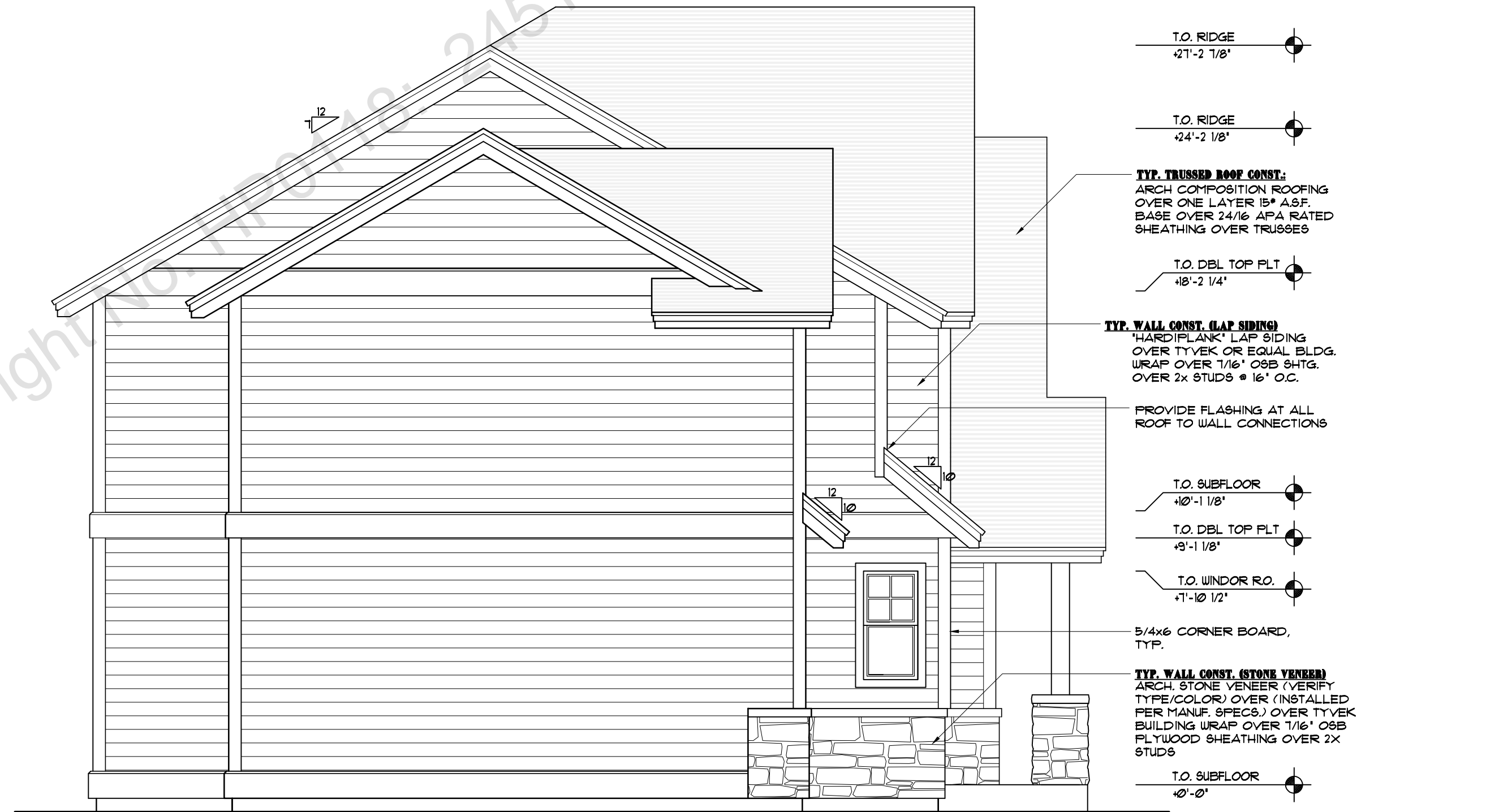


THESE PLANS HAVE BEEN LICENSED FOR THE CONSTRUCTION OF ONE BUILDING ONLY. UNAUTHORIZED USE OR COPYING OF THE PLANS, OR THE DESIGN THEY DEPICT, INFRINGES RIGHTS UNDER THE COPYRIGHT ACT THAT INCLUDE PENALTIES OF UP TO \$100,000 PER WORK WILLFULLY INFRINGED. THESE PLANS HAVE BEEN PREPARED TO MEET CABO BUILDING CODES AND MAY REQUIRE ADAPTATION TO MEET SPECIFIC SITE CONDITIONS AND LOCAL BUILDING REGULATIONS. IT IS THE CONTRACTOR'S SOLE RESPONSIBILITY TO VERIFY ALL DIMENSIONS AND DETAILS PRIOR TO CONSTRUCTION FOR ERRORS AND OMISSIONS. PLEASE SEE YOUR LICENSE AGREEMENT FOR FURTHER INFORMATION.

JOB NAME: \_\_\_\_\_  
REV: \_\_\_\_\_  
DATE: 4/2015 S.J.

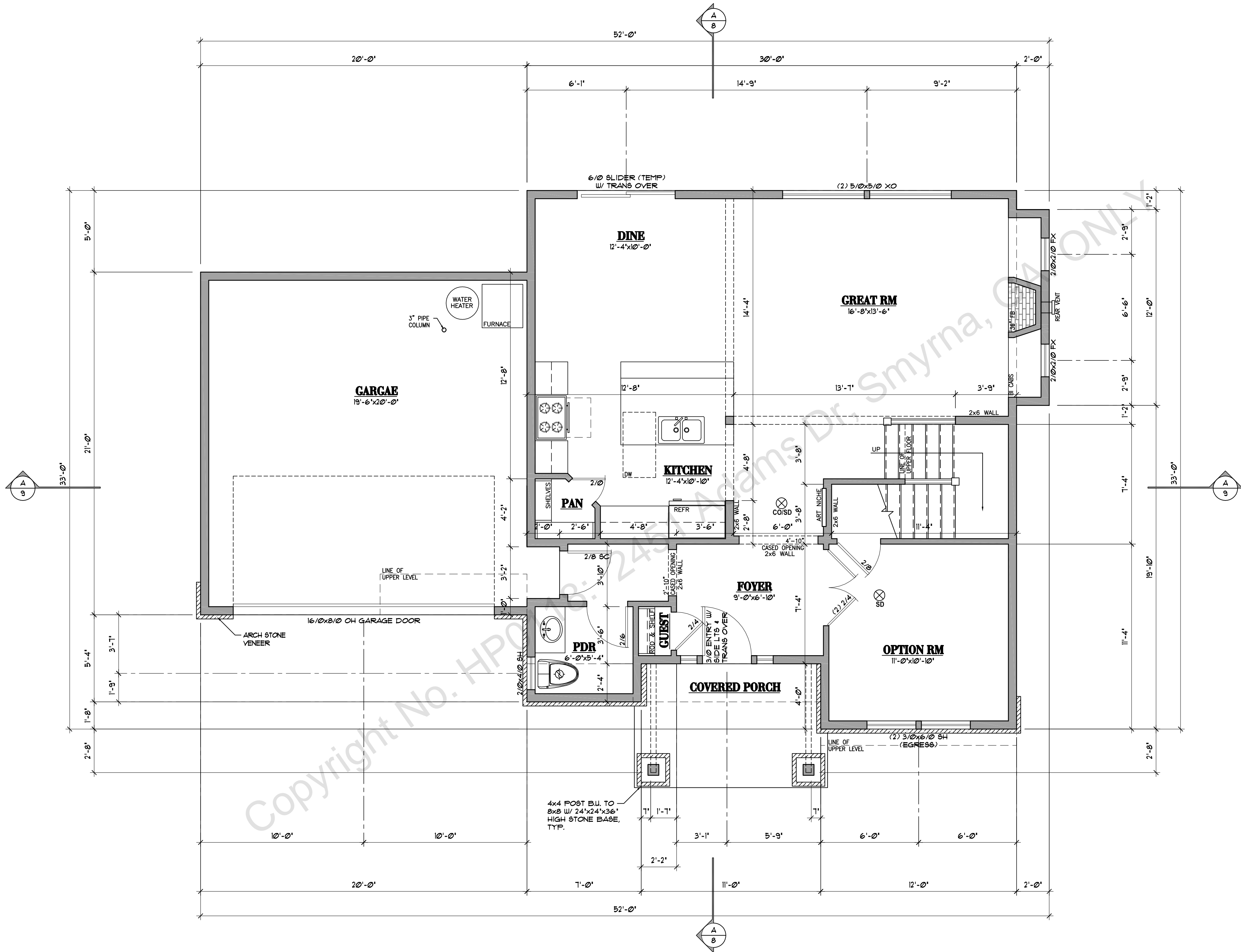


**FRONT ELEVATION**  
SCALE: 1/4"-1'-0"



**LEFT ELEVATION**  
SCALE: 1/4"-1'-0"

Copyright © 2015 Sunteil Design, Inc. All rights reserved. 2451 Adams



**MAIN LEVEL FLOOR PLAN**  
 SCALE: 1/4"=1'-0" 934 SQ. FT.

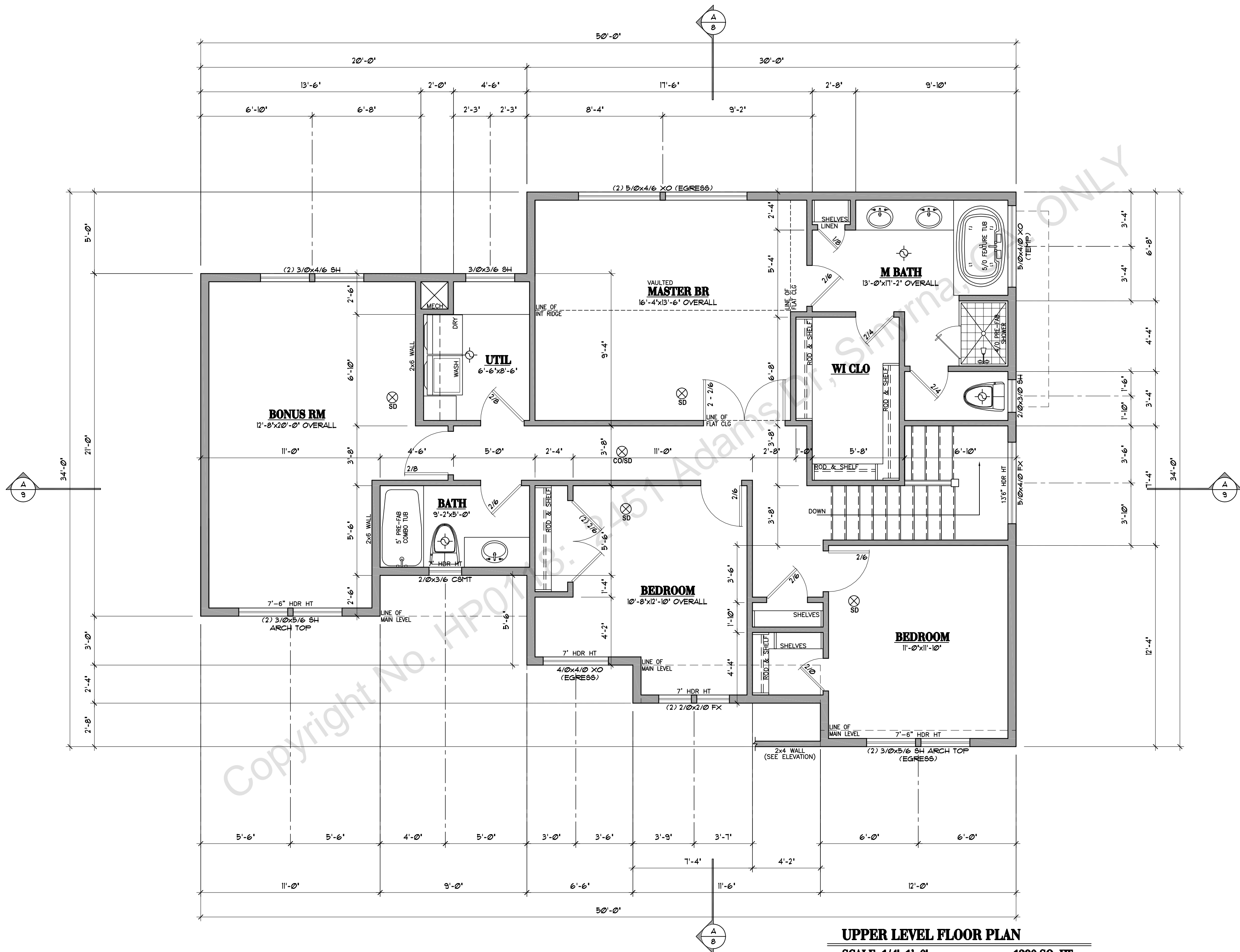
**Suntec**  
 DESIGN INC.  
 16865 Boones Ferry Road, Suite 201, Lake Oswego, Oregon 97035  
 Tel: (503) 624 0555 • Fax: (503) 624 0155  
 www.suntecinc.com

**GRANDVILLE E**

PLAN NUMBER 32112E 2224 TOTAL SQ FEET

THESE PLANS HAVE BEEN LICENSED FOR THE CONSTRUCTION OF ONE BUILDING ONLY. UNAUTHORIZED USE OR COPYING OF THE PLANS, OR THE DESIGN THEY DEPICT, INFRINGES RIGHTS UNDER THE COPYRIGHT ACT THAT INCLUDE PENALTIES OF UP TO \$100,000 PER WORK WILLFULLY INFRINGED. THESE PLANS HAVE BEEN PREPARED TO MEET CABO BUILDING CODES AND MAY REQUIRE ADAPTATION TO MEET SPECIFIC SITE CONDITIONS AND LOCAL BUILDING REGULATIONS. IT IS THE CONTRACTOR'S SOLE RESPONSIBILITY TO VERIFY ALL DIMENSIONS AND DETAILS PRIOR TO CONSTRUCTION FOR ERRORS AND OMISSIONS. PLEASE SEE YOUR LICENSE AGREEMENT FOR FURTHER INFORMATION.

JOB NAME: \_\_\_\_\_  
 REV: \_\_\_\_\_  
 DATE: 4/2015 S.J.



**UPPER LEVEL FLOOR PLAN**  
 SCALE: 1/4"=1'-0" 1290 SQ. FT.

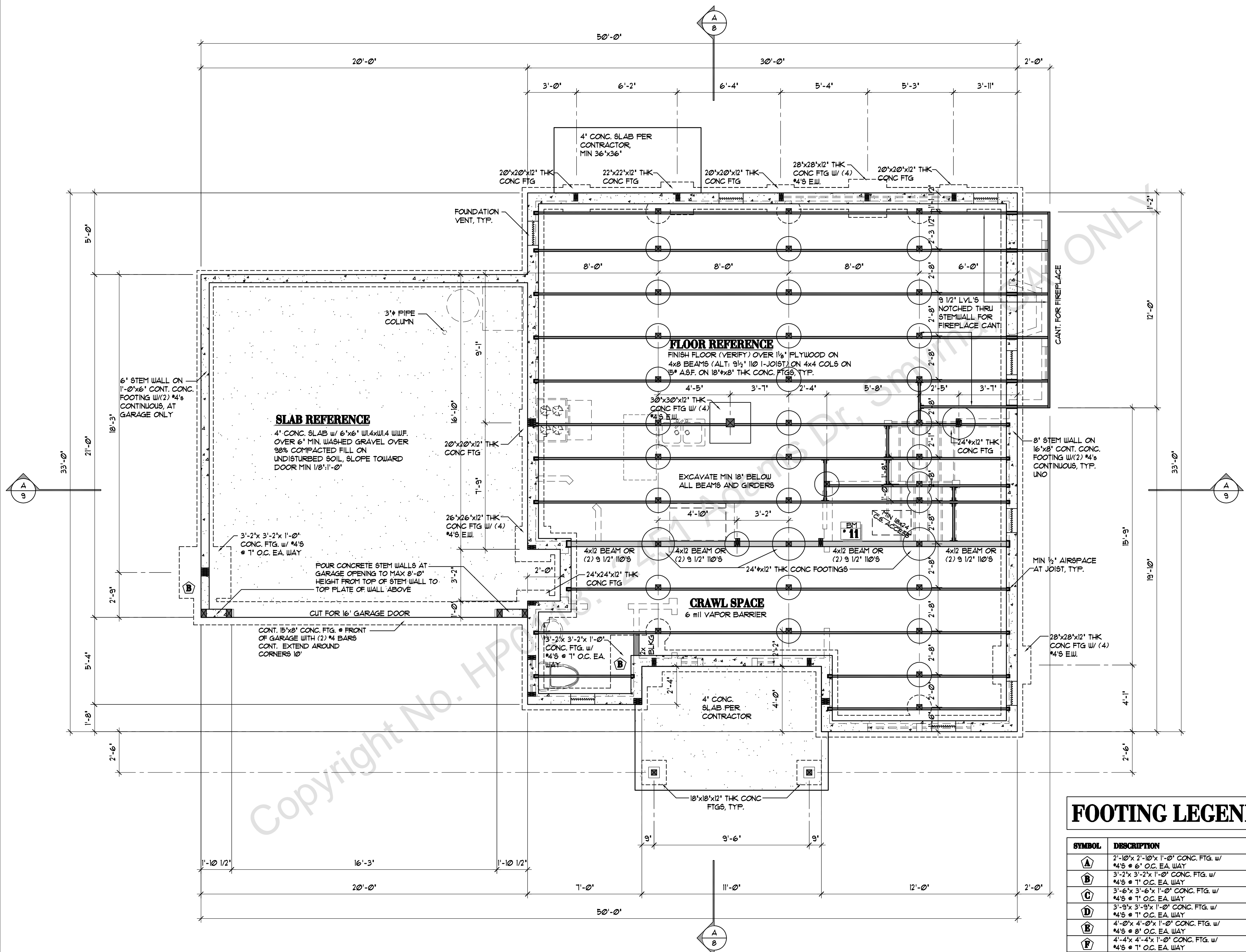
**Sunteel**  
 DESIGN INC.  
 16865 Boones Ferry Road, Suite 201, Lake Oswego, Oregon 97035  
 Tel: (503) 624 0555 • Fax: (503) 624 0155  
 www.sunteelhomedesign.com

**GRANDVILLE E**

PLAN NUMBER 32112E 2224 TOTAL SQ FEET

THESE PLANS HAVE BEEN LICENSED FOR THE CONSTRUCTION OF ONE BUILDING ONLY. UNAUTHORIZED USE OR COPYING OF THE PLANS, OR THE DESIGN THEY DEPICT, INFRINGES RIGHTS UNDER THE COPYRIGHT ACT THAT INCLUDE PENALTIES OF UP TO \$100,000 PER WORK WILLFULLY INFRINGED. THESE PLANS HAVE BEEN PREPARED TO MEET CABO BUILDING CODES AND MAY REQUIRE ADAPTATION TO MEET SPECIFIC SITE CONDITIONS AND LOCAL BUILDING REGULATIONS. IT IS THE CONTRACTOR'S SOLE RESPONSIBILITY TO VERIFY ALL DIMENSIONS AND DETAILS PRIOR TO CONSTRUCTION FOR ERRORS AND OMISSIONS. PLEASE SEE YOUR LICENSE AGREEMENT FOR FURTHER INFORMATION.

JOB NAME: \_\_\_\_\_  
 REV: \_\_\_\_\_  
 DATE: 4/20/15 S.J.



**FOUNDATION PLAN**  
SCALE: 1/4"=1'-0"

**FOOTING LEGEND**

SYMBOL	DESCRIPTION
(A)	2'-10"x 2'-10"x 1'-0" CONC. FTG. w/ #4'S @ 6" O.C. EA. WAY
(B)	3'-2"x 3'-2"x 1'-0" CONC. FTG. w/ #4'S @ 1' O.C. EA. WAY
(C)	3'-6"x 3'-6"x 1'-0" CONC. FTG. w/ #4'S @ 1' O.C. EA. WAY
(D)	3'-9"x 3'-9"x 1'-0" CONC. FTG. w/ #4'S @ 1' O.C. EA. WAY
(E)	4'-0"x 4'-0"x 1'-0" CONC. FTG. w/ #4'S @ 8" O.C. EA. WAY
(F)	4'-4"x 4'-4"x 1'-0" CONC. FTG. w/ #4'S @ 1' O.C. EA. WAY
(G)	4'-6"x 4'-6"x 1'-0" CONC. FTG. w/ #4'S @ 1' O.C. EA. WAY
(H)	4'-8"x 4'-8"x 1'-0" CONC. FTG. w/ #4'S @ 8" O.C. EA. WAY
(I)	4'-10"x 4'-10"x 1'-0" CONC. FTG. w/ #4'S @ 1' O.C. EA. WAY
(J)	1'-4" x 8' CONT. CONC. FOOTING w/ (3) #4'S CONTINUOUS
(K)	1'-6" x 10' CONT. CONC. FOOTING w/ (3) #4'S CONTINUOUS
(L)	1'-0" x 6' CONT. CONC. FOOTING w/ (2) #4'S CONTINUOUS

**Suntec**  
DESIGN INC.  
16865 Boones Ferry Road, Suite 201, Lake Oswego, Oregon 97035  
Tel: (503) 624 0555 • Fax: (503) 624 0155  
www.suntecdesign.com

**GRANDVILLE E**

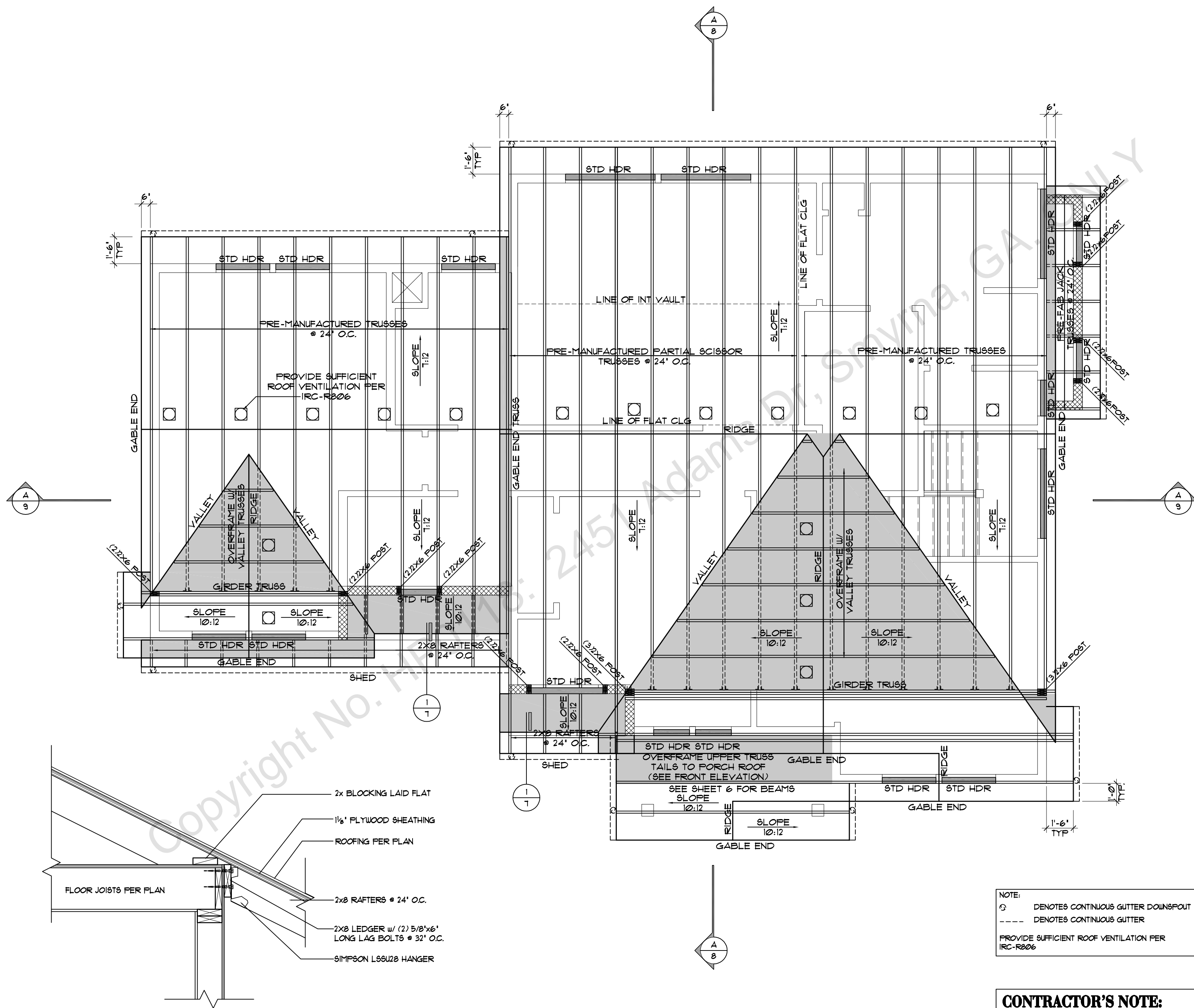
PLAN NUMBER 32112E 2224 TOTAL SQ FEET

THESE PLANS HAVE BEEN LICENSED FOR THE CONSTRUCTION OF ONE BUILDING ONLY. UNAUTHORIZED USE OR COPYING OF THE PLANS, OR THE DESIGN THEY DEPICT, INFRINGES RIGHTS UNDER THE COPYRIGHT ACT THAT INCLUDE PENALTIES OF UP TO \$100,000 PER WORK WILLFULLY INFRINGED. THESE PLANS HAVE BEEN PREPARED TO MEET CABO BUILDING CODES AND MAY REQUIRE ADAPTATION TO MEET SPECIFIC SITE CONDITIONS AND LOCAL BUILDING REGULATIONS. IT IS THE CONTRACTOR'S SOLE RESPONSIBILITY TO VERIFY ALL DIMENSIONS AND DETAILS PRIOR TO CONSTRUCTION FOR ERRORS AND OMISSIONS. PLEASE SEE YOUR LICENSE AGREEMENT FOR FURTHER INFORMATION.

JOB NAME: \_\_\_\_\_  
REV: \_\_\_\_\_  
DATE: 4/2015 S.J.

**5**





**GRANDVILLE E**

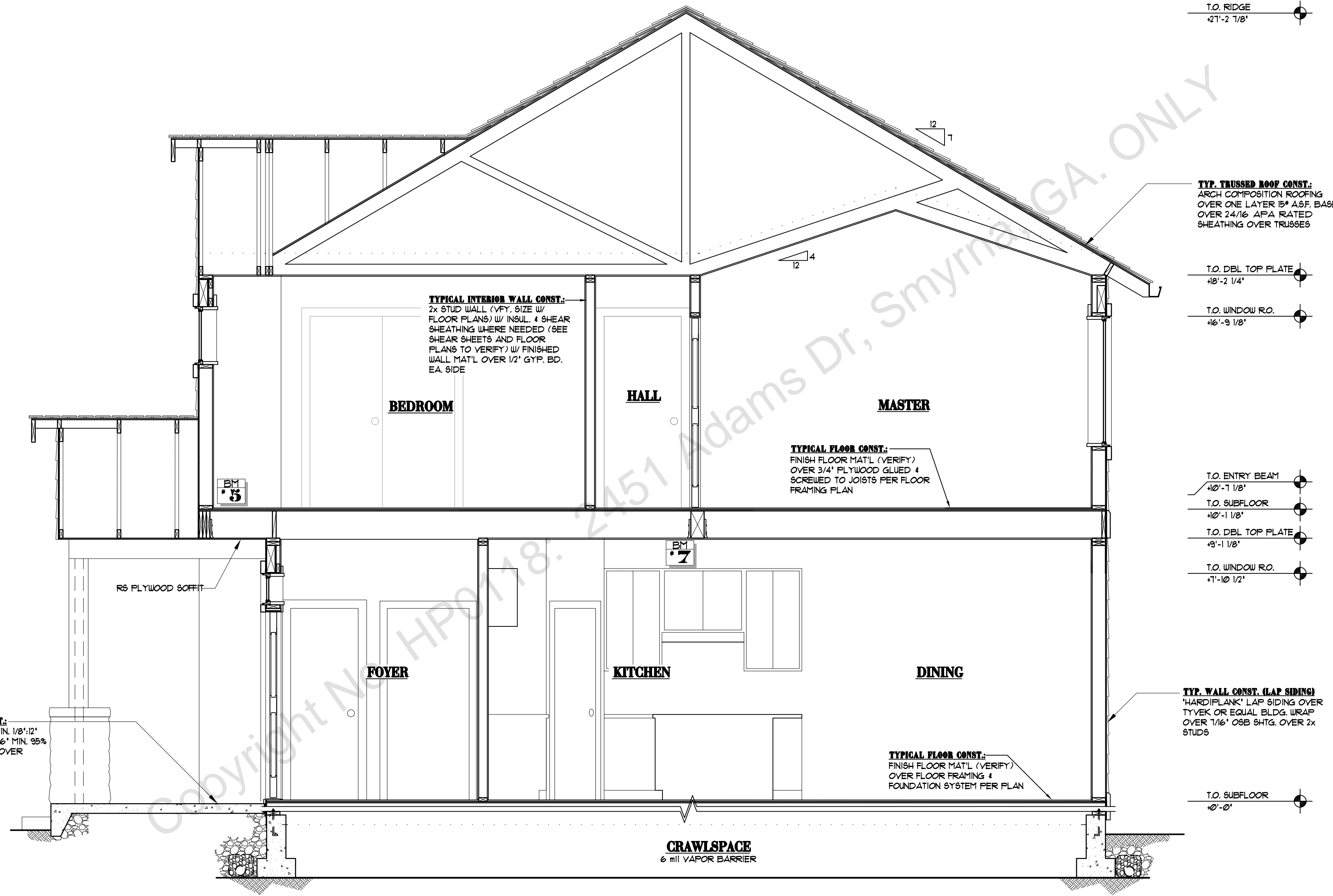
PLAN NUMBER 32112E 2224 TOTAL SQ FEET

**Suntec**  
DESIGN INC.  
16865 Boones Ferry Road, Suite 201, Lake Oswego, Oregon 97035  
Tel: (503) 624 0555 • Fax: (503) 624 0155  
www.suntecinc.com

THESE PLANS HAVE BEEN LICENSED FOR THE CONSTRUCTION OF ONE BUILDING ONLY. UNAUTHORIZED USE OR COPYING OF THE PLANS, OR THE DESIGN THEY DEPICT, INFRINGES RIGHTS UNDER THE COPYRIGHT ACT THAT INCLUDE PENALTIES OF UP TO \$100,000 PER WORK WILLFULLY INFRINGED. THESE PLANS HAVE BEEN PREPARED TO MEET CABO BUILDING CODES AND MAY REQUIRE ADAPTATION TO MEET SPECIFIC SITE CONDITIONS AND LOCAL BUILDING REGULATIONS. IT IS THE CONTRACTOR'S SOLE RESPONSIBILITY TO VERIFY ALL DIMENSIONS AND DETAILS PRIOR TO CONSTRUCTION FOR ERRORS AND OMISSIONS. PLEASE SEE YOUR LICENSE AGREEMENT FOR FURTHER INFORMATION.

JOB NAME: \_\_\_\_\_  
 REV: \_\_\_\_\_  
 DATE: 4/2015 S.J.

**7**



**A SECTION**  
8 SCALE: 3/8"=1'-0"

**GRANDVILLE E**

PLAN NUMBER 32112E 2224 TOTAL SQ FEET

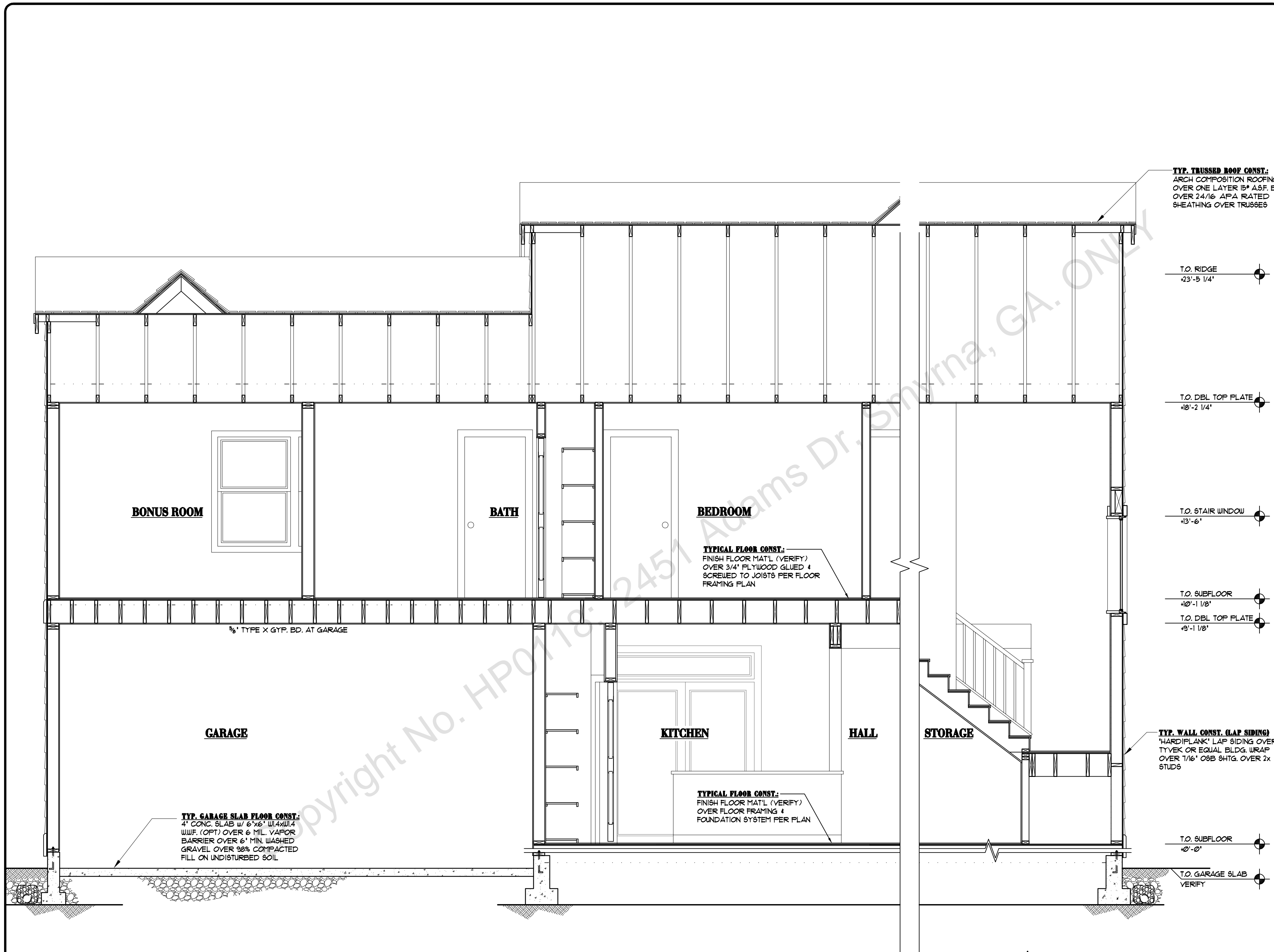
**Suntec**  
DESIGN INC.  
16865 Boones Ferry Road, Suite 201, Lake Oswego, Oregon 97035  
Tel: (503) 624 0555 • Fax: (503) 624 0155  
www.suntecdesign.com

THESE PLANS HAVE BEEN LICENSED FOR THE CONSTRUCTION OF ONE BUILDING ONLY. UNAUTHORIZED USE OR COPYING OF THE PLANS, OR THE DESIGN THEY DEPICT, INFRINGES RIGHTS UNDER THE COPYRIGHT ACT THAT INCLUDE PENALTIES OF UP TO \$100,000 PER WORK WILLFULLY INFRINGED. THESE PLANS HAVE BEEN PREPARED TO MEET CABO BUILDING CODES AND MAY REQUIRE ADAPTATION TO MEET SPECIFIC SITE CONDITIONS AND LOCAL BUILDING REGULATIONS. IT IS THE CONTRACTOR'S SOLE RESPONSIBILITY TO VERIFY ALL DIMENSIONS AND DETAILS PRIOR TO CONSTRUCTION FOR ERRORS AND OMISSIONS. PLEASE SEE YOUR LICENSE AGREEMENT FOR FURTHER INFORMATION.

JOB NAME: \_\_\_\_\_  
REV: \_\_\_\_\_  
DATE: 4/2015 S.J.

**8**





**A SECTION**  
9 SCALE: 3/8"=1'-0"

**GRANDVILLE E**

PLAN NUMBER 32112E 2224 TOTAL SQ FEET

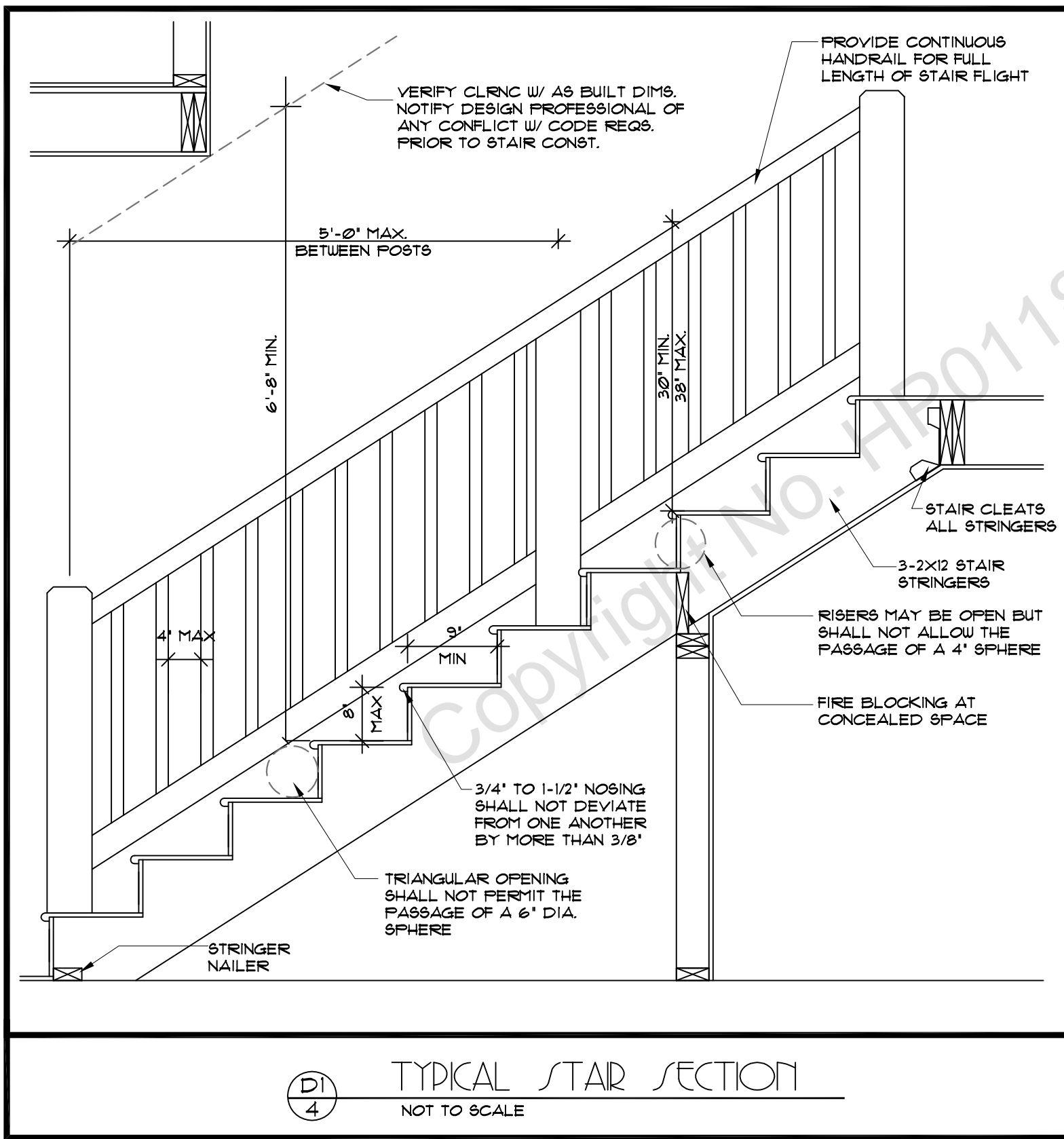
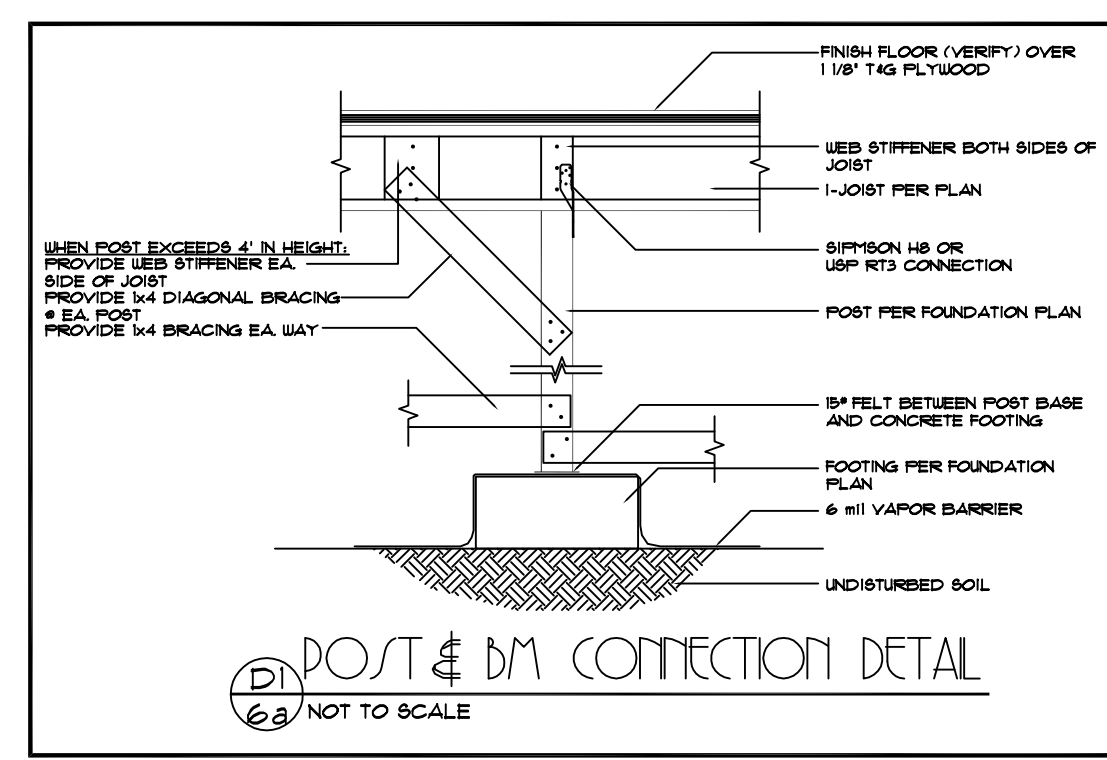
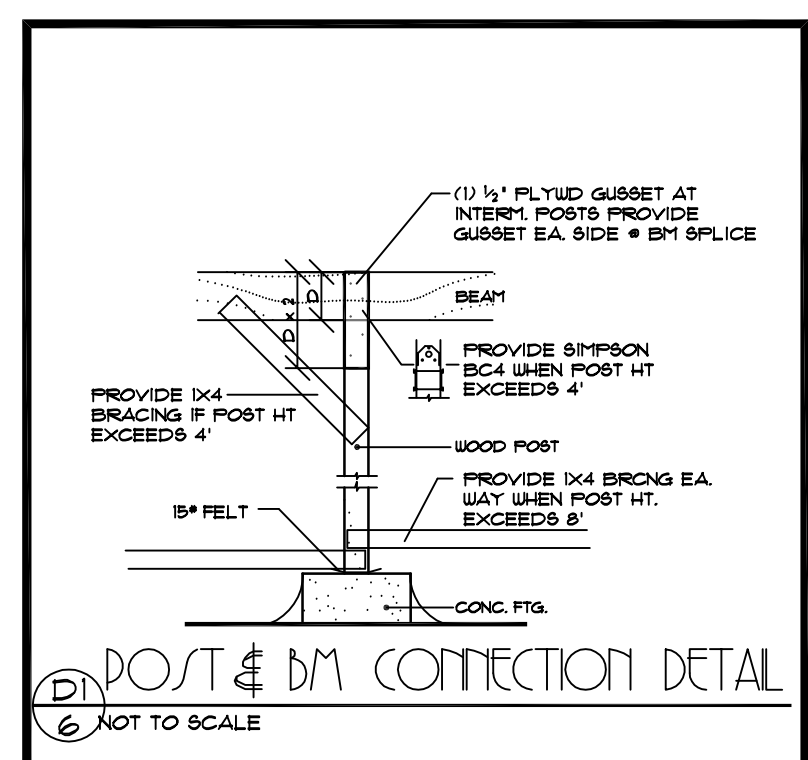
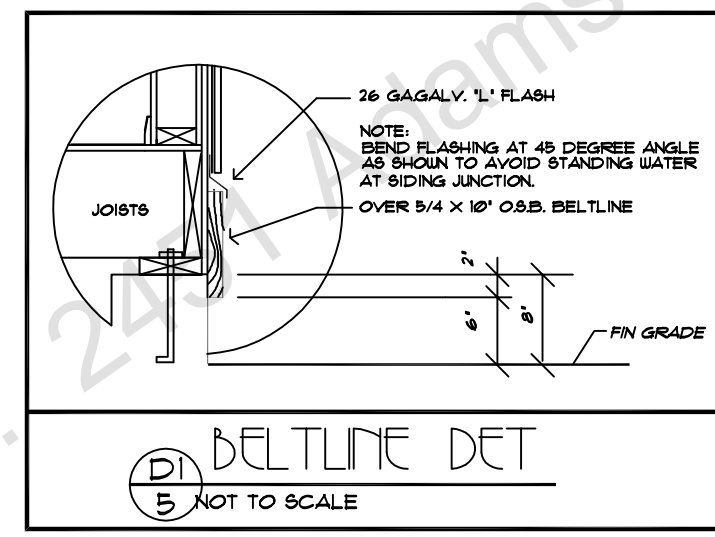
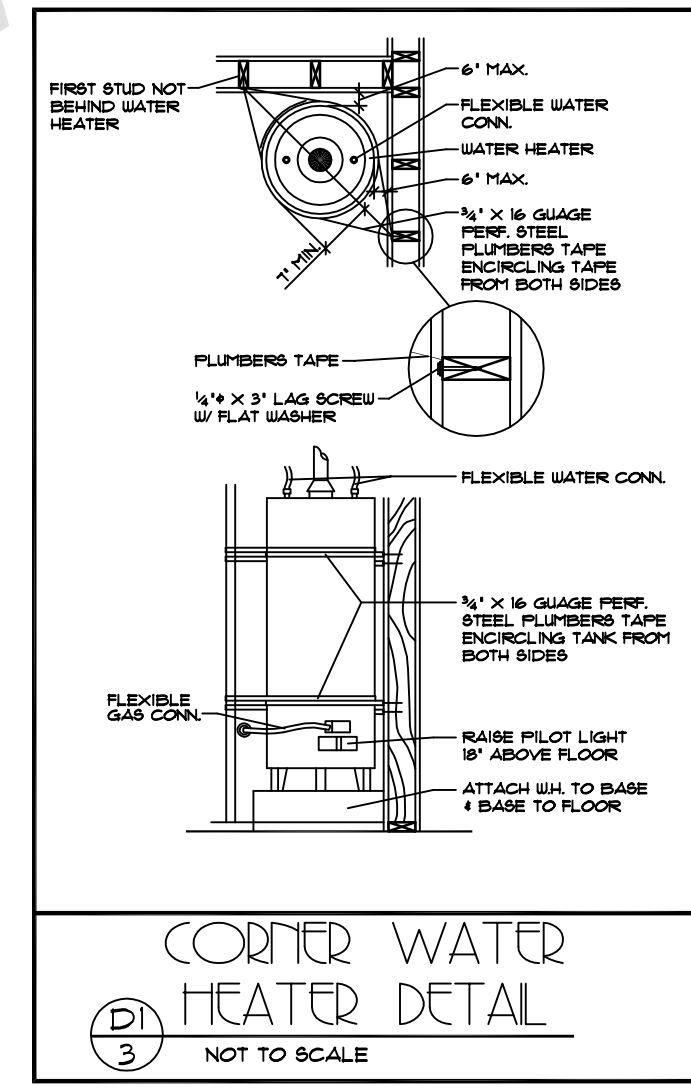
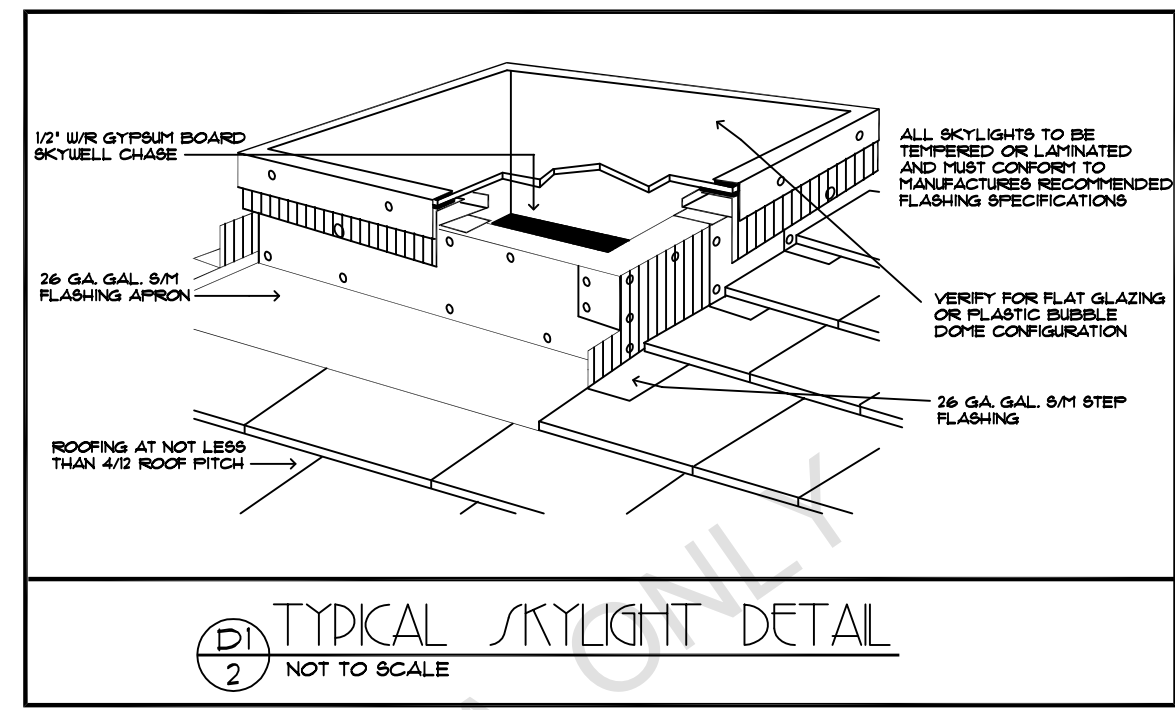
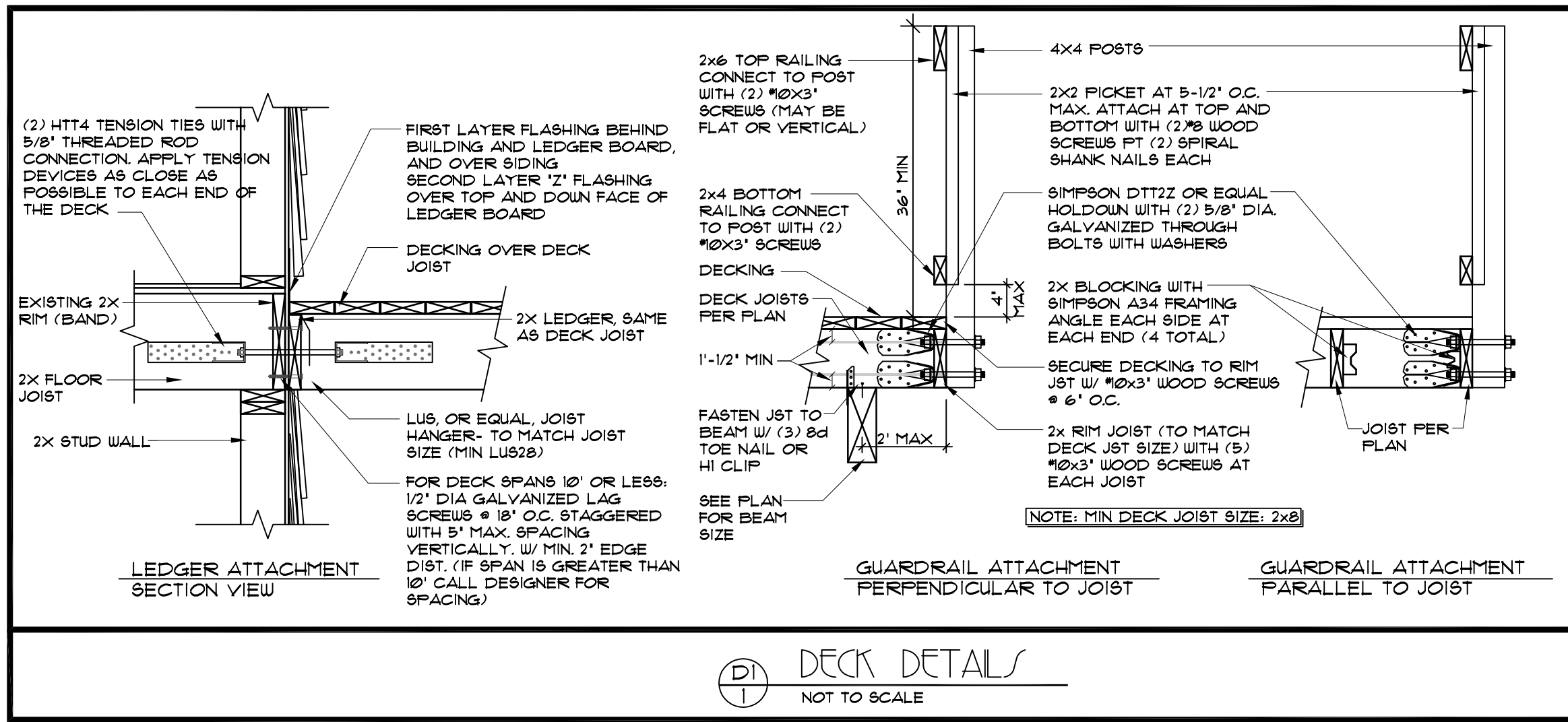
**Sunteel**  
DESIGN INC.  
16865 Boones Ferry Road, Suite 201, Lake Oswego, Oregon 97035  
Tel: (503) 624 0555 • Fax: (503) 624 0155  
www.sunteelhomedesign.com

THESE PLANS HAVE BEEN LICENSED FOR THE CONSTRUCTION OF ONE BUILDING ONLY. UNAUTHORIZED USE OR COPYING OF THE PLANS, OR THE DESIGN THEY DEPICT, INFRINGES RIGHTS UNDER THE COPYRIGHT ACT THAT INCLUDE PENALTIES OF UP TO \$100,000 PER WORK WILLFULLY INFRINGED. THESE PLANS HAVE BEEN PREPARED TO MEET CABO BUILDING CODES AND MAY REQUIRE ADAPTATION TO MEET SPECIFIC SITE CONDITIONS AND LOCAL BUILDING REGULATIONS. IT IS THE CONTRACTOR'S SOLE RESPONSIBILITY TO VERIFY ALL DIMENSIONS AND DETAILS PRIOR TO CONSTRUCTION FOR ERRORS AND OMISSIONS. PLEASE SEE YOUR LICENSE AGREEMENT FOR FURTHER INFORMATION.

JOB NAME: \_\_\_\_\_  
REV: \_\_\_\_\_  
DATE: 4/2015 S.J.

**9**





**DETAILS SHEET**

**Sintel**  
D E S I G N I N C .

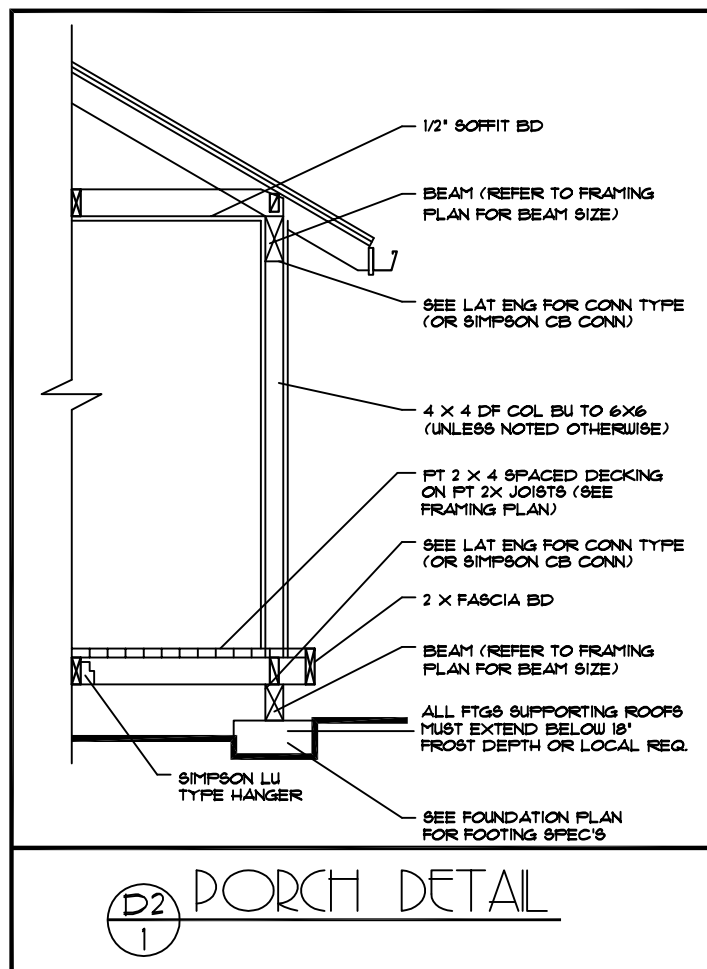
16865 Boones Ferry Road, Suite 103, Lake Oswego, Oregon 97035  
Tel: (503) 624 0555 • Fax: (503) 624 0155  
WWW.SUNTELEDESIGN.COM

THESE PLANS HAVE BEEN LICENSED FOR THE CONSTRUCTION OF ONE BUILDING ONLY. UNAUTHORIZED USE OR COPYING OF THE PLANS, OR THE DESIGN THEREOF, INFRINGES RIGHTS UNDER THE COPYRIGHT ACT THAT INCLUDE PENALTIES OF UP TO \$100,000 PER WORK WILLFULLY INFRINGED. THESE PLANS HAVE BEEN PREPARED TO MEET CAROLINA BUILDING CODES AND MAY REQUIRE ADAPTATION TO MEET SPECIFIC SITE CONDITIONS AND LOCAL BUILDING REGULATIONS. IT IS THE CONTRACTOR'S SOLE RESPONSIBILITY TO VERIFY ALL DIMENSIONS AND DETAILS PRIOR TO CONSTRUCTION FOR ERRORS AND OMISSIONS. PLEASE SEE YOUR LICENSE AGREEMENT FOR FURTHER INFORMATION.

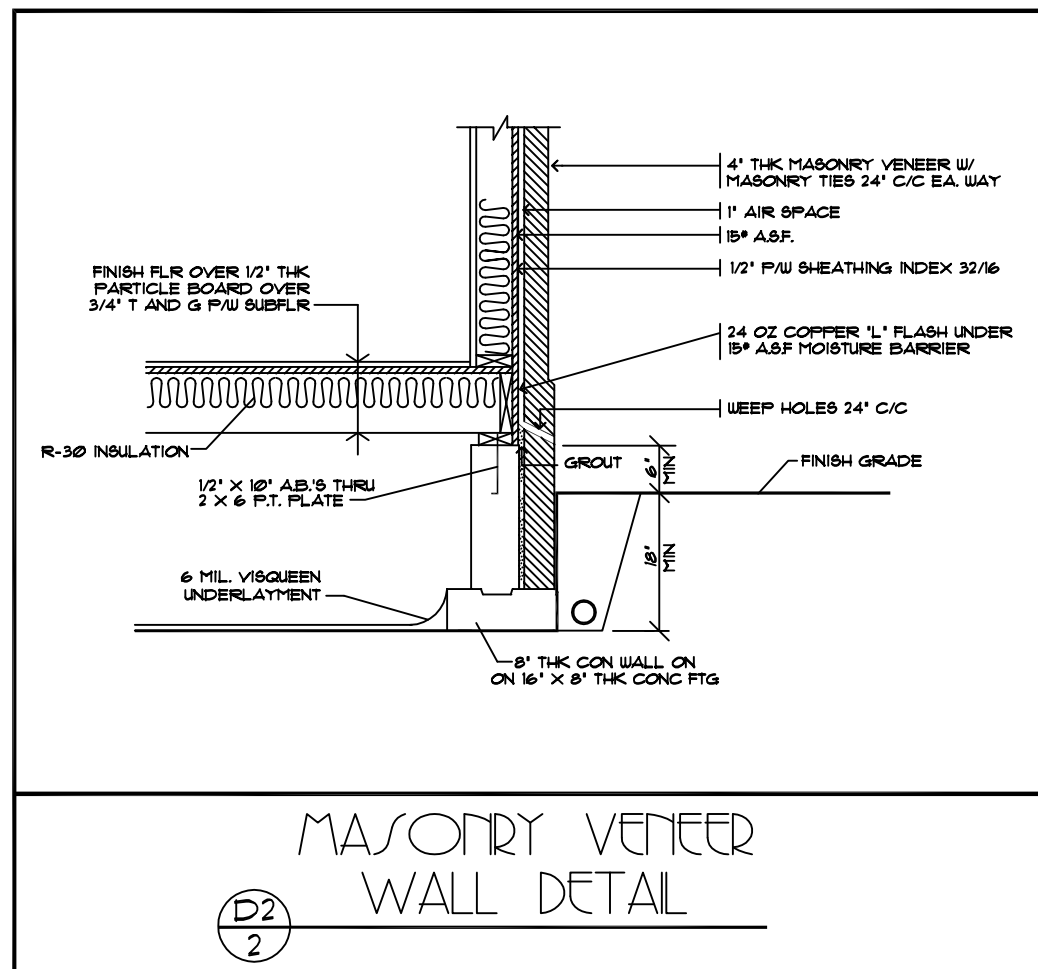
SHEET: \_DETAILS\_

DATE: \_07/08\_

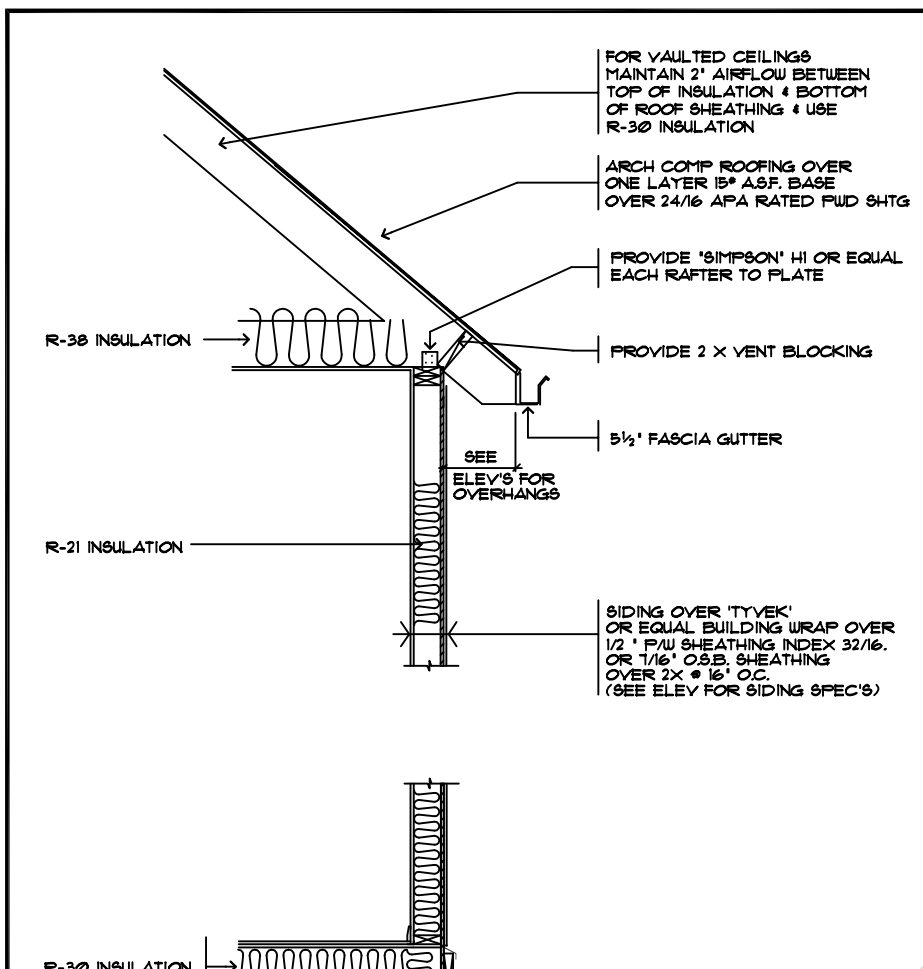
D1



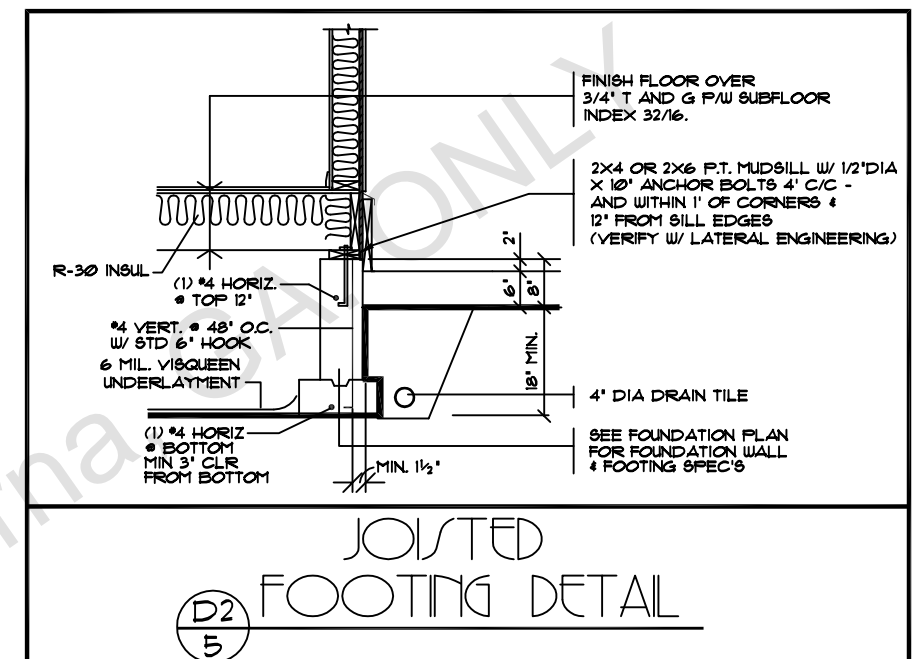
D2 PORCH DETAIL  
1



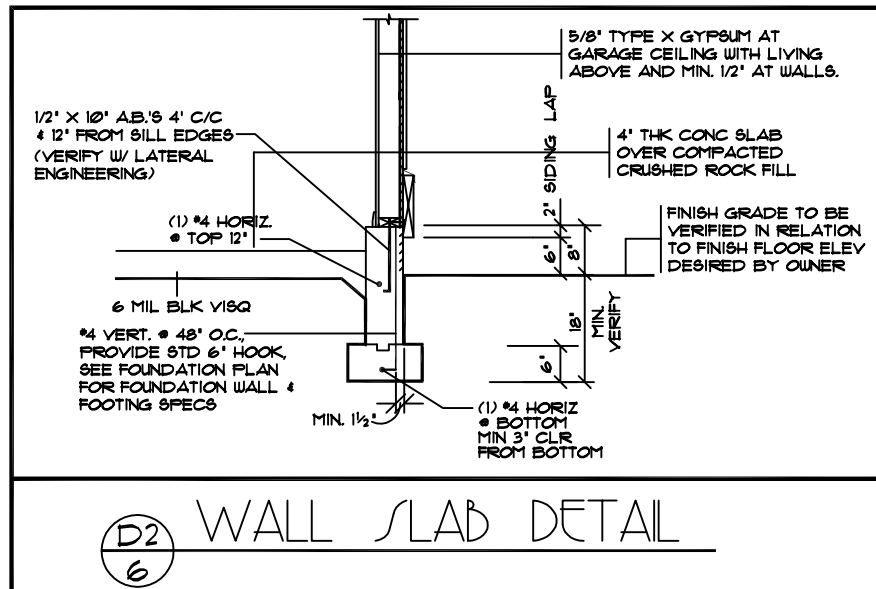
MASONRY VENEER WALL DETAIL  
D2 2



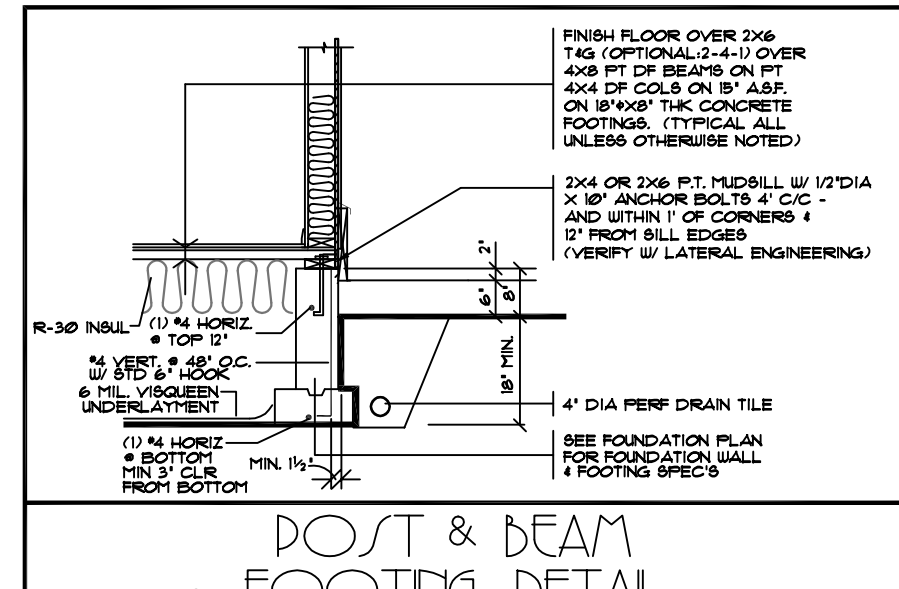
D2 TYPICAL WALL DETAIL  
4



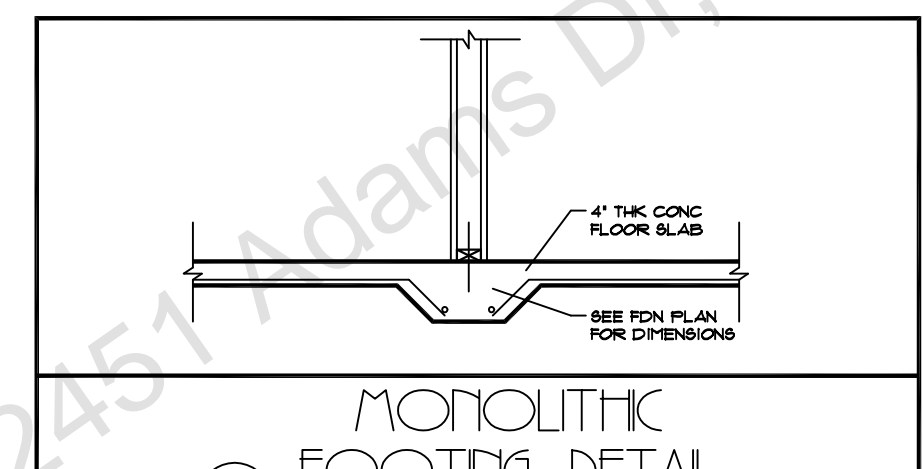
D2 JOISTED FOOTING DETAIL  
5



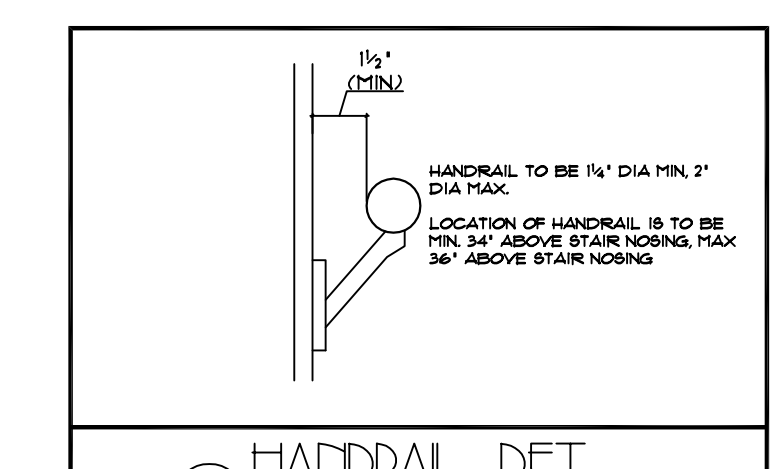
D2 WALL SLAB DETAIL  
6



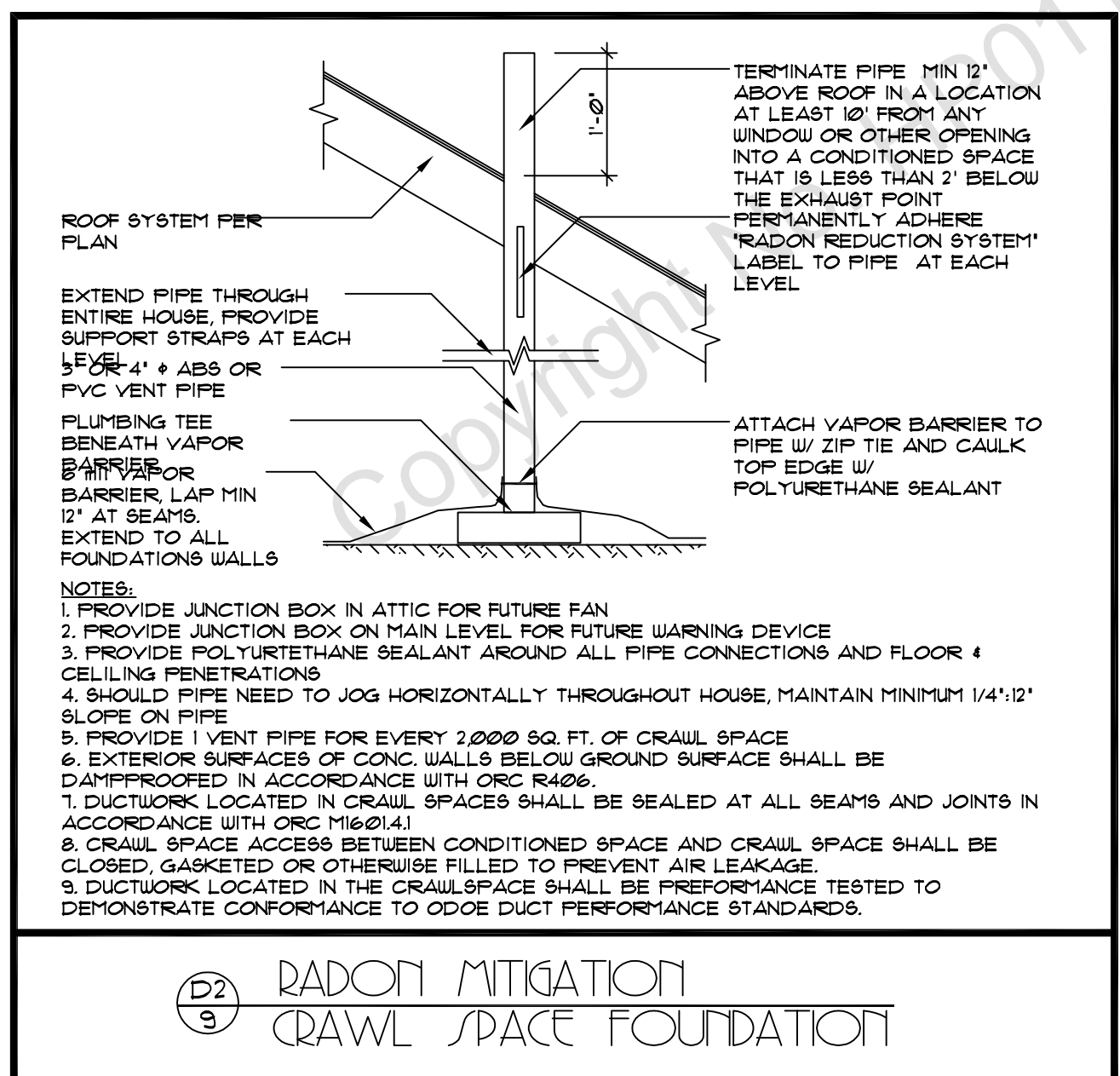
D2 POST & BEAM FOOTING DETAIL  
7



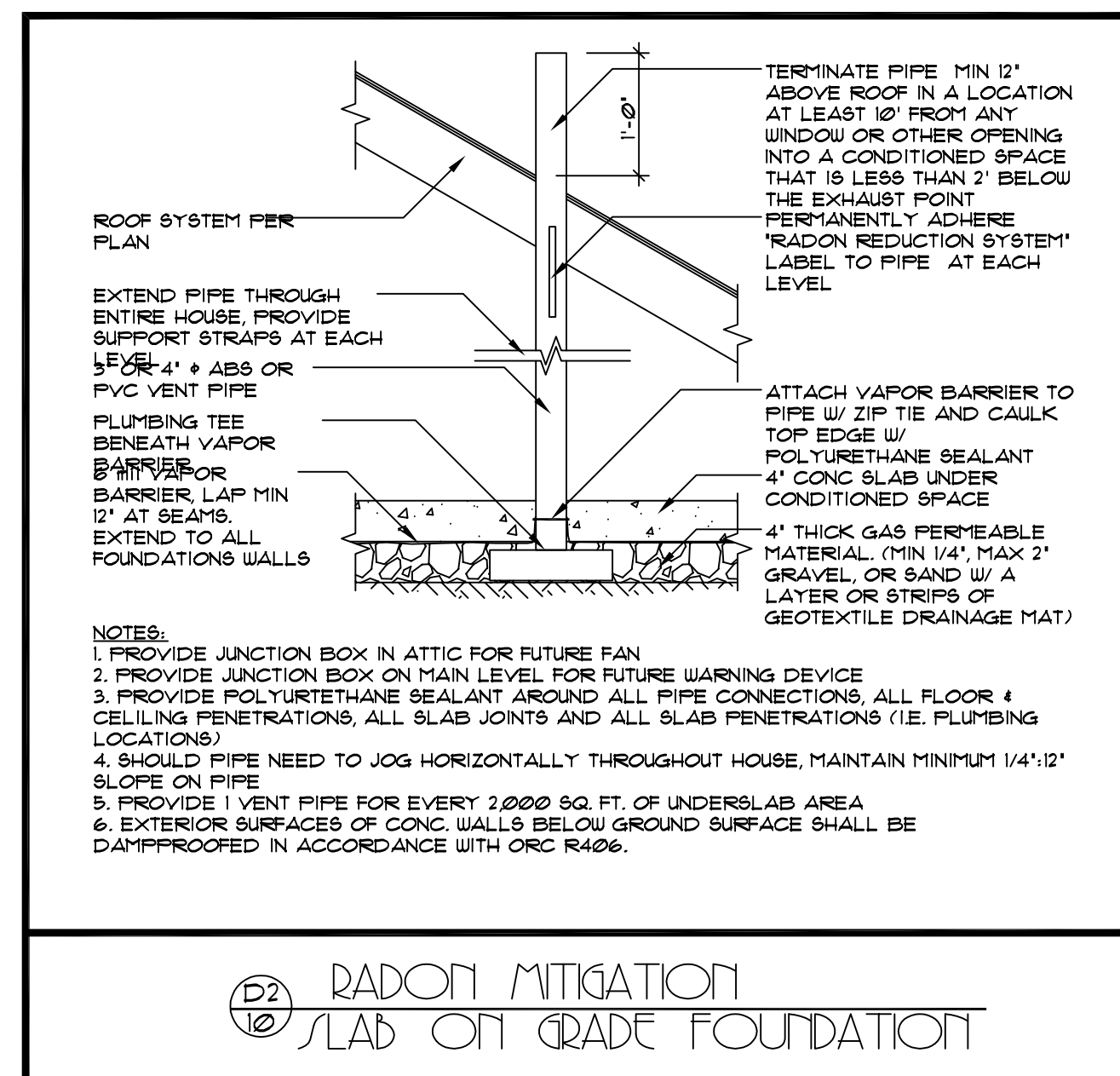
D2 MONOLITHIC FOOTING DETAIL  
8



D2 HANDRAIL DET  
11 NOT TO SCALE



D2 RADON MITIGATION CRAWL SPACE FOUNDATION  
9



D2 RADON MITIGATION SLAB ON GRADE FOUNDATION  
10

**Sintel**  
D E S I G N I N C .  
16865 Boones Ferry Road, Suite 103, Lake Oswego, Oregon 97035  
Tel: (503) 624 0555 • Fax: (503) 624 0155  
W W W . S I N T E L D E S I G N . C O M

DETAILS SHEET

THESE PLANS HAVE BEEN LICENSED FOR THE CONSTRUCTION OF ONE BUILDING ONLY. UNAUTHORIZED USE OR COPYING OF THE PLANS, OR THE DESIGN THEY DEPICT, INFRINGES RIGHTS UNDER THE COPYRIGHT ACT THAT INCLUDE PENALTIES OF UP TO \$100,000 PER WORK WILLFULLY INFRINGED. THESE PLANS HAVE BEEN PREPARED TO MEET CARO BUILDING CODES AND MAY REQUIRE ADAPTATION TO MEET SPECIFIC SITE CONDITIONS AND LOCAL BUILDING REGULATIONS. IT IS THE CONTRACTOR'S SOLE RESPONSIBILITY TO VERIFY ALL DIMENSIONS AND DETAILS PRIOR TO CONSTRUCTION FOR ERRORS AND OMISSIONS. PLEASE SEE YOUR LICENSE AGREEMENT FOR FURTHER INFORMATION.

SHEET: DETAILS

DATE: 07/08

D2

TABLE 602.3(1) FASTENER SCHEDULE FOR STRUCTURAL MEMBERS

DESCRIPTION OF BUILDING ELEMENTS	NO. & TYPE OF FASTENER <sup>a,b,c,d</sup>	SPACING OF FASTENERS
JOIST TO SILL OR GIRDER, TOE NAIL	3-8d	—
1' X 6' SUBFLOOR OR LESS TO EACH JOIST, FACE NAIL	2-8d 2 STAPLES, 1/4"	—
2' SUBFLOOR TO JOIST OR GIRDER, BLIND AND FACE NAIL	2-16d	—
SOLE PLATE TO JOIST, SOLID DECK, OR BLOCKING, FACE NAIL	16d	16' O.C.
TOP OR SOLE PLATE TO STUD, END NAIL	2-16d	—
STUD TO SOLE PLATE, TOE NAIL	3-8d OR 2-16d	—
DOUBLE STUDS, FACE NAIL	10d	24' O.C.
DOUBLE TOP PLATES, FACE NAIL	10d	24' O.C.
SOLE PLATE TO JOIST, SOLID DECK, OR BLKG AT BRACED WALL PANELS	3-16d per 16'	—
DBL TOP PLATES, MIN. 48" OFFSET OF END JOINTS, FACE NAIL IN LAPPED AREA	8-16d	—
BLOCKING BETWEEN JOISTS OR RAFTERS TO TOP PLATE, TOE NAIL	3-8d	—
RIM JOIST TO TOP PLATE, TOE NAIL	8d	6' O.C.
TOP PLATES, LAPS AT CORNERS AND INTERSECTIONS, FACE NAIL	2-10d	—
PRESSURE TREATED WOOD	ZINC COATED GALV.	—
BUILT-UP HEADER, TWO PIECES WITH 1/2" SPACER	16d	16' O.C. ALONG EA EDGE
CONTINUED 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	3-10d	—
CEILING JOIST TO PARALLEL RAFTERS, FACE NAIL	3-10d	—
RAFTER TO PLATE, TOE NAIL	2-16d	—
1' BRACE TO EACH STUD AND PLATE, FACE NAIL	2-8d 2 STAPLES, 1/4"	—
BUILT-UP CORNER STUDS	10d	24' O.C.
BUILT-UP GIRDERS AND BEAMS, 2-INCH LUMBER LAYERS	10d	NAIL EACH LAYER AS FOLLOWS: 32" O.C. @ TOP & BOTTOM, STAGGERED TWO NAILS AT ENDS AND AT EACH SPLICE.
2' PLANKS	2-16d	AT EACH BEARING
ROOF RAFTERS TO RIDGE, VALLEY OR HIP RAFTERS: TOE NAIL	4-16d	—
FACE NAIL	3-16d	—
RAFTER TIES TO RAFTERS, FACE	3-8d	—
		SPACING OF FASTENERS
		EDGES (IN.) <sup>1</sup>
		INTERMEDIATE SUPPORTS <sup>2,3,4</sup> (IN.)
PLYWOOD AND WOOD STRUCTURAL PANELS, SUBFLOOR, ROOF AND WALL SHEATHING TO FRAMING, AND PARTICLEBOARD WALL SHEATHING TO FRAMING		
5/16"-1/2"	6d COMMON NAIL (SUBFLOOR WALL) 8d COMMON NAIL (ROOF)	6
19/32"-1"	8d COMMON NAIL	6
1 1/8"-1 1/4"	10d COM NAIL OR 8d DEFORMED NAIL	6
OTHER WALL SHEATHING <sup>h</sup>		
1/2" REGULAR CELLULOSIC FIBERBOARD SHEATHING	1 1/2" GALVANIZED ROOFING NAIL, 6d COM NAIL, STAPLE 16 GA, 1 1/2" LONG	3
1/2" STRUCTURAL CELLULOSIC FIBERBOARD SHEATHING	1 1/2" GALVANIZED ROOFING NAIL, 8d COM NAIL, STAPLE 16 GA, 1 1/2" LONG	3
25/32" STRUCTURAL CELLULOSIC FIBERBOARD SHEATHING	1 3/4" GALVANIZED ROOFING NAIL, 8d COM NAIL, STAPLE 16 GA, 1 3/4" LONG	3
1/2" GYPSUM SHEATHING	1 1/2" GALVANIZED ROOFING NAIL, 6d COM NAIL, STAPLE GALVANIZED, 1 1/2" LONG, 1 1/4" SCREWS, TYPE W OR S	4
5/8" GYPSUM SHEATHING	1 3/4" GALVANIZED ROOFING NAIL, 8d COM NAIL, STAPLE GALVANIZED, 1 3/8" LONG, 1 3/8" SCREWS, TYPE W OR S	4
PLYWOOD AND WOOD STRUCTURAL PANELS, COMBINATION SUBFLOOR UNDERLAYMENT TO FRAMING		
3/4" AND LESS	6d DEFORMED NAIL OR 8d COM NAIL	6
7/8"-1"	8d COM NAIL OR 8d DEFORMED NAIL	6
1 1/8"-1 1/4"	10d COM NAIL OR 8d DEFORMED NAIL	6

FOR 5/16" 1 INCH = 25.4 MM, 1 FOOT = 304.8 MM, 1 MPH = 1.609 KM/H.

- ALL NAILS ARE SMOOTH-COMMON, BOX OR DEFORMED SHANKS EXCEPT WHERE OTHERWISE STATED. NAILS USED FOR FRAMING AND SHEATHING CONNECTIONS SHALL HAVE MINIMUM AVERAGE BENDING YIELD STRENGTHS AS SHOWN: 80 ksi (551 MPa) FOR SHANK DIAMETER OF 0.132" (20d COMMON NAIL), 90 ksi (620 MPa) FOR SHANK DIAMETERS LARGER THAN 0.142" BUT NOT LARGER THAN 0.171", AND 100 ksi (689 MPa) FOR SHANK DIAMETERS OF 0.142" OR LESS.
- STAPLES ARE 16 GAUGE WIRE AND HAVE A MINIMUM 7/16-INCH O.D. CROWN WIDTH.
- NAILS SHALL BE SPACED AT NOT MORE THAN 6 INCHES O.C. AT ALL SUPPORTS WHERE SPANS ARE 48 INCHES OR GREATER.
- FOUR-FOOT-BY-8-FOOT OR 4-FOOT-BY-9-FOOT PANELS SHALL BE APPLIED VERTICALLY.
- SPACING OF FASTENERS NOT INCLUDED IN THIS TABLE SHALL BE BASED ON TABLE 602.3(2).
- FOR REGIONS HAVING BASIC WIND SPEED OF 110 MPH OR GREATER, 8d DEFORMED NAILS SHALL BE USED FOR ATTACHING PLYWOOD AND WOOD STRUCTURAL PANEL ROOF SHEATHING TO FRAMING WITHIN MINIMUM 48-INCH DISTANCE FROM GABLE END WALLS, IF MEAN ROOF HEIGHT IS MORE THAN 25', UP TO 35' MAXIMUM.
- FOR REGIONS HAVING BASIC WIND SPEED OF LESS THAN 110 MPH, NAILS FOR ATTACHING WOOD STRUCTURAL PANEL ROOF SHEATHING TO GABLE END WALL FRAMING SHALL BE SPACED 6" O.C. WHEN BASIC WIND SPEED IS GREATER THAN 100 MPH, NAILS FOR ATTACHING PANEL ROOF SHEATHING TO INTERMEDIATE SUPPORTS SHALL BE SPACED 6" O.C. FOR MINIMUM 48" DISTANCE FROM RIDGES, EAVES AND GABLE END WALLS, AND 4" O.C. TO GABLE END WALL FRAMING.
- GYPSUM SHEATHING SHALL CONFORM TO ASTM C 19 AND SHALL BE INSTALLED IN ACCORDANCE WITH GA 253. FIBERBOARD SHEATHING SHALL CONFORM TO EITHER AIA 1941 OR ASTM C 228.
- SPACING OF FASTENERS ON FLOOR SHEATHING PANEL EDGES APPLIES TO PANEL EDGES SUPPORTED BY FRAMING MEMBERS AND AT ALL ROOF PLANE PERIMETERS ONLY. SPACING OF FASTENERS ON ROOF SHEATHING PANEL EDGES APPLIES TO PANEL EDGES SUPPORTED BY FRAMING MEMBERS AND AT ALL ROOF PLANE PERIMETERS. BLOCKING OF ROOF OR FLOOR SHEATHING PANEL EDGES PERPENDICULAR TO THE FRAMING MEMBERS SHALL NOT BE REQUIRED EXCEPT AT INTERSECTION OF ADJACENT ROOF PLANES. FLOOR AND ROOF PERIMETER SHALL BE SUPPORTED BY FRAMING MEMBERS OR SOLID BLOCKING.
- INTERIOR NON-BRACED WALL LINES MAY BE NAILED WITH A MINIMUM 4-10d NAIL.

### GENERAL NOTES

- ALL WORK IS TO COMPLY WITH THE LATEST ADOPTED VERSION OF THE ORSC CODE AND ANY APPLICABLE STATE, COUNTY OR LOCAL REGULATIONS.
- THE CONTRACTOR IS RESPONSIBLE TO CHECK THE PLANS AND IS TO NOTIFY THE DESIGNER OF ANY ERRORS OR OMISSIONS PRIOR TO THE START OF CONSTRUCTION.
- WRITTEN DIMENSIONS HAVE PRECEDENCE OVER SCALED DIMENSIONS.
- DESIGN LOADS:
 

ROOF	30 PSF (LIVE LOAD)
FLOOR	40 PSF (LIVE LOAD)
STAIRS	100 PSF
GARAGE FLOOR	125 PSF (2000* FT)
DECKS	75 PSF

 (IF YOUR LOCAL AREA REQUIRES DIFFERENT DESIGN LOADS, CONSULT WITH A LOCAL STRUCTURAL ENGINEER TO DETERMINE THE APPROPRIATE REVISIONS.)
- PROVIDE INSULATION Baffles AT EAVE VENTS BETWEEN RAFTERS.
- ALL SMOKE DETECTORS SHALL BE POWERED BY 110V CURRENT, CONNECTED TO HOUSE ELECTRICAL SYSTEM. INTERCONNECT WITH EACH ONE SO THAT IF ANY ONE TRIPS THEY WILL ALL SOUND. THEY SHALL ALSO HAVE A BATTERY BACKUP AND BE LOCATED IN EACH BEDROOM AND ON EACH FLOOR LEVEL.
- GUARDRAILS SHALL HAVE INTERMEDIATE RAILS SPACED SUCH THAT A SPHERE 4' IN DIA. CANNOT PASS THROUGH.
- PROVIDE GROUNDING ELECTRODE AT ELECTRICAL SERVICE CONSISTING OF A MINIMUM 20' LENGTH OF 1/2" STEEL REINFORCEMENT OF FOOTINGS. ELECTRODE SHALL EXTEND 12' MIN. ABOVE THE PLATE LINE.
- THE MAXIMUM AMOUNT OF WATER USED BY NEW PLUMBING FIXTURES:
 

TOILETS	16 GALLONS/FLUSH
SHOWER HEADS	2.5 GALLONS/MINUTE
INTERIOR FAUCETS	2.5 GALLONS/MINUTE
- IN THE EVENT OF CONFLICT BETWEEN PERTINENT CODES AND REGULATIONS AND REFERENCED STANDARDS OF THESE SPECIFICATIONS, THE MORE STRINGENT PROVISIONS SHALL GOVERN.
- STRUCTURAL SPECIFICATIONS AND DRAWINGS FOR THIS WORK HAVE BEEN PREPARED IN ACCORDANCE WITH GENERALLY ACCEPTED ENGINEERING PRACTICE TO MEET MINIMUM REQUIREMENTS OF THE LATEST EDITION OF THE ORSC.
- SPECIFICATIONS AND DRAWINGS INDICATE FINISHED STRUCTURE. BUILDER SHALL BE RESPONSIBLE FOR CONSTRUCTION METHODS, PROCEDURES, AND CONDITIONS (INCLUDING SAFETY), EXCEPT AS SPECIFICALLY INDICATED OTHERWISE IN THE CONTRACT DOCUMENTS.
- CONSTRUCTION LOADS SHALL NOT OVERLOAD STRUCTURE NOR SHALL THEY BE IN EXCESS OF DESIGN LOADINGS INDICATED ON DRAWINGS.
- BUILDER SHALL VERIFY ALL MATERIALS, DIMENSIONS, AND CONDITIONS SHOWN ON STRUCTURAL DRAWINGS OR NOTED IN STRUCTURAL SPECIFICATIONS. ANY VARIANCES WITHIN STRUCTURAL DRAWINGS AND SPECIFICATIONS, OR WITHIN CONDITIONS ENCOUNTERED AT JOB SITE, SHALL BE REPORTED TO OWNER IN WRITING BEFORE COMMENCEMENT OF ANY WORK EFFECTED BY SUCH VARIANCE.
- BUILDER SHALL RIGIDLY ADHERE TO ALL LAWS, CODES, AND ORDINANCES WHICH APPLY TO THIS WORK. HE SHALL NOTIFY AND RECEIVE CLARIFICATION FROM OWNER IN WRITING OF ANY VARIATIONS BETWEEN CONTRACT DOCUMENTS AND GOVERNING REGULATIONS.
- ALL MANUFACTURED MATERIALS, COMPONENTS, FASTENERS, ASSEMBLIES, ETC., SHALL BE HANDLED AND INSTALLED IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS AND PROVISIONS OF APPLICABLE ICBO RESEARCH RECOMMENDATIONS, WHERE SPECIFIC MANUFACTURED PRODUCTS ARE CALLED FOR. GENERIC EQUALS WHICH MEET APPLICABLE STANDARDS AND SPECIFICATIONS MAY BE USED.
- NO VARIANCE BY A BUILDING OFFICIAL SHALL BE BINDING ON DESIGNERS.
- BUILDER SHALL INVESTIGATE SITE DURING CLEARING AND EARTHWORK OPERATIONS FOR FILLED EXCAVATIONS OR BURIED STRUCTURES SUCH AS CESS POOLS, CISTERNS, FOUNDATIONS, ETC. IF ANY SUCH ITEMS ARE FOUND, OWNER SHALL BE NOTIFIED IMMEDIATELY.
- CARBON MONOXIDE DETECTORS SHALL BE PROVIDED IN ANY HOME WITH A GAS APPLIANCE. ONE SHALL BE LOCATED WITHIN EACH BEDROOM OR WITHIN 15' OR OF EACH BEDROOM DOOR. BEDROOMS ON SEPARATE FLOORS REQUIRE SEPARATE DETECTORS.

### INSULATION SPECIFICATIONS

- ALL EXPOSED INSULATION IS TO HAVE A FLAME SPREAD RATING OF LESS THAN 25 & A SMOKE DENSITY RATING OF LESS THAN 450.
- PERIMETER CONC. WALLS TO BE PROTECTED W/ RIGID FIBERBOARD INSULATION FROM TOP OF CONC WALL TO NOT LESS THAN 24" BELOW GRADE.
- SLAB EDGE INSULATION IS TO BE R-15.
- HEATING DUCTS TO BE INSULATED W/ R-8.
- WINDOW SILL MEET REQUIRED U FACTORS FOR THE CONTRACTORS CHOSEN PATH OF COMPLIANCE SEE TABLE N104.1(1).
- ONE EXTERIOR DOOR MAY BE INSULATED TO A U-FACTOR OF 0.20. ALL OTHER EXTERIOR DOORS MAY NOT EXCEED 0.34.

### FRAMING NOTES

- ALL EXTERIOR WALL AND BEARING WALL OPENINGS TO HAVE 4X12 HEADERS UNLESS OTHERWISE INDICATED.
- JOISTS THAT ARE ATTACHED TO FLUSH BEAMS ARE TO BE HUNG WITH 'SIMPSON' LU TYPE OR EQUIV.
- DOUBLE JOISTS THAT ARE ATTACHED TO FLUSH BEAMS ARE TO BE HUNG WITH 'SIMPSON' LUS TYPE OR EQUIV.
- PROVIDE DOUBLE JOISTS UNDER ALL PARALLEL PARTITIONS OVER.
- PROVIDE FIREBLOCKING, DRAFTSTOPS & FIRESTOPS AS PER THE ORSC SEC R602.8
- LUMBER SPECIES:
 

A. POSTS, BEAMS, HEADERS	NO2 DOUG FIR
JOISTS AND RAFTERS	
B. SILLS, PLATES, BLOCKING	NO3 DOUG FIR
BRIDGING, ETC.	
C. STUDS	STUD GRADE DF.
D. POST AND BEAM DECKING	UTILITY GRADE DF.
E. PLYWOOD SHEATHING	1/2" CDX PLY, 32/16
F. GLU-LAM BEAMS	1b-2400, DRY ADH.
- NAILING SCHEDULE SEE TABLE 602.3(1)
- NOTCHES IN SOLID LUMBER JOISTS, RAFTERS, AND BEAMS SHALL NOT EXCEED ONE-SIXTH OF THE DEPTH OF THE MEMBER, SHALL NOT BE LONGER THAN ONE-THIRD OF THE DEPTH OF THE MEMBER AND SHALL NOT BE LOCATED IN THE MIDDLE ONE-THIRD OF THE SPAN. NOTCHES AT THE ENDS OF THE MEMBER SHALL NOT EXCEED ONE-FOURTH OF THE DEPTH OF THE MEMBER. THE TENSION SIDE OF MEMBERS 4" (102mm) OR GREATER IN NOMINAL THICKNESS SHALL NOT BE NOTCHED EXCEPT AT ENDS OF THE MEMBERS. THE DIAMETER OF HOLES BORED OR CUT INTO MEMBERS SHALL NOT EXCEED ONE-THIRD THE DEPTH OF THE MEMBER. HOLES SHALL NOT BE CLOSER THAN 2" TO THE TOP OR BOTTOM OF THE MEMBER, OR TO ANY OTHER HOLE LOCATED IN THE MEMBER. WHERE THE MEMBER IS ALSO NOTCHED, THE HOLE SHALL NOT BE CLOSER THAN 2" (51mm) TO THE NOTCH.
- STUDS IN AN EXTERIOR WALL OR LOAD-BEARING PARTITIONS SHALL BE PERMITTED TO BE NOTCHED TO A DEPTH NOT TO EXCEED 25% OF ITS WIDTH.
- STUDS IN NON-LOAD-BEARING PARTITIONS SHALL BE PERMITTED TO BE NOTCHED TO A DEPTH NOT TO EXCEED 40% OF A SINGLE STUD WIDTH. STUDS SHALL BE PERMITTED TO BE BORED OR DRILLED, PROVIDED THAT THE DIAMETER OF THE RESULTING HOLE IS NO GREATER THAN 40% OF THE STUD WIDTH, THE EDGE OF THE HOLE IS NO CLOSER THAN 5/8" (15.9mm) TO THE EDGE OF THE STUD, AND THE HOLE IS NOT LOCATED IN THE SAME SECTION AS A CUT OR NOTCH.
- INSTALL ALL HORIZONTAL MEMBERS WITH CROWN UP.
- ALL MEMBERS IN BEARING SHALL BE ACCURATELY CUT AND ALIGNED SO THAT FULL BEARING IS PROVIDED WITHOUT USE OF SHIMS. BEARING POSTS SHALL HAVE FULL BLOCKING OR SUPPORT UNDER.
- ALL JOISTS SHALL HAVE A MINIMUM OF 2" BEARING AT SUPPORTS. LAPPING JOISTS SHALL HAVE 6" LAPS CENTERED OVER INTERIOR SUPPORTS.
- LEDGERS AND STUD WALL FOUNDATION SILL PLATES SHALL BE BOLTED TO CONCRETE W/ ANCHOR BOLTS OF SIZE AND MINIMUM SPACING AS SHOWN ON DRAWINGS. AT LEAST TWO BOLTS SHALL BE PROVIDED FOR EACH PIECE W/ ONE BOLT WITHIN 12" OF EACH END.
- ALL PLYWOOD WALL SHEATHING SHALL BE APPLIED AS FOLLOWS: CENTER VERTICAL JOINTS OVER STUDS & CENTER HORIZONTAL JOINT OVER 2" BLOCKING OR PLATE. NAIL TOP OF PANELS TO DOUBLE TOP PLATE, AND NAIL BOTTOM OF PANELS TO ANCHORED SILL PLATE. APPLY GYPSUM BOARD SO THAT END JOINTS OF ADJACENT COURSE DO NOT OCCUR AT THE SAME STUD.

### FLOOR PLAN NOTES

- EACH BEDROOM TO HAVE A MINIMUM WINDOW OPENING OF 5.7 SQ FT WITH A MIN. WIDTH OF 20" AND A MIN. HEIGHT OF 22" AND A SILL LESS THAN 44" OFF THE FLOOR.
- ALL WINDOWS WITHIN 18" OF THE FLOOR AND WITHIN 24" OF ANY DOOR ARE TO HAVE TEMPERED GLAZING.
- SEE SECTION R3309.4 IN ORSC FOR ADDITIONAL INFO.
- SKYLITES ARE TO BE GLAZED WITH TEMPERED GLASS ON OUTSIDE AND LAMINATED GLASS ON INSIDE (UNLESS FLEXIGLASS). GLASS TO HAVE MAXIMUM CLEAR SPAN OF 25". SKYLITE FRAME IS TO BE ATTACHED TO A 2 X CURB WITH MINIMUM OF 4" ABOVE ROOF PLANE.
- ALL TUB OR SHOWER ENCLOSURES ARE TO BE GLAZED WITH SAFETY GLAZING.
- ALL EXTERIOR WINDOWS ARE TO BE DOUBLE GLAZED AND ALL EXTERIOR DOORS ARE TO BE SOLID CORE WITH WEATHERSTRIPPING. PROVIDE 1/2" DEADBOLT LOCKS ON ALL EXTERIOR DOORS AND LOCKING DEVICES ON ALL DOORS OR WINDOWS WITHIN 10" (VERTICAL) OF GRADE. PROVIDE PEEP-HOLE # 54" - 66" ABOVE FLOOR ON EXTERIOR DOORS.
- PROVIDE COMBUSTION AIR VENTS (W/ SCREEN AND BACK DAMPER) FOR FIREPLACES, WOOD STOVES AND ANY APPLIANCES WITH AN OPEN FLAME.
- BATHROOMS AND UTILITY ROOMS ARE TO BE VENTED TO THE OUTSIDE WITH A MINIMUM OF A 30 CFM FAN AND CONTROLLED BY A DE-HUMIDISTAT, TIMER OR SIMILAR MEANS OF CONTROL. RANGE HOODS ARE ALSO TO BE VENTED TO OUTSIDE.

**Suntel**  
 D E S I G N I N G  
 16865 Boones Ferry Road, Suite 103, Lake Oswego, Oregon 97035  
 Tel: (503) 624 0555, Fax: (503) 624 0155  
 W W W . S U N T E L D E S I G N I N G . C O M

THESE PLANS HAVE BEEN LICENSED FOR THE CONSTRUCTION OF ONE BUILDING ONLY. UNAUTHORIZED USE OR COPYING OF THE PLANS, OR THE DESIGN THE DEPICT, INFRINGES RIGHTS UNDER THE COPYRIGHT ACT THAT INCLUDE PENALTIES OF UP TO \$100,000 PER WORK WILLFULLY INFRINGED. THESE PLANS HAVE BEEN PREPARED TO MEET CABO BUILDING CODES AND MAY REQUIRE ADAPTATION TO MEET SPECIFIC SITE CONDITIONS AND LOCAL BUILDING REGULATIONS. IT IS THE CONTRACTOR'S SOLE RESPONSIBILITY TO VERIFY ALL DIMENSIONS AND DETAILS PRIOR TO CONSTRUCTION FOR ERRORS AND OMISSIONS. PLEASE SEE YOUR LICENSE AGREEMENT FOR FURTHER INFORMATION.

SHEET: NOTES

DATE: 07/08

**N1**



# ELECTRICAL REQUIREMENTS

## LIGHTING REQUIREMENTS:

AT LEAST ONE WALL SWITCH-CONTROLLED LIGHTING OUTLET SHALL BE INSTALLED IN EVERY HABITABLE ROOM AND IN BATHROOMS, HALLWAYS, STAIRWAYS, ATTACHED GARAGES, DETACHED GARAGES PROVIDED WITH ELECTRICAL POWER AND AT THE EXTERIOR SIDE OF EGRESS DOORS.

## STAIRWAY LIGHTING CONTROL:

ALL INTERIOR AND EXTERIOR STAIRWAYS SHALL BE PROVIDED WITH A MEANS OF ILLUMINATION TO THE STAIR, INCLUDING THE LANDINGS AND TREADS, TO BE CONTROLLED BY A WALL SWITCH AT EACH FLOOR LEVEL. INTERIOR STAIRS SHALL BE PROVIDED WITH AN ARTIFICIAL LIGHT SOURCE LOCATED IN THE IMMEDIATE VICINITY OF EACH LANDING AT THE TOP AND BOTTOM OF THE STAIR. EXTERIOR STAIRS SHALL BE PROVIDED WITH AN ARTIFICIAL LIGHT SOURCE LOCATED IN THE IMMEDIATE VICINITY OF THE TOP LANDING OF THE STAIR. EXCEPTION: WHERE THE DIFFERENCE BETWEEN FLOOR LEVELS REQUIRES LESS THAN 6 STAIR RISERS.

## FIXTURES IN CLOTHES CLOSETS:

SURFACE MOUNTED FLUORESCENT FIXTURES SHALL BE INSTALLED ON THE WALL ABOVE THE DOOR OR ON THE CEILING, PROVIDED THERE IS A MINIMUM CLEARANCE OF 6" BETWEEN THE FIXTURE AND THE NEAREST POINT OF A STORAGE SPACE.

## WET OR DAMP LOCATIONS:

FIXTURES INSTALLED IN WET OR DAMP LOCATIONS SHALL BE INSTALLED SO THAT WATER CANNOT ENTER OR ACCUMULATE IN WIRING COMPARTMENTS, LAMP HOLDERS OR OTHER ELECTRICAL PARTS. ALL FIXTURES INSTALLED IN WET LOCATIONS SHALL BE MARKED 'SUITABLE FOR WET LOCATIONS'. ALL FIXTURES INSTALLED IN DAMP LOCATIONS SHALL BE MARKED 'SUITABLE FOR WET LOCATIONS' OR 'SUITABLE FOR DAMP LOCATIONS'.

## LIGHT SWITCH ACCESS:

ALL SWITCHES SHALL BE LOCATED TO ALLOW OPERATION FROM A READILY ACCESSIBLE LOCATION.

## RECEPTACLE OUTLET REQUIREMENTS:

IN EVERY KITCHEN, FAMILY ROOM, DINING ROOM, LIVING ROOM, DEN, BEDROOM, OR SIMILAR ROOM OR AREA OF DWELLING UNITS, RECEPTACLE OUTLETS SHALL BE INSTALLED SO THAT NO POINT ALONG THE FLOOR LINE IN ANY WALL SPACE IS MORE THAN 6 FEET, MEASURED HORIZONTALLY FROM AN OUTLET IN THAT SPACE, INCLUDING ANY WALL SPACE THAT IS 2 FEET OR MORE IN WIDTH.

## KITCHENS:

RECEPTACLE OUTLETS, WITH GFI PROTECTION, SHALL BE INSTALLED EVERY 24" ON ALL COUNTER SPACES THAT MEASURE 12" OR WIDER.

## BATHROOMS:

AT LEAST ONE WALL RECEPTACLE OUTLET, WITH GFI PROTECTION, SHALL BE INSTALLED IN BATHROOMS ADJACENT TO EACH BATH LOCATION.

## OUTDOORS:

AT LEAST ONE RECEPTACLE OUTLET, WITH GFI PROTECTION, SHALL BE INSTALLED OUTDOORS AT THE FRONT AND BACK OF EACH DWELLING UNIT HAVING DIRECT ACCESS TO GRADE.

## HALLWAYS:

HALLWAYS OF 10 FEET OR MORE IN LENGTH SHALL HAVE AT LEAST ONE RECEPTACLE OUTLET.

## HVAC OUTLET:

A CONVENIENCE RECEPTACLE OUTLET SHALL BE INSTALLED FOR THE SERVICING OF HEATING, AIR-CONDITIONING AND REFRIGERATION EQUIPMENT LOCATED IN ATTICS AND CRAWL SPACES.

## WET LOCATIONS:

A RECEPTACLE INSTALLED IN A WET LOCATION SHALL BE IN A WEATHER PROOF ENCLOSURE, THE INTEGRITY OF WHICH IS NOT AFFECTED WHEN THE ATTACHMENT PLUG CAP IS INSERTED.

\*ADDITIONAL INFORMATION CAN BE FOUND IN THE OREGON RESIDENTIAL SPECIALTY CODE BOOK IN SECTIONS:

- E31-404 SWITCHES
- E31-406 RECEPTACLE OUTLETS
- E31-410 LIGHTING OUTLETS

## HIGH-EFFICIENCY INTERIOR LIGHTING SYSTEM:

A MINIMUM OF 50% OF THE PERMANENTLY INSTALLED LIGHTING FIXTURES SHALL BE COMPACT OR LINEAR FLUORESCENT, OR A LIGHTING SOURCE THAT HAS A MINIMUM EFFICACY OF 40 LUMENS PER INPUT WATT. SCREW-IN COMPACT FLUORESCENT LAMPS COMPLY WITH THIS REQUIREMENT.

# FOUNDATION NOTES

1. FOOTINGS ARE TO BEAR ON UNDISTURBED LEVEL SOIL DEVOID OF ANY ORGANIC MATERIAL AND STEPPED AS REQUIRED TO MAINTAIN THE REQUIRED DEPTH BELOW THE FINAL GRADE.
2. SOIL BEARING PRESSURE ASSUMED TO BE 1500 PSF.
3. ANY FILL UNDER GRADE SUPPORTED SLABS TO BE A MINIMUM OF 4" GRANULAR MATERIAL COMPACTED TO 95%.
4. CONCRETE TO DEVELOP A MIN. OF 3000 PSI AT 28 DAYS WITH A MIN. OF 6 BAGS OF CEMENT PER YARD AND A MAXIMUM SLUMP OF 4".
5. CONCRETE SLABS TO HAVE CONTROL JOINTS AT 25' (MAXIMUM) INTERVALS EA. WAY.
6. CONCRETE SIDEWALKS TO HAVE 3/4" TOOLED JOINTS AT 5' O.C. (MINIMUM)
7. REINFORCING STEEL TO BE A-615 GRADE 40, WELDED WIRE MESH TO BE A-105.
8. EXCAVATE THE SITE TO PROVIDE A MINIMUM OF 18" CLEARANCE UNDER ALL GIRDERS.
9. COVER ENTIRE CRAWLSPACE WITH 6 MIL BLACK 'VISQUEEN' AND EXTEND UP FDN. WALLS TO P.T. MUDSILL.
10. PROVIDE A MINIMUM OF 1 SQ FT OF VENTILATION AREA FOR EACH 150 SQ FT OF CRAWLSPACE AREA. VENTS ARE TO BE CLOSABLE WITH 1/4" OPENINGS IN CORROSIVE RESISTANT SCREEN.
11. ALL WOOD IN CONTACT WITH CONCRETE TO BE PRESSURE TREATED OR PROTECTED WITH 30" ROLL ROOFING.
12. BEAM POCKETS IN CONCRETE TO HAVE 1/2" AIRSPACE AT SIDES AND ENDS WITH A MINIMUM BEARING OF 3".
13. PROVIDE CRAWLSPACE DRAIN AS PER SEC. R405.1 OF ORSC
14. THE GRADE AWAY FROM FND WALLS SHALL FALL 6" MIN. WITHIN FIRST 10'.
15. SLOPE FOR PERMANENT FILLS AND CUT SLOPES SHALL NOT EXCEED 2 UNITS HORIZ. TO 1 UNIT VERT.
16. BACKFILL SHALL NOT BE PLACED UNTIL WALL HAS SUFFICIENT STRENGTH AND HAS BEEN ANCHORED TO FLOOR ABOVE ON WALLS W/ MORE THAN 4" UNBALANCED BACKFILL.

17. BUILDER SHALL BE RESPONSIBLE FOR SUPPORT OF ALL TEMPORARY EMBANKMENTS AND EXCAVATIONS.
18. FOOTINGS SHALL BE FOUNDED ON FIRM, UNDISTURBED, NATIVE, FREE DRAINING SOILS. CONDITIONS FOUND TO BE OTHERWISE SHALL BE REPORTED TO OWNER.
19. ALL GROUND OVER WHICH FOOTINGS AND SLABS-ON-GRADE ARE TO BE PLACED SHALL BE FREE OF EXPANSIVE OR COMPRESSIBLE DEBRIS AND ORGANIC MATERIAL.
20. FOOTINGS AND SLABS-ON-GRADE CONCRETE SHALL NOT BE PLACED ON MUDDY OR FROZEN GROUND. SUB-GRADE FOR SLABS-ON-GRADE WHERE VAPOR BARRIER IS NOT REQUIRED SHALL BE DAMP AT TIME OF CONCRETE PLACEMENT.
21. WOOD SOLE PLATES AT ALL EXTERIOR WALLS ON MONOLITHIC SLABS, AT ALL INTERIOR BRACE WALL PANELS ON MONOLITHIC SLABS AND AT ALL WOOD SILL PLATES SHALL BE ANCHORED TO THE FOUNDATION WITH MIN 1/2"x12" BOLTS AT 6" O.C. A 0.229"x3"x3" WASHER SHALL BE TIGHTENED ON EACH ANCHOR BOLT. INSTALL MIN (2) BOLTS AT THE MIDDLE THIRD POINTS OF EACH PLATE.
22. FOUNDATION WALLS BELOW GRADE SHALL BE DAMPROOFED FROM TOP OF THE FOOTING TO FINISHED GRADE WITH ANY OF THESE OPTIONS: 1) BITUMINOUS COATING; 2) 1/8" COATING OF SURFACE BONDING CEMENT COMPLYING WITH ASTM C 881; 3) 55 LB ROLL ROOFING; 4) 6 MIL POLYETHYLENE; 5) 40 MIL FLEXIBLE POLYMER CEMENT.

TABLE N101.1(2) ADDITIONAL MEASURES

ENVELOPE ENHANCEMENT MEASURES (SELECT ONE)	CONSERVATION MEASURE (SELECT ONE)
1 HIGH EFFICIENCY WALLS: EXTERIOR WALLS - U-0.045/R-21 CAVITY INSULATION + R-5 CONTINUOUS	A HIGH EFFICIENCY HVAC SYSTEM: GAS FIRED FURNACE OR BOILER AFUE 94%, OR AIR SOURCED HEAT PUMP HSPF 9.5/15.0 SEER COOLING, OR GROUND SOURCED HEAT PUMP COP 3.5 OR ENERGY STAR RATED
2 UPGRADED FEATURES: EXTERIOR WALLS - U-0.051/R-23 INTERMEDIATE OR R-21 ADVANCED FRAMED FLOORS - U-0.026/R-38, AND WINDOWS - U-0.28 (AVERAGE UA)	B DUCTED HVAC SYSTEMS WITHIN CONDITIONED SPACE: ALL DUCTS AND AIR HANDLERS CONTAINED WITHIN BUILDING ENVELOPE (d) CANNOT BE COMBINED WITH MEASURE 5
3 UPGRADED FEATURES: EXTERIOR WALLS - U-0.055/R-23 INTERMEDIATE OR R-21 ADVANCED FLAT CEILINGS (e) - U-0.017/R60, AND FRAMED FLOORS - U-0.026/R-38	C DUCTLESS HEAT PUMP: DUCTLESS HEAT PUMP HSPF 10.0 IN PRIMARY ZONE OF DWELLING
4 SUPER INSULATED WINDOWS AND ATTIC OR FRAMED FLOORS: WINDOWS - U-0.22 (TRIPLE PANE LOW E), AND FLAT CEILINGS (e) - U-0.017/R60 OR FRAMED FLOORS - U-0.026/R-38	D HIGH EFFICIENCY WATER HEATER: NATURAL GAS / PROPANE WATER HEATER WITH UEF 0.85 OR ELECTRIC HEAT PUMP WATER HEATER TIER 1 NORTHERN CLIMATE SPECIFICATION PRODUCT
5 AIR SEALING HOME AND DUCTS: MANDATORY AIR SEALING OF ALL WALL COVERINGS AT TOP PLATE AND AIR SEALING CHECKLIST (f) AND MECHANICAL WHOLE-BUILDING VENTILATION SYSTEM WITH RATES MEETING M103 OR ASHRAE 62.2, AND ALL DUCTS AND AIR HANDLERS CONTAINED WITHIN BUILDING ENVELOPE (d) OR ALL DUCTS SEALED WITH MASTIC (b)	
6 HIGH EFFICIENCY HVAC SYSTEM: PROPOSED UA IS 8% LOWER THAN THE CODE UA	

FOR 9: 1 SQUARE FOOT = 0.093 M(2), 1 WATT PER SQUARE FOOT = 10.8 WM(2)

- a. Appliances located within the building thermal envelope shall have sealed combustion air installed. Combustion air shall be ducted directly from the outdoors.
- b. All duct joints and seams sealed with listed mastic; tape is only allowed at appliance or equipment connections (for service and replacement). Meet sealing criteria of Performance Tested Comfort System program administered by the Bonneville Power Administration (BPA).
- c. Residential water heaters less than 55 gallon storage volume.
- d. A total of 5 percent of an HVAC system's ductwork shall be permitted to be located outside of the conditioned space. Ducts located outside the conditioned space shall have insulation installed as required in this code.
- e. The maximum vaulted ceiling surface area shall not be greater than 50 percent of the total heated floor space unless vaulted area has a U-factor no greater than U-0.026.
- f. Continuous air barrier. Additional requirement for sealing of all interior vertical wall covering to top plate framing. Sealing with foam gasket, caulk or other approved sealant listed for sealing wall covering material to structural material (example: gypsum board to wood stud framing).
- g. Table N101.1(1) Standard base case design. Code UA shall be at least 8 percent less than the Proposed UA. Buildings with fenestration less than 15 percent of the total vertical wall area may adjust to the Code UA to have 15 percent of the wall area as fenestration.

TABLE N101.1(1)

PERSCRIPTIVE ENVELOPE REQUIREMENTS

BUILDING COMPONENT	MIN. REQUIRED VALUE
WALL INSULATION- ABOVE GRADE	R-21
WALL INSULATION- BELOW GRADE	R-15/R21
FLAT CEILING	R-49
VAULTED CEILING	R-30 RAFTER OR R-30A gh SCISSOR TRUSS
UNDERFLOORS	R-30
SLAB EDGE PERIMETER	R-15
HEATED SLAB INTERIOR	R-10
WINDOWS	U-0.30
SKYLIGHTS	U-0.50
EXTERIOR DOORS	U-0.20
EXTERIOR DRG W/ 25 SQ. FT. GLAZING	U-0.40
FORCED AIR DUCT INSULATION	R-8

a. As allowed in Section N101.4, thermal performance of a component may be adjusted provided that overall heat loss does not exceed the total resulting from conformance to the required U-value standards. Calculations to document equivalent heat loss shall be performed using the procedure and approved U-values contained in Table N101.1(1).

b. R-values used in this table are nominal for the insulation only in standard wood framed construction and not for the entire assembly.

c. Wall insulation requirements apply to all exterior wood framed, concrete or masonry walls that are above grade. This includes cripple walls and rim joist areas. Nominal compliance with R-21 insulation and intermediate Framing (N101.4.5.2) with insulated headers.

e. Below-grade wood, concrete or masonry walls include all walls that are below grade and do not include those portions of such walls that extend more than 24 inches above grade. R-21 for insulation in framed cavity; R-15 continuous insulation.

f. Insulation levels for ceilings that have limited attic/rafter depth such as dormers, bay windows or similar features totaling not more than 150 square feet in area may be reduced to not less than R-21 when reduced, the cavity shall be filled (except for required vent spaces) R-49 insulation installed to minimum 6-inches depth at top plate exterior of structure to achieve U-factor.

g. Vaulted ceiling surface area exceeding 50 percent of the total heated space floor area shall have a U-factor no greater than U-0.026 (equivalent to R-38 rafter or scissor truss with R-38 advanced framing).

i. Heated slab interior applies to concrete slab floors (both on and below grade) that incorporate a radiant heating system within the slab. Insulation shall be installed underneath the entire slab.

j. Sliding glass doors shall comply with window performance requirements.

k. Reduced area may not be used as a trade off criterion for thermal performance of any component.

l. Skylight area installed at 2 percent or less of total heated floor area shall be deemed to satisfy this requirement with vinyl, wood or thermally broken aluminum frames and double-pane glazing with low-emissivity coatings. Skylight U-factor is tested in the 20 degree overhead plane in accordance with NFRC standards.

m. A maximum of 28 square feet of exterior door area per dwelling unit can have a U-factor of .54 or less.

n. Glazing that is either double pane with low-e coating on one surface, or triple pane shall be deemed to comply with this U-30 requirement.

# TRUSS NOTE

SUBMIT TRUSS DESIGN FOR ENGINEERING PRIOR TO FABRICATION & VERIFY LOCATION OF GIRDER TRUSSES W/ TRUSS COMPANY PRIOR TO FORMING FOUNDATION WALLS AS TO PROVIDE FOR ADDITIONAL LOADING FROM VARYING TRUSS DESIGN.  
VERIFY ALL TRUSS SPANS & CONFIGURATIONS ON JOB SITE PRIOR TO FABRICATION.

# SECTION N1107 LIGHTING

A MINIMUM OF FIFTY PERCENT OF THE PERMANENTLY INSTALLED LIGHTING FIXTURES SHALL BE COMPACT OR LINEAR FLUORESCENT, OR A LIGHTING SOURCE THAT HAS A MINIMUM EFFICACY OF 40 LUMENS PER INPUT WATT.  
SCREW-IN COMPACT FLORESCENT LAMPS COMPLY WITH THIS REQUIREMENT.

THE BUILDING OFFICIAL SHALL BE NOTIFIED IN WRITING AT THE FINAL INSPECTION THAT A MINIMUM OF FIFTY PERCENT OF THE PERMANENTLY INSTALLED LIGHTING FIXTURES ARE COMPACT PR LINEAR FLUORESCENT, OR A MINIMUM EFFICACY OF 40 LUMENS PER INPUT WATT.

NOTES SHEET

**Suntel**  
DESIGN INC.  
16865 Boones Ferry Road, Suite 103, Lake Oswego, Oregon 97035  
Tel: (503) 624-0555 - Fax: (503) 624-0155  
www.suntelengineering.com

THESE PLANS HAVE BEEN LICENSED FOR THE CONSTRUCTION OF ONE BUILDING ONLY. UNAUTHORIZED USE OR COPYING OF THE PLANS, OR THE DESIGN THEY DEPICT, INFRINGES RIGHTS UNDER THE COPYRIGHT ACT THAT INCLUDE PENALTIES OF UP TO \$100,000 PER WORK WILLFULLY INFRINGED. THESE PLANS HAVE BEEN PREPARED TO MEET CABO BUILDING CODES AND MAY REQUIRE ADAPTATION TO MEET SPECIFIC SITE CONDITIONS AND LOCAL BUILDING REGULATIONS. IT IS THE CONTRACTOR'S SOLE RESPONSIBILITY TO VERIFY ALL DIMENSIONS AND DETAILS PRIOR TO CONSTRUCTION FOR ERRORS AND OMISSIONS. PLEASE SEE YOUR LICENSE AGREEMENT FOR FURTHER INFORMATION.

SHEET: NOTES

DATE: 07/08

N2