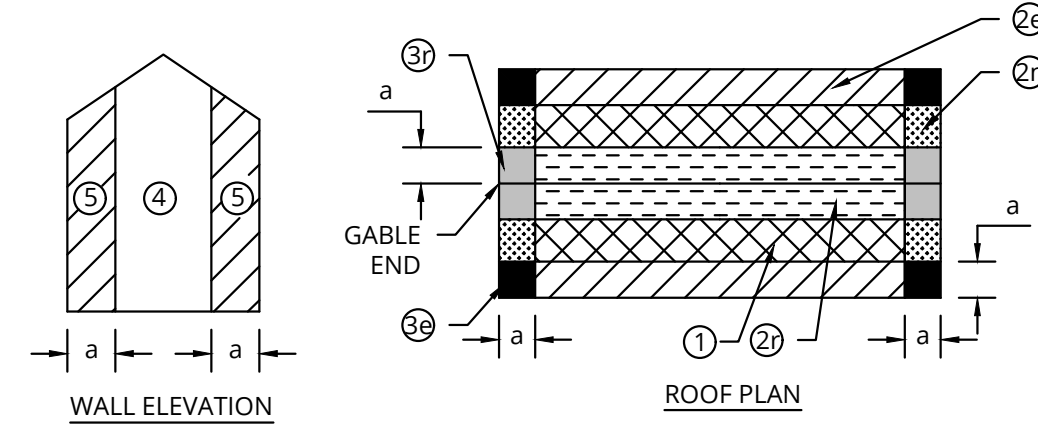


DESIGN CRITERIA

- ALL DESIGN AND CONSTRUCTION SHALL CONFORM TO THE 2018 INTERNATIONAL BUILDING CODE AND ALL REFERENCED STANDARDS, AS MODIFIED BY CITY OF FLAGSTAFF, ARIZONA.
- DESIGN LOADS:
 - ROOF DEAD LOAD = 20 PSF
 - FLOOR DEAD LOAD = 25 PSF
 - FLOOR LIVE LOAD = 50 PSF
 - GROUND SNOW LOAD, P_g = 60 PSF
 - SNOW IMPORTANCE FACTOR, I = 1.0
 - SNOW EXPOSURE FACTOR, C_e = 1.0
 - SNOW THERMAL FACTOR, C_t = 1.1
 - FLAT ROOF SNOW LOAD, P_f = 47 PSF
 - SLOPED ROOF SNOW LOAD = 47 PSF
 - ULTIMATE DESIGN WIND SPEED = 101 MPH
 - NOMINAL DESIGN WIND SPEED = 78 MPH
 - WIND RISK CATEGORY = II
 - WIND EXPOSURE = B
 - INTERNAL PRESSURE COEFFICIENT = ±0.18
 - a = 5 FT
 - COMPONENTS AND CLADDING WIND PRESSURES

COMPONENTS AND CLADDING WIND PRESSURES (GABLE AND WALL)				
ZONE	10 FT ²	20 FT ²	50 FT ²	100 FT ²
1	20.4	20.4	17.4	15.5
2e	20.4	20.4	17.4	15.5
2n	32.6	28.9	23.4	19.2
2r	32.6	28.9	2,423.4	19.2
3e	32.6	28.9	23.4	19.2
3r	35.6	30.1	24.1	24.1
4	15.5	14.9	14.3	13.5
5	19.2	18.0	16.2	14.9



- SEISMIC RISK CATEGORY = II
- SEISMIC IMPORTANCE FACTOR = 1.0
- S_c = 0.316
- S₁ = 0.097
- SITE CLASS = D
- S₀₅ = 0.326
- S₀₁ = 0.155
- SEISMIC DESIGN CATEGORY = C
- BASIC SEISMIC FORCE RESISTING SYSTEMS:
 - LIGHT FRAMED WALLS SHEATHED WITH WOOD STRUCTURAL PANELS
- RESPONSE MODIFICATION COEFF., R = 6.5
- SEISMIC RESPONSE COEFF., C_s = 0.051
- DESIGN BASE SHEAR = 5.5 KIPS
- FLOOD LOADS = NONE
- OTHER SPECIAL LOADS = NONE
- SYSTEMS REQUIRING SPECIAL INSPECTIONS FOR SEISMIC RESISTANCE = NONE

GENERAL

- DO NOT SCALE DRAWINGS. COORDINATE ALL DIMENSIONS WITH ARCHITECTURAL DRAWINGS. IF A NEEDED DIMENSION IS NOT PROVIDED, NOTIFY ENGINEER OF RECORD.
- WHEN NO GEOTECHNICAL INVESTIGATION IS PERFORMED, THE OWNER AND CONTRACTOR ACCEPT THE INCREASED RISK THAT ADVERSE SOIL CONDITIONS MAY RESULT IN EXCESSIVE SOIL MOVEMENT.
- GENERAL NOTES AND TYPICAL DETAILS SHALL APPLY AS NEEDED ON THE PROJECT. WHERE A SPECIFIC DETAIL IS NOT PROVIDED, CONSTRUCTION SHALL CONFORM TO SIMILAR CONSTRUCTION AND DETAILING.
- THE DESIGN FOR THIS PROJECT SHOWS THE STRUCTURE IN ITS COMPLETED STATE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL SHORING AND SAFETY OF THE STRUCTURE PRIOR TO COMPLETION.
- ANY ENGINEERING DESIGN PROVIDED BY OTHERS SHALL BE SEALED BY A REGISTERED ENGINEER IN THE STATE OF THE PROJECT AND BE SUBMITTED FOR REVIEW AND APPROVAL.
- NO SUBSTITUTIONS OF CONNECTOR, BEAM, COLUMN, OR OTHER STRUCTURAL ITEM SHALL BE MADE WITHOUT PRIOR REVIEW AND WRITTEN APPROVAL OF THE STRUCTURAL ENGINEER.
- WHERE DISCREPANCIES EXIST BETWEEN PLANS, NOTES, DETAILS, AND SPECIFICATIONS, THE GREATER REQUIREMENT SHALL GOVERN.

SAWN AND MANUFACTURED LUMBER

- ALL STRUCTURAL SAWN LUMBER SHALL BE GRADED IN ACCORDANCE WITH THE WESTERN WOOD PRODUCT ASSOCIATION (WWPA) OR THE WEST COAST LUMBER INSPECTION BUREAU (WCLIB) AND MEET THE SPECIES AND GRADES BELOW UNO:
 - 2x WALL STUDS = DOUGLAS FIR #2
 - OTHER 2x AND 4x MEMBERS = DOUGLAS FIR #2
 - 6x MEMBERS = DOUGLAS FIR #2
- ALL STRUCTURAL SAWN LUMBER SHALL BE BELOW 19% MOISTURE CONTENT AT THE TIME OF CONSTRUCTION AND BE PROTECTED ON SITE FROM CONTACT WITH THE GROUND, WEATHER, OR DAMAGE.
- ALL LUMBER IN CONTACT WITH THE EARTH, CONCRETE, OR MASONRY SHALL BE PRESSURE TREATED OR HAVE AN APPROVED MOISTURE BARRIER INSTALLED.
- BEAMS AND COLUMNS MAY NOT BE NOTCHED OR DRILLED UNO ON THE DRAWINGS OR WITH PRIOR APPROVAL OF THE ENGINEER OF RECORD. STUDS, JOISTS, AND OTHER REPETITIVE LUMBER MAY BE NOTCHED AND DRILLED AS NOTED IN THE TYPICAL DETAILS.
- PROVIDE BUILT UP STUD COLUMNS BELOW ALL BEAM AND GIRDER BEARING LOCATIONS UNO. PROVIDE SOLID BLOCKING AT FLOOR FRAMING AND PONY WALLS BELOW ALL COLUMNS AND TRIMMERS. MULTISTUD TRIMMERS SHALL BE FRAMED IN ALL WALL SEGMENTS BELOW THE HEADER FROM HEADER TO FOUNDATION.
- ALL SHEATHING SHALL CONFORM TO THE APA PERFORMANCE STANDARDS AND QUALIFICATIONS FOR STRUCTURAL-USE PANELS (APA PRP-108) AND MAY BE EITHER PLYWOOD OR OSB UNLESS SPECIFICALLY NOTED ON THE DRAWINGS. PLYWOOD SHALL HAVE A MINIMUM OF 5-PLYS.
- ALL WALL, FLOOR, AND ROOF SHEATHING BE EXPOSURE 1 RATED. TYPICAL PANEL THICKNESSES SHALL BE AS LISTED BELOW:
 - USE THICKNESS SPAN RATING
 - SHEAR WALLS 15/32" 32/16
 - ROOF SHEATHING 15/32" 32/16
- ROOF SHEATHING SHALL BE APA RATED SHEATHING. THE STRENGTH AXIS OF ROOF SHEATHING MUST BE INSTALLED PERPENDICULAR TO SUPPORTS. SHEATHING PANELS SHALL BE INSTALLED WITH END JOINTS STAGGERED. PANEL CLIPS SHALL BE INSTALLED MID-SPAN OF ALL SPANS WHEN 15/32" OR 1/2" SHEATHING IS INSTALLED ON THE ROOF. EXCEPT (2) CLIPS EQUALLY SPACED SHALL BE INSTALLED FOR PLYWOOD SPANS OF 48" O.C.
- WALL SHEATHING SHALL BE APA RATED SHEATHING. WHERE NOTED, WALL SHEATHING SHALL BE APA SHEAR RATED SIDING WITH A MINIMUM THICKNESS IN THE GROOVES OF 3/8". A 1/8" GAP SHOULD BE PROVIDED AT ALL PANEL EDGES BETWEEN ADJACENT PANELS. BLOCKING SHALL BE PROVIDED AT ALL PANEL EDGES AT ALL SHEAR WALLS.
- FLOOR SHEATHING SHALL BE APA RATED STURD-I-FLOOR AND BE TONGUE-AND-GROOVE. THE STRENGTH AXIS OF FLOOR SHEATHING MUST BE INSTALLED PERPENDICULAR TO SUPPORTS. A 1/8" GAP SHOULD BE PROVIDED AT ALL PANEL EDGES BETWEEN ADJACENT PANELS. SHEATHING PANELS SHALL BE INSTALLED WITH END JOINTS STAGGERED. GLUE SHALL BE APPLIED AT ALL SUPPORTS IN ADDITION TO FASTENERS.
- ALL EXTERIOR WALL FACES SHALL BE SHEATHED WITH 15/32" PLYWOOD OR OSB AND NAILED WITH 8d COMMON OR 10d BOX NAILS AT 6" OC AT ALL PANEL EDGES, 12" OC IN THE FIELD. ALL INTERIOR WALL FACES SHALL BE SHEATHED WITH 1/2" MIN GYPSUM BOARD PANELS AND FASTENED WITH DRYWALL SCREWS AT 7" OC AT ALL PANEL EDGES AND 7" OC IN THE FIELD.
- BEARING WALLS SHALL BE ANCHORED WITH 1/2" DIA ANCHOR BOLTS WITH 7" MINIMUM EMBEDMENT INTO THE STEM WALL. ANCHORS SHALL BE INSTALLED AT THE SPACING NOTED IN THE WALL SCHEDULE. A MINIMUM OF 2 ANCHORS SHALL BE INSTALLED FOR EVERY SECTION OF WALL, WITH AN ANCHOR BEING INSTALLED WITHIN 12" OF THE END OF EACH PLATE SECTION. PROVIDE 3" SQUARE BEARING PLATES AT EACH ANCHOR BOLT (SIMPSON BPS12/3 OR EQUAL), 1/2" MAX DISTANCE FROM EDGE OF BEARING PLATE TO EDGE OF SHEATHING.
- FASTENERS FOR HANGERS SHALL BE THE STANDARD FASTENERS AS REQUIRED BY THE HANGER MANUFACTURER UNLESS SPECIFICALLY NOTED ON THE DRAWINGS.
- FASTENERS AND HANGERS MAY NOT BE SUBSTITUTED UNLESS PRIOR APPROVAL IS OBTAINED FROM THE ENGINEER OF RECORD.
- ALL FASTENERS INSTALLED IN PRESSURE TREATED OR FIRE RETARDANT TREATED LUMBER SHALL BE HOT DIPPED GALVANIZED OR STAINLESS STEEL.
- REFER TO 2018 IBC TABLE 2304.10.2 FASTENER SCHEDULE FOR TYPICAL FASTENING CONNECTIONS WHERE NOT NOTED OTHERWISE ON PLANS OR DETAILS.

NAIL DIMENSIONAL REQUIREMENTS		
DESIGNATION	DIAMETER (IN)	LENGTH (IN)
16d COMMON	0.162	3.50
16d BOX	0.135	3.50
12d COMMON	0.148	3.25
10d COMMON	0.148	3
10d BOX	0.128	3
8d COMMON	0.131	2.50
8d BOX	0.113	2.50
6d COMMON	0.113	2.00

TYPICAL SIMPSON HARDWARE NAIL TYPES	
DESIGNATION	NAIL TYPE
A34, A35, LTP4, LTP5	8dX1 1/2" COMMON
ABU	16d COMMON
GBC	8dX1 1/2" COMMON
H1 THRU H7	8d COMMON
H8 THRU H10	10d COMMON
LU5	10d COMMON
LU, U, HU	16d COMMON BEAM/10d COMMON JOIST

NOTE: REFER TO SIMPSON PRODUCT CATALOG FOR NUMBER OF NAILS AND LOCATIONS OF NAIL INSTALLATIONS. FOLLOW ALL MANUFACTURER REQUIREMENTS FOR INSTALLATION.

CONCRETE AND CONCRETE REINFORCEMENT

- ALL DESIGN AND CONSTRUCTION OF STRUCTURAL CONCRETE SHALL CONFORM TO THE REQUIREMENTS OF THE 2018 INTERNATIONAL BUILDING CODE AND THE REFERENCED 2014 AMERICAN CONCRETE INSTITUTE'S BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE AND COMMENTARY (ACI 318-14).
- ALL CONSTRUCTION AND TOLERANCES SHALL CONFORM TO THE ACI SPECIFICATIONS FOR STRUCTURAL CONCRETE (ACI 301-16).
- CONCRETE STRENGTHS SHALL MEET THE FOLLOWING MINIMUM STRENGTHS:
 - WALLS = 4500 PSI (W/C = 0.45 MAX)
 - FOUNDATIONS = 2500 PSI
 - SLABS ON GRADE = 3000 PSI
- ALL CONCRETE EXPOSED TO FREEZE-THAW CYCLES SHALL HAVE A DESIGN AIR CONTENT OF 5%, WITH A PERMISSIBLE TOLERANCE ON DELIVERED CONCRETE OF ± 1.5%.
- CONCRETE TO BE PLACED DURING HOT OR COLD WEATHER CONDITIONS SHALL FOLLOW THE REQUIREMENTS SPECIFIED IN ACI 305R (HOT WEATHER) AND ACI 306R (COLD WEATHER).
- CONTRACTOR IS ULTIMATELY RESPONSIBLE FOR FINAL CONCRETE MIX STRENGTH AND FINISH. THE ADDITION OF WATER TO THE MIX AT THE JOB SITE MAY ADVERSELY AFFECT THE STRENGTH AND FINISHING CHARACTERISTICS OF THE CONCRETE, AS WELL AS INCREASE SHRINKAGE WHICH WILL INCREASE SHRINKAGE CRACKING AND DECREASE CONCRETE DURABILITY. WATER REDUCING ADMIXTURES IN THE MIX DESIGN ARE RECOMMENDED TO IMPROVE WORKABILITY IN LIEU OF ADDITIONAL WATER.
- ALL CONCRETE SHALL BE PLACED WITHIN 90 MINUTES OF WATER BEING ADDED TO THE MIX UNLESS SET RETARDING ADMIXTURES HAVE BEEN TESTED AND APPROVED BY THE ENGINEER OF RECORD.
- ALL CONCRETE SHALL BE VIBRATED AS IT IS PLACED EXCEPT SLABS ON GRADE WHICH SHALL BE VIBRATED AT EDGES, THICKENED SLABS AND EMBEDDED ITEMS.
- ALL REINFORCEMENT SHALL BE DETAILED, FABRICATED, AND INSTALLED IN ACCORDANCE WITH THE CONCRETE REINFORCING STEEL INSTITUTE MANUAL OF STANDARD PRACTICE OF REINFORCED CONCRETE CONSTRUCTION.
- ALL REINFORCEMENT SHALL CONFORM TO ASTM A615, GRADE 60 UNO.
- ALL ANCHOR BOLTS SHALL BE HEAVY HEX HEAD ANCHOR BOLTS, ASTM 1554-36 UNO
- ALL REINFORCEMENT TO BE WELDED SHALL CONFORM TO ASTM A706, GRADE 60 AND SHALL BE WELDED IN ACCORDANCE WITH THE AMERICAN WELDING SOCIETIES STRUCTURAL WELDING CODE FOR REINFORCING STEEL (AWS D1.4).
- ALL LAP SPLICES SHALL BE CLASS B LAP SPLICES PER TYPICAL DETAIL UNO.
- CONCRETE SHALL HAVE THE FOLLOWING MINIMUM COVERS UNO:
 - CAST DIRECTLY AGAINST SOIL = 3 INCHES
 - CONCRETE EXPOSED TO EARTH OR WEATHER LARGER THAN #6 BAR = 2 INCHES
 - #5 BAR AND SMALLER = 1 1/2 INCHES
 - CONCRETE NOT EXPOSED TO EARTH OR WEATHER SLABS, WALLS, JOISTS #14 AND #18 BARS = 1 1/2 INCHES
 - #11 BAR AND SMALLER = 3/4 INCH
 - BEAMS AND COLUMNS = 1 1/2 INCHES
- CONCRETE INSERTS, SLEEVES, OPENINGS, AND OTHER EMBEDDED ITEMS SHALL BE COORDINATED WITH THE ARCHITECTURAL DRAWINGS. WHERE A CONFLICT OCCURS BETWEEN REQUIRED REINFORCEMENT OR CONCRETE COVER, OR OTHER ELEMENT AND EMBEDDED ITEMS, NOTIFY ENGINEER FOR REVIEW.

SPECIAL INSPECTIONS

- SPECIAL INSPECTIONS SHALL BE PERFORMED BY AN INDEPENDENT SPECIAL INSPECTOR OR EMPLOYED BY THE OWNER FOR THE FOLLOWING MATERIALS IN COMPLIANCE WITH CHAPTER 17 OF THE 2018 INTERNATIONAL BUILDING CODE:
 - SOILS (BEARING STRATA AND BACKFILL)
 - CONCRETE
 - ADHESIVE ANCHORS
 - MECHANICAL ANCHORS
- THE INSPECTION TABLES IN THESE DRAWINGS INDICATE THE TYPE AND EXTENT OF SPECIAL INSPECTIONS REQUIRED FOR THE MATERIALS LISTED ABOVE.
- THE SPECIAL INSPECTOR SHALL HAVE APPROVAL BY THE BUILDING OFFICIAL TO PERFORM THE SPECIAL INSPECTIONS LISTED ABOVE.
- ALL WORK REQUIRING SPECIAL INSPECTION SHALL BE ACCESSIBLE AND EXPOSED FOR SPECIAL INSPECTOR PRIOR TO THE COMPLETION OF THE SPECIAL INSPECTION.
- THE CONTRACTOR SHALL PROVIDE SUFFICIENT NOTICE TO THE SPECIAL INSPECTOR THAT AN INSPECTION WILL BE REQUIRED FOR WORK COMPLETED. CONTRACTOR TO COORDINATE THE MINIMUM REQUIRED NOTICE TIME WITH THE SPECIAL INSPECTOR (TYPICALLY BETWEEN 24-48 HOURS).
- THE SPECIAL INSPECTOR SHALL KEEP RECORDS OF ALL INSPECTIONS AND FURNISH REPORTS TO THE BUILDING OFFICIAL AND THE ENGINEER OF RECORD THROUGH THE CIVIL ENGINEER. REPORTS SHALL INDICATE THAT WORK INSPECTED WAS OR WAS NOT COMPLETED IN CONFORMANCE WITH THE APPROVED CONSTRUCTION DOCUMENTS.
- ANY WORK NOT COMPETED IN COMPLIANCE WITH THE APPROVED CONSTRUCTION DOCUMENTS SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE CONTRACTOR FOR CORRECTION. ANY WORK NOT CORRECTED SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER OF RECORD PRIOR TO COMPLETION OF THE WORK.

IBC TABLE 1705.6 REQUIRED VERIFICATION AND INSPECTION OF SOILS			
VERIFICATION AND INSPECTION	CONT	PERIODIC	
1. VERIFY MATERIALS BELOW SHALLOW FOUNDATIONS ARE ADEQUATE FOR ACHIEVE THE DESIGN BEARING CAPACITY	--	X	
2. VERIFY EXCAVATIONS ARE EXTENDED TO PROPER DEPTH AND HAVE REACHED PROPER MATERIAL	--	X	
3. PERFORM CLASSIFICATION AND TESTING OF COMPACTED FILL MATERIALS	--	X	
4. VERIFY USE OF PROPER MATERIALS, DENSITIES, AND LIFT THICKNESSES DURING PLACEMENT AND COMPACTION OF COMPACTED FILL	X	--	
5. PRIOR TO PLACEMENT OF COMPACTED FILL, OBSERVE SUBGRADE AND VERIFY THAT SITE HAS BEEN PREPARED PROPERLY	--	X	

2018 IBC TABLE 1705.3 REQUIRED VERIFICATION AND INSPECTION OF CONCRETE CONSTRUCTION				
VERIFICATION AND INSPECTION	CONT	PERIODIC	REF STANDARD ^a	IBC REF
1. INSPECTION OF REINFORCING STEEL, INCLUDING PRESTRESSING TENDONS AND PLACEMENT	--	X	ACI 318; CH 20, 25.2, 25.3, 26.6.1-26.6.3	1908.4
2. REINFORCING BAR WELDING:	--	--	--	--
a. VERIFY WELDABILITY OF REINFORCING BARS OTHER THAN ASTM A706	--	X	AWS D1.4 ACI 318: 26.6.4	--
b. INSPECT SINGLE-PASS FILLET WELDS, MAXIMUM 5/16"	--	X	AWS D1.4 ACI 318: 26.6.4	--
c. INSPECTION ALL OTHER WELDS	X	--	AWS D1.4 ACI 318: 26.6.4	--
3. INSPECTION OF ANCHORS CAST IN CONCRETE	--	X	ACI 318: 17.8.2	--
4. INSPECTION OF ANCHORS POST-INSTALLED IN HARDENED CONCRETE MEMBERS ^b	--	X	ACI 318: 3.8.6, 8.1.3, 21.2.8	1909.1
a. ADHESIVE ANCHORS INSTALLED IN HORIZONTALLY OR UPWARDLY INCLINED ORIENTATIONS TO RESIST SUSTAINED TENSION LOADS	X	--	ACI 318: 17.8.2.4	--
b. MECHANICAL ANCHORS AND ADHESIVE ANCHORS NOT DEFINED IN a.	--	X	ACI 318: 17.8.2	--
5. VERIFYING USE OF REQUIRED DESIGN MIX	--	X	ACI 318: CH. 19, 26.4.3, 26.4.4	1904.1, 1904.2, 1908.2, 1908.3
6. PRIOR TO CONCRETE PLACEMENT FABRICATE SPECIMENS FOR STRENGTH TESTS, PERFORM SLUMP AND AIR CONTENT TESTS, AND DETERMINE THE TEMPERATURE OF THE CONCRETE	X	--	ASTM C172 ASTM C31 ACI 318: 26.5, 26.12	1908.10
7. INSPECTION CONCRETE AND SHOTCRETE PLACEMENT FOR PROPER APPLICATION TECHNIQUES	X	--	ACI 318: 26.5	1908.6, 1908.7, 1908.8
8. VERIFY MAINTENANCE OF SPECIFIED CURING TEMPERATURE AND TECHNIQUES	--	X	ACI 318: 26.5.3-26.5.5	1908.9
9. INSPECTION PRESTRESSED CONCRETE FOR:	X	--	ACI 318: 26.10	--
a. APPLICATION OF PRESTRESSING FORCES	X	--	ACI 318: 26.10	--
b. GROUTING OF BONDED PRESTRESSING TENDONS IN THE SEISMIC FORCE-RESISTING SYSTEM	X	--	ACI 318: 26.10	--
10. ERECTION OF PRECAST CONCRETE MEMBERS	--	X	ACI 318: 26.9	--
11. VERIFY IN-SITU CONCRETE STRENGTH, PRIOR TO STRESSING OF TENDONS IN POST-TENSIONED CONCRETE AND PRIOR TO REMOVAL OF SHORES AND FORMS FROM BEAMS AND STRUCTURAL SLABS	--	X	ACI 318: 26.11.2	--
12. INSPECT FORMWORK FOR SHAPE, LOCATION, AND DIMENSIONS OF THE CONCRETE MEMBER BEING FORMED	--	X	ACI 318: 26.11.1.2(b)	--

PER ACI 318-14 26.12.2.1, SAMPLES FOR STRENGTH TESTS OF EACH CLASS OF CONCRETE SHALL BE TAKEN AT LEAST ONCE PER DAY, NOR LESS THAN ONCE FOR EACH 150 YD³ OF CONCRETE, NOR LESS THAN ONCE FOR EACH 5,000 FT² OF SURFACE AREA FOR SLABS AND WALLS. PER ACI 26.12.2.1(b), IF THE TOTAL PROJECT VOLUME OF CONCRETE IS SUCH THAT LESS THAN 5 STRENGTH TESTS WILL BE TAKEN FOR A GIVEN CLASS OF CONCRETE, TESTS SHALL BE MADE FROM AT LEAST 5 RANDOMLY SELECTED BATCHES OR FROM EACH BATCH IF FEWER THAN 5 BATCHES ARE USED. PER ACI 26.12.2.1(c), IF THE TOTAL PROJECT VOLUME OF CONCRETE IS LESS THAN 50 YD³, STRENGTH TESTS ARE NOT REQUIRED IF EVIDENCE OF SATISFACTORY STRENGTH IS SUBMITTED TO AND APPROVED BY THE BUILDING OFFICIAL. IF WATER IS ADDED TO A BATCH ON THE JOB SITE, A STRENGTH TEST SHALL BE TAKEN OF THE MODIFIED BATCH.

- WHERE APPLICABLE, SEE ALSO SECTION 1705.12, SPECIAL INSPECTIONS FOR SEISMIC RESISTANCE.
- SPECIFIC REQUIREMENTS FOR SPECIAL INSPECTION SHALL BE INCLUDED IN THE RESEARCH REPORT FOR THE ANCHOR ISSUE BY AN APPROVED SOURCE IN ACCORDANCE WITH ACI 17.8.2 OR OTHER QUALIFICATION PROCEDURES. WHERE SPECIFIC REQUIREMENTS ARE NOT PROVIDED, SPECIAL INSPECTION REQUIREMENTS SHALL BE SPECIFIED BY THE REGISTERED DESIGN PROFESSIONAL AND SHALL BE APPROVED BY THE BUILDING OFFICIAL PRIOR TO THE COMMENCEMENT OF THE WORK.

ADHESIVE ANCHOR INSPECTIONS

ADHESIVE ANCHOR INSPECTION TASKS SHALL BE PERFORMED BY A THIRD PARTY INSPECTOR WHO IS QUALIFIED ON THE BASIS OF DOCUMENTED TRAINING AND EXPERIENCE IN STRUCTURAL ADHESIVE ANCHOR INSPECTION. THE FREQUENCY OF THE INSPECTION SHALL BE AS INDICATED ON THE DETAILS OR NOTES WITHIN THESE PLANS. IF NO OTHER INFORMATION IS PROVIDED, ALL ADHESIVE ANCHORS SHALL BE INSPECTED. THE INSPECTOR SHALL VERIFY THAT THE ANCHOR HAS BEEN INSTALLED IN ACCORDANCE WITH ALL MANUFACTURER RECOMMENDATIONS AND DETAIL REQUIREMENTS, INCLUDING:

- VERIFICATION OF ADHESIVE PRODUCT NAME, EXPIRATION DATE, ANCHOR DIAMETER, AND ANCHOR STEEL TYPE.
- DRILLED HOLE DESCRIPTION INCLUDING DRILL BIT DESCRIPTION, HOLE DIAMETER, LOCATION, DEPTH AND CLEANLINESS.
- VERIFICATION OF INSTALLATION BASE MATERIAL, BASE MATERIAL DRYNESS, INSTALLATION TEMPERATURE, INSTALLATION LOCATION (SPACING AND EDGE DISTANCE) AND OTHER INSTALLATION REQUIREMENTS IN ACCORDANCE WITH THE MANUFACTURERS PUBLISHED ICC OR IAPMO REPORT.

MECHANICAL ANCHOR INSPECTIONS

MECHANICAL ANCHOR INSPECTION TASKS SHALL BE PERFORMED BY A THIRD PARTY INSPECTOR WHO IS QUALIFIED ON THE BASIS OF DOCUMENTED TRAINING AND EXPERIENCE IN STRUCTURAL MECHANICAL ANCHOR INSPECTION. THE FREQUENCY OF THE INSPECTION SHALL BE AS INDICATED ON THE DETAILS OR NOTES WITHIN THESE PLANS. IF NO OTHER INFORMATION IS PROVIDED, ALL MECHANICAL ANCHORS SHALL BE INSPECTED. THE INSPECTOR SHALL VERIFY THAT THE ANCHOR HAS BEEN INSTALLED IN ACCORDANCE WITH ALL MANUFACTURER RECOMMENDATIONS AND DETAIL REQUIREMENTS, INCLUDING:

- VERIFICATION OF ANCHOR PRODUCT NAME, ANCHOR DIAMETER, AND LENGTH.
- DRILLED HOLE DESCRIPTION INCLUDING DRILL BIT DESCRIPTION, HOLE DIAMETER, LOCATION, DEPTH AND CLEANLINESS.
- VERIFICATION OF INSTALLATION BASE MATERIAL, INSTALLATION LOCATION (SPACING AND EDGE DISTANCE), INSTALLATION TORQUE, AND OTHER INSTALLATION REQUIREMENTS IN ACCORDANCE WITH THE MANUFACTURERS PUBLISHED ICC OR IAPMO REPORT.

DRAWING INDEX	
SHEET	NAME
S1	GENERAL STRUCTURAL NOTES
S2	TYPICAL DETAILS
S3	PLANS
S4	FOUNDATION DETAILS
S5	FOUNDATION AND FRAMING DETAILS

TYP CONSTRUCTION CALLOUTS	
MARK	NAME
B_	BEAM PER SCHD
C_	COLUMN PER SCHD
F_	FOUNDATION PER SCHD
H_	HEADER PER SCHD
J_	JOIST PER SCHD
L_	LEDGER PER SCHD
SW_	SHEAR WALL PER SCHD
WSW_	WOOD STUD WALL PER SCHD

LEGEND	
SYMBOL	DESCRIPTION
###	DETAIL CALLOUT, SEE FOUNDATION OR FRAMING DETAILS FOR MORE INFORMATION
###	PLAN NOTE CALLOUT, SEE PLAN NOTES ON SHEET FOR MORE INFORMATION
[Symbol]	BEARING WALL
[Symbol]	NON BEARING WALL
[Symbol]	WINDOW OPENING IN BEARING WALL
[Symbol]	DOOR OPENING IN BEARING WALL
[Symbol]	BEARING WALL BELOW
[Symbol]	NON BEARING WALL BELOW
[Symbol]	FOUNDATION
[Symbol]	COLUMN FROM ABOVE
[Symbol]	COLUMN BELOW
[Symbol]	JOIST, TRUSS, ETC.
[Symbol]	BEAM, HEADER, ETC.
[Symbol]	STEP IN SLAB, ROOF, ETC.

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PRELIMINARY
NOT FOR
CONSTRUCTION

ENVIROSYSTEMS REPAIR
23 E FINE AVE
FLAGSTAFF, AZ 86001

REV.	DATE	DESCRIPTION

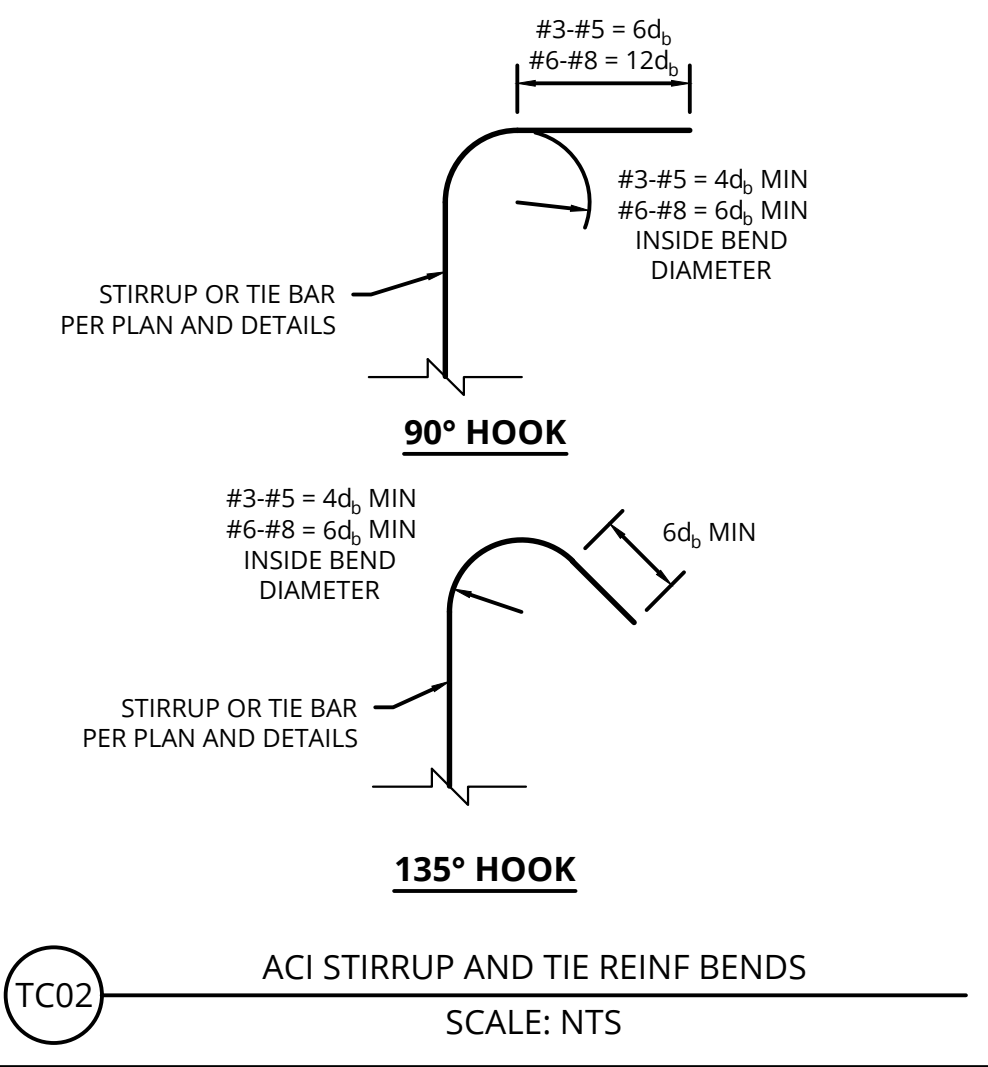
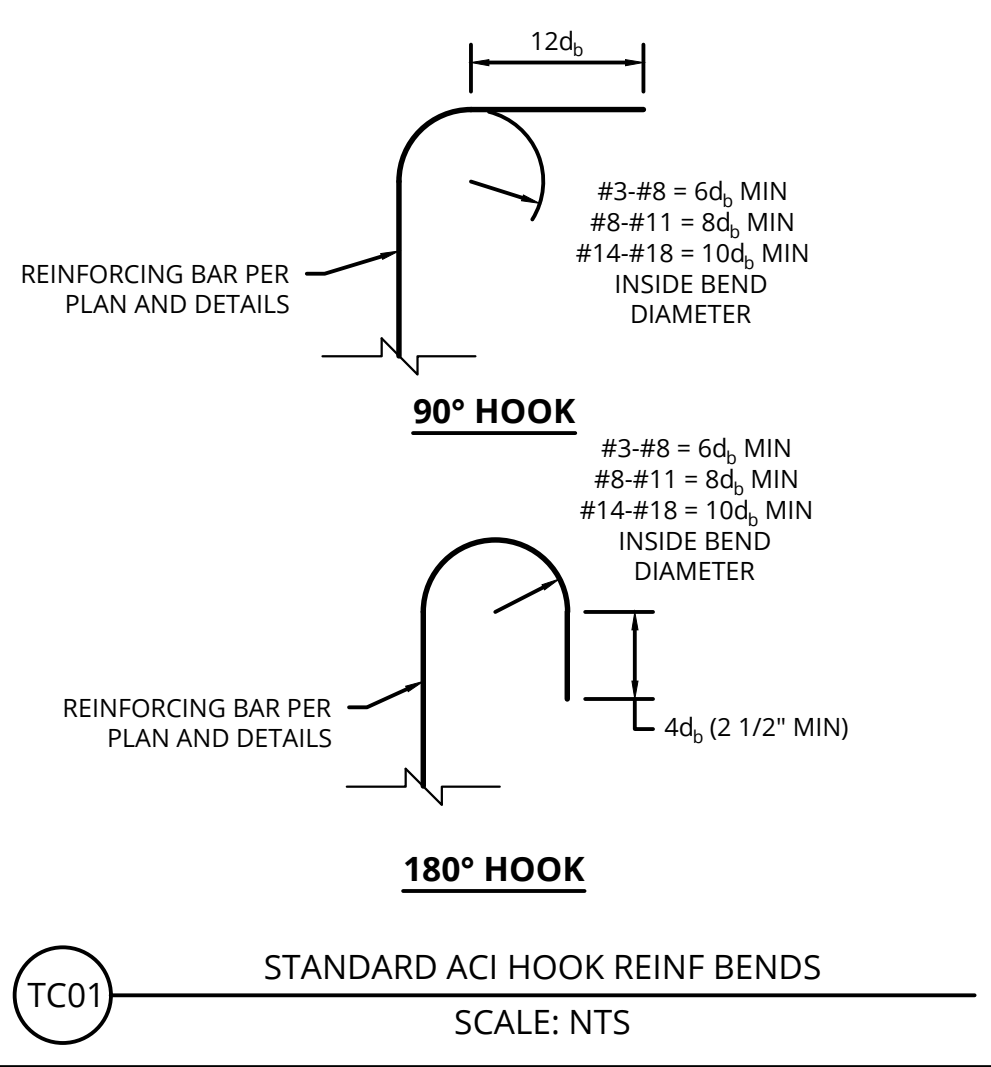
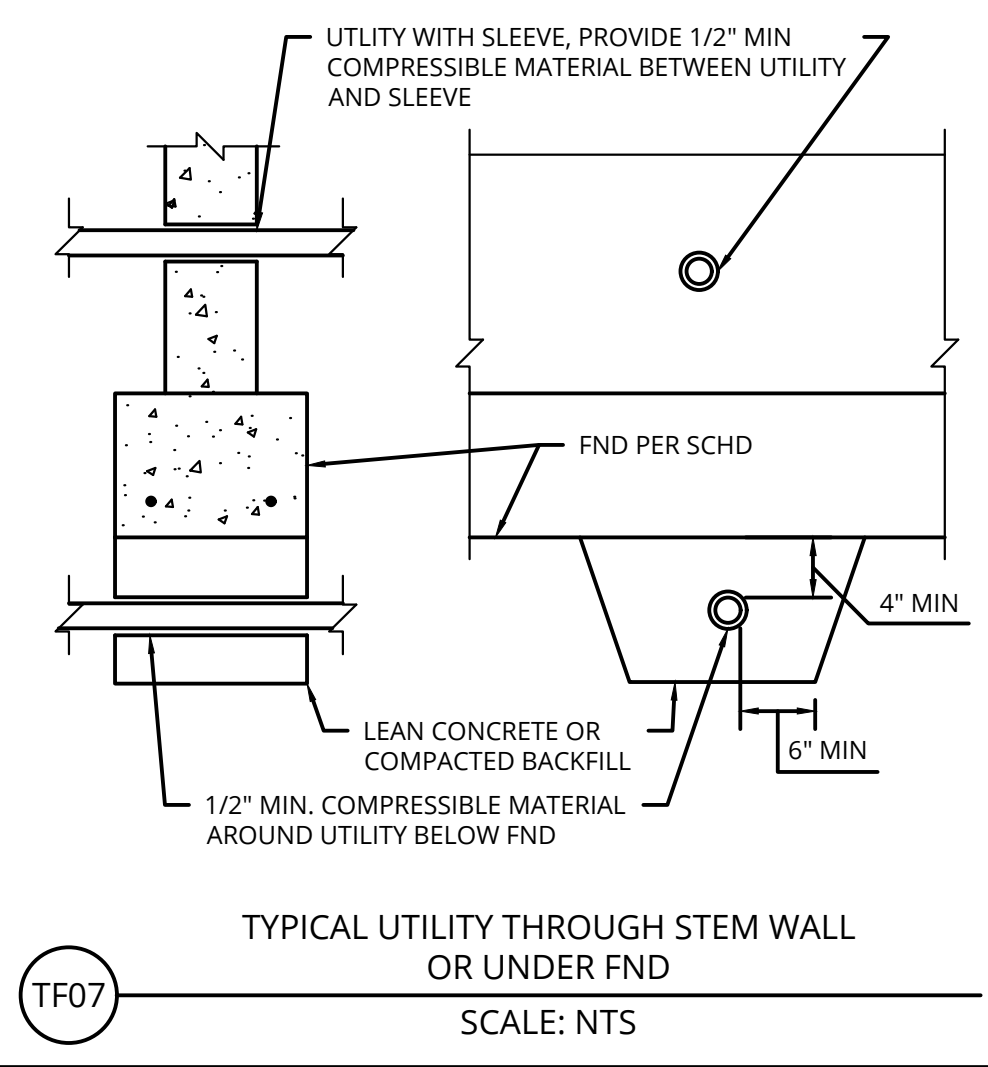
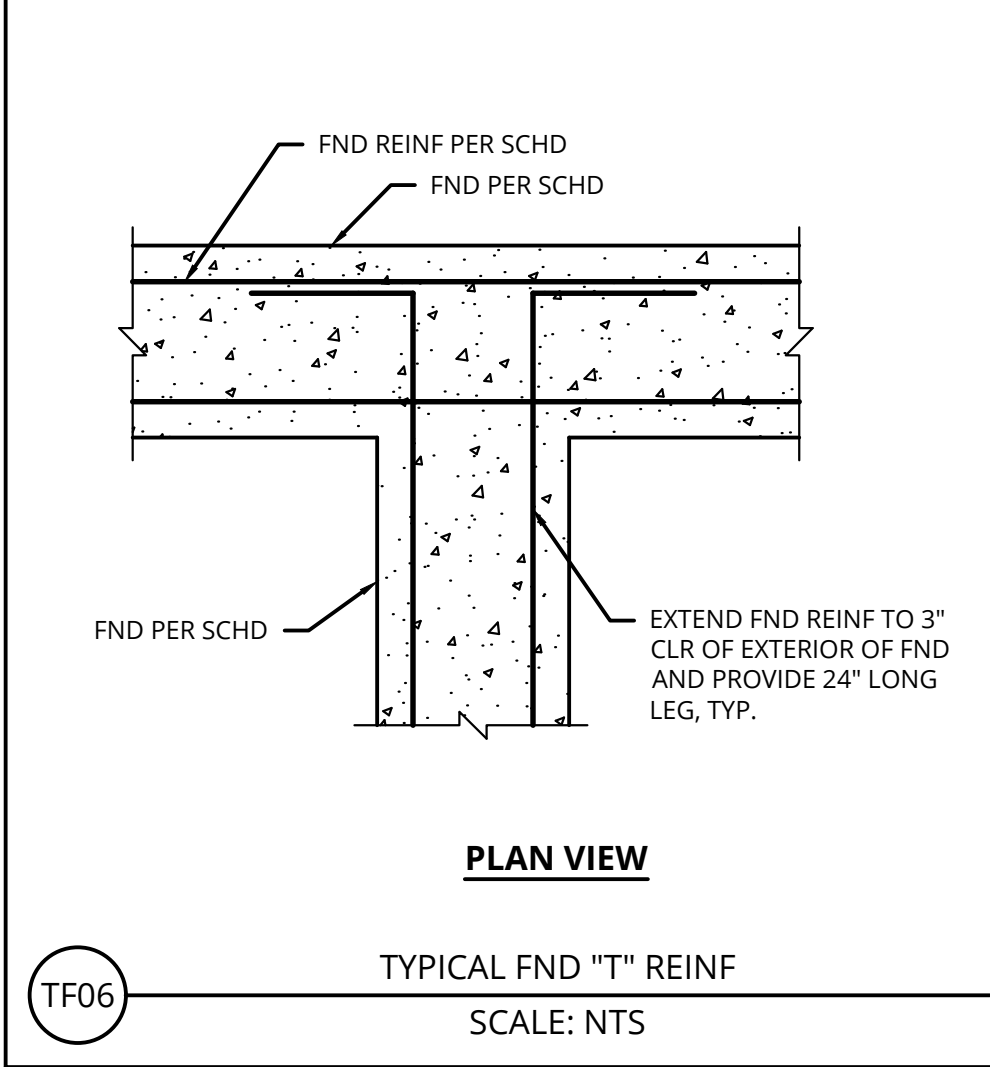
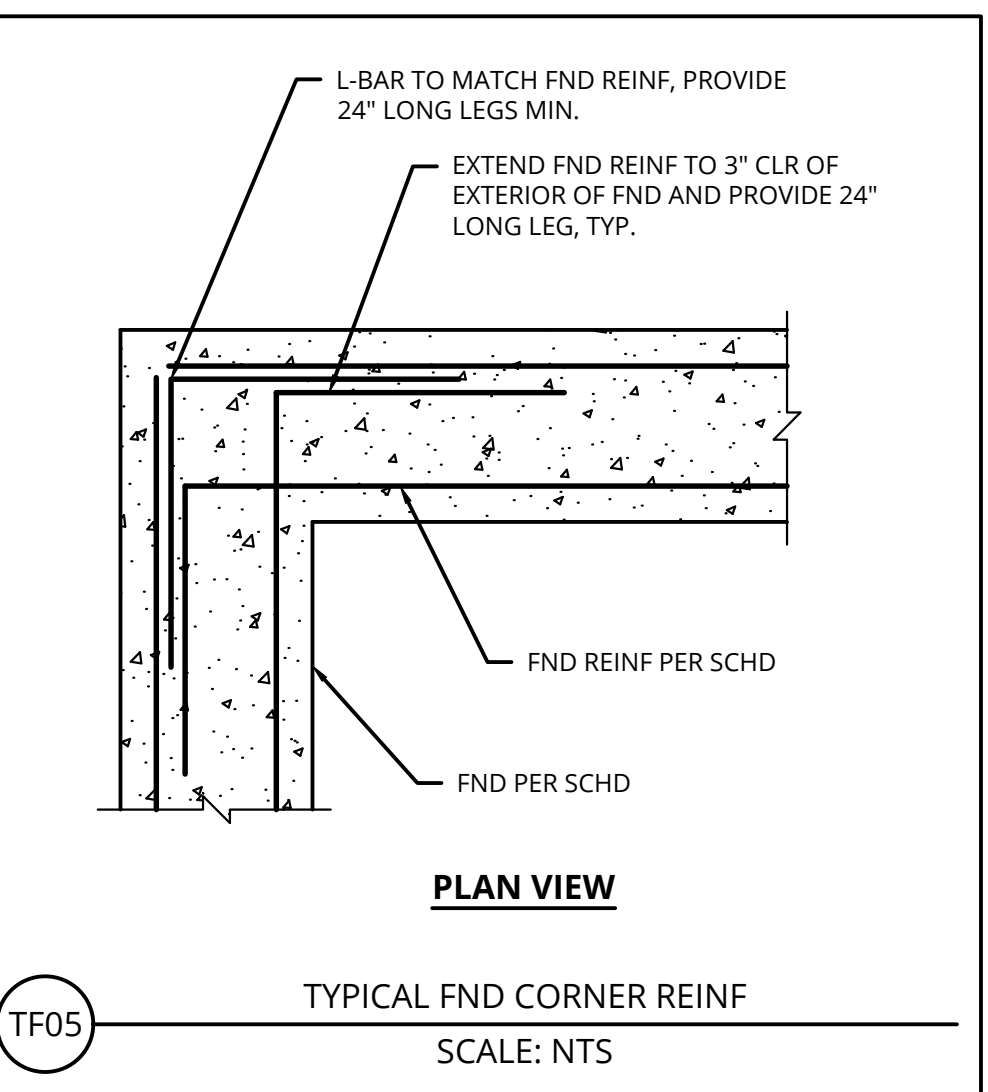
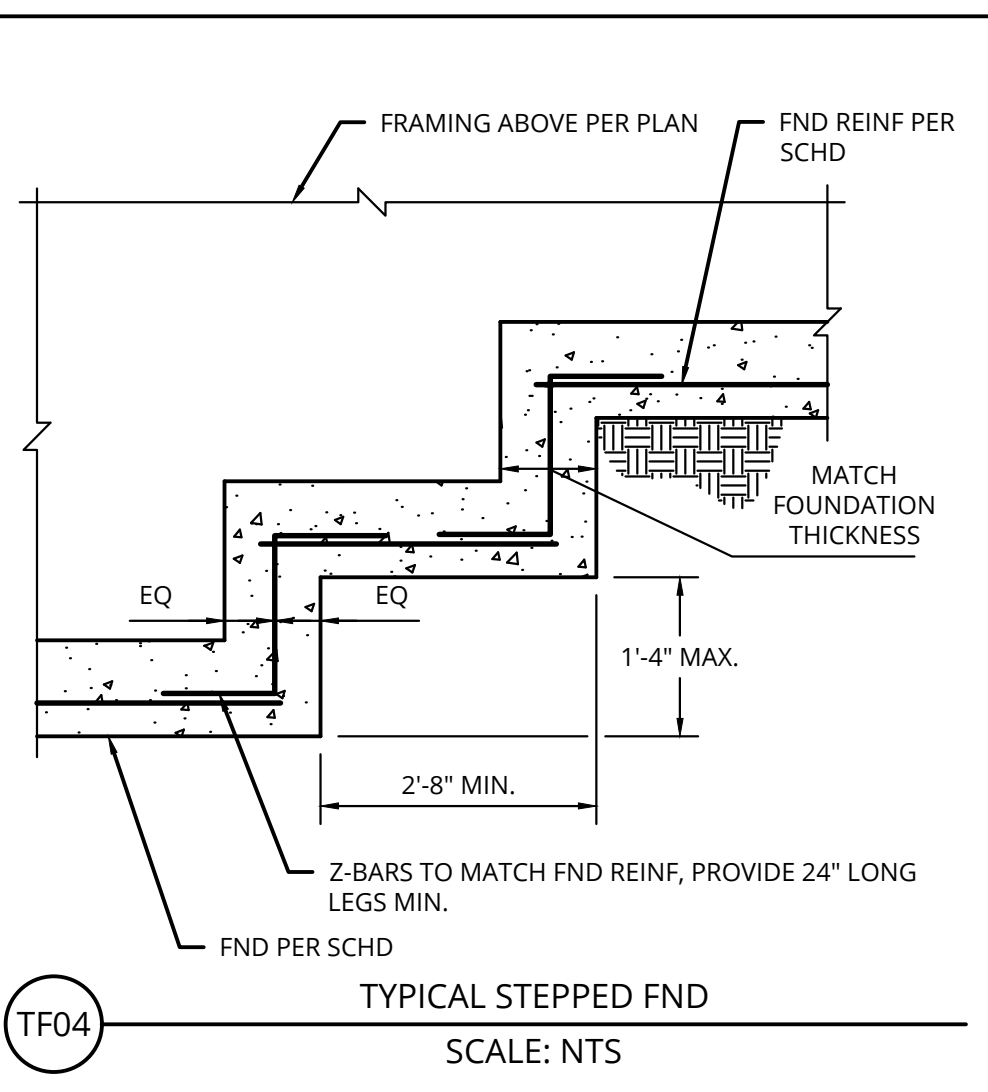
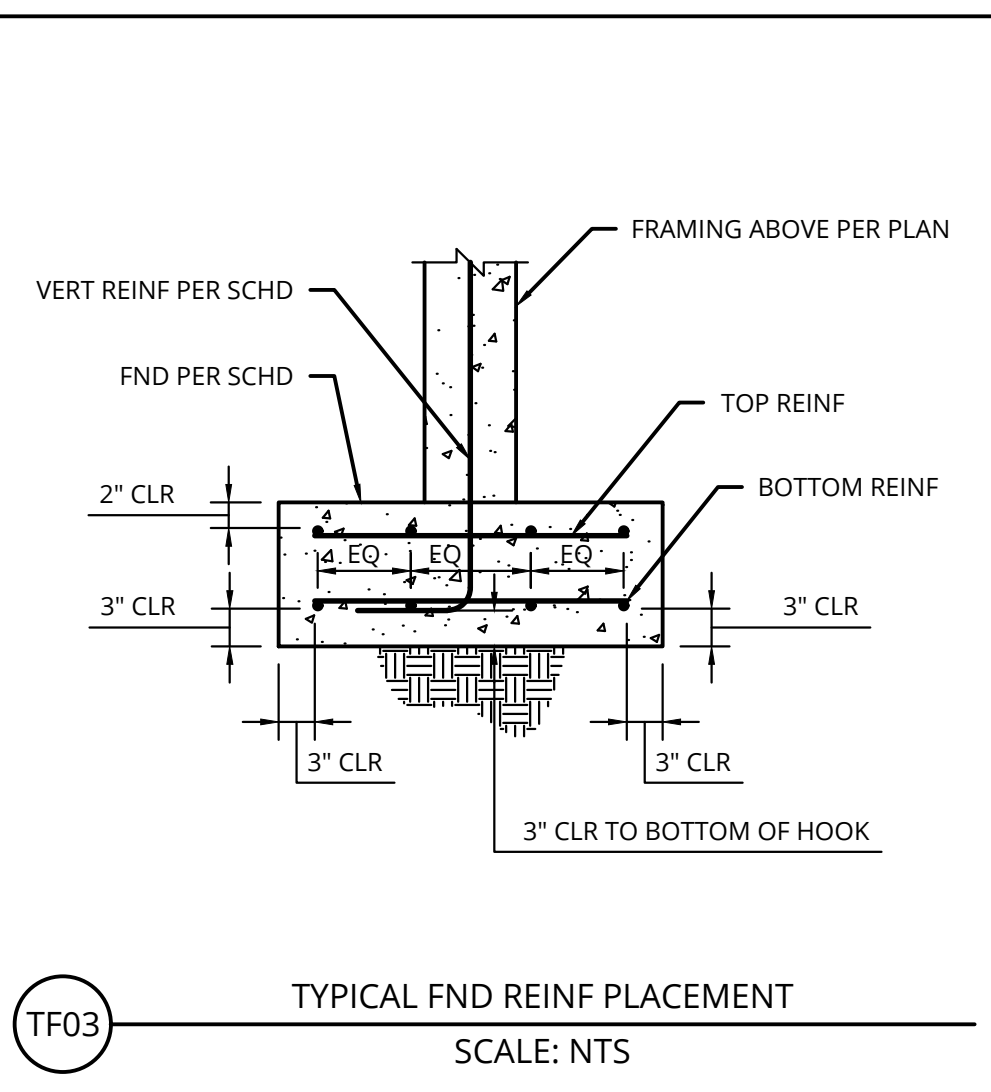
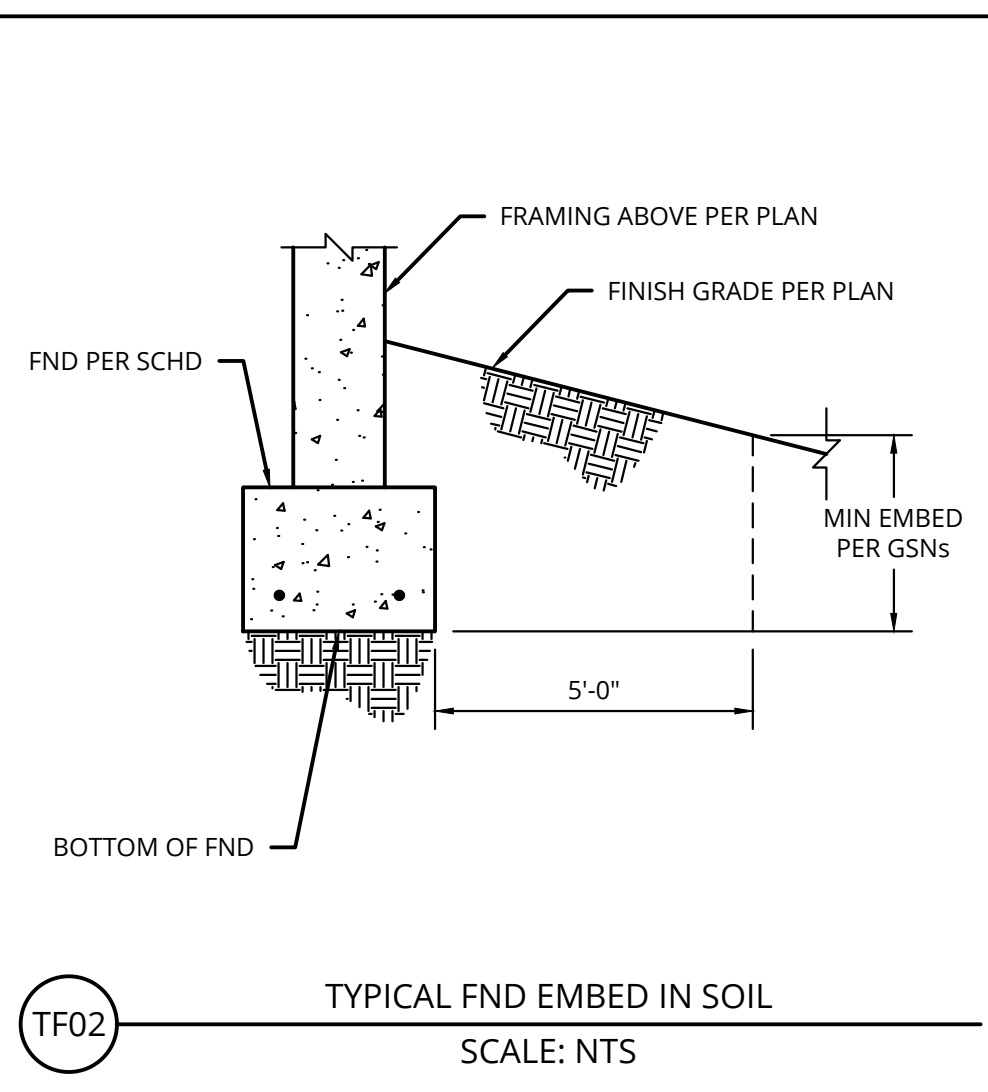
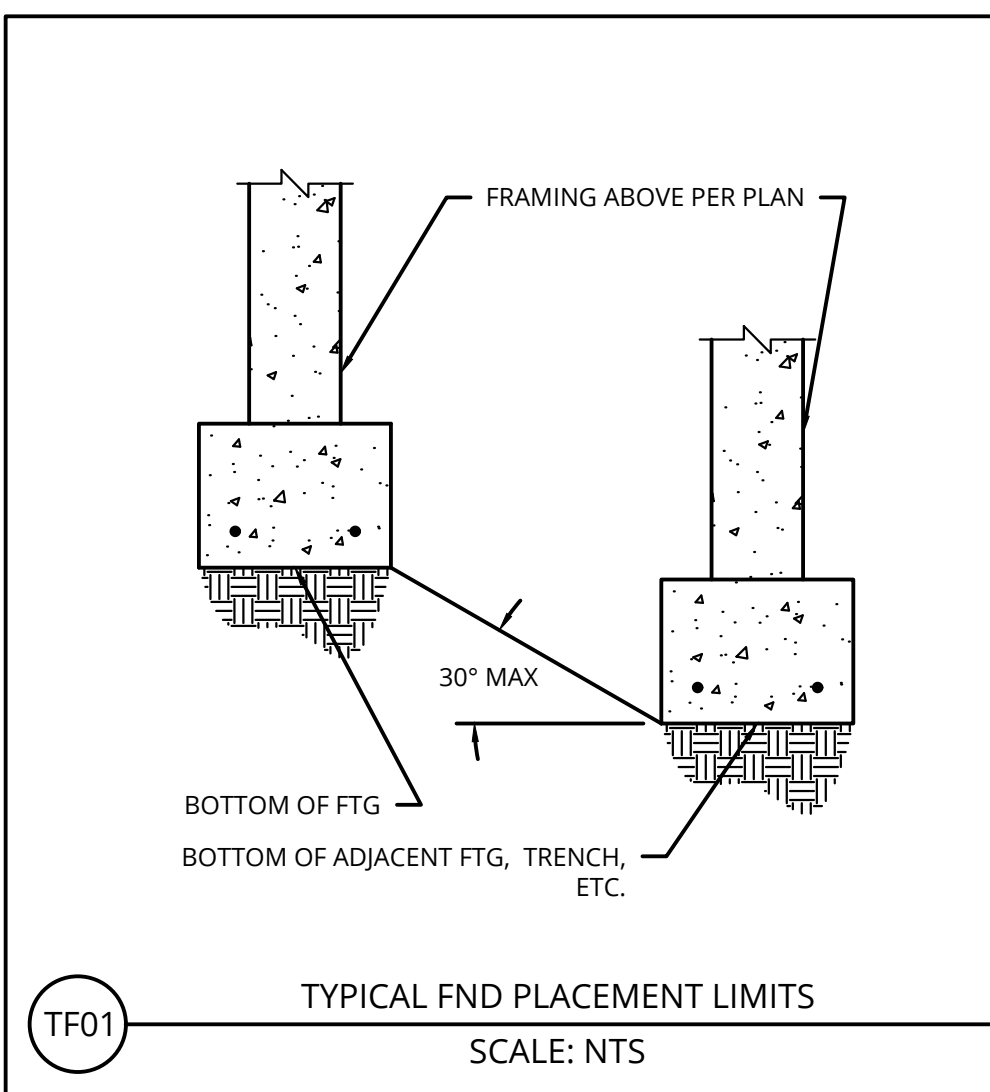
JOB: 24130
EGR: S. GIBSON
DRFT: S. GIBSON
DATE: 04/01/2025
SCALE: NONE
SHEET NAME

GSN's

SHEET NUMBER

S1

STRUCTURAL ABBREVIATIONS	
ABBR.	DEFINITION
AB	ANCHOR BOLT
AFF	ABOVE FINISHED FLOOR
APPROX	APPROXIMATELY
ARCH	ARCHITECT OR ARCHITECTURAL
BLDG	BUILDING
BLKG	BLOCKING
BRG	BEARING
CIP	CAST IN PLACE
CJ	CONTROL JOINT
CL	CENTERLINE
CLR	CLEAR
CONC	CONCRETE
CONT	CONTINUOUS
CSJ	CONSTRUCTION JOINT
CTR	CENTER
DBL	DOUBLE
DF	DOUGLAS FIR
DIA	DIAMETER
DIM	DIMENSION
DN	DOWN
DTL	DETAIL
DWG	DRAWINGS
EXTG	EXISTING
EA	EACH
EF	EACH FACE
EJ	EXPANSION JOINT
ELEV	ELEVATION
EMBED	EMBEDDED
EN	EDGE NAILING
EOR	ENGINEER OF RECORD
EQ	EQUAL
ES	EACH SIDE
EW	EACH WAY
EXP	EXPANSION
EXT	EXTERIOR
FF	FINISHED FLOOR
FND	FOUNDATION
GA	GAGE OR GAUGE
GALV	GALVANIZED
GLB	GLUED LAMINATED BEAM
GB	GYPSUM BOARD
GSN	GENERAL STRUCTURAL NOTES
HD	HOLDOWN
HAB	HEADED ANCHOR BOLT
HDG	HOT DIPPED GALVANIZED
HF	HEM FIR
HORIZ	HORIZONTAL
HSS	HOLLOW STRUCTURAL SECTION
JST	JOIST
LLH	LONG LEG HORIZONTAL
LLV	LONG LEG VERTICAL
LONG	LONGITUDINAL
LSL	LAMINATED STRAND LUMBER
LVL	LAMINATED VENEER LUMBER
MAX	MAXIMUM
MFR	MANUFACTURER
MIN	MINIMUM
MISC	MISCELLANEOUS
NIC	NOT IN CONTRACT
NTS	NOT TO SCALE
OC	ON CENTER
OD	OUTSIDE DIAMETER
OPP	OPPOSITE
OSB	ORIENTED STRAND BOARD
PERP	PERPENDICULAR
PSL	PARALLEL STRAND LUMBER
PT	POST TENSIONED
REINF	REINFORCEMENT
REQD	REQUIRED
RS	ROUGH SAWN
SCHD	SCHEDULE
SIM	SIMILAR
SLV	SHORT LEG VERTICAL
SOG	SLAB ON GRADE
STD	STANDARD
T&B	TOP AND BOTTOM
T&G	TONGUE AND GROOVE
TN	TOE NAIL
TOC	TOP OF CONCRETE
TOF	TOP OF FOOTING
TOM	TOP OF MASONRY
TOS	TOP OF STEEL
TOW	TOP OF WALL
TRANS	TRANSVERSE
TYP	TYPICAL
UNO	UNLESS NOTED OTHERWISE
VERT	VERTICAL
VIF	VERIFY IN FIELD
WWF	WELDED WIRE FABRIC

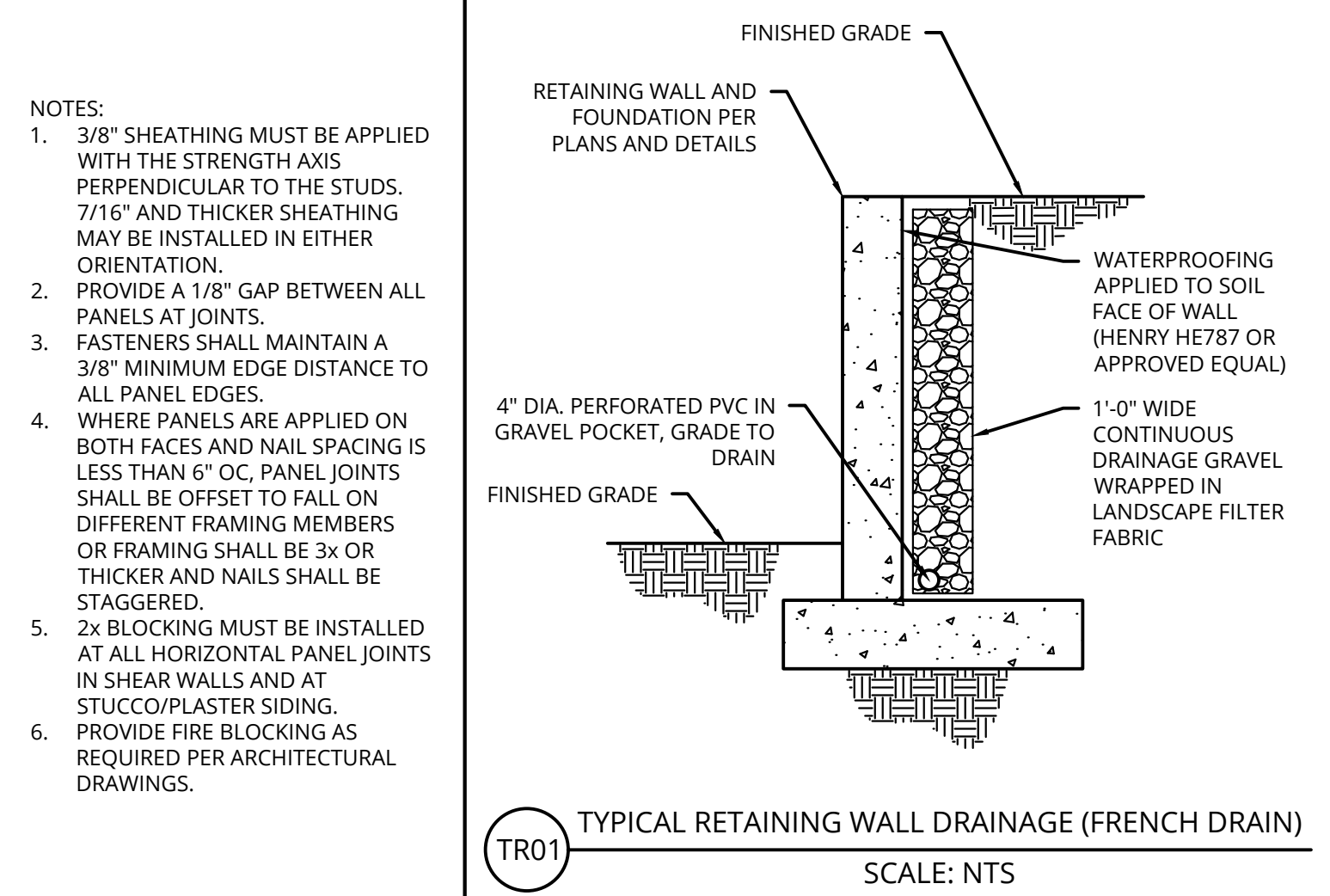
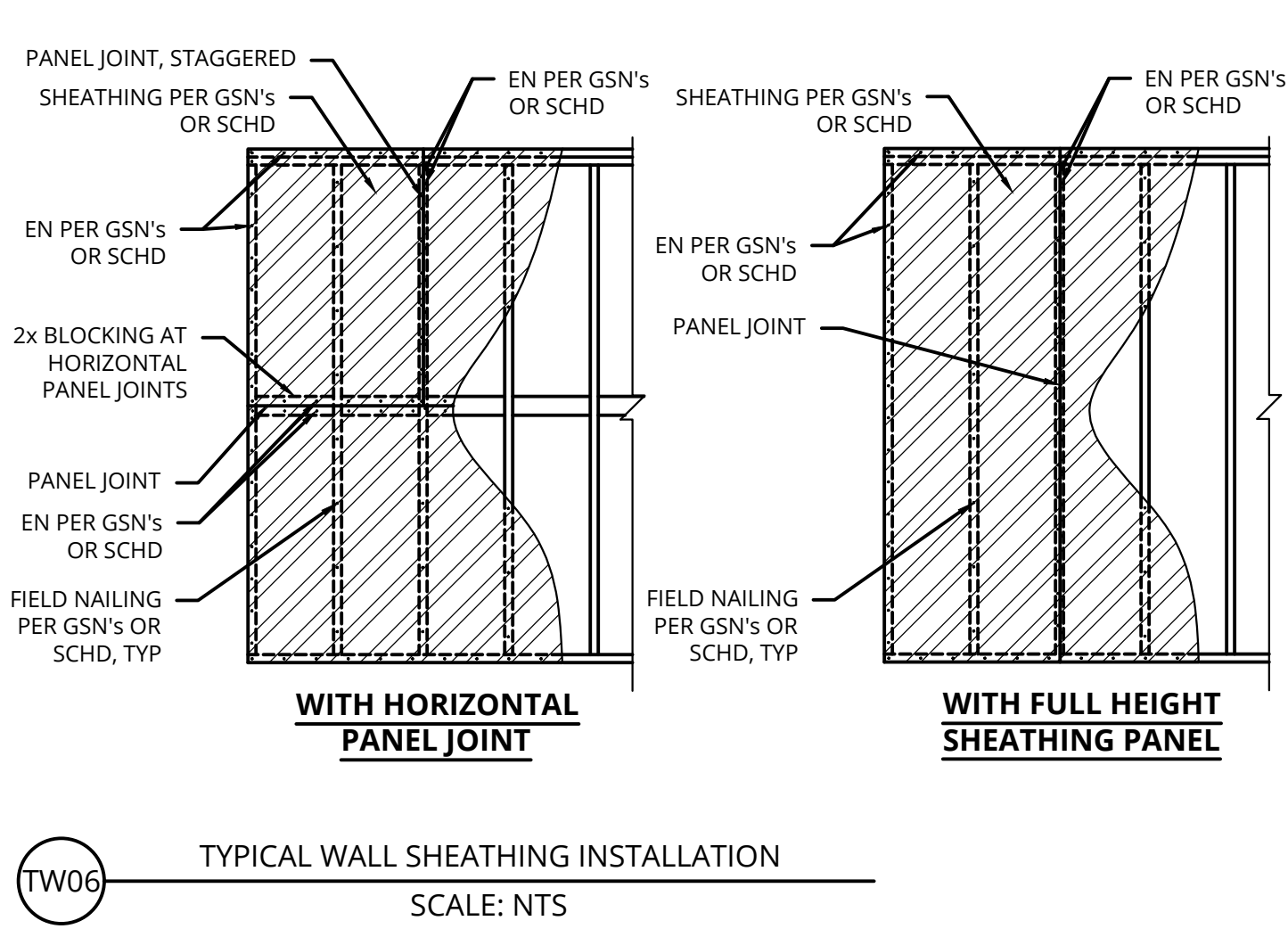
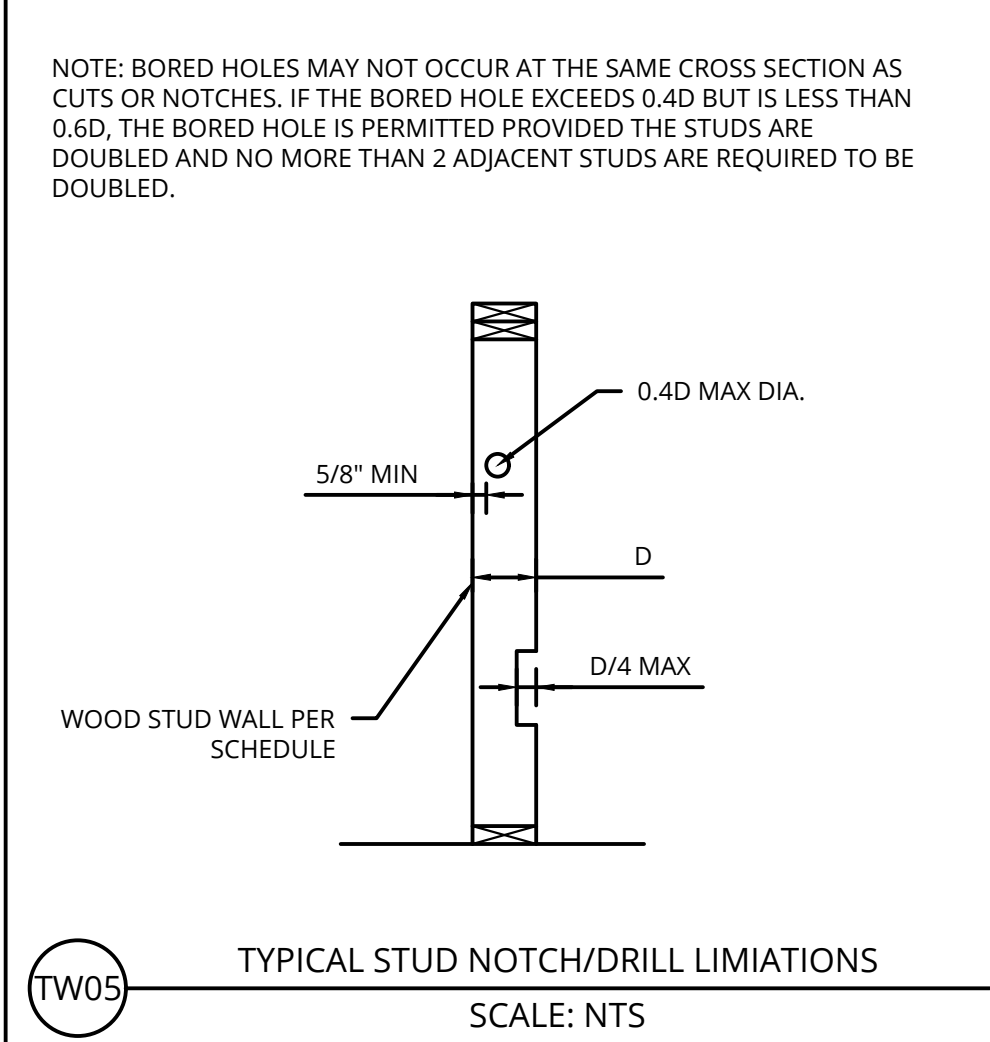
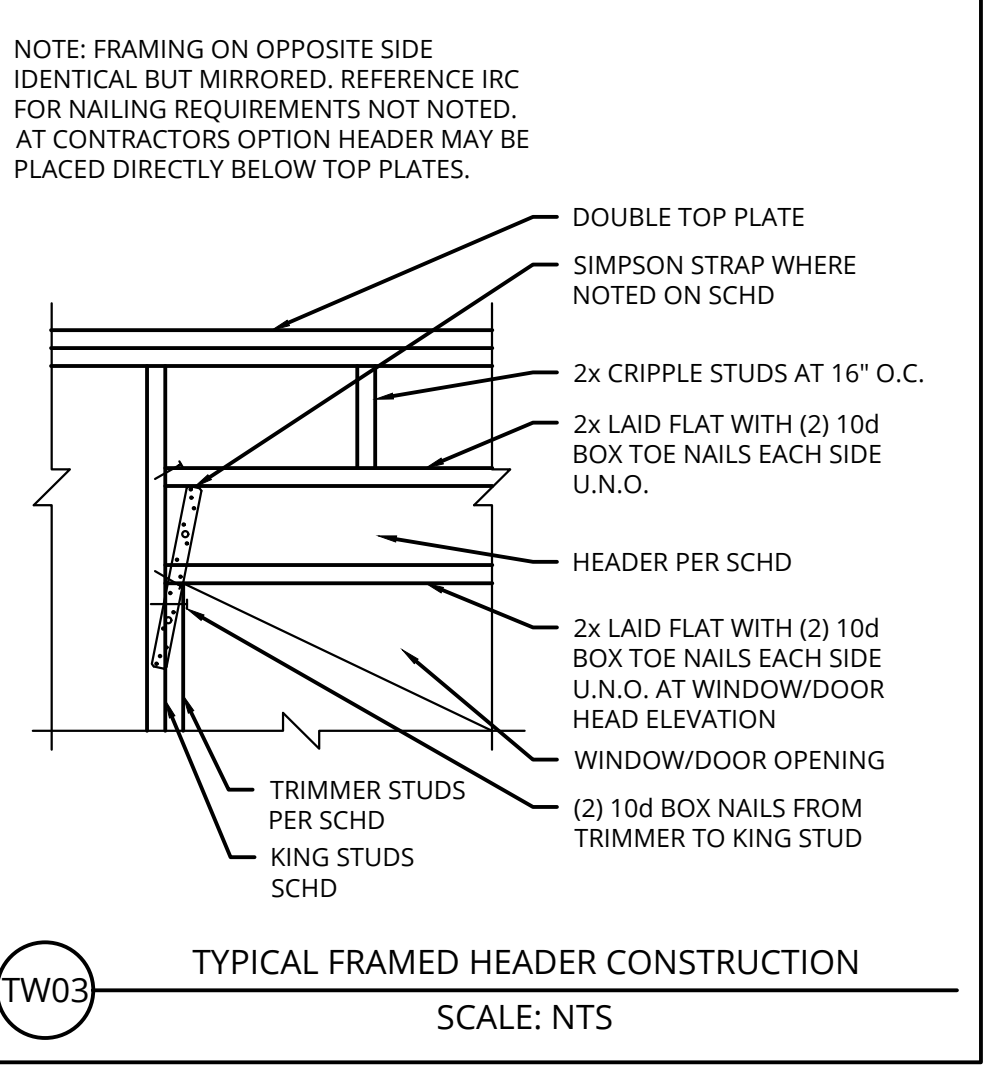
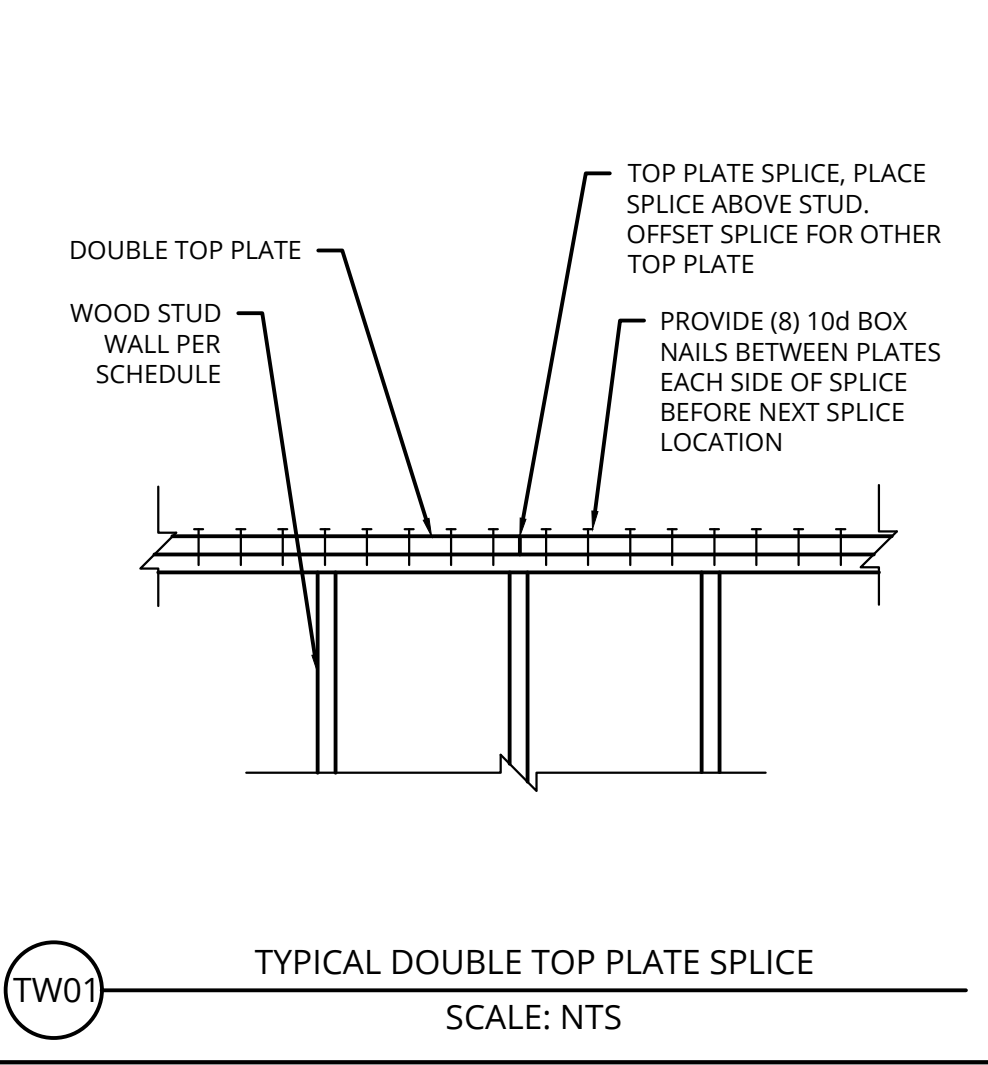
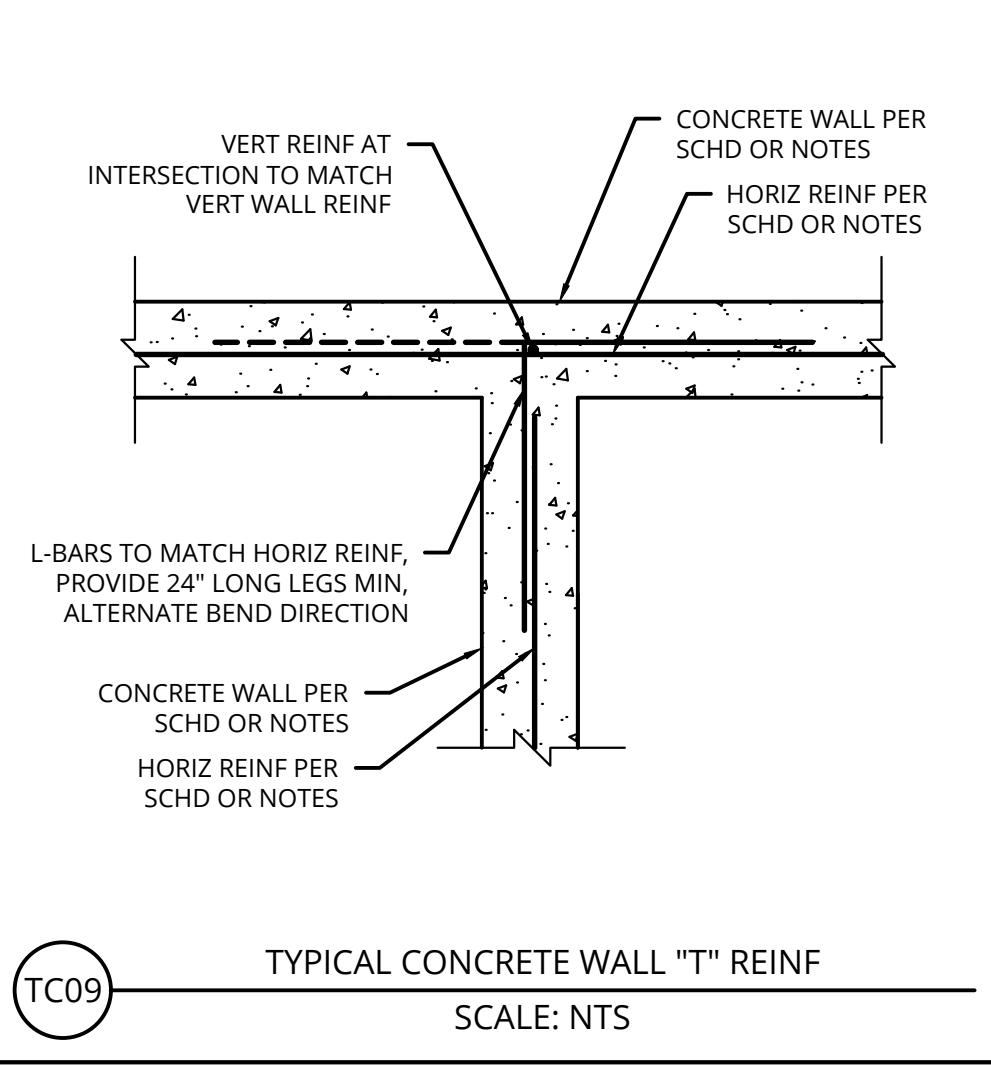
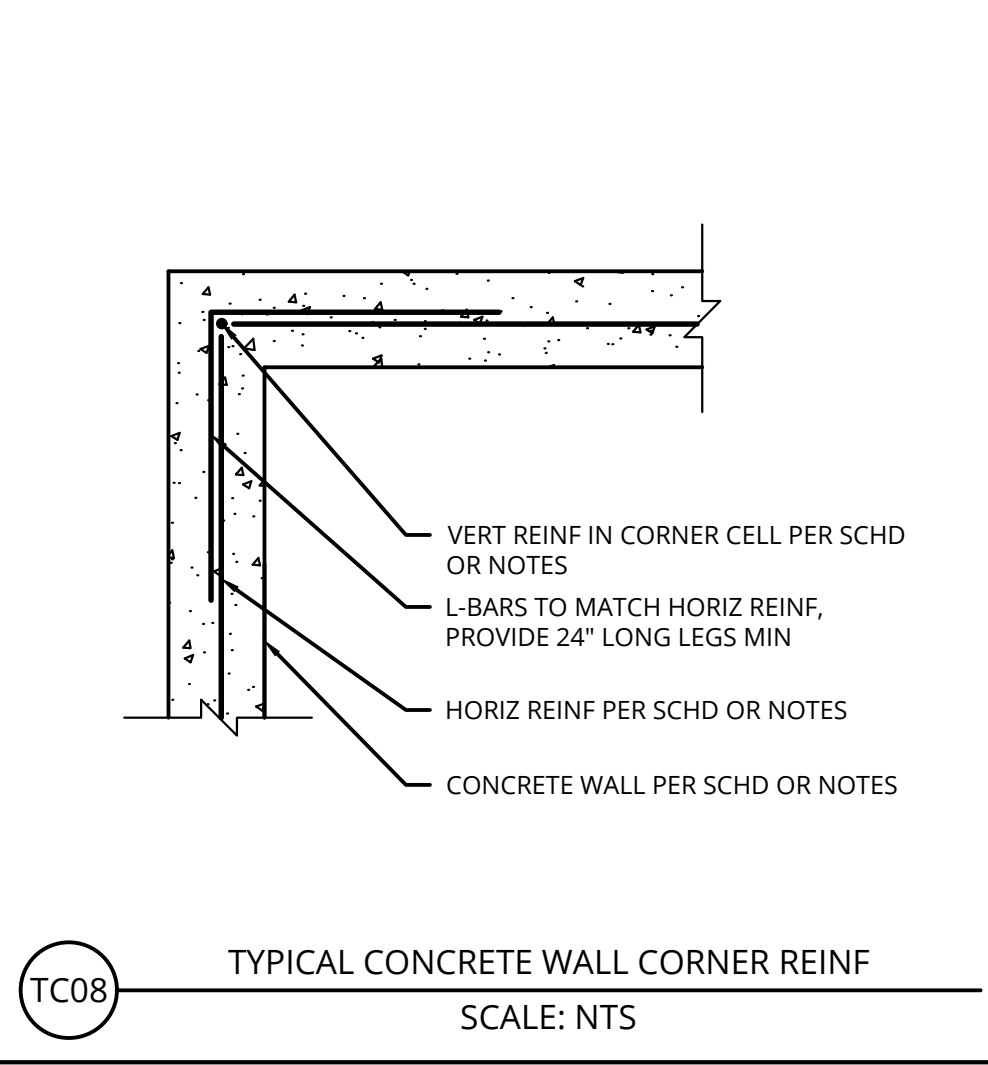
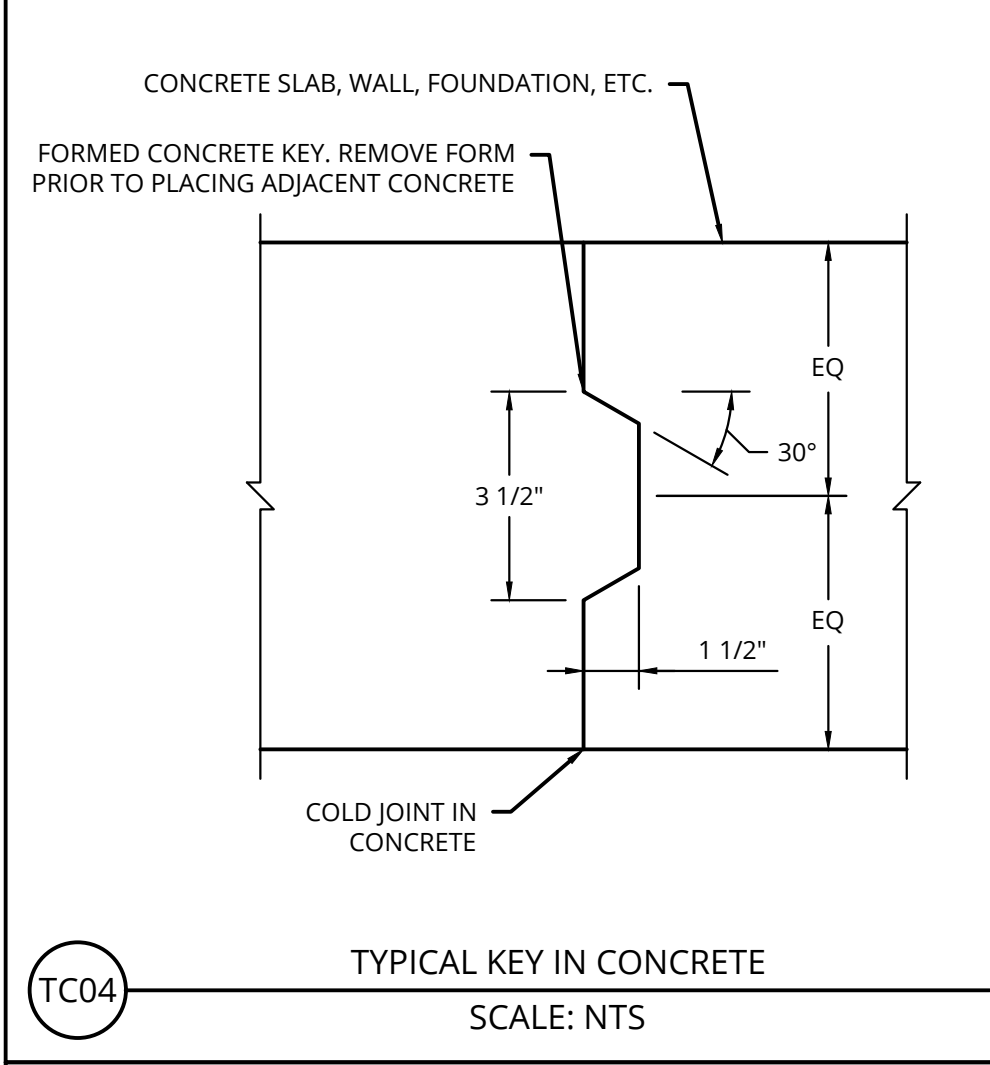


THE FOLLOWING CLASS B LAP SPLICE LENGTHS MAY BE USED FOR PLAIN REINFORCEMENT IN NORMAL WEIGHT CONCRETE WITH LESS THAN 12" OF CONCRETE CAST BELOW THE BAR. 1d_b CONCRETE COVER AND 2d_b SPACING MIN.

BAR SIZE	CONCRETE STRENGTH				
	2500 PSI	3000 PSI	4000 PSI	4500 PSI	5000 PSI
#3	24	22	19	18	17
#4	32	29	25	24	23
#5	39	36	31	30	28
#6	47	43	37	35	34
#7	69	63	54	51	49
#8	78	72	62	59	56
#9	88	81	70	66	63
#10	100	91	79	74	71
#11	110	101	87	82	78
#14	133	121	105	99	94
#18	177	161	140	132	125

- WHERE CLASS A SPLICES ARE PERMITTED PER THE DRAWINGS, DIVIDE THE LAP LENGTHS BY 1.3
- WHERE GREATER THAN 12" OF FRESH CONCRETE IS CAST BELOW THE REINFORCEMENT, MULTIPLY THE LAP LENGTHS BY 1.3
- WHERE EPOXY COATED REINFORCEMENT IS USED, MULTIPLY THE LAP LENGTHS BY 1.2
- WHERE LIGHTWEIGHT CONCRETE IS USED, MULTIPLY THE LAP LENGTHS BY 1.33

TC03 REINF BAR TENSION LAP SPLICE LENGTHS
SCALE: NTS



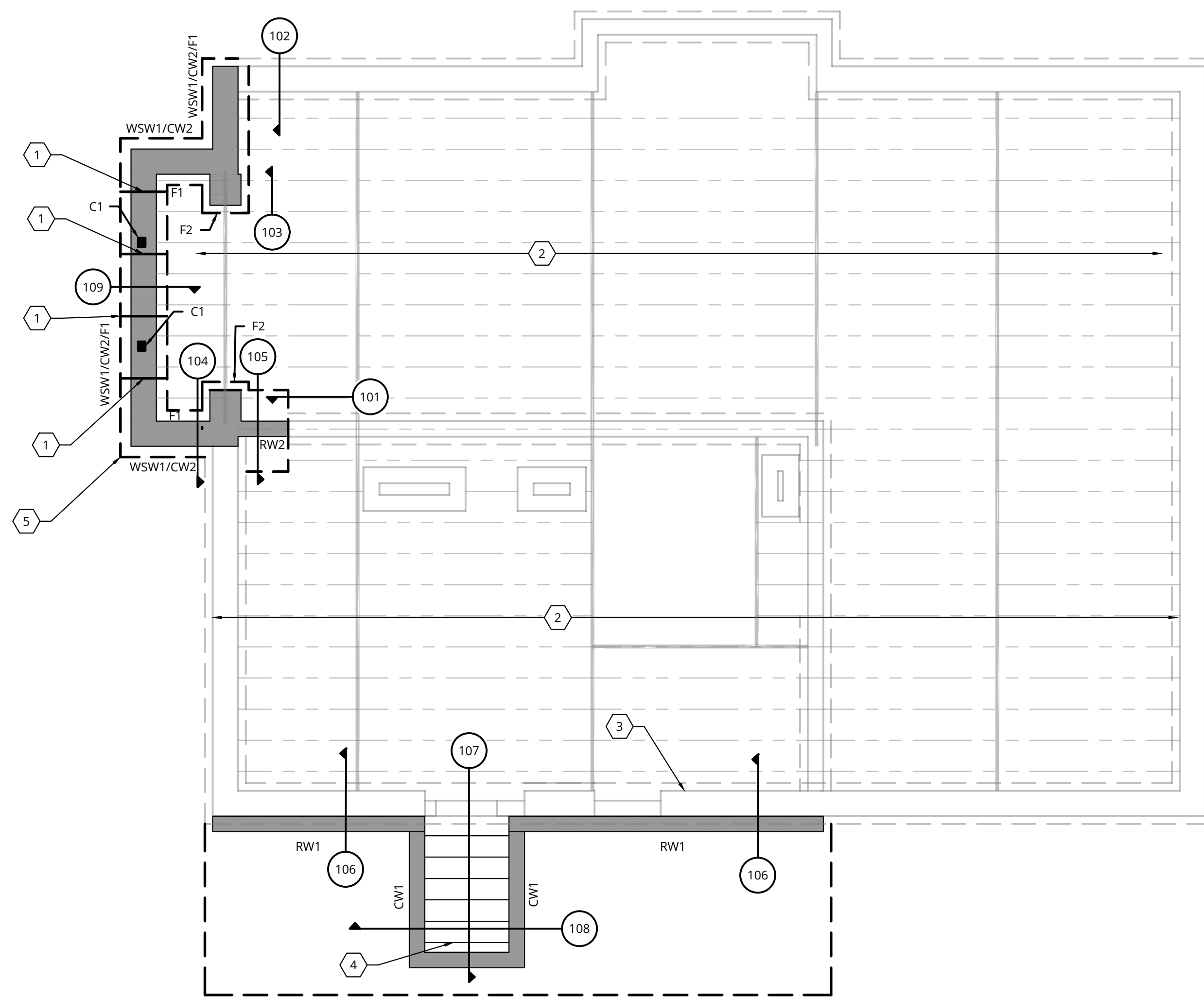
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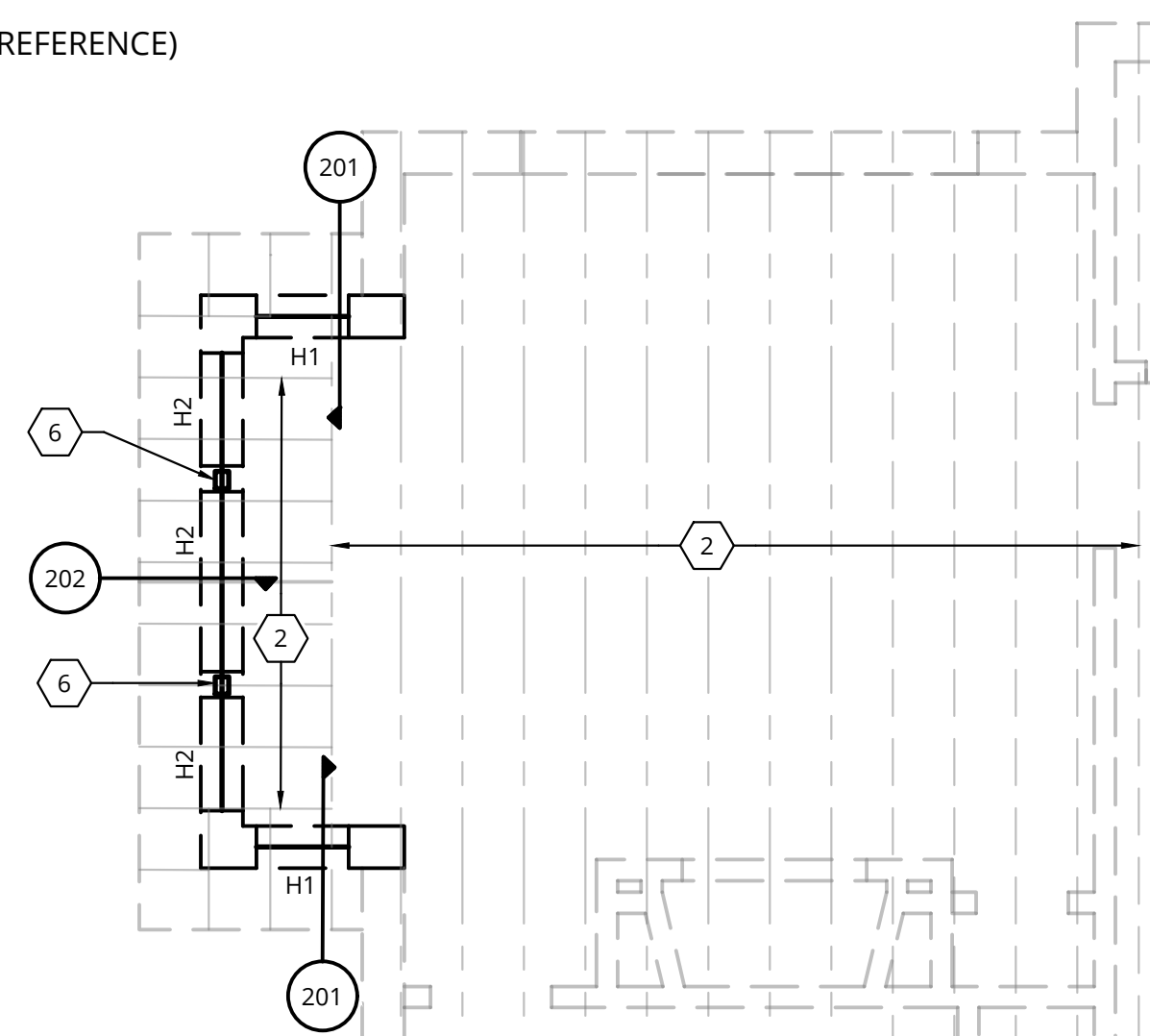
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 FLAGSTAFF, AZ 86001

REV.	DATE	DESCRIPTION

JOB: 24130
 EGR: S. GIBSON
 DRFT: S. GIBSON
 DATE: 04/01/2025
 SCALE: AS NOTED
 SHEET NAME
 TYPICAL DETAILS
 SHEET NUMBER
S2



FOUNDATION PLAN
SCALE: 1/4"=1'-0"
(REFERENCE)



**PARTIAL LOW ROOF/
SECOND FLOOR FRAMING PLAN**
SCALE: 1/4"=1'-0"
(REFERENCE)

PLAN NOTES	
MARK	DESCRIPTION
1	STEP FOOTING PER TYPICAL DETAIL
2	EXISTING FRAMING TO REMAIN
3	AFTER NEW RETAINING WALL PER DETAIL 106 IS ADDED AND CURED, REPAIR DETERIORATED SECTION OF EXISTING WALL WITH SIKA REPAIR-223. PREPARE SURFACE AND INSTALL PER MANUFACTURER. AREAS TO BE REPAIRED MUST BE CLEAN, SOUND, AND FREE OF CONTAMINANTS. ALL LOOSE AND DETERIORATED CONCRETE SHALL BE REMOVED BY MECHANICAL MEANS. MECHANICALLY PREPARE CONCRETE SUBSTRATE TO OBTAIN A SURFACE PROFILE OF ± 1/4" (CSP 6 OR GREATER AS PER ICRI GUIDELINES) WITH A NEW EXPOSED AGGREGATE SURFACE. AREA TO BE PATCHED SHALL NOT BE LESS THAN 1/4" IN DEPTH.
4	NEW BASEMENT ENTRANCE TO REPLACE EXISTING. REFER TO ARCHITECTURAL DRAWINGS FOR MORE INFORMATION. DO NOT REMOVE EXISTING BASEMENT ENTRANCE UNTIL AFTER RW1 HAS BEEN CONSTRUCTED AND CURED.
5	BOTTOM OF FND ELEVATION AT BOTTOM OF EXISTING BASEMENT FND ELEVATION, STEP FOOTING UP PER TYPICAL DETAIL WHERE INDICATED ON PLAN.
6	HEADER CONTINUOUS OVER SUPPORT, PROVIDE (2) SIMPSON H2.5A FROM HEADER TO COLUMN.

HEADER SCHEDULE (H)				
MARK	SIZE	TRIMMER STUD(S)	KING STUD(S)	NOTES
H1	(2) 2x8 DF #2	(2) 2x4 DF #2	(2) 2x4 DF #2	

CONCRETE WALL SCHEDULE (CW)				
MARK	THICKNESS	VERTICAL REINFORCING	HORIZONTAL REINFORCING	NOTES
CW1	8"	#5 AT 12" OC, CENTERED	#5 AT 12" OC	
CW2	15"	#5 AT 18" OC, CENTERED, EACH FACE	#5 AT 18" OC, EACH FACE	1

NOTES:
1. WALL THICKNESS TO MATCH EXISTING. NOTIFY EOR IF EXISTING WALL THICKNESS IS DIFFERENT THAN THICKNESS IN SCHEDULE

WOOD STUD WALL SCHEDULE (WSW)					
MARK	SIZE	SPACING	TYPE	SILL ATTACHMENT	NOTES
WSW1	2x4	8" OC	DF #2	1/2" DIA AB AT 48" OC MAX	

COLUMN SCHEDULE (C)			
MARK	SIZE	BASE CONNECTIONS	NOTES
C1	(3) 2x4 DF #2	(2) SIMPSON H3	

FOUNDATION SCHEDULE (F)				
MARK	SIZE	THICKNESS	REINFORCEMENT	NOTES
F1	2'-0"x2'-0"	10"	(3) #4 EA WAY	
F2	2'-0" x CONT	10"	(3) #4 CONT.	

RETAINING WALL SCHEDULE (RW)														
MARK	DETAIL	"T"	TOE DIMENSION	HEEL DIMENSION	LONGITUDINAL REINFORCEMENT	TRANSVERSE REINFORCEMENT	HEEL REINFORCEMENT	"H"	"R"	"W"	"D"	VERTICAL REINFORCEMENT	HORIZONTAL REINFORCEMENT	NOTES
RW1	106	18"	0'-0"	7'-0"	(6) #5 BARS TOP AND BOTTOM	#5 AT 12" OC	#5 AT 18" OC	9'-6"	6'-6"	8"	4"	#5 AT 12" OC	#5 AT 18" OC	
RW2	105	18"	1'-6"	2'-0"	(5) #5 BARS	#5 AT 12" OC	N/A	8'-0"	6'-0"	8"	4"	#5 AT 12" OC	#5 AT 18" OC	

NOTES:
 • SPECIAL INSPECTIONS REQUIRED FOR ALL RETAINING WALLS.
 • GRADE 60 REINFORCEMENT REQUIRED FOR ALL RETAINING WALL REINFORCEMENT.
 • ALL RETAINING WALLS TO BE BACKFILLED WITH GRANULAR MATERIAL

SHORING
 DESIGN AND LOCATION OF REQUIRED SHORING OF EXISTING FRAMING BEFORE OR DURING CONSTRUCTION WAS NOT PROVIDED BY SIRIUS STRUCTURES. ALL REQUIRED SHORING OF THE NEW AND EXISTING FRAMING IS THE RESPONSIBILITY OF THE CONTRACTOR.

DIMENSIONS NOTE
 REFER TO ARCHITECTURAL PLANS FOR DIMENSIONS NOT NOTED. VERIFY ALL NOTED DIMENSIONS WITH ARCHITECTURAL PLANS PRIOR TO CONCRETE POUR. NOTIFY ENGINEER OF RECORD AND ARCHITECT OF RECORD OF ANY DISCREPANCIES.

LIMITED SCOPE
 A FULL REVIEW AND DESIGN OF THIS STRUCTURE FOR COMPLIANCE WITH THE 2018 IBC HAS NOT BEEN PERFORMED UNDER THIS SCOPE. THIS SCOPE IS LIMITED TO A DESIGN OF THE ELEMENTS THAT ARE EXPLICITLY LISTED IN THE STRUCTURAL CALCULATION PACKET. ALL OTHER ELEMENTS OF THIS STRUCTURE ARE THE RESPONSIBILITY OF OTHERS. THE CONTRACTOR SHALL COORDINATE ALL REQUIRED DETAILS WITH THE ARCHITECTURAL DRAWINGS AND NOTIFY THE ENGINEER OF RECORD OF ANY DISCREPANCIES.

EXISTING CONDITIONS
 EXISTING FRAMING AND/OR FOUNDATION MEMBERS ARE NOT ALWAYS VISIBLE AT THE TIME OF THE DESIGN. THESE PLANS INCLUDE REASONABLE ASSUMPTIONS ABOUT THE SIZE, SPACING, AND ORIENTATION OF EXISTING STRUCTURAL MEMBERS. FIELD VERIFY THE EXISTING FOUNDATION AND FRAMING AND NOTIFY ARCHITECT AND ENGINEER OF ANY DISCREPANCY OBSERVED BETWEEN THE EXISTING CONDITIONS AND DESIGN ASSUMPTIONS SHOWN ON THE PLANS. VISUALLY INSPECT ALL EXISTING JOISTS, RAFTERS, BEAMS WALLS, AND OTHER STRUCTURAL ELEMENTS EXPOSED DURING DEMOLITION AND CONSTRUCTION. NOTIFY ARCHITECT AND ENGINEER OF ANY UNUSUAL PENETRATIONS, NOTCHES, SPLITS, ROT, OR OTHER DAMAGE.

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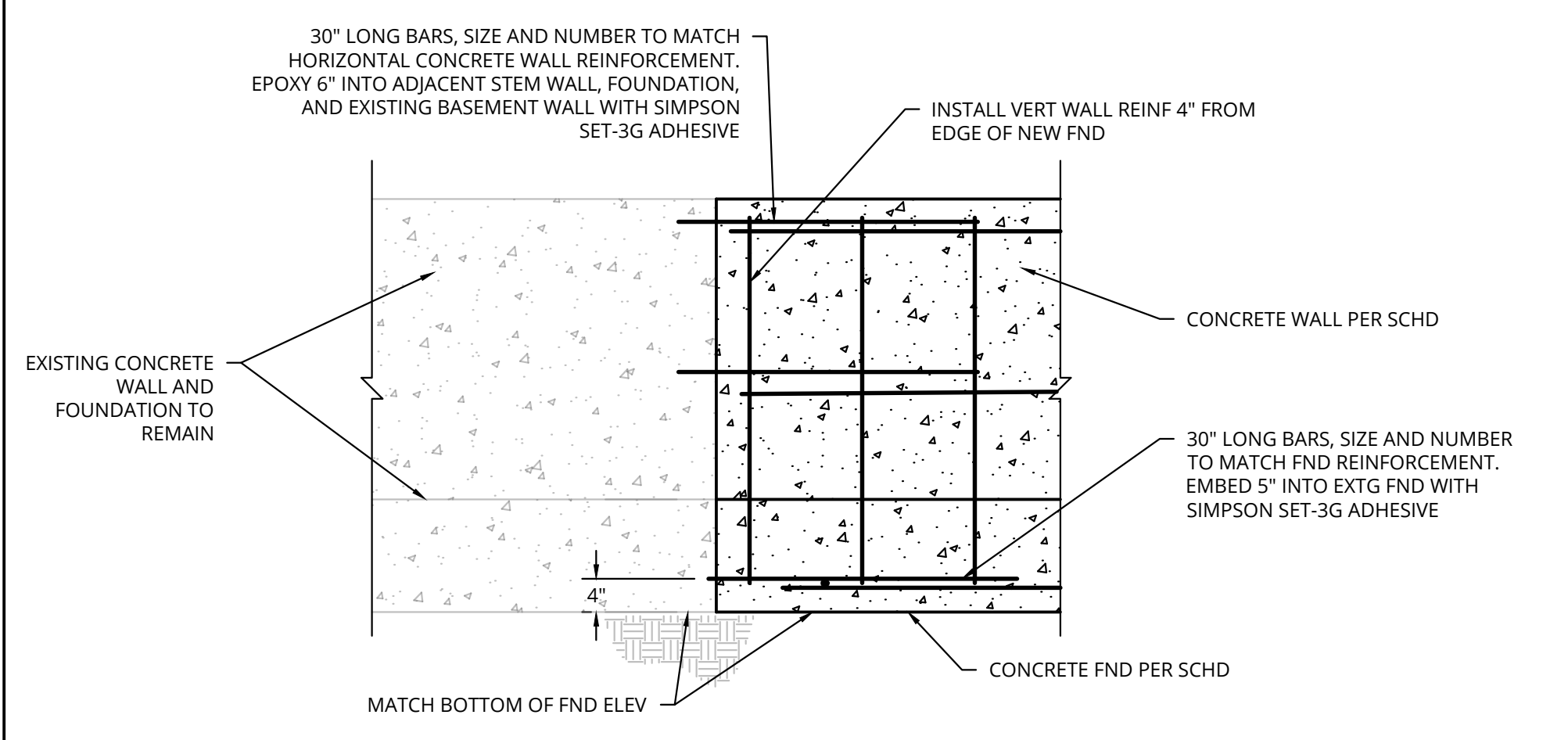
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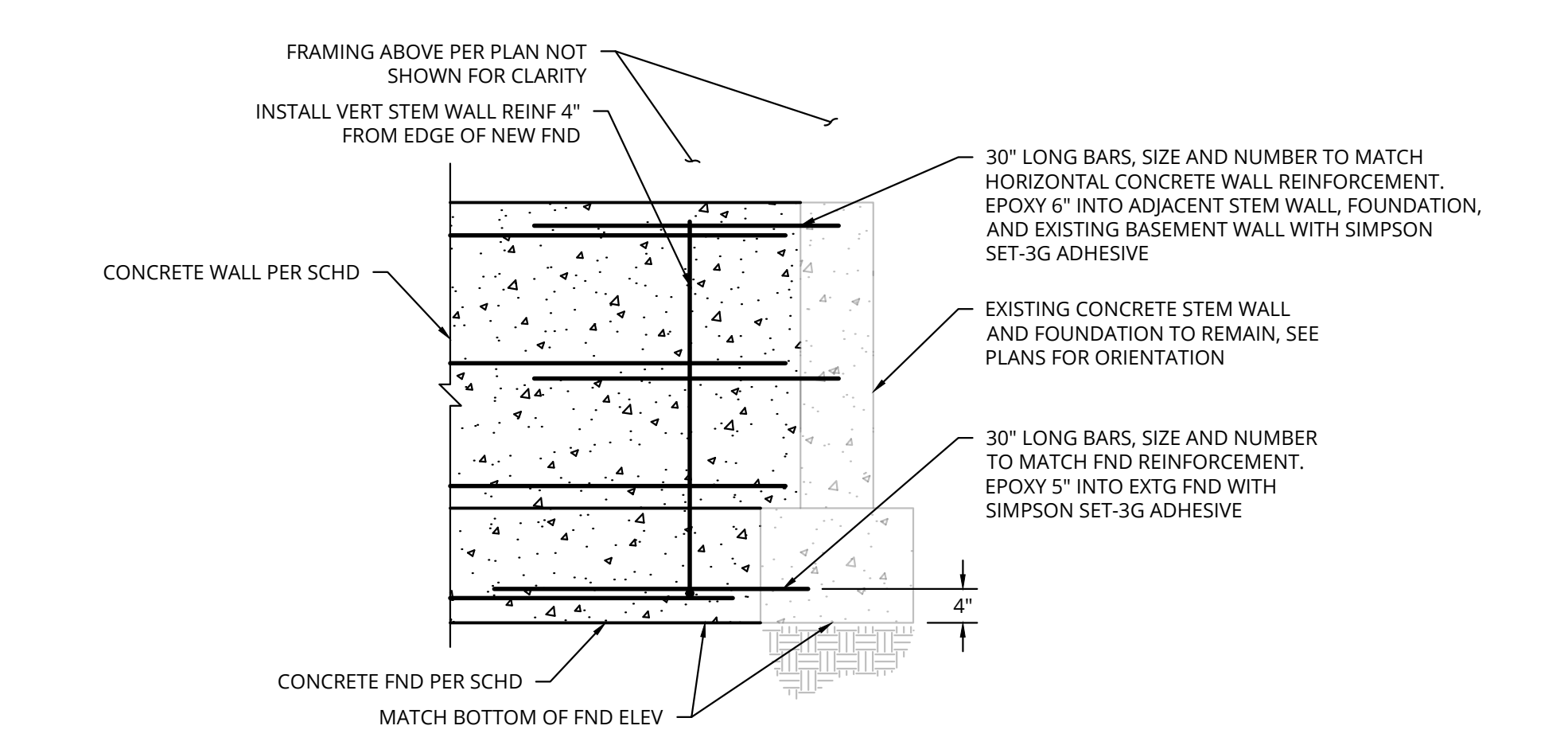
REV.	DATE	DESCRIPTION

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 EGR: S. GIBSON
 DRFT: S. GIBSON
 DATE: 04/01/2025
 SCALE: NONE

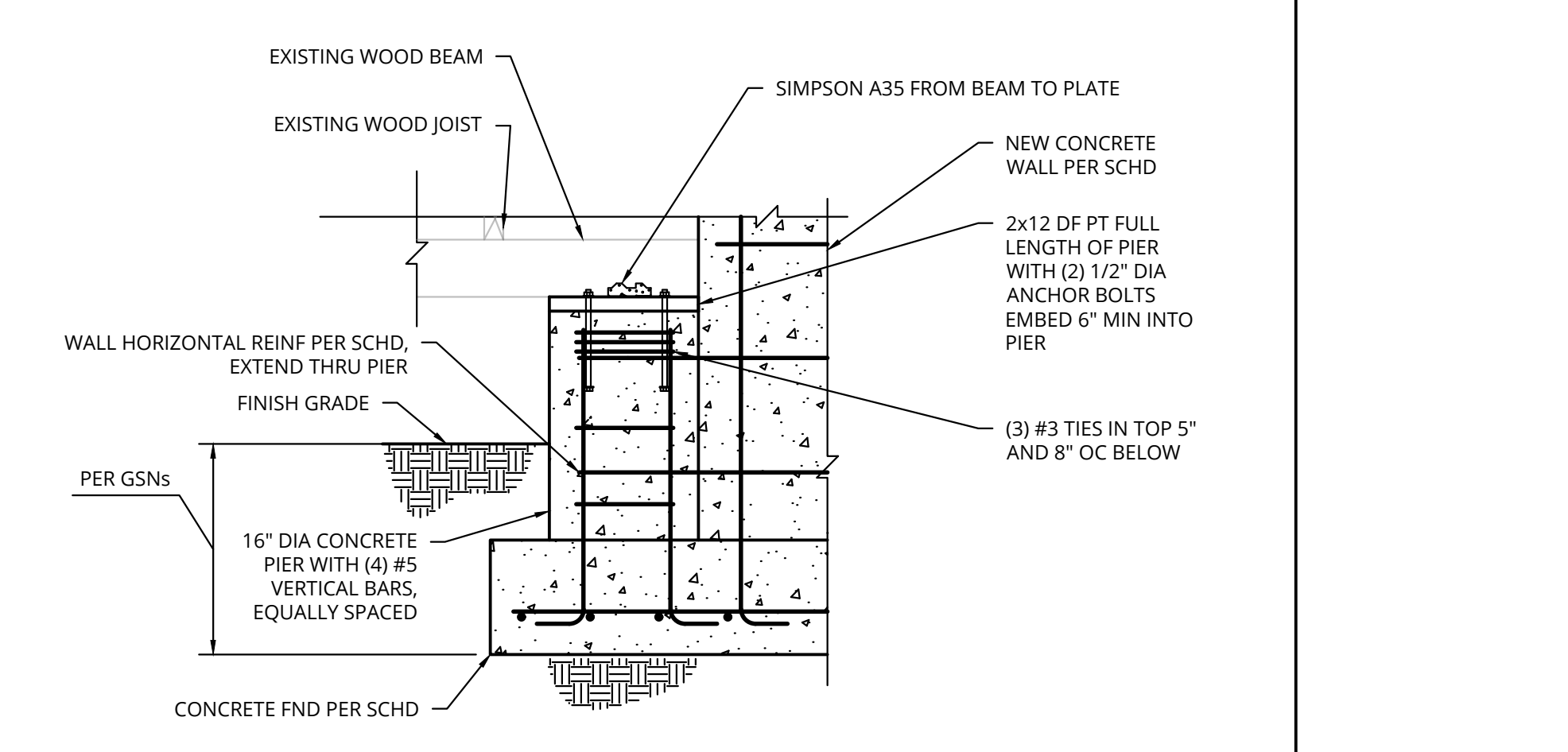
SHEET NAME
PLANS
SHEET NUMBER
S3



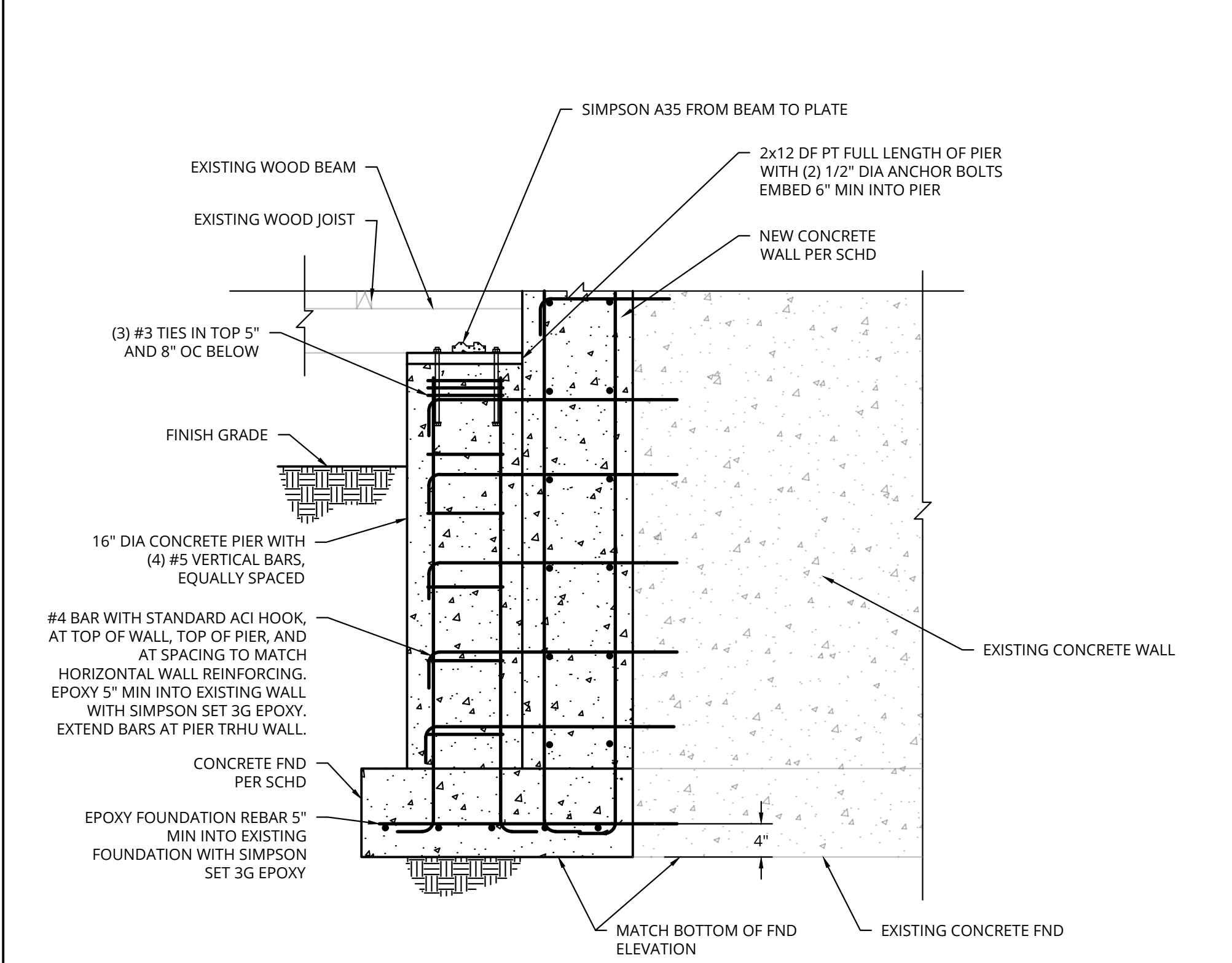
101 NEW FND AT EXISTING FND
SCALE: 3/4"=1'-0"



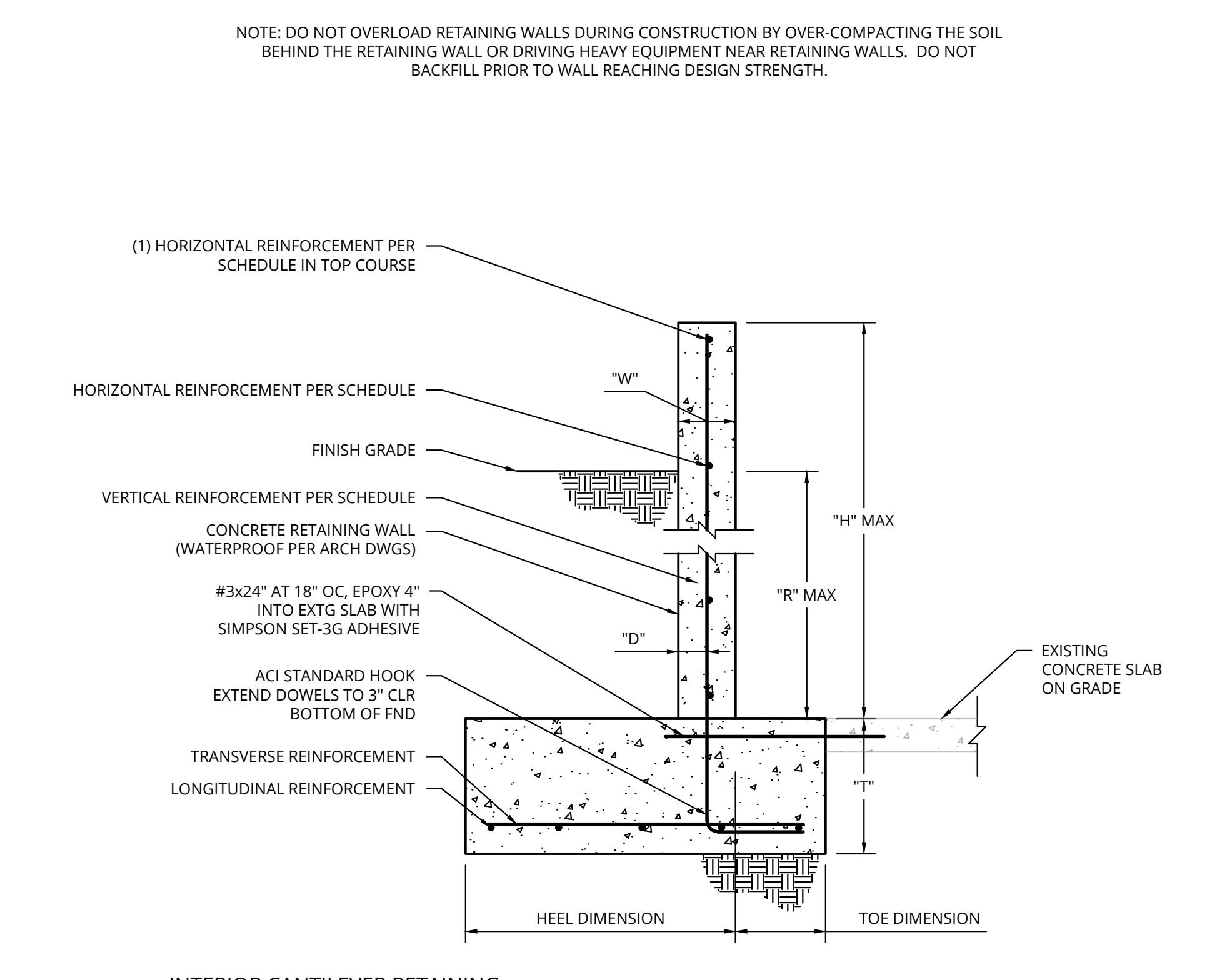
102 NEW FND AT EXISTING FND
SCALE: 3/4"=1'-0"



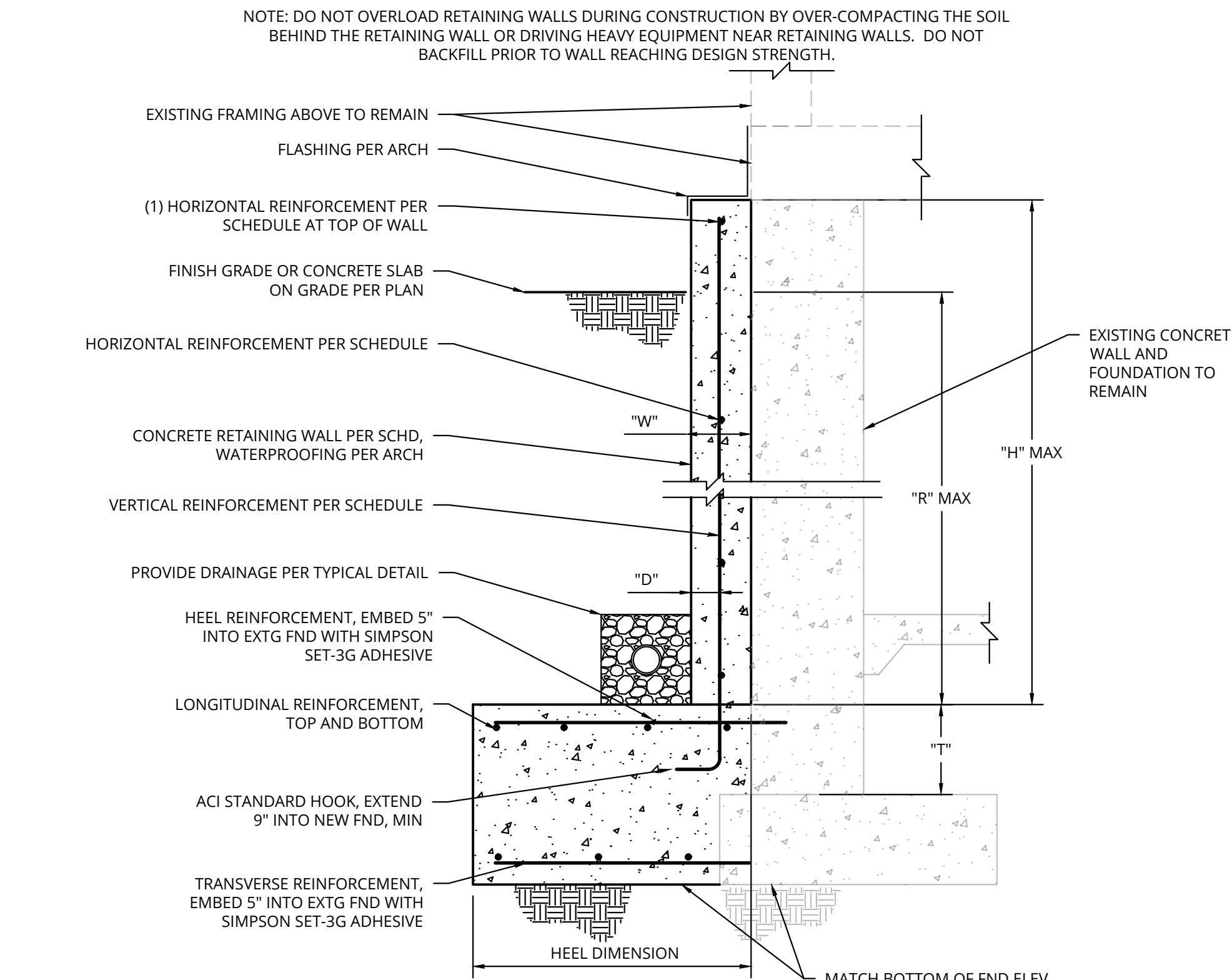
103 WOOD BEAM AT CONCRETE PIER
SCALE: 3/4"=1'-0"



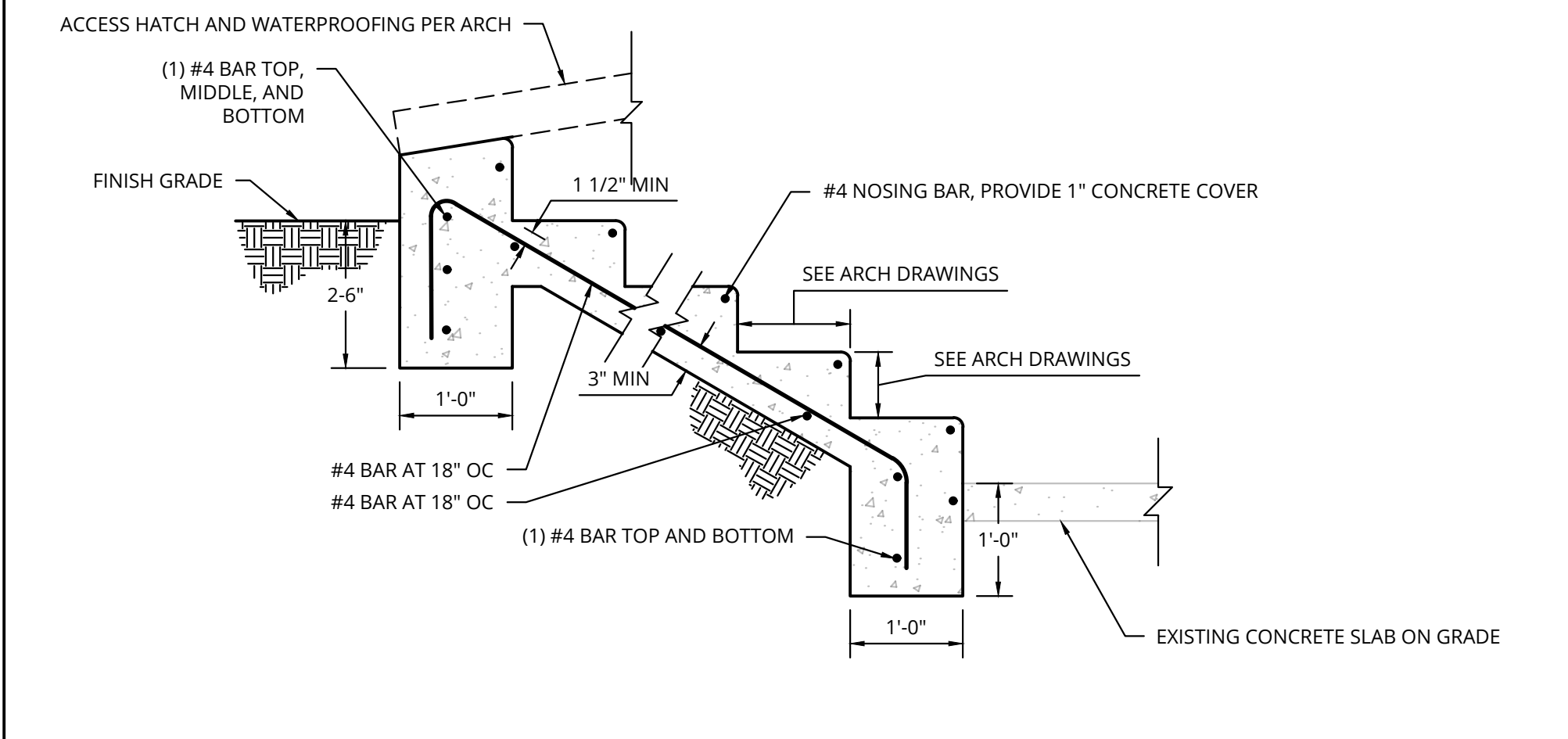
104 WOOD BEAM AT CONCRETE PIER
SCALE: 3/4"=1'-0"



105 INTERIOR CANTILEVER RETAINING WALL WITH LOW SLAB
SCALE: 3/4"=1'-0"



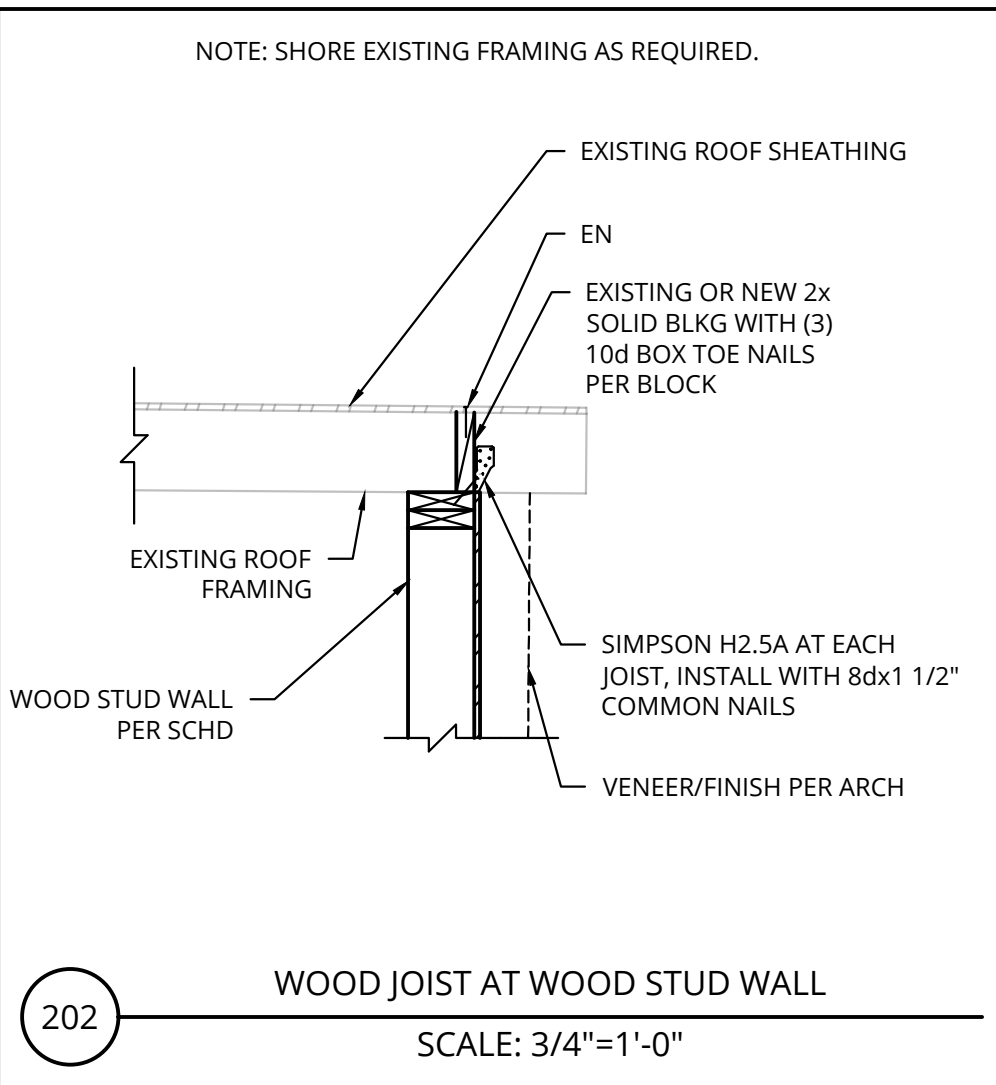
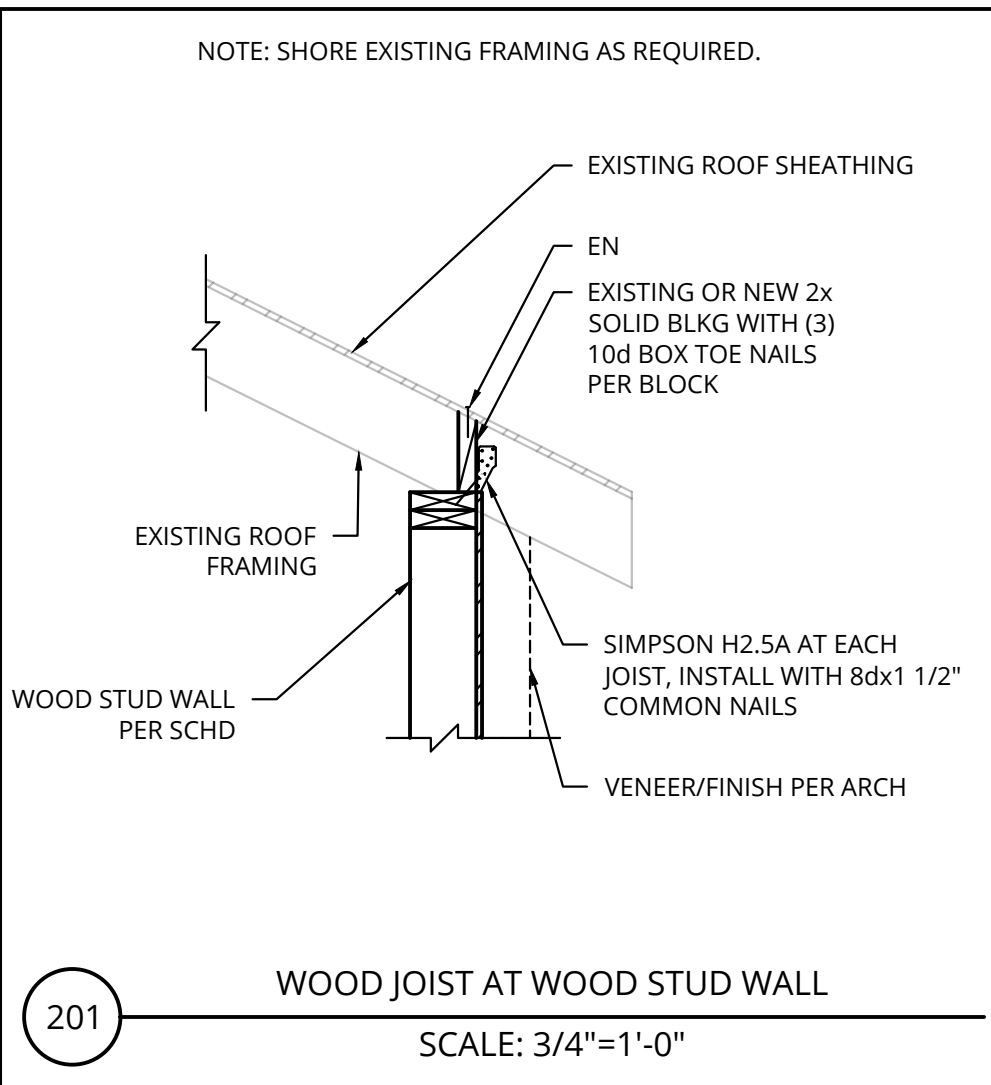
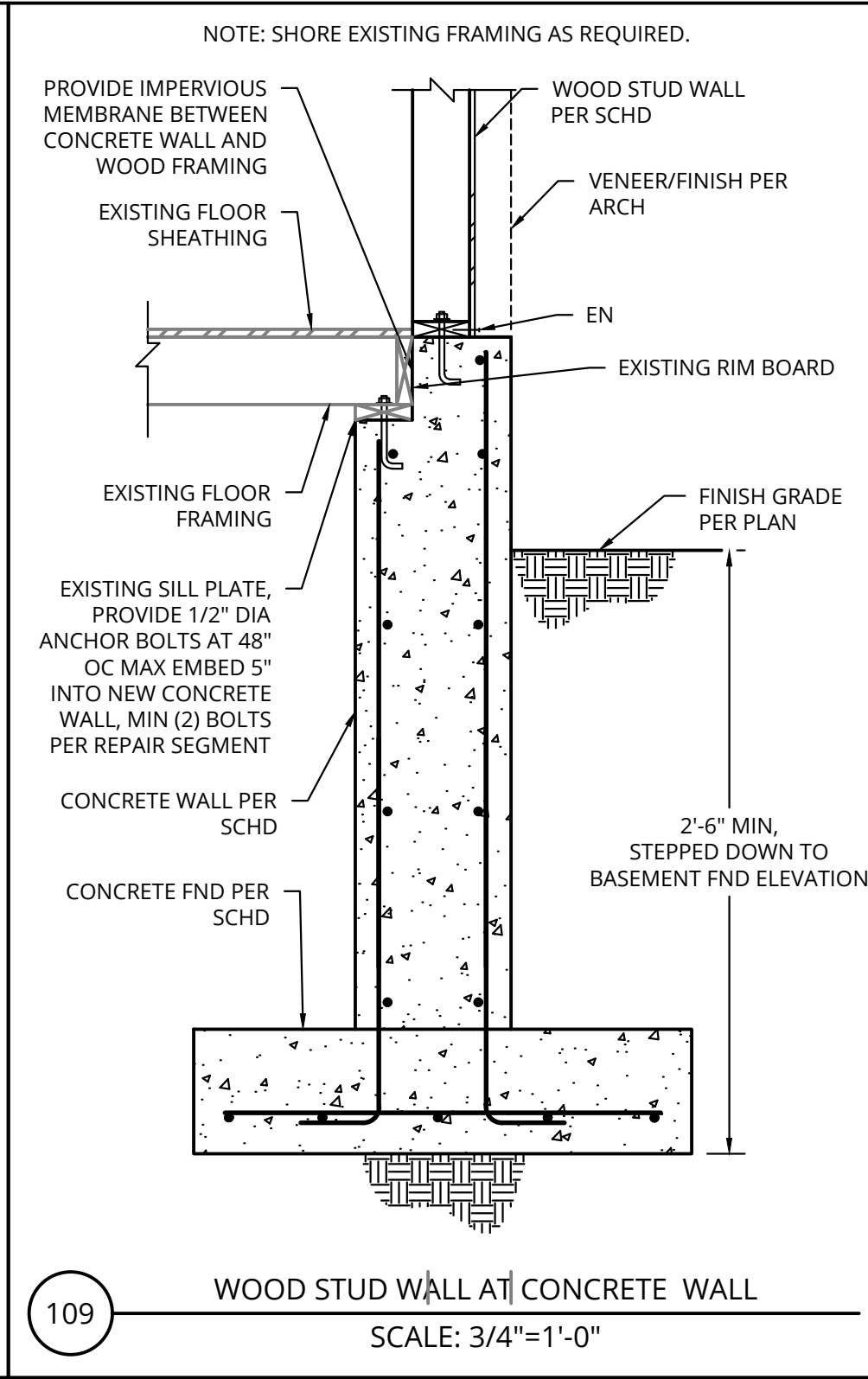
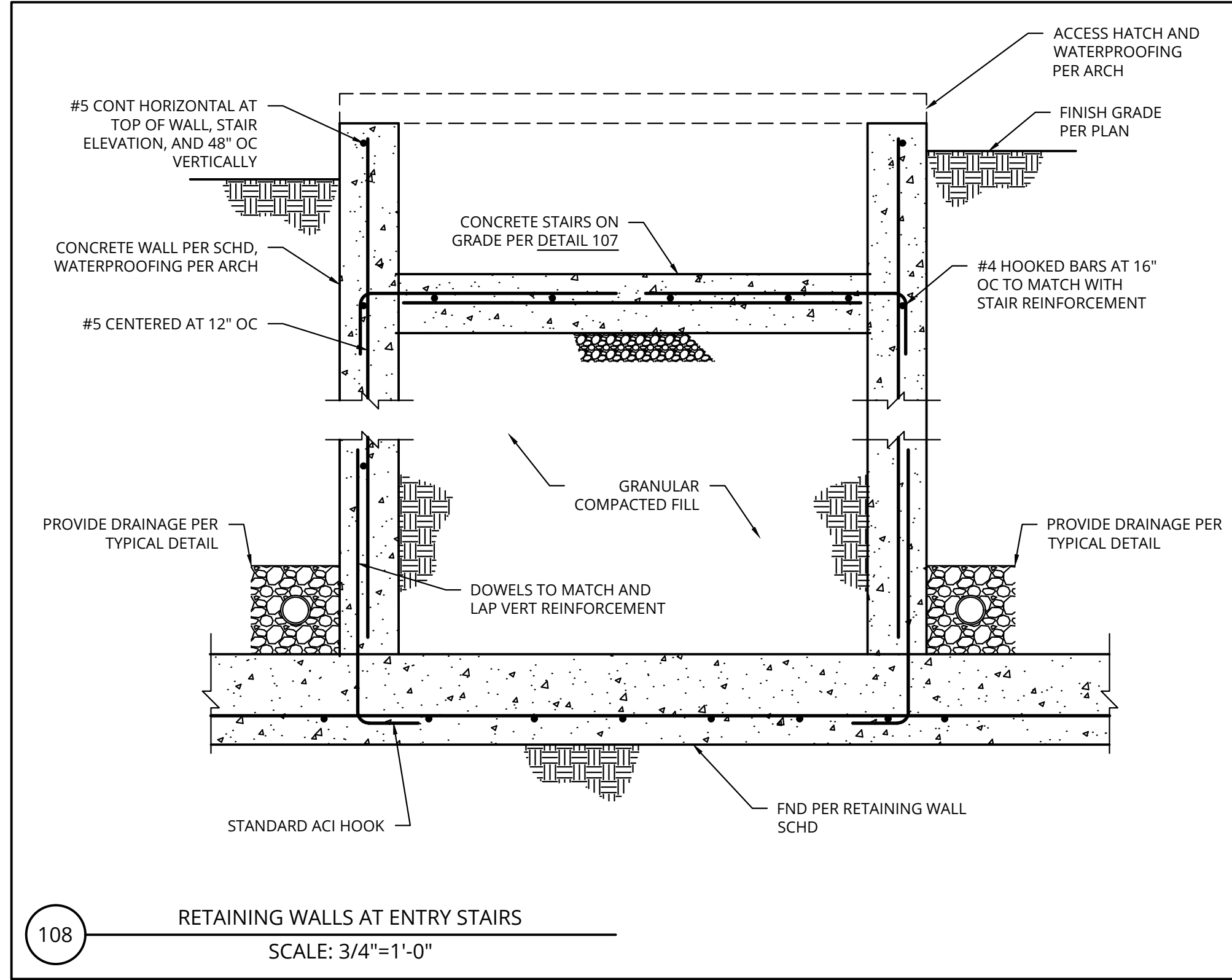
106 CANTILEVER RETAINING WALL AT EXISTING WALL
SCALE: 3/4"=1'-0"



XXX CONCRETE STAIRS ON GRADE
SCALE: 3/4"=1'-0"

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 JOB: 24130
 EGR: S. GIBSON
 DRFT: S. GIBSON
 DATE: 04/01/2025
 SCALE: NONE
 SHEET NAME
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S4

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REV.	DATE	DESCRIPTION

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 EGR: S. GIBSON
 DRFT: S. GIBSON
 DATE: 04/01/2025
 SCALE: NONE
 SHEET NAME: DETAILS
 SHEET NUMBER: S5

