



Staff Report

Infill Housing Design Review Committee

File Number: 6-G-21-IH

Meeting: 6/16/2021
Applicant: Ab Card Ab Card Construction Co.
Owner: Braden Family Properties, LLC

Property Information

Location: 222 Atlantic Ave. **Parcel ID** 81 G B 005 01
Zoning: RN-2 (Single-Family Residential Neighborhood)
District: Oakwood/Lincoln Park Infill Housing Overlay District

Description of Work

Level III New Primary Structure

New primary residence fronting Atlantic Avenue. One-and-one-half story, cross-gable roof residence measuring 28'-8" wide by 60'-2" long, with a smaller front-gable roof massing projecting from the left half of the façade, adjacent to a recessed corner porch on the right. The house is proposed to be set 21' from the front property line. Parking is provided by an existing driveway extending off Atlantic Avenue to an existing garage, located at the rear of the property. The alley is unimproved.

The elevation drawings include an "optional carport" on the rear, which will not be constructed.

The house features a 7/12 pitch on the primary side gable, with a 10/12 pitch on the centrally-located front gable; roof will be clad in asphalt shingles. Exterior will be clad in lap siding; material is not specified. Windows are 2/2, double-hung sash (no material specified). The façade (north) features a 6' deep, recessed corner porch. The porch roof has exposed rafter tails. A centrally-located, half-light door is flanked by two bays of paired 2/2 double-hung windows. The central front gable on the façade is clad in shingle siding, and both façade gables feature rectangular louvered vents.

The right side elevation features a small shed-roof section which projects, and three different sizes of windows, including one double-hung window on the second-story gable field. The left elevation features three double-hung, 2/2 windows and two small fixed lights. A screened-in porch is located on the rear corner of the property.

Applicable Design Guidelines

Heart of Knoxville Infill Housing Design Guidelines

1. Front Yards

- Consistent front yard space should be created along the street with the setback of a new house matching the older houses on the block.
 - When several infill houses, porches and the habitable portion of each house should be about the same distance from the street as the original houses.
 - A walkway should be provided from the sidewalk or street to the front door. Along grid streets, the walk should be perpendicular to the street.
-

- Healthy trees that are outside the building footprint should be preserved. The root area should be marked and protected during construction.

2. House Orientation and Side Yards

- New housing should be proportional to the dimensions of the lot and other houses on the block.
- Side yard setbacks should be similar to older houses on the block, keeping the rhythm of spacing between houses consistent.

3. Alleys, Parking, and Services

- Parking should not be in front yards.
- Alley access should be used for garage or parking pad locations.
- On streets without alleys, garages or parking pads should be at least 20' behind the front façade of the infill house with access limited to one lane between the street and the front façade.
- On those streets which have alleys, driveways should not be permitted from the front of the house.
- Alley oriented parking pads, garbage collection points, and utility boxes should be screened with a combination of landscaping and fencing.

4. Scale, Mass, and Foundation Height

- The front elevation should be designed to be similar in scale to the other houses along the street.
- The front façade of new houses should be about the same width as original houses on the block.
- If extensions or bays were typically part of the neighborhood's historic house design, such elements should be incorporated into infill housing.
- New foundations should be about the same height as the original houses in the neighborhood.

5. Porches and Stoops

- Porches should be part of the housing design in those neighborhoods where porches were commonplace.
- Porches should be proportional to original porches on the block, extending about 8-12' toward the street from the habitable portion of the house.
- Porches should extend into the front yard setback, if necessary, to maintain consistency with similarly sited porches along the street.
- Porch posts and railings should be like those used in the historic era of the neighborhood's development.

6. Windows and Doors

- When constructing new houses, the windows and door styles should be similar to the original or historic houses on the block.
- To respect the privacy of adjacent properties, consider the placement of side windows and doors.
- The windows and doors on the front façade of an infill house should be located in similar proportion and position as the original houses on the block.
- Attention should be paid to window placement and the ratio of solid (the wall) to void (the window and door openings).
- Contemporary windows such as "picture windows" should not be used in pre-World War II neighborhoods.

7. Roof Shapes and Materials

- New roofs should be designed to have a similar pitch to original housing on the block.
- More complex roofs, such as hipped roofs and dormers, should be part of new housing designs when such forms were historically used on the block.
- Darker shades of shingle were often used and should be chosen in roofing houses in Infill neighborhoods.

8. Siding Materials

- Clapboard-like materials should be used in constructing new housing where painted wood siding was traditionally used.

- Brick, wood shingle, and other less common material may be appropriate in some older neighborhoods, particularly those with a mix of architectural styles.
- Faced stone, vertical siding, and other non-historic materials should not be used in building new houses.

11. Landscape and Other Considerations

- One native or naturalized shade tree should be planted in the front and rear yards of infill lots with 25 feet or more in depth to front of house

Comments

1. The house is proposed to be located 21' from the front property line. The block has a somewhat irregular front yard pattern, with the adjacent property (218 Atlantic) recessed towards the rear property line; the average front setback of the block is 30'. The proposed front setback should be verified to be consistent with historic properties on the block. The final site plan should include a walkway from the front door to the street.
2. The block to receive new construction is characterized by one- and 1.5-story Craftsman bungalows, some Minimal Traditionals, and some contemporary infill construction. The 1.5 story, three-bay residence is proportional to the dimensions of the lot and side yard setbacks are consistent with the block.
3. The proposed parking meets Infill Housing design guidelines as the alley is unimproved, and the proposal uses an existing driveway extending off Atlantic Avenue. The driveway extends the full length of the lot towards an existing garage at the rear, so the parking spots will be located at least 20' beyond the front façade of the house. The final site plan and parking may need minor modifications to meet City Engineering standards.
4. Overall, the one-story, three-bay façade is similar in scale to the context. The foundation height should be verified to be compatible with original foundation heights on the block.
5. The site plan includes a 6' deep front porch, recessed into the primary façade. Guidelines encourage porches which are proportional to original porches on the block. The proposed porch, while slightly shallow, is compatible with the design of the house and the surrounding block.
6. Guidelines recommend window and door styles be similar, with similar proportions and similar ratio of solid to void, to historic houses on the block. Overall, the house design includes a significant number of exterior windows on the façade and side elevations. The Board may choose to discuss the right side elevation, where two fixed transom windows flank a unique shed-roof massing with no transparency. The proposal includes well-detailed window and door trim.
7. The roof pitch and materials are appropriate within the design guidelines.
8. Guidelines note that "clapboard-like siding should be used" on new houses in neighborhoods where wood lap siding was traditionally used. Board-and-batten siding is not a common historic siding material in Knoxville; horizontal lap siding with an overlap should be selected to match elevation drawings (rendering shows board-and-batten).
9. Final site plan should show a native or naturalized shade tree to be planted in both the front and rear yards.

Recommendation

Staff recommends approval of Certificate 6-G-21-IH, with the following conditions:

- 1) Confirm front setback's consistency with historic houses on the block; if necessary, move the house slightly towards the rear property line, with approval by staff;
- 2) Include a walkway from the street to the front door;

- 3) Use horizontal lap siding with an overlap instead of board-and-batten or Dutch lap;
- 4) Final drawings and site plan to omit rear carport;
- 5) Final site plan and parking to meet City Engineering standards;
- 6) Final site plan should include a native or naturalized shade tree in both rear and front yards.



**INFILL
HOUSING
REVIEW
BOARD**

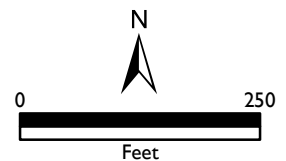
**6-G-21-IH
APPLICATION FOR CERTIFICATE OF APPROPRIATENESS**



222 Atlantic Ave.
Oakwood/Lincoln Park Infill Housing Overlay
District

Original Print Date: 6/7/2021
Revised:
Knoxville/Knox County Planning - Infill Housing Design Review Committee

Applicant: Ab Card Ab Card Construction
Co.





DESIGN REVIEW REQUEST

- DOWNTOWN DESIGN (DK)
- HISTORIC ZONING (H)
- INFILL HOUSING (IH)

Ab Card

Applicant

05/27/2021

June 16, 2021

6-G-21-IH

Date Filed

Meeting Date (if applicable)

File Number(s)

CORRESPONDENCE

All correspondence related to this application should be directed to the approved contact listed below.

- Owner
- Contractor
- Engineer
- Architect/Landscape Architect

Ab Card

Ab Card Construction Co.

Name

Company

7414 Casselberry Circle

Corryton

TN

37721

Address

City

State

Zip

865-712-0598

abcardco@gmail.com

Phone

Email

CURRENT PROPERTY INFO

Mike Smith

P. O. Box 5865

865-256-0082

Owner Name (if different from applicant)

Owner Address

Owner Phone

222 Atlantic Ave

081GB00501

Property Address

Parcel ID

RN2/IH

Neighborhood

Zoning

AUTHORIZATION

Lindsay Crockett
Staff Signature

Lindsay Crockett

Please Print

5.27.21

Date

Applicant Signature

Please Print

Date

REQUEST

DOWNTOWN DESIGN

Level 1:

- Signs Alteration of an existing building/structure

Level 2:

- Addition to an existing building/structure

Level 3:

- Construction of new building/structure Site design, parking, plazas, landscape

See required Downtown Design attachment for more details.

Brief description of work: _____

HISTORIC ZONING

Level 1:

- Signs Routine repair of siding, windows, roof, or other features, in-kind; Installation of gutters, storm windows/doors

Level 2:

- Major repair, removal, or replacement of architectural elements or materials Additions and accessory structures

Level 3:

- Construction of a new primary building

Level 4:

- Relocation of a contributing structure Demolition of a contributing structure

See required Historic Zoning attachment for more details.

Brief description of work: _____

INFILL HOUSING

Level 1:

- Driveways, parking pads, access point, garages or similar facilities Subdivisions

Level 2:

- Additions visible from the primary street Changes to porches visible from the primary street

Level 3:

- New primary structure
 Site built Modular Multi-Sectional

See required Infill Housing attachment for more details.

Brief description of work: New home construction

STAFF USE ONLY

ATTACHMENTS

- Downtown Design Checklist
 Historic Zoning Design Checklist
 Infill Housing Design Checklist

ADDITIONAL REQUIREMENTS

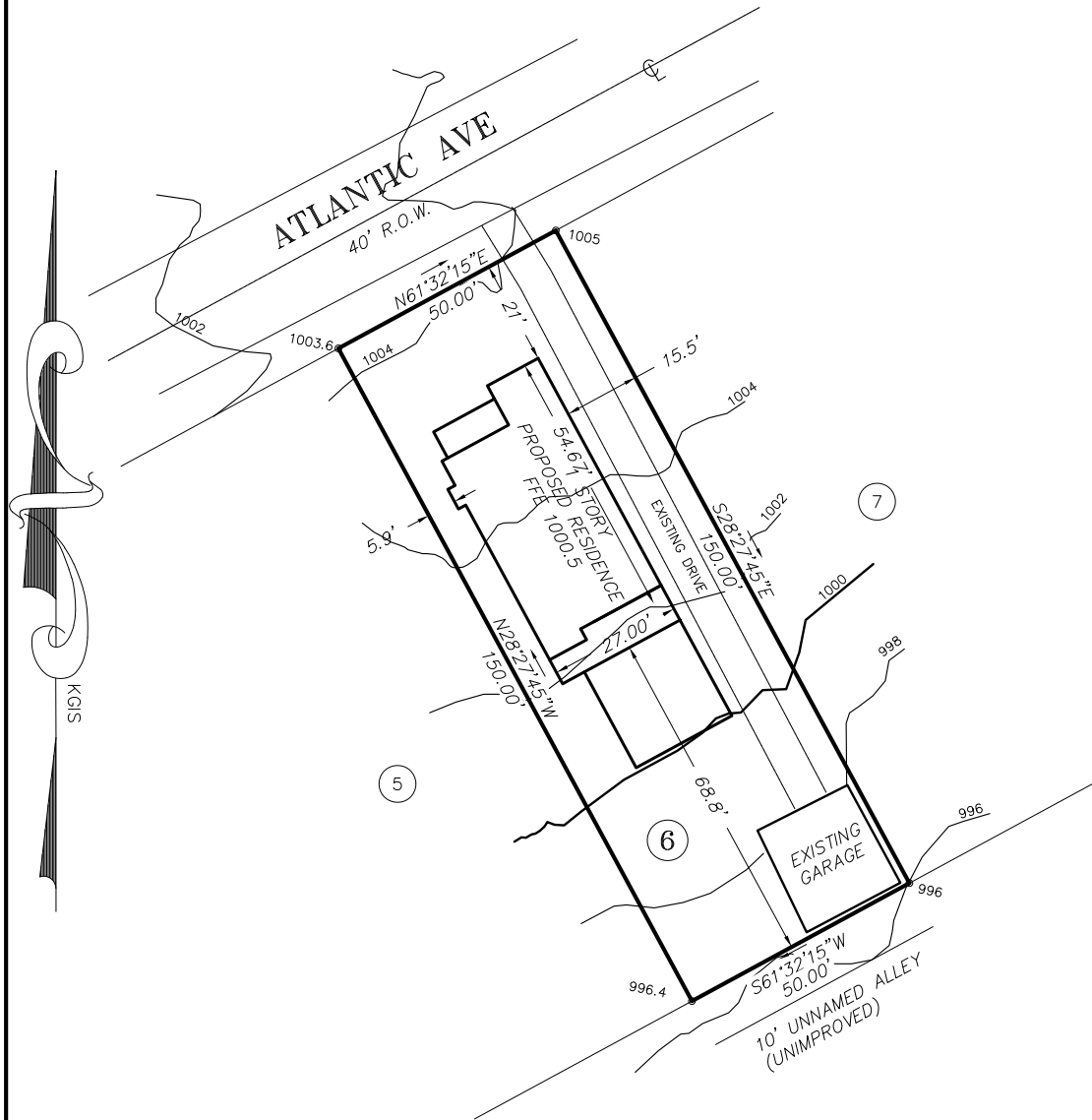
- Property Owners / Option Holders

Level 1: \$50 • **Level 2:** \$100 • **Level 3:** \$250 • **Level 4:** \$500

FEE 1:		TOTAL: 250.00
250.00		
FEE 2:		
FEE 3:		

OWNER:
 BRADEN FAMILY PROPERTIES LLC
 7400 RUGGLES FERRY PIKE
 KNOXVILLE, TN 37924

THIS PROPERTY IS ZONED:
 RN-2 Single-Family Residential Neighborhood Zoning District



PLOT PLAN OF:
LINWOOD SECOND ADDITION
 LOT 6 - BLOCK J
222 Atlantic Ave
Knoxville, Tennessee 37917

Ward	18	City	KNOXVILLE
District		County	KNOX
Plat Cab:	7 (192310300000000)	Slide	102
Deed Book	202101290061512	Page	-
CLT #	081GB	Parcel	005
Scale	1"=30'	Date	06/04/2021
Drawn By	R LYNCH	City Block	18801
Project #	0000		

LYNCH SURVEYS LLC

SUBDIVISIONS | AS-BUILTS | SITE DESIGN
 4405 COSTER RD. KNOXVILLE, TENN. 37912

865-584-2630 FAX 865-584-2801 WWW.LYNCHSURVEY.COM



House Plan Zone, LLC

House Plan Zone, LLC.

Email: sales@hpzplans.com

Fax: 1-800-574-1387

House Plan Zone, LLC has created these plans and the completion of these connections... shall be verified by a licensed engineer, architect, or construction...



Plan ID:

BB-1300

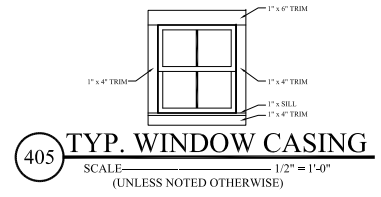
Date: 05/02/07
Drawn By: C.T.B.

SHEET NUMBER

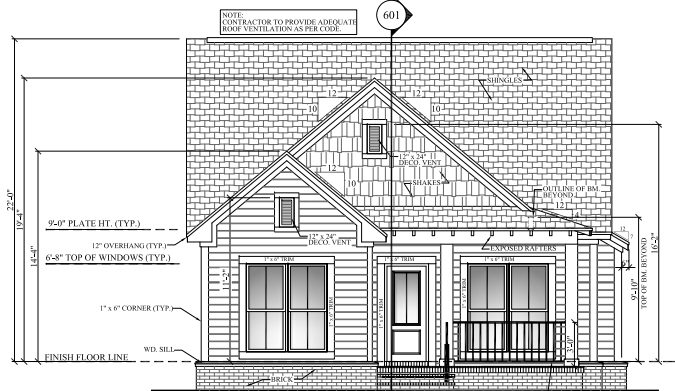
4



403 RIGHT VIEW SCALE 1/4" = 1'-0"



405 TYP. WINDOW CASING SCALE 1/2" = 1'-0" (UNLESS NOTED OTHERWISE)



401 FRONT VIEW SCALE 1/4" = 1'-0"

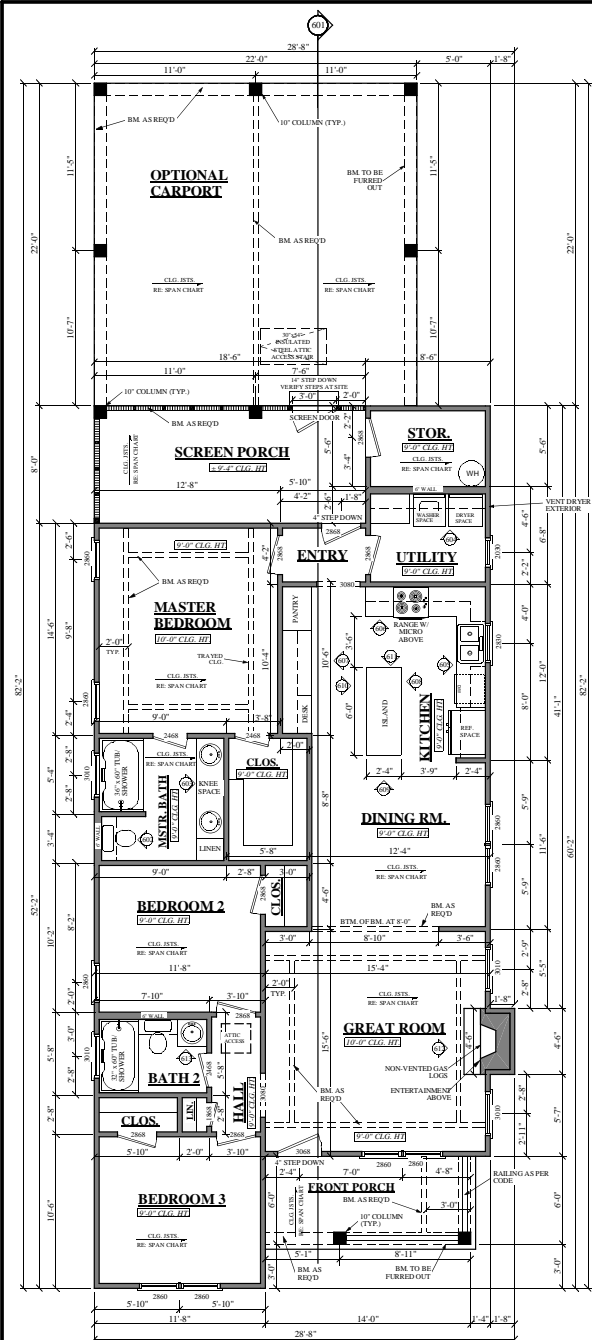
EXTERIOR ELEVATION NOTES: 1. CONTRACTOR TO VERIFY ALL WINDOW AND DOOR STYLES AND SIZES WITH OWNER PRIOR TO CONSTRUCTION. 2. PROVIDE STEPS AND GUARD RAILS AS PER CODE BASED ON SITE CONDITIONS. 3. GROUND LINES SHOWN FOR REFERENCE ONLY AND VARY DEPENDING ON SITE CONDITIONS. 4. ALL FINISH MATERIALS TO BE VERIFIED WITH OWNER PRIOR TO CONSTRUCTION. 5. REFER TO TYPICAL WALL DETAIL FOR FRAMING METHODS AND OTHER MISC. INFORMATION.



402 REAR VIEW SCALE 1/4" = 1'-0"



404 LEFT VIEW SCALE 1/4" = 1'-0"



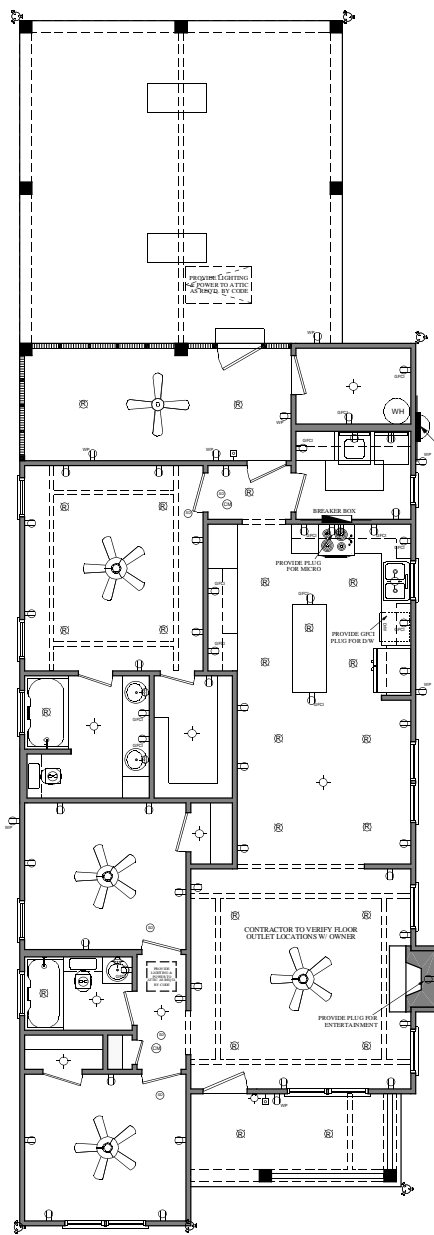
- NOTES:**
1. ALL DIMENSIONS & SITE CONDITIONS TO BE VERIFIED BY CONTRACTOR PRIOR TO CONSTRUCTION.
 2. ALL FINISHES (INTERIOR & EXTERIOR) TO BE VERIFIED WITH OWNER PRIOR TO CONSTRUCTION.
 3. VERIFY ALL DOOR AND WINDOW STYLES AND SIZES WITH OWNER PRIOR TO CONSTRUCTION. MANUFACTURER TO SUPPLY ALL ROUGH OPENING SIZES.
 4. CONTRACTOR TO VERIFY ALL CLEARANCES OF ALL DOORS, WINDOWS AND OTHER ITEMS THAT ARE CRITICAL. PRIOR TO CONSTRUCTION.
 5. CONTRACTOR TO ADAPT PLANS AS REQUIRED TO MEET ALL APPLICABLE CODES AT SITE.
 6. ALL BEAMS TO BE SIZED BY A LICENSED STRUCTURAL ENGINEER.
 7. PORCHES, BALCONIES OR RAISED FLOOR SURFACES LOCATED MORE THAN 30 INCHES ABOVE THE FLOOR OR GRADE BELOW AT ANY POINT WITHIN 36 INCHES HORIZONTALLY SHALL HAVE GUARDS NOT LESS THAN 36 INCHES IN HEIGHT. OPEN SIDES OF STAIRS WITH A TOTAL RISE OF MORE THAN 30 INCHES ABOVE THE FLOOR OR GRADE BELOW SHALL HAVE GUARDS NOT LESS THAN 34 INCHES IN HEIGHT MEASURED VERTICALLY FROM THE NOSING OF THE TREADS. INSECT SCREENING SHALL NOT BE CONSIDERED AS A GUARD. IRC 2018, R312.1.1 & R312.1.2
 8. MISC. 1.2 APPLIANCES IN ATTICS. ATTICS CONTAINING APPLIANCES SHALL BE PROVIDED WITH AN OPENING AND A CLEAR AND UNOBSTRUCTED PASSAGEWAY LARGE ENOUGH TO ALLOW REMOVAL OF THE LARGEST APPLIANCE, BUT NOT LESS THAN 30 INCHES HIGH AND 22 INCHES WIDE AND NOT MORE THAN 20 FEET LONG MEASURED ALONG THE CENTERLINE OF THE PASSAGEWAY FROM THE OPENING TO THE APPLIANCE. THE PASSAGEWAY SHALL HAVE CONTINUOUS SOLID FLOORING IN ACCORDANCE WITH CHAPTER 5 NOT LESS THAN 24 INCHES WIDE. A LEVEL SERVICE SPACE AT LEAST 30 INCHES DEEP AND 30 INCHES WIDE SHALL BE PRESENT ALONG ALL SIDES OF THE APPLIANCE WHERE ACCESS IS REQUIRED. THE CLEAR ACCESS OPENING DIMENSIONS SHALL BE A MINIMUM OF 20 INCHES BY 30 INCHES, AND LARGE ENOUGH TO ALLOW REMOVAL OF THE LARGEST APPLIANCE.
 9. EXCEPTIONS:
 - a. THE PASSAGEWAY AND LEVEL SERVICE SPACE ARE NOT REQUIRED WHERE THE APPLIANCE CAN BE SERVICED AND REMOVED THROUGH THE REQUIRED OPENING.
 - b. WHERE THE PASSAGEWAY IS UNOBSTRUCTED AND NOT LESS THAN 6 FEET HIGH AND 22 INCHES WIDE FOR ITS ENTIRE LENGTH, THE PASSAGEWAY SHALL BE NOT MORE THAN 8 FEET LONG.
 - c. APPLIANCE ACCESS FOR INSPECTION SERVICE, REPAIR AND REPLACEMENT. APPLIANCES SHALL BE ACCESSIBLE FOR INSPECTION, SERVICE, REPAIR AND REPLACEMENT WITHOUT REMOVING PERMANENT CONSTRUCTION, OTHER APPLIANCES, OR ANY OTHER PIPING OR DUCTS NOT CONNECTED TO THE APPLIANCE BEING INSPECTED, SERVICED, REPAIRED OR REPLACED. A LEVEL WORKING SPACE AT LEAST 30 INCHES DEEP AND 30 INCHES WIDE SHALL BE PROVIDED IN FRONT OF THE CONTROL SIDE TO SERVICE AN APPLIANCE. M1905.1.1
 - d. EMERGENCY ESCAPE AND RESCUE OPENINGS SHALL BE OPERATIONAL FROM THE INSIDE OF THE ROOM WITHOUT THE USE OF KEYS, TOOLS OR SPECIAL KNOWLEDGE. WINDOW OPENING CONTROL DEVICES COMPLYING WITH ASTM F 2090 SHALL BE PERMITTED FOR USE ON WINDOWS SERVING AS A REQUIRED EMERGENCY ESCAPE AND RESCUE OPENING. ALL SLEEPING ROOMS TO HAVE AN EXTERIOR ACCESS THROUGH A DOOR OR WINDOW WITH A MINIMUM OF 57 SQUARE FEET NET CLEAR OPENING AS PER IRC 2018 R310.2.1. EXCEPTION: GRADE FLOOR OR BELOW GRADE OPENINGS SHALL HAVE A MINIMUM NET CLEAR OPENING OF 57 SQUARE FEET. MAXIMUM SILL HEIGHT TO BE 44 INCHES. MINIMUM NET CLEAR OPENING HEIGHT TO BE 24 INCHES. MINIMUM NET CLEAR OPENING WIDTH TO BE 20 INCHES.
 - e. ALL RETURN AIR GRILLS ARE TO BE LOCATED TO COMPLY WITH SECTION M1602 OF THE IRC 2018.
 - f. ALL SQUARE FOOTAGE MEASUREMENTS ARE APPROXIMATE AND MAY DIFFER FROM ACTUAL CONSTRUCTED RESIDENCE OR BUILDING.
 - g. FIRE SPRINKLER SYSTEM TO BE DESIGNED AND INSTALLED IF REQUIRED BY LOCAL CODES AS PER THE IRC 2018 AND BY A LICENSED PROFESSIONAL IN THE AREA OF CONSTRUCTION.
 - h. ALL BATHROOM EXHAUST VENTS SHALL BE VENTED DIRECTLY TO THE EXTERIOR OF THE HOME AND NOT INTO THE ATTIC. IRC 2018, M1505.2

NOTE: HVAC UNIT TO BE LOCATED IN ATTIC SPACE ABOVE.

FLOOR PLAN

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

AREAS	1300	S.F. HEATED
148	S.F. UNHEATED - SCREEN PORCH	
47	S.F. UNHEATED - STORAGE	
84	S.F. UNHEATED - FRONT PORCH	
279	S.F. UNHEATED - TOTAL	
1579	S.F. TOTAL	
484	S.F. OPTIONAL CARPORT	



ELECTRICAL SYMBOLS LEGEND

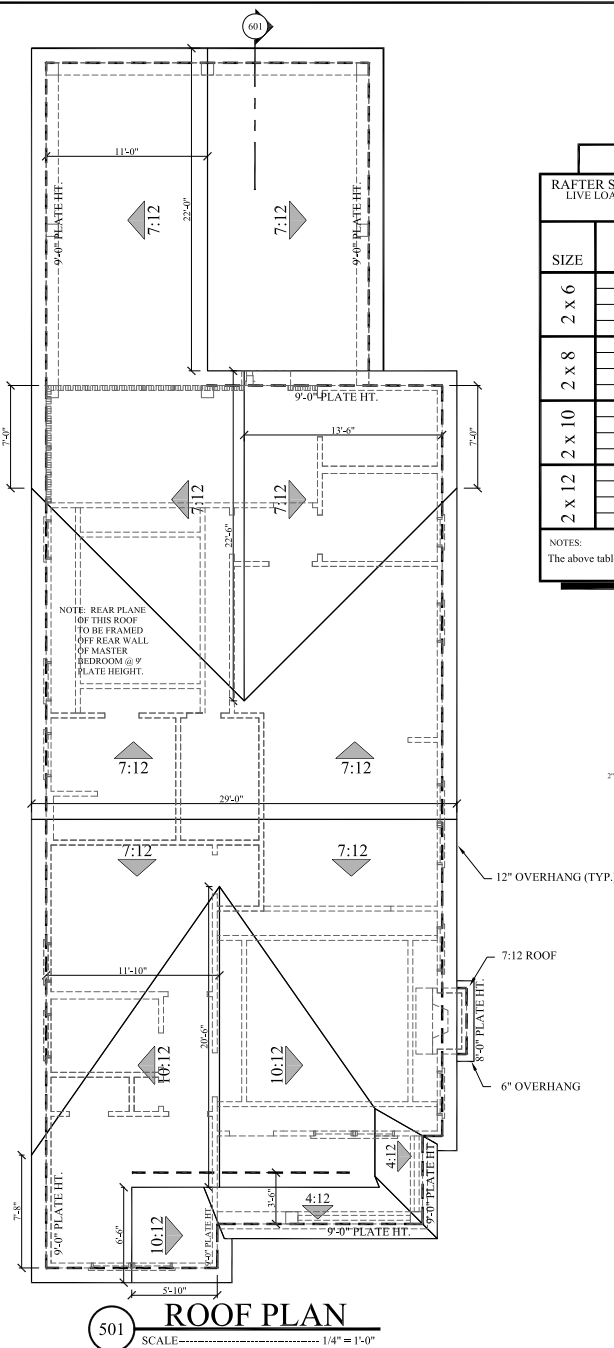
SYMBOL	DESCRIPTION
[Symbol]	110 VOLT OUTLET
[Symbol]	GROUND FAULT PROTECTED OUTLET
[Symbol]	WEATHERPROOF OUTLET
[Symbol]	220 VOLT RECEPTACLE
[Symbol]	FLOOR OUTLET (OWNER TO LOCATE)
[Symbol]	CEILING HUNG FIXTURE
[Symbol]	OVERHANG MOUNTED FLOODLIGHTS
[Symbol]	WALL MOUNTED FLOODLIGHTS
[Symbol]	RECESSED CEILING FIXTURE
[Symbol]	FLUORESCENT LIGHT
[Symbol]	CARBON MONOXIDE DETECTOR
[Symbol]	SMOKE DETECTOR
[Symbol]	SWITCH
[Symbol]	THREE WAY SWITCH
[Symbol]	FOUR WAY SWITCH
[Symbol]	DIMMER SWITCH (OWNER TO LOCATE)
[Symbol]	DOOR ACTIVATED SWITCH
[Symbol]	VOLUME CONTROL
[Symbol]	CATS NETWORKING JACK (OWNER TO LOCATE)
[Symbol]	TELEPHONE OUTLET (OWNER TO LOCATE)
[Symbol]	TELEVISION OUTLET (OWNER TO LOCATE)
[Symbol]	DOORBELL (OWNER CONTRACTOR TO LOCATE)
[Symbol]	THERMOSTAT (CONTRACTOR TO LOCATE)
[Symbol]	CEILING EXHAUST FAN, VENT TO EXTERIOR
[Symbol]	TV SPEAKER
[Symbol]	RADIO SPEAKER
[Symbol]	CEILING FAN ONLY, NO LIGHT KIT
[Symbol]	CEILING FAN WITH LIGHT KIT
[Symbol]	TRACK LIGHTING (OWNER TO LOCATE)
[Symbol]	WALL SPOKE (OWNER TO LOCATE)
[Symbol]	CHANDLER 1 (O.T.S.)
[Symbol]	CHANDLER 2 (O.T.S.)
[Symbol]	UNDER COUNTER LIGHTING
[Symbol]	EMERGENCY LIGHTING EXIT SIGN

ELECTRICAL NOTES:

1. ALL WORK SHALL COMPLY WITH ALL CODES APPLICABLE AT SITE.
2. SMOKE ALARMS SHALL BE INSTALLED IN THE FOLLOWING LOCATIONS: EACH SLEEPING ROOM, OUTSIDE EACH SEPARATE SLEEPING AREA IN THE IMMEDIATE VICINITY OF THE BEDROOMS, ON EACH ADDITIONAL STORY OF THE DWELLING, INCLUDING BASEMENTS AND HABITABLE ATTICS. WHEN MORE THAN ONE SMOKE ALARM IS REQUIRED TO BE INSTALLED WITHIN A DWELLING THE ALARM DEVICES SHALL BE INTERCONNECTED IN SUCH A MANNER THAT THE ACTIVATION OF ONE ALARM WILL ACTIVATE ALL OF THE ALARMS IN THE UNIT. SMOKE ALARMS SHALL BE HARD WIRED WITH A BATTERY BACK UP.
3. CARBON MONOXIDE ALARMS SHALL BE INSTALLED OUTSIDE OF EACH SEPARATE SLEEPING AREA IN THE IMMEDIATE VICINITY OF THE BEDROOMS IN DWELLING UNITS WITH WHICH FULLY REBUILT APPLIANCES ARE INSTALLED AND IN DWELLING UNITS WITH ATTACHED GARAGES.
4. 125 VOLT, SINGLE PHASE, 15-20 AMPERE RATED RECEPTACLE OUTLET SHALL BE INSTALLED AT AN ACCESSIBLE LOCATION FOR THE SERVICING OF HEATING, AIR CONDITIONING AND REFRIGERATION EQUIPMENT. THE RECEPTACLE SHALL BE LOCATED ON THE SAME LEVEL AND WITHIN 25 FEET OF THE EQUIPMENT. THE RECEPTACLE OUTLET SHALL NOT BE CONNECTED TO THE LOAD SIDE OF THE HVAC EQUIPMENT DISCONNECTING MEANS.

ELECTRICAL PLAN

NOTE: SWITCHES AND CONNECTIONS NOT SHOWN. ELECTRICAL CONTRACTOR TO LOCATE THESE ITEMS DURING ROUGH-IN BASED ON OWNER'S PREFERENCE.



RAFTER SPANS
 RAFTER SPANS FOR SOUTHERN PINE SPECIES
 LIVE LOAD=30psf, L₅=180 DEAD LOAD = 10psf

SIZE	SPACING (INCHES)	SPANS (MAXIMUM RAFTER SPANS BETWEEN BRACING) (FT. - IN.)
2 x 6	12.0	12-11
	16.0	11-2
	19.2	10-2
	24.0	9-2
2 x 8	12.0	16-4
	16.0	14-2
	19.2	12-11
	24.0	11-7
2 x 10	12.0	19-5
	16.0	16-10
	19.2	15-4
	24.0	13-9
2 x 12	12.0	22-10
	16.0	19-10
	19.2	18-1
	24.0	16-2

NOTES:
 The above tables are based on the IRC 2018 TABLE R802.4.1(3)

CEILING JOIST SPANS
 CEILING JOIST SPANS FOR SOUTHERN PINE SPECIES
 (UNINHABITABLE ATTICS WITH LIMITED STORAGE,
 LIVE LOAD = 20psf, L₅=240/DEAD LOAD = 10psf)
 **IF HABITABLE ATTIC SPACE IS DESIRED,
 REFER TO THE INTERNATIONAL RESIDENTIAL CODE, SPAN TABLES**

SIZE	SPACING (INCHES)	VISUALLY GRADED #2 SOUTHERN PINE (MAXIMUM CEILING JOIST SPANS) (FT. - IN.)
2 x 4	12.0	6-3
	16.0	5-0
	19.2	5-4
	24.0	6-7
2 x 6	12.0	13-11
	16.0	12-0
	19.2	11-0
	24.0	9-0
2 x 8	12.0	15-7
	16.0	15-3
	19.2	13-11
	24.0	12-6
2 x 10	12.0	18-11
	16.0	18-1
	19.2	16-5
	24.0	14-0

NOTES:
 The above tables are based on the IRC 2018 TABLE R802.5.1(2)

HIP/ VALLEY CONVERSION

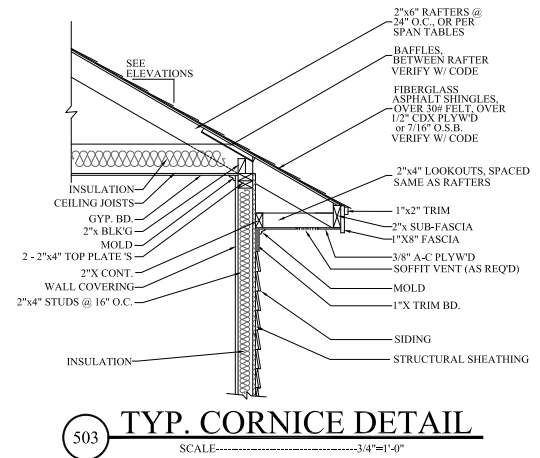
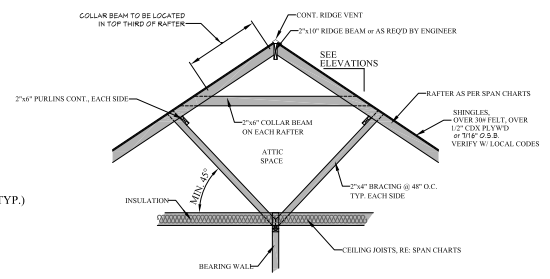
IF COMMON RAFTER ROOF PITCH IS...	THEN HIP VALLEY RAFTER ROOF PITCH BECOMES...
3:12 5°	3:12 17°
3:12 10°	3:12 7°
3:12 14°	3:12 10°
4:12 18°	4:12 13°
5:12 23°	5:12 16°
6:12 27°	6:12 19°
7:12 30°	7:12 22°
8:12 34°	8:12 25°
9:12 37°	9:12 28°
10:12 40°	10:12 30°
11:12 42°	11:12 33°
12:12 45°	12:12 35°

CONVERSION CHART FOR SIMPLE ROOFS ONLY.
 CHART DOES NOT APPLY FOR DUAL PITCH ROOFS.

RAFTER LENGTH CHART

ROOF PITCH	FACTOR
3:12	1.06
4:12	1.07
5:12	1.10
6:12	1.14
7:12	1.17
8:12	1.20
9:12	1.25
10:12	1.30
11:12	1.35
12:12	1.40
14:12	1.54
16:12	1.70

MULTIPLY HORIZONTAL SPAN OF MEMBER BY FACTOR CHOOSE APPROPRIATE FACTOR BY ROOF PITCH.



- ROOF PLAN NOTES:**
1. CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE CODES AT SITE.
 2. ALL RIDGE BEAMS, HIP RAFTERS, & VALLEY RAFTERS TO BE 2" X 10", No.2 S.Y.P. OR AS REQ'D BY ENGINEER.
 3. ALL RAFTERS TO BE SIZED AS PER SPAN CHART.
 4. REFER TO EXTERIOR ELEVATION FOR OVERHANG LENGTHS.
 5. CONTRACTOR TO WATERPROOF ALL ROOF INTERSECTIONS AS PER CODE.
 6. CONTRACTOR TO VERIFY ALL ROOF PITCHES WITH EXTERIOR ELEVATIONS PRIOR TO CONSTRUCTION.