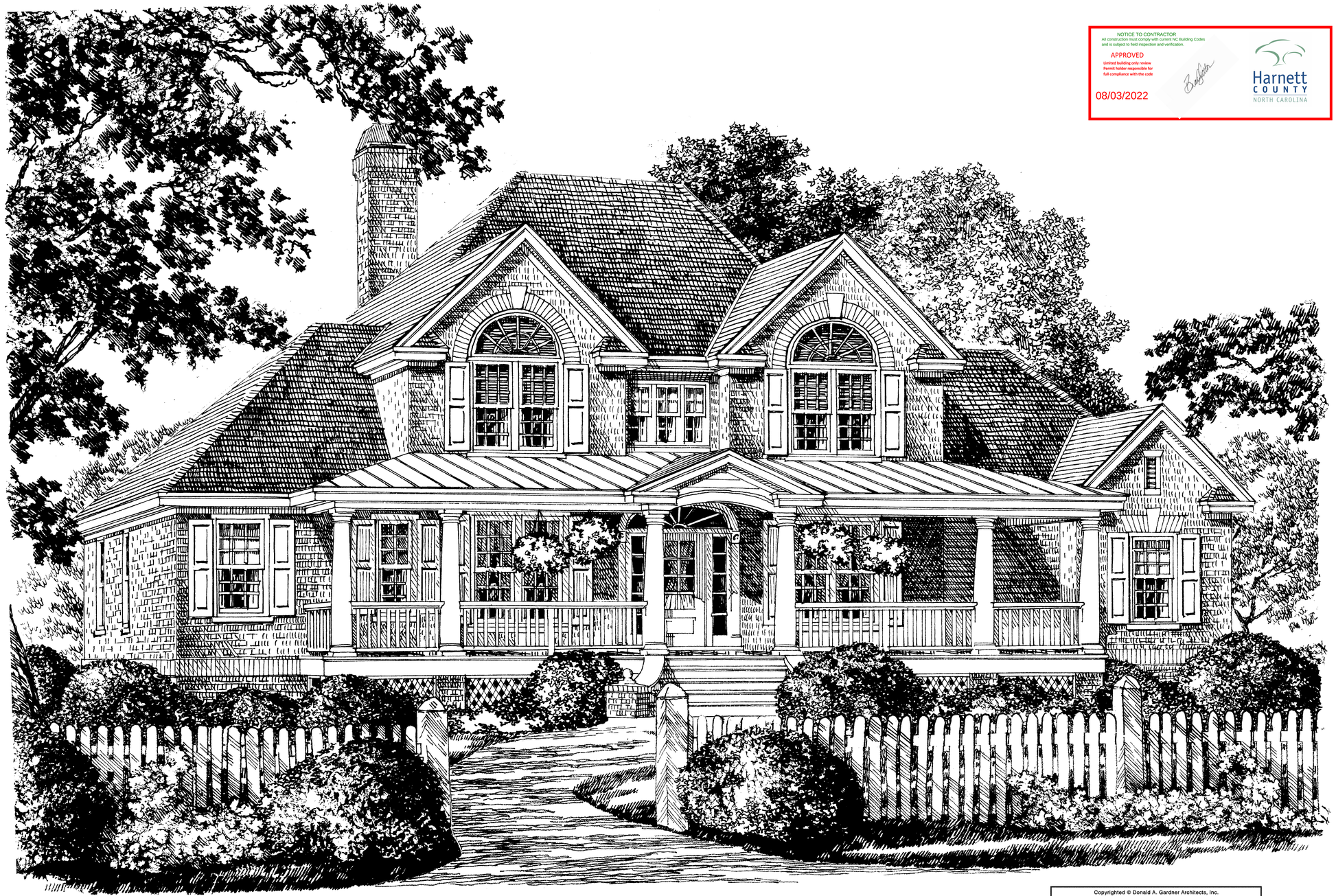

NOTICE TO CONTRACTOR
All construction must comply with current NC Building Codes and is subject to field inspection and verification.

APPROVED
Limited building only review
Permit holder responsible for full compliance with the code

08/03/2022

Harnett COUNTY NORTH CAROLINA

ALL FEDERAL, STATE, AND LOCAL CODES, ORDINANCES, REGULATIONS AND MANUFACTURER'S INSTRUCTIONS ETC. SHALL BE CONSIDERED AS PART OF THE SPECIFICATIONS FOR THIS BUILDING AND SHALL TAKE PRECEDENCE OVER ANYTHING SHOWN, DESCRIBED, OR IMPLIED WHERE SAME ARE AT VARIANCE. THESE PLANS ARE NOT DRAWN FOR ANY PARTICULAR LOCALE. YOU ARE RESPONSIBLE FOR DETERMINING AND ENSURING COMPLIANCE WITH ALL APPLICABLE CODES AND MANUFACTURER'S REQUIREMENTS.

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DESIGN NO. 1034-B

SHEET 1 OF 10 DR.

COVERSHEET

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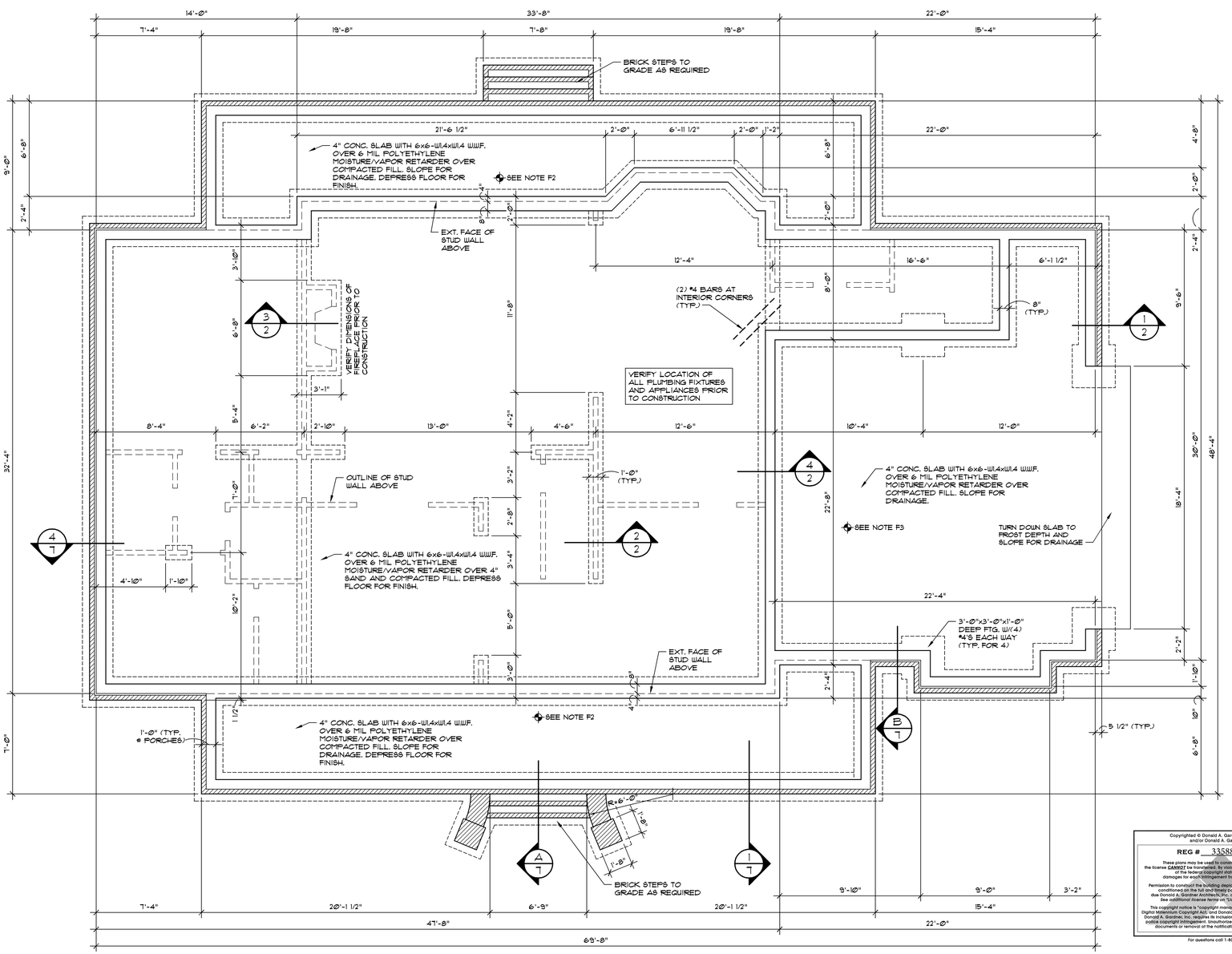


FOUNDATION PLAN

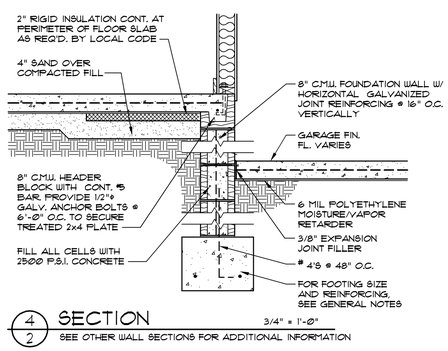
1/4" = 1'-0"

FOUNDATION NOTES

F1. PROVIDE CONTROL JOINTS IN SLAB TO DIVIDE INTO AREAS OF 200 SQ. FT. OR LESS

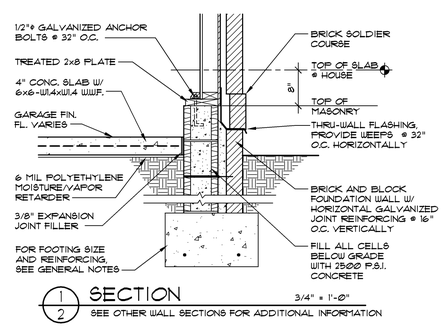
F2. SET PORCH TOP OF SLAB BELOW HOUSE TOP OF SLAB. ACTUAL HEIGHT TO BE DETERMINED BY MASONRY COURSING.

F3. SET GARAGE TOP OF SLAB BELOW HOUSE TOP OF SLAB. ACTUAL HEIGHT TO BE DETERMINED BY GRADE.



4/2 SECTION 3/4" = 1'-0"

SEE OTHER WALL SECTIONS FOR ADDITIONAL INFORMATION



1/2 SECTION 3/4" = 1'-0"

SEE OTHER WALL SECTIONS FOR ADDITIONAL INFORMATION

GENERAL NOTES

A. GENERAL:

1. AT THE TIME OF CREATION, PLANS CONFORM TO "CABO ONE AND TWO FAMILY DWELLING CODE," OR THE "INTERNATIONAL RESIDENTIAL CODE," HOWEVER MODIFICATIONS MAY BE NECESSARY TO COMPLY WITH LOCAL AND STATE CODES.
2. CONTRACTOR SHALL VERIFY ALL DIMENSIONS.
3. CONTRACTOR SHALL COMPLY WITH THE CONTENTS OF THE SPECIFICATIONS FOR THIS HOUSE.
4. ALL WOOD USED IN CONSTRUCTION OF DECKS AND STEPS SHALL BE TREATED. FASTENERS FOR TREATED WOOD (NAILS, BOLTS, HARDWARE, ETC.) SHALL BE GALVANIZED.
5. CONTRACTOR SHALL INSTALL GROUND FAULT INTERRUPT OUTLETS AS PER CODE.
6. INSTALL ROOFING MATERIALS ACCORDING TO MANUFACTURERS RECOMMENDATIONS FOR THE AREA AND CLIMATE, INCLUDING BUT NOT LIMITED TO SHINGLES, TILES, FELTS, FLASHING, AND FASTENING DEVICES
7. HEARTH DIMENSIONS DETERMINED BY CODE
8. INSTALL ALL EXTERIOR FINISH MATERIALS PER MANUFACTURER'S RECOMMENDATIONS (I.E. CONTROL JOINTS, ATTACHMENT/ ANCHORING DEVICES, FLASHING, SEALANTS, ETC.)

B. FRAMING:

1. JOIST SPANS WERE DETERMINED ON THE BASIS OF THE ALLOWABLE STRESSES IN THE GRADING RULES OF THE SOUTHERN PINE INSPECTION BUREAU GRADE NUMBER TWO (2) KILN DRIED.
2. PROVIDE DOUBLE JOISTS BELOW ALL PARALLEL PARTITIONS, ABOVE AND AROUND ALL OPENINGS NOT INDICATED ON DRAWINGS.
3. PROVIDE SOLID BLOCKING BETWEEN FLOOR JOISTS UNDER WALLS THAT ARE PERPENDICULAR TO FLOOR JOISTS
4. SHEATH ALL EXTERIOR WALLS WITH NOMINAL 1/2" STRUCTURAL GRADE 2 PLYWOOD OR NOMINAL 1/2" OSB (ORIENTED STRAND BOARD).

C. VENTILATION:

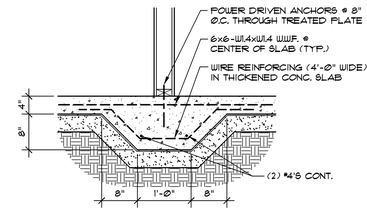
1. PROVIDE CONTINUOUS RIDGE VENTS ON ALL ROOFS. LOCATE DOUBLE RIDGE BEAMS TO ALLOW FOR PROPER INSTALLATION OF RIDGE VENTS.
2. PROVIDE CONTINUOUS ROOF TO WALL VENTS AT ALL JUNCTURES OF SLOPED ROOFS AND VERTICAL WALLS

D. FOOTINGS:

1. CARRY ALL FOOTINGS TO FIRM UNDISTURBED BEARING:
   A. 16" x 12" FOOTING FOR 8" OR 9" FOUNDATION WALL WITH (2) #4 REINF. RODS CONTINUOUS
   B. 24" x 12" FOOTING FOR 12" FOUNDATION WALL WITH (2) #4 REINF. RODS CONTINUOUS.
2. AT ELEVATED SLABS, PROVIDE #4 REINF. RODS TURNED UP VERTICALLY INTO THE FOUNDATION WALL AT 48" O.C. AND LIMIT UNBALANCED FILL TO 32" IN HEIGHT.

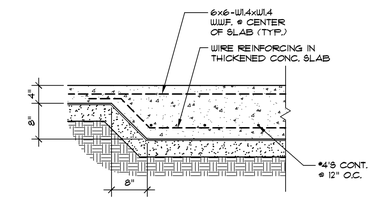
E. CHIMNEY CONSTRUCTION:

1. USE NOMINAL 1/2" STRUCTURAL GRADE 2 PLYWOOD OR NOMINAL 1/2" OSB (ORIENTED STRAND BOARD) SHEATHING.
2. SPLICE ONLY ONE CORNER STUD AT ANY SPLICE. STAGGER SPLICES AT LEAST 3'-0" AND USE (4) STUDS PER CORNER.
3. USE 10d NAILS @ 4" O.C. AROUND ALL PLYWOOD EDGES AND 12" O.C. AT ALL INTERMEDIATE SUPPORTS.
4. PROVIDE BLOCKING BETWEEN STUDS AT 4'-0" INTERVALS.



2/2 DETAIL AT THICKENED SLAB 3/4" = 1'-0"

(DETAIL TO BE USED @ INTERIOR LOAD BEARING WALL LOCATIONS)



3/2 DETAIL AT THICKENED SLAB 3/4" = 1'-0"

(DETAIL TO BE USED @ INTERIOR LOAD BEARING LOCATIONS)

DO NOT SCALE DRAWINGS.

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DESIGN NO. 1034-B

SHEET 2 OF 10 DR BTS

FOUNDATION PLAN

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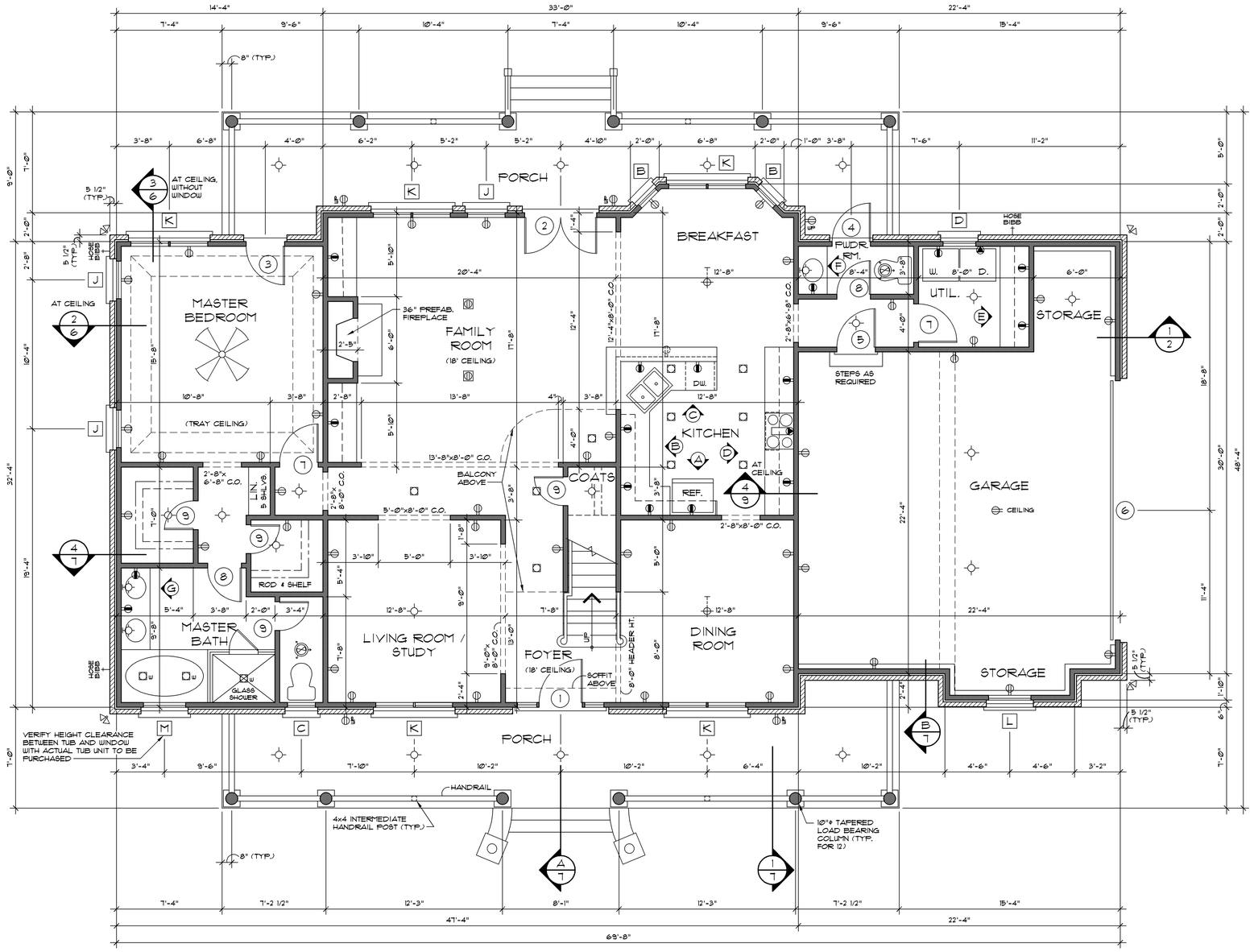

FIRST FLOOR PLAN

1/4" = 1'-Ø"

FIRST FLOOR	1809 sq. ft.
SECOND FLOOR	777 sq. ft.
TOTAL LIVING	2586 sq. ft.
GARAGE & STORAGE	530 sq. ft.
BONUS ROOM	264 sq. ft.

DOOR SCHEDULE

SYMBOL ○

MARK	SIZE	QUAN.	DESCRIPTION
1	3'-Ø" x 6'-8"	1	EXT., THREE-QUARTER GLASS W/ 16" SIDELITES & ELLIPTICAL TRANSOM *
2	(2) 2'-6" x 6'-8"	1	EXT., FULL GLASS W/ 12" TRANSOM
3	2'-8" x 6'-8"	1	EXT., FULL GLASS W/ 12" TRANSOM
4	2'-8" x 6'-8"	1	EXT.
5	2'-8" x 6'-8"	1	EXT., 1 HOUR FIRE-RATED
6	18'-Ø" x 8'-Ø"	1	GARAGE
7	2'-8" x 6'-8"	6	INT.
8	2'-4" x 6'-8"	4	INT.
9	2'-Ø" x 6'-8"	6	INT.
10	(2) 2'-Ø" x 6'-8"	1	INT., BIFOLD
11	1'-6" x 6'-8"	1	INT.

* SEE ELEVATION FOR TRANSOM.

WINDOW SCHEDULE

SYMBOL □

MARK	SIZE	QUAN.	DESCRIPTION
A	(3) 1'-8" x 3'-1Ø"	1	D.H.
B	1'-8" x 6'-2"	2	D.H.
C	2'-Ø" x 4'-6"	1	D.H.
D	2'-4" x 5'-2"	1	D.H.
E	2'-8" x 3'-Ø"	1	FIXED, W/ HALF CIRCLE TRANSOM
F	(2) 2'-8" x 3'-Ø"	2	FIXED
G	(2) 2'-8" x 5'-2"	3	D.H. W/ HALF CIRCLE TRANSOM *
H	(2) 2'-8" x 4'-6"	1	D.H.
J	2'-8" x 6'-2"	3	D.H.
K	(2) 2'-8" x 6'-2"	5	D.H.
L	3'-Ø" x 5'-2"	1	D.H.
M	3'-Ø" x 4'-6"	1	D.H.

ALL WINDOWS ARE INSULATED AND WEATHERSTRIPPED.

VERIFY LOCAL CODE EGRESS WINDOW REQUIREMENTS PRIOR TO CONSTRUCTION.

WINDOW MANUFACTURER TO PROVIDE TEMPERED GLASS WHERE REQUIRED BY CODE.

VERIFY WINDOW MODEL NUMBERS AND SIZES WITH MANUFACTURER BEFORE STARTING CONSTRUCTION.

* SEE ELEVATION FOR TRANSOM.

ELECTRICAL LEGEND

SYMBOL	DESCRIPTION
	DUPLEX OUTLET (GROUNDED TYPE)
WP	WEATHER PROOF DUPLEX OUTLET
AC	ABOVE COUNTER LOCATION
FD	FLUSH FLOOR DUPLEX OUTLET, OWNER VERIFY LOCATION
	220 VOLT OUTLET OR CONNECTION
	CEILING MOUNTED LIGHT FIXTURE
	WALL BRACKET MOUNTED LIGHT FIXTURE
	SUSPENDED CEILING MOUNTED LIGHT FIXTURE
	RECESSED DIRECTIONAL CEILING LIGHT FIXTURE
	RECESSED CEILING LIGHT FIXTURE
WP	RECESSED LIGHT FOR WET AREA
UC	UNDER CABINET FLUORESCENT LIGHT
	EXTERIOR CAST ALUMINUM FLOOD LIGHTS
	CEILING MOUNTED PADDLE FAN W/ LIGHT
	CEILING MOUNTED FAN - EXHAUST
	CEILING MOUNTED FAN AND HEATER
	CEILING MOUNTED FAN, LIGHT, AND HEATER

PLAN NOTES:

1. VERIFY ALL LOCAL CODES, ENERGY TYPES, AND SITE CONDITIONS PRIOR TO CONSTRUCTION.
2. REVIEW SELECTED MECHANICAL SYSTEMS WITH OWNER PRIOR TO CONSTRUCTION.

   REVIEW SUB-CONTRACTORS LOCATIONS OF THE WATER HEATER AND HVAC UNIT(S) WITH THE OWNER PRIOR TO CONSTRUCTION. VERIFY LOCAL BUILDING CODE REQUIREMENTS AND MANUFACTURER REQUIREMENTS FOR ATTIC OR GARAGE LOCATIONS.

   H.V.A.C. EQUIPMENT IN THE ATTIC SPACE SHALL BE ACCESSIBLE BY AN OPENING LARGER THAN THE LARGEST PIECE OF EQUIPMENT (TO ALLOW REMOVAL OF THE EQUIPMENT) AND IN NO CASE LESS THAN 22"x36".
3. SEE STRUCTURAL DRAWINGS FOR ADDITIONAL INFORMATION.
4. INSULATE AROUND ALL BATHS AND UTILITY ROOM.
5. TYPICAL WALL, 2x4'S @ 16" O.C. UNLESS OTHERWISE DIMENSIONED.
6. PROVIDE SMOKE DETECTORS AS REQUIRED BY CODE.
7. PROVIDE DOORBELLS, TRANSFORMER, AND CHIME.

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DESIGN NO. 1034-B
SHEET OF 3 10
DR BTS
FIRST FLOOR PLAN

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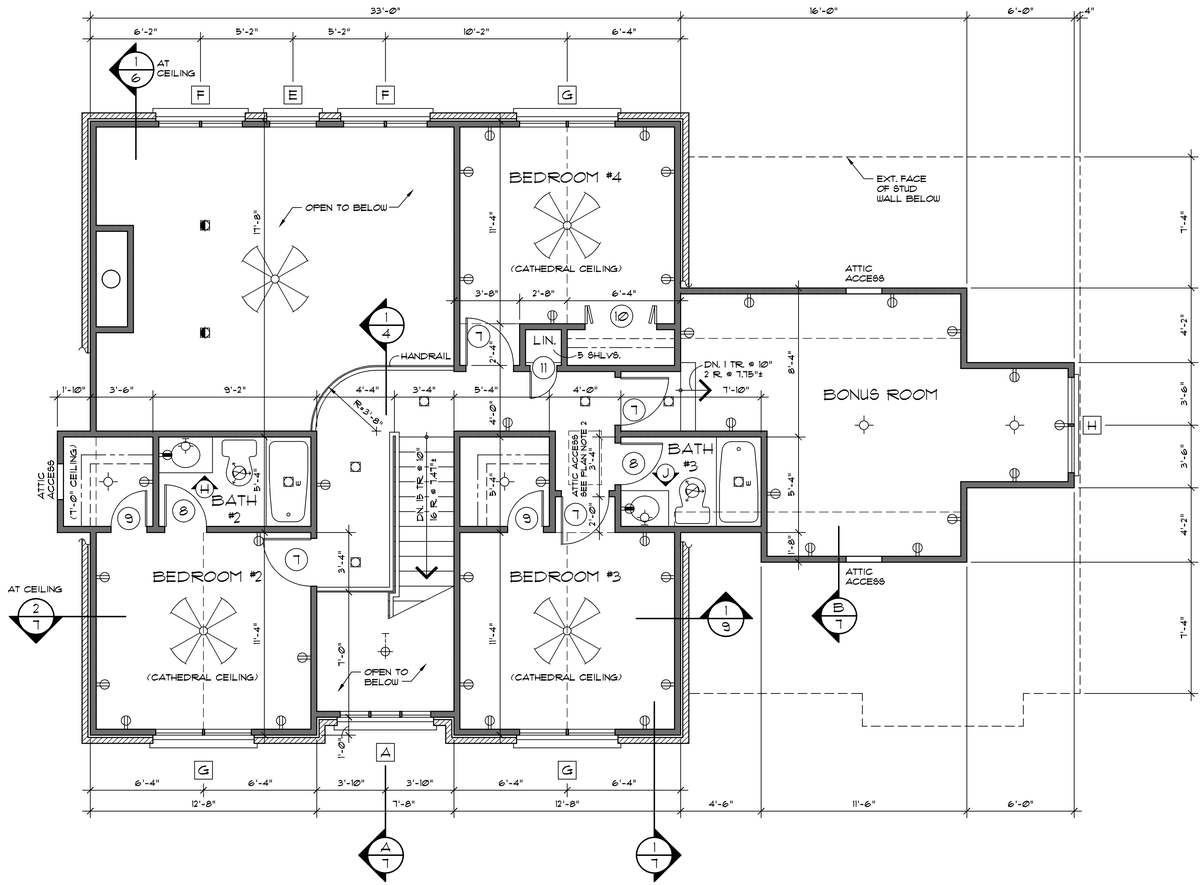
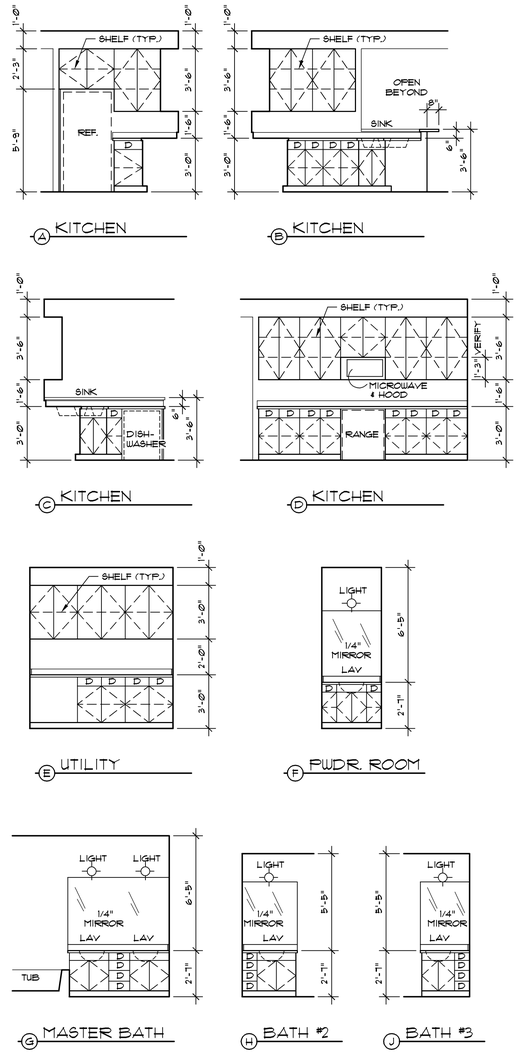


SECOND FLOOR PLAN 1/4" = 1'-Ø"



A KITCHEN

B KITCHEN

C KITCHEN

D KITCHEN

E UTILITY

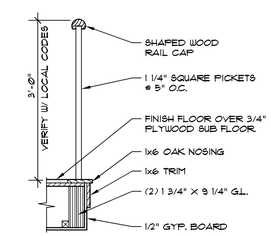
F PWDR. ROOM

G MASTER BATH

H BATH #2

J BATH #3

INTERIOR ELEVATIONS 1/4" = 1'-Ø"



1/4 SECTION 3/4" = 1'-Ø"

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SHEET OF DR
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SECOND FLOOR PLAN

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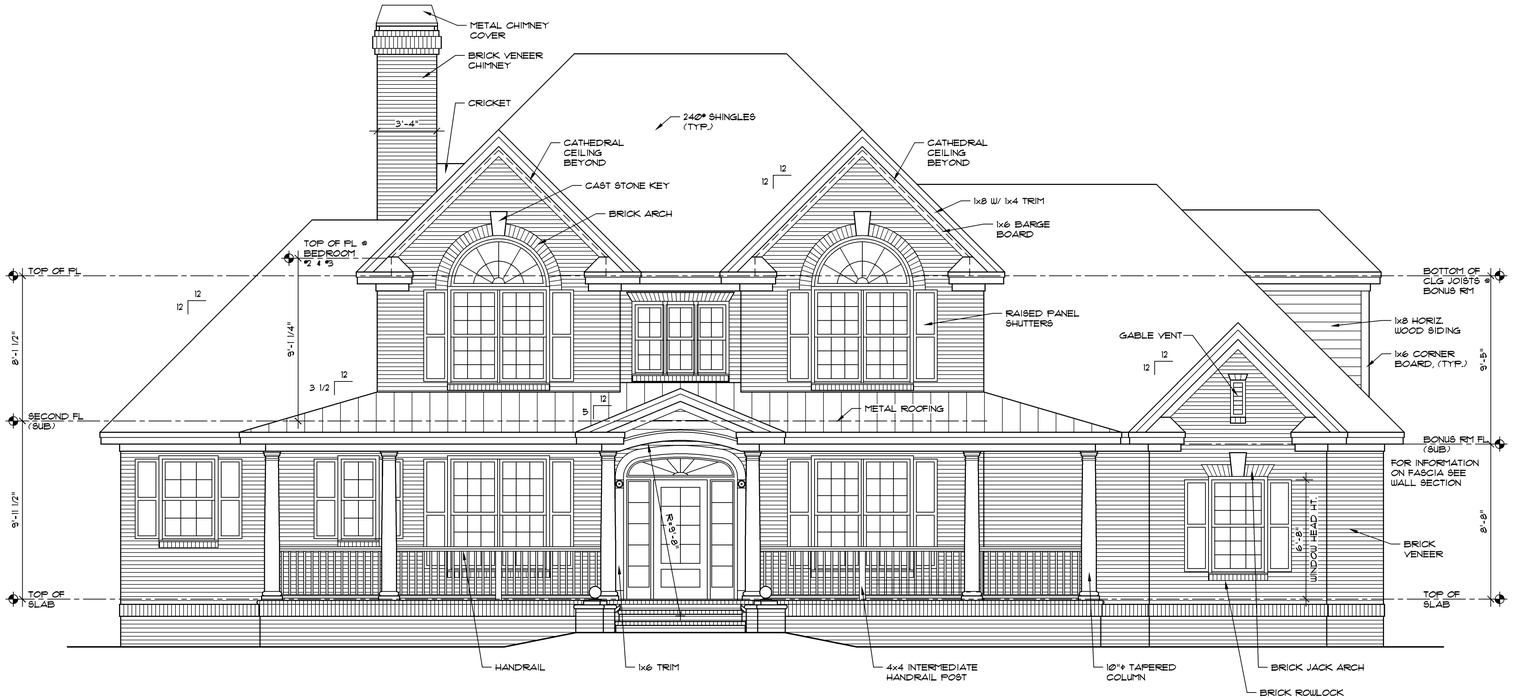
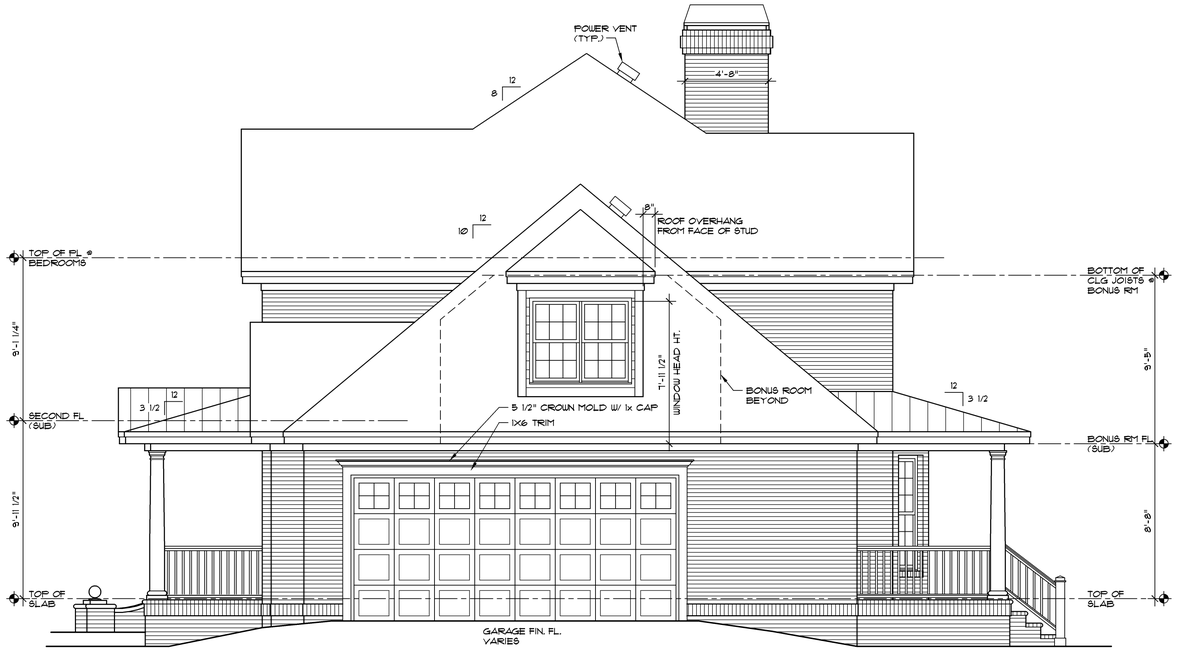
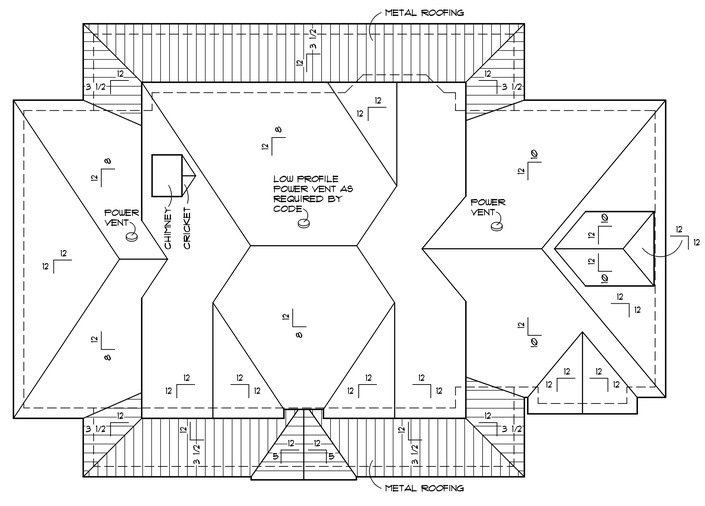


FRONT ELEVATION 1/4" = 1'-0"



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



ROOF PLAN 1/8" = 1'-0"

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ELEVATIONS

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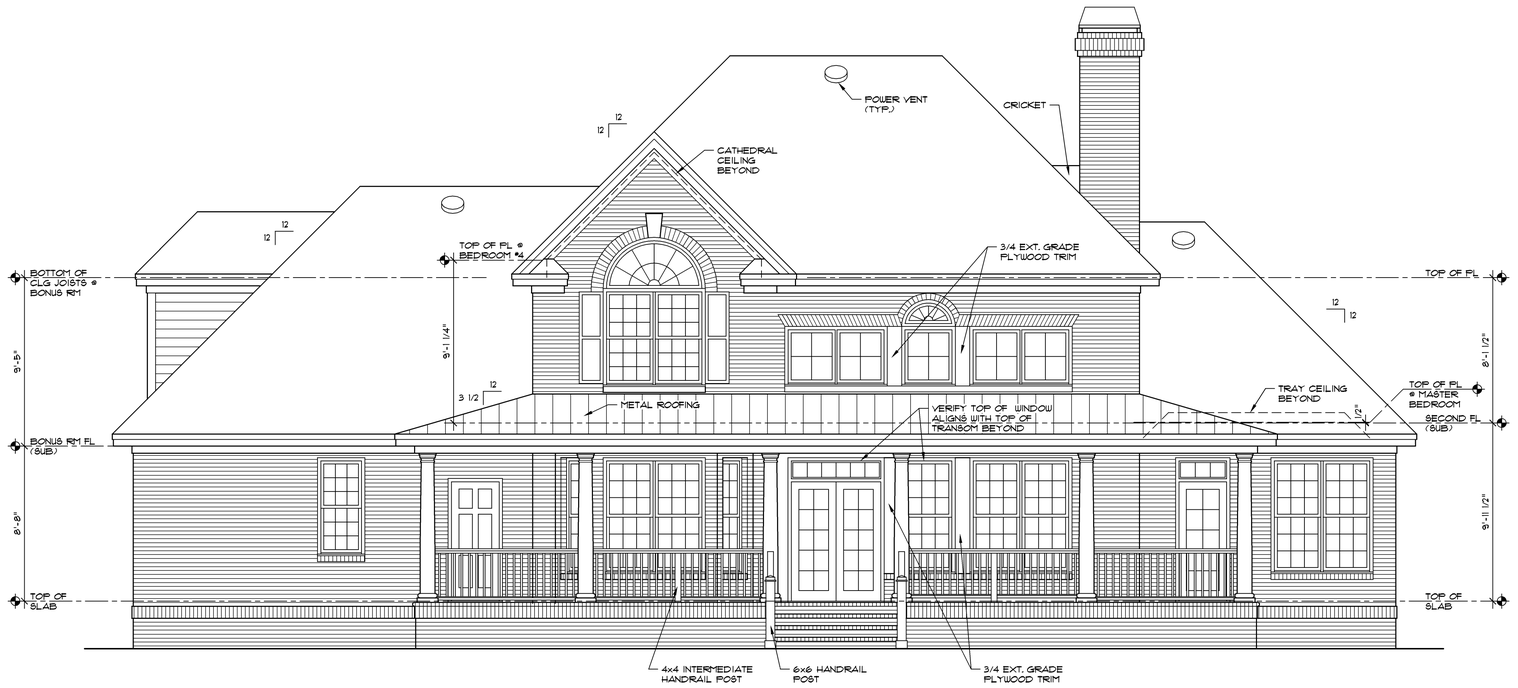
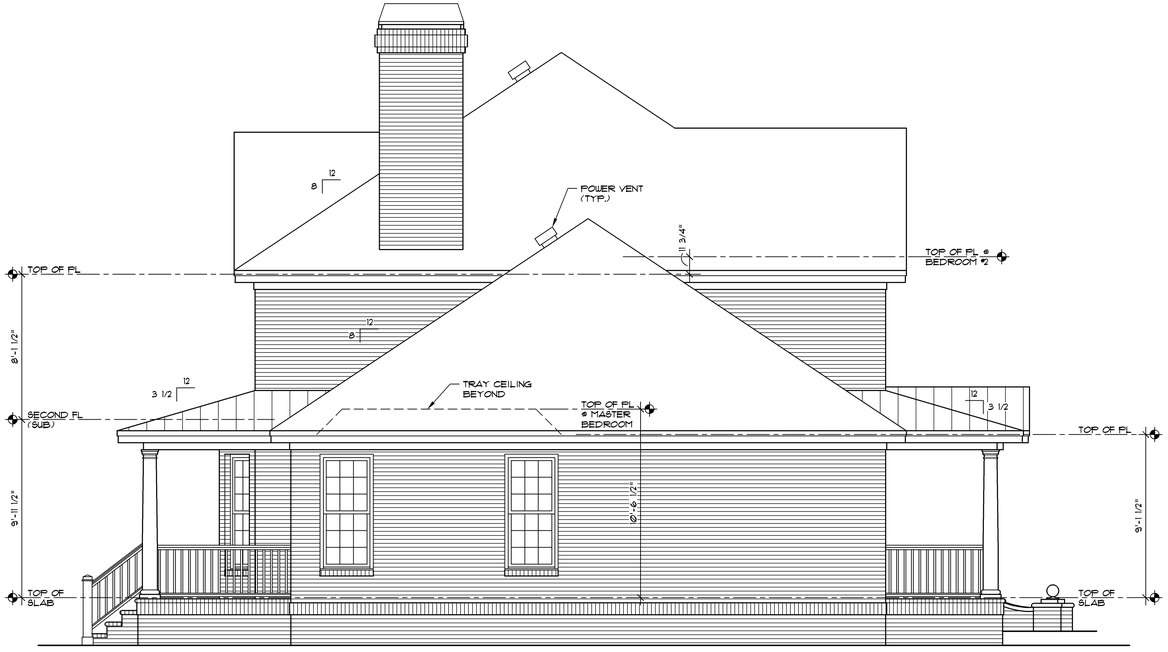
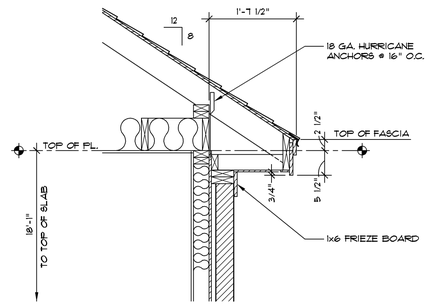


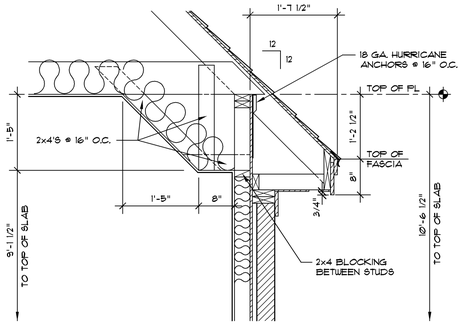
REAR ELEVATION 1/4" = 1'-0"



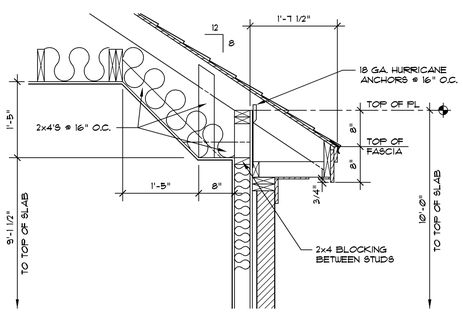
LEFT SIDE ELEVATION 1/4" = 1'-0"



1/6 SECTION 3/4" = 1'-0"
SEE OTHER WALL SECTIONS FOR ADDITIONAL INFORMATION



2/6 SECTION 3/4" = 1'-0"
SEE OTHER WALL SECTIONS FOR ADDITIONAL INFORMATION



3/6 SECTION 3/4" = 1'-0"
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ELEVATIONS

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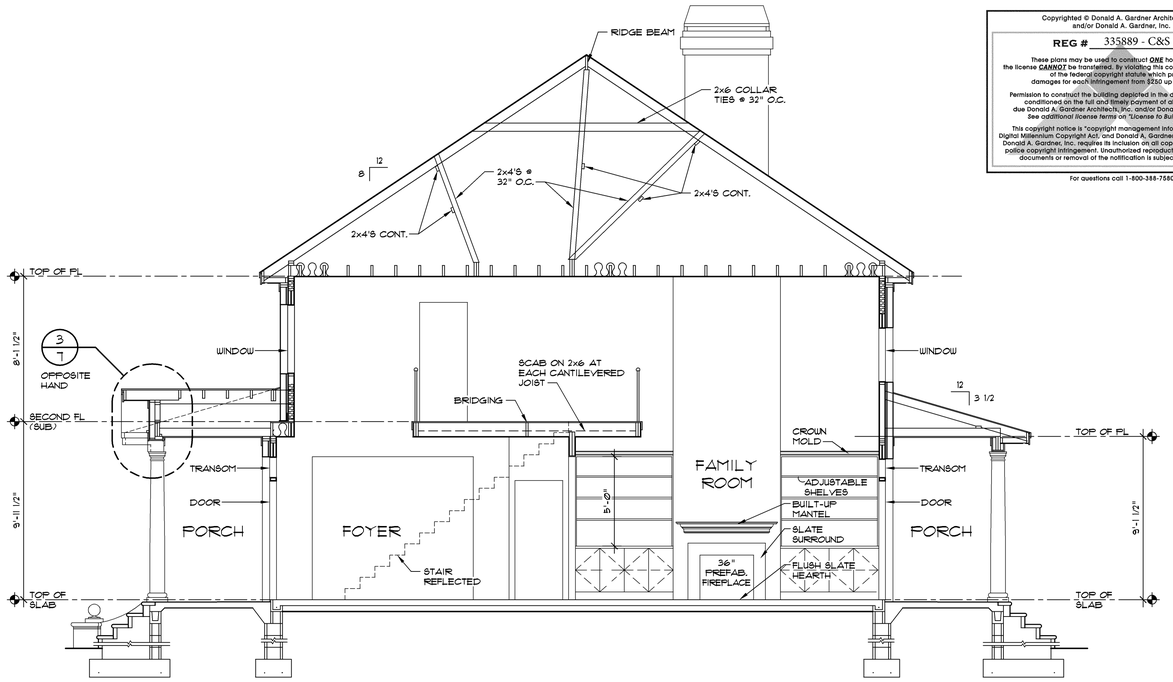
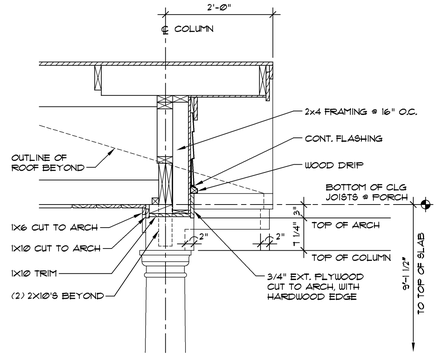


A/7 SECTION 1/4" = 1'-0"



3/7 SECTION 3/4" = 1'-0"
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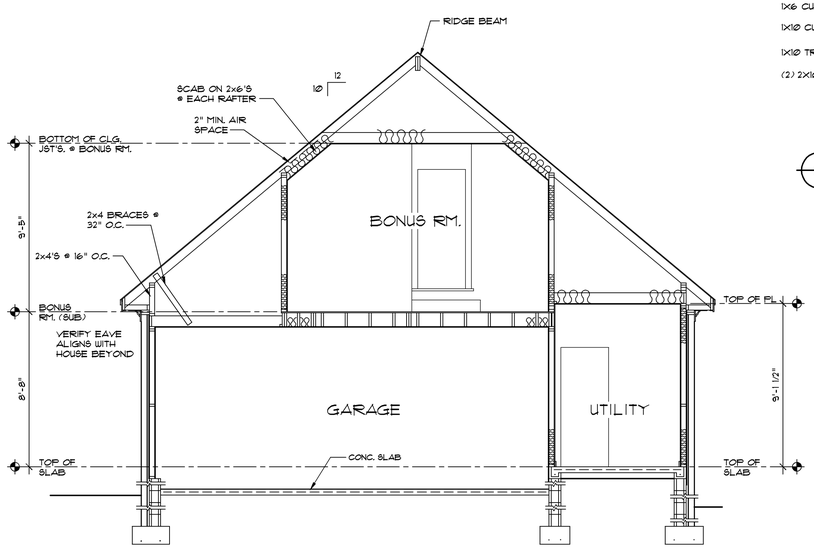
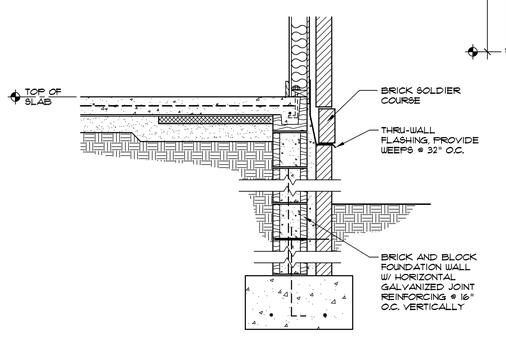
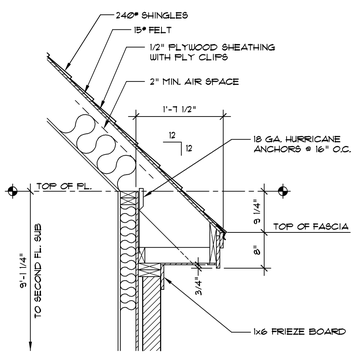


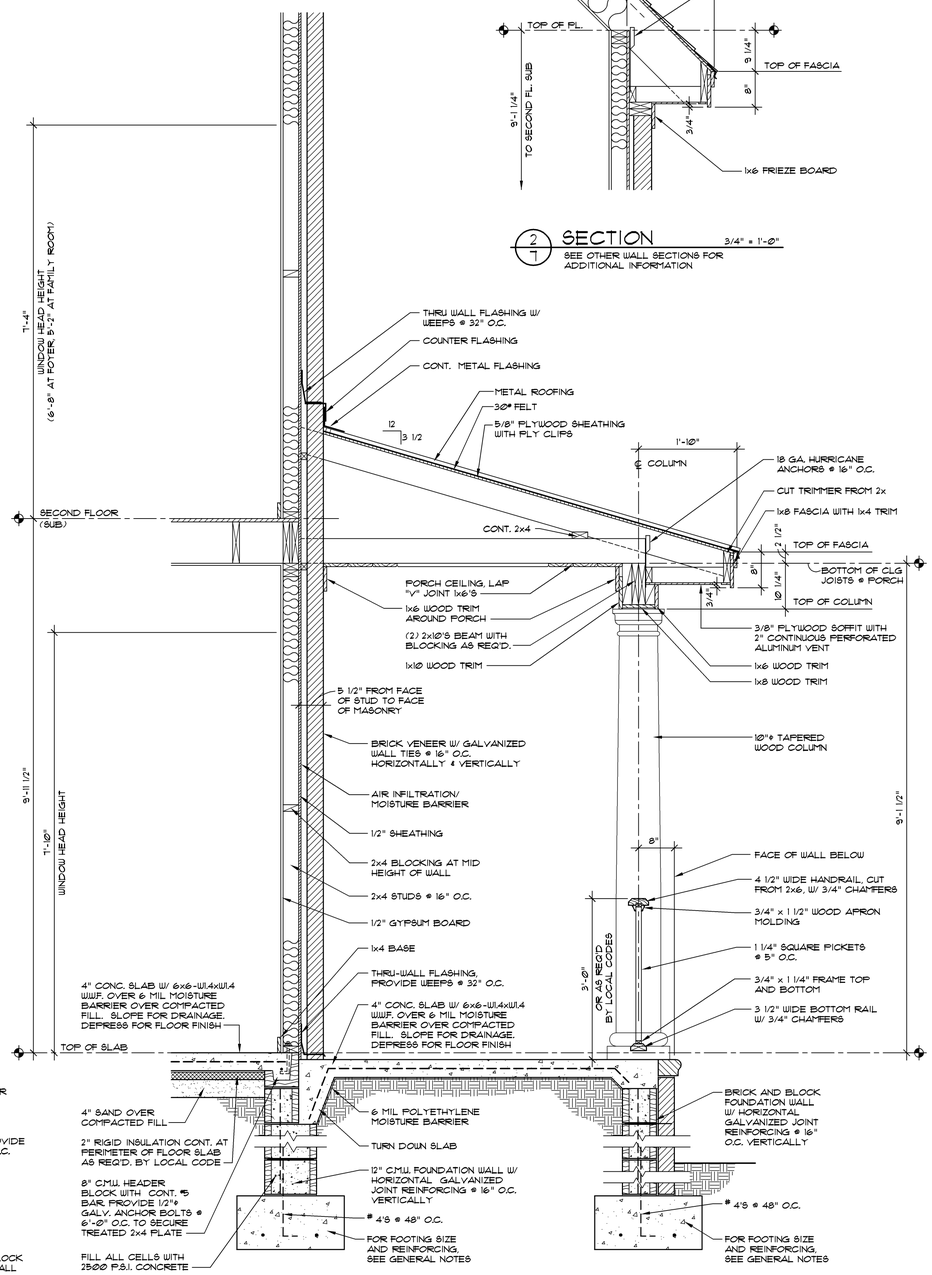
B/7 SECTION 1/4" = 1'-0"



4/7 SECTION 3/4" = 1'-0"
SEE OTHER WALL SECTIONS FOR ADDITIONAL INFORMATION



2/7 SECTION 3/4" = 1'-0"
SEE OTHER WALL SECTIONS FOR ADDITIONAL INFORMATION



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7 10 BTS
SECTIONS

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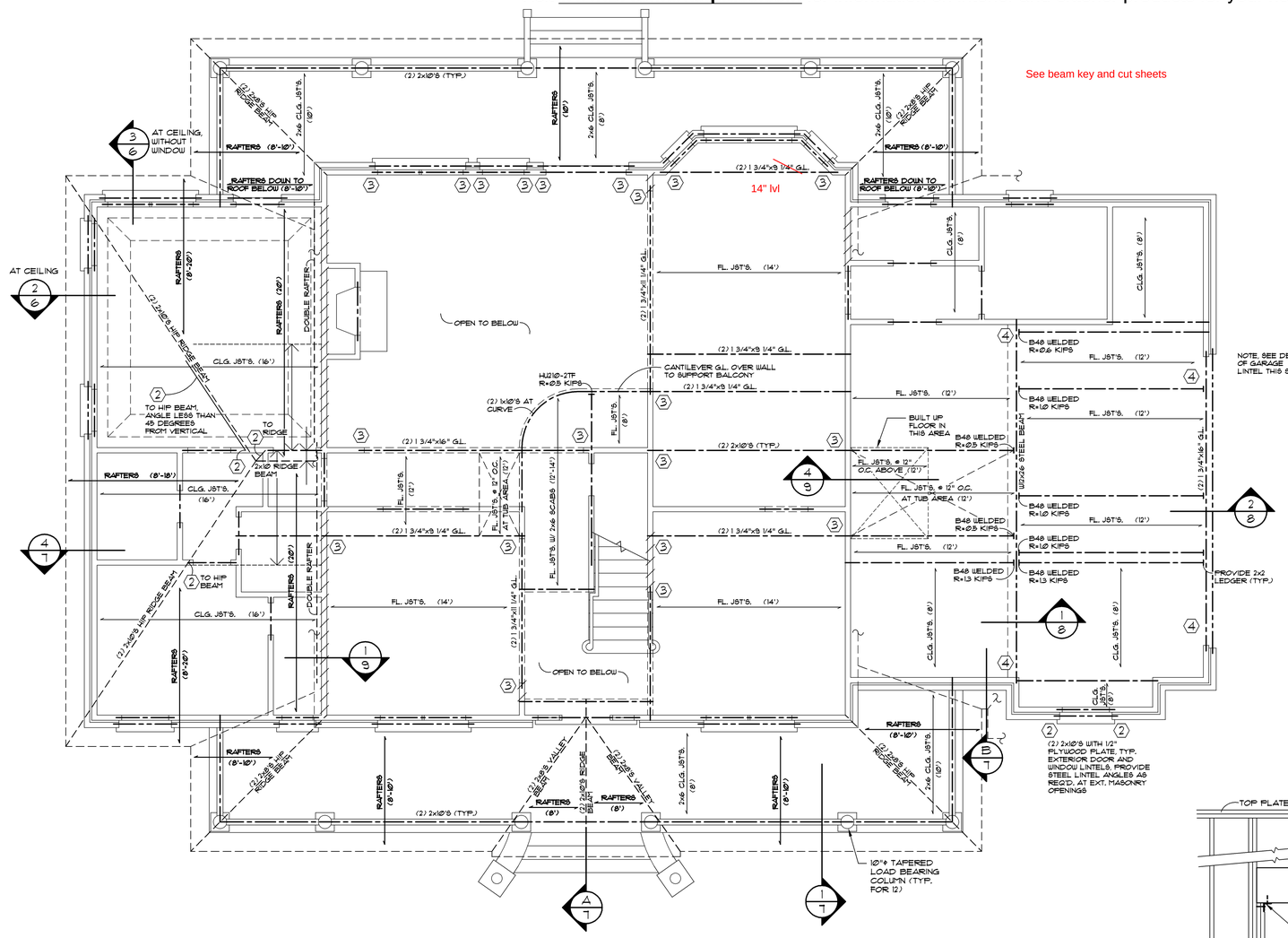
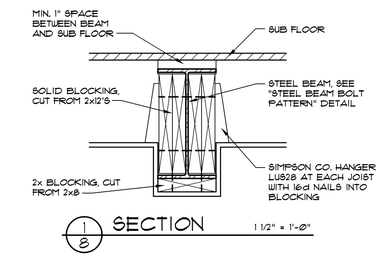
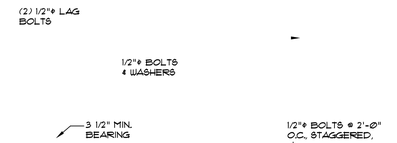


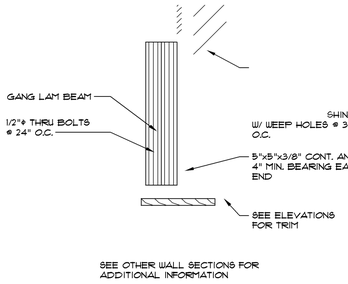
SECOND FLOOR STRUCTURAL PLAN 1/4" = 1'-0"



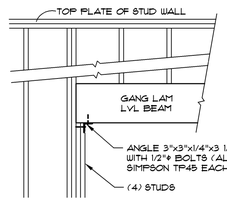
1/8 SECTION 1 1/2" = 1'-0"

NOTE, SEE DETAIL OF GARAGE LINTEL THIS SHEET





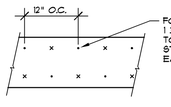
SEE OTHER WALL SECTIONS FOR ADDITIONAL INFORMATION



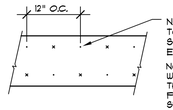
DETAIL OF GARAGE LINTEL
NOT TO SCALE

STRUCTURAL LEGEND

- RAFTERS (X') — RAFTERS, 2x6's @ 16" O.C. UNLESS NOTED OTHERWISE
- FL. JST's. (X') — FLOOR JOISTS, 2x10's @ 16" O.C. WITH BRIDGING UNLESS NOTED OTHERWISE
- CLG. JST's. (X') — CEILING JOISTS, 2x8's @ 16" O.C. UNLESS NOTED OTHERWISE
- PHANTOM LINE INDICATES STEEL BEAM
- THIS SYMBOL INDICATES LOAD BEARING INTERIOR WALLS. ALL EXTERIOR WALLS ARE LOAD BEARING
- DASH LINE INDICATES ROOF FRAMING
- CENTER LINE INDICATES (2) 2x10's BEAM BELOW ROOF UNLESS NOTED OTHERWISE. (SEE STUD NOTE (3) BELOW)
- (3) INDICATES THE NUMBER OF STUDS UNDER BEAM ABOVE. NOTE: IF NUMBER OF STUDS AT BEAM ENDS ARE NOT INDICATED, USE (2) STUDS
- BRACE ROOF TO WALL OR BEAM BELOW WITH 2x4's @ 32" O.C.



MULTIPLE GANG LAM. DETAIL
NOT TO SCALE



PLYWOOD FLITCH BEAM DETAIL
NOT TO SCALE

STRUCTURAL NOTES

1. ROOF FRAMING DESIGN IS CONVENTIONAL (STICK) FRAMING. FOR CONVERSION TO PRE-ENGINEERED TRUSS FRAMING, CONSULT A LOCAL TRUSS MANUFACTURER.
2. PROVIDE 2x6 COLLAR TIES @ 32" O.C. IN TOP THIRD OR TOP 3'-0" OF ATTIC SPACE IN ACCORDANCE WITH LOCAL BUILDING CODE.
3. UNLESS NOTED OTHERWISE, ALL INTERIOR DOOR AND WALL OPENINGS IN LOAD BEARING WALLS SHALL HAVE (2) 2x10's LINTEL WITH (2) STUDS AT EACH LINTEL END (TYPICAL).
4. UNLESS NOTED OTHERWISE, ALL EXTERIOR DOOR AND WINDOW OPENINGS SHALL HAVE (2) 2x10's WITH 1/2" PLYWOOD PLATE LINTEL. USE (2) STUDS AT LINTEL ENDS UNLESS OTHERWISE NOTED. PROVIDE STEEL LINTEL ANGLES WITH 4" MIN. BEARING WHERE REQUIRED OVER EXTERIOR MASONRY WALL OPENINGS.
5. AT ALL BUILDING CORNERS USE NOMINAL 1/2" STRUCTURAL GRADE 2 PLYWOOD OR NOMINAL 1/2" OSB (ORIENTED STRAND BOARD) MIN. 4'-0" WIDTH. USE 8d NAILS @ 4" O.C. FOR EDGE NAILING AND 12" O.C. FOR ALL INTERMEDIATE NAILING.
6. CONNECTORS INDICATED ARE MANUFACTURED BY THE SIMPSON STRONG-TIE COMPANY, INC., SAN LEANDRO, CALIFORNIA 94577 (800-999-5099)

DESIGN CRITERIA

(NOTE: ACTUAL DESIGN CRITERIA IN YOUR AREA MAY VARY. IT IS THE RESPONSIBILITY OF THE OWNER/BUILDER TO VERIFY THESE.)

1. FRAMING DESIGN BASED ON THE FOLLOWING LOADING CONDITIONS:
   - ROOF & FLOOR DEAD LOADS - 15 P.S.F.
   - ROOF LIVE LOAD - 20 P.S.F.
   - FLOOR LIVE LOAD - 40 P.S.F.
   - MAXIMUM WIND SPEED - 90 M.P.H. (3-SECOND GUST)
2. VERIFY SEISMIC REQUIREMENTS FOR YOUR AREA.
3. SOIL DESIGN BEARING PRESSURE IS ASSUMED 2000 P.S.F. LOCAL SOIL CONDITIONS AND/OR LOCAL PRACTICE MAY NECESSITATE A MORE STRINGENT FOOTING AND FOUNDATION WALL DESIGN. CONSULT WITH LOCAL CONTRACTOR OR BUILDING INSPECTOR.
4. INSULATION:
   - CEILING — R-30
   - WALL — R-13
   - FLOOR — R-19
5. GL MATERIAL SPECS
   LAMINATED VENEER LUMBER GANG LAM LVL, SHALL BE BY LOUISIANA-PACIFIC OF WILMINGTON, NC (800-999-9109) OR APPROVED EQUAL SUPPLIER. PROPERTIES SHALL MEET OR EXCEED:
   Fb = 2990 PSI
   Fv = 290 PSI
   E = 2,000,000 PSI
   GANG LAM "S" LVL'S ARE INDICATED. GANG LAM "U" LVL'S CAN BE USED BUT VARY FROM SIZES INDICATED

ALL FEDERAL, STATE, AND LOCAL CODES, ORDINANCES, REGULATIONS AND MANUFACTURER'S INSTRUCTIONS ETC. SHALL BE CONSIDERED AS PART OF THE SPECIFICATIONS FOR THIS BUILDING AND SHALL TAKE PRECEDENCE OVER ANYTHING SHOWN, DESCRIBED, OR IMPLIED WHERE SAME ARE AT VARIANCE. THESE PLANS ARE NOT DRAWN FOR ANY PARTICULAR LOCALE. YOU ARE RESPONSIBLE FOR DETERMINING AND ENSURING COMPLIANCE WITH ALL APPLICABLE CODES AND MANUFACTURER'S REQUIREMENTS.

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DESIGN NO. 1034-B
SHEET OF 8 10 DR BTS
SECOND FLOOR STRUCTURAL PLAN

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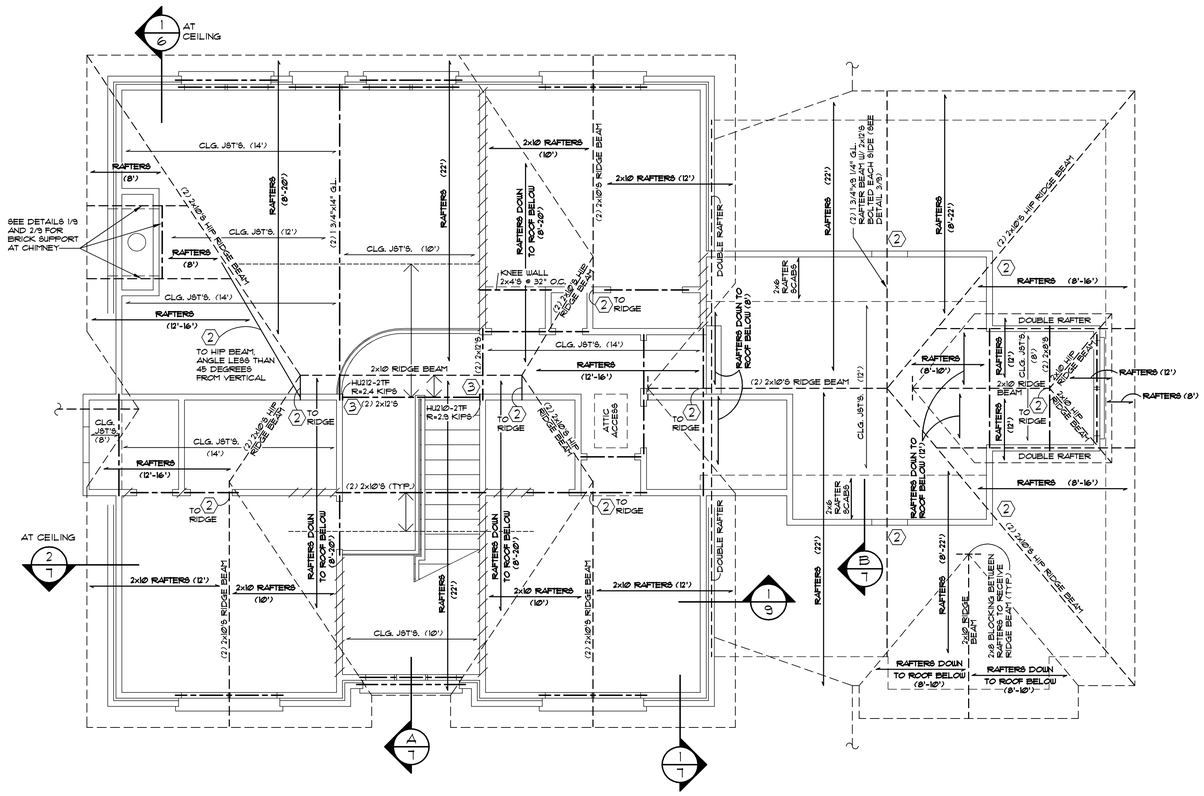
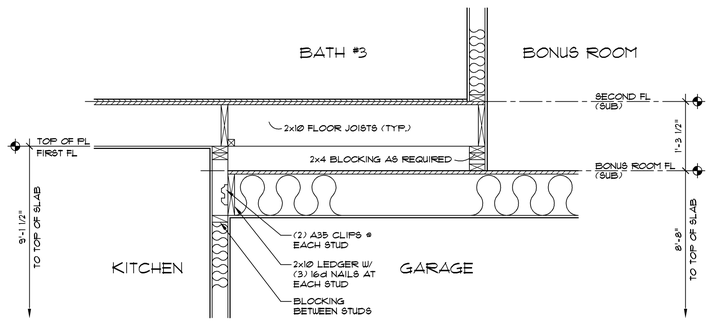
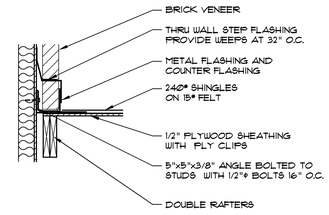


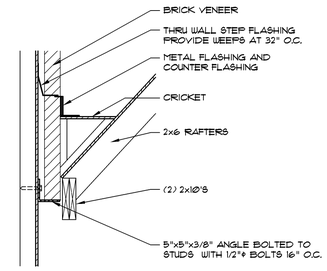
ROOF AND CEILING STRUCTURAL PLAN 1/4" = 1'-0"



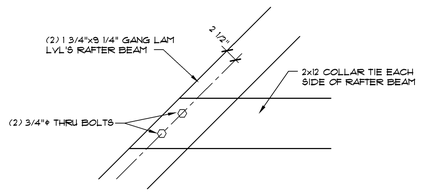
4/9 SECTION 3/4"=1'-0"



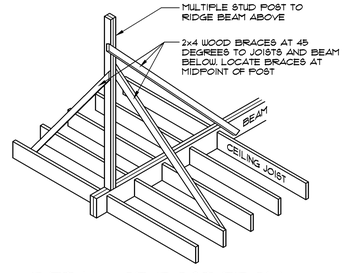
1/9 DETAIL @ ROOF TO WALL 3/4" = 1'-0"



2/9 DETAIL @ ROOF TO WALL 3/4" = 1'-0"



3/9 DETAIL AT RAFTER BEAM 3/4"=1'-0"



DETAIL OF POST FROM BEAM TO RIDGE BEAM

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9 10 BTS
ROOF AND CEILING STRUCTURAL PLAN

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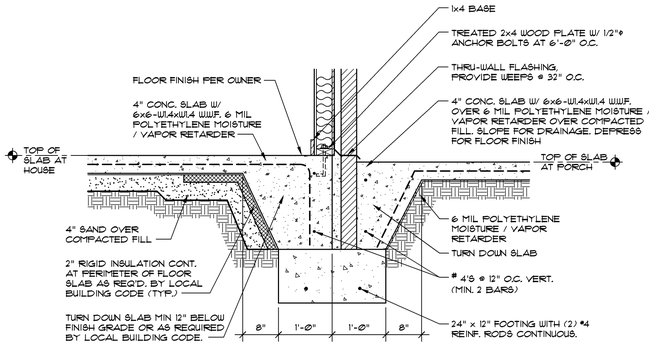
ALTERNATE FOUNDATION DETAILS FOR TURN DOWN SLAB

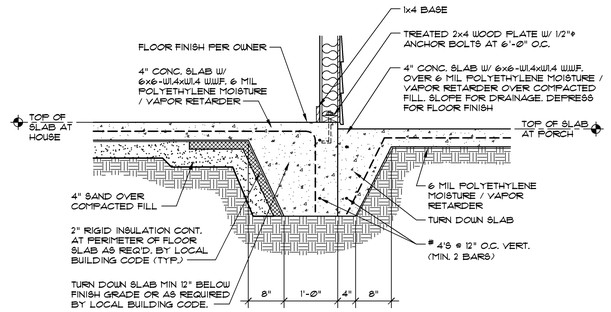
TURN DOWN @ HOUSE AND PORCH

BRICK VENEER HOUSE



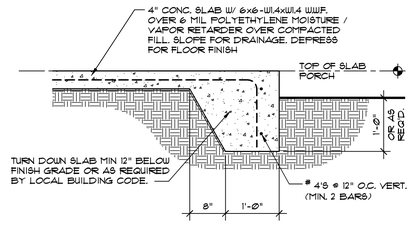
1 TURN DOWN SLAB @ PORCH 3/4" = 1'-Ø"
SEE OTHER WALL SECTIONS FOR ADDITIONAL INFORMATION

SIDING, STUCCO, OR STONE VENEER HOUSE



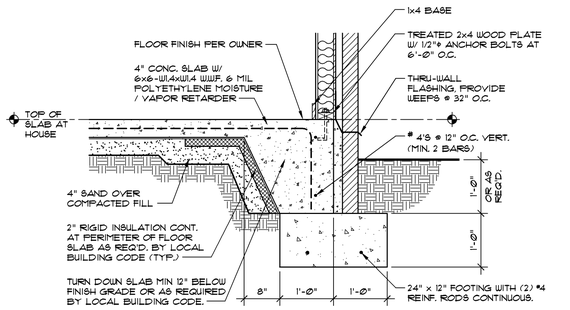
4 TURN DOWN SLAB @ PORCH 3/4" = 1'-Ø"
SEE OTHER WALL SECTIONS FOR ADDITIONAL INFORMATION

MISCELLANEOUS TURN DOWN SLAB DETAILS

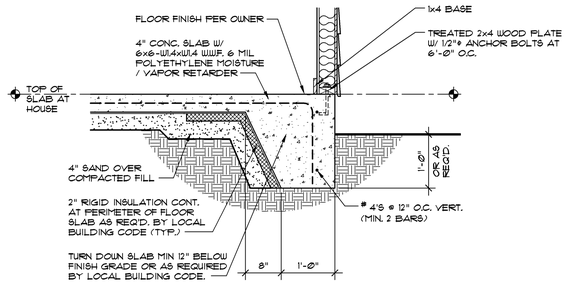


7 TURN DOWN SLAB @ PORCH 3/4" = 1'-Ø"
SEE OTHER WALL SECTIONS FOR ADDITIONAL INFORMATION

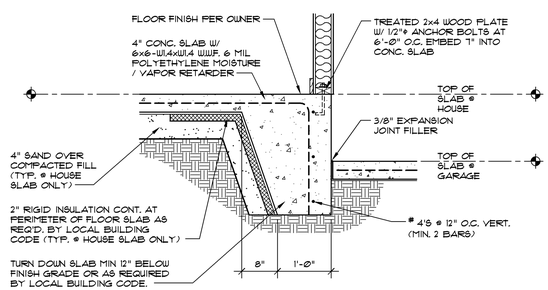
TURN DOWN @ HOUSE



2 TURN DOWN SLAB @ HOUSE 3/4" = 1'-Ø"
SEE OTHER WALL SECTIONS FOR ADDITIONAL INFORMATION

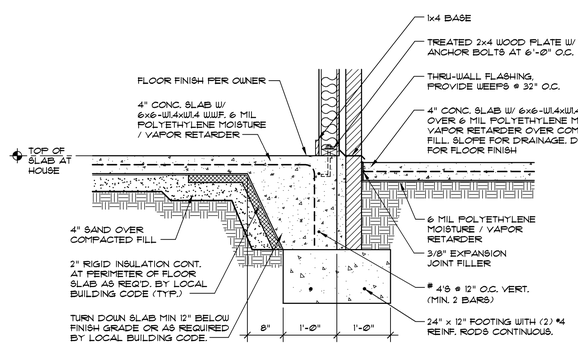


5 TURN DOWN SLAB @ HOUSE 3/4" = 1'-Ø"
SEE OTHER WALL SECTIONS FOR ADDITIONAL INFORMATION

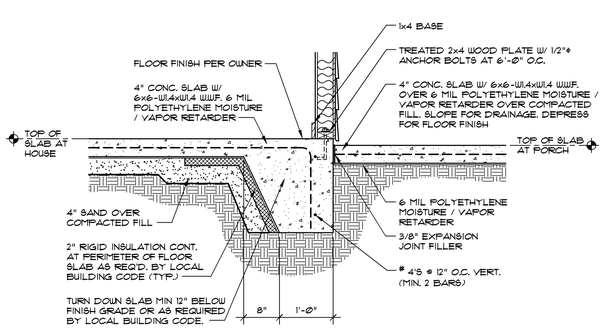


8 DETAIL @ HOUSE AND GARAGE 3/4" = 1'-Ø"
SEE OTHER WALL SECTIONS FOR ADDITIONAL INFORMATION

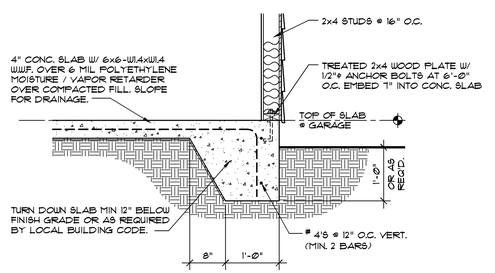
TURN DOWN @ HOUSE AND PATIO



3 TURN DOWN SLAB @ PATIO 3/4" = 1'-Ø"
SEE OTHER WALL SECTIONS FOR ADDITIONAL INFORMATION



6 TURN DOWN SLAB @ PATIO 3/4" = 1'-Ø"
SEE OTHER WALL SECTIONS FOR ADDITIONAL INFORMATION



9 TURN DOWN SLAB @ GARAGE 3/4" = 1'-Ø"
SEE OTHER WALL SECTIONS FOR ADDITIONAL INFORMATION

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DESIGN NO. 1034-B
SHEET 10 OF 10 DR BTS
ALTERNATE TURN DOWN SLAB DETAILS

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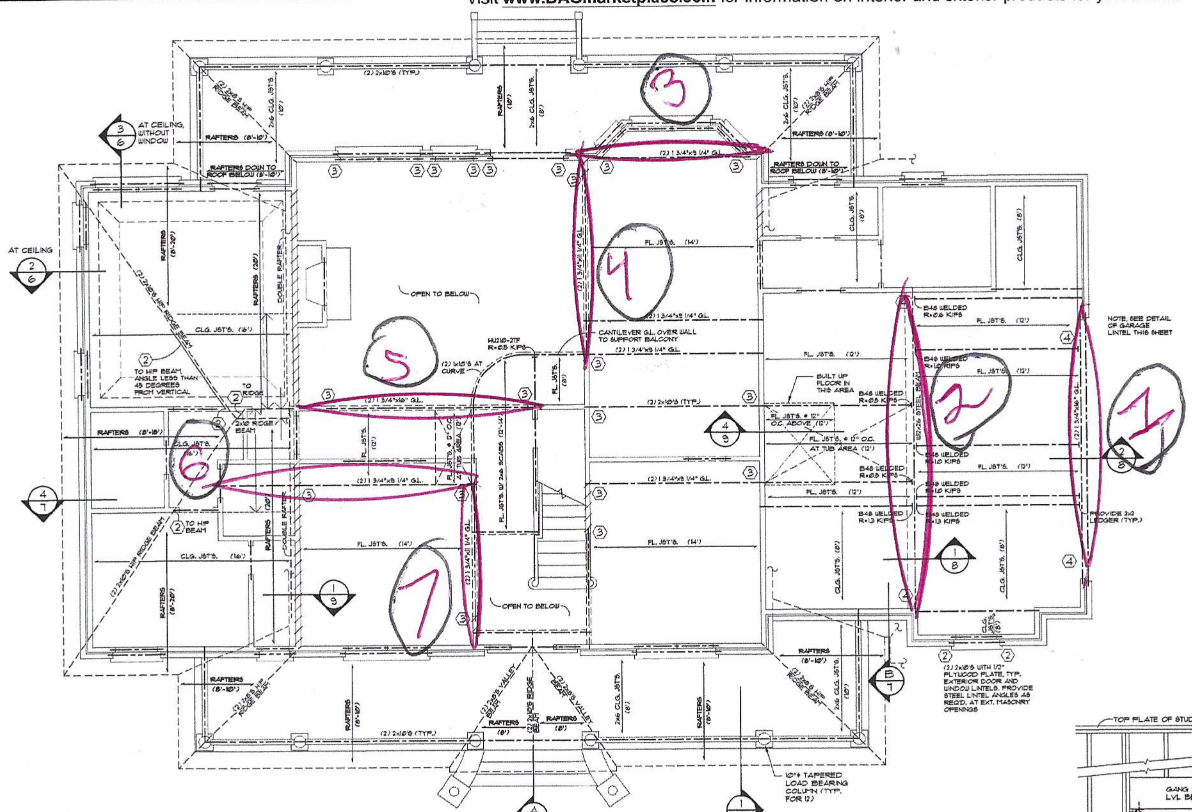
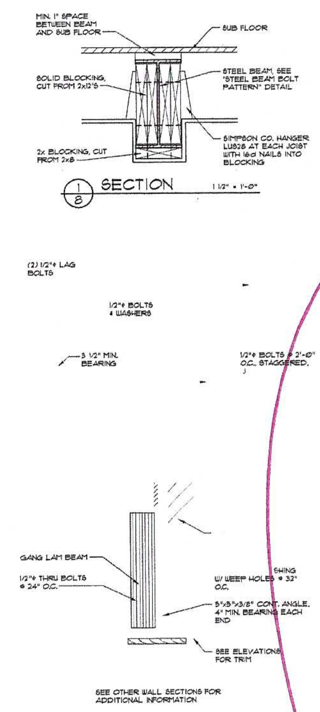
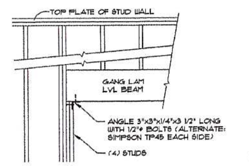


SECOND FLOOR STRUCTURAL PLAN 1/4" = 1'-0"



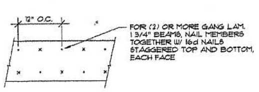


DETAIL OF GARAGE LINTEL
NOT TO SCALE

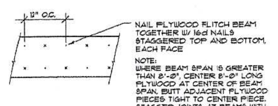
STRUCTURAL LEGEND

RAFTERS (X')	RAFTERS, 2x6'S @ 16" O.C. UNLESS NOTED OTHERWISE
FL. JST'S. (X')	FLOOR JOISTS, 2x10'S @ 16" O.C. WITH BRIDGING UNLESS NOTED OTHERWISE
CLG. JST'S. (X')	CEILING JOISTS, 2x8'S @ 16" O.C. UNLESS NOTED OTHERWISE
— — — —	PHANTOM LINE INDICATES STEEL BEAM
///////	THIS SYMBOL INDICATES LOAD BEARING INTERIOR WALLS. ALL EXTERIOR WALLS ARE LOAD BEARING
- - - - - -	DASH LINE INDICATES ROOF FRAMING
—— - ——	CENTER LINE INDICATES (2) 2x10'S BEAM BELOW ROOF UNLESS NOTED OTHERWISE. (SEE STUD NOTE (3) BELOW)
(3)	INDICATES THE NUMBER OF STUDS UNDER BEAM ABOVE. NOTE: IF NUMBER OF STUDS AT BEAM ENDS ARE NOT INDICATED, USE (2) STUDS
←→	BRACE ROOF TO WALL OR BEAM BELOW WITH 2x4'S @ 32" O.C.

SPARKS ENGINEERING, PLLC



MULTIPLE GANG LAM. DETAIL
NOT TO SCALE



PLYWOOD FLITCH BEAM DETAIL
NOT TO SCALE

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2. PROVIDE 2x6 COLLAR TIES @ 32" O.C. IN TOP THIRD OR TOP 3'-0" OF ATTIC SPACE IN ACCORDANCE WITH LOCAL BUILDING CODE.
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5. AT ALL BUILDING CORNERS USE NOMINAL 1/2" STRUCTURAL GRADE 2 PLYWOOD OR NOMINAL 1/2" OSB (ORIENTED STRAND BOARD) MIN. 4'-0" WIDTH. USE 8d NAILS @ 4" O.C. FOR EDGE NAILING AND 12" O.C. FOR ALL INTERMEDIATE NAILING.
6. CONNECTORS INDICATED ARE MANUFACTURED BY THE SIMPSON STRONG-TIE COMPANY, INC., SAN LEANDRO, CALIFORNIA 94577 (800-999-5099)

DESIGN CRITERIA

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   - ROOF LIVE LOAD - 20 P.S.F.
   - FLOOR LIVE LOAD - 40 P.S.F.
   - MAXIMUM WIND SPEED - 90 M.P.H. (3-SECOND GUST)
2. VERIFY SEISMIC REQUIREMENTS FOR YOUR AREA.
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4. INSULATION:
   - CEILING — R-30
   - WALL — R-13
   - FLOOR — R-19
5. G.L. MATERIAL SPECS
   LAMINATED VENEER LUMBER GANG LAM LVL. SHALL BE BY LOUISIANA-PACIFIC OF WILMINGTON, NC (800-999 9105) OR APPROVED EQUAL SUPPLIER
   PROPERTIES SHALL MEET OR EXCEED:
   Fb = 2950 PSI
   Fv = 290 PSI
   E = 2,000,000 PSI
   GANG LAM "S" LVL'S ARE INDICATED.
   GANG LAM "W" LVL'S CAN BE USED BUT VARY FROM SIZES INDICATED

DO NOT SCALE DRAWINGS.

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DESIGN NO. 1034-B
SHEET 8 OF 10
DR. BTS
SECOND FLOOR STRUCTURAL PLAN

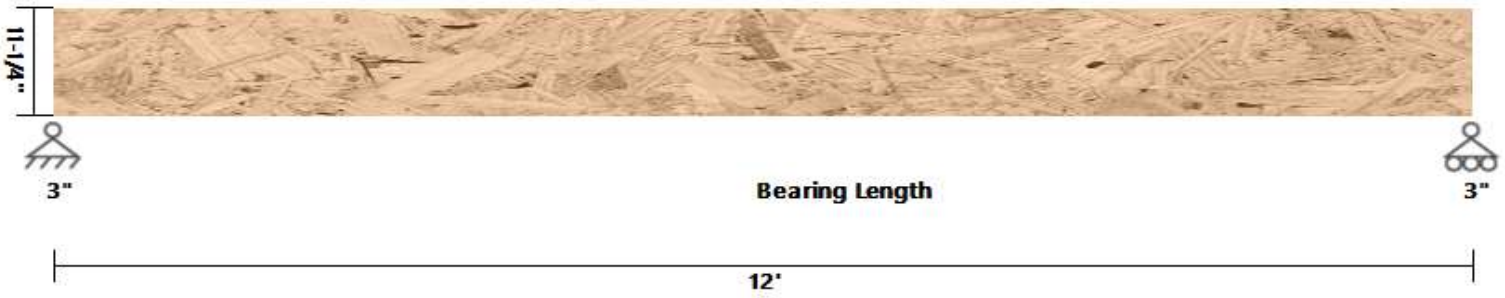
PASS

SPARKS ENGINEERING, PLLC

DATE:	7/26/2022	COMPANY:	Sparks Engineering, PLLC
VITRUVIUS BUILD:	StruCalc Pro	DESIGNED BY:	Ronald Sparks,PE
CUSTOMER:	Home Ownership Center	REVIEWED BY:	Ronald Sparks,PE
PROJ. ADDRESS:	2763 Byrds Mills Rd Erwin, NC	PROJECT NAME:	Home Ownership Center Project
LEVEL:	Main Floor	LOADING:	ASD
MEMBER NAME:	LEFT FOYER LVL	CODE:	2021 International Building Code
MEMBER TYPE:	FLOOR BEAM	NDS:	2018 NDS
MATERIAL:	Structural Composite Lumber		

Louisiana Pacific	2.0E LVL	(2) 1.75 X 11.25	DRY		

LEFT FOYER LVL DIAGRAM



BEAM PROPERTIES

Start (ft): 0 End (ft): 12 Member Slope: 0/12 Actual Length (ft): 12

Area (in^2)	Ix (in^4)	Iy (in^4)	BSW (lbf/ft)	Lams	Cfn	Kcr Creep Factor
39.38	415.28	10.05	11.21	2	9	1

STRENGTH PROPERTIES

	Fb (psi)	Ft (psi)	Fv (psi)	Fc (psi)	Fc⊥ (psi)	E (psi) x10^3	Emin (psi) x10^3
Base Values	2900	1800	285	3200	750	2000	1000
Adjusted Values	2900	1800	285	3200	750	2000	1000
C_M	1	1	1	1	1	1	1
C_T	1	1	1	1	1	1	1

Bending Adjustment Factors C_V = 1.01 C_r = 1 Volume factor Is applied on a load combination basis And Is Not reflected in the adjusted values

BEAM DATA

		Unbraced Length (ft)		Beam End				
Span	Length (ft)	Top	Bottom	Elev. Diff (ft)	CL(Top)	CL(Bottom)	CL(Left)	CL(Right)
1	12	0	12	0	1.00	0.46	1.00	1.00

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	DURATION FACTOR CD
Shear Stress Y (psi)	PASS (34.1%)	187.7	285.0	12	D+L	1
Bending Stress Y (psi)	PASS (17.7%)	2402.6	2920.9	6	D+L	1
Deflection (in)	PASS (15.7%)	0.337 (=L/427)	0.400 (=L/360)	6	L	
Bearing Stress (psi)	PASS (37.4%)	469.3	750.0	0	D+L	1

REACTIONS

Units for V: lbf Units for M: lbf-ft

Y axis	DEAD	LIVE	LIVE ROOF	SNOW	WIND +	WIND -	SEISMIC +	SEISMIC -	ICE	RAIN	EARTH
A	1327	3600	0	0	0	0	0	0	0	0	0
B	1327	3600	0	0	0	0	0	0	0	0	0

Reaction Location

A B

LOAD LIST

Type	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft)	40	40	0	12	Live	Y
Uniform (lbf/ft)	560	560	0	12	Live	Y
Uniform (lbf/ft)	210	210	0	12	Dead	Y
Self Weight (lbf/ft)	11.21	11.21	0	12	Dead	Y

VMD DIAGRAMS

SHEAR

MOMENT

DEFLECTION

NORTH CAROLINA PROFESSIONAL SEAL 023439 ENGINEER RONALD WAYNE SPARKS

SPARKS ENGINEERING NORTH CAROLINA SEAL P-0273 P·L·L·C·

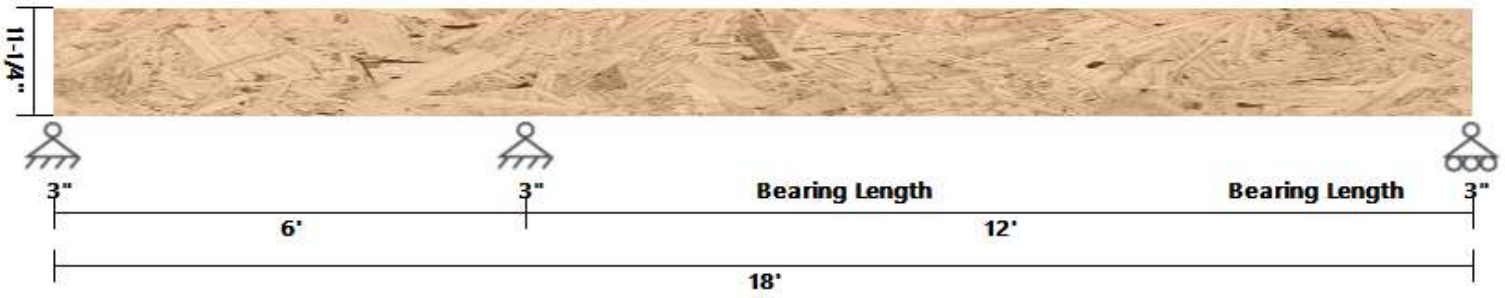
PASS

SPARKS ENGINEERING, PLLC

DATE:	7/26/2022	COMPANY:	Sparks Engineering, PLLC
VITRUVIUS BUILD:	StruCalc Pro	DESIGNED BY:	Ronald Sparks,PE
CUSTOMER:	Home Ownership Center	REVIEWED BY:	Ronald Sparks,PE
PROJ. ADDRESS:	2763 Byrds Mills Rd Erwin, NC	PROJECT NAME:	Home Ownership Center Project
LEVEL:	Main Floor	LOADING:	ASD
MEMBER NAME:	ROOM LEFT OF MAIN- LVL	CODE:	2021 International Building Code
MEMBER TYPE:	FLOOR BEAM	NDS:	2018 NDS
MATERIAL:	Structural Composite Lumber		

Louisiana Pacific	2.0E LVL	(2) 1.75 X 11.25	DRY		

ROOM LEFT OF MAIN- LVL DIAGRAM



BEAM PROPERTIES

Start (ft): 0 End (ft): 18 Member Slope: 0/12 Actual Length (ft): 18

Area (in^2)	Ix (in^4)	Iy (in^4)	BSW (lbf/ft)	Lams	Cfn	Kcr Creep Factor
39.38	415.28	10.05	11.21	2	9	1

STRENGTH PROPERTIES

	Fb (psi)	Ft (psi)	Fv (psi)	Fc (psi)	Fc⊥ (psi)	E (psi) x10^3	Emin (psi) x10^3
Base Values	2900	1800	285	3200	750	2000	1000
Adjusted Values	2900	1800	285	3200	750	2000	1000
C_M	1	1	1	1	1	1	1
C_T	1	1	1	1	1	1	1

Bending Adjustment Factors C_V = 1.01 C_r = 1 Volume factor Is applied on a load combination basis And Is Not reflected in the adjusted values

BEAM DATA

Span	Length (ft)	Unbraced Length (ft) Top	Unbraced Length (ft) Bottom	Beam End Elev. Diff (ft)	CL(Top)	CL(Bottom)	CL(Left)	CL(Right)
1	6	0	6	0	1.00	0.54	1.00	1.00
2	12	0	12	0	1.00	0.97	1.00	1.00

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	DURATION FACTOR CD
Shear Stress Y (psi)	PASS (33.4%)	189.8	285.0	6.12	D+L	1
Bending Stress Y (psi)	PASS (7.6%)	1462.2	1583.1	6.12	D+L	1
Deflection (in)	PASS (59.3%)	0.163 (=L/885)	0.400 (=L/360)	12.6	L	
Bearing Stress (psi)	PASS (0.7%)	838.2	843.8	6	D+L	1

REACTIONS

Units for V: lbf Units for M: lbf-ft

Y axis	DEAD	LIVE	LIVE ROOF	SNOW	WIND +	WIND -	SEISMIC +	SEISMIC -	ICE	RAIN	EARTH
A	144	390	0	0	0	0	0	0	0	0	0
B	2366	6435	0	0	0	0	0	0	0	0	0
C	932	2535	0	0	0	0	0	0	0	0	0

Reaction Location

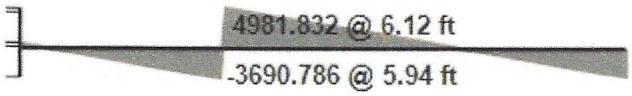
A B C

LOAD LIST

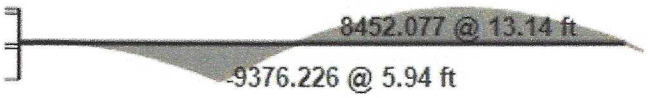
Type	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft)	40	40	0	18	Live	Y
Uniform (lbf/ft)	480	480	0	18	Live	Y
Uniform (lbf/ft)	180	180	0	18	Dead	Y
Self Weight (lbf/ft)	11.21	11.21	0	18	Dead	Y

VMD DIAGRAMS

SHEAR



MOMENT



DEFLECTION

NORTH CAROLINA PROFESSIONAL SEAL 023439 ENGINEER RONALD WAYNE SPARKS

7-27-2022

SPARKS ENGINEERING NORTH CAROLINA SEAL P-0273 P·L·L·C·

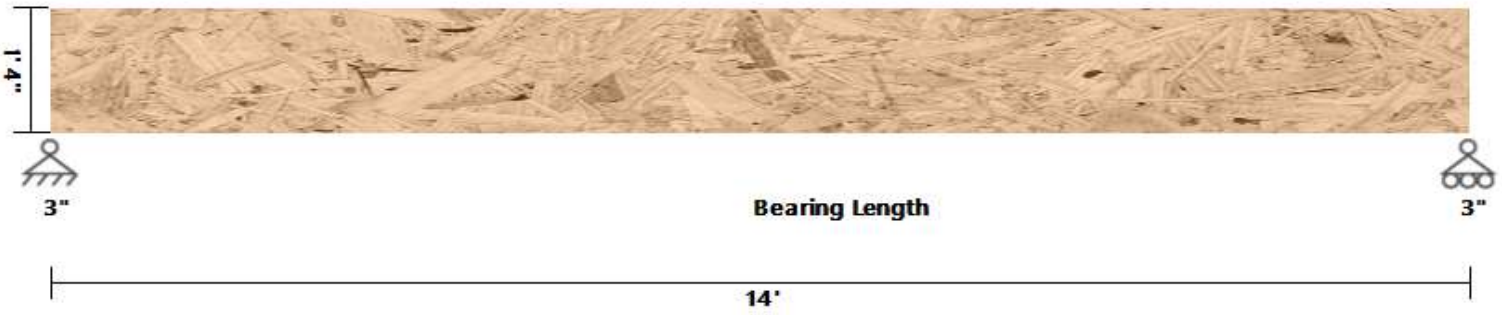
PASS

SPARKS ENGINEERING, PLLC

DATE:	7/26/2022	COMPANY:	Sparks Engineering, PLLC
VITRUVIUS BUILD:	StruCalc Pro	DESIGNED BY:	Ronald Sparks,PE
CUSTOMER:	Home Ownership Center	REVIEWED BY:	Ronald Sparks,PE
PROJ. ADDRESS:	2763 Byrds Mills Rd Erwin, NC	PROJECT NAME:	Home Ownership Center Project
LEVEL:	Main Floor	LOADING:	ASD
MEMBER NAME:	GREAT RM AT CURVED WALL LVL	CODE:	2021 International Building Code
MEMBER TYPE:	FLOOR BEAM	NDS:	2018 NDS
MATERIAL:	Structural Composite Lumber		

Louisiana Pacific	2.0E LVL	(2) 1.75 X 16	DRY		

GREAT RM AT CURVED WALL LVL DIAGRAM



BEAM PROPERTIES

Start (ft): 0 End (ft): 14 Member Slope: 0/12 Actual Length (ft): 14

Area (in^2)	Ix (in^4)	Iy (in^4)	BSW (lbf/ft)	Lams	Cfn	Kcr Creep Factor
56	1194.67	14.29	15.94	2	9	1

STRENGTH PROPERTIES

	Fb (psi)	Ft (psi)	Fv (psi)	Fc (psi)	Fc⊥ (psi)	E (psi) x10^3	Emin (psi) x10^3
Base Values	2900	1800	285	3200	750	2000	1000
Adjusted Values	2900	1800	285	3200	750	2000	1000
C_M	1	1	1	1	1	1	1
C_T	1	1	1	1	1	1	1

Bending Adjustment Factors $C_V = 0.97C_r = 1$ Volume factor Is applied on a load combination basis And Is Not reflected in the adjusted values

BEAM DATA

		Unbraced Length (ft)		Beam End				
Span	Length (ft)	Top	Bottom	Elev. Diff (ft)	CL(Top)	CL(Bottom)	CL(Left)	CL(Right)
1	14	0	14	0	1.00	0.29	1.00	1.00

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	DURATION FACTOR CD
Shear Stress Y (psi)	PASS (45.7%)	154.9	285.0	0	D+L	1
Bending Stress Y (psi)	PASS (42.1%)	1626.1	2808.8	7	D+L	1
Deflection (in)	PASS (53.5%)	0.217 (=L/774)	0.467 (=L/360)	7	L	
Bearing Stress (psi)	PASS (26.6%)	550.6	750.0	0	D+L	1

REACTIONS

Units for V: lbf Units for M: lbf-ft

Y axis	DEAD	LIVE	LIVE ROOF	SNOW	WIND +	WIND -	SEISMIC +	SEISMIC -	ICE	RAIN	EARTH
A	1582	4200	0	0	0	0	0	0	0	0	0
B	1582	4200	0	0	0	0	0	0	0	0	0

Reaction Location

A B

LOAD LIST

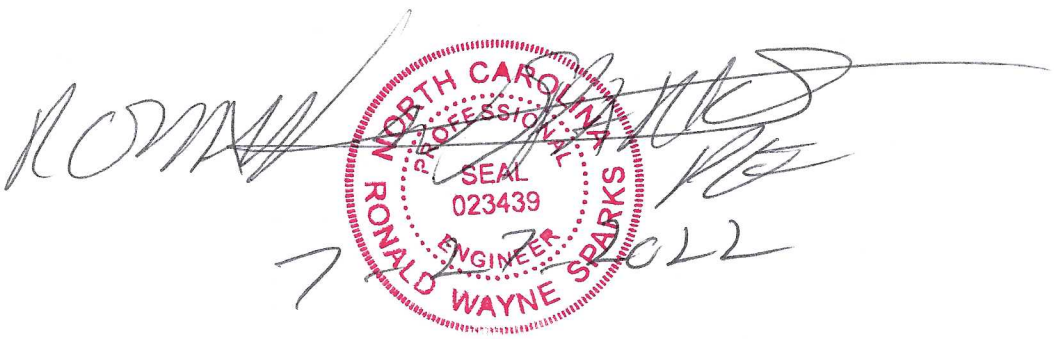
Type	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft)	40	40	0	14	Live	Y
Uniform (lbf/ft)	560	560	0	14	Live	Y
Uniform (lbf/ft)	210	210	0	14	Dead	Y
Self Weight (lbf/ft)	15.94	15.94	0	14	Dead	Y

VMD DIAGRAMS

SHEAR

MOMENT

DEFLECTION



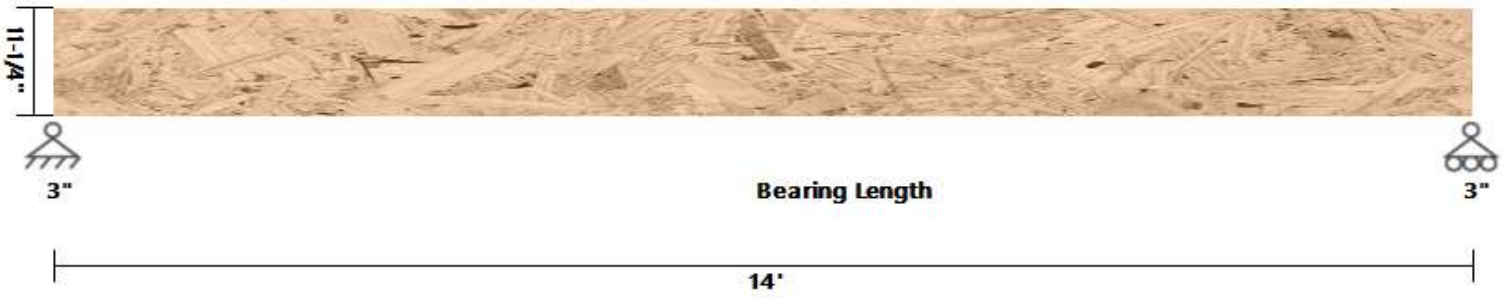
PASS

SPARKS ENGINEERING, PLLC

DATE:	7/26/2022	COMPANY:	Sparks Engineering, PLLC
VITRUVIUS BUILD:	StruCalc Pro	DESIGNED BY:	Ronald Sparks,PE
CUSTOMER:	Home Ownership Center	REVIEWED BY:	Ronald Sparks,PE
PROJ. ADDRESS:	2763 Byrds Mills Rd Erwin, NC	PROJECT NAME:	Home Ownership Center Project
LEVEL:	Main Floor	LOADING:	ASD
MEMBER NAME:	Great to Dining LVL	CODE:	2021 International Building Code
MEMBER TYPE:	FLOOR BEAM	NDS:	2018 NDS
MATERIAL:	Structural Composite Lumber		

Louisiana Pacific	2.0E LVL	(3) 1.75 X 11.25	DRY		

Great to Dining LVL DIAGRAM



BEAM PROPERTIES

Start (ft): 0 End (ft): 14 Member Slope: 0/12 Actual Length (ft): 14

Area (in^2)	Ix (in^4)	Iy (in^4)	BSW (lbf/ft)	Lams	Cfn	Kcr Creep Factor
59.06	622.92	15.07	16.82	3	9	1

STRENGTH PROPERTIES

	Fb (psi)	Ft (psi)	Fv (psi)	Fc (psi)	Fc⊥ (psi)	E (psi) x10^3	Emin (psi) x10^3
Base Values	2900	1800	285	3200	750	2000	1000
Adjusted Values	2900	1800	285	3200	750	2000	1000
C_M	1	1	1	1	1	1	1
C_T	1	1	1	1	1	1	1

Bending Adjustment Factors C_V = 1.01 C_r = 1 Volume factor Is applied on a load combination basis And Is Not reflected in the adjusted values

BEAM DATA

		Unbraced Length (ft)		Beam End				
Span	Length (ft)	Top	Bottom	Elev. Diff (ft)	CL(Top)	CL(Bottom)	CL(Left)	CL(Right)
1	14	0	14	0	1.00	0.40	1.00	1.00

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	DURATION FACTOR CD
Shear Stress Y (psi)	PASS (48.4%)	147.0	285.0	0	D+L	1
Bending Stress Y (psi)	PASS (24.8%)	2195.0	2920.9	7	D+L	1
Deflection (in)	PASS (10.8%)	0.416 (=L/404)	0.467 (=L/360)	7	L	
Bearing Stress (psi)	PASS (51.0%)	367.5	750.0	0	D+L	1

REACTIONS

Units for V: lbf Units for M: lbf-ft

Y axis	DEAD	LIVE	LIVE ROOF	SNOW	WIND +	WIND -	SEISMIC +	SEISMIC -	ICE	RAIN	EARTH
A	1588	4200	0	0	0	0	0	0	0	0	0
B	1588	4200	0	0	0	0	0	0	0	0	0

Reaction Location

A B

LOAD LIST

Type	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft)	40	40	0	14	Live	Y
Uniform (lbf/ft)	560	560	0	14	Live	Y
Uniform (lbf/ft)	210	210	0	14	Dead	Y
Self Weight (lbf/ft)	16.82	16.82	0	14	Dead	Y

SHEAR

MOMENT

DEFLECTION

NORTH CAROLINA PROFESSIONAL SEAL 023439 ENGINEER RONALD WAYNE SPARKS

SPARKS ENGINEERING NORTH CAROLINA SEAL P-0273 P·L·L·C·

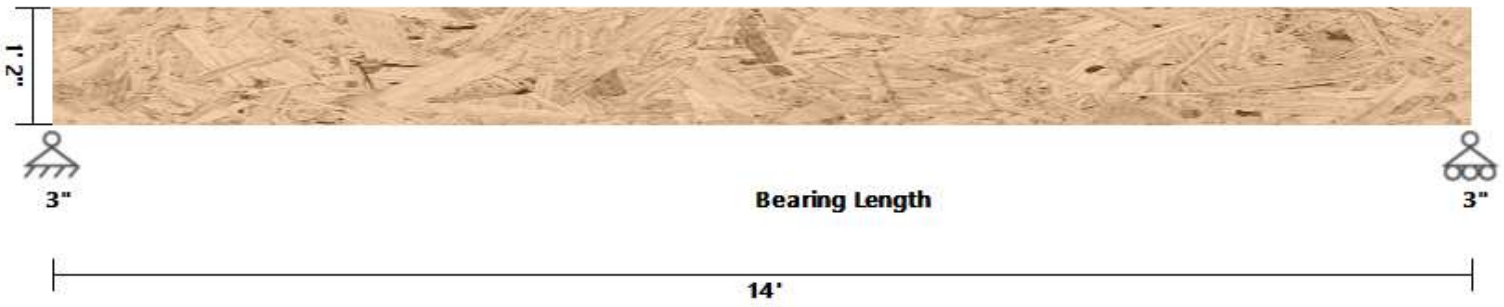
PASS

SPARKS ENGINEERING, PLLC

DATE:	7/26/2022	COMPANY:	Sparks Engineering, PLLC
VITRUVIUS BUILD:	StruCalc Pro	DESIGNED BY:	Ronald Sparks,PE
CUSTOMER:	Home Ownership Center	REVIEWED BY:	Ronald Sparks,PE
PROJ. ADDRESS:	2763 Byrds Mills Rd Erwin, NC	PROJECT NAME:	Home Ownership Center Project
LEVEL:	Main Floor	LOADING:	ASD
MEMBER NAME:	BAY WINDOW LVL	CODE:	2021 International Building Code
MEMBER TYPE:	FLOOR BEAM	NDS:	2018 NDS
MATERIAL:	Structural Composite Lumber		

Louisiana Pacific	2.0E LVL	(3) 1.75 X 14	DRY		

BAY WINDOW LVL DIAGRAM



BEAM PROPERTIES

Start (ft): 0 End (ft): 14 Member Slope: 0/12 Actual Length (ft): 14

Area (in^2)	Ix (in^4)	Iy (in^4)	BSW (lbf/ft)	Lams	Cfn	Kcr Creep Factor
73.5	1200.5	18.76	20.93	3	9	1

STRENGTH PROPERTIES

	Fb (psi)	Ft (psi)	Fv (psi)	Fc (psi)	Fc⊥ (psi)	E (psi) x10^3	Emin (psi) x10^3
Base Values	2900	1800	285	3200	750	2000	1000
Adjusted Values	2900	1800	285	3200	750	2000	1000
C_M	1	1	1	1	1	1	1
C_T	1	1	1	1	1	1	1

Bending Adjustment Factors $C_V = 0.98C_r = 1$ Volume factor Is applied on a load combination basis And Is Not reflected in the adjusted values

BEAM DATA

		Unbraced Length (ft)		Beam End				
Span	Length (ft)	Top	Bottom	Elev. Diff (ft)	CL(Top)	CL(Bottom)	CL(Left)	CL(Right)
1	14	0	14	0	1.00	0.32	1.00	1.00

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	DURATION FACTOR CD
Shear Stress Y (psi)	PASS (39.1%)	173.7	285.0	0	D+L	1
Bending Stress Y (psi)	PASS (26.9%)	2084.4	2850.8	7	D+L	1
Deflection (in)	PASS (32.1%)	0.317 (=L/530)	0.467 (=L/360)	7	L	
Bearing Stress (psi)	PASS (27.9%)	540.4	750.0	14	D+L	1

REACTIONS

Units for V: lbf Units for M: lbf-ft

Y axis	DEAD	LIVE	LIVE ROOF	SNOW	WIND +	WIND -	SEISMIC +	SEISMIC -	ICE	RAIN	EARTH
A	2351	6160	0	0	0	0	0	0	0	0	0
B	2351	6160	0	0	0	0	0	0	0	0	0

Reaction Location

A B

LOAD LIST

Type	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft)	40	40	0	14	Live	Y
Uniform (lbf/ft)	840	840	0	14	Live	Y
Uniform (lbf/ft)	315	315	0	14	Dead	Y
Self Weight (lbf/ft)	20.93	20.93	0	14	Dead	Y

VMD DIAGRAMS

SHEAR

MOMENT

DEFLECTION

NORTH CAROLINA PROFESSIONAL SEAL 023439 ENGINEER RONALD WAYNE SPARKS

2022

SPARKS ENGINEERING NORTH CAROLINA SEAL P-0273 P·L·L·C·

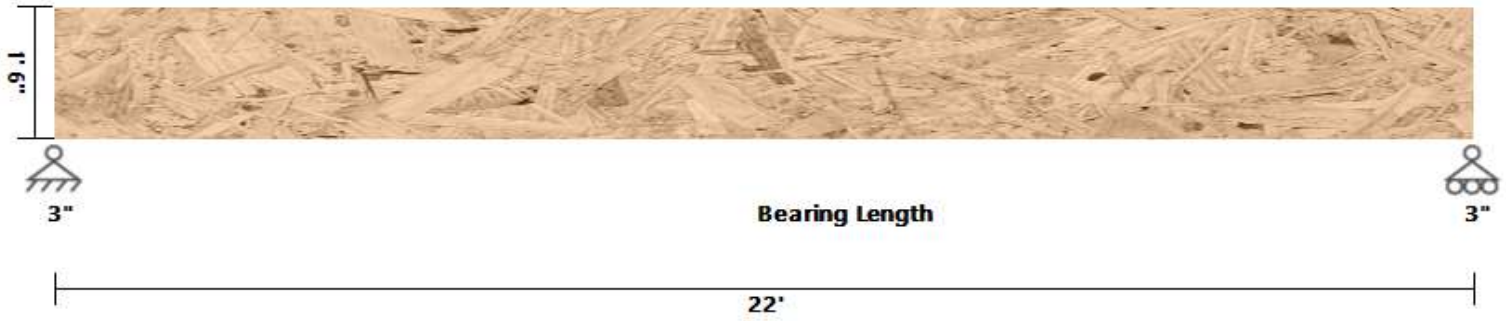
PASS

SPARKS ENGINEERING, PLLC

DATE:	7/26/2022	COMPANY:	Sparks Engineering, PLLC
VITRUVIUS BUILD:	StruCalc Pro	DESIGNED BY:	Ronald Sparks,PE
CUSTOMER:	Home Ownership Center	REVIEWED BY:	Ronald Sparks,PE
PROJ. ADDRESS:	2763 Byrds Mills Rd Erwin, NC	PROJECT NAME:	Home Ownership Center Project
LEVEL:	Main Floor	LOADING:	ASD
MEMBER NAME:	STEEL REPLACEMENT LVL [1/8]	CODE:	2021 International Building Code
MEMBER TYPE:	FLOOR BEAM	NDS:	2018 NDS
MATERIAL:	Structural Composite Lumber		

Louisiana Pacific	2.0E LVL	(5) 1.75 X 18	DRY		

STEEL REPLACEMENT LVL [1/8] DIAGRAM



BEAM PROPERTIES

Start (ft): 0 End (ft): 22 Member Slope: 0/12 Actual Length (ft): 22

Area (in^2)	Ix (in^4)	Iy (in^4)	BSW (lbf/ft)	Lams	Cfn	Kcr Creep Factor
157.5	4252.5	40.2	44.84	5	9	1

STRENGTH PROPERTIES

	Fb (psi)	Ft (psi)	Fv (psi)	Fc (psi)	Fc⊥ (psi)	E (psi) x10^3	Emin (psi) x10^3
Base Values	2900	1800	285	3200	750	2000	1000
Adjusted Values	2900	1800	285	3200	750	2000	1000
C_M	1	1	1	1	1	1	1
C_T	1	1	1	1	1	1	1

Bending Adjustment Factors $C_V = 0.96C_r = 1$ Volume factor Is applied on a load combination basis And Is Not reflected in the adjusted values

BEAM DATA

		Unbraced Length (ft)		Beam End				
Span	Length (ft)	Top	Bottom	Elev. Diff (ft)	CL(Top)	CL(Bottom)	CL(Left)	CL(Right)
1	22	0	22	0	1.00	0.16	1.00	1.00

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	DURATION FACTOR CD
Shear Stress Y (psi)	PASS (61.6%)	109.5	285.0	0	D+L	1
Bending Stress Y (psi)	PASS (42.1%)	1605.4	2772.2	11	D+L	1
Deflection (in)	PASS (15.5%)	0.620 (=L/426)	0.733 (=L/360)	11	L	
Bearing Stress (psi)	PASS (41.6%)	437.8	750.0	0	D+L	1

REACTIONS

Units for V: lbf Units for M: lbf-ft

Y axis	DEAD	LIVE	LIVE ROOF	SNOW	WIND +	WIND -	SEISMIC +	SEISMIC -	ICE	RAIN	EARTH
A	493	11000	0	0	0	0	0	0	0	0	0
B	493	11000	0	0	0	0	0	0	0	0	0

Reaction Location

A B

LOAD LIST

Type	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft)	40	40	0	22	Live	Y
Uniform (lbf/ft)	960	960	0	22	Live	Y
Self Weight (lbf/ft)	44.84	44.84	0	22	Dead	Y

VMD DIAGRAMS

SHEAR

MOMENT

DEFLECTION

NORTH CAROLINA PROFESSIONAL SEAL 023439 ENGINEER RONALD WAYNE SPARKS

7-27-2022

SPARKS ENGINEERING NORTH CAROLINA SEAL P-0273 P·L·L·C·

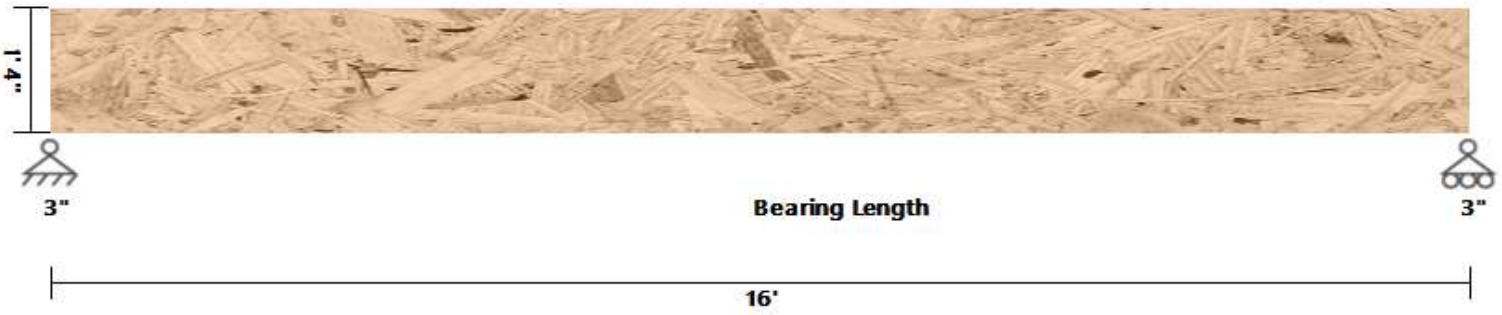
PASS

SPARKS ENGINEERING, PLLC

DATE:	7/26/2022	COMPANY:	Sparks Engineering, PLLC
VITRUVIUS BUILD:	StruCalc Pro	DESIGNED BY:	Ronald Sparks,PE
CUSTOMER:	Home Ownership Center	REVIEWED BY:	Ronald Sparks,PE
PROJ. ADDRESS:	2763 Byrds Mills Rd Erwin, NC	PROJECT NAME:	Home Ownership Center Project
LEVEL:	Main Floor	LOADING:	ASD
MEMBER NAME:	GARAGE LVL [2/8]	CODE:	2021 International Building Code
MEMBER TYPE:	FLOOR BEAM	NDS:	2018 NDS
MATERIAL:	Structural Composite Lumber		

Louisiana Pacific	2.0E LVL	(2) 1.75 X 16	DRY		

GARAGE LVL [2/8] DIAGRAM



BEAM PROPERTIES

Start (ft): 0 End (ft): 16 Member Slope: 0/12 Actual Length (ft): 16

Area (in^2)	Ix (in^4)	Iy (in^4)	BSW (lbf/ft)	Lams	Cfn	Kcr Creep Factor
56	1194.67	14.29	15.94	2	9	1

STRENGTH PROPERTIES

	Fb (psi)	Ft (psi)	Fv (psi)	Fc (psi)	Fc⊥ (psi)	E (psi) x10^3	Emin (psi) x10^3
Base Values	2900	1800	285	3200	750	2000	1000
Adjusted Values	2900	1800	285	3200	750	2000	1000
C_M	1	1	1	1	1	1	1
C_T	1	1	1	1	1	1	1

Bending Adjustment Factors $C_V = 0.97C_r = 1$ Volume factor Is applied on a load combination basis And Is Not reflected in the adjusted values

BEAM DATA

		Unbraced Length (ft)		Beam End				
Span	Length (ft)	Top	Bottom	Elev. Diff (ft)	CL(Top)	CL(Bottom)	CL(Left)	CL(Right)
1	16	0	16	0	1.00	0.25	1.00	1.00

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	DURATION FACTOR CD
Shear Stress Y (psi)	PASS (77.7%)	63.4	285.0	0	D+L	1
Bending Stress Y (psi)	PASS (72.9%)	761.0	2808.8	8	D+L	1
Deflection (in)	PASS (67.6%)	0.173 (=L/1111)	0.533 (=L/360)	8	L	
Bearing Stress (psi)	PASS (69.9%)	225.5	750.0	0	D+L	1

REACTIONS

Units for V: lbf Units for M: lbf-ft

Y axis	DEAD	LIVE	LIVE ROOF	SNOW	WIND +	WIND -	SEISMIC +	SEISMIC -	ICE	RAIN	EARTH
A	128	2240	0	0	0	0	0	0	0	0	0
B	128	2240	0	0	0	0	0	0	0	0	0

Reaction Location

LOAD LIST

Type	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft)	40	40	0	16	Live	Y
Uniform (lbf/ft)	240	240	0	16	Live	Y
Self Weight (lbf/ft)	15.94	15.94	0	16	Dead	Y

VMD DIAGRAMS

SHEAR

MOMENT

DEFLECTION

NORTH CAROLINA PROFESSIONAL SEAL 023439 ENGINEER RONALD WAYNE SPARKS

2/1/2022

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