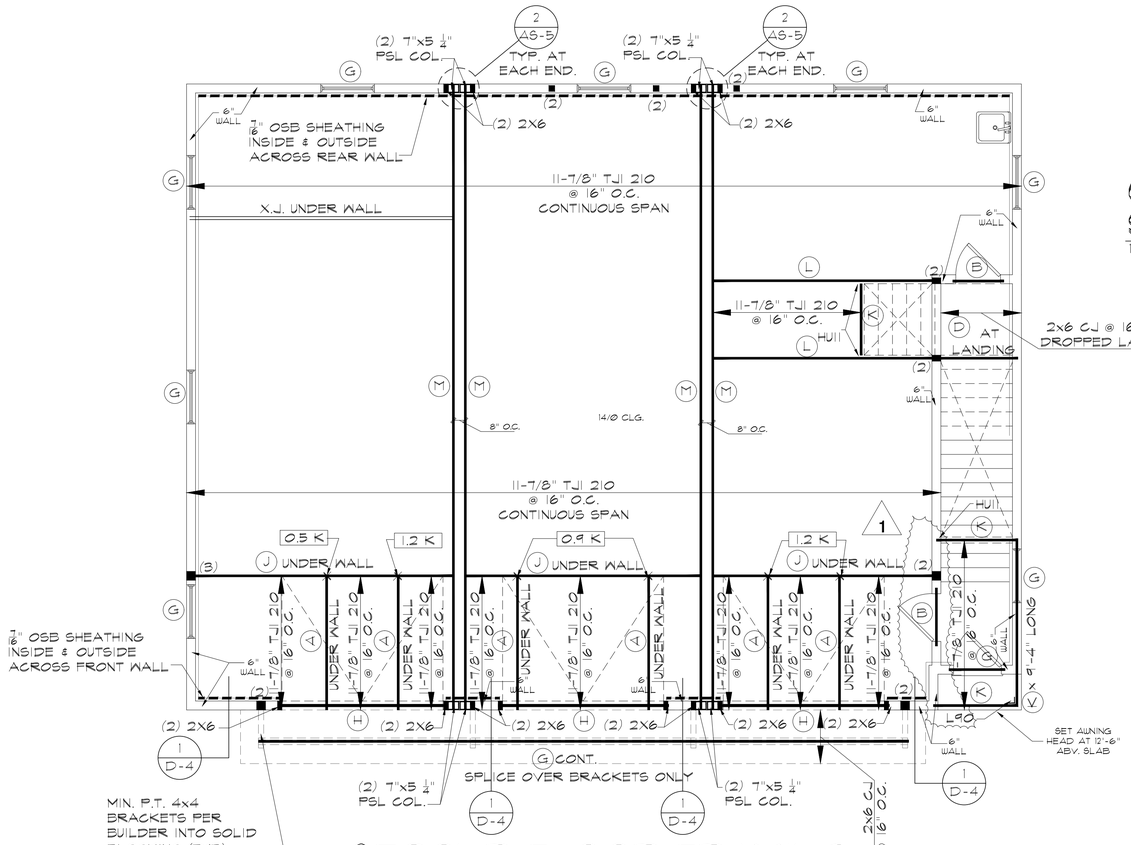
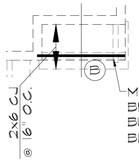


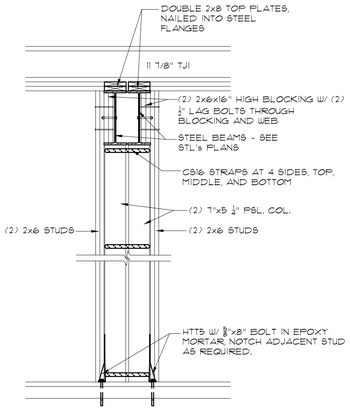
SECOND FLOOR FRAMING

1/4" = 1'-0"



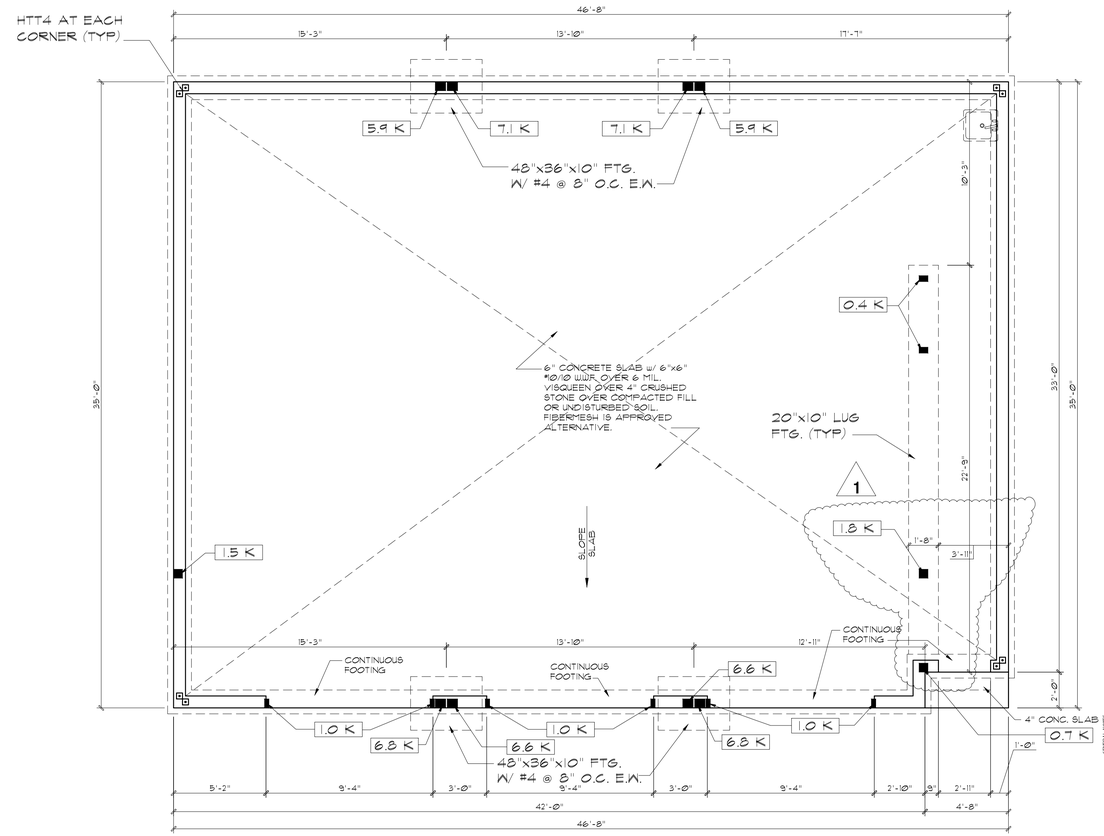
CANOPY ROOF ABOVE SERVICE DOOR

1/4" = 1'-0"



2 STEEL BEAM AT WALL DETAIL

SCALE: 1/2"=1'-0"



SLAB FOUNDATION

1/4" = 1'-0"

STRUCTURAL NOTES

REV: 09/15/14

A. GENERAL NOTES

1. Contractors assumes all responsibility for deviating from depicted or implied structural information. Architect/Structural Engineer must be notified immediately about alternate construction or problem areas before contractor proceeds.
2. Only sealed drawing with latest revisions are applicable for construction.
3. All construction, workmanship, and materials to comply with 2012 N.C. State Residential Code and local regulations.
4. Design Loads:

Structural System	L/L	D/L	T/L	Structural System	L/L	D/L	T/L
Dwelling Units (general)	40	10	50	Stairs	40	5	45
Sleeping Rooms	30	10	40	Guardrails and Handrails	200		200
Balconies(exterior)	60	10	70	Roof Systems	20	10	30
Decks	40	10	50	Cathedral Ceilings	20	15	35
Attics(limited attic storage)	10	10	20	Internal Partition Walls		9	9
Attics(with storage)	20	10	30	Passenger Garage	50	per eng.	
Attics(with fixed stairways)	40	10	50				

5. Deflection: Floors: L/360, Roofs: L/240, L/480 for engineered flooring and under tiled areas, L/600 for vertical masonry support.
6. Do not scale drawings. Contractor shall contact architect for queries on non-labeled items.
7. Owner or builder is responsible for information on soil bearing capacity, min. assumed = 2,000 psf.

B. FOOTINGS AND FOUNDATION

1. Minimum Spread Footing Sizes: (28 day strength: min 2500 psi)

Stories	Wood Frame			Wood Frame + Face Brick			8" Masonry		
	Min. Ftg. Width	Min. Ftg. Depth	Min. Ftg. Depth	Min. Ftg. Width	Min. Ftg. Depth	Min. Ftg. Depth	Min. Ftg. Width	Min. Ftg. Depth	
1	16"	8"	12"	16"	8"	12"	24"	8"	12"
2	16"	8"	12"	24"	8"	12"	24"	8"	12"
3	16"	8"	12"	24"	10"	12"	24"	8"	12"

Footings shall be min 2" wider overhang on each side than the foundation above. Minimum footing depth 12" below grade, u.n.o. Footings for close adjacent piers can be combined.

2. Girders and piers shall bear on center 1/3 of pier and footing optimally , but no less than 4" from pier or footing edge.
3. Maximum height of unbalanced fill and reinforcing to conform with Tables R404.1.1(2), (3), (4), with variables of: total wall height, and soil classification. Amount and placement of rebars are per tables.
4. Multiple wythe masonry walls shall have galvanized ties every 24" max. vertical and 36" horizontal.
5. Anchor bolts to be min. 1/2" dia. @ 6'-0"max. o.c. and max 12" from corners, and splices. Bolts shall extend min. 7" into concrete or masonry. Compression type anchors can be substituted in a case where an occasional anchor bolt is missing or misplaced.
6. Concrete Pier Sizes: (Note: the larger of the two chart's requirements governs)

Size	Hollow Masonry*	Solid Masonry	Size	Hollow Masonry*	Solid Masonry
8X16	up to 32" high	up to 5'-0" high	16X16	up to 64" high	up to 12'-0" high
12X16	up to 48" high	up to 9'-0" high	24X16	up to 96" high	up to 15'-0" high

*Top 8" Solid

7. Typical lug footing to be 20"x 10" deep, u.n.o.
8. Poured concrete walls shall be min 10" thick. If retaining under 6' of unbalanced fill reinforce wall vertically w/ #4 @16" o.c. and horizontal bars: #4 @ 16" o.c. If retaining over 6' unbalanced fill use #4@12" o.c. hooked into footing, and horizontal bars #4 @ 12" o.c.

C. FRAMING

REV: 09/15/14

1. Crawl space girders are (3) 2x10 #2 spruce/pine/fir, dropped, u.n.o.
2. All framing lumber shall be #2 SPF (modulus of elasticity 1,400,000 psi, fb 950) or better. All beams and treated lumber to be #2 SYP, E=1,600,000, fb=1100 min. Studs min #2 or stud grade.
   i joists: min 1-3/4" joist bearing, min 3-1/2" at intermediate supports. Max 3,200 ft-lb moment. EI= 185,000,000, max 1,100# vert. shear, max 1,015# end reaction.
   LVL's to be 2.0E grade, Fb=2850, L/360 max. deflection.
3. Use hangers for all beam to beam connections. Structural fastening as per R602.3(1). Adequate connections is the sole responsibility of the general contractor and his subs.
4. Provide double top plates in all exterior walls. Stagger joints min 48", w/ (8) 16d.
5. Set all joists and beams with natural camber up. Ends lapped min. 6" over bearing shall be securely spiked together. Provide at least 1-1/2" bearing on all joists and 3" for beams (U.N.O.).
6. All framing exposed to masonry or weather to be pressure treated. Sills min. 2x6.
7. Structural member fastening to conform to Table R602.3(1) and (2).
8. With 2x flooring members, use double joists: A) under parallel partitions; B) under opening multiple jacks C) under tubs if joist spans > 12'. I-joists and floor trusses do not have to be doubled unless shown on the structural plans.
9. Provide 2x6 attic collar ties at 32" O.C. at upper 1/3 of attic space, u.n.o.
10. Studs and joists shall not be cut for plumbing/electrical/mechanical runs without adding strapping to each side per R602.6. Architect/Structural Engineer is not responsible for failures in cut members. Do not cut beams or girders.
11. Balloon frame gable end vaulted walls and all walls higher than 12' w/ 2x6 @16" o.c. or dbl. 2x4 @ 12", or platformed 2x4 with dbl 2x10 band with Simpson CS16 x 36" @ 32" o.c., top studs to bottom studs.
12. All exterior headers to be (2) 2X10 spf u.n.o. w/ dbl. jacks for all openings > 5'-0"
13. All interior bearing headers to be (2) 2X10 u.n.o. w/ dbl. jacks for all openings > 6'-0"
14. All interior non-bearing headers to be min. (2) 2X4 flat u.n.o.
15. Fireblock to conform with R602.8.

WALL BRACING DESIGN SPEC'S

BASED ON 2012 NCRC
(REVISED SECTION R602.10 DATED 9-1-13)

1. THIS HOUSE IS DESIGNED USING THE SECTION 3 ENGINEERING PRACTICE PER R602.10.4, USING CONTINUOUS SHEATHING METHOD.
2. BASIC WIND SPEED DOES NOT EXCEED 110 (MPH)
3. EAVE TO RIDGE HEIGHT DOES NOT EXCEED 20'-0". IF RIDGE TO EAVE EXCEEDS 20'-0", IN NON WALK-UP ATTIC GABLE WALL SITUATIONS USE ONE OF THE GABLE BRACEWALL DETAILS AS DESCRIBED:
   1. IF FLOOR OF TRUSS BOTTOM CHORD PLATE TO RIDGE IS LESS THAN 12'-0", USE DETAIL 9/D-4 W/ MID HEIGHT BRACE.
   2. IF FLOOR OF TRUSS BOTTOM CHORD PLATE TO RIDGE EXCEEDS 12'-0", USE DETAIL 9/D-4, W/ ⅓ HEIGHT BRACES.
4. EXTERIOR WALLS HAVE BEEN SHEATHED ON ALL SHEATHABLE SURFACES W/ ⅞" OSB INCLUDING WALL AREAS BETWEEN BRACED WALL PANELS, ABOVE AND BELOW OPENINGS, AND ON ALL GABLE END WALLSNAIL W/ 6d AT 6" O.C. AT PANEL EDGES AND 12" AT INTERMEDIATE SUPPORTS.
5. GARAGE PORTAL FRAME SPECIFICATIONS USED PER DETAIL #A ON SHEET D-4.
6. SEE SHEET D-4 FOR NAILING & BRACING REQUIREMENTS.
7. SPECIAL CORNER REINFORCEMENT (IF REQUIRED) IS SHOWN ON PLAN WITH A DIAMOND SYMBOL ◆◇, THE NUMBER INSIDE SYMBOL DESIGNATES LENGTH OF SIMPSON CS-16 STRAP CONTINUOUS VERTICALLY FROM UPPER FLOOR STUDS OVER INTERMEDIATE FLOOR BAND ONTO LOWER FLOOR STUDS BELOW. AT FLOOR TO FOUNDATION CONNECTION USE EITHER (a) SIMPSON MAS OR MABS (b) SIMPSON DTT2Z (1800lb UPLIFT RESISTANCE) W/ (MIN) 1/2" ANCHOR BOLT W/ (MIN) 7" EMBEDMENT.
8. IN LIEU OF THE STRAPPING, USE OSB ON BOTH SIDES OF GARAGE WALLS. THIS WILL BE NAILED WITH EITHER 6d DEFORMED OR 8d COMMON NAILS AT 6" O.C. AT EDGES AND 12" O.C. IN FIELD, PER NCRC TABLE R602.3(1).

HEADER SCHEDULE

- (A) (2) 2x10 FLUSH
- (B) (2) 2x10 DROPPED
- (C) (2) 2x8 FLUSH
- (D) (2) 2x8 DROPPED
- (E) (2) 9 1/4" LVL FLUSH
- (F) (2) 9 1/4" LVL DROPPED
- (G) (3) 2x10 DROPPED
- (H) (3) 11 7/8" LVL DROPPED
- (J) (3) 11 7/8" LVL FLUSH
- (K) 11 7/8" LVL FLUSH
- (L) (2) 11 7/8" LVL FLUSH
- (M) W18x55 DROPPED

WALL BRACING REQUIRED/PROVIDED

FIRST FLOOR:
42.4' REQUIRED
90.5' PROVIDED
THEREFORE: COMPLIES

SECOND FLOOR:
THE SECOND FLOOR BRACING IS EQUAL TO OR EXCEEDS THE FIRST FLOOR, SO THAT IT COMPLIES, AND NO ANALYSIS IS REQUIRED PER R602.10.3.2 #5 AND #6

THIS FOUNDATION IS DESIGNED FOR "APPLIED" STONE VENEER. THE FOUNDATION WALLS DO NOT PROVIDE ANY BEARING SUPPORT FOR STONE. IF THE SPECIFICATIONS CHANGE TO "STACKED" STONE, THE FOUNDATION WALL TYPES AND DIMENSIONS WILL HAVE TO BE ADJUSTED AS NECESSARY. IN THIS CASE, THE BUILDER SHOULD CONTACT THE PLAN DESIGNER AND/OR STRUCTURAL ENGINEER.

GENERAL FOUNDATION NOTES

1. FOUNDATION WALL SIZES & COMPOSITION MUST BE VERIFIED BY BUILDER AND/OR STRUCTURAL ENGINEER, AND MUST COMPLY WITH NC. BUILDING CODES.
2. THE SIZE OF CONCRETE PADS AT STEPS TO GRADE FROM PORCHES, DECKS, STOOPS, ETC. IS TO BE DETERMINED BY BUILDER ON SITE.

4. PLANWORX ARCHITECTURE, P.A. SHALL NOT ASSUME ANY LIABILITY FOR STAKING ASSOCIATED WITH THESE AND OR/OTHER DRAWINGS OR SPECIFICATIONS. IT SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR AND/OR HIS SUBCONTRACTORS.
5. PLANWORX ARCHITECTURE, P.A. RETAINS OWNERSHIP OF ALL OF STDUIRS DEPICTED AND IMPLIED HEREIN.
6. PLANWORX ARCHITECTURE, P.A. IS NOT RESPONSIBLE FOR ANY DEVIATIONS OR CONSTRUCTION METHODS ASSOCIATED WITH THESE PLANS.

Planworx Architecture, P.A.
5711 Six Forks Road - Suite 100
Raleigh, North Carolina 27609
919-846-8100 Fax: 919-846-2661
www.planworx.com

GENERAL NOTES:
1. CONTRACTOR(S) ARE TO BE COORDINATED INTO ALL SITE INFORMATION BY OWNER AND CONTRACTOR, AND APPLICABLE CODES.
2. CONTRACTOR IS TO NOTIFY ARCHITECT IMMEDIATELY OF CONDITIONS OR ITEMS VARYING FROM DEPICTED INFORMATION.
3. ALL DIMENSIONS ARE TO BE VERIFIED BY CONTRACTOR PRIOR TO CONSTRUCTION.

Glenwood Builders
Stan and Kay Curling Residence
357 Bakertown Rd, Fuquay Varina

PROGRESS DATE:	
ISSUE DATE:	8/10/18
DRAWN BY	J.T.
CHECKED BY	R.B.

REVISIONS

DATE	BY	DESCRIPT.
11/20/18	JT	Added firewall/door in garage

Slab Foundation & Second Floor Framing

SHEET NO.
S-5

PLAN NO.
015317

STRUCTURAL DESIGN BY
MARC W. MILLS, RA

DATE SEALED:
INVALID IF UNSEALED
NORTH CAROLINA LICENSE # 7519

MARC W. MILLS REGISTERED ARCHITECT 7519 NORTH CAROLINA RALEIGH, NC