I. ADDITIONAL SPECIFICATIONS WHICH APPLY

The following specifications shall apply and supplement these Plans and Specifications:

A. ACI 318-14
B. International Building Code 2018
C. ASCE 7-16, Minimum Design Loads for Buildings and Other Structures.
D. AWC National Design Specification (NDS) for Wood Construction, 2018
E. AHJ: City of Deadwood, SD

II. REINFORCING STEEL

A. Minimum concrete cover over reinforcing steel
   1. Concrete surface cast against earth — 3 inches
   2. All other exposures — 2 inches
   3. Column spirals or tie bars — 2 inches
B. All reinforcing steel shall be bent cold. Field bending shall not be performed unless shown on the drawings or permitted by the Engineer.
C. Minimum lap splices (Grade 60 bars, fc = 4000 PSI)
   The following minimum lap splices pertain to bars in walls, beams or slabs with spacings no less than 3db (db = bar diameter) and clear cover with no less than 2db. For columns the lap splices listed below apply if ACI 318 section 7.10.5 for tie spacing/size requirements are adhered to. For beams these lap splices apply only if the requirements of ACI 318 sections 11.5.4 and 11.5.5.3 for stirrup spacing/size are adhered to. For all cases, the minimum cover requirements noted above shall apply. In the event concrete with a higher compressive stress is specified the lap splice shall remain as shown.

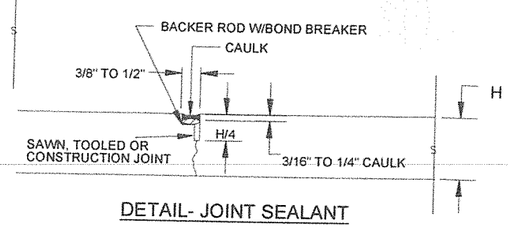
MINIMUM LAP SPLICES (INCHES)

Bar Size	Top Bars	Other
3	18	14
4	24	20
5	30	24
6	36	28
7	42	33
8	50	42
9	64	50
10	82	63
11	100	78

1. Top bars are defined as horizontal bars with 12 inches or more of fresh concrete to be cast below the bar.
2. For lap splices between bars of different sizes the splice length noted for the larger bar shall be used unless shown otherwise.

III. JOINT SEALANT

A. Joint Sealant Detail shown below shall apply to all all joints in floors, walls and slabs that are exposed to view.
B. The cost of furnishing and installing joint sealant shall be included in the price bid for the concrete being sealed.



DETAIL- JOINT SEALANT

IV. CONCRETE CONSTRUCTION

A. FORM RELEASE AGENTS

Form release agents which may remain on the surface of concrete within water containment structures shall be nontoxic and shall be odorless and colorless and shall be approved for use in potable water containments by the National Sanitation Foundation.

B. CONSTRUCTION JOINTS

1. Construction joints shall be located as shown on the plans. Alternate location may be used as approved by the Engineer. Construction Joints shown on the plans are not optional unless noted otherwise.
2. If the contractor wishes to propose alternate construction joint layouts, details of those layouts shall be submitted to the Engineer for review prior to submittal of shop drawings for the reinforcing steel.
3. PVC water stops shall be furnished for all joints where a water stop is called for unless noted otherwise.
4. Water stop shall be placed in all construction joints in sumps, pits or tanks and as shown on the drawings.
5. In joints constructed where a water stop is called for PVC water stops may be substituted for bentonite rope water stops.
6. Bentonite rope water stops shall not be substituted for PVC water stops unless approved by the Engineer.

C. PLACEMENT OF REINFORCING STEEL

1. Reinforcing steel which is placed adjacent to a concrete surface which shall be cast against earth shall be supported away from the earth surface with CMU blocks of the appropriate thickness. The CMU blocks shall be wired to the reinforcing bars they support.
2. Reinforcing steel which is placed adjacent to a concrete surface which shall be cast against wood, metal or other removable form work shall be supported away from the form work with chairs or bolsters. All components of the chairs or bolsters which are in contact with the form shall be noncorroding. Components of the chairs or bolsters which are subject to corrosion shall not be placed within one inch of the formed surface.
3. Bolsters shall be provided between the layers of reinforcing steel within walls and slabs.
4. The spacing of bolsters, chairs and other reinforcing steel supports shall be limited so as to prevent displacement of the reinforcing due to placement of the concrete. In the case of slabs all layers of reinforcing steel shall be supported so as to be capable of carrying the loads of the workers placing the steel and concrete.

D. EMBEDEMENT

1. All aluminum surfaces to be placed in contact with concrete shall be coated with bitumastic paint.
2. A minimum of two (2) inches of clear cover shall be provided between all embedements and reinforcing steel and water stops.

V. STEEL CONSTRUCTION

A. Detail, fabricate & erect structural steel according to AISC "Manual of Steel Construction" & AISC "Code of Standard Practice" (Latest Editions).
B. Weld Electrodes:E70XX.
C. Welding: Minimum 3/16" fillet by AWS-CERTIFIED WELDERS.
D. Finish: Two coats primer, two coats paint, color to be selected by OWNER.

VI. WOOD CONSTRUCTION

A. Framing anchors shown on the drawings are the products of either Simpson or USP and are designated by their standard product numbers. Follow all manufacturer's recommendations for installation and use.
B. IBC Section 2308 is the framing standard.
C. Requirements for conditions not specifically detailed or noted:
   1. Use preservative-treated lumber where in contact with concrete.
   2. Anchor plates to concrete w/ 5/8" dia. x 8" Simpson Titen HD @ 48", unless otherwise noted.
   3. If nailing is not indicated, follow IBC nailing schedule or IRC Section R507, whichever is more conservative.
   4. Deck ledger connections and lateral bracing shall be in accordance with IRC Section R507.

VII. MATERIALS SCHEDULE

CONCRETE SCHEDULE: ASTM C150 TYPE I-II CEMENT

ITEM	28-DAY COMPRESSIVE STRENGTH		REMARKS
	3500 PSI W/C .48 MAX	4000 PSI W/C .48 MAX	
ALL CONCRETE UNO		●	
FOOTINGS AND FOUNDATION WALLS		●	5%-7% Entrained Air
SLAB ON GRADE		●	3% Max Entrained Air
REINFORCING			ASTM A615 Grade 60

ENGINEERED LUMBER

ITEM	SPECIES AND/OR GRADE	REMARKS
GLUE LAMINATED TIMBER (GLULAM)	1.8E 2400F	ASTM D3737 & D2559
BOLTS	ASTM A307, ZINC-PLATED	

DIMENSIONAL FRAMING LUMBER

ITEM	SPECIES AND GRADE	REMARKS
ALL FRAMING	DFL-No. 2 OR BETTER	

VIII. BUILDING LOADS

In addition to self weight of structural members and equipment loads, the following live loads shall be supported by various structural components. Contractors shall base their bids on component sizes required to support the actual dead and live loads plus impact applied to the structure. Head room and parapets shall be maintained.

Live Loads	
Roof Load	20 psf
Deck Floor Load	40 psf
Snow Loads	
Ground Snow Load, Pg	56 psf
Flat-Roof Snow Load, Pf	47 psf
Snow Exposure Factor, Ce	1.0
Snow Load Importance Factor, I	1.0
Thermal Factor,C t	1.2
Wind Loads	
Basic Wind Speed (3-second Gust)	90 mph
Wind Importance Factor, I	1.0
Surface Roughness	C
Wind Exposure	Terrain Cat. C
Internal Exposure Coefficient,GCpi	± 0.00
Seismic Loads	
Seismic Importance Factor, I	1.0
Risk Category	II
Mapped Spectral Response Accelerations	
S_s	0.129g
S_1	0.041g
Site Class	D
Spectral Response Coefficients	
S_{DS}	0.138g
S_{D1}	0.065g
Seismic Design Category	A
Geotechnical Information	
Allowable Soil Bearing	1500 psf (presumptive)
Frost Depth	48 inches

Additional load deflections shall be in accordance with ASCE 7-16 Minimum Design Loads for Building and Other Structures.

Construction Type V-B

REGISTERED PROFESSIONAL ENGINEER
REG. NO. 7353
RONALD A. BENGS
5.22.2020
SOUTH DAKOTA

Rev No	Date	By	Description

SCHAAF DECK ALTERATIONS & ADDITION
DANIEL SCHAAF
DEADWOOD, SOUTH DAKOTA

GENERAL NOTES

Project No: L19-04-110
Date: 05/2020
Surveyed By: XXX
Designed By: TMK
Drawn By: TMK
Checked By: RAB

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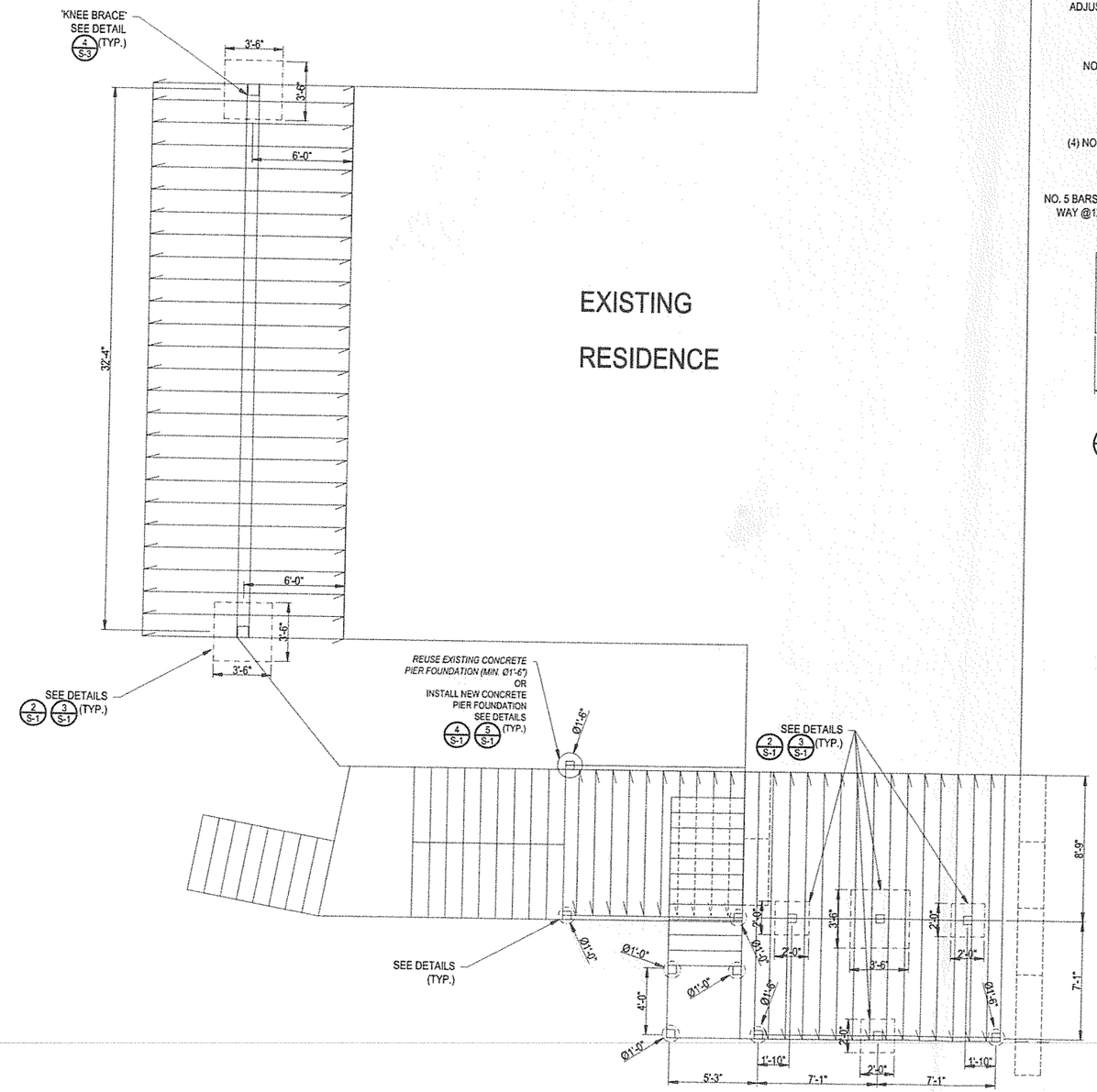
1 OF 4

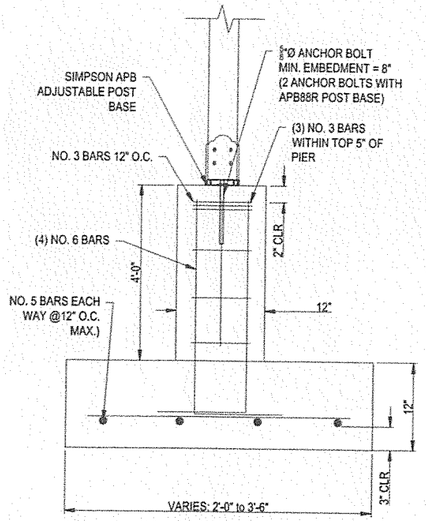


EXISTING

RESIDENCE

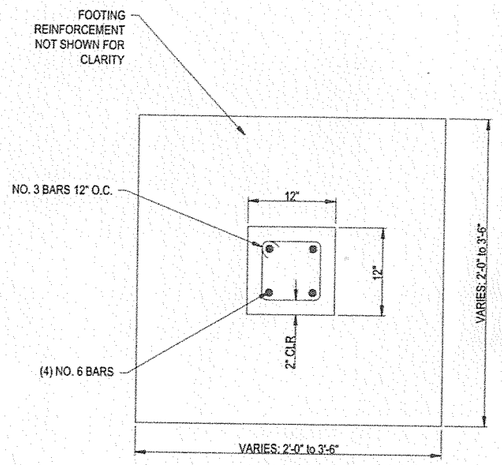
1 S-1 **FOUNDATION LAYOUT - PLAN**

Scale: NTS



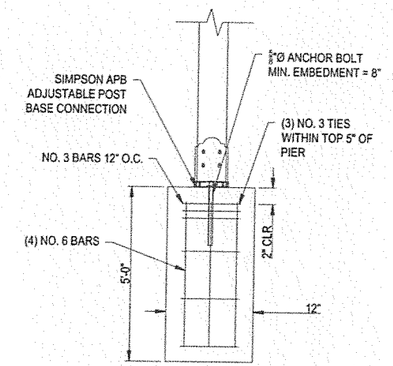
2 S-1 **SPREAD FOUNDATION SECTION - ELEVATION**

Scale: NTS



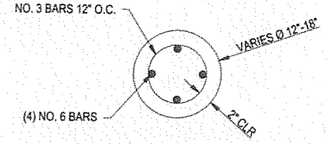
3 S-1 **PIER FOUNDATION REINFORCEMENT - PLAN**

Scale: NTS



4 S-1 **DRILLED CONCRETE PIER FOUNDATION - ELEVATION**

Scale: NTS



5 S-1 **DRILLED CONCRETE PIER FOUNDATION - PLAN**

Scale: NTS

GENERAL NOTES:

1. FIELD VERIFY ALL DIMENSION PRIOR TO CONSTRUCTION.
2. CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 4000 PSI AT 28 DAYS.
3. ALL CONNECTORS SHOWN MANUFACTURER BY SIMPSON STRONG-TIE MAY BE SUBSTITUTED WITH OWNER/ENGINEER APPROVED EQUAL. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DEMONSTRATING EQUIVALENT PERFORMANCE AS INTENDED WITH THE SHOWN DESIGN.

REGISTERED PROFESSIONAL ENGINEER
REG. NO. 7353
RONALD A. BENGS
5.22.2020
SOUTH DAKOTA

Rev No.	Date	By	Description

SCHAAF DECK ALTERATIONS & ADDITION
DANIEL SCHAAF
DEADWOOD, SOUTH DAKOTA

FOUNDATION LAYOUT

Drawn By: TMK | Surveyed By: XXX | Project No: L19-04-110
Checked By: RAB | Designed By: TMK | Date: 05/2020

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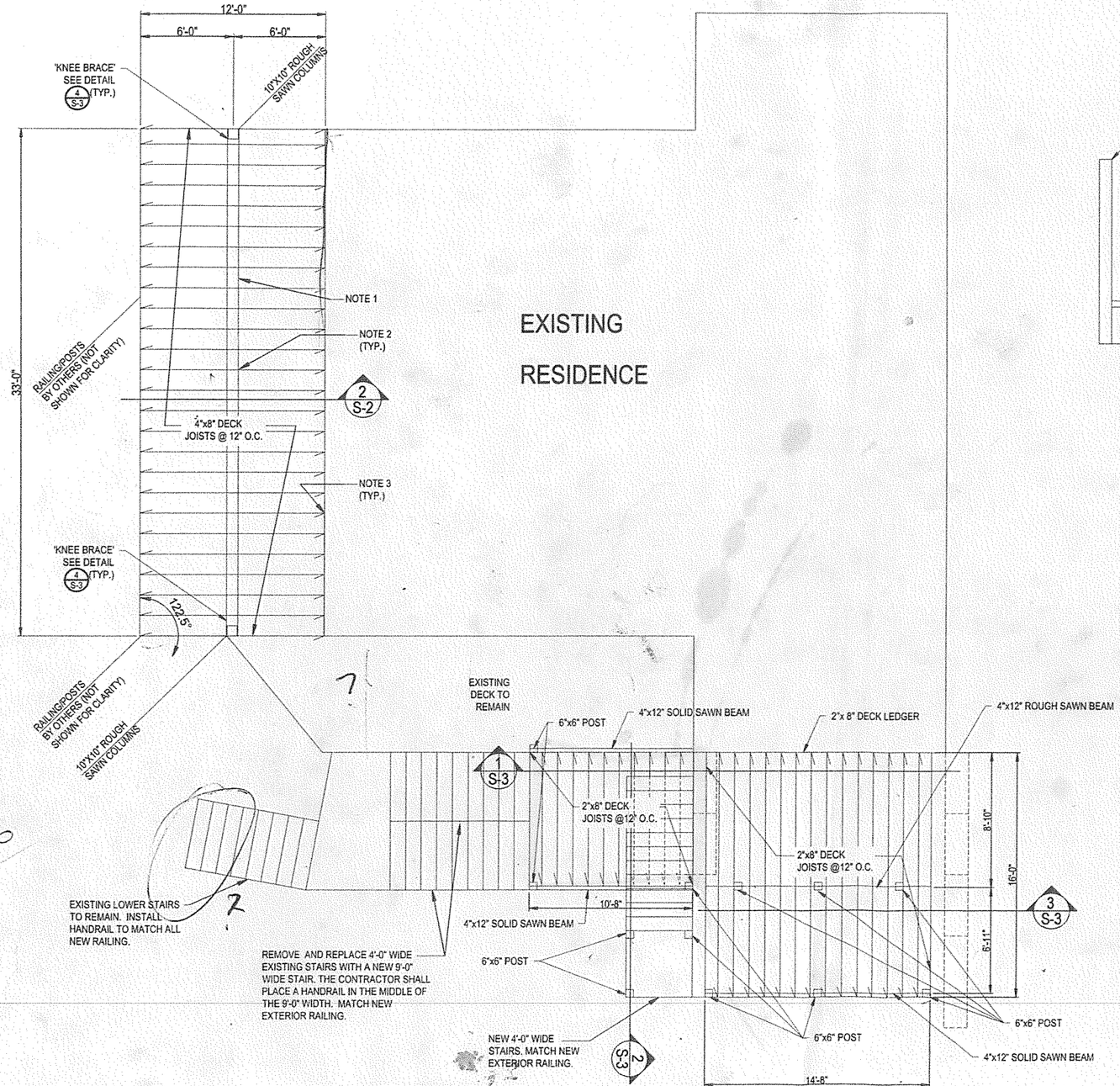
50

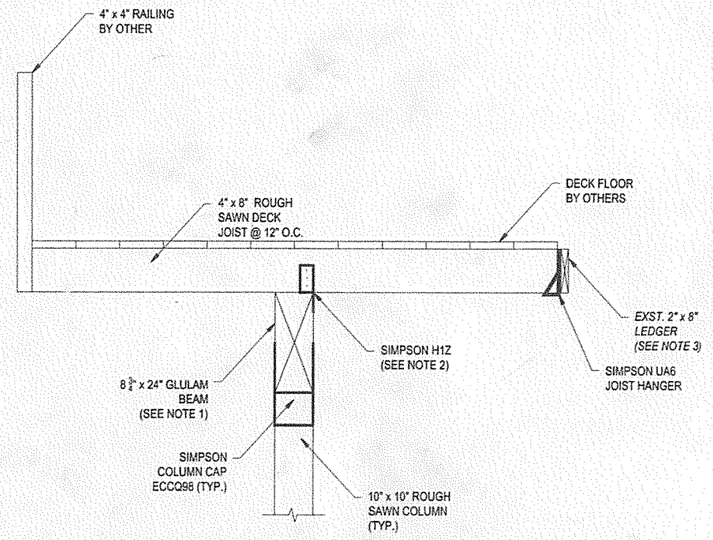
19' 8" x 16

10' 8" x 9



1/S-2 **FRAMING LAYOUT - PLAN**

Scale: NTS



2/S-2 **DECK CROSS SECTION**

Scale: NTS

GENERAL NOTES:

1. NEW 8 3/4" x 24" 24F-V8 DF/DF SUPPORT BEAM (ALTERNATIVE SIZES: 6 3/4" x 27" 24F-V8 DF/DF, 10 1/2" x 20 5/8" 24F-V3 SP/SP)
2. SIMPSON H1Z JOIST CONNECTION OR EQUAL, PROVIDE 2x8 BLOCKING BETWEEN EACH JOIST
3. EXISTING 2x8 DECK LEDGER TO REMAIN
4. ALL NEW 2x MEMBERS SHALL BE DFL NO. 2 GRADE QUALITY OR BETTER UNLESS NOTED OTHERWISE
5. ALL CONNECTORS SHOWN MANUFACTURER BY SIMPSON STRONG-TIE MAY BE SUBSTITUTED WITH OWNER/ENGINEER APPROVED EQUAL. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DEMONSTRATING EQUIVALENT PERFORMANCE AS INTENDED WITH THE SHOWN DESIGN.

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5.22.2020
SOUTH DAKOTA

Rev No.	Date	By	Description

SCHAAF DECK ALTERATIONS & ADDITION
DANIEL SCHAAF
DEADWOOD, SOUTH DAKOTA

FRAMING PLAN

Surveyed By: TMK | Project No: XXX | L19-04-110
Designed By: RAB | Drawn By: TMK | Date: 05/2020
Checked By: RAB

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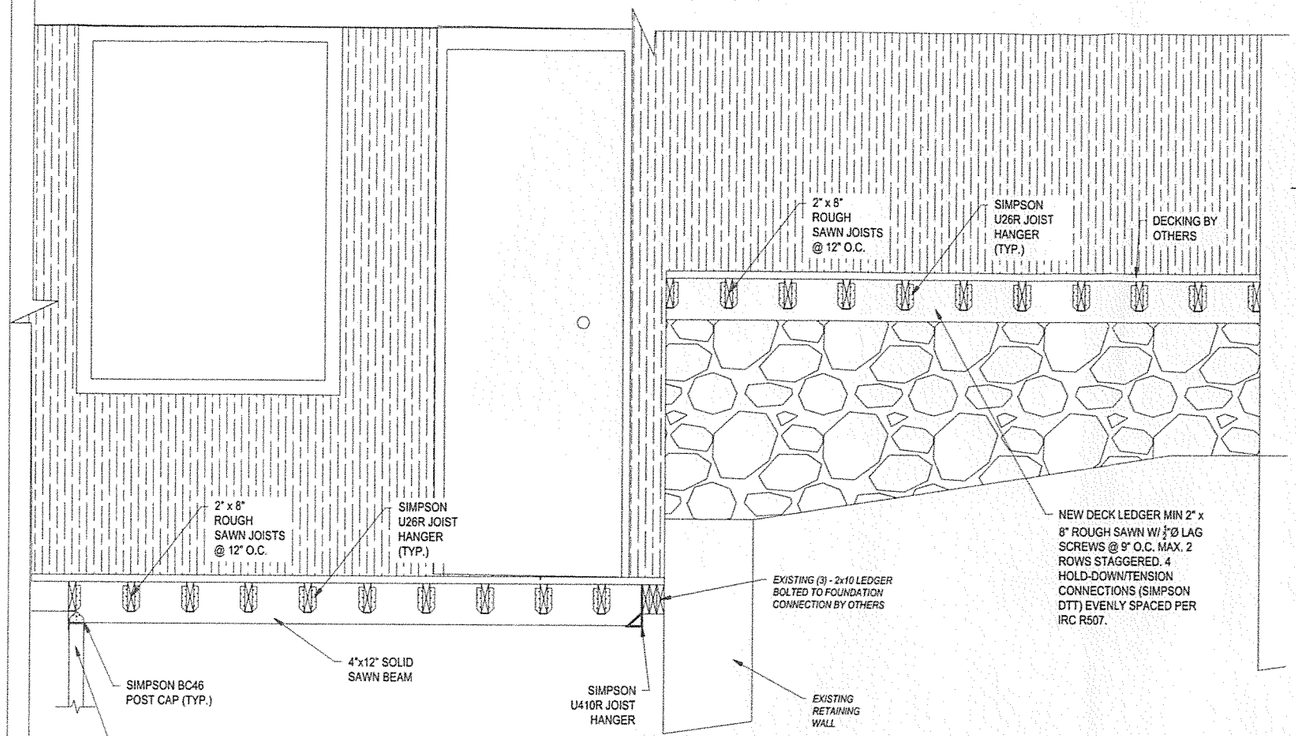
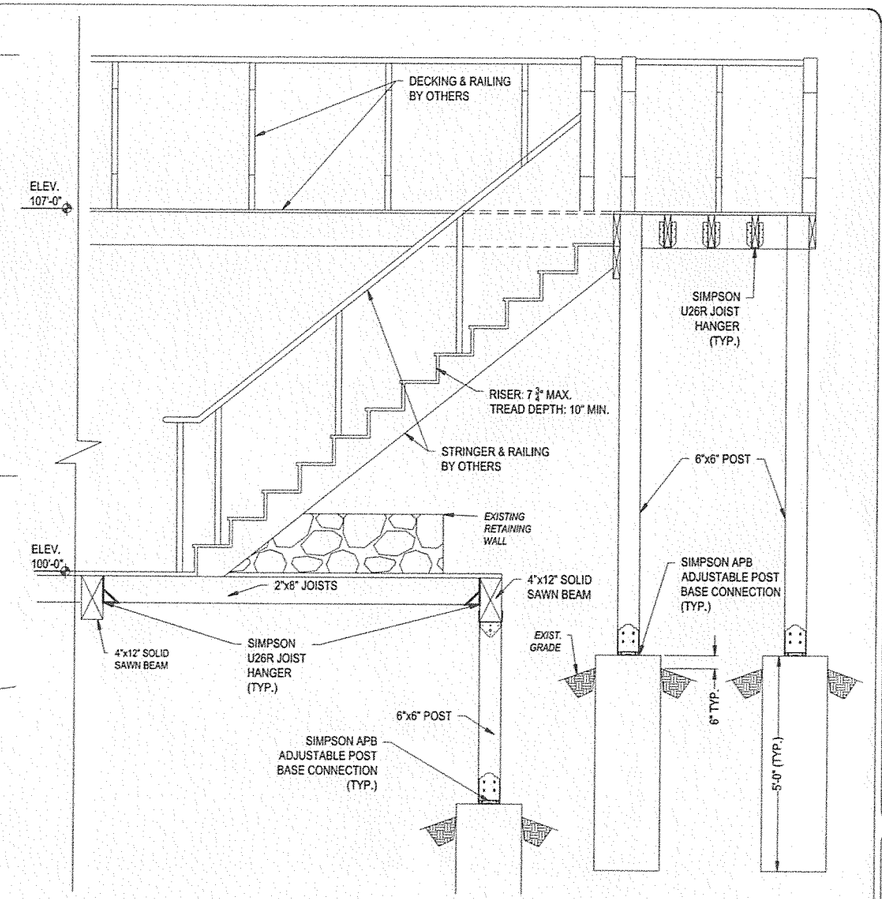
q:\2019\i1904\19-04-110\CADD\DESIGN\Deck Plan Alt Stairs TK.dwg 5/20/2020



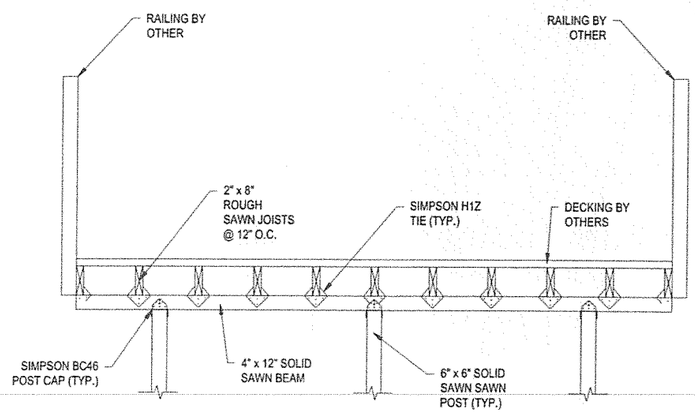
1 S-3 **ELEVATION - SOUTH FACE**

Scale: NTS



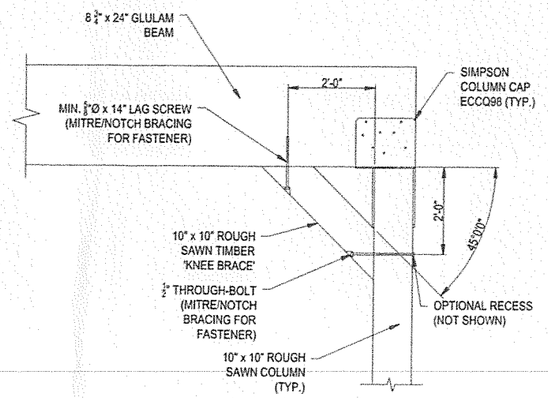
2 S-3 **ELEVATION - STAIRS AND LANDING**

Scale: NTS



3 S-3 **DECK CROSS SECTION**

Scale: NTS



4 S-3 **KNEE BRACE - TYP.**

Scale: NTS

GENERAL NOTES:

1. RAILING, GUARDS, DECKING, STAIR RISER AND TREAD ARE SHOWN FOR CONCEPTUAL PURPOSES ONLY. EACH ITEM SHALL BE MEET THE REQUIREMENTS OF THE 2018 IRC.
2. STAIRWAYS SHALL HAVE A MINIMUM WIDTH OF 36", MAX RISER HEIGHT OF 7 ¾", MIN TREAD DEPTH OF 10".
3. HANDRAILS SHALL BE PROVIDED ON AT LEAST ONE SIDE OF ALL STAIRWAYS, LOCATED BETWEEN 34"-38" ABOVE FINISHED SURFACE.
4. GUARDS SHALL BE CONSTRUCTED IN ACCORDANCE WITH 2018 IRC SECTION R312. MIN HEIGHT NOT LESS THAN 36" FROM FINISHED SURFACE, MAX OPENING NOT GREATER THAN 4" DIA.

REGISTERED PROFESSIONAL ENGINEER
REG. NO. 11353
RONALD A. BENGS
5.22.2020
SOUTH DAKOTA

Rev No.	Date	By	Description

SCHAAF DECK ALTERATIONS & ADDITION
DANIEL SCHAAF
DEADWOOD, SOUTH DAKOTA

DETAILS-ELEVATIONS

Drawn By: TMK | Surveyed By: XXX | Project No: L19-04-110
Checked By: RAB | Designed By: TMK | Date: 05/2020

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