

# Custom Home Design Plan #153 By SDS-CAD Specialized Design Systems

BUILDING CONTRACTOR/HOME OWNER TO REVIEW AND VERIFY ALL DIMENSIONS, SPECS, AND CONNECTIONS BEFORE CONSTRUCTION BEGINS.

ELECTRICAL SYSTEM CODE: SEC.2701 MECHANICAL SYSTEM CODE: SEC.2801 PLUMBING SYSTEM CODE: SEC.2901 Page 1 Cover Page

Page 2 Main Floor Plan

Page 3 Basement Plan

Page 4 Elevation Plan

Page 5 Typical Section Details

Page 6 Floor and Roof Framing Plan

Page 7 Whole House Section

Page 8 Cabinet & Stair DetailsI

Page 9 Main Electrical

Page 10 Basement Electrical

Page 11 Misc Details

Page 12 Beam & Joist Calculations

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 expence and responsibility. The contractor shall verify all dimensions and enclosed drawing. SDSCAD is not liable for errors once construction has begun. While every affort 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. All calculations and member sizing should be verified for your building by a certified building official.

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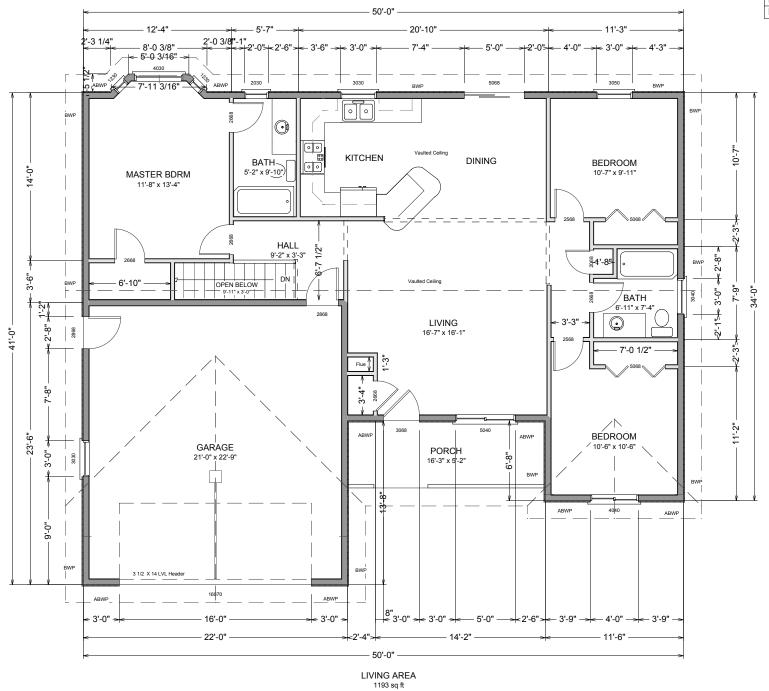
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# VENTING SCHEDULE

Range Hoods	Vent Through Roof
All Bath Fans	Vent to Exterior
Dryer Vent	Vent to Exterior

# INSULATION SCHEDULE

Ceilings	R-38 Min
Wall above grade	R-19 Min
Wall interior below grade	R-13 Min



				DOOR SCHEDULE	
NUMBER	QTY	FLOOR	SIZE	DIMENSIONS	DESCRIPTION
D01	1	0	2668	30X80X1 3/8"	3 PANEL DOOR - COLOR BRITE WHITE
D02	2	0	2868	32X80X1 3/8"	3 PANEL DOOR - COLOR BRITE WHITE
D03	1	1	16070	192X84"	GARAGE 2-PANEL GARGE DOOR
D04	1	1	2068	24X80X1 3/8"	3 PANEL DOOR - COLOR BRITE WHITE
D05	1	1	2568	28 13/16X80X1 3/8	3 PANEL DOOR - COLOR BRITE WHITE
D06	1	1	2568	29 7/16X80X1 3/8"	3 PANEL DOOR - COLOR BRITE WHITE
D07	5	1	2668	30X80X1 3/8"	3 PANEL DOOR - COLOR BRITE WHITE
D08	2	1	2868	32X80X1 3/4"	EXT. 6-PANEL
D09	1	1	3068	36X80X1 3/4"	EXT. 6-PANEL
D10	2	1	5068	30X80"	BIFOLD
D11	1	1	5068	60X80"	EXT. SLIDER-GLASS
D12	1	0	2468	28 1/4X80X1 3/8"	3 PANEL DOOR - COLOR BRITE WHITE

		W	INDOW SC	HEDULE	
NUMBER	QTY	FLOOR	SIZE	DIMENSIONS	DESCRIPTION
W01	2	1	1230	14"X36"	DOUBLE HUNG
W02	1	1	2030	24"X36"	DOUBLE HUNG
W03	1	1	3040	36"X48"	DOUBLE HUNG
W04	2	1	3030	36"X36"	DOUBLE HUNG
W05	1	1	4030	48"X36"	DOUBLE HUNG
W06	1	1	4040	48"X48"	RIGHT SLIDING
W07	1	1	5040	60"X48"	RIGHT SLIDING
W08	1	1	3050	36"X60"	DOUBLE HUNG
W09	2	0	1206	14"X6"	14X6 HORIZ
W10	1	0	2030	24"X36"	DOUBLE HUNG
W11	5	0	5036	60"X42"	RIGHT SLIDING

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MAIN FLOOR PLAN

SCALE 1/8"=1'

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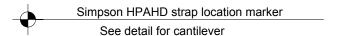
#### Concrete:

- 1. All slabs are to be 4" concrete over 4" gravel unless otherwise noted on the plans.
- 2. Concrete to be ACI 301-66, Type II cement, 2500 psi at 28 days, 5" maximum slump.
- 3. Reinforcing to be ASTM A615-Bars with Fy=60 ksi lamp 30 diameter minimum at splices or weld per ACI Std.
- 4. Concrete design based on Fc 2000 psf, Fc 2500 psi for quality only.
- 5. Anchor bolts shall be A-307 embedded 7" minimum into concrete or masonry grout.

#### BRACED WALLS BWP AND ALT BRACED WALL ABWP OPTIONS

Brace all exterior walls and cross-stud partitions at each end of building and at least every 25' of length by one of the following:

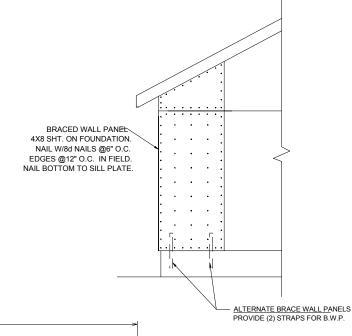
- a. Simpson WB 126 wall bracing with 3-16d nails at each end and 1-8d nails at each stud.
- b. Plywood sheathing of a minimum thickness of 3/8 inch.
- c. Continuous bracing from floor to floor



# **FOOTING SCHEDULE**

HOUSE WALLS	20" x 10" Min
DECKS & PORCHES	18" x 10" Min
BEARING WALL	20" x 10" Min
GARAGE WALL	18" x 10" Min

Min 2 #4 Rebar Horizontal on undisturbed or compacted soil



- 1/2" PLYWOOD STRAPS TO LINE UP WITH FOUNDATION HOLD DOWN STRAPS BELOW **FUTURE** WEB STIFFENER EACH BEDROOM SIDE OF JOIST FOR 4' 2x STUDS @ 16" O.C. 7/8" OSB OR PLYWOOD OR LVL 2x SILL PLATE WOOD I-JOIST SIMPSON FSA STRAP 25 1/2" LONG SIMPSON CMST STRAP 2~1/2" x 5" WEDGE 36" LONG BOLT W/EPOXY CONCRETE FND. WALL FUTURE GARAGE BEDROOM **CONCRETE WALL CANTILEVER DETAIL** Block out for garage doors see floor plan for locations LIVING AREA 1'-2"

SCALE 1/8"=1'

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**BASEMENT PLAN** 



# LEFT ELEVATION

SCALE 1/16"=1'



# **REAR ELEVATION**

SCALE 1/16"=1'



# RIGHT ELEVATION

SCALE 1/16"=1'

Exterior Finish to be determined by homeowner and to meet subdivision requirements

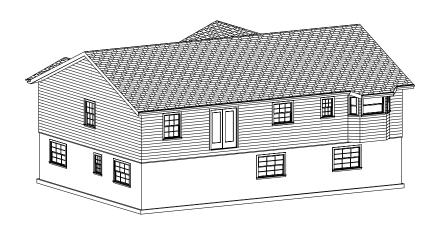
ARCHITECTURAL ASHPHALT SHINGLES

5/12 PITCH



# FRONT ELEVATION

SCALE 1/8"=1'

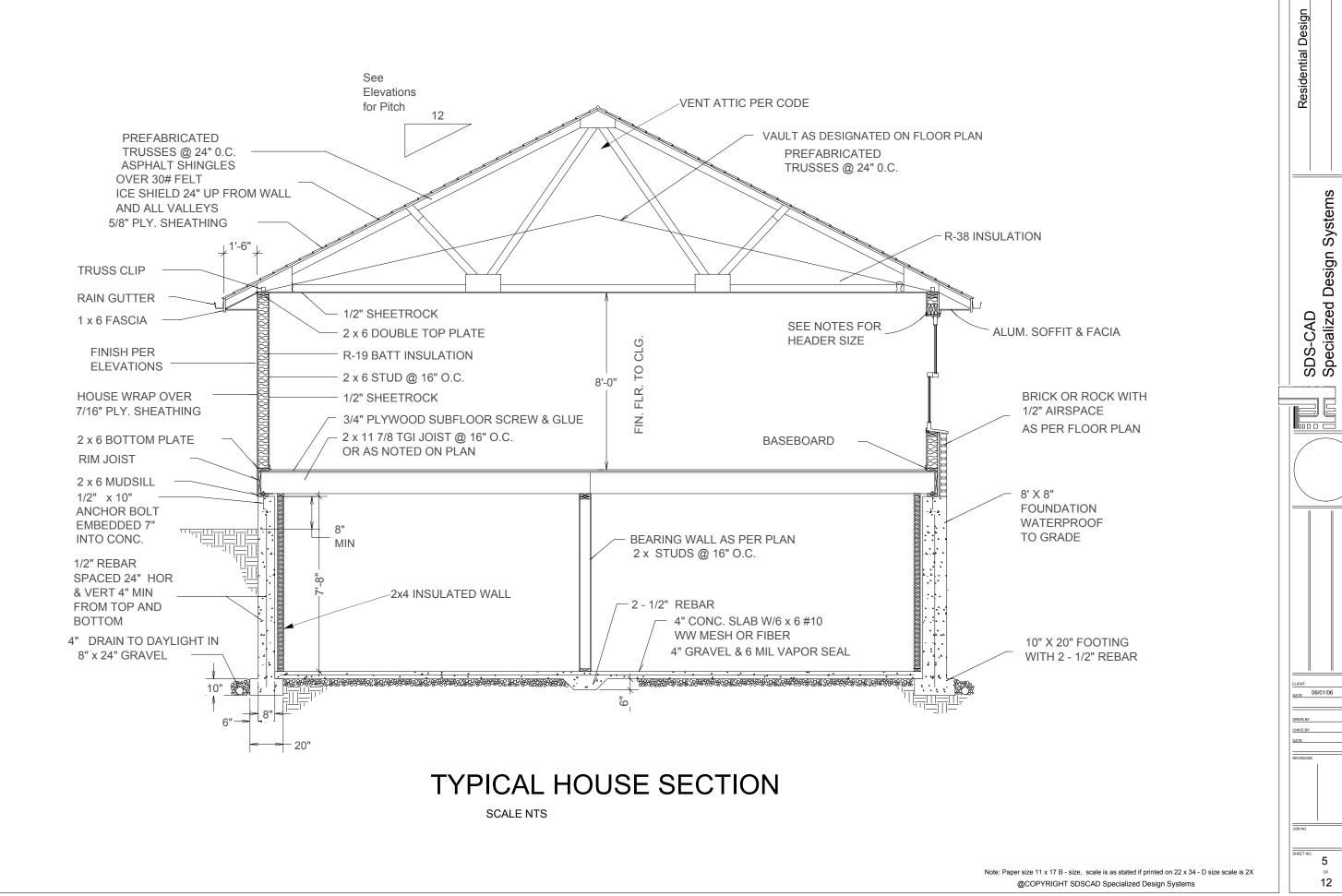




# PERSPECTIVE VIEWS

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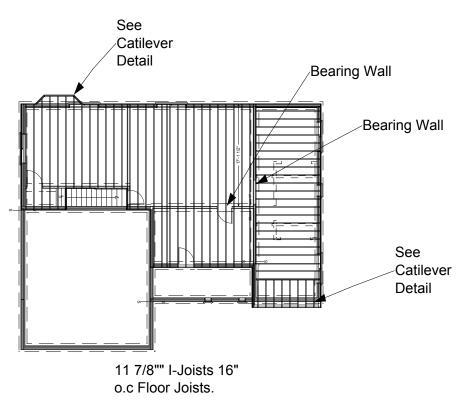
#### Roof Framing:

6.

- Fascia to be 2"x Douglas Fir.
- 2. For soffit size see details.
- 3. For spans and dimensions refer to floor plans.
- 4. Trusses are to be an approved truss design from the truss manufacture's engineer.
  - Install as per engineers specs
- 5. Use Simpson H-1 hurricane anchors at each truss or rafter to wall connection.
  - Solid blocking required between joists, rafters, and trusses over all bearing walls.
    - Such blocking shall be 1 ½" minimum thickness and full depth of joists, rafters, or trusses.
- 7. Minimum header sizes shall be according to the header size table unless otherwise noted.
- 8. Basis of design roof live/snow load of 37 psf, and roof dead load of 15 psf.
- 9. Plywood roof decking to be Min ½" thick, 24/0, CDX or 5/8 wafer.

# MAIN FLOOR FRAMING

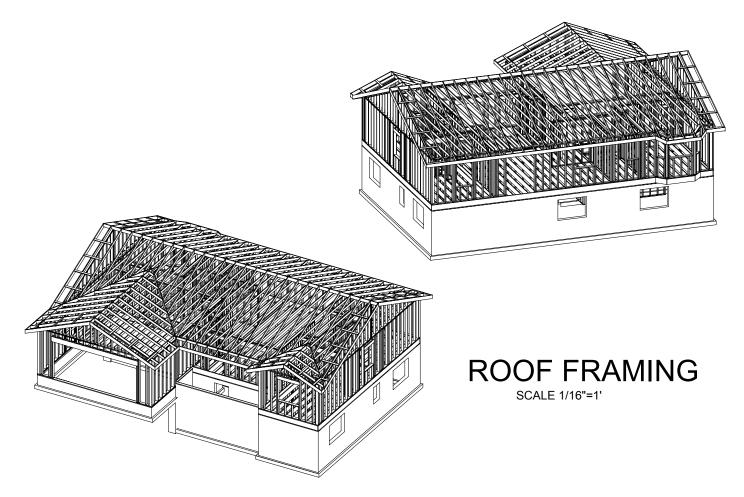
SCALE 1/16"=1



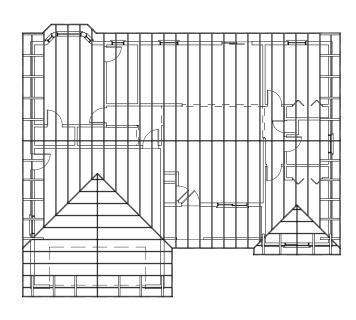
SEE GENERAL SPECS AND NOTES FOR FRAMING DETAILS

#### PRE-ENGINEERED ENERGY TRUSSES AS SUPPLIED BY TRUSS MANUFACTURER

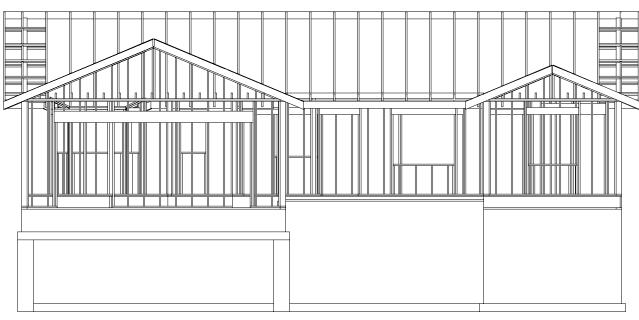
- 1. Trusses to be 24" O.C.
- 2. Attic access min 22 1/2" x 30" were most convenient. For all areas greater than 30"
- 3. Place vaults where possible as indicated on the floor plan
- 4. Install all trusses as per truss manufacturer installation guidelines.
- 5. 5/12 Pitch



5/12 Pitch



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#### General framing: (Douglas Fir)

. Minimum header sizes shall be according to the following table unless otherwise noted.

Header sizes (single story construction)

2'-0" to 4'-0" Span 2-2x4's 4' + to 6'-0" Span 2-2x6's 6' + to 8'-0" Span 2-2x8's 8' + to 10'-0" Span 2-2x10's

10' + to 12'-0" Span 2-2x12's

Header sizes (two story construction)

2'-0" to 3'-0" Span 2-2x4's 3' + to 5'-0" Span 2-2x6's 5' + to 7'-0" Span 2-2x8's

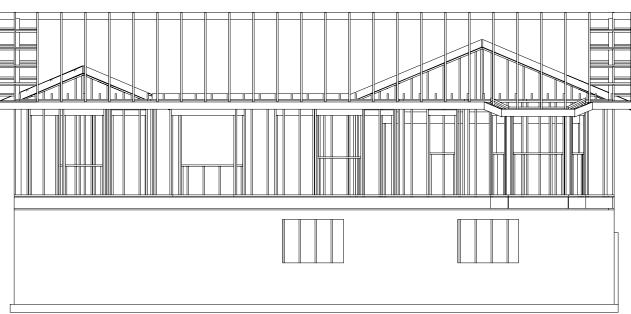
7' + to 8'-0" Span 2-2x10's

 Brace all exterior walls and cross-stud partitions at each end of building and at least every 25' of length by one of the following:

- a. Simpson WB 126 wall bracing with 3-16d nails at each end and 1-8d nails at each stud.
  - Plywood sheathing of a minimum thickness of 3/8 inch.
- Fire stopping:
  - a. Fireblock stud spaces over 10' in height, furred spaces, soffits, drop ceilings, cove ceilings, stair stringers at top and bottom of run, bearing walls and ceiling joist lines, etc.
     Firestopping shall consist of 2" nominal lumber.
    - Firestop openings around vents, pipes, ducts, chimneys, and fireplaces at ceiling and floor levels with approved noncombustible materials.
- 4. CDX plywood is not approved where exposed to weather, i.e., roof overhangs.
- 5. Exterior wall framing to be 2"x6" studs at 16" o.c. Interior wall, framing at non-bearing walls
  - to be 2"x4" studs at 24" o.c. and at bearing walls 2"x4" studs at 16" o.c. with double top plate.
- 6. Shear wall to be 3/8" CDX plywood applied horizontally.
- 7. All stress grade lumber shall comply with WCLA specs and bear approval stamp on all pieces in place.
- 8. Framing lumber shall be Douglas Fir construction grade Fb 1450 or better unless otherwise noted.
- Nailing to be per current U.B.C. unless otherwise noted.
- 10. All bearing partitions shall have double top plates.
- 11. Structural glued laminated timbers to be stamped by an approved agency.
- 12. Use redwood or pressure treated sole plates at all exterior walls.

#### Floor Framing:

- 1. All floor joist to be Douglas Fir #2 or T.J.I. @ 16" o.c. unless otherwise noted.
- For spans and dimensions refer to floor plans.
- 3. Use Simpson H 2.5 hurricane anchors at each floor joist to bearing wall connection.
- Solid blocking between joists over all bearing walls, and midspans such blocking shall be 2" minimum thickness and full depth of joists.
- . Minimum header sizes shall be according to the header size table unless otherwise noted.
- 6. Basis of design: floor live load of 40 psf, and floor dead load of 15 psf.
- 7. Floor decking to be 3/4" thick T & G wafer board.
- 8. Joist hangers to be Simpson U210 or equal unless otherwise noted.
- 9. Double joists and or double blocking at all interior walls.



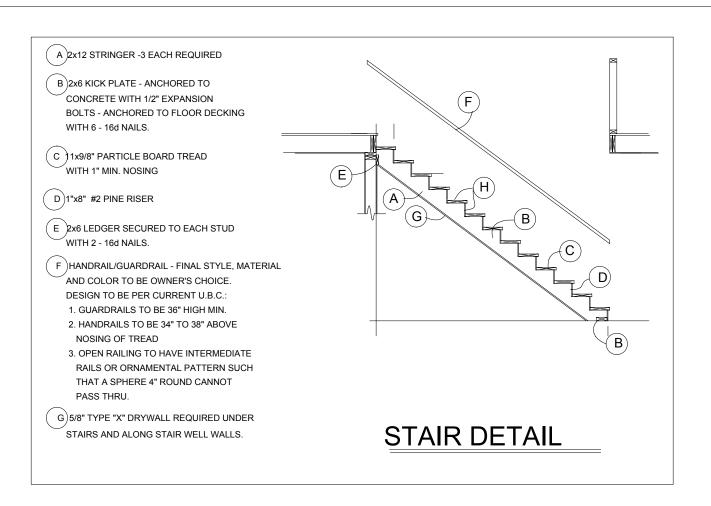
# FULL HOUSE FRAMING SECTION

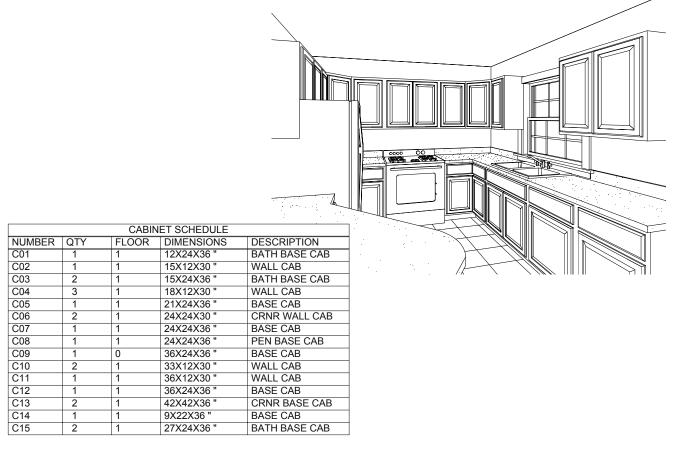
SCALE 1/8"=1'



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Kitchen layout and cabinets to be chosen by homeowner/Contractor basic layout for reference only. Measure after sheetrock is installed for correct sizing.

3030

# WR1530 WR1530 OMD BS3636

KITCHEN

Vaulted Ceiling

CBD4236

CW2430 WR1830 W3630

**BWP** 

# **Cabinet Detail**

SCALE 1/4"=1'

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8

12

# STAIR DETAILS

#### STAIR SPECIFICATIONS

1. Stairs to be constructed with the following materials:

2x6 kick plate anchor to concrete with expansion type anchor bolts,

2x12 treads nosing 1 1/8" minimum, 3-2x12 stringers required,

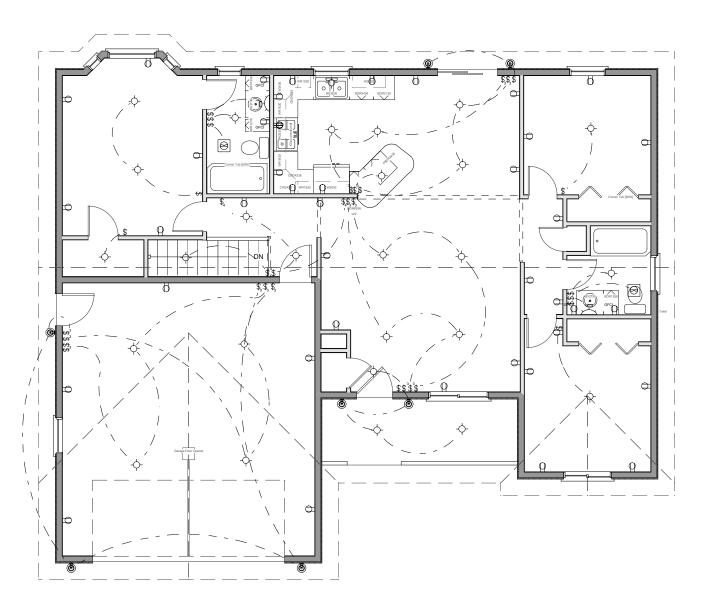
2x12 blocking, 3/4" wafer board risers and 2x6 ledger.

- 2. Handrail/Guardrails final style, material and color to be owner's choice. Design to be per code.
- 3. Guardrails to be 42" high minimum from floor.
- 4. Handrails to be 34"-38" above tread nosing.
- 5. Open railing to have intermediate rails or ornamental pattern such that a sphere 4" round cannot pass through.
- 6. Minimum stair requirements: maximum 8" rise, minimum 42" width, minimum 9" run, minimum head clearance 6'-8".
- 7. Preferred stair requirements: rise 7" to 7 ½", run 11" to 12", minimum head clearance 7'-0".
- 8. Garage entrance stairs may be concrete or wood as per contractor/homeowner

			ELECTRICA	AL SCHEDI	JLE
NUMBER	QTY	FLOOR	DIMENSIONS	WIDTH	DESCRIPTION
E01	2	1	12X12X1 "	12 "	EXHAUST
E02	27	1	16X16X4 "	16 "	HALF DOME LIGHT - LIGHTING GREY
E03	2	1	16X8X8 "	16 "	HALF CONE - LIGHTING GREY
E04	2	1	3X0X5 "	3 "	220V
E05	36	1	3X0X5 "	3 "	DUPLEX
E06	4	1	3X0X5 "	3 "	GFCI
E07	3	1	3X1X5 "	3 "	FOUR WAY
E08	18	1	3X1X5 "	3 "	SINGLE POLE
E09	12	1	3X1X5 "	3 "	THREE WAY
E10	7	1	9X9X18 "	9 "	CAGED LANTERN

### MAIN FLOOR ELECTRICAL PLAN

SCALE 1/8"=1'



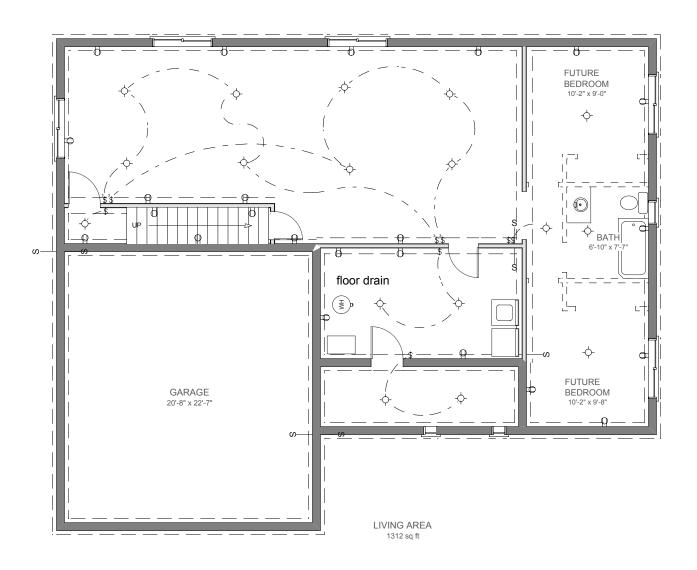
#### Electrical Systems:

- 1. Inspection is required prior to backfill of lines.
- 2. Provide 20 ft. of No. 4 copper wire as ground electrode in foundation footing.
- 3. Bond interior piping system with #8 bare copper.
- 4. Provide main jumping bond with #4 bare copper.
- 5. Electrical service is to be 200 amp service, 120/240 volt, 1 phase raintight, underground.
- 6. Provide separate 20 amp circuits to washer.
- 7. Provide 20 amp circuits to family and dining room, and a minimum of two 20 amp circuits to kitchen.
- 8. Prewire for TV, telephone in kitchen, family room, living room, and in every bedroom.
- 9. Install ground fault current interrupter on exterior, garage, kitchen, and bathroom convenience outlets.
- 10. Bottom half of outlet controlled by switch when shown.
- 11. All outlets in kitchen are to be at +44" excluding those for the refrigerator, range, disposal, and dishwasher.
- 12. Maximum spacing of outlets shall not exceed 12 ft. along wall line and at any wall over 24" wide in all rooms except kitchen, bath, utility, and garage.
- 13. Install light in walk-in closet 18" minimum horizontal from any shelf.
- 14. Provide a ventilation fan capable of producing a change of air every 12 minutes for bath or utility.
- 15. Provide smoke detector alarm conforming to Section 1210(A) U.B.C. and local building codes in every bedroom and on each floor.
- 16. CO2 Detector on each floor.
- 17. Ceiling fan hangers on all bedroom and living room lights.
- 18. Consult with contractor and homeowner for all final light fixture and light placement and details.

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Electrical in basement to be installed as min required by code for unfinished space, but allow adequate expansion to finish basement in the future.

# **BASEMENT ELECTRICAL PLAN**

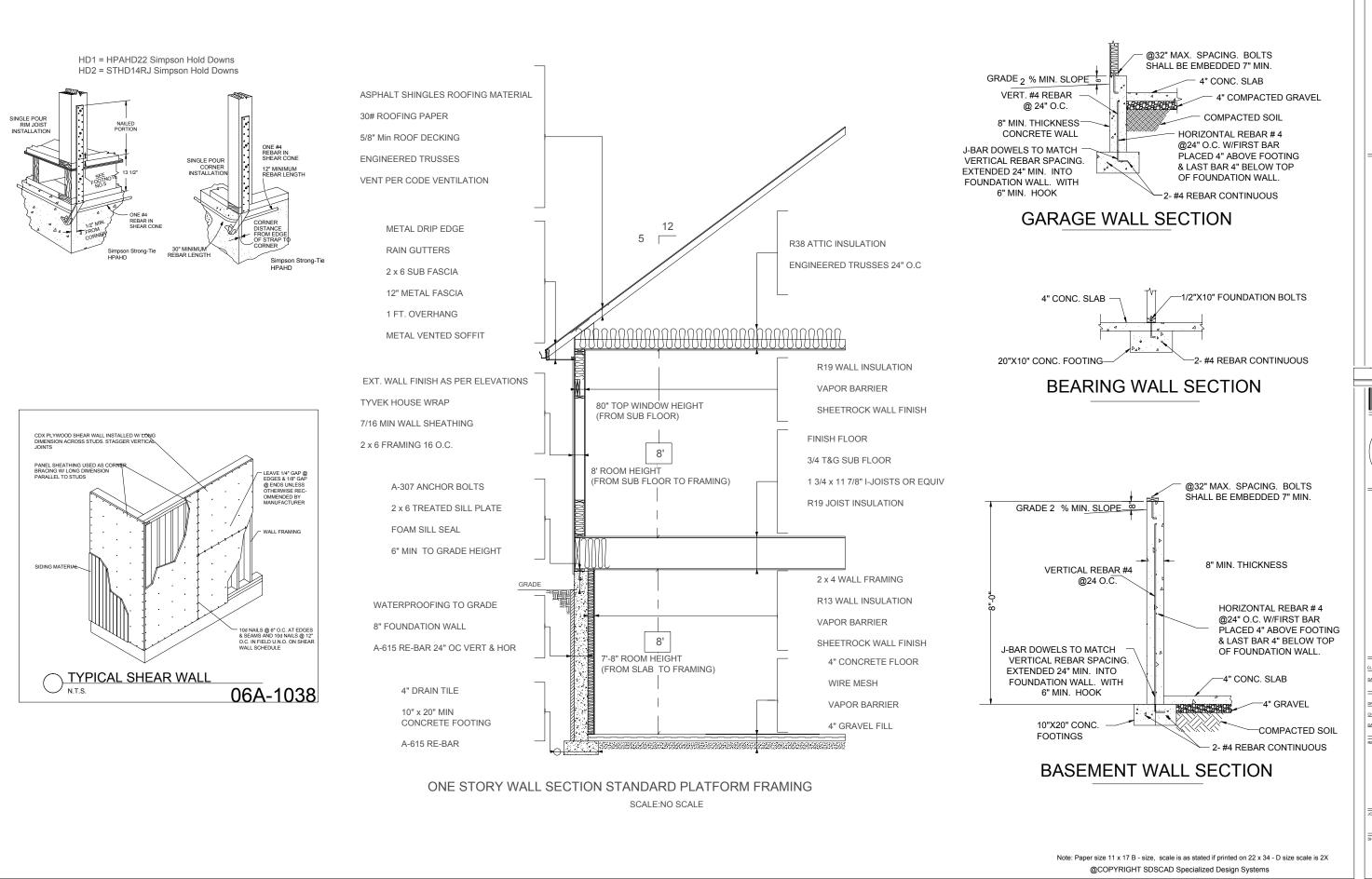
SCALE 1/8"=1'

SYMBOL	DESCRIPTION			
	METER SOCKET			
	PANEL BOX			
	CEILING FAN W/ LIGHT			
	FLUORESCENT LIGHT FIXTURE			
<b>-</b>	110V CEILING LIGHT FIXTURE			
0	110V RECESSED LIGHT FIXTURE			
$\Diamond$	110V EAVE LIGHT FIXTURE			
000	110V CHANDILIER LIGHT FIXTURE			
<b>-</b>	110V WALL LIGHT FIXTURE			
₩	SINGLE POLE SWITCH			
₩3	THREE WAY SWITCH			
	FOUR WAY SWITCH			
₩ 8	DIMMER SWITCH			
₩ }	OUTDOOR SWITCH			
$\Rightarrow$	110V DUPLEX RECEPTACLE			
in an	110V DUPLEX RECEPTACLE GROUND FAULT INTERUPTED			
₩P	110V DUPLEX RECEPTACLE W/ WEATHERPROOF COVER			
	110VFLOOR MOUNTED DUPLEX RECEPTACLE			
∌	240V RECEPTACLE			
$\triangleleft$	TELEPHONE JACKS			
-TV	TELEVISION JACKS			
-	DOOR BELL PUSH BUTTON			
<del>-</del> (T)	THERMOSTAT			
(SD)	SMOKE DETECTOR			
$\Theta$	EXHAUST FAN			
DC	DOOR CHIME			
FA	FIRE ALARM PANEL			
©-	COMPUTER POINT			

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11

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#### Floor Joist Calculations

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Floor Joist[ 2000 International Residential Code (97 NDS) ] Ver: 5.05
By: SDSCAD Specialized Design Systems , SDSCAD on: 06-06-2006 : 5:26:43 PM
Project: - Location: Steve Brown North Logan
Summary:
  SERIES 450 / 11.875 - Boise Cascade x 17.5 FT @ 16 O.C.
  Section Adequate By: 9.3% Controlling Factor: Allowable Deflection
  * I-joists were designed for simple spans using the joist manufacturers published values.
   If the design does not match the actual joist loading or span conditions in any way,
   contact the joist manufacturer for design verification.
Joist Span Deflections:
  Dead Load:
                            DLD-Center= 0.16 IN
  Live Load:
                          LLD-Center= 0.37 IN = L/562
  Total Load:
                           TLD-Center= 0.53 IN = L/394
Joist Span Left End Reactions (Support A):
                            LL-Rxn-A= 408 LB
  Live Load:
                             DL-Rxn-A= 175 LB
  Dead Load:
  Total Load:
                            TL-Rxn-A= 583 LB
  Bearing Length Required (Beam only, Support capacity not checked):BL-A=1.75IN
Joist Span Right End Reactions (Support B):
                           LL-Rxn-B= 408 LB
  Live Load:
                             DL-Rxn-B= 175 LB
  Dead Load:
  Total Load:
                            TL-Rxn-B= 583 LB
  Bearing Length Required (Beam only, Support capacity not checked):BL-B=1.75IN
Joist Data:
                                  L2= 17.5 FT
  Joist Span Length:
    Floor sheathing applied to top of joists-top of joists fully braced.
  Live Load Duration Factor:
                                     Cd = 1.00
                                    L/ 480
  Live Load Deflect. Criteria:
                                    L/ 360
  Total Load Deflect. Criteria:
Joist Span Loading:
Uniform Floor Loading:
                              LL-2= 35.0 PSF
  Live Load:
  Dead Load:
                               DL-2= 15.0 PSF
                              TL-2= 50.0 PSF
  Total Load:
  Total Load Adjusted for Joist Spacing: wT-2= 67 PLF
Properties For: SERIES 450 / 11.875- Boise Cascade
```

#### **Garage Door Header Calculations**

Roof Beam[ 2000 International Residential Code (97 NDS) ] Ver: 5.05 By: SDSCAD Specialized Design Systems , SDSCAD on: 06-06-2006 : 5:52:22 PM Project: SteveB - Location: Garage Door Header Summary: (2) 1.75 IN x 14.0 IN x 16.0 FT / Versa-Lam 2800 Fb DF - Boise Cascade Section Adequate By: 48.3% Controlling Factor: Section Modulus / Depth Required 11.5 In \* Laminations are to be fully connected to provide uniform transfer of loads to all members Deflections: Dead Load: DLD= 0.19 IN Live Load: LLD= 0.39 IN = L/496 TLD= 0.58 IN = L/331 Total Load: Reactions (Each End): LL-Rxn= 3360 LB Live Load: DL-Rxn= 1683 LB Dead Load: TL-Rxn= 5043 LB Total Load: Bearing Length Required (Beam only, Support capacity not checked):BL=1.60IN Beam Data: Span: L= 16.0 FT Maximum Unbraced Span: Lu= 2.0 FT Pitch Of Roof: RP= : 12 Live Load Deflect. Criteria: L/ 240 Total Load Deflect. Criteria: 180 L/ Roof Loading: LL1= 35.0 PSF Roof Live Load-Side One: Roof Dead Load-Side One: DL1= 15.0 PSF Tributary Width-Side One: TW1= 12.0 FT Roof Live Load-Side Two: LL2= 35.0 PSF DL2= 15.0 PSF Roof Dead Load-Side Two: Tributary Width-Side Two: TW2= 0.0 FT Roof Duration Factor: Cd= 1.15 BSW= Beam Self Weight: 15 PLF Slope/Pitch Adjusted Lengths and Loads: Adjusted Beam Length: Ladi= 16.0 FT wL= 420 PLF Beam Uniform Live Load: Beam Uniform Dead Load: wD adj= 210 PLF Total Uniform Load: wT= 630 PLF Properties For: Versa-Lam 2800 Fb DF- Boise Cascade Bending Stress: Fb= 2800 PSI Shear Stress: Fv= 285 PSI Modulus of Elasticity: E= 2000000 PSI Stress Perpendicular to Grain: Fc perp= 900 PSI **Adjusted Properties** Fb' (Tension): Fb'= 3139 PSI Adjustment Factors: Cd=1.15 Cl=0.99 Cf=0.98

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