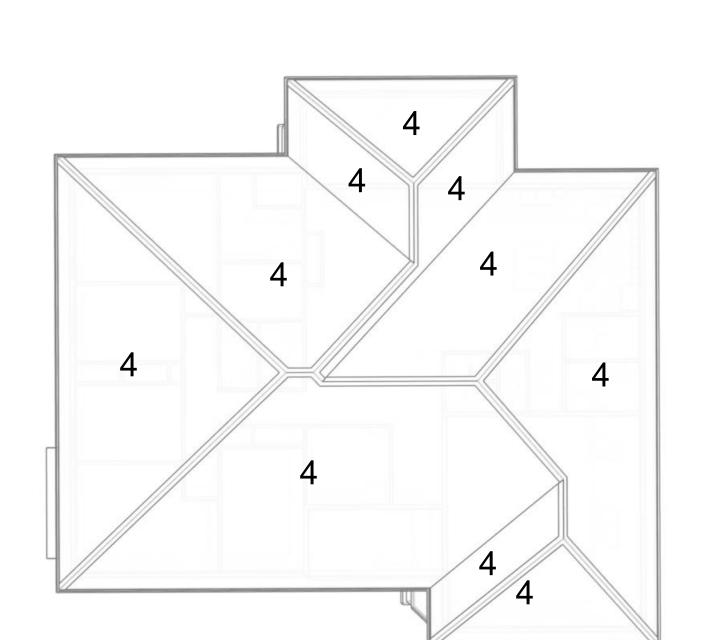






**RIGHT ELEVATION** 



ROOF PITCH OVERVIEW (Not To Scale)

To the best of my knowledge these plans are drawn to comply with owner's and/ or builder's specifications and any changes made on them after prints are made will be done at the owner's and / or builder's expense and responsibility. The contractor shall verify all dimensions and enclosed drawing. Dreamscape Home Plans is not liable for errors once construction has begun. While every effort has been made in the preparation of this plan to avoid mistakes, the maker can not guarantee against human error. The contractor of the job must check all dimensions and other details prior to construction and be solely responsible thereafter.

**NEW RESI** S

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





### ASPHALT SHINGLES FELT PAPER ICE & WATER SHIELD 1ST COURSE & VALLEYS ENGINEERED CEILING TRUSSES 24" O.C. 1/2" EXTERIOR SHEATHING 1" CONT. AIR SPACE R-49 CEILING INSULATION 1/2" DRYWALL CEILING DRIP EDGE ⊢ ALUMINUM FASCIA 2" X 6" SUB FASCIA VENTED SOFFIT 2" X 2" SOFFIT NAILER 4" LAP SIDING MOISTURE BARRIER (BUILDING PAPER) 1/2" EXTERIOR SHEATHING DOUBLE 2" X 6" TOP PLATE ⊢ 5 1/2" WALL STUDS 16" O.C. R-21 WALL INSULATION 1/2" DRYWALL 2" X 6" BOTTOM PLATE ⊢ 3/4" T&G OSB FLOORING H GLUED AND NAILED/STAPLED → 11 7/8" TJI FLOOR JOIST 16" O.C. 11 7/8" RIM JOIST 1/2" EXTERIOR SHEATHING 2" X 6" TREATED SILL PLATE RIM JOIST INSULATION SILL SEAL 1/2" ANCHOR BOLTS 32" O.C. 30" MINIMUM FROM GRADE TO BOTTOM OF FOOTING 8" CONCRETE WALL

1 Story W/ Crawlspace Typical Section

J-BARS @ 24" O.C. HORIZ. REBAR @ 24" O.C. DAMP PROOFING (TO GRADE)

10" X 20" CONT. CONCRETE

4" DRAIN TILE 12" GRAVEL FILL

FOOTING

(Not To Scale)

RE-BAR (2)



### **REAR ELEVATION**



### LEFT ELEVATION



KUNZ

**CRAIG** 

DRAFTED

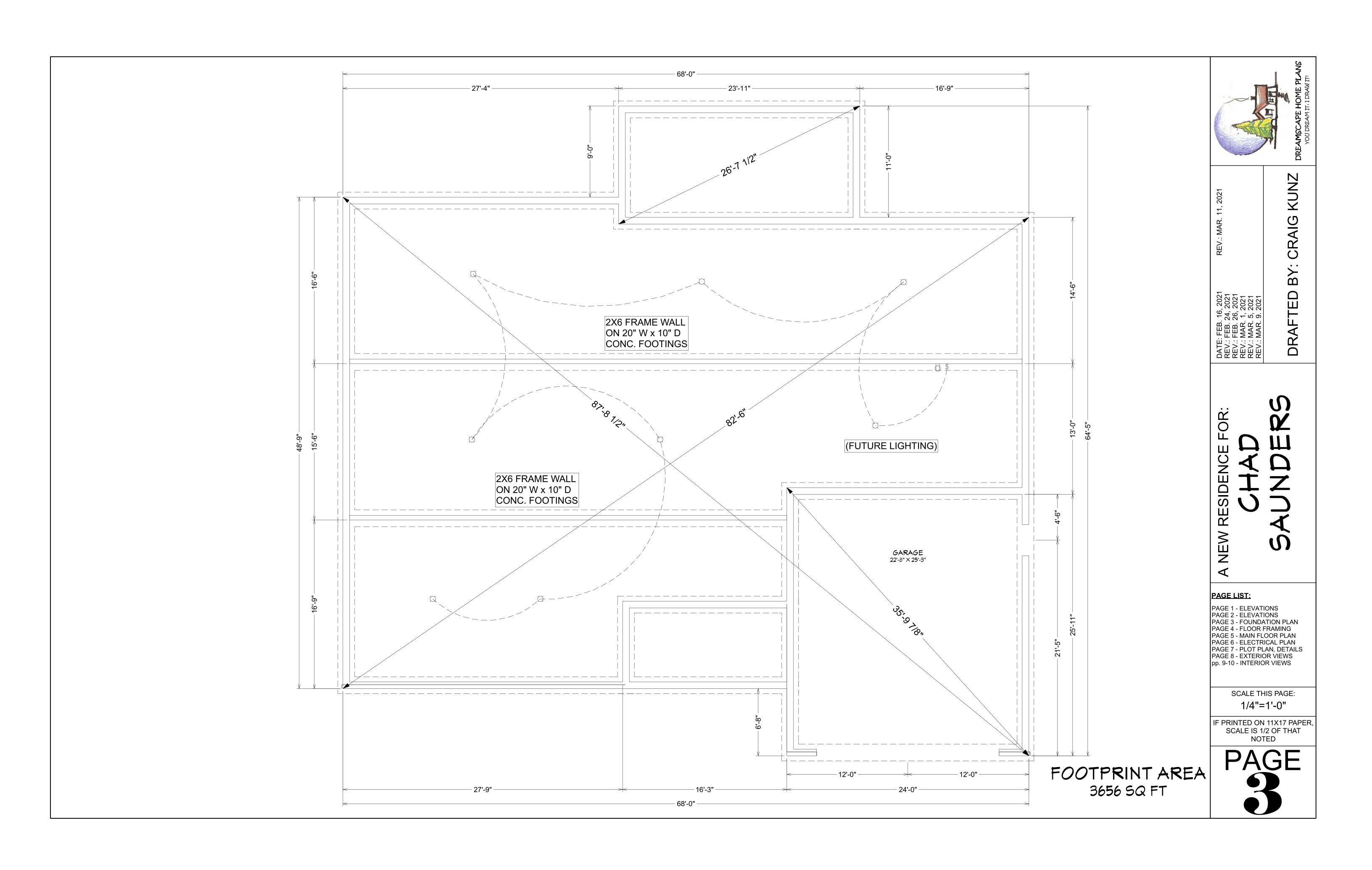
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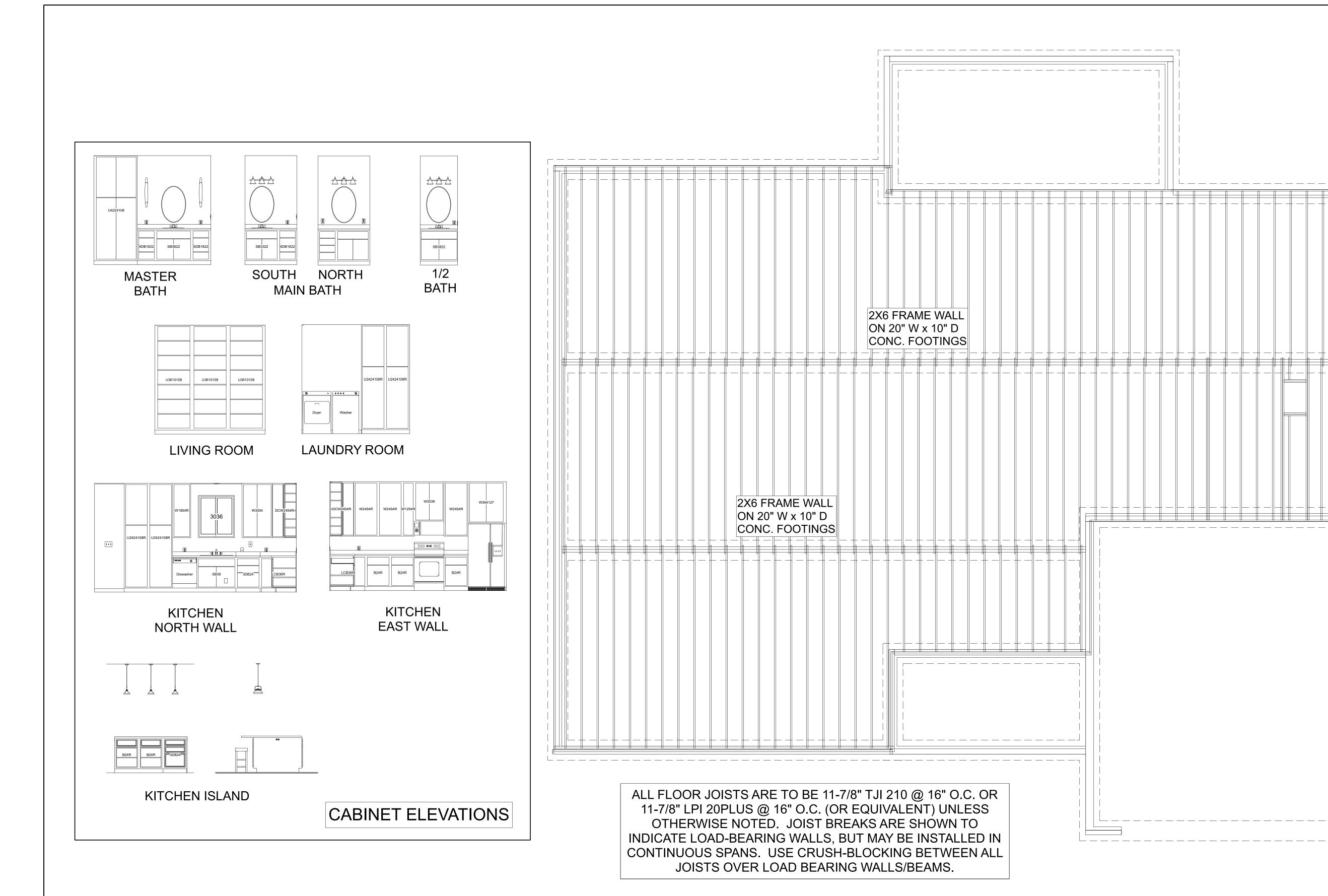
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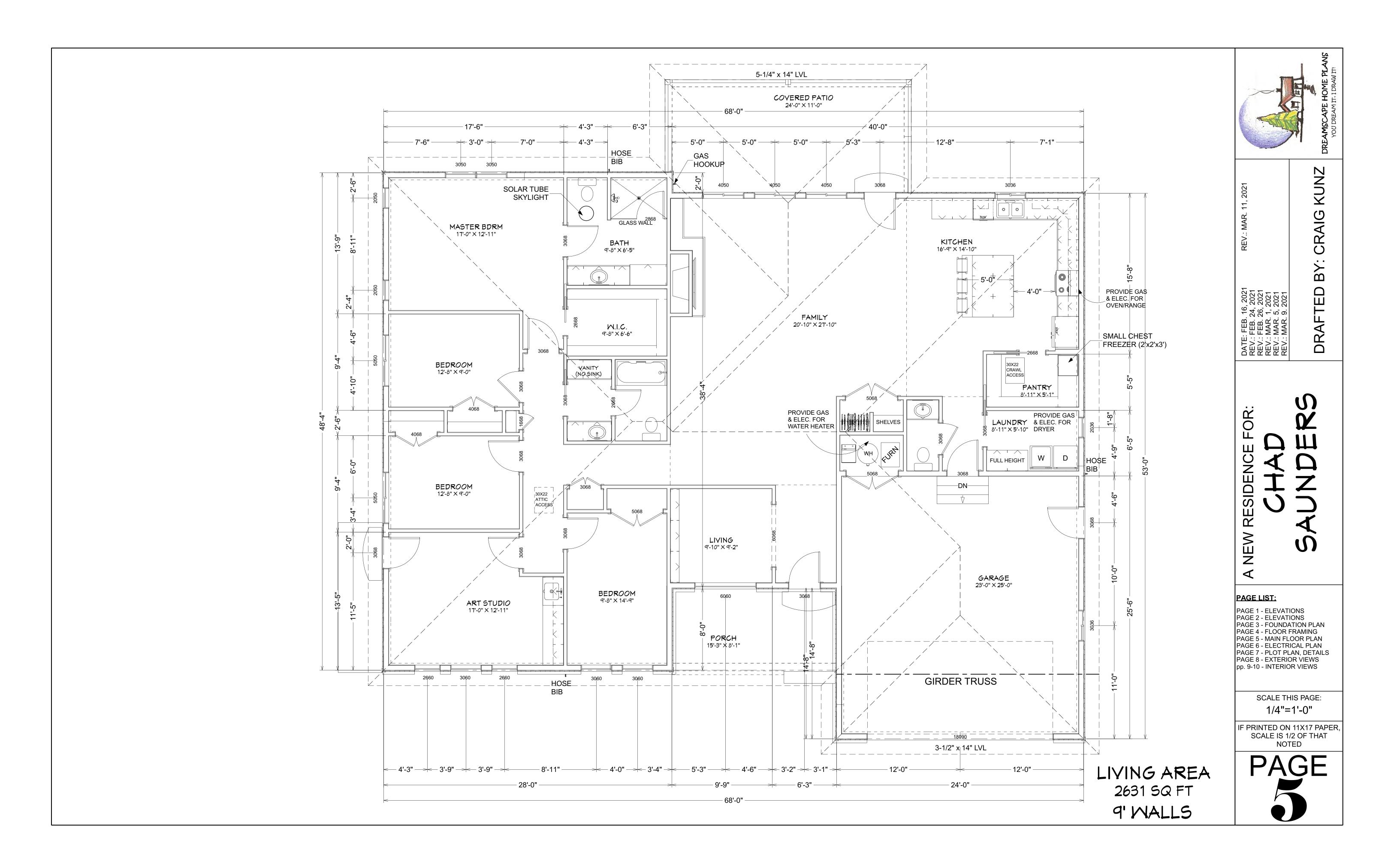
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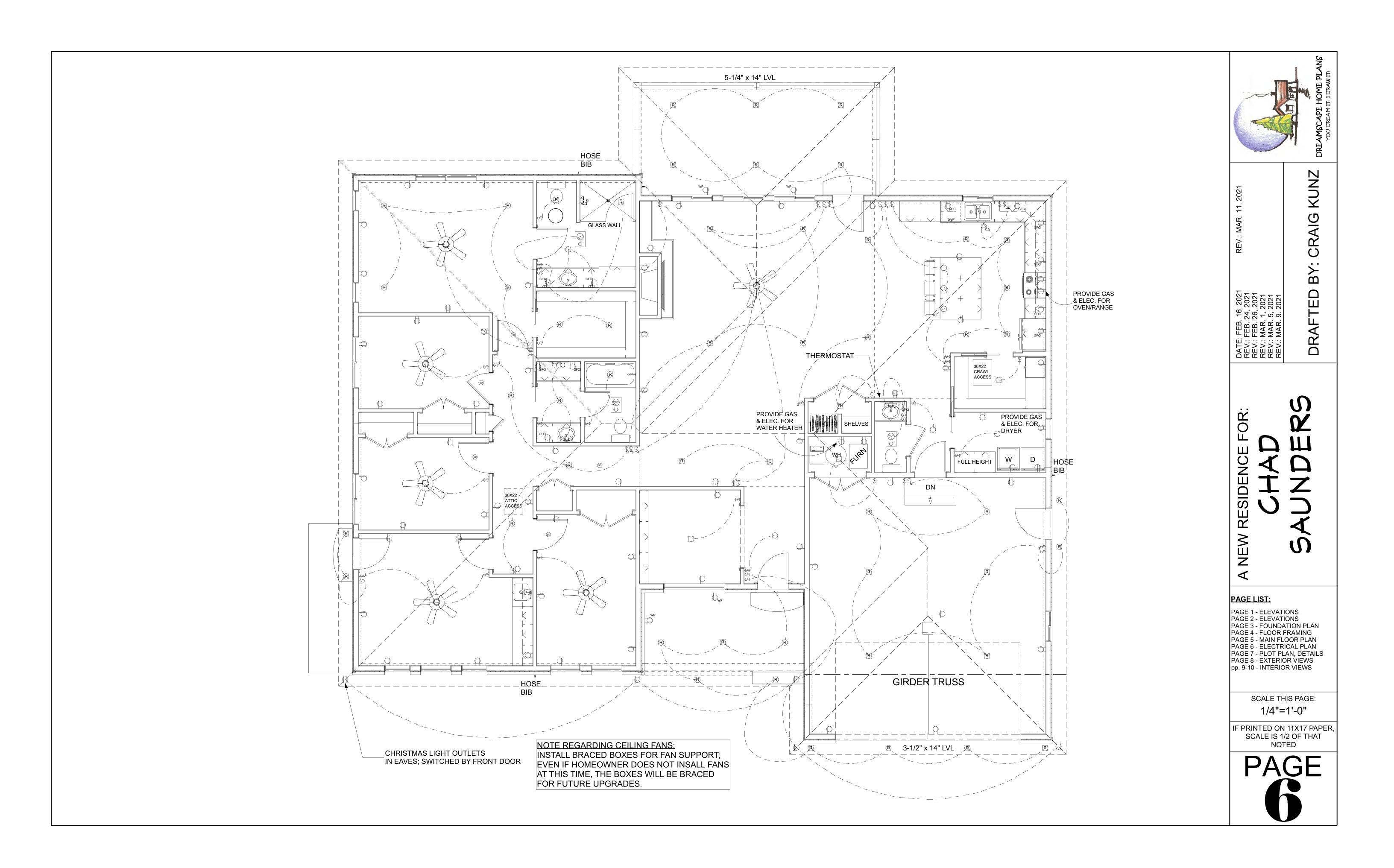
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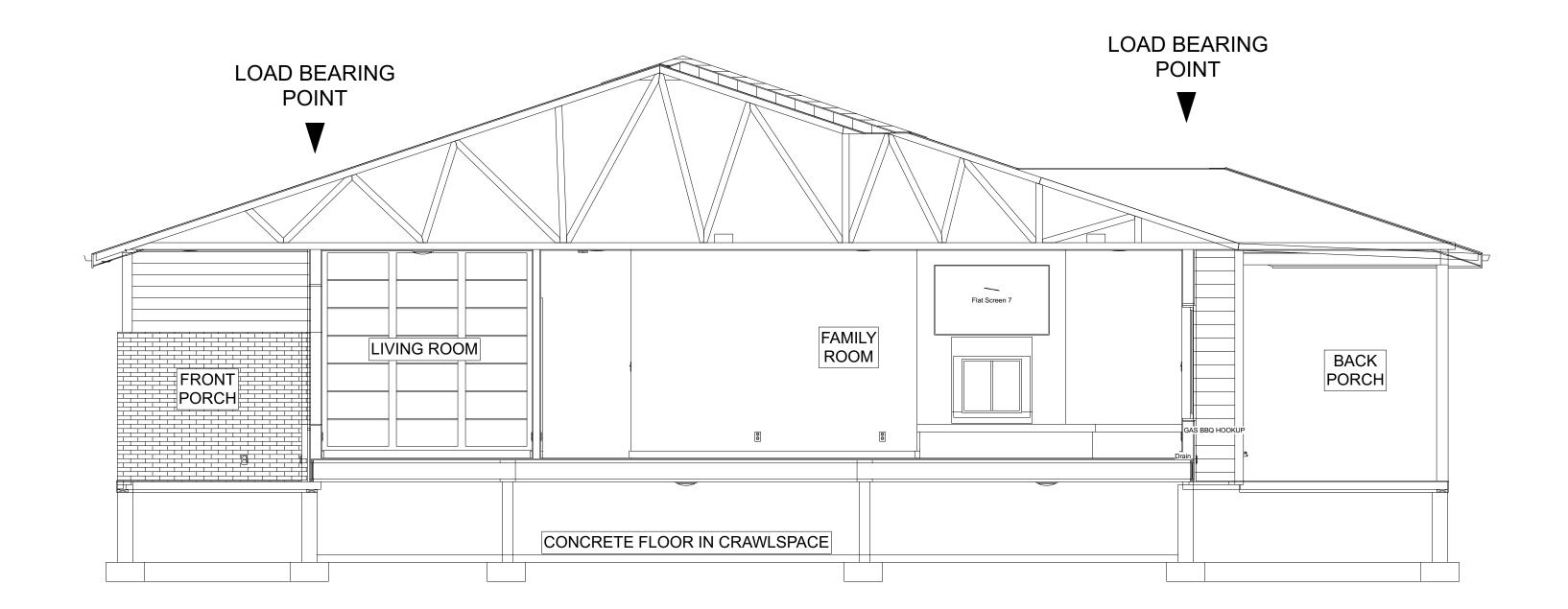
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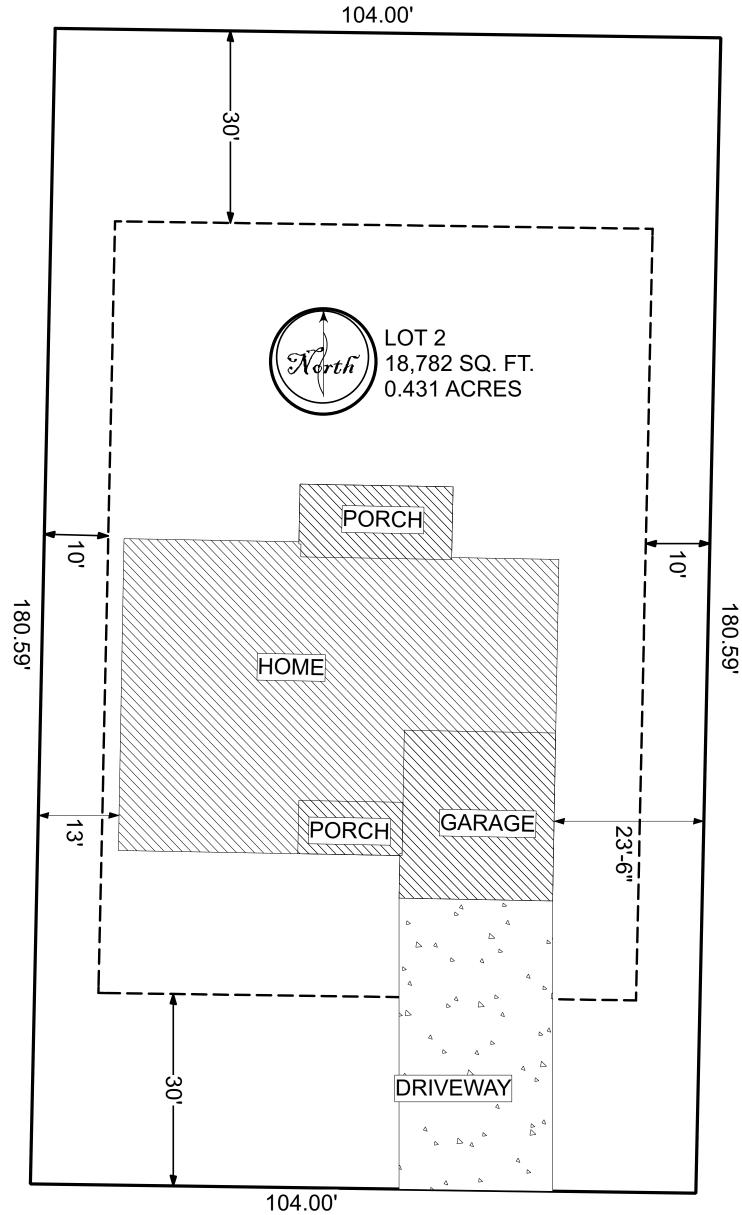




### NOTE: ALL INTERIOR DOORS (S01) ARE HOLLOW CORE, SLAB DOORS

	DOOR SCHEDULE						
QTY	FLOOR	SIZE	HINGE SIDE	DESCRIPTION COMMENTS			
1	1	1668	R	HINGED-DOOR S01			
1	1	18090		GARAGE-GARAGE DOOR P01			
1	1	2668	L	HINGED-DOOR S01			
2	1	2668	L	POCKET-DOOR 501			
1	1	2868	R	HINGED-GLASS SLAB			
1	1	3068	L/R	DOUBLE HINGED-DOOR 501			
4	1	3068	L	HINGED-DOOR S01			
2	1	3068	L	POCKET-DOOR 501			
1	1	3068	R	EXT. HINGED-2 PANEL 2 GLASS			
2	1	3068	L	EXT. HINGED-DOOR F04			
2	1	4068	L/R	DOUBLE HINGED-DOOR 501			
2	1	5068	L/R	DOUBLE HINGED-DOOR 501			
1	1	5068	L/R	EXT. DOUBLE HINGED-SLAB			
3	1	3068	R	HINGED-DOOR S01			
1	1	3068	R	EXT. HINGED-DOOR F04			
1	1	3068	R	EXT. HINGED-DOOR S01			

	T			1	MINDOM SCHEDULE
QTY	FLOOR	SIZE	DESCRIPTION	COMMENTS	
1	1	2036	SINGLE HUNG		
1	1	2050	SINGLE CASEMENT-HL		
1	1	2050	SINGLE CASEMENT-HR		
2	1	2660	SINGLE HUNG		
2	1	3036	RIGHT SLIDING		
2	1	3050	SINGLE HUNG		
3	1	3060	SINGLE HUNG		
3	1	4050	RIGHT SLIDING		
2	1	5050	RIGHT SLIDING		
1	1	6060	FIXED GLASS		



3588 WEST 2200 NORTH

PLOT PLAN SCALE: 1"=15'-0"



BY: CRAIG KUNZ

REV.: FEB. 24, 2021 REV.: FEB. 26, 2021 REV.: MAR. 1, 2021 REV.: MAR. 5, 2021 REV.: MAR. 9, 2021

NEW RESIDENCE FOR:

CHAD

SAUNDERS

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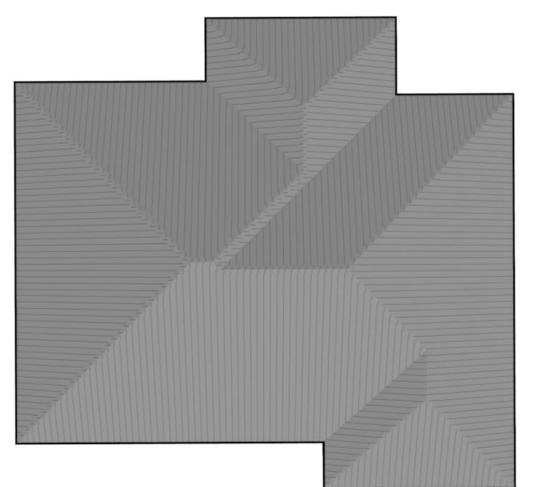
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DRAFTED BY: CRAIG KUNZ

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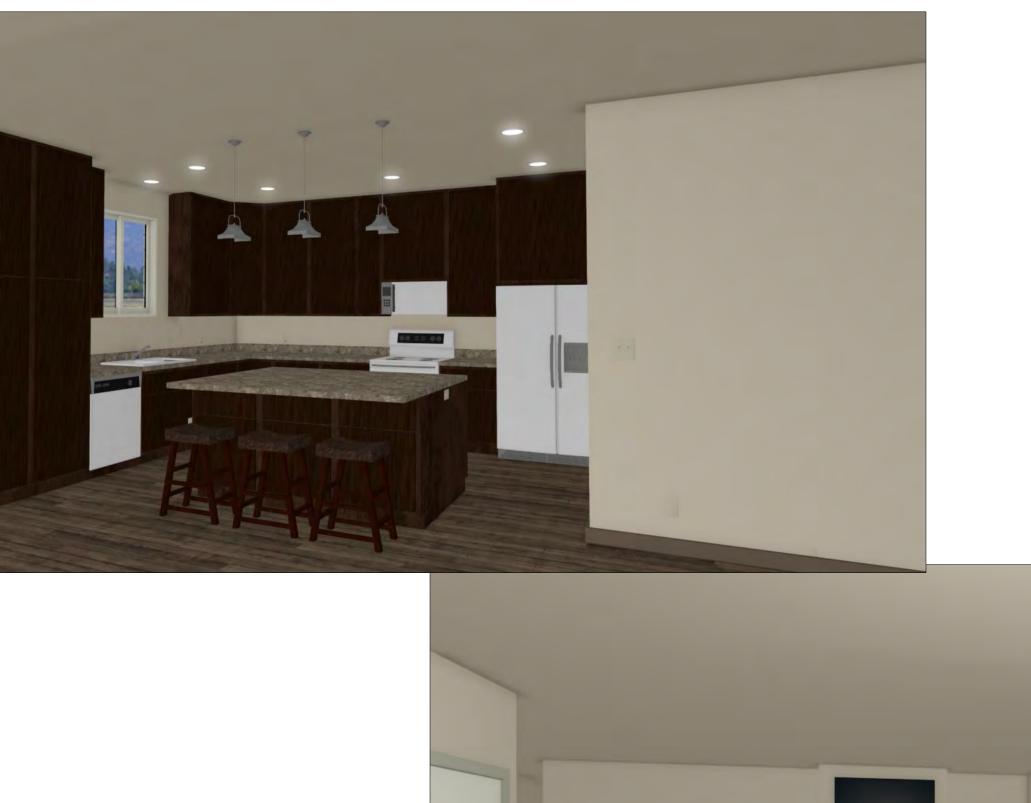
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\_ateral Force Resisting System

Analysis Procedure

Base Shear coefficien Geotechnical Report: Not Provided

Contractors and sub-contractors shall follow all standard building codes, practices, and requirements as listed in the 2018 IRC

= Wood Shearwa

= Equivalent Method

### General

1. These drawings have been prepared by the Engineer of Record primarily to safeguard against major structural damage and loss of life, not to limit damage or maintain use of the structure. See the requirements of the current accepted building code, and as listed in the Basis for Design.

- 2. Professional standards of care have been used in the preparation of these drawings, normally exercised under similar circumstances by reputable engineers in this, or 3. Design of non-structural elements (i.e. stairs, railings, non-load bearing walls, veneers,
- curtain walls, etc.) and their attachment is not included, and must be provided by others, unless specifically noted on these drawings.
- 4. Design of pre-engineered structural products (i.e. wood trusses, steel joists, or pre-cast concrete elements, etc.) is not included and must be provided by others, unless specifically noted on these drawings.
- 5. Specification references (i.e. ASTM, ACI, AWS, etc.) shall be the latest accepted version, where noted on these drawings
- 6. An experienced, licensed contractor, with a working knowledge of applicable codes and industry accepted standard practices, shall perform the work depicted in these
- 7 All work shall conform to the minimum standards of the current accepted building code found in the Basis for Design, other codes, industry specific specifications, and standards listed herein. The contractor shall comply with requirements of all regulatory agencies with authority over any portion of the work. Work not specifically shown on these drawings shall conform to all applicable codes and accepted standard
- 8. The contractor shall verify all dimensions, elevations, and conditions on these drawings with the architectural drawings, and all other discipline drawings, prior to start of construction. Notify the Engineer of Record in writing before the start of construction regarding discrepancies, omissions, or variations, or they will become the sole responsibility of the contractor. Notes and the specific details on these drawings take precedence over the Structural General Notes, and General Details.
- 9. Construction methods are not indicated on these drawings. The contractor shall be solely responsible for all methods, sequences, and procedures of construction. The contractor shall provide adequate shoring, bracing, formwork, etc. as required for the protection of life and property during construction.
- 10. Excavation procedures, including shoring and protection of adjacent property, structures, streets and utilities, shall be performed in compliance with local building codes, regulations and safety requirement, and shall be the contractor's responsibility.
- 11. Construction materials shall be spread out uniformly on structural systems, such that design live loads are not exceeded.
- 12 Structural members shall not have openings, pockets, etc. larger than 6" placed in them, unless specifically noted on these drawings. When drawings by others show items in structural members not shown in the structural drawings, the Engineer of Record shall be notified in writing to determine the appropriate solution.
- 13. Visits to the construction site by the Engineer of Record are a resource for the contractor these vists are for observation puposes only and shall not be considered as
- 14. All geotechnical recommendations will be followed when available for the project,

### Foundations

1. Foundations were designed according to the minimum requirements of the current accepted building code as listed in the Basis for Design. A Geotechnical Engineer should be commission to provide a soils report prior to the completion of the structural design for this project. Bush & Gudgell, Inc will not assume any liability beyond the minimum code requirements in the event that a Geotechnical Report is not provided.

the concrete wall is braced by the completed interior floor systems and all elements

2. Footings & Foundations: Allowable Soil Pressure (eq. fluid weight): = 1500 psf 3. Do not backfill against foundation walls more than 3'-0" in height until after the top of

have reached their design strength. 4. All forms shall be braced to withstand the placement of fresh concrete.

5. Footing excavations shall be clean and free from loose debris, standing water, or un-compacted material at the time of concrete placement.

6. Trenches and excavations under or adjacent to foundations or slabs shall be properly backfilled and compacted. Utility trenching parallel to the foundation shall be located a minimum distance equal to the depth of the trench from the foundation. The trench may approach the foundation at 90 degrees to the structure and may not exceed two and one half feet wide. The trench approach to the foundation may not be located closer than 8 feet from a corner of the structure.

### Concrete

1. Compressive strength, f'c, shall be 4500 psi and a maximum water/cement ratio of 0.45 for concrete in contact with soil. All other structural concrete f'c shall be 3000 psi. Foundation design uses 2500 psi, therefore, special inspection is not required.

2. Concrete mixes shall be designed by a certified concrete testing laboratory and approved by the engineer of record.

- 3. All concrete shall be normal weight 145 pcf with hard rock aggregates.
- 4. Maximum slump shall be 5 inches, and the water shall be clean potable water.
- 5. Portland cement shall be ASTM C 150 type V for concrete in contact with soil. Type II cement may be used elsewhere. All cement in contact with soil shall comply to the table above regarding sulfate exposure.
- 6. Fly ash shall comply with ASTM C 618, class F, and shall be approved by the architect in writing prior to being used on the job. When used, fly ash content shall be 15%-25%. Water-cement ratio shall be based on total cementitious material
- 7. Aggregates shall comply with ASTM C 33. Use 3/4 inch maximum aggregate in structural concrete. 1-1/2 inch maximum in slabs on grade and 3/8 inch pea gravel in grouts, unless specifically noted otherwise on the plans, or by written approval of the engineer of record.

- 8. No more than 90 minutes shall elapse between concrete batching and placement of concrete unless approved in writing by the engineer of record.
- 9. Concrete mixing, placement and quality shall be per the current accepted code (listed in the basis for design). Mechanically vibrate all concrete. Vibrate slabs on grade around and under floor ducts or similar elements.
- 10. Control joints in slabs on grade shall be as noted in the general details. Saw-cut joints shall be cut to a minimum depth of t/4. Doweled joints shall be used where noted on plans. Do not joint post-tensioned concrete slabs on grade unless noted otherwise on plans. Space control joints as listed below:

Slab thickness (t)

Joint spacing (each way)

### Concrete (cont.)

- 11. Remove all debris from forms before placing concrete. Concrete shall be carefully placed in reinforced elements to avoid segregation of aggregates. Unconfined fall of concrete shall not exceed five feet, unless approved in writing by the engineer of
- 12. Reinforcing, dowels, bolts, anchors, sleeves, embeds, etc. shall be securely positioned in the forms prior to placement of concrete.
- 13. High early strength concrete may be used when requested by the contractor. Mix design data using field cured specimens shall be submitted for review and approval.
- 14. Protect concrete from damage or reduced strength due to cold or hot weather in accordance with ACI 305 and 306. Contractor shall take special curing precautions to minimize shrinkage cracking of concrete slabs.
- 15. Pipes and electrical conduits shall not be embedded in structural concrete except where specifically approved in writing by the engineer of record. Embedded items shall not impair the strength of the member.
- 16. Construction joints in structural elements (walls, beams, columns, elevated slabs, etc.) not specifically detailed on the plans require prior written approval from the engineer of record. Contractor shall submit shop drawings showing the proposed joint layout.

### Reinforcing Steel

### **Materials**

- 1. Reinforcing steel shall meet ASTM A615 and shall be grade 60 deformed bars for all bars and shall conform to ASTM A615, "Standard specifications for deformed and plian Carbon-Steel bars for concrete reinforcement.
- 2. Welded wire fabric shall meet ASTM A185. Lap all welded wire fabric at least one row of wires plus 2 inches.

### **Placement**

3. All reinforcing steel dimensions are center to center of the steel unless noted as clear (CLR) cover. Minimum cover for reinforcing shall be as follows (unless noted otherwise on the plans):

Exposure	Min. Cover	Cover Toleran
Cast against and permanently exposed to earth	3"	+/- 3/8"
Exposed to earth or weather #5 bar and smaller #6 bar and larger	1 1/2" 2"	+/- 3/8" +/- 3/8"
Not exposed to earth or weather Slabs, walls and joists #11 and smaller #14-#18 Beams and columns Primary reinforcing, ties	3/4" 1 1/2"	+/- 3/8" +/- 3/8"
Stirrups, and spirals Slabs on grade	1 1/2" 1 1/2"	+/- 3/8" +/- 3/8"

- 4. Lap splices in beams, slabs and footings shall be per current governing code or lap schedule where present. Stagger splices a minimum of one lap length. The tack welding of reinforcing bars shall not be allowed. Provide bent corner bars to match and lap with horizontal bars at all corners and intersections per general details. Vertical wall bars shall be spliced at or near floor lines. Splice top bars at center line of span and bottom bars at the support in spandrels, beams, grade beam, etc. unless
- 5. Mechanical splice couplers shall have current testing report accepted by local building official and shall be capable of developing 125% of the strength of the bar.
- 6. All reinforcing shall be bent cold, one time only. Field bending of rebar shall not be allowed unless specifically noted on the plans.
- Welding of reinforcing bars, metal inserts, and connections shall conform to AWS D1.4, and shall be made only at locations shown on plans or details.
- 8. All welds involving reinforcing bars shall be an E90 low hydrogen electrode. Weld quality rebar is marked with a "W".
- 9. Reinforcing bar spacing shown on the plans represents the maximum on center spacing. All bars shall be detailed and placed per the current governing code as indicated in the basis of design.
- 10. Dowel all vertical reinforcing to foundation, as specified on plans or details. Securely tie all bars in location prior to placement of the concrete.
- 11. Minimum clear spacing between parallel reinforcement shall be 1 1/2 times bar diameter, 1 1/2 times the max aggregate size, or 1 ½" (whichever is larger).

### Anchor Bolts

- 1. Sill plate anchorage at concrete or masonry shall be 1/2" diameter embedded anchor bolts @ 32" o.c. (U.N.O.). All anchor bolts (excluding bolts for holdowns) shall be embedded 7" minimum into the concrete. Anchor bolts for holdowns shall not be considered as part of the required sill plate anchor bolts, as specified in the shearwall schedule or Structural General Notes. Interior walls may be anchored to the concrete with the following (unless noted otherwise on plans):
  - Embedded anchor bolts Concrete screw anchors
- Expansion anchors Powder driven fasteners (as specified below)
- 2. At all sill plates there shall be a minimum of two bolts per piece of plate with one bolt located not more than 12" or less than seven bolt diameters from each end of the piece of plate. A properly sized nut and washer shall be tightened on each bolt to the plate. For seismic design categories D-F, washers shall be a minimum or 0.229" thick by 3" square plate washer (refer to "Basis for Design" on this sheet for seismic design category) at exterior walls, shearwalls, and interior bearing walls where 2x sill plates are specified. Foundation plates and sills shall be the kind of wood specified in the current approved code as listed in the Basis for Design.
- 3. All shearwalls shall be anchored to the concrete per the shearwall schedule.
- 4. Where exterior wall embedded anchor bolts have been missed, damaged, or improperly located, one of the following retro-fit options may be used at the
- 4.1 Provide (1) 1/2" diameter Simpson Titen Screw Anchors (ESR-1056 & ESR-2713) concrete screw anchor. Concrete screw anchors shall be embedded a minimum
- 4.2 Provide (2) 1/2" diameter expansion anchors for each 1/2" diameter embedded anchor bolt. Expansion anchors shall be installed not closer than 6 1/2" o.c. and shall be installed with a minimum of 4 1/8" embedment and spaced 1 3/4" from the edge of the slab. Expansion anchors being installed lass than 2" from the edge of the concrete shall be Hilti Kwik Bolt 3 per ESR-2302. Substitutions shall be approved with written approval of the engineer of record.
- 4.3 Epoxy bolts of the same diameter and spacing may be used in lieu of the embedded bolts. A 7" minimum embedment shall be provided for epoxy grouted
- 4.4 As an alternate, Simpson LMA or MAS anchors may be used in lieu of the embedded anchor bolts. The anchor spacing shall be as follows:

Shearwall Mark	LMA/MAS spacing	Shearwall Mark	LMA/MAS spacing
SW1	28" o.c.	SW5	14" o.c.
SW2	18" o.c.	SW6	10" o.c.
SW3	16" o.c.	SW7	10" o.c.
C/V/A	16" 0 0	6///0	9" 0 0

- Where interior wall embedded anchor bolts have been missed, damaged, or improperly located, one of the following retro-fit options may be used at the contractors discretion. Interior anchor bolts shall be defined as anchor bolts that are located a minimum of 6" from slab edges, steps, turn-downs, openings, or similar
- 5.1 Provide (1) 1/2" diameter Simpson Titen Screw Anchors (ESR-1056) or 1/2" diameter ITW Ramset/RedHead LDT (ER 5890) concrete screw anchor. Concrete screw anchors shall be embedded a minimum of 4 1/2".

### Structural General Notes

### Anchor Bolts (cont.)

5.2 Expansion bolts of equal or greater diameter shall be installed per the manufacturer specifications. The bolts shall be one of the following ICC-ES Evaluation Reports:

Hilti Kwik Bolt 3 (ESR-2302)

Equivalent expansion bolts may be used at the contractors discretion, provided that the alternate expansion anchors have greater shear and pullout values at equal embedment than those specified above. The expansion bolts shall have minimum embedment depths as follows:

- 1/2" diameter bolts shall have 2 1/4" embedment minimum 5/8" diameter bolts shall have 2 3/4" embedment minimum 3/4" diameter bolts shall have 3 1/4" embedment minimum
- 5.3 Epoxy bolts of the same diameter and spacing may be used in lieu of the embedded bolts. A 7" minimum embedment shall be provided for epoxy grouted
- Interior non-load bearing partition walls may be anchored to the slab with a minimum 0.140" diameter shot pins at 32" o.c. maximum spacing.

### Wood

### Materials

1. Structural sawn lumber design values shall comply with the latest edition of the grading rules of the Western Wood Products Association (WWPA) or the West Coast Lumber Inspection Bureau (WCLIB). All sawn lumber shall be stamped with the grade match of an approved lumber grading agency. Structural sawn lumber components

ive the following minimum grade (unles	s noted otherwise on plans):
<u>e:</u>	<u>Material</u>
sill plates	Treated Douglas Fir
top plates	Douglas Fir Štud Gra
1 studs/blocking	Douglas Fir Stud Gra
6 studs (up to 10'-0" in height)	Douglas Fir Stud Gra
6 studs (over 10'-0" in height)	Douglal Fir No. 2
sts and all other sawn lumber	Douglas Fir No. 2
beams and 6x posts	Douglas fir No. 1

2. Glue-Laminated beams (GLB)shall be Douglas Fir 24F-V4 unless noted otherwise on the plans. All cantilevered GLB béams shall be Douglas Fir 24F-V8. The GLB beams shall have the following minimum properties:

E=1,800,000 psi Fb=2400 psi

Fabrication and handling shall conform to the latest AITC and ASTM standards. Beams shall bear an apporpriate grade stamp clearly noting its design properties. Beams shall be manufactured with industry standard minimum camber (2000' radius) unless camber is specifically noted on the plans.

3. Laminated Veneer Lumber (LVL) shall be Douglas fir and manufactured in accordance with TrusJoist Macmillan Corporation manufacturing standards as referenced in NER-481, or approved equal. All LVL members shall have the following minimum properties:

> E=1,800,000 psi Fb=2600 psi

Fv=285 psi Fc(parallel)=2510 psi Fc(perpendicular)=750 psi

When multiple LVL pieces are grouped together, they shall be fastened with (2) rows of 16d nails at 12" o.c. for member depths up to 14" in depth. LVL members greater than 14" in depth shall be used in built up sections only, and shall be fastened together with (3) rows of 16d nails at 12" o.c.

4. Parallel Strand Lumber (PSL) shall be Douglas fir and manufactured in accordance with TrusJoist Macmillan Corporation manufacturing standards as referenced in NER-481, or approved equal. All LVL members shall have the following minimum

E=2,000,000 psi Fb=2900 psi

Fv=290 psi Fc(barallel)=2900 bsi Fc(perpendicular)=750 psi

### Framing

- 5. All sills or plates resting on concrete or masonry shall be pressure treated Douglas Fir or
- other locally approved chemically treated lumber 6. All beams shall be considered flush bottom unless noted otherwise on the plans. Girder trusses and beams shall have full bearing (for example a (3) ply girder truss shall have a minimum of (3) 2x studs carried to the foundation or carrying beam per plans) at each bearing point with (2)2x studs minumum. Nail studs together per typical nailing schedule. Beams and girder trusses ((2)ply or larger) bearing on the top plate shall be attached to the top plate with an A34 framing anchor or (2) 16d toenails each side of
- the structural member (unless noted otherwise on the plans). 7. In exterior walls, interior bearing partitions and shearwalls, any wood stud may be cut or notched to a depth not exceeding 25% of its width. Cutting or notching of the studs to a depth greater than 40% of the width of the stud is permitted in non-bearing partitions supporting no loads other than the weight of the partition. The cut or
- notched stud shall be mechanically reinforced per the general detail. 8. A hole not greater in diameter than 40% of the stud width may be bored in any wood stud. Bored holes not greater than 60% of the width of the stud is permitted in non-bearing partitions or in any wall where each bored stud is doubled, provided not more than two such successive doubled study are bored. In no case shall the edge of the bored hole be nearer than 5/8" to the edge of the stud. Bored holes shall not be located at the same section of stud as a cut or notch. Do not notch joists, rafters or beams, unless noted othewise on the plans. Approval for any holes or notches not indicated on the plans shall be provided by the engineer of record, in writing, prior to the work being done on the site.
- 9. All bolt shall be installed in holes bored with a bit 1/16" larger than the diameter of the bolt. Bolts and nuts seating on wood shall have cut steel washers under heads and nuts. Ding threads to prevent loosening. Lag bolts shall be installed in pre-drilled holes by hand turning with a wrench (not with an electric or pneumatic impact tool).
- 10. All nails (except 16d nails) shall be common nails unless specifically noted otherwise on the plans. 16d nails may be 16d sinker, 16d box, pneumatic (P-nail), or 12d common, unless noted otherwise on the plans. Nails shall be driven so that heads are flush with wood surface. Over or under driven nails will not be acceptable. Miscellaneous nailing shall be per the current approved code nailing schedule, or as listed below:

Nail	Shank dai/Length
	0.131"DIAX2.50"
10D	0.148"DIAX3.00"
I2D	0.148"DIAX3.25"
	0.162"DIAX3.50"
20D	0.192"DIAX4.00"
	0.207"DIAX4.50"
40D	0.225"DIAX5.00"

11. The following staple equivalents may be substituted for the nails specified on the plans, where accepted by the local building department:

Equivalent Spacing of Approved Fasteners						
Nail Size	Common Nail	Stap	Staples and Nails Gauge			
	Spacing	16	15	14		
	4"	3 1/2"	4"	5"		
	6"	5"	6"	7"		
6d	8"	6 1/2"	8"	9 1/2"		
	10"	8 1/2"	10"	12"		
	12"	10"	12"	14 1/2"		
	4"	2 1/2"	3 1/2"	4"		
	6"	4"	5"	6"		
8d	8"	5 1/2"	6 1/2"	8"		
	10"	6 1/2"	8"	10"		
	12"	8"	10"	12"		
	4"	2"	2 1/2"	3"		
	6"	3 1/2"	4"	5"		
10d	8"	4 1/2"	5 1/2"	6 1/2"		
	10"	5 1/2"	7"	8"		
	12"	6 1/2"	8"	9 1/2"		

Note: Penetration is the required depth of embedment of the staple or nail into the main member to acheive its full shear capacity (1" minimum into main framing

### Wood (cont.)

12. All plywood laid with face grain perpendicular to supports shall be C-D or C-C sheathing conforming to current adopted code as listed in the Basis for Design and shall coform to the following nominal thickness, span rating, and nailing pattern below (unless noted otherwise on the plans):

note in the plane,					
Nailing Pattern					
Thickness	Span Rating	Edge Nailing	Field Nailing		
3/8"	24/0	8d @ 6" o.c.	8d @ 12" o.c.		
7/16"	24/16	8d @ 6" o.c.	8d @ 12" o.c.		
15/32"	32/16	8d @ 6" o.c.	8d @ 12" o.c.		
3/4"	48/24	10d @ 6" o.c.	10d @ 12" o.c.		
1"	60/48	10d @ 6" o.c.	10d @ 12" o.c.		
1 1/8"	48" o.c.	10d @ 6" o.c.	10d @ 12" o.c.		

- 13. A.P.A. performance rated sheathing (O.S.B.) may be used as an alternate to plywood with prior approval of owner and/or architect. Rated sheathing shall comply with ICC-ES Evaluation Report No. ESR-2586, exposure 1, and shall have a span rating equivalent to or better than the plywood it replaces. Install per manufacturer's
- 14. Shear panel blocking noted on plans or details shall be constructed of 2x solid framing with 3/8" minimumm plywood with 8d nails at 6" o.c. (unless noted otherwise on plans) and shall be nailed to adjacent trusses/joists with minimum (2) 16d at the top and bottom of truss or framing.

### **Wood Connection Hardware**

- 1. Manufactured hardware shall be Simpson Strong-tie products as noted on the drawings. Alternatives may be used at the discretion of the Engineer of Record. One manufacturer shall be used exclusively for each project. Only approved connectors
  - a) Simpson Strong-Tie Company Inc, Brea California, (ICBO report No.1211, 1258, 4448, 4935, NĔR-209, 393, 413, 421, 422, 432, 443, 469).
- b) USP Lumber Connectors, 2150 Kitty Hawk Road, Livermore, California 94550, (ICBO report No. 2099, 2725, 3613, 5125, 5321, 5356, 5379, 5441, and NER-478, 505, 530)

uivalent holddown anchors and ៖ s discretion:
<b>Bolt type holdown</b>
HTT16, PHD2
HTT22, PHD5
HTT16, HD2A, PHD2
HTT16, HD5A, PHD2
HTT22, MTI28b, HD5A
PHD6, HD8A
HTT16
HTT22
PHD6,HD6A

2. Tension holddown anchors and straps shall be installed as specified on the foundation

3. Anchor bolt holddown anchorage shall have a standard hex head at the embedded end. The embedded anchor bolt diameter and depth of embedment or retrofit

pedment shall be as follows:							
Anchor Bolt Retro-fit							
Simpson	Minimum	Minimum	All Thread	Minimum Epoxy Grout	Simpsor	SSTB two-	
Holddown	Bolt Dia.	Embedment	Dia.	Embedment	pour	pour	
LTTI31	5/8"	7"	5/8"	10"	SSTB16	SSTB20	
HTT16	5/8"	7 1/4"	5/8"	10"	SSTB16	SSTB20	
HTT22	5/8"	9 3/4"	5/8"	10"	SSTB24		
MTT28B	5/8"	8 3/4"	5/8"	10"	SSTB20	SSTB24	
PHD2	5/8"	7 1/4"	5/8"	10"	SSTB16	SSTB20	
PHD5	5/8"	8 3/4"	5/8"	10"	SSTB16	SSTB20	
PHD6	7/8"	10 1/4"	7/8"	15"	SSTB28	SSTB34	
PHD8	7/8"	11 1/4"	7/8"	15"	SSTB28	SSTB34	
HDQ8	7/8"	11 3/4"	7/8"	15"	SSTB28	SSTB34	
HHDQ11	1"	18"					
HHDQ14	1"	18"					
HD10A	7/8"	14"	7/8"	20"	SSTB28	SSTB34	
HD14A	1"	17"					
	1 1/4"	17"					
HD15	1 1/4"	18 1/4"					

- Adhesives used to attach floor sheathing to the framing shall conform to the AFG-01 specification of the American Plywood Association (adhesives for field-gluing plywood to wood framing). The adhesive shall be certified as conforming to AFG-01 by a testing agency approved by the building official or accepted by the federal housing administration. Alternates may be used only with specific approval of the EOR and only upon submittal of a listing of adhesives to be substituted.
- 5. Where the truss manufacturer requires additional bearing an appropriately sized Truss Bearing Enhancer (TBE) connection shall be installed per the hardware manufacturer
- 6. Where the truss manufacture requires hardware to resist uplift forces per the truss calculations greater than # 250, the following straps shall be used:

3 1						
	Hardware for Uplift Forces					
	Douglas Fir-Larch		Spruce Pine Fir			
Lateral Ties	Southern Pine					
@ Top Plate	Vert. Loads Horiz. Loads Vert.		Loads Horiz. Loads			
	P1	P2	P1	P2		
H1	165#	455#*	140#	400#*		
H2.5A	110#	480#*	110#	520#*		
LTS12		720#		620#		
MTS12		1000#		860#		
HTS16		1260#		1085#		
HTS20		1450#		1245#		
LGT2		2050#		1785#		

\* Use 10d in lieu of 8d nails 7. Fasteners for preservative-treated and fire-retardant-treated wood shall be of hot

### **Deferred Submittals**

dipped zinc-coated galvanized steel.

1. Prefabricated components, specialty items and design-build elements noted on the drawings, but which require the manufacturer or supplier to provide the design, shall be submitted to the Architect and/or the EOR for review as deferred submittals. Deferred submittals required by the EOR shall include, but not be limited to, the following:

Wood trusses Engineered wood joists and beams Support and anchorage for mechanical, electrical and plumbing equipment and

- 2. Deferred submittals shall include calculations and drawings prepared and stamped by an appropriately licensed engineer(specialty engineer) showing the location and magnitude of loads, configuration and size of members and compatibility of submittal items with the primary structural system.
- 3. The purpose of the EOR's review shall be limited to determining that the drawings and calculations have been properly sealed, that the load criteria are in general conformance with the structural drawings and with the current accepted building code as listed in the basis for design, that connections to the primary structure are compatible with the primary design, and that the primary structure is capable of supporting the imposed loads.
- 4. The EOR will rely upon the specialty engineer's seal as certification that the deferred submittal items designed by the specialty engineer comply with the criteria set forth in the structural drawings and applicable codes and standards. The EOR will not be responsible for the adequacy of designs provided by others.
- 5. Allow five (5) working days for the EOR's review. One copy of each submittal will be retained for the EOR's records.

### **Special Inspections**

- 1. All required special inspections shall be performed in accordance with current accepted building code.
- 2. In addition to standard inspection by the building official required per the building code, the owner shall employ one or more special inspectors who shall provide inspection during construction for the types of work listed below
- 3. The Special Inspectors shall be a qualified person who shall demonstrate competence, to the satisfaction of the building official, for the inspection of the particular type of construction or operation requiring special inspection.
- 4. The Special Inspector shall inspect the work assigned for conformance with the approved contract drawings and specifications. The Special Inspector shall furnish inspection reports to the building official, the EOR and other designated persons required by the governing building official. All discrepancies shall be brought to the immediate attention of the contractor for correction, and then if uncorrected in a reasonable period of time, the EOR and the building official shall be notified. The Special Inspector shall submit a final signed report stating whether the work requiring special inspection was, to the best of the inspectors knowledge, constructed in conformance with the approved plans and specifications and the applicable
- Inspectors shall inspect from an approved set of contract drawings, shop drawings shall not be used in lieu of the approved contract drawings for inspection purposes.
  - Certificate of approval regarding materials and inspection of prefabricated items shall be provided in accordance with the current accepted building code.
- 7. Types of work to be inspected by the Special Inspector are as follows:

inspections are made of work in progress.

7.1. Prior to and during the installation of concrete around anchor rods.

- 7.2. During the welding of reinforcing steel. Exception: Special Inspector need not be continuously present during the welding of reinforcing steel not larger than No. 5 bars used for embedment, provided the materials and qualifications of welding procedures and welders are verified prior to the start of work, and periodic
- 7.3. During all epoxy anchoring installations for bolts, rebar, threaded rod, etc. including verification of bolt or bar materials, hole depth and diameter, hole cleanout, epoxy mixing and placement procedures, and embedment depth in accordance with the contract drawings and the mfr's specifications and
- 7.4. Periodic special inspections for nailing, bolting, anchoring, and other fastening of components within the seismic-force-resisting system, including drag struts, braces,
- 7.5. During site preparation, fill placement and testing for in-place density of soils per the approved soils report and current accepted building code.

### Structural Steel

### Materials

Structural steel members shall conform to the following standards and material properties unless noted otherwise:

	Shape	Standard	Yield (fy
	Standard steel shapes	ASTM A36	36 ksi
	Rolled wide flange sections Bars and Plates	ASTM A572	50 ksi
		ASTM A53	36 ksi
	Pipes	ASTM A500 Crada b	36 ksi
	Tubes	ASTM A500 Grade b	46 ksi
	High strength bolts	ASTM A325	
2.		ed and erected in accordance with Arication and erection of structural ste	
	Installation		

3. Where a steel beam is used in connection to wood framing, a 3x-DF-L stud grade

- plate will be bolted to the top flange with a 1/2" diameter bolts at 24" o.c. staggered. Where a steel column is located adjacent to wood framing the steel column shall be connected to the wood framing with 1/2" diameter threaded studs at 24" O.c. All threaded rod, threaded studs, foundation anchor bolts, and all bolted connections involving wood members shall be ASTM A-307 unless noted otherwise. Welders shall be AWS certified. All welding shall use E70 series low hydroger electrodes. All welding shall conform to the latest American Welding Society
- standards; welds on drawings are shown as shop welds. Contractor may shop weld or ield weld at his discretion. All full penetration welds shall be tested and certified by an independent testing laboratory All bolts shall be installed as bearing-type connections with threads excluded from shear plane (type "x" connection), UNO. High-strength bolts shall be snug tightened using any AISC approved method and do not require special inspections unless noted
- installed with washers. All expansion or epoxy bolts shall have current ICBO/ICC rating for material into which installation occurs. Headed studs shall conform to all requirements of the latest edition of the "recommended practices for stud welding" and the "structural welding code" published by AWS. All bolts, anchor bolts, expansion bolts, etc. shall be installed with

otherwise. All bolts in slotted or oversize holes and all high strength bolts shall be

- steel washers at face of wood. Grout beneath column bases or bearing plates shall be 5000 PSI minimum non-shrink flow-able grout or dry-pack. Install grout under bearing plates before framing member is installed. At columns, install grout under base plates after column has been plumbed but prior to floor or roof installation. Grout depth shall be sufficient to allow grout or dry
- pack to be placed beneath plate without voids. 8. Welded moment frame connections shall comply with the following requirements: - Access holes shall be smooth and free of notches - Minimum preheat per AWS requirements shall be maintained for all welds including tack welds.

- Verify preheat with temperature indicating crayons.

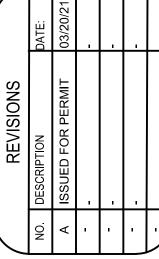
- Weld material shall comply with charpy v-notch requirement of 20 ft-lbs at -20 dearees f. End dams are not allowed. - All weld layers shall be completed full width of flange before new layer is started. - Maximum layer thickness equals 1/4"; maximum bead width equals 5/8". Grind edges of weld smooth and flush with edges of abutting parts.
- Notches or grooves shall be filled and ground smooth. Special inspector shall be present during all moment frame welding operations. Heavy steel columns (W14x233 or heavier) shall be supplied with charpy v-notch testing accordance with ASTM: A6, and supplementary requirement S5. The test shall meet a minimum average value of 20 ft-lbs at 70 degrees f and shall be conducted in accordance with ASD A3.1.C. splices, weld access holes, compatible welding procedures, welding preheat requirements; thermal cut surface preparation and inspection shall be made in accordance with ASD J17. Weld tabs and backing at
- All misc. welds not noted, including stiffeners, misc. plates, etc. shall be per AISC manual table J2.4.

splices shall be removed and the surfaces ground smooth.

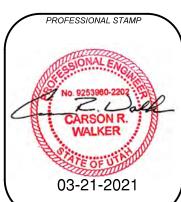
STRUCTURAL DRAWING INDEX			
SHEET NUMBER SHEET NAME			
S-001	GENERAL STRUCTURAL NOTES		
S-100	FOUNDATION PLAN		
S-101	SHEAR WALL PLAN		
S-102	MAIN FLOOR FRAMING PLAN		
S-103	ROOF FRAMING PLAN		
S-201	STRUCTURAL DETAILS		
S-202	STRUCTURAL DETAILS		

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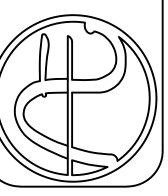




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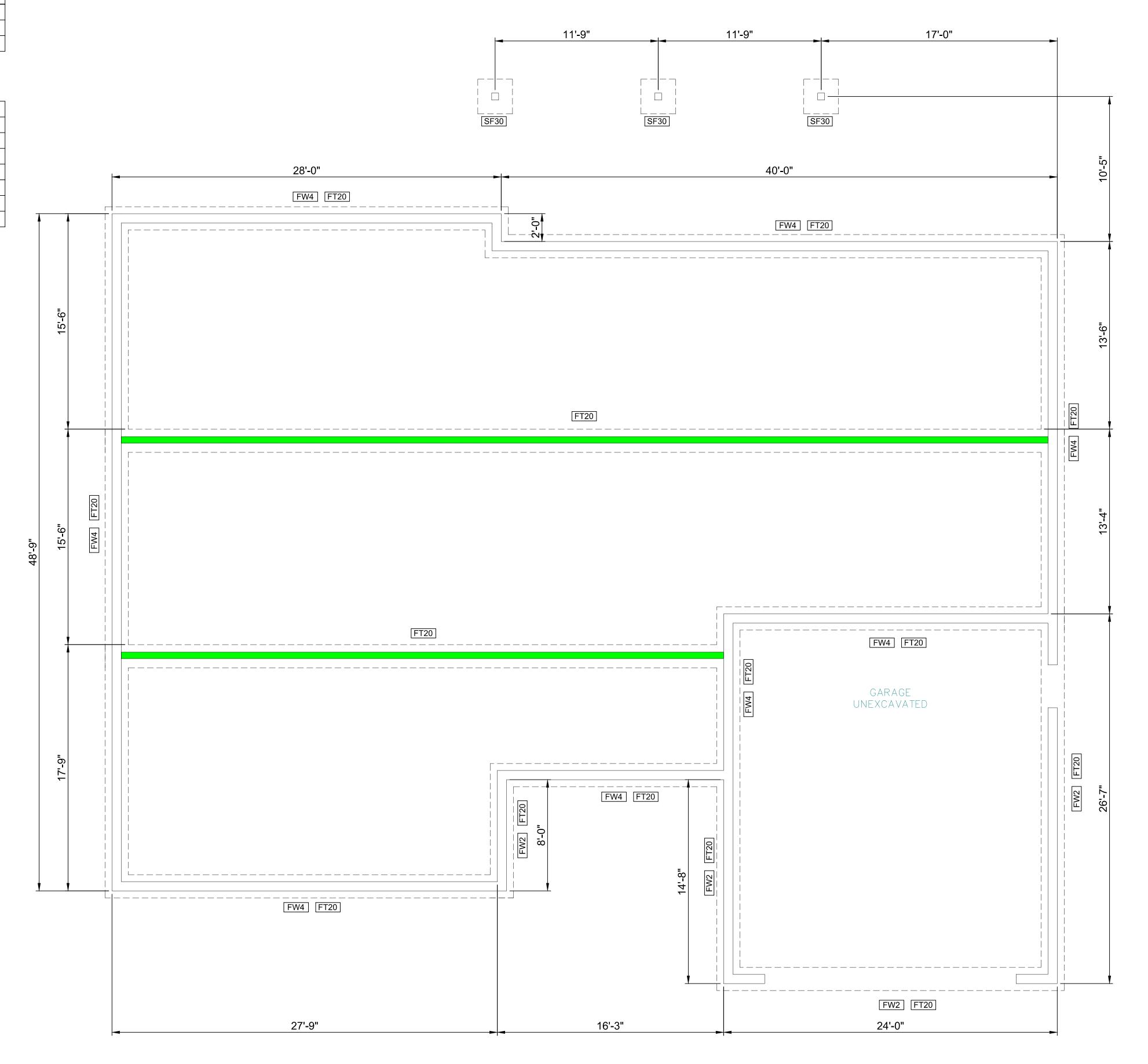


FOOTING SCHEDULE						
				REINFOR	CEMENT	
MARK	WIDTH	LENGTH	THICKNESS	TRANSVERSE	LENGTHWISE	
FT20	20"	CONT.	10"	-	(2)#4	
SF30	30"	30"	10"	(3)#4	(3)#4	
1. PLACE REBAR 3" CLEAR FROM BOTTOM.						

		FOUND	ATION SCHEDU	LE		
			REINFORCEMENT			
MARK	HEIGHT	WIDTH	VERTICAL	HORIZONTAL	LAYER	
FW2	2.5'	8"	#4 @ 18"O.C.	(3)#4	CENTER	
FW4	4'	8"	#4 @ 18"O.C.	(4)#4	CENTER	
1. DOWEL VERTICAL BARS INTO FOOTING.						

<sup>2.</sup> PLACE TOP AND BOTTOM BARS WITHIN 4" OF TOP AND BOTTOM OF WALL.

3. PLACE REINFORCEMENT LAYERS IN CENTER OR NEAR FACE AS NOTED.



# FOOTING AND FOUNDATION PLAN

SCALE: ½"=1'-0"

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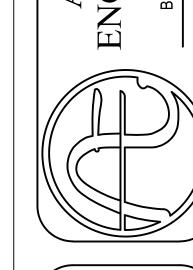
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S-100

SHEAR WALL SCHEDULE						
MARK	PANEL SHEATHING	EDGE NAILING	FRAMING & SILL PLATE	SOLE PLATE	SILL PLATE	
SW1	7/16" STR II	8d @ 6" O.C.	2" NOMINAL	10d @ 8" O.C.	1/2" A.B. @ 32" O.C.	

1. FIELD NAILING SALL BE 12" O.C. AND STUD SPACING SHALL BE NO GREATHER THAN 16" O.C.

2. NAILS SHALL BE 8d COMMON (0.131"X2.5" AND 10d COMMON (0.148"3").

3. USE 3'X3"X0.229" PLATE WASHERS WITH ALL ANCHOR BOLTS

HOLD-DOWN SCHEDULE						
MARK	SIMPSON NO.	FASTENERS	ANCHOR	POST		
N	LSTHD8	(24)10dX3"	STRAP 8" EMBED	(2) 2X POST		

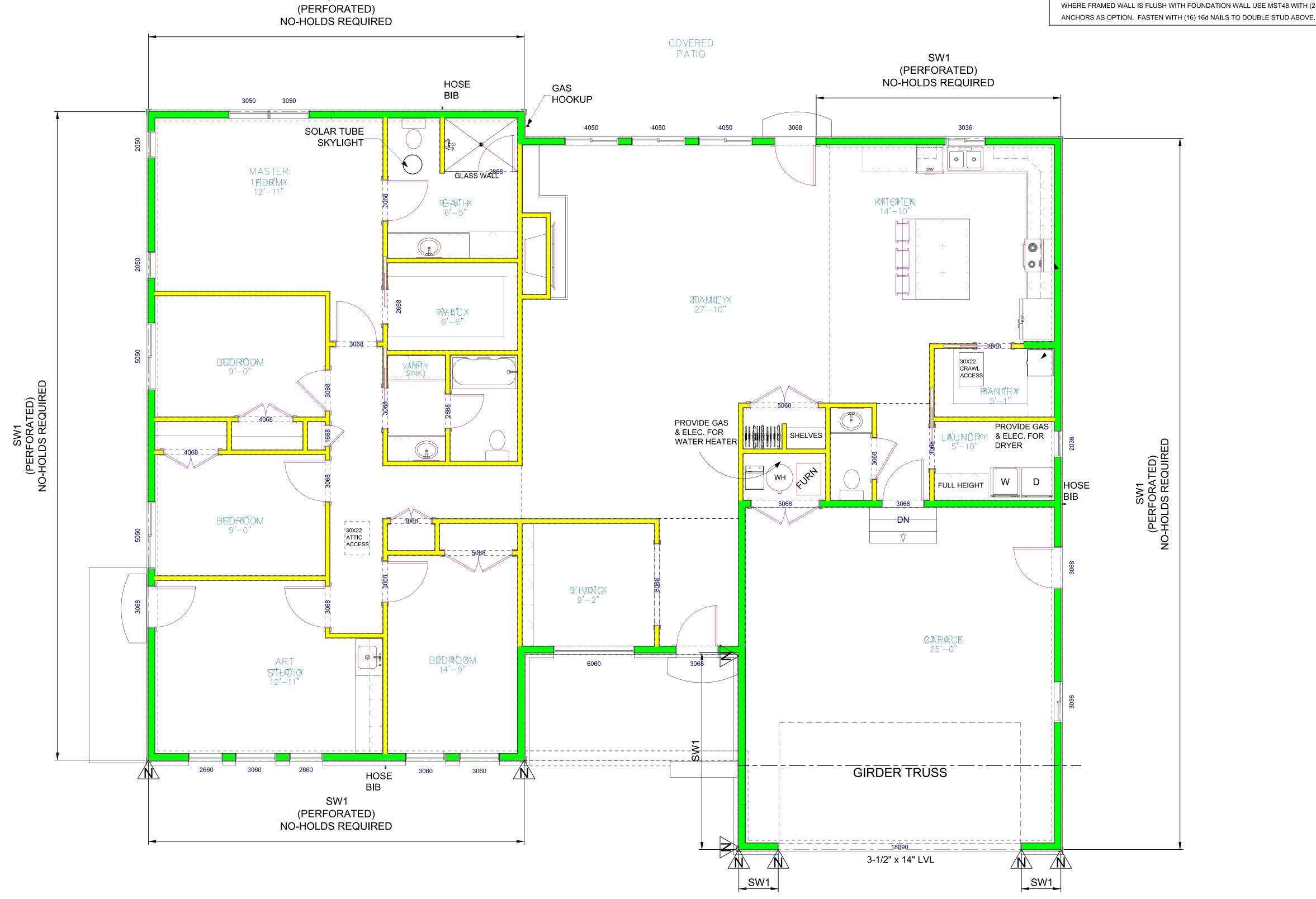
1. SIMPSON STRONG-TIE OR EQUIVALENT.

2. ATTACH HOLD-DOWN TO (2)2X POST U.N.O. ABOVE THE FLOOR DECK.

3. SHEAR WALL EDGE NAILING SHALL BE TO (2)2X POSTS U.N.O. ABOVE FLOOR DECK.

4. NAILS SHALL BE 10d COMMON (0.148X3" NAILS).

5. MISPLACED FOUNDATION STRAP HOLD-DOWNS MAY BE RETROFITTED USING HTT22 HOLD-DOWNS WITH 5/8" ALL THREAD BOLTS. EPOXY INTO FOUNDATION WALL WITH 5 INCHES EMBEDMENT. WHERE FRAMED WALL IS FLUSH WITH FOUNDATION WALL USE MST48 WITH (2)1/2" DIA. WEDGE



SW1

SHEAR WALL PLAN

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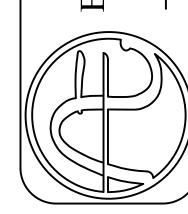
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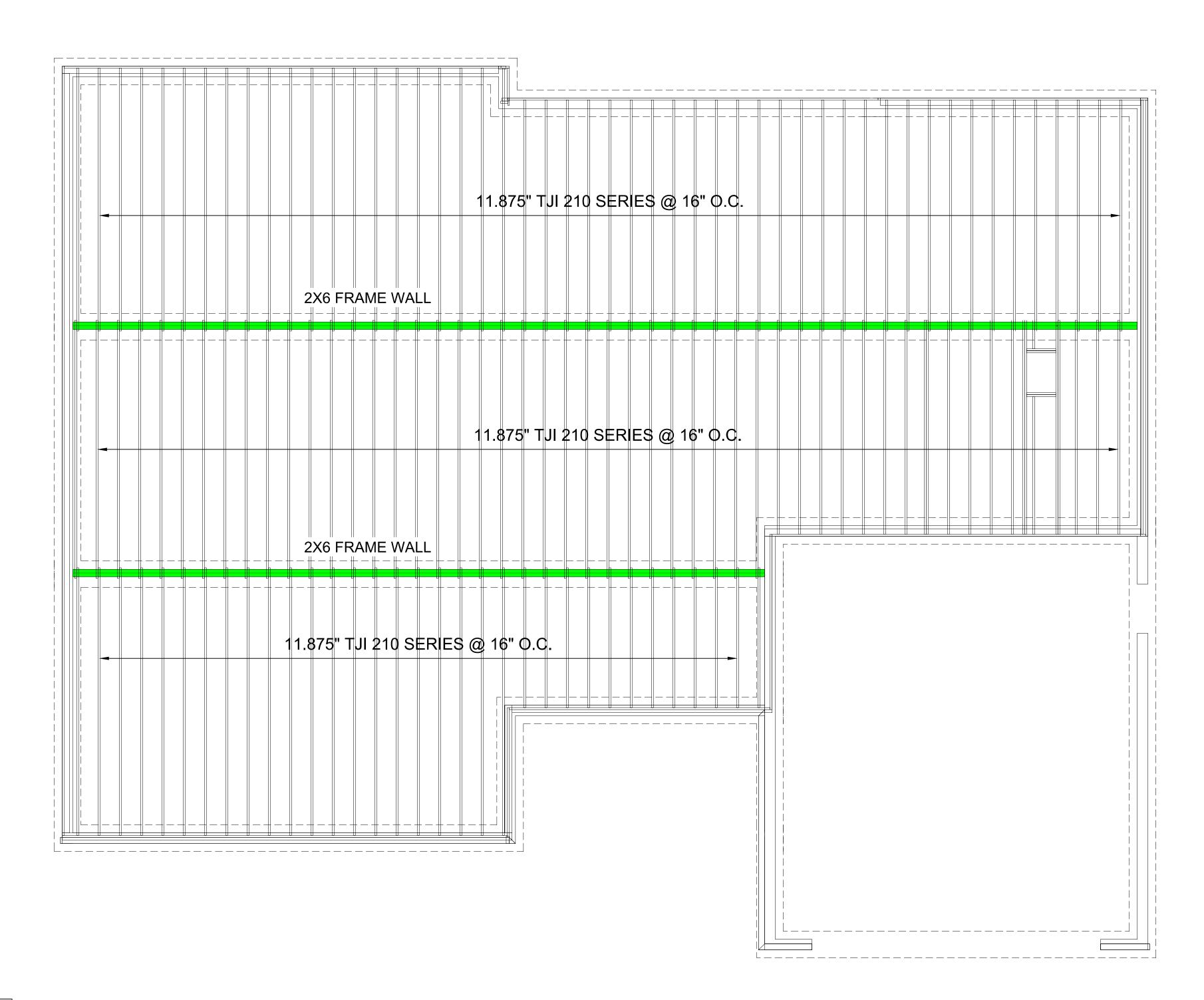
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SHEET **S-101** 



FLOOR SHEATHING SCHEDULE					
SPACING	SHEATHING THICKNESS	SPAN RATING			
16" O.C.	5/8"	32/16			
24" O.C.	3/4"	40/20			
1. SHEATHI	NG PERPENDICULAR TO SUPPORTS.				
2. SHEATHING NAILED AND GLUED TO FLOOR JOISTS.					
3. USE 8d NAILS 6" O.C. (EDGES) 12" O.C. (FIELD)					
4. NAILING NO CLOSER THAN 3/8" FROM PANEL EDGE.					

# MAIN FLOOR FRAMING PLAN

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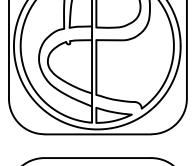
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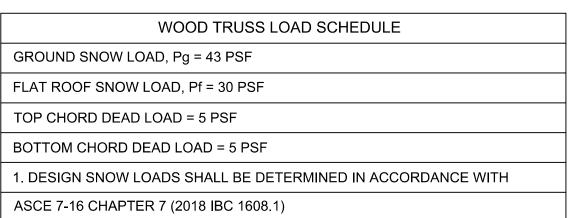


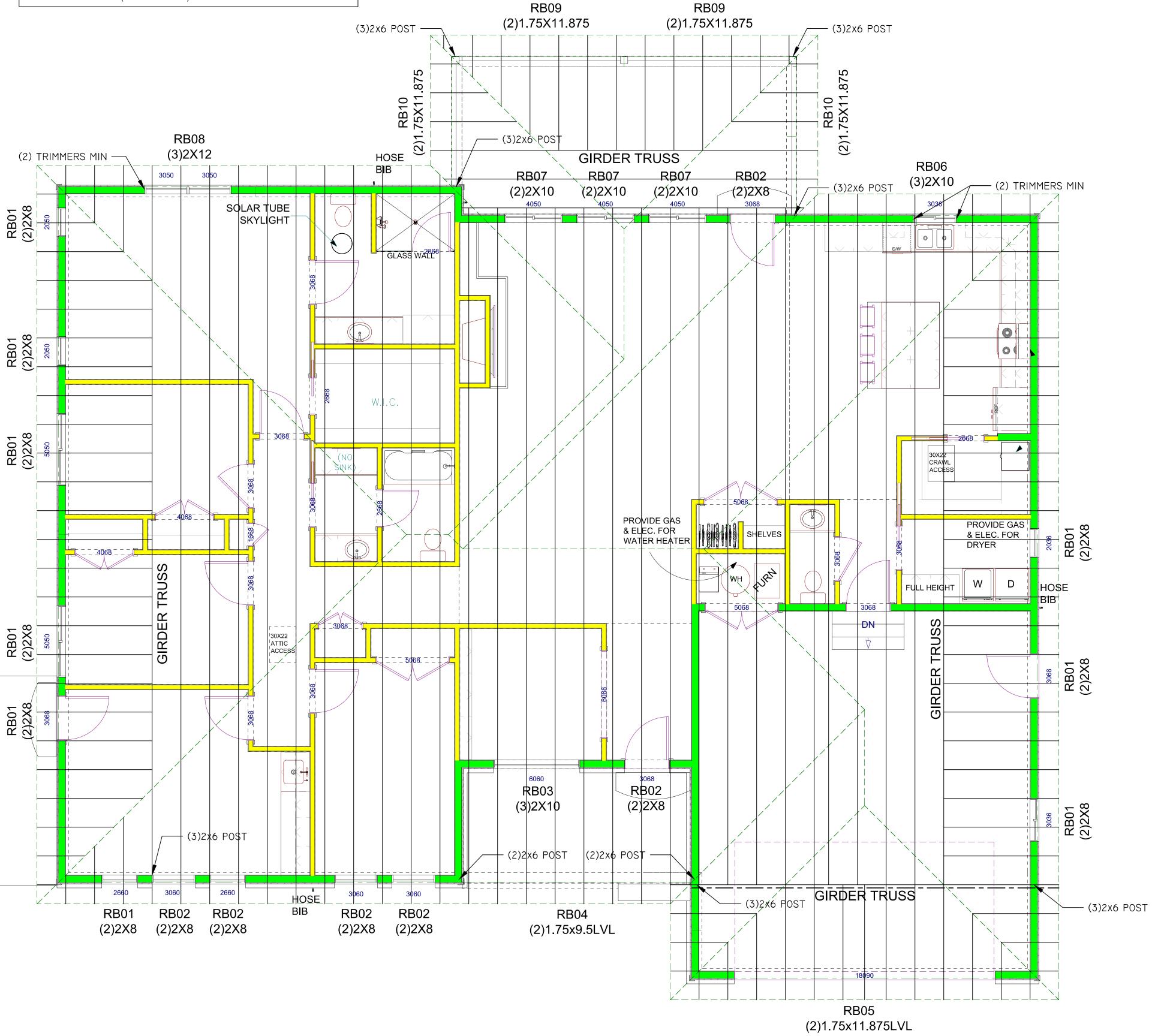




S-102

ROOF SHEATHING SCHEDULE						
SPACING	SHEATHING THICKNESS	SPAN RATING				
RS 1	7/16"	42/16				
1. SHEATHING PERPENDICULAR TO SUPPORTS.						
2. USE 8d NAILS 6" O.C. (EDGES) 12" O.C. (FIELD)						
3. NAILING NO CLOSER THAN 3/8" FROM PANEL EDGE.						





## ROOF FRAMING PLAN

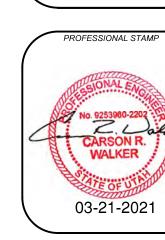
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