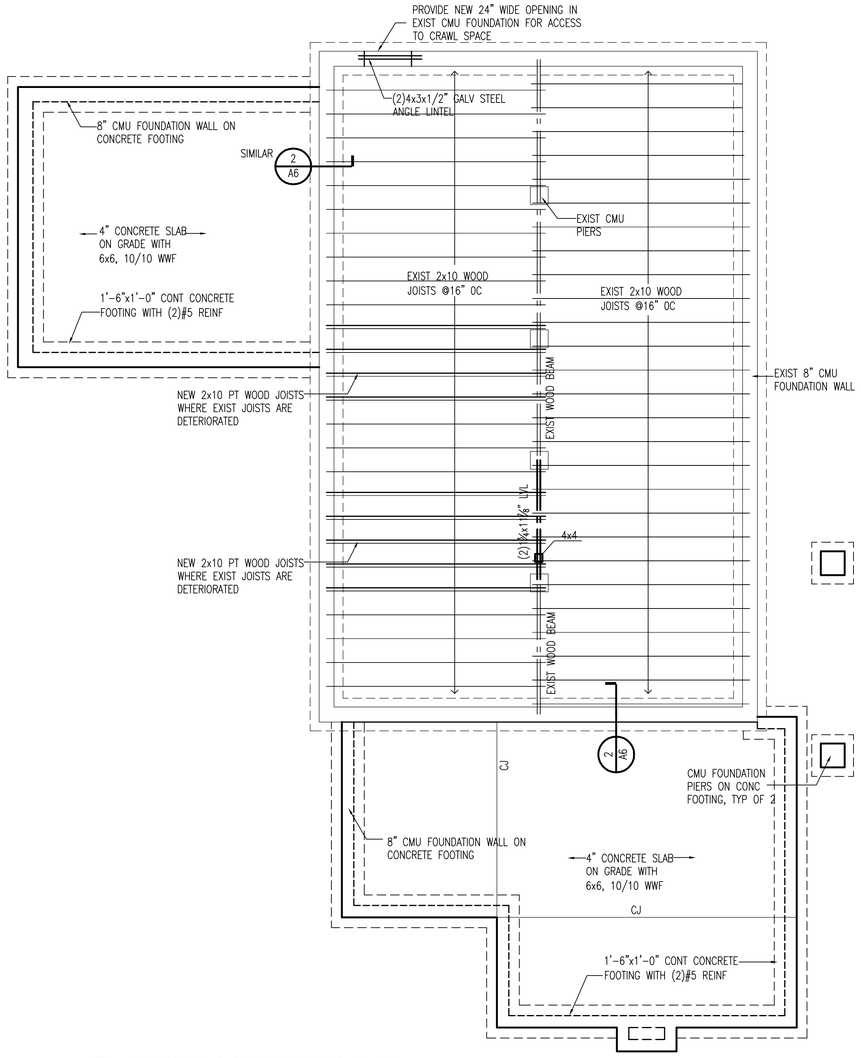
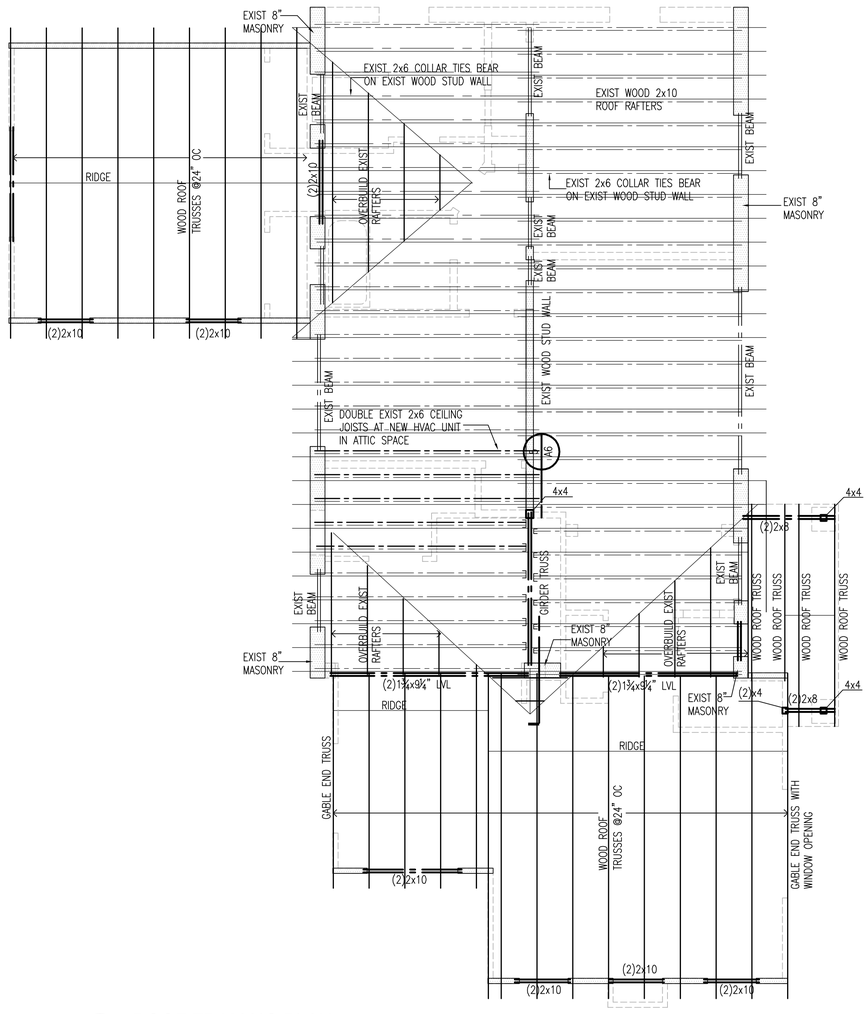


1 A5 FIRST FLOOR FRAMING PLAN
SCALE: 1/4"=1'-0"

plan

NORTH



2 A5 ROOF FRAMING PLAN
SCALE: 1/4"=1'-0"

plan

STRUCTURAL NOTES

A. BUILDING CODE

1. INTERNATIONAL RESIDENTIAL CODE (IRC) 2012 EDITION AS AMENDED BY THE VIRGINIA UNIFORM STATEWIDE BUILDING CODE.

B. GENERAL REQUIREMENTS

1. CONTRACTOR SHALL PROVIDE TEMPORARY BRACING AS REQUIRED UNTIL ALL PERMANENT CONNECTIONS HAVE BEEN MADE. DIMENSIONS TAKE PRECEDENCE OVER SCALED DRAWINGS.
2. REFER TO THE MANUFACTURER'S SPECIFICATIONS AND/OR RECOMMENDATIONS ALWAYS.
3. DESIGN LOADS:

FLOOR LIVE LOAD (NON-SLEEPING AREAS) =	40 PSF
FLOOR LIVE LOAD (SLEEPING AREAS) =	30 PSF
FLOOR DEAD LOAD =	10 PSF
SNOW LOAD =	30 PSF
PRESUMED SOIL BEARING CAPACITY =	1500 PSF
DESIGN WIND SPEED =	90 MPH
LIVE LOAD DEFLECTION LIMIT =	L/360
TOTAL LOAD DEFLECTION LIMIT =	L/240

C. CONCRETE

1. THE MINIMUM 28-DAY COMPRESSIVE STRENGTH FOR CONCRETE SHALL BE AS FOLLOWS:

FOOTINGS AND BASEMENT SLABS =	
WALLS =	3000 PSI
GARAGE SLAB ON GRADE =	4000 PSI

2. CONCRETE WORK SHALL CONFORM TO 3000 PSI REQUIREMENTS OF SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BUILDING, ACI-318. ACI-301, AND ACI-332.
3. ALL CONCRETE SLABS ON GRADE SHALL BE A MINIMUM OF 4" THICK ON 6 MIL POLYETHYLENE FILM WITH A 6x6, W2.1 x W2.1 WWF AT MID SLAB, AND 4" GRAVEL BASE UNLESS NOTED OTHERWISE.
4. THE CONCRETE COVER SHALL BE AS FOLLOWS:

FOOTINGS CAST AGAINST THE GROUND =	3-INCHES
EXTERIOR WALL WITH FORMED SURFACES =	2-INCHES
SLABS EXPOSED TO WEATHER =	1-1/2 INCHES

5. NO CONCRETE SHALL BE PLACED UNTIL ALL REINFORCING HAS BEEN INSTALLED AND INSPECTED.

D. REINFORCING STEEL

1. REINFORCING STEEL SHALL BE DEFORMED BARS CONFORMING TO ASTM A615. WELDED WIRE FABRIC SHALL CONFORM TO ASTM A185.
2. ALL STEEL REINFORCEMENT: Fy=60 KSI.
3. DETAILING, FABRICATING, AND PLACING OF REINFORCEMENT STEEL SHALL BE IN ACCORDANCE WITH ACI-315 "MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES."

E. MASONRY

1. MASONRY WALLS SHALL HAVE 9 GAGUE GALVANIZED DUR-O-WALL (LADDER) OR TRUSS TYPE JOINT REINFORCEMENT AT 16" OC VERTICALLY ABOVE GRADE AND 8" OC VERTICALLY AT BELOW GRADE JOINTS.
2. PROVIDE AT LEAST 6" OF SOLID MASONRY UNDER CONCENTRATED LOADING CONDITIONS.
3. MORTAR TO CONFORM TO ASTM C270, TYPE N WITH MINIMUM Fm=1800 PSI.
4. GROUT SHALL CONFORM TO ASTM C476 AND HAVE MINIMUM COMPRESSIVE STRENGTH OF 2000 PSI.
5. CONCRETE MASONRY UNITS (CMU) SHALL CONFORM TO ASTM C90 AND HAVE A MINIMUM 28-DAY COMPRESSIVE STRENGTH OF 1500 PSI.

F. FOUNDATIONS

1. UNLESS OTHERWISE NOTED, FOOTINGS SHALL EXTEND A MINIMUM OF 12" INTO ORIGINAL UNDISTURBED SOIL AND A MINIMUM OF 24" BELOW FINISHED GRADE OR COMPACTED FILL (FROST LINE.)
2. WHERE REQUIRED, STEP FOOTINGS TO A RATIO OF 2 HORIZONTAL TO 1 VERTICAL.
3. ALL FOOTING EXCAVATIONS SHALL BE INSPECTED BY THE BUILDING OFFICIAL OR AN APPROVED THIRD PARTY INSPECTOR PRIOR TO PLACING OF ANY CONCRETE.
4. ALL BEARING STRATA SHALL BE ADEQUATELY DRAINED PRIOR TO PLACING ANY CONCRETE. CLAY, IF FOUND, MUST BE REMOVED AND REPLACED WITH SUITABLE FILL AT LEAST 2 FEET BELOW THE FOOTING.
5. FOOTINGS SHALL NOT BE CAST AGAINST FROZEN, WET, OR LOOSE GROUND.

G. METALS

1. STRUCTURAL STEEL SHALL CONFORM TO THE REQUIREMENTS OF THE 9TH EDITION OF ASCI MANUAL OF STEEL CONSTRUCTION. STANDARD STEEL SHALL CONFORM TO ASTM A501.
2. STEEL FOR PIPE COLUMNS SHALL CONFORM TO ASTM A501.
3. ALL WELDS SHALL BE IN ACCORDANCE WITH THE AMERICAN WELDING SOCIETY (AWS) CODE.
4. ELECTRODES SHALL BE E-70-XX SERIES.
5. STEEL COLUMNS, LINTELS, BEAMS, AND RAILINGS SHALL HAVE A SHOP COAT OF RUST INHIBITING PAINT.
6. LIGHT-GAUGE ADJUSTABLE STEEL COLUMNS SHALL HAVE A MINIMUM YIELD STRENGTH OF 33 SKI AND A MINIMUM ULTIMATE STRENGTH OF 45 KSI.
7. LIGHT-GAUGE STEEL COLUMNS SHALL HAVE MINIMUM 8" x 4" x 1/4" TOP AND CAP PLATES UNLESS NOTED OTHERWISE.

H. FASTENERS

1. ALL FASTENERS IN EXTERIOR APPLICATIONS SHALL BE HOT-DIPPED GALVANIZED.
2. ANCHOR BOLTS SHALL BE S.R.E 1/2" DIAMETER PER ASTM A307.
3. JOIST HANGERS SHALL BE USED TO SUPPORT ALL PURLINS, JOISTS, AND BEAMS NOT FRAMED OVER SUPPORTING MEMBERS UNLESS NOTED OTHERWISE.
4. MACHINE BOLT AND CARRIAGE BOLT HOLES IN WOOD SHALL BE DRILLED 1/16" LARGER THAN DIAMETER OF THE BOLT.
5. LAG SCREWS SHALL BE SQUARE HEAD, OF STRUCTURAL GRADE STEEL, AND SHALL BE PLACED WITH WASHERS UNDER THREAD.
6. USE SIMPSON STRONG-DRIVE SDW TRUSS-PLY SCREWS FOR FASTENING BUILT-UP WOOD COLUMNS TOGETHER. FOLLOW SIMPSON TRUSS-PLY SCHEDULE FOR INSTALLATION NUMBER AND TYPE OF FASTENERS.

I. WOOD

1. ALL WOOD IN DIRECT CONTACT WITH SOIL OR CONCRETE SHALL BE PRESSURE TREATED.
2. ALL LVLS SHALL HAVE A MINIMUM Fb = 2850 PSI AND 2.09 E.
3. ALL FRAMING LUMBER SHALL BE HEM-FIR, GRADE #2, OR SPRUCE-PINE-FIR, GRADE #1 / #2, OR BETTER, HAVING THE FOLLOWING MINIMUM PROPERITES (BASED ON 2x12 MEMBERS):
   - -BENDING STRESS "Fb" = 850 PSI FOR SINGLE MEMBER USE
   - -HORIZONTAL SHEAR "Fv" = 135 PSI
   - -COMPRESSION PERPENDICULAR TO GRAIN "Fc" = 405 PSI
   - -COMPRESSION PARALLEL TO GRAIN "Fc||" = 1,150 PSI
   - -MODULUS OF ELASTICITY "E" = 1,300,000 PSI
4. ALL WALL STUDS SHALL BE SPF STUD GRADE OR BETTER, HAVING THE FOLLOWING MINIMUM PROPERTIES (BASED ON 2x6 MEMBERS):
   - -COMPRESSION PARALLEL TO GRAIN "Fc||" = 725 PSI
   - -BENDING STRESS "f" = 675 PSI FOR SINGLE USE MEMBERS
   - -MODULUS OF ELASTICITY "E" = 1,200,000 PSI
5. ALL PREFABRICATED TRUSSES SHALL BE DESIGNED FOR THE FOLLOWING LOADS UNLESS NOTED OTHERWISE:
   ROOF:
   LIVE LOAD – 30 PSF
   DEAD LOAD TOP CHORD – 10 PSF
   DEAD LOAD BOTTOM CHORD – 7 PSF

J SHEATHING

1. EXTERIOR WALL SHEATHING SHALL BE 7/16 (1/2) INCH APA RATED WOOD STRUCTURAL PANELS.
2. ROOF SHEATHING SHALL BE 15/32 (1/2) INCH APA RATED WOOD PANELS WITH SPAN RATING OF 24/0 OR BETTER. ORIENT LONG DIMENSION OF PANELS ACROSS THREE OR MORE SUPPORTS.
3. FLOOR SHEATHING SHALL BE 23/32 (3/4) INCH APA RATED STURD-I-FLOOR, TONGUE AND GROOVE, PLYWOOD. PANELS SHALL HAVE LONG DIMENSION ORIENTED ACROSS THREE OR MORE JOISTS AND FASTENED WITH CONSTRUCTION ADHESIVE.

Residence
Addition & Alterations

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NOVITSKE ARCHITECTS

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legend

- LOAD BEARING WALL
- NON LOAD BEARING WALL
- BEAM

graphic scales

0' 5' 10'
1/4"=1'-0"

0' 5' 10' 20'
1/8"=1'-0"

project: 23609
phase: Permit
date: 14 September 2016
revisions: 11 November 2016

Structural Plans

A5