

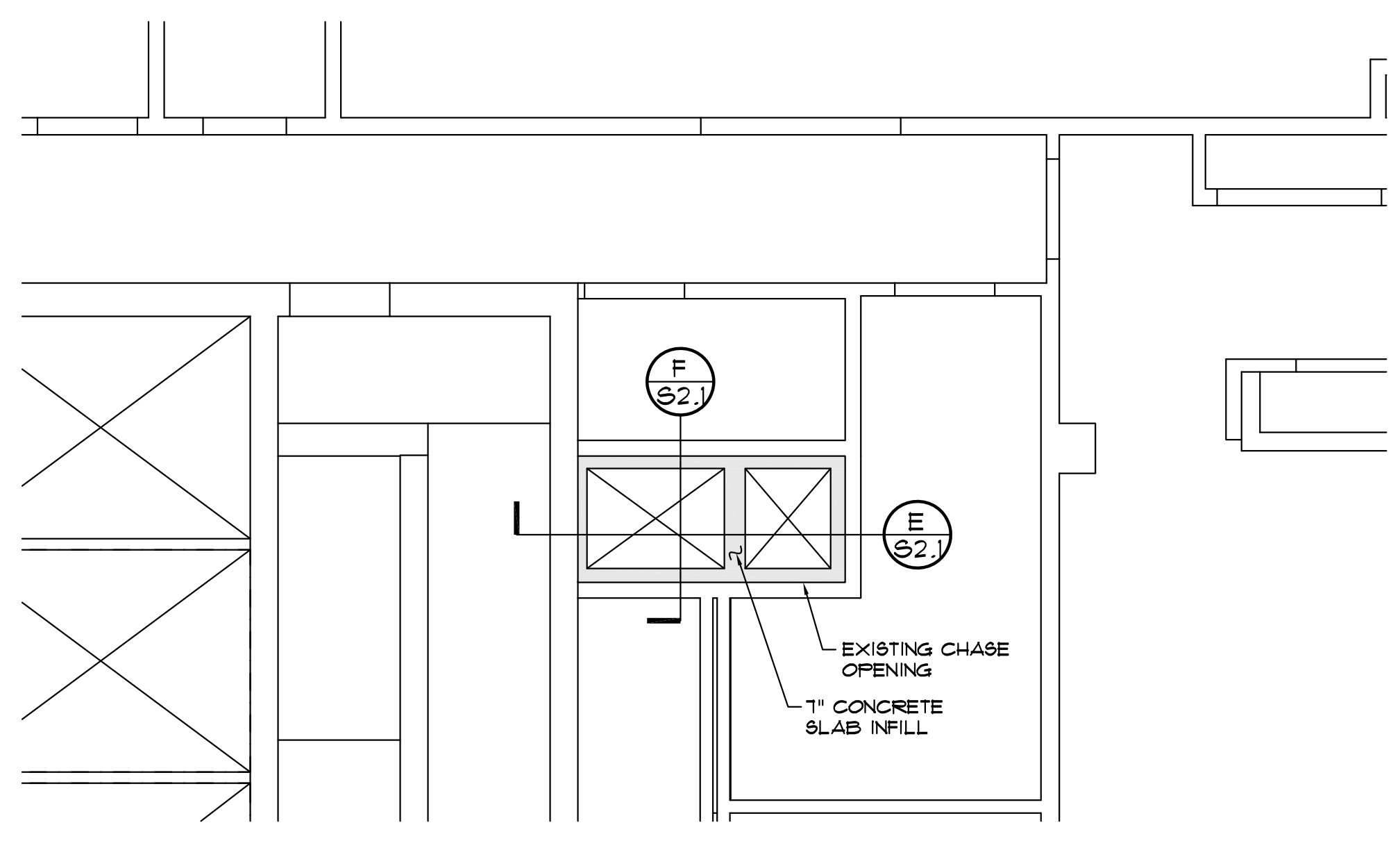
PARTIAL ROOF & FLOOR FRAMING PLAN (S1.1)

LEVEL	OPENING SIZE
ROOF FLOOR 18	45" X 35"
FLOOR 16, 17	45" X 33"
FLOOR 14, 15	45" X 31"
FLOOR 12, 13	45" X 29"
FLOOR 10, 11	45" X 27"
FLOOR 8, 9	45" X 23"
FLOOR 7	45" X 19"
FLOOR 6	39" X 19"
FLOOR 5	31" X 19"
FLOOR 4	25" X 19"
FLOOR 3	23" X 15"

NOTES:
 1. OPENINGS SHOWN ABOVE ARE SIZES TO BE CUT THROUGH THE EXISTING SLABS AT THE CHASE LOCATION SHOWN ON B/S11. SIZES SHOWN ARE 5" LARGER THAN THE DUCT DIMENSIONS TO ALLOW FOR INSULATION AND CLEARANCE. VERIFY WITH MECHANICAL DRAWINGS BEFORE OPENINGS ARE CUT.
 2. DO NOT OVERCUT SLAB AT THE CORNERS OF THE OPENINGS.

ROOF FRAMING PLAN (S1.1)

PLAN NOTES:
 1. WHERE NOTE 1 IS INDICATED, NEW MECHANICAL UNIT SHALL BE SUPPORTED ON EXISTING CONCRETE WALLS. FIELD DIMENSIONS, IF ADDITIONAL STEEL FRAMING IS REQUIRED TO SUPPORT THE UNIT ON TOP OF THE WALLS, THE FRAMING AND ITS CONNECTIONS TO THE CONCRETE WALLS SHALL BE DESIGNED AND PROVIDED BY THE MECHANICAL CONTRACTOR.
 2. WHERE NOTE 2 IS INDICATED, REMOVE EXISTING CONCRETE WALLS FLUSH WITH TOP OF ROOF SLAB AS SHOWN IN A/S21.
 3. WHERE NOTE 3 IS INDICATED, REMOVE SOUTH 3'-0" OF EXISTING CONCRETE WALLS FLUSH WITH TOP OF ROOF SLAB AS SHOWN IN A/S21.



PARTIAL GROUND FLOOR FRAMING PLAN (S1.1)

GENERAL NOTES

- IN CASE OF A DISCREPANCY BETWEEN THE MECHANICAL AND STRUCTURAL DRAWINGS, CONSULT WITH THE MECHANICAL ENGINEER. FIELD VERIFY ALL DIMENSIONS AND CONDITIONS RELATED TO EXISTING CONSTRUCTION.
- DESIGN CRITERIA
 - BUILDING CODE: 2009 INTERNATIONAL EXISTING BUILDING CODE AND 2009 INTERNATIONAL BUILDING CODE
 - BUILDING CATEGORY III
 - SEISMIC DESIGN DATA
 - IMPORTANCE FACTOR I2S
 - $S_{DS} = 0.40$ $S_{D1} = 0.18$ (BASED ON SITE-SPECIFIC ANALYSIS FOR ADJACENT PATTERSON HALL, PER SAME REPORT DATED APRIL 24, 2009, SITE PROJECT NO. 1611-09-089)
 - SITE CLASS D SEISMIC DESIGN CATEGORY C
 - WIND DESIGN DATA
 - IMPORTANCE FACTOR I1S
 - WIND VELOCITY 100 MPH, EXPOSURE B, INTERNAL PRESSURE COEFFICIENT ±0.18.
- CONCRETE:
 - ALL CONCRETE: 3000 PSI, NORMAL WEIGHT, 4" SLUMP ± 1".
 - REINFORCING STEEL: A57M A615, GRADE 60.
 - BONDING AGENT: LATEX BONDING AGENT PER ASTM C1089, TYPE II, OR EPOXY BONDING AGENT PER ASTM C881.
- NEW MECHANICAL UNIT (SEE PLAN FOR WEIGHT)
 - GRAVITY LOADS ON EXISTING STRUCTURE INCREASE THE LOAD ON ANY STRUCTURAL ELEMENT BY LESS THAN 5% (IBC 3404.3)
 - SEISMIC AND WIND LOADS OF NEW UNIT ON EXISTING STRUCTURE INCREASE THE SEISMIC FORCE IN ANY EXISTING STRUCTURAL ELEMENT BY LESS THAN 10% (IBC 3404.4)
- POST-INSTALLED ANCHORS INSTALLED IN HARDENED CONCRETE SHALL BE AS SHOWN IN THE TABLE ON S21.

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SEAL
 JOHNSON & KING ENGINEERS
 No. 8738
 REGISTERED PROFESSIONAL ENGINEER
 STATE OF SOUTH CAROLINA
 2-15-17

PROJECT TITLE:
 SOUTH TOWER MECHANICAL RENOVATIONS
 UNIVERSITY OF SOUTH CAROLINA
 STATE PROJECT NUMBER H27-6082-NA
 BID DOCUMENTS

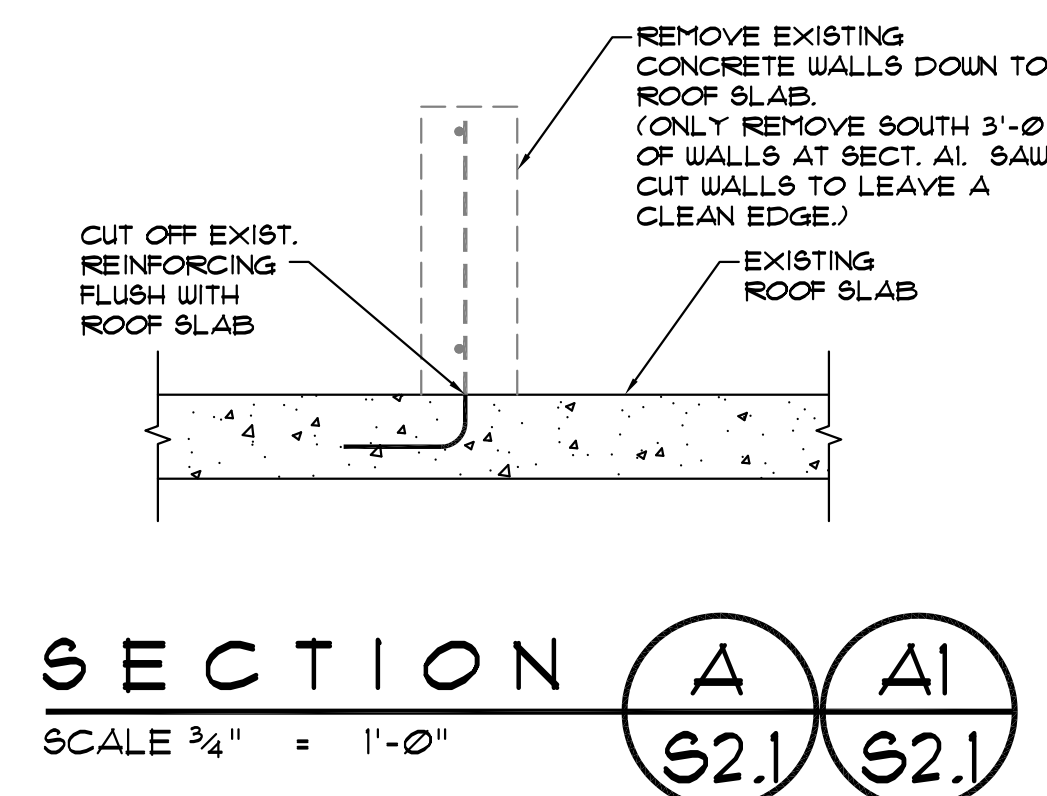
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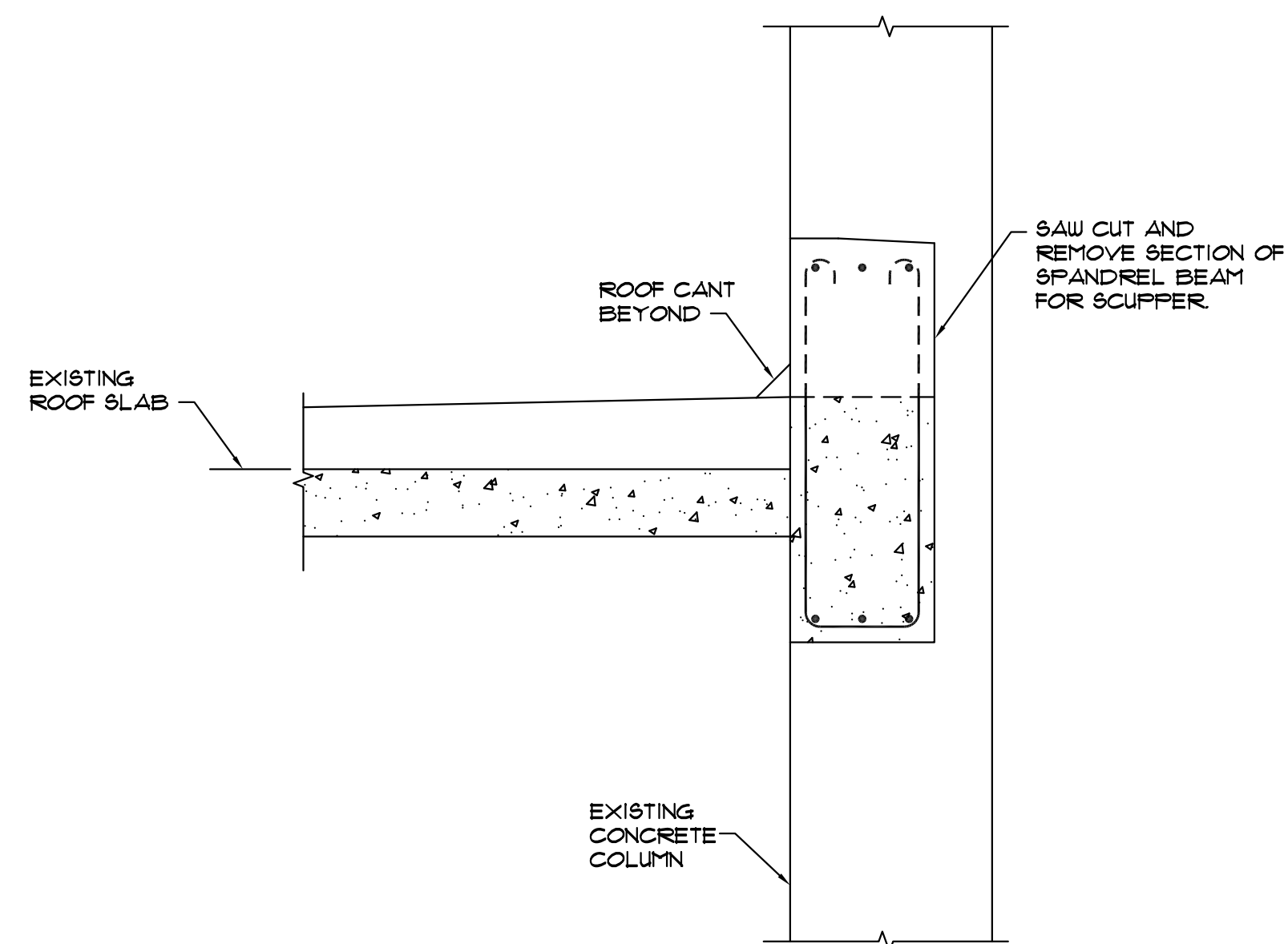
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STRUCTURAL PLANS

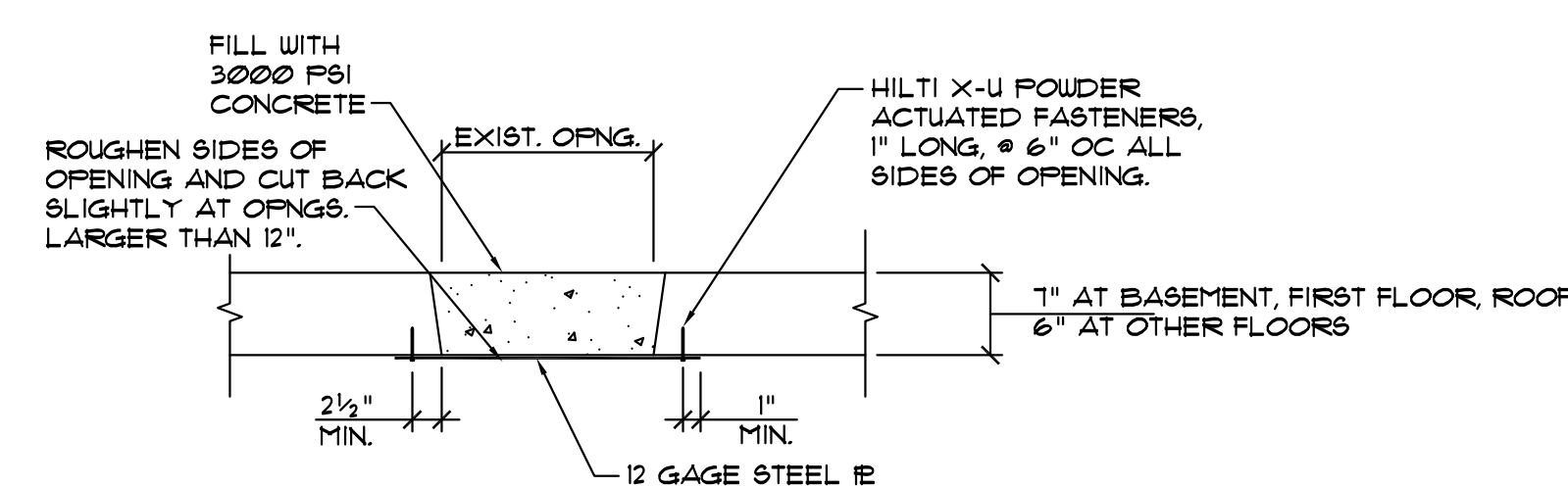
SHEET TITLE:
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S1.1



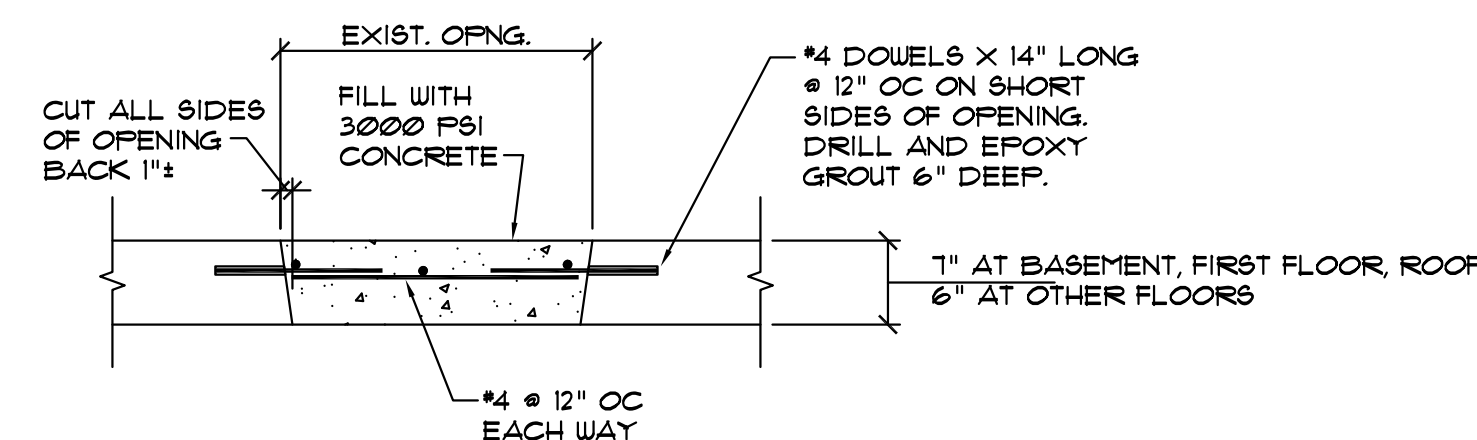
SECTION A
SCALE 3/4" = 1'-0"



SECTION B
SCALE 3/4" = 1'-0"



INFILL DETAIL FOR EXIST. SLAB OPENINGS 24" OR LESS IN ALL DIMENSIONS



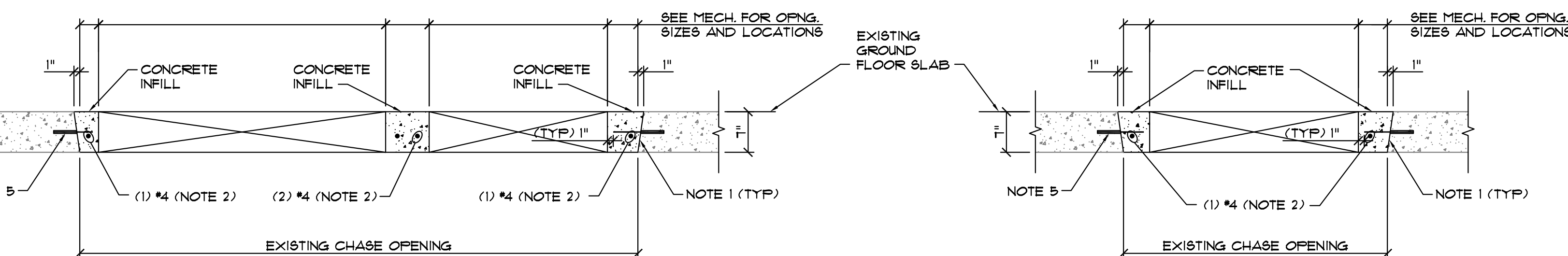
INFILL DETAIL FOR EXIST. SLAB OPENINGS 24" TO 30" IN LARGEST DIMENSION

DETAIL C
SCALE 3/4" = 1'-0"

- NOTES:
1. USE THIS DETAIL TO INFILL OPENINGS WHICH ARE BEING ABANDONED IN EXISTING SLABS.
2. APPLY BONDING AGENT TO FACE OF EXISTING CONCRETE BEFORE NEW CONCRETE IS PLACED.
3. IF ANY DIMENSION OF OPENING IS LARGER THAN 30", CONTACT ARCHITECT FOR INSTRUCTIONS BEFORE INFILLING OPENING.

CONCRETE POST-INSTALLED ANCHOR TABLE			
TYPE	MANUFACTURER	PRODUCT	DIAMETER/SIZE
SCREW ANCHOR	HILTI	KWIK HUS-EZ (KH-EZ)	1/4" TO 3/4"
	POWERS	WEDGE-BOLT+ W/ WEDGE BIT	3/8" TO 3/4"
	SIMPSON	TITEN HD	3/8", 1/2", 3/4"
ROD HANGER	POWERS	VERTIGO + W/ WEDGE BIT	1/4" TO 1/2"
		SNAKE +	3/8" TO 1/2"
	SIMPSON	TITEN HD ROD HANGER	3/8", 1/2"
EXPANSION ANCHOR	HILTI	KWIK BOLT TZ	3/8" TO 3/4"
	POWERS	POWER-STUD + SD1	3/8" TO 1"
	SIMPSON	STRONG-BOLT 2	3/8" TO 3/4"
ADHESIVE ANCHOR	HILTI	HIT-HY 150 MAX-SD	ALL THREAD ROD 3/8" TO 1"
			REBAR #3 TO #8
		HIT-RE 500-SD	ALL THREAD ROD 3/8" TO 1 1/4"
			REBAR #3 TO #8
	POWERS	FE1000+	ALL THREAD ROD 1/2" TO 3/4"
			REBAR #3 TO #1
SIMPSON	SET-XE		ALL THREAD ROD 3/8" TO 1 1/4"
			REBAR #4 TO #8

- NOTES:
1. THIS SELECTION TABLE SHALL BE USED WHEN ANCHOR RODS OR REBARS WITH ANCHOR ADHESIVE, EXPANSION ANCHORS, OR SCREW ANCHORS ARE CALLED OUT ON THE DRAWINGS. THE ADHESIVES SHOWN SHALL ALSO BE USED WHERE THE TERM "EPOXY" IS USED ON THE STRUCTURAL DRAWINGS.
2. ADHESIVE ANCHORS HOLES SHALL BE CLEANED PER THE MANUFACTURER'S RECOMMENDATIONS INCLUDING USING A BRUSH AND 100 PSI MINIMUM OR MANUFACTURER REQUIRED COMPRESSED AIR.
3. SCREW ANCHORS AND EXPANSION ANCHORS SHALL BE INSTALLED PER THE MANUFACTURER'S RECOMMENDATIONS.
4. SCREW AND EXPANSION ANCHORS SHALL MEET THE EMBEDMENT DEPTHS AS SPECIFIED IN THE DRAWINGS BUT NOT LESS THAN THE MINIMUM OF 1 TIMES THE ANCHOR DIAMETER, UNO.
5. ADHESIVE ANCHORS SHALL MEET THE EMBEDMENT DEPTHS AS SPECIFIED IN THE DRAWINGS BUT NOT LESS THAN THE MINIMUM OF 12 TIMES THE ANCHOR DIAMETER, UNO.
6. CONTACT THE ENGINEER OF RECORD FOR APPROVAL OF ANY OTHER ANCHOR TYPE OR DIAMETER PRIOR TO INSTALLATION.

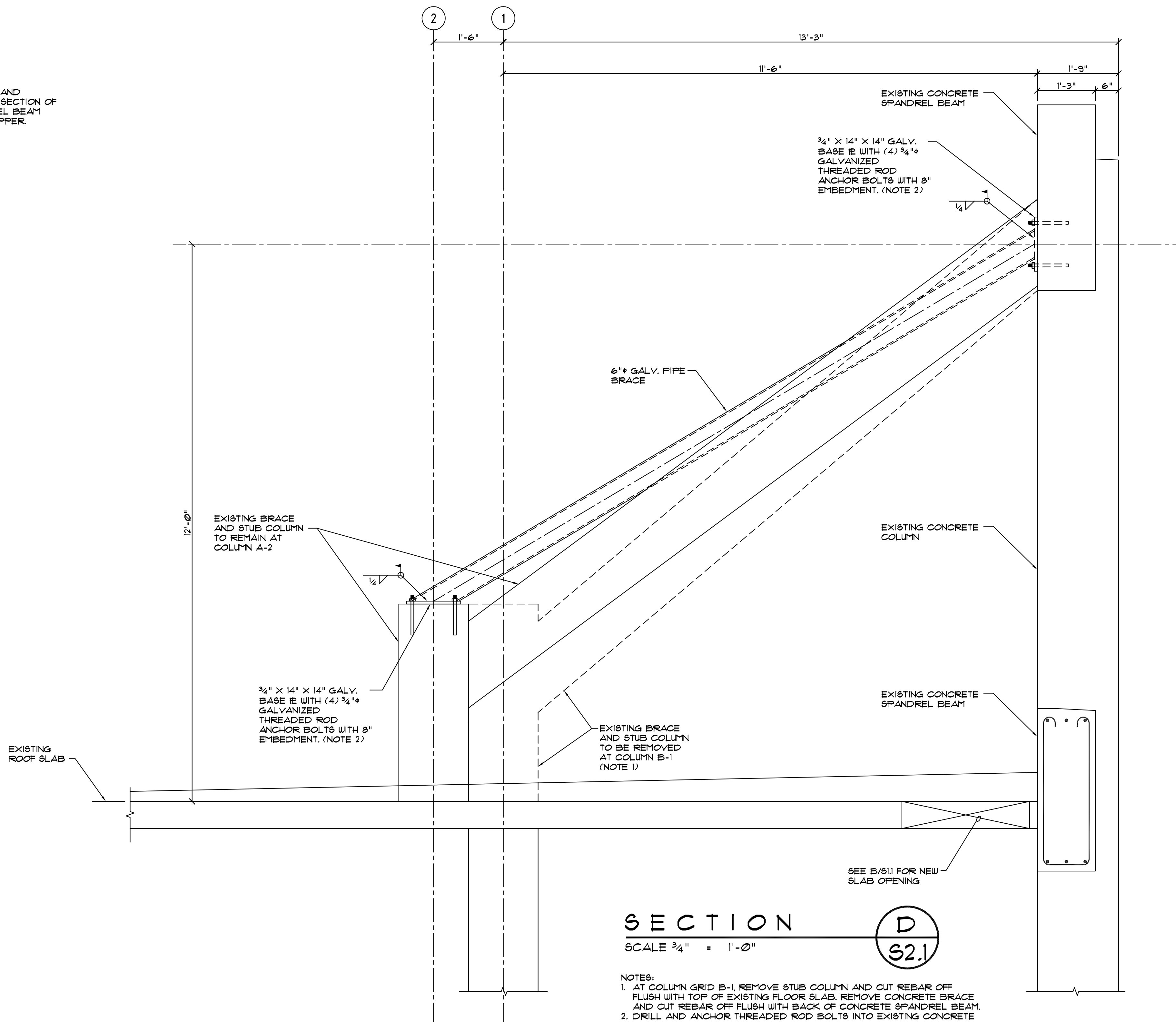


SECTION E
SCALE 3/4" = 1'-0"

- NOTES:
1. CHIP EDGES OF EXISTING CHASE OPENING BACK 1" AS SHOWN. CLEAN EDGES AND APPLY BONDING AGENT BEFORE NEW CONCRETE IS PLACED.
2. AT EACH #4 SHOWN ABOVE, PROVIDE (2) #4 LAPPED 18" IN CENTER. DRILL AND EPOXY GROUT 6" INTO EXISTING SLAB.
3. PROVIDE 2" x 2" #4 CORNER BARS AT FOUR CORNERS OF NEW CONCRETE INFILL.
4. COORDINATE OPENING SIZES WITH FIRE DAMPERS.
5. DRILL AND EPOXY GROUT #5 DOUELS #12" OC 4" INTO EXISTING CONCRETE AROUND PERIMETER OF EXISTING SHAFT. EXTEND OUT TO WITHIN 1" ± OF FACE OF NEW CONCRETE.

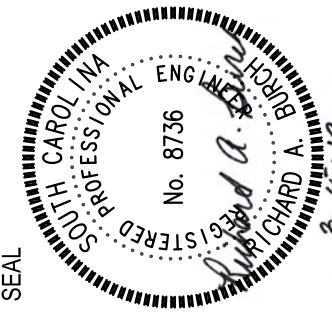
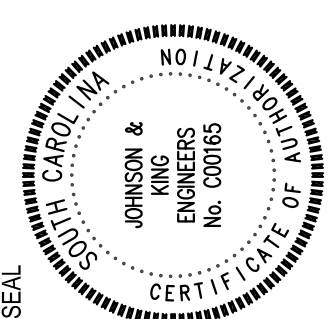
SECTION F
SCALE 3/4" = 1'-0"

- NOTES:
1. CHIP EDGES OF EXISTING CHASE OPENING BACK 1" AS SHOWN. CLEAN EDGES AND APPLY BONDING AGENT BEFORE NEW CONCRETE IS PLACED.
2. AT EACH #4 SHOWN ABOVE, PROVIDE (2) #4 LAPPED 18" IN CENTER. DRILL AND EPOXY GROUT 6" INTO EXISTING SLAB.
3. PROVIDE 2" x 2" #4 CORNER BARS AT FOUR CORNERS OF NEW CONCRETE INFILL.
4. COORDINATE OPENING SIZES WITH FIRE DAMPERS.
5. DRILL AND EPOXY GROUT #5 DOUELS #12" OC 4" INTO EXISTING CONCRETE AROUND PERIMETER OF EXISTING SHAFT. EXTEND OUT TO WITHIN 1" ± OF FACE OF NEW CONCRETE.



SECTION D
SCALE 3/4" = 1'-0"

- NOTES:
1. AT COLUMN GRID B-1 REMOVE STUB COLUMN AND CUT REBAR OFF FLUSH WITH TOP OF EXISTING FLOOR SLAB. REMOVE CONCRETE BRACE AND CUT REBAR OFF FLUSH WITH BACK OF CONCRETE SPANDREL BEAM.
2. DRILL AND ANCHOR THREADED ROD BOLTS INTO EXISTING CONCRETE USING ADHESIVE AS SHOWN IN TABLE ON THIS DRAWING.
3. INSTALL NEW BRACE BEFORE EXISTING CONCRETE BRACE IS CUT OUT AND REMOVED.
4. ALL STEEL, BOLTS, ETC. SHALL BE HOT-DIPPED GALVANIZED. PAINT WELDS WITH GALVANIZING REPAIR PAINT.



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