GDI ENGINEERING

220 Bryan Guest House Residential

Houston- Texas



DISCREPANCY INSTRUCTIONS:

In case of discrepancies in between these specifications or unavailability of a specified product or material, contact the engineer. If contact is not possible, always use the stronger or more stringent replacement product or material. DESIGN CRITERIA (NON-COASTAL LOCATIONS)

Minimum Wind Speed = V(ult) =137 mph 3 second gust (ASCE Hazard Tool for:220 Bryan St., Houston, Texas).

Seismic Category = A Snow Load = 0 Termite = Heavy (Termite Protection is Required)

Decay = Moderate; Non-Coastal Weathering is Neglible

Design is in accordance American Forest and Paper Association Wood Frame Construction Manual for One- and Two-Family Dwellings (WFCM); or Southern Building Code Congress International Standard for Hurricane Resistant Residential

Construction (SSTD 10); or Minimum Design Loads for Buildings and Other Structures (ASCE-10)

APPLICABLE CODES These plans are based on listed Codes for this site with local amendments. Plans with a dated 'blue' signature are to obtain

permits, revisions may have digital signatures. Houston Construction Code Amendments Ordinance (rev. 04/11/2022)

- Exhibit A: 2015 International Building Code (rev. 04/11/2022)
- Exhibit B: 2020 National Electrical Code (rev. 04/11/2022) • Exhibit C: 2015 International Existing Building Code (rev. 04/11/2022)
- Exhibit D: 2015 International Fire Code (rev. 04/11/2022)
- Exhibit E: 2015 Uniform Mechanical Code (rev. 04/11/2022)
- Exhibit F: 2015 Uniform Plumbing Code (rev. 04/11/2022)
- Exhibit G: 2015 International Residential Code (rev. 04/11/2022) • Exhibit H: 2018 International Swimming Pool and Spa Code (rev. 04/11/2022)
- Exhibit I: City Code Amendments (rev. 04/11/2022)
- Exhibit J: Residential Permit Fee Schedule (rev. 04/11/2022)
- Residential Energy: The enforcement of Chapter 11 of the 2015 International Residential Code became mandatory by state law effective September 1, 2016
- 2015 IECC Amendments Residential provisions (adopted Oct. 24, 2016)

• LIFE SAFETY BOARD (LSB) STANDARDS - LSB Standards are currently being reviewed for update to the 2012 Houston Adopted Construction Code, with a Draft of the 2018 LSB Standards to be effective on October 18, 2018. PROJECT MINIMUM DESIGN BASIS

Note: Design changes must meet or exceed these minimum loads and be approved by the engineer of record

DEAD LOADS (PSF) FLOORING: Wood/Carpet 12 ; Tile/Bathrm 35; 2"Concrete 25; ROOFING: 6; Non-Ballasted Solar Array :4 ; WALLS:

Stud+GypBd=8 psf, Stud+Hardie=18 psf, Stud+brick=35 psf, Stud+Stucco=20 psf, SIP6"+Hardie=20 PSF, SIP6"+Brick=38 psf, ICF12"core=160 psf, ICF8"core=110 psf, ICF6"core=85 psf LIVE LOADS (LBS, PSF, PLF)

A. STAIRS: 100 psf + 300lb pt load on 4" of tread

B. RAILINGS: 50 PLF applied in any direction at the handrail + 200 lbs point load in any direction.

C. Balcony / Elevated Deck / Landing = 60 to 100 psf (per plan). All elevated deck railing support posts to use Simpson DTT2Z with 5/8 bolts, O.E. All elevated deck joists in hangers to beams/ledger beams. All Ledger beams to use Simpson SDS structural wood screws on 8"V x 16"H grid into to structural framing. All deck stringers to use (2) 5/8" HDG bolts.

D. Non-sleeping floors = 40 psf

- E. Bonus-room floors = 40 psf F. Sleeping area floors = 30 psf
- G. Attic storage floors = 20 psf
- H. Attic non-storage = 10 psf
- I. Roof (without wind) = 20 psf

WIND LOADS: +10 PSF Minimum lateral on walls or plan calculated loads. For low slope roofs (<30 Deg/Exp B/Edge/110 mph) basis will be -4 to -23 PSF. For high slope (>30 Deg/Exp B/Edge/110 mph) basis will be ~ +9 to -13 PSF

100% APA RATED SHEATHING + 100% EDGE BLOCKING (4) Chimneys, turrets, 1. Start at lower corner with full panel set horizontally Stagger horizontally with strength axis across studs. Edge nailing lines and parapets to be 3. Cut around openings - Do Not place sheathing joints at balloon framed starting Gable $(\sim 1/2"$ from edge, from ceiling structures end wall corners. Use 1/8" spacing at panel edge joints. Add block angled into rafter) above & below opening plates. Install flat blocking at panel going through roof edges end nailed with 2-10d Box or 2-8d Common nails. framing with 'Field' lines, 4. Balloon frame chimneys/parapets. Extend sheathing over continuous sheathing centered on across plates on all <u>plates w/o joints.</u> exterior wall faces. 5. UNO, Center S-CS16 straps 1.5" above & below all front & rafter rear wall openings, and on side wall openings >48" wide. For studs on plates for Strap over sheathing and flat blocking. Extend straps past gable end walls extend openings per table. Straps to be continuous over multiple sheathing without joints adjacent openings. plus add S-CS-16 x 48" <u>Strap</u> <u>Opening</u> across plates joining all ~56" Up to 24" upper and lower studs. ~68" 25" - 36" (See strapping notes) ~84" 37" - 48" 49" - 60" ~96" ~128" 61" - 96" Sheathing panels should extend over Building paper or ASTM Wind plates without joints. other codezone rated roofing All panels to be nailed recognized weather (composition or metal with 8d common or resistive barrier. per arch. plans) 10d box nails at For stucco use installed per minimum 4" O.C. (Tamlin 'Drainable edge and 8" O.C. manufacturer Wrap', Tyvel field, (U.N.O.; 3" / 6" 'DrainWrap' o.e.) 30lb x 36" felt for Coastal Zones) Set wraps per with 19" starter supplier instructions or as 36" wide with strip. Then 17" Filler panels cut 19" starter strip. first overlap, then as required to fit Then 17" first between full 19" overlap to overlap, then 19" lower and full ridge. Use 12" overlap to top plate upper panels min. lap side-to-Use 12" min. lap side. side-to-side. See Framing and Connection specifications. Brick, stucco, stone, or <u>NOTES:</u> Check local building codes for additional siding per Arch. plans blocking requirements between studs for braced or engineered shear wall segments, when wall sheathing is - 12" min. clearance, 18" installed horizontally across studs. If a specification or preferred from wood, diagram conflict occurs, use the stronger or more stringent method. brick or siding to grade

The minimum specification for wood framing is to <u>ROOF FRAMING CONNECTIONS</u> be the 110 MPH Wood Frame Construction Manual (WFCM) Guide to Wood Construction in High Wind Areas published in 2006 by the American Forest & Paper Association and the American Wood Council. The additional connection requirements for this project are to be as follows:

- WALL FRAMING CONNECTIONS 1. Top Plates at Intersections to be face-nailed
- with 5-16d box nails at all joints. 2. Stud to Stud to be face-nailed with 2-16d box nails at 24" centers.
- 3. Fasten 3-stud-column members with 2 rows on each side of 16d @ 8" O.C.
- 4. Fasten 4 to 6-stud-column members with
- offset layers of 2 rows of 16d @ 8" O.C.
- 5. Header to Header to be face-nailed with 16d box nails at 16" O.C. along edges. 6. Install straps & clips per the "WIND
- SHEARWALL, CLIP & STRAP DETAILS" page 8. Braces to be supported by a wall, beam, or

- 1. Blocking or plates or to rafters to be toe-
- nailed with 2-10d box nails at each end.
- vents etc.) to be face-nailed or toe-nailed with rafter, or blocking at 48" O.C. frame
- 3. Rim Boards to Rafters to be end-nailed with 3-16d box nails at each end. ROOF PURLIN AND BRACE CONNECTIONS 3. Block between rafters at roof eave per
- 4. Purlins to be strapped from rafter, to brace, to R602.10.6.2. supporting wall, beam or engineered member. Purlins & Braces same as Rafter size, nailed to each rafter with 2-16d.
- 5. Construct purlins & braces as 'L' sections with 16d pneumatic nails @12"O.C.
- 6. Braces < 8' in unbraced length, spaced at 4' max, angled < 45 degrees. 7. Braces > 8' must be laterally braced both
- ways for each 8' in length.

- plan engineered member. 9. If specified, add 'Purlin-Wall' w/btm/top
- plates, studs@16"O.C. with let-in bracing. WALL AND ROOF STRUCTURAL BLOCKING 2. Blocking to rafter openings (skylights, ridge 1. Sheathing edges connected to a stud, plate,
- 2-16d box nails at each end of the opening 2. Roof sheathing blocked for first 48" O.C. from fascia line & from ridge line, plus all unsupported panel edges within 4' from the
 - roof ridge, hip ridge, or roof eave.
 - 4. For insulated attics trim eave blocking to fill between roof sheathing and top plate. For vented attics the eave blocking can be placed between every other rafter.
 - 5. Blocking to be the same size as the stud/rafter, can be #2 or #3. Blocking to stud or rafter to be end or toe-nailed with 2-10d
 - Box Nails or 2-8d Common. 6. Non-eave blocking can be placed flat or inline with stud or rafter.

(REQUI Thic 15/32 19/32 25/32'

- 1. Use APA rated exterior rated structural panel with fasteners per above. *Roof section edge nailing applies only to major roof sections. 2. If panel thickness is not specified, use
- 15/32" panels with 8d at spacing per
- 3. If 19/32" or 25/32" panels specified, use 10d nail edge spaced per table.
- 4. Install Simpson H4 or equal from rafter to
- braced purlin at all rafter splices. 5. Stagger install panels per above (based
- on Table R/B 2306.3.1 'Case 1') 6. Include 1/8" spacing using panel clip at all
- panel edges & panel ends.
- 7. Block between rafters at roof eave per R602.10.6.2. For insulated attics size blocking to fill between roof sheathing and top plate. For vented attics the blocking
- can be placed between every other rafter. 8. Block at all unsupported edges falling
- within 4' from the roof ridge/hip/ or eave. 9. Cover sheathing as soon as possible with roofing felt or equal moisture barrier.
- 10. Apply OSHA fall protection (see base specs for summarized OSHA guidelines) 11. For pitched roofs, place screened
- surface or side with skid-resistant coating

220 BRYAN GUEST HOUS RENOVATION

STAGGER ROOF SHEATHING PERPENDICULAR TO RAFTER DIRECTION



CONTRACTOR IS RESPONSIBLE FOR TEMPORARY **CONSTRUCTION** BRACING: The project structural design is to resist code specified loads applied only after completion (a ready to occupy structure). Prior to this time, partially completed wall, floor, and roof elements can collapse due to wind loads, construction loads, and other loads. To maintain the safety and integrity of the project and elements during construction, the contractor is responsible to provide temporary construction bracing.

Protect edges of roof deck panels against exposure to weather, or use exterior deck panel starter strip

RES ECO-HOLDINGS F-7395 ENGINEER'S SEAL / 2014 COPYRIGHTED MATERIAL					
anel	Fastener	Edge O.C.	Field O.C.	Roof Section	
ckness	Size	Nailing	Nailing	Edge Nailing*	

ess	Size	Nailing	Nailing	Edge Nailing*	
"	8d	4"	8"	2.5"	
"	10d	4"	8"	2.5"	
"	10d	3"	6"	2"	

OTHER BLOCKING

applying roofing.

Blocking of manufactured joist/trusses to be per the manufacturer's instructions.

up if OSB panels are used. Keep roof

surface free of dirt, sawdust and debris,

maximum during construction, to allow for

accumulated expansion in wet weather

complete roof deck installation prior to

each course of sheathing between

conditions. Omit roof sheathing panels in

and wear skid-resistant shoes when

installing roof sheathing.

- or rafters above wall or beam supports. 3. Continuously block floor decking edges
- perpendicular to first 2 joist spaces.
- 4. Continuously block roof sheathing edges
- perpendicular to first 2 rafter spaces. 5. Blocking to Rafter to be end or toe-nailed
- with 2-10d Box Nails or 2-8d Common. 6. Block Rim board to Rafter end/toe-nailed w/2-16d common or 3-16d box.

- STAGGER SHEATHING PER DRAWING 1. Sheathing to be APA rated structural panel or equal
- rated panel. Exterior walls/roofs to use Exterior Rated structural panel.
- 2. Wall panel joint edges to be 12" from rim-joist edges 12. For buildings with conventionally framed (do not joint at rim joists)
- roofs (trusses or rafters), limit the length of 3. Horizontally stagger wall sheathing with full panel,
- continuous sections of roof area to 80 feet then cut next panel so joints offset 4'. 4. Start with full roof panels at bottom outside corners,
 - then place upper-most sheathing under rafters starting at top outside corners. Then fill inward with cut panels.
- sections, and install "fill in" panels later to 5. Wall/Roof panels to use 8d common or 10d box nails at 4" O.C. edge and 8" field. 6. Roof gable end-wall rake or rake truss with gable
 - overhang to be nailed with 8d common or 10d box nails at 4" O.C. edge and 4"field.
- 7. Floor panels to use 10d common or 16d box nails at 6" O.C. edge and 6" O.C. field. 2. Continuous ladder-block cantilevered joists 8. All gypsum board to be nailed w/ 5d cooler at 7"O.C. edge & 10" O.C. field.

WALL STRAPPING

1. To avoid floor-to-floor strapping bows, and to keep all strapping tight, only install long straps (such as Simpson C16, C14, E.E. etc.) after all upper structural loads (walls, floors, roofs, roofing, gypsum stacks, etc.,). Exterior wall will be compressed as much as possible before the strapping is installed and nailed.

		PLAN	ABBREVIATIONS, BEAMS
500WSEL 50 500DELTA GF CG/CLG CE LVL FLOOR LE AAG AVERAGE ARCH ARCHITEC CSE CRAWL SF BFE BASE FLO DFE DESIGN FL EBO ENGINEEF FFE FINISHED FGE FINISHED FGE FINISHED FIRM FLOOD INS FL FLOW LINI FV FIELD VEF GIMS GRAPHIC GTR GUTTER A	D-YR FLOOD PLAIN ELEV (FT) RADE TO 500WSEL (FT) ILING LEVEL (STRUCTURAL) VEL (STRUCTURAL) ADJACENT GRADE TURAL, ARCHITECT PACE ELEVATION OD ELEVATION OD ELEVATION COD ELEVATION RED BY OTHERS FLOOR ELEVATION GRADE ELEVATION SURANCE RATE MAP E ELEVATION (CIVIL) RFY INTERFACE MAP INFO T CURB	HAG H LAG L LSE L LSG L MGE M MRE M MSL M NFIP N OE\O.E. C OGE C EOR E SFHA S STR S TC T TOC T TOC T TOS T UNO U	IGHEST ADJACENT GRADE DWEST ADJACENT GRADE DWEST STRUCTURAL ELEMENT ANDSCAPED GRADE IEAN GRADE ELEVATION IEAN ROOF ELEVATION IEAN SEA LEVEL AT'L FLOOD INSURANCE PROGRAM DR EQUAL, OR EQUIVALENT RIGINAL GRADE ELEVATION NGINEER OF RECORD PECIAL 1% FLOOD HAZARD AREA TRUCTURAL OP OF CURB OP OF CONCRETE OP OF STEEL OR STRUCTURE NLESS NOTED OTHERWISE
BEAMS - STEE (S01) W10X30 E (S02) W12X19 E (S03) W12X26 E (S1) W12X30 BE	L WIDE FLANGE (* SEE BEAM ON HSS4X4X.25 BEAM ON PC30 3.5"Ø P BEAM ON PC35 OR W42 EAM ON PC35 OR W4X	E COLUMN COL. OR F IPE COLU X13 COLU 13 COLUN	I <mark>S BELOW)</mark> YC35 MN MN IN
(S2) W12X35 BE (S3) W14X30 BE (S4) W14X38 BE (S5) W14X43 BE (S6) W16X40 BE (S7) W18X40 BE	EAM ON PC35 OR W6X EAM ON W6X16 OR HS EAM ON W6X16 OR HS EAM WELDED ON W6X EAM WELDED ON W6X EAM WELDED ON W6X	16 COLUN S5X5X.25 S5X5X.25 16 COLUN 20 COLUN 25 COLUN	N COL. COL. N N
(S8) W18X60 BE <u>BEAMS - ENGIN</u> * Indicates Ion (A) APB 3000 (AL) LVL1.8E-2	EAM WELDED ON HSS VEERED WOOD BEAM Ig lead time (~10 weeks IF 7x18 ON PC35-PIPE+ 2600F 1.75x18 W/3"BRC 2600F 4.75x18 W/3"BRC	4X4X.375 (S (MIN. HG S (A) Indi -SADDLE (S /FB:HGU	DR W6X25 COLUMN iR OR COL U.N.O.) icates Appearance Grade DR (5)2X8COL S214 HGR O.E.
2(AL) LVL1.8E-2 (A2) APB 3000 (B) APB 3000 (B1) APB 3000 (C) GL 24F V- (C1) GL 24F V- (C2) APB 3000	2000F 2X1.75x18 W/4.5" F 7x16 ON PC35-PIPE+ IF 5.5x16 W/4.5"BRG /FI IF 5.5x18 W/4.5"BRG /FI 4 3.5x16 W/3"BRG /FB: 4 3.5x18 W/4.5"BRG /FE IF 3.5x16 W/4.5"BRG /FI	BRG /FB:F -SADDLE (B: HGUS5. B: HGUS5. HGUS414 3: HGUS41 B: HGUS41	IGUS414 HGR O.E. DR (4)2X8COL 62/14 HGR O.E. 62/14 HGR O.E. HGR O.E. 4 HGR O.E. 14 HGR O.E.
N(CL) LVL 1.8E N(DL) VERSA-L (D) GL 2400F (D1) GL 3000F (D2) GL 2400F (D3) GL 2400F (D4) GL 2400F	2600F 1.75 x 16 (N= # c AM 2.0 3100SP 1.75 x 1 V4 5.5x13.75 W/3" BRG V4 7x11.25 W/3" BRG V4 5.5x11.25 W/3" BRG V4 6.75x12 W/3" BRG. V4 6.75x13.5 W/3" BRG	of LVL Men 4 (N= # of 5. /FB: HUC /FB: HUC 6. /FB: HUC /FB: HUC 6. /FB: HUC	ibers) LVL Members) CQ612-SDS HGR O.E. Q612-SDS HGR O.E. CQ612-SDS HGR O.E. Q7 12-SDS HGR O.E. CQ7 12-SDS HGR O.E.
 (D5) GL 2400F (D6) GL 2400F (E0) LVL-1.75" (E) GL 2400F (E1) GL 2400F (E2) GL 2400F (E3) GL 2400F 	V4 3.5x12 W/3" BRG. /I V4 5.5x12 W/3" BRG. /I x11.875"2.0E-LVL V4 3.5x11.25 W/3" BRG V4 3.5X13.5 W/3" BRG V3 5.5X14.75 W/4.5" BR V4 3.5x11 25 W/3" BRG	FB: HUS41 FB: HUCQ(G. /FB: HUS G./FB: HGU RG./FB: HUS	2 12-SDS HGR O.E. 312 12-SDS HGR O.E. 3412 HGR O.E. S5.62/14 HGR O.E. 6US5.62/14 O.E.
(E4) GL 2400F (E5) APB 3000 (E6) PSL 3.5X (E7) PSL 5.25 (E8) PSL 3.5X (E9) PSL 3.5X	V4 5.5x11.25 W/3" BRG F 5.5x9.5 W/3" BRG. /FI 9.5 2.0E "LABEL SIDE U X9.25 2.0E "LABEL SID 7 1.8E "LBL SIDE UP" /F (11.25 2.0E "LBL SIDE U	G. /FB: HGU B: HGUS5. JP" /FB: HL E UP" /FB: FB:(2)T146 JP" /FB:(4)	JS5.62 HGR O.E. 62 HGR O.E. J410 HGR. HU610 HGR. <i>(A)</i> * D0WP1 SCREWS <i>(A)</i> * T14600WP1 SCREWS <i>(A)</i> *
(E10) PSL 5.25) (E11) PSL 5.25) (F3) 3-2X12+P (F2) 2-2X12+P (G3) 3-2X10+P (G2) 2-2X10+P (G2) 2-2X10+P (H3) 3-2X8+Ply	(11.25 2.0E "LBL SIDE ((11.875 2.0E /FB:(4)T14 lywood-Core, All membe lywood-Core, All membe lywood-Core, All membe /wood-Core, All member	UP" /FB:(4) 600WP1 S ers continue ers continue ers continue ers continue s continue	T14600WP1 SCREWS (A) * CRW OR HU610 HGR Dus /FB: HU212-3TF HGR O.E Dus /FB: HU212-2 HGR O.E. Dus /FB: HUS210-3 HGR O.E. Dus /FB: HUS210-2 HGR O.E. Js /FB: HUS28-3 HGR O.E.
 (H2) 2-2X8+Ply (H2) 2-2X8+Ply TREATED S.Y.F (T2) TRTD SP (2 (T5) TRTD SP (3 (T8) 2-7/16x11.2 (T10) 3.5 X 9.25 	wood-Core, All member wood-Core, All member 2. BEAMS (or AFP 'POV 2)2X12 (T3) TRT 3)2X10 (T6) TRT 5 AFP PWR-PRSRVD_ AFP PWR-PRSRVE (s continuot s continuot VER-PRES ID SP (3)2 ID SP (2)2 GL (T GL (T	JS /FB: HUS28-2 HGR O.E. JS /FB: HUS28-2 HGR O.E. JERVE' or WEYER. PSL-PLUS X12 (T4) TRTD SP (2)2X10 X8 (T7) TRTD SP (3)2X8 9) 2-7/16x9.25 AFP_PWR-PRS (T11) 3.5x11.25 WYR PSL-PL
(T12) 3.5x11.25 NOTE: All lumbe better members	AFP PWR-PRSRVD_GI or beam members with tr requires the EOR engine	eated 1/2" eer's writter	13) 5.5x11.25 AFP PWR-PRSF plywood cores. Substitution of approval.

This project may specify appearance grade engineered wood beam and column pr (1) Appearance Type 1 (If specified): PSL/PARALLAM (Weyerhaeuser) engineered The beam labels will be on a narrow side so installation should be "Label Up". PSL (2) Appearance Type 2 (As alternate): Anthony Forest Products (CANFOR) "Custor Beams and columns can be plastic wrapped labeled. Other Glulams may be available as "ARCH" or 'Architectural Appearance' - very before ordering (3) Field Finishing: If 'Architectural Appearance' products are not available, products may be clad with finish carpentry, cement paneling (Hardie), be stained or painted for appearance by the builder or owner

E		
<u>& COLUN</u> AFP AI	INS W/WOOD MATERIAL SPECIFICATIONS NTHONY FOREST PRODUCTS OWB OVER WALL BELOW <u>GENERAL SPECIFIED MEMBER REQUIRMENTS</u>	CI th 3r C int an de
APB30BASESIBRGBICAPSICOLC'DBDIEBOEIGLGHBHIHCCS0HGRSII-JSTPIINTINJSTJCLVLL/	D00F 2.1E UNBALANCED GLULAM IMPSON COLUMN/POST BASE EARING (STRUCTURAL)OWTOPEN WEB TRUSS-JOIST PC(1) Use lumber and engineered lumber grade, type, and size per plans with connections per plans. Alternate framing members must be approved by the engineering in writting.IMPSON COLMN/POST CAP OLUMN (STRUCTURAL)PERPERIMETER PCAFP Fb24 1.8E PWR-PRSVE BEAM PC(2) Multiple joists and multiple beams of the same size, same nominal type, class, and strength may be ganged together to form thicker beams only when correctly fastener together. This fastening can be by nailing together with a tighter three(3) rows of 10D and 16D 3.5" long nails set 4" apart and then these rows separated by 4" for the whole length of all joined beams. The second acceptable method is to use an 8"x8" grid using Simpson 3.25" SDS screws for the whole length of all joined beams. (3) If engineered I-Joists or Open Web Joists are planned to be supplied by others with engineering by others, submit Deferred Submittal Request Form to the permit office. Provide engineer stamped copy to the engineer of record for final approval.	E de C for C su te re de N ot b U st U sb
	COLUMNS ON BASES WITH CAPS/SADDLES (U.N.O. ON PLANS)ALL COLUMNS ON SIMPSON ABU BASE (1900 MIN) OR (2)RPBZ (1500)'+ S-CAP' = SIMPSON:PC4Z/PC6Z/PC8Z(1480) OR AC4/AC6/LCE4(1665)* Indicates long lead time (~10 weeks) (A) Indicates Appearance Grade(3)2X4(3)2X4-SP2 COLUMN ON S-ABU44 + S-CAP(4)2X4(3)2X4-SP2 COLUMN ON S-ABU44 + S-CAPPSL3.5WEYERH 1.8E 3.5 SQ PSL - USE W/ ABU44+S-CAP O.E. (A) *LSL3X5WEYERH 1.3E 3.5X5.5 LAMIN.STRAND LUMBER + S-CAPPP3.5*AFP 3.5X3.5 POWER PRESERVE COLUMN + S-CAPT6X6TRTD SP 5.5X5.5 POST COLUMN ON ABU66 + S-CAPLSL5WEYERH. 1.3E 5.25SQ LAMIN.STRAND LUMBER + S-CAPPSL5*WEYERL2.0E 5.25SQ PSL USE W/ ABU66 + S-CAP O.E. (A) *PP5.5AFP 5.25X5.5 No.50-COLUMN + S-CAPPSL5*WEYER2.0E 5.25SQ PSL USE W/ ABU66 + S-CAP O.E. (A) *PP5.5AFP 5.25X5.5 No.50-COLUMN + S-CAPPP5.5AFP 5.25X5.5 No.50-COLUMN + S-CAPPP5.5AFP 5.25X5.5 No.50-COLUMN + S-CAPPP5.5AFP 5.25X5.5 No.50-COLUMN + S-CAP(4)2X6(4)2X6 FRAMED COLUMN ON ABU66 + S-CAP(4)2X6(4)226 FRAMED COLUMN ON ABU66 + S-CAP(4)2X6FRAMED COLUMN ON ABU66 + S-CAPPP6.75AFP 5.25X5.5 NO.50-COLUMN + S-CAPPP6.75AFP 5.25X5.5 NO.50-COLUMN + S-CAPPP6.75AFP 6.75X6-7/8 POWER PRESERVE COLUMN + S-CAP	
	T8X8TRTD SP 8X8 TIMBER COLUMN ON ABU88/ABU88R +S-CAPPP8.75AFP 8.75X8.25 POWER PRESERVE COLUMN + S-CAPSTEEL COLUMNS ON STEEL BASEPLATES W/SADDLES (SEE DETAILS)PC354"ØPIPE X1/4" ON NOM. 4.5X10X.75 BASE, S-LCC5.25-4PC303.5"ØPIPE X3/16" ON NOM. 4X8X.5 BASE, S-LCC5.25-3.5W413W4X13 ON 5X10X5/8 BASE W/(4) 5/8" HOLES, O.E.W616W6X16 ON 6X12X3/4 BASE W/(4) 3/4" HOLES, O.E.HSS3HSS3.5X3.5X0.25 ON 4X8X5/8 BASE W/(4) 5/8" HOLES, O.E.HSS4HSS4X4X0.25 ON 4X6X5/8 BASE W/(4) 5/8" HOLES, O.E.HSS5HSS5X5X0.125 ON 4X6X5/8 BASE W/(4) 5/8" HOLES, O.E.ADJUST BASEPLATE LOCATIONS PER COLUMN LOCATION TO AVOID < 3" EDGE-OF-SLAB BOLT	р р
	FOR 1-STORY WITH ATTIC & ROUP (NO FLOOR ABOVE). FOR <4' USE 1-2X8 >4'BUT <6' USE 1-2X12	220 BRYAN ST. HOUSTON, TX 77011
. (A) *	 (H24) up to 8': (2)2X12+1/2" plywood core = 3.5" thickness for 2X4 wall (H26) up to 8': (3)2X10+(2) 1/2" plywood core = 5.5" thickness for 2X6 wall 8' and longer clear span headers requires engineer sealed solution. *INSULATED HEADERS (OPTION FOR EXTERIOR WALLS) Window/Door exterior wall headers < 8' clear span (not supporting a beam above) can use multiple continuous SP#2 2X members with 1/2 rigid foam core 10D cripple nail on a 6" O.C. grid. Insulation is Dow blue or pink Syrofoam board. (EB1) UP TO 8': (2)2X12+FOAM CORE =3.5" THICKNESS FOR 2X4 WALL (EB2) UP TO 6': (3)2X10+FOAM CORE =5.5" THICKNESS FOR 2X6 WALL 8' and longer clear span headers requires engineer sealed solution. 	
) SRVD_GL US-2.0E RVD_GL equal or	MISC JOIST TO BEAM FLUSH HANGERS (BY JOIST SIZE): SIMPSON LU210, LU28, LU26, LU24	SHEET NAME SPECIFICATIONS
BEAM AN oducts. Al d wood be . Columns m Glulam	ND COLUMN PRODUCTS. Iternatives of the same size and strength (or greater) can be specified as alternates with the Engineer's written approval. eam and column products are specified and preferred for exposed applications for design texture appearance purposes. will have label on one side. " products should be specified for "Architectural Appearance" use when ordering, PLUS specify 'NO INK LABELS".	

S-000



The existing 1-car garage and existing Guest House structure is not in a flood plain. The existing Guest House occupied area was built applying a low clearance crawl space that places the finished floor approximately 2' about average grade with service clearance of ~14". The existing 1-Car Garage area is to be changed to become an addition to the Guest House. The existing Garage walls will be replaced with new treated 2x6 framed stemwalls with siding that will support a new crawl space floor built over 10 mil poly matching the existing the existing crawl space area will either

AT BASE SUMMARY FOR 220 BRYAN ST. HOUSTON, TX 77011 HARRIS COUNTY, TEXAS						
and soil	Pct. of map unit	Hydrologic group	Depth	USDA texture	Liquid limit	Plasticity index
			In		L-R-H	L-R-H
ake complex, s	55	D	0-22	Clay	66-70 -85	37-39-46
			22-36	Clay	60-70 -80	35-42-48
			36-52	Clay	60-69 -79	36-42-48
			52-80	Silty clay, clay	54-73 -82	31-45-51

FOUNDATION PLAN NOTES Plans drawn to scale (scaled measurements may be taken) Forming (edge) dimensions provided (scale from plans OK) Foundation beam centerlines provided (scale from plans OK) Slab slopes defined. (If not use 2% as ~2" per 8', 6" per 25') Rebar Separation: 3" min. earth, 2" min. poly., 1" min cover

PROJ#: 220 BRYAN ST. HOUSTON, TX 77011

GUEST HOUSE FOUNDATION PLAN

SHEET NAME

S-100





1 GUEST HOUSE OVERVIEW 1" = 10'-0"

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Vaulted Ceiling 1st-2x4-Ext-Gyp/OSB/Siding / NO CHANGES

Acceptable Minimum Window Types: Single or Double Hung Type – Minimum 2249SH (26"Wx57"T RO, 20"Wx24"T minimum clear bottom opening) Windows sill height can be field adjusted during construction but must remain no more that 44" above the floor surface. DOOR EGRESS PER R311.2 - Minimum of one 32" wide x 78" tall door opening per dwelling requires a 36" door width.

Single Casement Type - Minimum 2226CS (26"Wx30"T RO, 20"Wx24"T clear opening).

DEMOLITION AND STRUCTURAL CHANGE REQUIREMENTS:

structure, injury, or death.

PROVIDE EGRESS PER IBC/IRC WINDOW EGRESS PER R310.1- One per sleeping room/basement. Minimum 5.7 sf (or 5 sf if at grade) of clear opening space, minimum 24" tall, minimum 20" wide, and 44" maximum sill elevation above the floor, opened without tools or keys.

1st-2x4-Ext-Gyp/OSB/Siding

Failure to do demolition and structural changes correctly can result in damage to a structure, injury, or death. Demolition of existing structures (floors, walls, roofs, columns, beams) must only be done only by a qualified contractor familiar with framing and loads etc. If there are any questions, Stop All Work and contact the Engineer-Of-Record for review, inspection, and engineer sealed instructions.

Replacement of the load-bearing beam or wall by a correctly sized wood beam should only be done only by a qualified contractor. Failure to do structural changes correctly can result in damage to a

All work must be done by someone experienced with the correct method of installing/removing temporary bracing, installing the replacement beam and its supports, attaching existing joist, beams, or new joists in hangers to the new load bearing beam, before removing any temporary bracing. Only after properly bracing the existing structures (columns, beams, joist, rafters, etc.) can the new beam or new structural member(s) be installed. For a flush beam, the existing joists/rafters must be trimmed, and steel hangers added and nailed/screwed to the new beam. For trimmed joists or rafters, temporary bracing and a load receiving beam, ledger, or plate must be installed before trimming and installing the trimmed member ends in hangers or by other specified connection method.

If there is any problem or any different structure item found during the work phase, Stop All Work and contact the Engineer-Of-Record for review, inspection, and engineer sealed instructions or for engineer discussion and instruction before proceeding further. If a field inspection is required by an engineer, the cost of the inspection and report is additional.



PROJ#: 220 BRYAN ST. HOUSTON, TX 77011 SHEET NAME WALL PLANS WALL PLAN / MODEL NOTES Typical modeling aligns ext. wall edges w/ foundation edges. Normal construction cantilevers exterior wall sheathing, siding, stucco, and thin stone veneers past foundation edges. Full brick and full stone will not cantilever (fully supported). Column locations are critical.



Add Simpson S2.5A O.E. to every rafter to < roof pitch





ENERGY EFFICIENT WALL FRAMING SPECIFICATIONS

ENERGY EFFICIENT WALL CONSTRUCTION SPECIFICATIONS

GENERAL: Excellent sealing & insulating of buildings can reduce utilities usage by up to 40%. Only after this is completed, can high efficiency windows, doors, and HVAC provide addition savings. The following Energy Efficient Wall Construction Specifications are recommendations for construction to minimize energy usage. These specifications are in addition to the 'MINIMUM WOOD FRAMING SPECIFICATIONS" and any code or city required construction practices. This specification contains options that may exceed the 'MINIMUM WOOD FRAMING SPECIFICATIONS" in some areas such as sheathing thickness (5/8" vs 7/16").

ADDITIONAL PLANNING: The owner should consider asking the building designer to provide an additional paid review of the plans applying a 'Whole-House' design basis. The expectation should be for no impact on the total cost of construction while reducing energy consumption by 10 to 40% for the home's life. The designer should add construction sections and details of sealed and insulated building envelope types for walls, windows, doors, roof and floors. The designer should identify HVAC all component locations and each air ventilation location. The designer should locate all ductwork routing and should attempt to locate all ductwork and HVAC equipment inside the conditioned building envelope. HVAC equipment should be specified to be sized only per Manual J. For additional reference download "Build Energy Efficient Walls" publication number J440 from www.APAwood.org and "Building America Best Practices Series: Volume 1 - Builders and Buyers Handbook for Improving New Home Efficiency, Comfort, and Durability in the Hot and Humid Climate" from U.S. DOE. www.nibs.orghttp://www.p2pays.org/ref/36/35780.pdf

[] Check here if these low energy framing practices are to be applied, and inform the builder and the framer in writing. The builder and framer should also be informed that a 'check-list' inspection will be completed.

WALL CONSTRUCTION PROCEDURES:

1.BOTTOM PLATE SEALING: Install Dow Styrofoam "Sill Seal" or equal, under treated wall bottom plates on all exterior and all garage walls. 3. WALLS : For R19 use 2x6 (@ 16"o.c. in high wind, @ 24"o.c. in other areas)

4. WALL CORNERS: Use construction adhesive caulk between for all corner stud assemblies. Apply sealant caulk at vertical inside corner of all corner studs

5. TOP PLATE SEALING: Add adhesive caulk between top plate faces, at all plate splice ends, and at all exterior wall corner top plate joints.

6. CRAWL SPACE OR UPPER FLOOR JOISTS AND RIM BOARDS: Use construction adhesive to seal at top and bottom plates at all rim joists, and over all joints between framing sections. Extend exterior sheathing over rim joists 7. USE WOOD WALL SHEATHING: Use APA 19/32 " or minimum 15/32" OSB or Plywood. Wood sheathing

provides variable permeability so as to not trap moisture. 8. LAP AND BLOCK ALL SHEATHING: Lap exterior sheathing panels over intersections between Rim Boards. band joists and plates and/or seal at panel joints and around edges. Install blocking with construction adhesive at panel joints.

9. SEAL ALL PENETRATIONS: Use expanding foam* to close and seal ALL wiring/plumbing penetrations in all areas (plates, sheathing, studs) *HILTI CF-116 filler foam or *Dow "GREAT STUFF PRO" or equal urethane foam sealant.

10. HOUSE WRAP: House Wraps are required per code for all exterior sheathing types. CORRECT INSTALLATION WILL ALWAYS INCLUDE CORRECT OVERLAPPING AND CORRECT WINDOW AND DOOR OPENING OVERLAP DETAILS. Suggested wraps include Dow "WEATHERMATE Plus" or DuPont "TYVEK HomeWrap" or equal installed per product information.

11. WINDOW AND DOOR FLASHING: Install flashing, flashing tape, or equal flashing system at all windows/doors. Suggested flashing systems include Dow "WEATHERMATE Flashing" tape or DuPont™ Flashing Tape.

12. INSULATION: With the above sealing done properly any properly installed insulation system can be used. Suggested types are either batts or spray in place. Blanket fiberglass or natural fiber Batts and Rolls are the most cost-effective. Pieces must be hand-cut to fit snugly around obstructions. Spray-in-Place Insulation cellulose or Spray polyurethane open cell foam. Be sure to allow wet-blown insulation to dry completely before installing drywall. Spray foam materials and installation cost more than blanket insulation, but its effectiveness at minimizing air infiltration can reduce the amount of air sealing needed, making spray foam a costcompetitive option.

13. WINDOWS AND DOORS: We recommend a U-factor of 0.35 or below and solar heat gain coefficient (SHGC) of 0.70 or below with coatings to reduce solar heat gain. Double or triple pane windows with low emissivity (low-e) coating on the glass minimize heat loss. Windows and doors cause one-third of the total energy loss and the cost of high-performance windows and doors will often offset the size of the required HVAC equipment.

14. HVAC SYSTEMS: Over-sizing of HVAC equipment is a common mistake for a correctly sealed and insulated building. DO NOT ALLOW SIZING OF HVAC ON A TON PER SF BASIS. Require sizing only by written Manual J Residential Load Calculation (per Air Conditioning Contractors of America (www.acca.org). 15. VENTILATION: Under-sizing of ventilation is a common mistake for well sealed homes. The American Society of Heating, Refrigerating and Air-Conditioning Engineers (www.ashrae.org) recommends the greater of 0.35 air changes per hour or 15 cubic feet per minute (cfm) per person. We recommend timer controlled spot ventilation at all bathrooms, laundry rooms, and cooking areas. Install 15 min timers on 250 cfm ventilation fan with exterior wall mounted flap-vents, or a humidity controlled ventilation fan with flap vents such as a 110 cfm Broan model QTXE110S or equal.

16. INSPECTIONS: We recommend use of a third party inspector to verify air tightness by use of a blower door test and a thermo-graphic scan. Energy audits are often required to qualify for most energy efficiency incentive programs.

] ENERGY EFFICIENT WALL FRAMING INSPECTION CHECK LIST WALL CONSTRUCTION ENERGY SEALING CHECK LIST:

The framer and builder is to inspect and check off each item as confirmation that each source of air infiltration has been properly sealed during wall framing construction while still accessible.

[] Top and bottom plates] Sill plates, Rim Boards, and band joists

¹ Partition intersections

] Subfloor and wallboard joints

] Exterior wall corner assemblies] Seams and tears in house wrap or building paper

] Window frames

Door frames and thresholds

] Dropped ceilings and soffits

] Attic hatches and knee wall access doors

Vents, registers and HVAC penetrations

] Ductwork penetrations

] Plumbing and condensate penetrations] Bathtubs and showers on outside walls

] Utility chases

] Chimney / flue penetrations and fireplace dampers

] Electrical outlets and wiring penetrations

Recessed light and fan fixtures Exterior penetrations (utility service holes, etc.)

CORROSION SPECIFICATIONS FOR EXTERIOR CONNECTORS

a. Minimum specifications for steel anchors, straps, ties, fasteners, and connectors. Suitable for all treated and untreated wood. Obtain approval for changes in materials. Exterior exposed to element steel connectors to be applied as meeting either 'exterior-wet' or 'exterior-coastal' specifications as follows.

b. 'Exterior-wet' (non-coastal) exposed anchors, straps, ties, fasteners and connectors to meet ASTM A153

such as Simpson ZDMAX/HDG or Simpson double barrier coating, or equal. c. 'Exterior-coastal' exposed steel anchors, straps, ties, fasteners and connectors to be AISI type A316, A303, A304, or A305 stainless steel.

d. All other material exposed non-stainless steel anchors, straps, ties, fasteners and connectors to be salt air protected by maintained 100% encapsulation using only approved marine specification exterior two-part

epoxy paint, with annual inspection and reapplication as needed.

ENERGY STRATEGIES (IF NOT PLAN SPECIFIED) EFFICIENT WALLS INSPECTION SEALING OWNER CHECK LIST - The framer and builder is to inspect and check off each

item as confirmation that each source of air infiltration has been

properly sealed during wall framing construction while still

accessible.

 Top and bottom plates] Sill plates, Rim Boards, and band joists

-] Partition intersections
-] Subfloor and wallboard joints
-] Exterior wall corner assemblies] Seams and tears in house wrap or building paper
-] Window frames
-] Door frames and thresholds
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- Chimney / flue penetrations and fireplace dampers
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- Recessed light and fan fixtures





