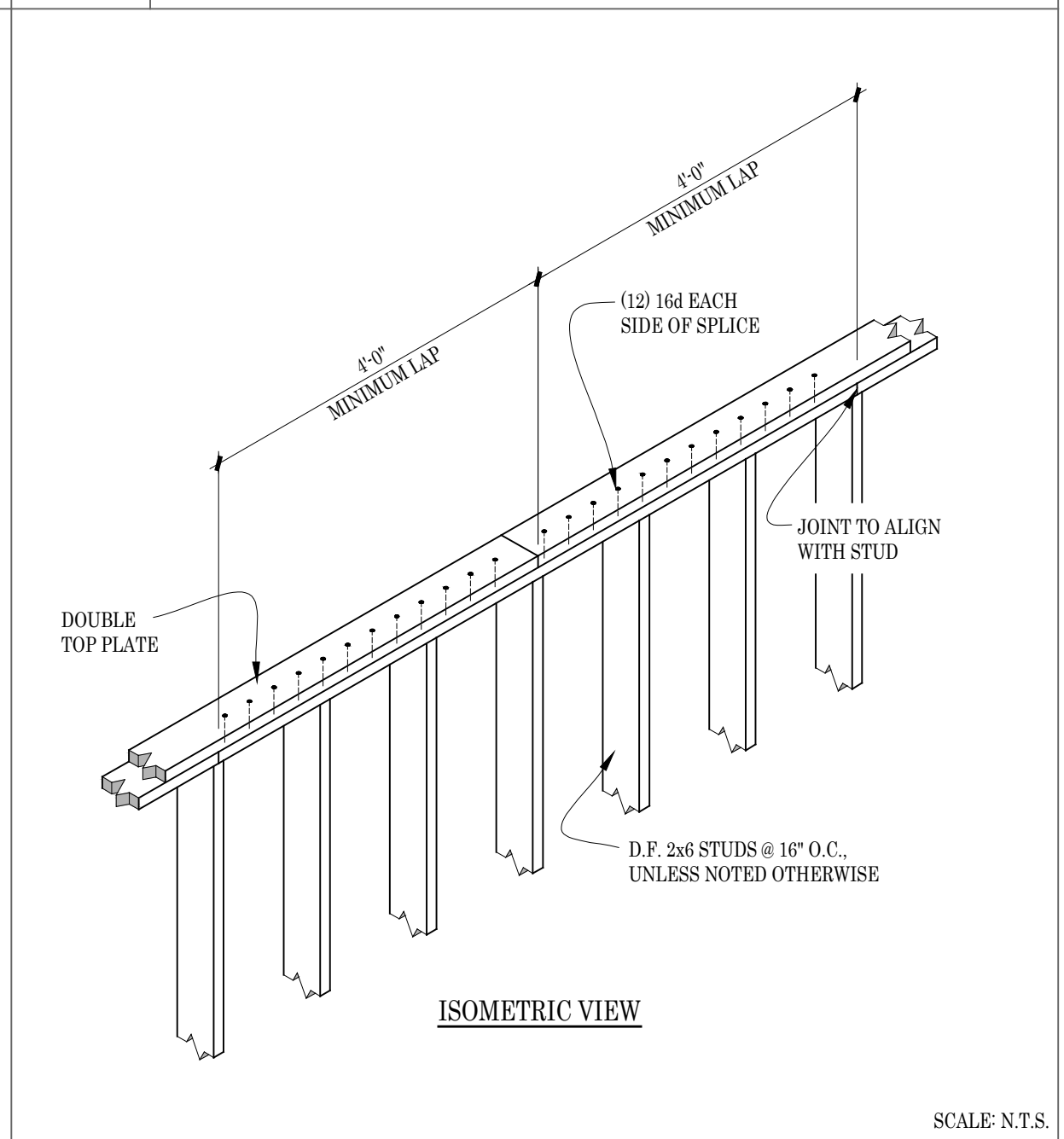
23 Unblocked Diaphragm Nailing
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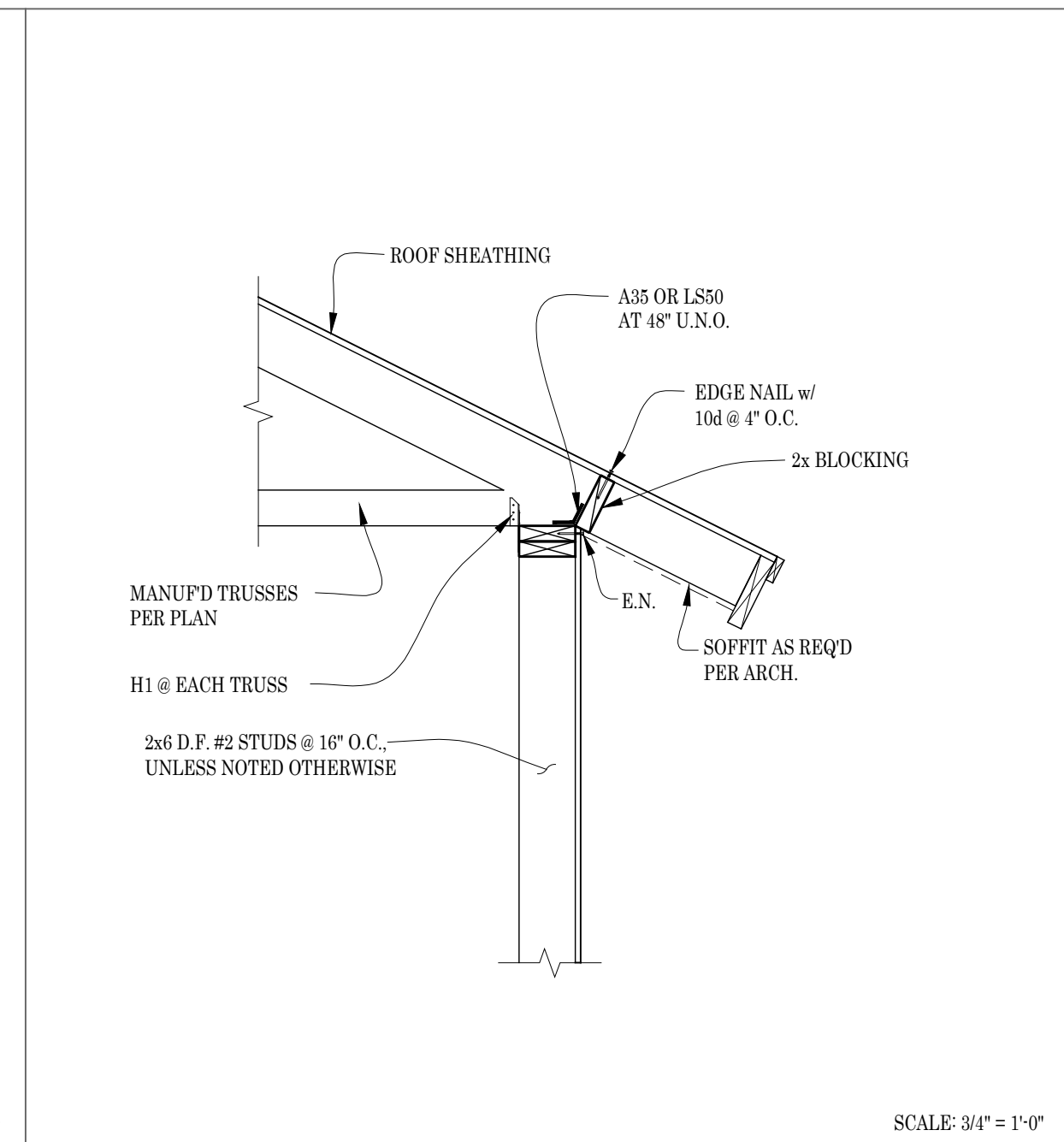
24 Roof Fastening Zones
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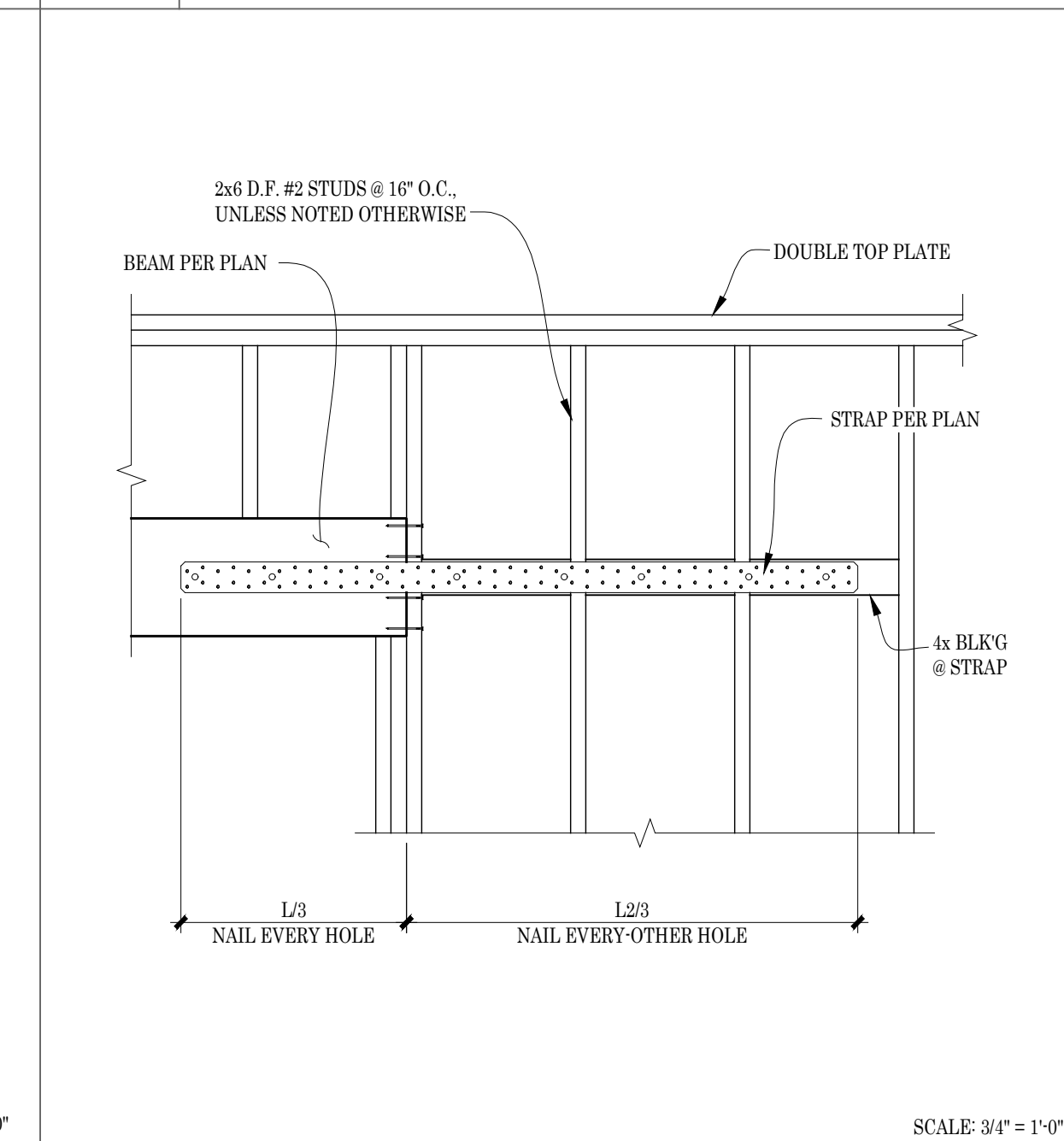
25 Valley Trusses
 SCALE: N.T.S.



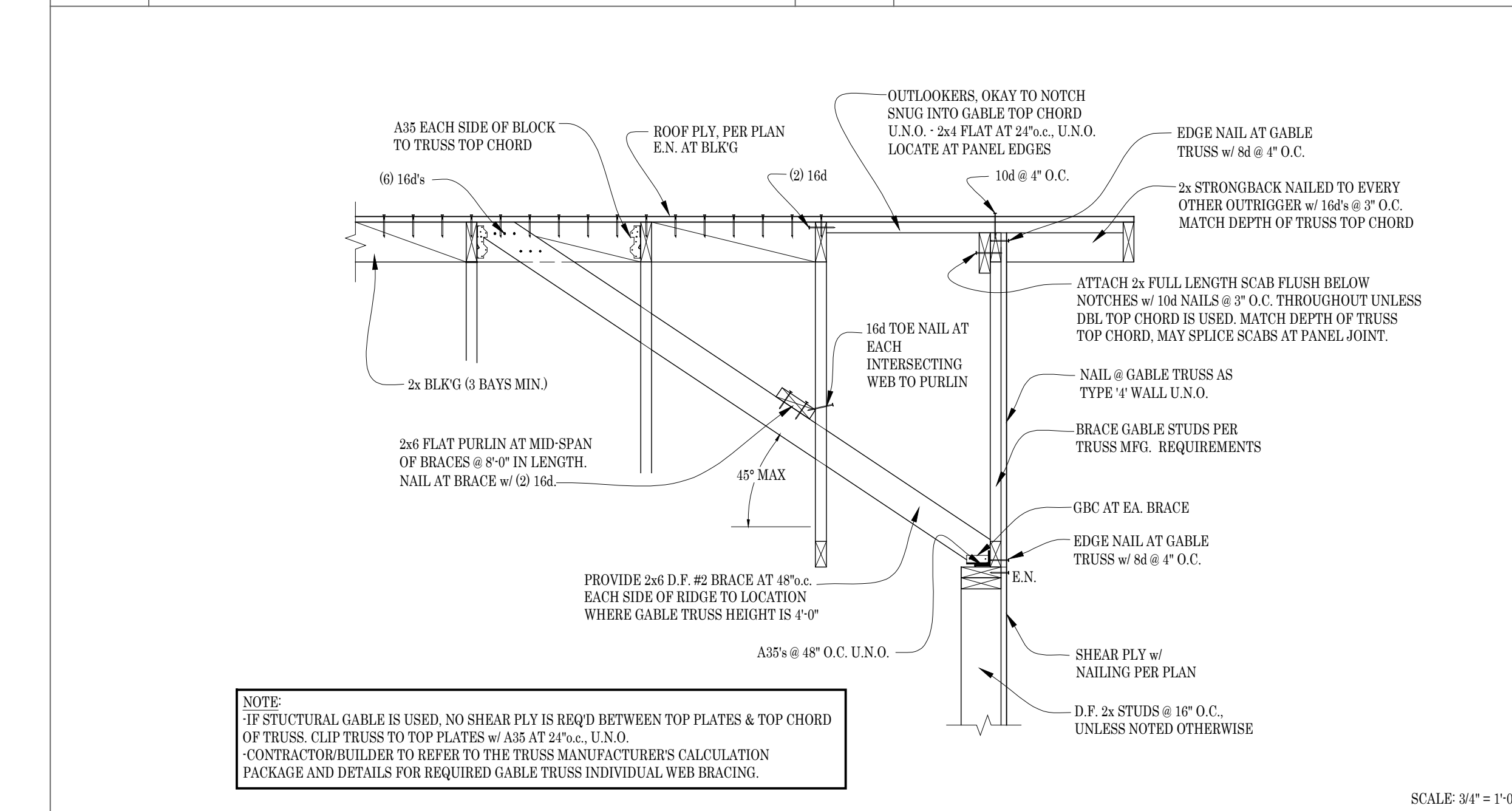
16 Top Plate Splice
 SCALE: N.T.S.



17 Typical Truss @ Eave
 SCALE: 3/4" = 1'-0"



18 Beam to Wall Blk'g
 SCALE: 3/4" = 1'-0"

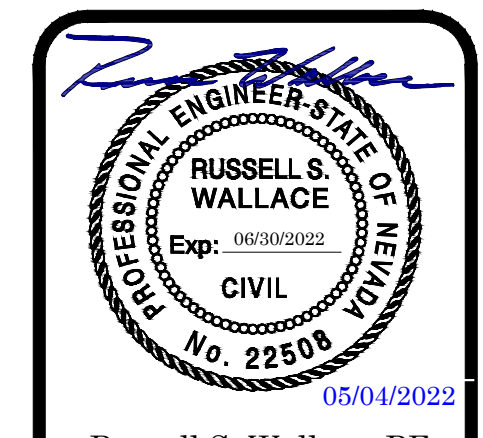


20 Gable Wall Bracing Detail
 SCALE: 3/4" = 1'-0"

Hinson Detached Garage / ADU

Project Address:
 3787 Portland Dr.
 Reno, NV 89511
 APN: 144-042-02

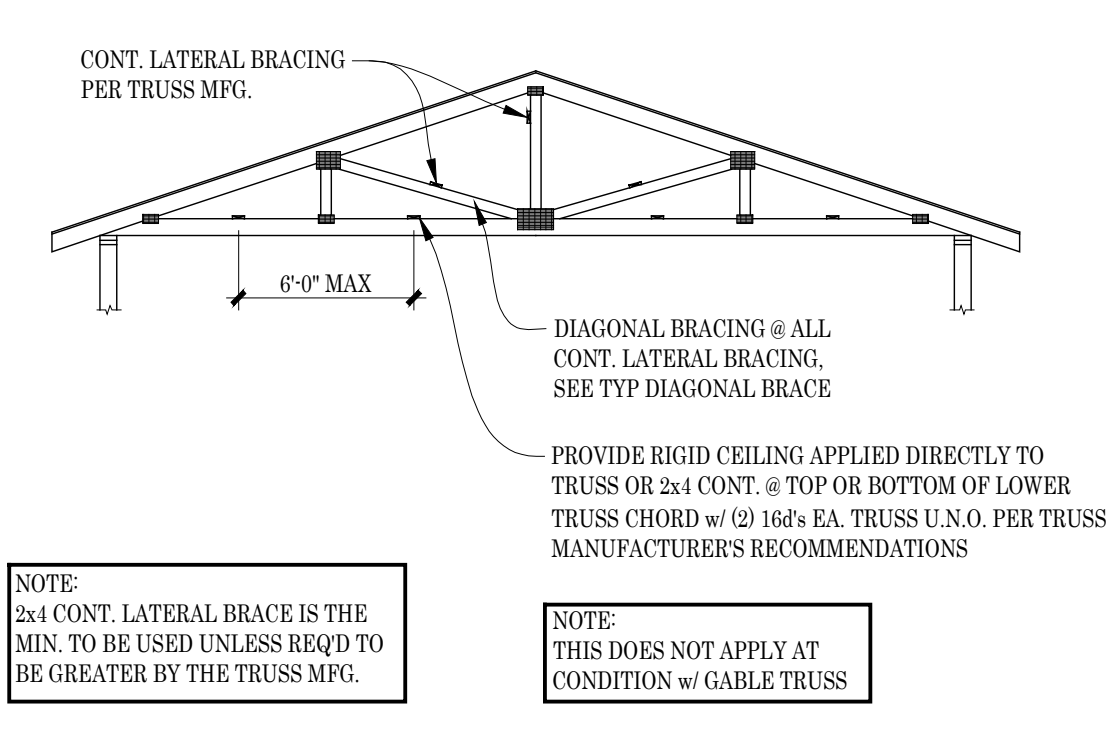
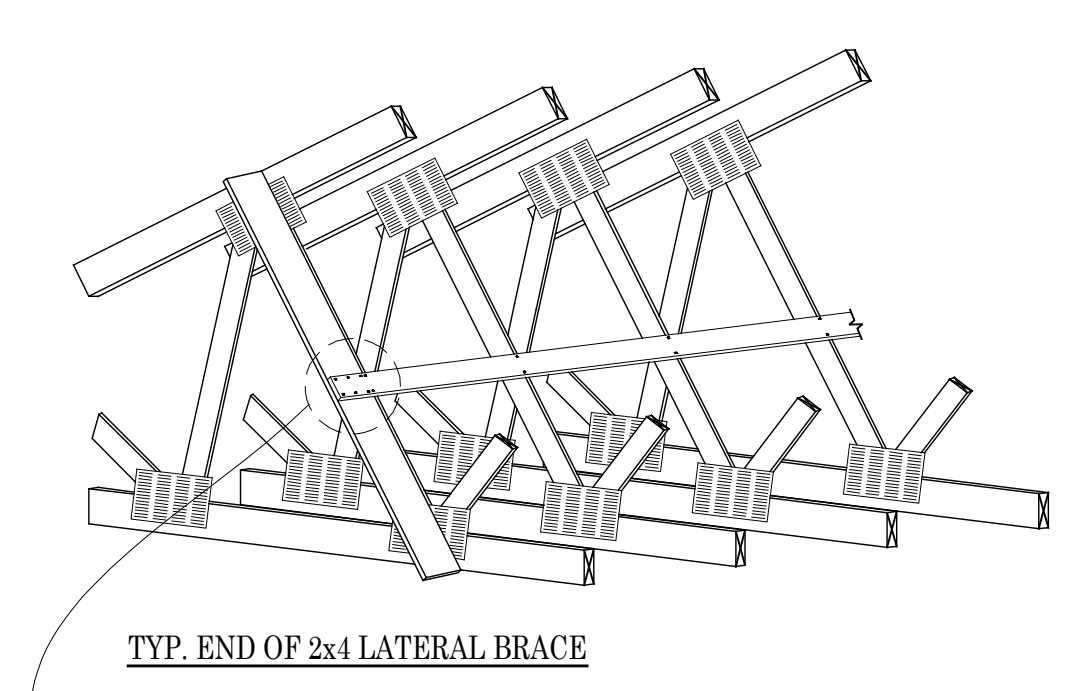
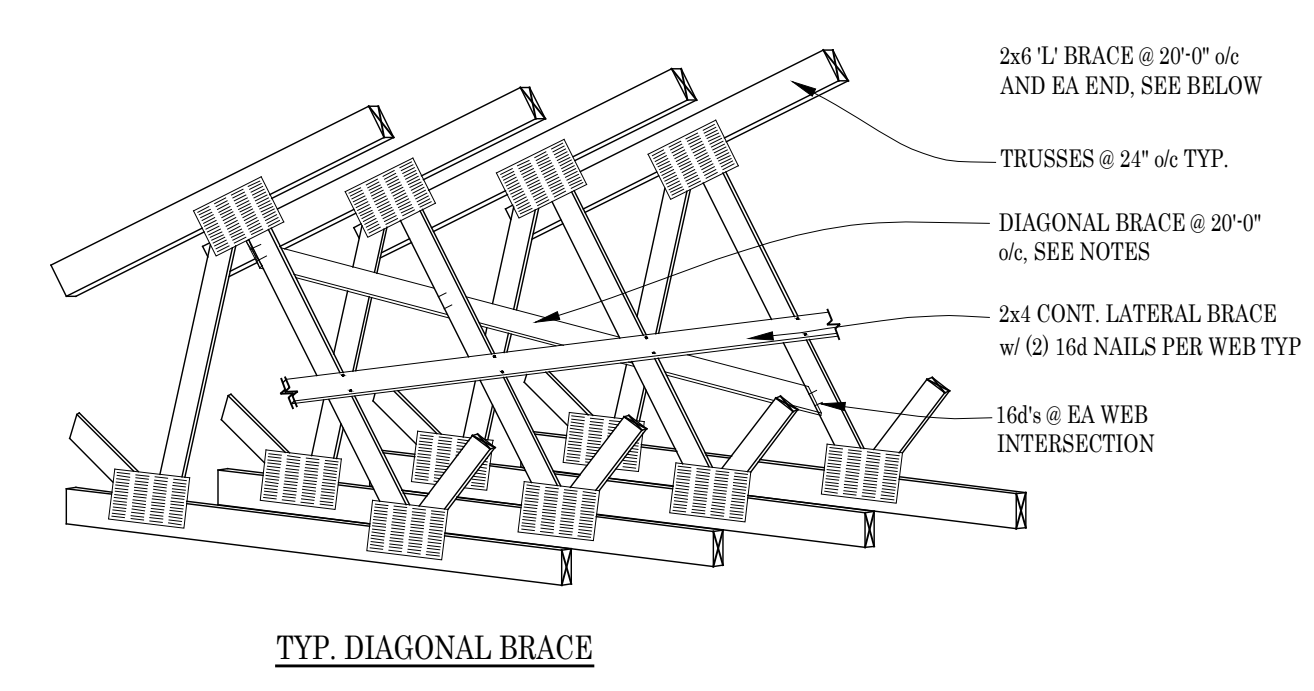
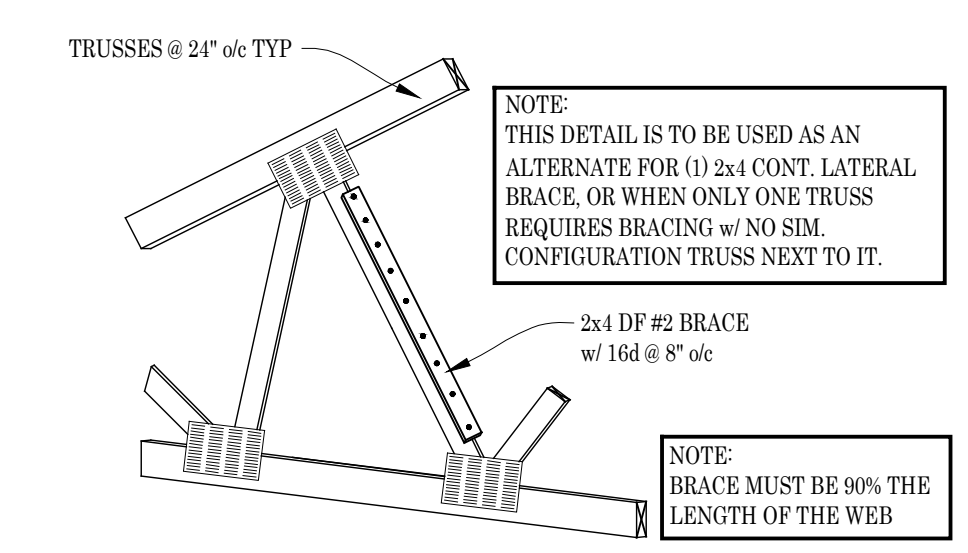
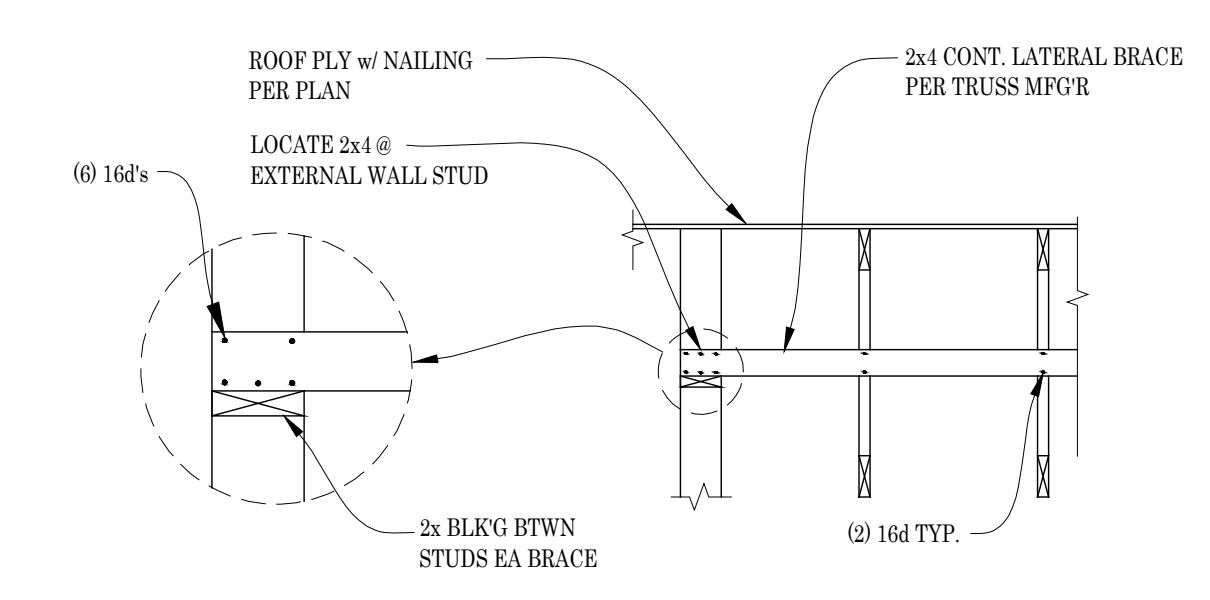
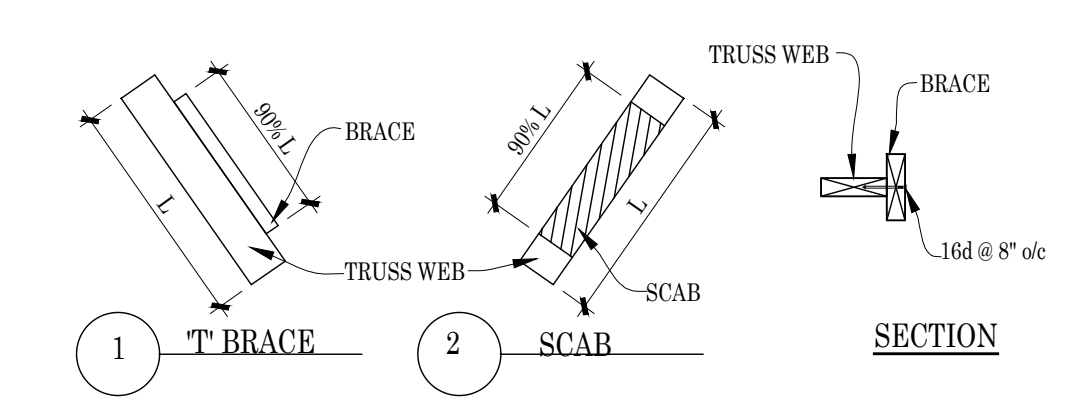
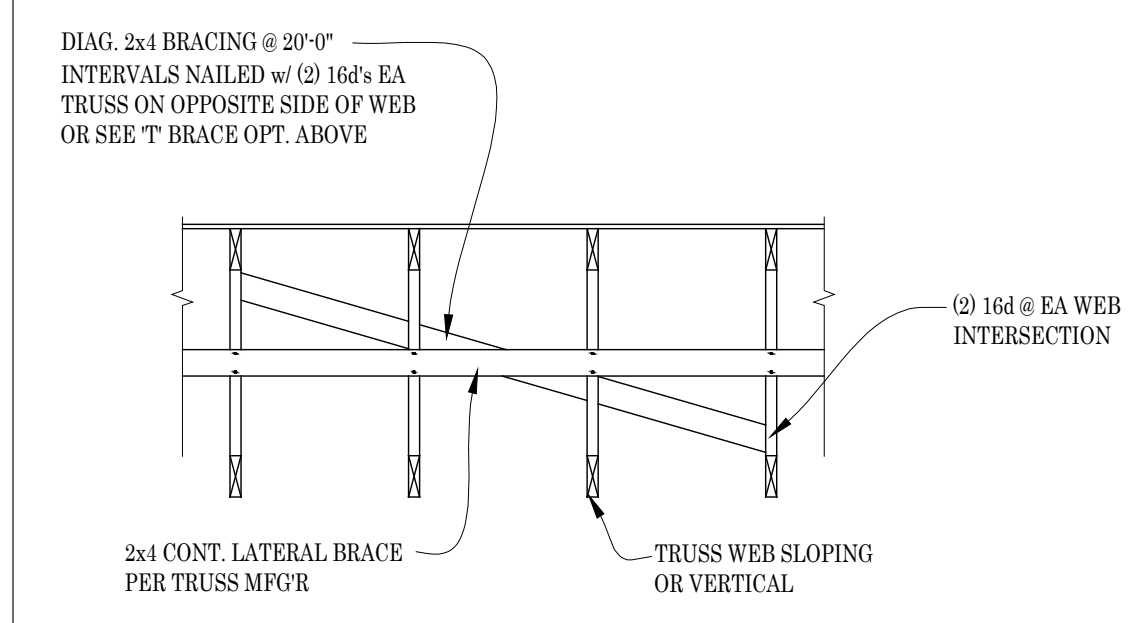
Date: 05/04/22
 Drawn: NB / RW
 Project #: 22-011



Russell S. Wallace, PE

Revisions:

CONTRACTOR/BUILDER TO REFER TO THE TRUSS MANUFACTURER'S CALCULATION PACKAGE AND DETAILS FOR REQUIRED INDIVIDUAL TRUSS COMPONENT BRACING.

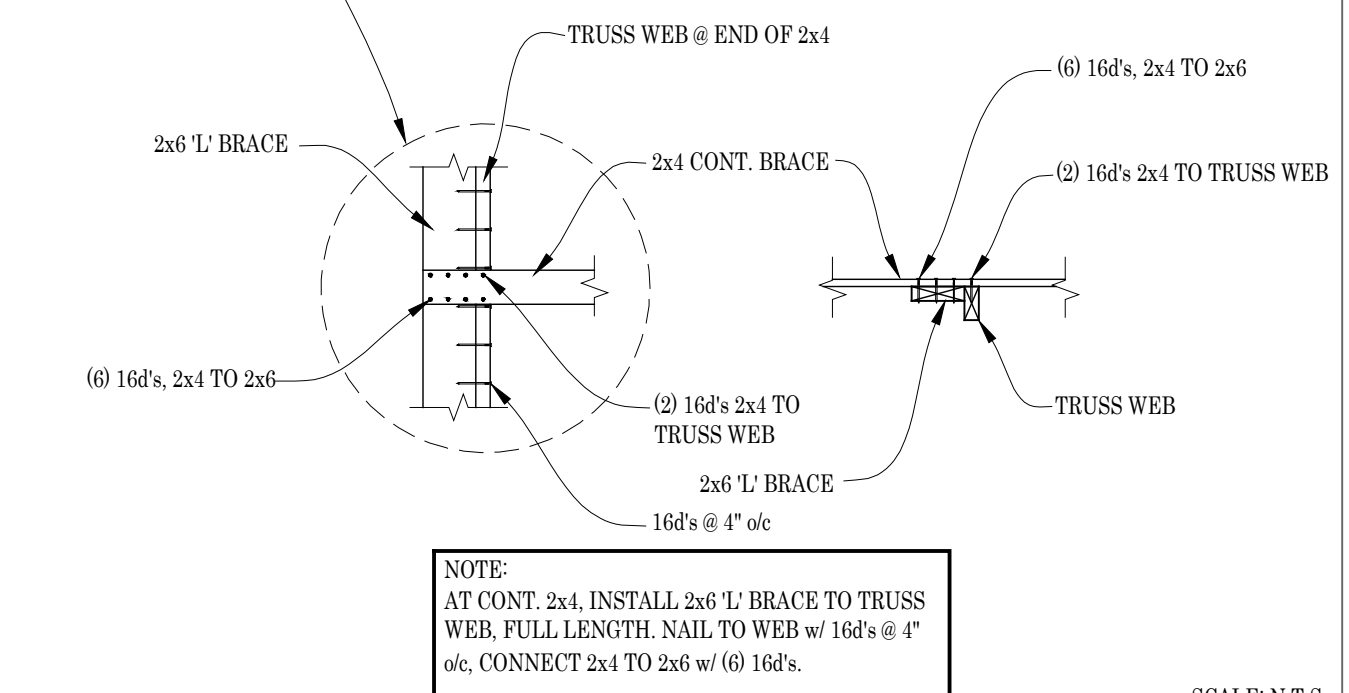


NOTE:

1) A 2x STRUCTURALLY GRADED T BRACE MAY BE NAILED FLAT TO THE EDGE OF THE MEMBER w/ 16d COMMON OR BOX NAILS @ 8" o/c IF ONLY ONE BRACE IS REQUIRED, OR MAY BE NAILED TO BOTH EDGES OF THE MEMBER IF TWO BRACES ARE REQ'D. THE T BRACE MUST EXTEND A MIN OF 90% OF THE MEMBER'S LENGTH.

2) A SCAB OF THE SAME SIZE AND STRUCTURAL GRADE AS THE MEMBER MAY BE NAILED TO ONE FACE OF THE MEMBER w/ 16d COMMON OR BOX NAIL @ 8" o/c IF ONLY ONE BRACE IS REQ'D, OR MAY BE NAILED TO BOTH FACES OF THE MEMBER IF TWO BRACES ARE REQ'D. A MIN OF 2x6 SCABS ARE REQ'D FOR ANY MEMBER EXCEEDING 14'-0" IN LENGTH. SCAB(S) MUST EXTEND A MIN OF 90% OF THE MEMBER'S LENGTH.

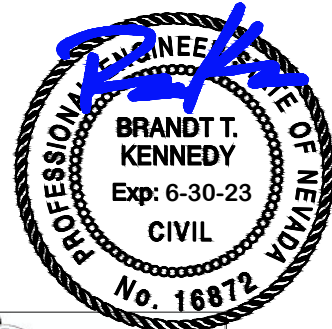
3) ANY MEMBER REQUIRING MORE THAN TWO BRACES MUST USE PERPENDICULAR BRACING OR A COMBINATION OF SCABS AND T BRACES, OR ANY OTHER APPROVED METHOD, AS SPECIFIED AND APPROVED BY THE ENGINEER OF RECORD.



SCALE: N.T.S.



Job Name: HINSON ADU GARAGE
Address: 3787 PORTLAND DR., RENO NV.
Job Number: 220551
Apn #: 144-042-02



TRUSS RESPONSIBILITY GUIDELINES

The architect/building designer, engineer of record and the erecting contractor (the framer) *must* read this page and *all* notes on the truss calculations.

These designs are for individual trusses, not the roof truss system. It has been based on the specifications provided to Reno Truss by the owner, contractor, architect/building designer and the engineer of record, and in accordance with IBC-2018 and TPI design standards. These parties are responsible to provide Reno Truss with a *complete* set of construction documents (plans) and updated information and plans after any changes are made which affect the roof system

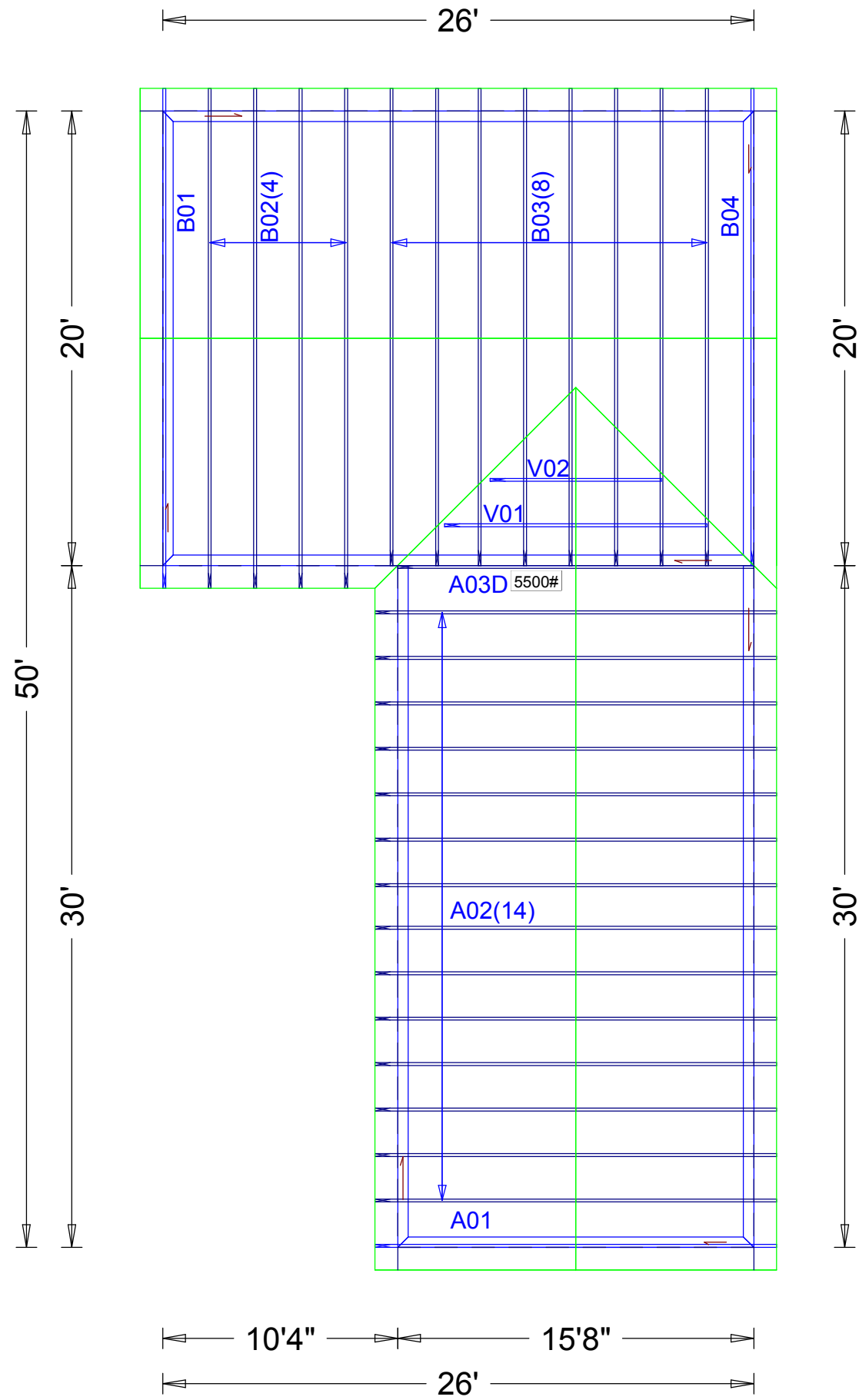
The building designer and the engineer of record *must* review and approve these calculations and the truss layout for compliance with local building codes and the approved construction documents. The engineer of record shall be responsible for permanent lateral bracing. This shall be accomplished by: (a) anchorage to solid end walls; (b) permanent diagonal bracing in the plane of the web members; or (c) other means when demonstrated by the engineer of record to provide equivalent bracing.

The contractor must review these drawings for compliance with the construction documents and to determine the effect of the truss layout and each truss on other trades and the effect of the other trades on the trusses. The contractor must provide a set of these drawings to the individual or company responsible for the installation of the trusses. The contractor or framer *must* review these drawings and verify all dimensions, coordinating corrections with Reno Truss *prior* to truss fabrication. Should this fail to occur and the trusses be fabricated incorrectly due to a lack of thorough review by the contractor/framer, Reno Truss will not be responsible for costs incurred by truss repairs.

This design assumes that the top chord is laterally braced by the roof or floor sheathing and the bottom chord is laterally braced by a rigid sheathing material directly attached, unless otherwise noted. Bracing shown is for lateral support of truss members only to reduce buckling length*.

DO NOT CUT, MODIFY OR DAMAGE TRUSSES IN ANY WAY WITHOUT PRIOR AUTHORIZATION FROM RENO TRUSS! Any party who cuts or damages a truss shall be responsible for obtaining the engineering required for the repair and for the cost of the repair.

*Handle, install and brace the trusses in accordance with the following standards: 'ANSI-TPI 1', 'WTCA 1'-Wood Truss Council of America Standard Design Responsibilities, 'HANDLING INSTALLING AND BRACING METAL PLATE CONNECTED WOOD TRUSSES'-(HIB-91) and 'HIB-91 SUMMARY SHEET' by TPI. The Truss Plate Institute (TPI) is located at D'Onofrio Drive, Madison, Wisconsin 53719. The American Forest and Paper Association (AFPA) is located at 1111 19th Street, NW, Ste 800, Washington, DC 20036. WCTA is located at 6300 Enterprise Lane, Madison, Wisconsin 53719.



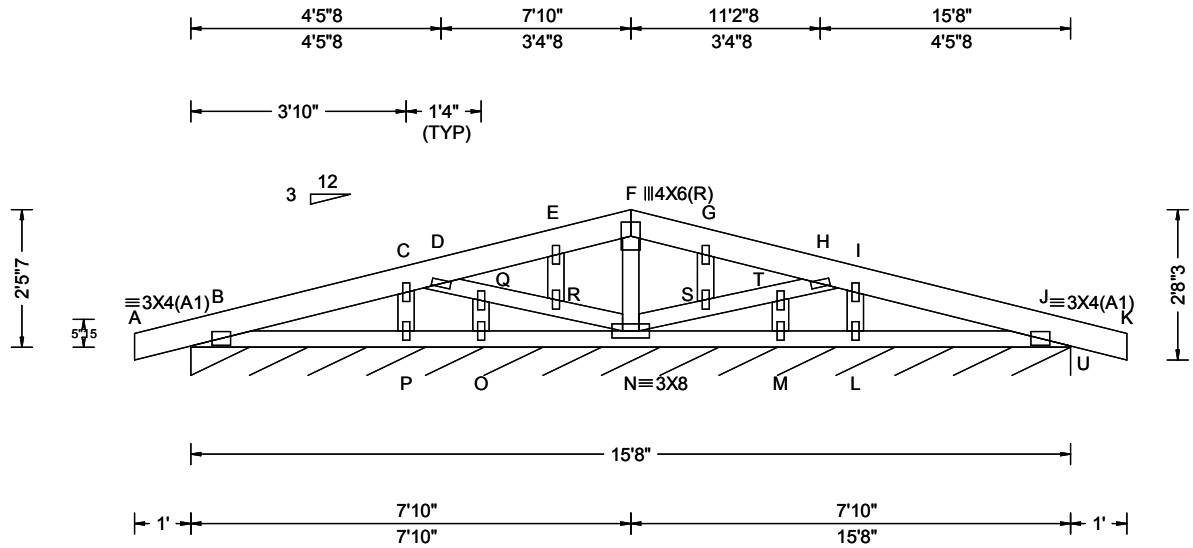
NAME: HINSON ADU GARAGE
 ADDR: 3787 PORTLAND DR
 PLAN:
 ELEV:
 L/R:

JOB NO:
 220551

PAGE NO:
 1 OF 1



SEQN: 89123 / T2 / GABL FROM: RR	Ply: 1 Qty: 1 Wgt: 86.8 lbs	Job Number: 220551 HINSON ADU GARAGE APN#144-042-02 Truss Label: A01	DRW: ... / ... 05/03/2022
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Loading Criteria (psf) TCLL: 31.00 TCDL: 20.00 BCLL: 0.00 BCDL: 10.00 Des Ld: 61.00 NCBCLL: 10.00 Soffit: 0.00 Load Duration: 1.15 Spacing: 24.0"	Wind Criteria Wind Std: ASCE 7-16 Speed: 126 mph Enclosure: Closed Risk Category: II EXP: C Kzt: NA Mean Height: 15.00 ft TCDL: 6.0 psf BCDL: 6.0 psf MWFRS Parallel Dist: 0 to h/2 C&C Dist a: 3.00 ft Loc. from endwall: Any GCpi: 0.18 Wind Duration: 1.60	Snow Criteria (Pg,Pf in PSF) Pg: 39.0 Ct: 1.1 CAT: II Pf: 30.0 Ce: 1.0 Lu: - Cs: 1.00 Snow Duration: 1.15 Building Code: IBC 2018 TPI Std: 2014 Rep Fac: Varies by Ld Case FT/RT/PT:10(0)/3(0)/1(0) Plate Type(s): WAVE	Defl/CSI Criteria PP Deflection in loc L/defl L/# VERT(LL): 0.005 G 999 360 VERT(CL): 0.010 G 999 240 HORZ(LL): -0.001 G - - HORZ(TL): 0.003 G - - Creep Factor: 2.0 Max TC CSI: 0.103 Max BC CSI: 0.064 Max Web CSI: 0.309 Mfg Specified Camber: VIEW Ver: 21.02.00B.1108.20	▲ Maximum Reactions (lbs), or *PLF Gravity Non-Gravity Loc R+ / R- / Rh / Rw / U / RL U* 148 /- /- /73 /9 /2 Wind reactions based on MWFRS U Brg Wid = 188 Min Req = - Bearing B is a rigid surface. Maximum Top Chord Forces Per Ply (lbs) Chords Tens.Comp. Chords Tens. Comp. A - B 39 0 F - G 107 -5 B - C 58 -147 G - H 87 -16 C - D 89 -134 H - I 88 -134 D - E 87 -16 I - J 58 -147 E - F 107 -2 J - K 39 0
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Lumber
Top chord: 2x6 HF 1650f-1.6E;
Bot chord: 2x4 HF #1&Bet.;
Webs: 2x4 :HF Standard + HF Stud.;

Plating Notes
All plates are 1.5X4 except as noted.

Loading
Truss designed to support 1-0-0 top chord outlookers and cladding load not to exceed 3.00 PSF one face and 24.0" span opposite face. Top chord must not be cut or notched, unless specified otherwise.
Bottom chord checked for 10.00 psf non-concurrent live load.
Overhang designed for 2.00X Pf.
Truss designed for unbalanced snow loads.

Wind
Wind loads based on MWFRS with additional C&C member design.
Wind loading based on both gable and hip roof types.
Uplifts based on an elevation at or above 3000 ft.

Additional Notes
See DWGS A14015ENC160118 & GBLLETIN0118 for gable wind bracing and other requirements.



5/3/2022

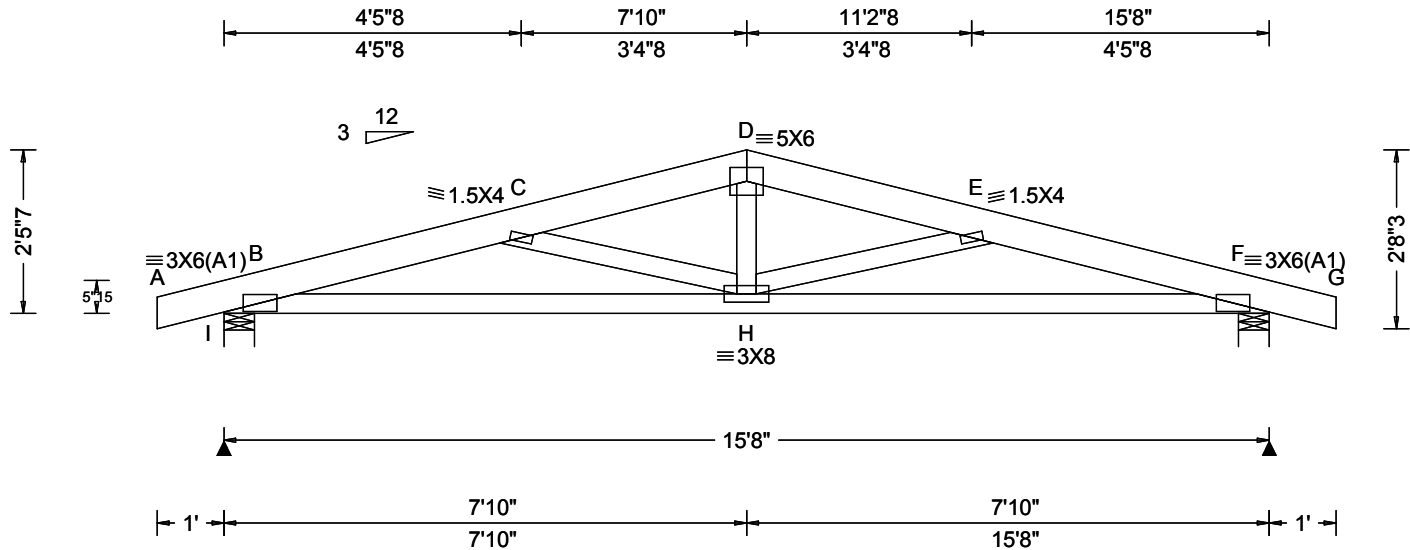
Maximum Bot Chord Forces Per Ply (lbs)
Chords Tens.Comp. Chords Tens. Comp.
B - P 111 -1 N - M 95 -2
P - O 87 0 M - L 87 -1
O - N 95 0 L - J 111 -2

Maximum Web Forces Per Ply (lbs)
Webs Tens.Comp. Webs Tens. Comp.
D - Q 104 -179 N - S 105 -181
Q - R 87 -139 S - T 87 -139
R - N 105 -181 T - H 104 -179
F - N 108 -306

Maximum Gable Forces Per Ply (lbs)
Gables Tens.Comp. Gables Tens. Comp.
C - P 153 -464 S - G 52 -124
O - Q 59 -143 T - M 59 -143
E - R 52 -124 L - I 153 -464

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For more information see this job's general notes page and these web sites: Alpine: www.alpineitw.com; TPI: www.tpinst.org; SBCA: www.sbcindustry.com; ICC: www.iccsafe.org





Loading Criteria (psf)	Wind Criteria	Snow Criteria (Pg,Pf in PSF)	Defl/CSI Criteria	▲ Maximum Reactions (lbs)
TCLL: 31.00 TCDL: 20.00 BCLL: 0.00 BCDL: 10.00 Des Ld: 61.00 NCBCLL: 10.00 Soffit: 0.00 Load Duration: 1.15 Spacing: 24.0"	Wind Std: ASCE 7-16 Speed: 126 mph Enclosure: Closed Risk Category: II EXP: C Kzt: NA Mean Height: 15.00 ft TCDL: 6.0 psf BCDL: 6.0 psf MWFRS Parallel Dist: 0 to h/2 C&C Dist a: 3.00 ft Loc. from endwall: Any GCpi: 0.18 Wind Duration: 1.60	Pg: 39.0 Ct: 1.1 CAT: II Pf: 30.0 Ce: 1.0 Lu: - Cs: 1.00 Snow Duration: 1.15 Building Code: IBC 2018 TPI Std: 2014 Rep Fac: Yes FT/RT/PT:10(0)/3(0)/1(0) Plate Type(s): WAVE	PP Deflection in loc L/defl L/# VERT(LL): 0.075 H 999 360 VERT(CL): 0.146 H 999 240 HORZ(LL): 0.025 F - - HORZ(TL): 0.049 F - - Creep Factor: 2.0 Max TC CSI: 0.161 Max BC CSI: 0.448 Max Web CSI: 0.214 Mfg Specified Camber: VIEW Ver: 21.02.00B.1108.20	Gravity Loc R+ / R- / Rh / Rw / U / RL I 1171 /- /- /530 /53 /22 F 1171 /- /- /530 /53 /- Non-Gravity Wind reactions based on MWFRS I Brg Wid = 5.5 Min Req = 2.0 (Truss) F Brg Wid = 5.5 Min Req = 2.0 (Truss) Bearings I & F are a rigid surface. Maximum Top Chord Forces Per Ply (lbs) Chords Tens.Comp. Chords Tens. Comp. A - B 39 0 D - E 574 -1905 B - C 735 -2416 E - F 735 -2416 C - D 574 -1905 F - G 39 0 Maximum Bot Chord Forces Per Ply (lbs) Chords Tens.Comp. Chords Tens. Comp. B - H 2282 -648 H - F 2282 -646 Maximum Web Forces Per Ply (lbs) Webs Tens.Comp. Webs Tens. Comp. C - H 209 -603 H - E 209 -603 D - H 411 -42

Lumber
Top chord: 2x6 HF 1650f-1.6E;
Bot chord: 2x4 HF #1&Bet.;
Webs: 2x4 :HF Standard + HF Stud.;

Loading
Bottom chord checked for 10.00 psf non-concurrent live load.
Overhang designed for 2.00X Pf.
Truss designed for unbalanced snow loads.

Wind
Wind loads based on MWFRS with additional C&C member design.
Wind loading based on both gable and hip roof types.
Uplifts based on an elevation at or above 3000 ft.



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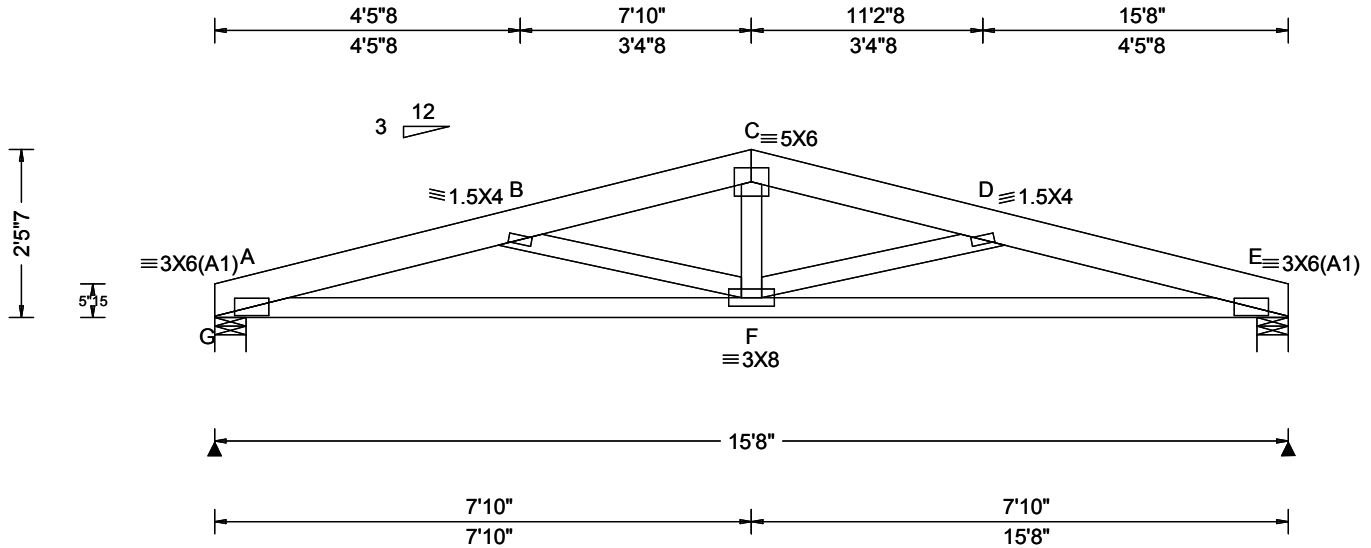
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SEQN: 89125 / T3 / COMN FROM: RR	Ply: 1 Qty: 1 Wgt: 78.4 lbs	Job Number: 220551 HINSON ADU GARAGE APN#144-042-02 Truss Label: A03D	DRW: ... / ... 05/03/2022
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Loading Criteria (psf) TCLL: 31.00 TCDL: 20.00 BCLL: 0.00 BCDL: 10.00 Des Ld: 61.00 NCBCLL: 10.00 Soffit: 0.00 Load Duration: 1.15 Spacing: 24.0 "	Wind Criteria Wind Std: ASCE 7-16 Speed: 126 mph Enclosure: Closed Risk Category: II EXP: C Kzt: NA Mean Height: 15.00 ft TCDL: 6.0 psf BCDL: 6.0 psf MWFRS Parallel Dist: 0 to h/2 C&C Dist a: 3.00 ft Loc. from endwall: Any GCpi: 0.18 Wind Duration: 1.60	Snow Criteria (Pg,Pf in PSF) Pg: 39.0 Ct: 1.1 CAT: II Pf: 30.0 Ce: 1.0 Lu: - Cs: 1.00 Snow Duration: 1.15 Building Code: IBC 2018 TPI Std: 2014 Rep Fac: Varies by Ld Case FT/RT/PT:10(0)/3(0)/1(0) Plate Type(s): WAVE	Defl/CSI Criteria PP Deflection in loc L/defl L/# VERT(LL): 0.092 D 999 360 VERT(CL): 0.149 F 999 240 HORZ(LL): 0.025 E - - HORZ(TL): 0.050 E - - Creep Factor: 2.0 Max TC CSI: 0.178 Max BC CSI: 0.472 Max Web CSI: 0.226 Mfg Specified Camber: VIEW Ver: 21.02.00B.1108.20	▲ Maximum Reactions (lbs) Gravity Non-Gravity Loc R+ / R- / Rh / Rw / U / RL																	
				<table border="1"> <tr> <td>G</td> <td>1048</td> <td>-</td> <td>-</td> <td>-</td> <td>/1219</td> <td>/260</td> <td>/15</td> </tr> <tr> <td>E</td> <td>1048</td> <td>-</td> <td>-</td> <td>-</td> <td>/1219</td> <td>/260</td> <td>-</td> </tr> </table> Wind reactions based on MWFRS G Brg Wid = 5.5 Min Req = 2.0 (Truss) E Brg Wid = 5.5 Min Req = 2.0 (Truss) Bearings G & E are a rigid surface. Maximum Top Chord Forces Per Ply (lbs) Chords Tens.Comp. Chords Tens. Comp. A - B 1032 -3345 C - D 591 -2205 B - C 591 -2205 D - E 1031 -3344						G	1048	-	-	-	/1219	/260	/15	E	1048	-	-
G	1048	-	-	-	/1219	/260	/15														
E	1048	-	-	-	/1219	/260	-														

Lumber

Top chord: 2x6 HF 1650f-1.6E;
Bot chord: 2x4 HF #1&Bet.;
Webs: 2x4 :HF Standard + HF Stud.;

Loading

Truss transfers a maximum horizontal load of 5500 # (351.15 plf) along top chord, from either direction, to supports where indicated. Diaphragm and connections are to be designed by Engineer of Record.
Drag Loads: Force(#) (PLF) Mbr Start End
Case 1: 5500 351.15 TC 0.00 15.67
5500 357.72 BC 0.15 15.52

Bottom chord checked for 10.00 psf non-concurrent live load.
Truss designed for unbalanced snow loads.

Wind

Wind loads based on MWFRS with additional C&C member design.
Wind loading based on both gable and hip roof types.
Uplifts based on an elevation at or above 3000 ft.

Additional Notes

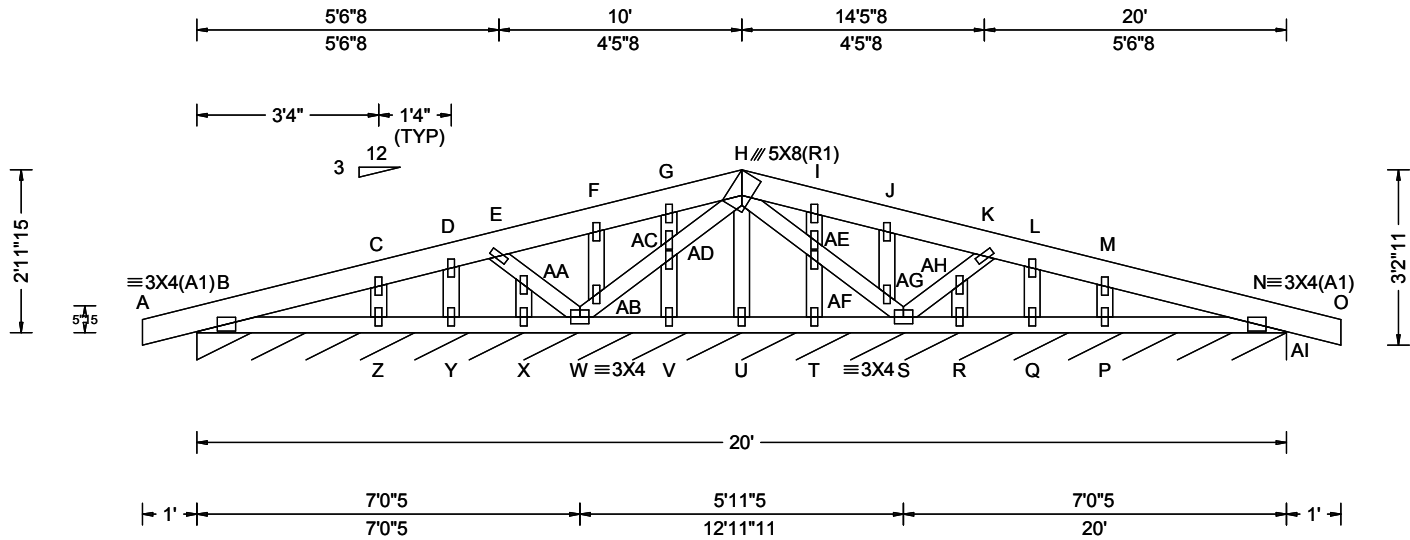
Negative reaction(s) of -260# MAX. Requires uplift connection. See Maximum Reactions.



5/3/2022

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Loading Criteria (psf) TCLL: 31.00 TCDL: 20.00 BCLL: 0.00 BCDL: 10.00 Des Ld: 61.00 NCBCLL: 10.00 Soffit: 0.00 Load Duration: 1.15 Spacing: 24.0"	Wind Criteria Wind Std: ASCE 7-16 Speed: 126 mph Enclosure: Closed Risk Category: II EXP: C Kzt: NA Mean Height: 15.00 ft TCDL: 6.0 psf BCDL: 6.0 psf MWFRS Parallel Dist: 0 to h/2 C&C Dist a: 3.00 ft Loc. from endwall: Any GCpi: 0.18 Wind Duration: 1.60	Snow Criteria (Pg,Pf in PSF) Pg: 39.0 Ct: 1.1 CAT: II Pf: 30.0 Ce: 1.0 Lu: - Cs: 1.00 Snow Duration: 1.15 Building Code: IBC 2018 TPI Std: 2014 Rep Fac: Varies by Ld Case FT/RT/PT:10(0)/3(0)/1(0) Plate Type(s): WAVE	Defl/CSI Criteria PP Deflection in loc L/defl L/# VERT(LL): 0.003 F 999 360 VERT(CL): 0.005 F 999 240 HORZ(LL): -0.001 J - - HORZ(TL): 0.001 J - - Creep Factor: 2.0 Max TC CSI: 0.056 Max BC CSI: 0.051 Max Web CSI: 0.277 Mfg Specified Camber: VIEW Ver: 21.02.00B.1108.20	▲ Maximum Reactions (lbs), or *PLF Gravity Non-Gravity Loc R+ / R- / Rh / Rw / U / RL AI* 146 /- /- /71 /9 /1 Wind reactions based on MWFRS AI Brg Wid = 240 Min Req = - Bearing B is a rigid surface. Maximum Top Chord Forces Per Ply (lbs) Chords Tens.Comp. Chords Tens. Comp. A - B 39 0 H - I 151 -1 B - C 41 -141 I - J 151 -4 C - D 63 -123 J - K 119 -9 D - E 74 -106 K - L 78 -106 E - F 119 0 L - M 67 -123 F - G 151 0 M - N 46 -141 G - H 151 0 N - O 39 0
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Lumber
Top chord: 2x6 HF 1650f-1.6E;
Bot chord: 2x4 HF #1&Bet.;
Webs: 2x4 :HF Standard + HF Stud.;

Plating Notes
All plates are 1.5X4 except as noted.

Loading
Truss designed to support 1-0-0 top chord outlookers and cladding load not to exceed 3.00 PSF one face and 24.0" span opposite face. Top chord must not be cut or notched, unless specified otherwise.
Bottom chord checked for 10.00 psf non-concurrent live load.
Overhang designed for 2.00X Pf.
Truss designed for unbalanced snow loads.

Wind
Wind loads based on MWFRS with additional C&C member design.
Wind loading based on both gable and hip roof types.
Uplifts based on an elevation at or above 3000 ft.

Additional Notes
See DWGS A14015ENC160118 & GBLLETIN0118 for gable wind bracing and other requirements.



Maximum Bot Chord Forces Per Ply (lbs)

Chords	Tens.Comp.	Chords	Tens. Comp.
B - Z	111 0	U - T	68 -59
Z - Y	91 0	T - S	68 -59
Y - X	84 0	S - R	87 -3
X - W	87 0	R - Q	84 -3
W - V	68 -59	Q - P	91 -3
V - U	68 -59	P - N	111 -4

Maximum Web Forces Per Ply (lbs)

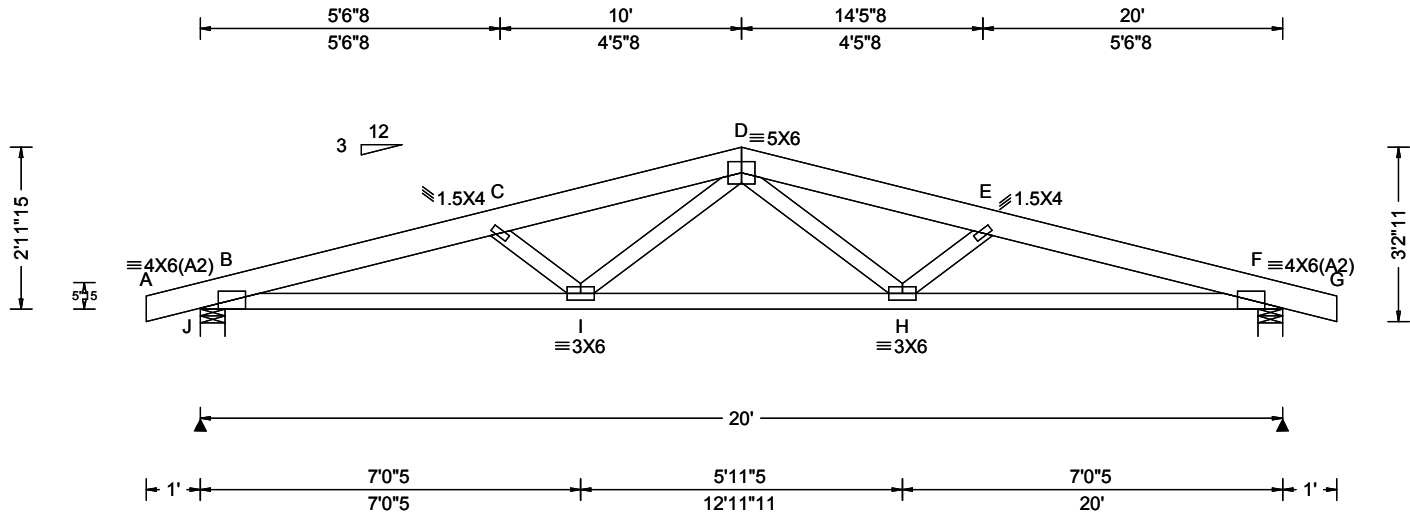
Webs	Tens.Comp.	Webs	Tens. Comp.
E-AA	88 -255	H-AE	29 -106
AA-W	85 -239	AF-AG	10 -38
W-AB	33 -122	AG-S	34 -122
AB-AC	10 -38	S-AH	84 -239
AD-H	28 -106	AH-K	88 -255

Maximum Gable Forces Per Ply (lbs)

Gables	Tens.Comp.	Gables	Tens. Comp.
C - Z	94 -333	AE-I	111 -301
D - Y	44 -161	T-AF	137 -379
X-AA	6 -26	AG-J	49 -148
F-AB	49 -148	AH-R	6 -26
AC-V	137 -379	Q-L	44 -161
G-AD	111 -301	P-M	94 -333
H-U	0 -66		

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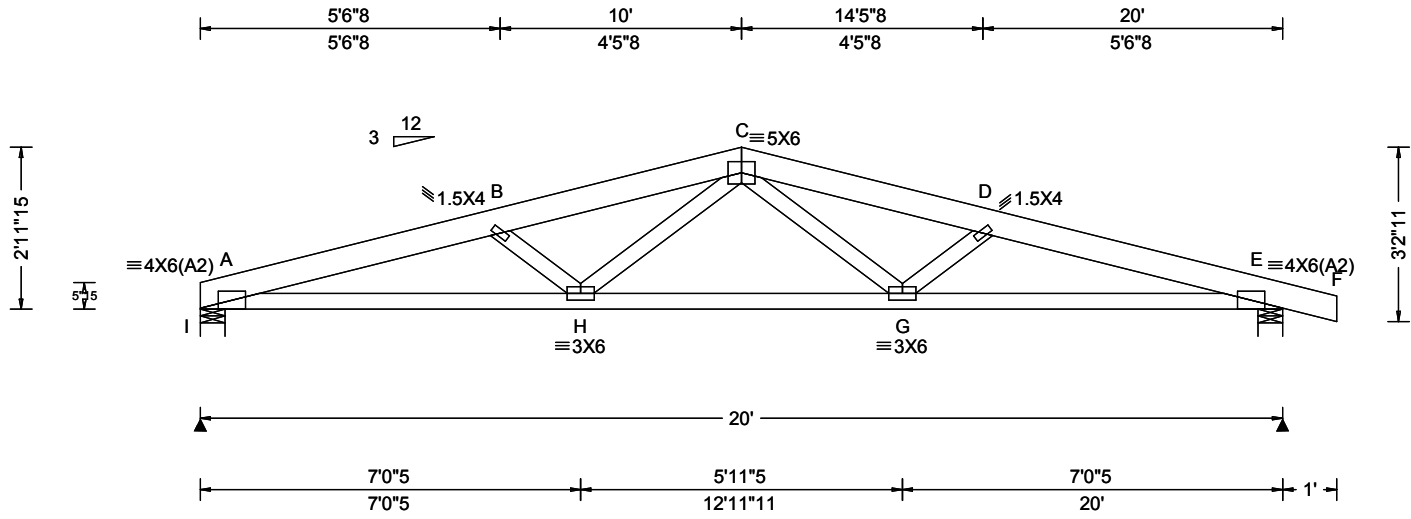
Loading Criteria (psf)	Wind Criteria	Snow Criteria (Pg,Pf in PSF)	Defl/CSI Criteria	▲ Maximum Reactions (lbs)
TCLL: 31.00 TCDL: 20.00 BCLL: 0.00 BCDL: 10.00 Des Ld: 61.00 NCBCLL: 10.00 Soffit: 0.00 Load Duration: 1.15 Spacing: 24.0 "	Wind Std: ASCE 7-16 Speed: 126 mph Enclosure: Closed Risk Category: II EXP: C Kzt: NA Mean Height: 15.00 ft TCDL: 6.0 psf BCDL: 6.0 psf MWFRS Parallel Dist: 0 to h/2 C&C Dist a: 3.00 ft Loc. from endwall: Any GCpi: 0.18 Wind Duration: 1.60	Pg: 39.0 Ct: 1.1 CAT: II Pf: 30.0 Ce: 1.0 Lu: - Cs: 1.00 Snow Duration: 1.15	PP Deflection in loc L/defl L/# VERT(LL): 0.133 D 999 360 VERT(CL): 0.261 D 906 240 HORZ(LL): 0.042 F - - HORZ(TL): 0.082 F - - Creep Factor: 2.0 Max TC CSI: 0.206 Max BC CSI: 0.557 Max Web CSI: 0.412 Mfg Specified Camber: VIEW Ver: 21.02.00B.1108.20	Gravity Loc R+ / R- / Rh / Rw / U / RL J 1395 /- /- /660 /65 /26 F 1395 /- /- /660 /65 /- Non-Gravity Wind reactions based on MWFRS J Brg Wid = 5.5 Min Req = 2.3 (Truss) F Brg Wid = 5.5 Min Req = 2.3 (Truss) Bearings J & F are a rigid surface. Maximum Top Chord Forces Per Ply (lbs) Chords Tens.Comp. Chords Tens. Comp. A - B 39 0 D - E 677 -2922 B - C 765 -3378 E - F 765 -3378 C - D 677 -2922 F - G 39 0
Lumber				Maximum Bot Chord Forces Per Ply (lbs)
Top chord: 2x6 HF 1650f-1.6E; Bot chord: 2x4 HF #1&Bet.; Webs: 2x4 :HF Standard + HF Stud.;				Chords Tens.Comp. Chords Tens. Comp. B - I 3204 -686 H - F 3204 -680 I - H 2315 -483
Loading				Maximum Web Forces Per Ply (lbs)
Bottom chord checked for 10.00 psf non-concurrent live load. Overhang designed for 2.00X Pf. Truss designed for unbalanced snow loads.				Webs Tens.Comp. Webs Tens. Comp. C - I 191 -598 D - H 809 -88 I - D 809 -87 H - E 191 -598
Wind				
Wind loads based on MWFRS with additional C&C member design. Wind loading based on both gable and hip roof types. Uplifts based on an elevation at or above 3000 ft.				



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Loading Criteria (psf) TCLL: 31.00 TCDL: 20.00 BCLL: 0.00 BCDL: 10.00 Des Ld: 61.00 NCBCLL: 10.00 Soffit: 0.00 Load Duration: 1.15 Spacing: 24.0 "	Wind Criteria Wind Std: ASCE 7-16 Speed: 126 mph Enclosure: Closed Risk Category: II EXP: C Kzt: NA Mean Height: 15.00 ft TCDL: 6.0 psf BCDL: 6.0 psf MWFRS Parallel Dist: 0 to h/2 C&C Dist a: 3.00 ft Loc. from endwall: Any GCpi: 0.18 Wind Duration: 1.60	Snow Criteria (Pg,Pf in PSF) Pg: 39.0 Ct: 1.1 CAT: II Pf: 30.0 Ce: 1.0 Lu: - Cs: 1.00 Snow Duration: 1.15 Building Code: IBC 2018 TPI Std: 2014 Rep Fac: Yes FT/RT/PT:10(0)/3(0)/1(0) Plate Type(s): WAVE	Defl/CSI Criteria PP Deflection in loc L/defl L/# VERT(LL): 0.133 C 999 360 VERT(CL): 0.262 C 903 240 HORZ(LL): 0.042 E - - HORZ(TL): 0.083 E - - Creep Factor: 2.0 Max TC CSI: 0.215 Max BC CSI: 0.567 Max Web CSI: 0.423 Mfg Specified Camber: VIEW Ver: 21.02.00B.1108.20	▲ Maximum Reactions (lbs) <table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th rowspan="2">Loc</th> <th colspan="3">Gravity</th> <th colspan="3">Non-Gravity</th> </tr> <tr> <th>R+</th> <th>/R-</th> <th>/Rh</th> <th>/Rw</th> <th>/U</th> <th>/RL</th> </tr> </thead> <tbody> <tr> <td>I</td> <td>1291</td> <td>-</td> <td>-</td> <td>/620</td> <td>/53</td> <td>/29</td> </tr> <tr> <td>E</td> <td>1397</td> <td>-</td> <td>-</td> <td>/661</td> <td>/65</td> <td>-</td> </tr> </tbody> </table> <p>Wind reactions based on MWFRS I Brg Wid = 5.5 Min Req = 2.1 (Truss) E Brg Wid = 5.5 Min Req = 2.3 (Truss) Bearings I & E are a rigid surface.</p> Maximum Top Chord Forces Per Ply (lbs) <table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th>Chords</th> <th>Tens.Comp.</th> <th>Chords</th> <th>Tens. Comp.</th> </tr> </thead> <tbody> <tr> <td>A - B</td> <td>777 -3416</td> <td>D - E</td> <td>770 -3385</td> </tr> <tr> <td>B - C</td> <td>686 -2951</td> <td>E - F</td> <td>39 0</td> </tr> <tr> <td>C - D</td> <td>682 -2928</td> <td></td> <td></td> </tr> </tbody> </table> Maximum Bot Chord Forces Per Ply (lbs) <table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th>Chords</th> <th>Tens.Comp.</th> <th>Chords</th> <th>Tens. Comp.</th> </tr> </thead> <tbody> <tr> <td>A - H</td> <td>3244 -699</td> <td>G - E</td> <td>3211 -686</td> </tr> <tr> <td>H - G</td> <td>2328 -487</td> <td></td> <td></td> </tr> </tbody> </table> Maximum Web Forces Per Ply (lbs) <table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th>Webs</th> <th>Tens.Comp.</th> <th>Webs</th> <th>Tens. Comp.</th> </tr> </thead> <tbody> <tr> <td>B - H</td> <td>197 -615</td> <td>C - G</td> <td>808 -87</td> </tr> <tr> <td>H - C</td> <td>829 -94</td> <td>G - D</td> <td>191 -598</td> </tr> </tbody> </table>	Loc	Gravity			Non-Gravity			R+	/R-	/Rh	/Rw	/U	/RL	I	1291	-	-	/620	/53	/29	E	1397	-	-	/661	/65	-	Chords	Tens.Comp.	Chords	Tens. Comp.	A - B	777 -3416	D - E	770 -3385	B - C	686 -2951	E - F	39 0	C - D	682 -2928			Chords	Tens.Comp.	Chords	Tens. Comp.	A - H	3244 -699	G - E	3211 -686	H - G	2328 -487			Webs	Tens.Comp.	Webs	Tens. Comp.	B - H	197 -615	C - G	808 -87	H - C	829 -94	G - D	191 -598
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Lumber
Top chord: 2x6 HF 1650f-1.6E;
Bot chord: 2x4 HF #1&Bet.;
Webs: 2x4 :HF Standard + HF Stud.;

Loading
Bottom chord checked for 10.00 psf non-concurrent live load.
Overhang designed for 2.00X Pf.
Truss designed for unbalanced snow loads.

Wind
Wind loads based on MWFRS with additional C&C member design.
Wind loading based on both gable and hip roof types.
Uplifts based on an elevation at or above 3000 ft.



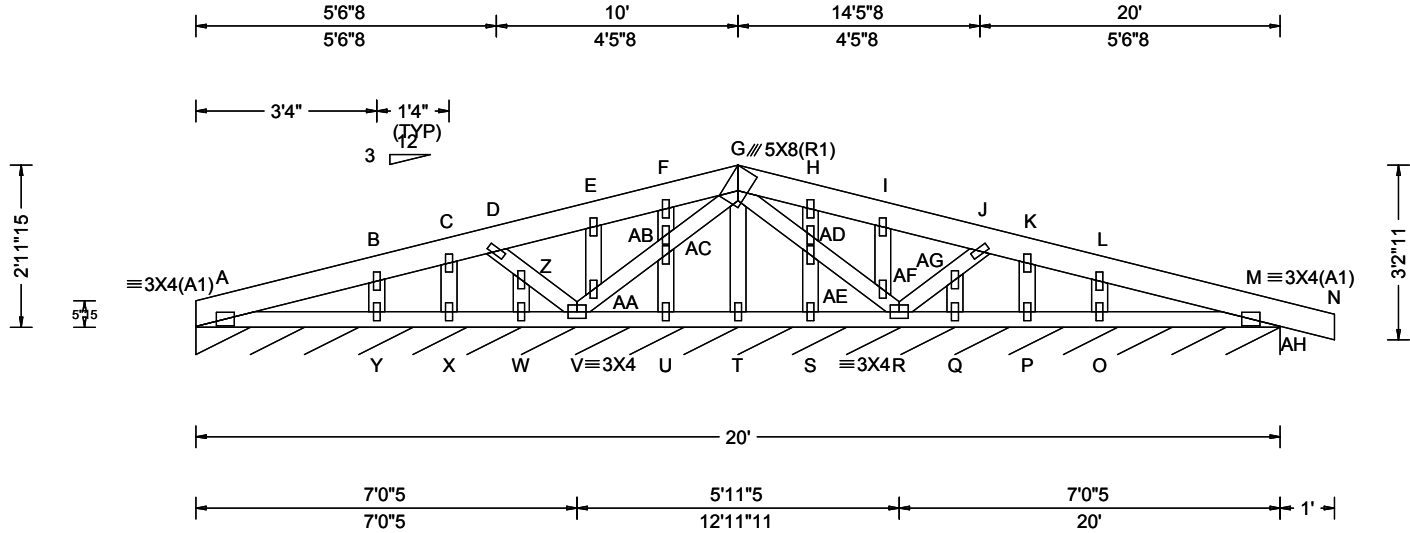
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Loading Criteria (psf)	
TCLL:	31.00
TCDL:	20.00
BCLL:	0.00
BCDL:	10.00
Des Ld:	61.00
NCBCLL:	10.00
Soffit:	0.00
Load Duration:	1.15
Spacing:	24.0"

Wind Criteria	
Wind Std:	ASCE 7-16
Speed:	126 mph
Enclosure:	Closed
Risk Category:	II
EXP:	C Kzt: NA
Mean Height:	15.00 ft
TCDL:	6.0 psf
BCDL:	6.0 psf
MWFRS Parallel Dist:	0 to h/2
C&C Dist a:	3.00 ft
Loc. from endwall:	Any
GCpi:	0.18
Wind Duration:	1.60

Snow Criteria (Pg,Pf in PSF)	
Pg:	39.0 Ct: 1.1 CAT: II
Pf:	30.0 Ce: 1.0
Lu:	- Cs: 1.00
Snow Duration:	1.15
Building Code:	
IBC 2018	
TPI Std: 2014	
Rep Fac: Varies by Ld Case	
FT/RT/PT:10(0)/3(0)/1(0)	
Plate Type(s):	
WAVE	

Defl/CSI Criteria	
PP Deflection in loc L/defl L/#	
VERT(LL):	0.003 A 999 360
VERT(CL):	0.006 A 999 240
HORZ(LL):	-0.001 M - -
HORZ(TL):	0.001 M - -
Creep Factor: 2.0	
Max TC CSI:	0.064
Max BC CSI:	0.064
Max Web CSI:	0.277
Mfg Specified Camber:	
VIEW Ver: 21.02.00B.1108.20	

▲ Maximum Reactions (lbs), or *PLF						
Gravity			Non-Gravity			
Loc	R+	/R-	/Rh	/Rw	/U	/RL
AH*140	/-	/-	/69	/8	/2	
Wind reactions based on MWFRS						
AH Brg Wid = 240 Min Req = -						
Bearing A is a rigid surface.						
Maximum Top Chord Forces Per Ply (lbs)						
Chords	Tens.Comp.		Chords	Tens. Comp.		
A - B	35	-150	H - I	150	-2	
B - C	59	-138	I - J	118	-7	
C - D	69	-119	J - K	71	-107	
D - E	108	0	K - L	59	-124	
E - F	140	0	L - M	38	-142	
F - G	141	0	M - N	39	0	
G - H	150	0				

Lumber

Top chord: 2x6 HF 1650f-1.6E;
Bot chord: 2x4 HF #1&Bet.;
Webs: 2x4 :HF Standard + HF Stud.;

Plating Notes

All plates are 1.5X4 except as noted.

Loading

Truss designed to support 1-0-0 top chord outlookers and cladding load not to exceed 3.00 PSF one face and 24.0" span opposite face. Top chord must not be cut or notched, unless specified otherwise.

Bottom chord checked for 10.00 psf non-concurrent live load.

Overhang designed for 2.00X Pf.

Truss designed for unbalanced snow loads.

Wind

Wind loads based on MWFRS with additional C&C member design.

Wind loading based on both gable and hip roof types.

Uplifts based on an elevation at or above 3000 ft.

Additional Notes

See DWGS A14015ENC160118 & GBLLETIN0118 for gable wind bracing and other requirements.



5/3/2022

Maximum Bot Chord Forces Per Ply (lbs)					
Chords	Tens.Comp.		Chords	Tens. Comp.	
A - Y	125	-5	T - S	61	-55
Y - X	103	0	S - R	61	-55
X - W	96	0	R - Q	88	-1
W - V	100	0	Q - P	85	-1
V - U	61	-55	P - O	92	-1
U - T	61	-55	O - M	112	-6

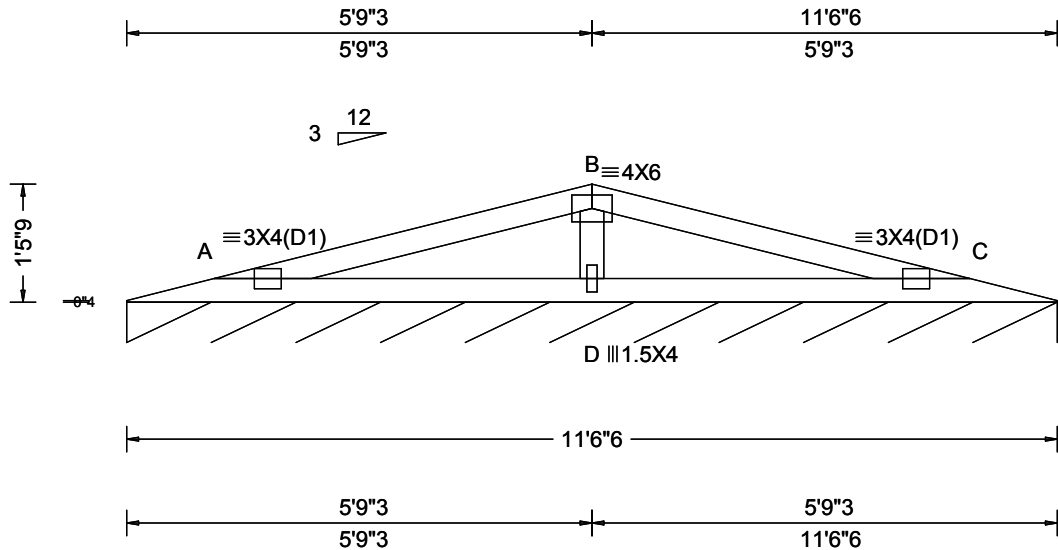
Maximum Web Forces Per Ply (lbs)					
Webs	Tens.Comp.		Webs	Tens. Comp.	
D - Z	89	-258	G - AD	29	-108
Z - V	85	-243	AE - AF	10	-40
V - AA	30	-114	AF - R	34	-124
AA - AB	6	-31	R - AG	83	-239
AC - G	25	-98	AG - J	87	-254

Maximum Gable Forces Per Ply (lbs)					
Gables	Tens.Comp.		Gables	Tens. Comp.	
B - Y	105	-365	AD - H	111	-301
C - X	40	-151	S - AE	137	-379
W - Z	5	-25	AF - I	49	-148
E - AA	49	-147	AG - Q	6	-27
AB - U	137	-379	P - K	44	-162
F - AC	111	-301	O - L	94	-333
G - T	0	-66			

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SEQN: 89130 / T9 / VAL FROM: RR	Ply: 1 Qty: 1 Wgt: 32.2 lbs	Job Number: 220551 HINSON ADU GARAGE APN#144-042-02 Truss Label: V01	DRW: ... / ... 05/03/2022
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Loading Criteria (psf) TCLL: 31.00 TCDL: 20.00 BCLL: 0.00 BCDL: 10.00 Des Ld: 61.00 NCBCLL: 10.00 Soffit: 0.00 Load Duration: 1.15 Spacing: 24.0 "	Wind Criteria Wind Std: ASCE 7-16 Speed: 126 mph Enclosure: Closed Risk Category: II EXP: C Kzt: NA Mean Height: 15.00 ft TCDL: 6.0 psf BCDL: 6.0 psf MWFRS Parallel Dist: 0 to h/2 C&C Dist a: 3.00 ft Loc. from endwall: Any GCpi: 0.18 Wind Duration: 1.60	Snow Criteria (Pg,Pf in PSF) Pg: 39.0 Ct: 1.1 CAT: II Pf: 30.0 Ce: 1.0 Lu: - Cs: 1.00 Snow Duration: 1.15 Building Code: IBC 2018 TPI Std: 2014 Rep Fac: Yes FT/RT/PT:10(0)/3(0)/1(0) Plate Type(s): WAVE	Defl/CSI Criteria PP Deflection in loc L/defl L/# VERT(LL): 0.070 A 999 360 VERT(CL): 0.143 A 945 240 HORZ(LL): -0.015 C - - HORZ(TL): 0.031 C - - Creep Factor: 2.0 Max TC CSI: 0.513 Max BC CSI: 0.399 Max Web CSI: 0.138 Mfg Specified Camber: VIEW Ver: 21.02.00B.1108.20	▲ Maximum Reactions (lbs), or *PLF <table border="1"> <thead> <tr> <th colspan="3">Gravity</th> <th colspan="3">Non-Gravity</th> </tr> <tr> <th>Loc</th> <th>R+</th> <th>/R-</th> <th>/Rh</th> <th>/Rw</th> <th>/U</th> <th>/RL</th> </tr> </thead> <tbody> <tr> <td>E*</td> <td>123</td> <td>/-</td> <td>/-</td> <td>/54</td> <td>/1</td> <td>/1</td> </tr> </tbody> </table> <p>Wind reactions based on MWFRS E Brg Wid = 138 Min Req = - Bearing A is a rigid surface.</p>						Gravity			Non-Gravity			Loc	R+	/R-	/Rh	/Rw	/U	/RL	E*	123	/-	/-	/54	/1	/1
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Lumber Top chord: 2x4 HF #1&Bet; Bot chord: 2x4 HF #1&Bet; Webs: 2x4 :HF Standard + HF Stud;;			
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Loading Bottom chord checked for 10.00 psf non-concurrent live load. Truss designed for unbalanced snow loads.			
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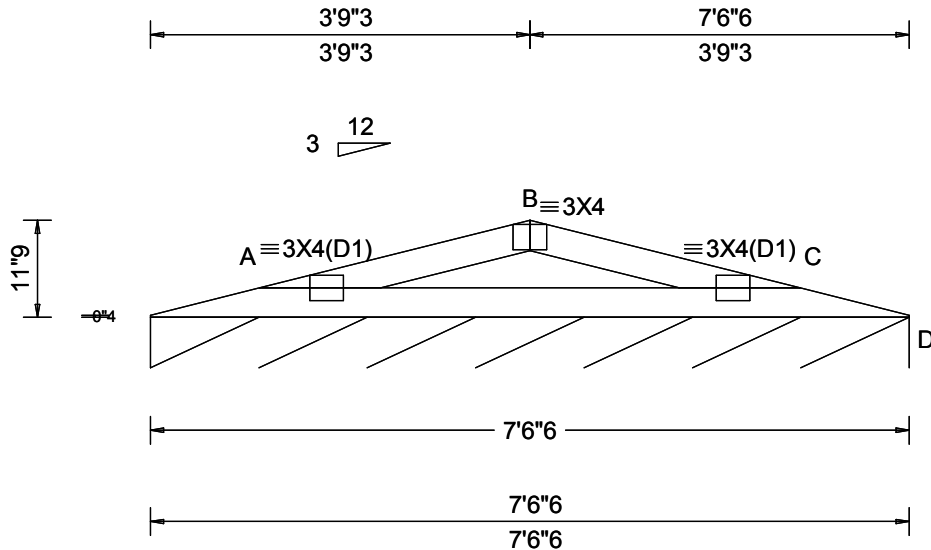
Wind
Wind loads based on MWFRS with additional C&C member design.
Wind loading based on both gable and hip roof types.
Uplifts based on an elevation at or above 3000 ft.



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SEQN: 89131 / T7 / VAL FROM: RR	Ply: 1 Qty: 1 Wgt: 19.6 lbs	Job Number: 220551 HINSON ADU GARAGE APN#144-042-02 Truss Label: V02	DRW: ... / ... 05/03/2022
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Loading Criteria (psf) TCLL: 31.00 TCDL: 20.00 BCLL: 0.00 BCDL: 10.00 Des Ld: 61.00 NCBCLL: 10.00 Soffit: 0.00 Load Duration: 1.15 Spacing: 24.0"	Wind Criteria Wind Std: ASCE 7-16 Speed: 126 mph Enclosure: Closed Risk Category: II EXP: C Kzt: NA Mean Height: 15.00 ft TCDL: 6.0 psf BCDL: 6.0 psf MWFRS Parallel Dist: 0 to h/2 C&C Dist a: 3.00 ft Loc. from endwall: Any GCpi: 0.18 Wind Duration: 1.60	Snow Criteria (Pg,Pf in PSF) Pg: 39.0 Ct: 1.1 CAT: II Pf: 30.0 Ce: 1.0 Lu: - Cs: 1.00 Snow Duration: 1.15 Building Code: IBC 2018 TPI Std: 2014 Rep Fac: Yes FT/RT/PT:10(0)/3(0)/1(0) Plate Type(s): WAVE	Defl/CSI Criteria PP Deflection in loc L/defl L/# VERT(LL): 0.064 A 999 360 VERT(CL): 0.128 A 677 240 HORZ(LL): -0.015 A - - HORZ(TL): 0.029 A - - Creep Factor: 2.0 Max TC CSI: 0.333 Max BC CSI: 0.404 Max Web CSI: 0.000 Mfg Specified Camber: VIEW Ver: 21.02.00B.1108.20	▲ Maximum Reactions (lbs), or *PLF Gravity Non-Gravity Loc R+ /R- /Rh /Rw /U /RL D* 123 /- /- /50 /- /1 Wind reactions based on MWFRS D Brg Wid = 90.4 Min Req = - Bearing A is a rigid surface.
				Maximum Top Chord Forces Per Ply (lbs) Chords Tens.Comp. Chords Tens. Comp. A - B 629 - 1185 B - C 627 - 1185 Maximum Bot Chord Forces Per Ply (lbs) Chords Tens.Comp. A - C 1182 - 591

Lumber

Top chord: 2x4 HF #1&Bet;
Bot chord: 2x4 HF #1&Bet;

Loading

Bottom chord checked for 10.00 psf non-concurrent live load.
Truss designed for unbalanced snow loads.

Wind

Wind loads based on MWFRS with additional C&C member design.
Wind loading based on both gable and hip roof types.
Uplifts based on an elevation at or above 3000 ft.



5/3/2022

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TRUSS VERIFICATION LETTER



May 4, 2022

Project Address: 3787 Portland Dr., Washoe County, NV 89511, APN: 144-042-02
Owner's Name: Hinson
Contractor:
Permit Number:
Truss Manufacturer: Reno Truss

To the Washoe County Building Department:

This letter is to certify that I have reviewed the attached truss calculations for the above address, prior to submitting to the Building Department, and find them to be in compliance with the plans and specifications (including, but not limited to drag trusses and all drag connections, truss loads, load path, bearing points, etc.)

Sincerely,

05/04/2022

Russell S. Wallace, PE