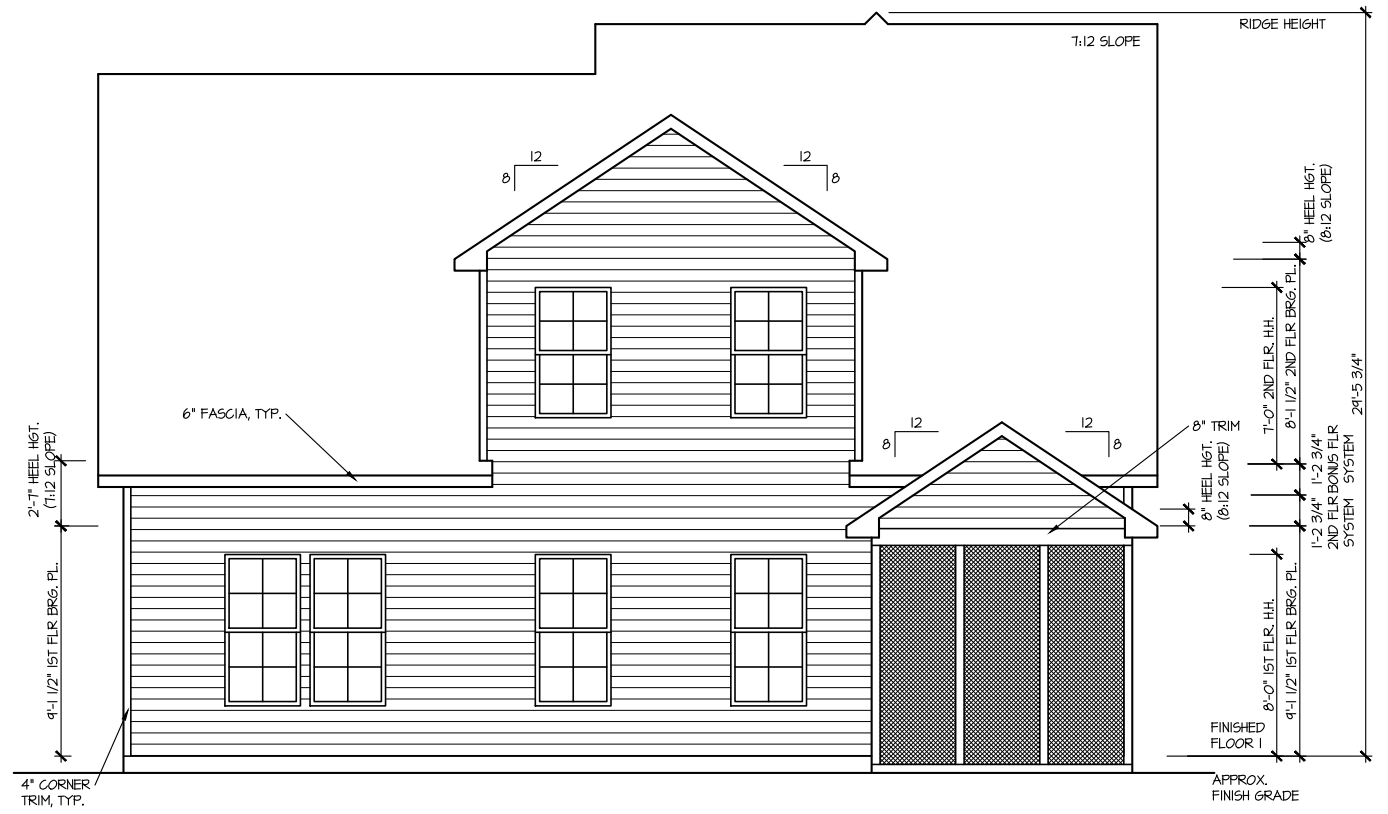


FRONT ELEVATION 4
SCALE: 1/8" = 1'-0"



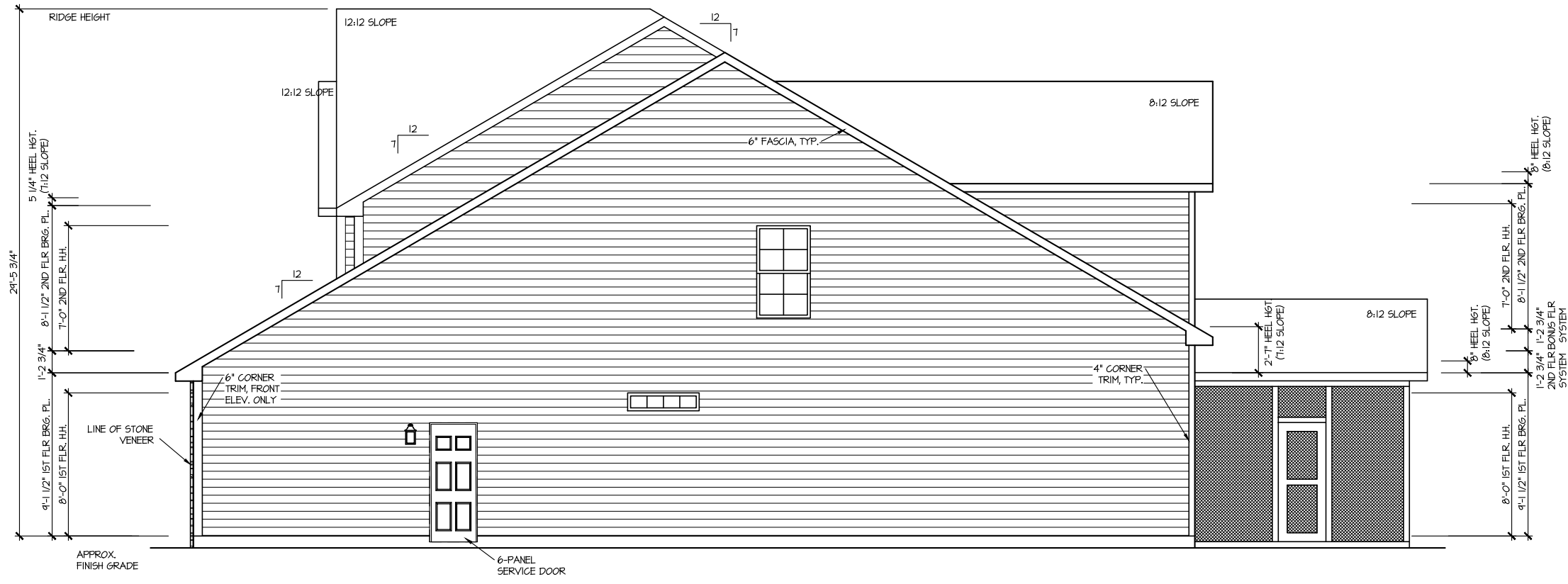
REAR ELEVATION 4
SCALE: 1/8" = 1'-0"

MASTER PLAN INFORMATION	
REVISION	DATE
R1	RALE 10-12-18
	UPDATED DATE
	01-24-22

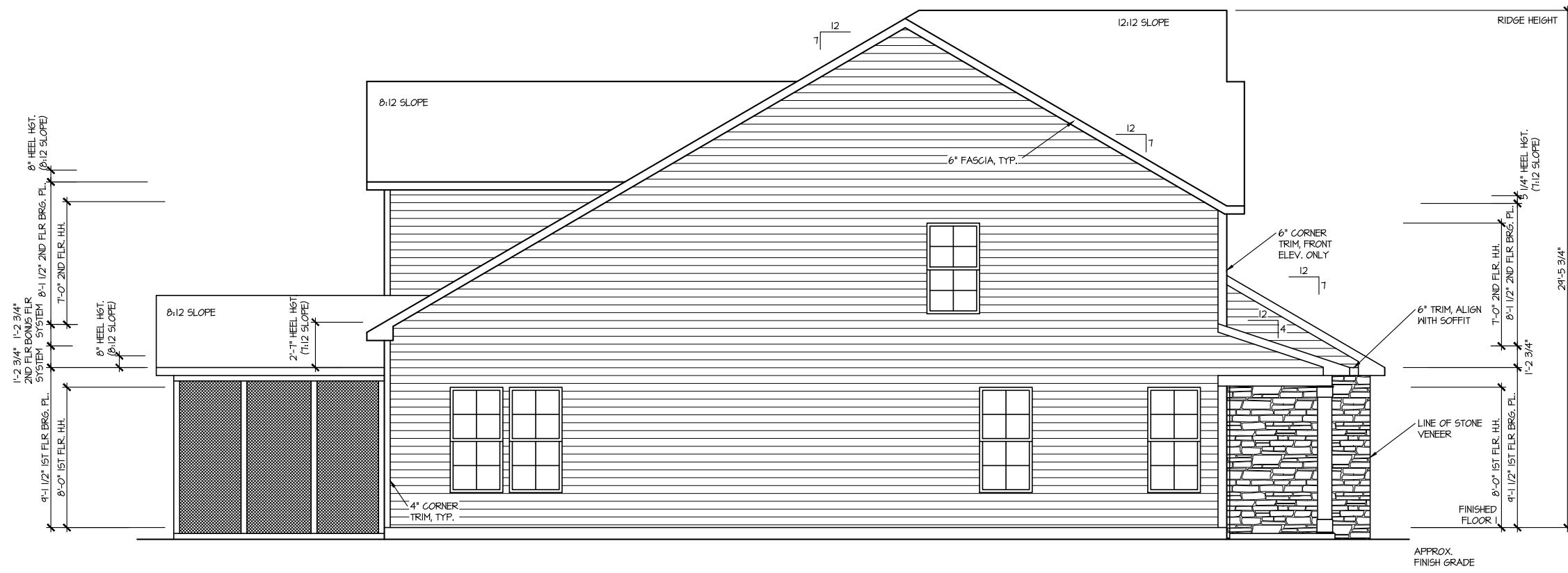
DRAWN BY: ITS
DATE: 05/06/2022
PLAN NO. 2183

HOUSE NAME: MIDDLETON
DRAWING TITLE: FRONT & REAR ELEVATIONS

SHEET No. A.I



RIGHT ELEVATION 4
SCALE: 1/8" = 1'-0"



LEFT ELEVATION 4
SCALE: 1/8" = 1'-0"

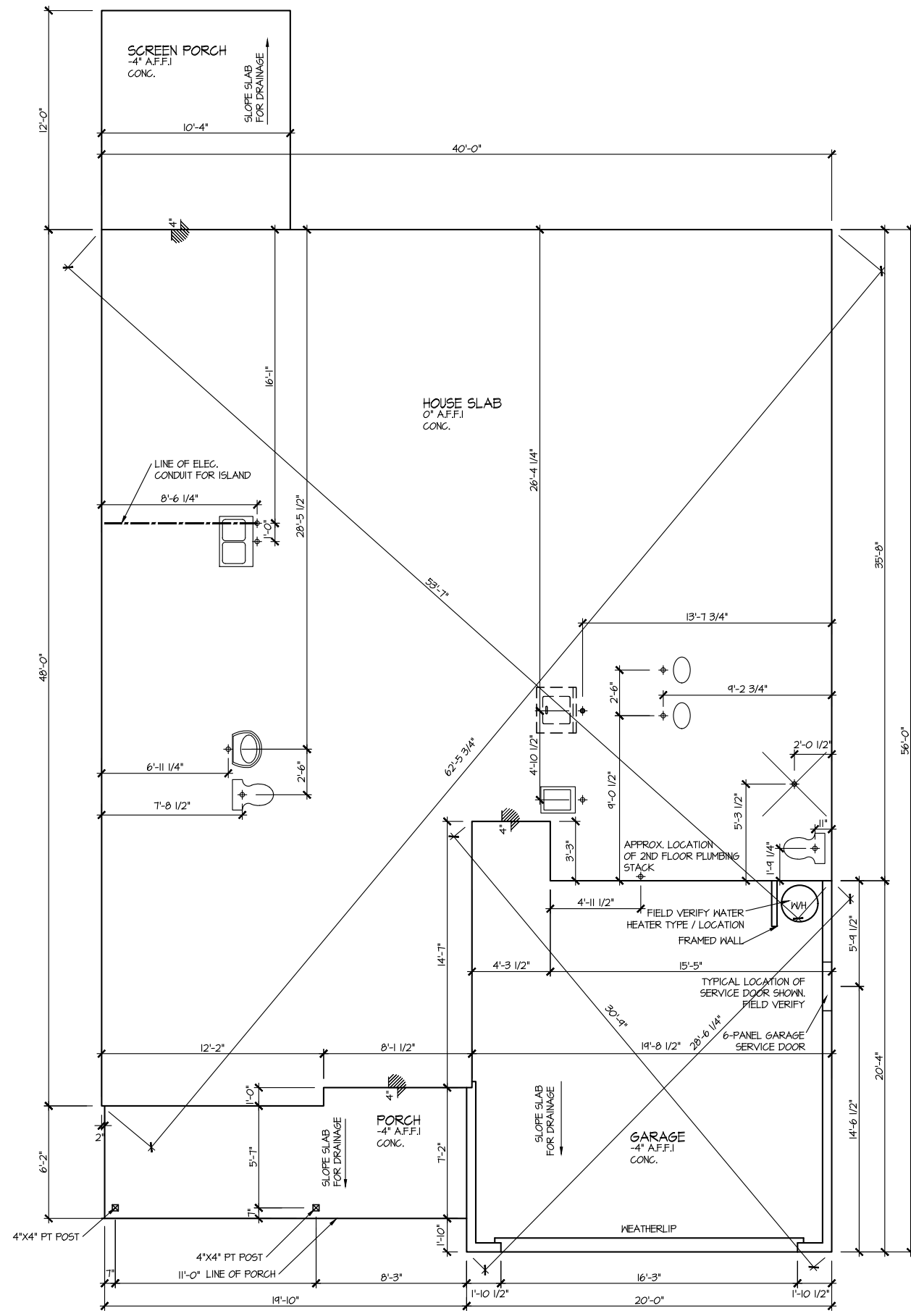
MASTER PLAN INFORMATION	
REVISION	DATE
R1	RALE 10-12-18
	UPDATED DATE 01-24-22

DRAWN BY: ITS
DATE: 05/06/2022
PLAN NO. 2183

DRB GROUP
DRB GROUP
DRB GROUP
DRB GROUP
DRB GROUP

HOUSE NAME: MIDDLETON
DRAWING TITLE: RIGHT & LEFT ELEVATIONS

SHEET No. A1.2



**ELEVATION 4
SLAB PLAN**
SCALE: 1/8" = 1'-0"

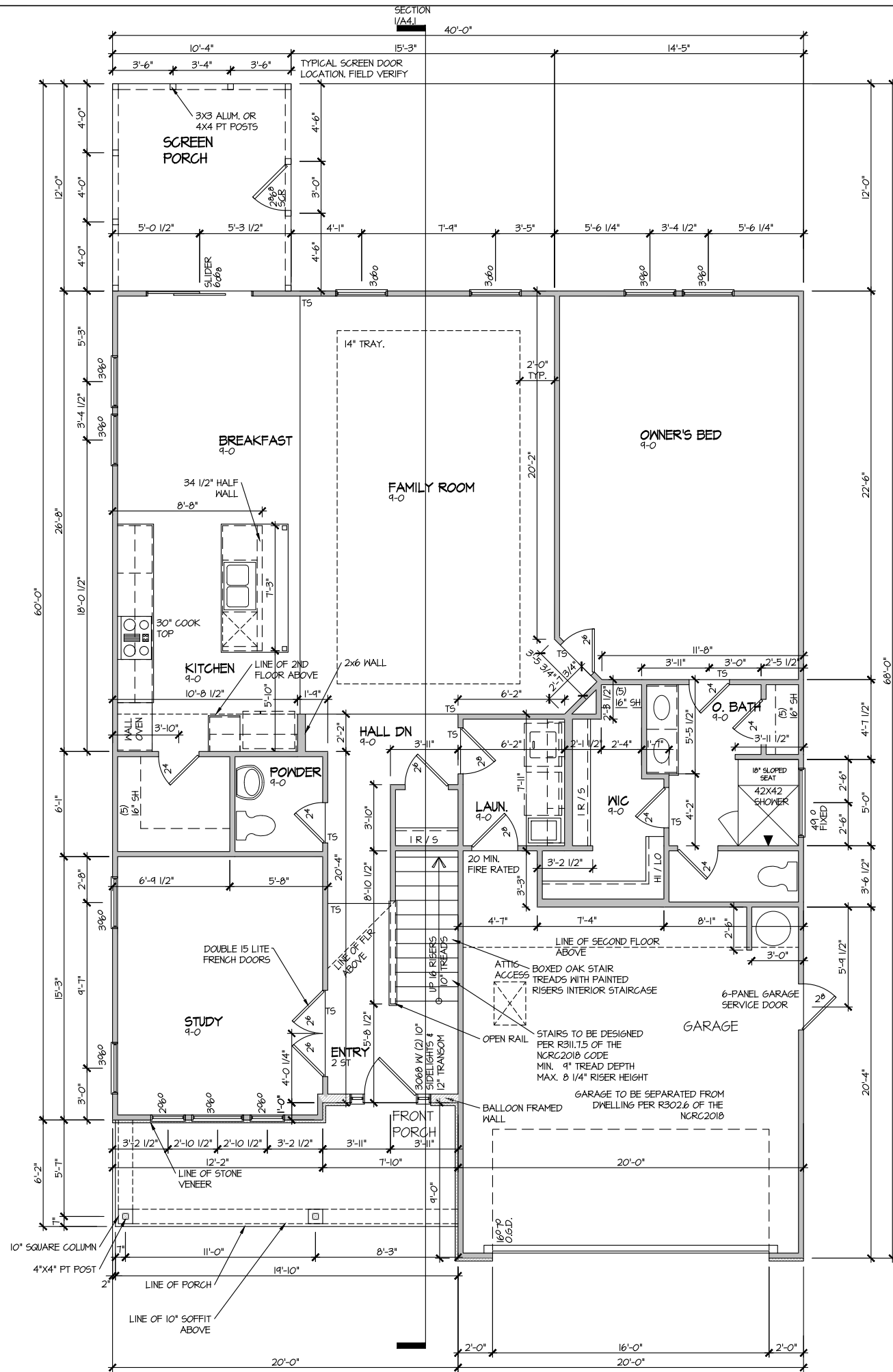
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MASTER PLAN INFORMATION	
REVISION	DATE
R1	RALE
	10-12-18
	01-24-22

DRAWN BY:
ITS
DATE:
05/06/2022
PLAN NO.
2183

HOUSE NAME:
MIDDLETON
DRAWING TITLE
SLAB PLAN

SHEET No.
A2.1



ELEVATION 4
FIRST FLOOR PLAN
SCALE: 1/8" = 1'-0"

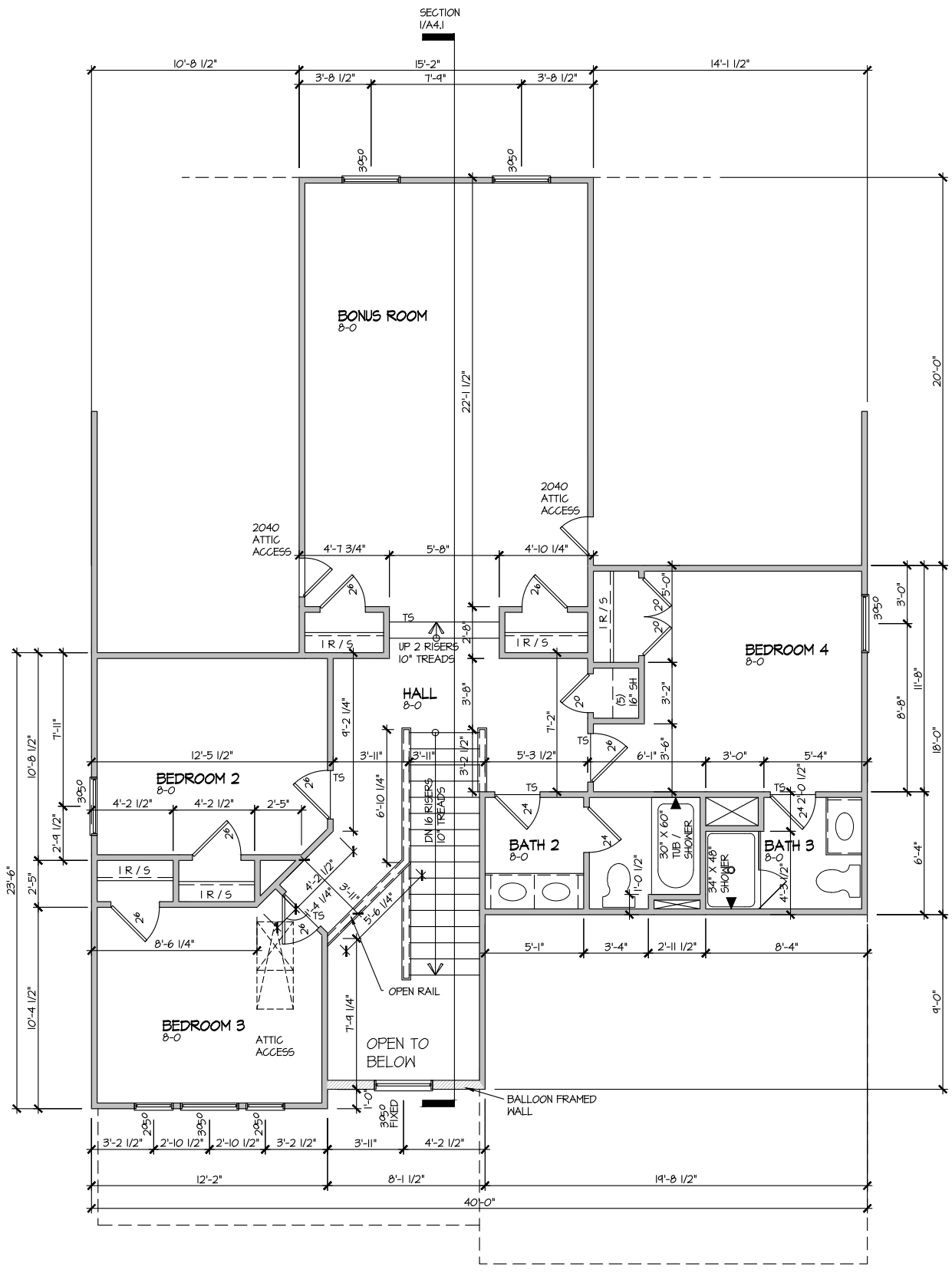
MASTER PLAN INFORMATION	
REVISION	DATE
R1	10-12-18
UPDATED DATE	01-24-22

DRAWN BY:	ITS
DATE:	05/06/2022
PLAN NO.	2183

DRB GROUP
DRB GROUP
FIELDING
DAN RYAN
CONSTRUCTION

HOUSE NAME:	MIDDLETON
DRAWING TITLE	FIRST FLOOR PLAN

SHEET No.	A3.1
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ELEVATION 4
SECOND FLOOR PLAN
SCALE: 1/8" = 1'-0"

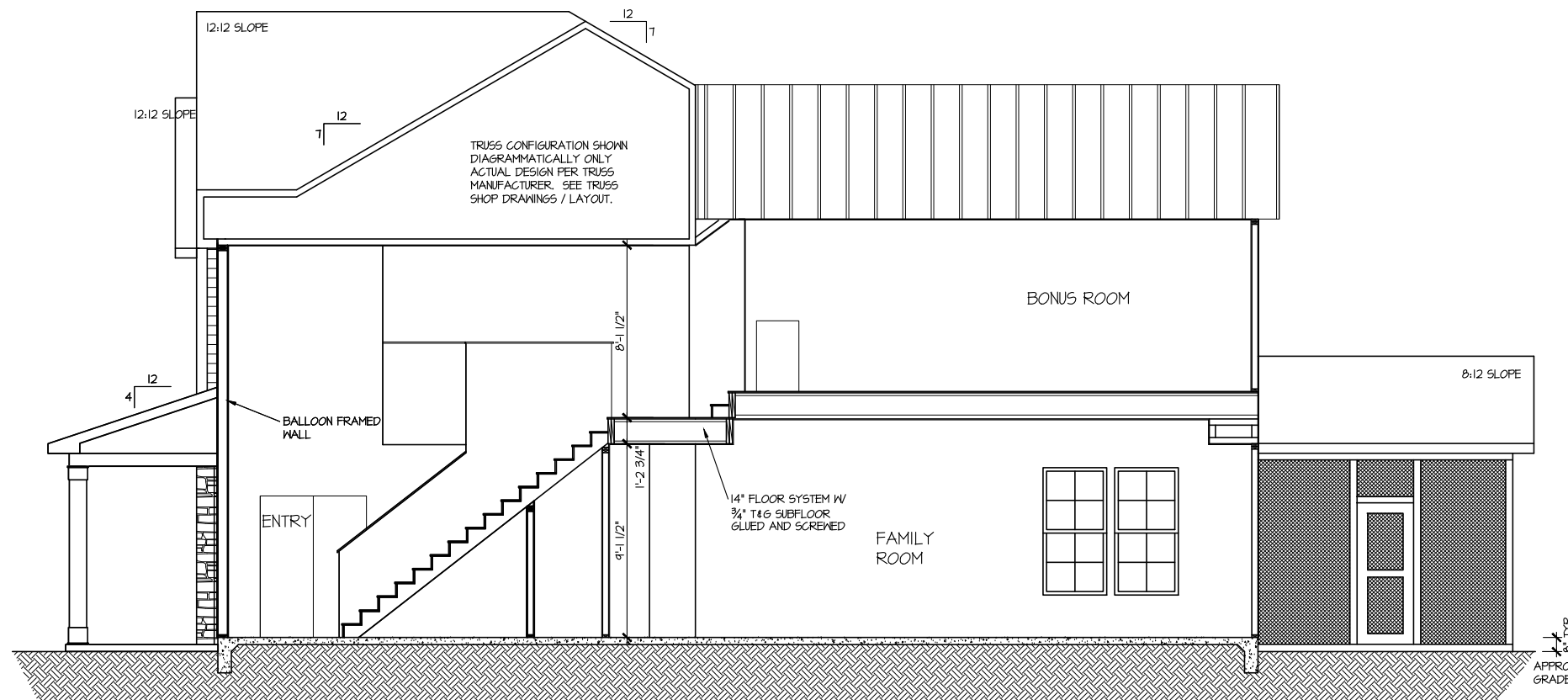
MASTER PLAN INFORMATION	
REVISION	DATE
R1	RALE 10-12-18
UPDATED DATE	01-24-22

DRAWN BY:	ITS
DATE:	05/06/2022
PLAN NO.	2183

DRB
DRB GROUP
FIELDING
DAN RYAN
UNIVERSITY

HOUSE NAME:	MIDDLETON
DRAWING TITLE	SECOND FLOOR PLAN

SHEET No.	A3.2
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SECTION I
SCALE: 1/8" = 1'-0"

MASTER PLAN INFORMATION	
REVISION	DATE
R1	10-12-18
UPDATED DATE	01-24-22

DRAWN BY:	ITS
DATE:	05/06/2022
PLAN NO.	2183

DRB GROUP
FIELDING
COASTAL

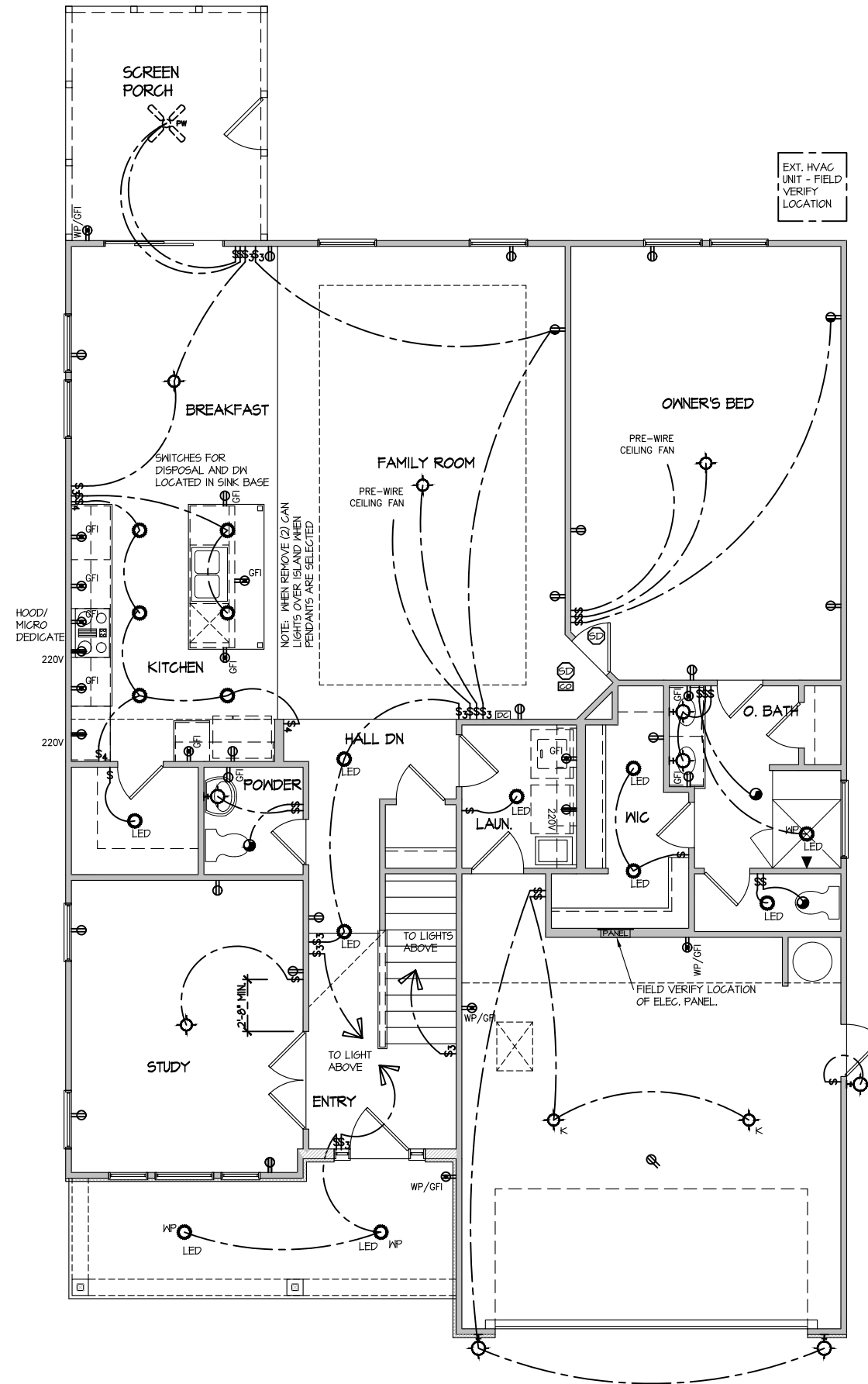
HOUSE NAME:	MIDDLETON
DRAWING TITLE	BUILDING SECTION

SHEET No.
A4.1

ELECTRICAL LEGEND

- ⊘ SINGLE POLE SWITCH
- ⊘₃ THREE WAY SWITCH
- ⊘₄ FOUR WAY SWITCH
- ⊕ DUPLEX AFCI RECEPTACLE
- ⊕_B DUPLEX AFCI RECEPTACLE - BOTTOM HALF SWITCHED
- ⊕_F DUPLEX AFCI RECEPTACLE - FLOOR MOUNTED
- 220V ⊕ RECEPTACLE - 220V
- GFI ⊕ DUPLEX AFCI RECEPTACLE - GFI
- WP/GFI ⊕ DUPLEX AFCI RECEPTACLE - WATERPROOF GFI
- ⊕_{SD} SMOKE DETECTOR - WIRED IN SERIES
- ⊕_{EF} EXHAUST FAN MOTOR
- ⊕_{CO} CO DETECTOR
- ⊕_{DC} DOOR CHIME
- ⊕_L LIGHT FIXTURE - WALL MOUNTED
- ⊕_C LIGHT FIXTURE - CEILING MOUNTED
- ⊕_{RC} LIGHT FIXTURE - RECESSED CAN
- ⊕_{LS} LIGHT FIXTURE - LED SURFACE MOUNTED
- ⊕_{PL} FULLCHAIN LAMPHOLDER
- ⊕_K KEYLESS LAMPHOLDER

NOTE: ALL ELECTRICAL WORK SHALL CONFORM TO THE REQUIREMENTS OF THE ADOPTED VERSION OF THE NATIONAL ELECTRICAL CODE, THE LOCAL POWER COMPANY AND TO ALL APPLICABLE LOCAL REGULATIONS.



**ELECTRICAL PLAN
FIRST FLOOR - ELEV. 4**
SCALE: 1/8" = 1'-0"

MASTER PLAN INFORMATION	
REVISION DATE	UPDATED DATE
R1 RALE 10-12-18	01-24-22

DRAWN BY:	ITS
DATE:	05/06/2022
PLAN NO.	2183

DRB GROUP
FIELDING GROUP
DAN RYAN BUILDERS

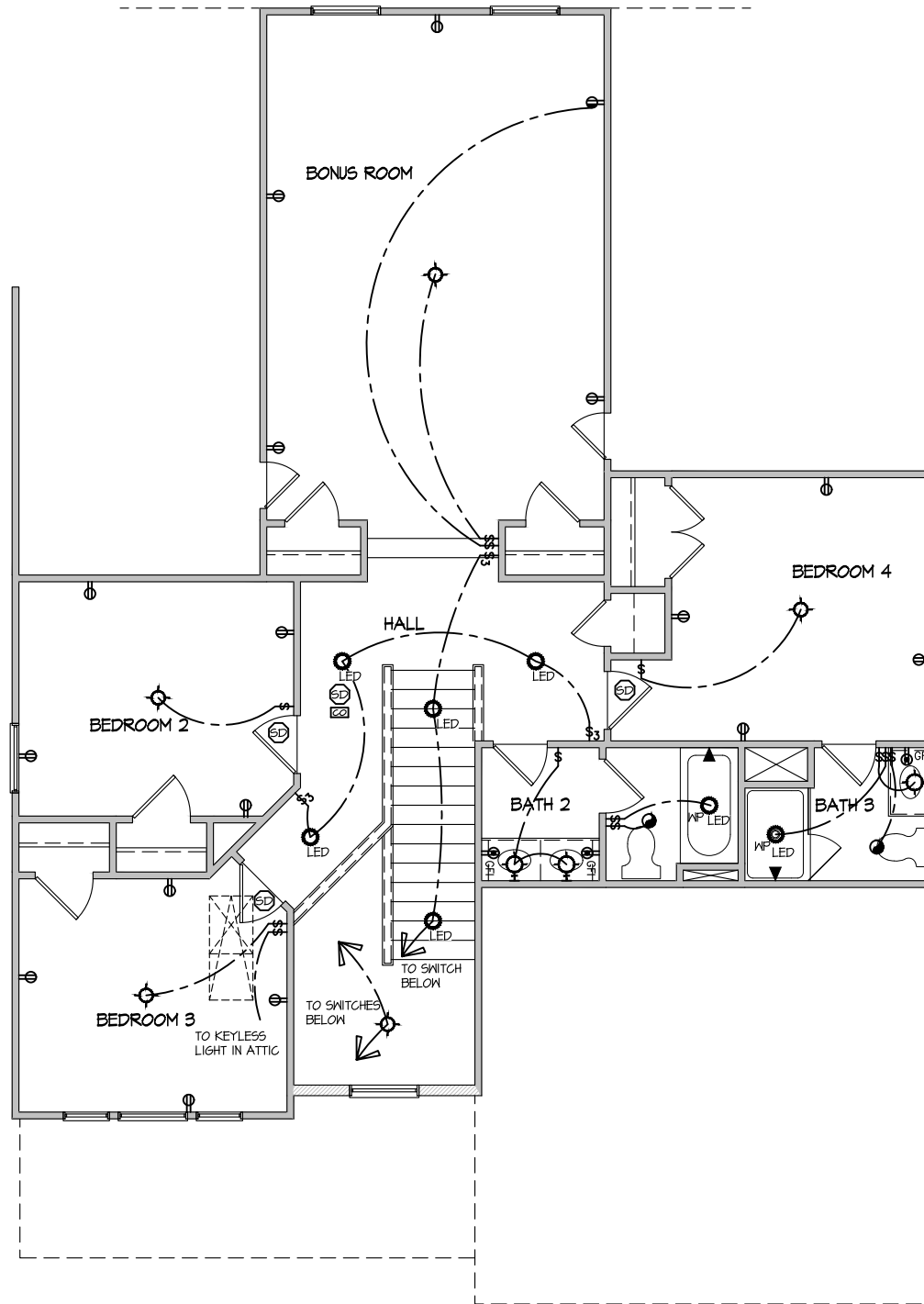
HOUSE NAME:	MIDDLETON
DRAWING TITLE	FIRST FLOOR ELECTRICAL

SHEET No.	E.I.
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ELECTRICAL LEGEND

- Ⓢ SINGLE POLE SWITCH
- Ⓢ₃ THREE WAY SWITCH
- Ⓢ₄ FOUR WAY SWITCH
- ⓈⓂ DUPLEX AFCI RECEPTACLE
- ⓈⓂ_B DUPLEX AFCI RECEPTACLE - BOTTOM HALF SWITCHED
- ⓈⓂ_F DUPLEX AFCI RECEPTACLE - FLOOR MOUNTED
- 220V Ⓢ RECEPTACLE - 220V
- GF Ⓢ DUPLEX AFCI RECEPTACLE - GFI
- WP/GF Ⓢ DUPLEX AFCI RECEPTACLE - WATERPROOF GFI
- ⓈⓂ SMOKE DETECTOR - WIRED IN SERIES
- ⓈⓂ EXHAUST FAN MOTOR
- ⓈⓂ CO DETECTOR
- ⓈⓂ DOOR CHIME
- ⓈⓂ LIGHT FIXTURE - WALL MOUNTED
- ⓈⓂ LIGHT FIXTURE - CEILING MOUNTED
- ⓈⓂ LIGHT FIXTURE - RECESSED CAN
- ⓈⓂ_{LED} LIGHT FIXTURE - LED SURFACE MOUNTED
- ⓈⓂ_{FP} FULLCHAIN LAMPHOLDER
- ⓈⓂ_K KEYLESS LAMPHOLDER

NOTE: ALL ELECTRICAL WORK SHALL CONFORM TO THE REQUIREMENTS OF THE ADOPTED VERSION OF THE NATIONAL ELECTRICAL CODE, THE LOCAL POWER COMPANY AND TO ALL APPLICABLE LOCAL REGULATIONS.



ELECTRICAL PLAN
SECOND FLOOR - ELEV. 4
 SCALE: 1/8" = 1'-0"

MASTER PLAN INFORMATION

REVISION	DATE	UPDATED DATE
R1	10-12-18	01-24-22

DRAWN BY:
ITS
 DATE:
05/06/2022
 PLAN NO.
2183

HOUSE NAME:
MIDDLETON
 DRAWING TITLE
SECOND FLOOR ELECTRICAL

SHEET No.
E1.2

CONNECTION SPECIFICATIONS (TYP. U.N.O.)

Table with 3 columns: DESCRIPTION OF BLDG. ELEMENT, 3"x0.131" NAILS, 3"x0.120" NAILS. Rows include JOIST TO SOLE PLATE, SOLE PLATE TO JOIST/BLK'g, STUD TO SOLE PLATE, etc.

LEGEND

- Interior bearing wall, Bearing wall above, Beam/Header, Indicates shear wall & extent, Extent of overframing, Metal hanger, etc.

NON-BEARING HEADER SCHEDULE

Table with 3 columns: SPAN, 2x4 NON-BEARING PARTITION WALL, 2x6 NON-BEARING PARTITION WALL. Rows include UP TO 3'-0", UP TO 6'-0", UP TO 8'-0".

NOTES: ALL NON-BEARING INTERIOR STUD WALLS SHALL BE CONSTRUCTED WITH 2x STUD GRADE MEMBERS SPACED @ 24" O.C. (MAX.)

GENERAL STRUCTURAL NOTES

- DESIGN IS BASED ON 2018 NORTH CAROLINA STATE BUILDING CODE, RESIDENTIAL CODE. WOOD FRAME ENGINEERING IS BASED ON NDS, NATIONAL DESIGN SPECIFICATION FOR WOOD CONSTRUCTION - LATEST EDITION. DESIGN LOADS: ROOF DEAD = 1 PSF T.C., 10 PSF B.C. LIVE = 16 PSF. FLOOR LIVE = 40 PSF (30 PSF @ SLEEPING AREAS) DEAD = 10 PSF (1-JOISTS & SOLID SAMN) 10 PSF T.C., 5 PSF B.C. (TRUSSES) (ADDL 10 PSF @ TILE) LATERAL 120 MPH, EXPOSURE B. SEISMIC A/B. SOIL 2,000 PSF ASSUMED ALLOWABLE BEARING PRESSURE (TO BE VERIFIED BY BUILDER)

GENERAL FRAMING

- ALL TYP. NAIL FASTENER REQUIREMENTS ARE NOTED IN STANDARD CONNECTIONS TABLE OR ON PLANS. ALL NAILS SPECIFIED ARE MIN DIAMETER AND LENGTH REQUIRED FOR CONNECTION. ALL HANGER NAILS SHALL BE INSTALLED PER MANUFACTURER'S REQUIREMENTS FOR MAX CHARTED CAPACITY. NOTE: HANGERS USE COMMON NAIL DIAMETERS NOT TYPICAL FRAMING GUN NAILS. REFER TO FASTENING SCHEDULE TABLE R602.3(1) FOR ALL CONNECTIONS, TYP. U.N.O. EXT. & INT. BRG WALLS SHALL BE 2x4 OR 2x6 (AS SHOWN ON PLANS) @ 16" O.C. SFF OR SYP (STUD) GRADE LUMBER, OR BETTER, U.N.O. WALLS OVER 12' TALL SHALL BE PER PLAN. ALL HEADERS, BEAMS & OTHER STRUCTURAL MEMBERS SHALL BE SPRUCE-PINE-FIR #2 (SYP) OR SOUTHERN PINE #2 (SYP) LUMBER, OR BETTER (KILN-DRIED). ALL HEADERS HAVE BEEN DESIGNED BASED ON CALCULATED LOADS & SIZED ACCORDINGLY. CODE TABLES HAVE NOT BEEN USED. ALL NON-BEARING INTERIOR STUD WALLS SHALL BE CONSTRUCTED WITH 2x STUD GRADE MEMBERS SPACED @ 16" O.C. (MAX. U.N.O.) HEADERS IN NON-LOAD BEARING WALLS SHALL BE: (1)2x4/6 FLAT @ OPENINGS UP TO 4'; (2)2x4/6 FLAT UP TO 8'. ALL FRAMING LUMBER SHALL BE DRIED TO 15% MC (KD-15). ENGINEERED LUMBER TO MEET OR EXCEED THE FOLLOWING: 1.5L1 - Fb=2325 psi; Fv=310 psi; E=1.55x10^6 psi; 1.5L1 - Fb=2600 psi; Fv=285 psi; E=2.0x10^6 psi

MEANS & METHODS NOTES

THE STRUCTURE IS DESIGNED TO BE SELF SUPPORTING AND STABLE AFTER THE BUILDING IS FINISHED AND ALL PLAN, DETAIL, AND NOTE SPECIFICATIONS HAVE BEEN COMPLETED. IT IS THE CONTRACTOR'S SOLE RESPONSIBILITY TO DETERMINE THE ERECTION PROCEDURES AND SEQUENCE TO INSURE THE SAFETY OF THE BUILDING AND ITS COMPONENTS DURING CONSTRUCTION. THIS INCLUDES, BUT IS NOT LIMITED TO, THE ADDITION OF NECESSARY SHORING, SHEETING, TEMPORARY BRACING, GUYS, AND TIE-DOWNS. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL SHORING AND BRACING REQUIRED TO STABILIZE AND PROTECT EXISTING AND ADJACENT STRUCTURES AND SYSTEMS DURING COURSE OF DEMOLITION AND CONSTRUCTION OF THE PROJECT.

STRUCTURAL DESIGN AND SPECIFICATIONS ASSUME THAT ALL SUPPORTING AND NON-SUPPORTING ELEMENTS IN CONTACT WITH FLOOR FRAMING ARE LEVEL, INCLUDING, BUT NOT LIMITED TO; FOUNDATIONS, SLABS ON GRADE, BEAMS, WALLS, AND NON-BEARING ELEMENTS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO VERIFY LEVELNESS AND MAKE ADJUSTMENTS AS NECESSARY, INCLUDING CONSIDERATION OF THOSE AREAS THAT MAY BE WITHIN CONTRACTUAL, INDUSTRY, OR WARRANTY TOLERANCES.

ADDITIONAL NOTES FOR TRUSS & I-JOIST MANUFACTURER

ROOF TRUSS, FLOOR TRUSS AND ENGINEERED JOISTS SHALL BE DESIGNED TO MEET THE DIFFERENTIAL DEFLECTION CRITERIA BELOW, UNLESS NOTED OTHERWISE ON PLAN. MULHERN & KULP CANNOT BE HELD RESPONSIBLE FOR ANY STRUCTURAL ISSUES RELATED TO ANY BUILDING COMPONENT IF COMPONENT SHOP DRAWINGS ARE NOT SUBMITTED TO MAK FOR REVIEW PRIOR TO FABRICATION, DELIVERY, OR INSTALLATION. TRUSSES/JOISTS SHALL BE DESIGNED SO THAT DIFFERENTIAL DEFLECTION BETWEEN ADJACENT PARALLEL TRUSSES/JOISTS OR GIRDER TRUSSES/FLASH BEAMS DO NOT EXCEED THE FOLLOWING: A. ROOF TRUSSES: 1/4" DEAD LOAD B. FLOOR TRUSSES, ATTIC TRUSSES, & I-JOISTS: 1/8" DEAD LOAD C. FLOOR TRUSSES & ATTIC TRUSSES ADJACENT TO FLOOR FRAMING BY OTHERS: LIMIT ABSOLUTE TRUSS DEFLECTION TO 3/16" DEAD LOAD. (NOT DIFFERENTIAL DEFLECTION)

FLOOR FRAMING

- I-JOISTS/TRUSSES SHALL BE DESIGNED BY MANUF. TO MEET OR EXCEED L/480 LIVE LOAD DEFLECTION CRITERIA. (EXCLUDES MARBLE FLOORS - CONTACT MAK FOR MARBLE FLOOR DESIGNS) AT I-JOIST FLOORS, PROVIDE 1 1/8" MIN. OSB RIM BOARD. METAL HANGERS SHALL BE SPECIFIED BY MANUFACTURER, U.N.O. I-JOIST/TRUSS SHOP DWGS. SHALL BE SUBMITTED TO ARCH. & ENG. FOR REVIEW AND APPROVAL PRIOR TO FABRICATION OR DELIVERY. FLOOR SHEATHING SHALL BE 23/32" A.P.A. RATED 'STURD-I-FLOOR' 24" O.C. EXPOSURE 1 (OR APPROVED EQUAL) WITH TONGUE AND GROOVE EDGES. FASTEN TO FRAMING MEMBERS W/ GLUE AND 2 1/2" x 0.131" NAILS @ 6" O.C. @ PANEL EDGES @ 12" O.C. FIELD. 2 3/8" x 0.120" NAILS @ 4" O.C. @ PANEL EDGES @ 8" O.C. FIELD. 2 5/8" x 0.113" NAILS @ 3" O.C. @ PANEL EDGES @ 6" O.C. IN FIELD.

ROOF FRAMING

- BAY WINDOWS & SHED ROOFS (UP TO 6' SPAN) CAN BE 2x4 OR 2x6 RAFTERS @ CEILING JOISTS @ 16/24" O.C. FASTEN EACH ROOF TRUSS TO TOP PLATE W/ SIMPSON H25T GLIP (OR APPROVED EQUAL) @ ALL BEARING POINTS. PROVIDE (2) H25T CLIPS AT 2-PLY GIRDER TRUSSES, (3) H25T CLIPS AT 3-PLY GIRDER TRUSSES & ROOF BEAMS - AT ALL BEARING POINTS. METAL HANGERS SHALL BE SPECIFIED BY THE MANUFACTURER, U.N.O. ROOF TRUSS SHOP DWGS. SHALL BE SUBMITTED TO ARCH & ENG. FOR REVIEW AND APPROVAL PRIOR TO FABRICATION OR DELIVERY. ERECT AND INSTALL ROOF TRUSSES PER ITCGA & TPI'S BC51 I-08 GUIDE TO GOOD PRACTICE FOR HANDLING, INSTALLING & BRACING OF METAL PLATE CONNECTED WOOD TRUSSES. SUPPORT PORCH & SHORT SPAN ROOF TRUSSES W/2x4 LEDGER FASTENED TO FRAMING W/(2) 3"x0.131" NAILS @ 16" O.C. (MAX 1' SPAN). ROOF SHEATHING SHALL BE 7/16" A.P.A. RATED SHEATHING 24/16 EXPOSURE 1 (OR APPROVED EQUAL). FASTEN TO FRAMING MEMBERS - W/ 2 1/2" x 0.131" NAILS @ 6" O.C. @ PANEL EDGES @ 12" O.C. FIELD. - W/ 2 3/8" x 0.120" NAILS @ 4" O.C. @ PANEL EDGES @ 8" O.C. FIELD. - W/ 2 5/8" x 0.113" NAILS @ 3" O.C. @ PANEL EDGES @ 6" O.C. FIELD.

LATERAL BRACING & SHEAR WALL SHEATHING SPECIFICATIONS

THIS MODEL HAS BEEN DESIGNED TO RESIST LATERAL FORCES RESULTING FROM: 120 MPH WIND IN 2018 NCSBC:RC (120 MPH WIND SPEED IN ASCE 7-10 WIND MAP, PER IRC R301.2.1.1) EXP. B, RISK CAT. 2 & SEISMIC CAT. A/B.

THE DESIGN WAS COMPLETED PER 2015 IBC (SECTION 1604) & ASCE 7-10, AS PERMITTED BY R301.3 OF THE 2018 NCSBC:RC, OR THE SIMPLIFIED PRESCRIPTIVE PROCEDURE IN ACCORDANCE WITH THE 2015 IRC IF THE PARAMETERS OF SECTION R602.12 COMPLY. ACCORDINGLY, THIS MODEL, AS DOCUMENTED AND DETAILED HEREWITHIN, IS ADEQUATE TO RESIST THE CODE REQUIRED LATERAL FORCES.

DESIGN WIND UPLIFT LOADS HAVE BEEN CALCULATED UTILIZING ASCE 7-10 (ACCEPTED ENGINEERING PRACTICE) AS ALLOWED PER 2018 NCSBC:RC SECTION R802.11.1. THIS MODEL HAS BEEN DETAILED WHERE REQUIRED & ENGINEERED TO RESIST THE WIND UPLIFT LOAD PATH PER SECTIONS R602.3.5 & R802.11.

EXT. WALL SHEATHING SPECIFICATION

- 7/16" OSB OR 15/32" PLYWOOD: FASTEN SHEATHING W/ 8d NAILS @ 6" O.C. AT EDGES @ 12" O.C. IN THE PANEL FIELD. TYP. U.N.O. HORIZONTAL BLOCKING OF EXT. WALL/SHEAR WALL PANEL EDGES IS NOT REQUIRED BY THIS DESIGN EXCEPT FOR THOSE AREAS SPECIFICALLY NOTED. ALL EXT. WALLS SHALL BE CONTINUOUSLY SHEATHED AND ARE CONSIDERED SHEAR WALLS. ALT. STAPLE CONNECTION SPEC: 1 1/2" 16 GA STAPLES (1/4" CROWN) @ 3" O.C. AT EDGES @ 6" O.C. IN FIELD.

BLOCKED PANEL EDGES

- AT DESIGNATED AREAS - FASTEN SHEATHING W/ 8d NAILS @ 6" O.C. AT ALL PANEL EDGES AND 12" O.C. IN THE PANEL FIELD OR 1 1/2" 16 GA STAPLES (1/4" CROWN) @ 3" O.C. AT EDGES @ 6" O.C. IN FIELD. ALL SHEATHING PANELS SHALL BE ORIENTED AND INSTALLED FULL HEIGHT OF SHEAR WALL OR 2x HORIZONTAL BLOCKING SHALL BE PROVIDED TO SUPPORT UNSUPPORTED PANEL EDGES & EDGE FASTENING.

3" O.C. EDGE NAILING

- AT DESIGNATED AREAS - FASTEN PANEL EDGES OF WOOD STRUCTURAL WALL SHEATHING TO FRAMING W/ 8d NAILS @ 3" O.C. NO STAPLE ALTERNATIVE AVAILABLE AT THIS SPEC. ALL SHEATHING PANELS SHALL BE ORIENTED AND INSTALLED FULL HEIGHT OF SHEAR WALL OR 2x HORIZONTAL BLOCKING SHALL BE PROVIDED TO SUPPORT UNSUPPORTED PANEL EDGES AND 3" O.C. EDGE FASTENING.

NOTES

- SEE CONNECTION SPECIFICATIONS CHART FOR STANDARD SHEAR TRANSFER DETAILING. IF ADDITIONAL CAPACITY IS REQUIRED BY DESIGN, IT WILL BE SPECIFICALLY NOTED ON PLAN. DESIGN ASSUMES 16" O.C. MAX. STUD SPACING, U.N.O. ALL STRUCTURAL PANELS ARE TO BE DIRECTLY APPLIED TO STUD FRAMING. PRE-MANUFACTURED PANELIZED WALLS: FASTEN TOGETHER END STUDS OF WALL PANELS SHEATHED W/ OSB OR PLYWOOD W/ 10d NAILS @ 4" O.C. (THRU ONE SIDE ONLY)

- INDICATES EXTENT OF INT. OSB SHEARWALL OR 3" O.C. OSB SHEARWALL. INDICATES HOLDDOWN BELOW

HOLD-DOWN SCHEDULE

Table with 2 columns: SYMBOL, SPECIFICATION. Rows include HD-1 SIMPSON HT4 HOLD-DOWN, HD-2 SIMPSON MSTC66 STRAP TIE, HD-3 SIMPSON 5THD14R3 HOLD-DOWN

ALTERNATIVE TO 55TB24 ANCHOR BOLT SPECIFICATION: UTILIZE SIMPSON 'SET' EPOXY SYSTEM TO FASTEN 3/4" DIA. THREADED ROD INTO CONCRETE FOUNDATION. PROVIDE 12" MIN. EMBEDMENT INTO CONCRETE. INSTALL PER MANUF. RECOMMENDATIONS. DO NOT LOCATE ANCHORS WITHIN 1 3/4" OF EDGE OF FOUNDATION.

VENEER LINTEL SCHEDULE

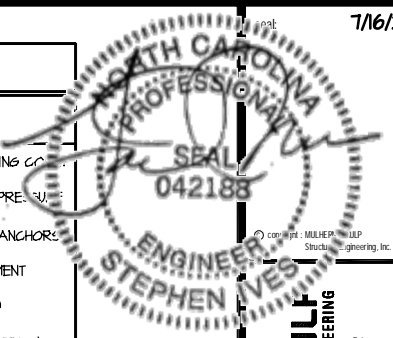
Table with 3 columns: SPAN (MAX), HEIGHT OF VENEER ABOVE LINTEL, STEEL ANGLE SIZE. Rows include 3'-0", 6'-0", 8'-0", 11'-6", 16'-0"

ALL LITTELS: SHALL SUPPORT 2 3/4" - 3 1/2" VENEER W/ 40 psi MAXIMUM HEIGHT. 16" SHALL HAVE 4" MIN BEARING. 16" SHALL HAVE 3" MIN BEARING. 16" SHALL NOT BE FASTENED BACK TO HEADER. 16" SHALL BE FASTENED BACK TO WOOD HEADER IN WALL @ 40" O.C. W/ 1/2" DIA. x 3 1/2" LONG LAG SCREWS IN 2" LONG VERTICALLY SLOTTED HOLES. MAX. VENEER HT. APPLIES TO ANY PORTION OF BRICK OVER THE OPENING. ALL LITTELS SHALL BE LOW LEAD VERTICAL. WHEN SUPPORTING VENEER (3" WIDE THE EXTENSION TOE OF THE HORIZONTAL LEG MAY BE CUT IN THE FIELD TO BE 3 1/2" WIDE OVER THE BEARING LENGTH ONLY. THIS IS TO ALLOW FOR MORTAR JOINT FINISHING. SEE STRUCTURAL PLANS FOR ANY LINTEL CONDITION NOT ENCOMPASSED BY THE ABOVE PARAMETERS. FOR GREEN VENEER USE LAGS. FOR 3/4" VENEER ONLY, SEE PLAN FOR VENEER SUPPORT IF VENEER < 3/8" THICK.

GENERAL STRUCTURAL NOTES

FOUNDATION

- DESIGN IS BASED ON 2018 NORTH CAROLINA STATE BUILDING CODE, RESIDENTIAL CODE. FOOTING DESIGN - 2,000 PSF ALLOWABLE SOIL BEARING PRESSURE IS ASSUMED. BUILDER/CONTRACTOR MUST VERIFY. FASTEN 2x4/6 SILL PLATES TO FND WITH A MINIMUM OF 2 ANCHORS PER PLATE, 12" MAX. FROM PLATE ENDS - UTILIZING: 1/2" DIA. ANCHOR BOLTS @ 6'-0" O.C., 7" MIN. EMBEDMENT (CONG), 15" MIN. EMBEDMENT (CMU) SIMPSON MASA ANCHOR STRAPS @ 6'-0" O.C. (CONG) SIMPSON MAB23 ANCHOR STRAPS @ 2'-8" O.C. (CMU) (REFER TO DETAILS FOR 10' TALL WALL ANCHOR REQUIREMENTS) ALL LUMBER EXPOSED TO WEATHER OR IN CONTACT W/ CONCRETE OR CMU SHALL BE PRESERVATIVE TREATED SOUTHERN PINE #2. BUILDER TO VERIFY CORROSION-RESISTANCE COMPATIBILITY OF HARDWARE & FASTENERS IN CONTACT W/ PRESERVATIVE-TREATED WOOD. CONTACT LUMBER & HARDWARE SUPPLIERS TO COORD. BASEMENT INTERIOR BEARING WALLS & EXTERIOR WALK-OUT BASEMENT WALLS SHALL BE 2x6 @ 16" O.C. SFF OR SYP, 'STUD' GRADE OR BETTER. CONCRETE DESIGN BASED ON ACI 318. CONCRETE SHALL ATTAIN THE FOLLOWING MIN. COMPRESSIVE STRENGTHS IN 28 DAYS, U.N.O.: f'c = 4,000 psi. FOUNDATION WALLS f'c = 2,500 psi. FOOTINGS & INTERIOR SLABS ON GRADE f'c = 3,000 psi. GARAGE & EXTERIOR SLABS ON GRADE fy = 60,000 psi. BASEMENT FOUNDATION WALL DESIGN BASED ON: 4' OR 10' HEIGHT (AS NOTED ON PLANS) - TALLER WALLS MUST BE ENGINEERED. NOMINAL WIDTH (4 1/2" FOR 10' THICK WALL). BASEMENT WALL DESIGN IS BASED ON 60 PCF BACKFILL SOIL TYPE CLASSIFICATIONS (SC, ML-C, OR CL). BASEMENT WALLS SHALL BE BRACED, PRIOR TO BACKFILLING, BY ADEQUATE TEMPORARY BRACING OR INSTALL 1st FLOOR DECK. PROVIDE (2) #5 BARS AROUND ALL SIDES OF OPENINGS IN CONCRETE BSMT. FND. WALL WITH 2" CLEAR. REINFORCEMENT SHALL EXTEND 12" PAST CORNER OF OPENING IN ALL DIRECTIONS. FOR OPENINGS UP TO 36", PROVIDE MINIMUM 10" CONCRETE DEPTH OVER OPENING OR (3)2x10 W/ (2)2x6 JACK STUDS, U.N.O. LARGER OPENINGS SHALL BE PER PLAN. ALL CONCRETE EXPOSED TO THE WEATHER SHALL NOT HAVE LESS THAN 5% OR MORE THAN 7% AIR ENTRAINMENT. ALL FOOTINGS SHALL BEAR AT LEAST 12" BELOW FINISH GRADE. FOOTINGS AND SLABS ON GRADE SHALL BEAR ON VIRGIN SOIL OR 45% COMPACTED FILL. PROVIDE CONTROL JOINTS AT ALL INSIDE CORNERS OF SLAB EDGES, AND OTHER LOCATIONS WHERE SLAB CRACKS ARE LIKELY TO DEVELOP. JOINTS SHALL BE LOCATED @ 10'-0" O.C. (RECOMMENDED) OR 15'-0" O.C. (MAXIMUM) JOINT GRID PATTERN SHALL BE AS CLOSE TO SQUARES AS POSSIBLE (1:1 RATIO), WITH A MAXIMUM OF 1:1.5 RATIO CONTROL JOINTS SHALL NOT BE INSTALLED IN STRUCTURAL SLABS. CONCRETE MASONRY UNITS (CMU) SHALL BE ASTM C40 WITH A MIN. COMPRESSIVE STRENGTH OF 1900 psi (Fm=1500 psi), MORTAR SHALL BE ASTM C270, TYPE S. CMU DESIGN PER ACI 530 & 530.1. CMU FOUNDATION WALLS SHALL HAVE 'DUR-O-WALL' HORIZONTAL JOINT REINFORCEMENT (OR EQUAL) - 9 GA. MINIMUM @ 16" O.C. PROVIDE 2x8 x 16" LONG P.T. PLATE ON TOP OF ALL CRAWL SPACE PIERS. ALL PIERS SHALL BE GROUTED SOLID. PROVIDE 2x6 P.T. PLATE ON INTERIOR CRAWL SPACE WALLS, FASTENED PER ANCHORAGE SPECIFICATION NOTED ABOVE. DIMENSIONS BY OTHERS, BUILDER TO VERIFY. BUILDER TO VERIFY THAT MODEL HAS BEEN ADEQUATELY TREATED BY A LICENSED AND BONDED PEST CONTROL COMPANY FOR SUBTERRANEAN TERMITES. METHOD AND TYPE OF TREATMENT TO BE DETERMINED BY PEST CONTROL COMPANY.



MULHERN+KULP RESIDENTIAL STRUCTURAL ENGINEERING 300 Braddock Ave. Building 4 - number: PA 19002 P: 610-948-9007 - mulhern@mulhern.com NC LIC. #C-3825



M&K project number: 126-21018

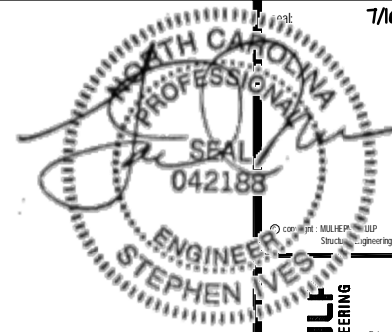
project mgr: JTR drawn by: MDH issue date: 07-16-21

REVISIONS: date: initial:



Structural Notes MIDDLETON MODEL RALEIGH, NC

sheet: SO.0



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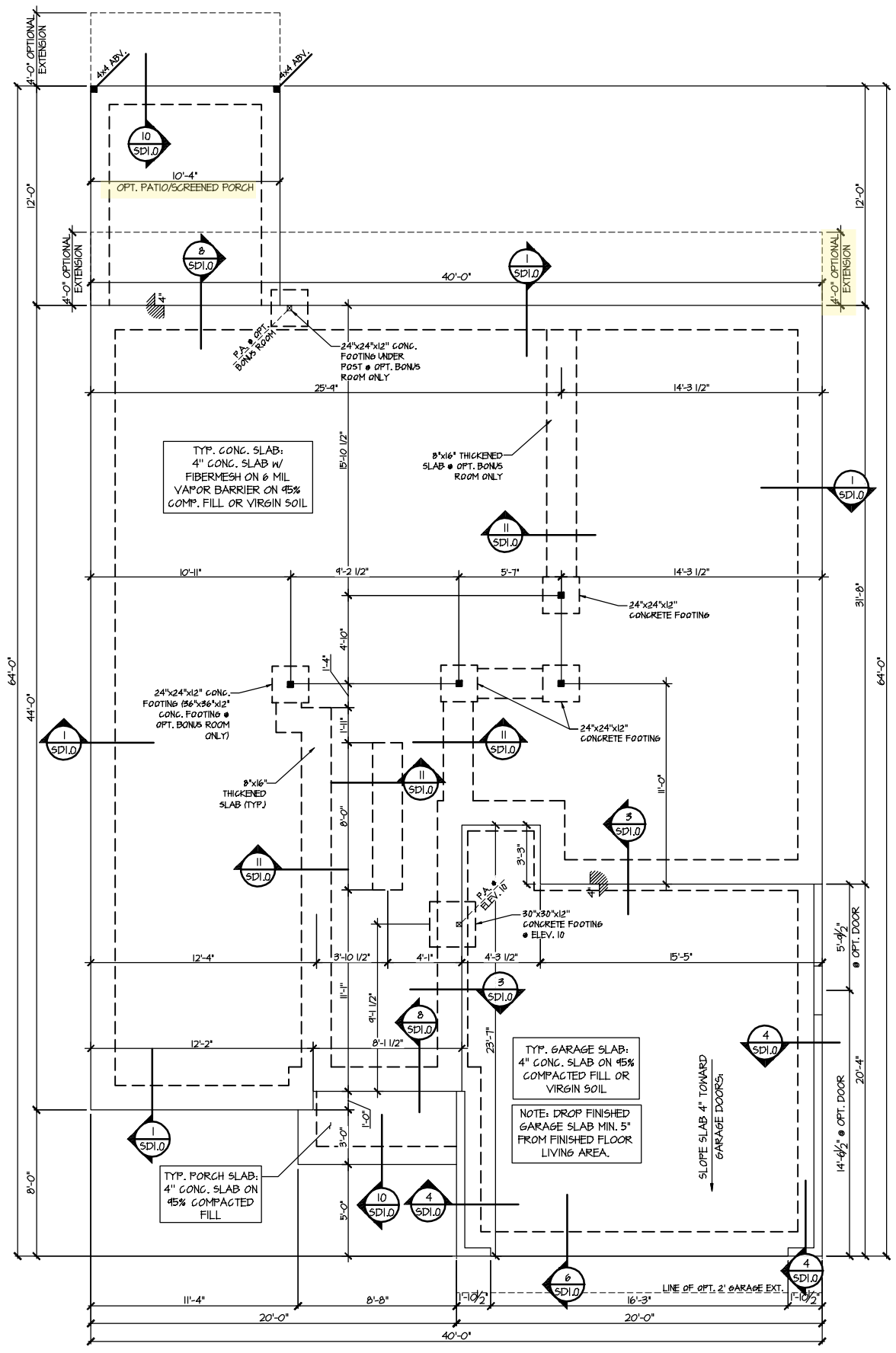
Foundation Plans
MIDDLETON MODEL
RALEIGH, NC

sheet: Right Hand
S1.0

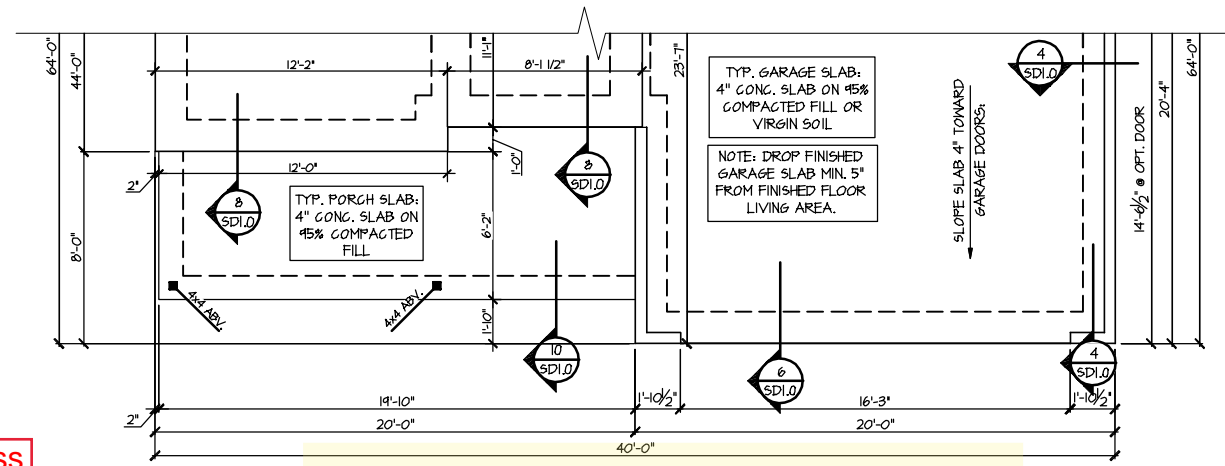
REFER TO SO.0 FOR
TYPICAL STRUCTURAL NOTES
& SCHEDULES

LEGEND

- ▬ INTERIOR BEARING WALL
- - - BEARING WALL ABOVE
- ▬ BEAM / HEADER
- ▬ INDICATES SHEAR WALL & EXTENT
- ▬ EXTENT OF OVERFRAMING
- JL METAL HANGER
- * INDICATES POST ABOVE. PROVIDE SOLID BLOCKING UNDER POST OR JAMB ABOVE.
- ▶ INDICATES HOLD-DOWN OR STRAP. REFER TO SCHEDULE.



Tankless
Water
Heater



ENGINEERED BEAM MATERIAL SCHEDULE

BEAM NUMBER	LVL OPTION	PSL OPTION	LSL OPTION	FLITCH OPTION	STEEL OPTION
001	(2)1 1/2"x11 3/4" - H	3/4"x11 3/4" - H	(2)1 1/4"x11 3/4" - H	(2)2x12 + (1) 1/2"x11 3/4" STEEL FLITCH PLATE - H	N/A
001A	(2)1 1/2"x11 3/4" - H	3/4"x11 3/4" - H	(2)1 1/4"x11 3/4" - H	(2)2x12 + (1) 1/2"x11 3/4" STEEL FLITCH PLATE - H	N/A
002	(2)1 1/2"x18" - FT	3/4"x18" - FT	N/A	(3)2x12 + (2) 1/2"x18" STEEL FLITCH PLATES - FB	W2x14 - F
003	(2)1 1/2"x14" - F	3/4"x14" - F	(2)1 1/4"x14" - F	(2)2x12 + (1) 1/2"x14" STEEL FLITCH PLATE - FB	W2x14 - F
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006	(2)1 1/2"x14" - F	3/4"x14" - F	(2)1 1/4"x14" - F	(2)2x12 + (1) 1/2"x14" STEEL FLITCH PLATE - FB	W2x14 - F
007	(2)1 1/2"x11 3/4" - F	3/4"x11 3/4" - F	(2)1 1/4"x11 3/4" - F	(2)2x12 + (1) 1/2"x11 3/4" STEEL FLITCH PLATE - F	W8x12 - F
008	(2)1 1/2"x14" - F	3/4"x14" - F	(2)1 1/4"x14" - F	(2)2x12 + (1) 1/2"x14" STEEL FLITCH PLATE - FB	W2x14 - F
009	(3)1 1/2"x18" - FT	3/4"x18" - FT	N/A	(4)2x12 + (3) 1/2"x18" STEEL FLITCH PLATES - FB	W2x26 - F
010	(3)1 1/2"x20" - FT	3/4"x20" - FT	N/A	(4)2x12 + (3) 1/2"x20" STEEL FLITCH PLATES - FB	W2x35 - F
011	(2)1 1/2"x11 3/4" - FB	3/4"x11 3/4" - FB	(2)1 1/4"x14" - FB	(2)2x12 + (1) 1/2"x11 3/4" STEEL FLITCH PLATE - FB	W8x12 - FB

- BEAM NOTATION:
 - "F" INDICATES FLUSH BEAM
 - "FT" INDICATES FLUSH TOP BEAM
 - "FB" INDICATES FLUSH BOTTOM BEAM
 - "D" INDICATES DROPPED BEAM
 - "H" INDICATES DROPPED OPENING HEADER
- REFER TO DETAIL D/SD2.0 FOR TYPICAL FLITCH BEAM CONNECTIONS
- REFER TO DETAIL E/SD2.0 FOR TYPICAL STEEL BEAM CONNECTIONS
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- FOR FLUSH BOTTOM BEAMS PROVIDE 2X STACKED PLATES ATOP BEAM AS REQ'D. FASTEN PLATES IN SUCCESSION W/ (2) 3"x0.120" NAILS @ 8" O.C.

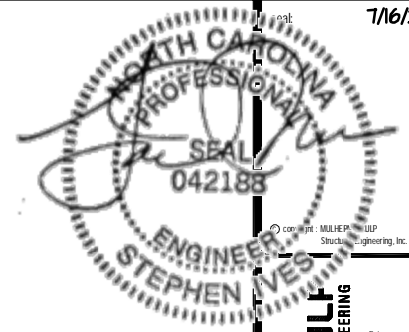
LEGEND

- INTERIOR BEARING WALL
- BEARING WALL ABOVE
- BEAM / HEADER
- INDICATES SHEAR WALL & EXTENT
- EXTENT OF OVERFRAMING
- JL METAL HANGER
- INDICATES POST ABOVE. PROVIDE SOLID BLOCKING UNDER POST OR JAMB ABOVE.
- INDICATES HOLD-DOWN OR STRAP. REFER TO SCHEDULE.

REFER TO SO.O FOR TYPICAL STRUCTURAL NOTES & SCHEDULES

SD2.0 & SD2.1 REFERS TO SD2.0J & SD2.1J FOR I-JOIST FLOOR FRAMING OR SD2.0T & SD2.1T FOR TRUSS FLOOR FRAMING

SD2.1J/SD2.1T REFERS TO SD2.1JA/SD2.1TA FOR LVL/PSL/LSL BEAMS OR SD2.1JB/SD2.1TB FOR FLITCH BEAMS OR SD2.1JC/SD2.1TC FOR STEEL BEAMS

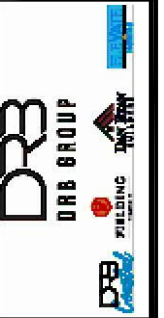


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 NC LIC. # C-3825

M&K project number: 126-21018
 project mgr: JTR
 drawn by: MDH
 issue date: 07-16-21

REVISIONS:

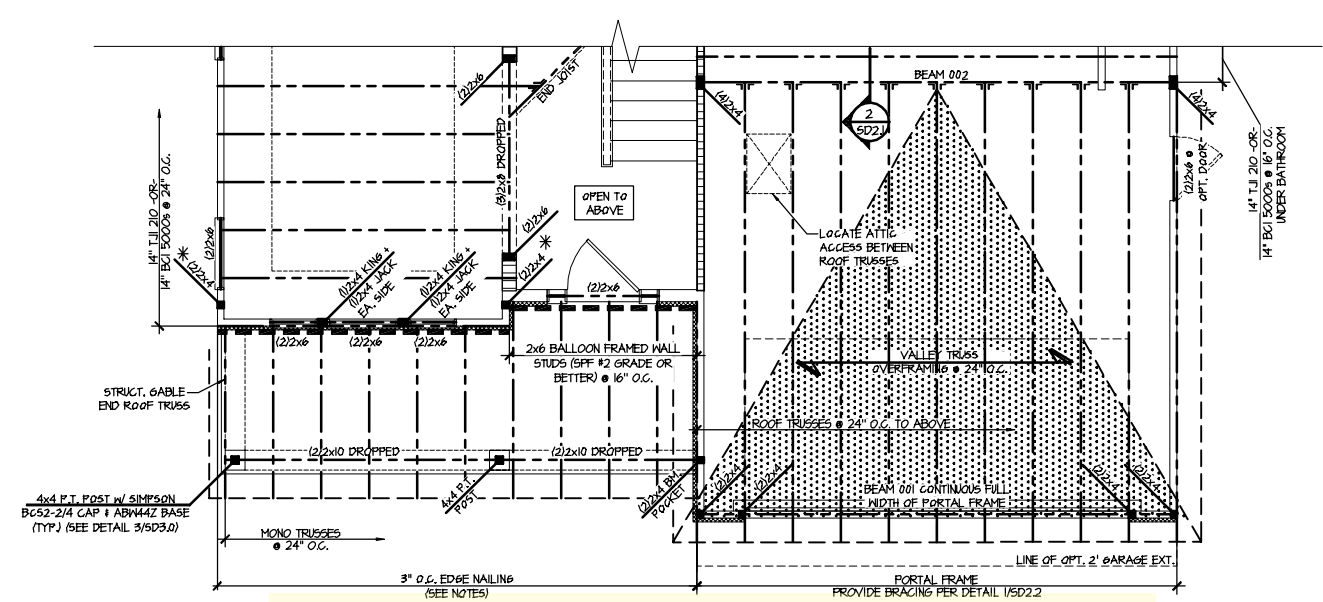
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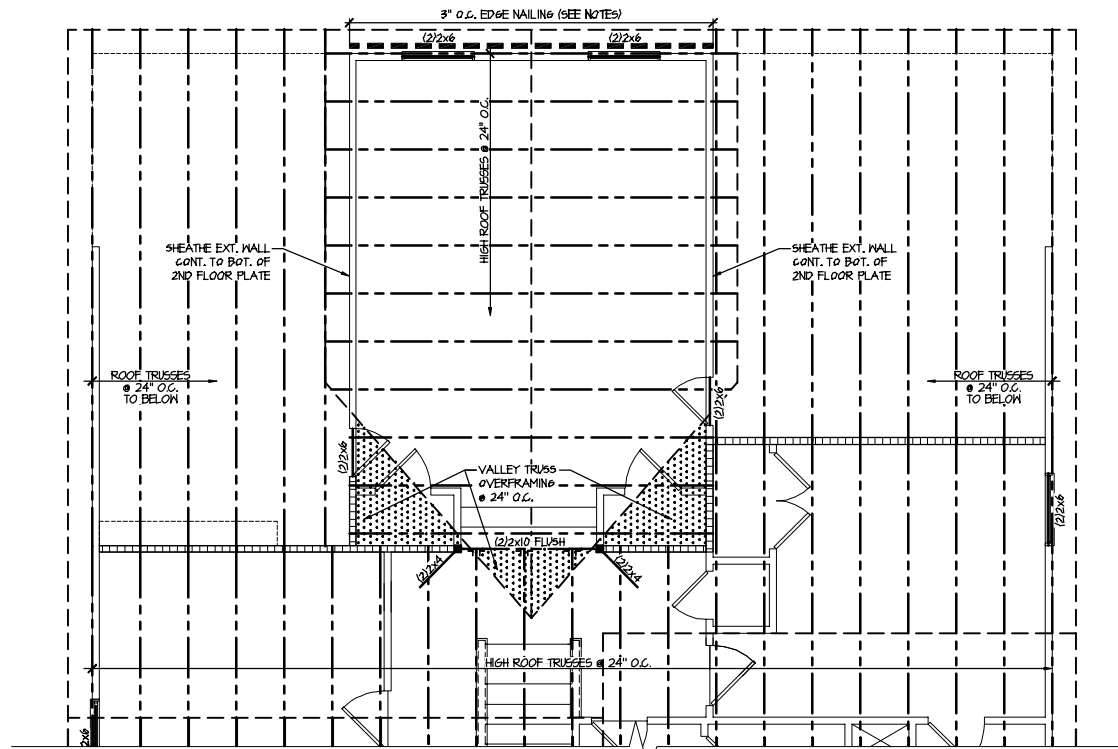
Floor Framing Plans
 MIDDLETON MODEL
 RALEIGH, NC

sheet: Right Hand
S3.1J

FILE: RLH - Middleton - Structural DATE: 7/16/2021 5:34 PM



2 PARTIAL 2ND FLOOR FRAMING PLAN - I-JOIST
 SCALE: 1/8"=1'-0"
 ELEVATION #4



**1 PARTIAL ROOF FRAMING PLAN
OPTIONAL BONUS ROOM - 1-JOISTS**
SCALE: 1/8"=1'-0"
ELEV. #1 SHOWN - ALL ELEV. SIM.
OPT. REAR 4' EXT. SIM.

ENGINEERED BEAM MATERIAL SCHEDULE					
BEAM NUMBER	LVL OPTION	PSL OPTION	LSL OPTION	FLITCH OPTION	STEEL OPTION
001	(2)1 1/2"x1 1/2" - H	3/2"x1 1/2" - H	(2)1 1/2"x1 1/2" - H	(2)2x12 + (1) 1/2"x1 1/2" STEEL FLITCH PLATE - H	N/A
001A	(2)1 1/2"x1 1/2" - H	3/2"x1 1/2" - H	(2)1 1/2"x1 1/2" - H	(2)2x12 + (1) 1/2"x1 1/2" STEEL FLITCH PLATE - H	N/A
002	(2)1 1/2"x18" - FT	5/4"x18" - FT	N/A	(2)2x12 + (2) 1/2"x1 1/2" STEEL FLITCH PLATES - FB	N2x14 - F
003	(2)1 1/2"x14" - F	3/2"x14" - F	(2)1 1/2"x14" - F	(2)2x12 + (1) 1/2"x1 1/2" STEEL FLITCH PLATE - FB	N2x14 - F
004	(2)1 1/2"x14" - F	3/2"x14" - F	(2)1 1/2"x14" - F	(2)2x12 + (1) 1/2"x1 1/2" STEEL FLITCH PLATE - FB	N2x14 - F
005	(2)1 1/2"x14" - F	3/2"x14" - F	(2)1 1/2"x14" - F	(2)2x12 + (1) 1/2"x1 1/2" STEEL FLITCH PLATE - FB	N2x14 - F
006	(2)1 1/2"x14" - F	3/2"x14" - F	(2)1 1/2"x14" - F	(2)2x12 + (1) 1/2"x1 1/2" STEEL FLITCH PLATE - FB	N2x14 - F
007	(2)1 1/2"x1 1/2" - F	3/2"x1 1/2" - F	(2)1 1/2"x1 1/2" - F	(2)2x12 + (1) 1/2"x1 1/2" STEEL FLITCH PLATE - F	N10x12 - F
008	(2)1 1/2"x14" - F	3/2"x14" - F	(2)1 1/2"x14" - F	(2)2x12 + (1) 1/2"x1 1/2" STEEL FLITCH PLATE - FB	N2x14 - F
009	(2)1 1/2"x18" - FT	5/4"x18" - FT	N/A	(4)2x12 + (2) 1/2"x1 1/2" STEEL FLITCH PLATES - FB	N2x26 - F
010	(2)1 1/2"x20" - FT	5/4"x20" - FT	N/A	(4)2x12 + (2) 1/2"x1 1/2" STEEL FLITCH PLATES - FB	N2x35 - F
011	(2)1 1/2"x1 1/2" - FB	3/2"x1 1/2" - FB	(2)1 1/2"x14" - FB	(2)2x12 + (1) 1/2"x1 1/2" STEEL FLITCH PLATE - FB	N10x12 - FB

BEAM NOTATION:
 - "H" INDICATES FLUSH BEAM
 - "FT" INDICATES FLUSH TOP BEAM
 - "FB" INDICATES FLUSH BOTTOM BEAM
 - "D" INDICATES DROPPED BEAM
 - "H" INDICATES DROPPED OPENING HEADER
 • REFER TO DETAIL D/SD2.0 FOR TYPICAL FLITCH BEAM CONNECTIONS
 • REFER TO DETAIL E/SD2.0 FOR TYPICAL STEEL BEAM CONNECTIONS
 • FOR FLUSH TOP BEAMS PROVIDE 2X STACKED PLATES BENEATH BEAM AS REQ'D. FASTEN PLATES IN SUCCESSION W/ (2) 3"x0.120" NAILS @ 8" O.C.
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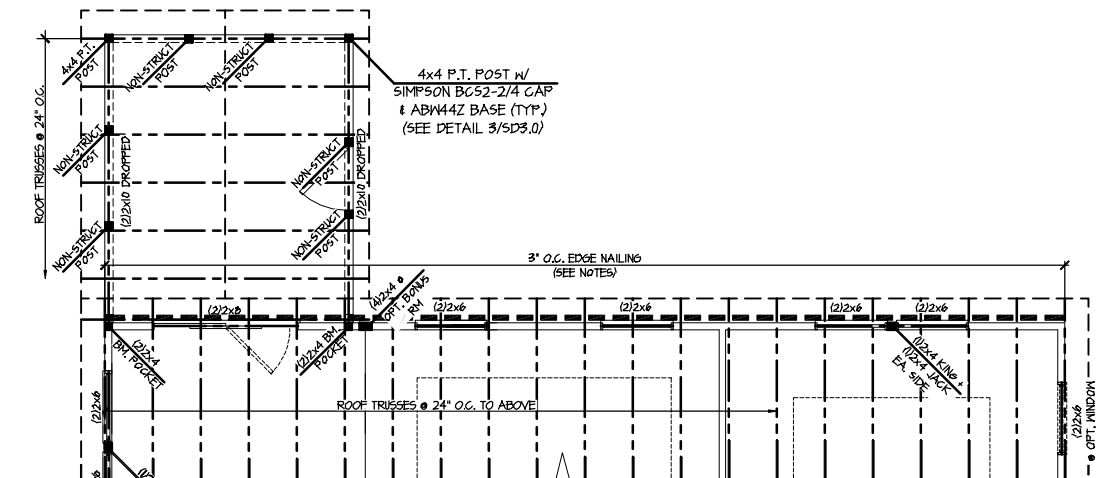
LEGEND

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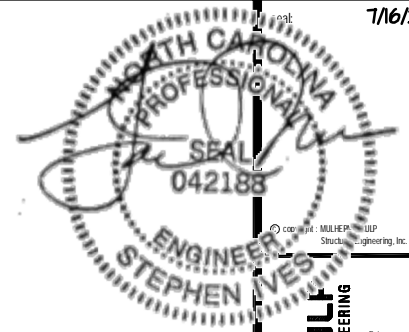
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**SD2.0 & SD2.1 REFERS TO SD2.0J
& SD2.1J FOR 1-JOIST FLOOR
FRAMING OR SD2.0T & SD2.1T
FOR TRUSS FLOOR FRAMING**

**SD2.1J/SD2.1T REFERS TO
SD2.1JA/SD2.1TA FOR LVL/PSL/LSL
BEAMS OR SD2.1JB/SD2.1TB FOR
FLITCH BEAMS OR
SD2.1JC/SD2.1TC FOR STEEL
BEAMS**



**4 PARTIAL 2ND FLOOR FRAMING PLAN
OPTIONAL SCREENED PORCH - 1-JOISTS**
SCALE: 1/8"=1'-0"
ELEV. #1 SHOWN - ALL ELEV. SIM.



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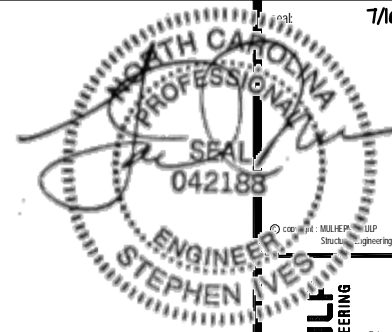
M&K project number: 126-21018
project mgr: JTR
drawn by: MDH
issue date: 07-16-21

REVISIONS:
date: initial:



Option Framing Plans
MIDDLETON MODEL
RALEIGH, NC

sheet: Right Hand
S5.0J



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NC LIC. #C-3825

ENGINEERED BEAM MATERIAL SCHEDULE

BEAM NUMBER	LVL OPTION	PSL OPTION	LSL OPTION	FLITCH OPTION	STEEL OPTION
001	(2) 1 1/2" x 1 1/2" - H	3/2" x 1 1/2" - H	(2) 1 1/2" x 1 1/2" - H	(2) 2 x 2 + (1) 1/2" x 1 1/2" STEEL FLITCH PLATE - H	N/A
001A	(2) 1 1/2" x 1 1/2" - H	3/2" x 1 1/2" - H	(2) 1 1/2" x 1 1/2" - H	(2) 2 x 2 + (1) 1/2" x 1 1/2" STEEL FLITCH PLATE - H	N/A
002	(2) 1 1/2" x 1 1/2" - FT	3/2" x 1 1/2" - FT	N/A	(2) 2 x 2 + (2) 1/2" x 1 1/2" STEEL FLITCH PLATES - FB	N2x14 - F
003	(2) 1 1/2" x 1 1/2" - F	3/2" x 1 1/2" - F	(2) 1 1/2" x 1 1/2" - F	(2) 2 x 2 + (1) 1/2" x 1 1/2" STEEL FLITCH PLATE - FB	N2x14 - F
004	(2) 1 1/2" x 1 1/2" - F	3/2" x 1 1/2" - F	(2) 1 1/2" x 1 1/2" - F	(2) 2 x 2 + (1) 1/2" x 1 1/2" STEEL FLITCH PLATE - FB	N2x14 - F
005	(2) 1 1/2" x 1 1/2" - F	3/2" x 1 1/2" - F	(2) 1 1/2" x 1 1/2" - F	(2) 2 x 2 + (1) 1/2" x 1 1/2" STEEL FLITCH PLATE - FB	N2x14 - F
006	(2) 1 1/2" x 1 1/2" - F	3/2" x 1 1/2" - F	(2) 1 1/2" x 1 1/2" - F	(2) 2 x 2 + (1) 1/2" x 1 1/2" STEEL FLITCH PLATE - FB	N2x14 - F
007	(2) 1 1/2" x 1 1/2" - F	3/2" x 1 1/2" - F	(2) 1 1/2" x 1 1/2" - F	(2) 2 x 2 + (1) 1/2" x 1 1/2" STEEL FLITCH PLATE - F	N0x12 - F
008	(2) 1 1/2" x 1 1/2" - F	3/2" x 1 1/2" - F	(2) 1 1/2" x 1 1/2" - F	(2) 2 x 2 + (1) 1/2" x 1 1/2" STEEL FLITCH PLATE - FB	N2x14 - F
009	(2) 1 1/2" x 1 1/2" - FT	3/2" x 1 1/2" - FT	N/A	(4) 2 x 2 + (2) 1/2" x 1 1/2" STEEL FLITCH PLATES - FB	N2x26 - F
010	(2) 1 1/2" x 1 1/2" - FT	3/2" x 1 1/2" - FT	N/A	(4) 2 x 2 + (2) 1/2" x 1 1/2" STEEL FLITCH PLATES - FB	N2x35 - F
011	(2) 1 1/2" x 1 1/2" - FB	3/2" x 1 1/2" - FB	(2) 1 1/2" x 1 1/2" - FB	(2) 2 x 2 + (1) 1/2" x 1 1/2" STEEL FLITCH PLATE - FB	N0x12 - FB

- BEAM NOTATION:
 - "F" INDICATES FLUSH BEAM
 - "FT" INDICATES FLUSH TOP BEAM
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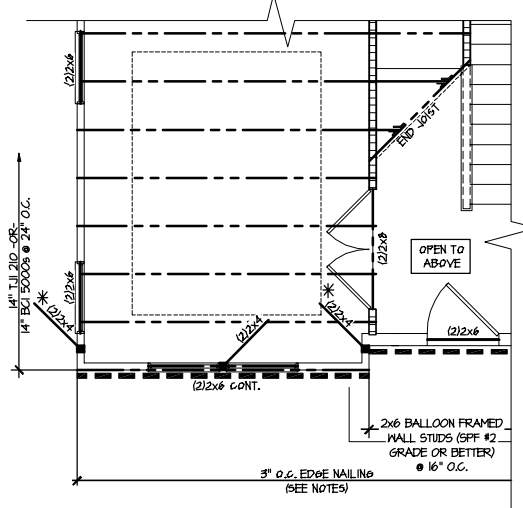
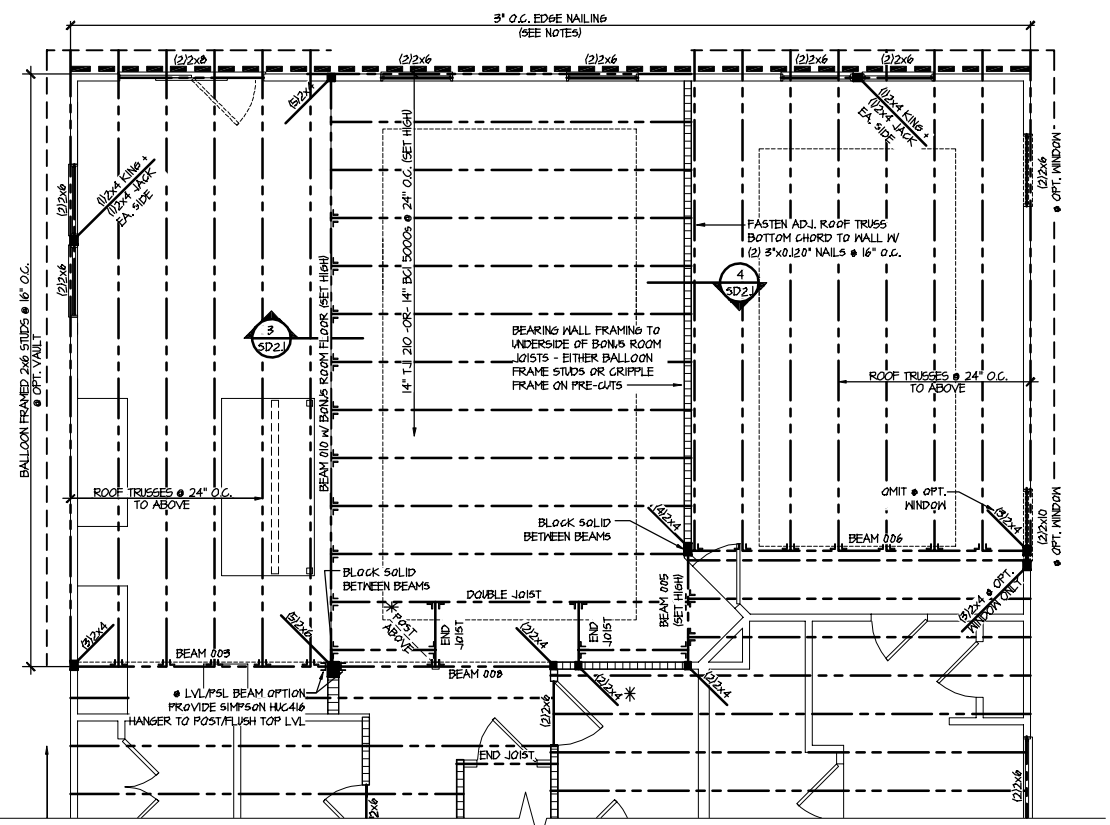
LEGEND

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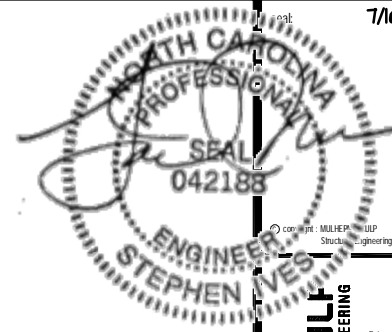


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Option Framing Plans
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RALEIGH, NC



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ENGINEERED BEAM MATERIAL SCHEDULE					
BEAM NUMBER	LVL OPTION	PSL OPTION	LSL OPTION	FLITCH OPTION	STEEL OPTION
001	(2)1 1/2"x11 1/4" - H	3 1/2"x11 1/4" - H	(2)1 1/2"x11 1/4" - H	(2)2x12 + (1) 1/2"x11 1/4" STEEL FLITCH PLATE - H	N/A
001A	(2)1 1/2"x11 1/4" - H	3 1/2"x11 1/4" - H	(2)1 1/2"x11 1/4" - H	(2)2x12 + (1) 1/2"x11 1/4" STEEL FLITCH PLATE - H	N/A
002	(2)1 1/2"x18" - FT	5 1/2"x18" - FT	N/A	(3)2x12 + (2) 1/2"x11 1/4" STEEL FLITCH PLATES - FB	W2x14 - F
003	(2)1 1/2"x14" - F	3 1/2"x14" - F	(2)1 1/2"x14" - F	(2)2x12 + (1) 1/2"x11 1/4" STEEL FLITCH PLATE - FB	W2x14 - F
004	(2)1 1/2"x14" - F	3 1/2"x14" - F	(2)1 1/2"x14" - F	(2)2x12 + (1) 1/2"x11 1/4" STEEL FLITCH PLATE - FB	W2x14 - F
005	(2)1 1/2"x14" - F	3 1/2"x14" - F	(2)1 1/2"x14" - F	(2)2x12 + (1) 1/2"x11 1/4" STEEL FLITCH PLATE - FB	W2x14 - F
006	(2)1 1/2"x14" - F	3 1/2"x14" - F	(2)1 1/2"x14" - F	(2)2x12 + (1) 1/2"x11 1/4" STEEL FLITCH PLATE - FB	W2x14 - F
007	(2)1 1/2"x11 1/4" - F	3 1/2"x11 1/4" - F	(2)1 1/2"x11 1/4" - F	(2)2x12 + (1) 1/2"x11 1/4" STEEL FLITCH PLATE - F	W10x12 - F
008	(2)1 1/2"x14" - F	3 1/2"x14" - F	(2)1 1/2"x14" - F	(2)2x12 + (1) 1/2"x11 1/4" STEEL FLITCH PLATE - FB	W2x14 - F
009	(3)1 1/2"x18" - FT	5 1/2"x18" - FT	N/A	(4)2x12 + (3) 1/2"x11 1/4" STEEL FLITCH PLATES - FB	W12x26 - F
010	(3)1 1/2"x20" - FT	5 1/2"x20" - FT	N/A	(4)2x12 + (3) 1/2"x11 1/4" STEEL FLITCH PLATES - FB	W12x35 - F
011	(2)1 1/2"x11 1/4" - FB	3 1/2"x11 1/4" - FB	(2)1 1/2"x14" - FB	(2)2x12 + (1) 1/2"x11 1/4" STEEL FLITCH PLATE - FB	W10x12 - FB

BEAM NOTATION:

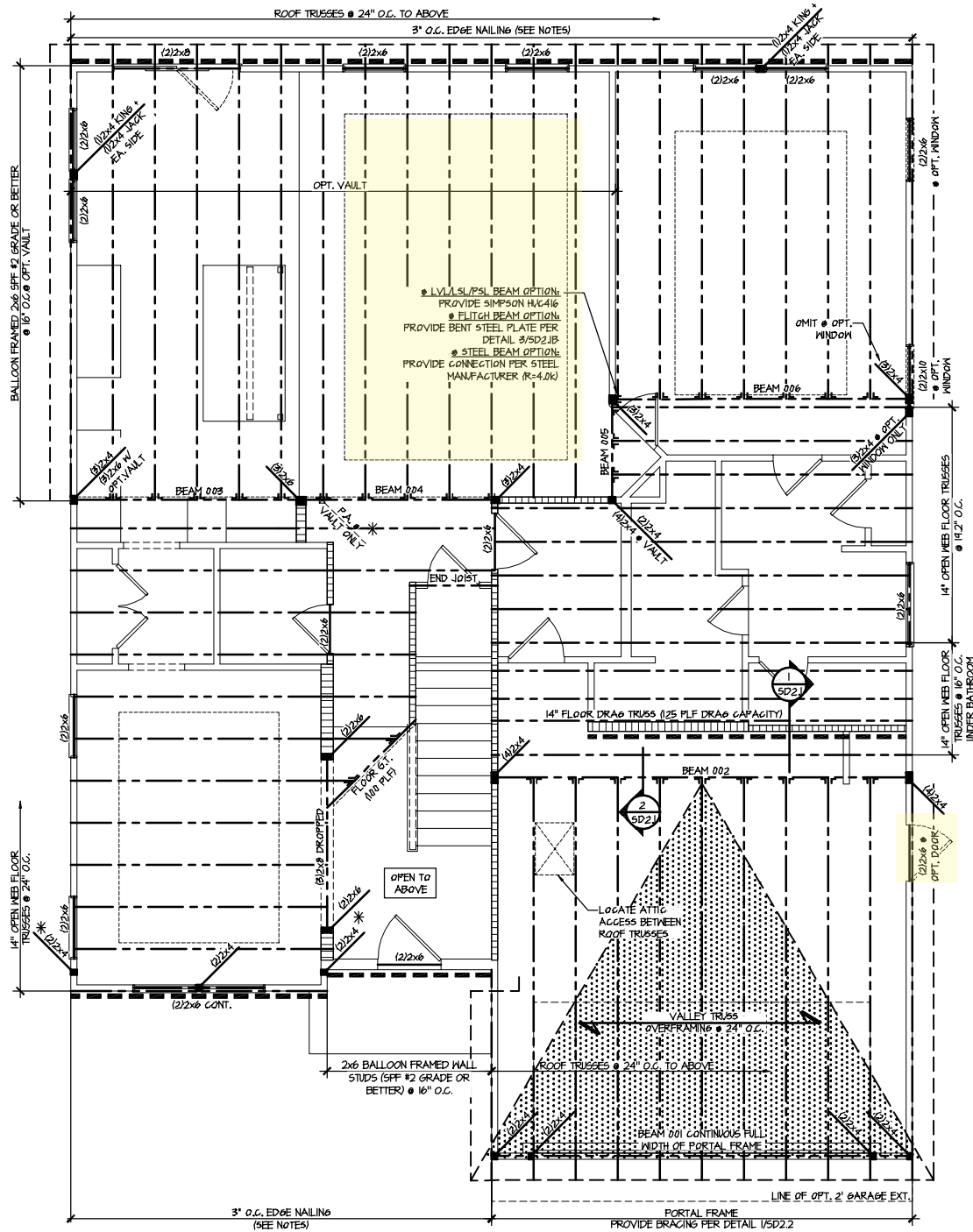
- "F" INDICATES FLUSH BEAM
- "FT" INDICATES FLUSH TOP BEAM
- "FB" INDICATES FLUSH BOTTOM BEAM
- "D" INDICATES DROPPED BEAM
- "H" INDICATES DROPPED OPENING HEADER
- REFER TO DETAIL D/SD2.0 FOR TYPICAL FLITCH BEAM CONNECTIONS
- REFER TO DETAIL E/SD2.0 FOR TYPICAL STEEL BEAM CONNECTIONS
- FOR FLUSH TOP BEAMS PROVIDE 2X STACKED PLATES BENEATH BEAM AS REQ'D. FASTEN PLATES IN SUCCESSION W/ (2) 3"x0.120" NAILS @ 8" O.C.
- FOR FLUSH BOTTOM BEAMS PROVIDE 2X STACKED PLATES ATOP BEAM AS REQ'D. FASTEN PLATES IN SUCCESSION W/ (2) 3"x0.120" NAILS @ 8" O.C.

- LEGEND**
- INTERIOR BEARING WALL
 - BEARING WALL ABOVE
 - BEAM / HEADER
 - INDICATES SHEAR WALL & EXTENT
 - EXTENT OF OVERFRAMING
 - JL METAL HANGER
 - INDICATES POST ABOVE. PROVIDE SOLID BLOCKING UNDER POST OR JAMB ABOVE.
 - ▶ INDICATES HOLD-DOWN OR STRAP. REFER TO SCHEDULE.

REFER TO SO.0 FOR TYPICAL STRUCTURAL NOTES & SCHEDULES

SD2.0 & SD2.1 REFERS TO SD2.0J & SD2.1J FOR I-JOIST FLOOR FRAMING OR SD2.0T & SD2.1T FOR TRUSS FLOOR FRAMING

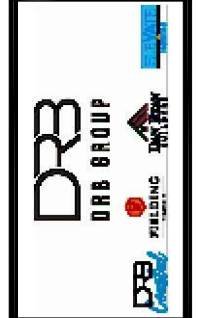
SD2.1J/SD2.1T REFERS TO SD2.1JA/SD2.1TA FOR LVL/PSL/LSL BEAMS OR SD2.1JB/SD2.1TB FOR FLITCH BEAMS OR SD2.1JC/SD2.1TC FOR STEEL BEAMS



2ND FLOOR FRAMING PLAN - TRUSSES
 SCALE: 1/8"=1'-0"
 ELEVATION #1

M&K project number: 126-21018
 project mgr: JTR
 drawn by: MDH
 issue date: 07-16-21

REVISIONS:
 date: initial



Floor Framing Plans
 MIDDLETON MODEL
 RALEIGH, NC

ENGINEERED BEAM MATERIAL SCHEDULE

BEAM NUMBER	LVL OPTION	PSL OPTION	LSL OPTION	FLITCH OPTION	STEEL OPTION
001	(2)1 1/2"x11 3/4" - H	3/4"x11 3/4" - H	(2)1 1/4"x11 3/4" - H	(2)2x2 + (1) 1/2"x11 3/4" STEEL FLITCH PLATE - H	N/A
001A	(2)1 1/2"x11 3/4" - H	3/4"x11 3/4" - H	(2)1 1/4"x11 3/4" - H	(2)2x2 + (1) 1/2"x11 3/4" STEEL FLITCH PLATE - H	N/A
002	(2)1 1/2"x14" - FT	3/4"x14" - FT	N/A	(3)2x2 + (2) 1/2"x14" STEEL FLITCH PLATES - FB	W2x14 - F
003	(2)1 1/2"x14" - F	3/4"x14" - F	(2)1 1/4"x14" - F	(2)2x2 + (1) 1/2"x14" STEEL FLITCH PLATE - FB	W2x14 - F
004	(2)1 1/2"x14" - F	3/4"x14" - F	(2)1 1/4"x14" - F	(2)2x2 + (1) 1/2"x14" STEEL FLITCH PLATE - FB	W2x14 - F
005	(2)1 1/2"x14" - F	3/4"x14" - F	(2)1 1/4"x14" - F	(2)2x2 + (1) 1/2"x14" STEEL FLITCH PLATE - FB	W2x14 - F
006	(2)1 1/2"x14" - F	3/4"x14" - F	(2)1 1/4"x14" - F	(2)2x2 + (1) 1/2"x14" STEEL FLITCH PLATE - FB	W2x14 - F
007	(2)1 1/2"x11 3/4" - F	3/4"x11 3/4" - F	(2)1 1/4"x11 3/4" - F	(2)2x2 + (1) 1/2"x11 3/4" STEEL FLITCH PLATE - F	W10x12 - F
008	(2)1 1/2"x14" - F	3/4"x14" - F	(2)1 1/4"x14" - F	(2)2x2 + (1) 1/2"x14" STEEL FLITCH PLATE - FB	W2x14 - F
009	(3)1 1/2"x18" - FT	3/4"x18" - FT	N/A	(4)2x2 + (3) 1/2"x18" STEEL FLITCH PLATES - FB	W2x26 - F
010	(3)1 1/2"x20" - FT	3/4"x20" - FT	N/A	(4)2x2 + (3) 1/2"x20" STEEL FLITCH PLATES - FB	W2x35 - F
011	(2)1 1/2"x11 3/4" - FB	3/4"x11 3/4" - FB	(2)1 1/4"x14" - FB	(2)2x2 + (1) 1/2"x11 3/4" STEEL FLITCH PLATE - FB	W10x12 - FB

- BEAM NOTATION:
 - "F" INDICATES FLUSH BEAM
 - "FT" INDICATES FLUSH TOP BEAM
 - "FB" INDICATES FLUSH BOTTOM BEAM
 - "D" INDICATES DROPPED BEAM
 - "H" INDICATES DROPPED OPENING HEADER
- REFER TO DETAIL D/SD2.0 FOR TYPICAL FLITCH BEAM CONNECTIONS
- REFER TO DETAIL E/SD2.0 FOR TYPICAL STEEL BEAM CONNECTIONS
- FOR FLUSH TOP BEAMS PROVIDE 2X STACKED PLATES BENEATH BEAM AS REQ'D. FASTEN PLATES IN SUCCESSION W/ (2) 3"x0.120" NAILS @ 8" O.C.
- FOR FLUSH BOTTOM BEAMS PROVIDE 2X STACKED PLATES ATOP BEAM AS REQ'D. FASTEN PLATES IN SUCCESSION W/ (2) 3"x0.120" NAILS @ 8" O.C.

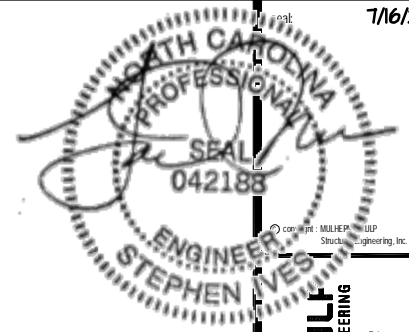
LEGEND

- INTERIOR BEARING WALL
- BEARING WALL ABOVE
- BEAM / HEADER
- INDICATES SHEAR WALL & EXTENT
- EXTENT OF OVERFRAMING
- JL METAL HANGER
- INDICATES POST ABOVE. PROVIDE SOLID BLOCKING UNDER POST OR JAMB ABOVE.
- INDICATES HOLD-DOWN OR STRAP. REFER TO SCHEDULE.

REFER TO SO.O FOR TYPICAL STRUCTURAL NOTES & SCHEDULES

SD2.0 & SD2.1 REFERS TO SD2.0J & SD2.1J FOR I-JOIST FLOOR FRAMING OR SD2.0T & SD2.1T FOR TRUSS FLOOR FRAMING

SD2.1J/SD2.1T REFERS TO SD2.1JA/SD2.1TA FOR LVL/PSL/LSL BEAMS OR SD2.1JB/SD2.1TB FOR FLITCH BEAMS OR SD2.1JC/SD2.1TC FOR STEEL BEAMS



MULHERN+KULF
RESIDENTIAL STRUCTURAL ENGINEERING
300 Riverside Ave. Building 4 - number PA 19002
P215-948-9001 - mulhernkulf.com
NC LIC. #C-3825

M&K project number: 126-21018
project mgr: JTR
drawn by: MDH
issue date: 07-16-21

REVISIONS:

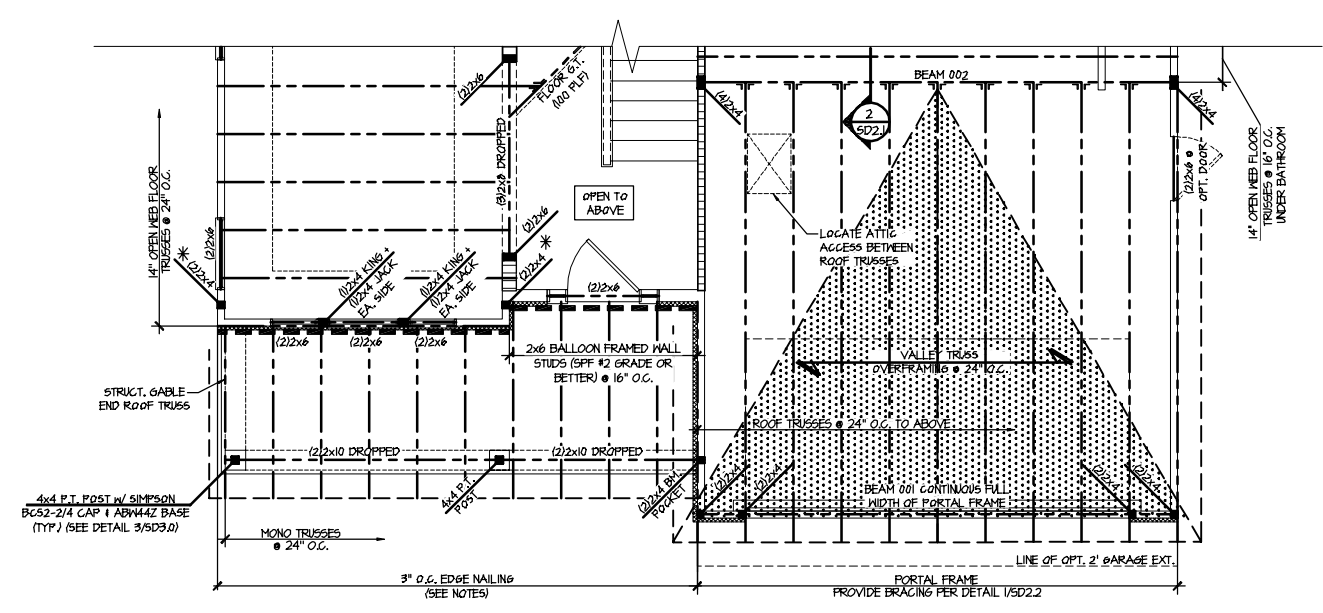
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DRB GROUP
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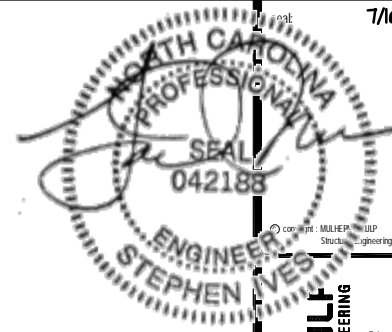
Floor Framing Plans
MIDDLETON MODEL
RALEIGH, NC

sheet: Right Hand
S3.1T

FILE: RLH - Middleton - Structural DATE: 7/16/2021 5:34 PM



2 PARTIAL 2ND FLOOR FRAMING PLAN - TRUSSES
SCALE: 1/8"=1'-0"
ELEVATION #4



MULHERN+KULT
RESIDENTIAL STRUCTURAL ENGINEERING
300 Riverside Ave. Building 6 - number PA 19022
P.O. Box 984-9071 - mulhernkult.com
N.C. LIC. # C-3825

ENGINEERED BEAM MATERIAL SCHEDULE					
BEAM NUMBER	LVL OPTION	PSL OPTION	LSL OPTION	FLITCH OPTION	STEEL OPTION
001	(2)1 1/2"x11 1/2" - H	3/4"x11 1/2" - H	(2)1 1/2"x11 1/2" - H	(2)2x12 + (1) 1/2"x11 1/2" STEEL FLITCH PLATE - H	N/A
001A	(2)1 1/2"x11 1/2" - H	3/4"x11 1/2" - H	(2)1 1/2"x11 1/2" - H	(2)2x12 + (1) 1/2"x11 1/2" STEEL FLITCH PLATE - H	N/A
002	(2)1 1/2"x18" - FT	5/4"x18" - FT	N/A	(2)2x12 + (2) 1/2"x11 1/2" STEEL FLITCH PLATES - FB	N2x14 - F
003	(2)1 1/2"x14" - F	3/4"x14" - F	(2)1 1/2"x14" - F	(2)2x12 + (1) 1/2"x11 1/2" STEEL FLITCH PLATE - FB	N2x14 - F
004	(2)1 1/2"x14" - F	3/4"x14" - F	(2)1 1/2"x14" - F	(2)2x12 + (1) 1/2"x11 1/2" STEEL FLITCH PLATE - FB	N2x14 - F
005	(2)1 1/2"x14" - F	3/4"x14" - F	(2)1 1/2"x14" - F	(2)2x12 + (1) 1/2"x11 1/2" STEEL FLITCH PLATE - FB	N2x14 - F
006	(2)1 1/2"x14" - F	3/4"x14" - F	(2)1 1/2"x14" - F	(2)2x12 + (1) 1/2"x11 1/2" STEEL FLITCH PLATE - FB	N2x14 - F
007	(2)1 1/2"x11 1/2" - F	3/4"x11 1/2" - F	(2)1 1/2"x11 1/2" - F	(2)2x12 + (1) 1/2"x11 1/2" STEEL FLITCH PLATE - F	N10x12 - F
008	(2)1 1/2"x14" - F	3/4"x14" - F	(2)1 1/2"x14" - F	(2)2x12 + (1) 1/2"x11 1/2" STEEL FLITCH PLATE - FB	N2x14 - F
009	(2)1 1/2"x18" - FT	5/4"x18" - FT	N/A	(4)2x12 + (3) 1/2"x11 1/2" STEEL FLITCH PLATES - FB	N2x26 - F
010	(2)1 1/2"x20" - FT	5/4"x20" - FT	N/A	(4)2x12 + (3) 1/2"x11 1/2" STEEL FLITCH PLATES - FB	N2x35 - F
011	(2)1 1/2"x11 1/2" - FB	3/4"x11 1/2" - FB	(2)1 1/2"x14" - FB	(2)2x12 + (1) 1/2"x11 1/2" STEEL FLITCH PLATE - FB	N10x12 - FB

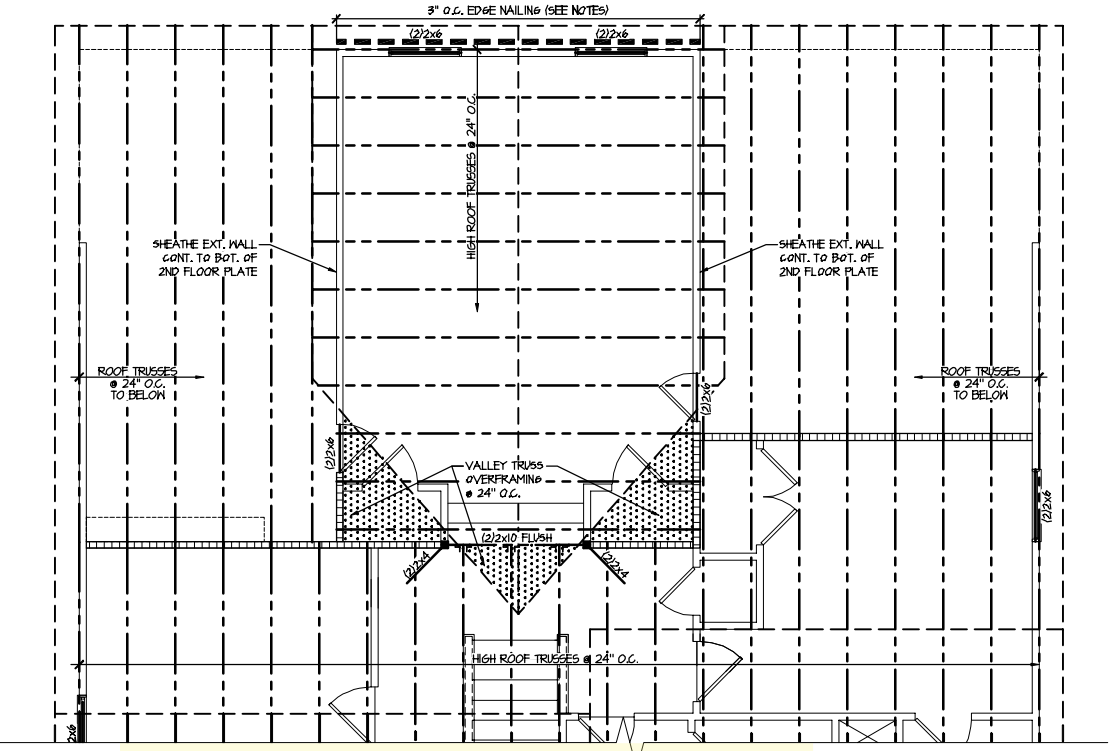
BEAM NOTATION:
 - "F" INDICATES FLUSH BEAM
 - "FT" INDICATES FLUSH TOP BEAM
 - "FB" INDICATES FLUSH BOTTOM BEAM
 - "D" INDICATES DROPPED BEAM
 - "H" INDICATES DROPPED OPENING HEADER
 • REFER TO DETAIL D/SD2.0 FOR TYPICAL FLITCH BEAM CONNECTIONS
 • REFER TO DETAIL E/SD2.0 FOR TYPICAL STEEL BEAM CONNECTIONS
 • FOR FLUSH TOP BEAMS PROVIDE 2X STACKED PLATES BENEATH BEAM AS REQ'D. FASTEN PLATES IN SUCCESSION W/ (2) 3"x0.120" NAILS @ 8" O.C.
 • FOR FLUSH BOTTOM BEAMS PROVIDE 2X STACKED PLATES ATOP BEAM AS REQ'D. FASTEN PLATES IN SUCCESSION W/ (2) 3"x0.120" NAILS @ 8" O.C.

- LEGEND**
- ▬ INTERIOR BEARING WALL
 - ▬ BEARING WALL ABOVE
 - ▬ BEAM / HEADER
 - ▬ INDICATES SHEAR WALL & EXTENT
 - ▬ EXTENT OF OVERFRAMING
 - JL METAL HANGER
 - * INDICATES POST ABOVE. PROVIDE SOLID BLOCKING UNDER POST OR JAMB ABOVE.
 - ▶ INDICATES HOLD-DOWN OR STRAP. REFER TO SCHEDULE.

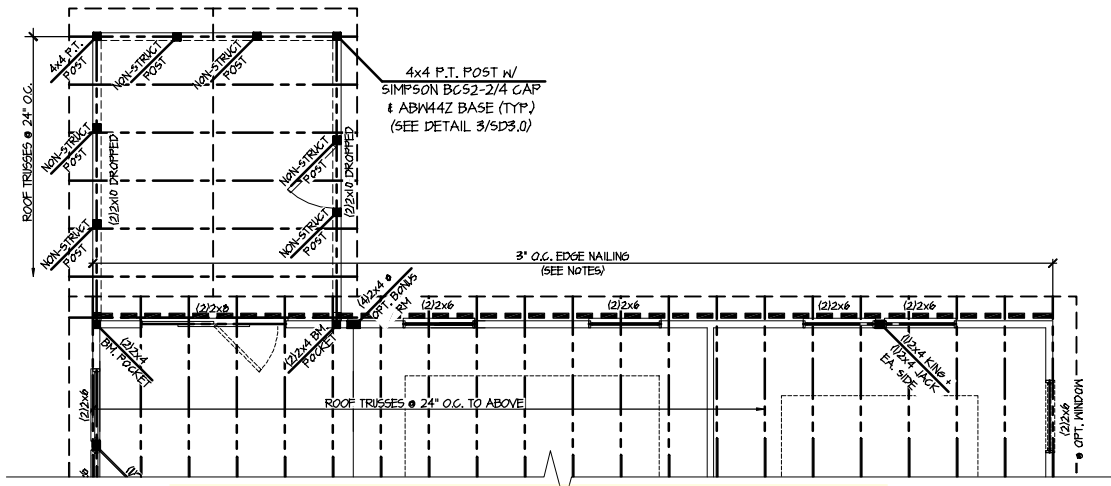
REFER TO 50.0 FOR TYPICAL STRUCTURAL NOTES & SCHEDULES

SD2.0 & SD2.1 REFERS TO SD2.0J & SD2.1J FOR I-JOIST FLOOR FRAMING OR SD2.0T & SD2.1T FOR TRUSS FLOOR FRAMING

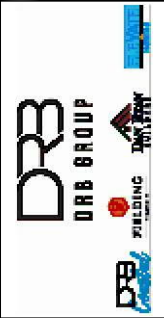
SD2.1J/SD2.1T REFERS TO SD2.1JA/SD2.1TA FOR LVL/PSL/LSL BEAMS OR SD2.1JB/SD2.1TB FOR FLITCH BEAMS OR SD2.1JC/SD2.1TC FOR STEEL BEAMS



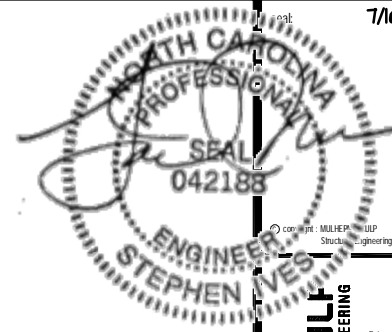
1 PARTIAL ROOF FRAMING PLAN OPTIONAL BONUS ROOM - TRUSSES
SCALE: 1/8"=1'-0"
ELEV. # SHOWN - ALL ELEV. SIM. OPT. REAR 4' EXT. SIM.



4 PARTIAL 2ND FLOOR FRAMING PLAN OPTIONAL SCREENED PORCH - TRUSSES
SCALE: 1/8"=1'-0"
ELEV. # SHOWN - ALL ELEV. SIM.



Option Framing Plans
MIDDLETON MODEL
RALEIGH, NC



MULHERN+KULF
RESIDENTIAL STRUCTURAL ENGINEERING
300 Riverside Ave. Building 1 - number PA 1002
P.O. Box 98-9007 - mulhern.com
NC LIC. # C-3825

ENGINEERED BEAM MATERIAL SCHEDULE

BEAM NUMBER	LVL OPTION	PSL OPTION	LSL OPTION	FLITCH OPTION	STEEL OPTION
001	(2) 1 1/2" x 1 1/2" - H	3/2" x 1 1/2" - H	(2) 1 1/2" x 1 1/2" - H	(2) 2x12 + (1) 1/2" x 1 1/2" STEEL FLITCH PLATE - H	N/A
001A	(2) 1 1/2" x 1 1/2" - H	3/2" x 1 1/2" - H	(2) 1 1/2" x 1 1/2" - H	(2) 2x12 + (1) 1/2" x 1 1/2" STEEL FLITCH PLATE - H	N/A
002	(2) 1 1/2" x 1 1/2" - FT	3/2" x 1 1/2" - FT	N/A	(2) 2x12 + (2) 1/2" x 1 1/2" STEEL FLITCH PLATES - FB	N2x14 - F
003	(2) 1 1/2" x 1 1/2" - F	3/2" x 1 1/2" - F	(2) 1 1/2" x 1 1/2" - F	(2) 2x12 + (1) 1/2" x 1 1/2" STEEL FLITCH PLATE - FB	N2x14 - F
004	(2) 1 1/2" x 1 1/2" - F	3/2" x 1 1/2" - F	(2) 1 1/2" x 1 1/2" - F	(2) 2x12 + (1) 1/2" x 1 1/2" STEEL FLITCH PLATE - FB	N2x14 - F
005	(2) 1 1/2" x 1 1/2" - F	3/2" x 1 1/2" - F	(2) 1 1/2" x 1 1/2" - F	(2) 2x12 + (1) 1/2" x 1 1/2" STEEL FLITCH PLATE - FB	N2x14 - F
006	(2) 1 1/2" x 1 1/2" - F	3/2" x 1 1/2" - F	(2) 1 1/2" x 1 1/2" - F	(2) 2x12 + (1) 1/2" x 1 1/2" STEEL FLITCH PLATE - FB	N2x14 - F
007	(2) 1 1/2" x 1 1/2" - F	3/2" x 1 1/2" - F	(2) 1 1/2" x 1 1/2" - F	(2) 2x12 + (1) 1/2" x 1 1/2" STEEL FLITCH PLATE - F	N0x12 - F
008	(2) 1 1/2" x 1 1/2" - F	3/2" x 1 1/2" - F	(2) 1 1/2" x 1 1/2" - F	(2) 2x12 + (1) 1/2" x 1 1/2" STEEL FLITCH PLATE - FB	N2x14 - F
009	(2) 1 1/2" x 1 1/2" - FT	3/2" x 1 1/2" - FT	N/A	(4) 2x12 + (2) 1/2" x 1 1/2" STEEL FLITCH PLATES - FB	N2x24 - F
010	(2) 1 1/2" x 20" - FT	3/2" x 20" - FT	N/A	(4) 2x12 + (2) 1/2" x 1 1/2" STEEL FLITCH PLATES - FB	N2x35 - F
011	(2) 1 1/2" x 1 1/2" - FB	3/2" x 1 1/2" - FB	(2) 1 1/2" x 1 1/2" - FB	(2) 2x12 + (1) 1/2" x 1 1/2" STEEL FLITCH PLATE - FB	N0x12 - FB

- BEAM NOTATION:
 - "F" INDICATES FLUSH BEAM
 - "FT" INDICATES FLUSH TOP BEAM
 - "FB" INDICATES FLUSH BOTTOM BEAM
 - "D" INDICATES DROPPED BEAM
 - "H" INDICATES DROPPED OPENING HEADER
- REFER TO DETAIL D/SD2.0 FOR TYPICAL FLITCH BEAM CONNECTIONS
- REFER TO DETAIL E/SD2.0 FOR TYPICAL STEEL BEAM CONNECTIONS
- FOR FLUSH TOP BEAMS PROVIDE 2X STACKED PLATES BENEATH BEAM AS REQ'D. FASTEN PLATES IN SUCCESSION W/ (2) 3"x0.120" NAILS @ 8" O.C.
- FOR FLUSH BOTTOM BEAMS PROVIDE 2X STACKED PLATES ATOP BEAM AS REQ'D. FASTEN PLATES IN SUCCESSION W/ (2) 3"x0.120" NAILS @ 8" O.C.

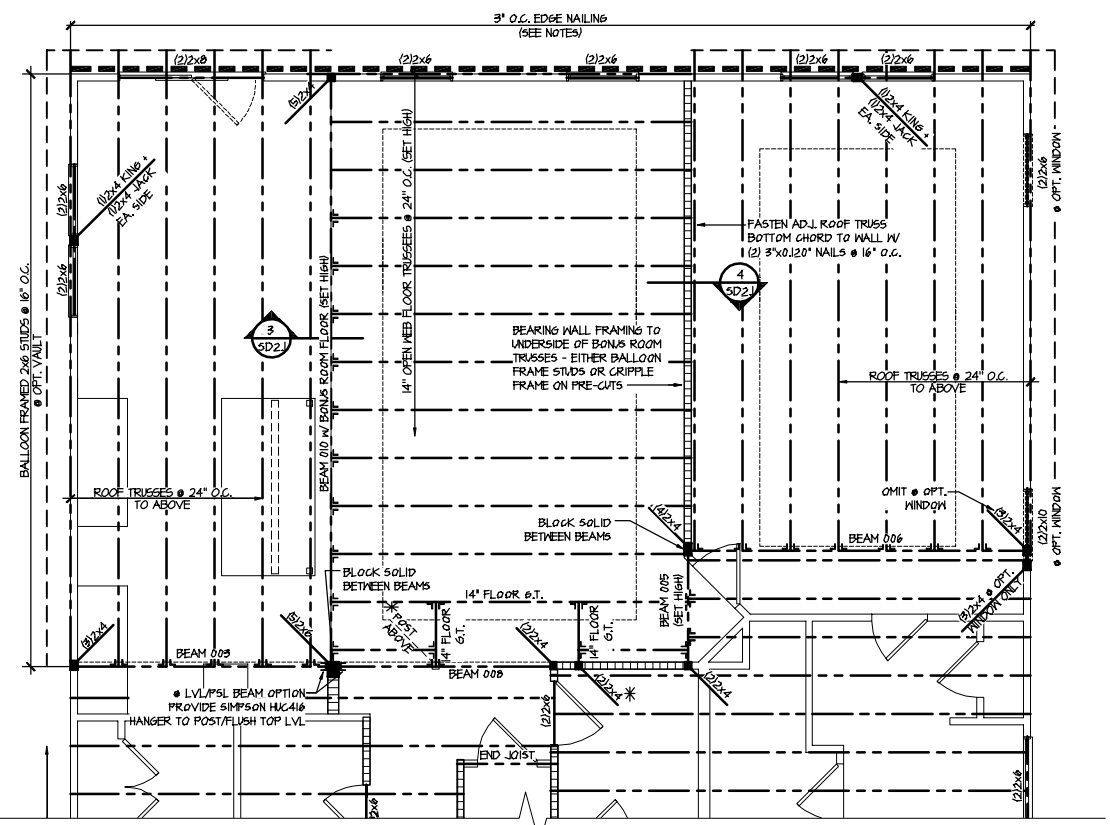
LEGEND

- INTERIOR BEARING WALL
- BEARING WALL ABOVE
- BEAM / HEADER
- INDICATES SHEAR WALL & EXTENT
- EXTENT OF OVERFRAMING
- JL METAL HANGER
- INDICATES POST ABOVE. PROVIDE SOLID BLOCKING UNDER POST OR JAMB ABOVE.
- INDICATES HOLD-DOWN OR STRAP. REFER TO SCHEDULE.

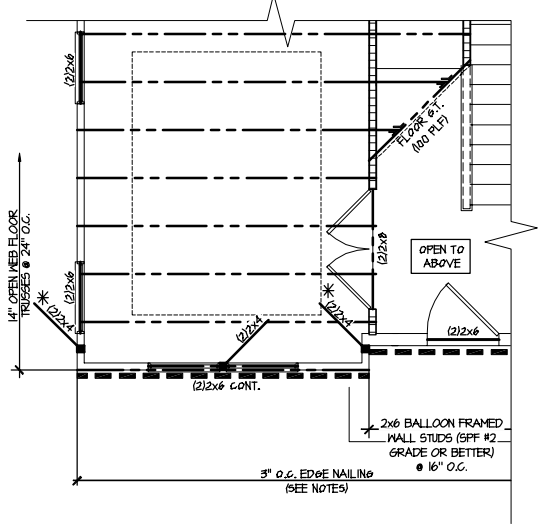
REFER TO SO.0 FOR TYPICAL STRUCTURAL NOTES & SCHEDULES

SD2.0 & SD2.1 REFERS TO SD2.0J & SD2.1J FOR I-JOIST FLOOR FRAMING OR SD2.0T & SD2.1T FOR TRUSS FLOOR FRAMING

SD2.1J/SD2.1T REFERS TO SD2.1JA/SD2.1TA FOR LVL/PSL/LSL BEAMS OR SD2.1JB/SD2.1TB FOR FLITCH BEAMS OR SD2.1JC/SD2.1TC FOR STEEL BEAMS



1 PARTIAL 2ND FLOOR FRAMING PLAN OPTIONAL REAR 4'-0" EXTENSION W/ OPTIONAL BONUS ROOM - TRUSSES
SCALE: 1/8"=1'-0"
ELEV. #1 SHOWN - ALL ELEV. SIM.



3 PARTIAL 2ND FLOOR FRAMING PLAN OPTIONAL STUDY - TRUSSES
SCALE: 1/8"=1'-0"
ELEV. #1 SHOWN - ALL ELEV. SIM.

M&K project number: 126-21018
project mgr: JTR
drawn by: MDH
issue date: 07-16-21

REVISIONS:
date: initat



Option Framing Plans
MIDDLETON MODEL
RALEIGH, NC

ENGINEERED BEAM MATERIAL SCHEDULE

BEAM NUMBER	LVL OPTION	PSL OPTION	LSL OPTION	FLITCH OPTION	STEEL OPTION
001	(2)3/4"x11 1/2" - H	3/4"x11 1/2" - H	(2)3/4"x11 1/2" - H	(2)2x12 + (1) 1/2"x11 1/2" STEEL FLITCH PLATE - H	N/A
001A	(2)3/4"x11 1/2" - H	3/4"x11 1/2" - H	(2)3/4"x11 1/2" - H	(2)2x12 + (1) 1/2"x11 1/2" STEEL FLITCH PLATE - H	N/A
002	(2)3/4"x10" - FT	5/8"x10" - FT	N/A	(3)2x12 + (2) 3/4"x10" STEEL FLITCH PLATES - FB	W12x14 - F
003	(2)3/4"x14" - F	3/4"x14" - F	(2)3/4"x14" - F	(2)2x12 + (1) 1/2"x14" STEEL FLITCH PLATE - FB	W12x14 - F
004	(2)3/4"x14" - F	3/4"x14" - F	(2)3/4"x14" - F	(2)2x12 + (1) 1/2"x14" STEEL FLITCH PLATE - FB	W12x14 - F
005	(2)3/4"x14" - F	3/4"x14" - F	(2)3/4"x14" - F	(2)2x12 + (1) 1/2"x14" STEEL FLITCH PLATE - FB	W12x14 - F
006	(2)3/4"x14" - F	3/4"x14" - F	(2)3/4"x14" - F	(2)2x12 + (1) 1/2"x14" STEEL FLITCH PLATE - FB	W12x14 - F
007	(2)3/4"x11 1/2" - F	3/4"x11 1/2" - F	(2)3/4"x11 1/2" - F	(2)2x12 + (1) 1/2"x11 1/2" STEEL FLITCH PLATE - F	W10x12 - F
008	(2)3/4"x14" - F	3/4"x14" - F	(2)3/4"x14" - F	(2)2x12 + (1) 1/2"x14" STEEL FLITCH PLATE - FB	W12x14 - F
009	(3)3/4"x10" - FT	5/8"x10" - FT	N/A	(4)2x12 + (3) 3/4"x10" STEEL FLITCH PLATES - FB	W12x26 - F
010	(3)3/4"x20" - FT	5/8"x20" - FT	N/A	(4)2x12 + (3) 3/4"x20" STEEL FLITCH PLATES - FB	W12x35 - F
011	(2)3/4"x11 1/2" - FB	3/4"x11 1/2" - FB	(2)3/4"x14" - FB	(2)2x12 + (1) 1/2"x11 1/2" STEEL FLITCH PLATE - FB	W10x12 - FB

- BEAM NOTATION:
 - "F" INDICATES FLUSH BEAM
 - "FT" INDICATES FLUSH TOP BEAM
 - "FB" INDICATES FLUSH BOTTOM BEAM
 - "D" INDICATES DROPPED BEAM
 - "H" INDICATES DROPPED OPENING HEADER
- REFER TO DETAIL D/SD2.0 FOR TYPICAL FLITCH BEAM CONNECTIONS
- REFER TO DETAIL E/SD2.0 FOR TYPICAL STEEL BEAM CONNECTIONS
- FOR FLUSH TOP BEAMS PROVIDE 2X STACKED PLATES BENEATH BEAM AS REQ'D. FASTEN PLATES IN SUCCESSION W/ (2) 3"x0.120" NAILS @ 8" O.C.
- FOR FLUSH BOTTOM BEAMS PROVIDE 2X STACKED PLATES ATOP BEAM AS REQ'D. FASTEN PLATES IN SUCCESSION W/ (2) 3"x0.120" NAILS @ 8" O.C.

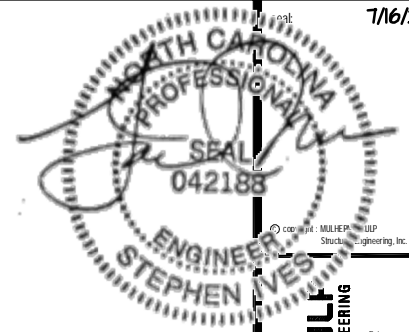
REFER TO S.O. FOR TYPICAL STRUCTURAL NOTES & SCHEDULES

SD2.0 & SD2.1 REFERS TO SD2.0J & SD2.1J FOR I-JOIST FLOOR FRAMING OR SD2.0T & SD2.1T FOR TRUSS FLOOR FRAMING

SD2.1J/SD2.1T REFERS TO SD2.1JA/SD2.1TA FOR LVL/PSL/LSL BEAMS OR SD2.1JB/SD2.1TB FOR FLITCH BEAMS OR SD2.1JC/SD2.1TC FOR STEEL BEAMS

LEGEND

- INTERIOR BEARING WALL
- BEARING WALL ABOVE
- BEAM / HEADER
- INDICATES SHEAR WALL & EXTENT
- EXTENT OF OVERFRAMING
- JL METAL HANGER
- INDICATES POST ABOVE. PROVIDE SOLID BLOCKING UNDER POST OR JAMB ABOVE.
- INDICATES HOLD-DOWN OR STRAP. REFER TO SCHEDULE.



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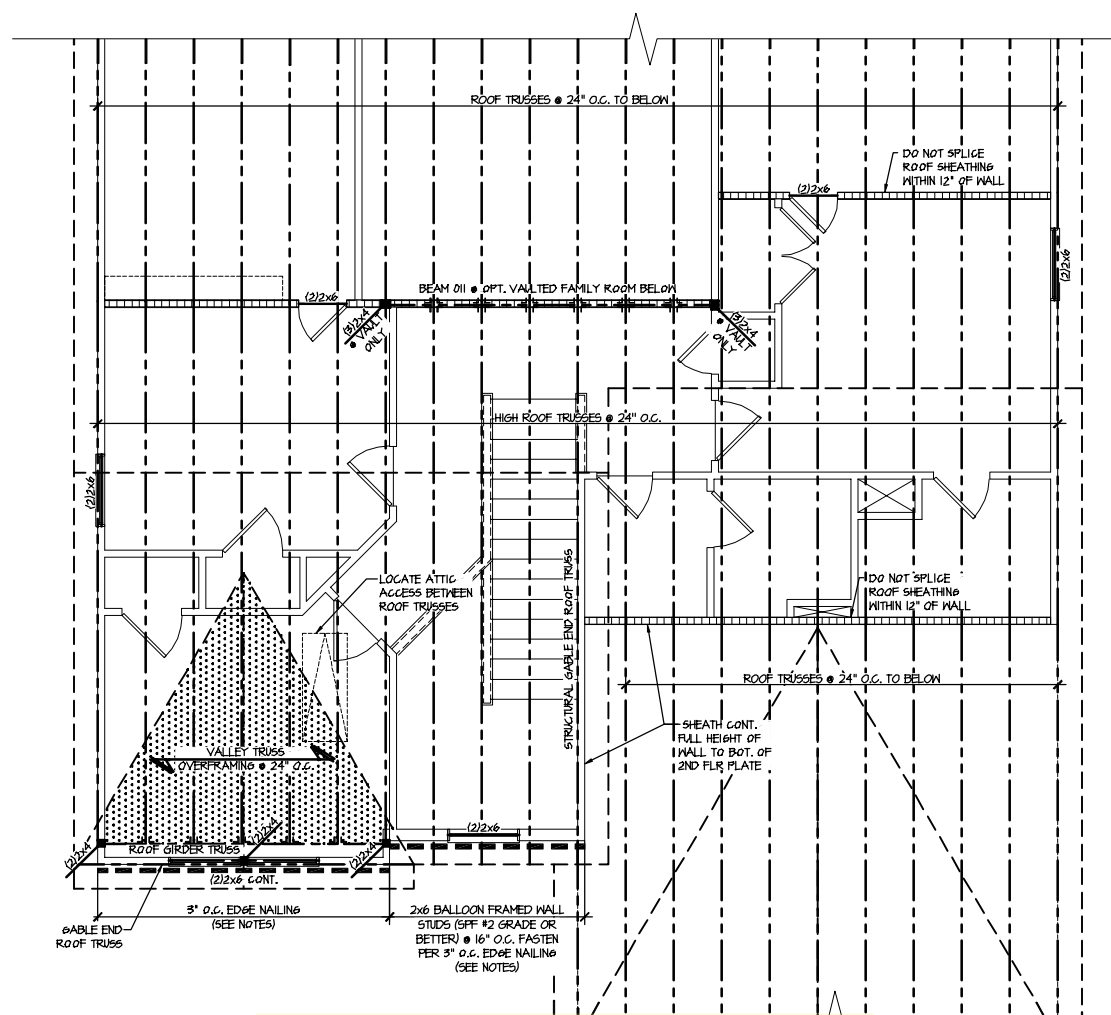
M&K project number: 126-21018
project mgr: JTR
drawn by: MDH
issue date: 07-16-21

REVISIONS:
date: initial:



Roof Framing Plans
MIDDLETON MODEL
RALEIGH, NC

sheet: Right Hand
S4.0



1 ROOF FRAMING PLAN
SCALE: 1/8"=1'-0"
ELEVATIONS 4

ENGINEERED BEAM MATERIAL SCHEDULE

BEAM NUMBER	LVL OPTION	PSL OPTION	LSL OPTION	FLITCH OPTION	STEEL OPTION
001	(2)1 1/2"x11 1/2" - H	3/4"x11 1/2" - H	(2)1 1/4"x11 1/2" - H	(2)2x12 + (1) 1/2"x11 1/2" STEEL FLITCH PLATE - H	N/A
001A	(2)1 1/2"x11 1/2" - H	3/4"x11 1/2" - H	(2)1 1/4"x11 1/2" - H	(2)2x12 + (1) 1/2"x11 1/2" STEEL FLITCH PLATE - H	N/A
002	(2)1 1/2"x10" - FT	5/8"x10" - FT	N/A	(3)2x12 + (2) 1/2"x11 1/2" STEEL FLITCH PLATES - FB	W12x14 - F
003	(2)1 1/4"x14" - F	3/4"x14" - F	(2)1 1/4"x14" - F	(2)2x12 + (1) 1/2"x11 1/2" STEEL FLITCH PLATE - FB	W12x14 - F
004	(2)1 1/4"x14" - F	3/4"x14" - F	(2)1 1/4"x14" - F	(2)2x12 + (1) 1/2"x11 1/2" STEEL FLITCH PLATE - FB	W12x14 - F
005	(2)1 1/4"x14" - F	3/4"x14" - F	(2)1 1/4"x14" - F	(2)2x12 + (1) 1/2"x11 1/2" STEEL FLITCH PLATE - FB	W12x14 - F
006	(2)1 1/4"x14" - F	3/4"x14" - F	(2)1 1/4"x14" - F	(2)2x12 + (1) 1/2"x11 1/2" STEEL FLITCH PLATE - FB	W12x14 - F
007	(2)1 1/2"x11 1/2" - F	3/4"x11 1/2" - F	(2)1 1/4"x11 1/2" - F	(2)2x12 + (1) 1/2"x11 1/2" STEEL FLITCH PLATE - F	W10x12 - F
008	(2)1 1/4"x14" - F	3/4"x14" - F	(2)1 1/4"x14" - F	(2)2x12 + (1) 1/2"x11 1/2" STEEL FLITCH PLATE - FB	W12x14 - F
009	(3)1 1/2"x10" - FT	5/8"x10" - FT	N/A	(4)2x12 + (3) 1/2"x11 1/2" STEEL FLITCH PLATES - FB	W12x26 - F
010	(3)1 1/2"x20" - FT	5/8"x20" - FT	N/A	(4)2x12 + (3) 1/2"x11 1/2" STEEL FLITCH PLATES - FB	W12x35 - F
011	(2)1 1/2"x11 1/2" - FB	3/4"x11 1/2" - FB	(2)1 1/4"x14" - FB	(2)2x12 + (1) 1/2"x11 1/2" STEEL FLITCH PLATE - FB	W10x12 - FB

- BEAM NOTATION:
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 - "D" INDICATES DROPPED BEAM
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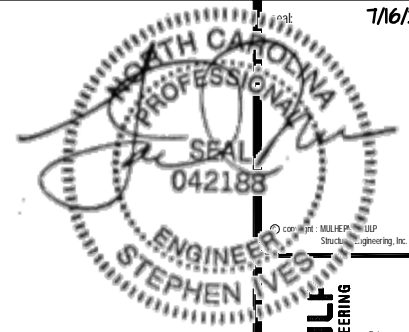
REFER TO S.O. FOR TYPICAL STRUCTURAL NOTES & SCHEDULES

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SD2.1J/SD2.1T REFERS TO SD2.1JA/SD2.1TA FOR LVL/PSL/LSL BEAMS OR SD2.1JB/SD2.1TB FOR FLITCH BEAMS OR SD2.1JC/SD2.1TC FOR STEEL BEAMS

LEGEND

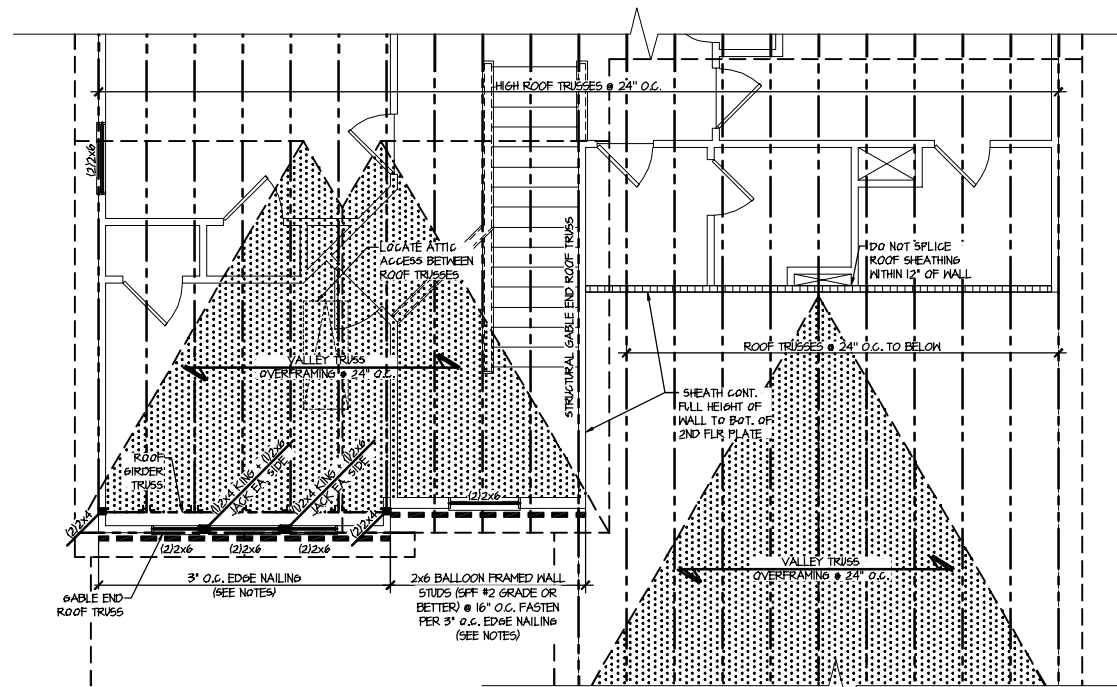
- INTERIOR BEARING WALL
- BEARING WALL ABOVE
- BEAM / HEADER
- INDICATES SHEAR WALL & EXTENT
- EXTENT OF OVERFRAMING
- J.L. METAL HANGER
- INDICATES POST ABOVE. PROVIDE SOLID BLOCKING UNDER POST OR JAMB ABOVE.
- INDICATES HOLD-DOWN OR STRAP. REFER TO SCHEDULE.



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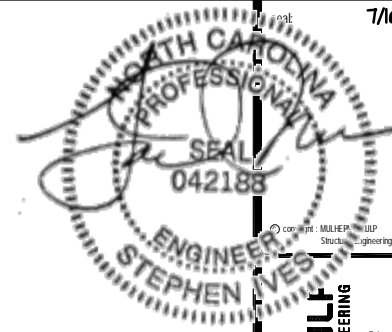
M&K project number: 126-21018
project mgr: JTR
drawn by: MDH
issue date: 07-16-21

REVISIONS:
date: initial:



PARTIAL ROOF FRAMING PLAN
SCALE: 1/8"=1'-0"
ELEVATION #4

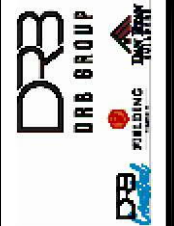
Roof Framing Plans
MIDDLETON MODEL
RALEIGH, NC



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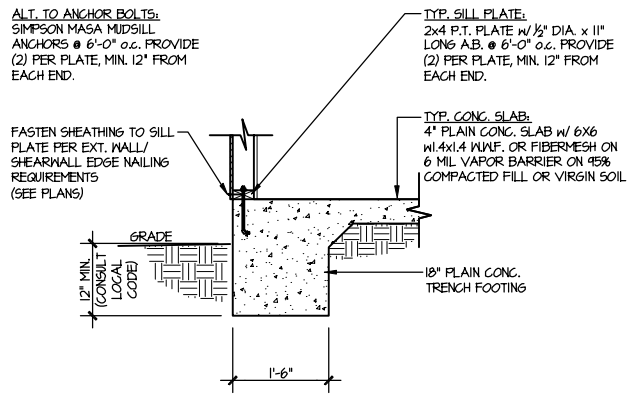
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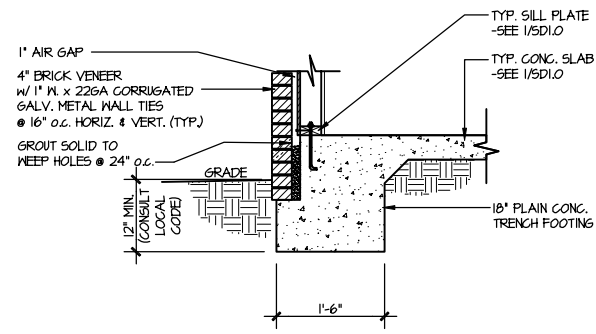


Foundation Details
MIDDLETON MODEL
RALEIGH, NC

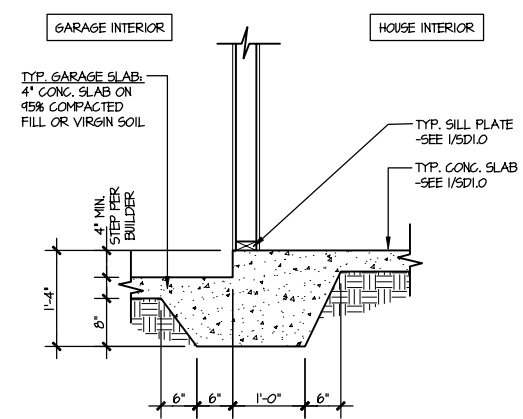
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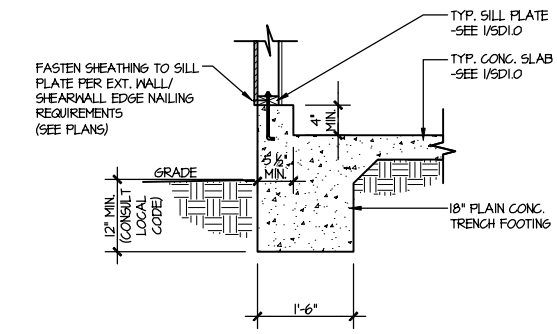
1 TYPICAL SLAB ON GRADE PERIMETER FOOTING
SCALE: 3/8"=1'-0"



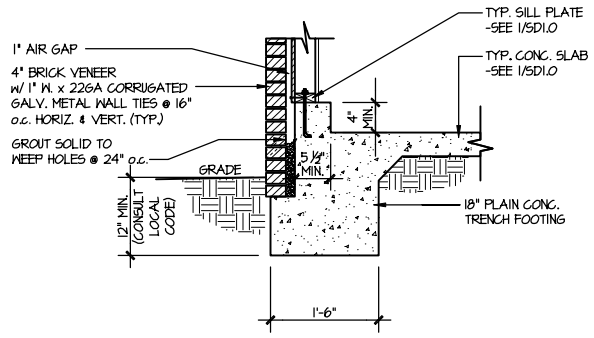
2 TYPICAL SLAB ON GRADE PERIMETER FOOTING W/ BRICK VENEER
SCALE: 3/8"=1'-0"



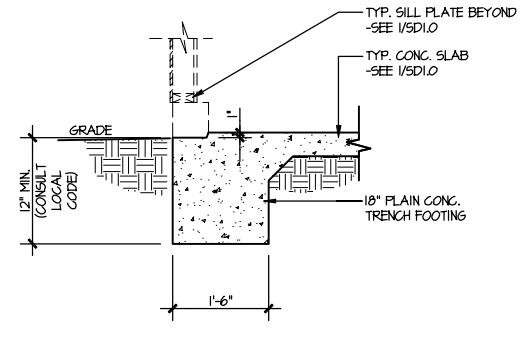
3 TYPICAL MONOLITHIC INTERIOR GARAGE FOOTING
SCALE: 3/8"=1'-0"



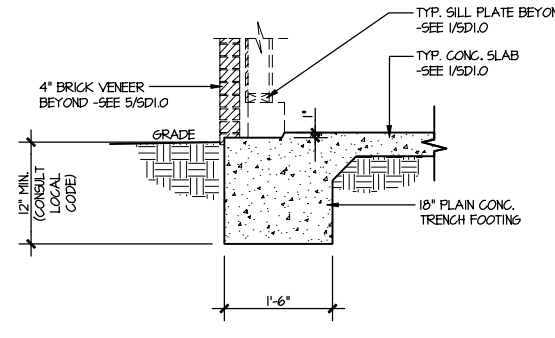
4 TYPICAL SLAB ON GRADE GARAGE PERIMETER FOOTING
SCALE: 3/8"=1'-0"



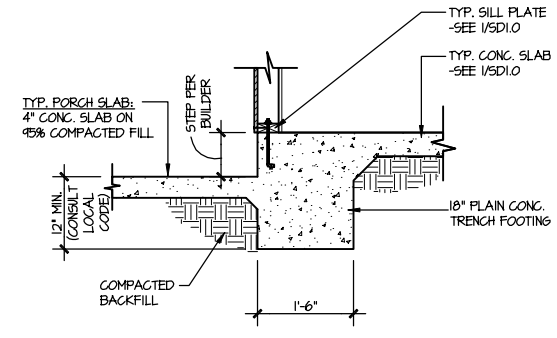
5 TYPICAL SLAB ON GRADE GARAGE PERIMETER FOOTING W/ BRICK VENEER
SCALE: 3/8"=1'-0"



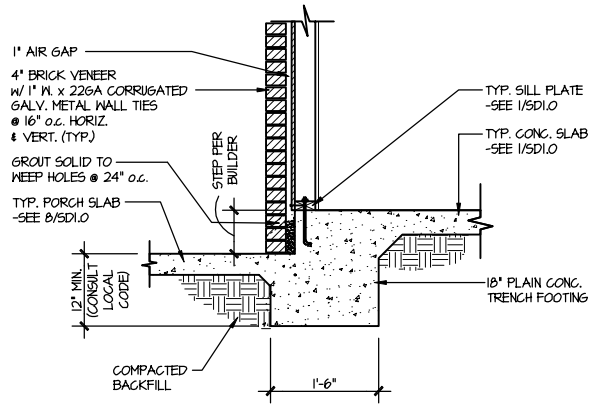
6 TYPICAL SLAB ON GRADE GARAGE ENTRY @ PERIMETER FOOTING
SCALE: 3/8"=1'-0"



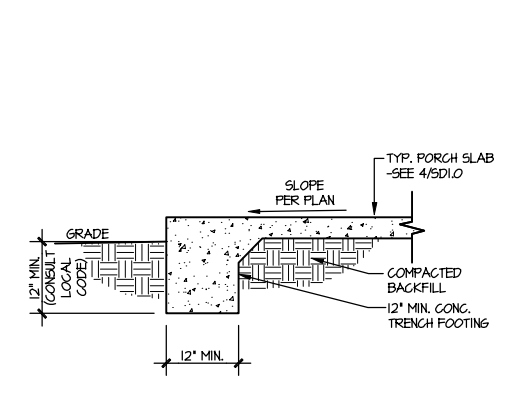
7 TYPICAL SLAB ON GRADE GARAGE ENTRY @ PERIMETER FOOTING W/ BRICK VENEER
SCALE: 3/8"=1'-0"



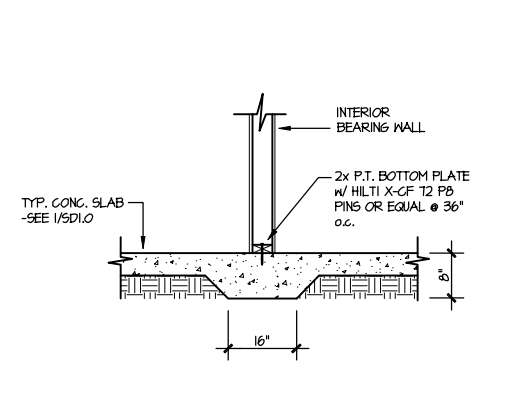
8 TYPICAL SLAB ON GRADE PERIMETER FOOTING @ PORCH/PATIO
SCALE: 3/8"=1'-0"



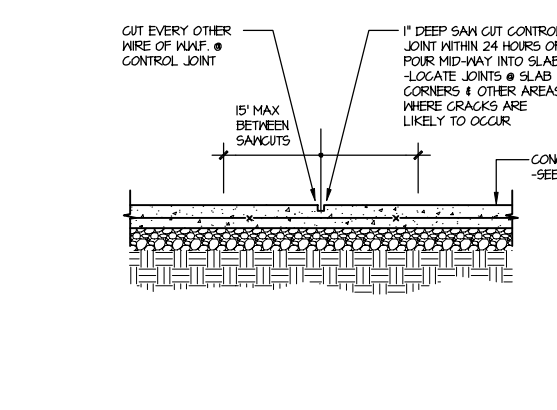
9 TYPICAL SLAB ON GRADE PERIMETER FOOTING @ PORCH/PATIO W/ BRICK VENEER
SCALE: 3/8"=1'-0"



10 TYPICAL FOOTING @ PORCH SLAB
SCALE: 3/8"=1'-0"

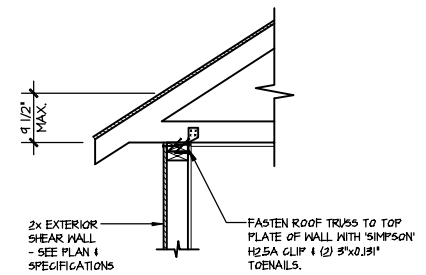
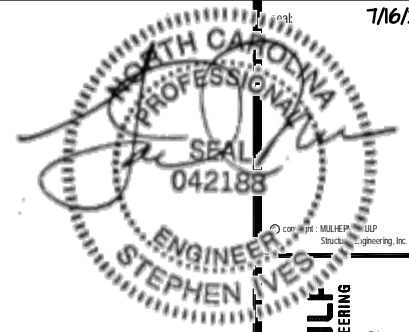


11 TYPICAL THICKENED SLAB @ INTERIOR BEARING WALL
SCALE: 3/8"=1'-0"

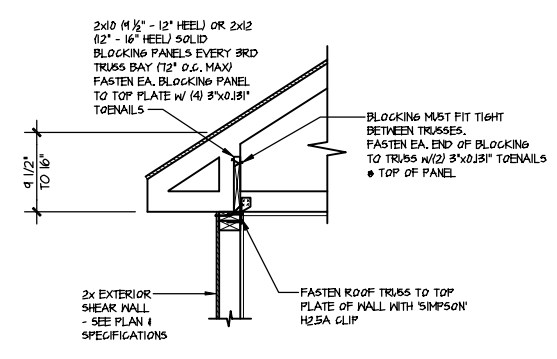


A TYPICAL CONTROL JOINT
SCALE: 3/8"=1'-0"

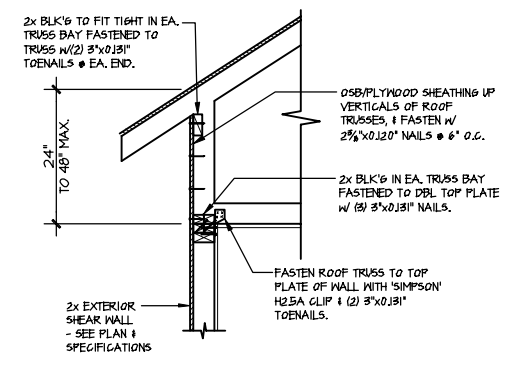
FILE: RLH - Middleton - Structural DATE: 7/16/2021 5:47 PM



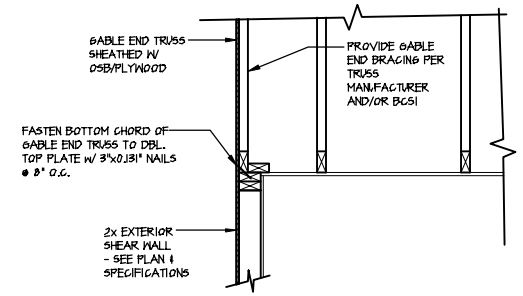
A1 TYPICAL SHEAR TRANSFER DETAIL @ ROOF
SCALE: 3/8"=1'-0"
HEEL HEIGHT LESS THAN 9 1/2"
NO BLOCKING REQ'D



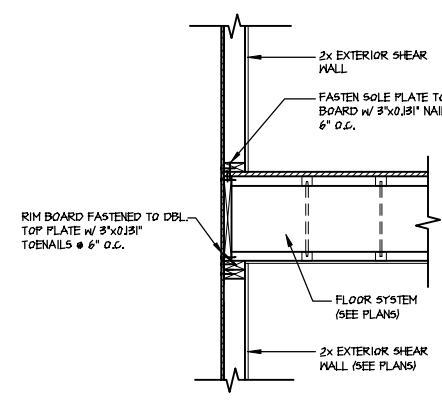
A2 TYPICAL SHEAR TRANSFER DETAIL @ ROOF
SCALE: 3/8"=1'-0"
HEEL HEIGHT BETWEEN 9 1/2" - 16"
BLOCKING REQ'D



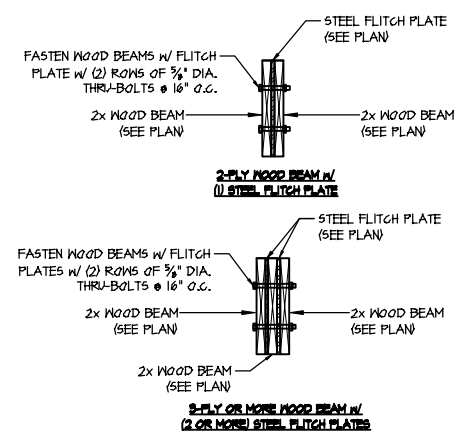
A3 TYPICAL SHEAR TRANSFER DETAIL @ RAISED HEEL TRUSS
SCALE: 3/8"=1'-0"
HEEL HEIGHT UP TO 48" MAX



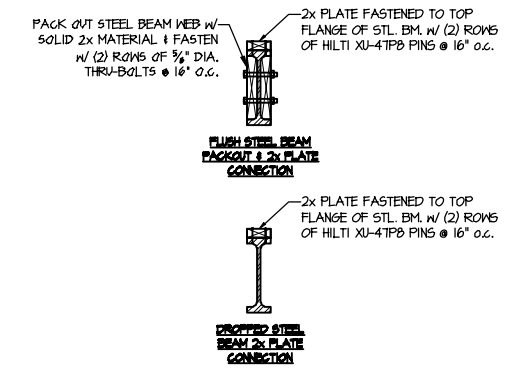
B TYPICAL GABLE END DETAIL
SCALE: 3/8"=1'-0"



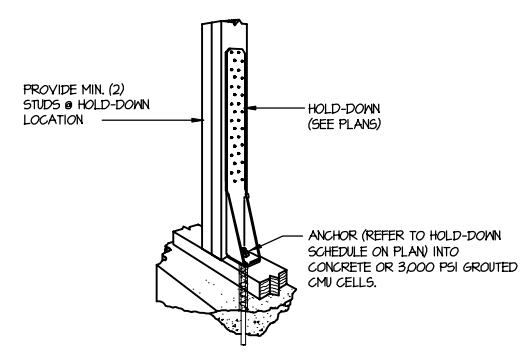
C TYPICAL SHEAR TRANSFER DETAIL BETWEEN FLOORS @ EXTERIOR WALL
SCALE: 3/8"=1'-0"



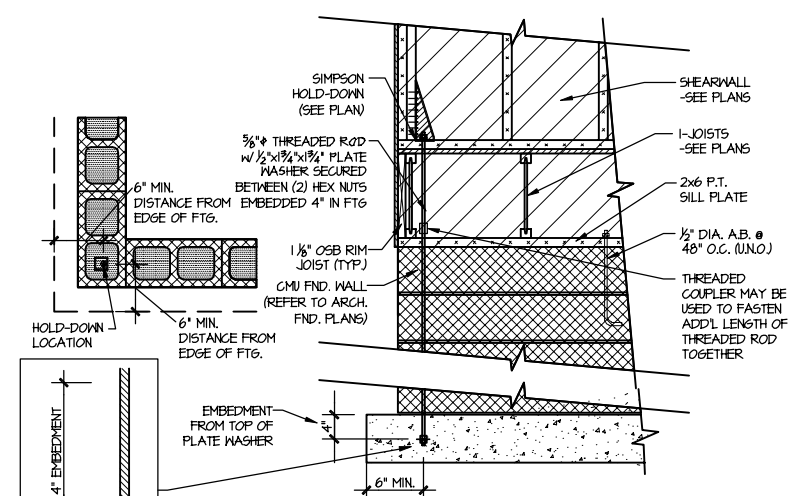
D TYPICAL FLITCH BEAM CONNECTION DETAIL
SCALE: 3/4"=1'-0"



E TYPICAL STEEL BEAM CONNECTION DETAIL
SCALE: 3/4"=1'-0"



F1 TYPICAL HOLD DOWN INSTALLATION
SCALE: NTS



F2 TYPICAL CMU FOUNDATION HOLD-DOWN INSTALLATION
SCALE: NTS
(CORNER SHOWN - APPLICABLE TO ALL CONDITIONS)

FILE: RLH - Middleton - Structural DATE: 7/16/2021 5:48 PM

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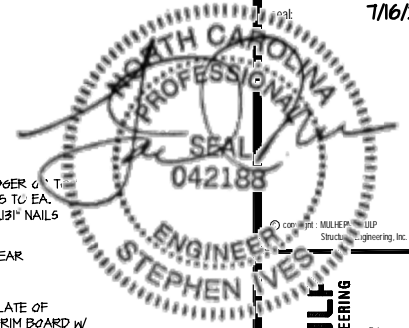
M&K project number:
126-21018
project mgr: JTR
drawn by: MDH
issue date: 07-16-21

REVISIONS:
date: initial:

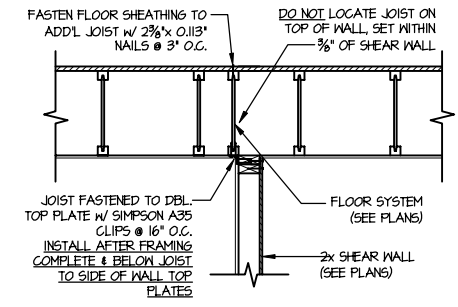


Framing Details
MIDDLETON MODEL
RALEIGH, NC

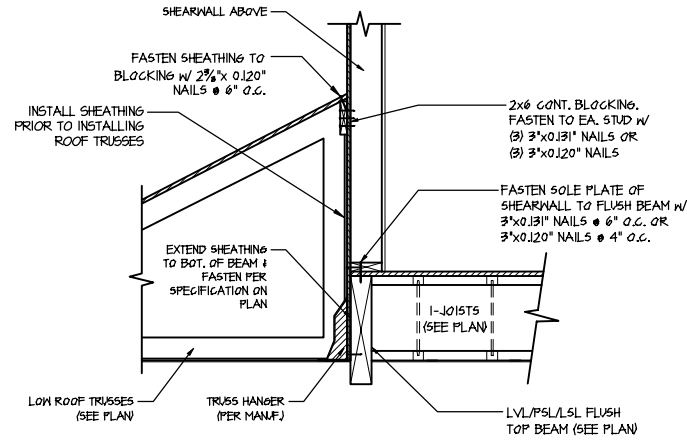
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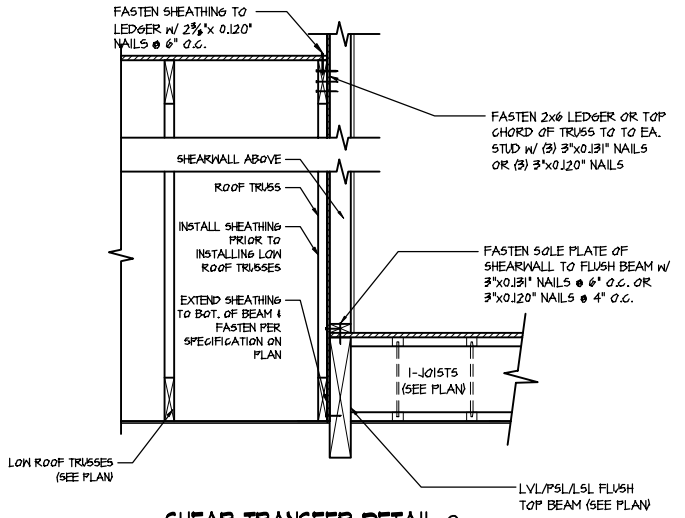
MULHERN+KULF
RESIDENTIAL STRUCTURAL ENGINEERING
300 Bechtold Ave. Building 6 - Raleigh, PA 10002
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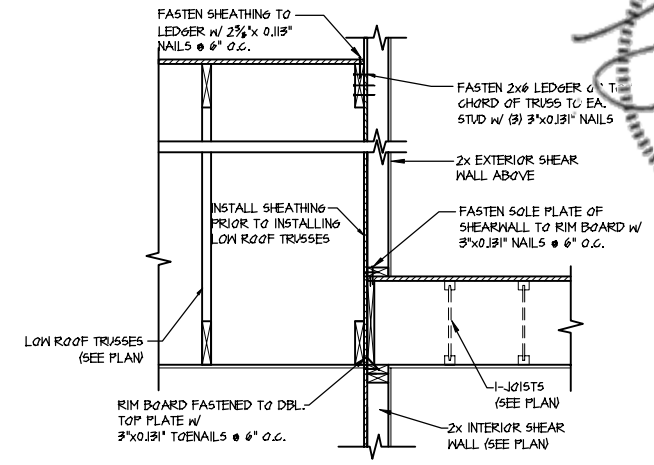
1 SHEAR TRANSFER DETAIL @ INTERIOR SHEARWALL BELOW
SCALE: 3/4"=1'-0"
PARALLEL TO FRAMING
ONLY REQ'D WHERE NOTED ON PLAN



2 SHEAR TRANSFER DETAIL @ EXTERIOR SHEARWALL ABOVE
SCALE: 3/8"=1'-0"



3 SHEAR TRANSFER DETAIL @ EXTERIOR SHEARWALL ABOVE
SCALE: 3/8"=1'-0"



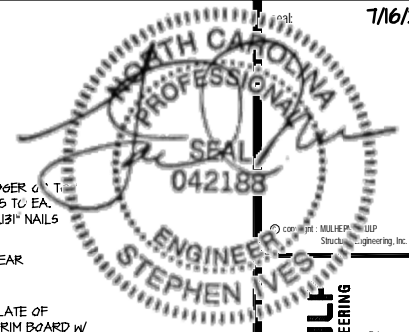
4 TYPICAL SHEAR TRANSFER DETAIL BETWEEN FLOORS @ INTERIOR WALL
SCALE: 3/4"=1'-0"

LETTERED DETAILS ARE TYPICAL FOR THIS HOME & SHALL BE IMPLEMENTED IN ALL APPLICABLE AREAS. THESE DETAILS ARE NOT "CUT" ON THE PLANS.

NUMBERED DETAILS ARE PLAN SPECIFIC AND ARE ONLY REQUIRED WHERE SPECIFICALLY INDICATED ("CUT") ON THE PLANS.



Framing Details
MIDDLETON MODEL
RALEIGH, NC



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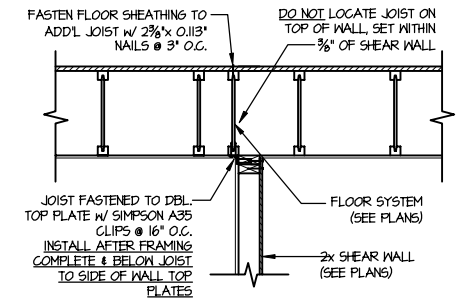
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project mgr: JTR
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date: initial:

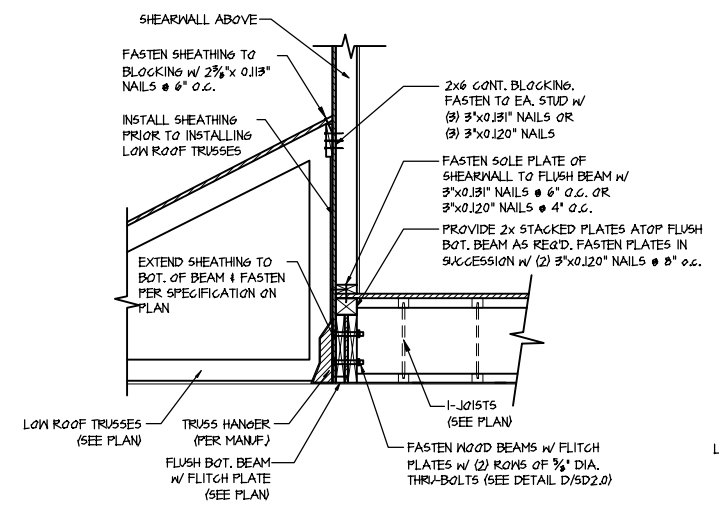


Framing Details
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RALEIGH, NC

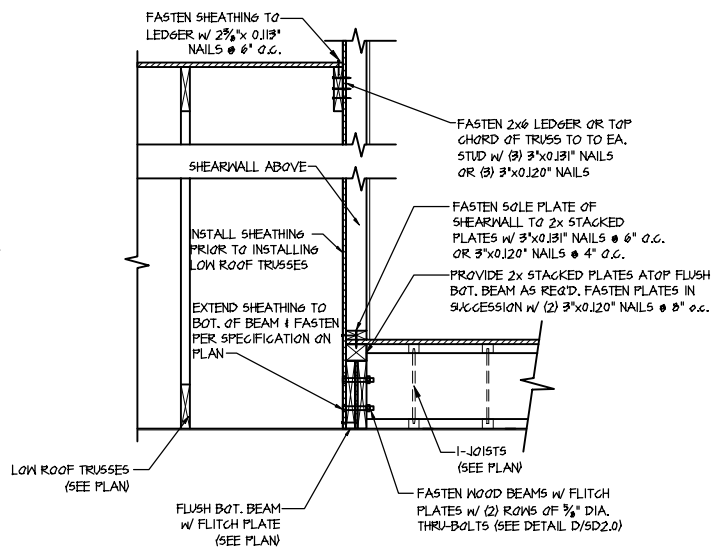
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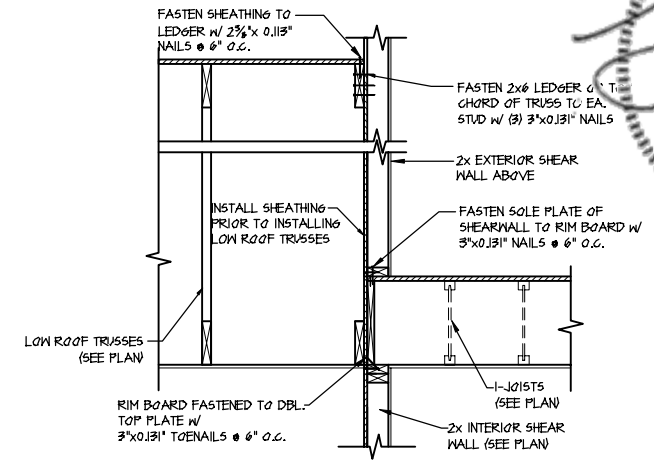
1 SHEAR TRANSFER DETAIL @ INTERIOR SHEARWALL BELOW
SCALE: 3/4"=1'-0"
PARALLEL TO FRAMING
ONLY REQ'D WHERE NOTED ON PLAN



2 SHEAR TRANSFER DETAIL @ EXTERIOR SHEARWALL ABOVE
SCALE: 3/8"=1'-0"



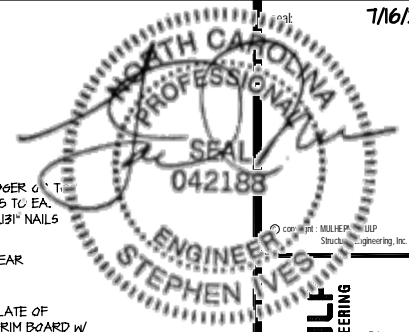
2 SHEAR TRANSFER DETAIL @ EXTERIOR SHEARWALL ABOVE
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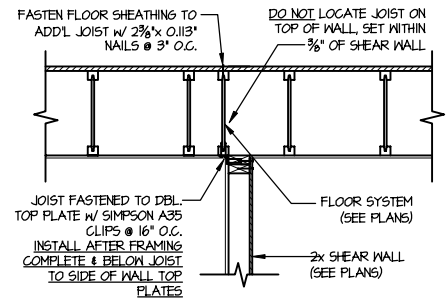
3 TYPICAL SHEAR TRANSFER DETAIL BETWEEN FLOORS @ INTERIOR WALL
SCALE: 3/4"=1'-0"

LETTERED DETAILS ARE TYPICAL FOR THIS HOME & SHALL BE IMPLEMENTED IN ALL APPLICABLE AREAS. THESE DETAILS ARE NOT "CUT" ON THE PLANS.

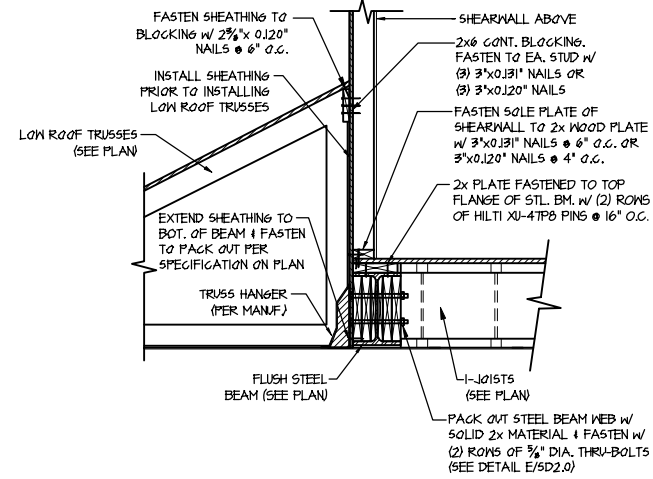
NUMBERED DETAILS ARE PLAN SPECIFIC AND ARE ONLY REQUIRED WHERE SPECIFICALLY INDICATED ("CUT") ON THE PLANS.



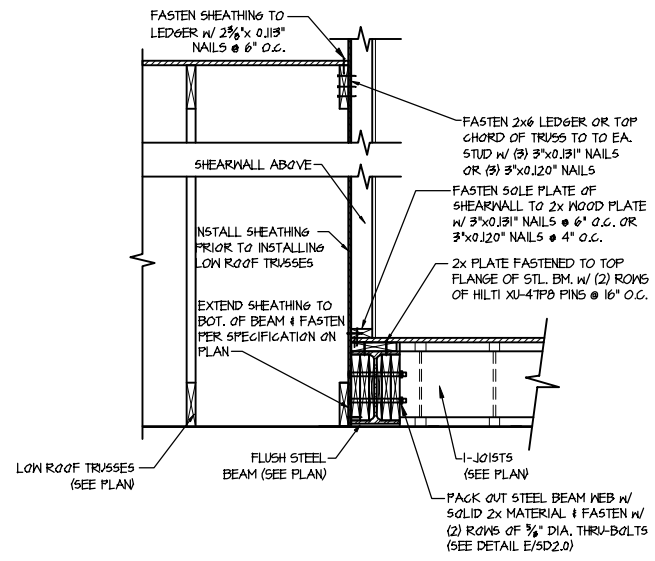
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NC LIC. #C-3825



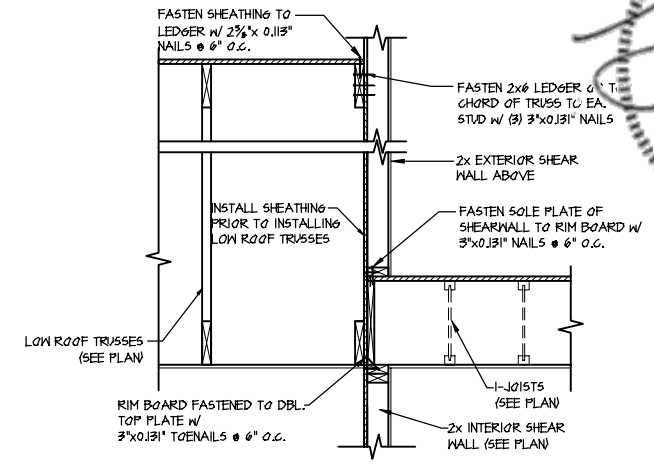
1 SHEAR TRANSFER DETAIL @ INTERIOR SHEARWALL BELOW
SCALE: 3/4"=1'-0"
PARALLEL TO FRAMING
ONLY REQ'D WHERE NOTED ON PLAN



2 SHEAR TRANSFER DETAIL @ EXTERIOR SHEARWALL ABOVE
SCALE: 3/8"=1'-0"



2 SHEAR TRANSFER DETAIL @ EXTERIOR SHEARWALL ABOVE
SCALE: 3/8"=1'-0"



3 TYPICAL SHEAR TRANSFER DETAIL BETWEEN FLOORS @ INTERIOR WALL
SCALE: 3/4"=1'-0"

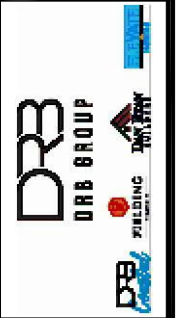
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MGK project number: 126-21018

project mgr: JTR
drawn by: MDH
issue date: 07-16-21

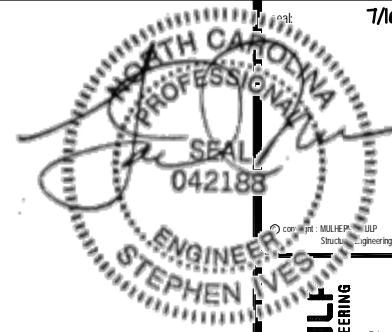
REVISIONS:

date:	initial:

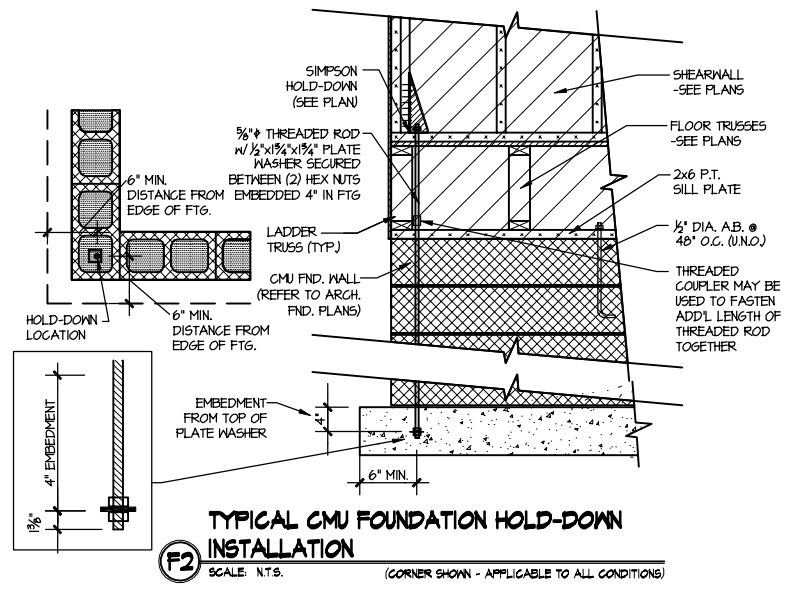
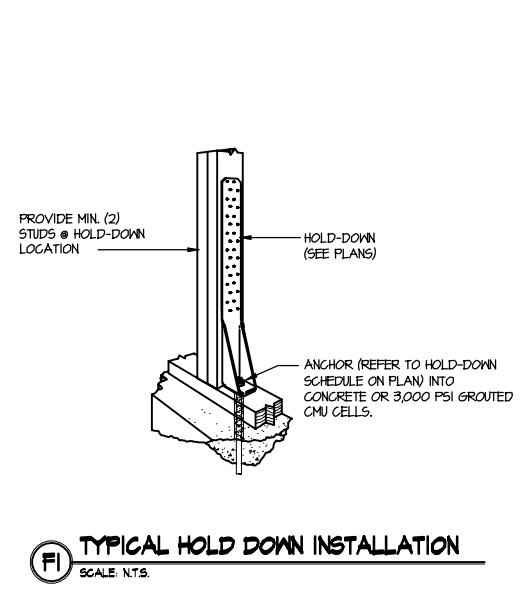
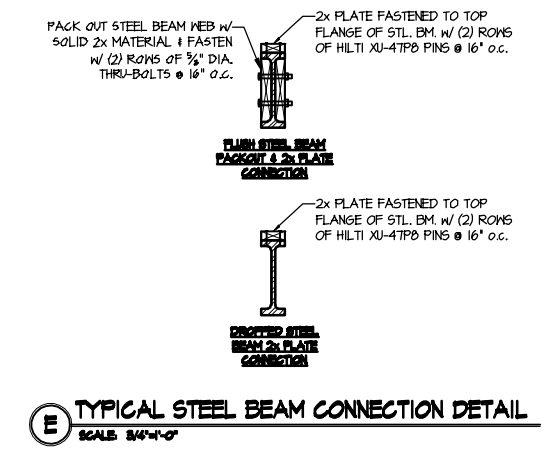
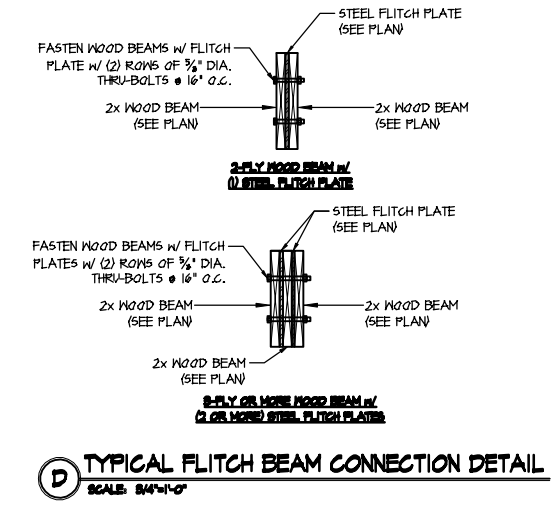
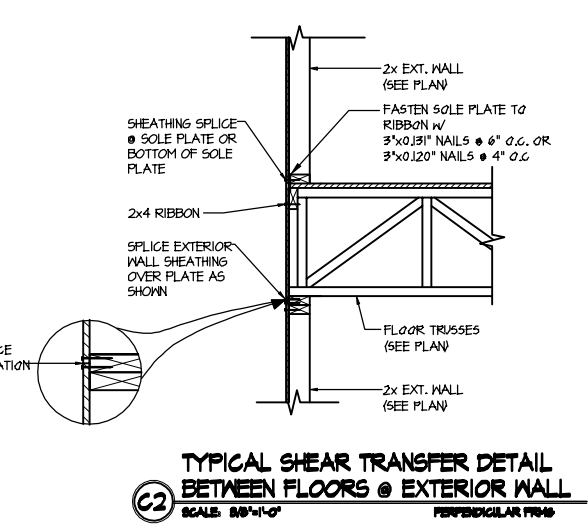
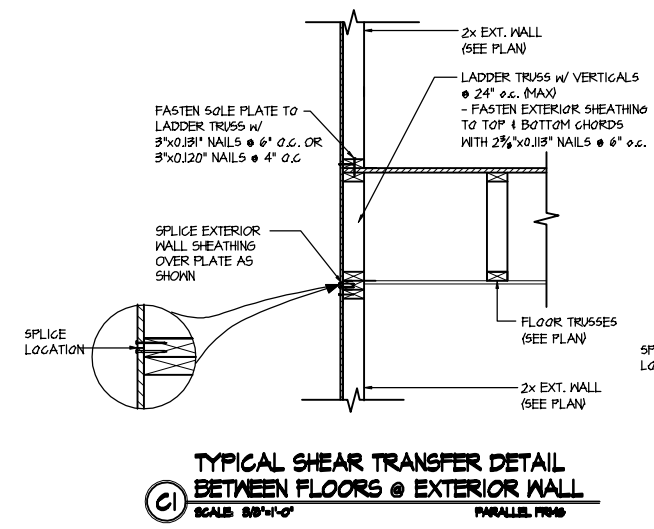
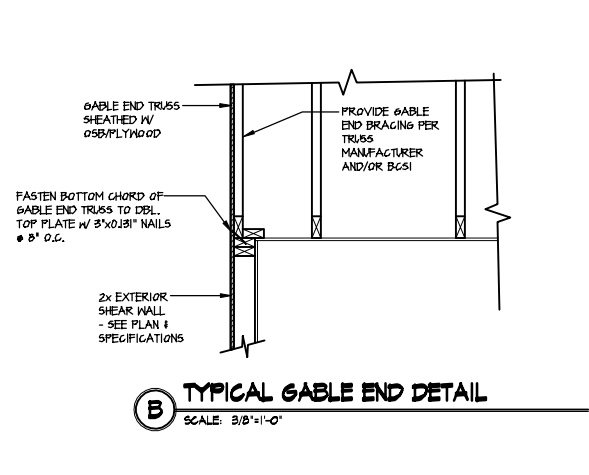
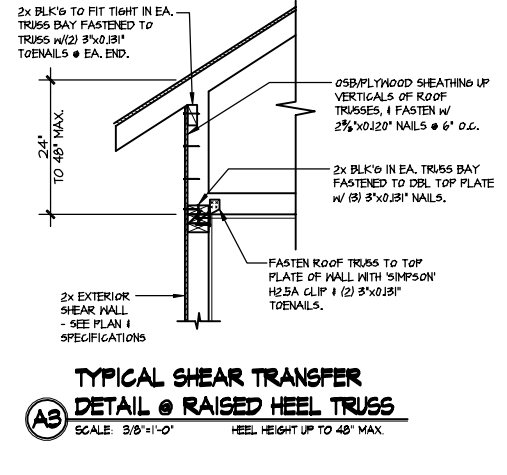
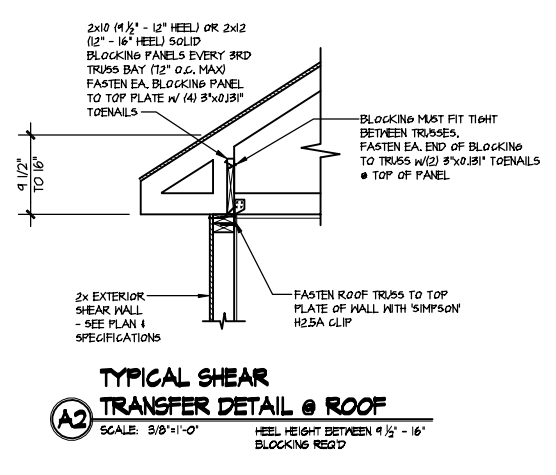
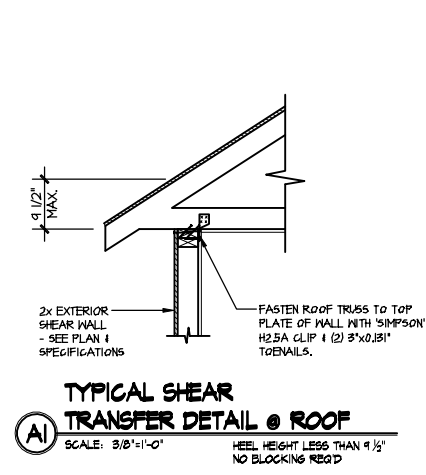


Framing Details
MIDDLETON MODEL
RALEIGH, NC

sheet: SD2.1CJ



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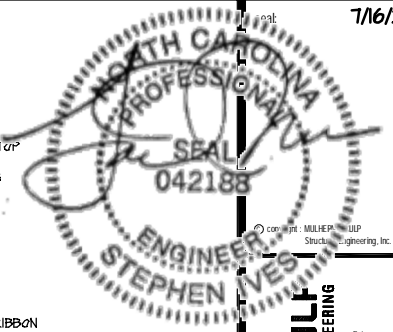


FILE: RLH - Middleton - Structural DATE: 7/16/2021 5:48 PM

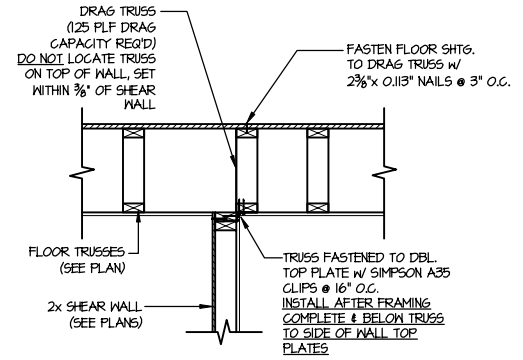


Framing Details
MIDDLETON MODEL
RALEIGH, NC

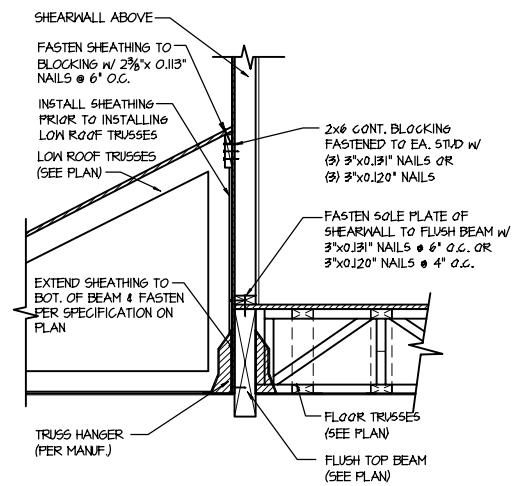
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SD2.0T



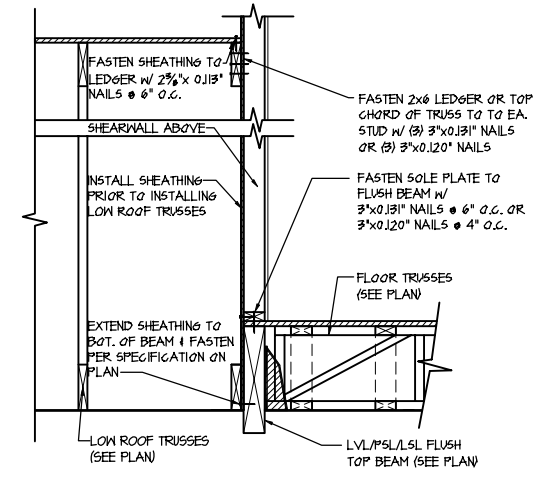
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 300 Riverside Ave. Building 6 - number PA 19022
 P.O. Box 98-9007 - mulhernkulf.com
 NC LIC. #C-3825



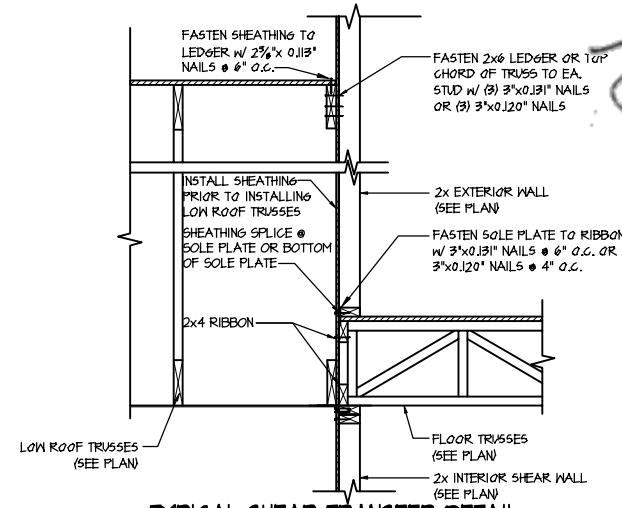
1 SHEAR TRANSFER DETAIL @ INTERIOR SHEAR WALL
 SCALE: 3/4"=1'-0" PARALLEL FRAMING



2 SHEAR TRANSFER DETAIL @ EXTERIOR SHEARWALL ABOVE
 SCALE: 3/4"=1'-0"



3 SHEAR TRANSFER DETAIL @ EXTERIOR SHEARWALL ABOVE
 SCALE: 3/8"=1'-0"



4 TYPICAL SHEAR TRANSFER DETAIL BETWEEN FLOORS @ INTERIOR WALL
 SCALE: 3/4"=1'-0"

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M&K project number: 126-21018

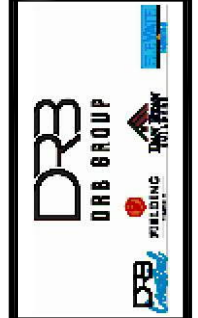
project mgr: JTR

drawn by: MDH

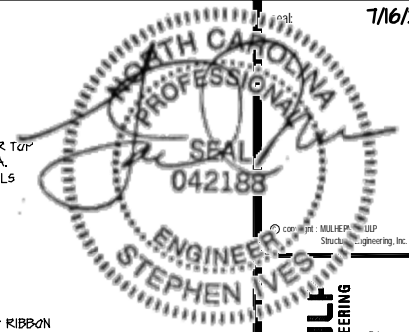
issue date: 07-16-21

REVISIONS:

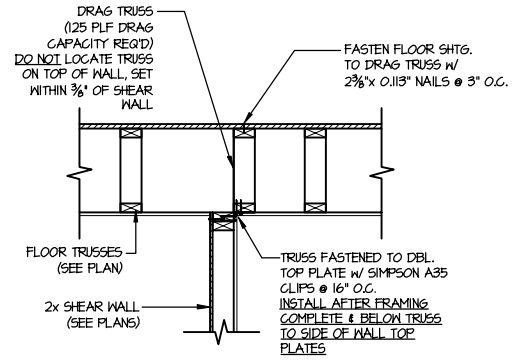
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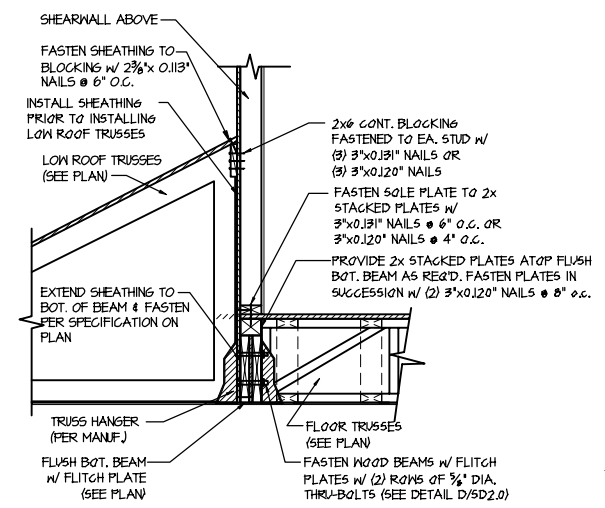
Framing Details
 MIDDLETON MODEL
 RALEIGH, NC



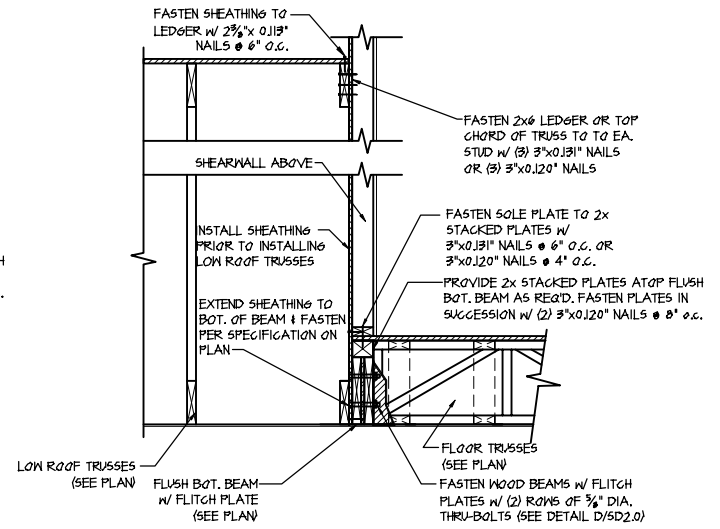
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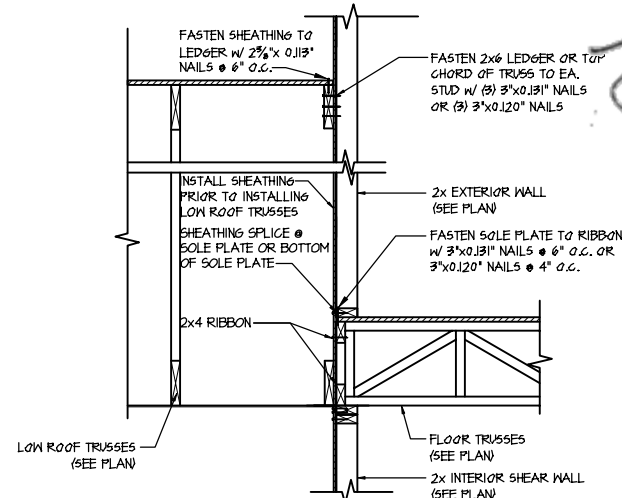
1 SHEAR TRANSFER DETAIL @ INTERIOR SHEAR WALL
SCALE: 3/4"=1'-0" PARALLEL FRAMING



2 SHEAR TRANSFER DETAIL @ EXTERIOR SHEARWALL ABOVE
SCALE: 3/8"=1'-0"



3 SHEAR TRANSFER DETAIL @ EXTERIOR SHEARWALL ABOVE
SCALE: 3/8"=1'-0"



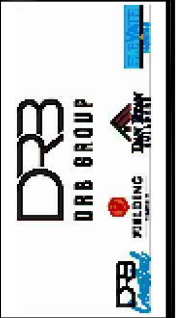
4 TYPICAL SHEAR TRANSFER DETAIL BETWEEN FLOORS @ INTERIOR WALL
SCALE: 3/4"=1'-0"

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M&K project number: 126-21018
project mgr: JTR
drawn by: MDH
issue date: 07-16-21

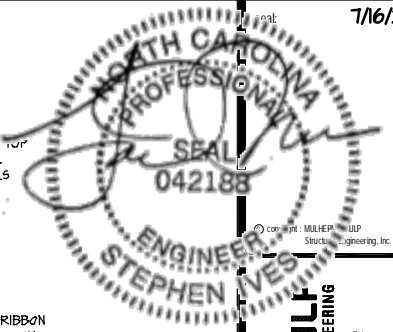
REVISIONS:

date:	initial:



Framing Details
MIDDLETON MODEL
RALEIGH, NC

sheet: SD2.1BT



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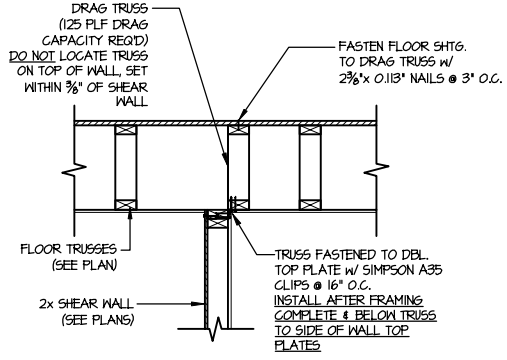
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126-21018
project mgr: JTR
drawn by: MDH
issue date: 07-16-21

REVISIONS:
date: initial

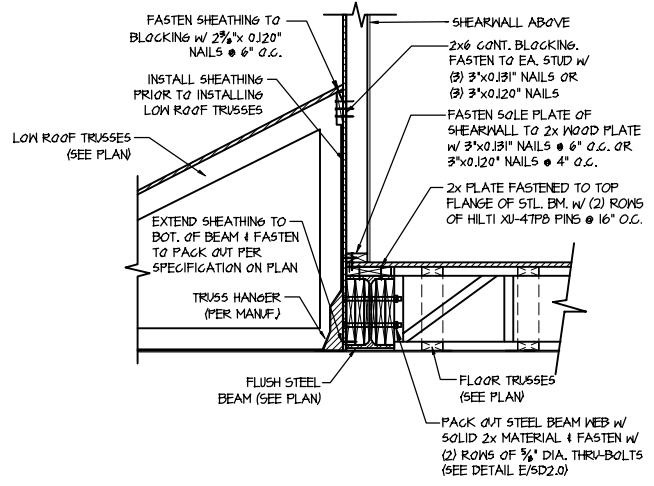


Framing Details
MIDDLETON MODEL
RALEIGH, NC

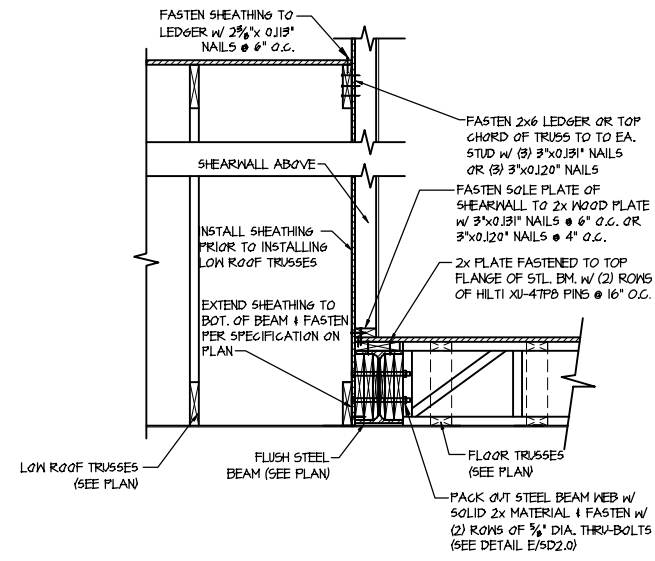
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SD2.1CT



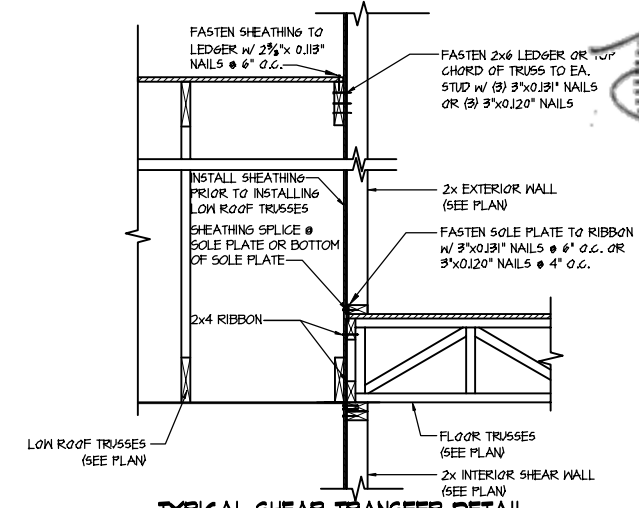
1
SHEAR TRANSFER DETAIL @ INTERIOR SHEAR WALL
SCALE: 3/4"=1'-0"
PARALLEL FRAMING



2
SHEAR TRANSFER DETAIL @ EXTERIOR SHEARWALL ABOVE
SCALE: 3/8"=1'-0"

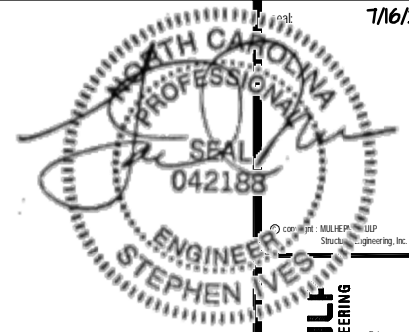


3
SHEAR TRANSFER DETAIL @ EXTERIOR SHEARWALL ABOVE
SCALE: 3/8"=1'-0"



4
TYPICAL SHEAR TRANSFER DETAIL BETWEEN FLOORS @ INTERIOR WALL
SCALE: 3/4"=1'-0"

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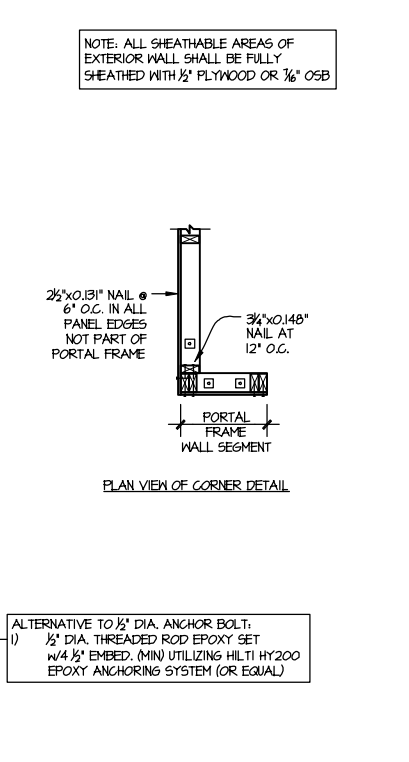
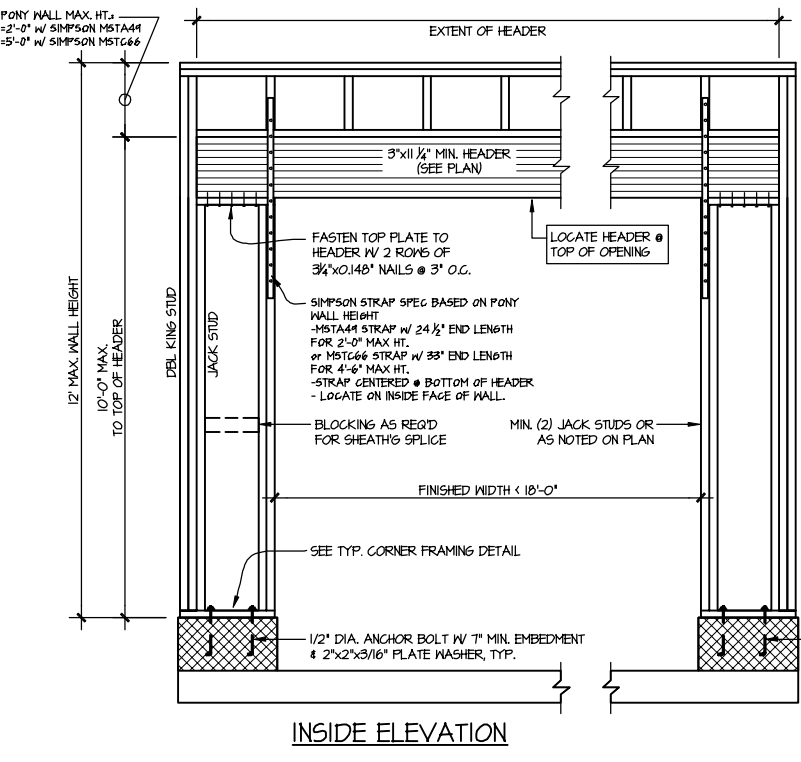
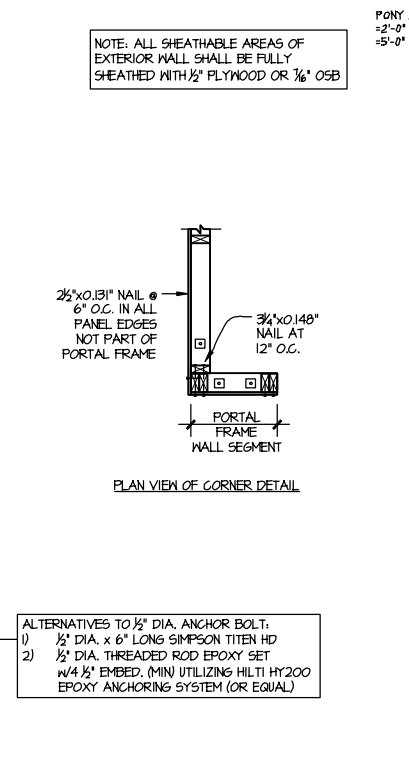
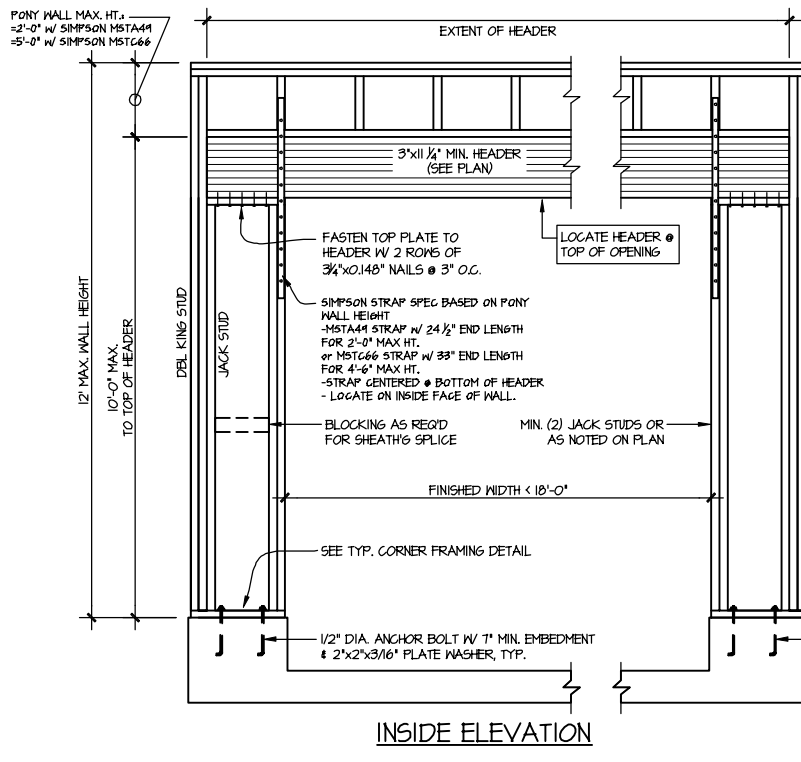
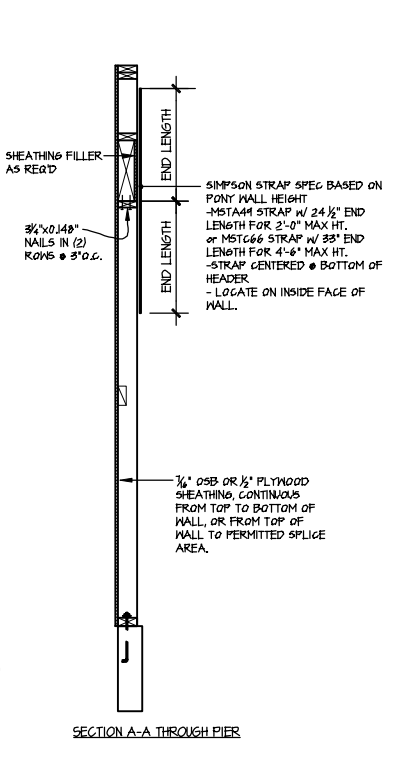
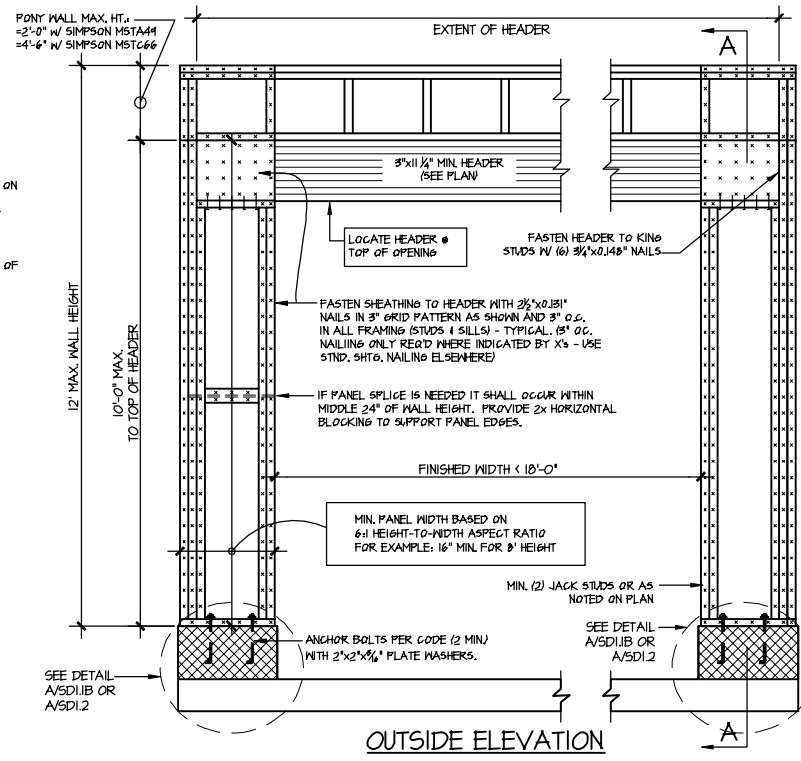
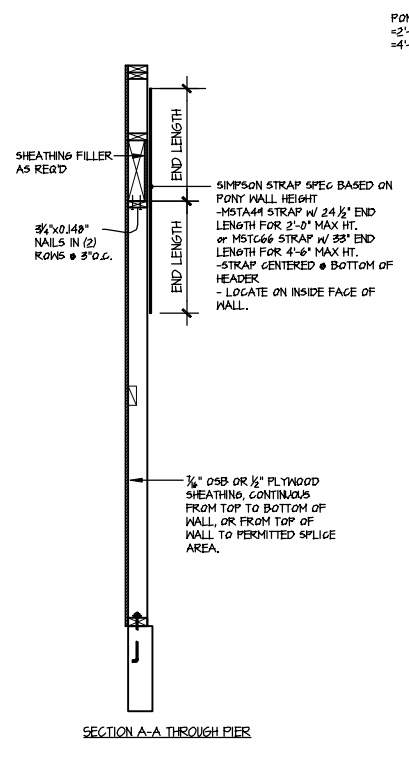
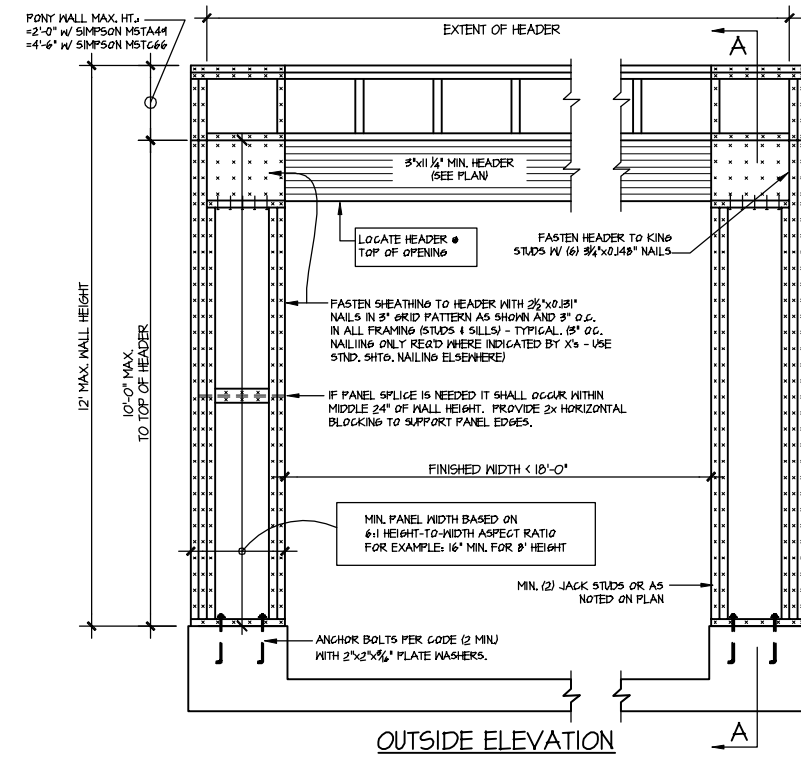
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M&K project number:
126-21018
project mgr: JTR
drawn by: MDH
issue date: 07-16-21
REVISIONS:
date: initial



Framing Details
MIDDLETON MODEL
RALEIGH, NC

sheet:
SD2.2



(A) TWO SIDED GARAGE PORTAL FRAME BRACING ELEVATION ON CONCRETE STEM
SCALE: N.T.S.

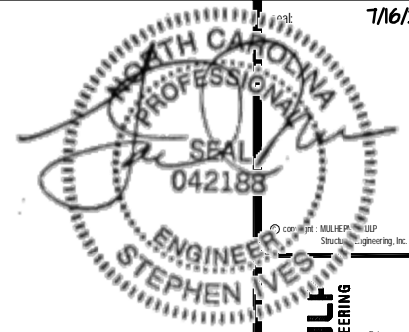
(B) TWO SIDED GARAGE PORTAL FRAME BRACING ELEVATION ON CMU STEM
SCALE: N.T.S.

ALTERNATIVES TO 1/2" DIA. ANCHOR BOLT:
1) 1/2" DIA. x 6" LONG SIMPSON TITEN HD
2) 1/2" DIA. THREADED ROD EPOXY SET w/4 1/2" EMBED. (MIN) UTILIZING HILTI HY200 EPOXY ANCHORING SYSTEM (OR EQUAL)

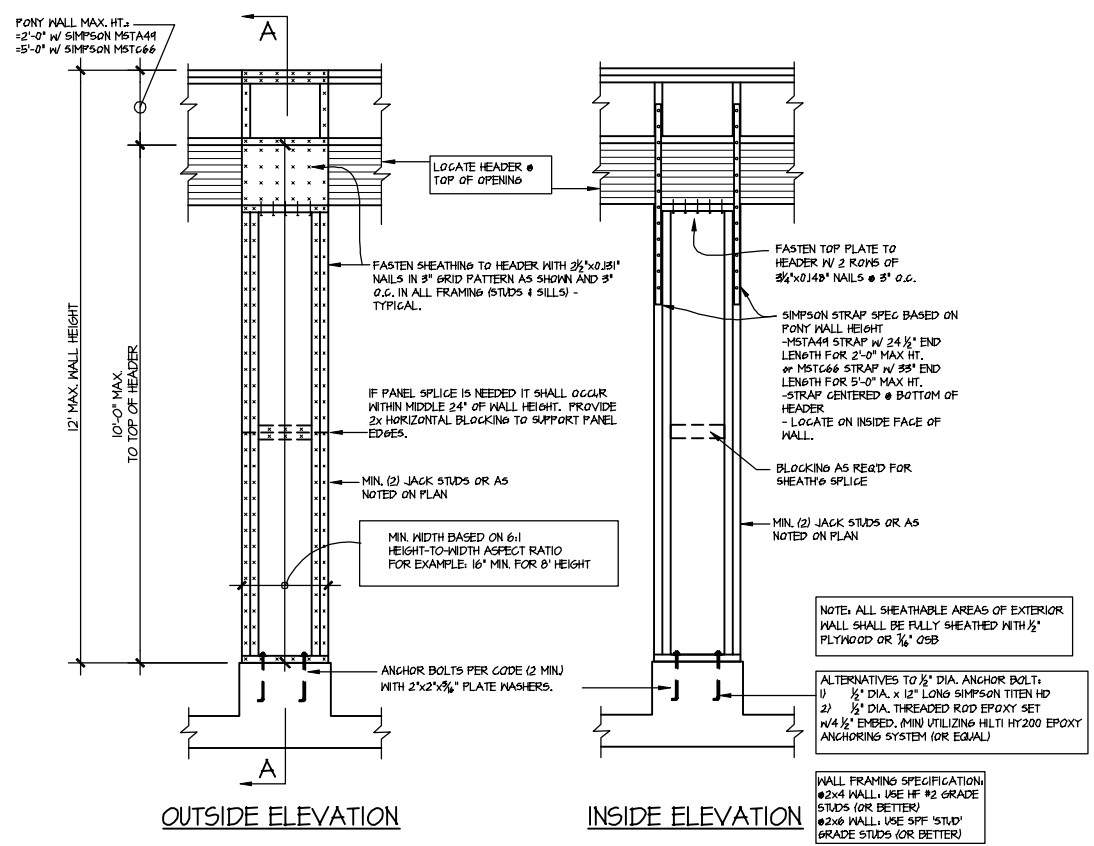
NOTE: ALL SHEATHABLE AREAS OF EXTERIOR WALL SHALL BE FULLY SHEATHED WITH 1/2" PLYWOOD OR 3/8" OSB

NOTE: ALL SHEATHABLE AREAS OF EXTERIOR WALL SHALL BE FULLY SHEATHED WITH 1/2" PLYWOOD OR 3/8" OSB

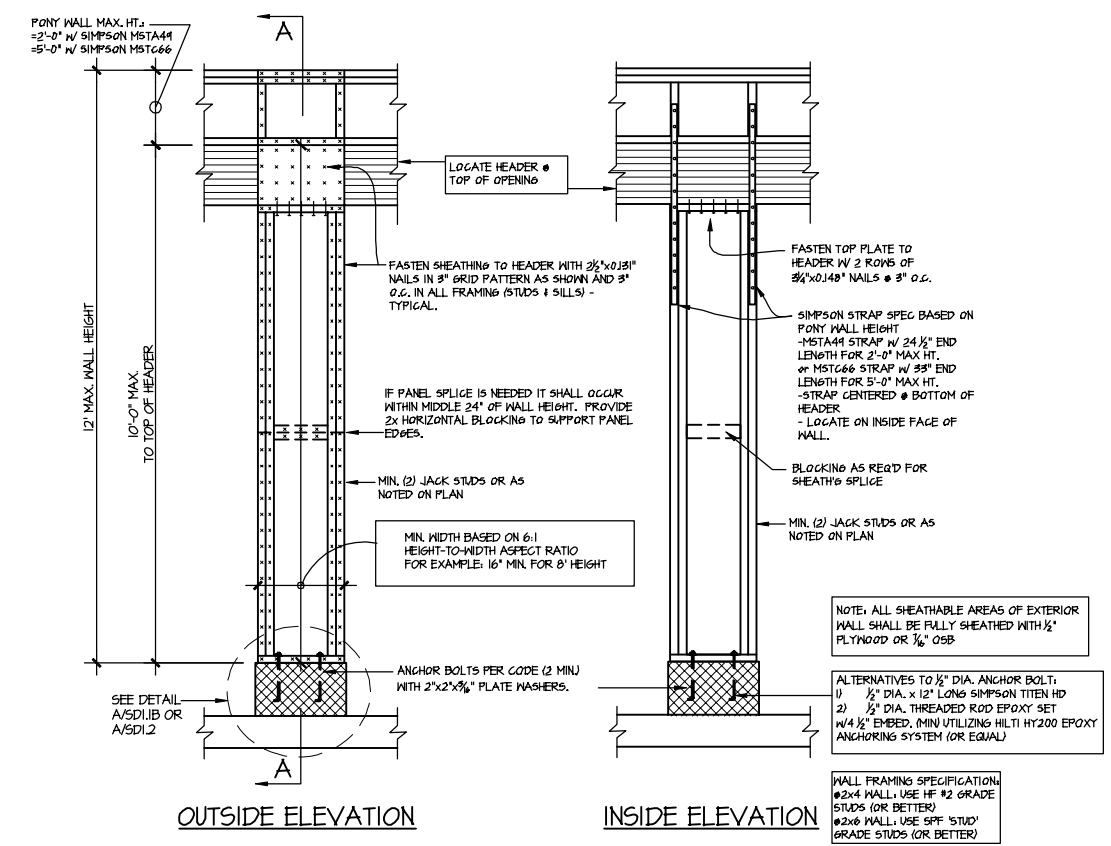
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IA GARAGE PORTAL FRAME BRACING ELEVATION
SCALE: N.T.S. CENTER PIER BETWEEN 2 GARAGE DOORS
CONCRETE STEM

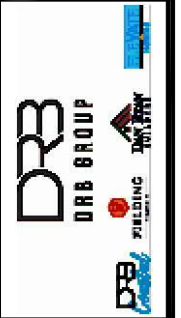


IB GARAGE PORTAL FRAME BRACING ELEVATION
SCALE: N.T.S. CENTER PIER BETWEEN 2 GARAGE DOORS
CMU STEM

FILE: RLH - Middleton - Structural - DATE: 7/16/2021 5:50 PM

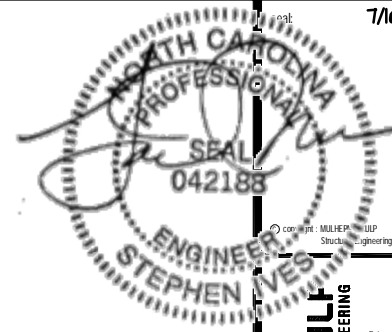
M&K project number: 126-21018
project mgr: JTR
drawn by: MDH
issue date: 07-16-21

REVISIONS:
date: initial



Framing Details
MIDDLETON MODEL
RALEIGH, NC

sheet: **SD2.3**

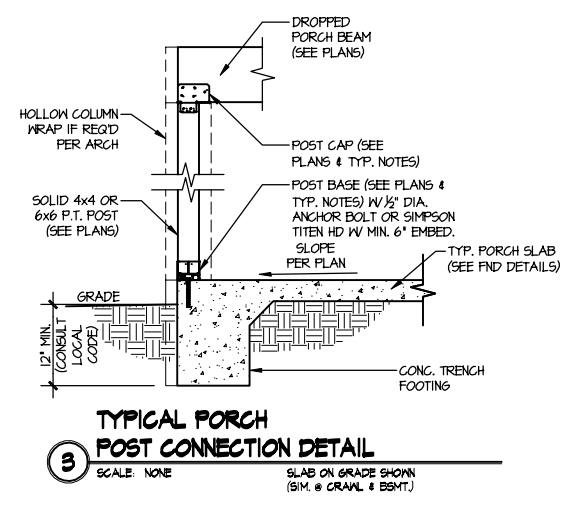


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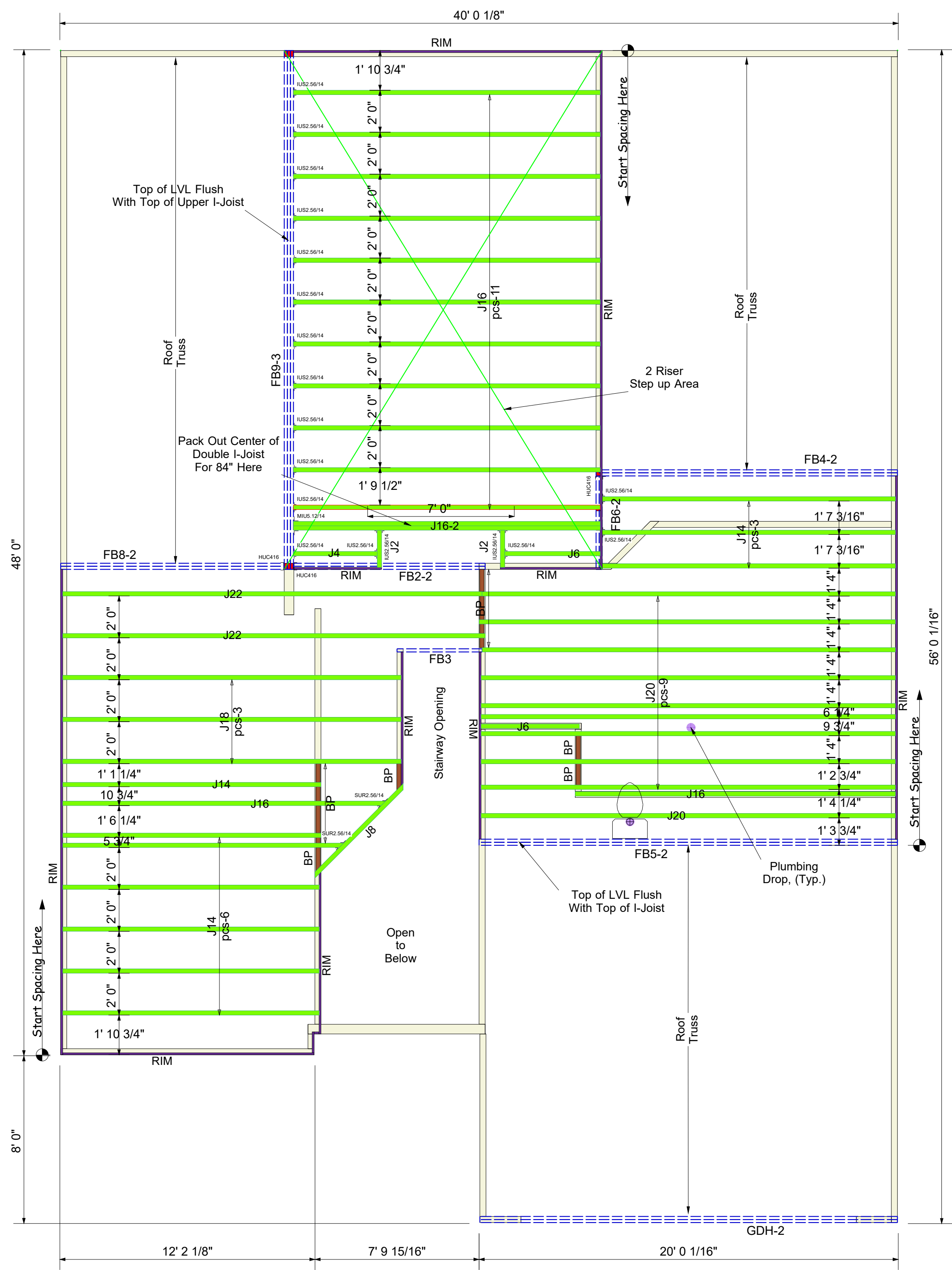
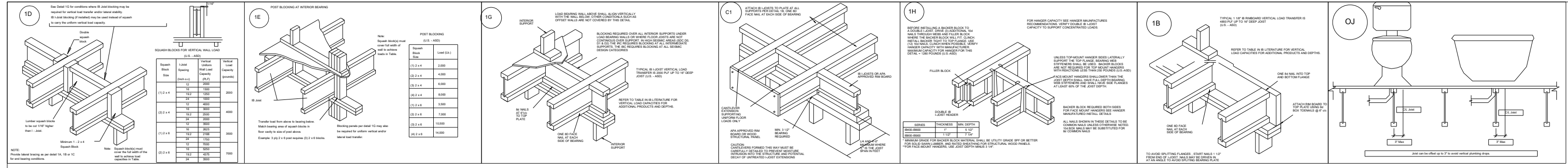


WGK project number:
126-21018
project mgr: JTR
drawn by: MDH
issue date: 07-16-21

REVISIONS:	
date:	initial:



Framing Details
MIDDLETON MODEL
RALEIGH, NC



Connector Summary		
Qty	Manuf	Product
3		HUC416
18	Simpson	IUS2.56/14
1	Simpson	MIUS.12/14
2		SUR2.56/14

Products						
PlotID	Length	Product	Piles	Net Qty	Fab Type	
J22	22' 0"	14" FJI-40	1	2	MFD	
J20	20' 0"	14" FJI-40	1	10	MFD	
J18	18' 0"	14" FJI-40	1	3	MFD	
J16	16' 0"	14" FJI-40	1	13	MFD	
J16-2	16' 0"	14" FJI-40	2	2	MFD	
J14	14' 0"	14" FJI-40	1	10	MFD	
J8	8' 0"	14" FJI-40	1	1	FF	
J6	6' 0"	14" FJI-40	1	2	MFD	
J4	4' 0"	14" FJI-40	1	1	MFD	
J2	2' 0"	14" FJI-40	1	2	MFD	
GDH-2	20' 0"	2.0 RigidLam DF LVL 1-3/4 x 11-7/8	2	2	FF	
FB4-2	16' 0"	2.0 RigidLam DF LVL 1-3/4 x 14	2	2	FF	
FB8-2	12' 0"	2.0 RigidLam DF LVL 1-3/4 x 14	2	2	FF	
FB2-2	10' 0"	2.0 RigidLam DF LVL 1-3/4 x 14	2	2	FF	
FB3	6' 0"	2.0 RigidLam DF LVL 1-3/4 x 14	1	1	FF	
FB6-2	6' 0"	2.0 RigidLam DF LVL 1-3/4 x 14	2	2	FF	
FB5-2	20' 0"	2.0 RigidLam DF LVL 1-3/4 x 18	2	2	FF	
FB9-3	26' 0"	2.0 RigidLam DF LVL 1-3/4 x 20	3	3	FF	
RIM	12' 0"	1 1/8" x 14" APA Rim Board	1	11	FF	
BP	2' 0"	14" FJI-40	1	6	FF	

BLOCK SOLID UNDER ALL POST /POINT LOADS FROM ABOVE - TYPICAL AT ALL LOCATIONS

2nd Floor I-Joist
DRAWING SCALE : NTS

PROJECT NUMBER	REVISIONS	
22050115	DATE	BY
SHEET NUMBER	05.19.22	RKW
1 / 1		

Dan Ryan Builders
137 Farm at Neills Creek (Middleton 4-GRFE)
2nd FLOOR I-JOIST PLACEMENT PLAN

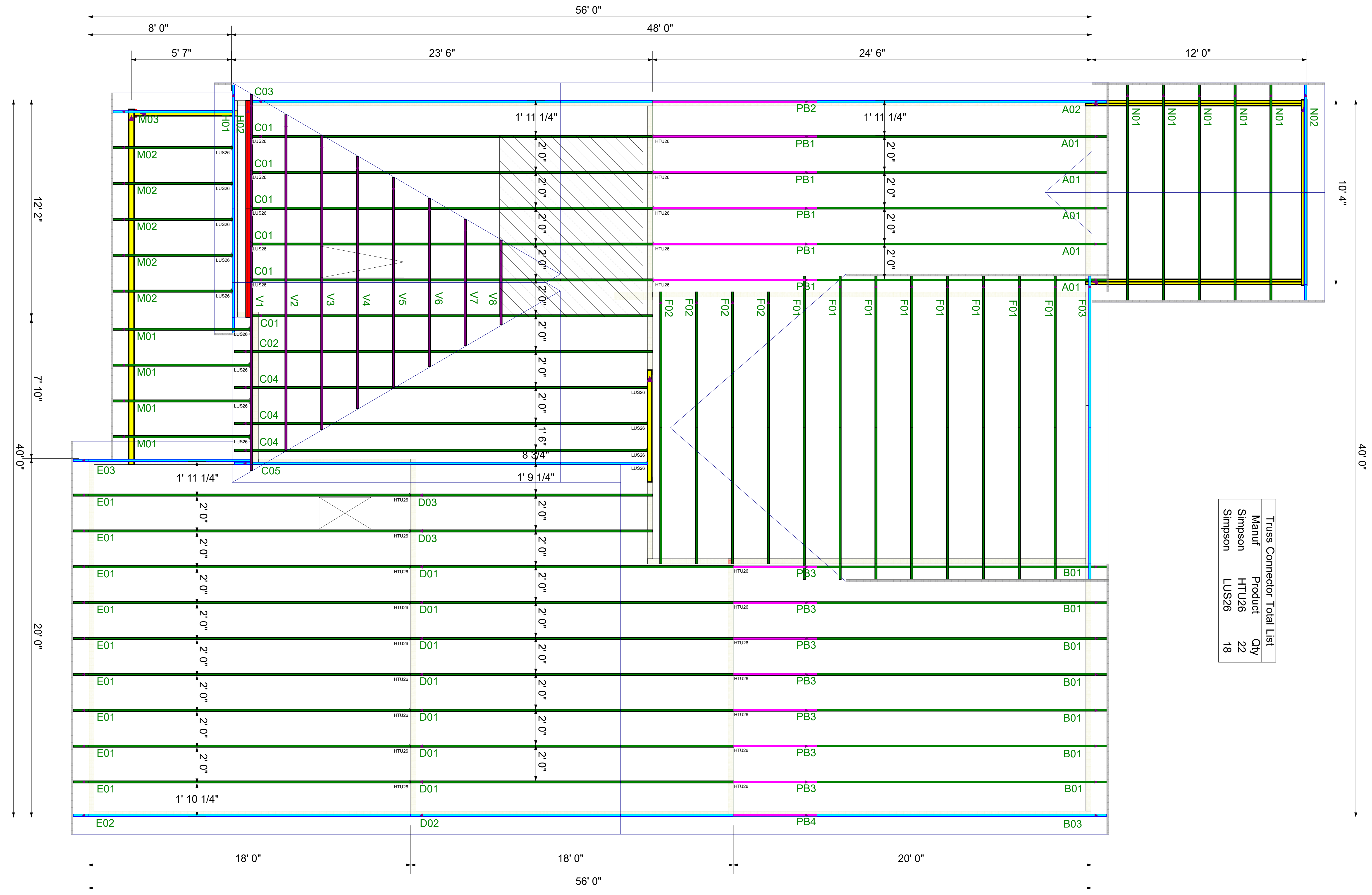
PROJECT NUMBER
22050115
SHEET NUMBER
1 / 1

REVISIONS	DATE	BY
	5-27-22	ND

DRB GROUP
MIDDLETON 4 - 137 FARM AT NELLIS CREEK
ROOF TRUSS LAYOUT



ROOF LAYOUT
DRAWING SCALE : NTS



Truss Connector Total List			
Manuf	Product	Qty	
Simpson	HTU26	22	
Simpson	LUS26	18	