STRUCTURAL NOTES

THESE DRAWINGS, AS INSTRUMENTS OF PROFESSIONAL SERVICE, ARE THE PROPERTY OF LYSAGHT & ASSOCIATES, P.A., FOR USE SOLELY WITH THIS PROJECT AND SHALL NOT BE REPRODUCED FOR OTHER PURPOSES.

THE PROFESSIONAL ENGINEER WHOSE SEAL APPEARS ON THESE DRAWINGS IS THE PROJECT STRUCTURAL ENGINEER—OF—RECORD (SER) WHO BEARS LEGAL RESPONSIBILITY FOR THE PERFORMANCE OF NEW STRUCTURAL FRAMING RELATING TO PUBLIC HEALTH, SAFETY, AND WELFARE. NO OTHER PARTY, WHETHER OR NOT A PROFESSIONAL ENGINEER, MAY COMPLETE, CORRECT, REVISE, DELETE, OR ADD TO THESE CONSTRUCTION DOCUMENTS OR PERFORM INSPECTIONS OF THE WORK WITHOUT THE WRITTEN PERMISSION OF THE SER.

USE STRUCTURAL DRAWINGS IN CONJUNCTION WITH JOB SPECIFICATIONS, AND OTHER DRAWINGS.

DETAILS SHOWN SHALL BE CONSIDERED TYPICAL FOR ALL SIMILAR CONDITIONS.

ALL NON-STRUCTURAL ELEMENTS INDICATED ON THE STRUCTURAL DRAWINGS HAVE BEEN SHOWN IN GENERAL RELATIONSHIP TO THE STRUCTURAL ELEMENTS. THEY SHALL NOT BE ASSUMED TO BE ACCURATE AND REFERENCE MUST BE MADE TO THE APPROPRIATE CONSULTANT(S) PLANS AND SPECIFICATIONS.

CONTRACTOR SHALL TAKE SUCH ACTION AS NECESSARY TO PREVENT MOVEMENT OF OR DAMAGE TO THE EXISTING STRUCTURE DURING CONSTRUCTION.

THE STRUCTURE SHOWN ON THESE DRAWINGS IS STRUCTURALLY SOUND ONLY IN ITS COMPLETED FORM. THE CONTRACTOR SHALL PROVIDE ALL NECESSARY BRACING TO STABILIZE THE BUILDING DURING CONSTRUCTION.

SCOPE OF STRUCTURAL ENGINEERING SERVICES

LYSAGHT & ASSOCIATES, P.A. HAS PERFORMED THE STRUCTURAL DESIGN AND PREPARED THE STRUCTURAL WORKING DRAWINGS FOR THIS PROJECT. "CONSTRUCTION REVIEW" SERVICES ARE ALSO A PART OF OUR CONTRACT. THE CONTRACTOR MUST NOTIFY THE STRUCTURAL ENGINEER AT THE FOLLOWING STAGES OF CONSTRUCTION FOR A FIELD REVIEW OF THE WORK:

- 1. AFTER INSTALLATION OF NEW FRAMING SYSTEMS, BEFORE ARCHITECTURAL FINISHES ARE INSTALLED.
- 2. AT ANY STAGE OF CONSTRUCTION WHEN DESIGN OR CONSTRUCTION PROBLEMS ARE ENCOUNTERED.

THE STRUCTURAL ENGINEER IS RESPONSIBLE FOR THE DESIGN OF THE PRIMARY STRUCTURAL SYSTEM, EXCEPT FOR THE COMPONENTS NOTED ABOVE.
RESPONSIBILITY FOR ANY SECONDARY STRUCTURAL AND NON-STRUCTURAL SYSTEMS NOT SHOWN ON THE STRUCTURAL PLANS RESTS WITH SOMEONE OTHER THAN THE STRUCTURAL ENGINEER.

THE STRUCTURAL ENGINEER HAS NOT DONE A SUBSURFACE INVESTIGATION (HE IS NOT A SOILS SPECIALIST). THE FOUNDATION DESIGN IS BASED UPON AN ASSUMED ALLOWABLE BEARING PRESSURE AS SHOWN IN THE "FOUNDATION" STRUCTURAL NOTES. THIS ALLOWABLE BEARING PRESSURE MUST BE VERIFIED BY THE CONTRACTOR OR OWNER. IF PROBLEMS ARE ENCOUNTERED, A SOILS ENGINEER SHALL BE RETAINED TO EVALUATE THE CONDITIONS AND RECOMMEND THE APPROPRIATE FOUNDATION SYSTEM.

THE STRUCTURAL ENGINEER IS NOT RESPONSIBLE FOR, AND WILL NOT HAVE CONTROL OF, CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES OR PROCEDURES, OR FOR SAFETY PRECAUTIONS AND PROGRAMS IN CONNECTION WITH THE CONSTRUCTION WORK; NOR WILL HE BE RESPONSIBLE FOR THE CONTRACTOR'S FAILURE TO CARRY OUT THE CONSTRUCTION WORK IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.

FIELD MEASUREMENTS AND THE VERIFICATION OF FIELD DIMENSIONS ARE NOT PART OF THE STRUCTURAL ENGINEER'S RESPONSIBILITY. THE CONTRACTOR MUST CHECK ALL (ASSUMED) EXISTING CONDITIONS SHOWN ON THESE DRAWINGS FOR ACCURACY AND NOTIFY THE STRUCTURAL ENGINEER OF ANY DISCREPANCIES.

ABBREVIATIONS

A.B.	ANCHOR BOLT
A.F.F.	ABOVE FINISH FLOOR
C.J.	CONTROL OR CONSTRUCTION JOINT IN SL
E.W.	EACH WAY
GLULAM	GLUE-LAMINATED WOOD
H-D-G	HOT-DIP-GALVANIZED
N.T.S.	NOT TO SCALE
O.C.	ON CENTER
P.A.F.	POWDER ACTUATED FASTENER
P.T.	PRESSURE TREATED
S-P-F	SPRUCE PINE FIR LUMBER
SYP	SOUTHERN YELLOW PINE LUMBER
T.O.F.	TOP OF FOOTING
U.N.O.	UNLESS NOTED OTHERWISE
W.W.F.	WELDED WIRE FABRIC

CODI

NORTH CAROLINA STATE BUILDING CODE - 2018 EDITION (IBC 2015) STRUCTURAL LOADING PER ASCE 7-2010 BUILDING RISK CATEGORY (NCSBC 2018 TABLE 1604.5)

DESIGN LOADS

DESIGN LOADS		
ROOF LIVE LOAD FLOOR LIVE LOAD (Main Floor) FLOOR LIVE LOAD (Upper Level Office)	20 PSF 100 PSF 50 PSF	
SNOW LOAD DATA: GROUND SNOW LOAD SNOW EXPOSURE FACTOR SNOW LOAD IMPORTANCE FACTOR THERMAL FACTOR FLAT ROOF SNOW LOAD ROOF SLOPE FACTOR PITCHED ROOF SNOW LOAD	10 PSF 1.0 1.0 1.1 12.7 PSF 1.0 7.7 PSF	
WIND LOAD DATA: ULTIMATE DESIGN WIND SPEED, Vult NOMINAL DESIGN WIND SPEED, Vasd WIND EXPOSURE INTERNAL PRESSURE COEFFICIENTS (Addi WIND BASE SHEAR (Addition, x-x Direct WIND BASE SHEAR (Addition, y-y Direct INTERNAL PRESSURE COEFFICIENTS (Cover WIND BASE SHEAR (Covered Entry, x-x WIND BASE SHEAR (Covered Entry, y-y WIND PRESSURE FOR COMPONENTS / CLADE	"B" w/ Open Patches ition) +0.18, -0.18	
SEISMIC LOAD DATA: SEISMIC IMPORTANCE FACTOR MAPPED SPECTRAL RESPONSE ACCELERATION MAPPED SPECTRAL RESPONSE ACCELERATION SITE CLASS SPECTRAL RESPONSE COEFFICIENT SPECTRAL RESPONSE COEFFICIENT SEISMIC DESIGN CATEGORY BASIC STRUCTURAL SYSTEM (Addition) SEISMIC RESISTING SYSTEM Lighted Response Modification Coefficient SYSTEM OVERSTRENGTH FACTOR DEFLECTION AMPLIFICATION FACTOR SEISMIC RESPONSE COEFFICIENT ANALYSIS PROCEDURE SEISMIC BASE SHEAR (Addition) BASIC STRUCTURAL SYSTEM (Covered Enterly Seismic Response Modification) SEISMIC RESISTING SYSTEM STRUCTURAL SYSTEM	I 1.00 ON Ss 0.293 ON S1 0.115 D SDS 0.306 SD1 0.179 C Bearing Wall System ght Framed Walls w/ Shear Pane R 6.50 Omega 3.00 Cd 4.00 Cs 0.047 Equivalent Lateral Force 1.7 KIPS try) Cantilevered Column System	e I s t em

0.245

1.3 KIPS

Equivalent Lateral Force

DEFLECTION AMPLIFICATION FACTOR

SEISMIC BASE SHEAR (Covered Entry)

SEISMIC RESPONSE COEFFICIENT

ANALYSIS PROCEDURE

FOUNDATIONS

ALL FOOTINGS SHALL REST ON SOIL CAPABLE OF SAFELY SUPPORTING 1500 PSF. CONTACT STRUCTURAL ENGINEER IF UNSATISFACTORY SUBSURFACE CONDITIONS ARE

FOOTINGS SHALL BE CARRIED TO A LOWER ELEVATION THAN THOSE INDICATED ON THESE DRAWINGS IF NECESSARY TO REACH FIRM UNDISTURBED SOIL.

THE BOTTOM OF ALL EXTERIOR FOOTINGS SHALL BE A MINIMUM OF 16" BELOW FINISHED GRADE UNLESS NOTED OTHERWISE.

SLAB ON GRADE SHALL BE FOUNDED ON STABLE NATURAL SOIL OR CONTROLLED COMPACTED FILL. THE MINIMUM BEARING CAPACITY SHALL BE 1500 PSF.

ALL FILL SHALL BE PLACED IN 8" MAXIMUM LOOSE LIFTS AND SHALL BE COMPACTED TO A MINIMUM OF 95 PERCENT MAXIMUM DRY DENSITY AS DETERMINED IN ACCORDANCE WITH ASTM D-698 (STANDARD PROCTOR METHOD). THIS REQUIREMENT SHOULD BE INCREASED TO 98 PERCENT OF ASTM D-698 IN THE FINAL FOOT BENEATH FOOTINGS, FLOOR SLABS, AND PAVEMENTS.

CONCRETE

CONCRETE SHALL BE PROPORTIONED, MIXED AND PLACED IN ACCORDANCE WITH ACI 318, "BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE", AND ACI 301, "SPECIFICATIONS FOR STRUCTURAL CONCRETE". ANY ADMIXTURES MUST BE APPROVED BY THE STRUCTURAL ENGINEER.

ADMIXTURES CONTAINING CHLORIDE SALTS ARE NOT PERMITTED.

CONCRETE D	URABILITY R	EQUIREMENTS			PER ACI	318-14 CHAPTER 19
APPLICATION	CONCRETE DENSITY	EXPOSURE CATEGORY	MAXIMUM WATER TO CEMENT MATERIAL RATIO W/CM	MINIMUM COMPRESSIVE STRENGTH fc' (psi)	MAXIMUM NOMINAL AGGREGATE SIZE (in.)	TARGET AIR CONTENT (%)
FOUNDATIONS	NORMAL WE I GHT	F0,S0,C1,W0	.58	3,000	1"	N/A
INTERIOR SLAB ON GRADE	NORMAL WE I GHT	F0,S0,C1,W0	.50	4,000	1"	N/A
EXTERIOR SLAB ON GRADE	NORMAL WE I GHT	F3,S0,C2,W1	. 40	5,000	1"	6.0

- NOTES.
- SEE ACI 318-14 TABLE 19.3.1.1 FOR EXPOSURE CATEGORIES AND CLASSES.
 SEE ACI 318-14 TABLE 19.3.2.1 FOR REQUIREMENTS FOR CONCRETE BY EXPOSURE CLASS.
- 3. SEE ACI 318-14 TABLE 19.3.3.1 FOR TOTAL AIR CONTENT REQUIREMENTS. +/- 1.5% TOLERANCE IS PERMITTED PER ASTM C94 AND ASTM C685.
- 4. EXPOSURE CLASS F3 REQUIREMENTS SEE ACI318—14 TABLE 26.4.2.2(B) FOR "LIMITS ON CEMENTITIOUS MATERIALS FOR CONCRETE ASSIGNED TO EXPOSURE CLASS F3"

DO NOT CAST CONCRETE IN WATER OR ON FROZEN GROUND. FOR SLABS ON GRADE, LIGHTLY DAMPEN THE SUBGRADE BEFORE PLACING CONCRETE TO PREVENT THE SUBGRADE FROM ABSORBING WATER FROM THE CONCRETE MIX. APPLY WATER AT NEARLY THE SAME RATE IT SOAKS INTO THE SUBGRADE SURFACE.

5. NORMAL WEIGHT CONCRETE SHALL HAVE DENSITY OF 145 PCF.

CRACK CONTROL JOINTS SHALL BE PLACED IN SLABS ON GRADE IN SQUARE PATTERNS AT A MAXIMUM SPACING OF 12' UNLESS NOTED OTHERWISE. PLACE CONTROL JOINTS TO AVOID REENTRANT CORNERS. MAKE SAWCUTS TO FORM WEAKENED PLANE CONTROL JOINTS AS SOON AFTER CONCRETE PLACEMENT AS POSSIBLE.

START CURING FOR SLABS ON GRADE AS SOON AS THE FINISHERS ARE DONE. APPLY THE CURING COMPOUND IN TWO COATS AT RIGHT ANGLES TO EACH OTHER AND NOT MORE THAN 300 SQUARE FEET PER GALLON, ABOUT 15 MINUTES APART DURING HOT WEATHER, USE A FOG SPRAY TO KEEP THE SURFACE DAMP BEFORE APPLYING A CURING COMPOUND.

REINFORCING STEEL

ALL DETAILING, FABRICATION AND PLACING OF REINFORCING STEEL SHALL BE IN ACCORDANCE WITH THE LATEST "MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES", ACI 315.

REINFORCING BARS SHALL BE NEW BILLET STEEL CONFORMING TO ASTM A615, GRADE 60. CLEAR CONCRETE COVER OVER BARS SHALL BE 3" FOR FOOTINGS.

ALL SLABS ON GRADE SHALL BE REINFORCED WITH 6×6 W 1.4 \times W 1.4 W.W.F. SUPPORT THE MESH AS REQUIRED TO INSURE THAT IT WILL BE LOCATED IN THE UPPER THIRD OF THE SLAB THICKNESS.

PROVIDE CORNER BARS AT ALL FOOTING STEPS AND CORNERS. BARS SHALL BE A MINIMUM OF 2'-6" LONG AND SHALL HAVE THE SAME SIZE AND SPACING AS HORIZONTAL REINFORCING.

LAP ALL SPLICES IN CAST-IN-PLACE CONCRETE AS SPECIFICALLY CALLED FOR, BUT AT LEAST 50 BAR DIAMETERS.

SUBMIT SHOP DRAWINGS TO THE STRUCTURAL ENGINEER FOR REVIEW PRIOR TO FABRICATION.

BRICK MASONRY

BRICK VENEER SHALL BE OF A QUALITY AT LEAST EQUAL TO THAT REQUIRED BY ASTM SPECIFICATIONS (C216). THE COMPRESSIVE STRENGTH OF BRICK UNITS SHALL BE 5000 PSI MINIMUM.

MORTAR SHALL BE OF A QUALITY AT LEAST EQUAL TO THAT REQUIRED BY ASTM "STANDARD SPECIFICATIONS FOR MORTAR FOR UNIT MASONRY" (C270). USE TYPE "M" OR "S" MORTAR BELOW GRADE. TYPE "N" MORTAR IS PERMITTED ABOVE GRADE.

MASONRY ANCHORS FOR BRICK VENEER SHALL BE CORROSION RESISTANT (HOT DIP GALVANIZED AFTER FABRICATION) AND SHALL HAVE A MAXIMUM SPACING OF 16" HORIZONTALLY AND VERTICALLY.

REFER TO THE ARCHITECTURAL PLANS FOR LOCATIONS OF BRICK EXPANSION JOINTS, OR IF NOT SHOWN, COORDINATE WITH ARCHITECT. IN GENERAL, CONTROL JOINTS SHOULD BE LOCATED WITH A MAXIMUM SPACING OF 30'-0".

CONCRETE MASONRY

CONCRETE MASONRY UNITS SHALL BE ERECTED AS LOAD BEARING CONCRETE MASONRY. COMPLY WITH THE REQUIREMENTS OF ACI 530.1 / ASCE 6 / TMS 602 "SPECIFICATION FOR MASONRY STRUCTURES."

CONCRETE MASONRY UNITS SHALL CONFORM TO ASTM SPECIFICATIONS FOR LOAD—BEARING CONCRETE MASONRY UNITS (ASTM C90). MORTAR SHALL CONFORM TO THE REQUIREMENTS OF ASTM STANDARD SPECIFICATIONS FOR MORTAR FOR UNIT MASONRY (ASTM C270), TYPE "M" OR "S". THE MINIMUM NET COMPRESSIVE STRENGTH OF MASONRY UNITS SHALL BE 2000 PSI (f'm = 2000 PSI FOR MASONRY SYSTEM).

ALL GROUT USED TO FILL REINFORCED MASONRY CAVITIES AND SHOWN AT OTHER LOCATIONS ON THE PLANS SHALL CONFORM TO ASTM C476 AND SHALL HAVE A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 3000 PSI.

PROVIDE HORIZONTAL JOINT REINFORCEMENT AT 16" O.C. IN ALL CMU WALLS UNLESS NOTED OTHERWISE ON THE DRAWINGS. USE LADDER TYPE DUR—O—WALL REINFORCEMENT, HOT DIP GALVANIZED AFTER FABRICATION. LONGITUDINAL WIRES SHALL BE A MINIMUM OF (2) NO. 9 GAGE.

STRUCTURAL STEEL

FABRICATE AND ERECT ALL STRUCTURAL STEEL IN ACCORDANCE WITH THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION "SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS" (ANSI/AISC 360-10).

STRUCTURAL STEEL SHALL BE HOT-DIP-GALVANIZED WHERE INDICATED ON PLANS. STEEL NOT DESIGNATED AS H-D-G SHALL RECEIVE ONE SHOP COAT OF RUST-INHIBITIVE PAINT. STEEL COLUMNS BELOW GRADE THAT ARE NOT ENCASED IN CONCRETE SHALL BE FIELD PAINTED WITH A WATERPROOF MASTIC COMPOUND TO PREVENT CORROSION.

THE STEEL USED SHALL HAVE THE FOLLOWING MINIMUM YIELD STRESS:

WIDE FLANGE SHAPES ('W' SHAPES)
CHANNELS, ANGLES, PLATES, MISC. SHAPES
STRUCTURAL PIPE SHAPES
HSS TUBE SHAPES
46 KSI (A992)
36 KSI (A36)
35 KSI (A53, B)
46 KSI (A500, B or C)

USE 3/4" DIAMETER ASTM F3125, GRADE A325 BOLTS FOR ALL STEEL TO STEEL CONNECTIONS U.N.O. DESIGN FOR THREADS INCLUDED (TYPE N) CONDITIONS, U.N.O. BOLTS SHALL BE TIGHTENED TO THE SNUG TIGHT CONDITION UNLESS NOTED OTHERWISE. THE SNUG TIGHT CONDITION IS DEFINED AS THE TIGHTNESS THAT EXISTS WHEN ALL PLIES IN A JOINT ARE IN FIRM CONTACT.

USE ASTM F1554 (GRADE 36) BOLTS FOR ALL ANCHOR BOLTS U.N.O. USE E-70 ELECTRODES FOR ALL SHOP AND FIELD WELDING.

CONNECTIONS BETWEEN STRUCTURAL STEEL MEMBERS SHALL BE AS SHOWN ON STRUCTURAL DRAWING DETAILS. ALTERNATE CONNECTION DETAILS MUST BE APPROVED IN WRITING, BY THE STRUCTURAL ENGINEER OF RECORD, PRIOR TO THE SUBMITTAL OF SHOP DRAWINGS.

SUBMIT ERECTION AND SHOP DRAWINGS TO THE STRUCTURAL ENGINEER FOR REVIEW PRIOR TO FABRICATION.

STRUCTURAL GLUED LAMINATED WOOD

MATERIALS, MANUFACTURE AND QUALITY CONTROL SHALL BE IN CONFORMANCE WITH AMERICAN NATIONAL STANDARD ANSI A190.1-2012, "STANDARD FOR WOOD PRODUCTS - STRUCTURAL GLUED LAMINATED TIMBER".

LAMINATING COMBINATIONS SHALL MEET THE REQUIREMENTS OF ANSI A190.1, AND SHALL PROVIDE ALLOWABLE DESIGN VALUES AS PUBLISHED IN THE LATEST VERSION OF THE AMERICAN FOREST & PAPER ASSOCIATION'S NATIONAL DESIGN SPECIFICATION. PROVIDE LAMINATING COMBINATION 24F-V3, #47, OR #48 FOR ALL MEMBERS. ALL MEMBERS SHALL BE ARCHITECTURAL APPEARANCE GRADE. MEMBERS SHALL BE PRESERVATIVE TREATED WHERE INDICATED ON THE FRAMING PLAN.

ADHESIVES SHALL MEET THE REQUIREMENTS FOR WET CONDITION OF SERVICE.

MEMBERS SHALL BE MARKED WITH QUALITY MARK, AND, IN ADDITION, A CERTIFICATE OF CONFORMANCE SHALL BE PROVIDED TO INDICATE CONFORMANCE WITH ANSI A190 1-2012

CAREFULLY UNLOAD AND HANDLE THE LAMINATED MEMBERS AT JOBSITE TO PREVENT SURFACE MARRING AND DAMAGE. IF LAMINATED WOOD IS TO BE STORED BEFORE ERECTION, PLACE IT ON BLOCKS WELL OFF THE GROUND WITH INDIVIDUAL MEMBERS SEPARATED BY STRIPS SO THAT AIR MAY CIRCULATE. COVER THE TOP AND SIDES OF STORAGE PILES WITH MOISTURE—RESISTANT COVERING. (DO NOT USE CLEAR POLYETHYLENE FILMS). WHEN HOISTING MEMBERS INTO PLACE USE PADDED OR NON—MARRING SLINGS, AND PROTECT CORNERS WITH WOOD BLOCKING. ADEQUATELY BRACE MEMBERS AS THEY ARE ERECTED TO HOLD THEM IN A SAFE POSITION UNTIL FULL STABILITY IS PROVIDED.

SOLID WOOD FRAMING, HEADERS AND PLYWOOD

ALL SOLID WOOD FRAMING SHALL COMPLY WITH THE ANSI/AWS "NATIONAL DESIGN SPECIFICATION FOR WOOD CONSTRUCTION WITH SUPPLEMENT."

ALL SOLID FRAMING SHALL BE SPRUCE—PINE—FIR #2 (NLGA grading rules) UNLESS NOTED OTHERWISE ON THE PLANS.

PLYWOOD SHALL CONFORM TO THE AMERICAN PLYWOOD ASSOCIATION "PLYWOOD DESIGN SPECIFICATION." PLYWOOD SHALL BE CDX (UNO). PLYWOOD CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE APA "DESIGN/CONSTRUCTION GUIDE — RESIDENTIAL AND COMMERCIAL".

ALL MEMBERS SHALL BE FRAMED, ANCHORED, TIED AND BRACED IN ACCORDANCE WITH GOOD CONSTRUCTION PRACTICE AND THE NORTH CAROLINA STATE BUILDING

ALL JOINTS OF BUILT-UP GIRDER/HEADER PLYS SHALL BE MADE OVER COLUMN

MICROLLAM HEADERS (LVL'S) ARE MANUFACTURED BY Weyerhouser iLevel Trus Joist. (THE CONTRACTOR MAY SUBSTITUTE EQUIVALENT HEADERS IF PROPERLY DESIGNED BY THE MANUFACTURER.) MICRO=LAM HEADERS ARE ALWAYS DOUBLED AND MUST BE NAILED TOGETHER WITH 2 ROWS OF 10d NAILS © 12" O.C. STAGGERED. PROVIDE CONTINUOUS LATERAL SUPPORT FOR TOP OF HEADER.

BUILT-UP STUD COLUMNS MUST BE SECURELY NAILED TOGETHER TO ACT AS A COMPOSITE MEMBER. PROVIDE (2) 10d NAILS SPACED 12" O.C. FULL HEIGHT FOR EACH PLY.

NOT LESS THAN THREE STUDS SHALL BE INSTALLED AT EVERY CORNER OF AN EXTERIOR WALL.

WOOD SILLS SHALL BE ATTACHED TO CONTINUOUS FOUNDATION WALLS WITH 5/8" DIAMTER BOLTS SPACED NOT MORE THAN 6' APART AND WHICH ARE EMBEDDED AT LEAST 6" IN CONCRETE OR 15" IN MASONRY UNITS. ALTERNATE ATTACHMENT SYSTEMS MUST BE APPROVED IN WRITING BY THE STRUCTURAL ENGINEER.

ALL WOOD IN CONTACT WITH MASONRY OR EXPOSED TO THE WEATHER SHALL BE PRESSURE PRESERVATIVE TREATED TO THE RETENTIONS REQUIRED BY SECTION 2303 OF THE BUILDING CODE.

NAIL SIZES SPECIFIED ON PLANS AND DETAILS ARE "STANDARD COMMON NAILS".

ALL WOOD FRAMING SHALL BE FASTENED IN ACCORDANCE WITH TABLE 2304.10.1 OF THE BUILDING CODE.

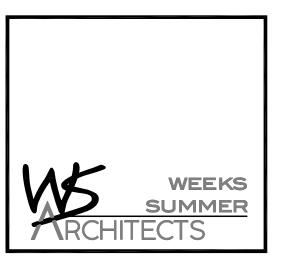
SINGLE TONGUE AND GROOVE SOLID WOOD ROOF DECK

THICKNESS: 2" NOMINAL, 1-1/2 ACTUAL
SPECIES: SOUTHERN PINE - #1 or SELECT GRADE
LAYUP: TWO-SPAN CONTINUOUS

ROOF DECKING IS TO BE INSTALLED WITH TONGUES UP ON SLOPED OR PITCHED ROOFS, AND OUTWARD IN THE DIRECTION OF LAYING ON FLAT ROOFS. IT IS TO BE LAID WITH THE PATTERN FACES DOWN AND EXPOSED ON THE UNDERSIDE. EACH PIECE SHOULD BE TOENAILED AT EACH SUPPORT WITH ONE 16D NAIL AND FACE NAILED WITH ONE 16D NAIL.

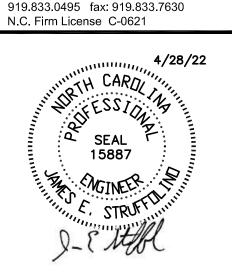
BASIS OF DESIGN HARDWARE / FASTENERS

ALTERNATIVE PRODUCTS, SPECIALTY HARDWARE, & FASTENERS MAY BE SUBSTITUTED FOR THOSE SPECIFIED ON THESE PLANS FROM HILTI & SIMPSON STRONG—TIE. SUBSTITUTED PRODUCTS / HARDWARE SHALL HAVE ALLOWABLE DESIGN LOADS EQUAL TO OR GREATER THAN THE SPECIFIED ENTITY AND SHALL BE SUBMITTED TO THE STRUCTURAL ENGINEER OF RECORD FOR APPROVAL. THE CONTRACTOR SHALL INSTALL HARDWARE AND FASTENERS IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS.

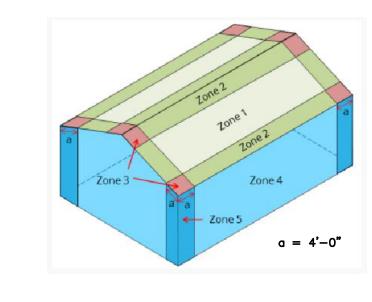


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ROOF COMPONENTS & CLADDING WIND PRESSURES Ultimate Wind Design Pressures for Roof Components & Cladding Design Zone 3 Overhana Zone 1 Zone 2 Zone 2 Zone 3 | Positive | Negative | Effective Positive Wind Negative Positive Negative Wind Area Pressure Pressure Pressure Pressure | Pressure | Pressure | Pressure (ft^2) | (psf) (psf) (psf) (psf) (psf) (psf) (psf) -72.541.6 -107.2-149.6-45.5-134.240.7 -42.640.7 -66.740.7 -99.5 38.8 38.8 -39.738.8 -59.0 -91.8 -114.9 100 + -53.2 37.8 -84.1 -91.8



WALL COMPONENTS & CLADDING WIND PRESSURES Ultimate Wind Design Pressures for Wall C & C Design									
10 20 50 100	45.5 43.6 40.7 38.8	-49.4 -47.4 -45.5 -42.6	45.5 43.6 40.7 38.8	-60.9 -57.1 -51.3 -47.4					

BID SET 4.28.22 WBS: 15RE .13.3 SCO ID# 21-24079-01A

PROJECT TITLE
BRUNSWICK CTY
VISITOR'S CENTER
394 WHITEVILLE ROAD NW
SHALLOTTE, NORTH CAROLINA

DRAWING TITLE

STRUCTURAL NOTES

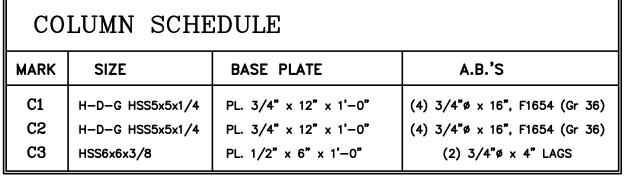
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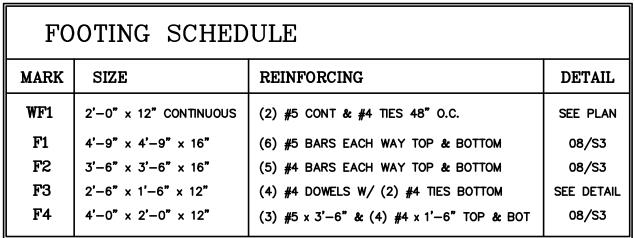
SHEET 1 OF 8

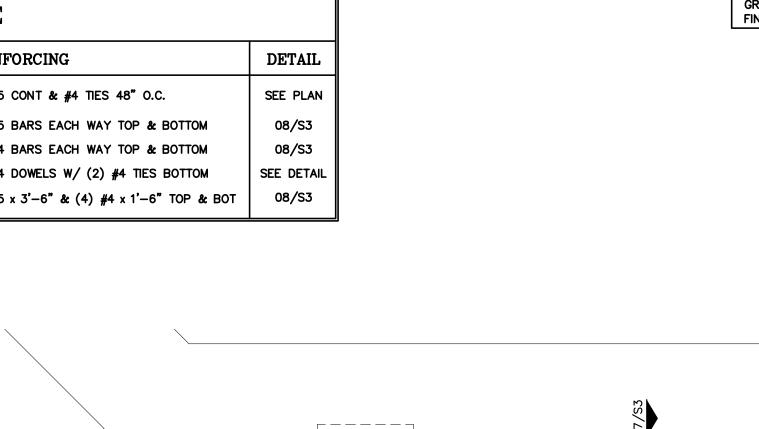
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PLOT DATE 4/28/22 REVISION

This original sheet is 22" x 34"; other dimensions indicate it has been altered.

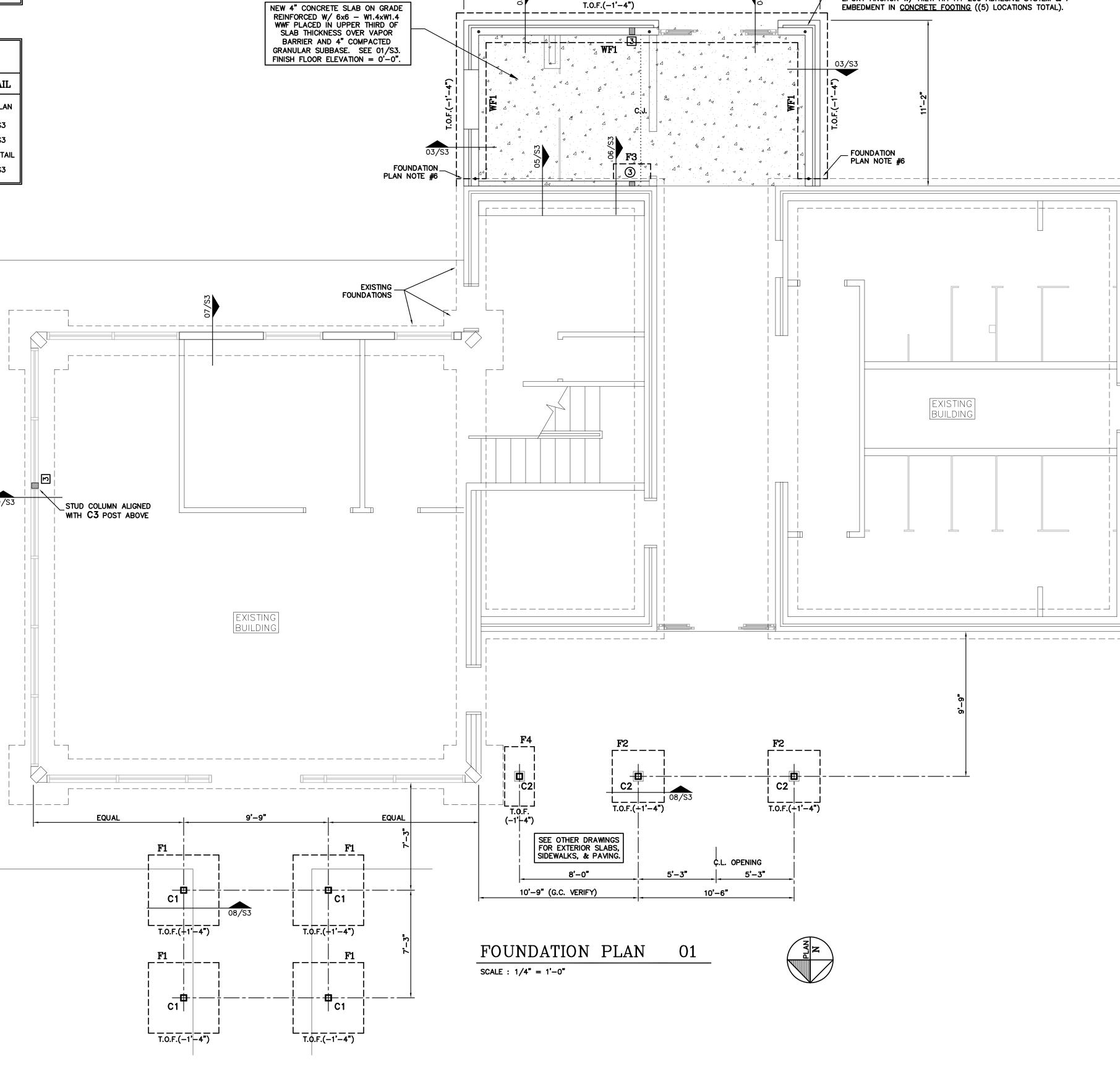


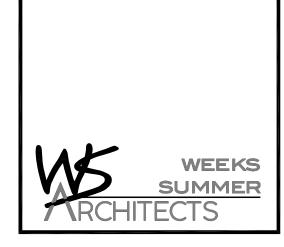




FOUNDATION PLAN NOTES:

- 1. THE REFERENCE FINISH FLOOR ELEVATION = 0'-0". SEE DETAIL 01/S3 FOR TYPICAL SLAB ON GRADE CONSTRUCTION. SEE SITE GRADING PLAN FOR ACTUAL TOP OF SLAB ELEVATION.
- 2. SEE DETAIL 02/S3 FOR STEPPED FOOTING CONSTRUCTION. THE CONTRACTOR SHALL LOCATE FOOTING STEPS AS REQUIRED TO SUIT FINAL GRADES.
- 3. REFER TO ARCHITECTURAL PLANS FOR LOCATIONS OF BRICK CONTROL (EXPANSION) JOINTS.
- 4. REFER TO ARCHITECTURAL PLANS FOR DEMOLITION REQUIREMENTS.
- 5. T.O.F.(-1'-4") DENOTES A TOP OF FOOTING ELEVATION 1'-4" BELOW THE FINISH FLOOR.
- 6. AT NEW/EXISTING FOUNDATION INTERFACES, STEP NEW FOOTING AS NECESSARY TO MATCH TOP OF EXISTING FOUNDATION. INSTALL (2) #5 x 5'-0" DOWELS AT MID-DEPTH OF EXISTING FOOTING W/ HILTI HIT-HY 200 ADHESIVE SYSTEM (6" EMBEDMENT).
- 7. SYMBOLS 3 & 3 DENOTE BUILT-UP STUD COLUMNS. SEE "WOOD STUD WALL FRAMING NOTES" ON SHEET S2.
- 8. SEE ARCHITECTURAL DRAWINGS FOR WALL DIMENSIONS NOT NOTED ON THIS PLAN AND FOR DIMENSIONS LOCATING WALL OPENINGS. EXTERIOR WALL DIMENSIONS ON PLAN ARE TO OUTSIDE FACE OF BRICK VENEER AT THE TYPICAL 1'-0 1/8" WALL THICKNESS.
- 9. SEE SHEET SO FOR ADDITIONAL STRUCTURAL NOTES.





21'-0" (G.C. VERIFY)

PROVIDE SIMPSON HTT5KT HOLD-DOWN AT EXTERIOR WALLS - WHERE SHOWN ON PLAN. PROVIDE 5/8" A36 THREADED ROD

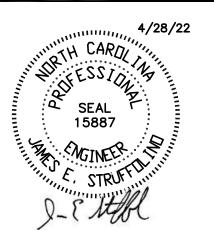
EPOXY ANCHOR W/ HILTI HIT HY 200 ADHESIVE SYSTEM & 7"

6'-8 1/2"

C.L. OPENING

W. S. ARCHITECTS, PA 3305-109 Durham Drive Raleigh, North Carolina 27603 919.779.9797 fax: 919.779.0826 www.wsarchitectspa.com





BID SET 4.28.22 WBS: 15RE .13.3 SCO ID# 21-24079-01A

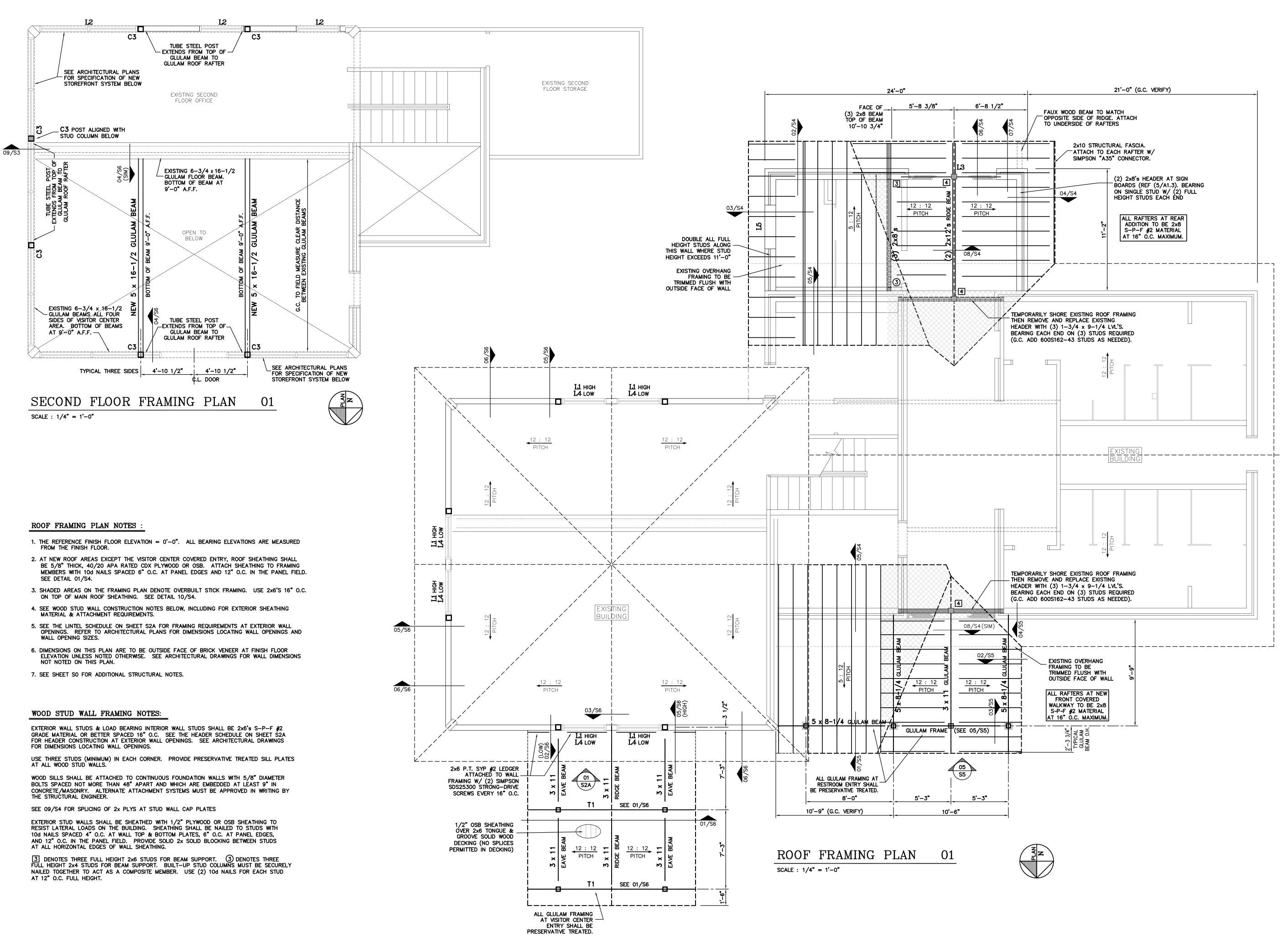
PROJECT TITLE **BRUNSWICK CTY** VISITOR'S CENTER 394 WHITEVILLE ROAD NW SHALLOTTE, NORTH CAROLINA

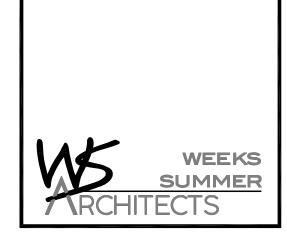
PROJECT NO. LA-13100 DRAWING TITLE FOUNDATION PLAN

OF

PLOT DATE 4/28/22 REVISION

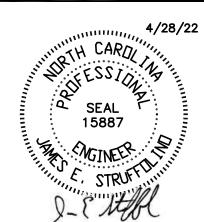
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BID SET 4.28.22 WBS: 15RE .13.3 SCO ID# 21-24079-01A

PROJECT TITLE
BRUNSWICK CTY
VISITOR'S CENTER
394 WHITEVILLE ROAD NW
SHALLOTTE, NORTH CAROLINA

PROJECT NO.
LA-13100

DRAWING TITLE

ROOF & 2ND FLOOR

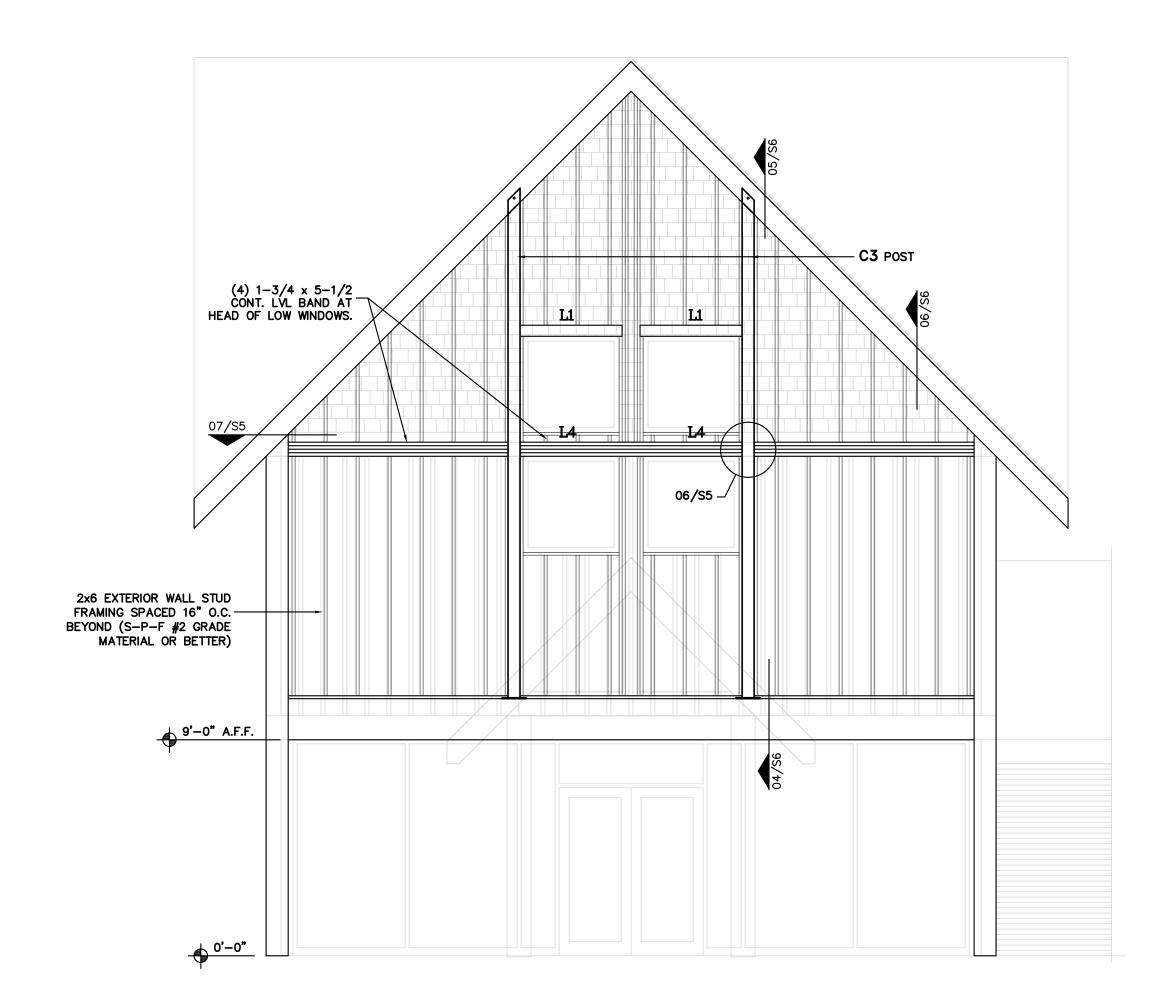
FRAMING PLANS

SHEET 3 OF 8

S2

PLOT DATE 4/28/22 REVISION

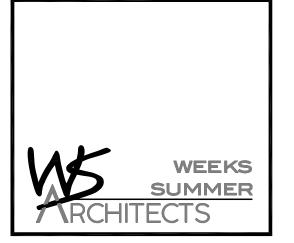
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VISITOR CENTER WALL ELEVATION 01

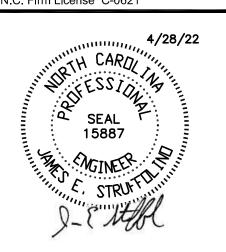
SCALE : 1/4" = 1'-0"

NOTE: WALL FRAMING SHOWN ON ELEVATION ABOVE EXISTING GLULAM BEAM IS TYPICAL AT NORTH, EAST, AND SOUTH EXTERIOR WALLS OF THE VISITOR CENTER.



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WALL OPENING
LINTEL SCHEDULE

MARK SIZE DETAILS

L1 (3) 2x6 (S-P-F #2) W/
PLYWOOD FILER. TUNEL BEARS
ON SHOLE STUD, DOUBLE STUDS
EXTEND FULL HEIGHT OF WALL ON
EACH SIDE OF OPENING.

L2 EXISTING 6-3/4 x 16-1/2 GLULAM
BEAM, PROVIDE DOUBLE STUDS
ON EACH SIDE OF OPENING.

L3 (3) 2x10 (S-P-F #2) W/
PLYWOOD FILER. LINTEL BEARS
ON SNOLE STUD, FOR WALL
ON EACH SIDE OF OPENING.

L4 (4) 1-3/4 x 5-1/2 LVL BAND.
PROVIDE DOUBLE STUDS EACH
SIDE OF OPENING.

L4 (4) 1-3/4 x 5-1/2 LVL BAND.
PROVIDE DOUBLE STUDS EACH
SIDE OF OPENING.

L5 (3) 2x6 (S-P-F #2) W/
PLYWOOD FILER. TUNEL BEARS
ON SNOLE STUD, DOUBLE STUDS
EXTEND FULL HEIGHT OF WALL ON
EACH SIDE OF OPENING.

BID SET 4.28.22 WBS: 15RE .13.3 SCO ID# 21-24079-01A

PROJECT TITLE
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VISITOR'S CENTER
394 WHITEVILLE ROAD NW
SHALLOTTE, NORTH CAROLINA

PROJECT NO.

LA-13100

DRAWING TITLE

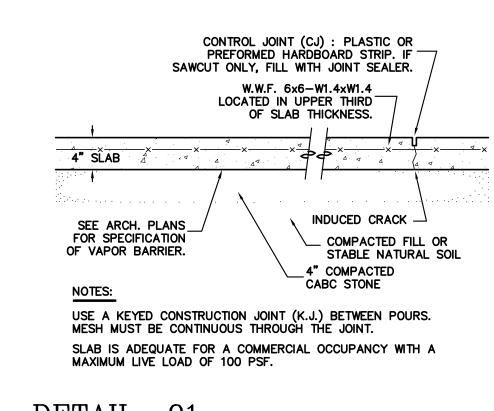
WALL ELEVATION & LINTEL SCHEDULE

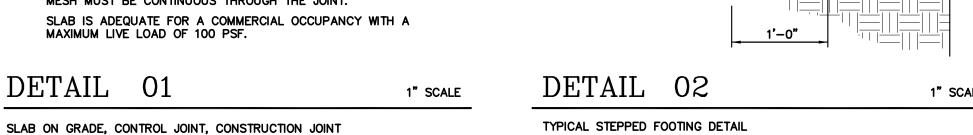
SHEET 4 OF

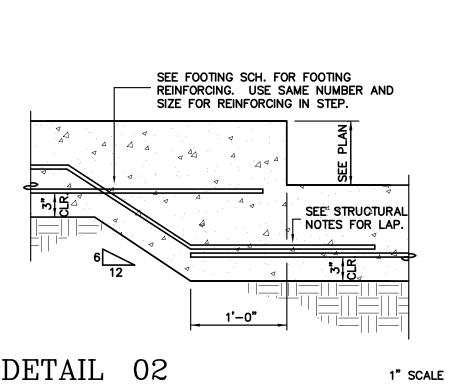
S2A

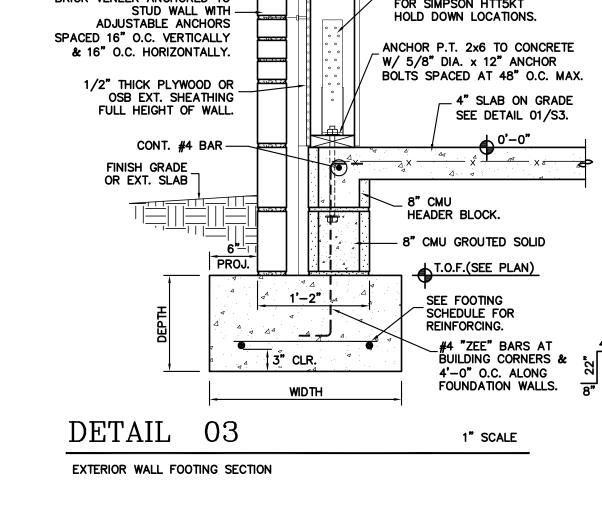
PLOT DATE 4/28/22 REVISION

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OUTSIDE FACE OF EXTERIOR _ WALL DIMENSIONED ON

SEE ARCHITECTURAL PLANS FOR PLACEMENT

OF BRICK VENEER AT

EXTERIOR WALLS.

BRICK VENEER ANCHORED TO

FOUNDATION PLAN.

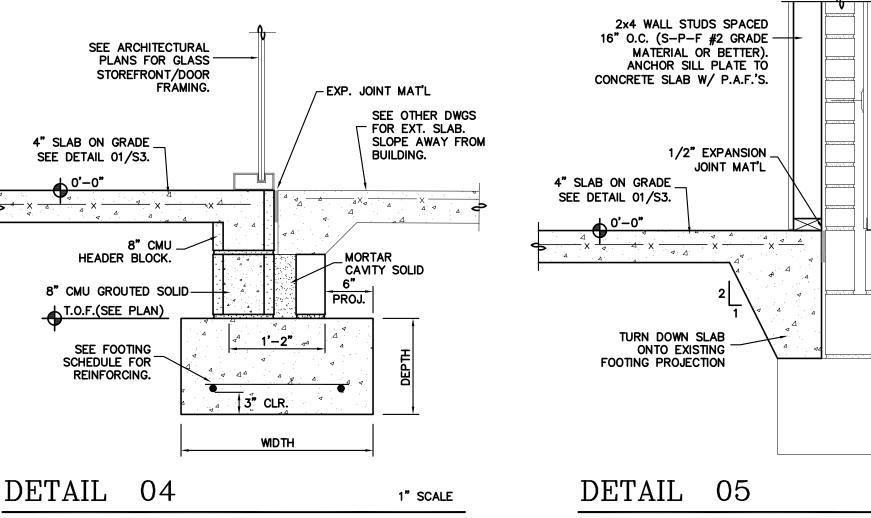
1'-0 1/8" INSIDE FACE OF STUD

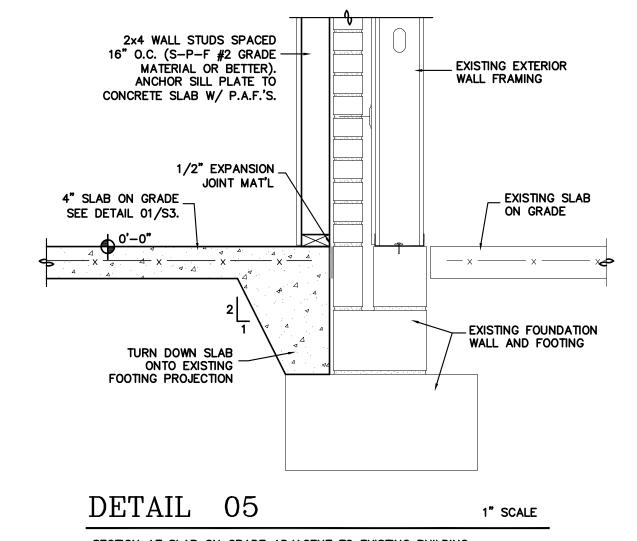
2x6 EXTERIOR WALL STUDS SPACED 16" O.C. (S-P-F #2

GRADE MATERIAL OR BETTER)

SEE FOUNDATION PLAN

FOR SIMPSON HTT5KT







WIRTH CAROKIA

KESSIM

SEAL

15887

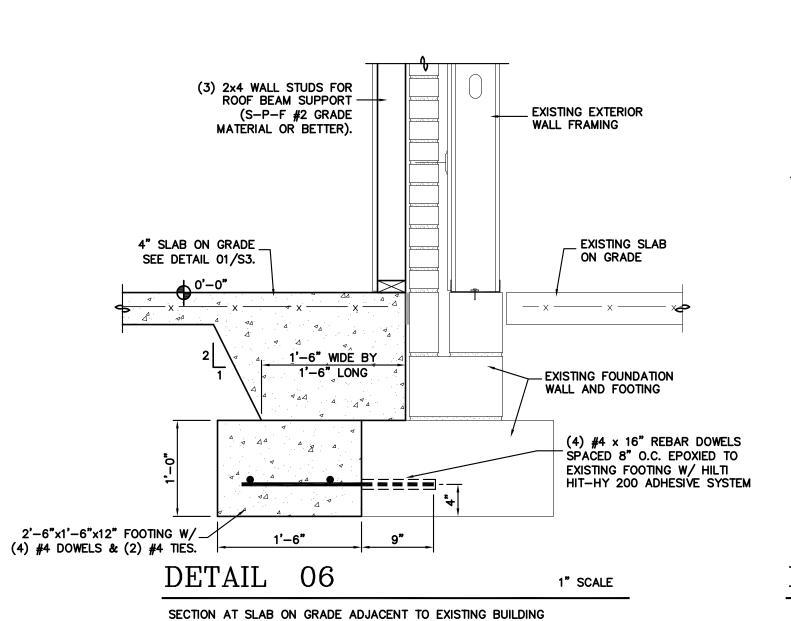
NGINEER

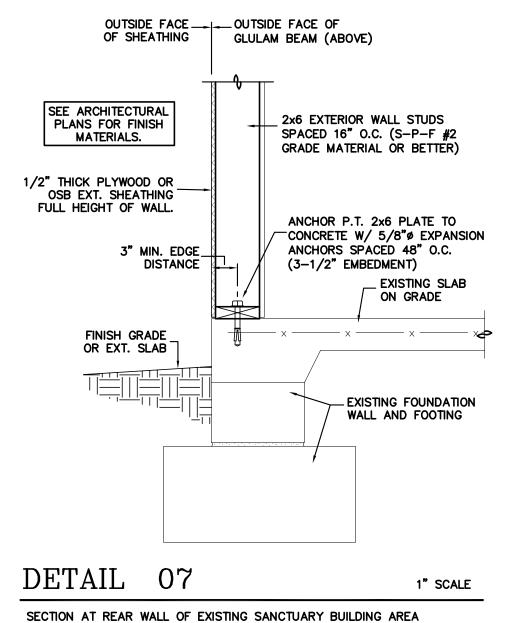
STRUFFILM

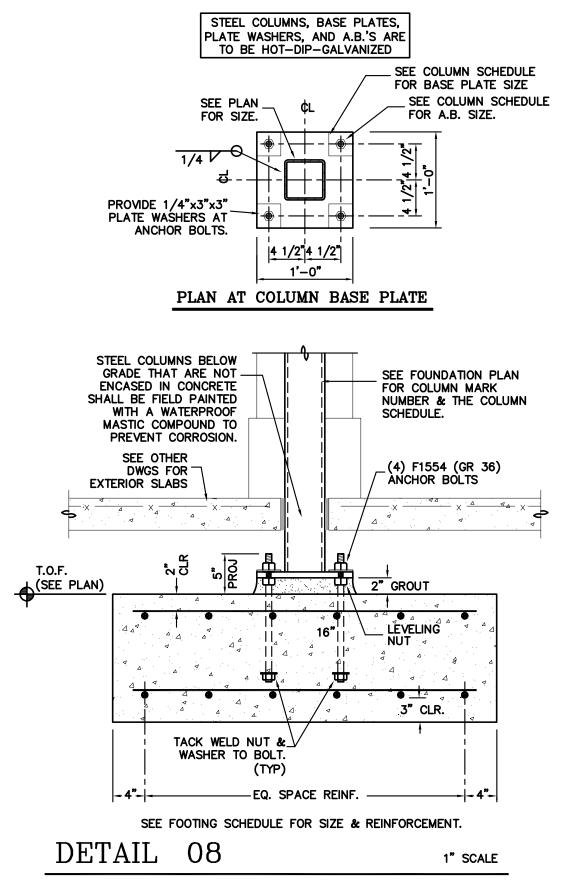
W. S. ARCHITECTS, PA

WEEKS

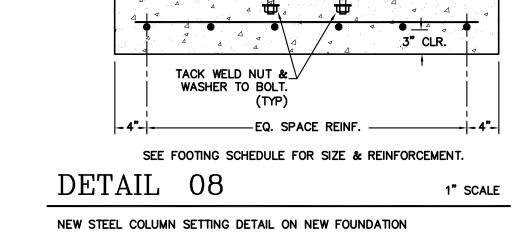
SUMMER

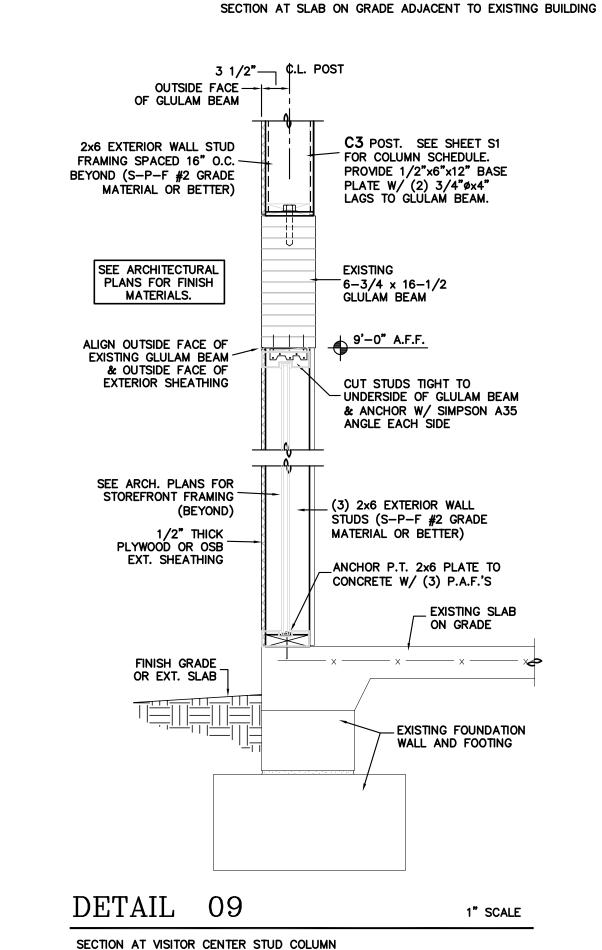






EXTERIOR WALL FOOTING SECTION AT ENTRY





BID SET 4.28.22 WBS: 15RE .13.3 SCO ID# 21-24079-01A

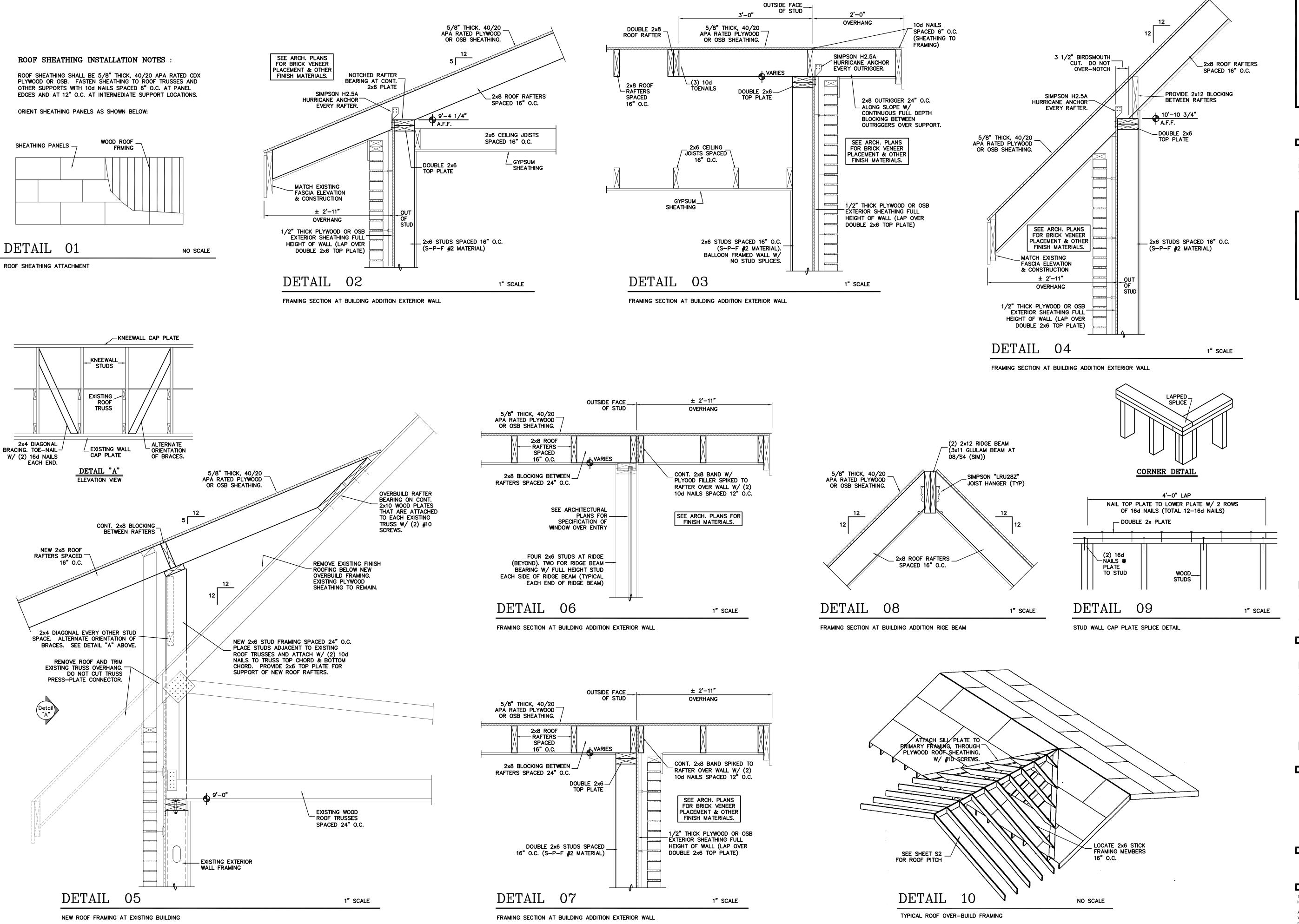
PROJECT TITLE **BRUNSWICK CTY** VISITOR'S CENTER 394 WHITEVILLE ROAD NW SHALLOTTE, NORTH CAROLINA

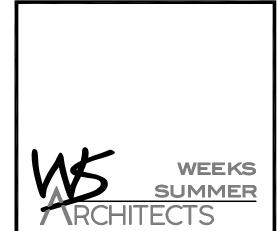
PROJECT NO. LA-13100 DRAWING TITLE FOUNDATION & FRAMING DETAILS

SHEET OF

PLOT DATE 4/28/22 REVISION

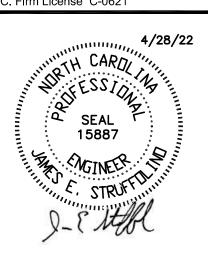
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PROJECT TITLE
BRUNSWICK CTY
VISITOR'S CENTER
394 WHITEVILLE ROAD NW
SHALLOTTE, NORTH CAROLINA

PROJECT NO.

LA-13100

DRAWING TITLE

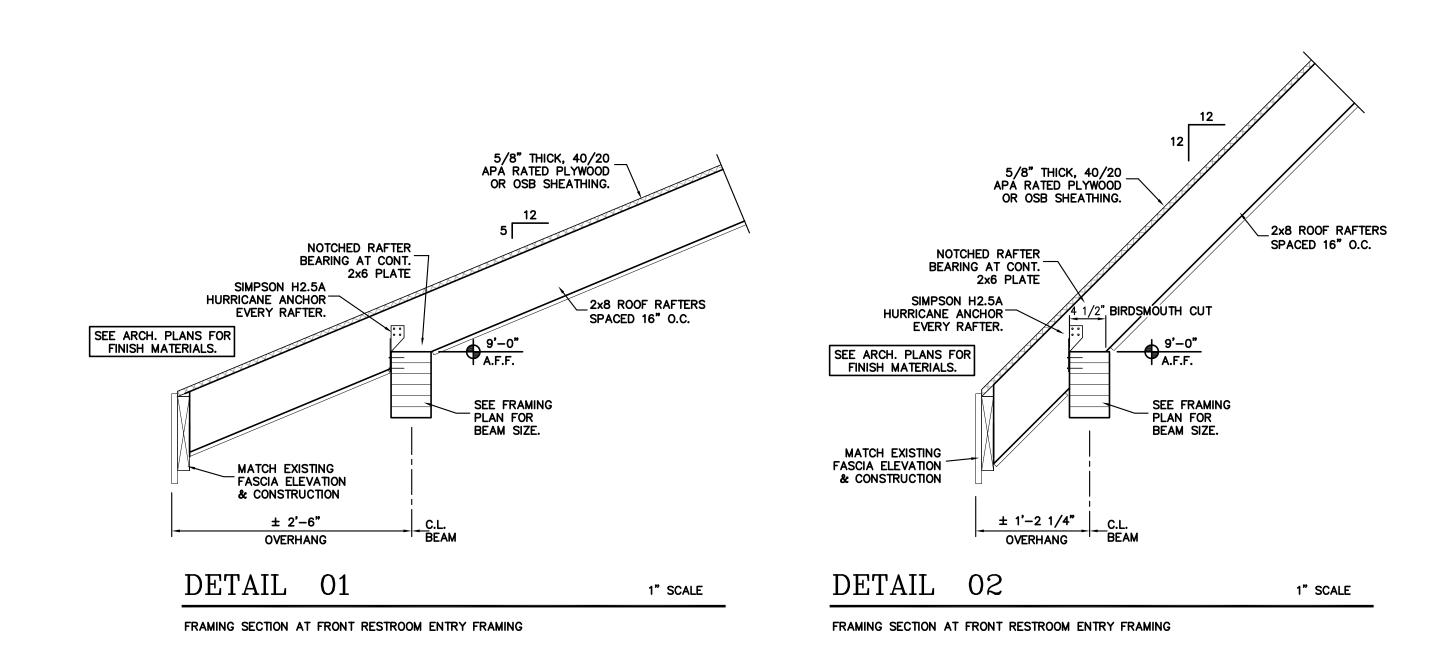
FRAMING DETAILS

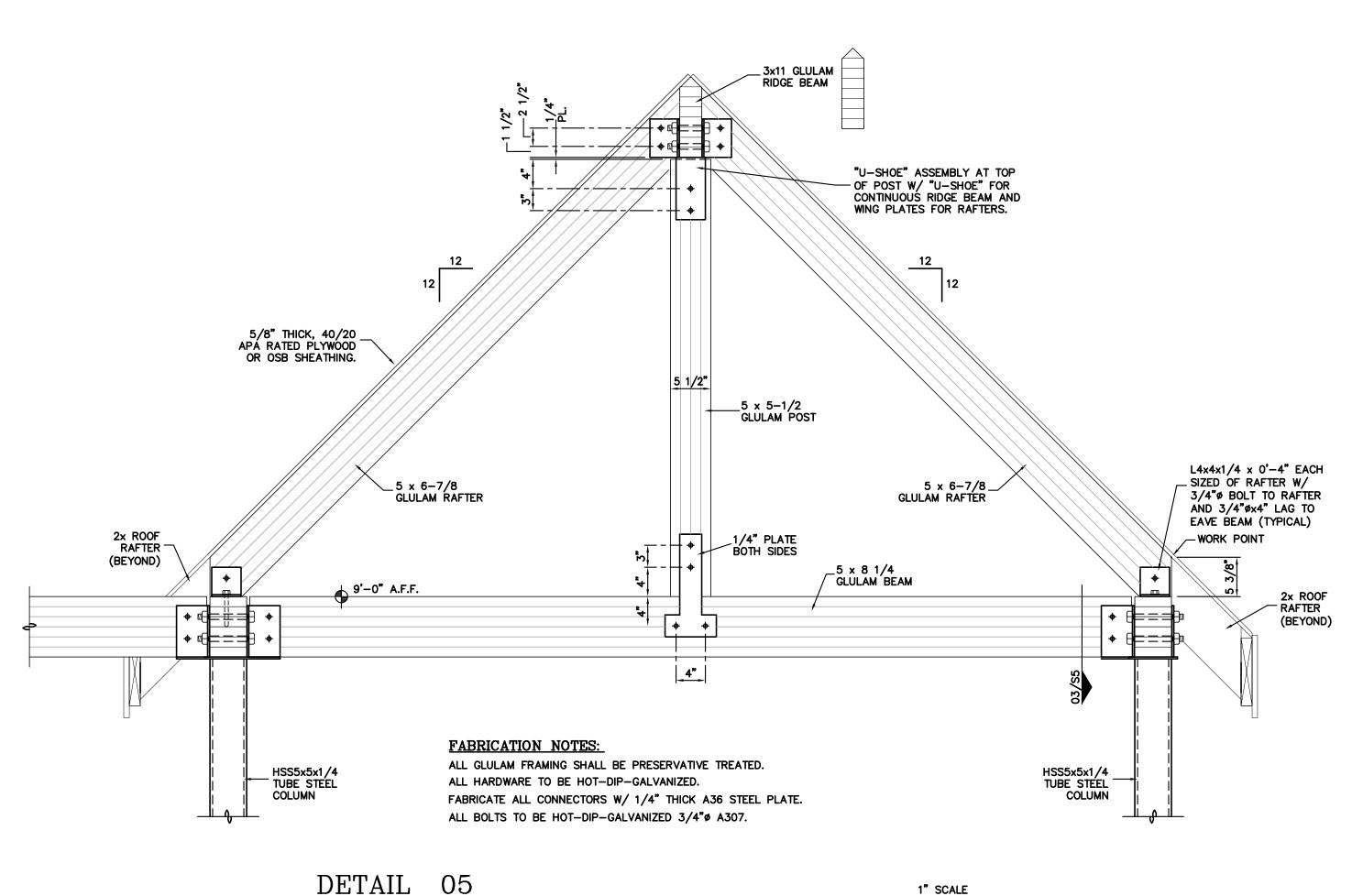
SHEET 6 OF 8

S4

PLOT DATE 4/28/22 REVISION

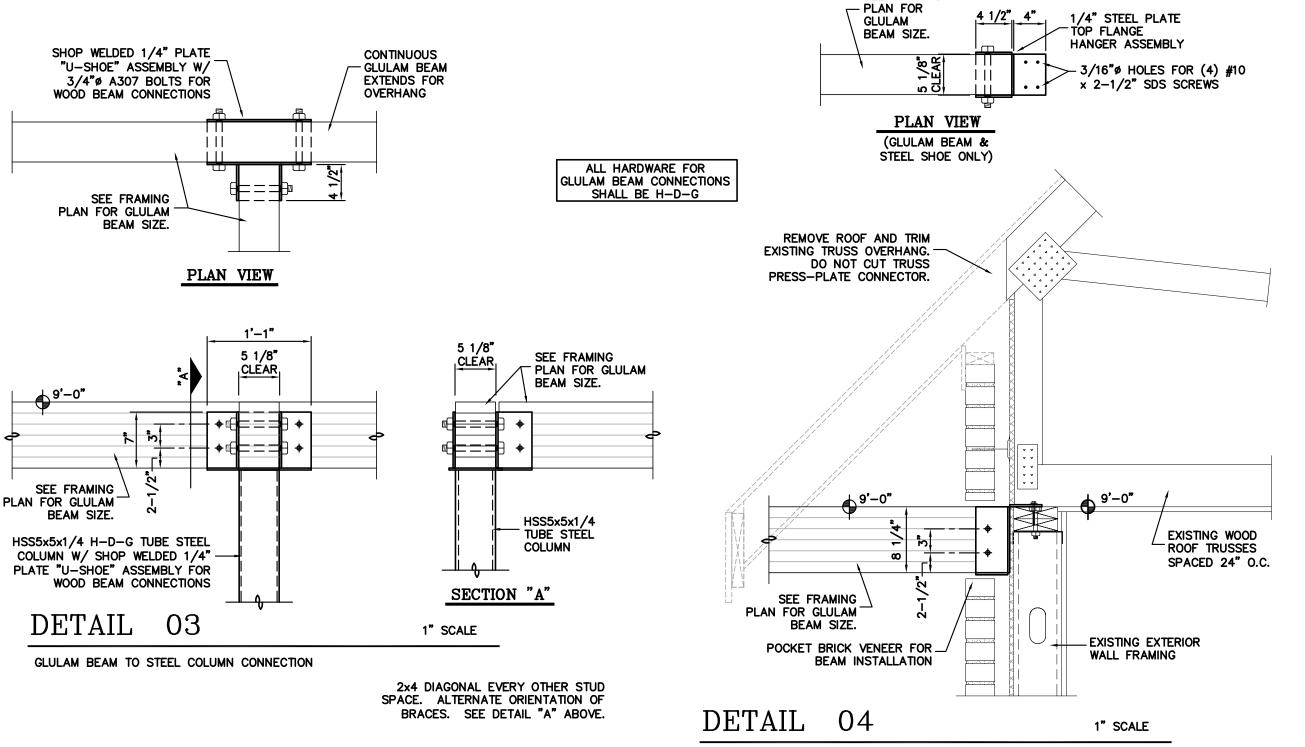
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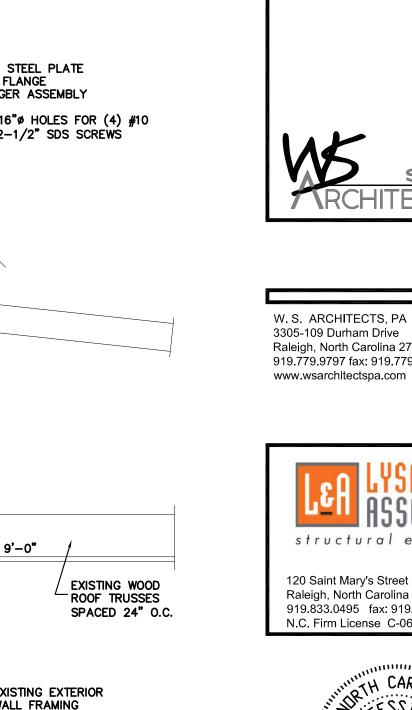
1" SCALE





SEE FRAMING

GLULAM BEAM TO EXISTING BUILDING WALL



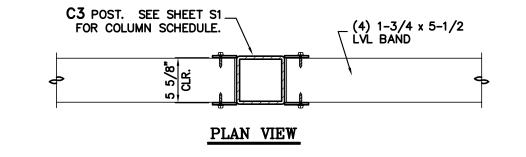
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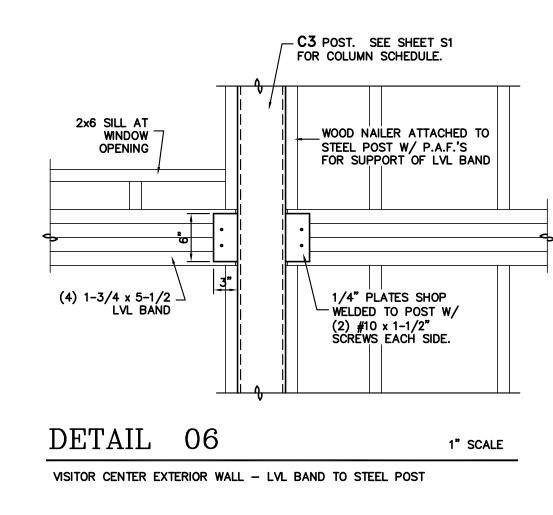
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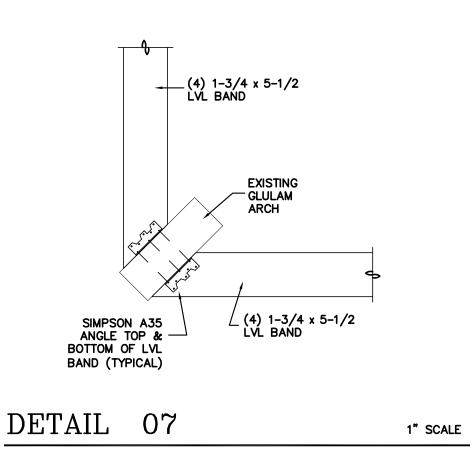
SUMMER











VISITOR CENTER EXTERIOR WALL - LVL BAND TO GLULAM ARCH

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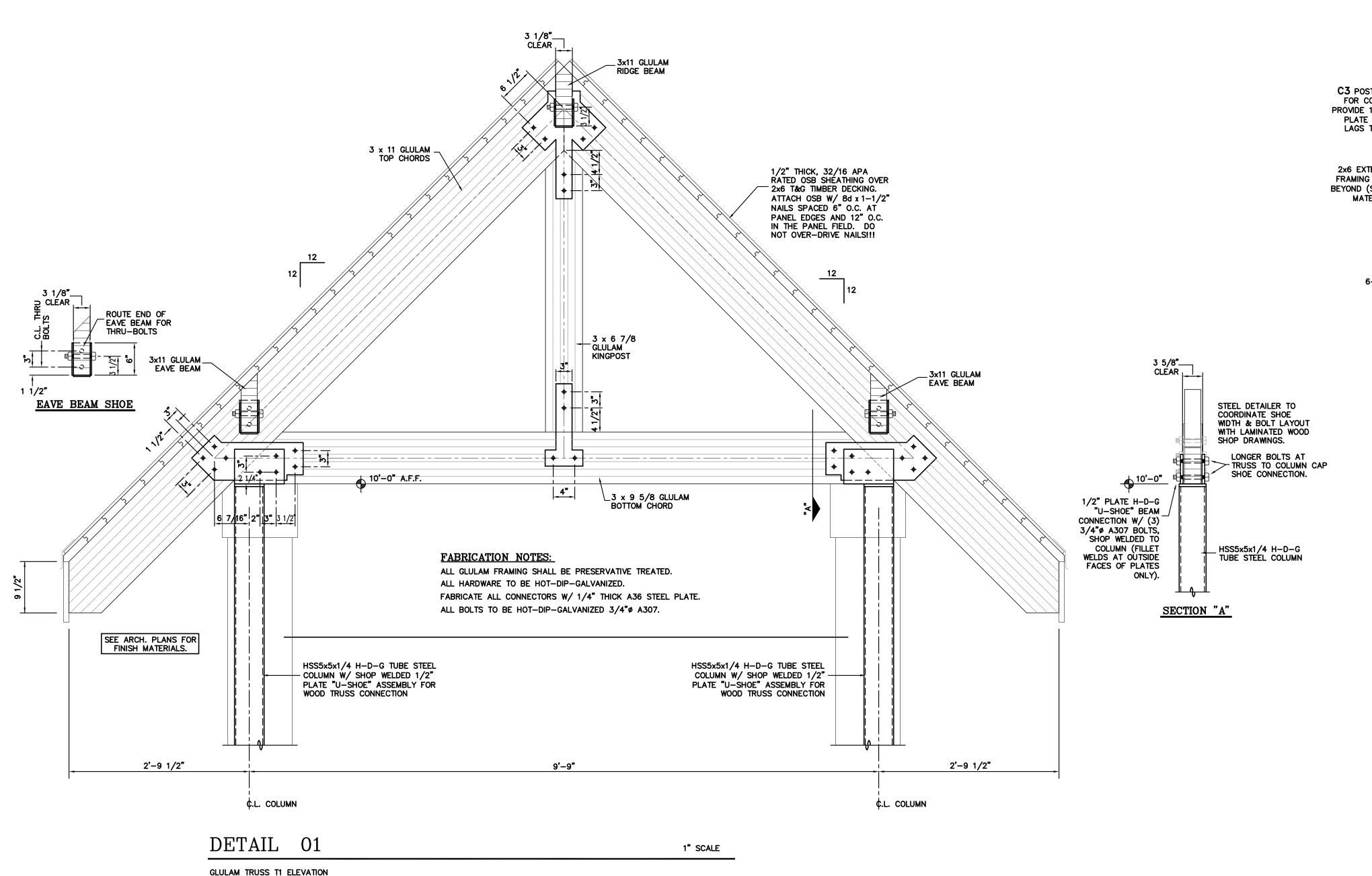
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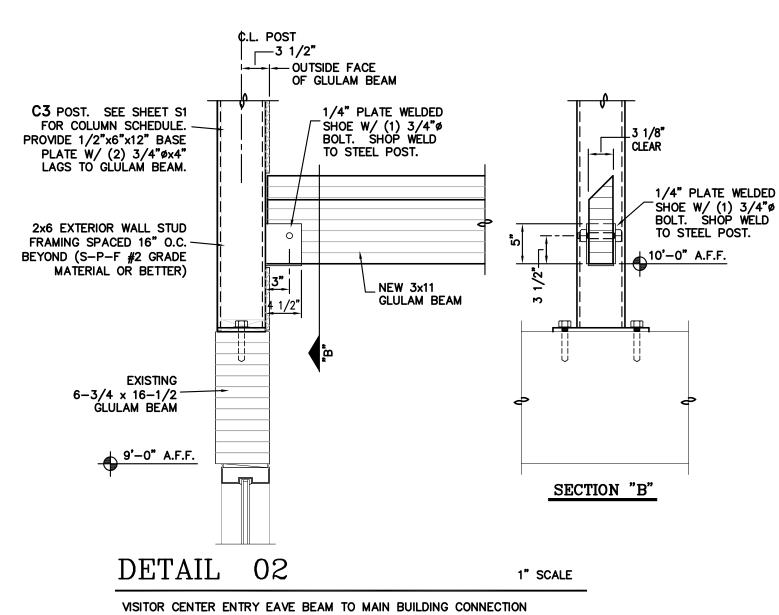
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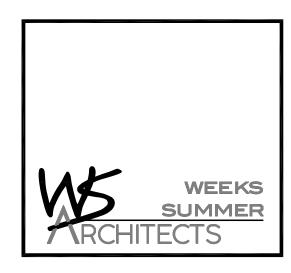
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4/28/22 WINTH CARDY SEAL 15887 NOINEER

BID SET 4.28.22 WBS: 15RE .13.3 SCO ID# 21-24079-01A

PROJECT TITLE **BRUNSWICK CTY** VISITOR'S CENTER 394 WHITEVILLE ROAD NW SHALLOTTE, NORTH CAROLINA

PROJECT NO. LA-13100 DRAWING TITLE FRAMING DETAILS

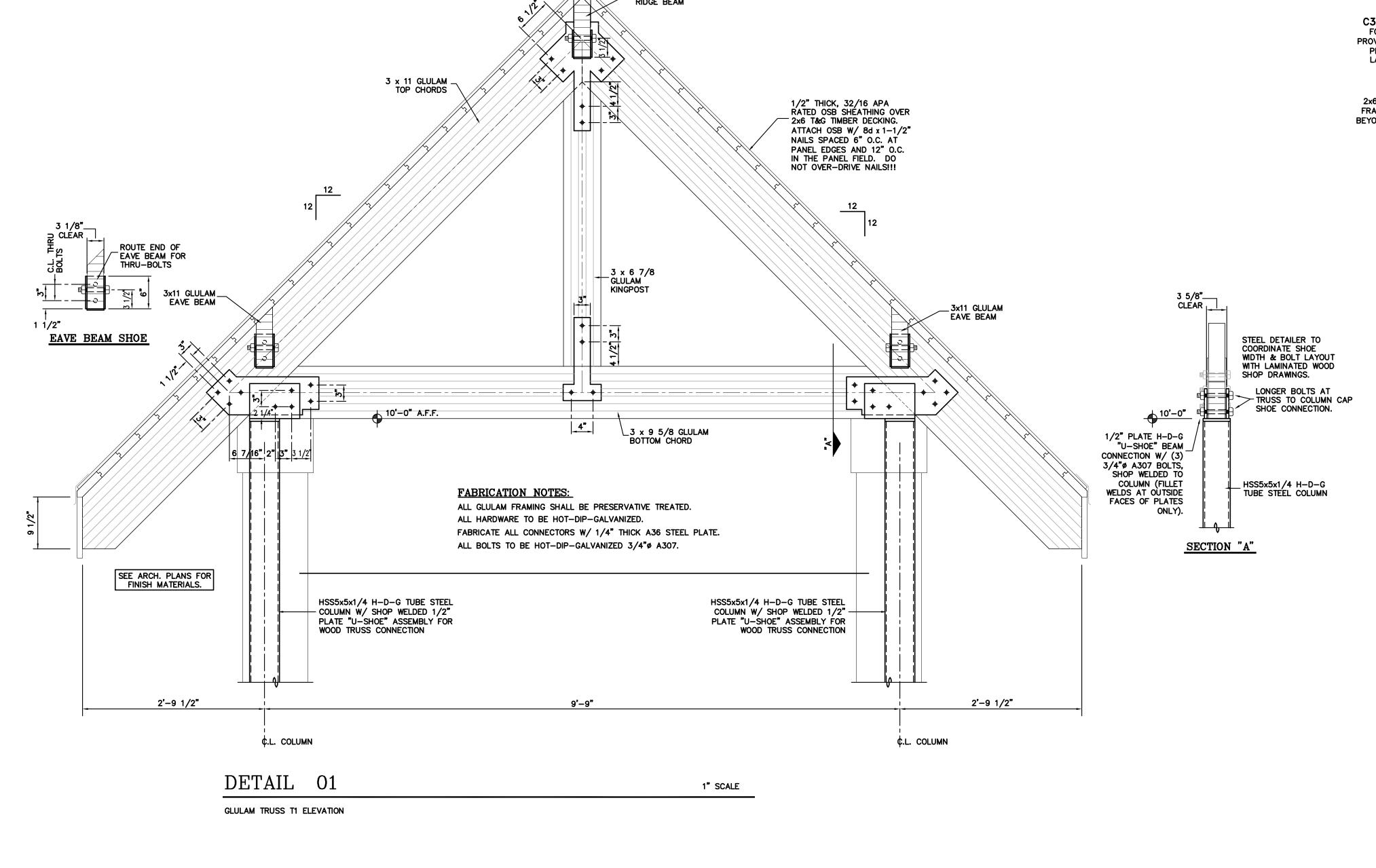
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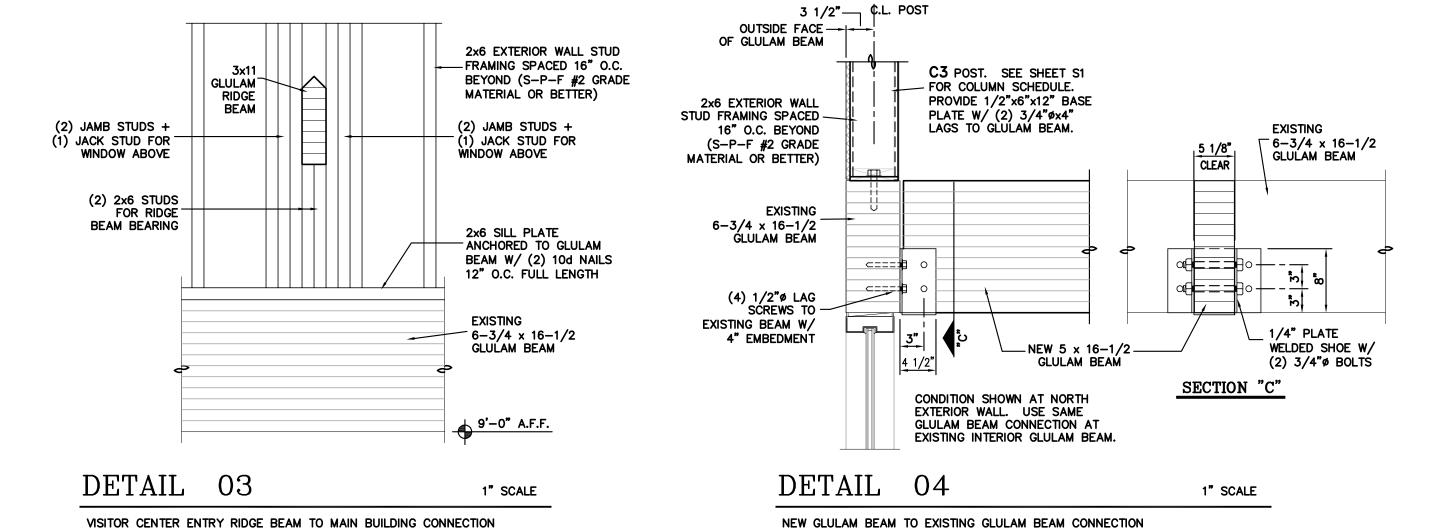
PLOT DATE 4/28/22 REVISION

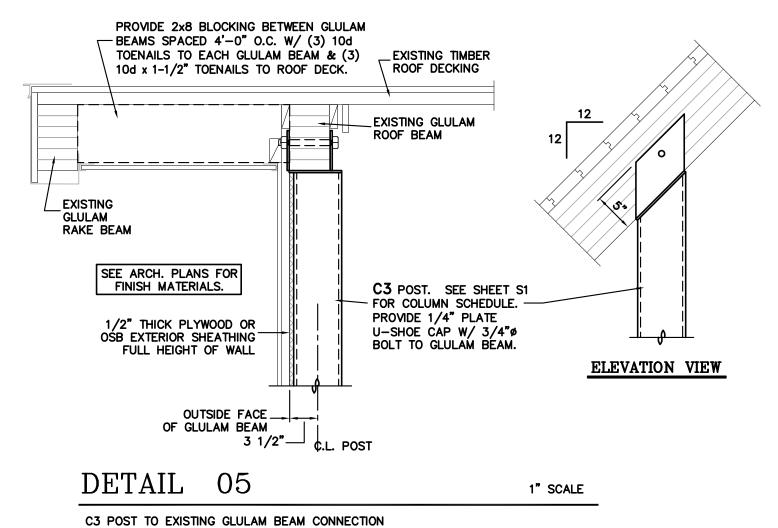
1" SCALE

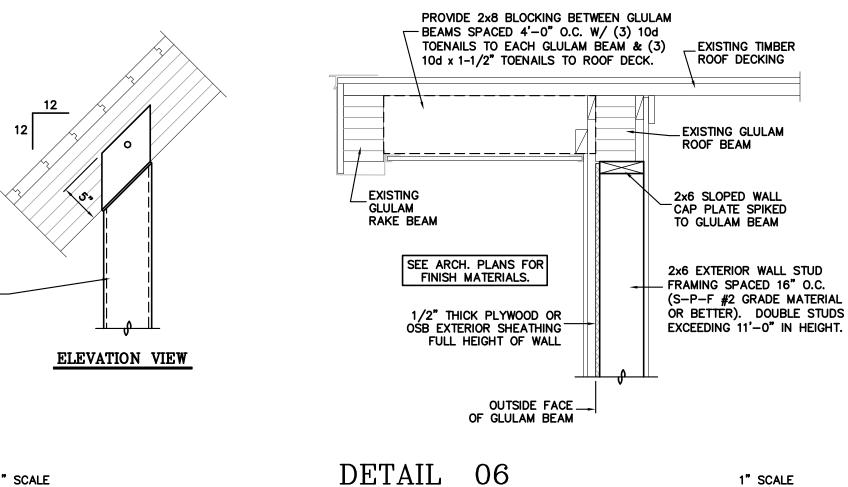
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VISITOR CENTER EXTERIOR WALL SECTION