PLANS DESIGNED TO THE NC
STATE CODE, 2018 EDITION

FRONT ELEVATION

1/4" = 1'-0"

RIGHT ELEVATION

1/4" = 1'-0"

It is the sole responsibility of the contractor and/or builder to determine whether these plans conform to all standards, provisions, requirements, methods of construction, and structures provided by applicable building codes, and any other local agencies, and in accordance with good engineering and construction practice. Cider House Studio does not assume liability for any deviation or discrepancy in these plans. If a discrepancy is discovered, please contact Cider House Studio before continuing work.

CUELLAR RESIDENCE &
DETACHED GARAGE

CIDER HOUSE STUDIO, INC.
424 E. MAIN ST.
CLAYTON, NC 27520
919.624.4776

JABIER CUELLAR

REAR ELEVATION

1/4" = 1'-0"

LEFT ELEVATION

1/4" = 1'-0"

CUELLAR RESIDENCE &
DETACHED GARAGE

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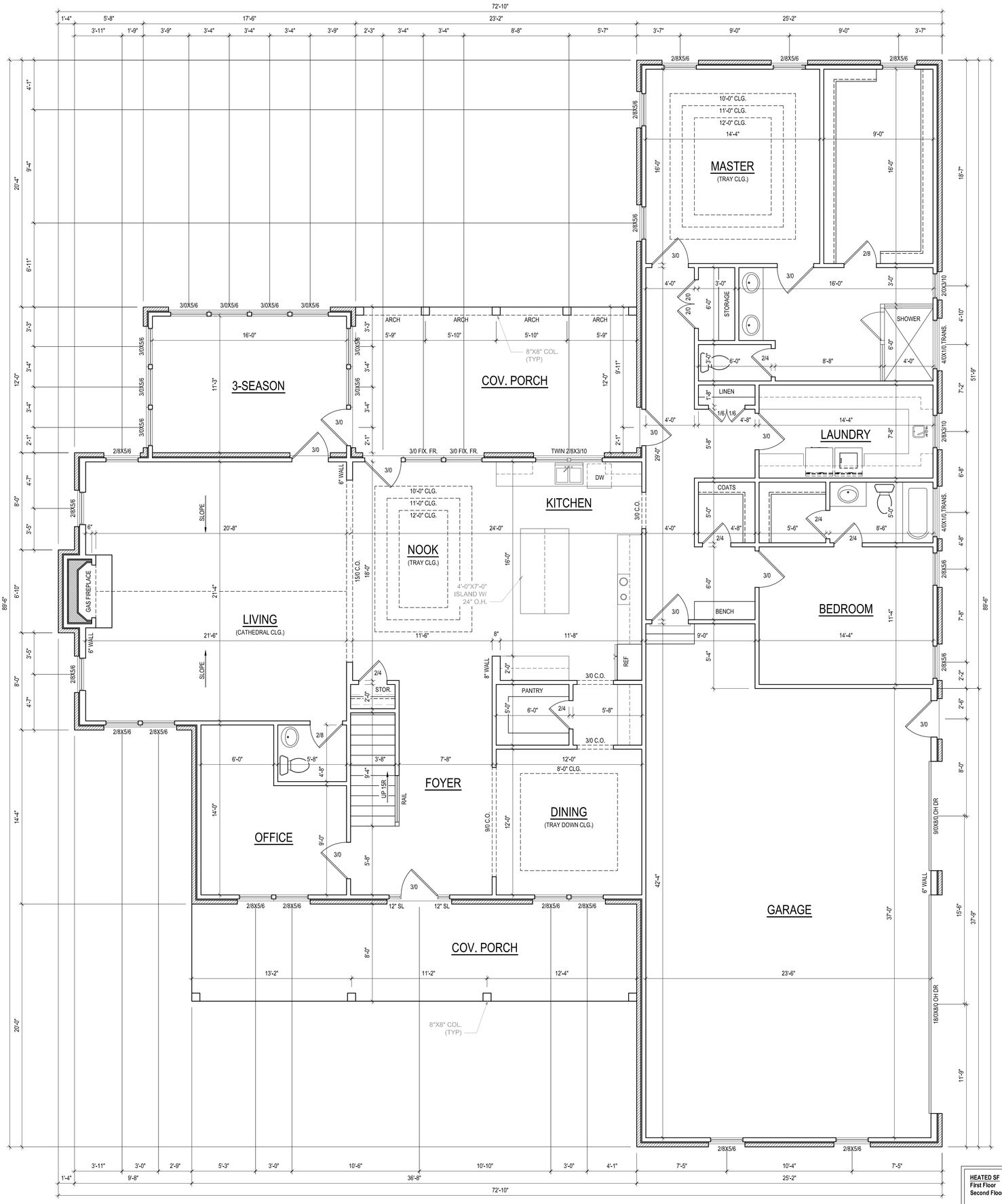
919.624.4776

JABIER CUELLAR



HEATED SF	
First Floor	2752
Second Floor	1153
TOTAL HEATED	3905
UNHEATED SF	
Garage	951
Front Porch	293
Rear Porch	288
3-Seasons	200

*Brick Not Included In SF

FIRST FLOOR PLAN

1/4" = 1'-0" **CEILING HGT. = 9'-0"**

*ALL LUMBER TO BE #2 SYP, UNO
ALL WALLS TO BE 4" THICK

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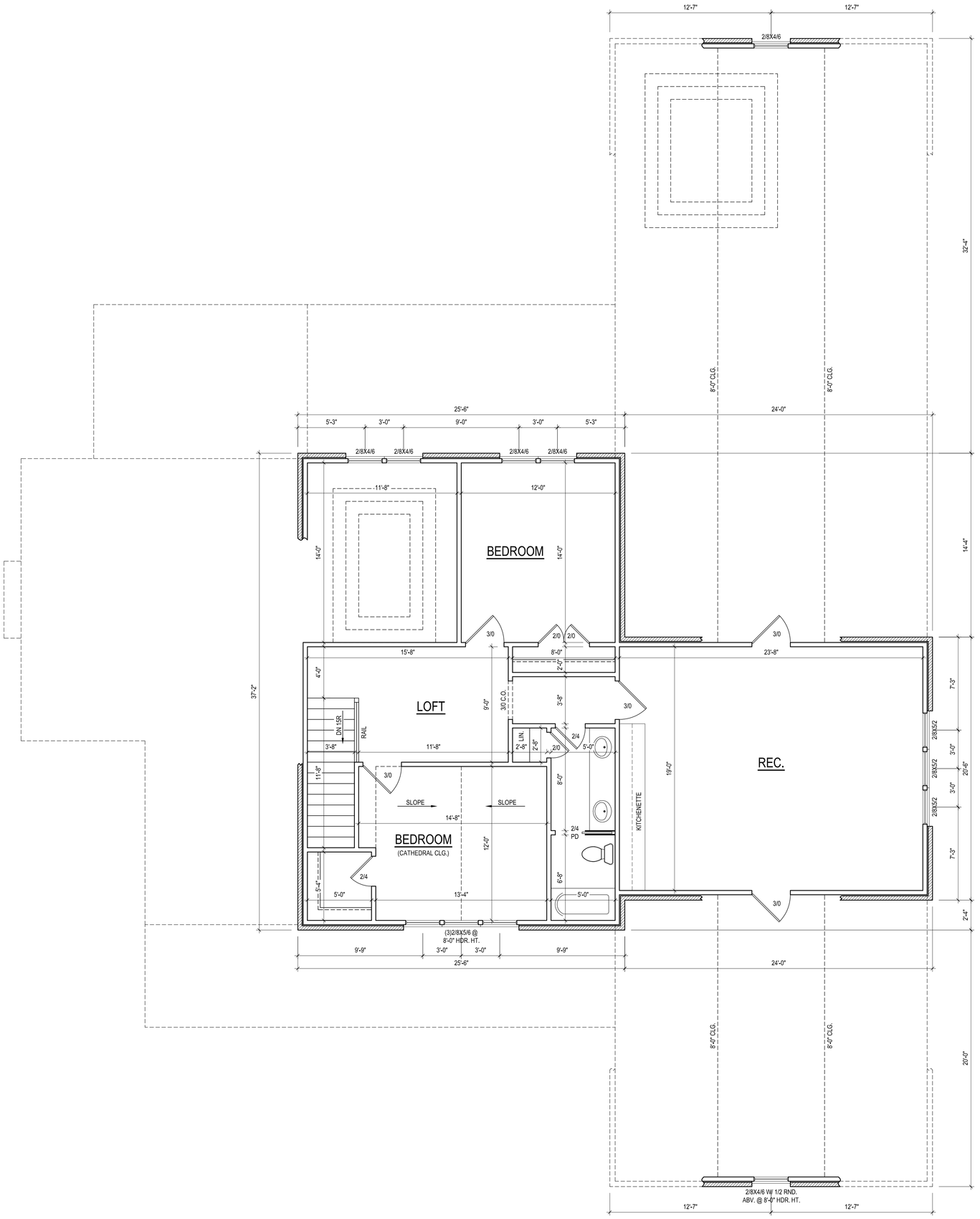

SECOND FLOOR PLAN

1/4" = 1'-0" **CEILING HGT. = 9'-0"**

*ALL LUMBER TO BE #2 SYP, UNO
ALL WALLS TO BE 4" THICK

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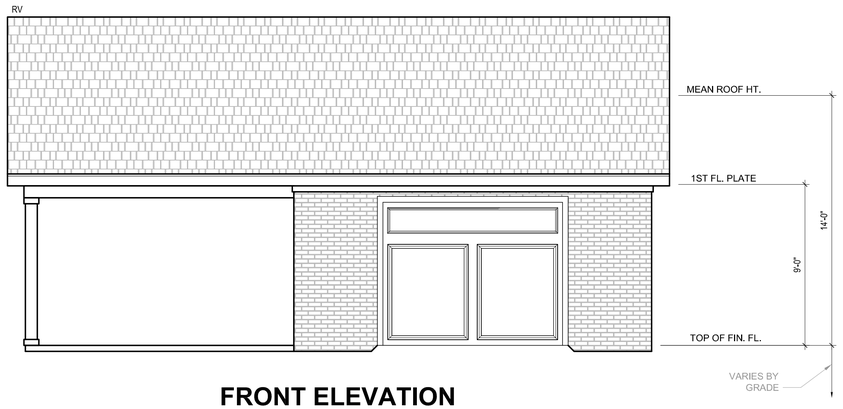
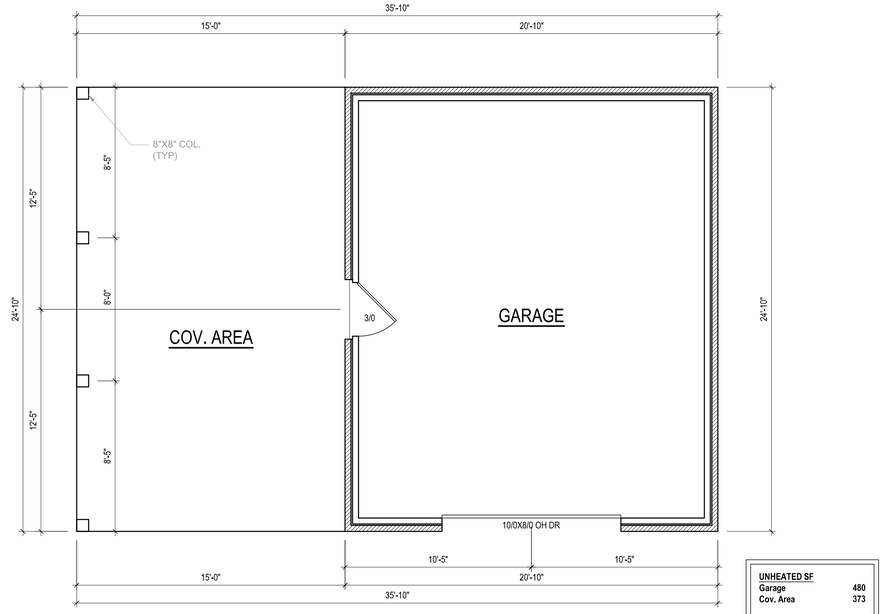


FRONT ELEVATION

1/4" = 1'-0"



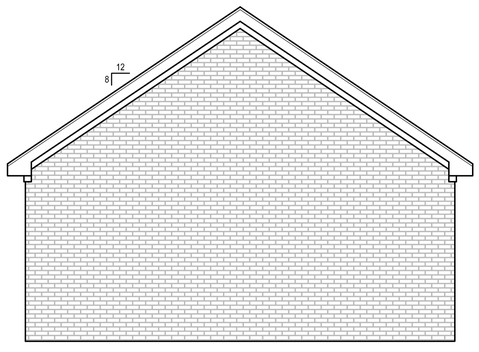
UNHEATED SF	
Garage	480
Cov. Area	373

*Brick Not Included In SF

FIRST FLOOR PLAN

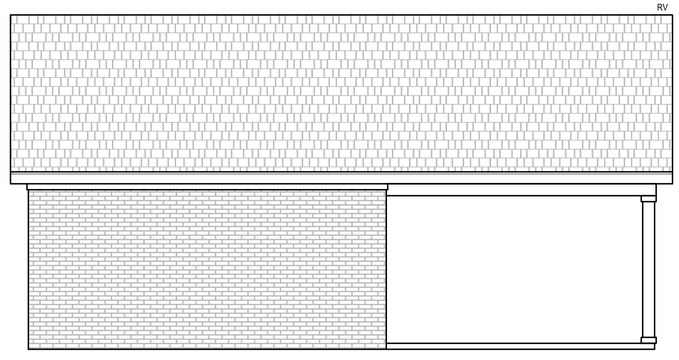
1/4" = 1'-0" **CEILING HGT. = 9'-0"**

*ALL LUMBER TO BE #2 SYP, UNO
ALL WALLS TO BE 4" THICK



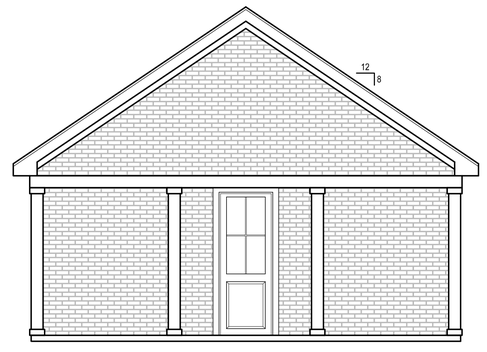
RIGHT ELEVATION

1/4" = 1'-0"



REAR ELEVATION

1/4" = 1'-0"



LEFT ELEVATION

1/4" = 1'-0"

CUELLAR RESIDENCE & DETACHED GARAGE

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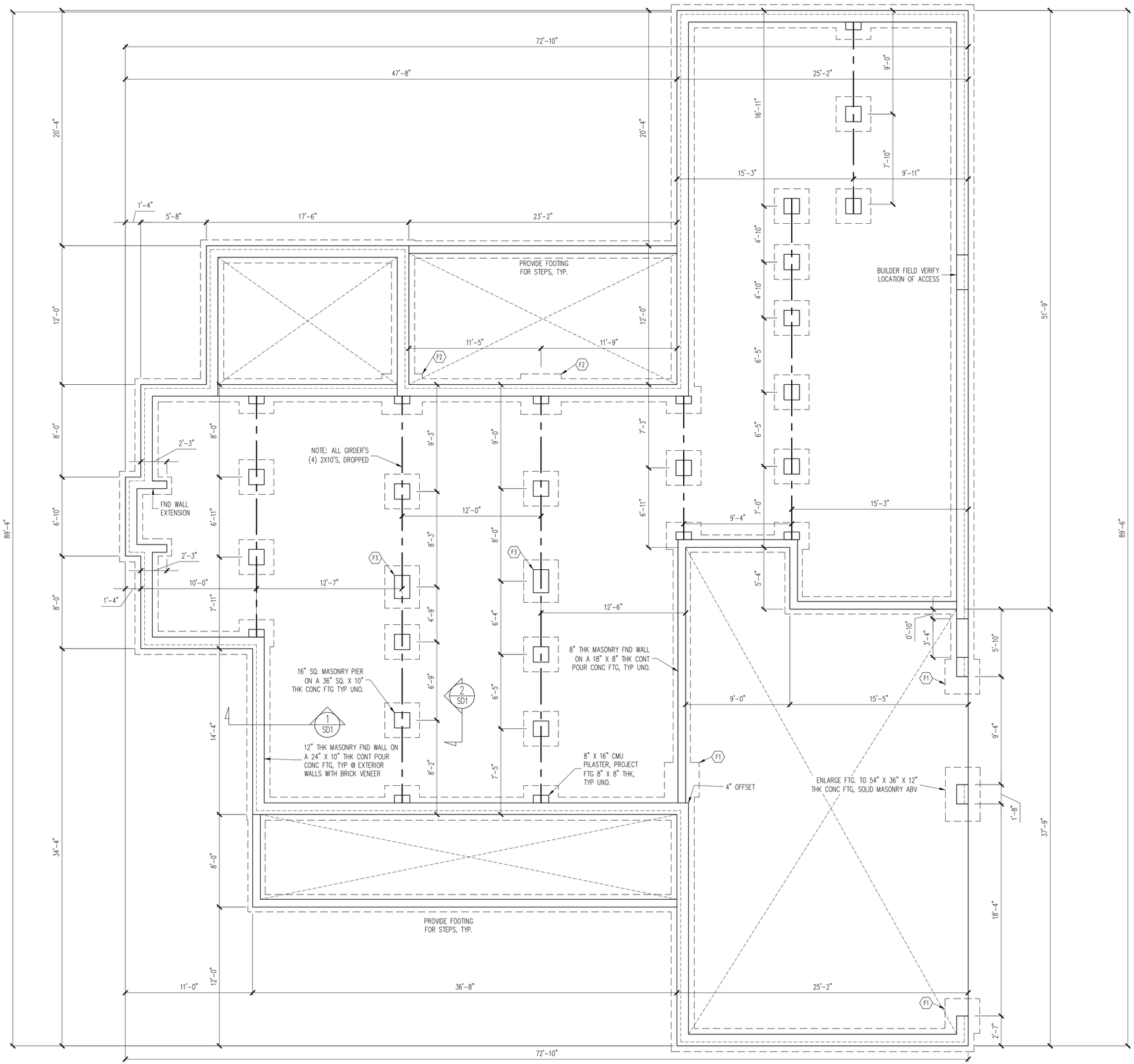

CONSTRUCTION SPECIFICATIONS

INSTANT REFERENCES

REFER TO THE CONSTRUCTION SPECIFICATIONS SECTIONS FOR THE FOLLOWING INFORMATION:

PART 1.01: CURRENT GOVERNING CODE

PART 14: STUD SUPPORT FOR BEAMS

PART 16.02: GENERAL WALL BRACING NOTES

PART 17: KING STUDS FOR EXTERIOR WALLS

SEE DETAIL / CONSTRUCTION SPECIFICATIONS SHEETS FOR I-JOISTS ALLOWABLE SUBSTITUTIONS

FOUNDATION SCHEDULE

F1 ENLARGE FTG TO 36" SQ. X 12" THK. SOLID MASONRY ABV

F2 ENLARGE FTG TO 42" X 12" THK. THICK CONC FTG TYP UNO.

F3 16" X 24" MASONRY PIER ON A 48" X 36" X 10" THICK CONC FTG.

NOTES:
- HEIGHT AND BACKFILL LIMITATIONS FOR FOUNDATION WALLS ARE TO BE GOVERNED BY THE NCSBC, LATEST EDITION.
- 14" SQ POURED CONC PIERS OR 16" ø POURED CONC PIERS MAY BE USED IN LIEU OF 16" SQ MASONRY PIERS.

FOUNDATION PLAN

1/4" = 1'-0"

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 15222 KENNETH T. WU
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STRUCTURAL ENGINEERS
License No. C-3870
318 W Millbrook Rd. Unit 201
Raleigh, North Carolina 27609
Phone (919) 844-1661

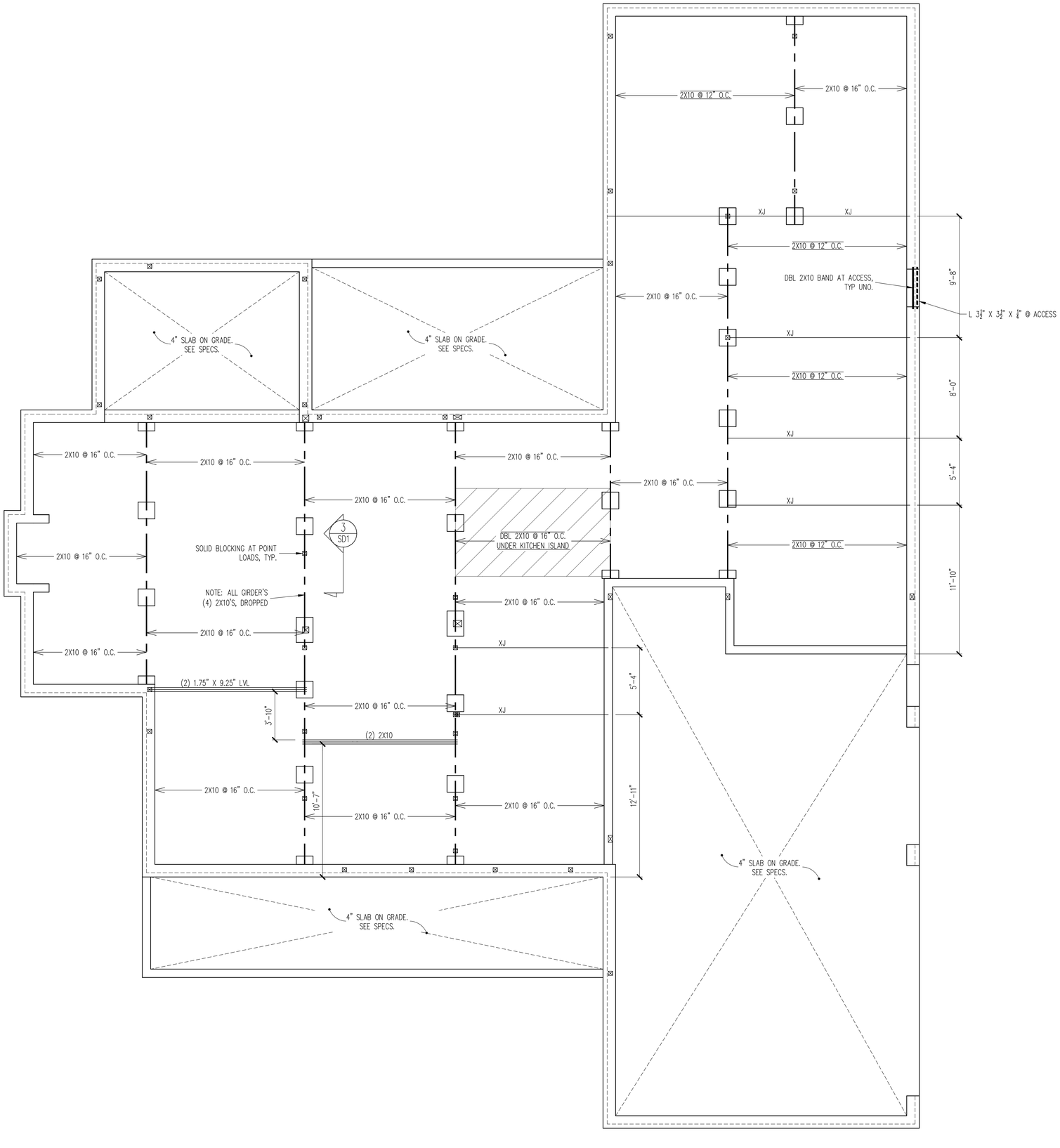
JABIER CUELLAR
STRUCTURAL ADDENDUM
SCOPE:
LOC: 181 MABRY RD

REV #	REF PROJ #	DATE

ENG: KWT/CR
DATE: 10/25/2022

PROJECT NO.
22-65-562

SHEET NO.
S1
1 of 8



CRAWLSPACE FRAMING PLAN

1/4" = 1'-0"

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SCOPE:
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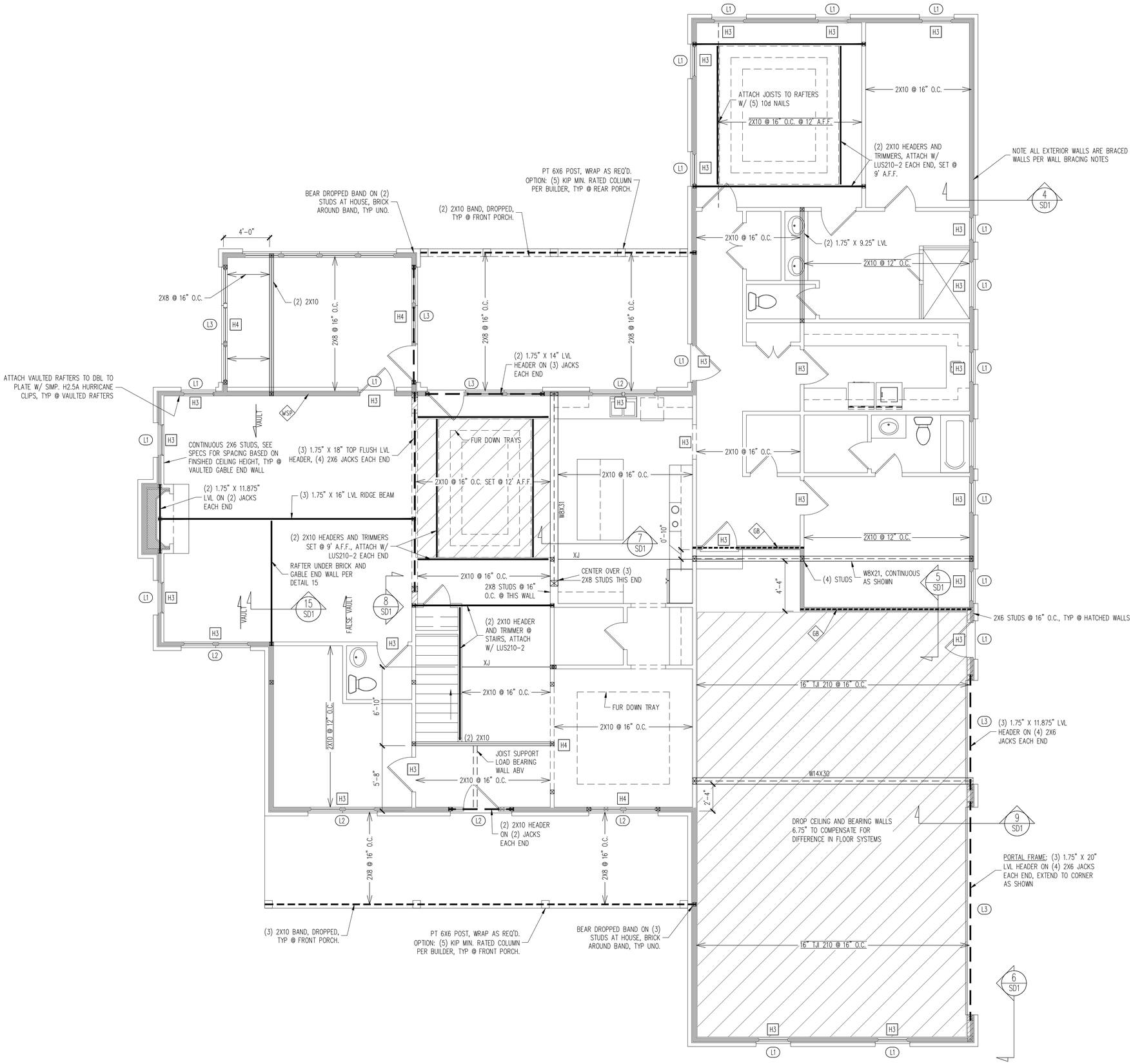
PROJECT NO.
22-65-562

SHEET NO.
S2
2 of 8



WALL BRACING

FIRST FLOOR ONLY

CS – ALL EXTERIOR STUD WALLS, EXTERIOR SIDE, ARE TO BE CONTINUOUSLY SHEATHED WITH 7/16 APA RATED OSB NAILED TO STUDS WITH 8d NAILS @ 6" O.C. AT PANEL EDGES, 12" O.C. IN PANEL FIELD.

SHADED WALLS:

WSP ONE SIDE OF INTERIOR WALL OR INSIDE OF EXTERIOR WALL WITH 3/8" MIN. THICKNESS WOOD STRUCTURAL PANELING. ATTACH WSP TO STUD WALL WITH 8d NAILS @ 4" O.C. AT PANEL EDGES, 8" O.C. IN PANEL FIELD.

GB INTERIOR BRACED WALL. 1/2" GB SECURED PER TABLE R602.10.2 OF THE 2012 NCRBC. (FASTENERS @ 7" O.C.) BOTH SIDES OF WALL, OR (FASTENERS @ 4" O.C.) ONE SIDE OF WALL AT STAIRS

NOTES:
–PROVIDED CONTINUOUS SHEATHING = 344' MIN.

LINTEL SCHEDULE

L1 L 3 1/2 X 3 1/2 X 1/4 TYP UNO

L2 L 5 X 3 1/2 X 5/16

L3 L 6 X 4 X 5/16 ATTACHED TO HEADER WITH (2) 1/2" X 3" LAG SCREWS @ 16" O.C.

L4 16 GAGE STEEL FLEX LINTEL AT ARCH

HEADER SCHEDULE

H1 SINGLE 2X4 TURNED FLAT (A)

H2 (2) 2X4'S ON SINGLE JACKS (B)

H3 (2) 2X10'S ON SINGLE JACKS (C)

H4 (2) 1.75" X 9.25" LVL'S ON DBL JACKS

H5 (3) 2X10'S ON SINGLE JACKS

(A) TYPICAL FOR INTERIOR NON LOAD BEARING WALLS ONLY, ROUGH OPENING 38" MAX.

(B) TYPICAL FOR INTERIOR NON LOAD BEARING WALLS ONLY, ROUGH OPNG 38" TO 74" MAX.

(C) TYPICAL FOR ALL CONDITIONS NOT LISTED IN (A) OR (B) UNO.

NOTES:
–HEADERS IN NON LOAD BEARING INTERIOR WALLS ARE NOT LABELED.

1ST FLOOR FRAMING PLAN

WALLS AND CEILING 1/4" = 1'-0"

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SHEET NO.
S3
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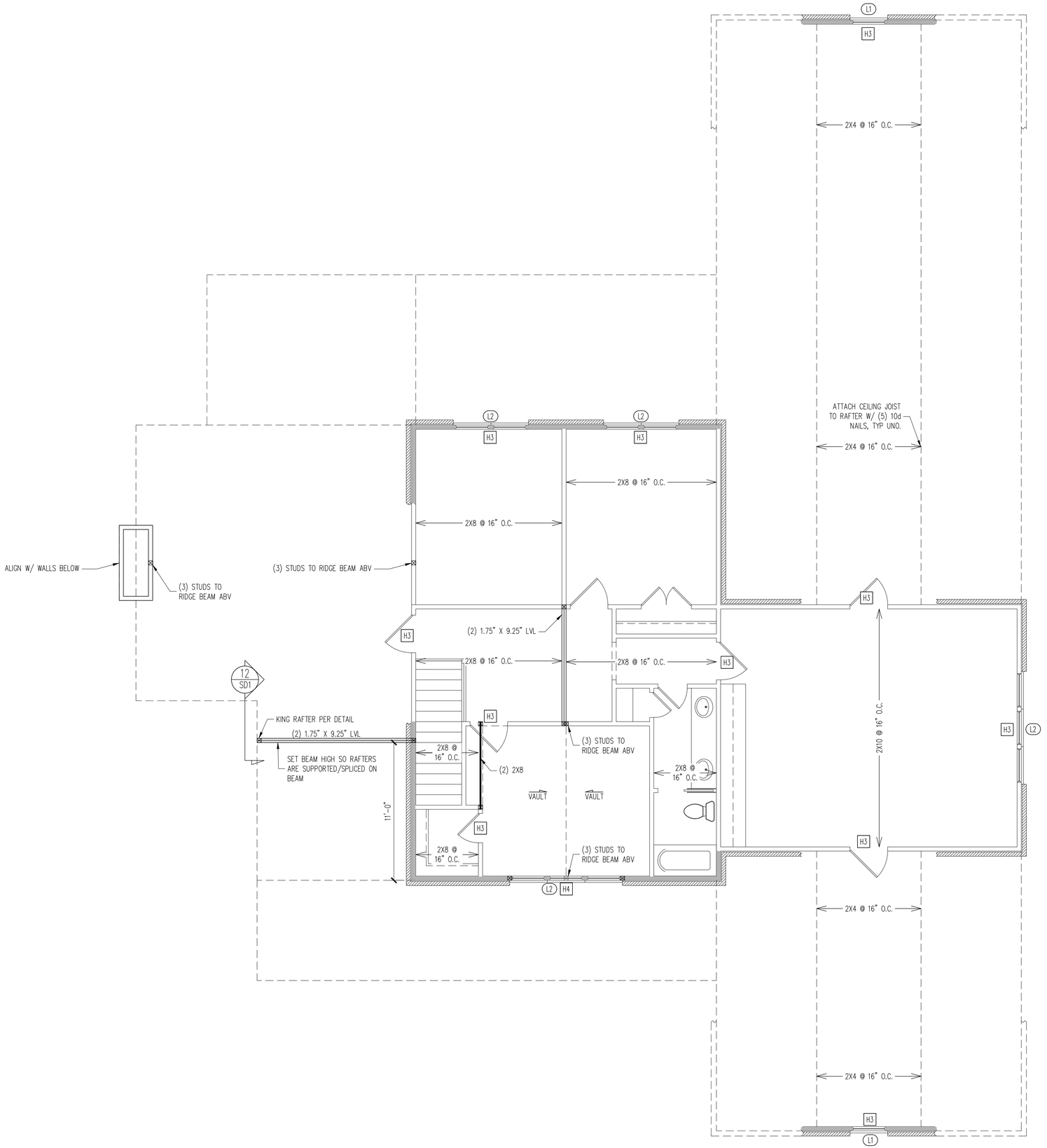

WALL BRACING

SECOND FLOOR ONLY

CS – ALL EXTERIOR STUD WALLS, EXTERIOR SIDE, ARE TO BE CONTINUOUSLY SHEATHED WITH 7/16 APA RATED OSB NAILED TO STUDS WITH 8d NAILS @ 6" O.C. AT PANEL EDGES, 12" O.C. IN PANEL FIELD.

SHADED WALLS:

NOTES:
–PROVIDED CONTINUOUS SHEATHING = 46' MIN.

LINTEL SCHEDULE

L1 L 3 1/2 X 3 1/2 X 1/4 TYP UNO

L2 L 5 X 3 1/2 X 5/16

L3 L 6 X 4 X 5/16 ATTACHED TO HEADER WITH (2) 1/2" X 3" LAG SCREWS @ 16" O.C.

L4 16 GAGE STEEL FLEX LINTEL AT ARCH

HEADER SCHEDULE

H1 SINGLE 2X4 TURNED FLAT (A)

H2 (2) 2X4'S ON SINGLE JACKS (B)

H3 (2) 2X10'S ON SINGLE JACKS (C)

H4 (2) 1.75" X 9.25" LVL'S ON DBL JACKS

H5 (3) 2X10'S ON SINGLE JACKS

(A) TYPICAL FOR INTERIOR NON LOAD BEARING WALLS ONLY, ROUGH OPENING 38" MAX.

(B) TYPICAL FOR INTERIOR NON LOAD BEARING WALLS ONLY, ROUGH OPNG 38" TO 74" MAX.

(C) TYPICAL FOR ALL CONDITIONS NOT LISTED IN (A) OR (B) UNO.

NOTES:
–HEADERS IN NON LOAD BEARING INTERIOR WALLS ARE NOT LABELED.

2ND FLOOR FRAMING PLAN

WALLS AND CEILING 1/4" = 1'-0"

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JABIER CUELLAR
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SHEET NO.
S4
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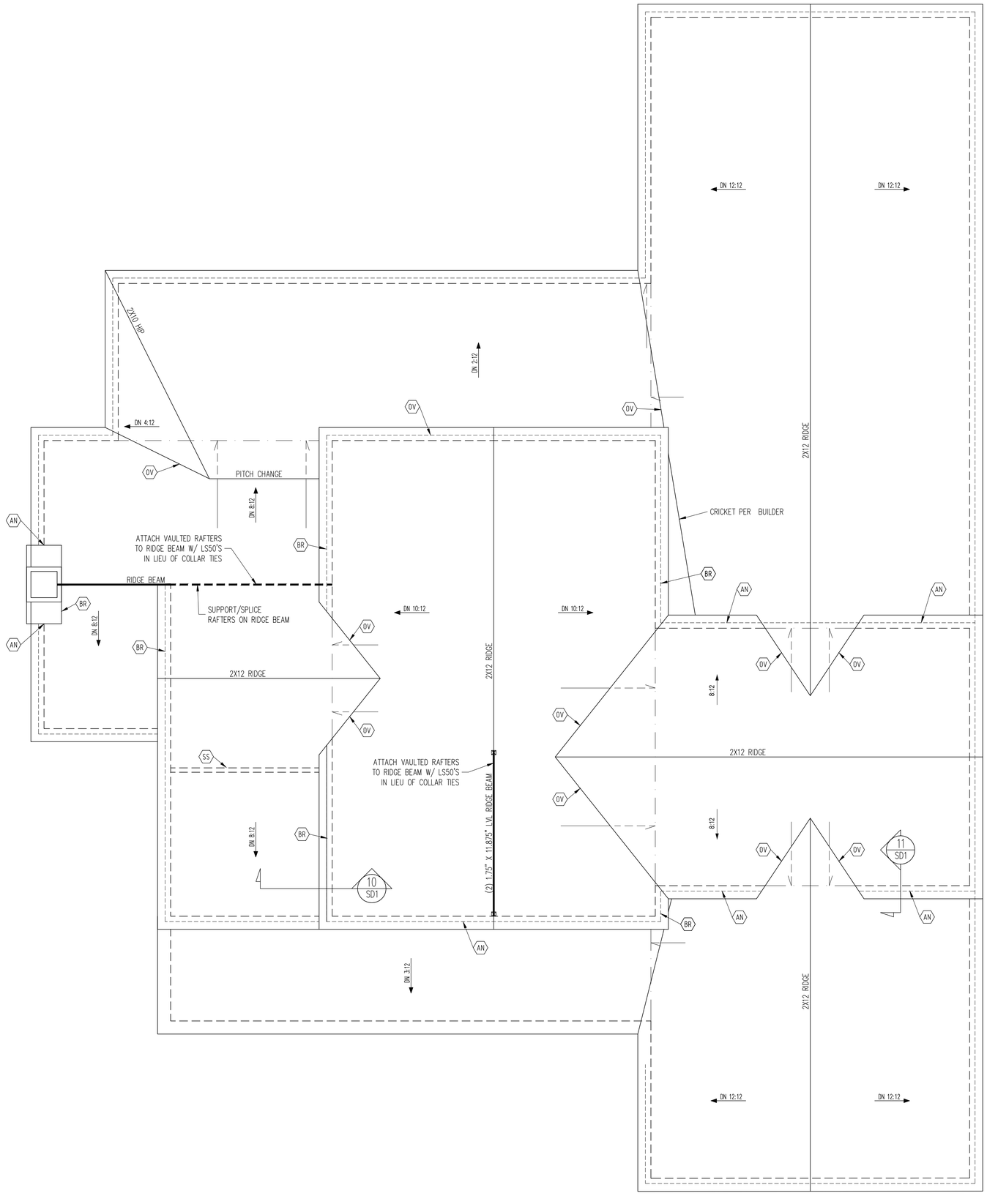

FRAMING NOTES

ROOF ONLY

- COMMON RAFTERS 2X8 @ 16" O.C. TYP U.N.O.
- COLLAR TIES 2X4 EVERY 3RD SET OF RAFTERS TYP U.N.O.
- VERIFY ROOF PITCHES, OVERHANG LENGTHS, AND KNEEWALL FRAMING HGTS WITH ARCHITECTURAL DRAWINGS, TYPICAL.

FRAMING SCHEDULE

ROOF ONLY

AN	SUPPORT BRICK VENEER WITH ANGLE ATTACHED TO MODIFIED STUD WALL
BR	SUPPORT BRICK VENEER PER SECT.703.7 OF THE NCRC, LATEST EDITION.
OV	OVERFRAME VALLEY (2X10 SLEEPER)
SS	SUPPORT/SPLICE RAFTERS ON KNEEWALL BELOW

ROOF FRAMING PLAN

1/4" = 1'-0"

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 15222 KENNETH T. WHITE
Engineering Lech
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Phone (919) 844-1661
ASSOCIATES, P.A.

JABIER CUELLAR
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SHEET NO.
S5
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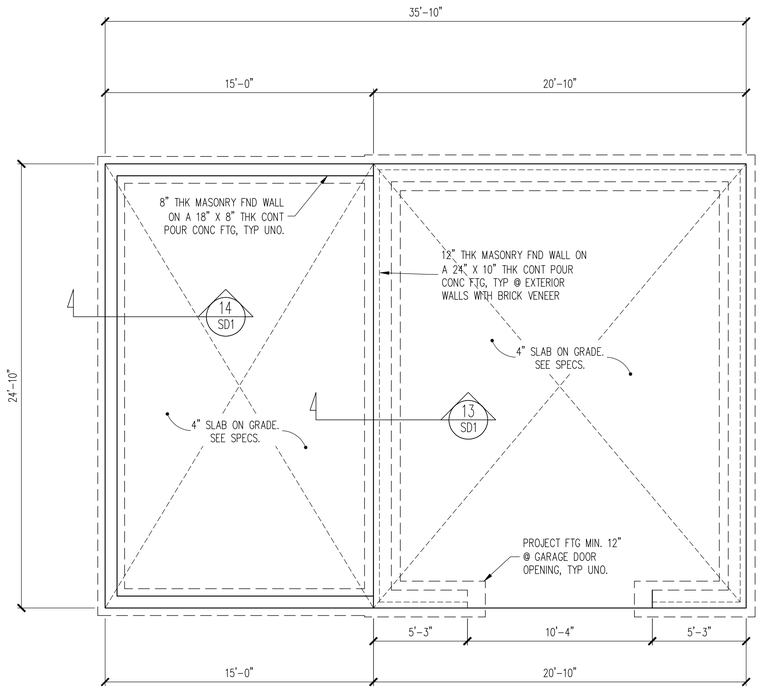


FOUNDATION PLAN

1/4" = 1'-0"

WALL BRACING

CS – ALL EXTERIOR STUD WALLS, EXTERIOR SIDE, ARE TO BE CONTINUOUSLY SHEATHED WITH 7/16 APA RATED OSB NAILED TO STUDS WITH 8d NAILS @ 6" O.C. AT PANEL EDGES, 12" O.C. IN PANEL FIELD.

SHADED WALLS:

NOTES:
–PROVIDED CONTINUOUS SHEATHING = 344' MIN.

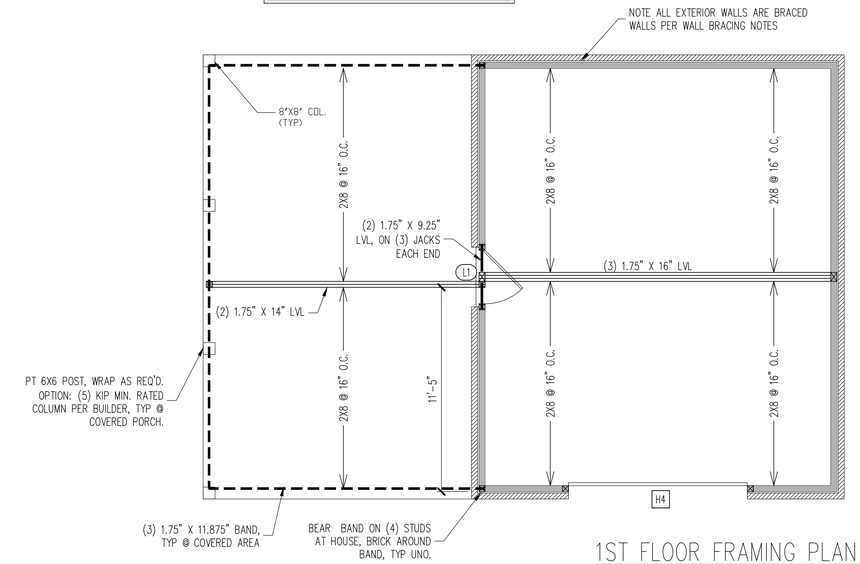
LINTEL SCHEDULE

L1 L 3 1/2 X 3 1/2 X 1/4 TYP UNO

L2 L 5 X 3 1/2 X 5/16

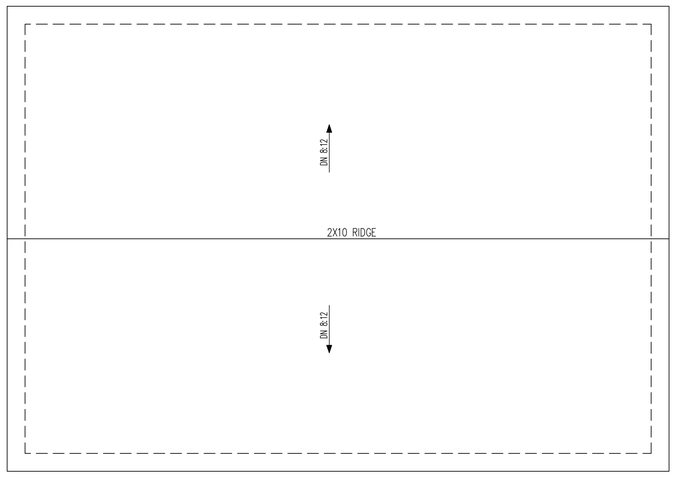
L3 L 6 X 4 X 5/16 ATTACHED TO HEADER WITH (2) 1/2" X 3" LAG SCREWS @ 16" O.C.

L4 16 GAGE STEEL FLEX LINTEL AT ARCH



1ST FLOOR FRAMING PLAN

WALLS AND CEILING 1/4" = 1'-0"



FRAMING NOTES

ROOF ONLY

–COMMON RAFTERS 2X8 @ 16" O.C. TYP U.N.O.

–COLLAR TIES 2X4 EVERY 3RD SET OF RAFTERS TYP U.N.O.

–VERIFY ROOF PITCHES, OVERHANG LENGTHS, AND KNEEWALL FRAMING HGTS WITH ARCHITECTURAL DRAWINGS, TYPICAL.

ROOF FRAMING PLAN

1/4" = 1'-0"

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JABIER CUELLAR
STRUCTURAL ADDENDUM
SCOPE:
LOC: 181 MABRY RD

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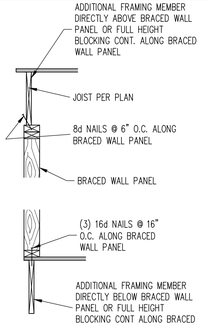
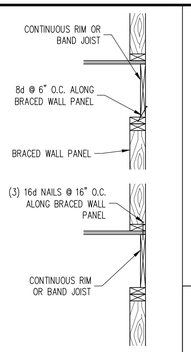
PROJECT NO.
22-65-562

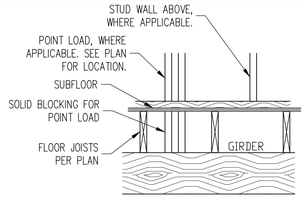
SHEET NO.
S6
6 of 8



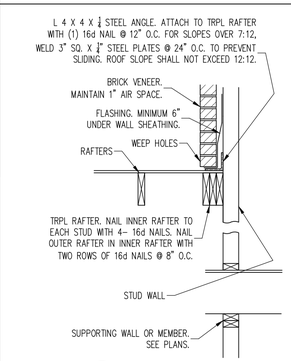
5 S3 SECTION
TYPICAL BRACED WALL PANEL CONNECTION AT INTERIOR WALL, JOISTS PERPENDICULAR OR PARALLEL.
3/4" = 1'-0"



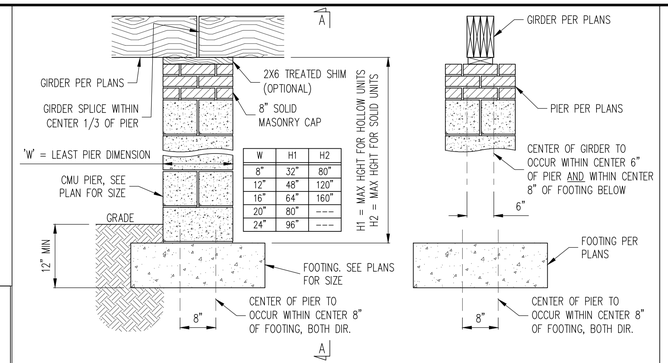
4 S3 SECTION
TYPICAL BRACED WALL PANEL CONNECTION AT EXTERIOR WALL, JOISTS PERPENDICULAR OR PARALLEL.
3/4" = 1'-0"



3 S2 SECTION
TYPICAL DROPPED GIRDER
3/4" = 1'-0"

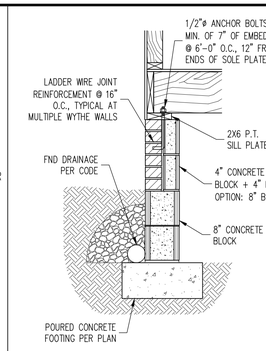


10 S5 SECTION
BRICK VENEER SUPPORT PER SECT 703.8, TYP.
3/4" = 1'-0"

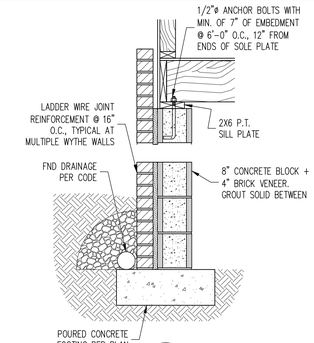


2 S1 SECTION
TYPICAL MASONRY PIER, GIRDER
3/4" = 1'-0"

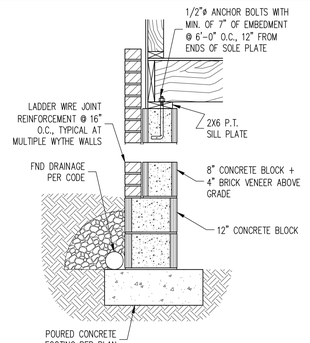
SECTION A-A
3/4" = 1'-0"



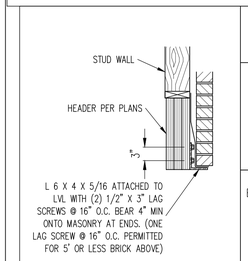
1 S1 SECTION
TYPICAL FND WALL
3/4" = 1'-0"



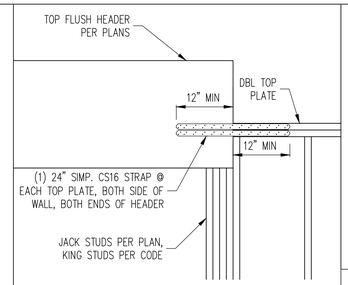
1 S1 SECTION
TYPICAL FND WALL: CRAWL SPACE WITH BRICK VENEER OFF FOOTING
3/4" = 1'-0"



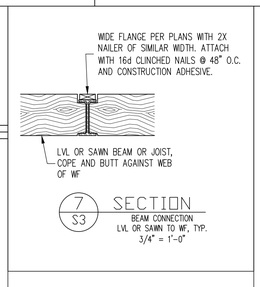
1 S1 SECTION
TYPICAL FND WALL: CRAWL SPACE WITH BRICK VENEER
3/4" = 1'-0"



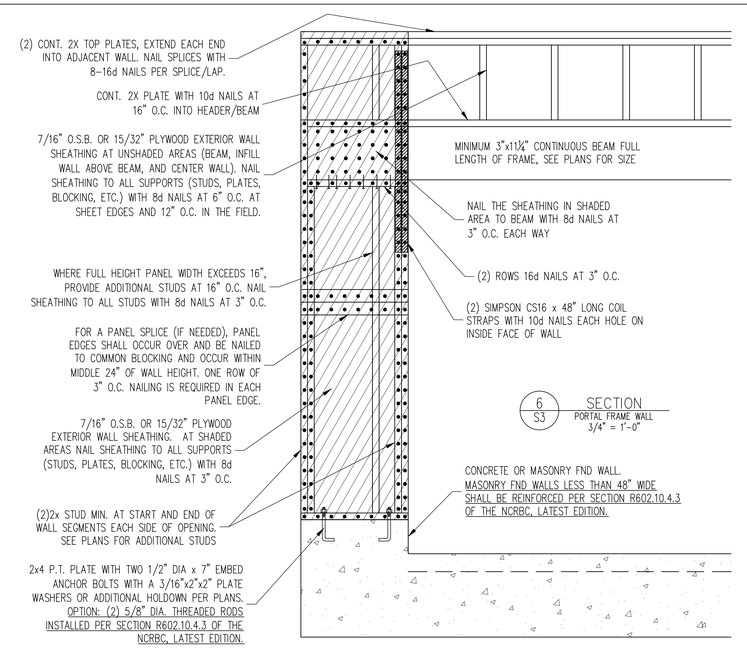
9 S3 SECTION
TYPICAL L3 LINTEL, TYP ALL FLOORS
3/4" = 1'-0"



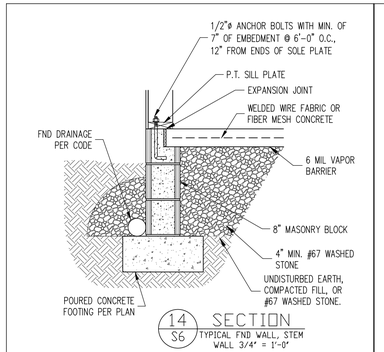
8 S3 SECTION
STRAPPING @ TOP FLUSH HEADER
3/4" = 1'-0"



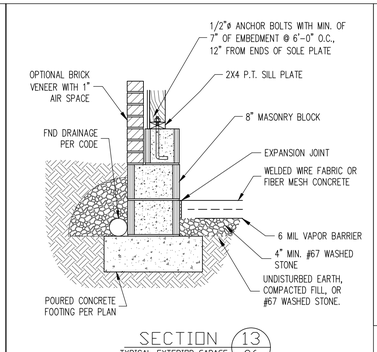
7 S3 SECTION
BEAM CONNECTION LVL OR SAWN TO WF, TYP.
3/4" = 1'-0"



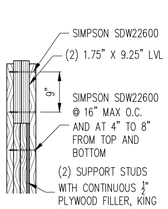
6 S3 SECTION
PORTAL FRAME WALL
3/4" = 1'-0"



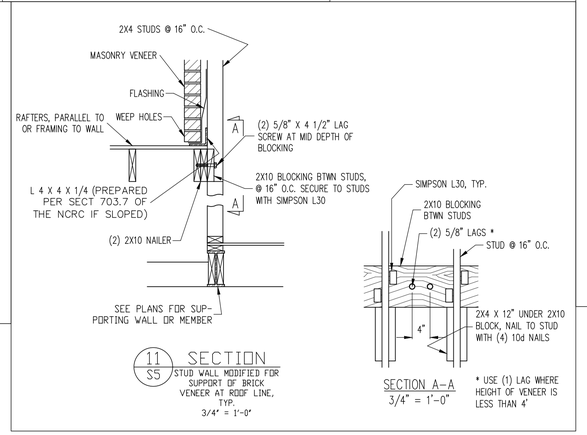
14 S6 SECTION
TYPICAL FND WALL, STEM WALL
3/4" = 1'-0"



SECTION 13 S6
TYPICAL EXTERIOR GARAGE WALL
3/4" = 1'-0"



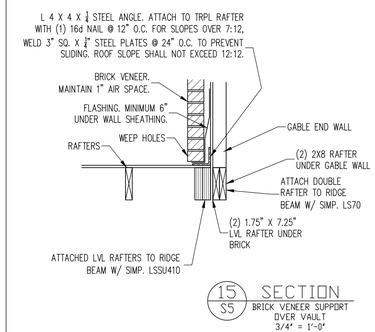
12 S4 SECTION
STAND ALONE SUPPORT FOR MULTI PLY LVL
3/4" = 1'-0"



11 S5 SECTION
STUD WALL MODIFIED FOR SUPPORT OF BRICK VENEER AT ROOF LINE, TYP.
3/4" = 1'-0"

SECTION A-A
3/4" = 1'-0"

* USE (1) LAG WHERE HEIGHT OF VENEER IS LESS THAN 4'



15 S5 SECTION
BRICK VENEER SUPPORT OVER VAULT
3/4" = 1'-0"

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JABIER CUELLAR
STRUCTURAL ADDENDUM
SCOPE:
LOC: 181 MABRY RD

REV #	REF PROJ #	DATE

ENG: KWT/CR
DATE: 10/25/2022

PROJECT NO.
22-65-562

SHEET NO.
SD1
7 of 8

CONSTRUCTION SPECIFICATIONS

PART 1: GENERAL

1.01 CONSTRUCTION SHALL MEET THE REQUIREMENTS OF THE NORTH CAROLINA RESIDENTIAL CODE, 2018 EDITION.

1.02 DIMENSIONS SHOWN SHALL GOVERN OVER SCALE ON THESE DRAWINGS.

1.05 METHODS, PROCEDURES AND SEQUENCES OF CONSTRUCTION ARE THE RESPONSIBILITY OF THE CONTRACTOR, WHO SHALL TAKE ALL NECESSARY PRECAUTIONS TO MAINTAIN AND INSURE THE INTEGRITY OF THE STRUCTURE AT ALL STAGES OF CONSTRUCTION.

PART 2: DESIGN LOADS

2.01 DESIGN LOADS SHALL CONFORM WITH THE TABLE BELOW:

USE	LIVE LOAD (PSF)	DEAD LOAD (PSF)
BALCONIES, DECKS, ATTICS WITH FIXED STAIR ACCESS, DWELLING UNITS INCLUDING ATTICS WITH FIXED STAIR ACCESS, STAIRS, FIRE ESCAPES	40	10
GARAGES (PASSENGER CARS ONLY)	50	--
ATTICS (NO STORAGE, LESS THAN 5' HEADROOM)	10	10
ATTICS (WITH STORAGE)	20	10
ROOF	20	10 (15 FOR VAULTS)

NOTES: - INDIVIDUAL STAIR TREADS ARE TO BE DESIGNED FOR THE UNIFORMLY DISTRIBUTED LIVE LOAD OF 40 PSF OR A 300 LB. CONCENTRATED LOAD ACTING OVER AN AREA OF 4 SQ. WHICHEVER PRODUCES THE GREATER STRESS.
- BUILDER TO VERIFY DEAD LOAD DOES NOT EXCEED 10 PSF WHEN HEAVY FLOOR OR ROOF FINISHES SUCH AS TILE OR SLATE ARE UTILIZED. NOTIFY ENGINEERING UNDER THESE CONDITIONS

2.02 INTERIOR WALLS: 5 PSF LATERAL.

2.03 BASIC WIND DESIGN VELOCITY OF 120 MPH.

2.04 SOIL BEARING CAPACITY 2000 PSF (PRESUMPTIVE).

PART 3: STRUCTURAL STEEL

3.01 WIDE FLANGE BEAMS AND TEE SECTIONS SHALL CONFORM TO ASTM A992 MINIMUM GRADE

3.02 SQUARE AND RECTANGULAR TUBING SHALL CONFORM TO ASTM A500 GRADE B MINIMUM GRADE.

3.03 STEEL PIPE SHALL CONFORM TO ASTM A53 GRADE B, TYPE S, MINIMUM GRADE

3.04 ALL OTHER STRUCTURAL STEEL SHALL CONFORM TO ASTM A36 MINIMUM GRADE

3.05 STRUCTURAL STEEL CONSTRUCTION SHALL MEET THE REQUIREMENTS OF THE AISC SPECIFICATION FOR THE DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS.

PART 4: WELDING

4.01 WELDING ELECTRODES SHALL BE E70XX AND ALL WELDING SHALL BE PERFORMED BY AN AWS CERTIFIED WELDER

PART 5: CONCRETE AND SLABS ON GRADE

5.01 CAST IN PLACE CONCRETE SHALL BE OF NORMAL WEIGHT, 4-6% AIR ENTRAINMENT, FOR EXTERIOR CONCRETE AND SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 3000 PSI AT 28 DAYS TYP UNO. ALL ITEMS NOTED AS 'CONCRETE' ARE TO BE CAST IN PLACE, TYP UNO.

5.02 REINFORCED CAST IN PLACE CONCRETE SHALL BE PROPORTIONED, MIXED AND PLACED IN ACCORDANCE WITH THE SPECIFICATIONS OF ACI 318, LATEST EDITION.

5.03 SLABS ON GRADE, IF ANY, SHALL BE CAST IN PLACE, CONTAIN SYNTHETIC POLYPROPYLENE FIBRILLATED MICRO FIBERS, FIBER LENGTH 1 1/2", DOSAGE RATE 1 1/2 LBS/CU YD. SLAB TO BE PLACED ON A 6 MIL VAPOR BARRIER ON 4" MIN GRANULAR FILL ON SOIL WITH 90% MIN STANDARD PROCTOR DENSITY. VAPOR BARRIER MAY BE OMITTED FOR SLABS NOT IN ENCLOSED AREAS

PART 6: REBAR AND WIRE REINFORCEMENT

6.01 REBAR SHALL BE DEFORMED STEEL CONFORMING TO ASTM A615 GRADE 60 TYP UNO

6.02 LAP SPLICES SHALL BE CLASS B AS DEFINED BY ACI 318, TYP UNO

6.03 WIRE REINFORCEMENT SHALL BE 9 GA AND SHALL CONFORM TO ASTM A1064.

PART 7: MASONRY

7.01 CONCRETE MASONRY UNITS SHALL CONFORM TO ASTM C90 AND C55, NORMAL WEIGHT, f'M = 1,500 PSI MIN

7.02 CLAY MASONRY UNITS SHALL CONFORM TO ASTM C62-17 GRADE SW

7.03 MORTAR SHALL BE TYPE S. MORTAR AND GROUT SHALL CONFORM TO ASTM C476, MIN COMPRESSIVE STRENGTH OF 2000 PSI.

7.04 MASONRY CONSTRUCTION SHALL CONFORM TO THE SPECIFICATIONS OF ACI 530

7.05 LADDER WIRE REINFORCEMENT SHALL CONFORM TO ASTM A951. 6" MIN LAPS FOR CONTINUOUS WALL APPLICATIONS

PART 8: BOLTS AND LAG SCREWS

8.01 BOLTS SHALL CONFORM TO ASTM A307 MINIMUM GRADE TYP UNO. INSTALL STANDARD STEEL WASHERS (ASTM F844-07a) FOR THE NUT / BOLT HEAD WHEN BOLTING WOOD MEMBERS. HOLES FOR BOLTS SHALL BE AISC STANDARD HOLES UNO

8.02 LAG SCREWS SHALL CONFORM TO ANSI/ASME STANDARD B18.2.1-1981. PILOT HOLES SHALL BE USED FOR LAG SCREW INSTALLATION AND SHALL BE BORED ACCORDING TO NDS SPECIFICATIONS. INSTALL STANDARD STEEL WASHERS (ASTM F844-07a) FOR SCREW HEAD

8.03 ANCHOR RODS AND BOLTS SHALL CONFORM TO ASTM F1554-15 GRADE 36 UNO. BENT ANCHOR BOLTS SHALL HAVE A 2" MIN HOOK UNO

PART 9: DRIVEN FASTENERS

9.01 NAILS, SPIKES AND STAPLES SHALL CONFORM TO ASTM F 1667- 05. NAILS ARE TO BE COMMON WIRE OR BOX

PART 10: DIMENSIONAL LUMBER

10.01 SOLID SAWN WOOD FRAMING DESIGN IS BASED ON NO. 2 SPRUCE PINE FIR OR SYP #2 FOR JOISTS, RAFTERS, GIRDERS, BEAMS, STUDS, ETC. MINIMUM ALLOWABLE DESIGN PROPERTIES ARE AS FOLLOWS:
E= 1,400,000 PSI, $F_{c\ perp}$ = 425 PSI, F_v = 285 PSI, SPECIFIC GRAVITY = 0.42 MIN
F_b = 875 PSI FOR 2X4, 2X6, 2X8. F_b = 800 PSI FOR 2X10'S, 750 PSI FOR 2X12'S

PART 11: ENGINEERED LUMBER

11.01 LVL OR PSL MINIMUM ALLOWABLE DESIGN PROPERTIES ARE AS FOLLOWS:
E= 1,900,000 PSI, F_b = 2600 PSI, F_v = 285 PSI, $F_{c\ perp}$ = 750 PSI
LSL MINIMUM ALLOWABLE DESIGN STRESSES ARE AS FOLLOWS:
E= 1.3 X 10E6 PSI, F_b = 1700 PSI, F_v = 400 PSI, $F_{c\ perp}$ = 680 PSI

11.02 LVL OR PSL MEMBERS MAY BE RIPPED FROM DEEPER MEMBERS TO MATCH THE MEMBER DEPTH SPECIFIED IN THE PLANS

PART 12: PRESSURE TREATED LUMBER

12.01 LUMBER IN CONTACT WITH THE GROUND, CONCRETE OR MASONRY SHALL BE PRESSURE TREATED IN ACCORDANCE WITH AWPA STANDARD C-15. ALL OTHER EXPOSED LUMBER SHALL BE TREATED IN ACCORDANCE WITH AWPA STANDARD C-2 OR BY ANY METHOD GIVING EQUAL PROTECTION. THE BUILDING CODE OFFICE MAY ALSO APPROVE A NATURAL DECAY RESISTANT WOOD PER SECTION 19-6(A)

PART 13: STEEL FLITCH PLATE BEAMS

13.01 FLITCH PLATE BEAMS SHALL CONSIST OF A CONTINUOUS STEEL PLATE BOLTED BETWEEN TWO PIECES OF CONTINUOUS LUMBER AS SIZED ON THE PLANS. BOLT PIECES TOGETHER USING 1/2" ø BOLTS SPACED AT 16" O.C. STAGGERED TOP TO BOTTOM OF THE BEAM. MAINTAIN A 2" EDGE DISTANCE. PLACE TWO BOLTS, ONE ABOVE THE OTHER, 16" MAX FROM EACH END OF THE BEAM. TYP UNO

PART 14: STUD SUPPORTS FOR BEAMS

14.01 STEEL, ENGINEERED LUMBER, AND FLITCH PLATE BEAMS BEARING ON A STUD WALL SHALL BEAR AS FOLLOWS:

1-WHEN THE BEAM IS PERPENDICULAR TO, OR SKEWED RELATIVE TO THE WALL, THE BEAM SHALL BEAR FULL WIDTH ON THE SUPPORTING WALL INDICATED AND SHALL BE SUPPORTED BY A MINIMUM OF THREE GANGED STUDS, OR A GANGED STUD COLUMN WITH A NUMBER OF STUDS SUCH THAT THE STUD COLUMN IS AT LEAST AS WIDE AS THE TRUE WIDTH OF THE BEAM BEING SUPPORTED, WHICHEVER IS GREATER, TYP UNO. FOR THE SKEWED CONDITION PARTICULAR CARE SHALL BE TAKEN TO ENSURE STUD COLUMN IS CENTERED ON THE BEAM
2-BEAMS BEARING ONTO THE END OF A STUD WALL PARALLEL TO THE BEAM SHALL BEAR A MINIMUM OF 4 1/2" ONTO THE WALL AND BE SUPPORTED BY A TRPL STUD GANGED COLUMN TYP UNO.

14.02 DIMENSIONAL LUMBER BEAMS BEARING ON A STUD WALL SHALL BEAR AS FOLLOWS:

1-WHEN THE BEAM IS PERPENDICULAR TO, OR SKEWED RELATIVE TO THE WALL, THE BEAM SHALL BEAR FULL WIDTH ON THE SUPPORTING WALL INDICATED (LESS 1 1/2" TO ALLOW FOR A CONTINUOUS RIM JOIST WHERE APPLICABLE) AND SHALL BE SUPPORTED BY A GANGED STUD COLUMN THE SAME WIDTH AS THE BEAM TYP UNO. (E.G. A TRIPLE 2X10 IS TO BE SUPPORTED BY (3) STUDS). FOR THE SKEWED CONDITION PARTICULAR CARE SHALL BE TAKEN TO ENSURE STUD COLUMN IS CENTERED ON THE BEAM
2-BEAMS BEARING ONTO THE END OF A STUD WALL PARALLEL TO THE BEAM SHALL BEAR A MINIMUM OF 3" ONTO THE WALL AND BE SUPPORTED BY A DBL STUD GANGED COLUMN TYP UNO.

14.03 EXTRA JOISTS BEARING ON A STUD WALL PERPENDICULAR TO OR SKEWED RELATIVE TO THE BEAM SHALL BE SUPPORTED BY ONE ADDITIONAL STUD.

14.04 STUDS THAT ARE GANGED TO FORM A COLUMN SHALL HAVE ADJACENT STUDS WITHIN THE COLUMN NAILED TOGETHER WITH ONE ROW OF 10d NAILS AT 8" O.C. (TWO ROWS OF 10d NAILS @ 8" O.C., 3" APART, FOR 2X8 OR 2X10 STUDS) ALL COLUMNS SHALL BE CONTINUOUS DOWN TO THE FOUNDATION OR OTHER PROPERLY DESIGNED STRUCTURAL ELEMENT SUCH AS A BEAM. COLUMNS TRANSFERRING LOADS THROUGH FLOOR LEVELS SHALL BE SOLIDLY BLOCKED FOR THE FULL WIDTH OF THE STUD COLUMN WITHIN THE CAVITY FORMED BY THE FLOOR JOISTS.

PART 15: NAILING OF MULTI PLY WOOD BEAMS

15.01 SOLID SAWN LUMBER JOISTS THAT ARE GANGED TO FORM A BEAM SHALL HAVE ADJACENT MEMBERS IN THE BEAM NAILED TOGETHER WITH THREE ROWS OF 10d NAILS @ 16" O.C. FOR 2X10 OR LARGER, TWO ROWS OF 10d NAILS @ 16" O.C. FOR 2X8, ONE ROW OF 10d NAILS @ 16" O.C. FOR 2X6 OR SMALLER. STAGGER ROWS 5" MIN.

15.02 LVL MEMBERS THAT ARE GANGED TO FORM A BEAM SHALL HAVE ADJACENT MEMBERS IN THE BEAM FASTENED TOGETHER PER MANUFACTURERS RECOMMENDATIONS, TYP UNO

PART 16: WALL FRAMING AND BRACING

16.01 STUD WALLS SHALL CONSIST OF 2X4 STUDS SPACED AT 16" O.C. UNO. STUDS SHALL BE CONTINUOUS FROM SOLE PLATE AT FLOOR TO DOUBLE TOP PLATE AT THE CEILING OR ROOF. NO INTERMEDIATE BANDS OR PLATES SHALL CAUSE DISCONTINUITIES IN A STUD WALL EXCEPT AS REQUIRED FOR DOOR OR WINDOW OPENINGS. THE KING STUDS FOR SUCH OPENINGS SHALL BE CONTINUOUS, TYP UNO.
MAX ALLOWABLE WALL HEIGHTS FOR EXTERIOR STUD WALLS, INCLUSIVE OF SOLE PLATE AND DBL TOP PLATE AND 7/16" OSB EXTERIOR BRACING AND ROW OF 2X4 2X6 PURLINS AT 8' HEIGHT (AND AT 16' HEIGHT FOR TALL WALLS), TYP UNO:
2X4 @ 16" O.C.: 11'-1 1/2" 2X6 @ 16" O.C.: 17'-0"
2X4 @ 12" O.C.: 12'-1 1/2" 2X6 @ 12" O.C.: 18'-8"
DBL 2X4 @ 16" O.C.: 13'-4" DBL 2X6 @ 16" O.C.: 21'-0"

16.02 FOR WALL BRACING THE FOLLOWING SHALL APPLY:
- BLOCKING AT UNSUPPORTED PANEL EDGES IS REQUIRED TYP UNO.
- WALL BRACING IS BY ENGINEERED DESIGN AND NOT PRESCRIPTIVE PER SECTION 602.10 OF THE 2018 NCRC. CONTINUOUS SHEATHING HAS BEEN PROVIDED, ALONG WITH ALTERNATIVE METHODS TO INSURE THE MINIMUM INTENT OF SECTION 602.10 OF THE 2018 NCRC HAS BEEN MET AND EXCEEDED.
- BRACED WALL PANELS SHALL BE FASTENED IN ACCORDANCE WITH TABLE 602.3(1) TO PROVIDE CONTINUOUS PANEL UPLIFT RESISTANCE AND COMPLIANCE WITH NCRBC R602.3.5 AND R802.11 UNLESS NOTED OTHERWISE ON STRUCTURAL PLANS.
- MAY SUBSTITUTE WSP FOR GB
- SINGLE JOIST, CONTINUOUS RIM JOIST, OR BLOCKING OF EQUAL DEPTH IS REQUIRED ABOVE AND BELOW ALL BRACED WALLS. NAIL BLOCKING ABOVE WALL TO TOP PLATE WITH 16d TOE NAILS @ 6" O.C. NAIL SOLE PLATE OF BRACED WALL TO BLOCKING BELOW WITH (3) 16d NAILS @ 16" O.C. BLOCKING AT HORIZONTAL JOINTS IN BRACED WALL LINES ONLY REQUIRED AT SHADED WALLS, UNO.

PART 17: KING STUDS

17.01 KING STUDS FOR OPENINGS IN EXTERIOR WALLS SHALL BE AS FOLLOWS:

		NUMBER OF KING STUDS				
MAX OPENING WIDTH		5'-0"	9'-0"	13'-0"	17'-0"	21'-0"
STUD SIZE	2X4	1	2	3	4	5
	2X6	1	1	2	2	2
	2X8	1	1	1	1	2

PART 18: SUBSTITUTIONS

18.01 MATERIAL OR MEMBER SIZE SUBSTITUTIONS OR PLAN DEVIATIONS REQUIRE THE WRITTEN AUTHORIZATION OF THE DESIGNERS. UNAUTHORIZED DEVIATIONS ARE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.

PART 19: OWNERSHIP OF STRUCTURAL DESIGN

19.01 THE STRUCTURAL DESIGN OF THIS PLAN IS THE PROPERTY OF ENGINEERING TECH ASSOCIATES (ETA). THESE PLANS ARE FOR THE ONE TIME USE AT THE LOCATION INDICATED AND FOR THE CLIENT LISTED. ETA ASSUMES NO LIABILITY FOR THESE PLANS IF THEY ARE REPRODUCED, IN WHOLE OR IN PART, FOR CONSTRUCTION AT ANY OTHER LOCATION WITHOUT WRITTEN PERMISSION FROM ETA

NOTES

THE BUILDER IS RESPONSIBLE FOR REVIEWING PLANS PRIOR TO CONSTRUCTION. THE BUILDER SHALL IMMEDIATELY CONTACT THE ENGINEER OF RECORD (EOR) BEFORE PROCEEDING IF THE FOLLOWING CONDITIONS ARE NOTED BEFORE OR DURING CONSTRUCTION:
1) THE WORKING PLANS DO NOT BEAR THE SEAL OF THE EOR
2) THE PLANS CONTAIN DISCREPANT OR INCOMPLETE INFORMATION

ANY ERRORS DUE TO A FAILURE TO FOLLOW THE ABOVE PROCEDURES SHALL NOT BE THE RESPONSIBILITY OF THE EOR. FURTHERMORE, IT IS THE RESPONSIBILITY OF THE BUILDER TO ENSURE THAN ANY REVISIONS ISSUED BY THE EOR ARE PROMPLY DISTRIBUTED TO THE SUBCONTRACTORS

THE EOR DOES NOT PERFORM FENESTRATION OR VENTING CALCULATIONS OR ANY OTHER CALCULATIONS THAT ARE NOT DIRECTLY RELATED TO STRUCTURAL ENGINEERING.

ROOF AND FLOOR TRUSSES TO BE DESIGNED BY AN ENGINEER REGISTERED BY THE STATE. FINAL TRUSS DRAWING SHOULD BE SUBMITTED TO THE EOR FOR REVIEW

ABBREVIATIONS

ABV	ABOVE
B.	BOTH
B.E.	BOTH ENDS
BTWN	BETWEEN
CIP	CAST IN PLACE
CONC	CONCRETE
CS	CONTINUOUS SHEATHING
DIA	DIAMETER
DBL	DOUBLE
DJ	DOUBLE JOIST
DSP	DBL STUD POCKET
EQ	EQUAL
EA	EACH
FLG	FLANGE
FL PL	FLITCH PLATE
FLR	FLOOR
FND	FOUNDATION
FTG	FOOTING
HDG	HOT DIPPED GALVANIZED
HGR	HANGER
LVL	LAMINATED VENEER LUMBER
NTS	NOT TO SCALE
O.C.	ON CENTER
PSL	PARALLEL STRAND LUMBER
PT	PRESSURE TREATED
QJ	QUAD JOIST
SP	SPACE (OR SPACING)
SSP	SINGLE STUD POCKET
SQ	SQUARE
TJ	TRIPLE JOIST
TYP	TYPICAL
TRPL	TRIPLE
TSP	TRIPLE STUD POCKET
UNO	UNLESS NOTED OTHERWISE
XJ	EXTRA JOIST

NORTH CAROLINA PROFESSIONAL SEAL 15222 ENGINEER KENNETH W. THEISEN 10/25/2022

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