Pine Valley Local Administrative District

SPECIAL Meeting Agenda

Pine Valley Fire Station, 680 East Main St., Conference Room

July 22, 2026, 6:00 P.M.

Board Members: Frank Davie, Chairman
Tom Nielsen, Vice-Chairman
Brad Esposito
Emily Neilson
Cortney Snow

PVLAD Assistants: Rick Peetz, Clerk
Teri Forbes, Treasurer

1. Pine Valley Overlay Zone Business – Emily Nielson.

   A. Marti Wiser Development Request.

2. Adjournment.

The next Board Meeting is scheduled for August 12, 2026, at 6:00 p.m. The public is invited and encouraged to attend.

July 16, 2024

PINE VALLEY
Local Administrative District

Pine Valley Overlay Zone
Project Information Sheet

PROJECT TYPE
Building Permit X Lot Line Adjustment ____ Variance ____
Conditional Use ____ Zone Change ____ Other ____

PROPERTY OWNER INFORMATION AND SIGNATURE
Name Pine Valley Properties, LLC / Martha Wiser
Phone 435 668-6825 Email smartiwiser@gmail.com
Current Mailing Address 216 S. 300 W., Pine Valley, UT 84781
Property Address (if assigned) or Parcel # 6120C ~~180~~ 180 S. 300 W.
Property Owner Signature Martha Wiser
I acknowledge information on this sheet is correct and that I have received a copy of the Pine Valley Overlay Zone

Applicant (if other than Property Owner)

Name ____

Phone ____ Email ____

FOR BUILDING PERMIT REQUESTS
Total Sq Ft of Lot 19,894 Total Sq Ft of Home ~~1493~~ 2427 No larger than 50% of lot to preserve low density
Square footage is considered to be the sum total of the livable area of house, garage, and covered patios that are connected to house.

What type of shingles will be used? Asphalt *Wood shingles not allowed for fire safety*

Is the lot on a slope greater than 30%? NO If yes, all corners must be on ground

Are all outdoor lights fully shielded? YES Required to support preservation of dark skies

Will property be fenced? YES Non-obscuring materials required to preserve rural sight lines

Will home be used as an STR? NO If yes, County licensing required. Limited to 5% of homes

FOR ALL OTHER REQUESTS, PLEASE BRIEFLY DESCRIBE THE PROJECT (attach another sheet if needed)

____

TO BE COMPLETED BY PVLAD

Date Project Sheet Received _____ Received by_____

PVLAD Meeting Date_____

Recommendation _____

Date _____ Committee Chair_____

Impact Fee Due_____Received by_____ Date_____

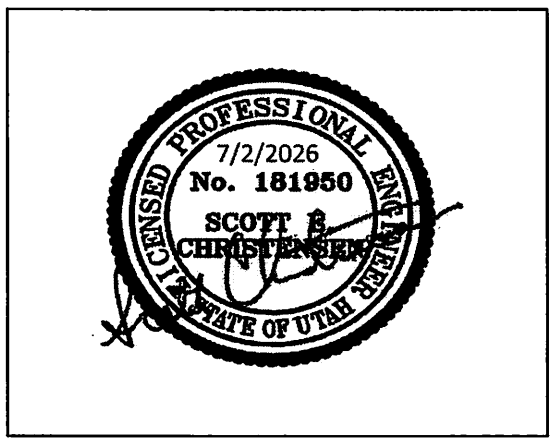
(Impact fee is based on total square footage as described above and any outbuildings)

VECTOR
ENGINEERS

STRUCTURAL CALCULATIONS
for
WISER RESIDENCE

IN

PINE VALLEY, UT
for
MIKE STUESER



BY: **SCOTT E. CHRISTENSEN, S.E.**

PROJECT #: **S0180.008.261**

DATE: **July 2, 2026**

DESIGNED BY MRZ; CHECKED BY SEC

230 N 1680 E, Suite R2 / St George, UT 84790 / T (435) 628-5122 / F (801) 990-1776 / www.vectorse.com

Design Criteria:

General:

Code: Structural design is based on the International Building Code, 2024 Edition
Risk Category: II

Wind Criteria: ASCE7-22

Analysis Procedure: ASCE 7-22, Chapter 27 - Directional Procedure
Basic Wind Speed - Ultimate (mph): 115 (3-sec gust)
Wind Exposure: C

Seismic Criteria:

Analysis Procedure: ASCE 7-22, Equivalent Lateral Force Procedure
Site Class: D(efault)
Seismic Importance Factor, I_E: 1.0
Mapped Spectral Response Accelerations:
S_S = 0.544 S_1 = 0.174
S_{DS} = 0.487 S_{D1} = 0.280
Seismic Design Category: D
Seismic Force Resisting System: Wood Shearwalls
Seismic Response Coefficient, C_s: 0.071
Seismic Base Shear, V (k): 9.2

Snow Load:

Ground Snow Load, p_g (psf): 153
Flat Roof Snow Load, p_f (psf): 129
Sloped Roof Snow Load, p_s (psf): 129

Live Loads:

Roof Live Load (psf): 20
Floor Live Load (psf): 40

General Notes:

- The contractor shall verify dimensions, conditions and elevations before starting work. The engineer shall be notified immediately if any discrepancies are found.
- The typical notes and details shall apply in all cases unless specifically detailed elsewhere. Where no detail is shown, the construction shall be as shown for other similar work and as required by the building code.
- These calculations are limited to the structural members shown in these calculations only. The connection of the members shown in these calculations to any existing structure shall be by others.
- The contractor shall be responsible for compliance with local construction safety orders. Approval of shop drawings by the architect or structural engineer shall not be construed as accepting this responsibility.
- All structural framing members shall be adequately shored and braced during erection and until full lateral and vertical support is provided by adjoining members.

Wood Construction:

- All dimensional lumber shall be Douglas Fir Larch #2 or equal
- All wood timbers shall be Douglas Fir Larch #1 5X & Larger Or Equal
- Wood construction code checks are per the National Design Specification for Wood Construction (NDS) and Standard for Design of Timber Frame Structures (TFEC 1)

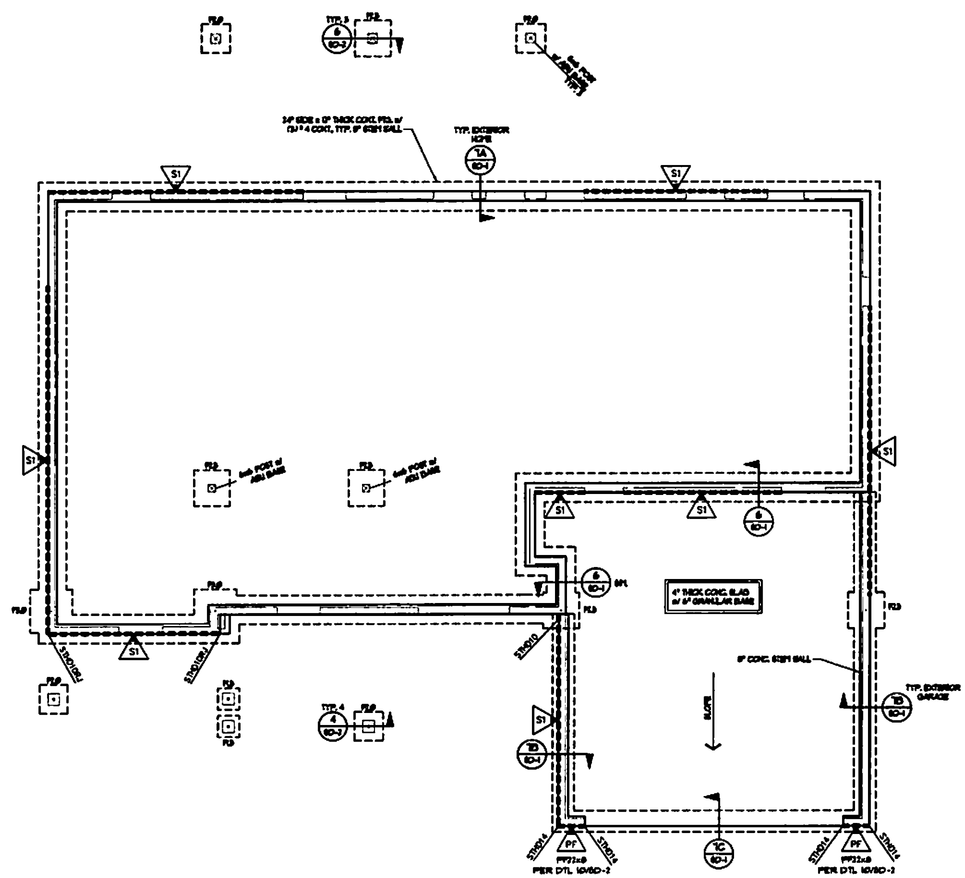
Foundation / Concrete:

- All concrete mixing, placement, forming, and reinforcing installation shall be performed in accordance with the requirements of "Building Code Requirements for Reinforced Concrete", ACI 318, latest applicable edition.
- Foundation concrete shall have a minimum compressive strength of 2500 psi at 28 days.
- Cement for all concrete shall be Type II with a minimum of 6% entrained air. Maximum aggregate size shall be 3/4".
- Reinforcing steel shall be per ASTM A615 Gr. 60, U.N.O.
- Foundation design is based upon presumptive soil capacities. Vector Structural Engineering, LLC strongly recommends independent soils testing be performed by a licensed geotechnical engineer to verify soil capacites, slope stability, and any other related soil parameters.

PROJECT: WISER RESIDENCE **JOB NO.:** S0180.008.261 **SUBJECT:** BEAM SCHEDULE

Specified beams may be substituted for beams of same type with one or both dimensions increased for architectural or construction purposes.

Label	Member
B1	(3) 2X8
B1a	(3) 2X8
B2	(2) 1-3/4X11-7/8 LVL
B3	(2) 1-3/4X9-1/2 LVL
B4	(2) 2X10
B5	(2) 2X6
B6	(2) 1-3/4X9-1/2 LVL
B7	(2) 2X6
B8	(3) 2X10
B9	(2) 2X10
B10	(2) 2X6
B11	(3) 2X6
B12	(3) 2X8
B13	(3) 2X6
B14	(2) 1-3/4X9-1/2 LVL
FB1	(2) 1-3/4X11-7/8 LVL



FOUNDATION PLAN

SCALE 1/4"=1'-0"

SPOT FOOTING SCHEDULE

LABEL	SIZE (IN.)	REINFORCEMENT EACH WAY	SPACING	THICKNESS (IN.)
F1.5	18	(2) ½ BARS	EQUAL	12
F2.0	24	(3) ½ BARS	EQUAL	12
F2.5	30	(4) ½ BARS	EQUAL	12
F2.5X	30	(4) ½ TOP & BOT.	EQUAL	24
F3.0	36	(4) ½ BARS	EQUAL	12
F3.5	42	(5) ½ BARS	EQUAL	12
F4.0	48	(6) ½ BARS	EQUAL	12
F4.5	54	(6) ½ BARS	EQUAL	12
F5.0	60	(7) ½ BARS	EQUAL	12
F6.0	72	(8) ½ TOP & BOT.	EQUAL	16

FOUNDATION NOTES:

1. CONTRACTOR SHALL REFER TO ARCHITECTURAL DRAWINGS FOR ALL DIMENSIONS PRIOR TO CONSTRUCTION.
2. ALL EXTERIOR WALL & INTERIOR BEARING / SHEAR WALLS TO BE ATTACHED TO THE FOUNDATION w/ ½"Ø x 10" DEEP ANCHOR BOLTS (7" EMBED) AT 32" O.C. OR MAS TITEN ANCHORS AT 32" O.C. [illegible]. SEE SHEAR PLAN & SHEAR WALL SCHEDULE ON SD-1 FOR ANCHOR BOLT REQUIREMENTS AT SHEAR WALLS.
3. ISOLATED FOOTINGS & INTERIOR STRIP FOOTINGS TO BE CENTERED BELOW POSTS & BEARING/SHEAR WALLS, RESPECTIVELY.
4. SEE HOLDOWN ANCHORAGE SCHEDULE HEREON.
5. SHALLOW FOUNDATIONS SHALL BE INSTALLED PER ASCE 32-01.

SILL ANCHORAGE SCHEDULE

MARK	FND SILL THICKNESS	½" Ø BOLT SPACING	⅝" Ø BOLT SPACING	CAPACITY
S1	2x	32" O.C.	48" O.C.	305
S2	2x	24" O.C.	32" O.C.	350
S3	3x / 2x	16" O.C. / 8" O.C.	24" O.C. / 12" O.C.	600
S4	3x	12" O.C.	16" O.C.	865

FORCE TO SILL ANCHORAGE & INDICATES "MARK"

NOTE:
SEE SILL ANCHORAGE SCHEDULE HEREON

SILL ANCHORAGE KEY

HOLDOWN SCHEDULE

HOLDOWN	FASTENERS	COMMENTS
STHD10 / STHD10RJ	(24) 16d SINKERS	ATTACH TO (2) 2x POST ABOVE THE FLOOR DECK
STHD14 / STHD14RJ	(30) 16d SINKERS	ATTACH TO (2) 2x POST ABOVE THE FLOOR DECK
HTT5	(26) 16dx2-1/2	ATTACH TO (2) 2x POST ABOVE THE FLOOR DECK
HDQ8-SDS3	(20) SIMPSON SDS3 (1/4"x3") WOOD SCREWS	ATTACH TO (3) 2x POST ABOVE THE FLOOR DECK
CS16	(14) 8d NAILS EACH END	ATTACH EACH STRAP TO 2x POST ABOVE AND BELOW THE FLOOR DECK, U.N.O.
(2) CS16	(14) 8d NAILS EACH END OF EACH STRAP	ATTACH EACH STRAP TO 2x POST ABOVE AND BELOW THE FLOOR DECK, U.N.O.
MST60	(24) 16d NAILS EACH END	ATTACH EACH STRAP TO (2) 2x POST ABOVE AND BELOW THE FLOOR DECK, U.N.O.
MST72	(30) 16d NAILS EACH END	ATTACH EACH STRAP TO (2) 2x POST ABOVE AND BELOW THE FLOOR DECK, U.N.O.

NOTES:

1. ALL HOLDOWNS ARE PER SIMPSON STRONG-TIE.
2. ALL STHD STRAP HOLDOWNS SHALL HAVE (1) # 4 x 30" LONG IN FOUNDATION, PER SIMPSON CATALOG.
3. SHEARWALL EDGE NAILING SHALL BE INSTALLED TO THE SAME POSTS ON WHICH THE HOLDOWNS ARE ATTACHED.
4. HOLDOWNS w/ "RJ" DESIGNATION TO BE USED AT ALL RIM JOIST APPLICATIONS.
5. 5/8" DIA. ANCHOR BOLTS FOR HTT HOLDOWNS SHALL BE A MINIMUM OF 8" INTO CONCRETE WITH 3" MINIMUM EDGE DISTANCE PER DETAIL 5/SD-2 - THICKEN FOOTING AS REQUIRED.
6. 7/8" DIA. ANCHOR BOLT FOR HDQ8 HOLDOWN SHALL BE A MINIMUM OF 12" INTO CONCRETE WITH 3" MINIMUM EDGE DISTANCE SIMILAR TO DETAIL 5/SD-2 - THICKEN FOOTING AS REQUIRED.
7. USE SIMPSON SET-3G OR DEWALT PURE 110+ HIGH-STRENGTH ADHESIVE w/ THREADED ROD FOR ALL HTT AND HDQ8 HOLD DOWN ANCHORS WITH INSTALLATION PER MANUFACTURER'S RECOMMENDATIONS.
8. SUBSTITUTE HTT5 TENSION TIES FOR MISSING OR MISALIGNED STHD10 AND STHD14 HOLDOWNS.
9. ALL POST-INSTALLED ANCHORAGE TO CONCRETE (EPOXY GROUT APPLICATIONS) REQUIRES PERIODIC SPECIAL INSPECTION.

VECTOR ENGINEERS
St. George Utah
(435) 628-5122
(435) 628-0186 Fax

WISER RESIDENCE
PINE VALLEY- UT
FOUNDATION PLAN

S0180-008-261

S1

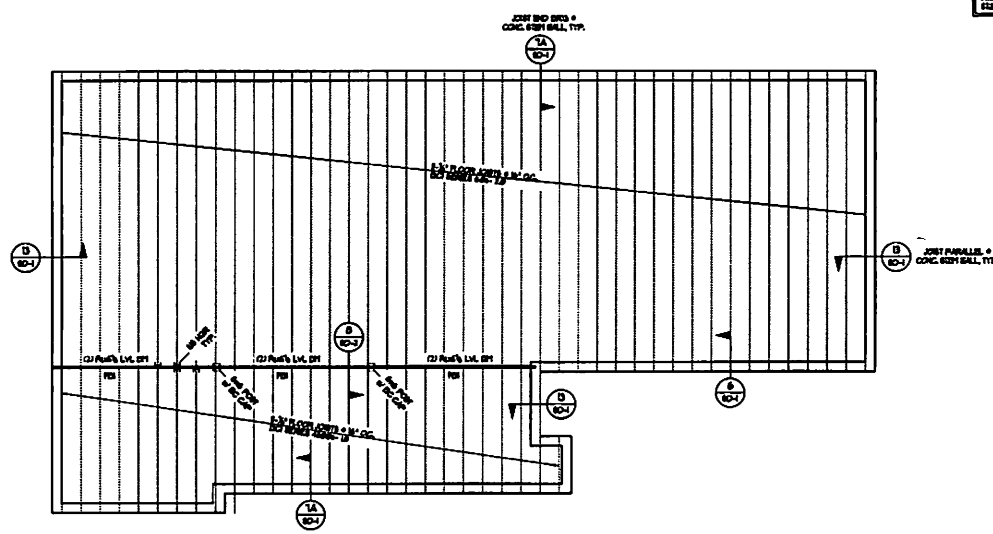
FRAMING NOTES:

1. ALL EXTERIOR WALLS & INTERIOR BRG. & SHEAR WALLS TO BE 2x6 @ 16" O.C. DFL-STUD GRADE, U.N.O.
2. SEE KING STUD/TRIMMER TABLE BELOW FOR SPACING, QTY. & GRADE.
   NOTE: KINGSTUDS NOT REQUIRED AT BEAMS ONLY.
3. FACE NAIL MULTIPLE 2x POSTS WITH 16d SINKERS AT 8" O.C.
4. SHADED AREAS ARE TYPICAL OVERFILL, STICK FRAMED PER TYPICAL OVERBUILD FRAMING DETAIL OR OVERBUILD TRUSSES PER TRUSS MFG. SHEATH MAIN TRUSSES ENTIRELY BELOW OVERBUILD.
5. INTERIOR BEARING WALLS
6. ALL GLULAM BEAMS TO HAVE STANDARD CAMBER (R = 3500') U.N.O.
7. PROVIDE (2) 2x POST, EACH END OF ALL BEAMS & GIRDER TRUSSES, U.N.O.
8. BEAM AND HEADER SIZES INDICATED ON THE PLANS ARE MIN. SIZES. LARGER SIZES MAY BE INSTALLED AT THE CONTRACTORS OPTION.
9. CONTINUOUS TOP PLATE MAY BE USED IN LIEU OF ST6224 STRAP FROM BEAM TO PLATE.
10. CONTACT ENGINEER OF RECORD IF TRUSS LAYOUT VARIES FROM THAT SHOWN.

KING STUD/TRIMMER SCHEDULE

OPENING WIDTH	KING STUD	TRIMMER
0'-4'	(2) 2x4 OR 2x6	2x4 OR 2x6
4'-6½'	(3) 2x4 OR (2) 2x6	(2) 2x4 OR 2x6
6½'-[illegible]	(4) 2x4 OR (2) 2x6	(2) 2x4 OR (2) 2x6
[illegible]	(3) 2x4 OR (3) 2x6	(2) 2x4 OR (2) 2x6
[illegible]	(3) 2x4 OR (3) 2x6	(3) 2x4 OR (3) 2x6

NOTE: UNLESS NOTED OTHERWISE ON THE FRAMING PLAN, ALL EXTERIOR WALLS AND INTERIOR BEARING WALLS WHERE HEADERS EXIST, SHALL HAVE TRIMMERS AND KINGS STUDS ACCORDING TO THIS TABLE.



FLOOR FRAMING PLAN

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

DATE: 07/02/2020 | DESIGNED BY: MRZ | DRAWN BY: KTS | CHECKED BY: SC

REV. # | DATE | BY: | DESCRIPTION

VECTOR engineers
St. George, Utah (435) 628-5122

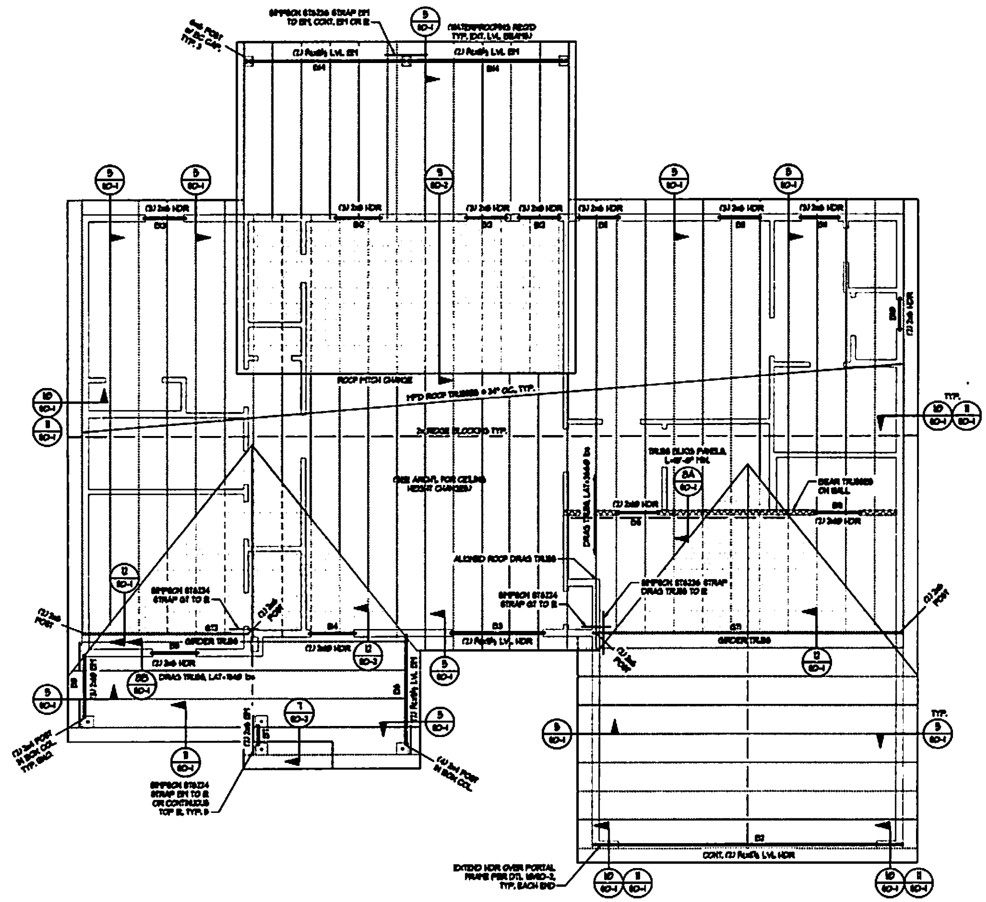
WISER RESIDENCE

PINE VALLEY- UT

FLOOR FRAMING PLAN

80180-008-261

S2



ROOF FRAMING PLAN

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

FRAMING NOTES:

1. ALL EXTERIOR WALLS & INTERIOR BRG. & SHEAR WALLS TO BE 2x4 OR 2x6 @ 16" O.C. DFL-STUD GRADE, AS SHOWN ON PLAN.
2. SEE KING STUD/TRIMMER TABLE BELOW FOR SPACING, QTY. & GRADE.
   NOTE: KING STUDS NOT REQUIRED AT BEAMS ONLY.
3. FACE NAIL MULTIPLE 2x POSTS WITH 16d SINKERS AT 6" O.C.
4. SHADED AREAS ARE TYPICAL OVERFILL, STICK FRAMED PER TYPICAL OVERBUILD FRAMING DETAIL OR OVERBUILD TRUSSES PER TRUSS MFG.
   SHEATH MAIN TRUSSES ENTIRELY BELOW OVERBUILD.
5. INTERIOR BEARING WALLS
6. ALL GLULAM BEAMS TO HAVE STANDARD CAMBER (R = 3500') U.N.O.
7. PROVIDE (2) 2x POST, EACH END OF ALL BEAMS & GIRDER TRUSSES, U.N.O.
8. BEAM AND HEADER SIZES INDICATED ON THE PLANS ARE MIN. SIZES. LARGER SIZES MAY BE INSTALLED AT THE CONTRACTORS OPTION.
9. CONTINUOUS TOP PLATE MAY BE USED IN LIEU OF ST6224 STRAP FROM BEAM TO PLATE.
10. CONTACT ENGINEER OF RECORD IF TRUSS LAYOUT VARIES FROM THAT SHOWN.

KING STUD/TRIMMER SCHEDULE

OPENING WIDTH	KING STUD	TRIMMER
0-4'	(2) 2x4 OR 2x6	2x4 OR 2x6
4'-6½'	(3) 2x4 OR (2) 2x6	(2) 2x4 OR 2x6
6½'-10'	(4) 2x4 OR (2) 2x6	(3) 2x4 OR (2) 2x6
10'-13'	(5) 2x4 OR (3) 2x6	(3) 2x4 OR (2) 2x6
13'-16'	(5) 2x4 OR (3) 2x6	(3) 2x4 OR (3) 2x6

NOTE: UNLESS NOTED OTHERWISE ON THE FRAMING PLAN, ALL EXTERIOR WALLS AND INTERIOR BEARING WALLS WHERE HEADERS EXIST, SHALL HAVE TRIMMERS AND KINGS STUDS ACCORDING TO THIS TABLE.

DATE: 07/02/2026	DESIGNED BY: MRZ	DRAWN BY: KTS	CHECKED BY: SLC
REV. #	DATE	BY:	DESCRIPTION

VECTOR ENGINEERS
St. George, Utah
(435) 628-5122
(435) 628-5198 Fax
Draper, Utah
(801) 990-1775
Layton, Utah
(801) 627-3354

WISER RESIDENCE

PINE VALLEY- UT

ROOF FRAMING PLAN

S0180-008-261

S3

SHEAR WALL PLAN

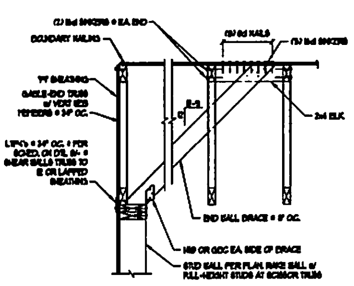
SCALE: 1/4"=1'-0"

SHEAR WALL KEY

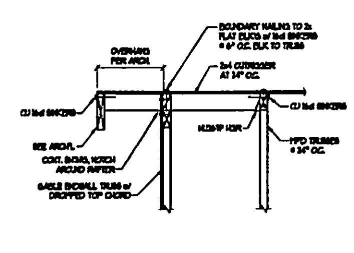
NOTES:

S4	S6180-008-2S1		WISER RESIDENCE PINE VALLEY- UT SHEAR WALL PLAN	VECTOR ENGINEERS St. George, Utah (435) 628-5122 (435) 628-5198 Fax Draper, Utah (801) 990-1779 Layton, Utah (801) 927-9094

DATE: 07/02/2008	DESIGNED BY: MPZ	DRAWN BY: KTS	CHECKED BY: SEC
REV. #	DATE	BY:	DESCRIPTION



N.T.S. (10)



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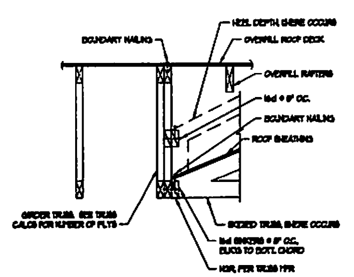

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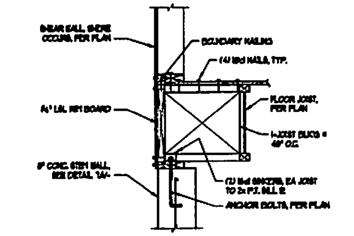

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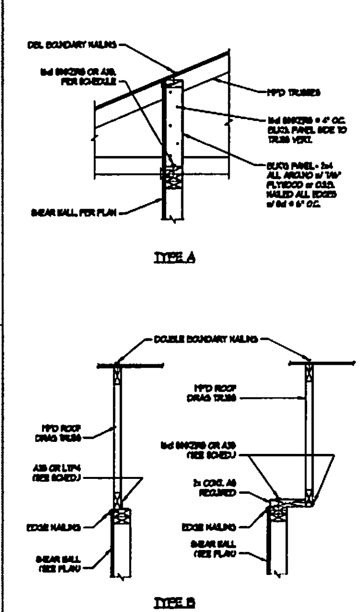


CONNECTION SCHEDULE		
SHEAR WALL	A35 OR LTP4	16d SINKERS
P1	16" O.C.	6" O.C.
P2	12" O.C.	4" O.C.
P3	10" O.C.	3" O.C. (STAGGERED)
DBL. P3	6" O.C.	2" O.C. (STAGGERED)

NOTE: DOUBLE-SIDED SHEAR WALLS, SEE PLAN

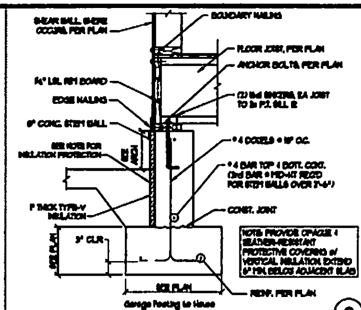
INTERIOR SHEAR TRANSFER

N.T.S. (8)

SHEAR WALL NAILING ALTERNATES	
8d COMMON NAIL SPACING	ICC APPROVED STAPLE SPACING 16 GAUGE (1-1/2" LONG)
2"	NA
3"	NA
4"	2"
6"	3"
12"	6"

NAILING ALTERNATES

N.T.S. (9)



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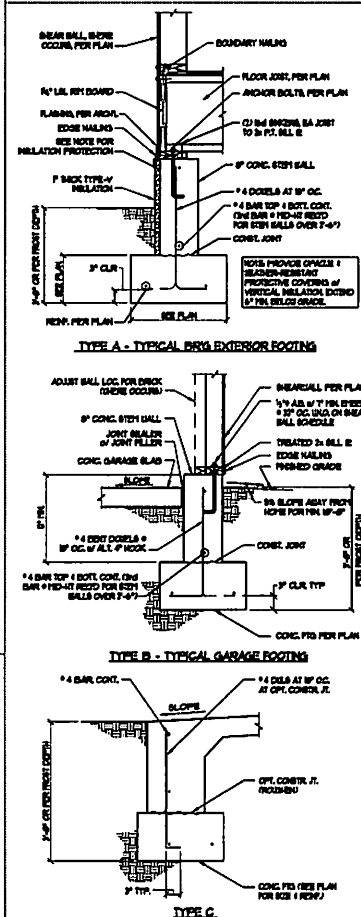
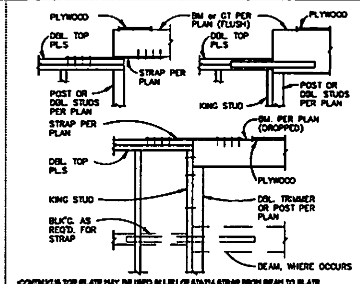


TYPICAL FOUNDATION

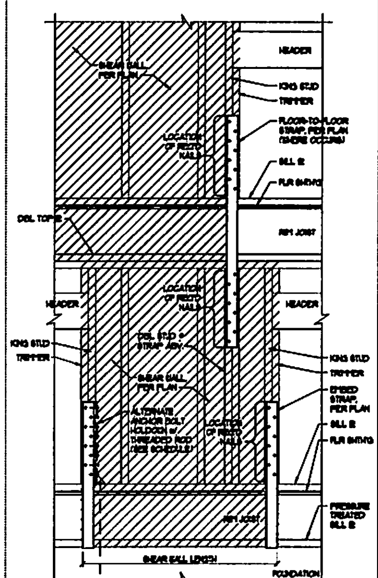
N.T.S. (7)



*CONTINUOUS TOP PLATE MAY BE USED IN LIEU OF STRAP FROM BEAM TO PLATE.

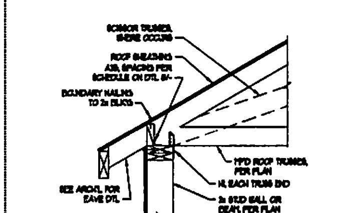
TYPICAL STRAP PLACEMENT

N.T.S. (3)



TYPICAL HOLDOWN PLACEMENT

N.T.S. (4)



TYP. ROOF TRUSS BRG

N.T.S. (5)

STRUCTURAL NOTES

GENERAL:

1. ARCHITECTURAL AND SITE PLANS FOR THIS PROJECT WERE PREPARED BY OTHERS. VECTOR ENGINEERS ASSUMES NO LIABILITY FOR THE ACCURACY, COMPLETENESS, OR CODE COMPLIANCE OF ARCHITECTURAL, ELECTRICAL, MECHANICAL OR DRAINAGE SPECIFICATIONS. ALL DIMENSIONS SHOULD BE VERIFIED PRIOR TO CONSTRUCTION.
2. STRUCTURAL DESIGN IS BASED UPON THE INTERNATIONAL BUILDING CODE, [illegible] EDITION
   DESIGN LOADS:
   DEAD LOADS: ROOF: [illegible] PSF, FLOOR: [illegible] PSF
   LIVE LOADS: ROOF: 20 PSF, FLOOR: 40 PSF
   SNOW LOADS: ROOF: [illegible] PSF
   WIND: [illegible] MPH, EXPOSURE "C"
   SEISMIC: DESIGN CATEGORY "D"
3. FOUNDATION DESIGN IS BASED UPON [illegible] PSF ALLOWABLE BEARING PRESSURE. VECTOR ENGINEERS STRONGLY RECOMMENDS INDEPENDENT SOILS TESTING BE PERFORMED BY A LICENSED GEOTECHNICAL ENGINEER TO VERIFY SOIL BEARING CAPACITY, SLOPE STABILITY, AND ANY OTHER RELATED SOIL PARAMETER, AS REQUIRED.
4. STRUCTURAL REQUIREMENTS SHOWN ON THE FRAMING PLANS AND THESE DETAILS SHALL TAKE PRECEDENCE OVER STRUCTURAL CALLOUTS INDICATED ON ARCHITECTURAL SECTIONS.

CONCRETE:

1. ALL CONCRETE MIXING, PLACEMENT, FORMING, AND REINFORCING INSTALLATION SHALL BE PERFORMED IN ACCORDANCE WITH THE THE REQUIREMENTS OF "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE", ACI 318, LATEST EDITION.
2. CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 4000 PSI. STRUCTURAL DESIGN IS BASED UPON 2500 PSI, THUS, NO SPECIAL INSPECTION IS REQUIRED.
3. CEMENT FOR ALL CONCRETE SHALL BE TYPE V WITH A MINIMUM OF 6% ENTRAINED AIR. MAXIMUM AGGREGATE SIZE SHALL BE 3/4".
4. REINFORCING STEEL SHALL BE PER ASTM A615, GRADE 60, U.N.O. REINFORCING BAR SIZE AND PLACEMENT SHALL BE AS INDICATED ON THE PLANS AND DETAILS. WELDING OF REINFORCING STEEL IS NOT PERMITTED.

FRAMING:

1. WHERE SPECIFIED, DIMENSIONAL SAWN LUMBER SHALL BE AS FOLLOWS:
   DFL STUD GRD: 2x STUDS UP TO 10' TALL
   DFL #2: 2x AND 4x BEAMS, HEADERS, RAFTERS, JOISTS, PLATES, STUDS UP TO 16'
   DFL #1: 6x BEAMS, HEADERS, POSTS
2. LAMINATED VENEER LUMBER (LVL) SPECIFIED ON THE PLANS SHALL HAVE THE FOLLOWING MINIMUM PROPERTIES: E = 1,900,000 PSI, Fb = 2600 PSI, Fv = 285 PSI.
3. GLULAM BEAMS (GLB) SPECIFIED ON THE PLANS SHALL BE SERIES 24F-V4 DF/DF FOR SIMPLY SUPPORTED BEAMS AND 24F-V8 DF/DF FOR CANTILEVER AND CONTINUOUS BEAMS.
4. WOOD STRUCTURAL PANELS SHALL BE APA RATED PLYWOOD OR OSB.
5. UNLESS NOTED OTHERWISE, ALL EXTERIOR WALLS AND INTERIOR BEARING AND SHEAR WALLS SHALL BE 2x4 STUDS @ 16" O.C. ALL WALLS OVER 10' TALL SHALL BE 2x6 STUDS AT 16" O.C.
6. UNLESS NOTED OTHERWISE, ALL EXTERIOR WALLS AND INTERIOR BEARING WALLS WHERE HEADERS EXIST, SHALL HAVE TRIMMERS AND KING STUDS AS PER SHEET S2.
7. UNLESS NOTED OTHERWISE, ROOF DECK SHALL BE 1/2" WOOD STRUCTURAL PANEL, UNBLOCKED, WITH PANEL RATING OF 32/16. NAILING SHALL BE 8d AT 6" O.C. ALL BOUNDARIES AND SUPPORTED EDGES, AND 12" IN FIELD. STAPLES MAY REPLACE NAILS: 16 GA. AT 4" O.C. ALL BOUNDARIES AND SUPPORTED EDGES AND 8" O.C. FIELD. STAPLES SHALL HAVE 1" MIN. PENETRATION INTO FRAMING MEMBER.
8. UNLESS NOTED OTHERWISE, FLOOR DECK SHALL BE 3/4" T&G WOOD STRUCTURAL PANEL, UNBLOCKED, WITH PANEL RATING OF 48/24. NAILING SHALL BE 10d AT 6" O.C. ALL BOUNDARIES AND SUPPORTED EDGES, AND 12" IN FIELD.
9. PREMANUFACTURED TIMBER TRUSSES SHALL BE DESIGNED BY THE TRUSS MANUFACTURER. TRUSS LAYOUTS SHALL MATCH THE FRAMING PLANS AND SHALL BE SUBMITTED TO VECTOR STRUCTURAL ENGINEERS FOR REVIEW AND APPROVAL PRIOR TO FABRICATION. ALL TRUSS TO TRUSS AND TRUSS TO BEAM HANGERS SHALL BE SPECIFIED BY THE TRUSS DESIGNER. TRUSSES PARALLEL TO INTERIOR SHEAR WALLS SHALL BE DESIGNED FOR THE LATERAL LOADS INDICATED ON THE FRAMING PLANS.

DEFERRED SUBMITTALS:

1. ITEMS LISTED AS DEFERRED SUBMITTALS TO BE DOCUMENTED WITH CALCULATIONS & CONSTRUCTION DETAILS. DOCUMENTS TO BE STAMPED & SIGNED BY THE DESIGN PROFESSIONAL RESPONSIBLE FOR THE DESIGN, WHO IS TO BE LICENSED BY THE STATE OF UTAH. DOCUMENTS TO BE REVIEWED BY ENGINEER OF RECORD WHO IS TO MARK THE DOCUMENTS VERIFYING THE REVIEW & PROVIDE SIGNED & STAMPED COVER LETTER. DOCUMENTS TO BE ACCEPTED BY THE ENGINEER OF RECORD WITHOUT REVISION. DOCUMENTS TO BE PROVIDED TO THE CITY BUILDING OFFICIAL AFTER REVIEW BY ENGINEER OF RECORD.

STRUCTURAL NOTES

N.T.S. (1)

SHEAR WALL SCHEDULE					
MARK	MATERIAL	NAILING	SOLE PLATE CONN.	A35	CAPACITY
P1	7/16" STRUCT. I PLYWOOD OR O.S.B.	8d @ 6" O.C. ALL EDGES 8d @ 12" O.C. IN FIELD	16d SINKERS @ 6" O.C.	16" O.C.	260
P2	7/16" STRUCT. I PLYWOOD OR O.S.B.	8d @ 4" O.C. ALL EDGES 8d @ 12" O.C. IN FIELD	16d SINKERS @ 4" O.C.	12" O.C.	350
P3	7/16" STRUCT. I PLYWOOD OR O.S.B.	8d @ 3" O.C. ALL EDGES 8d @ 12" O.C. IN FIELD	16d SINKERS @ 3" O.C.	10" O.C.	490
P4	7/16" STRUCT. I PLYWOOD OR O.S.B.	8d @ 2" O.C. ALL EDGES 8d @ 12" O.C. IN FIELD	16d SINKERS @ 2" O.C.	6" O.C.	640

NOTES:

1. ALL PLYWOOD SHEARWALLS ARE BLOCKED AT ALL FREE EDGES.
2. ALL CONCR. ANCHOR BOLTS SHALL HAVE 7" MINIMUM EMBEDMENT. RETROFIT ANCHOR BOLTS MAY BE SIMPSON TITEN-HD (1/2" w/ 6" MIN. EMBED. OR 5/8" w/ 8" MIN. EMBED.) AT SAME SPACING AS INDICATED.
3. ALL NAILS ARE COMMON NAILS U.N.O. w/ SHANK DIAMETER = .131", 16d SINKER SHANK DIAMETER = .148"
4. ALL SHEAR WALL ANCHOR BOLTS SHALL INCLUDE A STEEL 3"x3"x0.229" PLATE WASHER BETWEEN THE SILL PLATE & NUT. THE HOLE IN THE PLATE WASHER IS PERMITTED TO BE DIAGONALLY SLOTTED WITH A WIDTH OF UP TO 3/16" LARGER THAN THE BOLT DIAMETER AND A SLOT LENGTH NOT TO EXCEED 1-3/4" PROVIDED A STANDARD CUT WASHER IS PLACED BETWEEN THE PLATE WASHER AND THE NUT.
5. FOR SHEAR WALLS "P3" AND "P4", ALL FRAMING MEMBERS RECEIVING EDGE NAILING FROM ABUTTING PANEL EDGES SHALL BE 3-INCH NOMINAL OR WIDER AND NAILS SHALL BE STAGGERED.
6. FOR SHEAR WALLS "P2", "P3" AND "P4" DOUBLE SIDED SHEAR WALLS, PANEL JOINTS SHALL BE OFFSET TO FALL ON DIFFERENT FRAMING MEMBERS, OR FRAMING SHALL BE 3-INCH NOMINAL OR THICKER AT ADJOINING PANEL EDGES AND NAILS ON EACH SIDE SHALL BE STAGGERED.
7. WHERE 2x SILL PLATES ARE APPLIED, EACH STUD SHALL BE FASTENED w/ (2) 16d BOX END NAILS.

SHEAR WALL SCHEDULE

N.T.S. (2)

DATE: 07/02/2025	DESIGNED BY: MRZ	DRAWN BY: KTS	CHECKED BY: SEC
REV. #	DATE	BY:	DESCRIPTION

VECTOR ENGINEERS
St. George, Utah
(435) 628-6122
(435) 628-6186 Fax
Draper, Utah (801) 990-1775
Layton, Utah (801) 827-8084

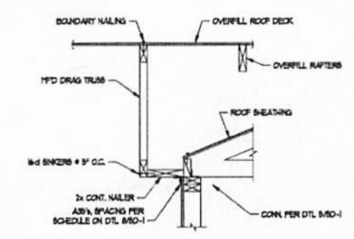
WISER RESIDENCE

PINE VALLEY- UT

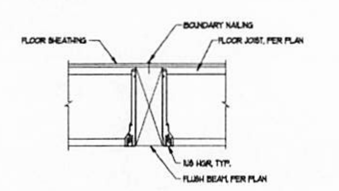
STRUCTURAL DETAILS

S0180-008-261

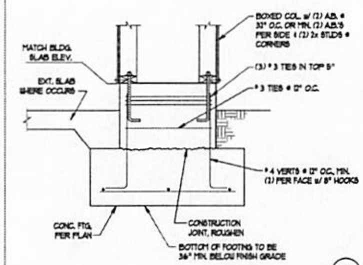
SD1



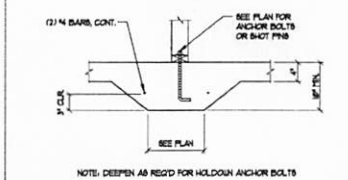
N.T.S. (11)



N.T.S. (8)


MATCH BLDG. SLAB ELEV.
EXT. SLAB WHERE OCCURS
BOXED COL. w/ (2) A.B. @ 32" O.C. OR MIN. (2) A.B.'S PER SIDE & (2) 2x STUDS @ CORNERS
(3) #3 TIES IN TOP 5"
#3 TIES @ 12" O.C.
#4 VERTS @ 12" O.C. MIN. (2) PER FACE w/ 8" HOOKS
CONC. FTG. PER PLAN
CONSTRUCTION JOINT, ROUGHEN
BOTTOM OF FOOTING TO BE 36" MIN. BELOW FINISH GRADE

N.T.S. (4)



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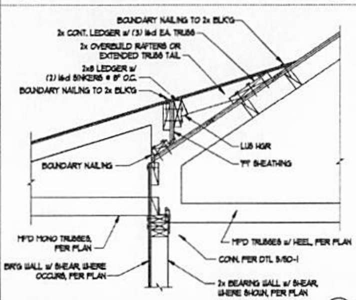
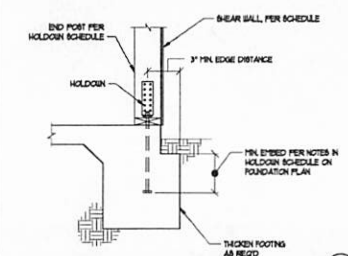

BOUNDARY NAILING TO 2x BLK'G
2x CONT. LEDGER w/ (3) 16d EA. TRUSS
2x OVERBUILD RAFTERS OR EXTENDED TRUSS TAIL
2x8 LEDGER w/ (2) 16d SINKERS @ 8" O.C.
BOUNDARY NAILING TO 2x BLK'G
LUS HGR
"P" SHEATHING
BOUNDARY NAILING
MFD MONO TRUSSES, PER PLAN
BRG WALL w/ SHEAR, WHERE OCCURS, PER PLAN
MFD TRUSSES w/ HEEL, PER PLAN
CONN. PER DTL 8/SD-1
2x BEARING WALL w/ SHEAR, WHERE SHOWN, PER PLAN

N.T.S. (9)



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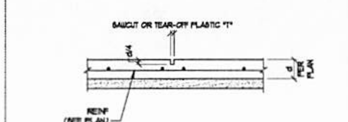

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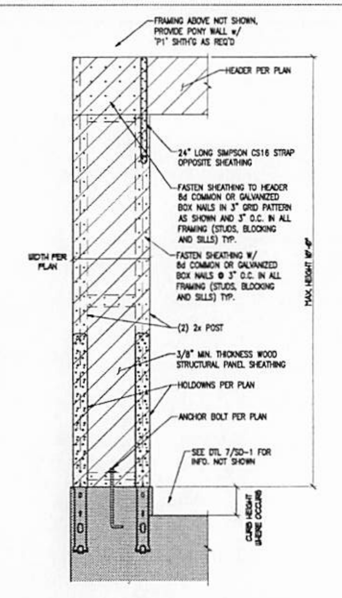
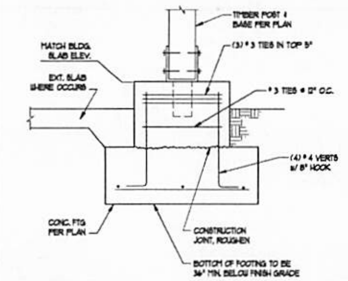

FRAMING ABOVE NOT SHOWN, PROVIDE PONY WALL w/ "P1" SHTH'G AS REQ'D
HEADER PER PLAN
24" LONG SIMPSON CS16 STRAP OPPOSITE SHEATHING
FASTEN SHEATHING TO HEADER 8d COMMON OR GALVANIZED BOX NAILS IN 3" GRID PATTERN AS SHOWN AND 3" O.C. IN ALL FRAMING (STUDS, BLOCKING AND SILLS) TYP.
FASTEN SHEATHING W/ 8d COMMON OR GALVANIZED BOX NAILS @ 3" O.C. IN ALL FRAMING (STUDS, BLOCKING AND SILLS) TYP.
WIDTH PER PLAN
MAX. HEIGHT 10'-0"
(2) 2x POST
3/8" MIN. THICKNESS WOOD STRUCTURAL PANEL SHEATHING
HOLDOWNS PER PLAN
ANCHOR BOLT PER PLAN
SEE DTL 7/SD-1 FOR INFO. NOT SHOWN
CURB HEIGHT WHERE OCCURS

PORTAL FRAME ASSEMBLY

N.T.S. (10)



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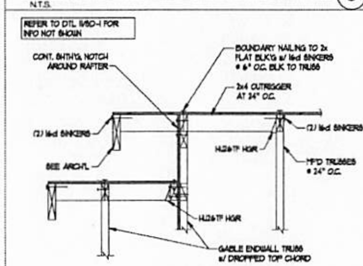
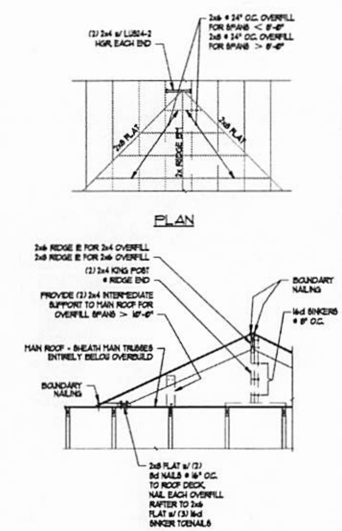

REFER TO DTL 8/SD-1 FOR INFO NOT SHOWN
CONT. SHTH'G, NOTCH AROUND RAFTER
BOUNDARY NAILING TO 2x FLAT BLK'G w/ 16d SINKERS @ 6" O.C. BLK TO TRUSS
2x4 OUTRIGGER AT 24" O.C.
(2) 16d SINKERS
(2) 16d SINKERS
H2.5T HGR
MFD TRUSSES @ 24" O.C.
SEE ARCH'L
H2.5T HGR
GABLE ENDWALL TRUSS w/ DROPPED TOP CHORD

N.T.S. (7)


(2) 2x4 w/ LUS24-2 HGR. EACH END
2x6 @ 24" O.C. OVERFILL FOR SPANS < 8'-6"
2x8 @ 24" O.C. OVERFILL FOR SPANS > 8'-6"
2x FLAT
2x RIDGE BD
2x FLAT
PLAN
2x6 RIDGE B. FOR 2x4 OVERFILL
2x8 RIDGE B. FOR 2x6 OVERFILL
(2) 2x4 KING POST @ RIDGE END
PROVIDE (2) 2x4 INTERMEDIATE SUPPORT TO MAIN ROOF FOR OVERFILL SPANS > 10'-0"
MAIN ROOF - SHEATH MAIN TRUSSES ENTIRELY BELOW OVERBUILD
BOUNDARY NAILING
BOUNDARY NAILING
16d SINKERS @ 6" O.C.
2x8 FLAT w/ (2) 8d NAILS @ 16" O.C. TO ROOF DECK, NAIL EACH OVERFILL RAFTER TO 2x8 FLAT w/ (3) 16d SINKER TOENAILS

TYPICAL OVERBUILD

N.T.S. (3)

DATE: 07/02/2026	DESIGNED BY: MRZ	DRAWN BY: KTS	CHECKED BY: SEC
REV. #	DATE	BY	DESCRIPTION

VECTOR ENGINEERS
Draper, Utah (801) 990-1775
St. George, Utah (435) 628-5122 (435) 628-5198 Fax
Layton, Utah (801) 827-2054

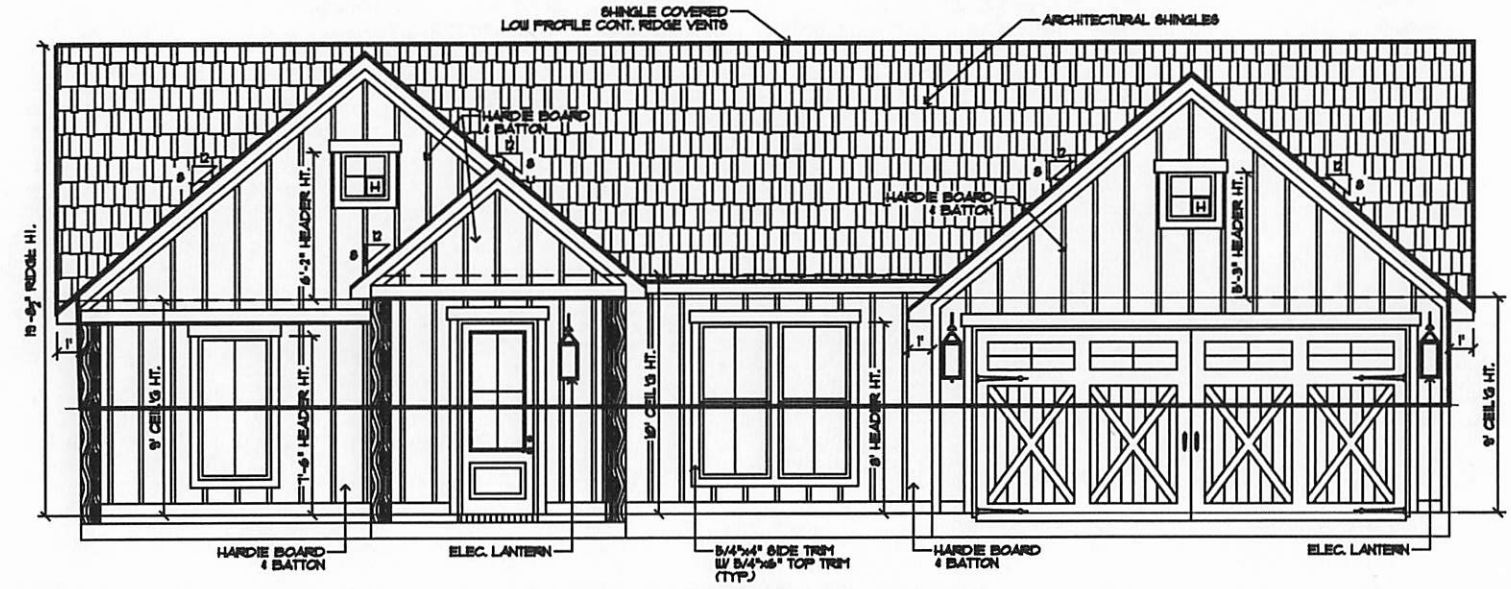
WISER RESIDENCE
PINE VALLEY- UT
STRUCTURAL DETAILS

S0180-008-261

SD2

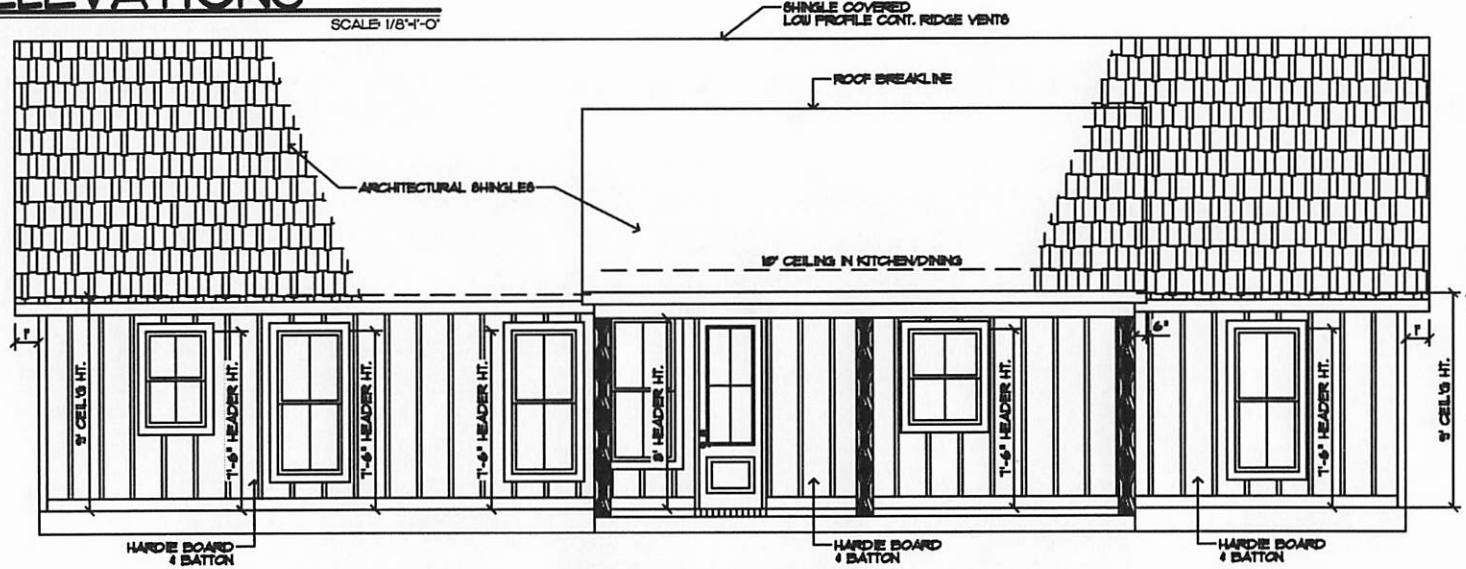
FRONT/REAR ELEVATIONS

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



FRONT ELEVATION

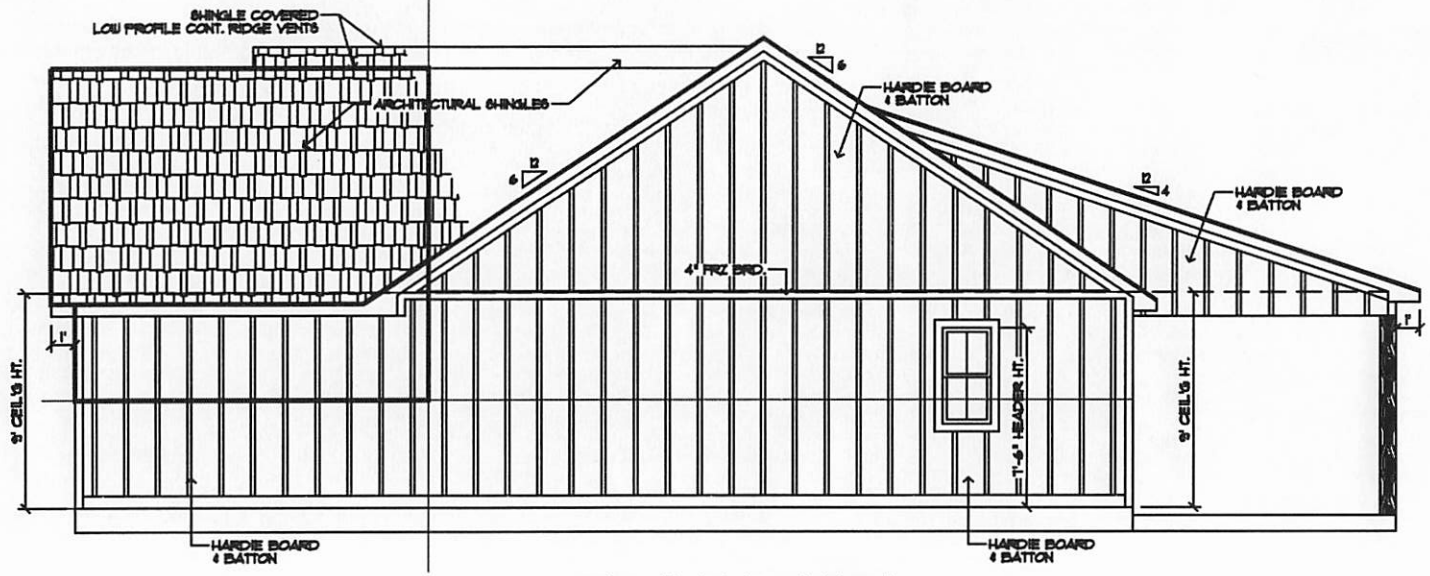
SCALE: 1/4"=1'-0"



REAR ELEVATION

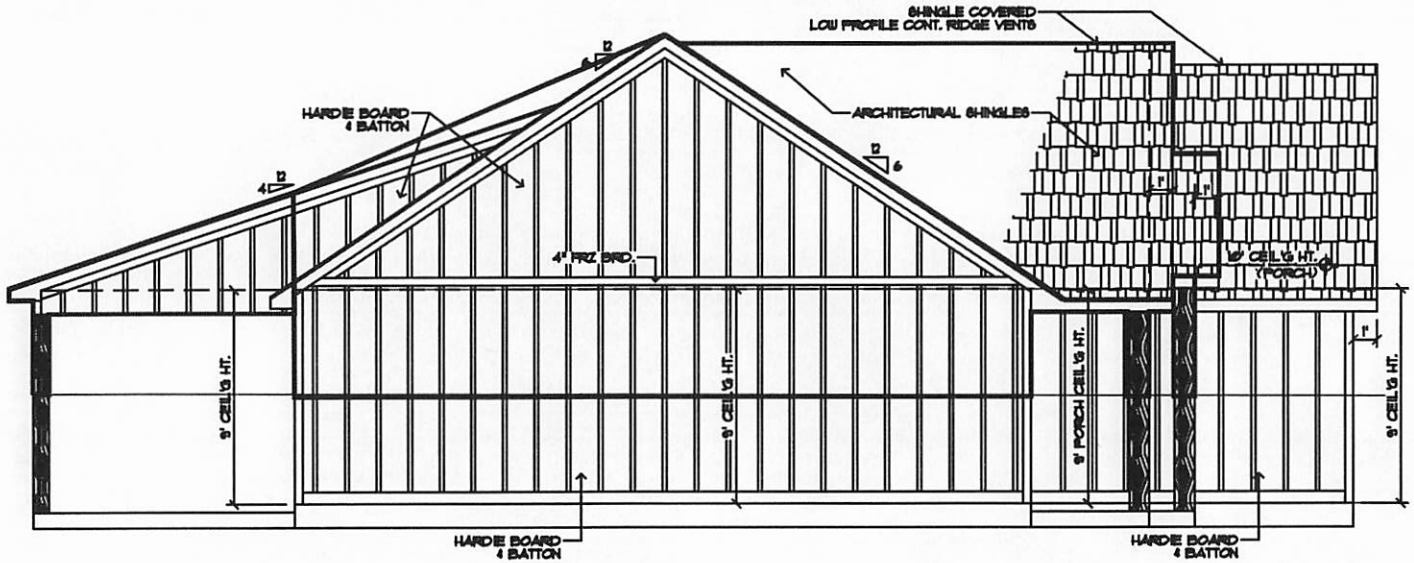
SCALE: 1/4"=1'-0"

S0605-306-201



RIGHT ELEVATION

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



LEFT ELEVATION

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

LEFT/RIGHT ELEVATIONS

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

S0605-306-201

VECTOR ENGINEERS

JOB NO.: S0180.008.261 DESIGNED: MRZ
DATE: 07/02/26 CHECKED: SEC

SHEET OF

PROJECT: WISER RESIDENCE SUBJECT: SHEAR SCHEDULE

SHEAR WALL SCHEDULE

MARK	MINIMUM MATERIAL / BLOCKING	EDGES / BOUDARIES	FIELD NAILING	NAILING (16d SINKERS)	CAPACITY (PLF)	SILL CONN. U.N.O.
P1	7/16" PLYWOOD OR O.S.B. BLOCKED	8d COMMON NAILS @ 6" O.C.	8d COMMON NAILS @ 12" O.C.	6" O.C.	260	S1
P2	7/16" PLYWOOD OR O.S.B. BLOCKED	8d COMMON NAILS @ 4" O.C.	8d COMMON NAILS @ 12" O.C.	4" O.C.	350	S2
P3	7/16" PLYWOOD OR O.S.B. BLOCKED	8d COMMON NAILS @ 3" O.C.	8d COMMON NAILS @ 12" O.C.	3" O.C.	490	S3
P4	7/16" PLYWOOD OR O.S.B. BLOCKED	8d COMMON NAILS @ 2" O.C.	8d COMMON NAILS @ 12" O.C.	2" O.C.	640	S4

SILL ANCHORAGE SCHEDULE

MARK	1/2" DIA BOLT SPACING (IN)	5/8" DIA BOLT SPACING (IN)	SILL THICKNESS	CAPACITY (PLF)
S1	32	48	2x	372
S2	24	32	2x	520
S3	16	24	3x	744
	8	12	2x	
S4	12	16	3x	1040
	2x SILL PLATES SHALL NOT BE USED ON THIS OPTION			

NOTES:
1. LOCAL REGULATIONS LIMITING MINIMUM SIZES OF SHEATHING OR ANCHOR BOLTS TAKE PRECEDENCE OVER LISTED OPTIONS.
2. ALL SHEAR WALLS SHALL BE FRAMED TO THE MINIMUM LENGTHS SHOWN ON THE PLANS WITH THE TOLERANCES INDICATED ON THE PLANS.
3. ALL SHEAR WALLS SHALL TERMINATE ON AT LEAST (1) FULL HEIGHT STUD. ADD'L STUDS OR SOLID POSTS SHALL BE INSTALLED AS REQ'D FOR HOLDOWNS, WHERE THEY OCCUR.
4. ALL PLYWD & O.S.B. SHEAR WALLS SHALL BE NAILED w/ COMMON NAILS AS INDICATED ON THE SCHEDULE. (8d SHANK DIA. = .131", 16d SHANK DIA. = .148")
5. DOUBLE SIDED SHEAR WALLS SHALL HAVE SILL ANCHORAGE SPACED AT HALF THE VALUE INDICATED ON THE TABLE.
6. DOUBLE SIDED SHEAR WALLS WITH NAIL SPACING LESS THAN 6" O.C. SHALL HAVE INTERIOR PANEL EDGES NAILED TO ALTERNATE STUDS.
7. ALL ANCHOR BOLTS SHALL INCLUDE A STEEL 3"X3"X0.229" PLATE WASHER
8. FOR SHEAR WALLS "P3" and "P4" FOUNDATION SILL PLATES AND ALL FRAMING MEMBERS RECEIVING EDGE NAILING FROM ABUTTING PANELS SHALL NOT BE LESS THAN A SINGLE 3-INCH NOMINAL MEMBER. NAILS SHALL BE STAGGERED.
9. ALL ANCHOR BOLTS SHALL HAVE 7" MIN. EMBEDMENT AND SHALL BE PER ASTM A307.
10. FOR ALL DOUBLE-SIDE SHEAR WALLS "P3" and "P4" FOUNDATION SILL PLATES AND ALL FRAMING MEMBERS RECEIVING EDGE NAILING FROM ABUTTING PANELS SHALL NOT BE LESS THAN A SINGLE 3-INCH NOMINAL MEMBER. NAILS SHALL BE STAGGERED.
11. ALL SHEAR WALLS SHALL BE ANCHORED WITH THE ADJOINING SILL ANCHORAGE SHOWN IN THE ABOVE TABLE UNLESS SPECIFICALLY NOTED OTHERWISE.
12. WHERE 3x SILL PLATES ARE APPLIED, EACH STUD SHALL BE FASTENED w/ (2) 20d NAILS.

HOLDOWN SCHEDULE

MARK	HOLDOWN	NAILING	COMMENTS
A	STHD10/STHD10RJ OR HTT16	(24) 16d SINKERS	ATTACH TO (2) 2X POST ABOVE THE FLOOR DECK
B	STHD14/STHD14RJ OR HTT22	(38) 16d SINKERS	ATTACH TO (2) 2X POST ABOVE THE FLOOR DECK
C	HDQ8-SDS3	(20) SIMPSON SDS3 WOOD SCREWS	ATTACH TO (2) 2X POST ABOVE THE FLOOR DECK
D	HHDQ11-SDS2.5	(24) SIMPSON SDS2.5 WOOD SCREWS	ATTACH TO (2) 2X POST ABOVE THE FLOOR DECK
E	CS16 STRAP	(14) 8d NAILS EACH END	ATTACH TO (2) 2X POST ABOVE AND BELOW FLOOR DECK
F	(2) CS16 STRAP	(14) 8d NAILS EACH END	ATTACH TO (2) 2X POST ABOVE AND BELOW FLOOR DECK
G	MST 60	(24) 16d NAILS EACH END	ATTACH TO (2) 2X POST ABOVE AND BELOW FLOOR DECK

NOTES:
1. ALL HOLDOWNS ARE PER SIMPSON STRONG-TIE
2. ALL STHD STRAP HOLDOWNS SHALL HAVE (1) #4 BAR IN FOUNDATION, 30" LONG, PER SIMPSON CATALOG.
3. SHEARWALL EDGE NAILING SHALL BE INSTALLED TO THE SAME POSTS ON WHICH THE HOLDOWNS ARE ATTACHED.
4. HOLDOWNS WITH "RJ" DESIGNATION TO BE USED AT ALL RIM JOIST APPLICATIONS.

ANCHOR BOLT CAPACITIES		Spacing (in)					
A.B. ϕ	Cap** (lb)	8	12	16	24	32	48
1/2	720	1436	958	718	479	359	239
5/8	1130	2254	1503	1127	751	564	376

**Capacities based on 2005 NDS Table 11E

PROJECT: WISER RESIDENCE **JOB NO.:** S0180.008.261 **SUBJECT:** GRAVITY LOADS

			Increase due to pitch	Original loading
ROOF				
ROOF PITCH/12		8		
ASPHALT SHINGLES		4.81	1.20	4.00
1/2" PLYWOOD		1.80	1.20	1.50
FRAMING		3.00		
INSULATION		2.00		
1/2" GYPSUM CLG.		2.20		
M, E & MISC		2.30		
FUTURE SOLAR		3.00		
	DL	19.11		
	LL	20.00		
	SNOW	129.00		
SNOW INCLUDED IN LATERAL		22.5		
2ND FLOOR (WHERE OCCURS)				
FLOOR COVERING		1.00		
3/4" T&G PLYWOOD		2.30		
MFG TRUSSES / FRAMING		2.00		
INSULATION		1.00		
1/2" GYPSUM CEILING		2.20		
PARTITION		2.00		
M, E & MISC.		1.50		
OTHER		0.00		
	DL	12.00		
	LL	40.00		
EXTERIOR WALLS				
STUCCO/SIDING		3.50		
2x6 FRAMING W/3 PLATES		1.30		
INSULATION		1.00		
1/2" GYPSUM		2.20		
1/2" PLYWOOD		1.50		
OTHER		0.50		
	DL	10.00		
OVERFILL				
ASPHALT SHINGLES		4.00		
1/2" PLYWOOD		1.50		
RAFTERS & MISC		3.50		
OTHER		0.00		
	DL	9.00		
	LL	20.00		

TYPICAL ROOF OVERBUILD MAX SPAN TABLE

Grade	Size	Spacing (ft)	L_{max} (ft)
DFL#2	2X4	2	3.20
DFL#2	2X6	2	4.70
DFL#2	2X8	2	5.90
DFL#2	2X10	2	7.20

C_r	C_D	$C_{F,V}$	M_{allow} (ft-lb)	V_{allow} (lb)	Ctrl'g factor
1.15	1.00	1.50	385	382	Moment
1.15	1.00	1.30	824	601	Moment
1.15	1.00	1.20	1322	792	Moment
1.15	1.00	1.10	1973	1011	Moment

PROJECT: WISER RESIDENCE **JOB NO.:** S0180.008.261 **SUBJECT:** BEAMS

DESIGN LOADS:

Load Types:	0.7*Snow	Live	Dead
Roof	90	20	21
Floor		40	13
Wall			11

Add .2*S_{DS} to dead load? Yes 0.097 =.2*S_{DS}

Load Combinations:

LC 2: D+L
LC 3: D+(Lr or 0.7S)
LC 4: D+.75L+.75(Lr or 0.7S)

CRITERIA (L/)	D_{TL}	D_{LL}	D_{DL}	$D_{Lr/S}$
$A_{(BLANK)}$	240	360		240
B	240	480		240
C	600		800	240

Abbrev	GRADES		F_{bxx} (psi)	F_{vxx} (psi)	E_{xx} (psi)		g (lb/ft^3)
DFL#2	DOUGLAS FIR LARCH #2		900	180	1600000		31.2
DF1 (5x)	Douglas Fir Larch #1 5x & La		1,350	170	1600000		31.2
DFL#1	DOUGLAS FIR LARCH #1		1,000	180	1700000		31.2
24F-V4	Glue Laminated Timber 24F-		2,400	265	1800000		39.9
24F-V8	Glue Laminated Timber 24F-		2,400	265	1800000		39.9
LVL (2.0)	MICROLLAM LVL (2.0E)		2,600	285	2000000		41.8
LVL (2.1)	MICROLLAM LVL (2.1E)		2,600	285	2100000		41.8
LSL	TIMBERSTRAND LSL (1.3E)		1,700	400	1300000		41.8
PSL	PARALLAM PSL (2.0E)		2,900	290	2000000		41.8
STL36	GRADE 36 STEEL		21,600	14,400	29,000,000		490
STL46	GRADE 46 STEEL		27,700	16,500	29,000,000		490
STL50	GRADE 50 STEEL		30,000	12,934	29,000,000		490

Label	Length 'L' (ft)	Roof Trib (ft)	Floor Trib (ft)	Wall Trib (ft)	Add'l Live Load (plf)	Add'l Lr/S Load (plf)	Add'l Dead Load (plf)	Point Load From	React (A,B)	Dist 'a' (ft)	Point Live Load 'P_{LL}' (lb)	Point Roof Load '$P_{Lr/S}$' (lb)	Point Dead Load 'P_{DL}' (lb)	# PLIES	Grade	Size	"BM/HDR"	D CRITERIA	C_r	C_D	C_{F,V,C_L}	R_a (lb)	R_b (lb)	M_{max} (ft-lb)	M_{allow} (ft-lb)	V_{max} (lb)	V_{allow} (lb)	D_{TL} (in)	$D_{TLallow}$ (in)	D_{LL} (in)	$D_{LLallow}$ (in)	$D_{Lr/S}$ (in)	$D_{Lr/Sallow}$ (in)	GLB Camb	Check
GT1	22.5	5.34																	1.00	1.00	1.00	6671	6671	37525					1.125			0.750	#N/A	1.125		
GT2	12	14.7																	1.00	1.00	1.00	9780	9780	29340					0.600			0.400	#N/A	0.600		
B1	6.33	5		2										(3)	DFL#2	2X8	H		1.00	1.00	1.20	1851	1851	2929	3548	1497	3915	0.092	0.317		0.211	0.071	0.317		0.83 M
B1a	6.33	5		4										(3)	DFL#2	2X8	B		1.00	1.00	1.20	1920	1920	3039	3548	1554	3915	0.096	0.317		0.211	0.071	0.317		0.86 M
B2	18.33	2		7.25										(2)	LVL (2.0)	1-3/4X11-7/8	H		1.00	1.00	1.00	2877	2877	13184	17823	2566	7897	0.816	0.917		0.611	0.470	0.917		0.89 D
B3	6.67	15.8		1.5										(2)	LVL (2.0)	1-3/4X9-1/2	H		1.00	1.00	1.00	5925	5925	9881	11407	4519	6318	0.158	0.334		0.222	0.127	0.334		0.87 M
B4	3.33	15.8		1.5										(2)	DFL#2	2X10	H		1.00	1.00	1.10	2952	2952	2458	3529	1585	3330	0.015	0.167		0.111	0.012	0.167		0.70 M
B5	3.33	2		1										(2)	DFL#2	2X6	H		1.00	1.00	1.30	394	394	328	1475	286	1980	0.010	0.167		0.111	0.008	0.167		0.22 M
B6	7.75	12.3												(2)	LVL (2.0)	1-3/4X9-1/2	B		1.00	1.00	1.00	5350	5350	10366	11407	4257	6318	0.224	0.388		0.258	0.181	0.388		0.91 M
B7	1.5	14.1												(2)	DFL#2	2X6	B		1.00	1.00	1.30	1175	1175	441	1475	457	1980	0.003	0.075		0.050	0.002	0.075		0.30 M
B8	4.5	12.3												(3)	DFL#2	2X10	B		1.00	1.00	1.10	3105	3105	3493	5294	2041	4995	0.027	0.225		0.150	0.022	0.225		0.66 M
B9	3.33	18.3												(2)	DFL#2	2X10	H		1.00	1.00	1.10	3393	3393	2825	3529	1822	3330	0.018	0.167		0.111	0.014	0.167		0.80 M
B10	2.33	2		6.7										(2)	DFL#2	2X6	H		1.00	1.00	1.30	349	349	203	1475	212	1980	0.003	0.117		0.078	0.002	0.117		0.14 M
B11	3	11.5		1										(3)	DFL#2	2X6	H		1.00	1.00	1.30	1942	1942	1456	2212	1348	2970	0.024	0.150		0.100	0.019	0.150		0.66 M
B12	3.33	20.2		2										(3)	DFL#2	2X8	H		1.00	1.00	1.20	3780	3780	3147	3548	2408	3915	0.027	0.167		0.111	0.022	0.167		0.89 M
B13	3	15.6		1.25										(3)	DFL#2	2X6	H		1.00	1.00	1.30	2634	2634	1975	2212	1829	2970	0.032	0.150		0.100	0.026	0.150		0.89 M
B14	10.67	6.71												(2)	LVL (2.0)	1-3/4X9-1/2	B		1.00	1.00	1.00	4027	4027	10743	11407	3430	6318	0.440	0.534		0.356	0.353	0.534		0.94 M
																			1.00	1.00	1.00														
FB1	11.17		19.06											(2)	LVL (2.0)	1-3/4X11-7/8	H		1.00	1.00	1.00	5728	5728	15995	17823	4713	7897	0.368	0.559	0.273	0.372		0.559		0.90 M

PROJECT: WISER RESIDENCE **JOB NO.:** S0180.008.261 **SUBJECT:** SINGLE-BM/HDR FOOTING/COLUMN

									R_a				R_b			
Beam	Size	BM/HDR	Wall Size	R_a (lb)	Load Comb.	R_b (lb)	Load Comb.	Post Height (ft)	Post/ Col./ Trimmer	Capacity (lb)	Min. Footing	Capacity (lb)	Post/ Col./ Trimmer	Capacity (lb)	Min. Footing	Capacity (lb)
GT1			2x6	6671	LC 3	6671	LC 3	9	(2)2x6	11436	F2.50	9375	(2)2x6	11436	F2.50	9375
GT2			2x6	9780	LC 3	9780	LC 3	9	(2)2x6	11436	F3.00	13500	(2)2x6	11436	F3.00	13500
B1	(3)2X8	H	2x6	1851	LC 3	1851	LC 3									
B1a	(3)2X8	B	2x6	1920	LC 3	1920	LC 3	9								
B2	(2)1-3/4X11-7/8	H	2x6	2877	LC 3	2877	LC 3									
B3	(2)1-3/4X9-1/2	H	2x6	5925	LC 3	5925	LC 3									
B4	(2)2X10	H	2x6	2952	LC 3	2952	LC 3									
B5	(2)2X6	H	2x6	394	LC 3	394	LC 3									
B6	(2)1-3/4X9-1/2	B	2x6	5350	LC 3	5350	LC 3	10	(4)2x4	6829	F2.00	6000	(2)2x6	10350		
B7	(2)2X6	B	2x6	1175	LC 3	1175	LC 3	10	(2)2x4	3414	F1.50	3375	(2)2x4	3414	F1.50	3375
B8	(2)1-3/4X7-1/4	B	2x6	3101	LC 3	3101	LC 3	9	(2)2x4	4093	F1.50	3375	(2)2x6	11436		
B9	(2)2X10	H	2x6	3393	LC 3	3393	LC 3									
B10	(2)2X6	H	2x6	349	LC 3	349	LC 3									
B11	(3)2X6	H	2x6	1942	LC 3	1942	LC 3									
B12	(3)2X8	H	2x6	3780	LC 3	3780	LC 3									
B13	(3)2X6	H	2x6	2634	LC 3	2634	LC 3									
B14	(2)1-3/4X9-1/2	B	2x6	4027	LC 3	4027	LC 3	9	4x4	5694	F2.00	6000	6x6	23022	F2.50	9375

PROJECT: WISER RESIDENCE **JOB NO.:** S0180.008.261 **SUBJECT:** STUDS & OTHER MEMBERS

DESIGN LOADS (psf)

	Dead	Live	0.7*Snow
Roof	19	20	90
Floor	12	40	
Exterior Wall	10		
Interior Wall	8		

Design Wind Speed	115
Wind Exposure	C

LOADING PARAMETERS	Label:	Typical Ext.
Wind/Wall Tributary (ft)		1.33
Bending Axis		Strong
Roof Tributary (ft)		18.125
Floor Tributary (ft)		
Additional Dead Load (lbs)		
Additional Floor Live Load (lbs)		
Additional Roof Live Load (lbs)		
Additional Snow Load (lbs)		
Location for Wind Loading		C&C Zone 5
Mean Roof Height (ft)		20
Axial Loads (lbs):		
Dead		525
Floor Live		0
Roof Live		482
Snow		2177
Bending Load (plf):		
Wind		51.0
MEMBER PROPERTIES		
Strong-Axis Unbraced Length, l_1 (ft)		10
Weak-Axis Unbraced Length, l_2 (ft)		1
Compression Edge Unbraced Length, l_u (ft)		1
Grade		DFLSTUD
Size		2x6
Quantity of Members		1
SPECIAL CONDITIONS		
Moisture Category		Normal
Temperature Category		≤100°
Incising?		No
Repetitive Member Category		Rep. (Special)
Finish Type		Plaster/Stucco
SECTION PROPERTIES		
Width, b (in)		1.5
Depth, d (in)		5.5
Moment of Inertia, I (in^4)		20.796875
Section Modulus, S (in^3)		7.5625
DESIGN VALUES		
F_{bx} (psi)		675
F_{by} (psi)		675
F_c (psi)		825
E_{xx} (psi)		1400000
E_{yy} (psi)		1400000
E_{minxx} (psi)		510000
E_{minyy} (psi)		510000
RESULTS		
D+L		11%
D+Lr		19%
D+0.7S		52%
D+0.75L+0.75Lr		16%
D+0.75L+0.525S		41%
D+0.6W		46%
D+0.75L+0.42W+0.75Lr		36%
D+0.75L+0.42W+0.525S		55%
Deflection Limit (L/)		360
Deflection (L/)		980
Column Slenderness, l_e/d		21.8
Beam Slenderness, R_B		7.8
Unity Check		**55%**

PROJECT: WISER RESIDENCE **JOB NO.:** S0180.008.261 **SUBJECT:** FOOTINGS AND FOUNDATIONS

FOOTINGS

Assumed Soil Bearing Pressure	q=	1500	psf
Footing Embedment/Frost Depth	d_f=	12	in
Soil Weight	W_s=	110	pcf
Wall Width	wwall=	3.5	in
Col Width	wcol=	5.5	in
Slab Thickness	t_s=	4	in

Continuous Footings:

Title	Width (in)		Depth (in)	Loads (plf)	#4 Bars Lengthwise	Alt Bar Size	# of Bars Lengthwise	Ext Uplift Weight (plf)	Int Uplift Weight (plf)
CF1.00	12		12	1,500	2			145	193
CF1.25	15		12	1,875	2			181	242
CF1.50	18		12	2,250	2			218	290
CF2.00	24		12	3,000	3			290	387
CF2.50	30		12	3,750	4			363	483
CF3.00	36		12	4,500	4			435	580
CF4.00	48		12	6,000	6			580	773
CF5.00	60		12	7,500	7			725	967
CF6.00	72		12	9,000	8			870	1160
CF7.00	84		12	10,500	10			1015	1353

Spread Footings:

Title	Width (in)	Length (in)	Depth (in)	Loads (kip)	#4 Bars Lengthwise	Alt Bar Size	# of Bars Lengthwise	Ext Uplift Weight (lbs)	Int Uplift Weight (lbs)
F1.50	18	18	12	3.38	2			326	435
F2.00	24	24	12	6.00	3			580	773
F2.50	30	30	12	9.38	4			906	1208
F3.00	36	36	12	13.50	4			1305	1740
F3.50	42	42	12	18.38	5			1776	2368
F4.00	48	48	12	24.00	6			2320	3093
F4.50	54	54	12	30.38	6			2936	3915
F5.00	60	60	12	37.50	7			3625	4833
F6.00	72	72	16	54.00	11			6960	8700
F7.00	84	84	20	73.50	16			11842	14210
F8.00	96	96	24	96.00	21			18560	21653

PROJECT: WISER RESIDENCE **JOB NO.:** S0180.008.261 **SUBJECT:** FOOTING CHECKS

Location	Size	Roof Trib (ft)	Floor Trib (ft)	Wall Trib (ft)	Additional Dead (plf)	Additional Lr/S (plf)	Additional Live (plf)	Wall Thick. (in)	Wall Height (ft)	Capacity (plf)	Governing LC	Check %
TYP.	CF2.00	20.125	10.5	10				8	4	3000	LC3	81%

VECTOR ENGINEERS

JOB NO.: S0180.008.261

PROJECT: WISER RESIDENCE

SUBJECT: Frost Protected Footing Design

Frost Protected Footing Design Per ASCE 32-01

6.1 FPSF Design Method for Heated Buildings

Air Freezing Index per Figure A1	1000
Foundation Height Above Ground h (in)	6
Foundation Embedment below grade hf (in)	48
Insulation Type	V
Wing Insulation	None

Floor thermal resistance Rf

Material	Thickness (in)	R
Concrete	18	0.9
Carpet and rubber pad	0.5	0.615
		0
		0
		0
	Total Resistivity	1.515

Required Vertical Insulation R-value per table A4

Rv=	4.5
Minimum Thickness (in)	1
Insulation effective R reff	4.5
Required thickness Rv/reff (in)	1

Minimum Foundation Dimensions per table A5

hf (in)	12
Lc (in)	0
hfc (in)	12
Dh (in)	
Dhc (in)	0

Alternative 16" Depth Foundation Dimensions

Wing Insulation Thickness (in)	3
Insulation effective R reff	4
Wing Insulation Rh Value	12
Lc (in)	0
hfc (in)	16
Dh (in)	0
Dhc (in)	0

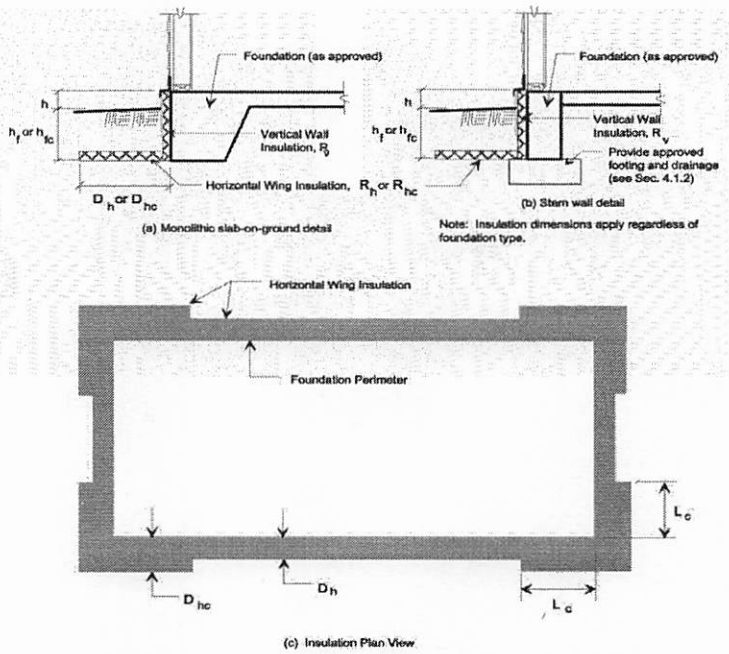
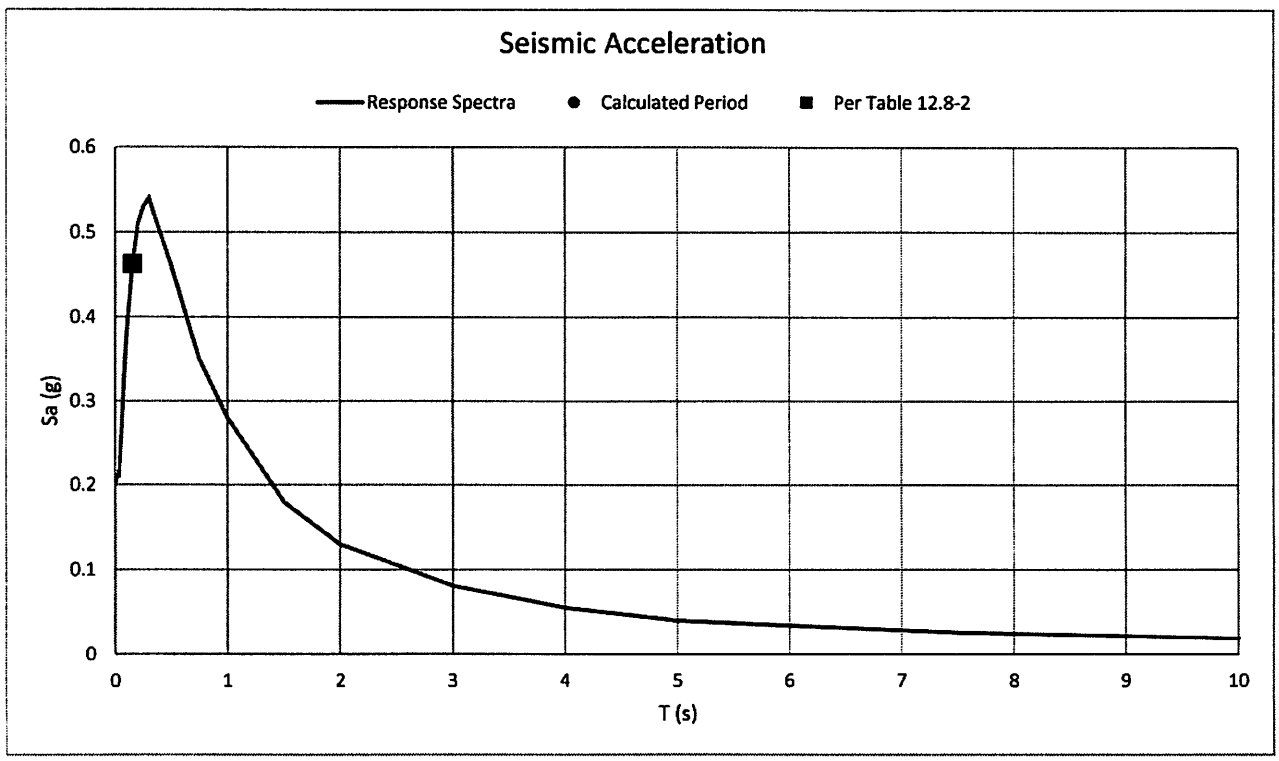


FIGURE 2. Slab-on-Ground Foundation for Heated Buildings

PROJECT: WISER RESIDENCE **JOB NO.:** S0180.008.261 **SUBJECT:** LATERAL LOADS

Seismic Parameters (ASCE 7-22 Chapters 11, 12, & 22)

Site Class:	D(efault)	S. 11.4.2	N =	1	S. 12.8.2.1	Determination of SDC:		
R =	6.5	T. 12.2-1	C_t =	0.02	T. 12.8-2	Per Table 11.6-1:	C	
S_s =	0.544	F. 22-1	h_n (ft) =	15	S. 12.8.2.1	Per Table 11.6-2:	D	
S_1 =	0.174	F. 22-2	x =	0.75	T. 12.8-2	SDC:	D	S. 11.6
F_a =		T. 11.4-1	T =	Calculated		I_E =	1.00	T. 1.5-2
F_v =		T. 11.4-2	T_a =	0.152	E. 12.8-7	C_{SMAX}=	0.283	E. 12.8-4,5
S_{MS} =	0.73	E. 11.4-1	T_0=	0.12	S. 11.4.5	C_S=	0.071	E. 12.8-2
SM1 =	0.42	E. 11.4-2	Ts=	0.575	S. 11.4.5	C_{SMIN}=	0.021	E. 12.8-6,7
S_{DS} =	0.487	E. 11.4-3	C_U=	1.42	T. 12.8-1	$C_{SCONTROL}$=	0.071	S. 12.8.1.1
S_{DI} =	0.280	E. 11.4-4	T_L=	8	F. 22-12	$C_{SCONTROL}$*.7=	0.050	S. 2.4.1
Risk Category:	II		S_a=	0.462	S. 11.4.5	Seismic Analysis Req'd?	Yes	IBC 1613.1
						Perform Seismic Analysis?	Yes	



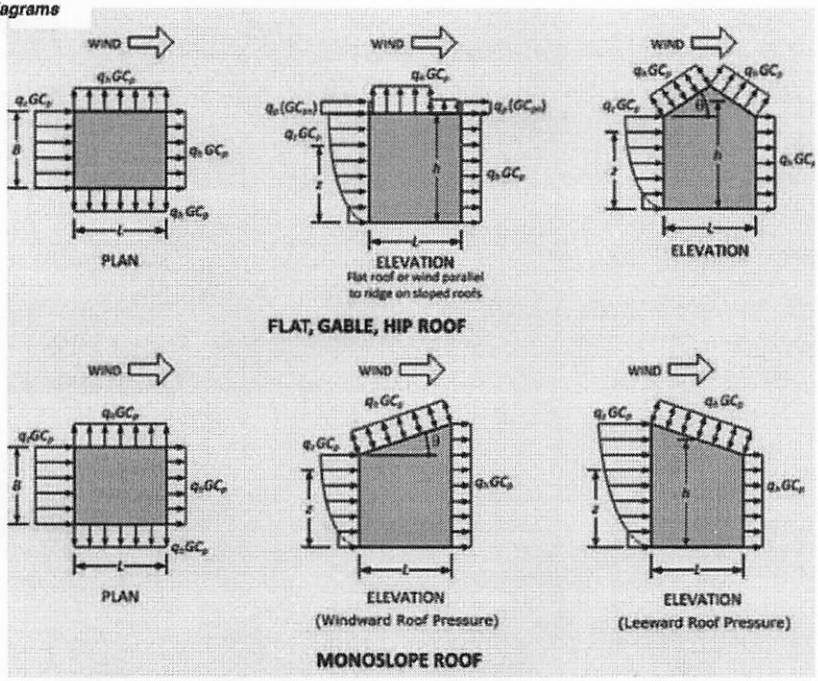
PROJECT: WISER RESIDENCE **JOB NO.:** S0180.008.261 **SUBJECT:** LATERAL LOADS

Wind Parameters (ASCE 7-22 Chapter 26)

MAIN WIND FORCE RESISTING SYSTEM DIRECTIONAL METHOD FIGURE 27.3-1

Elevation (ft):	6550	Greatest Mean Roof Height, h (ft):	15	L/B (long)	L/B (tran)
Risk Category:	II	Building Length (ft):	40	2	0.5
Basic Wind Speed (mph):	115	Building Width (ft):	20	h/L (long)	h/L (tran)
Exposure Category:	C	Enclosure Type:	Enclosed	0.375	0.75
K_{zt}:	1.00	Gcpi:	0.18		
Ke:	0.79	Velocity Press. Exposure Coefficient, K_h:	0.85		
Gust Effect Factor, G:	0.85	Structure Type:	Building - MWFRS		
		Main Ridge to Long Direction:	Normal to		
		Wind Directionality Factor, K_d:	0.85		
		Velocity Pressure, q_h [psf]:	22.73	$p = qK_dGC_p - qK_dGC_{pi}$	

Diagrams



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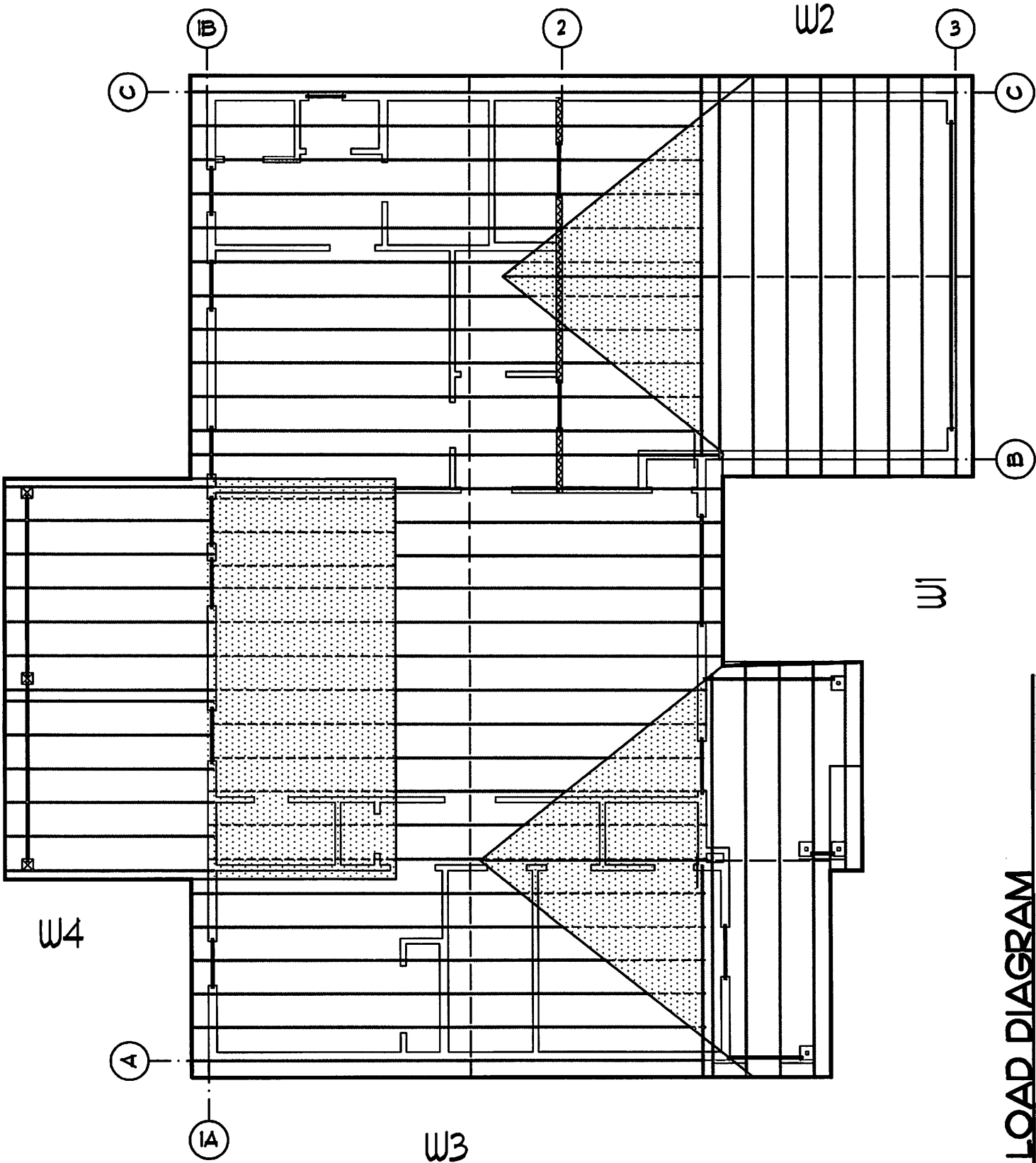

LINE LOAD DIAGRAM

SCALE 1/8"=1'-0"

PROJECT: WISER RESIDENCE **JOB NO.:** S0180.008.261 **SUBJECT:** LINE LOADS

Roof DL	19	psf
Seismic		
Snow	22.5	psf
Floor DL	12	psf
Wall DL	10	psf
Period, T	0.15	sec

Level Descriptions

ASCE7 12.8.3
k= 1
$\Sigma w_i h_i^k$= 1944481

Label	Height (ft)	$W_{control}$ (lb)	V_{norm} (lb)	V_{redist} (lb)	Redist Fact
Roof	15	129632	9223	9223	1.00
		0	0	0	1.00
		0	0	0	1.00
		0	0	0	1.00
		0	0	0	1.00
Total Weight (lb)		129632			
Total Base Shear (lb)		9223			

Estimated Total Weight in Longitudinal Direction 124514
Estimated Total Weight in Transverse Direction 129632
Percent difference in estimated weights 3.9%

Seismic Line Loads

Label	Width	Level	Direction	Number of times to include	Roof Trib (ft)	Floor Trib (ft)	Wall Trib Height (ft)	Ext Wall Length (ft)	Other Weight (lb/ft)	Total Weight (lb/ft)	Total Force (lb/ft)	Cvx - Redist Factor	Revised Force (lb/ft)	Force Redist to 1
ω1	57.33	Roof	LONG	1	46.33		6.83	207.317		2172	155	1.00	155	NO
ω2	14.83	Roof	TRANS	1	25.49		4.83	60.6377		1322	94	1.00	94	NO
ω3	30.75	Roof	TRANS	1	65.65		7.21	192.791		3180	226	1.00	226	NO
ω4	11	Roof	TRANS	1	25.82		0.625	73.6364		1115	79	1.00	79	NO

Wind Line Loads

Label	Roof Pitch /12	'h' Mean Roof Height at level (ft)	Total Exposed Roof Area (sqft)	'z' Average Wall Elevation (ft)	Total Exposed Wall Area (sqft)	'z' Top of Parapet Elevation (ft)	Total Exposed Parapet Area (sqft)	Wind Direction to Main Ridge	Windward only?	Roof Type	Parapet Condition	Roof Force (plf)	Wall Force (plf)	Parapet Force (plf)	Total Force (plf)
ω1	6	13.4	393.3	8.9	500.0			Normal	N	Gable/Hip	Both Sides	54.9	157.6		212.5
ω2	8	13.8	153.4	6.8	63.4			Parallel	N	Gable/Hip	Both Sides	82.8	91.3		174.0
ω3	8	11.7	146.0	10.2	350.0			Parallel	N	Gable/Hip	Both Sides	38.0	243.0		281.0
ω4				11.3	385.0			Parallel	N	Gable/Hip	Both Sides		747.3		747.3

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PROJECT: PROJECT NAME JOB NO.: S0 SUBJECT: SHEAR WALL SHEET EXPLANATION

Global ρ value applied

Calculated ρ values and controlling locations

$\rho_{Applied}$ =	1
Min Diaphragm Width (ft) =	20
Allowable Seismic Aspect Ratio =	3.5
Allowable Wind Aspect Ratio =	3.5
Comb. Overstrength Factors: (D-0.5)Ω1.2 =	2.06

Aspect ratio limits

ρ	Loc
1.00	A-1ST
1.00	A-2ND

ρ calculated in accordance with Section 12.3.4.1

Loads applied along line, as calculated previously

Roof DL (psf) = 44 (includes seismic snow where occurs)
Floor DL (psf) = 12

Diaphragm shear calculations

PERF/ FTAO wall calcs where applicable

LINE: A 1ST STORY R=6.5 Timber Framed Shearwall Calculations

Line Loads (plf)			Loads from above					Applied Loads (plf)		Diaphragm Shear, R=6.5 (plf)					Perf/FTAO Wall Info
Load	Trib w (ft)	Span (ft)	Line	%	Location	0.7E (lbs)	0.6W (lbs)	ρ*Seis	Wind	Drag (ft)	Seis (max vs. allow)		Wind (max vs. allow)		(Not Applicable)
cl	28.665	57.33		1.00	Offset	0	0	108.2	127.5	6	0	166	457	232	
0				1.00	Offset	0	0	0.0	0.0	6	0		0		
				1.00	Above	0	0								
					Total	3100	3854								

Plate h (ft)= 9
Max opening height (ft)= 9
Apply aspect ratio reduction? Yes
Opening elevation

100% Perforated SW? No
Force Transfer @ Openings? No

Include Ω for irregularities (above)? No

Shear Length (ft)= 8
Wall DL (psf)= 10

Story V (lbs)= 6456
Max allow. drift (in) 2.16

Total seismic shear applied at level, for calculating ρ

Amplified seismic deflection of wall

Selection of wall type, 'No' for both means a segmented wall

Shear-Wall Length (ft)	$Roof_{DL}$ 'w' (ft)	$Floor_{DL}$ 'w' (ft)	$Other_{DL}$ 'w' (plf)	Tension From Above (lb)	Wall Type	Sill Type	Holdown Strap	HD Capacity (Stem/floor config)	OTM (wind, seismic) (ft-lb)	(0.6-.2SDs) *RM (ft lb)	Aspect Ratio	Aspect Ratio Reduc.	Seis. Shear (plf)	Seis. Wall Cap. (plf)	Wind Shear (plf)	Wind Wall Cap. (plf)	Sill Plate Cap. (plf)	Tension (lb)	HD Capacity	Max Shear-Wall Δ 1.0E (in)
5	2				P1	S1	STHD10	6"-Midwall	20554	980	1.60	1.00	388	260	457	365	372	3919	3400	3.30
3	2				P1	S1	HDU2		12332	346	3.00	0.67	388	173	457	243	372	3996	3075	3.53
Add'l Comments:																			Max:	3.53

Information on individual wall piers

Applied unit shears and unit shear capacities (reduced where appropriate)

LINE: A 1ST STORY R=6.5 Timber Framed Shearwall Calculations

Line Loads (plf)			Loads from above					Applied Loads (plf)		Diaphr					Perf/FTAO Wall Info		
Load	Trib w (ft)	Span (ft)	Line	%	Location	0.7E (lbs)	0.6W (lbs)	ρ*Seis	Wind	Drag (ft)	Seis (ma		allow)		Ltotal (ft)	20	Rdl (ft)	2
cl	15	30		1.00	Offset	0	0	57.9	59.4	20	0	166					DL (plf)	168
0				1.00	Offset	0	0	0.0	0.0	20	0				Wall type	P1	Opening (ft)	12
				1.00	Above	0	0								HD	STHD10	6"-Corner	
					Total	868	891								T (lb)	649	HD cap	2940
															Seis (plf)	109	Cap (plf)	260
															Wind (plf)	111	Cap (plf)	365
															Strap (lb)	428	Δ (in)	N/A
															Strap Type	CS16	1705	

Plate h (ft)= 8
Max opening height (ft)= 3
Apply aspect ratio reduction? Yes
Opening elevation 2

50% Perforated SW? No
Force Transfer @ Openings? Yes

Include Ω for irregularities (above)? No

Shear Length (ft)= 8
Wall DL (psf)= 10

Story V (lbs)= 173
Max allow. drift (in) 1.6

Perforated or FTAO calculations

Co factor when applicable

Hold down information for global wall overturning

Required only for FTAO method

Shear-Wall Length (ft)	$Roof_{DL}$ 'w' (ft)	$Floor_{DL}$ 'w' (ft)	$Other_{DL}$ 'w' (plf)	Tension From Above (lb)	Wall Type	Sill Type	Holdown Strap	HD Capacity (Stem/floor config)	OTM (wind, seismic) (ft-lb)	(0.6-.2SDs) *RM (ft lb)	Aspect Ratio	Aspect Ratio Reduc.	Seis. Shear (plf)	Seis. Wall Cap. (plf)	Wind Shear (plf)	Wind Wall Cap. (plf)	Sill Plate Cap. (plf)	Tension (lb)	HD Capacity	Max Shear-Wall Δ 1.0E (in)
3	PERF/FTAO SHEAR-WALL CALCULATIONS APPLY - SEE ABOVE										1.00	1.00								
5											0.60	1.00								
Add'l Comments:																			Max:	

Length of full-height segements in PERF/FTAO

Maximum unit shear and strap forces calculated by Diekmann method for FTAO walls

PROJECT: WISER RESIDENCE **JOB NO.:** S0180.008.261 **SUBJECT:** SHEAR WALLS

$\rho_{Applied}$ =	1
Min Diaphragm Width (ft) =	11
Allowable Seismic Aspect Ratio =	3.5
Allowable Wind Aspect Ratio =	3.5
Comb. Overstrength Factors: (Ω-0.5)=	2.50

ρ_I	Loc	Fp/Fx
1.00	A-1ST	1.37

ρ calculated in accordance with ASCE7- 22 Section 12.3.4.1
No Exception in ASCE 7 12.3.4.2b met?

Roof DL (psf) =	42	(includes seismic snow where occurs)
Floor DL (psf) =	12	

LINE: A 1ST STORY — R=6.5 — Timber Framed Shearwall Calculations

Line Loads (plf)			Loads from above					Applied Loads (plf)		Diaphragm Shear, R=6.5 (plf)					Perf/FTAO Wall Info
Load	Trib w (ft)	Span (ft)	Line	%	Location	0.7E (lbs)	0.6W (lbs)	ρ*Seis	Wind	Drag (ft)	Seis (max vs. allow)		Wind (max vs. allow)		(Not Applicable)
ωl	17.835	35.67		1.00	Offset			108.2	127.5	24	110	166	95	232	
				1.00	Offset					24					
				1.00	Above										
					Total	1929	2274								

Plate h (ft)= 9 — Include Ω for irregularities (above)? No
Max opening height (ft)= 9
Apply aspect ratio reduction? Yes — 100% Perforated SW? No — Shear Length (ft)= 24 — Story V (lbs)= 6456
Opening elevation — Force Transfer @ Openings? No — Wall DL (psf)= 10 — Max allow. drift (in) 2.16

Shear-Wall Length (ft)	Roof$_{DL}$ 'w' (ft)	Floor$_{DL}$ 'w' (ft)	Other$_{DL}$ 'w' (plf)	Tension From Above (lb)	Wall Type	Sill Type	Holdown Strap	HD Capacity (Stem/floor config)	OTM (wind, seismic) (ft-lb)	(0.6-.2SDs) *RM (ft-lb)	Aspect Ratio	Aspect Ratio Reduc.	Seis. Shear (plf)	Seis. Wall Cap. (plf)	Wind Shear (plf)	Wind Wall Cap. (plf)	Sill Plate Cap. (plf)	Tension (lb)	HD Capacity	Max Shear-Wall Δ 1.0E (in)
24	2				P1	S1	NO HD		20462	22118	0.38	1.00	80	260	95	365	372	-69	200	0.42

Add'l Comments: Max: 0.42

LINE: B 1ST STORY — R=6.5 — Timber Framed Shearwall Calculations

Line Loads (plf)			Loads from above					Applied Loads (plf)		Diaphragm Shear, R=6.5 (plf)					Perf/FTAO Wall Info
Load	Trib w (ft)	Span (ft)	Line	%	Location	0.7E (lbs)	0.6W (lbs)	ρ*Seis	Wind	Drag (ft)	Seis (max vs. allow)		Wind (max vs. allow)		(Not Applicable)
ωl	17.835	35.67		1.00	Offset			108.2	127.5	16	165	166	142	232	
ωl	10.835	21.67		1.00	Offset			108.2	127.5	14.5	111		95		
				1.00	Above										
					Total	3101	3655								

Plate h (ft)= 9 — Include Ω for irregularities (above)? No
Max opening height (ft)= 9
Apply aspect ratio reduction? Yes — 100% Perforated SW? No — Shear Length (ft)= 14.5 — Story V (lbs)= 6456
Opening elevation — Force Transfer @ Openings? No — Wall DL (psf)= 10 — Max allow. drift (in) 2.16

Shear-Wall Length (ft)	Roof$_{DL}$ 'w' (ft)	Floor$_{DL}$ 'w' (ft)	Other$_{DL}$ 'w' (plf)	Tension From Above (lb)	Wall Type	Sill Type	Holdown Strap	HD Capacity (Stem/floor config)	OTM (wind, seismic) (ft-lb)	(0.6-.2SDs) *RM (ft-lb)	Aspect Ratio	Aspect Ratio Reduc.	Seis. Shear (plf)	Seis. Wall Cap. (plf)	Wind Shear (plf)	Wind Wall Cap. (plf)	Sill Plate Cap. (plf)	Tension (lb)	HD Capacity	Max Shear-Wall Δ 1.0E (in)
14.5	11.75				P1	S1	STHD10	8"-Corner	32892	19758	0.62	1.00	214	260	252	365	372	906	2940	1.23

Add'l Comments: Max: 1.23

LINE: C 1ST STORY — R=6.5 — Timber Framed Shearwall Calculations

Line Loads (plf)			Loads from above					Applied Loads (plf)		Diaphragm Shear, R=6.5 (plf)					Perf/FTAO Wall Info
Load	Trib w (ft)	Span (ft)	Line	%	Location	0.7E (lbs)	0.6W (lbs)	ρ*Seis	Wind	Drag (ft)	Seis (max vs. allow)		Wind (max vs. allow)		(Not Applicable)
ωl	10.835	21.67		1.00	Offset			108.2	127.5	20	80	166	69	232	
				1.00	Offset					20					
				1.00	Above										
					Total	1172	1381								

Plate h (ft)= 9 — Include Ω for irregularities (above)? No
Max opening height (ft)= 9
Apply aspect ratio reduction? Yes — 100% Perforated SW? No — Shear Length (ft)= 20 — Story V (lbs)= 6456
Opening elevation — Force Transfer @ Openings? No — Wall DL (psf)= 10 — Max allow. drift (in) 2.16

Shear-Wall Length (ft)	Roof$_{DL}$ 'w' (ft)	Floor$_{DL}$ 'w' (ft)	Other$_{DL}$ 'w' (plf)	Tension From Above (lb)	Wall Type	Sill Type	Holdown Strap	HD Capacity (Stem/floor config)	OTM (wind, seismic) (ft-lb)	(0.6-.2SDs) *RM (ft-lb)	Aspect Ratio	Aspect Ratio Reduc.	Seis. Shear (plf)	Seis. Wall Cap. (plf)	Wind Shear (plf)	Wind Wall Cap. (plf)	Sill Plate Cap. (plf)	Tension (lb)	HD Capacity	Max Shear-Wall Δ 1.0E (in)
20	2				P1	S1	NO HD		12431	15360	0.45	1.00	59	260	69	365	372	-146	200	0.31

Add'l Comments: Max: 0.31

PROJECT: WISER RESIDENCE **JOB NO.:** S0160.008.261 **SUBJECT:** SHEAR WALLS

$\rho_{Applied}$ =	1
Min Diaphragm Width (ft) =	11
Allowable Seismic Aspect Ratio =	3.5
Allowable Wind Aspect Ratio =	3.5
Comb. Overstrength Factors: (Ω-0.5)=	2.50

ρ_I	Loc	Fp/Fx
1.00	A-1ST	1.37

Roof DL (psf) =	42	(includes seismic snow where occurs)
Floor DL (psf) =	12	

ρ calculated in accordance with ASCE7- 22 Section 12.3.4.1
No Exception in ASCE 7 12.3.4.2b met?

LINE: 1-DRAG 1ST STORY — R=6.5 — Timber Framed Shearwall Calculations

Line Loads (plf)			Loads from above					Applied Loads (plf)		Diaphragm Shear, R=6.5 (plf)				Perf/FTAO Wall Info	
Load	Trib w (ft)	Span (ft)	Line	%	Location	0.7E (lbs)	0.6W (lbs)	ρ*Seis	Wind	Drag (ft)	Seis (max vs. allow)		Wind (max vs. allow)		(Not Applicable)
ω4	5.5	11		1.00	Offset			55.5	448.4			166		232	
ω3	10.5	21		1.00	Offset			158.3	168.6						
				1.00	Above										
					Total	1968	4237								

Plate h (ft)= 9 — Include Ω for irregularities (above)? No
Max opening height (ft)= 9
Apply aspect ratio reduction? Yes — 100% — Perforated SW? No — Shear Length (ft)= — Story V (lbs)= 6456
Opening elevation — Force Transfer @ Openings? No — Wall DL (psf)= 10 — Max allow. drift (in) 2.16

Shear-Wall Length (ft)	Roof$_{DL}$ 'w' (ft)	Floor$_{DL}$ 'w' (ft)	Other$_{DL}$ 'w' (plf)	Tension From Above (lb)	Wall Type	Sill Type	Holdown Strap	HD Capacity (Stem/floor config)	OTM (wind, seismic) (ft-lb)	(0.6-.2SDs) *RM (ft-lb)	Aspect Ratio	Aspect Ratio Reduc.	Seis. Shear (plf)	Seis. Wall Cap. (plf)	Wind Shear (plf)	Wind Wall Cap. (plf)	Sill Plate Cap. (plf)	Tension (lb)	HD Capacity	Max Shear-Wall Δ 1.0E (in)

Add'l Comments: Max:

LINE: 1A 1ST STORY — R=6.5 — Timber Framed Shearwall Calculations

Line Loads (plf)			Loads from above					Applied Loads (plf)		Diaphragm Shear, R=6.5 (plf)				Perf/FTAO Wall Info		Rdl (ft)	30.252
Load	Trib w (ft)	Span (ft)	Line	%	Location	0.7E (lbs)	0.6W (lbs)	ρ*Seis	Wind	Drag (ft)	Seis (max vs. allow)		Wind (max vs. allow)		Ltotal (ft)	15.25	Fdl (ft)	
				1.00	Offset					57		166		232	Co	0.74	DL (plf)	1347
				1.00	Offset					57					Wall type	P1	Opening (ft)	2.75
			1-DRAG-1S	0.55	Above	1082	2330								HD	NO HD		
					Total	1082	2330								T (lb)	-3905	HD cap	200
															Seis (plf)	87	Cap (plf)	193
															Wind (plf)	166	Cap (plf)	271
																	Δ (in)	0.94

Plate h (ft)= 9 — Include Ω for irregularities (above)? No
Max opening height (ft)= 9
Apply aspect ratio reduction? Yes — 100% — Perforated SW? Yes — Shear Length (ft)= 12.5 — Story V (lbs)= 6456
Opening elevation — Force Transfer @ Openings? No — Wall DL (psf)= 10 — Max allow. drift (in) 2.16

Shear-Wall Length (ft)	Roof$_{DL}$ 'w' (ft)	Floor$_{DL}$ 'w' (ft)	Other$_{DL}$ 'w' (plf)	Tension From Above (lb)	Wall Type	Sill Type	Holdown Strap	HD Capacity (Stem/floor config)	OTM (wind, seismic) (ft-lb)	(0.6-.2SDs) *RM (ft-lb)	Aspect Ratio	Aspect Ratio Reduc.	Seis. Shear (plf)	Seis. Wall Cap. (plf)	Wind Shear (plf)	Wind Wall Cap. (plf)	Sill Plate Cap. (plf)	Tension (lb)	HD Capacity	Max Shear-Wall Δ 1.0E (in)
4.25	PERF/FTAO SHEAR-WALL CALCULATIONS APPLY - SEE ABOVE										2.12	0.94								
8.25											1.09	1.00								

Add'l Comments: Max:

LINE: 1B 1ST STORY — R=6.5 — Timber Framed Shearwall Calculations

Line Loads (plf)			Loads from above					Applied Loads (plf)		Diaphragm Shear, R=6.5 (plf)				Perf/FTAO Wall Info		Rdl (ft)	11.5
Load	Trib w (ft)	Span (ft)	Line	%	Location	0.7E (lbs)	0.6W (lbs)	ρ*Seis	Wind	Drag (ft)	Seis (max vs. allow)		Wind (max vs. allow)		Ltotal (ft)	12.5	Fdl (ft)	
				1.00	Offset					12.5		166		232	Co	0.76	DL (plf)	568
				1.00	Offset					12.5					Wall type	P1	Opening (ft)	2.5
			1-DRAG-1S	0.45	Above	886	1906								HD	NO HD		
					Total	886	1906								T (lb)	136	HD cap	200
															Seis (plf)	89	Cap (plf)	197
															Wind (plf)	191	Cap (plf)	277
																	Δ (in)	1.03

Plate h (ft)= 9 — Include Ω for irregularities (above)? No
Max opening height (ft)= 9
Apply aspect ratio reduction? Yes — 100% — Perforated SW? Yes — Shear Length (ft)= 10 — Story V (lbs)= 6456
Opening elevation — Force Transfer @ Openings? No — Wall DL (psf)= 10 — Max allow. drift (in) 2.16

Shear-Wall Length (ft)	Roof$_{DL}$ 'w' (ft)	Floor$_{DL}$ 'w' (ft)	Other$_{DL}$ 'w' (plf)	Tension From Above (lb)	Wall Type	Sill Type	Holdown Strap	HD Capacity (Stem/floor config)	OTM (wind, seismic) (ft-lb)	(0.6-.2SDs) *RM (ft-lb)	Aspect Ratio	Aspect Ratio Reduc.	Seis. Shear (plf)	Seis. Wall Cap. (plf)	Wind Shear (plf)	Wind Wall Cap. (plf)	Sill Plate Cap. (plf)	Tension (lb)	HD Capacity	Max Shear-Wall Δ 1.0E (in)
3	PERF/FTAO SHEAR-WALL CALCULATIONS APPLY - SEE ABOVE										3.00	0.67								
7											1.29	1.00								

Add'l Comments: Max:

PROJECT: WISER RESIDENCE **JOB NO.:** S0180.008.261 **SUBJECT:** SHEAR WALLS

$\rho_{Applied}$ =	1
Min Diaphragm Width (ft) =	11
Allowable Seismic Aspect Ratio =	3.5
Allowable Wind Aspect Ratio =	3.5
Comb. Overstrength Factors: (Ω-0.5)=	2.50

ρ_I	Loc	Fp/Fx
1.00	A-1ST	1.37

Roof DL (psf) =	42	(includes seismic snow where occurs)
Floor DL (psf) =	12	

ρ calculated in accordance with ASCE7- 22 Section 12.3.4.1
No Exception in ASCE 7 12.3.4.2b met?

LINE: 2 1ST STORY R=6.5 **Timber Framed Shearwall Calculations**

Line Loads (plf)

Load	Trib w (ft)	Span (ft)
ω3	10.375	20.75
ω3	8.5	8.5

Loads from above

Line	%	Location	0.7E (lbs)	0.6W (lbs)
	1.00	Offset		
	1.00	Offset		
	1.00	Above		
		Total	2989	3183

Applied Loads (plf)

ρ*Seis	Wind
158.3	168.6
158.3	168.6

Diaphragm Shear, R=6.5 (plf)

Drag (ft)	Seis (max vs. allow)		Wind (max vs. allow)	
17	132	166	103	232
17	108		84	

Include Ω for irregularities (above)? No

Plate h (ft)= 9
Max opening height (ft)= 9
Apply aspect ratio reduction? Yes
Opening elevation

100% Perforated SW? Yes
Force Transfer @ Openings? No

Shear Length (ft)= 14.25
Wall DL (psf)= 10

Story V (lbs)= 6456
Max allow. drift (in) 2.16

Perf/FTAO Wall Info		Rdi (ft)	18.28125
Ltotal (ft)	17	Fdi (ft)	
Co	0.78	DL (plf)	850
Wall type	P2	Opening (ft)	2.75
HD	NO HD		
T (lb)	-1764	HD cap	200
Seis (plf)	210	Cap (plf)	297
Wind (plf)	223	Cap (plf)	407
		Δ (in)	0.86

Shear-Wall Length (ft)	Roof$_{DL}$ 'w' (ft)	Floor$_{DL}$ 'w' (ft)	Other$_{DL}$ 'w' (plf)	Tension From Above (lb)	Wall Type	Sill Type	Holdown Strap	HD Capacity (Stem/floor config)	OTM (wind, seismic) (ft-lb)	(0.6-.2SDs) *RM (ft-lb)	Aspect Ratio	Aspect Ratio Reduc.	Seis. Shear (plf)	Seis. Wall Cap. (plf)	Wind Shear (plf)	Wind Wall Cap. (plf)	Sill Plate Cap. (plf)	Tension (lb)	HD Capacity	Max Shear-Wall Δ 1.0E (in)
10.75		PERF/FTAO SHEAR-WALL CALCULATIONS APPLY - SEE ABOVE									0.84	1.00								
3.5											2.57	0.78								

Add'l Comments: Max:

LINE: 3 1ST STORY R=6.5 **Timber Framed Shearwall Calculations**

Line Loads (plf)

Load	Trib w (ft)	Span (ft)
ω2	14.83	14.83

Loads from above

Line	%	Location	0.7E (lbs)	0.6W (lbs)
	1.00	Offset		
	1.00	Offset		
	1.00	Above		
		Total	976	1549

Applied Loads (plf)

ρ*Seis	Wind
65.8	104.4

Diaphragm Shear, R=6.5 (plf)

Drag (ft)	Seis (max vs. allow)		Wind (max vs. allow)	
21	64	166	74	232
3				

Include Ω for irregularities (above)? No

Plate h (ft)= 9
Max opening height (ft)=
Apply aspect ratio reduction? No
Opening elevation

33% Perforated SW? No
Force Transfer @ Openings? Yes

Shear Length (ft)= 3
Wall DL (psf)= 10

Story V (lbs)= 6456
Max allow. drift (in) 2.16

Perf/FTAO Wall Info	
(Not Applicable)	

Shear-Wall Length (ft)	Roof$_{DL}$ 'w' (ft)	Floor$_{DL}$ 'w' (ft)	Other$_{DL}$ 'w' (plf)	Tension From Above (lb)	Wall Type	Sill Type	Holdown Strap	HD Capacity (Stem/floor config)	OTM (wind, seismic) (ft-lb)	(0.6-.2SDs) *RM (ft-lb)	Aspect Ratio	Aspect Ratio Reduc.	Seis. Shear (plf)	Seis. Wall Cap. (plf)	Wind Shear (plf)	Wind Wall Cap. (plf)	Sill Plate Cap. (plf)	Tension (lb)	HD Capacity	Max Shear-Wall Δ 1.0E (in)
1.5					PF16X8				6969	61		1.00	325	638	516	893				
1.5					PF16X8				6969	61		1.00	325	638	516	893				

Add'l Comments: Max: