STRUCTURAL NOTES AND SPECIFICATIONS

STRUCTURAL NOTES AND SPECIFICATIONS

A. GENERAL

1. The Contractor shall examine and check all existing conditions, dimensions, levels and materials and notify the Owner, Architect or Engineer of any discrepancies before proceeding with the work. Should a discrepancy appear in the Specifications or Drawings, or in the work done by others from the contract documents that affect any work, notify the Architect or Engineer at once for instruction on how to proceed.
2. All construction and materials shall be as specified and as required by the latest edition of the California Building Code, The California Building Code Standards, locally enforced codes and authorities. All articles, materials and equipment shall be installed, applied, connected as directed by the manufacturer's latest written specifications except where otherwise noted. Material notes on the drawings shall take precedence over the Specifications.
3. In the event certain features of the construction are not fully shown, their construction shall be as shown for similar features. All dimensions shall take precedence over scale shown on the Plans.
4. It shall be the Contractor's sole responsibility to design and provide adequate shoring, bracing, formwork, etc., as required for the protection of life and property during construction.
5. All material stored on the site shall be properly stacked and protected to prevent damage and deterioration until use. Failure to protect materials may be cause for

6. See architectural, electrical and mechanical drawings for size and location of pipe, vent, duct and other openings and details not shown on the structural drawings. All structural drawings, details, dimensions, etc. shall be checked and verified, by the Contractor, with the architectural drawings. All discrepancies shall be brought to the attention of the Engineer for resolution before proceeding with the work.

E. WOOD FRAMING

1. No structural member shall be cut or notched unless specifically shown, noted, or approved by the Engineer. Holes in wood sills or plates of shear or bearing walls shall be placed in the center of the piece. Holes in excess of 1 inch diameter are not permitted in any member of a shear wall nor in any 2x4 double top plates. 2x6 double top plates may have up to two-inch diameter holes unless noted otherwise. Holes larger than noted above may be bored in sills providing the sill is considered cut in two and anchor bolts placed accordingly.
2. All wood framing shall be Douglas Fir or California Redwood and shall be of the grade specified in these specifications unless noted otherwise in the plans, manufactured and graded per WWPA Grading Rules, latest edition.

Sill..... PTDF No. 2 Or Redwood
Joists, Rafters, Beams, Header..... up to 4x – DF No. 2
..... 6x –DF No. 1
Studs and Blocking..... DF Standard, No. 2 or Better
Posts and Double Top Plates..... DF No. 1

Timber framing shall have a moisture content of 19% or less at the time of connection installation.

Glulam beams shall conform to the requirements of ANSI/AITC Standards A/90.1–1903 for combination symbol 24F–V4 U.N.O. in the plans. Furnish glulam beams with standard camber, U.N.O. Provide AITC certificate for all glulams to the Architect or the Engineer.

3. All plywood sheathing shall be APA Rated Sheathing, Exterior Exposure 1 conforming to the latest edition of APA PRP–108, Performance Standards and Policies for Structural–Use Panels. All plies shall be group 1 or 2 species. Space panel ends and edges 1/8" minimum. Where wet or humid conditions prevail double this spacing.
4. For shear wall nailing, anchor bolts, and shear transfer devices, see shear wall schedule and details.
5. For other exterior wall, minimum anchor bolt is 5/8 inch diameter embedded at least 7 inches into the concrete @ 5 feet O.C. with a minimum of two bolts per sill piece placed within 12 inches of each end. Minimum end distance of 7 A.B. Diam. Anchor bolts less than 1 1/2 inches from sill edge shall be replaced with an epoxy bolt of the same diameter. All sill bolts shall have 3x3x0.229 in steel plate washers. Exterior walls other than designated shear walls shall consist of 2x4 studs spaced 16" O.C. with 15/32" exterior grade plywood or equivalent wood siding fastened with 8d nails at 6" O.C. along supported edges and 12" in the field.

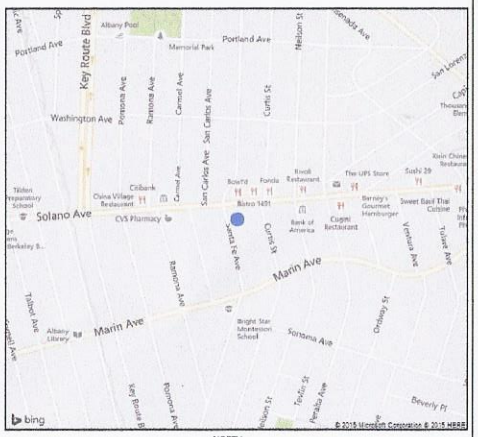
6. Stud walls supporting beams shall have posts with a minimum width equal to the width of the beam located below the beam, unless noted otherwise.
7. All metal framing devices shall be as manufactured by Simpson Strong–Tie Company or approved equal, installed in conformance with the manufacturer's specifications.
8. Bolts shall conform to ASTM grade 307 U.N.O. Bolt holes shall be 1/16 inch larger than the nominal size of the bolt. Cut flat washers shall be provided at all heads and nuts which would otherwise bear directly on wood. All bolts shall be tightened to a snug condition and retightened upon job completion or immediately before constructing work which will make them inaccessible.
9. Use common type nails U.N.O. Nails shall be hop dipped galvanized where exposed to the weather. Where not specified otherwise, the nailing requirements for CBC Table 2304.9.1 shall apply (latest edition).
10. All TJI Floor Joist, Microllam LVL and Parallam Members shall be as manufactured by Truss Joist MacMillan Corporation. Install all TJI Floor Joists, Microllam LVL and Parallam Members in accordance with the Manufacturer's Latest Recommended Installation Details and Specifications.

NAILING SCHEDULE

CONNECTION	NAILING *
JOIST TO SILL OR GIRDER, TOE NAIL	3–8d
BRIDGING TO JOIST, TOE NAIL EACH END	2–8d
1"x6" SUBFLOOR OR LESS TO EACH JOIST, FACE NAIL	2–8d
WIDER THAN 1"x6" SUBFLOOR TO EACH JOIST, FACE NAIL	3–8d
2" SUBFLOOR TO JOIST OR GIRDER, BLIND AND FACE NAIL	2–16d
SOLE PLATE TO JOIST OR BLOCKING,TYPICAL FACE NAIL	16d @ 16"o.c.
SOLE PLATE TO JOIST OR BLOCKING,AT BRACED WALL PANELS	3–16d per 16".
TOP PLATE TO STUD, END NAIL	2–16d
STUD TO SOLE PLATE, TOE NAIL	4–8d
STUD TO SOLE PLATE, END NAIL	2–16d
DOUBLED STUDS, FACE NAIL	16d @ 24"o.c.
DOUBLED TOP PLATES, TYPICAL FACE NAIL	16d @ 16"o.c.
DOUBLE TOP PLATES, LAP SPLICE, FACE NAIL	8–16d
BLOCKING BETWEEN JOISTS OR RAFTERS TO TOP PLATE, TOENAIL	3–8d
RIM JOIST TO TOP PLATE, TOENAIL	8d @ 6"o.c.
TOP PLATES, LAPS & INTERSECTIONS, FACE NAIL	2–16d
CONTINUOUS HEADER, TWO PIECES	16d @16"o.c. ALONG EA. EDGE.
CEILING JOISTS TO PLATE, TOE NAIL	3–8d
CONTINUOUS HEADER TO STUD, TOE NAIL	4–8d
CEILING JOIST, LAPS OVER PARTITIONS, FACE NAIL	3–16d
CEILING JOISTS PARALLEL TO RAFTERS, FACE NAIL	3–16d
RAFTER TO PLATE, TOE NAIL	3–8d
1" BRACE TO EACH STUD AND PLATE, FACE NAIL	2–8d
1"x8" SHEATHING OR LESS TO EACH BEARING, FACE NAIL	2–8d
WIDER THAN 1"x8" SHEATHING TO EACH BEARING, FACE NAIL	3–8d
BUILT UP CORNER STUDS	16d @ 24"o.c.

* USE COMMON NAILS UNLESS OTHERWISE NOTED

VICINITY MAP



NORTH

WOOD HORIZONTAL DIAPHRAGM SCHEDULE

DESIGNATION	STRUCTURAL PANEL[2,3]	EDGE NAILING (E.N.)[1]	FIELD NAILING (F.N.)[1]	BLOCK NAILING (B.N.)[1]	ALLOWABLE SHEAR (LBS.)	ROOF EAVE/FLOOR BLOCK ANCHOR
R1	1/2" CDX	8d @ 6"	8d @ 12"	N/A	180	LS50 @ 24" O.C.
R2	1/2" CDX	8d @ 6"	8d @ 12"	8d @ 6"	270	LS50 @ 12" O.C.
R3	1/2" CDX	8d @ 4"	8d @ 12"	8d @ 4"	360	LS50 @ 12" O.C.
R4	1/2" CDX	8d @ 3"	8d @ 12"	8d @ 3"	530	LS50 @ 12" O.C.
F1	3/4" CDX	10d @ 6"	10d @ 12"	N/A	215	A35 @ 16" O.C.
F2	3/4" CDX	10d @ 6"	10d @ 12"	10d @ 6"	320	A35 @ 16" O.C.
F3	3/4" CDX	10d @ 4"	10d @ 12"	10d @ 4"	425	A35 @ 16" O.C.
F4	1-1/8" CDX	12d @ 6"	12d @ 12"	N/A	215	A35 @ 16" O.C.
F5	1-1/8" CDX	12d @ 6"	12d @ 12"	12d @ 6"	320	A35 @ 16" O.C.
F6	1-1/8" CDX	12d @ 4"	12d @ 12"	12d @ 4"	425	A35 @ 8" O.C.

1. USE COMMON NAILS ONLY. EIGHT GAGE SCREWS MAY BE SUBSTITUTED FOR 10d AND 12d NAILS.
2. FLOOR SHEATHING SHALL BE PLYWOOD OR OSB APA-RATED EXTERIOR 1 SHEATHING 23/32" OR 1-1/8" WITH A MINIMUM SPAN RATING OF 48/24 BONDED TO FLOOR JOIST ASSEMBLY WITH EXTERIOR RATED GLUE. EXTERIOR RATED SHEATHING SHALL BE USED FOR EXTERIOR CONDITIONS.
3. ROOF STRUCTURAL PANELS SHALL BE PLYWOOD OR OSB APA-RATED EXTERIOR 1 SHEATHING 15/32" WITH MINIMUM SPAN RATING OF 32/16. PROVIDE (1) PSCL CLIP AT ALL UNSUPPORTED PANEL EDGES. EXTERIOR RATED SHEATHING SHALL BE USED FOR EXTERIOR CONDITIONS.

STRUCTURAL DESIGN INFORMATION

LATERAL DESIGN SYSTEM INFORMATION

OCCUPANCY, IMPORTANCE FACTOR___ II, 1.0
BASIC WIND SPEED (3 Sec. gust)____ 85mph
WIND EXPOSURE CATEGORY_____ B
LATITUDE–LONGITUDE = 37.890 N–122.288 W
SEISMIC DESIGN FACTORS :
SS=2.26 S1=0.94, SDS=1.51 SD1=0.94
R=6.5 CD=4N, CS=0.15
SITE CLASS=D, DESIGN CATEGORY=E
LATERAL SYSTEM–WOOD FRAMED SHEARWALLS
ANALYSIS PROCEDURE–EQUIV. LATERAL FORCE
PROJECT DESIGN BASE SHEAR= 0.15W

DEAD LOAD/LIVE LOADS DATA

	DEAD LOAD	LIVE LOAD
ROOF	13 PSF	20 PSF
VAULT ROOF	13 PSF	20 PSF
CEILINGS	7 PSF	10 PSF
FLOORS	15 PSF	40 PSF
DECKS	7 PSF	40 PSF
EXT. WALLS	10 PSF	
INT. WALLS	6 PSF	

APPLICABLE CODES :

2010 CALIFORNIA BUILDING CODE
2010 CALIFORNIA RESIDENTIAL CODE
2010 CALIFORNIA ELECTRICAL CODE
2010 CALIFORNIA PLUMBING CODE
2010 CALIFORNIA MECHANICAL CODE
2010 BUILDING ENERGY EFFICIENCY STANDARDS

PROJECT DATA:

BUILDING OCCUPANCY GROUP: R-1 & U
TYPE OF CONSTRUCTION: V-B
STORIES: 1
NO FIRE SPRINKLER SYSTEM
APN: 65-2640-35

FLOOR AREA:

TOTAL LOT AREA ------ 4,160.00 SQ. FT.
(E) RESIDENCE --------- 1,260.00 SQ. FT.
(E) ACCESSORY---------- 312.00 SQ. FT.
(N) ADDITION ---------- 110.00 SQ. FT.
LOT COVERAGE 1,682 / 4,160= 40.4 %

PROJECT DESCRIPTION

1. NEW 125 SQ. FT. KITCHEN AND DEN ADDITION

INDEX OF DRAWINGS

SN STRUCTURAL NOTES–VICINITY MAP
S1 SITE PLAN
S2 EXISTING FLOOR PLAN
S3 PROPOSED FLOOR PLAN
S4 ELEVATIONS–ARCHITECTURAL DETAILS
SS1 FOUNDATION FRAMING PLAN
SS2 ROOF FRAMING PLAN
T24 TITLE 24 REPORT

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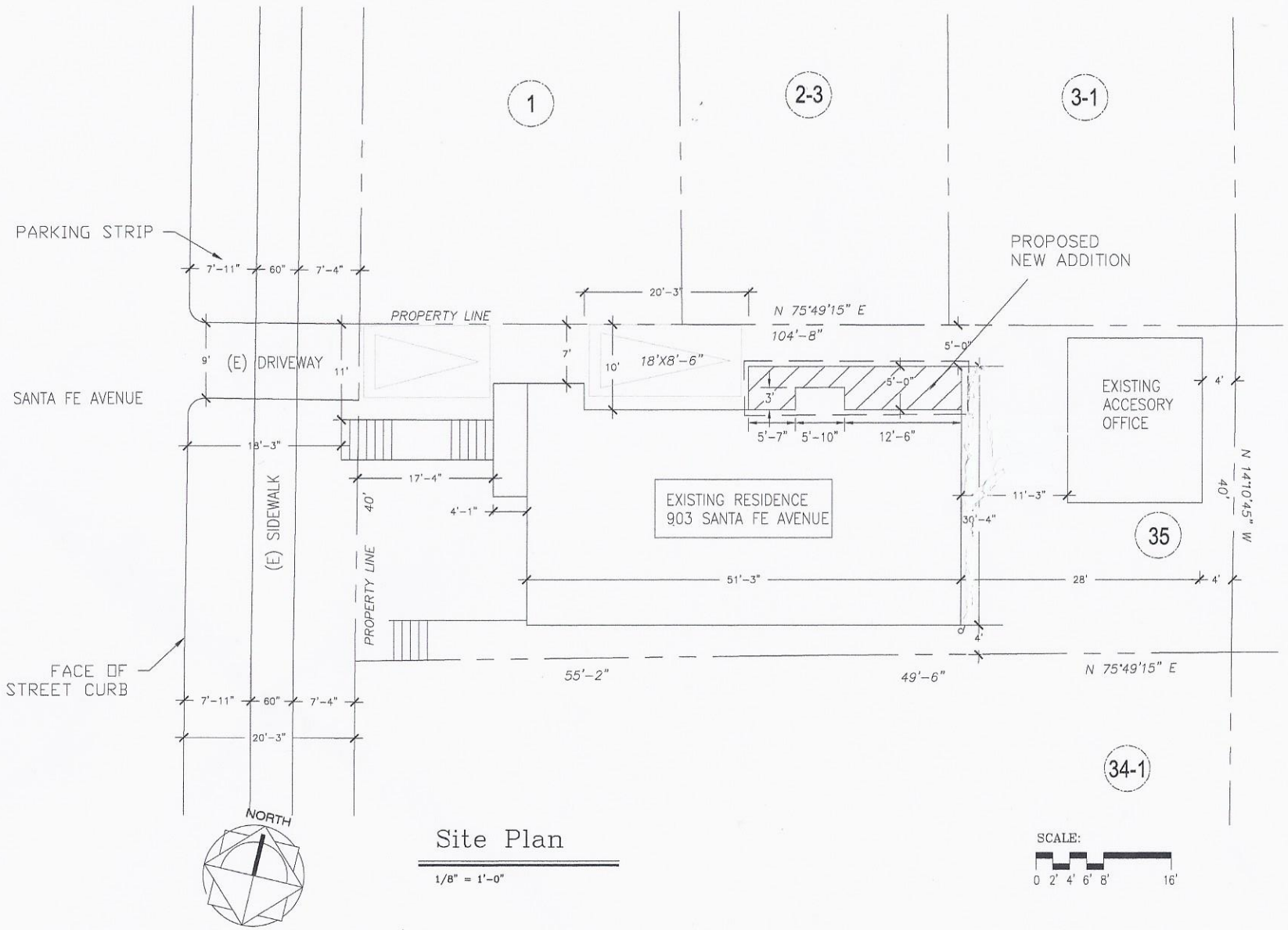
KHORASHADI RESIDENCE
NEW ADDITION
903 SANTA FE AVENUE
ALBANY, CA 94706

REGISTERED PROFESSIONAL ENGINEER TOMAS AFREDO FERNANDEZ No. 78876 Exp. 3/31/16 CIVIL STATE OF CALIFORNIA

STRUCTURAL NOTES
DIAPHRAGM SCHEDULE
INDEX OF DRAWINGS

JOB # KH13-25
DATE: JUN 1
DRAWN BY: RVL
ENGINEER: TAF
SCALE: N.T.S.
CAD FILE: KH13-25SN

SHEET SN OF 8 SHEETS



Site Plan

1/8" = 1'-0"

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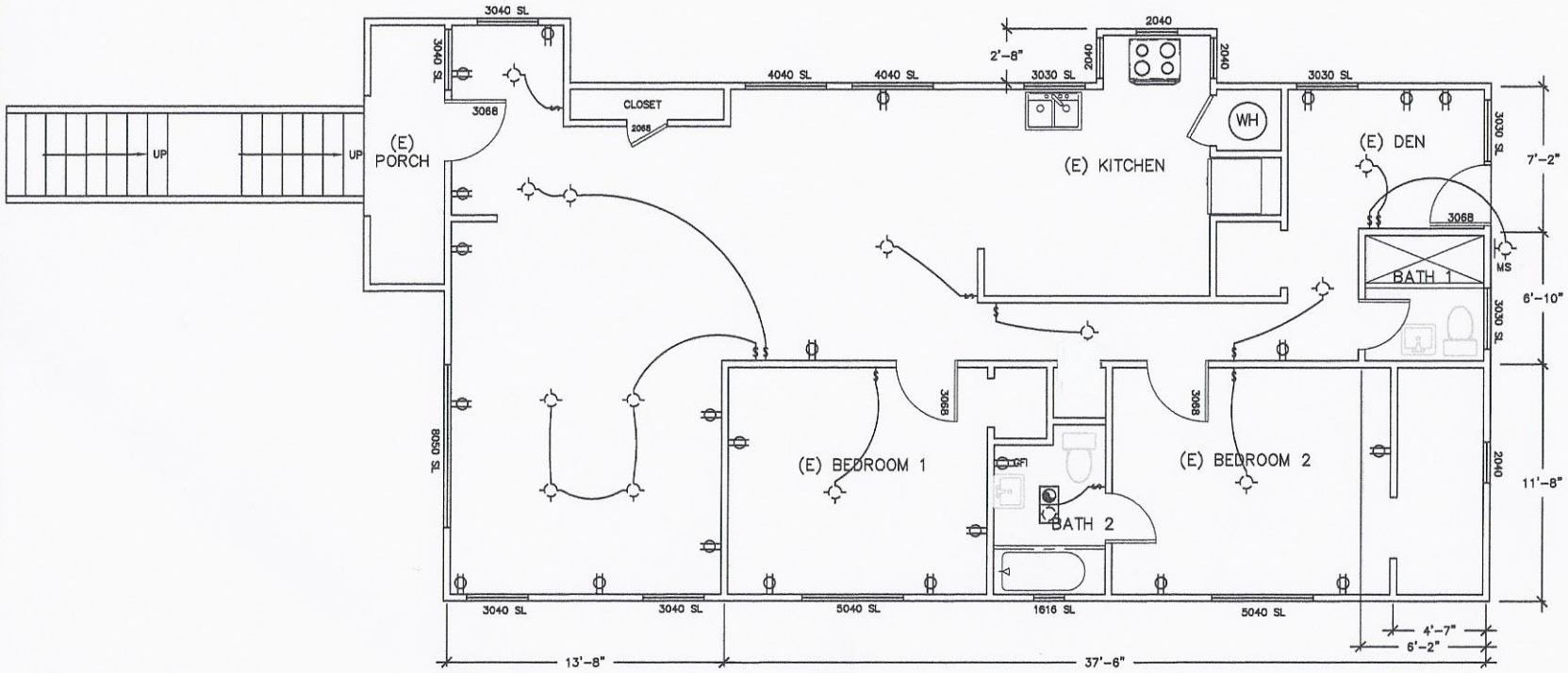
Exp. 3/31/16
CIVIL
STATE OF CALIFORNIA

SITE PLAN

JOB #	KH13-25
DATE:	JUN 1
DRAWN BY:	RVL
ENGINEER:	TAF
SCALE:	1/8"=1'-0"
CAD FILE:	KH13-25S1

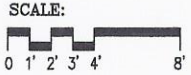
SHEET
S1
8 SHEETS



Existing Floor Plan

1/4" = 1'-0"

SCALE:



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EXISTING FLOOR PLAN

JOB #	KH13-25
DATE:	JUN 1
DRAWN BY:	RVL
ENGINEER:	TAF
SCALE:	1/4"=1'-0"
CAD FILE:	KH13-25S2

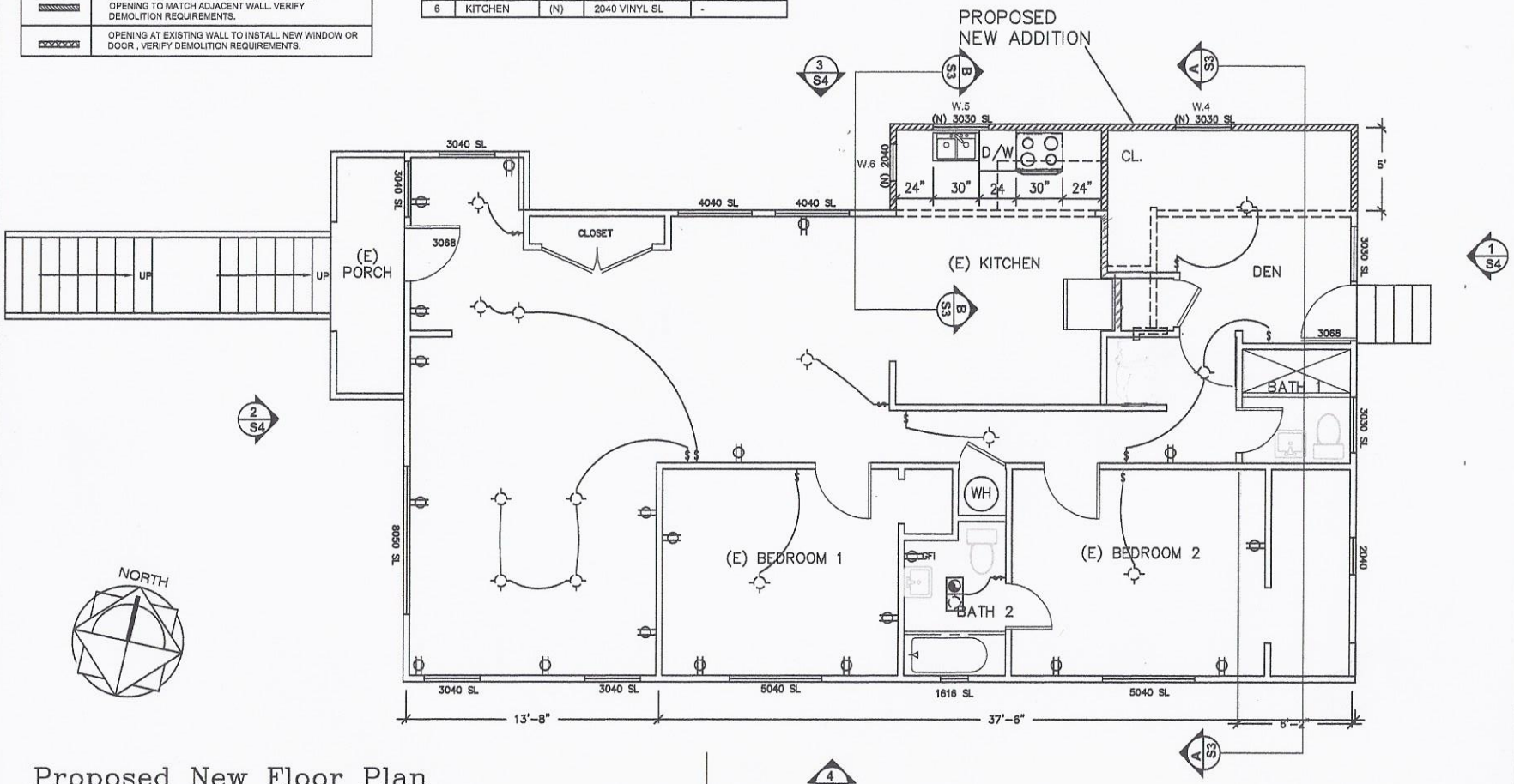
SHEET S2 OF 8 SHEETS

FLOOR PLAN WALL LEGEND

	NEW 2X STUD WALL FRAME.
	EXISTING 2X STUD WALL FRAME TO REMAIN.
	EXISTING 2X STUD WALL FRAME TO BE DEMOLISHED. VERIFY DEMOLITION REQUIREMENTS.
	REMOVE DOOR AND FRAME, FILL AND FINISH OUT OPENING TO MATCH ADJACENT WALL. VERIFY DEMOLITION REQUIREMENTS.
	OPENING AT EXISTING WALL TO INSTALL NEW WINDOW OR DOOR , VERIFY DEMOLITION REQUIREMENTS.

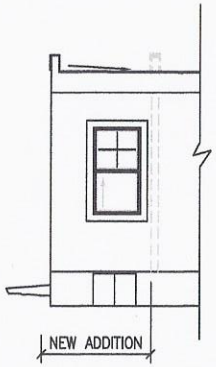
WINDOW SCHEDULE

		(E)/(N)	SIZE (W-H), TYPE	REMARKS
				-
				-
3	DEN	(N)	3030 VINYL SL	-
4	DEN	(N)	3030 VINYL SL	-
5	KITCHEN	(N)	3030 VINYL SL	-
6	KITCHEN	(N)	2040 VINYL SL	-

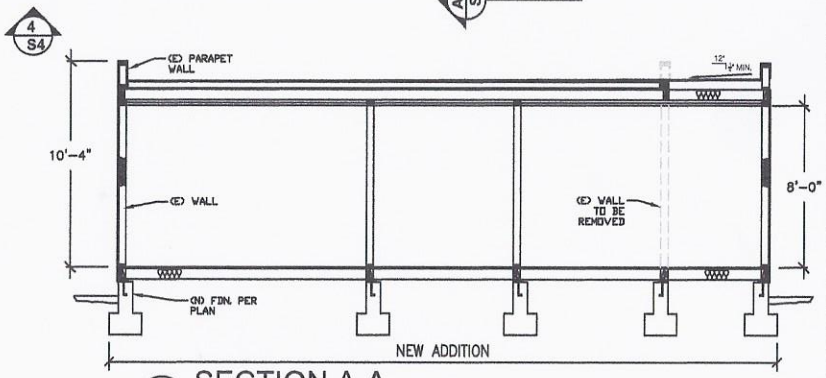


Proposed New Floor Plan

1/4" = 1'-0"



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



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

SCALE:
0 1' 2' 3' 4' 8'

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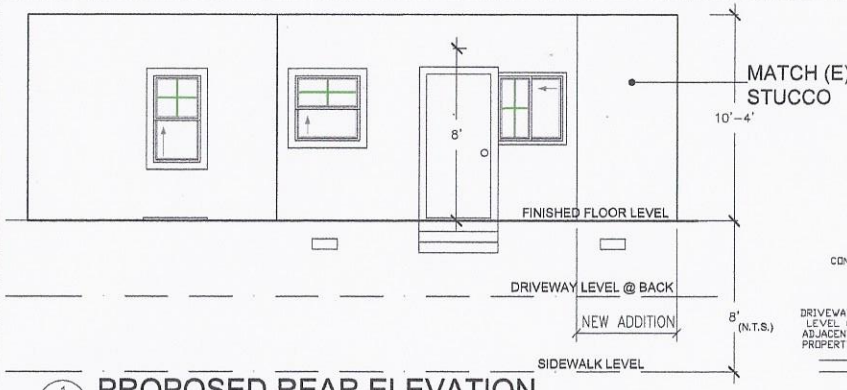
STATE OF CALIFORNIA

PROPOSED FLOOR PLAN

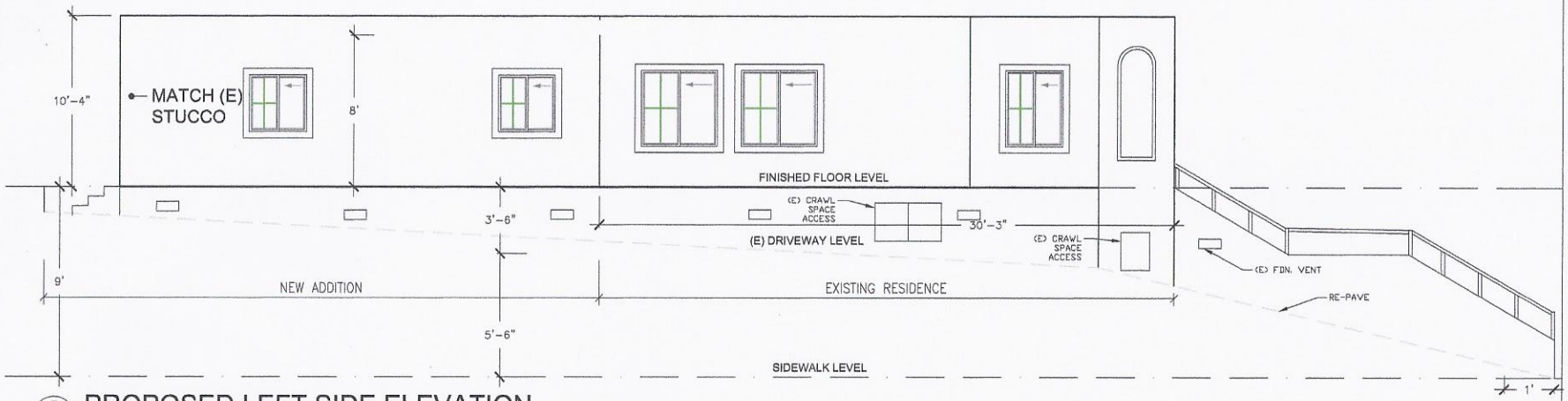
JOB #	KH13-25
DATE:	JUN 1
DRAWN BY:	RVL
ENGINEER:	TAF
SCALE:	1/4"=1'-0"
CAD FILE:	KH13-25S3

SHEET S3 OF 8 SHEETS

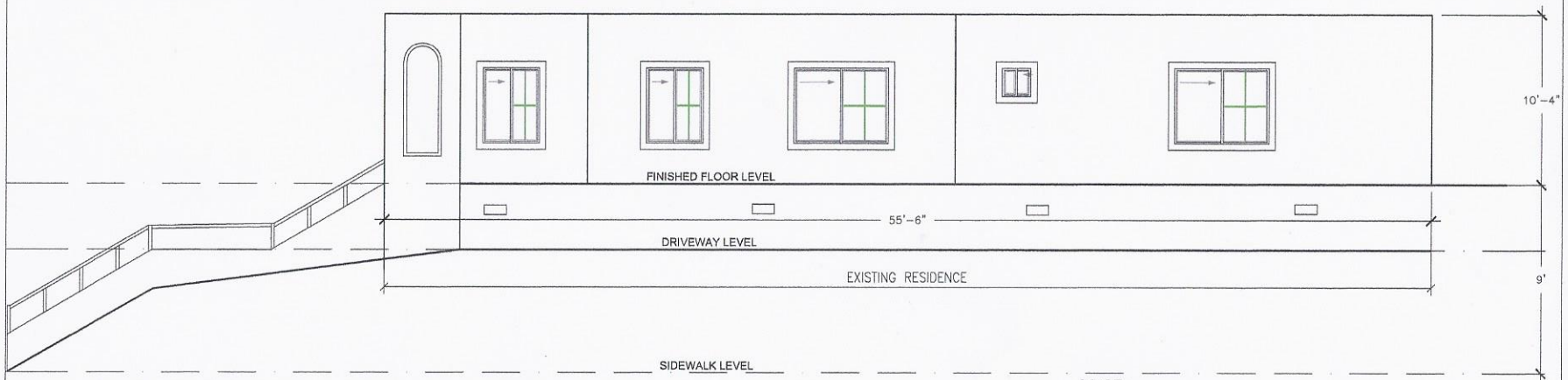


1 S4 PROPOSED REAR ELEVATION
1/4" = 1'-0"

2 S4 PROPOSED FRONT ELEVATION
1/4" = 1'-0"



3 S4 PROPOSED LEFT SIDE ELEVATION
1/4" = 1'-0"



4 S4 PROPOSED RIGHT SIDE ELEVATION
1/4" = 1'-0"

SCALE:
0 1' 2' 3' 4' 8'

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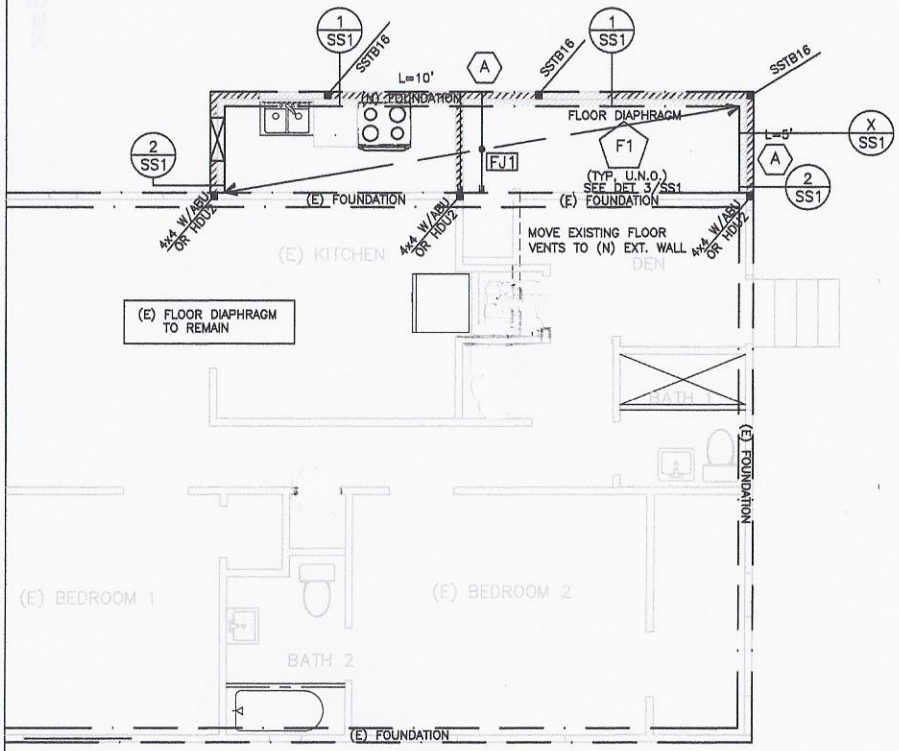
ELEVATIONS
ARCHITECTURAL DETAILS

JOB #	KH13-25
DATE:	JUN 1
DRAWN BY:	RVL
ENGINEER:	TAF
SCALE:	1/4"=1'-0"
CAD FILE:	KH13-25S4

SHEET S4 OF 8 SHEETS

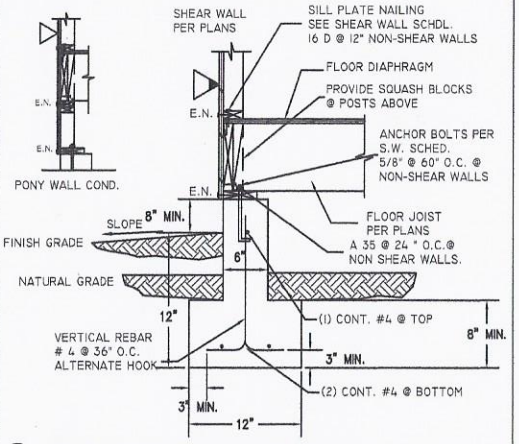


Foundation Framing Plan

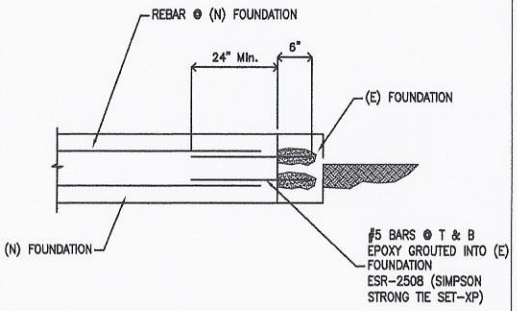
1/4" = 1'-0"

FOUNDATION LEGEND

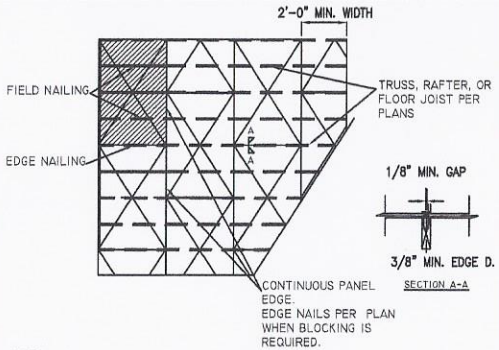
- Symbol Indicates Designated Diaphragm Reference Diaphragm Schedule on Sheet SN
- ■ 4X Post Typical (U.O.N.)
- □ 4X Post Above (U.O.N.)
- Denotes Floor Joist.
- Denotes Floor Beam.
- Denotes Girder.
- Hanger
- FJ1 (N) 2x6 Floor Joists @ 16" O.C.
- New Footing per called out detail
- 18"X24" Crawl Access
- 14"X6" Foundation vent



① TYP. EXTERIOR T FOOTING



② NEW TO EXISTING FOUNDATION



NOTES:

1. PROVIDE BLOCKING AT ALL PANEL EDGES WHEN NOTED ON PLANS
2. DIRECTION OF FACE GRAIN PERPENDICULAR TO FRAMING.
3. NAILS $\frac{3}{8}$" MIN. EDGE DISTANCE.

③ ROOF/FLR DIAPHRAGM DET.

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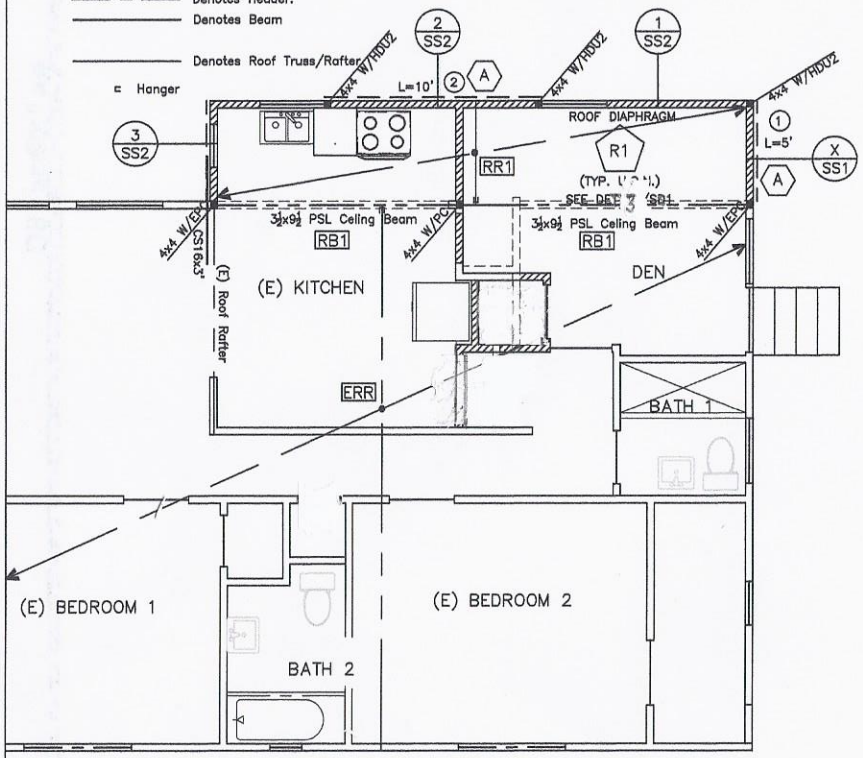
FOUNDATION FRAMING PLAN

JOB #	KH13-25
DATE:	JUN 1
DRAWN BY:	RVL
ENGINEER:	TAF
SCALE:	1/4"=1'-0"
CAD FILE:	KH13-25SS1

SHEET SS1 OF 8 SHEETS

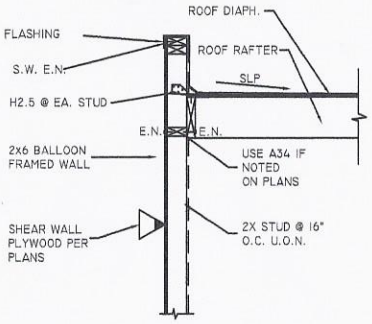
LEGEND:

- Symbol Indicates Designated Diaphragm Reference Diaphragm Schedule on Sheet SN
- Symbol Indicates Designated Shearwall Reference Shearwall Schedule on Sheet SN
- ■ 4X Post (U.O.N.) – roof
- □ 4X Post Above (U.O.N.)
- Denotes Header.
- Denotes Beam
- Denotes Roof Truss/Rafter
- Hanger
- Blocked Roof Diaphragm
- Calif. Framing See Det 5/S6
- RR1 — 2x6 Rafters @ 24" O.C.
- ERR — (E) 2x4 Rafters @ 24" O.C.

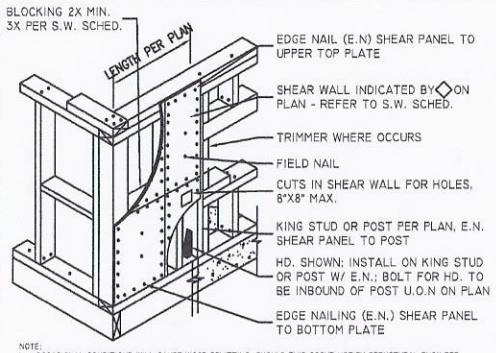


Roof Framing Plan

1/4" = 1'-0"

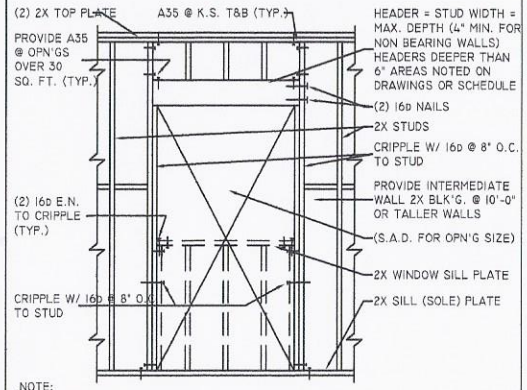


① TYPICAL PARAPET DETAIL



NOTE:
1. OCCASIONAL CONDITIONS WILL CAUSE WOOD SPLITTING. SHOULD THIS OCCUR NOTIFY STRUCTURAL ENGINEER.
2. TO PREVENT SPLITTING OF WOOD, SHEAR SCHEDULE MAY REQUIRE OTHER THAN 2X FRAMING
3. PROVIDE BLOCKING AT ALL PLYWOOD EDGES.
4. STAGGER NAILS THAT ARE SPACED 3" O.C. OR CLOSER.
5. SILL MUST BE ONE PIECE IF WALL IS 4'-0" OR SHORTER IN LENGTH. MIN. SIZE OF SHEET SHALL BE 2'X2'.
6. NAILS SHALL BE DRIVEN TIGHT BUT SHALL NOT FRACTURE SURFACE OF SHEATHING.
7. TOLERANCE OF NAILING SHALL BE ±1" W/ AVE. NAIL SPACING OVER ANY 4' LENGTH BEING AT LEAST THAT NOTED ON PLAN.
8. SHEATHING SHALL BE APPLIED DIRECTLY TO FRAMING. IT SHALL NOT BE INTERSPACED BY FURRING OR GYPSUM BOARD.

② SHEAR WALLS



NOTE:
CONNECTIONS ON THIS DETAIL APPLY TO ALL OPENINGS UNLESS OTHERWISE NOTED OR SHOWN.

③ TYP. OPENING IN STUD WALL

TOMAS A. FERNANDEZ, P.E.
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KHORASHADI RESIDENCE
NEW ADDITION
903 SANTA FE AVENUE
ALBANY, CA 94706

REGISTERED PROFESSIONAL ENGINEER TOMAS ALFREDO FERNANDEZ No. 78676 Exp. 3/31/16 CIVIL STATE OF CALIFORNIA

ROOF FRAMING PLAN

JOB #	KH13-25
DATE:	JUN 1
DRAWN BY:	RVL
ENGINEER:	TAF
SCALE:	1/4"=1'-0"
CAD FILE:	KH13-25SS2

SHEET SS2 OF 8 SHEETS

CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD — CF1R-PRF-01
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GENERAL INFORMATION					
01	Project Name	Residential Building			
02	Calculation Description	Title 24 Analysis			
03	Project Location	903 Santa Fe Avenue			
04	City	Albany	05	Standards Version	Compliance 2013
06	Zip Code	94706	07	Compliance Manager Version	BEMCmpMgr 2013.2.0 (f13)
08	Climate Zone	CZ3	09	Software Version	EnergyPro 6.5
10	Building Type	Single Family	11	Front Orientation (deg/Cardinal)	270
12	Project Scope	Addition and/or Alteration	13	Number of Dwelling Units	1
14	Total Cond. Floor Area (ft²)	1365	15	Number of Zones	2
16	Slab Area (ft²)	0	17	Number of Stories	1
18	Addition Cond. Floor Area	125	19	Natural Gas Available	Yes
20	Addition Slab Area (ft²)	0	21	Glazing Percentage (%)	16.9%

COMPLIANCE RESULTS	
01	Building Complies with Computer Performance
02	This building DOES NOT require HERS Verification
03	This building incorporates one or more Special Features shown below

ENERGY USE SUMMARY

04	05	06	07	08
Energy Use (kTDV/ft²-yr)	Standard Design	Proposed Design	Compliance Margin	Percent Improvement
Space Heating	44.38	42.90	1.48	3.3%
Space Cooling	5.23	6.32	-0.09	-1.1%
IAQ Ventilation	0.03	0.03	0.00	0.0%
Water Heating	18.23	18.23	0.00	0.0%
Photovoltaic Offset	---	0.00	0.00	---
Compliance Energy Total	67.85	66.45	1.40	2.1%

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CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD — CF1R-PRF-01
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REQUIRED SPECIAL FEATURES

The following are features that must be installed as condition for meeting the modeled energy performance for this computer analysis.

- Ducts with high level of insulation

HERS FEATURE SUMMARY

The following is a summary of the features that must be field-verified by a certified HERS Rater as a condition for meeting the modeled energy performance for this computer analysis. Additional detail is provided in the building components tables below.

Building-level Verifications:
- — None —

Cooling System Verifications:
- — None —

HVAC Distribution System Verifications:
- — None —

Domestic Hot Water System Verifications:
- — None —

ENERGY DESIGN RATING

This is the sum of the annual TDV energy consumption for energy use components included in the performance compliance approach for the Standard Design Building (Energy Budget) and the annual TDV energy consumption for lighting and components not regulated by Title 24. Part 6 (such as domestic appliances and consumer electronics) and accounting for the annual TDV energy offset by an on-site renewable energy system.

Reference Energy Use	Energy Design Rating	Margin	Percent Improvement
Total Energy (kTDV/ft²-yr)*	125.89	124.49	1.40	1.1%

* Includes calculated Appliances and Miscellaneous Energy Use (AMEU)

BUILDING - FEATURES INFORMATION

01	02	03	04	05	06	07
Project Name	Conditioned Floor Area (ft2)	Number of Dwelling Units	Number of Bedrooms	Number of Zones*	Number of Ventilation Cooling Systems	Number of Water Heating Systems
Residential Building	1365	1	3	2	0	1

ZONE INFORMATION

01	02	03	04	05	06	07
Zone Name	Zone Type	HVAC System Name	Zone Floor Area (ft²)	Avg. Ceiling Height	Water Heating System 1	Water Heating System 2
Zone 1	Conditioned	HVAC System1	1240	9	DHW Sys 1	
New Addition Zone	Conditioned	HVAC System1	125	9	DHW Sys 1	

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OPAQUE SURFACES

01	02	03	04	05	06	07	08	09	10
Name	Zone	Construction	Azimuth	Orientation	Gross Area (ft²)	Window & Door Area (ft²)	Tilt (deg)	Status	Verified Existing Condition
Front Wall	Zone 1	R-13 Wall	270	Front	200	31	90	Existing	No
Left Wall	Zone 1	R-13 Wall	0	Left	200	44	90	Existing	No
Rear Wall	Zone 1	R-13 Wall	90	Back	200	35	90	Existing	No
Right Wall	Zone 1	R-13 Wall	180	Right	400	86.5	90	Existing	No
Roof	Zone 1	R-11 Roof Attic			1365			Existing	No
Raised Floor	Zone 1	R-0 Floor Crawlspace			1365			Existing	No
Rear Front Wall	New Addition Zone	R-13 Wall	270	Front	40	8	90	New	N/A
New Left Wall	New Addition Zone	R-13 Wall	0	Left	200	16	90	New	N/A
New Rear Wall	New Addition Zone	R-13 Wall	90	Back	40		90	New	N/A
Roof 2	New Addition Zone	R-30 Roof Attic			125			New	N/A
Raised Floor 2	New Addition Zone	R-19 Floor Crawlspace			125			New	N/A

ATTIC

01	02	03	04	05	06	07	08	09	10
Name	Construction	Type	Roof Rise	Roof Reflectance	Roof Emittance	Radiant Barrier	Cool Roof	Status	Verified Existing Condition
Attic Zone 1	Attic RoofZone 1	Ventilated	1	0.1	0.85	No	No	Existing	No
Attic New Addition Zone	Attic RoofNew Addition Zone	Ventilated	0	0.1	0.85	No	No	New	No

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WINDOWS

01	02	03	04	05	06	07	08	09	10	11
Name	Surface (Orientation-Azimuth)	Width(ft)	Height (ft)	Multiplier	Area (ft²)	U-factor	SHGC	Exterior Shading	Status	Verified Existing Condition
Window	Front Wall (Front-270)	---	---	1	60.0	0.71	0.75	Insect Screen (default)	Existing	No
Window 2	Left Wall (Left-0)	---	---	1	44.0	0.71	0.75	Insect Screen (default)	Existing	No
Window 3	Rear Wall (Back-90)	---	---	1	34.0	0.71	0.75	Insect Screen (default)	Existing	No
Window 4	Right Wall (Right-180)	---	---	1	86.5	0.71	0.75	Insect Screen (default)	New	N/A
Window 5	New Front Wall (Front-270)	---	---	1	8.0	0.37	0.32	Insect Screen (default)	New	N/A
Window 6	New left Wall (Left-0)	---	---	1	16.0	0.37	0.32	Insect Screen (default)	New	N/A

DOORS

01	02	03	04	05	06
Name	Side of Building	Area (ft²)	U-factor	Status	Verified Existing Condition
Door	Front Wall	21.0	0.60	Existing	No
Door 2	Rear Wall	21.0	0.60	Existing	No

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OPAQUE SURFACE CONSTRUCTIONS

01	02	03	04	05	06	07
Construction Name	Surface Type	Construction Type	Framing	Total Cavity R-value	Winter Design U-value	Assembly Layers
Attic RoofZone 1	Attic Roofs	Wood Framed Ceiling	2x4 Top Chord of Roof Truss @ 24 in. O.C.	none	0.644	• Cavity / Frame: no insul. / 2x4 Top Chord • Roof Deck: Wood Siding/sheathing/decking • Roofing: Light Roof (Asphalt Shingle)
R-0 Wall	Exterior Walls	Wood Framed Wall	2x4 @ 16 in. O.C.	none	0.902	• Inside Finish: Gypsum Board • Cavity / Frame: no insul. / 2x4 • Exterior Finish: Wood Siding/sheathing/decking
R-11 Roof Attic	Ceilings (below attic)	Wood Framed Ceiling	2x4 @ 24 in. O.C.	R 11	0.081	• Inside Finish: Gypsum Board • Cavity / Frame: R-11 / 2x4 • Over Floor Joists: R-11 insul.
R-0 Floor Crawlspace	Floors Over Crawlspace	Wood Framed Floor	2x12 @ 16 in. O.C.	none	0.316	• Floor Surface: Carpeted • Floor Deck: Wood Siding/sheathing/decking • Cavity / Frame: no insul. / 2x12
Attic RoofNew Addition Zone	Attic Roofs	Wood Framed Ceiling	3x6 Top Chord of Roof Truss @ 24 in. O.C.	none	0.644	• Cavity / Frame: no insul. / 3x6 Top Chord • Roof Deck: Wood Siding/sheathing/decking • Roofing: Light Roof (Asphalt Shingle)
R-13 Wall	Exterior Walls	Wood Framed Wall	2x4 @ 16 in. O.C.	R 13	0.090	• Inside Finish: Gypsum Board • Cavity / Frame: R-13 / 2x4 • Exterior Finish: Wood Siding/sheathing/decking
R-19 Floor Crawlspace	Floors Over Crawlspace	Wood Framed Floor	2x6 @ 16 in. O.C.	R 19	0.048	• Floor Surface: Carpeted • Floor Deck: Wood Siding/sheathing/decking • Cavity / Frame: R-19 / 2x6
R-30 Roof Attic	Ceilings (below attic)	Wood Framed Ceiling	2x4 @ 24 in. O.C.	R 30	0.032	• Inside Finish: Gypsum Board • Cavity / Frame: R-0 / 2x4 • Over Floor Joists: R-30 insul.

WATER HEATING SYSTEMS

01	02	03	04	05	06	07	08
Name	System Type	Distribution Type	Water Heater	Number of Heaters	Solar Fraction (%)	Status	Verified Existing Condition
DHW Sys 1	DHW	Standard	DHW Heater 1	1	Annual	Existing	No

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WATER HEATERS

01	02	03	04	05	06	07	08
Name	Heater Element Type	Tank Type	Tank Volume (gal)	Energy Factor or Efficiency	Input Rating	Tank Exterior Insulation R-value	Standby Loss (Fraction)
DHW Heater 1	Natural Gas	Small Storage	50	0.6 EF	40000 Btu/hr	0	0

WATER HEATING - HERS VERIFICATION

01	02	03	04	05	06	07
Name	Pipe Insulation	Parallel Piping	Compact Distribution	Point-of-Use	Recirculation with Manual Control	Recirculation with Sensor Control
DHW Sys 1	n/a	n/a	n/a	n/a	n/a	n/a

SPACE CONDITIONING SYSTEMS

01	02	03		04		05	06	07	08	09
		Heating System		Cooling System						
Name	System Type	Name	Ducted	Name	Ducted	Distribution System	Fan System	Floor Area Served	Status	Verified Existing Condition
HVAC System1	Other Heating and Cooling System	Heating Component 1	Yes	Cooling Component 1	Yes	Air Distribution System 1	HVAC Fan 1	1365	Existing	No

HVAC - HEATING SYSTEMS

01	02	03
Name	Type	Efficiency
Heating Component 1	Chill/Furnace - Fuel-fired central furnace	78 AFUE

HVAC - COOLING SYSTEMS

01	02	03	04	05	06	07
		Efficiency				
Name	System Type	EER	SEER	Zonally Controlled	Multi-speed Compressor	HERS Verification
Cooling Component 1	Split/AirCond - Split air conditioning system	11.3	13	No	No	N/A

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HVAC - DISTRIBUTION SYSTEMS

01	02	03	04	05	06	07	08	09	10
Name	Type	Duct Leakage	Insulation R-value	Supply Duct Location	Return Duct Location	Bypass Duct	Status	Verified Existing Condition	HERS Verification
Air Distribution System 1	Ducts located in attic	Existing (not specified)	8.0	Attic	Attic	None	Existing	No	N/A

IAQ (Indoor Air Quality) FANS

01	02	03	04	05
Name	IAQ CFM	IAQ Fan Type	IAQ Recovery Effectiveness(%)	HERS Verification
EFan IAQVentFlt1	0	Default	0	Not Required

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Project Name: Residential Building — Calculation Date/Time: 20:26, Sun, Jun 21, 2015 — Page 8 of 8
Calculation Description: Title 24 Analysis — Input File Name: Building1.xml

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

I certify that the Certificate of Compliance documentation is accurate and complete.

Documentation Author Name: Tomas A. Fernandez	Documentation Author Signature:
Company:	Signature Date: 6/21/2015
Address: 2678 North Main St., Suite # 27	CEA/HERS Certification Identification (If applicable):
City/State/Zip: Walnut Creek, CA 94596	Phone: 925-932-6173

RESPONSIBLE PERSON'S DECLARATION STATEMENT

I certify the following under penalty of perjury, under the laws of the State of California:
1. I am eligible under Division 3 of the Business and Professions Code to accept responsibility for the building design identified on this Certificate of Compliance.
2. I certify that the energy features and performance specifications identified on this Certificate of Compliance conform to the requirements of Title 24, Part 1 and Part 6 of the California Code of Regulations.
3. The building design features or system design features identified on this Certificate of Compliance are consistent with the information provided on other applicable compliance documents, worksheets, calculations, plans and specifications submitted to the enforcement agency for approval with the building permit application.

Responsible Designer Name: Tomas A. Fernandez	Responsible Designer Signature:
Company: Tomas A. Fernandez	Date Signed:
Address: 2678 North Main St., Suite # 27	License:
City/State/Zip: Walnut Creek , CA 94596	Phone: 8259326173

Registration Number: CA Building Energy Efficiency Standards - 2013 Residential Compliance — Registration Date/Time: Report Version - CF1R-0401201 5-710 — HERS Provider: Report Generated at: 2015-06-21 20:27:37

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TOMAS ALFREDO FERNANDEZ
No. 78876
Exp. 3/31/14
CIVIL
STATE OF CALIFORNIA

TITLE 24 REPORT

JOB #	KH13-25
DATE:	JUN 1
DRAWN BY:	RVL
ENGINEER:	TAF
SCALE:	1/4"=1'-0"
CAD FILE:	KH13-25T24

SHEET T24 OF 8 SHEETS