Project:

SVA GREELEY Site & Shell Project

1911 59TH Ave.

Greeley, CO 80634

Project Directory

Owner:

SVA Greeley LLC 4144 Timberline Road Fort Colins, CO 80525 Phone: (970) 217-9544

Architecture:

Battista Design Group, P.C. 3650 Wadsworth Blvd. Wheat Ridge, CO 80033 Phone: (303) 428-4895 Fax: (303) 428-5472

Civil Engineer:

HCI Engineering 621 Southpark Dr., Suite 1600 Littleton CO, 80120 Phone: (303) 979-3900

Landscape Design:

Valerian, LLC 970 Yuma St., Suite 130 Denver, CO 80204 Phone: (303) 865-4918

Structural Engineer:

Next Level, Inc. 7186 S. Forest Lane Centennial, CO 80122 Phone: (303) 260-9456

Mechanical Engineer:

Swanson-Levary Engineering 10080 E 112th Way Henderson, CO 80640 Phone: (720) 737-1733 Fax: (303) 660-5999

Electrical Engineer:

Rossi Engineering, Inc. 5376 South Gibraltar Court Centennial, CO 80015 Phone: (303) 720-9827

General Contractor:

BVB General Contractors, LLC 1289 S. 4th Ave. Brighton, CO 80601 Phone: (303) 637-0981 Fax: (303) 659-1887

Public Agencies

Building Department:
City of Greeley
1100 10th Street
Greeley, CO 80631
Phone: (970) 350-9830

Fire Department:

Greeley Fire Department 1155 10th Ave Greeley, CO 80631 Phone: (970) 350-9500

Electric/Gas:

Xcel Energy 1500 6th Avenue Greeley, Colorado, 80631 Phone: (800) 895-4999 **Builders Call Line** Phone: 1-800-628-2121 Fax: 1-800-628-2521 Hours 7:00 a.m. - 4:00 p.m. E-mail: BCLCO@xcelenergy.com

Wastewater:

Greeley Water and Sewer 1001 11th Avenue, 2nd Floor Greeley, CO 80631 Monday - Friday, 8am - 5pm Phone: (970) 350-9811

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Details

Details

A5.3

A5.2

FULL SUBMITTALS/SHOP DRAWINGS REQUIRED

ALL TRADES TO CROSS REFERENCE ALL

DISCIPLINE OF WORK, FAILURE TO DO SO WILL NOT RELIEVE THE CONTRACTOR(S)

FROM THE RESPONSIBILITY OF PROVIDING

ONLY COMPLETE SETS OF DRAWINGS TO BE

DISTRIBUTED TO SUB-CONTRACTORS DO

NOT BREAK APART DRAWING SETS*

SUCH AT NO ADDITIONAL COST TO THE

DRAWINGS FOR ITEMS PERTAINING TO THEIR

FROM ALL TRADES/DISCIPLINES

SUBMIT ALL R.F.I.'S IN WRITING

OWNER

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MECHANICAL/PLUMBING

Mechanical Plan & Notes

ELECTRICAL

E1

E2

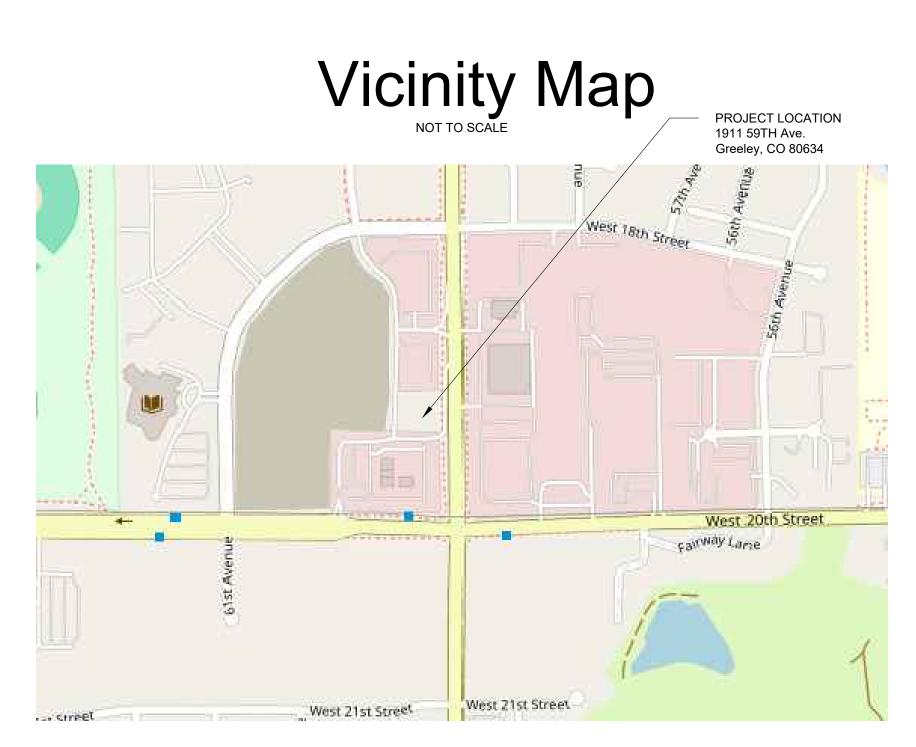
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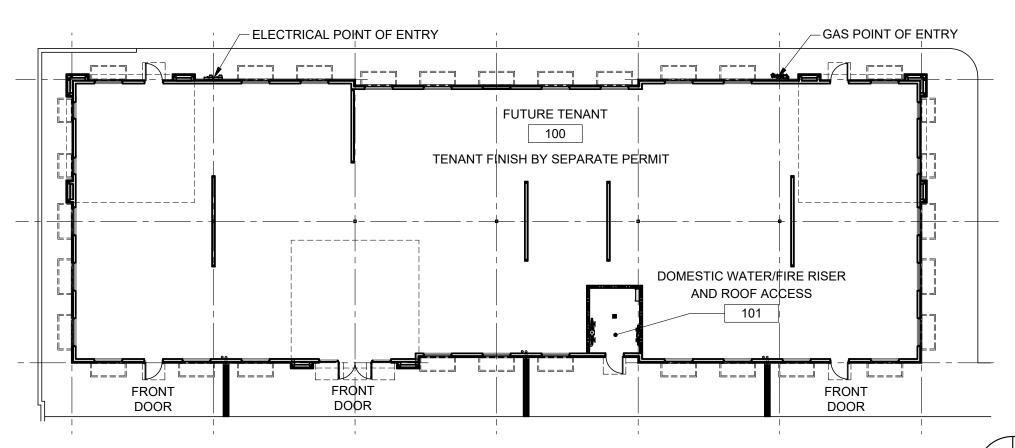
Site Electrical Plan One-Line, Schedules & 1st Floor Electrical Plan

Electrical Specifications

Comcheck



Core/Shell Building Key Plan Single Story Building Slab on Grade



February, 2025

Phone: 303-428-4895

Email: info@battistadesign.net www.battistadesign.net

BATTISTA

Fax: 303-428-5472

SVA GREELEY Site & Shell Project

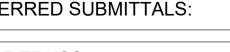
> 1911 59th Ave. Greeley, CO 80634

ROOF TRUSS FIRE ALARM & SPRINKLERS





NORTH



6/23/2017 6/23/2017 6/23/2017 BXUV.U404 - Fire Resistance Ratings - ANSI/UL 263 BXUV.U404 - Fire Resistance Ratings - ANSI/UL 263 BXUV.U404 - Fire Resistance Ratings - ANSI/UL 263 ONLINE CERTIFICATIONS DIRECTORY 5D. **Gypsum Board*** — ((As an alternate to Items 5 may be used as the base layer on one or both sides of wall, For direct attachment only)) For Direct Application to Studs Only- Nom 5/8 in. thick lead backed gypsum panels with 4. Batts and Blankets* — Min 3 in. thick mineral wool insulation batts, friction-fitted between stude in beveled, square or tapered edges, applied vertically. Vertical joints centered over studs and staggered min 1 stud cavity Design No. U404 on opposite sides of studs. Wallboard secured to studs with 1-1/4 in. long Type S-12 steel screws spaced 8 in. OC at **INDUSTRIAL INSULATION GROUP L L C** — Type SAFB perimeter and 12 in. OC in the field. Lead batten strips, min 2 in. wide, max 8 ft long with a max thickness of 0.14 in. BXUV.U404 placed on the face of studs and attached to the stud with construction adhesive and two 1 in. long Type S-12 pan head Fire Resistance Ratings - ANSI/UL 263 steel screws, one at the top of the strip and one at the bottom of the strip. Lead discs, nominal 3/8 in. diam by max 0.085 in. thick. Compression fitted or adhered over the screw heads. Lead batten strips and discs to have a purity of JOHNS MANVILLE — Type SAFB 99.9% meeting the Federal specification QQ-L-201f, Grade "C". Fasteners for face layer gypsum panels (Item 5) when installed over lead backed board to be min 2-1/2 in. Type S-12 bugle head steel. **ROXUL INC** — Type AFB **RADIATION PROTECTION PRODUCTS INC** — Type RPP - Lead Lined Drywall Design No. U404 6. Joints — Covered with glass fiber mesh tape and latex modified Portland cement mortar or basecoat, or Type I **THERMAFIBER INC** — Type SAFB May 26, 2017 7. **Joints** — When tapered edge gypsum board is used, face layer joints covered with joint compound and paper tape. Nonbearing Wall Rating — 1 and 2 Hr (See Items 3 and 5) 5. **Gypsum Board*** — 5/8 in. thick, with square or tapered edges, applied vertically or horizontally with vertical joints As an alternate, gypsum veneer plaster may be applied to the entire surface of Classified veneer baseboard with joints centered over studs. Horizontal joints need not be backed by framing. Fastened with Type S-12 screws. 1-Hr System reinforced. When square-edge gypsum board is used, treatment of joints is optional. * Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such For vertical application, fastened to studs and runners with 1 in. long screws spaced max 8 in. OC at vertical edges and 8. Vapor Retarder, Water Barrier or Weather Resistive Barrier — (Optional — Not shown) — As required. spaced max 12 in. OC in the field. For horizontal application, fastened to study and runners with 1 in. long screws as Canada), respectively. spaced max 8 in. OC. Vertical joints staggered one stud cavity from cement board vertical joints on opposite side of 9. Lead Batten Strips — (Not Shown, For use With Item 5A) - Lead batten strips, min 1-1/2 in. wide, max 10 ft long studs. Horizontal edge joints and horizontal butt joints on opposite sides of studs need not be staggered. 2-Hr System with a max thickness of 0.125 in. Strips placed on the interior face of studs and attached from the exterior face of the - Base layer with an overlying gypsum board face layer, fastened with 1 in. long screws spaced max 16 in. OC to studs stud with two 1 in. long Type S-12 pan head steel screws, one at the top of the strip and one at the bottom of the and runners. Base layer with an overlying cement board face layer, fastened with 1 in. long screws spaced max 12 in. strip. Lead batten strips to have a purity of 99.9% meeting the Federal specification QQ-L-201f, Grade "C". Lead OC to studs and runners. Face layers fastened with 1-5/8 in. long screws spaced max 16 in. OC to studs and runners batten strips required behind vertical joints of lead backed gypsum wallboard (Item 5A) and optional at remaining stud with screws offset 8 in. from face layer screws. Face layer joints offset min 12 in. from base layer joints. Joints in locations. Required behind vertical joints. either layer need not be staggered from joints on the opposite side of the wall. When used in widths other than 48 in., gypsum panels to be installed horizontally. 9A. Lead Batten Strips — (Not Shown, for use with Item 5C) Lead batten strips, 2 in. wide, max 10 ft long with a max thickness of .0140 in. Strips placed on the face of studs and attached to the stud with two min. 1 in. long min. CGC INC — Types AR, C, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SHX, SGX, ULX, USGX, WRC or WRX (Joint tape and Type S-8 pan head steel screws, one at the top of the strip and one at the bottom of the strip or with one min. 1 in. compound, Items 6 and 7, optional for use with Type USGX). long min. Type S-8 pan head steel screw at the top of the strip. Lead batten strips to have a purity of 99.5% meeting the Federal specification QQ-L-201f, Grades "B, C or D". Lead batten strips required behind vertical joints of lead backed gypsum wallboard (Item 5) and optional at remaining stud locations. UNITED STATES GYPSUM CO — Type AR, C, FRX-G, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SHX, ULIX, ULX, WRC, WRX, USGX (Joint tape and compound, Items 6 and 7, optional for use with Type USGX). 10. Lead Discs or Tabs — (Not Shown, For use With Item 5A) - Used in lieu of or in addition to the lead batten strips (Item 9) or optional at other locations - Max 3/4 in. diam by max 0.125 in. thick lead discs compression fitted or adhered over steel screw heads or max 1/2 in. by 1-1/4 in. by max 0.125 in. thick lead tabs placed on gypsum boards (Item 5A) underneath screw locations prior to the installation of the screws. Lead discs or tabs to have a purity of **USG BORAL ZAWAWI DRYWALL L L C SFZ** — Types C, SCX 99.9% meeting the Federal specification QQ-L-201f, Grade "C". 10A. Lead Discs — (Not Shown, for use with Item 5C) Max 5/16 in. diam by max 0.140 in. thick lead discs 1 Hr. Configuration compression fitted or adhered over steel screw heads. Lead discs to have a purity of 99.5% meeting the Federal USG MEXICO S A DE C V — Types AR, C, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SHX, ULX, USGX, WRC, WRX (Joint tape Specification QQ-L-201f, Grades "B, C or D". and compound, Items 6 and 7, optional for use with Type USGX). 11. Lead Batten Strips — (Not Shown, For Use With Item 5B) Lead batten strips, 2 in. wide, max 10 ft long with a 1. Steel Floor and Ceiling Runners — (Not Shown) — Channel shaped, 3-1/2 in. wide by 1-1/4 in. max thickness of 0.142 in. Strips placed on the face of studs and attached to the stud with two min. 1 in. long min. Type S-8 pan head steel screws, one at the top of the strip and one at the bottom of the strip or with one min. 1 in. deep, fabricated from min 20 MSG (0.0329 in., min bare metal thickness) galvanized steel. 5A. **Gypsum Board*** — (As an alternate to Item 5 may be used as the base layer on one or both sides of wall, For long min. Type S-8 pan head steel screw at the top of the strip. Lead batten strips to have a purity of 99.9% meeting Attached to floor and ceiling with steel fasteners spaced 24 in. OC max. direct attachment only) - Nom 5/8 in. thick lead backed gypsum panels with beveled, square or tapered edges, applied the Federal specification QQ-L-201f, Grade "C". Lead batten strips required behind vertical joints of lead backed vertically. Vertical joints centered over studs and staggered min 1 stud cavity on opposite sides of studs. Wallboard 2. Steel Studs — Channel shaped, fabricated from min 20 MSG corrosion-protected or galv steel, gypsum wallboard (Item 5B) and optional at remaining stud locations. secured to studs with 1-1/4 in. long Type S-12 steel screws spaced 8 in. OC at perimeter and 12 in. OC in the field. 3-1/2 in. min width, min 1-1/2 in. flanges and 1/4 in. return, spaced a max of 16 in. OC. Studs 12. **Lead Tabs** — (Not Shown, For Use With Item 5B) 2 in. wide, 5 in. long with a max thickness of 0.142 in. Tabs friction-fit into floor and ceiling runners. Studs to be cut 5/8 to 3/4 in. less than assembly height. **RAY-BAR ENGINEERING CORP** — Type RB-LBG friction-fit around front face of stud, the stud folded back flange, and the back face of the stud. Tabs required at each 3. Cementitious Backer Units* — 1/2 in. or 5/8 in. thick, applied vertically or horizontally with location where a screw (that secures the gypsum boards, Item 5B) will penetrate the steel stud. Lead tabs to have a vertical joints centered over studs. Fastened to studs and runners with corrosion resistant, purity of 99.9% meeting the Federal specification QQ-L-201f, Grade "C". Lead tabs may be held in place with standard adhesive tape if necessary. 5B. **Gypsum Board*** — (As an alternate to Item 5 may be used as the base layer on one or both sides of wall, For chamfered, ribbed wafer head screws with a minimum head diameter of .400 inch. For nonbearing direct attachment only). Nominal 5/8 in. thick lead backed gypsum panels with beveled, square or tapered edges, systems, fastened to studs and bottom runners with the uppermost screws placed 1/2 in. to 2 in. * Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification applied vertically. Vertical joints centered over studs and staggered min 1 stud cavity on opposite sides of studs. below the bottom edge of the leg of the top runner. Horizontal joints need not be backed by Wallboard secured to studs with 1-1/4 in. long Type S-12 (or #6 by 1-1/4 in. long bugle head fine driller) steel screws (such as Canada), respectively. framing. 1 Hr System - Screws shall be min 1-1/4 in. long and spaced a max of 8 in. OC. All spaced 8 in. OC at perimeter and 12 in. OC in the field. vertical joints staggered one stud cavity from gypsum board vertical joints on the opposite side of NEW ENGLAND LEAD BURNING CO INC, DBA NELCO — Nelco studs. Horizontal edge joints and horizontal butt joints on opposite sides of studs need not be staggered. 2-Hr System - For the base layer in Configuration B, the screws shall be min 1-1/4 in. long and spaced a max of 12 in. OC. For the face layers, screws shall be 1-5/8 in. long and 5C. **Gypsum Board*** — (As an alternate to Item 5) For Direct Application to Studs Only- For use as the base layer or spaced a max of 8 in. OC. All face layer joints offset min 12 in. from underlying base layer joints. as the face layer. Nom 5/8 in. thick lead backed gypsum panels with beveled, square or tapered edges, applied vertically. Vertical joints centered over studs and staggered min 1 stud cavity on opposite sides of studs. Wallboard Joints in either layer need not be staggered from joints on the opposite side of the wall. secured to studs with 1-5/8 in. long Type S-12 steel screws spaced 8 in. OC at perimeter and 12 in OC in the field when applied as the base layer. When applied as the face layer screw length to be increased to 2-1/2 in. Lead batten strips required behind vertical joints of lead backed gypsum wallboard and optional at remaining stud locations. Lead batten strips, min 2 in. wide, max 10 ft long with a max thickness of 0.140 in. placed on the face of studs and attached to the stud with two 1 in. long Type S-8 pan head steel screws, one at the top of the strip and one at the bottom of the strip. UNITED STATES GYPSUM CO — Type DCB Lead discs, max 5/16 in. diam by max 0.140 in. thick. compression fitted or adhered over the screw heads. Lead batten strips and discs to have a purity of 99.5% meeting the Federal specification QQ-L-201f, Grades "B, C or D". Fasteners for face layer gypsum panels (Item 5) when installed over lead backed board to be min 2-1/2 in. MAYCO INDUSTRIES INC — Type X-Ray Shielded Gypsum http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/showpage.html?name=BXUV.U404&ccnshorttitle=Fire+Resistance+Ratings+-+ANSI/UL+263&... 1/4 http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/showpage.html?name=BXUV.U404&ccnshorttitle=Fire+Resistance+Ratings+-+ANSI/UL+263&... 3/4 CONT. FIRE 4 PCF DENSITY SEALANT EA. SIDE MINERAL WOOL 2" DEFLECTION B.O. DECK-TRACK -1 LAYER 5/8" TYPE X GYP. T.O. GYP. BD. BD. EA. FACE G OF TOP ROW * FIRE CAULK BOTH SIDES OF WALL AT FLOORS, DECK, OF FASTENERS LID AND ANY PENETRATIONS/ TOP OF METAL CONNECTIONS STUD 6" METAL STUDS —1 LAYER 5/8" TYPE @ 16" OC. DO NOT X GYP. No Revision / Submissions ATTACH TO BD. EA. FACE DEFLECTION 3650 Wadsworth Boulevard Wheat Ridge, Colorado 80033 Phone: 303-428-4895 Fax: 303-428-5472 * SEE S SHEETS FOR Email: info@battistadesign.r ATTACHMENT AT www.battistadesign.net -20 GA FLOOR RUNNERS ATTACHED W/ STEEL FASTENERS AT 24" O.C. MAX FLOORS BATTISTA -20 GA STEEL STUDS 16"O.C. MAX ATTACHED TO FLOOR RUNNERS W/3/8" L. TYPE S-12 STEEL SCREWS ON BOTH SIDES DESIGN GROU -MIN. 3" THICK MINERAL WOOL INSULATION FRICTION FITTED BTWN STUDS -VERT. APPLICATION, 5/8" FIRE RATED GYP BOTH SIDES WITH 1" L. TYPE S-12 SCREWS AT 8" O.C. ON VERT EDGES → FINISH AS SCHEDULED BY T.I. AND 12" O.C. MAX ELSWHERE SVA GREELEY -5/8" FIRE RATED GYP. BD. -HORIZ. APPLICATION, 5/8" FIRE RATED GYP BOTH SIDES WITH 1" L. TYPE S-12 SCREWS AT 8" O.C. MAX BOTH SIDES Shell Building -JOINTS, GLASS FIBER MESH TAPE AND LATEX MODIFIED PORTLAND CEMENT MORTAR OR BASECOAT 3-5/8" - 20 GA. METAL STUDS @ 16" O.C. 6" MTL STUDS AT WALL TYPE 1A 1911 59th AVENUE -FULL HEIGHT MINERAL WOOL BATTS GREELEY, CO 80634 -BASE AS SCHED. BY T.I. CONCRETE SLAB ON GRADE WALL TYPES -- U404 WALLS HR. CONFIGURATION Project Number: Designed: SVA2025 Drawn: As Shown

WALL TYPES

RE:

N.T.S.

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Checked:

Reviewed:

Feb., 2025

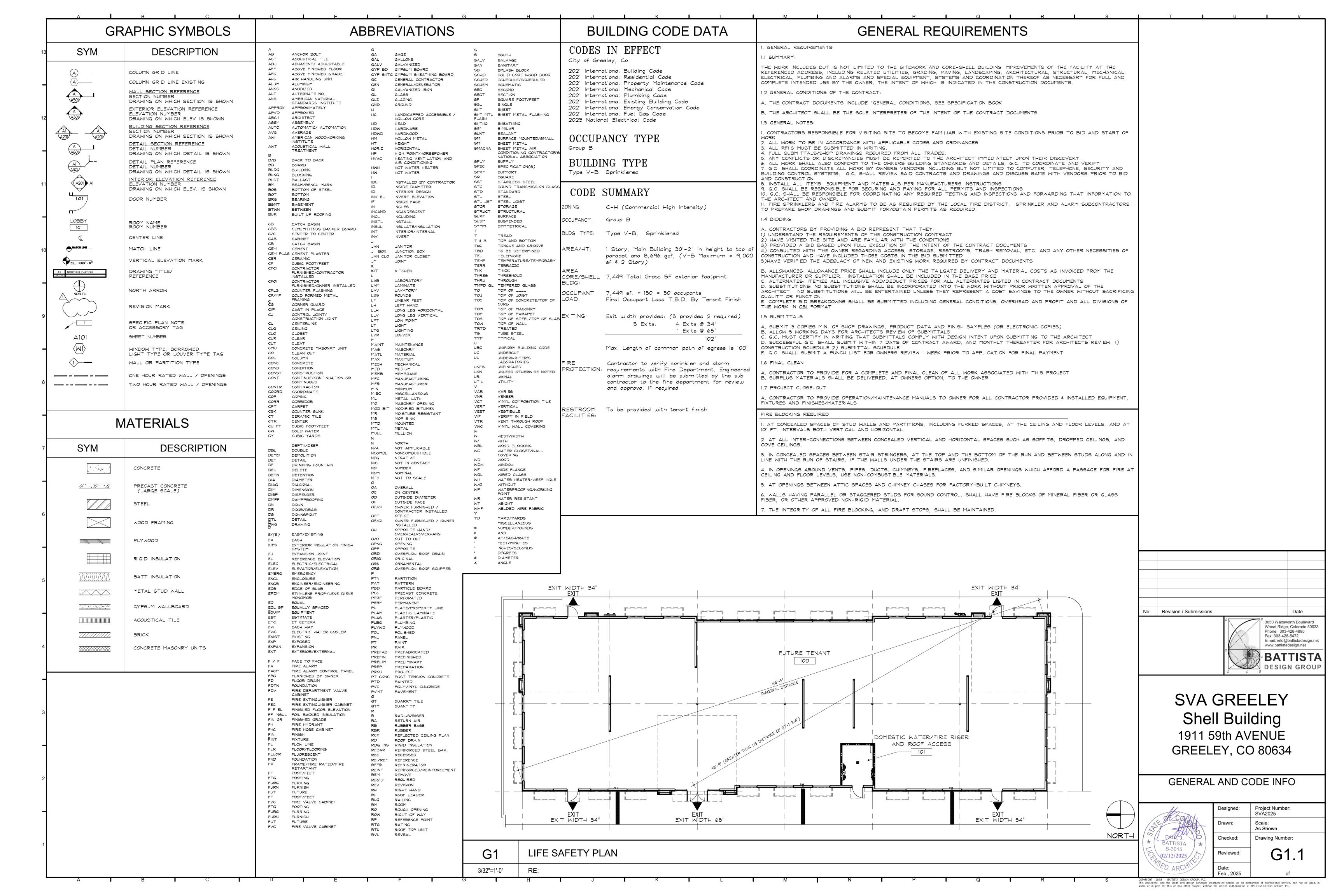
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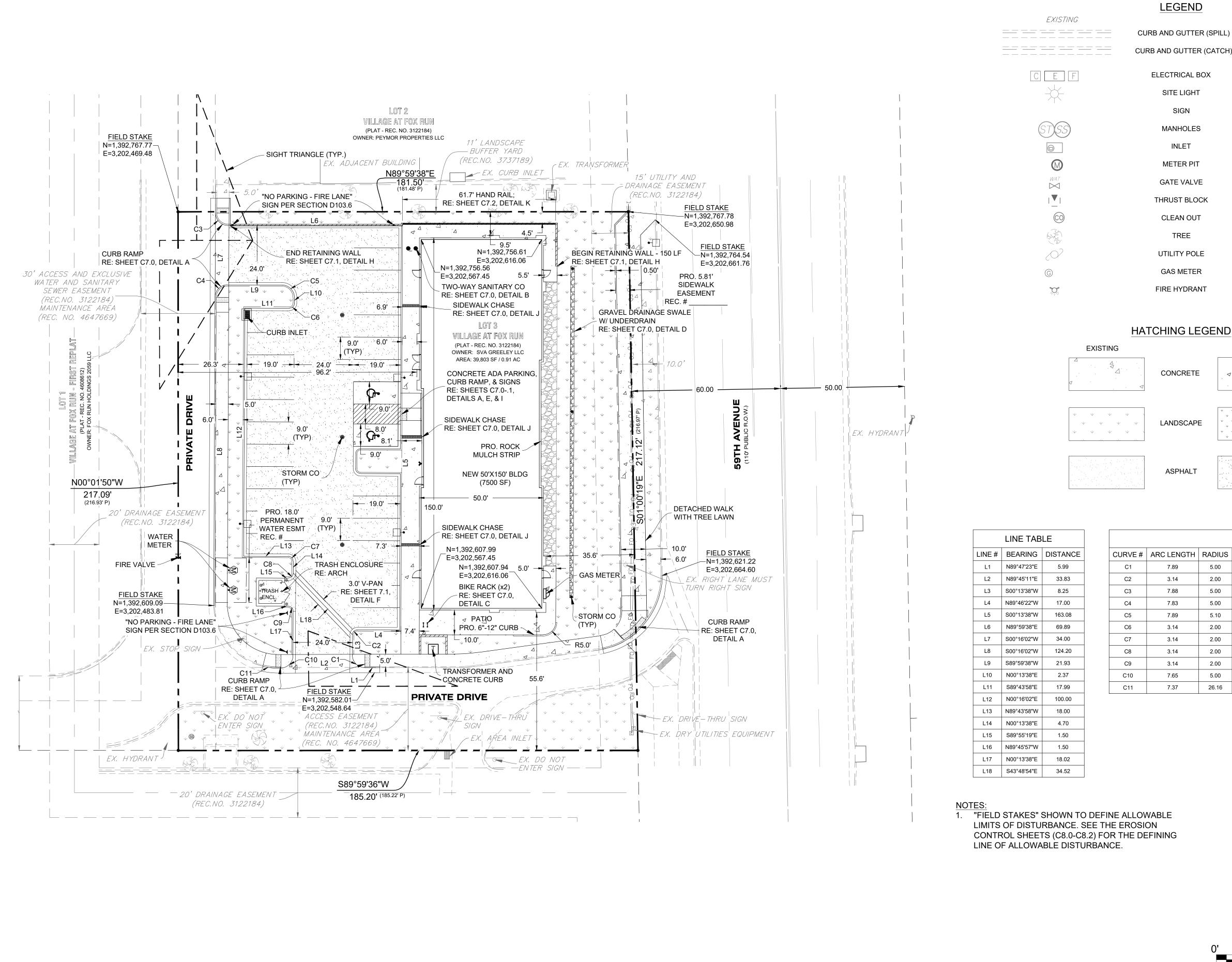
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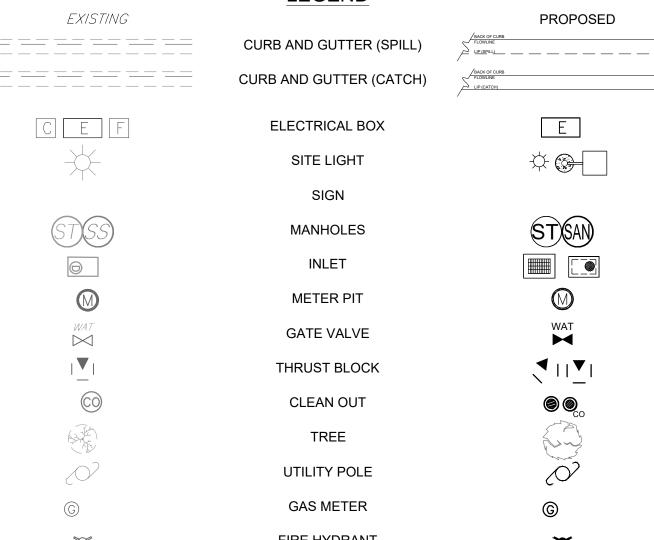
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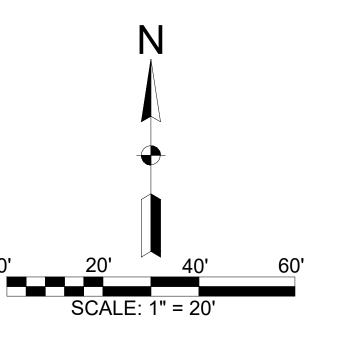






EXISTING		PROPOSED
	CONCRETE	Δ Δ
	LANDSCAPE	<pre></pre>
	ASPHALT	

CURVE TABLE							
CURVE#	ARC LENGTH	RADIUS	DELTA ANGLE	CHORD BEARING	CHORD LENGTH		
C1	7.89	5.00	90°26'15"	S44°59'29"E	7.10		
C2	3.14	2.00	90°00'00"	S45°13'38"W	2.83		
C3	7.88	5.00	90°16'23"	S44°52'10"E	7.09		
C4	7.83	5.00	89°43'37"	S45°07'50"W	7.05		
C5	7.89	5.10	88°37'02"	N45°13'25"W	7.13		
C6	3.14	2.00	89°59'56"	N45°13'36"E	2.83		
C7	3.14	2.00	90°00'00"	N44°46'22"W	2.83		
C8	3.14	2.00	89°51'02"	N45°09'10"E	2.82		
C9	3.14	2.00	89°59'35"	N44°46'09"W	2.83		
C10	7.65	5.00	87°36'52"	N44°02'05"E	6.92		
C11	7.37	26.16	16°09'17"	S84°04'51"E	7.35		





Know what's below Call before you dig.

CALL 811 2-BUSINESS DAYS IN ADVANCE BEFORE YOU DIG, GRADE, OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES.

> ENT V DO AVE SVA GREELEY - DE CONSTRUCTION 1911 59th A GREELEY, C

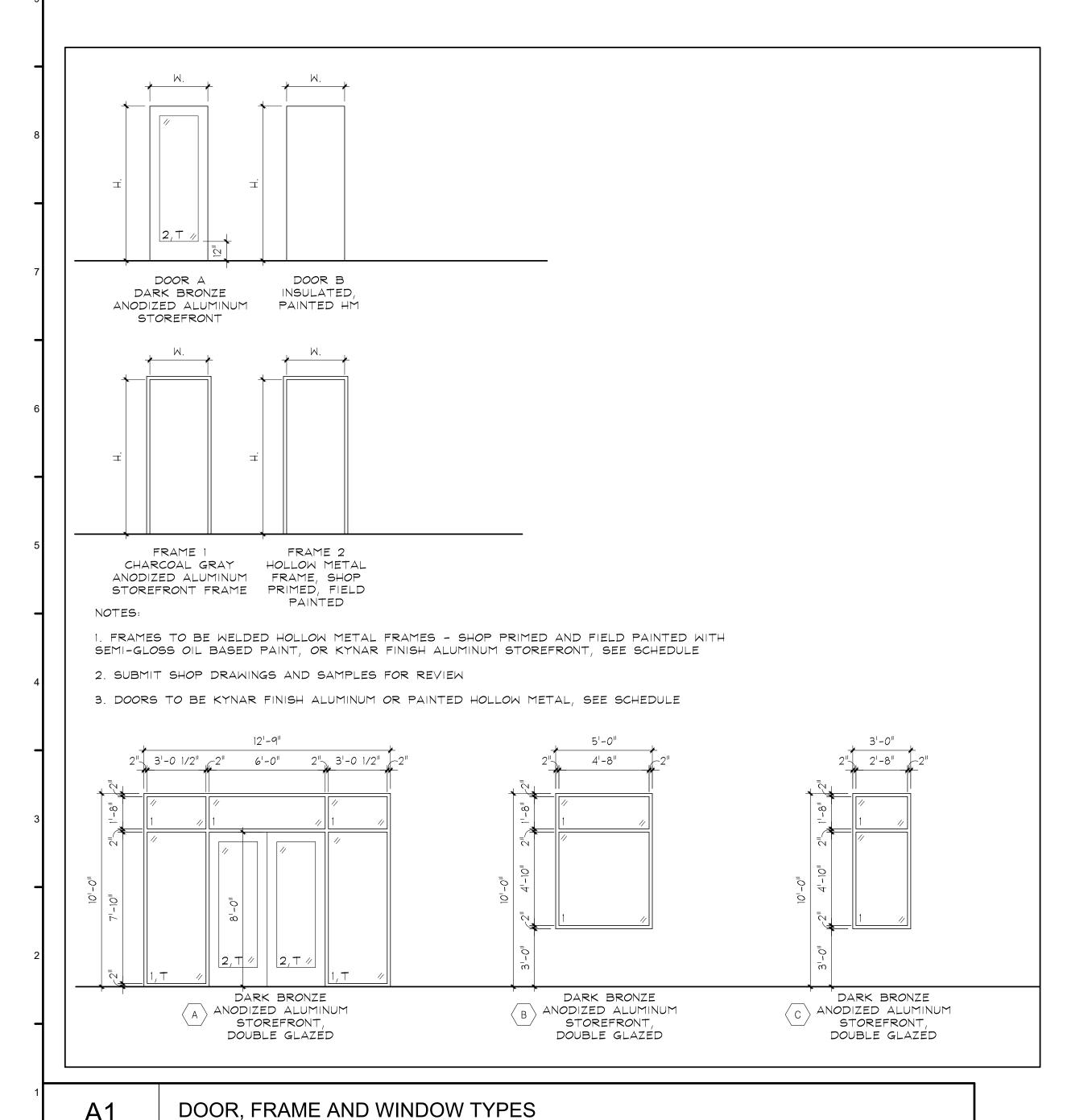
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REV	/ISIONS:				
No.	Date:	Description:	_		
1	08.05.24	Submittal #1			
2	10.29.24	Submittal #2			
3	12.13.24	Submittal #3			
4	01.17.25	Submittal #4	4		
5	02.07.25	Submittal #5			
			_		
			_ 6		
Project No: 24_06					
Drawn By: GJB					
Checked By: CCH					
Date Issued: 06.02.2025					
Sheet Name: SITE & HC PLAN					
Sheet Number:					

SP.1

DOOR AND FRAME SCHEDULE HARDWARE SET | QTY. DOOR **FRAME DETAILS** FIRE DOOR SILL | RATING | W | REMARKS WIDTH X HEIGHT X THICK 100 02 ENTRANCE LOCK 100A 01 ENTRANCE LOCK ALU ANO 100B 3'-0" 02 ENTRANCE LOCK 100C 02 ENTRANCE LOCK 100D 02 ENTRANCE LOCK 101 1-3/4" | C | HM | PNT 3'-0" 03 STOREROOM LOCK | 3 | HM | PNT

GLAZING TYPES					
TYPE	GLAZING MATERIAL				
1	1" INSULATED GLASS WITH ARGON, LOW 'E', SOLAR GRAY COATING				
2	1/4" LOW 'E' GLASS. GRAY TINTED				
Т	INDICATES TEMPERED GLASS				

1/4 " = 1'-0"



DOOR HARDWARE SCHEDULE

FINISH

MFR

REMARKS

CATALOG NUMBER

DESCRIPTION

HW SET: 01 DOORS:	2 EA 1 EA 1 EA 2 EA 2 EA 2 EA 2 SET 1 SET 1 EA 2 EA 1 EA	CONT. HINGE PANIC HARDWARE PANIC HARDWARE MORTISE CYLINDER RIM CYLINDER 90 DEG OFFSET PULL SURFACE CLOSER CLOSER BRACKET(S) SEALS MEETING STILE SEAL DOOR SWEEP THRESHOLD	112HD CD-9847-EO CD-9847-NL-OP-110MD 20-001 (CAM/COLLAR AS REQ.) 20-022 8190EZHD 10" O 4050 SCUSH AS REQ. TO INSTALL CLOSER BY ALUM DOOR/FRAME MFR. BY ALUM DOOR/FRAME MFR. BY ALUM DOOR/FRAME MFR. BY ALUM DOOR/FRAME MFR. 655A - OR AS REQ. BY SILL DET.	626 626 626 630 689 689	VON SCH SCH IVE LCN	FREE EGRESS AT ALL TIMES. PANIC HARDWARE DEVICE LATCH MAY BE MECHANICALLY HELD IN RETRACTED STATE BY MECHANICAL CYLINDER DOGGING FEATURE FOR PUSH/PULL OPERATION. WITH SPRING STOP FREE EGRESS AT ALL TIMES.	(IVE) Ives Trimco, Rockwood (NGP) National Guard Products Pemko, Zero International (SCH) Schlage No Substitution (STA) Stanley Schedule Notes: A. General: 1. Intent of Hardware Groups a. The following schedule of hardware groups shall be considered a guide only. It shall be the hardware supplier's responsibility to furnish all required hardware. b. Where items of hardware aren't definitely or correctly specified and are required for completion of the Work, a written statement of such omission, error, or other discrepancy shall be sent to the Architect, prior to date specified for receipt of bids for clarification by addendum; or, furnish such items in the type and quality established by
TW SET: 02 DOORS:	1 EA 1 EA 1 EA 1 EA 1 EA 1 SET 1 SET 1 EA 1 EA	PANIC HARDWARE MORTISE CYLINDER RIM CYLINDER 90 DEG OFFSET PULL SURFACE CLOSER CLOSER BRACKET(S) SEALS DOOR SWEEP THRESHOLD	CD-9847-NL-OP-110MD 20-001 (CAM/COLLAR AS REQ.) 20-022 8190EZHD 10" O 4050 SCUSH AS REQ. TO INSTALL CLOSER BY ALUM DOOR/FRAME MFR. BY ALUM DOOR/FRAME MFR. 655A - OR AS REQ. BY SILL DET.	626 626 626 630 689	VON SCH SCH IVE	PANIC HARDWARE DEVICE LATCH MAY BE MECHANICALLY HELD IN RETRACTED STATE BY MECHANICAL CYLINDER DOGGING FEATURE FOR PUSH/PULL OPERATION. WITH SPRING STOP	this specification, and appropriate to the service intended. c. Adjustments to the Contract Sum will not be allowed for omissions or items of hardware not clarified prior to bid opening. 2. Furnish all items in US26D (BHMA 626/652), Satin Chrome unless otherwise specified, Thresholds and Weatherstrip shall be Mill Finish Aluminum. Closers shall be Powder Coated Aluminum. Trim and Flat Goods may be furnished in US32D (BHMA 630), Satin Stainless Steel. B. Lock and Latchsets: 1. General Contractor to arrange for a keying meeting, and programming meeting with Architect, Owner and hardware supplier, and other involved parties to ensure locksets and locking hardware, are functionally correct and keying and programming
HW SET: 03 DOORS:	3 EA 1 EA 1 EA 1 EA 1 EA 1 EA 1 EA 1 EA	HINGE STOREROOM LOCK LOCK GUARD SURFACE CLOSER PROTECTION PLATE RAIN DRIP GASKETING DOOR SWEEP THRESHOLD	5BB1HW 4.5 X 4.5 NRP AL80PD NEP LG12 4050 SCUSH 8400 10" X 2" LDW B-CS 142AA 429A @ HEAD & JAMBS 39A 655A - OR AS REQ. BY SILL DET.	630 626 630 689 630 AA A A	IVE SCH IVE LCN IVE ZER ZER ZER ZER	FREE EGRESS AT ALL TIMES. PANIC HARDWARE DEVICE LATCH MAY BE MECHANICALLY HELD IN RETRACTED STATE BY MECHANICAL CYLINDER DOGGING FEATURE FOR PUSH/PULL OPERATION. WITH SPRING STOP	complies with project requirements. 2. Provide 2 3/4 inch backset. 3. Provide strikes with extended lips where required to protect trim from being marred by latch bolt. Provide strike lips that do not project more than 1/8" beyond doorframe trim. Provide wrought box strikes on all locks and latches. C. Panic Hardware 1. Exit devices shall be touchpad style powder coated to the standard architectural finishes to match the balance of the door hardware. 2. Trim: as specified in sets, function numbers as listed in sets. 3. Exit devices shall be UL listed panic exit hardware.

Manufacturer Legend: Substitutions:

(FAL) FalconSchlage, Marks (GLY) Glynn Johnson Rixson, ABH (IVE) Ives Hinges, Stanley, McKinney (IVE) Ives Trimco, Rockwood (NGP) National Guard Products Pemko, Zero International

Exit devices shall be UL listed panic exit hardware. Provide hex key dogging on panic exit hardware.

After installation of all exit devices, General Contractor to have Manufacturer's representative inspect installation and advise if devices are adjusted correctly.

1. Door closers shall have fully hydraulic, full rack and pinion action with a high

strength cast iron or aluminum cylinder.

2. Spring power shall be continuously adjustable over the full range of closer sizes, and allow for reduced opening force for the physically handicapped. Closers shall have separate adjustment for latch speed, general speed, and backcheck.

3. Refer to door and frame details and furnish accessories such as drop plates, special templates, spacers and supports as required to correctly install door closers.

State degree of door swing in the hardware schedule. Place closers inside building, stairs and rooms. 4. Adjust door control devices to compensate for final operation of heating and

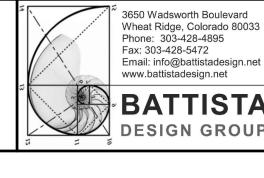
ventilating equipment and to comply with accessibility requirements. 5. Door control devices backcheck shall be properly located for protection of the door, frame, and applied hardware.

E. Threshold and Gasketing

1. Door Jambs must be cleaned of all dirt, grease, oil, solvents or solvent residue and dust before applying Pressure-Sensitive Adhesive backed Weatherstripping. 2. Thresholds: Set thresholds for exterior in full bed of sealant.

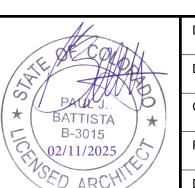
No Revision / Submissions

1. Hardware supplier shall meet with the Owner to finalize keying requirements and obtain keying instructions in writing. All cylinders shall be masterkeyed by supplier as directed by Owner. Quantities of permanent keys will be as determined by the Owner. Permanent keys shall be stamped with the applicable key mark as determined by the Owner for identification, and shall be stamped "Do Not Duplicate". Deliver all permanent keys direct to Owner from supplier by secure courier return receipt requested. If required by Owner all cylinders shall be construction keyed, furnish 5 construction keys



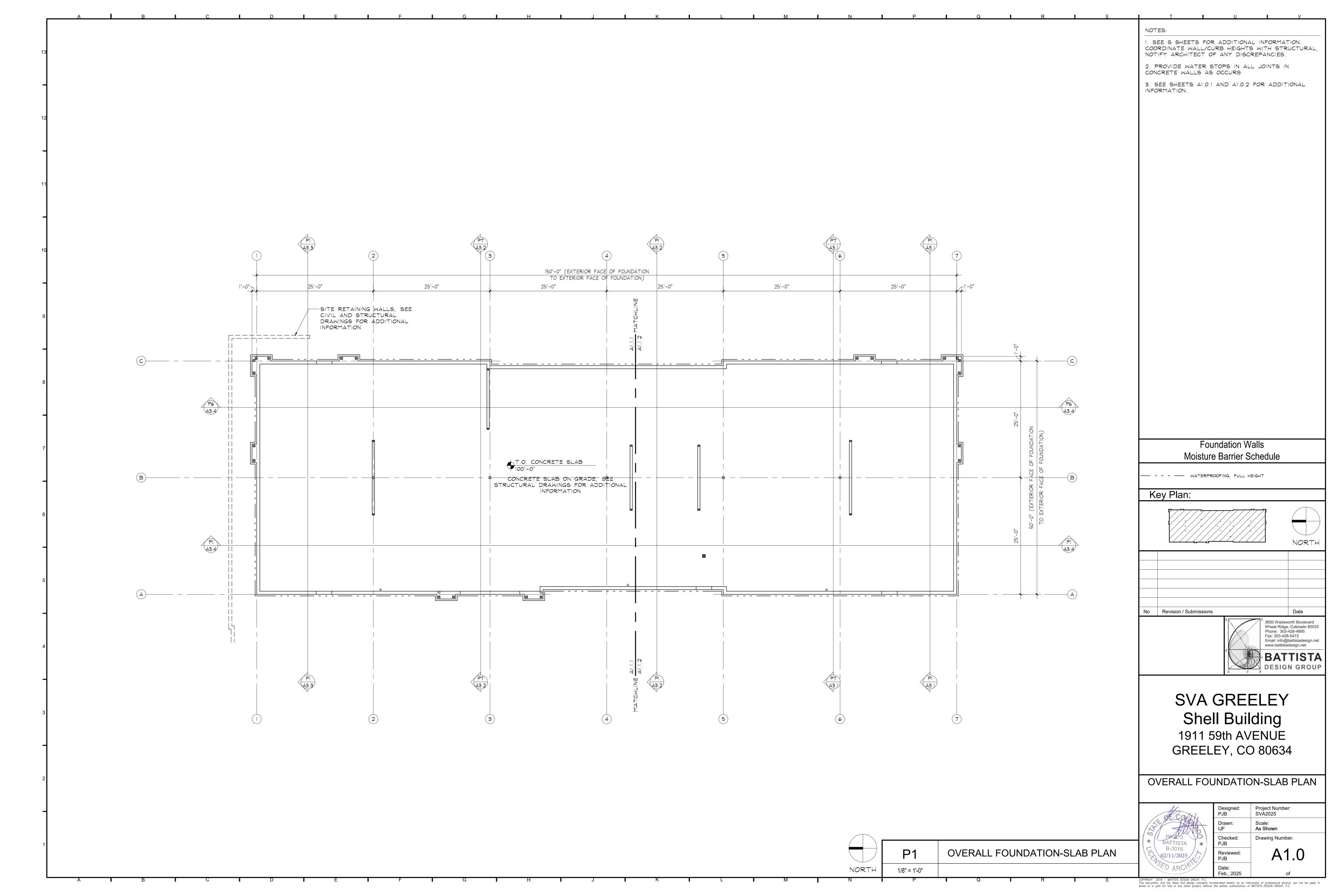
SVA GREELEY Shell Building 1911 59th AVENUE GREELEY, CO 80634

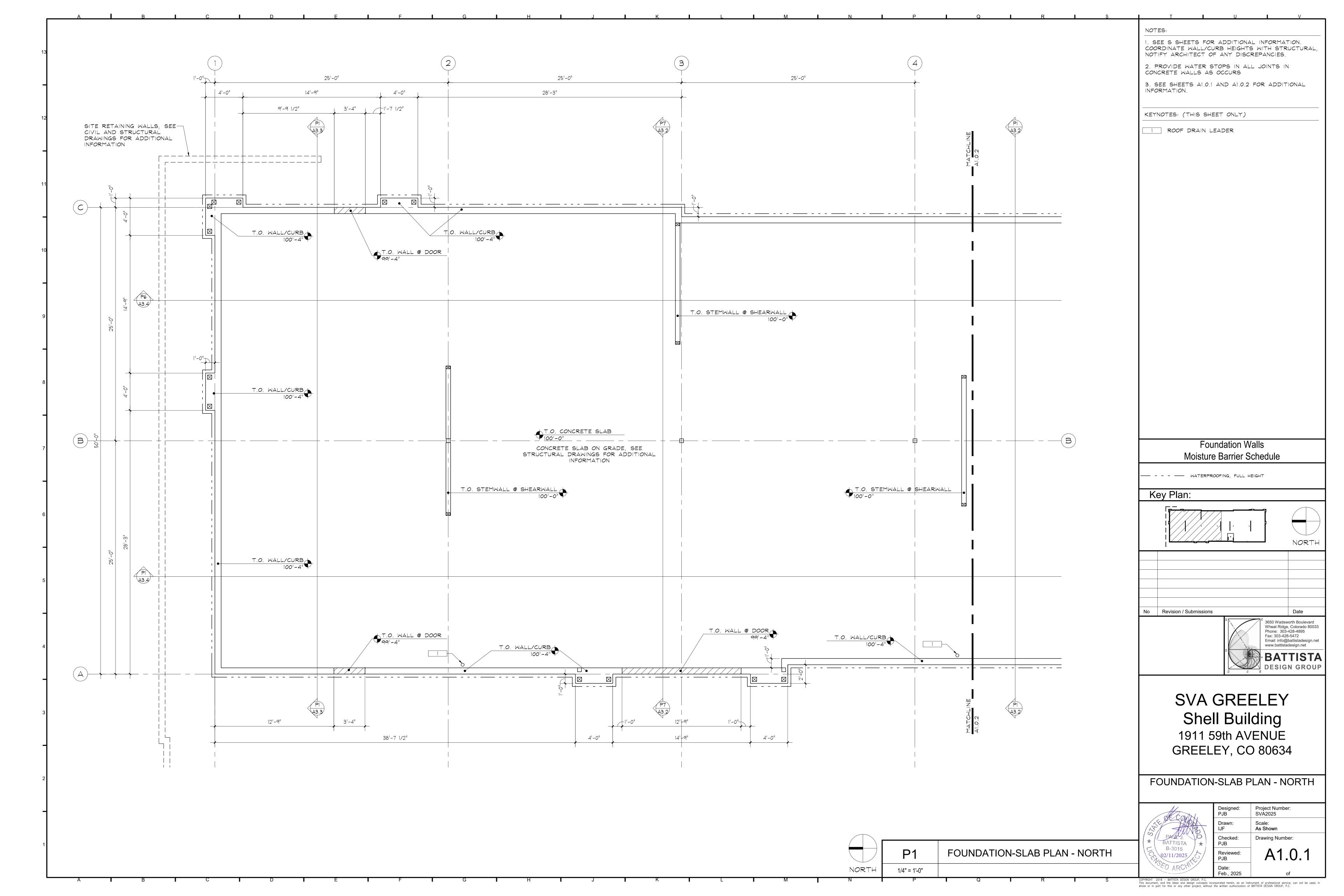
DOOR AND HARDWARE SCHEDULE DOOR AND WINDOW TYPES

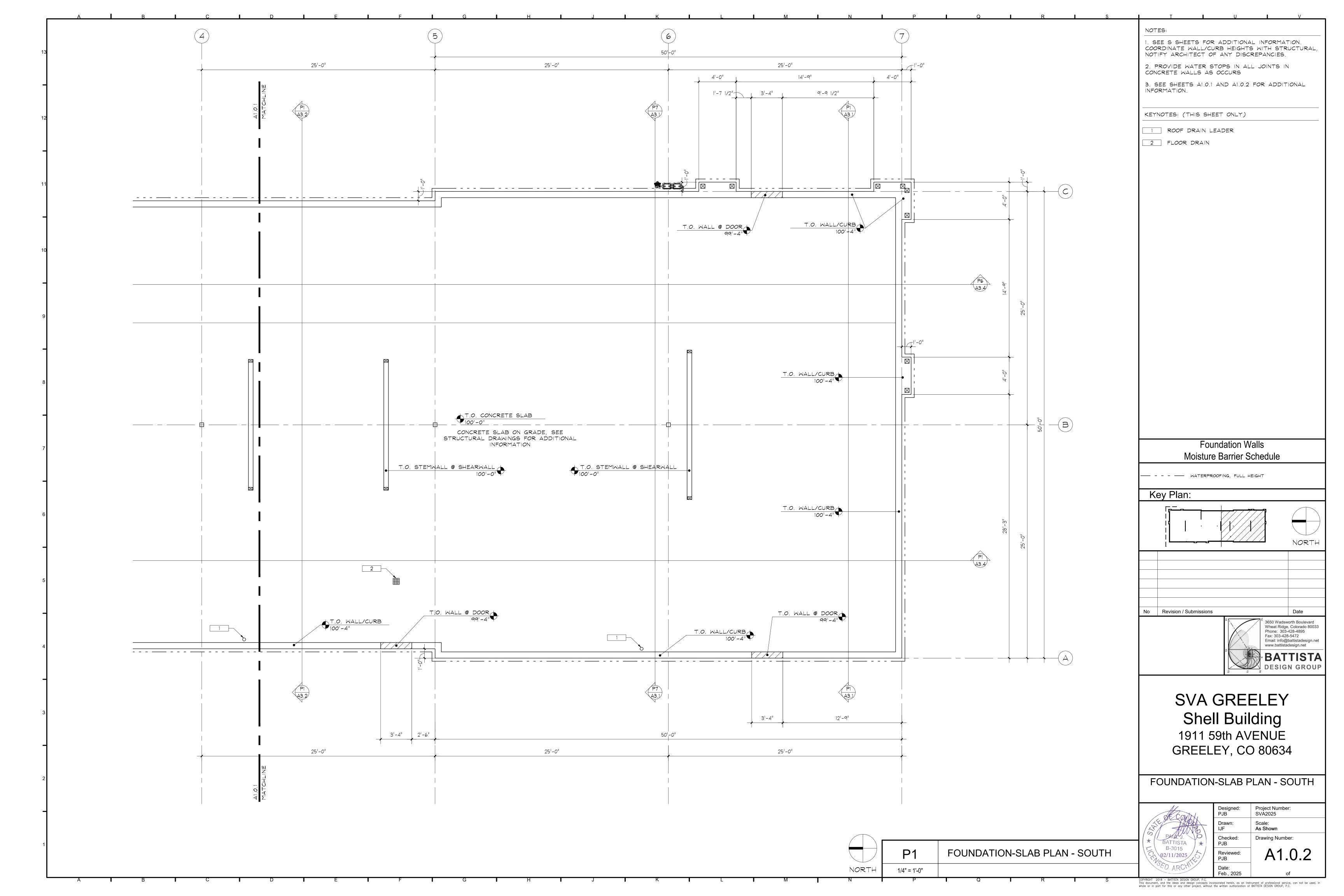


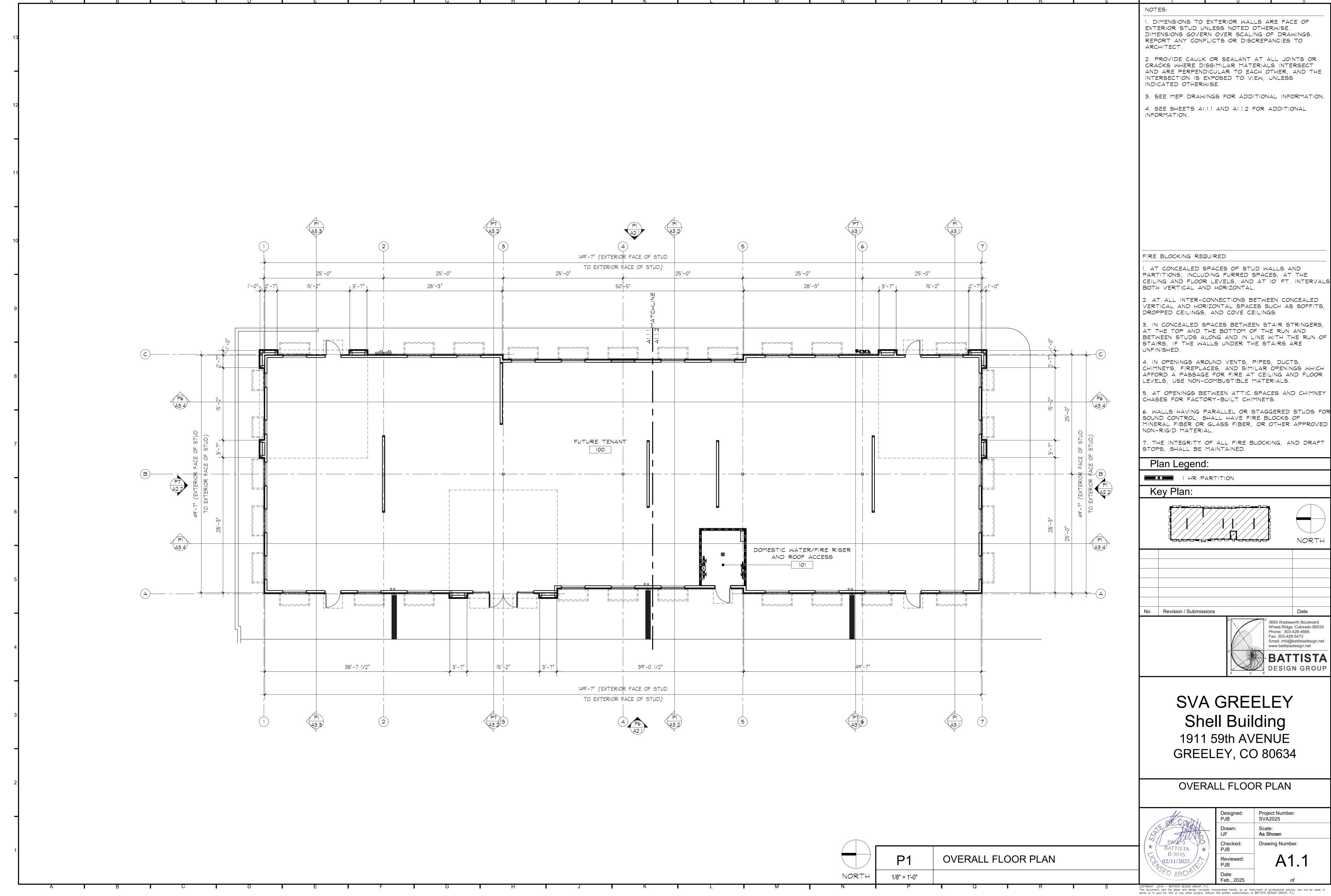
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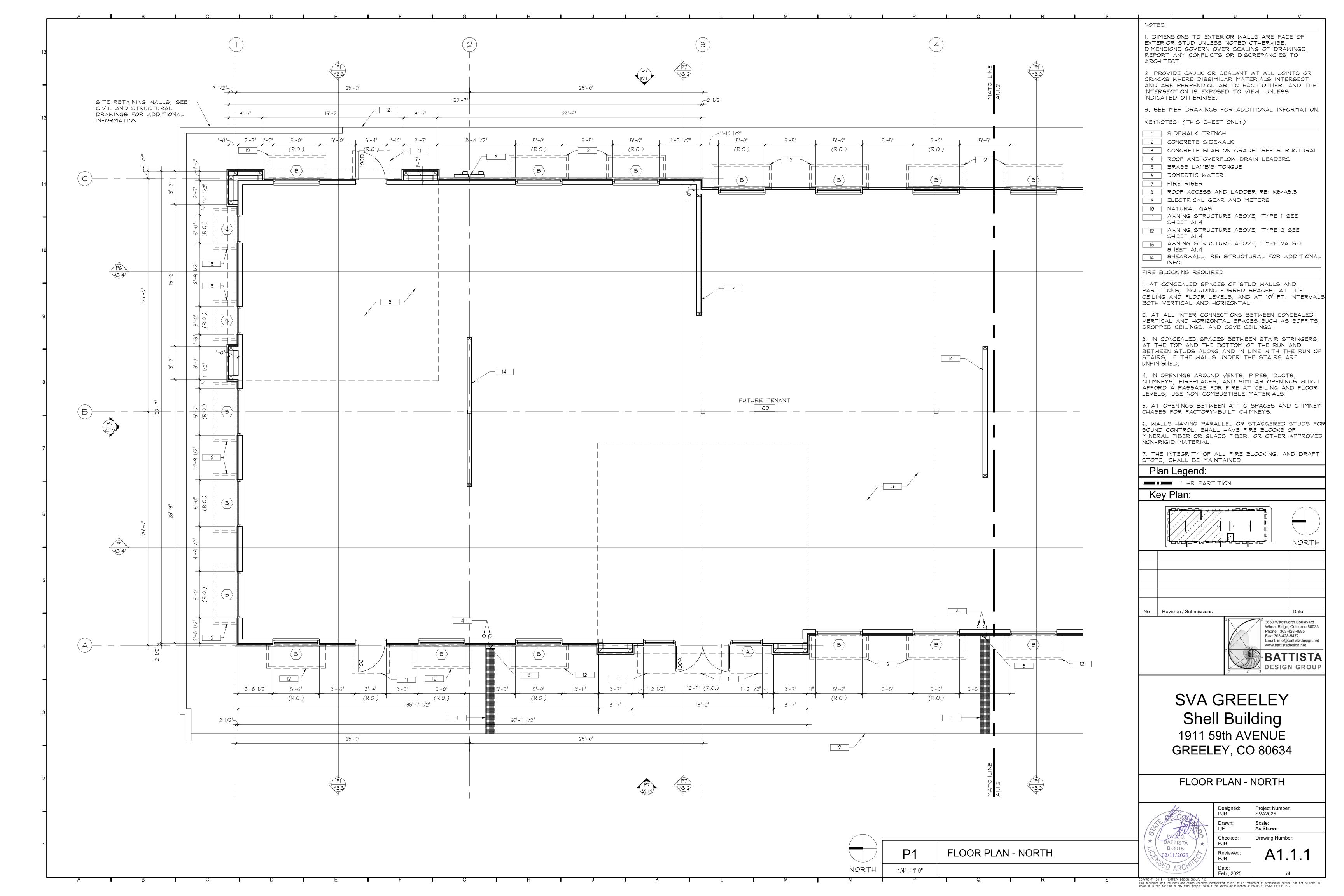
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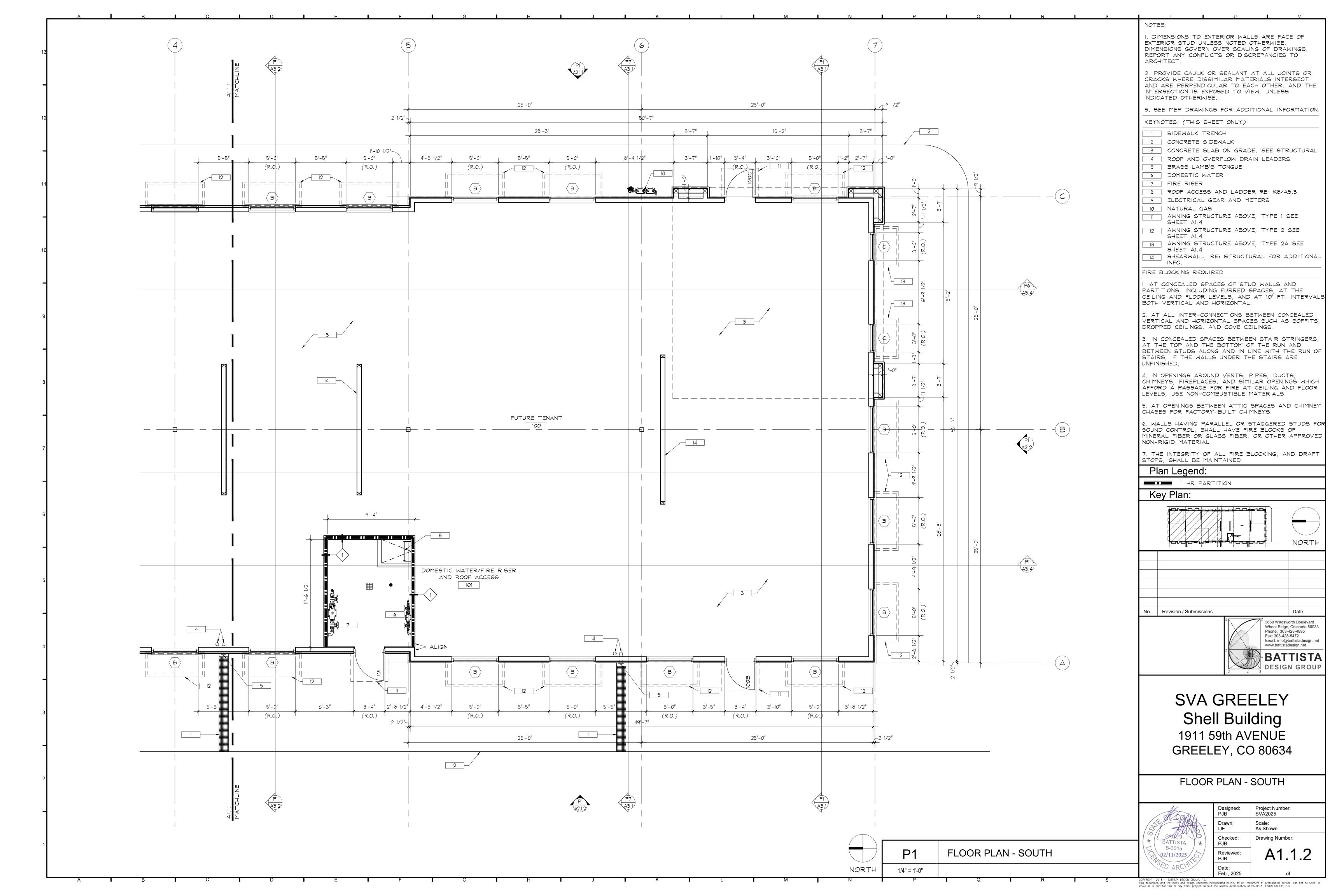


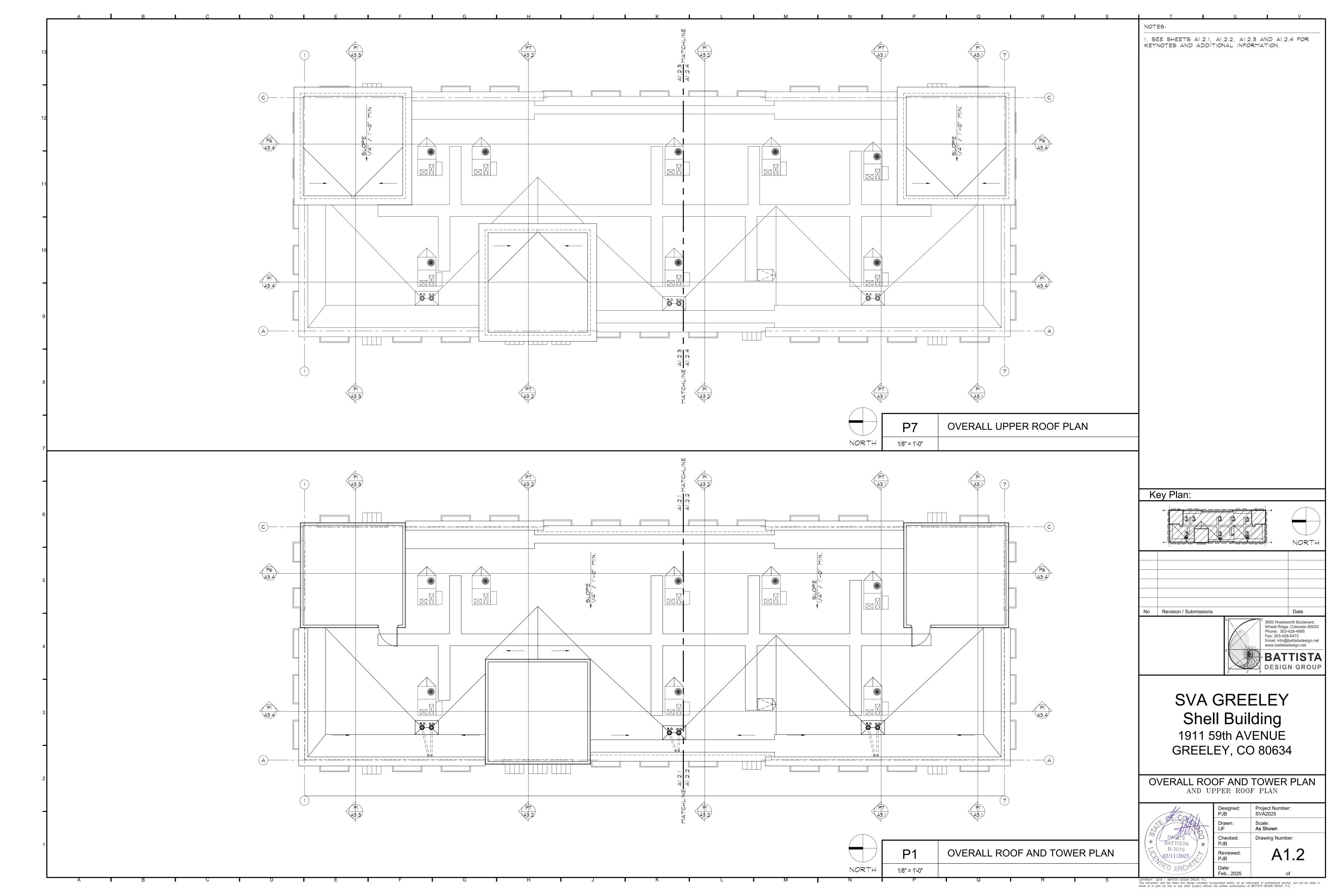


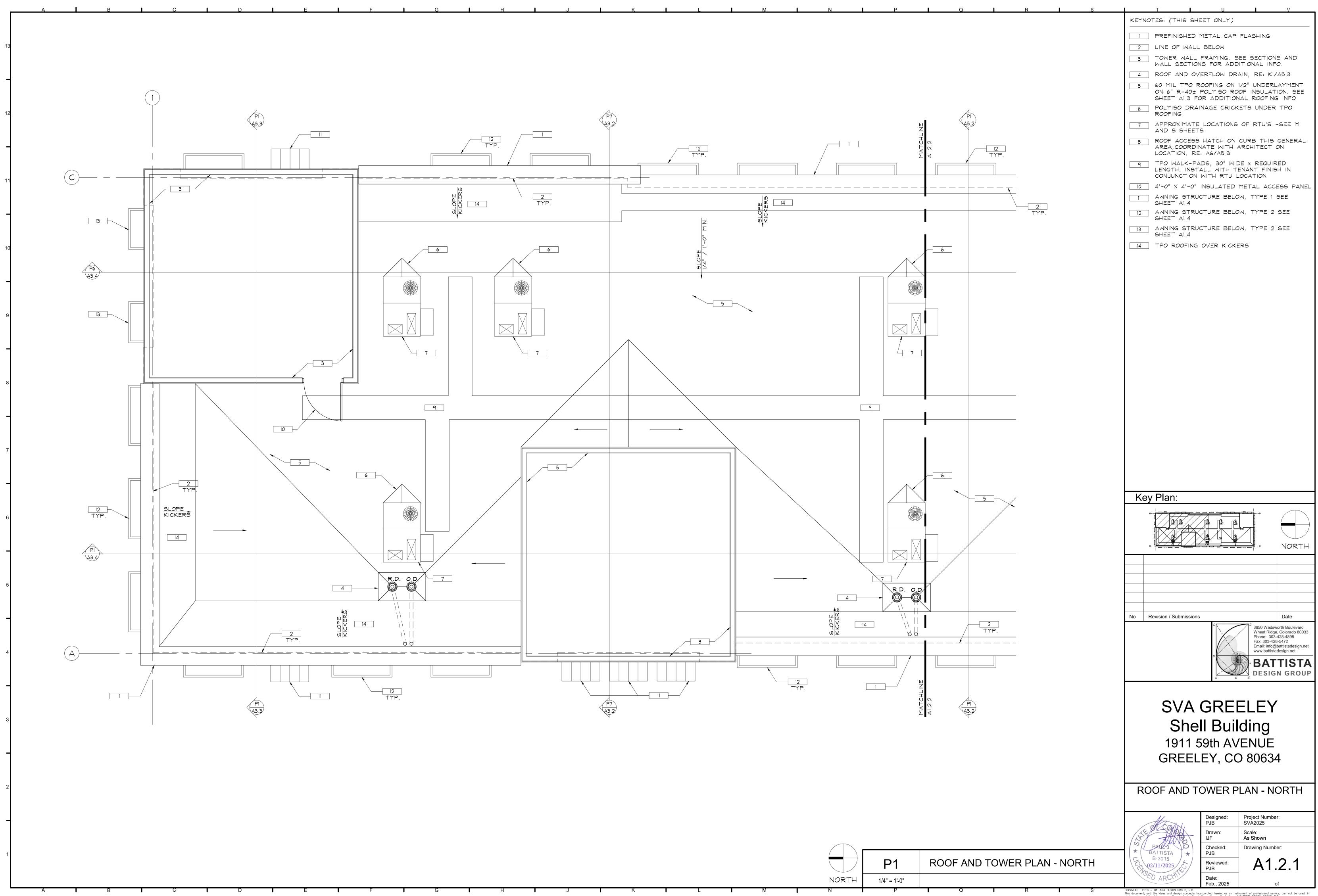




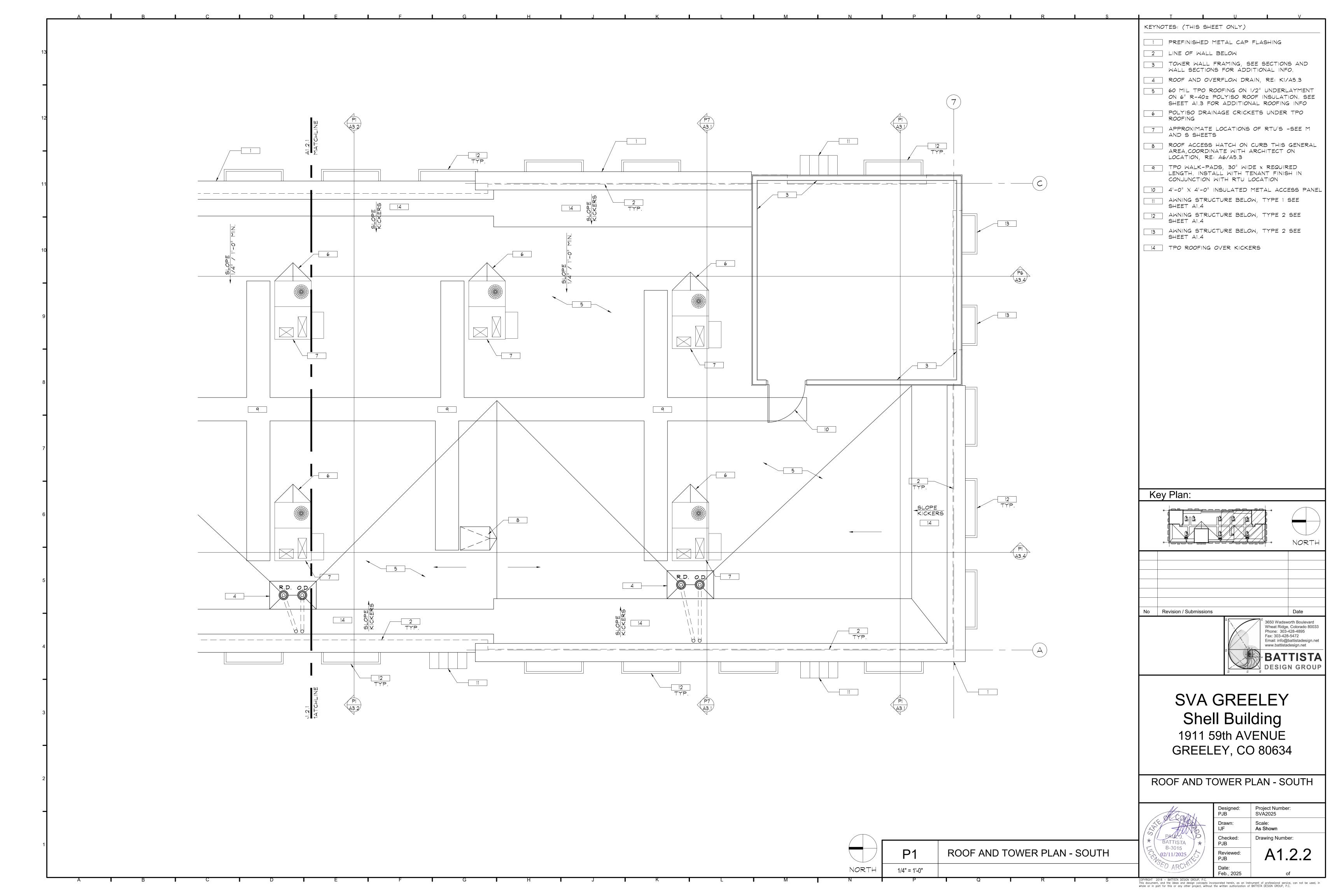


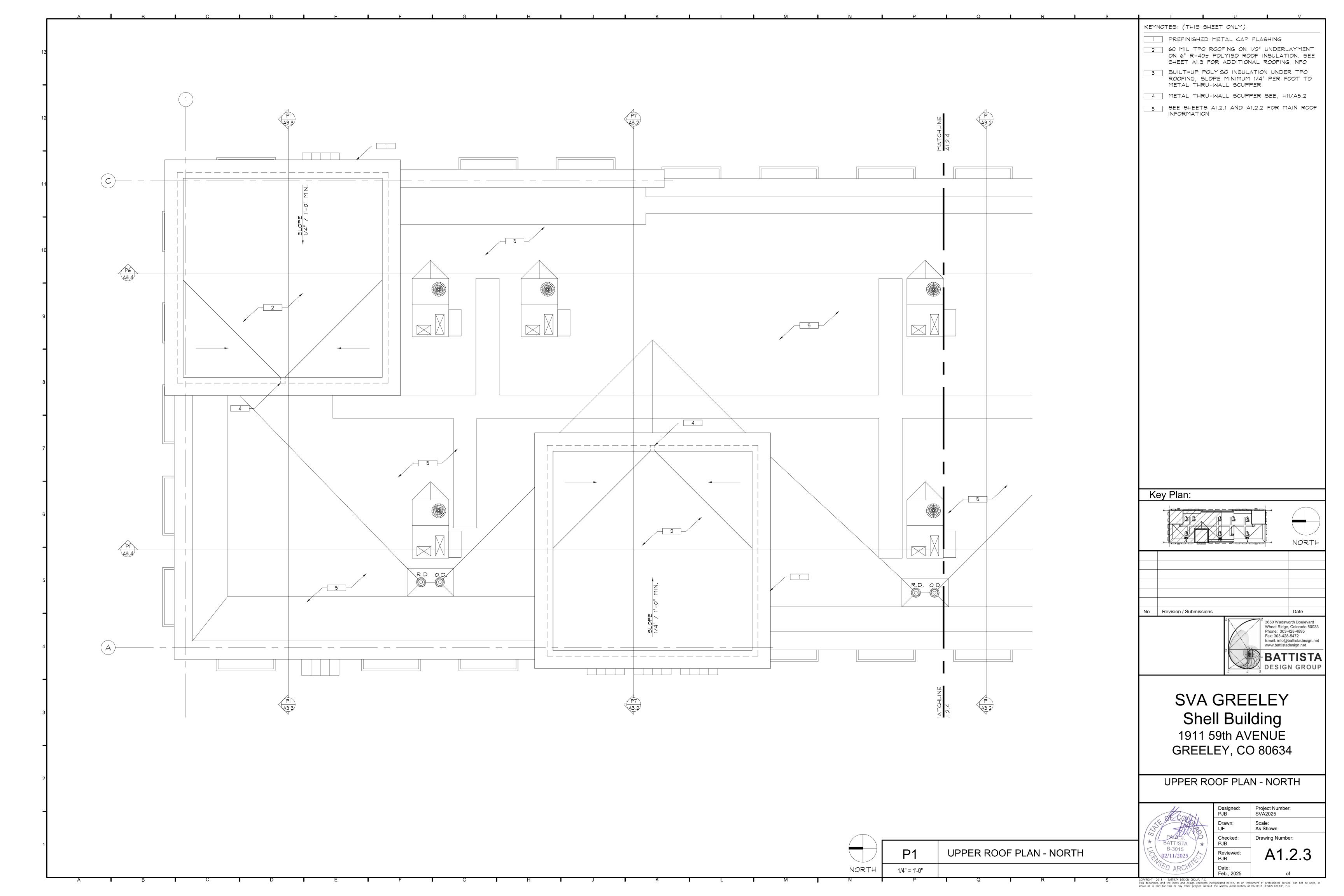


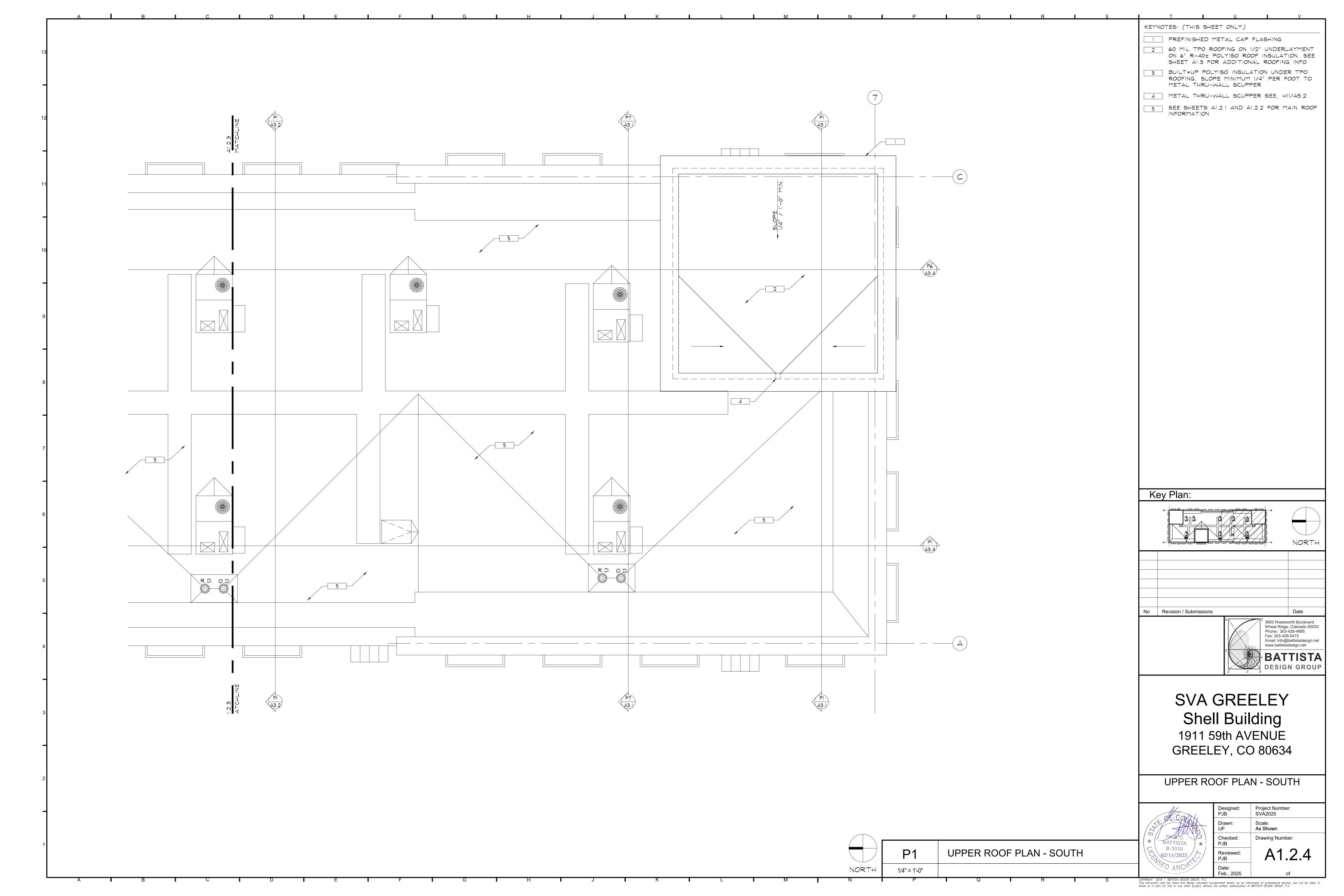




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VersiWeld® TPO Reinforced Membrane



Overview

Versico's VersiWeld TPO reinforced membrane is a premium, heatweldable, single-ply thermoplastic polyolefin (TPO) sheet designed for new roof construction and re-roofing applications. VersiWeld High Slope (HS) membrane is formulated with additional flame retardant for higherslope fire code approvals. VersiWeld Plus is 80 mils (2.03 mm) thick for significantly higher strength and weatherability.

VersiWeld TPO membranes use advanced polymerization technology that combines the flexibility of ethylene-propylene (EP) rubber with the heat weldability of polypropylene. All VersiWeld TPO membranes include OctaGuard XT[™], an industry-leading, state-of-the-art weathering package. OctaGuard XT technology enables VersiWeld TPO to withstand the extreme weatherability testing that is intended to simulate exposure to severe climates. Physical properties of the membrane are enhanced by a strong polyester

fabric that is encapsulated between the TPO-based top and bottom plies. The combination of the fabric and TPO plies provides high breaking and tearing strength, as well as excellent puncture resistance. The relatively smooth surface of the membrane produces a total surface fusion weld that results in a consistent, watertight, monolithic roof assembly. The membrane is environmentally friendly and safe to install.

Features and Benefits

- VersiWeld TPO available in 4-, and 6-ft (121.92 cm and 182.88 cm) perimeter sheets and 8-, 10-, and 12-ft (243.84 cm, 304.80 cm, and 365.76 cm) VersiWeld field sheets*
- Outstanding puncture resistance



Excellent fire resistant assemblies

- Environmentally friendly and stable formulation
- Excellent resistance to impact and low temperatures Excellent chemical resistance to acids, bases and restaurant exhaust emissions
- UL 2218 Class 4 hail rating
- Exceptional resistance to heat, solar UV, ozone and oxidation
- Manufactured using a hot-melt extrusion process for complete scrim encapsulation
- Enhanced with the OctaGuard XT

White Gray

weathering package Standard Colors:



OCTAGUARD XT

Special Colors:



* VersiWeld HS Special Color TPO membranes are available in limited sizes. Refer to Versico's VersiWeld HS TPO Special Color Program Sell Sheet for details.

Sustainable Attributes

Versico Roofing Systems' focus has always been innovation – Innovation to solve problems, improve performance, reduce labor, and above all, improve sustainability. Versico is committed to driving sustainable and efficient processes in the design and manufacturing of our products.

- Up to 10% pre-consumer recycled content
- Fully recyclable when used in mechanically attached systems
- 3rd-party verified Environmental Product Declaration available
- NSF P151 certification for rainwater catchment*
- California Title 24 compliant**
- Free of Living Building Challenge red list chemicals * White only, produced in Tooele, UT ** White and Tan only

BUILDING VALUE

VersiCore® Polyiso



Overview

VersiCore is a rigid-roof insulation panel composed of a closed-cell polyisocyanurate foam core bonded on each side to glass-reinforced felt

Features and Benefits

- VersiCore polyiso insulation provides the highest R-value per inch of commercially available insulation products
- Zero ozone-depleting components, HFC- and HCFC-free formulation Approved for direct application to steel decks

Panel Characteristics

 Available in 4' x 4' (1220 mm x 1220 mm) and 4' x 8' (1220 mm x 2440 mm) panels in thickness of 1/2" (13 mm) to 4.5" (115 mm)

Applications

 Single-Ply Roof Systems (Ballasted, Mechanically Attached, Fully Adhered)

Installation

Ballasted Single-Ply Systems

Each VersiCore panel is loosely laid on the roof deck. Butt edges and stagger joints of adjacent panels. Install the roof membrane according to Versico's specifications.



Mechanically Attached Single-Ply Systems

VersiCore panels must be secured to the roof deck with fasteners and plates (appropriate to the deck type). Butt edges and stagger joints of adjacent panels. Install the roof membrane according to Versico's specifications.

Fully Adhered Single-Ply Systems

VersiCore panels must be secured to the roof deck with fasteners and plates (appropriate to deck type). Butt edges and stagger joints of adjacent panels. Install the roof membrane according to Versico's

VersiCore 4' x 8' panels can be secured to the roof deck with Versico's Flexible DASH® Adhesive, either full coverage or bead spacing. VersiCore 4' x 4' panels may be adhered to prepared concrete deck with a full mopping of Type III or IV asphalt.

REVIEW CURRENT VERSICO SPECIFICATIONS AND DETAILS FOR SPECIFIC INSTALLATION REQUIREMENTS.

Codes and Compliances

- ASTM C1289, Type II, Class 1, Grade 2 (20 psi), Grade 3 (25 psi) International Building Code (IBC) Section 2603
- UL Standard 790, 263 and 1256: Component of Class A Roof Systems (refer to UL Roof Materials' system directory)
- FM® Standards 4450/4470: Class 1 approval for steel roof-deck
- constructions (refer to FM RoofNavSM) California Code of Regulations, Title 24, Insulation Quality Standard
- Third-party certification with the PIMA Quality Mark for Long-Term
- Thermal Resistance (LTTR) values
- CAN/ULC S704, Type 2, Class 3 (20 psi), Type 3, Class 3 (25 psi) Florida Building Code Approval
- CDPH compliant for maximum allowable concentrations of target VOCs

Precautions

Insulation must be protected from open flame and kept dry at all times. Install only as much insulation as can be covered the same day by completed roof-covering material. Protect installed product from excessive foot traffic. Versico will not be responsible for specific building and roof design by others, for deficiencies in construction or workmanship, for dangerous conditions on the job site or for improper storage and handling. Technical specifications shown in this literature are intended to be used as general guidelines only and are subject to change without notice. Call Versico for more specific details, or refer to PIMA Technical Bulletin No. 109: Storage & Handling Recommendations for Polyiso Roof Insulation.

BUILDING VALUE

Weathered Membrane Cleaner

TECHNICAL DATA BULLETIN



Overview

Let Versico simplify your next EPDM or TPO installation with Weathered Membrane Cleaner. Weathered Membrane Cleaner is used to clean both new and in-service VersiGard® EPDM black and white membrane and VersiWeld® TPO membrane prior to the seaming process. It helps to loosen and remove dirt and other contaminants from the surface of the EPDM and TPO membranes and leaves a suitable surface for welding or the subsequent application of primer. Weathered Membrane Cleaner should be used when preparing EPDM membranes for application of primer, adhesives, QA Seam Tape and flashing. Do not use Weathered Membrane Cleaner on PVC membranes – instead use PVC Membrane Cleaner.

Features and Benefits

- Easily removes dirt and other contaminants from EPDM and TPO membranes
- Prepares EPDM membrane for application of primer, adhesives
- Prepares aged or contaminated TPO membrane for welding

Coverage Rate

Coverage rate depends on the age of the membrane and the amount of dirt/ debris on the surface. Assume 400 ft² (37 m²) (one surface) per gallon.

Application

1. Remove as much loose material as possible from the membrane surface where the adhesive or pressure-sensitive product will be applied by brooming or wiping the area with a dry rag. Extreme conditions of accumulated dirt may require a low sudsing detergent and water cleaning (rinse area thoroughly with CLEAN water and allow to dry).

- Saturate a clean Splice Wipe (or equivalent) with Weathered Membrane Cleaner. SCRUB the area in a circular motion. Continue to clean the area, changing wipes frequently, until the surface is a consistent color with no streaking. Additional cleaning is required at factory seams (scrub parallel to the seam). Allow to dry.
- 3. Apply primer according to product instructions and/or roofing system specification.

Weathered Membrane Cleaner may be used to remove construction dirt or to prepare aged TPO membrane prior to welding.

- 1. Saturate a clean Splice Wipe (or equivalent) with Weathered Membrane Cleaner.
- 2. Wipe the area to be cleaned until the membrane is a consistent color with no streaking and allow to dry.
- 3. Weld the cleaned material together with an appropriate hot-air welder.

Welding Aged Material

- Using a Primer Pad and Weathered Membrane Cleaner, scrub the area to be welded. (The cleaner will become white with membrane residue during this step of the procedure.)
- 2. Clean all residue from the area to be welded with a Splice Wipe (or equivalent). Allow to dry.
- 3. Weld the cleaned material together with an appropriate hot-air welder. REVIEW CURRENT VERSICO SPECIFICATIONS AND DETAILS FOR SPECIFIC APPLICATION REQUIREMENTS.

BUILDING VALUE

VersiWeld® TPO Primer



Overview

Versico's TPO Primer is a high-solids-content, clear (translucent color), polymer-based splice primer used to prepare TPO membrane for improved adhesion to pressure-sensitive (PS) TPO accessories.

Features and Benefits

200-250 ft² (19-24 m²) (one surface) per gallon

- One-step primer allows for excellent adhesion of PS TPO accessories to TPO membrane
- Quick flash-off time for faster installation

Coverage Rates

Application 1. Thoroughly stir this product until all settled pigment is blended into

Membrane Cleaner prior to primer application

the solution. Solids suspended in TPO Primer tend to settle; stir or agitate the solution frequently during use. 2. The surface to which the TPO Primer is being applied should be

dry and clean. TPO membrane can be cleaned with Weathered

- KEEP OUT OF THE REACH OF CHILDREN. REVIEW THE MATERIAL SAFETY DATA SHEET FOR COMPLETE
- SAFETY INFORMATION PRIOR TO USE.



BUILDING VALUE

TECHNICAL DATA BULLETIN

VersiWeld® Bonding Adhesive



Overview

VersiWeld Bonding Adhesive is a high-strength solvent-based contact adhesive that allows bonding of VersiWeld TPO membrane to various porous and non-porous substrates.

Features and Benefits

- Solvent-based bonding adhesive that allows for quick drying Can be roller-applied with medium nap roller
- Provides excellent adhesion to various substrates

Coverage Rate

ROOFING SYSTEMS

60 sq. ft. (5.6 m²) per gallon finished surface. Coverage rates are average and may vary due to conditions on the jobsite. Porous surfaces and substrates may require more bonding adhesive than the typical coverage rate.

Mixing

Stir thoroughly until all settled pigments are dispersed and the adhesive is uniform in color. Minimum 5 minutes stirring is recommended.

Application

- 1. The surface, on or against which adhesive is to be applied, shall be clean, smooth, dry, free of fins, sharp edges, loose and foreign materials, oil and grease. Depressions greater then 1/4" (6 mm) should be feathered, using epoxy, mortar or other approved patching material. All sharp projections shall be removed by sweeping, blowing or vacuum cleaning.
- After thorough stirring (minimum 5 minutes), apply VersiWeld Bonding Adhesive to substrate and membrane using a 9" (23 mm) medium nap roller. Application shall be continuous and uniform avoiding globs or puddles. An open time of 5 to 50 minutes, based on drying conditions is recommended before assembly. VersiWeld Bonding Adhesive must be allowed to dry until it does not string or stick to a dry finger touch. Any coated area which has been exposed to rain should be allowed to dry and then recoated. Do not apply adhesive to splice areas to be hot-air welded.
- avoiding wrinkles. Immediately brush down the bonded portion of the sheet with a soft bristle push broom or a 150 lb. segmented roller to achieve maximum contact.

3. Roll the membrane onto the adhesive coated substrate while

REVIEW CURRENT VERSICO SPECIFICATIONS AND DETAILS FOR SPECIFIC APPLICATION REQUIREMENTS.

Precautions

- 1. Review the applicable Safety Data Sheet for complete safety information prior to use. 2. VersiWeld Bonding Adhesive is EXTREMELY FLAMMABLE. It contains
- solvents that are dangerous fire and explosion hazards when exposed to heat, flame or sparks. Do not smoke while applying. Do not use in a confined or unventilated area. Vapors are heavier than air and may travel along ground or may be moved by ventilation and ignited by pilot lights, other flames, sparks, heaters, smoking, electrical motors, static discharge, or other ignition sources at locations distant from material handling point and flashback. All containers should be grounded when material is transferred from one container to another. A red caution label is required when shipping. A fire extinguisher should be available. In case of fire, use water spray, foam, dry chemical or carbon dioxide. Do not use a
- 3. Avoid breathing vapors. Keep container closed when not in use. Use with adequate ventilation. If inhaled, remove to fresh air. If not breathing, perform artificial respiration. If breathing is difficult, give oxygen. Call a physician immediately. During application, efforts must be made to prevent fumes from entering the building via air ventilation ducts. Do not place open containers or mix adhesive near fresh air intake units. When possible, shut down or seal off the closest units.

BUILDING VALUE

solid stream of water because it can scatter and spread the fire.

TECHNICAL DATA BULLETIN



VersiWeld[®] TPO T-Joint Covers

Overview

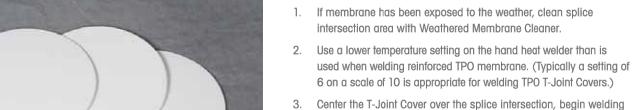
at splice intersections. T-Joint Covers are mandatory on all 60- and 80-mil TPO systems and on 45-mil systems where step-offs have not been properly sealed. VersiWeld TPO T-Joint Covers consist of 60-mil packaged 100 parts per carton. Available in white, tan and gray.

- Every T-Joint cover is a perfect 4.5"-diameter circle
- More consistent appearance than hand-cut flashing
- Provides substantial labor savings compared to field- cut flashing

Let Versico simplify your next VersiWeld TPO installation with pre-punched T-Joint Covers. VersiWeld TPO T-Joint Covers are used to seal step-offs non-reinforced flashing punched into a perfect 4.5"-diameter circle and Versico's VersiWeld TPO T-Joint Covers are part of the Certified Fabricated Accessory (CFA) Program. Certified Fabricated Accessories are the only factory-fabricated accessories that meet the stringent quality tolerances required to be included in a Versico warranted roofing system.

Features and Benefits

- Seals channels at splice intersections created by seam step-offs



the roller to crease the T-Joint Cover into membrane step-offs to achieve a proper seal. 4. Using a probe, check all splices for voids and cold- welds only once the T-Joint Cover has completely cooled. Make any needed repairs.

at the center point and work towards the outside. Use the edge of

INSTALLATION REQUIREMENTS. **Precautions**

Weight (per box)

Post-consumer Recycled Content 0%

Solar Reflectance Index (SRI) N/A

Manufacturing Location

- The TPO T-Joint Cover is not intended to overlay fasteners and
- plates as this requires the use of reinforced membrane. Store T-Joint Covers in a cool, shaded area and cover with lightcolored, breathable, waterproof tarpaulins. T-Joint Covers that have been exposed to the weather must be prepared with Weathered

REVIEW CURRENT VERSICO SPECIFICATIONS AND DETAILS FOR SPECIFIC

Typical Properties and Characteristics

4.5" (114 mm)

100 per box

3.5 lbs. (1.6 kg)

0.060" (1.5 mm)

Membrane Cleaner before hot-air welding.

Material	Non-Reinforced TPO				
Color	White, Gray, Tan				
Typical properties and characteristics are based on samples tested and are not guaranteed or all samples of this product. This data and information is intended as a guide and does not reflect the specification range for any particular property of this product.					
LEED® Information					
Dro concumor Dogualed Co	ntont 00/				

Bloomingdale, IL

VERSICO ROOFING SYSTEMS

A SINGLE SOURCE FOR SINGLE-PLY ROOFING 800.992.7663 • www.versico.com

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proper seal.

TECHNICAL DATA BULLETIN

stretching required.

Overview Let Versico simplify your next VersiWeld TPO installation with prefabricated Inside Corners. TPO Inside Corners are pre-molded and are used for flashing inside corners on a variety of details. Installation is fast and easy with no cutting or

Versico's TPO Inside Corners are part of the Certified Fabricated Accessory (CFA) Program. Certified Fabricated Accessories are the only factoryfabricated TPO accessories that meet the stringent quality tolerances required to be included in a Versico warranted roofing system.

Features and Benefits

 Forms easily into "out-of-square" corners that are not exactly 90°

Provide substantial labor savings compared to

field fabricating the flashing detail from non-

reinforced flashing More consistent appearance than inside corners field-fabricated from flashing

Position the TPO Inside Corner into the building corner, begin welding at the innermost corner point and work away from the corner.

2. Use a lower temperature setting on the heat

membrane. (Typically a setting of 6 on a scale of 10 is appropriate for welding TPO Inside Cor-3. Use the edge of the roller to crease the corner

flashing into any membrane step-off to create a

welder than when welding reinforced TPO

4. Probe all welded edges of the corner only once the material has completely cooled to ensure watertight performance.

REVIEW CURRENT VERSICO SPECIFICATIONS AND DETAILS FOR SPECIFIC INSTALLATION REQUIREMENTS

Precautions

Store TPO Inside Corners in a cool, shaded area and cover with light-colored, breathable, waterproof tarpaulins. TPO Inside Corners or TPO membrane that has been exposed to the weather prior to use must be prepared with Weathered Membrane Cleaner before hot air welding.

	0.060" (1.5 mm)
Packaging	12 per bag
Color	White, Gray, Tan
Material	Injection-molded TPO
	re based on samples tested and are not guaranteed a and information is intended as a guide and does not

TYPICAL PROPERTIES AND CHARACTERISTICS



A SINGLE SOURCE FOR SINGLE-PLY ROOFING Versico, LLC PO Box 1289, Carlisle, PA 17013

0%

Bloomingdale, IL

Tel: 800.992.7663 Fax: 717.960.4036 Web: www.versico.com

No Revision / Submissions



SVA GREELEY Shell Building 1911 59th AVENUE GREELEY, CO 80634

TPO ROOF MEMBRANE **DETAILS**



Project Number: Designed: SVA2025 Drawn: As Shown Checked: Drawing Number: PJB Reviewed:

A1.3

PJB Date: Feb 2025

Pre-consumer Recycled Content

Post-consumer Recycled Conten

Manufacturing Location

Solar Refl ectance Index (SRI)

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4. Allow primer to flash off completely before applying PS TPO accessories. Drying conditions will vary depending on ambient air

3. Apply TPO Primer using a paintbrush or medium-nap paint roller.

The membrane surface should be uniform in color with no streaking

or puddling. Apply primer to a wider area than the actual splice

REVIEW CURRENT VERSICO SPECIFICATIONS AND DETAILS FOR SPECIFIC APPLICATION REQUIREMENTS.

area to ensure complete coverage.

- **Precautions** WARNING! HARMFUL IF SWALLOWED. FLAMMABLE LIQUID. MAY BE
- IRRITATING TO SKIN AND EYES. Wash thoroughly after handling. Avoid contact with eyes, skin and clothing. Use of permeation-resistant gloves (that meet ANSI/ ISEA 105-2005) and safety glasses recommended. Keep away
- from heat, sparks, motors and open flame. DO NOT SMOKE WHILE USING. Keep lid closed when not in use. If swallowed, DO NOT INDUCE VOMITING. Call physician immediately. In case of eye contact, flush with water for at least
- 15 minutes. In case of skin contact, wash with soap and water. If irritation develops, call physician. In case of fire, handle as a solvent or gasoline fire. Use dry chemical, carbon dioxide or foam fire extinguishers. Water fog or
- spray may be used to smother the fire and cool containers. Do not use a solid stream of water to fight fire because it can scatter and spread the fire.
- Use TPO Primer full strength. Do not thin. Thinning will affect Jobsite storage temperatures in excess of 90°F (32°C) may affect
- product shelf life. Should the primer be stored at temperatures lower than 60°F (15°C), restore to room temperature prior to use.





Overview

Let Versico simplify your next VersiWeld TPO installation with their prefabricated Outside Corners. VersiWeld TPO Outside Comers are pre-molded and are used for flashing outside corners on a variety of details. Installation is fast and easy with no cutting or stretching required.

Versico's VersiWeld TPO Outside Corners are part of the Certified Fabricated Accessory (CFA) Program. Certified Fabricated Accessories are the only factory-fabricated accessories that meet the stringent quality tolerances required to be included in a Versico warranted roofing system.

Intended Uses

VersiWeld TPO Outside Corners are used for flashing outside corners on a variety of details.

Features and Benefits

- Provide a substantial labor savings compared to field
- fabricating from non-reinforced flashing Pre-stretched, multi-wave design allows wrapping outside corners that are out of square and not exactly 90 degrees
- More consistent appearance than outside corners field-fabricated from flashing



Installation

- 1. Place the center point of the VersiWeld Outside Corner over the outside intersection of the corner.
- 2. Begin welding at the innermost center point and work away from the center by first welding the vertical portion of the flashing.
- 3. Use a lower temperature setting on the heat welder than when welding reinforced TPO membrane. (Typically a setting of 6 on a scale of 10 is appropriate for welding VersiWeld TPO Outside Corners.)
- 4. Use the edge of the roller to crease the corner flashing into any membrane step-off to create a proper seal.
- 5. Probe all welded edges of the corner only once the material has completely cooled to ensure watertight performance.

Precautions

1. Store VersiWeld TPO Outside Corners in a cool, shaded area and cover with light-colored. breathable, waterproof tarpaulins. VersiWeld TPO Outside Corners or TPO membrane that has been exposed to the weather prior to use must be prepared with Weathered Membrane Cleaner before hot-air welding.

VERSIWELD OUTSIDE CORNERS TYPICAL PROPERTIES AND CHARACTERISTICS					
Color	White, Gray, Tan				
Thickness	0.060" (1.5 mm)				
Packaging	12 per bag				
Material	Injection-molded TPO				

Versico, LLC PO Box 1289, Carlisle, PA 17013 Tel: 800.992.7663 Fax: 717.960.4036 Web: www.versico.com

A SINGLE SOURCE FOR SINGLE-PLY ROOFING

VERSIWELD® TPO UNIVERSAL CORNERS

TECHNICAL DATA BULLETIN



Overview

Versico's labor-savina, pre-molded VersiWeld TPO Universal Corners are ideal for flashing corners on a variety of details. Installation is quick and simple with no stretching required.

Versico's VersiWeld TPO Universal Corners are a part of the Certified Fabricated Accessory (CFA) program. CFAs are the only factory-fabricated TPO accessories that meet the stringent quality tolerances required to be included in a Versico warranted roofing system.

Features and Benefits

- Conforms easily to details on new construction installations, where right angles are common
- Each Universal Corner can be cut into one outside corner or one inside corner
- Large, 6"-wide deck flange reduces the need for T-Joint Covers (when used as an outside corner)
- Provides a substantial labor savings compared to field-fabricating from non-reinforced flashing
- More professional, consistent appearance than field-fabricated corners

performance.

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Each Universal Corner can be cut into one Inside or Outside Corner.

See the diagram on page two for cutting instructions. The cutting instructions are also molded into each part. Use a lower temperature setting on the heat welder than when welding reinforced TPO membrane. Typically, a setting of 6 on a scale of 10 is appropriate for welding Universal Corners. **Outside Corner**

- Clean the surface to be welded with Weathered
- Membrane Cleaner. 2. Place the outside corner into position over the
- outside intersection of the corner. 3. Begin welding at the bottom point of the outside corner. Weld straight up the vertical portion of the

corner. Weld each side of the outside corner, working

- from the inside toward the outside. Weld the bottom flange starting on the inside and working towards the outer edges. Use the edges of the roller to crease the corner into any membrane
- Once the material has completely cooled, probe all welded edges of the corner to ensure watertiaht performance.

step-off to create a proper seal.

Inside Corner

- Clean the surfaces to be welded with Weathered Membrane Cleaner.
- 2. Position the inside corner into the corner setting. Begin welding at the innermost corner point and work up and away from the corner. Weld each side of the inside corner, working from the inside toward the outside.
- Weld the bottom flange starting on the inside and working towards the outer edges. Use the edge of the roller to crease the corner into any membrane step-off to create a proper seal.
- 4. Once the material has completely cooled, probe all welded edges of the corner to ensure watertight

REVIEW CURRENT VERSICO SPECIFICATIONS AND DETAILS FOR SPECIFIC INSTALLATION REQUIREMENTS.

A SINGLE SOURCE FOR SINGLE-PLY ROOFING

TYPICAL PROPERTIES AND CHARACTERISTICS

0.060" (1.5 mm) 20 per carton White, gray and tan Injection-molded TPO

Typical properties and characteristics are based on samples tested and are not guaranteed for all samples of this product. This data and information is intended as a guide and does not reflect the specification range for any particular property of this product.

Post-consumer Recycled Content

Manufacturing Location

LEED® INFORMATION Pre-consumer Recycled Content

Bloomingdale, IL

Precautions

Inside Corne

Store TPO Universal Corners in a cool, shaded area and cover with light-colored, breathable, waterproof tarpaulins. TPO Universal Corners or TPO membrane that has been exposed to the weather prior to use must be prepared with Weathered Membrane Cleaner before hot-air welding.

Outside Corner

TPO Heat Weldable Walkway Rolls



TECHNICAL DATA BULLETIN

Overview

Versico's VersiWeld® TPO Heat Weldable Walkway Roll is designed to protect the VersiWeld TPO membrane in areas exposed to repetitive foot traffic and other hazards. Walkways must be installed at all traffic concentration points (i.e, roof hatches, access doors, rooftop ladders, etc.) regardless of traffic frequency. Walkways must also be installed if regular maintenance (once a month or more) is necessary to service rooftop equipment.

Versico's VersiWeld TPO Walkway Rolls are part of the Certified Fabricated Accessory (CFA) program. Certified Fabricated Accessories are the only factory-fabricated TPO accessories that meet the stringent quality tolerances required by Versico.

Features and Benefits

- Increased slip resistance created with a diamond-plate tread
- Walkway edges are trimmed in safety yellow to better define the designated traffic flow
- The yellow edges are smooth without tread lugs for easier welding
- Superior weathering package for long-term performance
- Stocked in white, tan and gray, special colors available (minimum

1. Use Weathered Membrane Cleaner to prepare the membrane area

that will be welded to the walkway material.

- Position the walkway material. Cut the Walkway Rolls into maximum 10' lengths and position with a minimum 1" gap between adjacent pieces to allow for water drainage. Cut the walkway so a 4" minimum gap is created over any field splices. Since the attachment of the walkway to the membrane is permanent, this will allow access to the field seams.
- Using an automated welder, weld all four sides of the walkway material to the membrane. Typically the same speed and temperature settings will be used for this procedure as for welding membrane to membrane. A test weld is always recommended prior to performing welds to the installed membrane. A hand-held welder may be utilized; however, productivity will be decreased.

REVIEW CURRENT VERSICO SPECIFICATIONS AND DETAILS FOR SPECIFIC INSTALLATION REQUIREMENTS.

Precautions

- the Versico membrane systems warranty.
- This product is to be used as a walkway only and is not designed as a perimeter warning line or a substitute for ballast. For safety reasons, walkway rolls should not be installed within 10' (3m) of
- Allow the walkway to relax and warm up in the sun prior to welding
- When possible, weld the walkway rolls when the ambient temperature is above 60° F (16° C) to help prevent wrinkles.

Walkway Rolls are a maintenance item and are not covered under

- the roof perimeter.



quantities apply)

BUILDING VALUE

TECHNICAL DATA BULLETIN

VERSIWELD® TPO PIPE SEALS



Overview

Let Versico simplify your next VersiWeld TPO installation with TPO Molded Pipe Seals. TPO Pipe Seals are injection molded, pre-formed flashings for pipes 3/4" (19.0 mm) to 8" (203.2 mm) in diameter. TPO Pipe Seals are packaged in boxes of eight and come with universal stainless steel clamping rings.

VersiWeld TPO Molded Pipe Seals are part of the Certified Fabricated Accessory (CFA) program. Certified Fabricated Accessories are the only factory-fabricated TPO accessories that meet the stringent quality tolerances required to be included in a Versico warranted roofing system.

Features and Benefits

- Provides a reliable method of waterproofing round pipe penetrations
- Provides a substantial labor savings compared to field fabricating from non-reinforced flashing
- Provides more consistent appearance than fieldfabricated pipe flashings
- Double-ribbed cutting guide provides easier, smoother and straighter cuts Rib design also keeps the clamp in the proper

position for the life of the roofing system

Installation

- 1. Cut pipe seal between the two raised "ribs" to the desired diameter as illustrated on the flange of the pipe seal. (Do not cut off both raised "ribs").
- 2. Pull pipe seal over pipe until base flange is in contact with the membrane. (Application of heat to the top portion of the pipe seal may be necessary to allow installation over the pipe).
- 3. Mark pipe around the top of the TPO Pipe Seal. 4. Pull TPO Pipe Seal upwards on pipe until mark on the
- 5. Install Water Cut-off Mastic below mark which indicates the top of the installed TPO Pipe Seal.

6. Pull TPO Pipe Seal back down over pipe and into

- 7. Heat weld the TPO Pipe Seal base flange to deck membrane (the hand-welder temperature setting should be between 5 and 6).
- 8. Install a stainless steel universal clamping ring to provide constant compression of the sealant. REVIEW CURRENT VERSICO SPECIFICATIONS AND DETAILS

FOR SPECIFIC INSTALLATION REQUIREMENTS.

Precautions

welding.

pipe is visible.

position.

- Remove all lead and other flashing.
- 2. Temperature of pipe must not exceed 160°F (71°C). 3. When used with mechanically attached membrane, install a minimum of four fastening plates around pipe penetrations. Position fastening plates around the penetration so the plates are covered by the pipe seal flange. A minimum 1½-inch wide weld must be maintained around the outer edge of the flange beyond the plates. If fastening plates cannot be installed in a manner to allow a minimum 1½-inch weld, the plates must be placed outside the TPO Pipe Seal flange and covered with a reinforced VersiWeld
- 4. Store pre-molded pipe seals in a cool, shaded area and cover with light-colored, breathable, waterproof tarpaulins. TPO Pipe Seals or membrane that has been exposed to the weather prior to use must be prepared with Weathered Membrane Cleaner prior to hot-air
 - A SINGLE SOURCE FOR SINGLE-PLY ROOFING Versico, PO Box 1289, Carlisle, PA 17013

Tel: **800.992.7663** Fax: 717.960.4036 Web: www.versico.com

TOTAL ROOFING SYSTEM WARRANTY

NAME OF BUILDING

BUILDING ADDRESS



DATE OF COMPLETION OF THE VERSICO TOTAL ROOFING SYSTEM:

Versico Total Roofing System. See below for exact date of warranty expiration.

Versico, a division of Carlisle Construction Materials Incorporated (Versico), warrants to the Building Owner (Owner) of the above described building, that; subject to the terms, conditions, and limitations stated in this warranty, Versico will repair any leak in the Versico Roofing System (Versico Total Roofing System) installed by a Versico Authorized Roofing Contractor for a period of -- years, commencing with the date of Versico's acceptance of the Versico Total Roofing System installation. However, in no event shall Versico's obligations extend beyond -- years, subsequent to the date of substantial completion of the

VERSICO

The Versico Total Roofing System is defined as the following Versico brand materials: Membrane, Flashings, Adhesives and Sealants, Insulation, Cover Boards, Fasteners, Fastener Plates, Fastening Bars, Insulation Adhesives and any other Versico brand products utilized in this installation. TERMS, CONDITIONS, LIMITATI

1. Owner shall provide Versico with written notice via letter, tax or email within thirty (30) days of any leak in the Versico Total Roofing System. Owner should send written notice of a leak to Versico's Warranty Services Department at the address set forth at the bottom of this warranty. By so notifying Versico, the Owner authorizes Versico or its designee to investigate the cause of the leak. Should the investigation reveal the cause of the leak to be outside the scope of this Warranty, investigation and repair costs for this service shall be paid by the Owne 2. If, upon inspection, Versico determines that the leak is caused by a defect in the Versico Total Roofing System's materials, or workmanship of the Versico Authorized Roofing Contractor in installing the same, Owner's remedies and Versico's liability shall be limited to Versico's repair of the leak. Versico shall have sole responsibility in determining the method of repair of the

3. This warranty shall not be applicable if, upon Versico's inspection, Versico determines that any of the following has (a) The Versico Total Roofing System is damaged by: natural disasters, lightning, fire, insects, animals, windblown debris or objects, earthquakes, tornados, hail, hurricanes, and winds of (3 second) peak gust speeds of -- mph or higher measured at 10 meters above ground; or
(b) Loss of integrity of the building envelope and/or structure, including, but not limited to, partial or complete loss of roof decking, wall siding, windows, roof top units, doors or other envelope components; or

(c) All associated building components, including but not limited to the deck substrate, joists, columns and foundation, must also meet wind speed design requirements. (d) The Versico Total Roofing System is damaged by any acts, accidents, misuse, abuse, vandalism, civil disobedience or the (e) Deterioration or failure of building components, including, but not limited to, the roof substrate, walls, mortar, HVAC units, non Versico brand metal work, etc., occurs and causes a leak, or otherwise damages the Versico Total Roofing System; or (f) Deterioration of metal materials and accessories caused by marine salt water, atmosphere, or by regular spray of either salt or fresh water; or

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(g) Acids, oils, harmful chemicals and the like come in contact with the Versico Total Roofing System and cause a leak, or otherwise damage the Versico Total Roofing System; or (h) The Versico Total Roofing System encounters leaks or is otherwise damaged by condensation resulting from any condition within the building that may generate moisture; or (i) The Versico Authorized Contractor or any additional contractor or subcontractor failed to follow Versico's published

specifications and details for the approved system assembly or failure to correct all installation deficiencies listed in any Versico

4. This Warranty shall be null and void if any of the following shall occur: (a) If, after installation of the Versico Total Roofing System by a Versico Authorized Roofing Contractor, there are any alterations or repairs made on or through the roof or objects such as, but not limited to, structures, fixtures, solar arrays, wind turbines, roof gardens or utilities are placed upon or attached to the roof without first obtaining written authorization from

(b) Failure by the Owner to use reasonable care in maintaining the roof, said maintenance items listed on Versico's Care & Maintenance Guide which accompanies this Warranty. 5. In addition, it shall be Owner's sole responsibility to remove and re-install at Owner's expense, all obstructions, including, but not limited to, structures, fixtures, solar arrays, wind turbines, roof gardens, utilities or other overburden from the affected

area as determined by Versico that would hinder or impede repairs being made in the most expedient and least expensive manner possible. Owner shall be responsible for all costs associated with any loss of power generation in the event that removal of a solar array is required to repair the roofing system. 6. During the term of this Warranty. Versico shall have free access to the roof during regular business hours

charges have not been paid in full to the Versico Authorized Roofing Contractor, Versico, or material suppliers.

8. Versico's failure at any time to enforce any of the terms or conditions stated herein shall not be construed to be a waiver of 9. Versico shall not be responsible for the o or discoloration of the Versico Total Roofing System caused by

7. Versico shall have no obligation under this Warranty while any bills for installation, supplies, service, and/or warranty

10. Versico shall have no liability under any theory of law for any claims, repairs, restoration, or other damages including, but not limited to, consequential or incidental damages relating, directly or indirectly, to the presence of any irritants, contaminants, vapors, fumes, molds, fungi, bacteria, spores, mycotoxins, or the like in the building or in the air, land, or water serving the

11. This warranty shall be transferable upon a change in ownership of the building when the Owner has completed certain

12. Any dispute, controversy or claim between the Owner and Versico concerning this Limited Warranty shall be settled by

mediation. In the event that the Owner and Versico do not resolve the dispute, controversy or claim in mediation, the Owner

procedures, including a transfer fee and an inspection of the Roofing System by a Versico representative.

and Versico agree that any and all suits, proceedings, or claims shall be filed in either the state courts of Cumberland County, Pennsylvania or in the United States District Court for the Middle District of Pennsylvania. Each party irrevocably consents to the jurisdiction and venue of the above-identified courts.

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13. Roof System Design Assembly: Versico, as manufacturer of commercial roofing products with the sole purpose of offering products for an Owner, design professional, architect, consultant, or engineer when designing/choosing a roof system assembly, assumes no liability nor implies to the suitability of the products for any particular assembly or specific building operation or structure. The Owner, design professional, architect, consultant, or engineer is solely responsible for the assembly chosen for a particular building structure to include the responsibility to properly calculate wind uplift values, design dead loads and live loads, and suitability and condition of building envelope substrate, decking, parapets, drainage, slope, and other attributes pertaining to the performance of the roof system assembly.

14. The Versico Authorized Contractor or any additional contractor or subcontractor are not agents of Versico VERSICO DOES NOT WARRANT PRODUCTS UTILIZED IN THIS INSTALLATION WHICH IT HAS NOT FURNISHED AND SPECIFICALLY DISCLAIMS LIABILITY, UNDER ANY THEORY OF LAW, ARISING OUT OF THE INSTALLATION AND PERFORMANCE OF, OR DAMAGES SUSTAINED BY OR CAUSED BY, PRODUCTS NOT FURNISHED BY VERSICO OR THE PRIOR EXISTING ROOFING MATERIAL OVER WHICH THE VERSICO ROOFING SYSTEM HAS BEEN INSTALLED.

THE REMEDIES STATED HEREIN ARE THE SOLE AND EXCLUSIVE REMEDIES FOR FAILURE OF THE VERSICO TOTAL ROOFING SYSTEM OR ITS COMPONENTS. THERE ARE NO WARRANTIES EITHER EXPRESSED OR IMPLIED, INCLUDING THE IMPLIED WARRANTIES OF FITNESS FOR A PARTICULAR PURPOSE AND MERCHANTABILITY, WHICH EXTEND BEYOND THE FACE HEREOF, VERSICO SHALL NOT BE LIABLE FOR ANY INCIDENTAL, CONSEQUENTIAL OR OTHER DAMAGES INCLUDING, BUT NOT LIMITED TO, LOSS OF PROFITS OR DAMAGE TO THE BUILDING OR ITS CONTENTS UNDER ANY THEORY OF LAW.

BY: James Heisey AUTHORIZED SIGNATURE TITLE: Director of Sales

What to do if a leak occurs: - After verifying the leak is through the roofing system, contact Versico at 1-800-233-0551 or at www.versico.com.
- If minor, emergency temporary repairs are made to a suspected leak area, use Versico's Lap Sealant or a good-grade rubber caulk to address the repair area (do not use asphaltic roof cement). Please note, Versico is not responsible for the cost associated with any emergency temporary repairs. Alterations to the Roofing System - Alterations to the Roofing System must be completed by a Versico Authorized Contractor. The Versico Authorized

a mixture of soap and water.

- Warranties shall be transferable upon a change in ownership of the building when the Owner has completed certain procedures. This form can be found on the Versico website for additional guidelines.

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Contractor must notify Versico when the revision work is complete. The necessary form can be found on the Versico website

Versico Care and Maintenance Guid

In order to ensure the long-term performance of your Roofing System and continued warranty service and coverage, regular

failure of the roofing system. Single-ply Roofing Systems are typically low-slope and easy to inspect, but caution must be taken

- Owner must retain records related to the Roofing System. Such records include, but are not limited to: the warranty document

and serial number, maintenance inspection logs, rooftop traffic logs, service logs, and invoices for work performed on the

- Inspect the roof at least every six months (preferably spring and fall) and immediately following any weather event that

When inspecting the Roofing System, pay special attention to the following:

possible damage from service work. Ensure the units and terminations are secure.

water should evaporate within 48 to 72 hours after a rainfall. I

- Roof Deck Membrane – Inspect the field of the roof, scanning for damage caused by wind-t

edge metal and copings are secure.

includes excessive rainfall, high winds and/or hail warnings. Increased number of rooftop maintenance inspections may be

required on some roofs as the location may dictate, such as higher trees near the building which will accumulate leaves and

- Walls/Parapets/Roof Edge - Wind damage often begins at the perimeter of the roof. Ensure all membrane terminations and

- Penetrations/Rooftop Units - Inspect the membrane, flashings and terminations around penetrations and roof top units for

Remove debris (leaves, dirt, trash, etc.) – Good roofing practice dictates that water should drain from the roof and that ponded

- Foot Traffic - Walkways must be provided if regular traffic is required or if rooftop equipment has a regular thirty (30) day or

- Petroleum Products & Chemicals - Keep all liquids containing petroleum products or chemicals off the membrane to avoid

surfaces. TPO & PVC Membranes Animal fats/vegetable oils must be regularly removed and the rooftop surface cleaned with

 $- Animal\ Fats/Vegetable\ Oils: \ EPDM\ Membranes\ -\ Do\ not\ exhaust\ animal\ fats/vegetable\ oils\ directly\ onto\ EPDM\ roof$

debris on the roof and have adverse effects on drainage. In addition, rooftop maintenance inspections should occur after regular

rooftop maintenance inspections are necessary. While normal aging will occur on all roofs, if not detected early, problems

stemming from abuse, contamination, accidents and severe weather can result in extensive and costly repairs or premature

Revision / Submissions



SVA GREELEY Shell Building 1911 59th AVENUE GREELEY, CO 80634

TPO ROOF MEMBRANE **DETAILS**

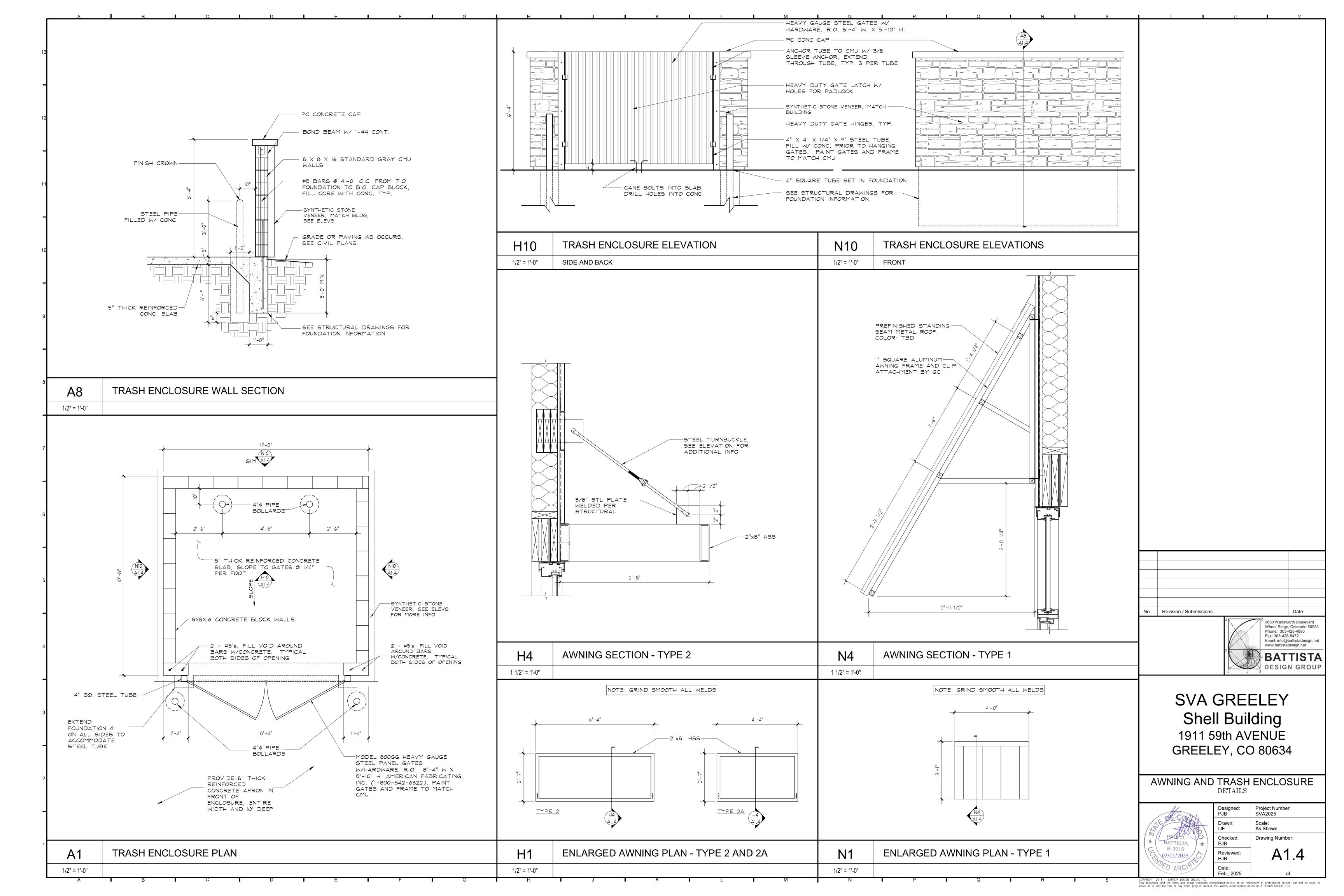


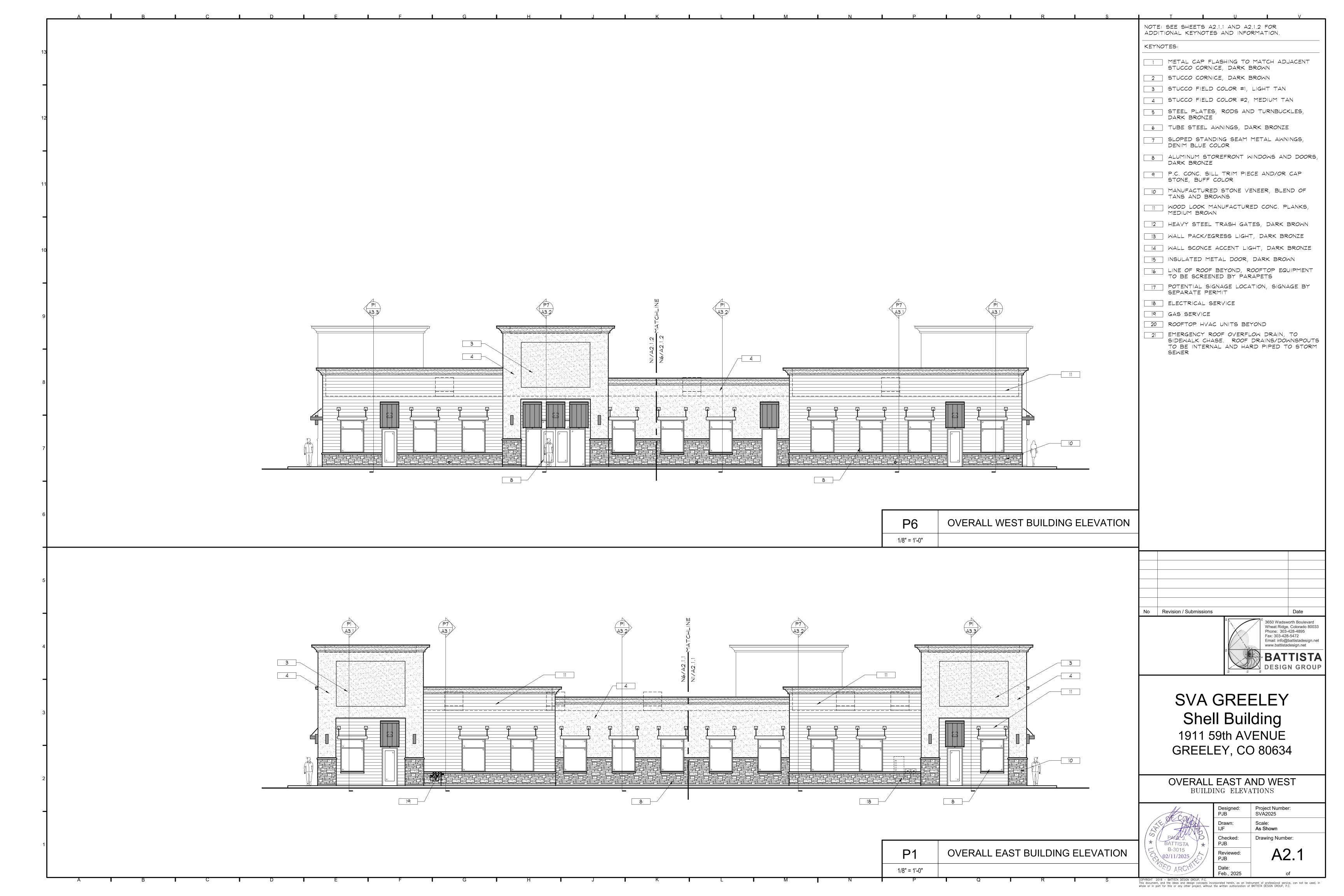
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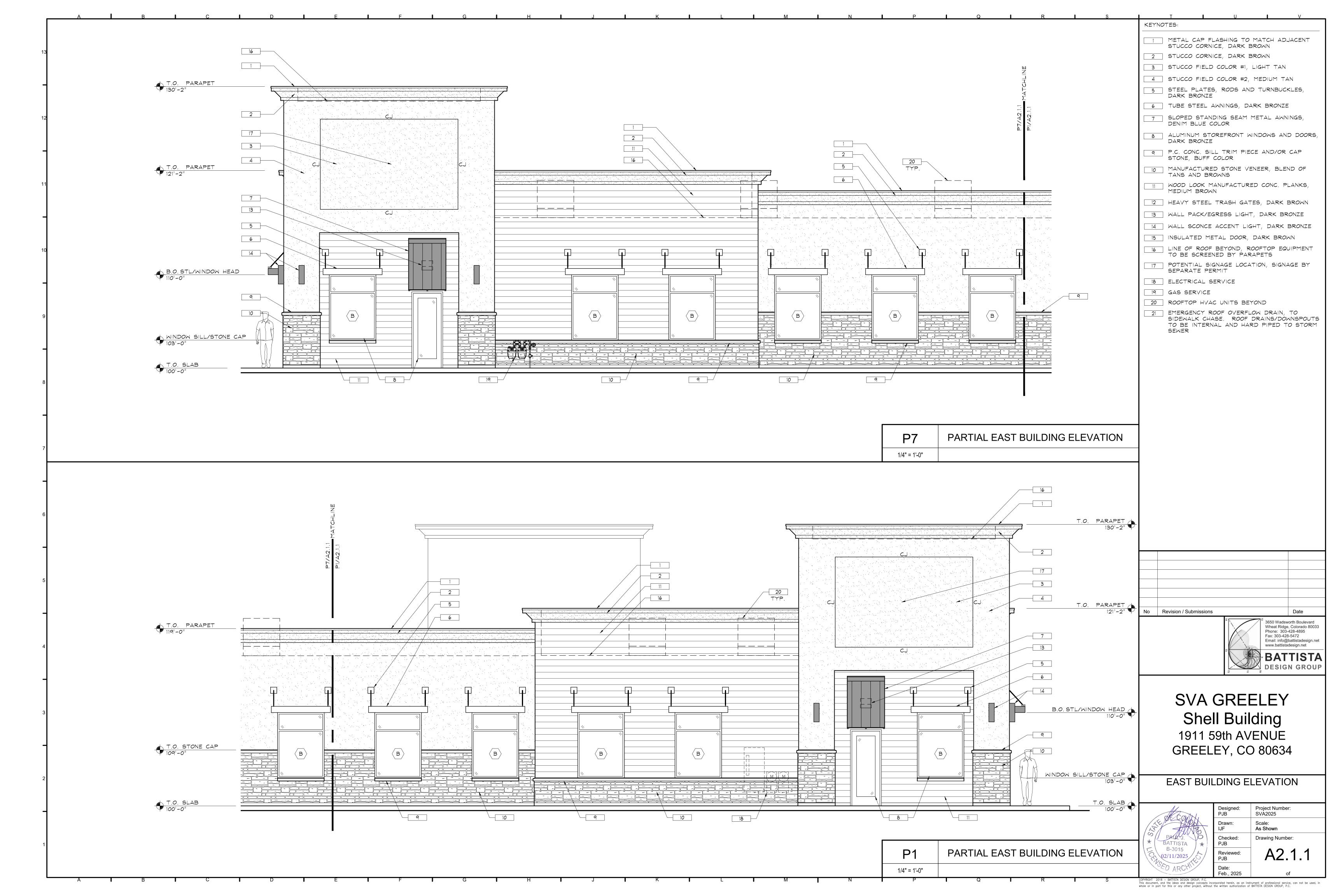
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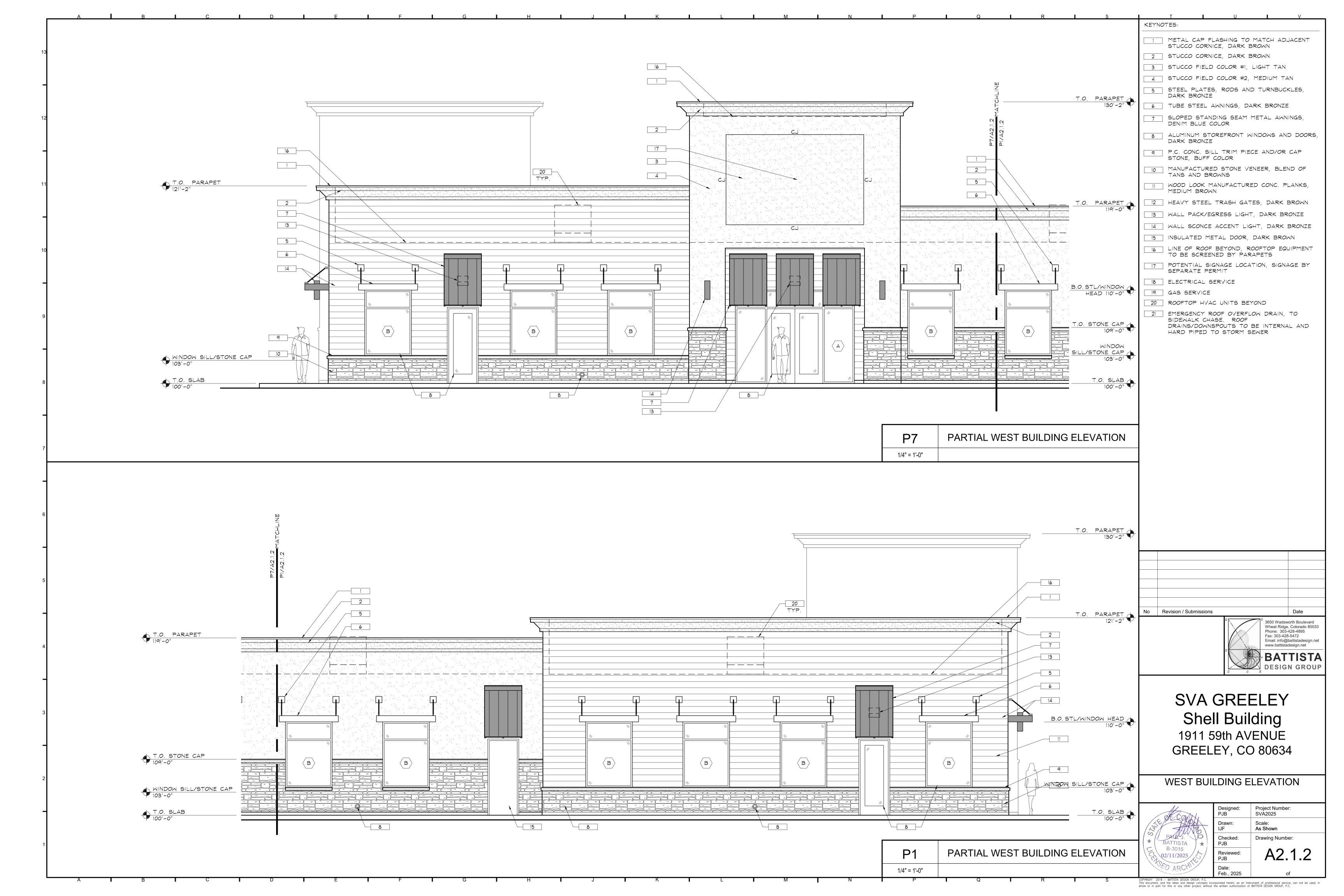
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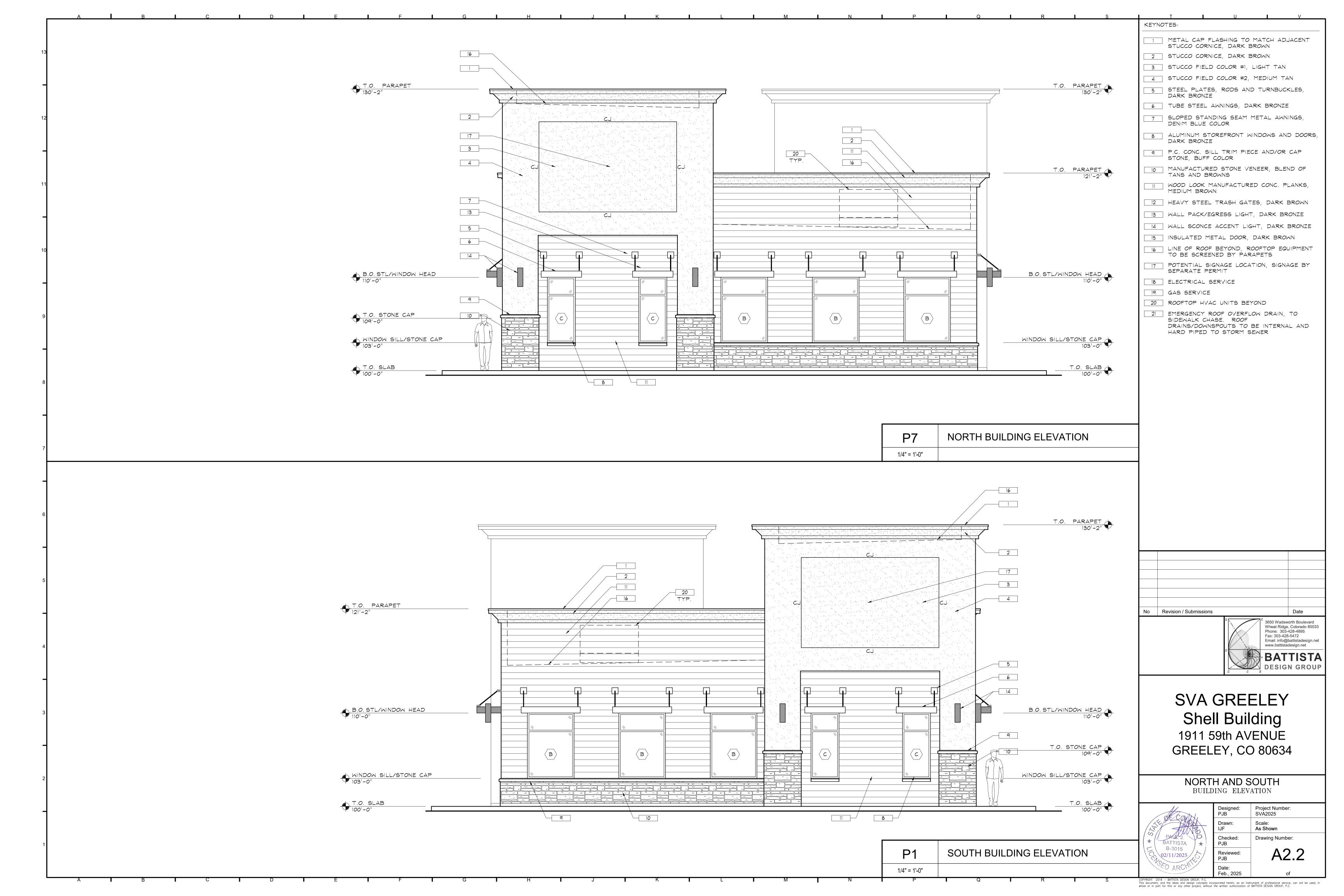
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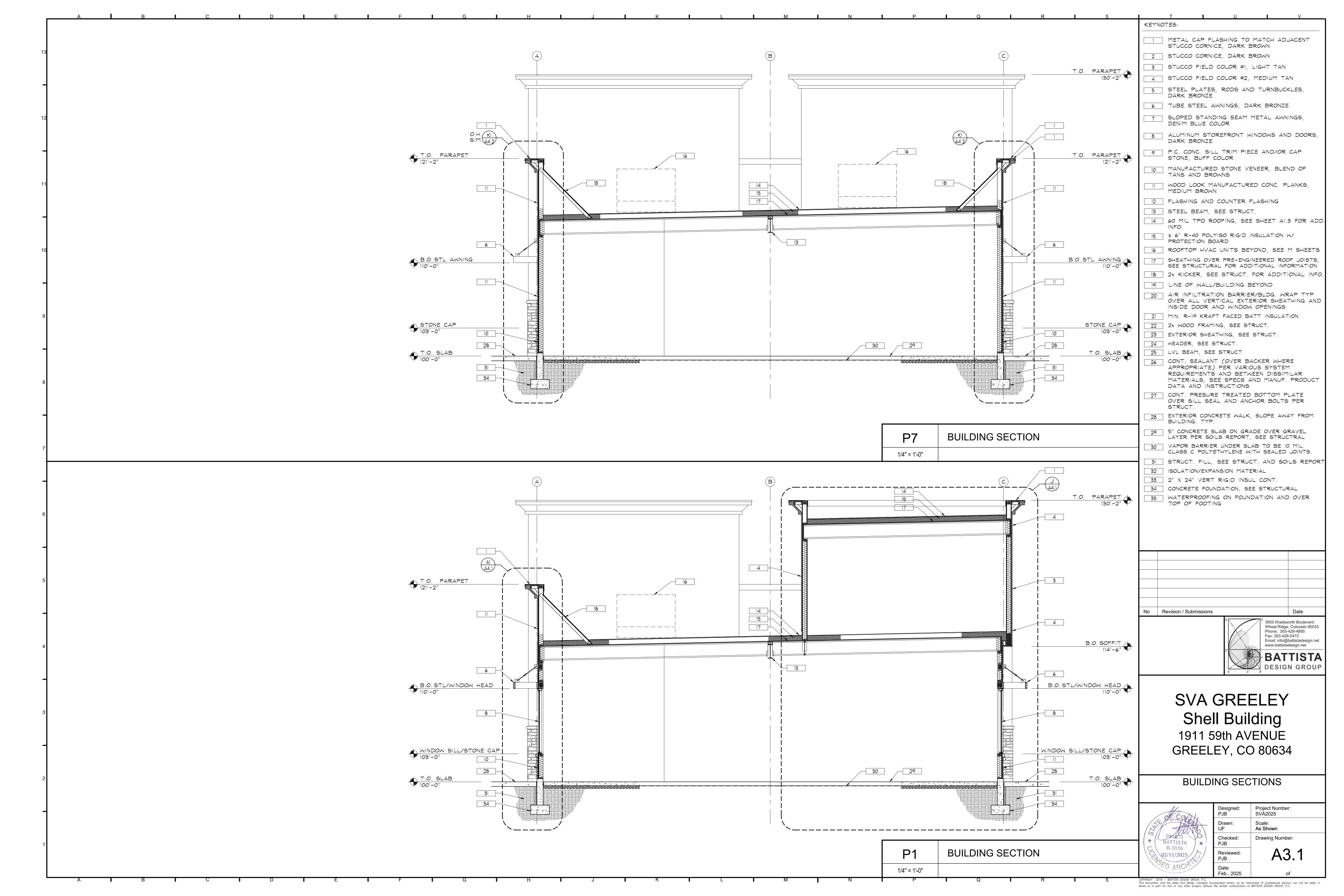


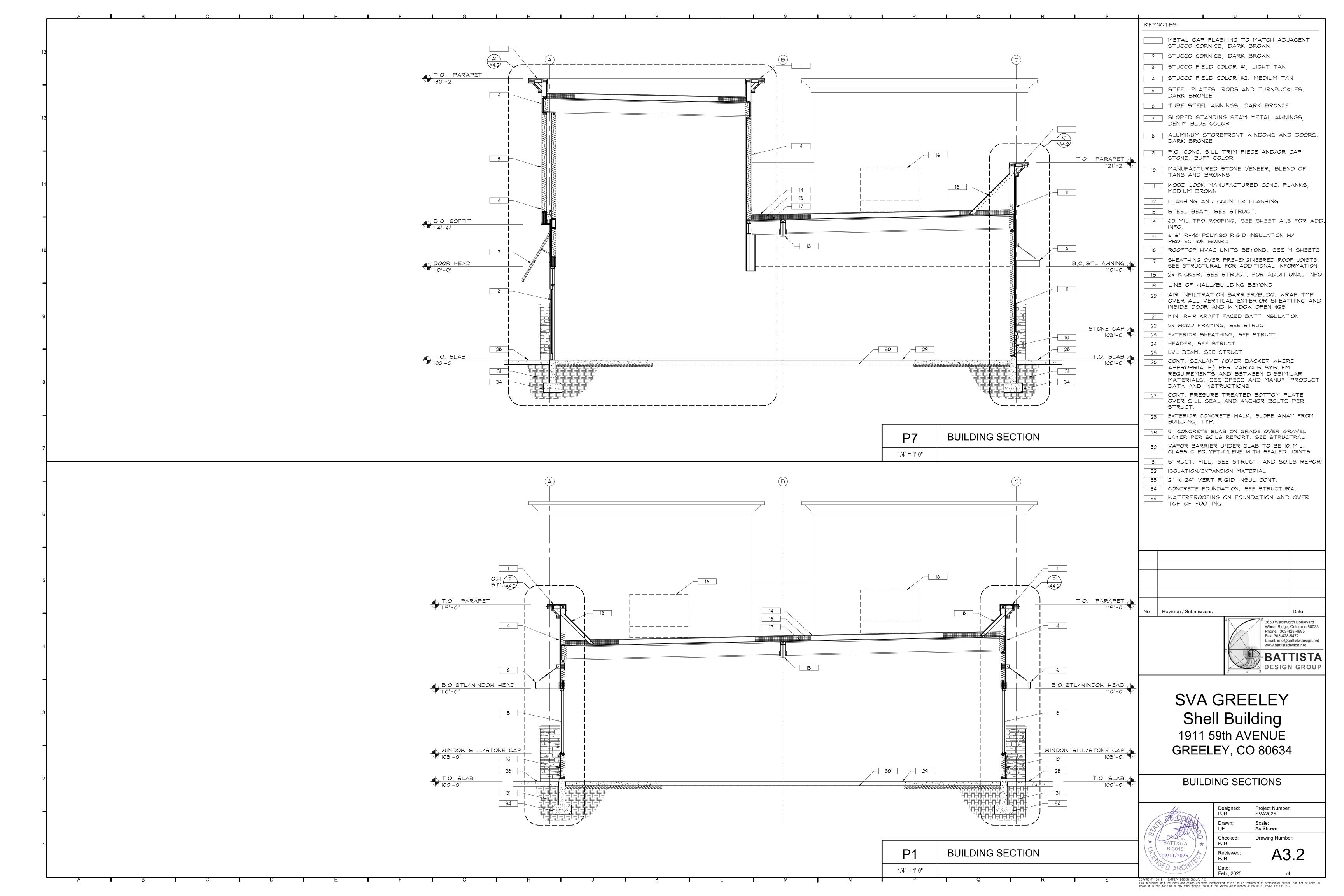


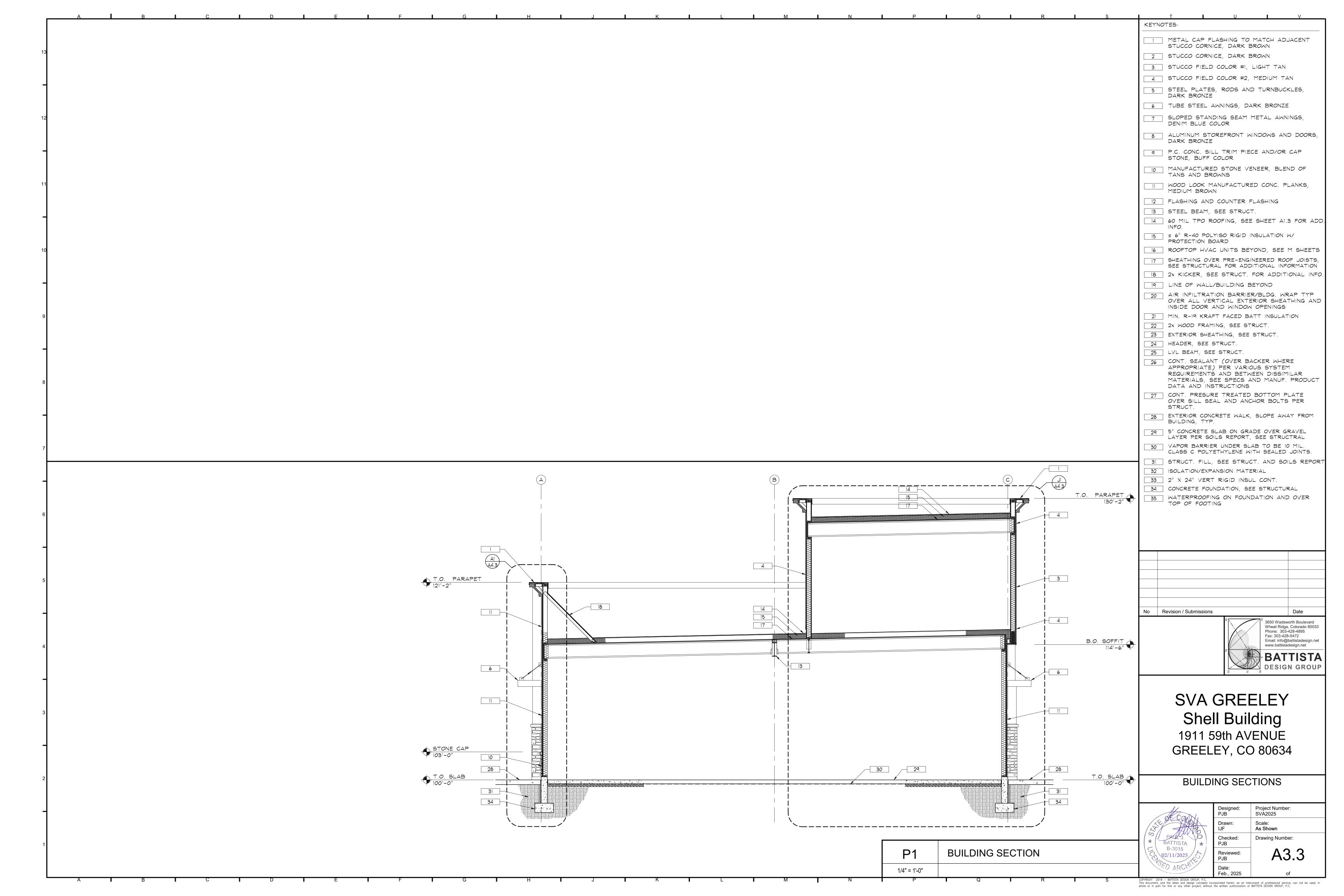


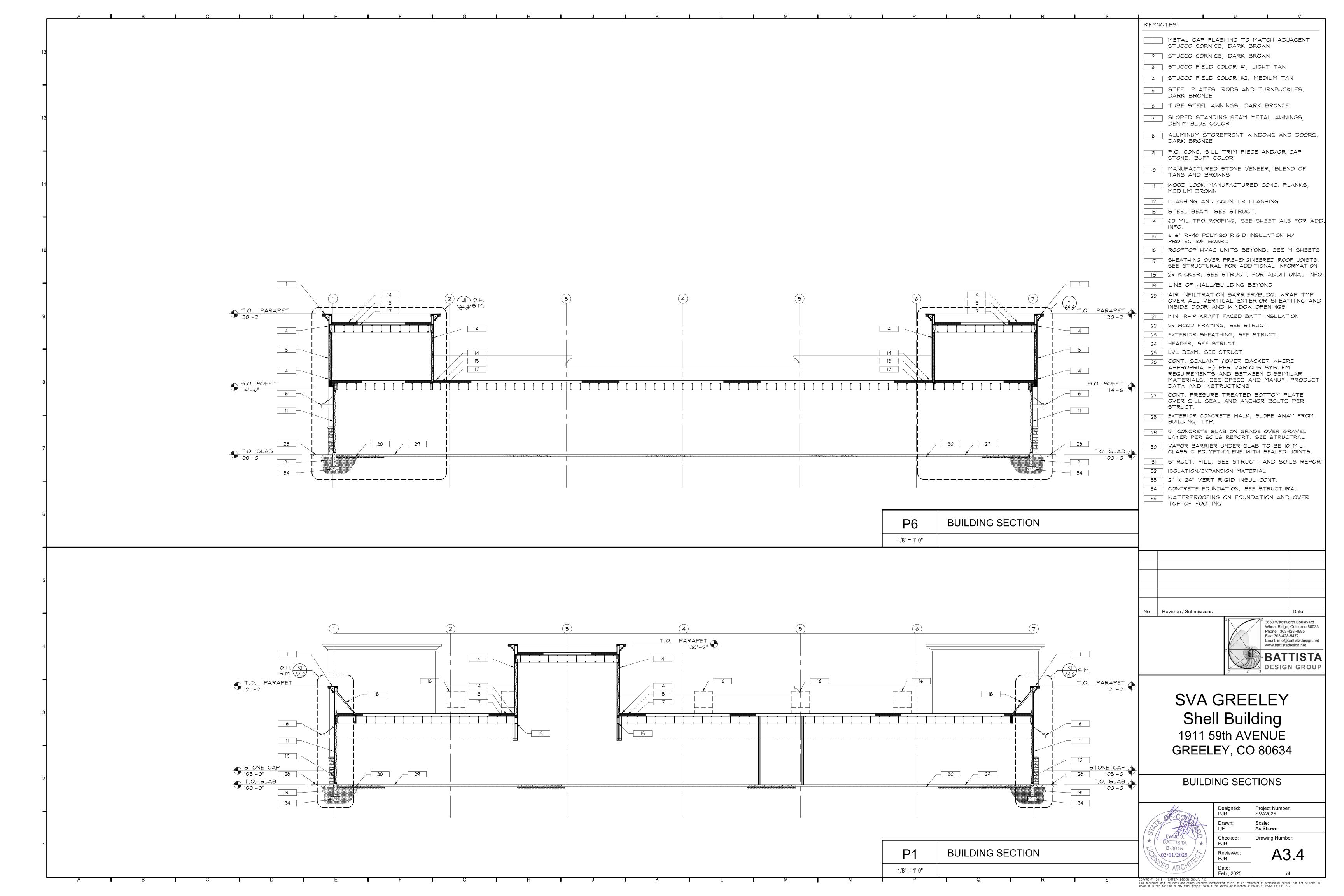


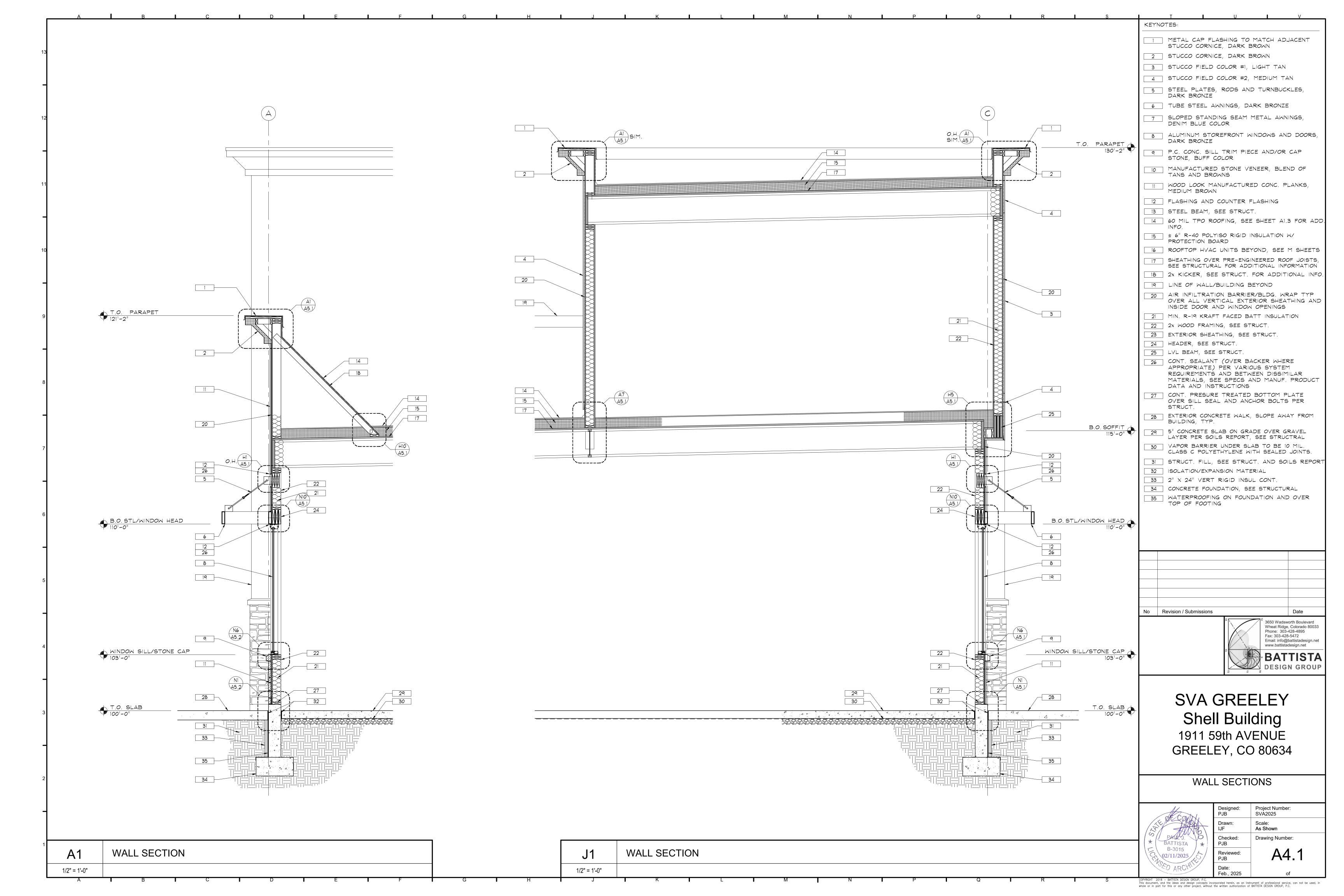


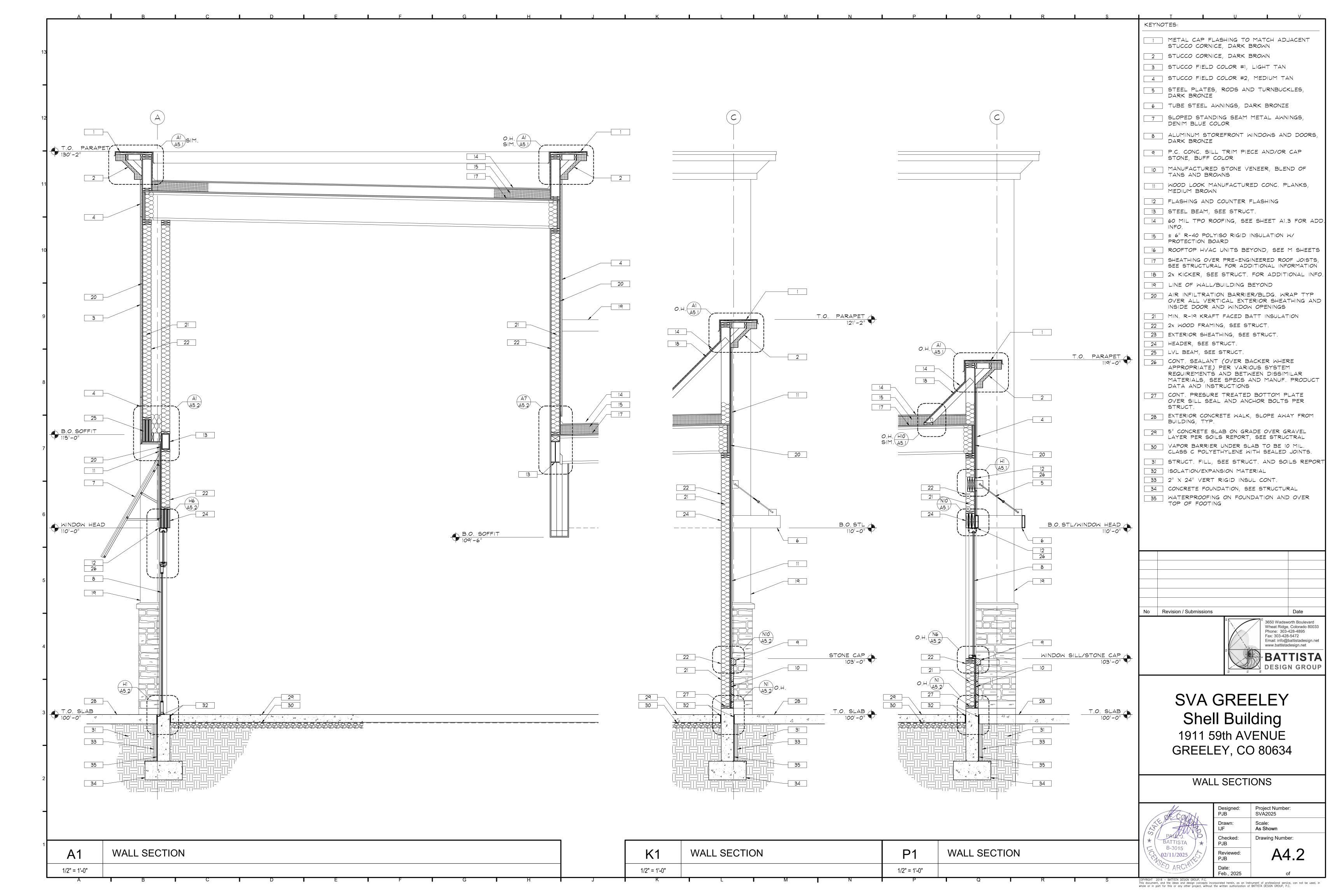


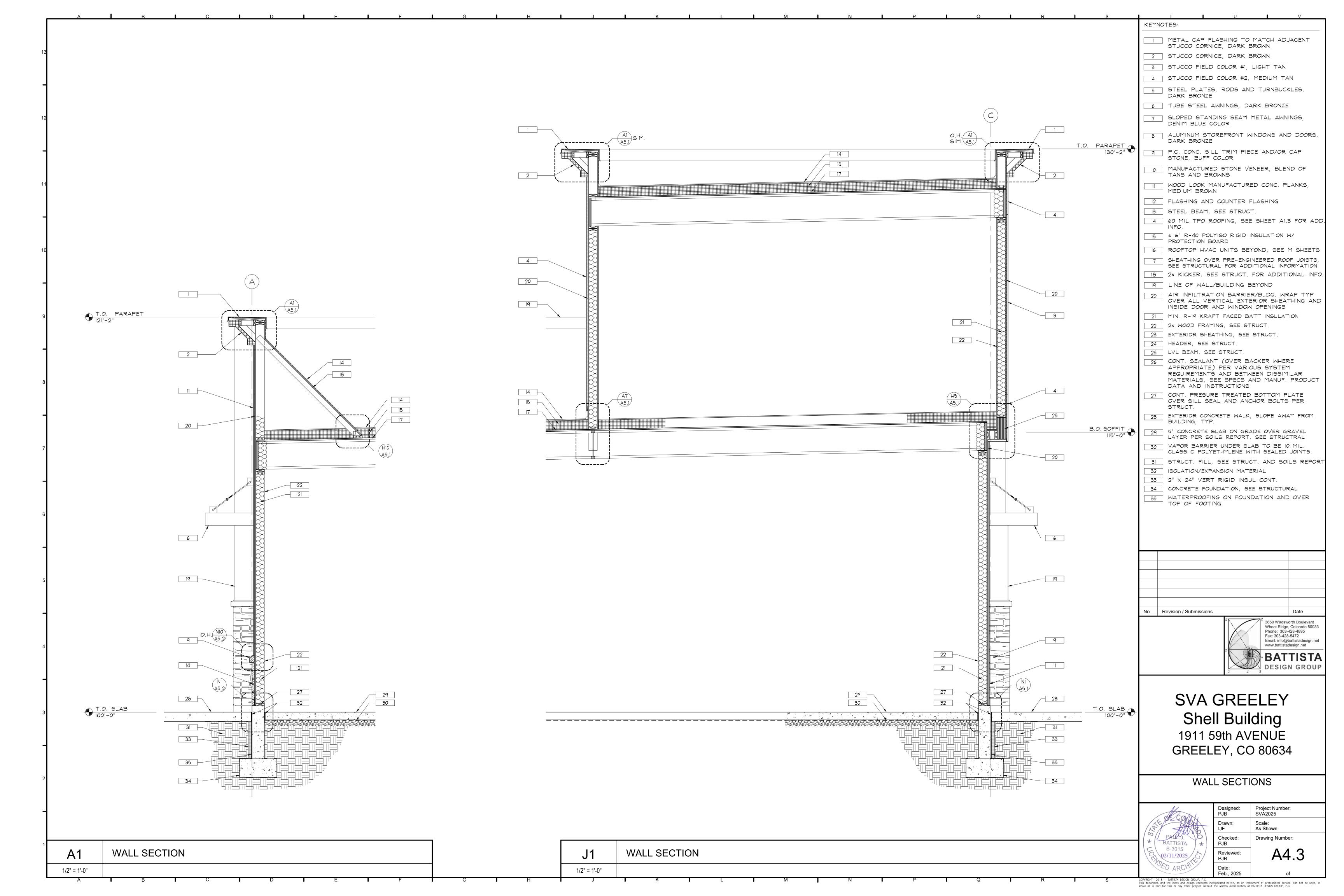


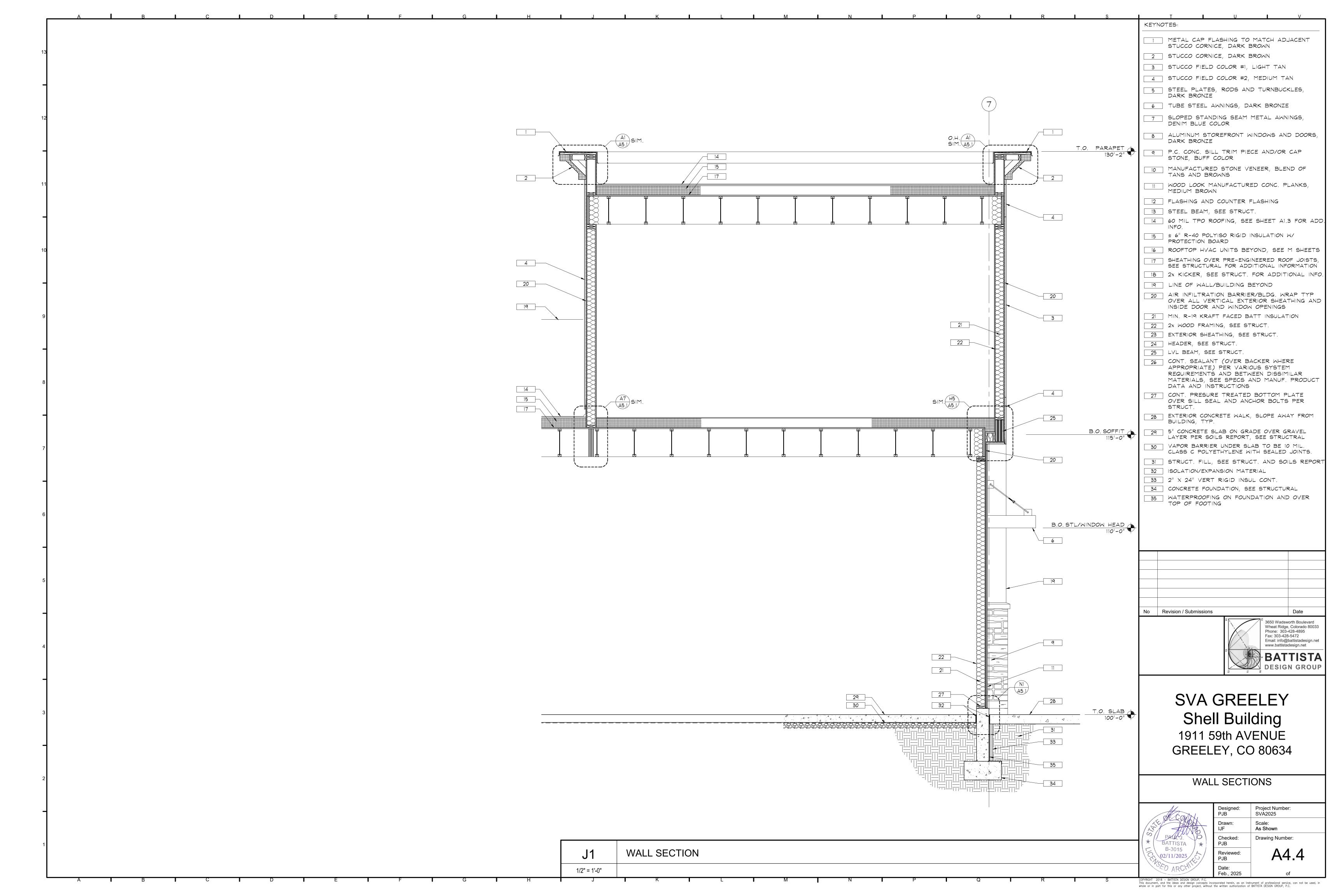


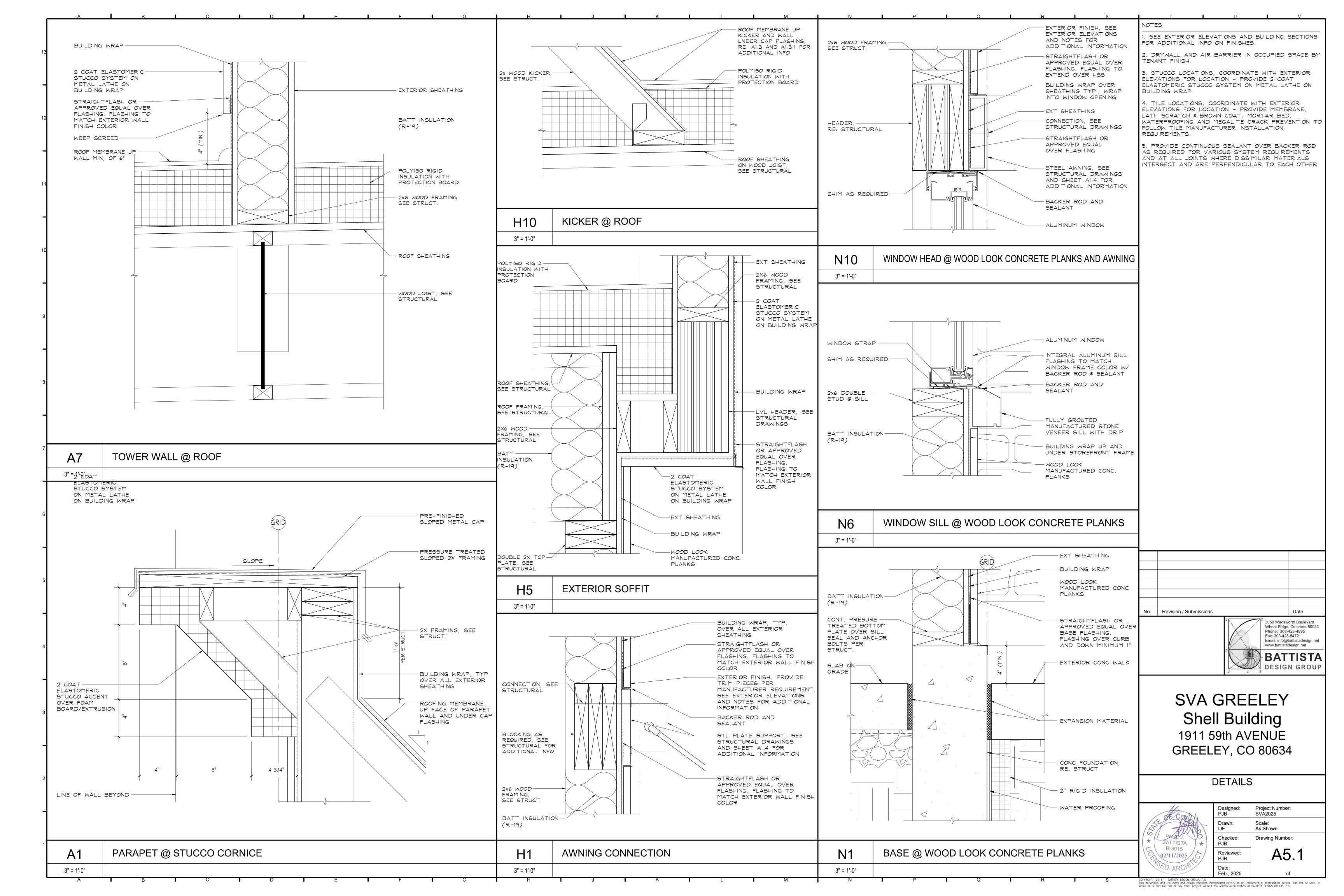


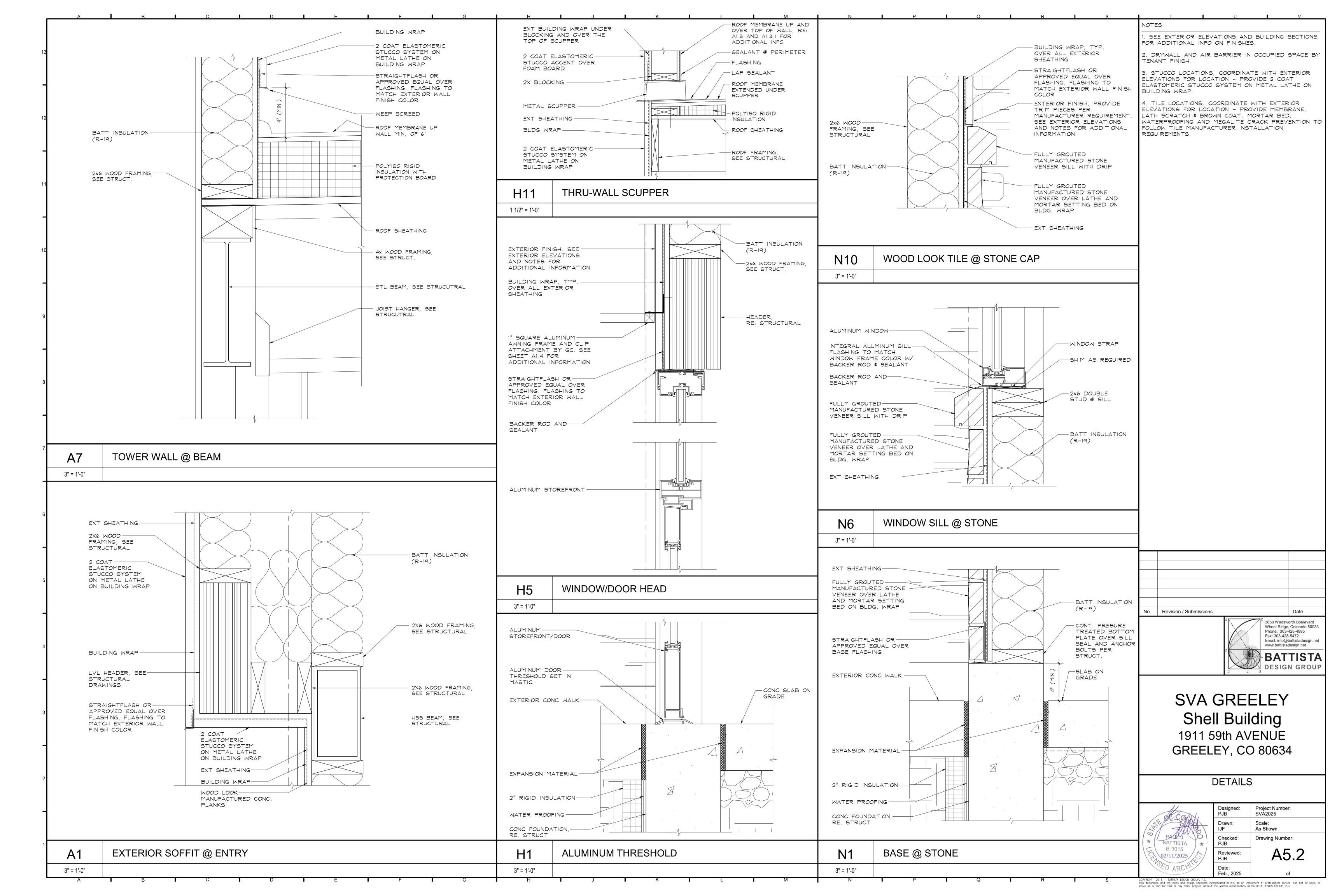


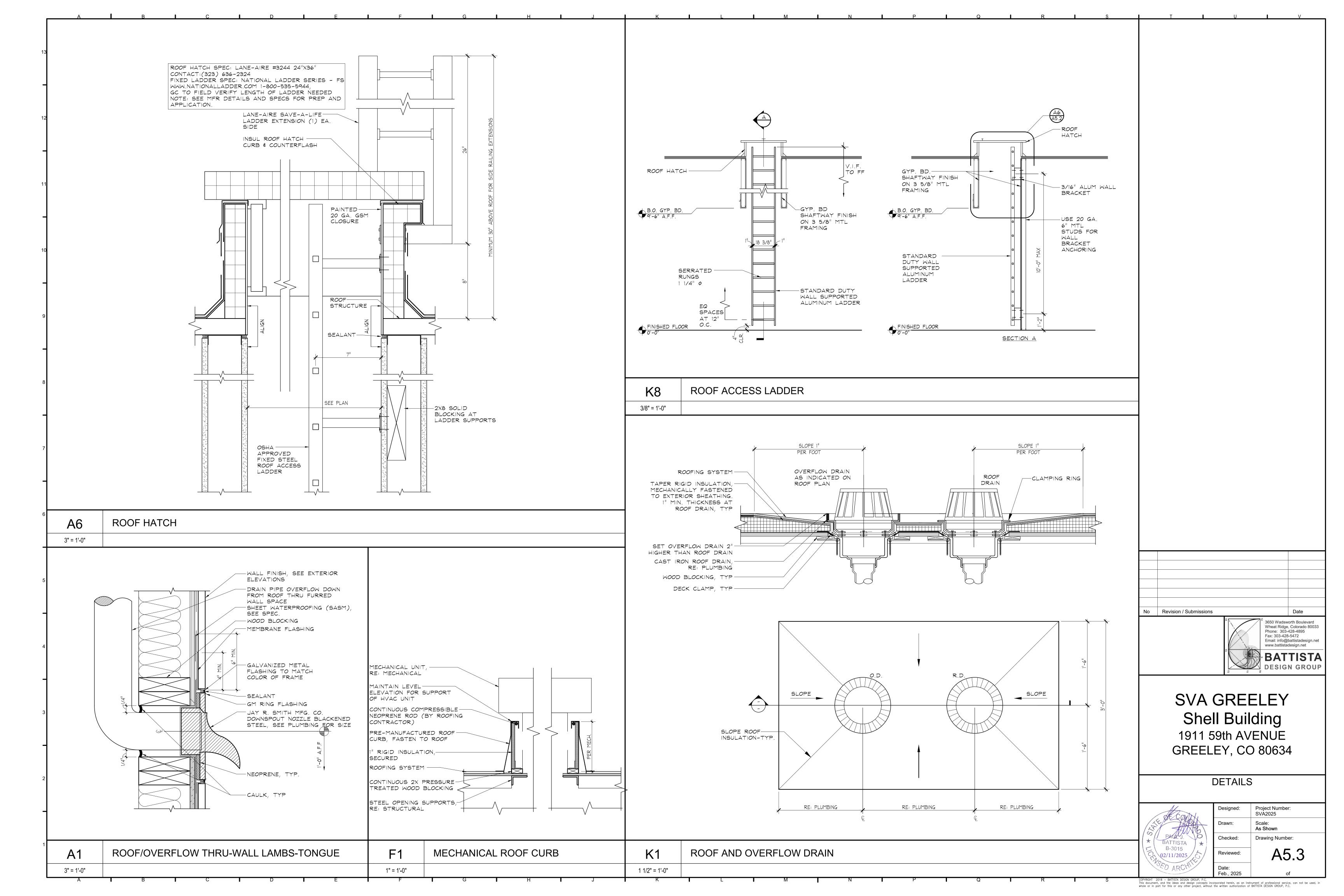














S	SYMBOLS
NORTH ARROW	
SECTION DETAIL	DETAIL NUMBER SHEET REFERENCE
PLAN / GENERAL DETAIL	DETAIL NUMBER SHEET REFERENCE
ELEVATION DETAIL	I SI
SPOT ELEVATION	XXXXX XXX'-XX"
GRIDLINE - NEW	×
GRIDLINE - EXISTING	<u> </u>
BOXED NOTE INDICATES TYPICAL NOTE	XXXXXXX XXXXXXX
SPAN DIRECTION OF DECK/SHEATHING	
MOMENT CONNECTIO	ON
REVISION NUMBER	<u></u>
CLOUD REVISION	
FOOTING/DRILLED PIE	ER (#)
COLUMN TYPE	
STEP	
SLOPE	
GRAPHIC SCALE BAR 0'	2' 4' 8'
lacksquare	1ATERIALS

INIMITKIMES **CAST-IN-PLACE CONCRETE** PRECAST OR EXISTING CONCRETE **CONCRETE MASONRY BRICK MASONRY** SOIL SUBGRADE **GRAVEL FILL**

RIGID INSULATION

SHEET INDEX

SHEET#	SHEET NAME
S1.0	COVER SHEET, DESIGN CRITERIA & PROJECT NOTES
S1.1	STRUCTURAL SPECIAL INSPECTIONS & SCHEDULES
S1.2	TYPICAL DETAILS & TRASH ENCLOSURE
S1.3	ROOF DESIGN LOAD DIAGRAMS
S2.1A	FOUNDATION/FLOOR PLAN - NORTH
S2.1B	FOUNDATION/FLOOR PLAN - SOUTH
S2.2A	MAIN ROOF FRAMING PLAN - NORTH
S2.2B	MAIN ROOF FRAMING PLAN - SOUTH
S2.3A	UPPER ROOF FRAMING PLAN - NORTH
S2.3B	UPPER ROOF FRAMING PLAN - SOUTH
S3.1	FOUNDATION / FLOOR DETAILS
S4.1	FRAMING DETAILS

NOTE TO CONTRACTOR

READ ALL STRUCTURAL NOTES AND COORDINATE WITH THE STRUCTURAL ENGINEER TO RESOLVE ANY QUESTIONS, DISCREPANCIES, OR CONFLICTS PRIOR TO COMMENCING WITH CONSTRUCTION

CONTRACTOR SHALL INFORM AND UPDATE THE STRUCTURAL ENGINEER AS TO THE STATUS AND SCHEDULE OF CONSTRUCTION, AND SHALL COORDINATE WITH THE STRUCTURAL ENGINEER TO SCHEDULE PERIODIC SITE VISITS TO OBSERVE COMPLETED AND ONGOING PORTION OF THE

STRUCTURAL ENGINEER'S APPROVAL OF ALL REQUIRED SUBMITTALS INDICATED IN THE GENERAL NOTES SHALL BE PROCURED PRIOR TO FABRICATION OR CONSTRUCTION OF EACH APPLICABLE PORTION OF THE WORK.

COORDINATE ALL REQUIRED STRUCTURAL SPECIAL INSPECTIONS AND TESTS WITH THE

INSPECTION AGENCY ENGAGED BY THE OWNER.

DESIGN CRITERIA

CODES & STANDARDS:

- A. INTERNATIONAL BUILDING CODE 2021 EDITION
- B. GREELEY, COLORADO CODE AMENDMENTS
- ASCE/SEI 7-16 MINIMUM DESIGN LOADS FOR BUILDINGS AND OTHER STRUCTURES
- ACI 318-19 BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE ANSI/AISC 360-16 SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS
- ANSI/AWC NDS-2018 NATIONAL DESIGN SPECIFICATION FOR WOOD CONSTRUCTION G. TMS 402/602-2016 BUILDING CODE AND SPECIFICATIONS FOR MASONRY STRUCTURES

GRAVITY LOADS USED IN DESIGN:

- 30 psf + DRIFTING REQUIREMENTS ROOF SNOW LOAD B. SUPERIMPOSED ROOF DEAD LOAD 15 psf
- C. FLOOR LIVE LOAD 50 psf D. OFFICE PARTITION LIVE LOAD 15 psf
- LOBBY, 1ST FLOOR CORRIDOR LIVE LOAD 100 psf
- MECHANICAL EQUIPMENT LOADS RE: MECHANICAL DRAWINGS
- G. SNOW LOAD DESIGN CRITERIA 1. GROUND SNOW LOAD, Pg = 30 psf
- 2. FLAT ROOF SNOW LOAD, Pf = 21 psf 3. SNOW EXPOSURE FACTOR, Ce = 1.0
- 4. SNOW LOAD IMPORTANCE FACTOR, Is = 1.0 5. THERMAL FACTOR, Ct = 1.0

- WIND LOAD DESIGN CRITERIA: A. BUILDING RISK CATEGORY II
- B. BASIC DESIGN WIND SPEED = 115 mph C. EXPOSURE CATEGORY C
- **SEISMIC LOAD DESIGN CRIERIA:** BUILDING RISK CATEGORY II
- SEISMIC IMPORTANCE FACTOR, le = 1.0
- C. SITE CLASS D D. SITE SPECTRAL RESPONSE ACCELERATIONS:
- 1. Ss = 0.153
- 2. S1 = 0.0513. SDs = 0.163
- 4. SD1 = 0.082
- SEISMIC DESIGN CATEGORY E
- BASIC SEISMIC FORCE RESISTING SYSTEM: WOOD-FRAMED SHEARWALLS WITH WOOD PANELS
- RESPONSE MODIFICATION FACTOR, R = 6.5 H. SEISMIC RESPONSE COEFFICIENT, Cs = 0.0251
- ANALYSIS PROCEDURE USED: EQUIVALENT LATERAL FORCE PROCEDURE

LATERAL FORCE RESISTING SYSTEM DESCRIPTION:

- LATERAL FORCE RESISTANCE AND STABILITY OF THE BUILDING IN THE COMPLETED STRUCTURE IS PROVIDED BY VERTICAL WOOD-FRAMED SHEARWALLS.
- THE WOOD ROOF DECKS SERVE AS HORIZONTAL DIAPHRAGMS THAT DISTRIBUTE LATERAL WIND AND SEISMIC FORCES TO THE VERTICAL LATERAL ELEMENTS. THE VERTICAL LATERAL ELEMENTS CARRY APPLIED LATERAL LOADS TO THE BUILDING FOUNDATIONS.

FOUNDATIONS:

- SOIL DATA WAS TAKEN FROM RECOMMENDATIONS SET FORTH IN PROJECT GEOTECHNICAL REPORT BY NINYO & MOORE DATED OCTOBER 23, 2024 (PROJECT NO. 803044001).
- REFER TO GEOTECHNICAL REPORT FOR COMPLETE SOILS INFORMATION. MAXIMUM TOTAL LOAD SOIL BEARING PRESSURE CAPACITY USED IN DESIGN IS 3,000 psf.

GENERAL NOTES

- CONTRACTOR RESPONSIBILITY DURING CONSTRUCTION/ERECTION:
- A. THE STRUCTURE IS DESIGNED TO FUNCTION AS A COMPLETED UNIT, WITH ALL SPECIFIED ELEMENTS AND CONNECTIONS IN PLACE AND FULLY INSTALLED.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE DESIGN, SPECIFICATION, AND IMPLEMENTATION OF ANY AND ALL TEMPORARY BRACING OR SHORING REQUIRED TO ACCOMMODATE THE CONTRACTOR'S MEANS AND METHODS OF CONSTRUCTION AND SEQUENCES OF ERECTION. SUCH BRACING OR SHORING SHALL BE LEFT IN PLACE AS LONG AS MAY BE REQUIRED FOR SAFETY AND UNTIL ALL STRUCTURAL FRAMING AND DIAPHRAGMS ARE IN PLACE WITH CONNECTIONS COMPLETED.
- THE COMPLETED STRUCTURE HAS BEEN DESIGNED ONLY FOR APPLICABLE CODE-PRESCRIBED LOADS ANTICIPATED DURING ITS SERVICE LIFE AS INDICATED HEREIN. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY ADDITIONAL ENGINEERING AND OTHER MEASURES REQUIRED TO ACHIEVE THE CONTRACTOR'S MEANS. METHODS, AND SEQUENCES OF CONSTRUCTION AND TO WITHSTAND ALL TEMPORARY CONSTRUCTION LOADS TO WHICH THE STRUCTURE MAY BE SUBJECTED, INCLUDING BUT NOT LIMITED TO ERECTION LOADING AND STOCKPILING OF MATERIALS AND EQUIPMENT
- ALL DIMENSIONS ON STRUCTURAL DRAWINGS SHALL BE CHECKED AGAINST ARCHITECTURAL. STRUCTURAL DRAWINGS ARE NOT TO BE SCALED TO DETERMINE DIMENSIONAL INFORMATION, TO VERIFY OR
- COORDINATE ANY INFORMATION PRESENTED OR FOR ANY OTHER PURPOSE WHERE DISCREPANCIES OCCUR BETWEEN PLANS, DETAILS, AND GENERAL NOTES, THE MORE STRINGENT
- REQUIREMENT SHALL GOVERN.
- STRUCTURAL ENGINEER'S APPROVAL MUST BE SECURED FOR ALL SUBSTITUTIONS.
- VERIFY ALL OPENINGS THROUGH FLOOR, ROOF AND WALLS WITH MECHANICAL AND ELECTRICAL CONTRACTORS. STRUCTURAL SPECIAL INSPECTIONS SHALL BE PROVIDED AS SPECIFIED AND IN ACCORDANCE WITH CHAPTER 17 OF THE INTERNATIONAL BUILDING CODE. THE STRUCTURAL ENGINEER'S PERIODIC OBSERVATIONS OR PRESENCE ON SITE DOES NOT REPLACE OR PRECLUDE
- THE NEED FOR ANY INDEPENDENT THIRD PARTY STRUCTURAL SPECIAL INSPECTIONS SPECIFIED HEREIN. SIGNIFICANT PERMANENT EQUIPMENT SIZES, WEIGHTS, AND LOCATIONS INDICATED ON THE DRAWINGS ARE AS PROVIDED TO THE STRUCTURAL ENGINEER DURING DESIGN. CHANGES IN SIZES, WEIGHTS, OR LOCATIONS FROM THAT INDICATED MUST BE SUBMITTED IN WRITING FOR REVIEW AND APPROVAL BY THE STRUCTURAL ENGINEER.
- REQUIRED SUPPORTS OR BRACES NOT SHOWN ON THE DRAWINGS ARE THE RESPONSIBILITY OF THE EQUIPMENT SUPPLIER. 0. THE FOLLOWING IS A LIST OF DELEGATED DESIGN AND/OR PERFORMANCE-SPECIFIED ELEMENTS TO BE DESIGNED
- BY OTHERS AND PRESENTED FOR APPROVAL AS A DEFERRED SUBMITTAL. A. PRE-MANUFACTURED WOOD I-JOIST AND LVL FRAMING ELEMENTS

CONTRACTOR SUBMITTALS

- GENERAL CONTRACTOR SHALL PROVIDE THE FOLLOWING MATERIAL SPECIFICATION AND SHOP DRAWING SUBMITTALS TO THE ARCHITECT AND STRUCTURAL ENGINEER FOR REVIEW AND APPROVAL PRIOR TO PROCEEDING WITH EACH APPLICABLE PORTION OF THE WORK.
- ITEMS TO BE SUBMITTED AS SPECIFIED IN THE DRAWINGS:
- A. CONCRETE DESIGN MIXTURES B. CONCRETE STEEL REINFORCING SHOP DRAWINGS
- STRUCTURAL STEEL SHOP DRAWINGS D. MASONRY MORTAR AND GROUT DESIGN MIXTURES
- E. MASONRY ELEMENT AND ASSEMBLY SPECIFICATIONS
- DELEGATED DESIGN AND/OR PERFORMANCE-SPECIFIED ELEMENTS TO BE DESIGNED AND PROVIDED BY THE CONTRACTOR: [SUBMITTALS ARE TO INCLUDE SUPPORTING CALCULATIONS STAMPED AND SIGNED BY A QUALIFIED STRUCTURAL
- ENGINEER LICENSED IN THE STATE OF COLORADO. DRAWINGS AND CALCULATIONS ARE TO INCLUDE THE INDICATED ELEMENTS AND THEIR ATTACHMENTS TO THE MAIN BUILDING STRUCTURE.] A. PRE-MANUFACTURED WOOD I-JOIST AND LVL FRAMING ELEMENTS
- GENERAL CONTRACTOR SHALL REVIEW EACH SUBMITTAL AND CHECK FOR COORDINATION WITH OTHER WORK AND FOR COMPLIANCE WITH THE CONTRACT DOCUMENTS, AND SHALL AFFIX THEIR STAMP INDICATING APPROVAL PRIOR TO SENDING TO THE ARCHITECT AND STRUCTURAL ENGINEER.
- SUBMITTALS THAT DO NOT BEAR THE CONTRACTOR'S APPROVAL STAMP WILL NOT BE REVIEWED AND WILL BE RETURNED WITHOUT ACTION.DO NOT REPRODUCE CONTRACT DOCUMENTS, COPY STANDARD PRINTED INFORMATION, OR USE ELECTRONIC DRAWING FILES AS THE BASIS FOR SHOP DRAWINGS.
- GENERAL CONTRACTOR SHALL PROVIDE COPIES OF ALL FINAL, APPROVED, FOR CONSTRUCTION MATERIAL SPECIFICATION AND SHOP DRAWING SUBMITTALS TO THE ARCHITECT AND STRUCTURAL ENGINEER.

MATERIAL SPECIFICATIONS & NOTES

CONCRETE:

- CONCRETE SHALL BE MADE WITH STONE AGGREGATE (NORMAL-WEIGHT CONCRETE) AND SHALL DEVELOP THE FOLLOWING 28 DAY COMPRESSIVE STRENGTHS (F'C) WITH THE INDICATED DESIGN MIXTURE PROPERTIES: 3,500 psi
- 2. FOUNDATION WALLS & PILASTERS 3,500 psi; 0.55 MAX W/C RATIO; 5% AIR
- 3. INTERIOR SLABS ON GRADE
 - 3,500 psi
- 4. SITE TRASH ENCLOSURE SLAB & FOUNDATION 4,000 psi; 0.40 MAX W/C RATIO; 6% AIR B. RE: CIVIL FOR CONCRETE MIXTURES TO BE USED FOR EXTERIOR SITE SLAB, PAVING, AND FLATWORK, ETC. PROPORTIONS OF MATERIALS IN CONCRETE MIXTURES SHALL BE ESTABLISHED TO PROVIDE WORKABILITY AND
- CONSISTENCY TO PERMIT CONCRETE TO BE PLACED READILY INTO FORMS AND AROUND REINFORCEMENT, UNDER CONDITIONS OF PLACEMENT TO BE EMPLOYED, WITHOUT SEGREGATION OR EXCESSIVE BLEEDING. CONTRACTOR SHALL SELECT AN APPROPRIATE SLUMP, AND ADMIXTURES MAY BE USED AS NEEDED TO OBTAIN ACCEPTABLE RESULTS. TYPE I/II PORTLAND CEMENT SHALL BE USED, UNLESS NOTED OTHERWISE
- YARD. WHEN FLY ASH IS USED AS A SUPPLEMENTARY CEMENTITIOUS MATERIAL, QUANTITY SHALL NOT BE LESS THAN 15% NOR MORE THAN 25% BY WEIGHT OF TOTAL CEMENTITIOUS MATERIAL. FOR CONCRETE PLACED BY PUMPING. THE DESIGN MIXTURE SHALL BE PROPORTIONED TO ENSURE FLOWABILITY TO

FOR CONCRETE MIXTURES USED FOR FLOOR SLABS, THE MINIMUM CEMENTITIOUS CONTENT SHALL BE 540 lbs. PER CUBIC

- FACILITATE PUMPING. ENTRAINED AIR MAY BE USED TO FACILITATE PUMPING, SUBJECT TO THE PROVISIONS AND LIMITS INCLUDED HEREIN. WHERE AIR CONTENT IS INDICATED ABOVE, PROVIDE AIR ENTRAINING ADMIXTURES. AIR CONTENT VALUE INDICATED
- INCLUDES BOTH ENTRAINED AND ENTRAPPED AIR, AND MAY BE PROVIDED WITHIN A RANGE OF +/- 1.5%. AIR CONTENT INDICATED IS BASED ON A NOMINAL AGGREGATE SIZE OF 3/4". IF ANOTHER AGGREGATE SIZE IS TO BE USED, ADJUST REQUIRED AIR CONTENT PER ACI 318 TABLE 19.3.3.1.
- THE ADDITION OF ENTRAINED AIR IS NOT PERMITTED IN MIXTURES TO BE USED AS FLOOR SLABS, UNLESS THE CONTRACTOR CAN DEMONSTRATE TO THE ARCHITECT THAT SUCH SLAB MIXTURES WITH ENTRAINED AIR WILL PROVIDE AN ACCEPTABLE VERIFY ALKALINITY OF CONCRETE SLAB SURFACE, SLAB VAPOR TRANSMISSION AND SLAB FLATNESS/LEVELNESS ARE
- COMPATIBLE WITH FLOOR SYSTEMS AND ADHESIVES PRIOR TO INSTALLING FLOORING. NO CHLORIDE ADMIXTURES SHALL BE ADDED TO CONCRETE WITHOUT THE APPROVAL OF THE STRUCTURAL ENGINEER.
- K. ALL REINFORCING BARS SHALL BE ASTM A615, GRADE 60, UNLESS NOTED OTHERWISE. WELDED WIRE REINFORCING SHALL CONFORM TO ASTM A185 OR ASTM A497
- CONCRETE PROTECTION FOR REINFORCEMENT (UNLESS NOTED OTHERWISE): 1. CONCRETE POURED AGAINST EARTH
- 2. CONCRETE POURED IN FORMS BUT EXPOSED TO WEATHER OR EARTH #5 BARS OR SMALLER 1-1/2"
- BARS LARGER THAN #5 3. SLABS AND WALLS NOT EXPOSED TO WEATHER OR EARTH 3/4"
- NO SPLICES OF REINFORCEMENT SHALL BE MADE AND NO WELDING TO REINFORCING SHALL BE PERMITTED EXCEPT AS DETAILED OR AUTHORIZED BY THE STRUCTURAL ENGINEER. REINFORCING LAP SPLICES ARE TO BE A MINIMUM OF 48 BAR DIAMETERS, UNLESS NOTED OTHERWISE. WIRE FABRIC REINFORCEMENT MUST LAP ONE FULL MESH PLUS 2" AT SIDE AND END LAPS, BUT NOT LESS THAN 6", AND SHALL BE WIRED TOGETHER. MAKE ALL BARS CONTINUOUS AT CORNERS OR PROVIDE CORNER BARS OF EQUAL SIZE AND SPACING.
- DETAIL BARS IN ACCORDANCE WITH THE ACI DETAILING MANUAL AND ACI BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE.
- PROVIDE ALL ACCESSORIES NECESSARY TO SUPPORT REINFORCING AT POSITIONS SHOWN.
- PLACE 2-#5 BARS (1 EACH FACE) WITH 2'-0" PROJECTION AROUND ALL OPENINGS AND RE-ENTRANT CORNERS IN CONCRETE SLABS AND WALLS, UNLESS NOTED OTHERWISE.
- Q. CONCRETE WORK SHALL NOT HAVE JOINTS IN A HORIZONTAL PLANE. ALL CONSTRUCTION JOINTS SHALL BE AS DETAILED OR AS APPROVED BY THE STRUCTURAL ENGINEER.
- ALLOW FOR ADDITIONAL CONCRETE THICKNESS TO COMPENSATE FOR STRUCTURAL MEMBER AND FORMWORK DEFLECTIONS SLAB-ON-GRADE CONTROL JOINTS ARE TO BE SPACED A MAXIMUM OF 12'-0" ON CENTER AND ARE TO COINCIDE WITH COLUMN CENTERLINES AND RE-ENTRANT CORNERS.
- STRUCTURAL STEEL: A. ALL STRUCTURAL STEEL SHALL CONFORM TO ASTM A36, EXCEPT WIDE FLANGE SHAPES WHICH SHALL CONFORM TO ASTM A992 (GRADE 50), PIPE SECTIONS WHICH SHALL CONFORM TO ASTM A53 (GRADE B). AND HSS SECTIONS WHICH SHALL
- CONFORM TO ASTM A500 (GRADE C) STRUCTURAL STEEL SHALL BE DETAILED, FABRICATED AND ERECTED IN ACCORDANCE WITH THE AISC STEEL CONSTRUCTION MANUAL, INCLUDING ANSI/AISC 303 - CODE OF STANDARD PRACTICE FOR STEEL BUILDINGS.
- ALL WELDERS SHALL HAVE EVIDENCE OF PASSING THE AWS STANDARD QUALIFICATION TESTS. AND HAVE A
- MINIMUM WELD SIZE SHALL NOT BE LESS THAN 3/16" CONTINUOUS FILLET WELD, UNLESS NOTED OTHERWISE CONNECTIONS MADE WITH HIGH STRENGTH STEEL BOLTS SHALL CONFORM TO THE AISC SPECIFICATION FOR
- STRUCTURAL JOINTS USING A325 OR A490 BOLTS. ANCHOR RODS SHALL CONFORM TO ASTM F1554 GRADE 36 AND ARE TO BE HOOKED, UNLESS NOTED OTHERWISE
- FABRICATE BEAMS SUCH THAT ROLLING OR FABRICATION INDUCED CAMBER IS UP AFTER ERECTION. NON-SHRINK GROUT SHALL COMPLY WITH ASTM C1107 AND ACHIEVE A MINIMUM COMPRESSIVE STRENGTH OF
- 6,000 psi AT 28 DAYS. ALL STEEL OR STEEL CONNECTIONS PERMANENTLY EXPOSED BELOW GRADE SHALL BE COATED WITH A ZINC RICH PAINT OR
- AN ASPHALTIC MASTIC. **WOOD - GENERAL:**
- A. ALL SAWN DIMENSION LUMBER FOR STRUCTURAL FRAMING SHALL BE VISUALLY-GRADED, SURFACED DRY HEM FIR, NO.2 GRADE OR BETTER.
 - B. TIMBER CONNECTORS SPECIFIED ARE AS MANUFACTURED BY SIMPSON STRONG-TIE COMPANY. CONNECTORS BY OTHER MANUFACTURERS MAY BE USED IF THEY HAVE A CURRENT ICC-ES EVALUATION REPORT AND THEIR LOAD CAPACITY IS EQUAL TO OR GREATER THAN THE CONNECTOR SPECIFIED. USE MANUFACTURER'S FURNISHED FASTENERS
- :. INSTALL A CONTINUOUS ROW OF HORIZONTAL BLOCKING AT MID-HEIGHT OF SINGLE STORY WALLS OVER 10'-0" TALL. D. GLUE AND NAIL TOGETHER ALL PLIES OF BUILT-UP MEMBERS. E. PROVIDE FULL-HEIGHT 2x KING STUD AT ALL BEAM AND HEADER BEARING LOCATIONS, UNLESS NOTED OTHERWISE.
- F. SHEATHING FOR ROOFS AND WALLS SHALL BE APA RATED WITH EXPOSURE 1 BOND CLASSIFICATION, AND SHALL CONFORM TO THE PROVISIONS OF APA PRP-108 OR VOLUNTARY PRODUCT STANDARD PS 1-07. G. SHEATHING THICKNESS AND FASTENING REQUIREMENTS SHALL BE AS FOLLOWS:
- 1. SHEARWALLS: ALL DESIGNATED SHEARWALLS SHALL HAVE THE SHEATHING THICKNESS AND NAILING SPECIFIED IN THE DRAWINGS. ALL SHEARWALL PANEL EDGES SHALL BE SOLID BLOCKED AT INTERMEDIATE FRAMING MEMBERS.
- 2. NON SHEARWALLS: TYPICAL WALLS NOT DESIGNATED AS SHEARWALLS SHALL HAVE ONE LAYER OF 15/32" SHEATHING FASTENED WITH 8D NAILS @ 6" O.C. ALONG PANEL EDGES AND @ 12" O.C. AT INTERMEDIATE FRAMING MEMBERS. NON SHEARWALL PANEL EDGES NEED NOT BE BLOCKED AT INTERMEDIATE FRAMING MEMBERS. 3. ROOF DIAPHRAGMS: ONE LAYER OF 23/32" SHEATHING FASTENED WITH 10D NAILS SPACED @ 6" O.C. ALONG
- PANEL EDGES AND @ 12" O.C. AT INTERMEDIATE FRAMING MEMBERS. H. SMOOTH COMMON NAILS SHALL BE USED ON ALL ROOF AND WALL SHEATHING.
- I. PLACE SHEATHING WITH 8'-0" DIMENSION PERPENDICULAR TO SPAN OF FRAMING MEMBERS AND WITH END JOINTS STAGGERED. ROOF DIAPHRAGMS SHALL NOT BE GLUED.
- J. FASTEN ALL WOOD MEMBERS PER IBC TABLE 2304.10.1, UNLESS NOTED OTHERWISE. K. LVL BEAMS AND I-JOISTS SHALL BE ERECTED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. ALL PLATES, BLOCKING, BRIDGING AND OTHER RELATED ITEMS SHALL BE FURNISHED BY THE MANUFACTURER.
- PREFABRICATED WOOD ROOF I-JOISTS: A. SUPPLIER SHALL DESIGN AND PROVIDE JOISTS IN ACCORDANCE WITH THE DESIGN CRITERIA OUTLINED IN THE DRAWINGS. SUPPLIER SHALL SUBMIT SHOP DRAWINGS AND CALCULATIONS STAMPED AND SIGNED BY A COLORADO LICENSED PROFESSIONAL ENGINEER FOR REVIEW AND APPROVAL BY THE STRUCTURAL ENGINEER PRIOR TO DELIVERY TO THE
- PROJECT SITE. B. RE: DESIGN CRITERIA NOTES THIS SHEET AND SHEET S1.3 FOR APPLICABLE DESIGN LOADS.
- C. JOISTS SHALL BE DESIGNED TO PROVIDE FOR MAXIMUM VERTICAL DEFLECTIONS AS FOLLOWS: MAXIMUM TOTAL LOAD DEFLECTION: L/240 OF JOIST SPAN
- 2. MAXIMUM SNOW LOAD DEFLECTION: L/360 OF JOIST SPAN

STRUCTURAL WALLS

POST-INSTALLED ANCHORS:

- D. ALL JOISTS SHALL BE ERECTED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS, INCLUDING CONSIDERATIONS FOR TEMPORARY BRACING. E. ALL REQUIRED BRIDGING AND BLOCKING SHALL BE INSTALLED PRIOR TO INSTALLING SHEATHING.
- MASONRY:
- A. CONCRETE MASONRY BLOCK UNITS SHALL BE MEDIUM WEIGHT AND SHALL CONFORM TO ASTM C90.
 - B. MORTAR FOR STRUCTURAL WALLS SHALL CONFORM TO ASTM C270. C. GROUT FOR MASONRY SHALL CONFORM TO ASTM C476 AND SHALL DEVELOP A MINIMUM 28-DAY COMPRESSIVE STRENGTH OF 2,000 psi. D. ALL MASONRY ASSEMBLIES SHALL DEVELOP A MINIMUM COMPRESSIVE STRENGTH (F'M) OF 1,500 psi IN 28 DAYS.
- E. STANDARD HORIZONTAL STEEL LADDER MESH REINFORCING SHALL BE PROVIDED IN BED JOINTS OF STRUCTURAL MASONRY WALLS, SPACED AT 16" ON CENTER, UNLESS NOTED OTHERWISE SPECIFIED VERTICAL REINFORCING SHALL EXTEND FOR THE FULL HEIGHT OF THE WALL AND SHALL BE GROUTED IN PLACE
- USING A MAXIMUM OF 5'-0" LIFTS. HIGH LIFT GROUTING MAY BE DONE UP TO A HEIGHT OF 15'-0" AS LONG AS CLEANOUTS ARE PROVIDED AT THE BASE OF EACH GROUTED CELL. ALL CELLS MUST BE CLEANED PRIOR TO GROUTING, AND ALL VERTICAL REINFORCING MUST BE ADEQUATELY SECURED INTO POSITION.
- G. PROVIDE ONE ADDITIONAL VERTICAL BAR AT THE FOLLOWING LOCATIONS: WALL CORNERS, ENDS OF WALLS, AND EACH SIDE OF OPENINGS. H. PROVIDE HORIZONTAL BOND BEAM REINFORCED WITH A MINIMUM OF 1-#5 CONTINUOUS BARS AT THE TOP OF ALL
- A. POST-INSTALLED ANCHORS SHALL BE INSTALLED IN ACCORDANCE WITH ALL MANUFACTURER'S RECOMMENDATIONS, SPECIFICATIONS AND PRINTED INSTALLATION INSTRUCTIONS (MPII), AND SHALL BE INSTALLED ONLY INTO DRY BASE MATERIALS.
- B. FOR EXPANSION ANCHORS INSTALLED INTO CONCRETE, THE CONCRETE BASE MATERIAL SHALL REACH THE REQUIRED
- MINIMUM COMPRESSIVE STRENGTH (F'C) SPECIFIED IN THE DRAWINGS PRIOR TO ANCHOR INSTALLATION. C. FOR ADHESIVE ANCHORS INSTALLED INTO CONCRETE, THE CONCRETE BASE MATERIAL AT THE TIME OF ANCHOR INSTALLATION SHALL HAVE A MINIMUM AGE OF 21 DAYS, A MINIMUM CONCRETE TEMPERATURE OF 50 DEGREES F, AND SHALL REACH THE REQUIRED MINIMUM COMPRESSIVE STRENGTH (F'C) SPECIFIED IN THE DRAWINGS PRIOR TO ANCHOR INSTALLATION.







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Rev Description

25-001 Project Number 02.11.2025

Date

COVER SHEET, DESIGN

CRITERIA & PROJECT NOTES

STATEMENT OF STR	RUCTURALS	SPECIAL INSPECTIONS & TESTS	
1 GENERAL		5 INSPECTION OF POST-INSTALLED ANCHORS [ANCHOR BOLTS, RODS & REINFORCING STEEL]	
 A. SPECIAL INSPECTIONS AND TESTS SHALL BE PROVIDED IN ACCORDANCE WITH CHAPTER 17 OF THE INTERNATIONAL BUILDING B. THE OWNER OR THE OWNER'S AUTHORIZED AGENT, OTHER THAN THE CONTRACTOR, SHALL EMPLOY ONE OR MORE APPROVE TO PERFORM SPECIAL INSPECTIONS AND TESTS DURING CONSTRUCTION ON THE TYPES OF WORK OUTLINED HEREIN. C. APPROVED AGENCIES SHALL PROVIDE ALL INFORMATION AS NECESSARY FOR THE BUILDING OFFICIAL TO DETERMINE THAT THE MEETS OR EXCEEDS THE APPLICABLE CODE-SPECIFIED REQUIREMENTS. D. PRIOR TO THE START OF CONSTRUCTION, THE APPROVED AGENCIES SHALL PROVIDE WRITTEN DOCUMENTATION TO THE BUIL ARCHITECT AND STRUCTURAL ENGINEER, DEMONSTRATING THE COMPETENCE AND RELEVANT EXPERIENCE OR TRAINING OF SPECIAL INSPECTORS WHO WILL PERFORM THE SPECIAL INSPECTIONS AND TESTS DURING CONSTRUCTION. E. THE CONSTRUCTION OR WORK FOR WHICH SPECIAL INSPECTION OR TESTING IS REQUIRED SHALL REMAIN ACCESSIBLE AND E SPECIAL INSPECTION OR TESTING PURPOSES UNTIL COMPLETION OF THE REQUIRED SPECIAL INSPECTIONS OR TESTS. F. APPROVED AGENCIES SHALL KEEP RECORDS OF SPECIAL INSPECTIONS AND TESTS AND SHALL SUBMIT REPORTS OF SPECIAL AND TESTS CONFORMING TO CHAPTER 17 OF THE INTERNATIONAL BUILDING CODE TO THE BUILDING OFFICIAL, ARCHITECT AN ENGINEER. DISCREPANCIES SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE CONTRACTOR FOR CORRECTION. IF NOT CORRECT DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE BUILDING OFFICIAL, ARCHITECT AND STRUCTURAL ENGINEER COMPLETION OF THE APPLICABLE PHASE OF THE WORK. G. SPECIAL INSPECTIONS SHALL BE PROVIDED ON A PERIODIC OR CONTINUOUS BASIS, AS STATED OR INDICATED BELOW. [P] PERIODIC INSPECTION – PART-TIME OR INTERMITTENT OBSERVATION BY THE SPECIAL INSPECTOR OF WORK BEING PERFORMED. SPECIAL INSPECTOR OF WORK BEING PERFORMED. OBSERVATION OF ALL WORK SHALL BE PRESENT IN THE AREA WHERE THE WORK IS BEING PERFORMED. OBSERVATION OF ALL WORK (100% VISUAL) SHALL THE COMPLETION OF THE WORK. 	ED AGENCIES HE AGENCY LDING OFFICIAL, THE EXPOSED FOR INSPECTIONS ND STRUCTURAL ECTED, THE R PRIOR TO RMED. I (100% VISUAL) INSPECTOR	1. MANUFACTURER, TYPE, DIAMETER, LENGTH AND FINISH OF ANCHOR 2. MAXIMUM SPECIFIED IMPACT WRENCH TORQUE RATING MAINTAINED FOR SCREW ANCHORS 3. ACCEPTABILITY OF BASE MATERIAL 4. INSPECTION DURING ANCHOR INSTALLATION VERIFY DRILLING METHOD, HOLE DIMENSIONS, HOLE CLEANING, ANCHOR AND ADHESIVE PLACEMENT, ANCHOR EMBEDMENT, WRENCH TORQUE, EDGE DISTANCES AND SPACING. 5. INSPECTION AFTER INSTALLATION OF ATTACHED ASSEMBLY VERIFY ANCHOR LOCATIONS, SPACING, EDGE DISTANCES, AND ANCHOR FLUSH WITH AND PERPENDICULAR TO THE RECEIVING SURFACE. VERIFY ANCHOR HEADS HAVE NOT BEEN CUT OFF AND THAT MANUFACTURER'S STAMP MARK IS READABLE AND HAS NOT BEEN DAMAGED OR OBSCURED. NOTES: A. MANUFACTURER'S PRINTED INSTALLATION INSTRUCTIONS (MPII) AND RELEVANT ICC-ES REPORTS SHALL BE USED ALONG WITH CONSTRUCTION DOCUMENTS TO DETERMINE COMPLIANCE. B. CONTINUOUS INSPECTION OF ALL POST-INSTALLED ANCHORS SHALL BE REQUIRED, REGARDLESS OF WHETHER PERIODIC INSPENSE IS PERMITTED BY THE RELEVANT ICC-ES REPORTS. C. PRIOR TO ANCHOR INSTALLATION, REVIEW AND VERIFY CONTRACTOR'S INSTALLATION PROCEDURE. D. VERIFY THAT THE FULL CURE TIME AS OUTLINED IN THE GENERAL NOTES HAS ELAPSED PRIOR TO APPLICATION OF TORQUE OR TO ANCHOR.	ECTION
2 INSPECTION OF STEEL CONSTRUCTION		6 INSPECTION OF MASONRY CONSTRUCTION	
1. MATERIAL VERIFICATION OF STRUCTURAL STEEL A. FOR STRUCTURAL STEEL, IDENTIFICATION MARKINGS TO CONFORM TO AISC 360 B. FOR OTHER STEEL, IDENTIFICATION MARKINGS TO CONFORM TO ASTM STANDARDS SPECIFIED IN THE CONSTRUCTION DOCUMENTS	FREQUENCY [P]	1. VERIFY COMPLIANCE WITH REQUIRED INSPECTION PROVISIONS OF THE CONSTRUCTION DOCUMENTS AND APPROVED SUBMITTALS 2. AT THE START OF MASONRY CONSTRUCTION, VERIFY:	FREQUENCY [P]
2. MATERIAL VERIFICATION OF HIGH-STRENGTH BOLTS, ANCHOR RODS, NUTS AND WASHERS A. IDENTIFICATION MARKINGS TO CONFORM TO ASTM STANDARDS SPECIFIED IN THE APPROVED CONSTRUCTION DOCUMENTS 3. MATERIAL VERIFICATION OF WELD FILLER METALS	[P]	A. PROPORTIONS OF SITE-PREPARED MORTAR B. CONSTRUCTION OF MORTAR JOINTS C. LOCATION OF REINFORCEMENT, CONNECTORS AND ANCHORAGES 3. DURING MASONRY CONSTRUCTION, VERIFY:	[P] [P] [P]
A. IDENTIFICATION MARKINGS TO CONFORM TO AWS SPECIFICATIONS IN THE CONSTRUCTION DOCUMENTS 4. INSPECTION OF HIGH STRENGTH BOLTING: A. SNUG-TIGHT JOINTS VERIFY CONNECTED MATERIALS HAVE BEEN DRAWN TOGETHER AND PROPERLY SNUGGED. 5. INSPECTION OF WELDING OF STRUCTURAL STEEL: A. FIT-UP OF FILLET AND GROOVE WELDS	[P]	A. SIZE AND LOCATION OF STRUCTURAL MEMBERS B. TYPE, SIZE AND LOCATION OF ANCHORS, INCLUDING OTHER DETAILS OF ANCHORAGE OF MASONRY TO STRUCTURAL MEMBERS, FRAMES, OR OTHER CONSTRUCTION C. SPECIFIED SIZE, GRADE AND TYPE OF REINFORCEMENT AND ANCHORAGES D. PREPARATION, CONSTRUCTION AND PROTECTION OF MASONRY DURING COLD WEATHER (TEMPERATURE BELOW 40°F) OR HOT WEATHER (TEMPERATURE ABOVE 90°F)	[P] [P] [P]
B. CONFIGURATION AND FINISH OF ACCESS HOLES C. CONTROL & HANDLING OF WELD MATERIALS D. NO WELDING OVER CRACKED TACK WELDS E. ACCEPTABLE ENVIRONMENTAL CONDITIONS (WIND SPEED, PRECIPITATION AND TEMPERATURE) F. CONFORMANCE WITH WPS AND WELDING TECHNIQUES	[P] [P] [P] [P]	4. PRIOR TO GROUTING, VERIFY: A. GROUT SPACE IS CLEAN B. PLACEMENT OF REINFORCING AND CONNECTORS AND ANCHORAGES C. PROPORTIONS OF SITE-PREPARED GROUT D. CONSTRUCTION OF MORTAR JOINTS	[P] [P] [P]
 G. VERIFY THE FOLLOWING FOR ALL SPECIFIED WELDS: SIZE, LENGTH AND LOCATION; VISUAL ACCEPTANCE CRITERIA; ARC STRIKES; WEB K-AREA WELDS FREE OF CRACKS; BACKING REMOVED AND WELD TABS REMOVED (IF REQUIRED); REPAIR ACTIVITIES H. SINGLE-PASS FILLET WELDS <!--= 5/16"</li--> 	[P]	VERIFY GROUT PLACEMENT INSPECTION OF WOOD CONSTRUCTION ITEM	[C] FREQUENCY
INSPECTION OF STEEL FRAME AND JOINT DETAILS FOR COMPLIANCE: A. DETAILS SUCH AS BRACING AND STIFFENING B. MEMBER LOCATIONS C. APPLICATION OF JOINT DETAILS AT EACH CONNECTION NOTES: A. WELDING INSPECTION AND WELDING INSPECTOR QUALIFICATION FOR STRUCTURAL STEEL SHALL BE IN ACCORDANCE WITH AN B. WELDING PROCEDURE SPECIFICATIONS (WPSS), PROCEDURE QUALIFICATION RECORDS (PQRS) FOR WPSS THAT ARE NOT PREWELDING PERSONNEL PERFORMANCE QUALIFICATION RECORDS (WPQRS) AND CONTINUITY RECORDS, AS APPLICABLE, SHALL	[P] [P] [P] WS D1.1. EQUALIFIED,	1. ROOF DIAPHRAGMS: A. SHEATHING THICKNESS AND GRADE B. NOMINAL SIZE OF FRAMING MEMBERS AT ADJOINING PANEL EDGES C. NAIL DIAMETER AND LENGTH D. NUMBER OF FASTENER LINES E. SPACING BETWEEN FASTENERS IN EACH LINE AND AT PANEL EDGES 2. SHEARWALLS:	[P] [P] [P] [P] [P]
TO THE APPROVED AGENCY FOR REVIEW AND APPROVAL. C. INSTALLATION OF HIGH-STRENGTH BOLTS SHALL BE INSPECTED IN ACCORDANCE WITH AISC 360 & RCSC SPECIFICATION FOR S JOINTS USING HIGH-STRENGTH BOLTS. 3 INSPECTION OF CONCRETE CONSTRUCTION		A. SHEATHING THICKNESS AND GRADE B. NOMINAL SIZE AND SPACING OF TYPICAL FRAMING MEMBERS AND AT ADJOINING PANEL EDGES C. NAIL DIAMETER AND LENGTH D. NUMBER OF FASTENER LINES	[P] [P] [P] [P]
1. INSPECTION OF REINFORCING STEEL AND PLACEMENT VERIFY GRADE, FINISH, SIZE, BAR QUANTITY, LOCATION, SPACING, COVER, HOOK LENGTHS, SPLICE LENGTHS, SPLICE LOCATIONS, BEND DIAMETERS, SURFACE CONDITIONS AND SUPPORTS. 2. INSPECTION OF ANCHORS CAST IN CONCRETE.	FREQUENCY [P]	E. SPACING BETWEEN FASTENERS IN EACH LINE AND AT PANEL EDGES F. LOCATION, SIZE AND TYPE OF HOLDOWNS 3. NAILING, BOLTING, ANCHORING AND FASTENING OF: A. DRAG STRUTS AND COLLECTORS B. HOLD-DOWNS	[P] [P] [P]
 INSPECTION OF ANCHORS CAST IN CONCRETE VERIFY TYPE, FINISH, DIAMETER, LENGTH, QUANTITY, EMBEDMENT LENGTH, SPACING AND EDGE DISTANCES. VERIFY USE OF PLACING TEMPLATE WHERE SPECIFIED. VERIFY USE OF APPROVED DESIGN MIXTURE FOR EACH TRUCK LOAD PRIOR TO CONCRETE PLACEMENT, FABRICATE SPECIMENS FOR STRENGTH TESTS, PERFORM SLUMP AND 	[P]	8 INSPECTION OF SOILS ITEM 1. VERIFY MATERIALS BELOW SHALLOW FOUNDATIONS ARE ADEQUATE TO ACHIEVE THE REQUIRED BEARING CAPACITY	FREQUENCY [P]
AIR CONTENT TESTS, AND DETERMINE THE TEMPERATURE OF THE CONCRETE. 5. INSPECTION OF CONCRETE PLACEMENT FOR PROPER APPLICATION TECHNIQUES PER ACI 318 26.5.2 6. INSPECTION OF FORMWORK FOR SHAPE, LOCATION AND DIMENSIONS OF THE CONCRETE MEMBER BEING FORMED 4 TESTING OF STRUCTURAL CONCRETE	[C] [C] [P]	2. VERIFY EXCAVATIONS ARE EXTENDED TO PROPER DEPTH AND HAVE REACHED PROPER MATERIAL 3. PERFORM CLASSIFICATION AND TESTING OF COMPACTED FILL MATERIALS 4. VERIFY USE OF PROPER MATERIALS, DENSITIES AND LIFT THICKNESSES DURING PLACEMENT AND COMPACTION OF FILL 5. PRIOR TO PLACEMENT OF CONTROLLED FILL, INSPECT SUBGRADE AND VERIFY THAT SITE HAS BEEN PREPARED PROPERLY	[P] [P] [P] [P]
 A. SAMPLES FOR PREPARING STRENGTH TEST SPECIMENS OF EACH CONCRETE MIXTURE PLACED EACH DAY SHALL BE OBTAINED PLACEMENT AND SHALL AT A MINIMUM BE TAKEN AS FOLLOWS: (A) AT LEAST ONCE A DAY (B) AT LEAST ONCE FOR EACH 100 CL CONCRETE (C) AT LEAST ONCE FOR EACH 5,000 S.F. OF SURFACE AREA FOR SLABS OR WALLS. SAMPLING OF CONCRETE SHAL ACCORDANCE WITH ASTM C172. B. WHEN FREQUENCY OF TESTING WILL PROVIDE FEWER THAN FIVE COMPRESSIVE-STRENGTH TESTS FOR EACH CONCRETE MIX SHALL BE CONDUCTED FROM AT LEAST FIVE RANDOMLY SELECTED BATCHES OR FROM EACH BATCH IF FEWER THAN FIVE ARE C. SLUMP: ASTM C143; ONE TEST AT POINT OF PLACEMENT FOR EACH COMPOSITE SAMPLE, BUT NOT LESS THAN ONE TEST FOR OF EACH CONCRETE MIXTURE. PERFORM ADDITIONAL TESTS WHEN CONCRETE CONSISTENCY APPEARS TO CHANGE. 	U. YD. OF LL BE IN (TURE, TESTING E USED.	NOTES: A. THE APPROVED PROJECT GEOTECHNICAL REPORT SHALL BE USED ALONG WITH THE CONSTRUCTION DOCUMENTS TO DETERMINE COMPLIANCE. B. DURING FILL PLACEMENT, THE SPECIAL INSPECTOR SHALL DETERMINE THAT PROPER MATERIALS AND PROCEDURES ARE USED IN ACCORDANCE WITH THE PROVISIONS OF THE APPROVED PROJECT GEOTECHNICAL REPORT	<u> </u>

AVERAGE AIR TEMPERATURE OF 40°F OR BELOW IS EXPECTED FOR 3 SUCCESSIVE DAYS DURING CURING PERIOD.

CAST AND CURE FOUR (4) 6X12 CYLINDER SPECIMENS OR SIX (6) 4X8 CYLINDER SPECIMENS FOR EACH COMPOSITE SAMPLE.

TEST ONE (1) 6X12 OR TWO (2) 4X8 SPECIMENS AT 56 DAYS IF 28-DAY TESTS DO NOT ACHIEVE THE SPECIFIED STRENGTH.

ASTM C173 (VOLUMETRIC METHOD) FOR LIGHT-WEIGHT CONCRETE.

IS 40°F AND BELOW OR 80°F AND ABOVE.

COMPRESSION TEST SPECIMENS: ASTM C31;

COMPRESSIVE STRENGTH TESTS: ASTM C39;

TEST ONE (1) 6X12 OR ONE (1) 4X8 SPECIMEN AT 7 DAYS

TEST TWO (2) 6X12 OR THREE (3) 4X8 SPECIMENS AT 28 DAYS

TEST SPECIMEN ACCEPTANCE CRITERIA TO BE IN ACCORDANCE WITH ACI 318

AIR CONTENT: ASTM C231; TEST EACH COMPOSITE SAMPLE PER ASTM C231 (PRESSURE METHOD) FOR NORMAL-WEIGHT CONCRETE OR

COLD WEATHER CURING: ASTM C1074; RECORD MAXIMUM AND MINIMUM CONCRETE TEMPERATURE DURING CURING PERIOD WHEN A DAILY

TEMPERATURE: ASTM C1064; TEST EACH COMPOSITE SAMPLE AND AT 60-MINUTE INTERVALS. REQUIRED WHEN AIR TEMPERATURE

REINFORCING BAR LAP SPLICE SCHEDULE		
BAR SIZE	'TOP BAR' SPLICE LENGTH	'OTHER BAR' SPLICE LENGTH
#3 27"		21"
#4 35"		27"

44" 34" 40" 59" 66"

1. 'TOP BARS' ARE HORIZONTAL BARS PLACED SUCH THAT 12" OF FRESH CONCRETE IS CAST BELOW THE BAR.
ALL BARS THAT ARE NOT 'TOP BARS' ARE 'OTHER BARS'.
REFER TO THE CONCRETE MATERIAL AND SPECIFICATION NOTES FOR

STEEL BEAM SHEAR TAB CONNECTION SCHEDULE

ADDITIONAL INFORMATION AND REQUIREMENTS

COMMECTION SCHEDULE			
BEAM SIZE	NUMBER OF ¾"Ø BOLTS	SHEAR TAB THK x LENGTH	FILLET WELD SIZE
W14	3	¾"×9"	14"
W16	4	¾"×12"	<i>7</i> 4"
W18	4	%"×12"	1/4"

MINIMUM EDGE DISTANCE = $1\frac{1}{2}$ " FOR ALL CONNECTED PARTS. BOLT SPACING = 3".

S. STANDARD HOLES TO BE PROVIDED IN SUPPORTED WEB.
SHORT—SLOTTED HOLES TO BE PROVIDED IN SHEAR TAB PLATES.
ALL BOLTS ARE TO BE A325.

HEADER SCHEDULE			
MARK	HEADER	# OF TRIMMER STUDS	# OF KING STUDS
(H1)	(3) 2x10	1	2
(H2)	(3) 11%" LVL	2	3
(H3)	(3) 14" LVL	3	3

TYPICAL HEADERS, U.N.O.

RE: PLAN FOR MARK LOCATIONS.

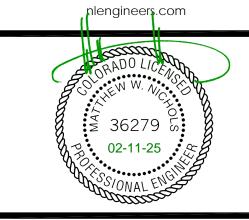
GLUE AND NAIL PLY'S PER TYPICAL DETAIL THIS SHEET. RE: 4/S1.2 FOR LATERAL STRAPS TO BE INSTALLED AT CORNERS OF OPENINGS LOCATED WITHIN LENGTH OF SHEARWALLS INDICATED ON PLAN.

LATERAL WOOD SHEARWALL SCHEDULE APA RATED HOLDOWN HOLDOWN HOLDOWN END STUDS/POST SHEATHING ANCHOR NAILING **ANCHORS** %"ø x 1'−0" (HOOKED) @ 24" o.c. HDU5-SDS2.5 W/ 8d @ 4" o.c. (PANEL EDGES) W/ BPS5/8-6 PLATÉ WASHERS (2) 2x6 (14) ¼" × 2½" SDS %"ø SSTB24 (EXTERIOR FACE) 8d @ 12" o.c. (FIELD) (RE: NOTE 13 BELOW) SCREWS INTO END STUDS %"ø x 1'-0" (HOOKED) @ 18" o.c. W/ BPS5/8-6 PLATE WASHERS HDU8-SDS2.5 W/ 8d @ 4" o.c. (PANEL EDGES) SW2 (20) ¼" x 2½" SDS SCREWS INTO END POST 6x4 POST 8d @ 12" o.c. (FIELD) (RE: NOTE 13 BELOW)

- 1. RE: PLAN FOR SHEARWALL MARK LOCATIONS AND EXTENTS. RE: PLAN AND DETAILS FOR ADDITIONAL REQUIREMENTS AND DIMENSIONAL INFORMATION.
- SHEARWALL STUDS SHALL BE 2x6 MINIMUM @ 16" MAX. o.c.
- PANEL EDGES AT SHEARWALLS SHALL BE FULLY BLOCKED WITH 2x6 MATERIAL. RE: 5/S1.2 FOR TYPICAL SHEARWALL HOLDOWN DETAIL.
- 6. RE: 6/S1.2 FOR TYPICAL SSTB HOLDOWN ANCHOR DETAIL.
- 7. RE: 7/S3.1 FOR PAB ANCHOR DETAIL. 8. SET HEIGHT OF SSTB ANCHORS USING EMBEDMENT MARK INDICATED TO ACCOMMODATE 2x SILL PLATE.
 9. SECURE ANCHORS TO FORMWORK AND ADJACENT REINFORCING BARS TO PREVENT ANCHOR FROM BEING MOVED OR MISALIGNED DURING THE CONCRETE POUR.
- 10. INSTALL HOLDOWN HARDWARE AND ANCHORS IN CONFORMANCE WITH ALL SUPPLIER'S SPECIFICATIONS AND RECOMMENDATIONS, USING SUPPLIER PROVIDED FASTENERS AND ACCESSORIES.
- 11. HOLDOWN ANCHORS SHALL BE AS SPECIFIED AND SHALL BE CAST—IN—PLACE. POST—INSTALLED WEDGE OR EPOXIED ANCHOR ALTERNATES ARE NOT ACCEPTABLE.

 12. RE: 4/S1.2 FOR ADDITIONAL LATERAL STRAPS TO BE INSTALLED AT CORNERS OF OPENINGS LOCATED WITHIN LENGTH OF SHEARWALLS.
- 13. RE: 7/S1.2 FOR SILL ANCHOR PLATE WASHER INSTALLATION AT LATERAL SHEARWALLS.

14. SHEATHING SHALL BE PROVIDED IN 4x8 PANELS AND INSTALLED WITH LONG DIMENSION ORIENTED HORIZONTALLY.



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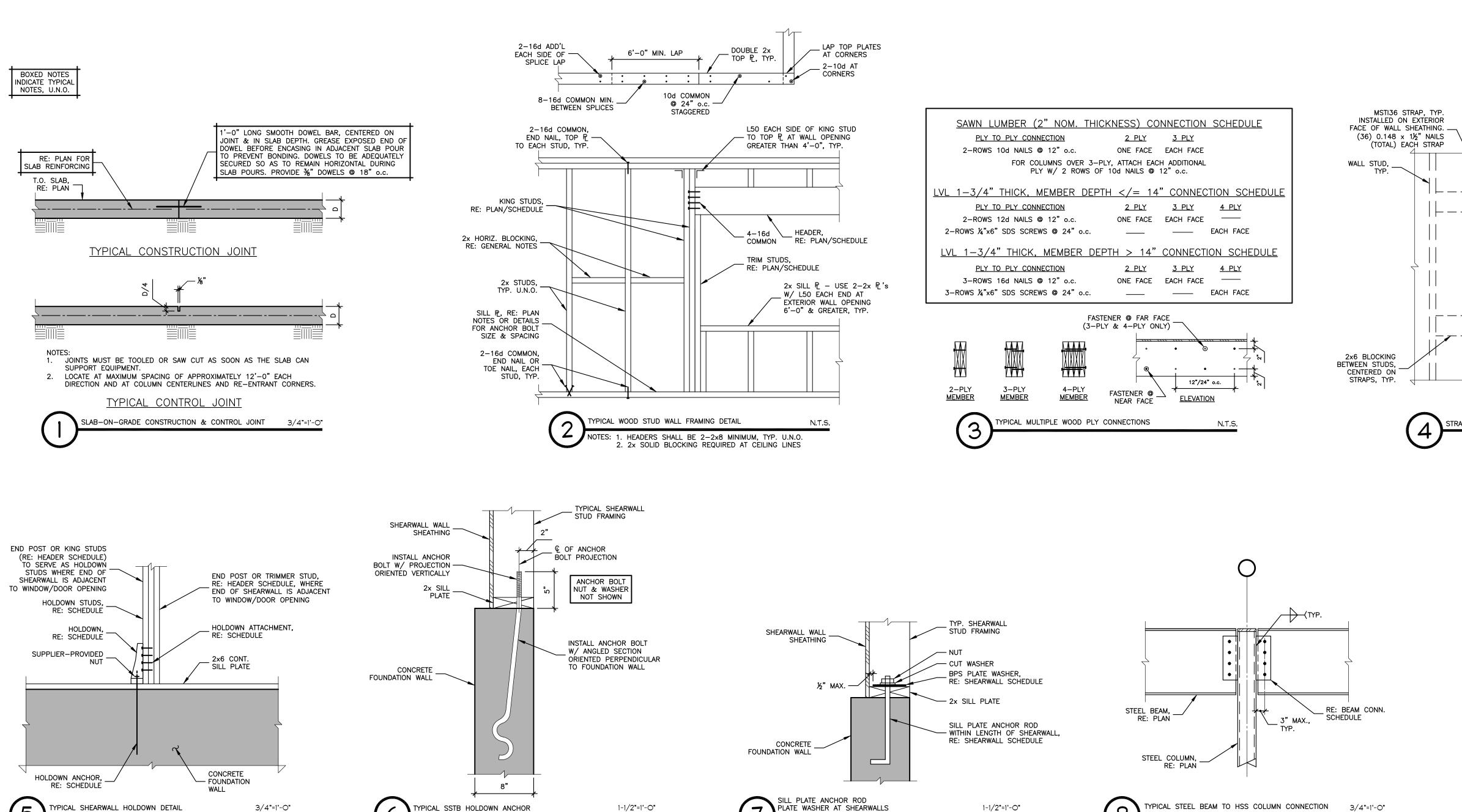
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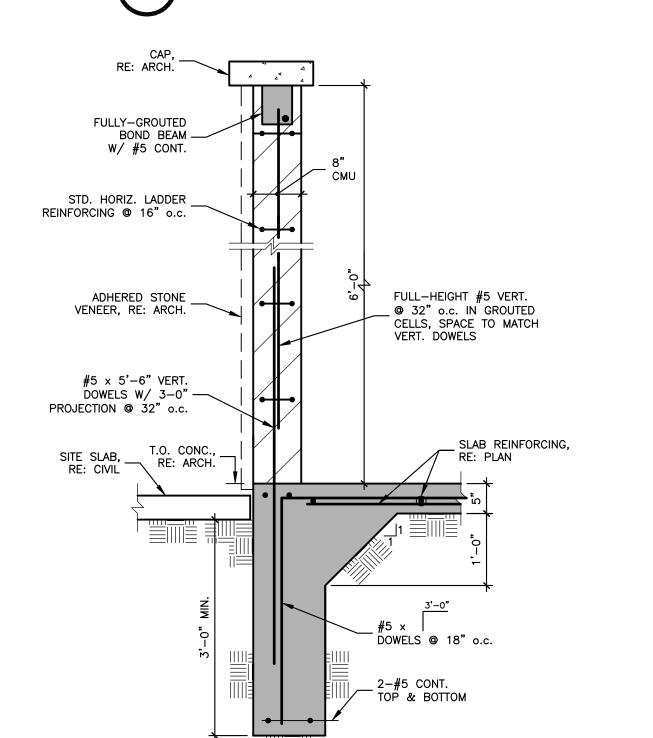
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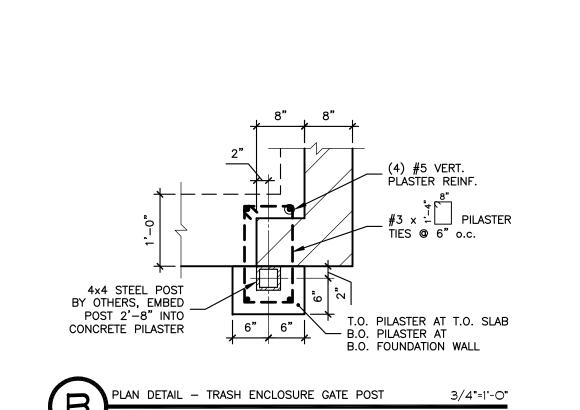
STRUCTURAL SPECIAL INSPECTIONS & SCHEDULES

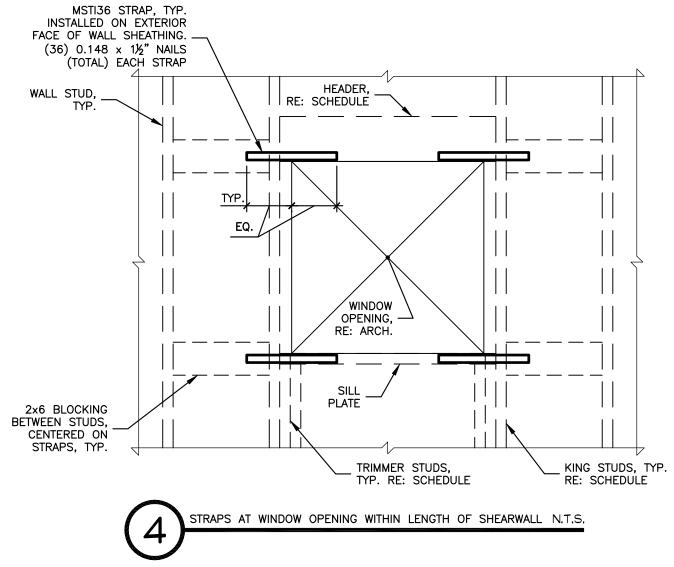


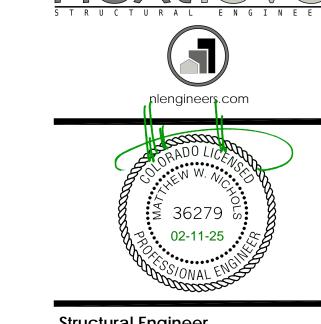


TRASH ENCLOSURE WALL & FOUNDATION

3/4"=1'-0"







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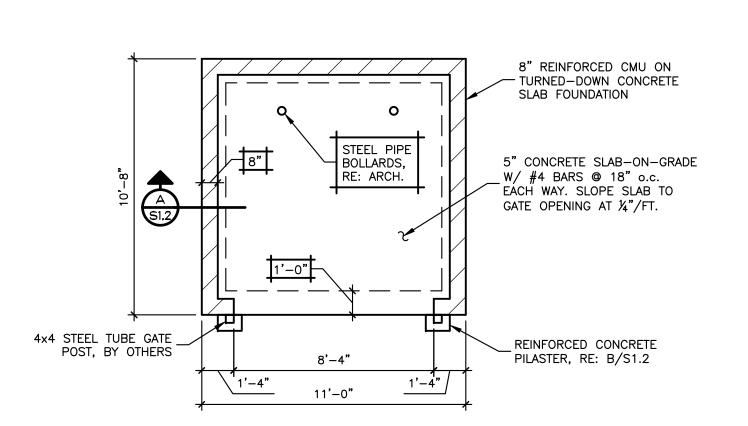
SCHEDULE

TYPICAL STEEL BEAM TO BEAM CONNECTION

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TYPICAL DETAILS & TRASH ENCLOSURE

S1.2



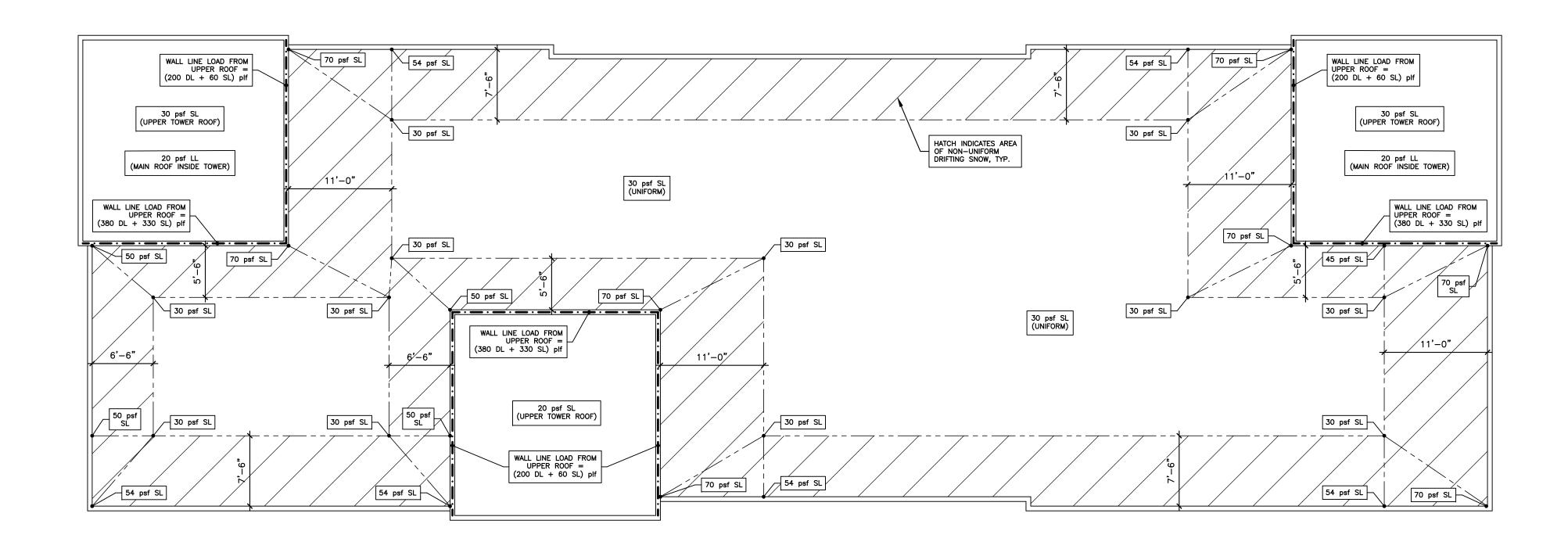
TRASH ENCLOSURE PLAN 1/4"=1'-0"

NOTES:

BOXED NOTES INDICATE TYPICAL NOTES, UNLESS NOTED OTHERWISE.
 RE: CIVIL FOR SITE PLAN LOCATION AND ORIENTATION.

3. ENCLOSURE GATE BY OTHERS.
4. SLAB & TURNED—DOWN EDGE TO BE CONSTRUCTED OVER PROPERLY

PREPARED AND COMPACTED SUBGRADE, RE: PROJECT GEOTECHNICAL REPORT.

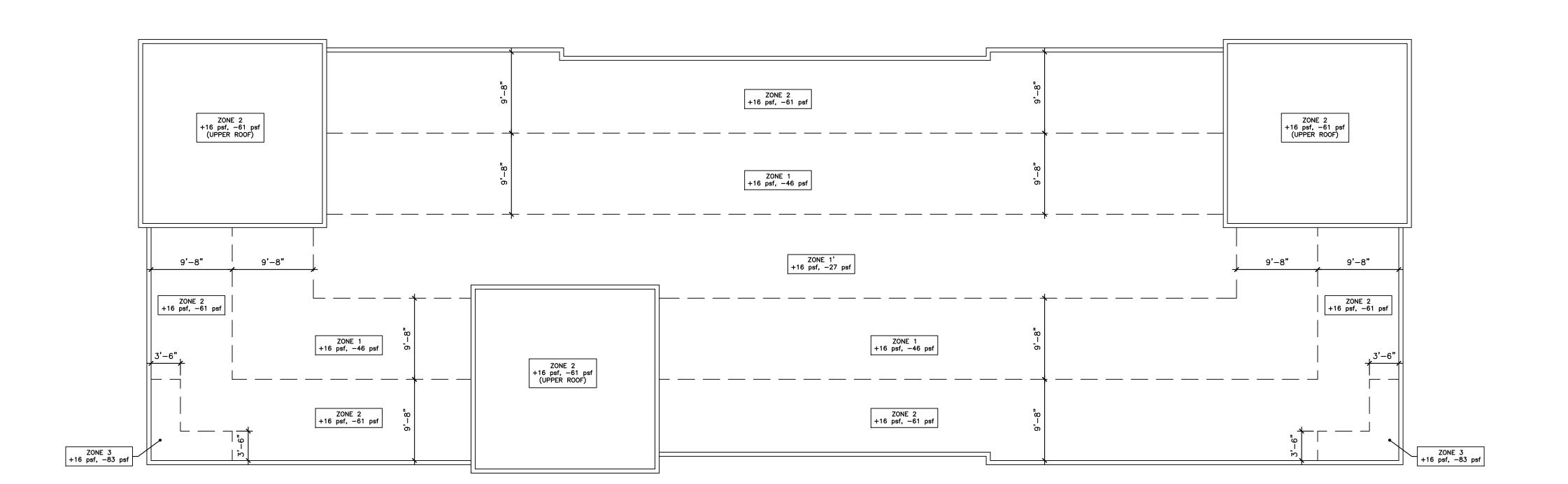


N.T.S.

ROOF GRAVITY DESIGN LOAD DIAGRAM

NOTES:

- 'DL' INDICATES DEAD LOAD. 'LL' INDICATES LIVE LOAD. 'SL' INDICATES SNOW LOAD. UNIFORM SUPERIMPOSED ROOF DL = 15 psf TO BE INCLUDED.
- DRIFTING SNOW LOADS IN HATCHED AREAS VARY UNIFORMLY BETWEEN VALUES INDICATED. RE: GENERAL NOTES ON SHEET S1.0 FOR ADDITIONAL DESIGN INFORMATION.
- 5. ALL DESIGN LOADS INDICATED IN THE DRAWINGS SHALL BE USED, CONSIDERING ALL APPLICABLE LOAD COMBINATIONS FROM IBC SECTION 1605.



ROOF WIND DESIGN LOAD DIAGRAM NOTES:

- VALUES REPRESENT TOTAL (NOT NET) WIND LOADS.
 VALUES SHOWN ARE ULTIMATE (NOT ASD) LOADS, COMPUTED PER ASCE 7-16.
 (+) VALUES INDICATE DOWNWARD WIND LOADS. (-) VALUES INDICATED UPWARD WIND LOADS.
 RE: GENERAL NOTES ON SHEET S1.0 FOR ADDITIONAL DESIGN INFORMATION.
 RE: DETAIL 1/S4.1 FOR ADDITIONAL VERTICAL PARAPET KICKER WIND LOAD REACTIONS.
 WIND LOADS SHALL BE COMBINED WITH ALL OTHER DESIGN LOADS INDICATED IN THE DRAWINGS, CONSIDERING ALL APPLICABLE LOAD COMBINATIONS FROM IBC SECTION 1605.



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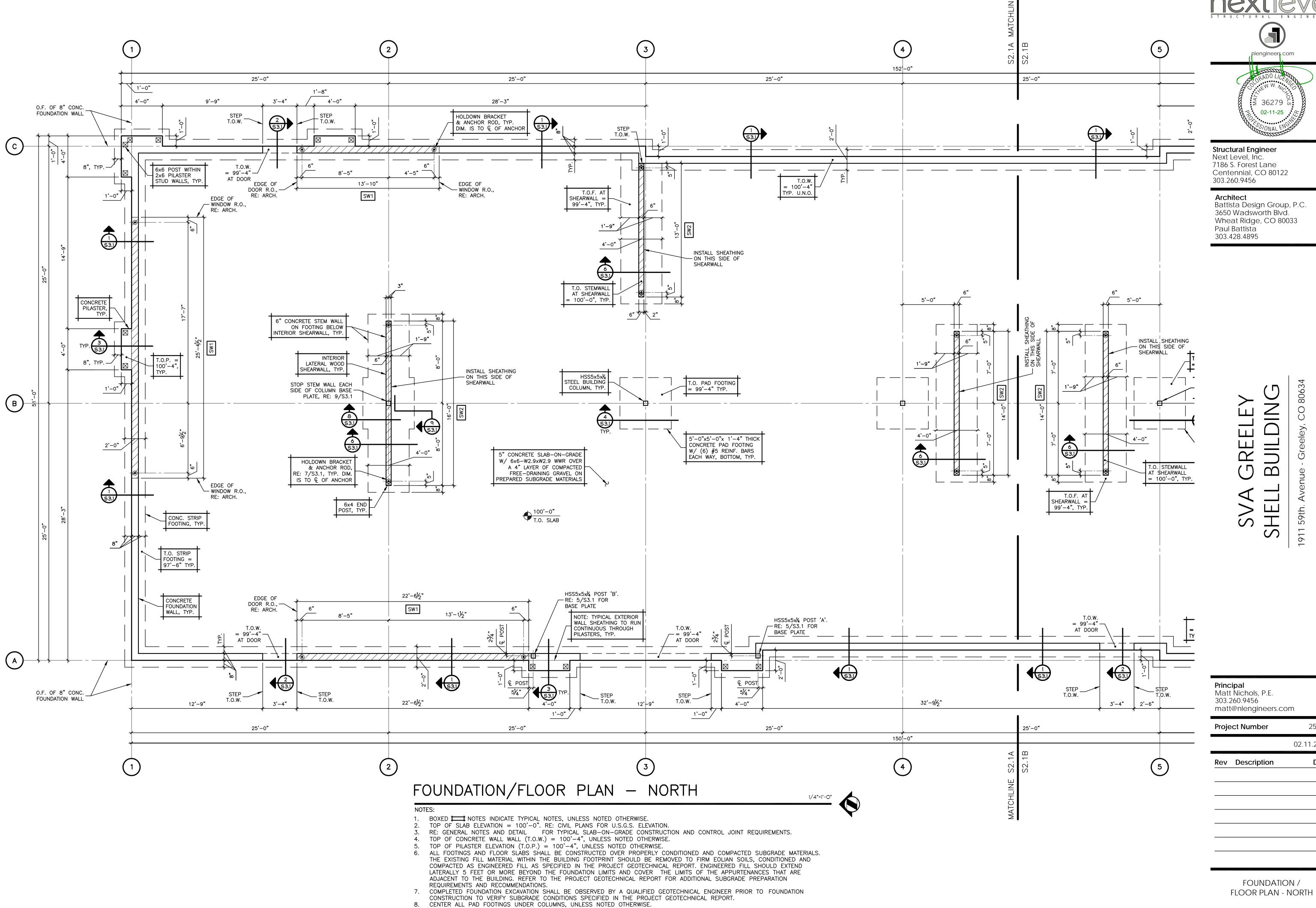
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ROOF DESIGN LOAD DIAGRAMS



9. CENTER ALL STRIP FOOTINGS UNDER FOUNDATION WALLS, UNLESS NOTED OTHERWISE.

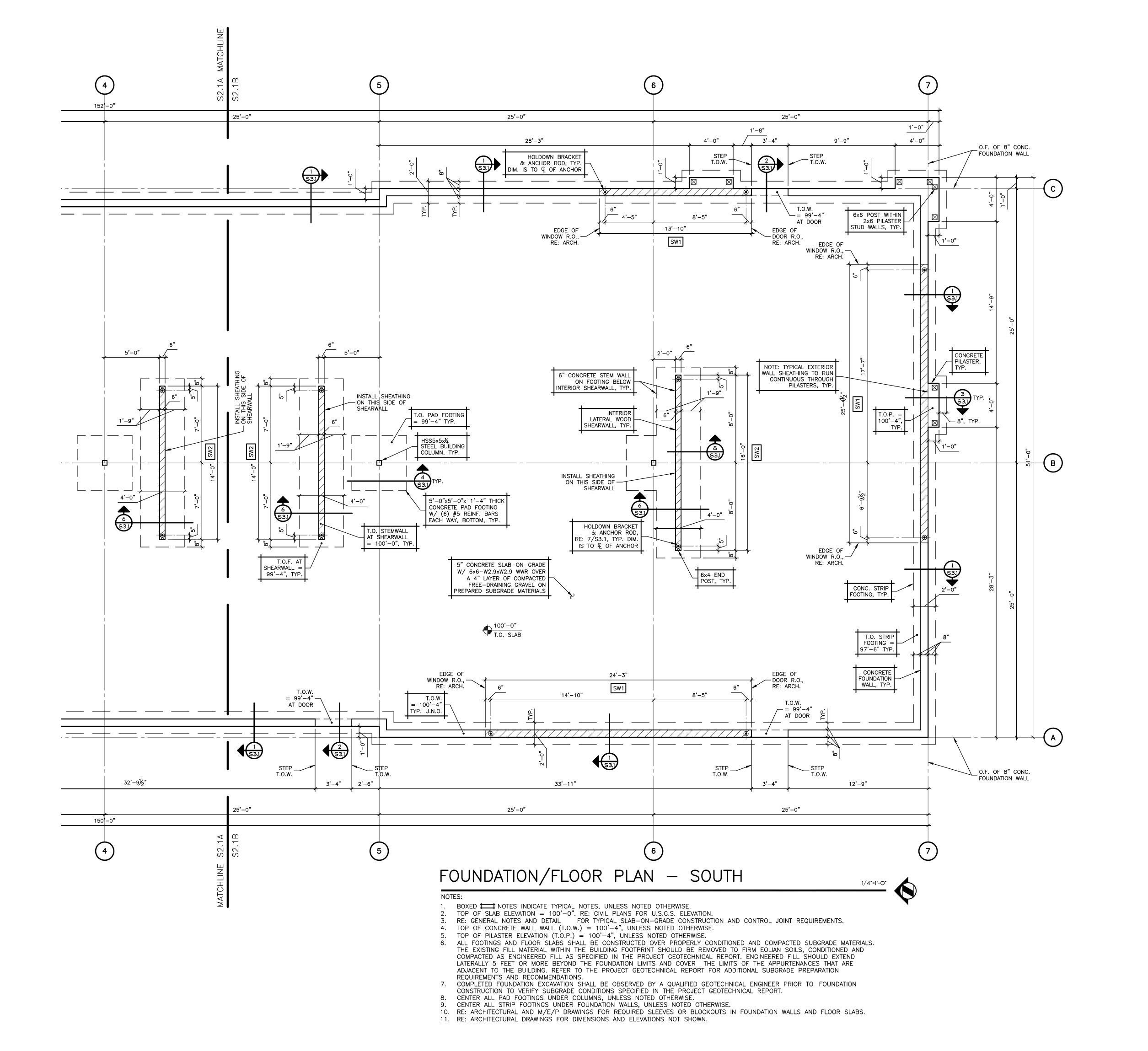
11. RE: ARCHITECTURAL DRAWINGS FOR DIMENSIONS AND ELEVATIONS NOT SHOWN.

10. RE: ARCHITECTURAL AND M/E/P DRAWINGS FOR REQUIRED SLEEVES OR BLOCKOUTS IN FOUNDATION WALLS AND FLOOR SLABS.

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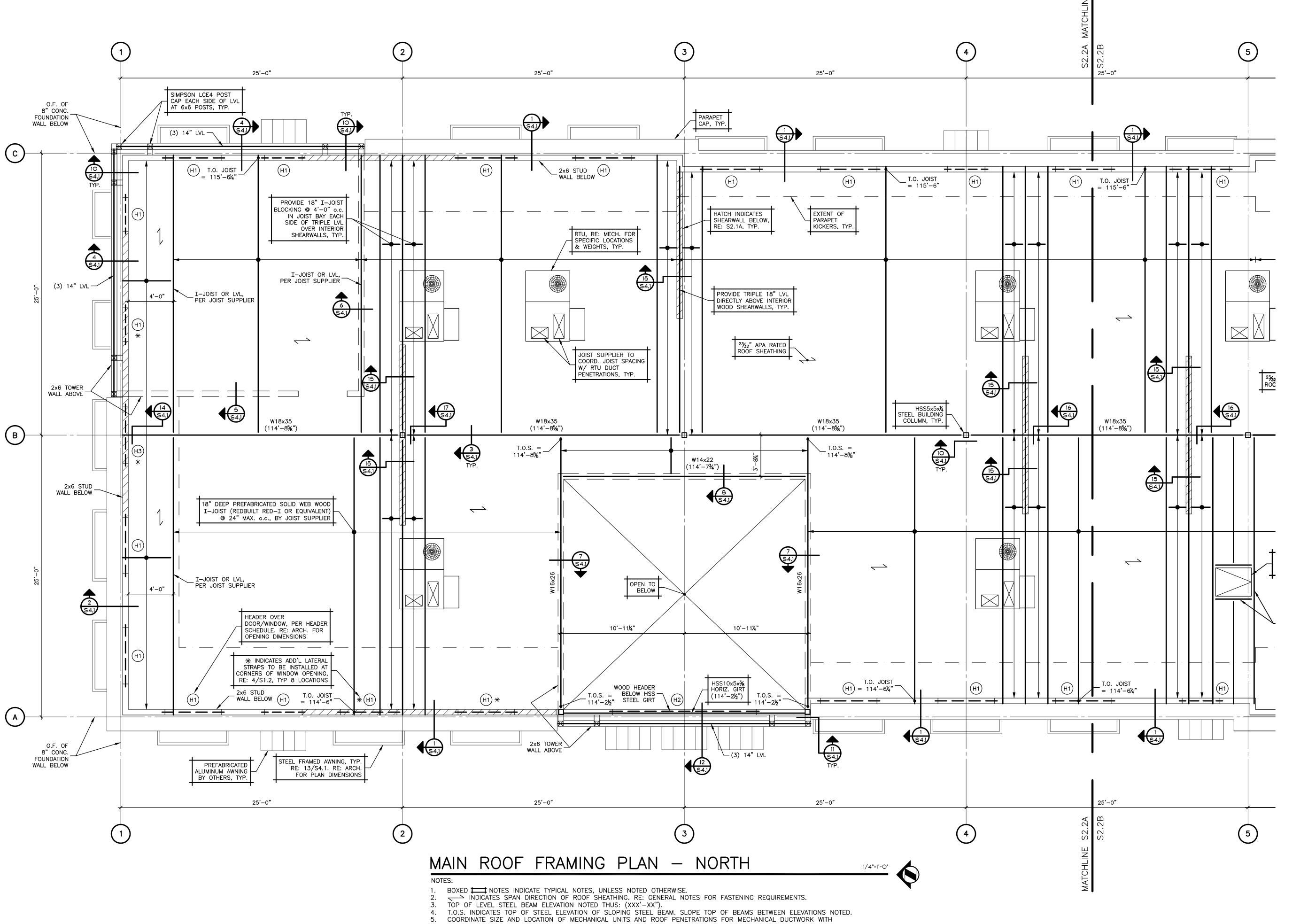
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FOUNDATION / FLOOR PLAN - SOUTH



ARCHITECT, MECHANICAL ENGINEER AND SUPPLIER.

RE: ARCHITECTURAL DRAWINGS FOR DIMENSIONS AND ELEVATIONS NOT SHOWN.

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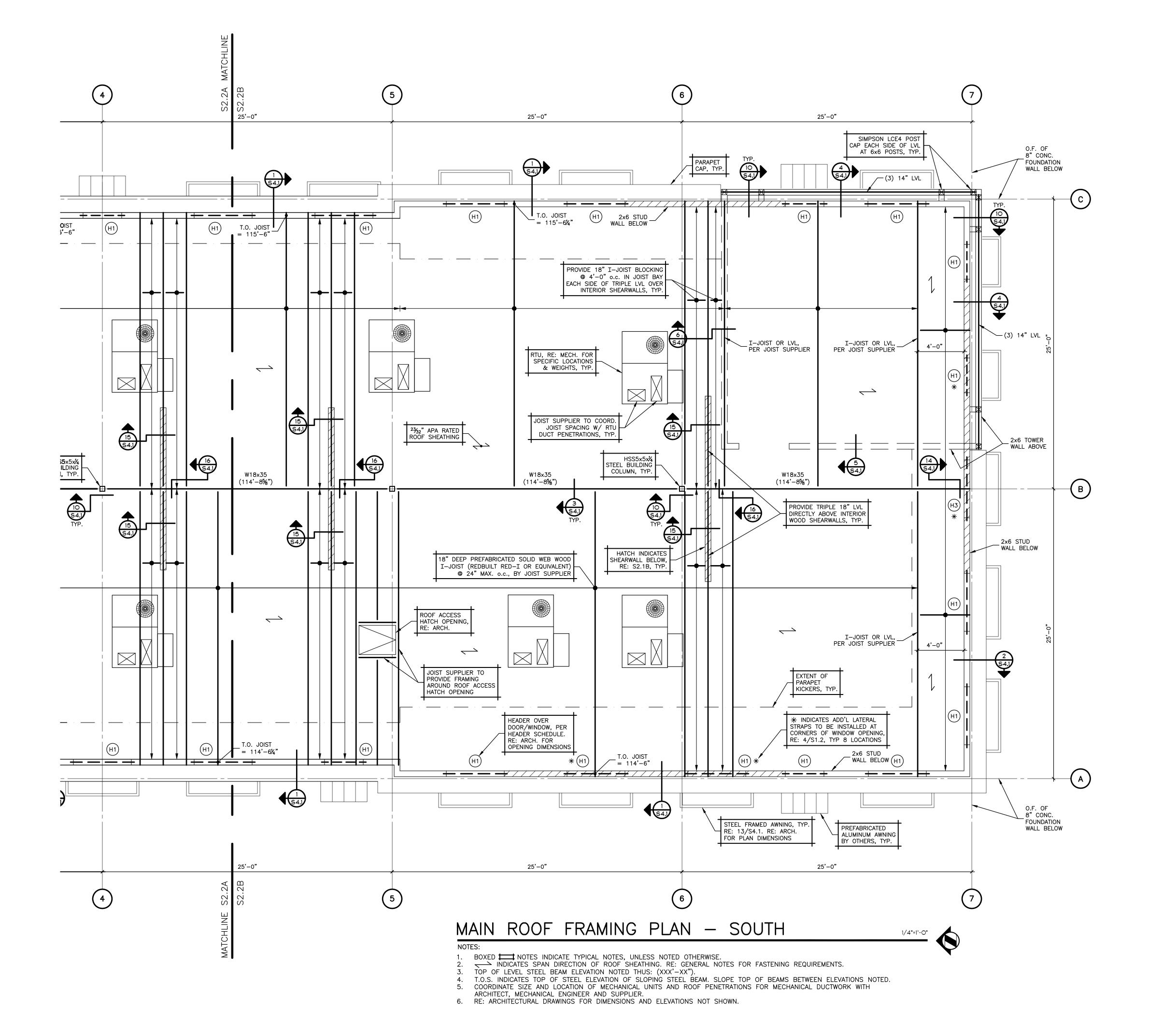
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MAIN ROOF FRAMING PLAN - NORTH







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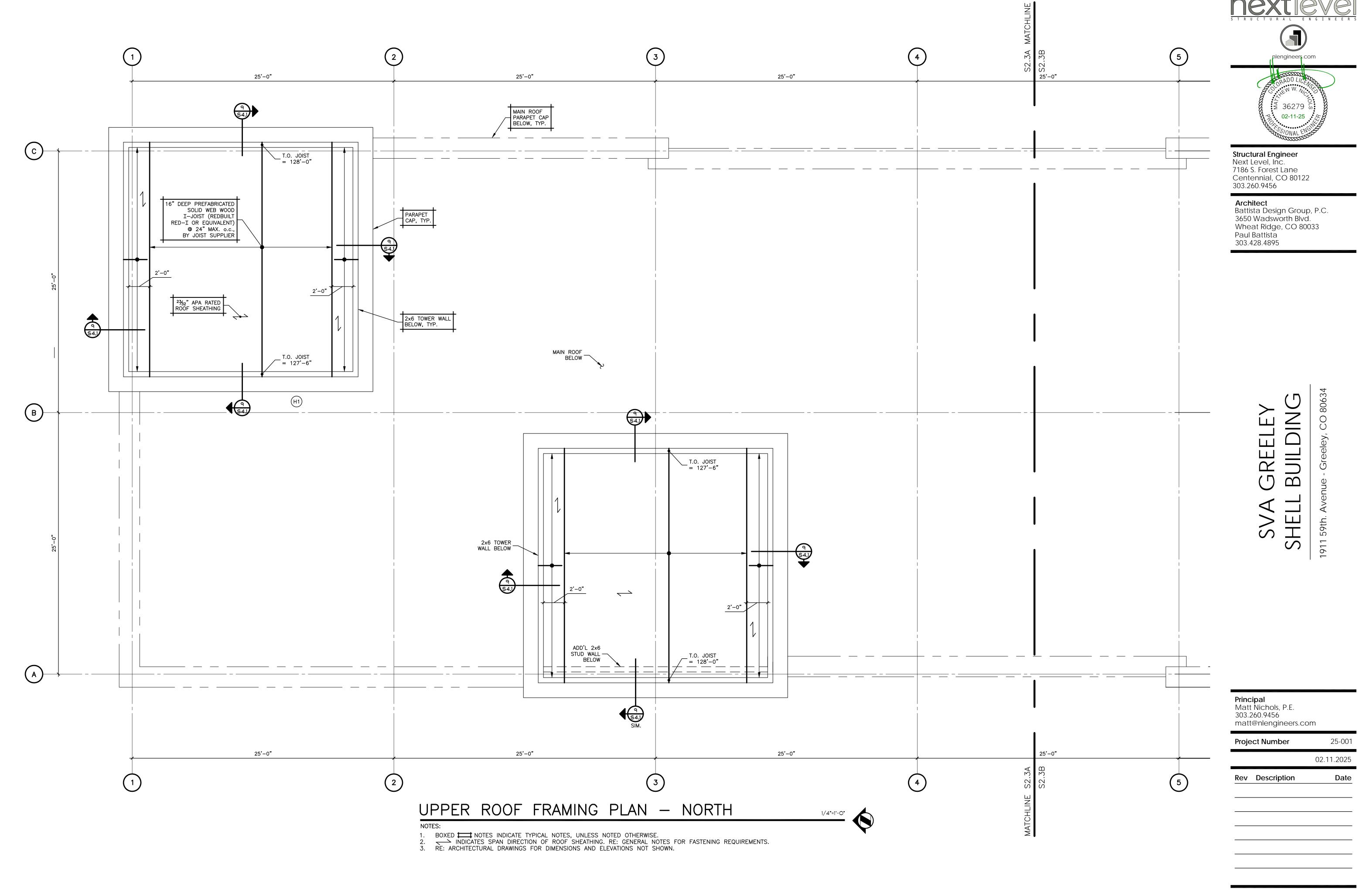
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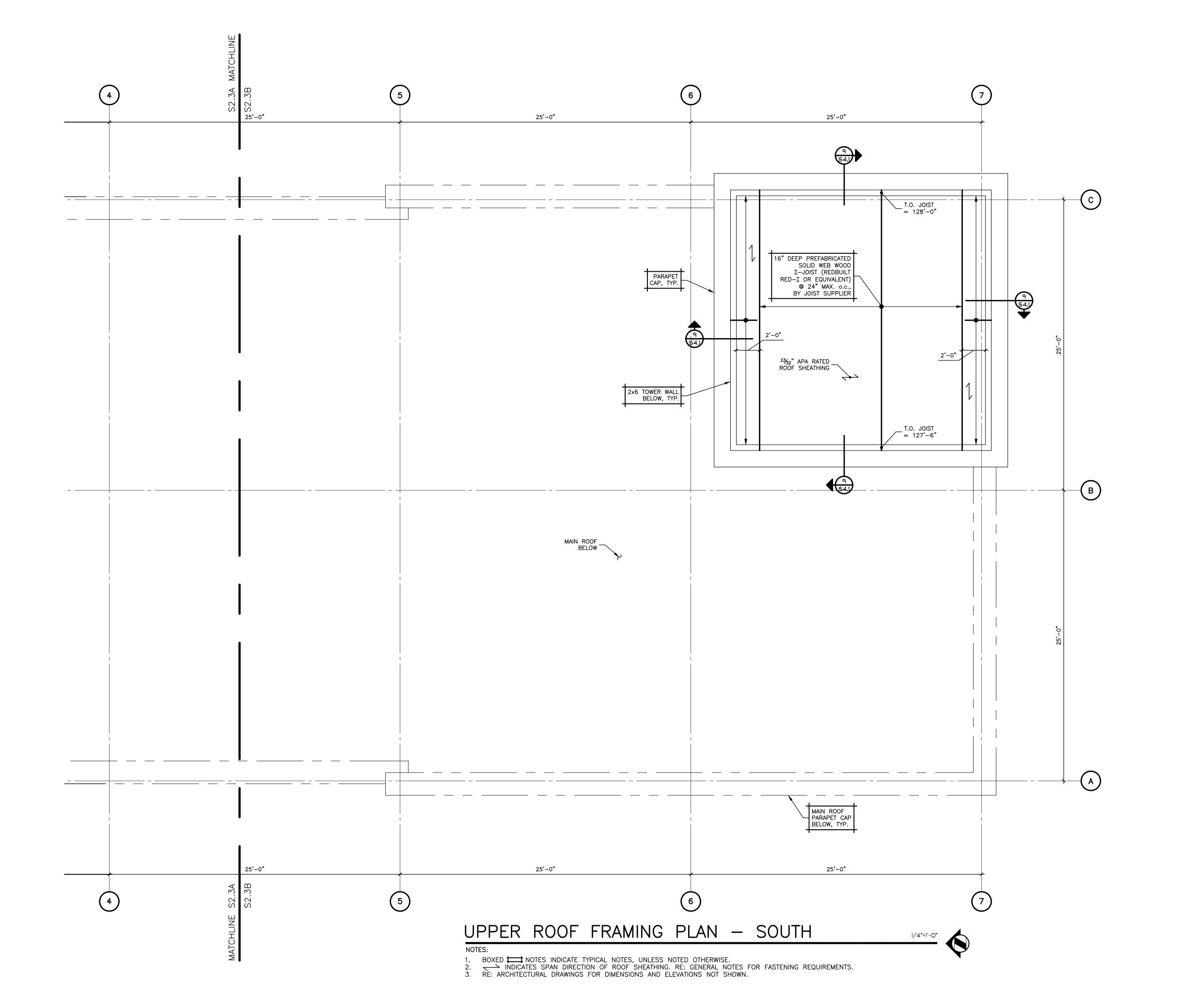
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MAIN ROOF FRAMING PLAN - SOUTH



UPPER ROOF FRAMING PLAN - NORTH







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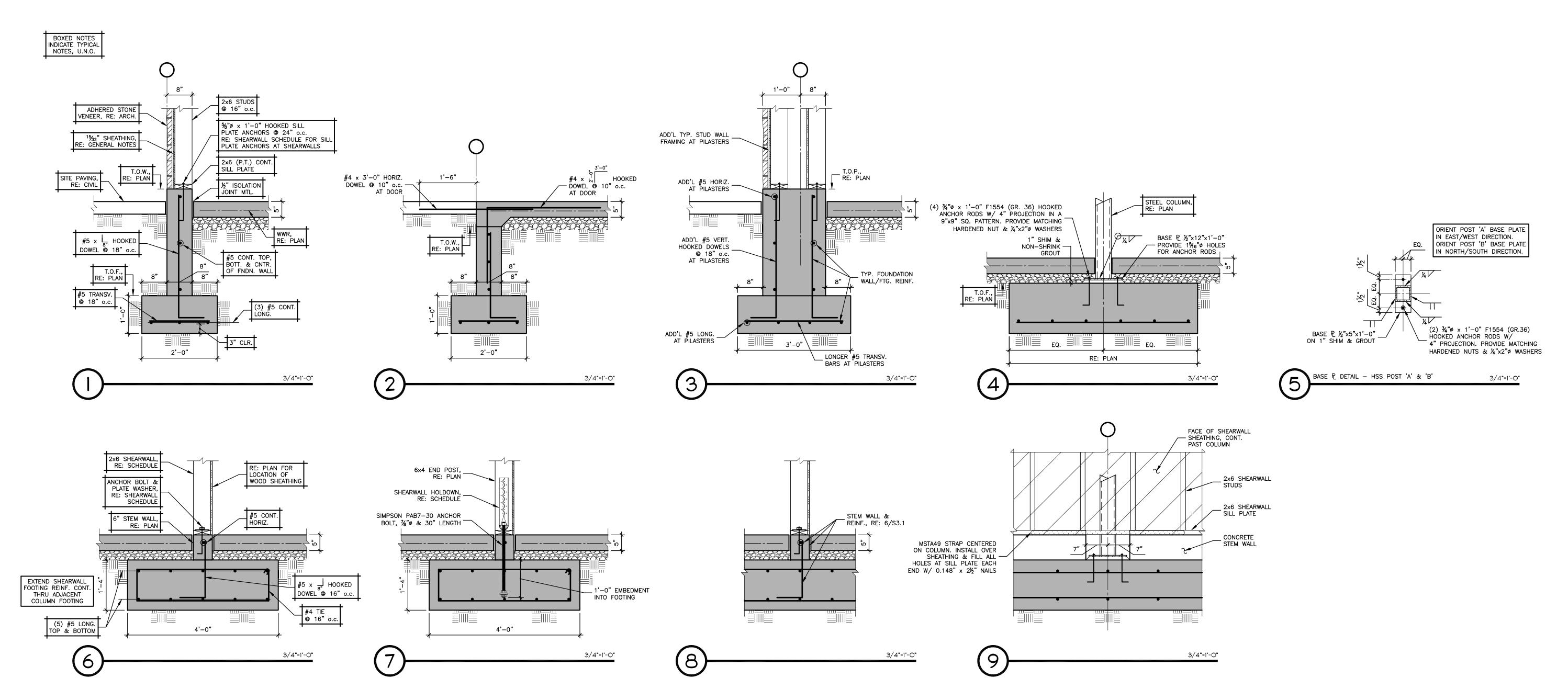
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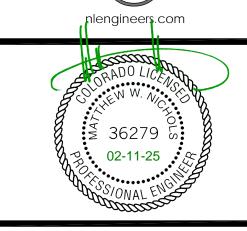
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UPPER ROOF FRAMING PLAN - SOUTH







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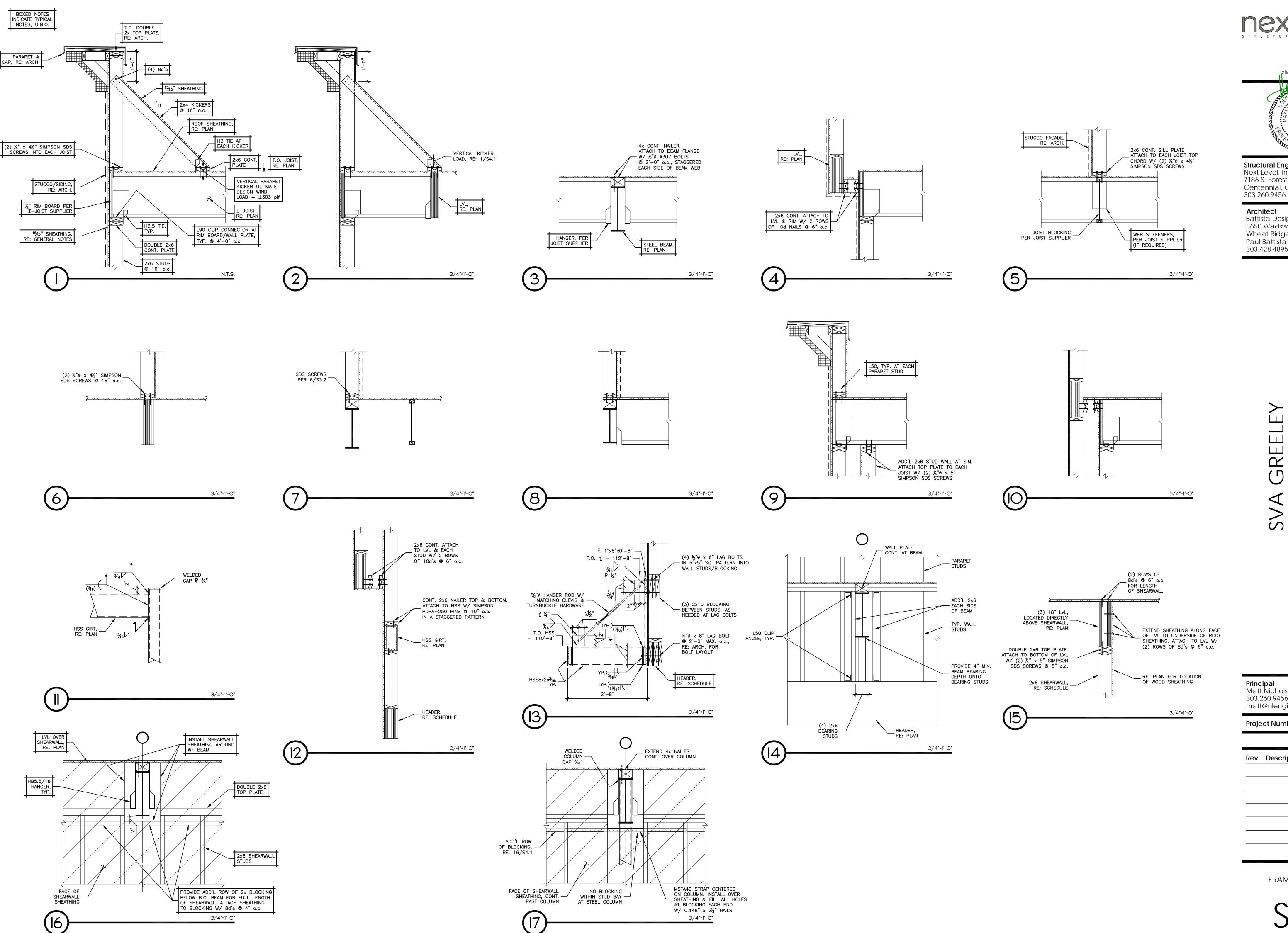
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FOUNDATION/ FLOOR DETAILS





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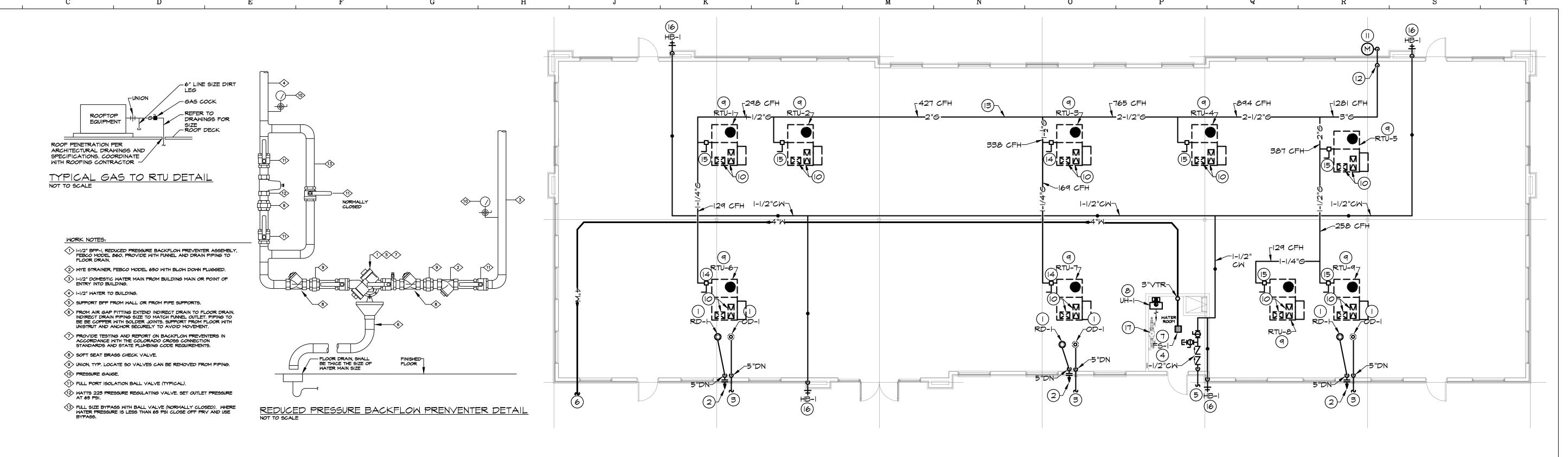
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FRAMING DETAILS



<u>GENERAL NOTES</u>

- All work shall be in accordance with local codes. These codes shall be followed as a minimum, providing higher grades of materials and workmanship where required. All work shall conform to the requirements of authorities having jurisdiction, and local regulatory agencies.
- 2. This Contractor is responsible for all aspects of job-site safety. The Engineer is not responsible for means methods and safety measures employed by the Contractor in the installation of the work depicted on these
- 3. Contractor shall inspect the proposed area of construction, and the construction documents prior to bid, to verify that there is adequate clearance for the proposed mechanical installation . In the event the Contractor has observed a discrepancy, or foresees a problem, he must notify the Engineer immediately. All hidden conditions, and unforseen circumstances must be brought to the attention of the Engineer and the Architect immediately when observed.
- 4. Contractor shall verify existing conditions prior to the fabrication of ductwork and piping components.

 Carefully coordinate location of equipment and ductwork with ceiling, light fixtures, structural elements, pipes,
- 5. The mechanical drawings indicate general design and arrangement of pipes, ductwork, equipment, and systems.

 Drawings are diagrammatic in nature, and do not indicate every required offsets, fittings, etc. Follow drawings as close as actual construction and the work of other trades permits. Provide all minor incidental items such as fittings, offsets, etc. as required, even if not specifically shown on the drawings, or indicated in
- 6. Where the floor slab and foundation walls have already been constructed, the Contractor shall X-Ray the floor slab and foundation walls as necessary to confirm location of structural elements and objects embedded in, or attached to the slab, prior to making any slab or foundation wall penetrations.
- 7. Refer to the Architectural drawings and existing conditions at the site for exact location of partitions, walls, plumbing fixtures and general construction. Coordinate all grilles, registers, and louver locations with the Architectural drawings.
- 8. Provide all earthwork, trenching, backfill and compaction per the most recent soils report. Obtain soils report from the Building Owner/Building Management prior to the commencement of work.
- 9. The Contractor shall warrant all work for a period of one (1) year following acceptance of the work by the
- Building Owner/Building Management. HVAC GENERAL NOTES

authorities having jurisdiction, and local regulatory agencies.

- 1. The work included under these construction documents consists of providing all equipment, labor, supervision, and construction procedures necessary for the installation of complete mechanical system(s) required by, or shown on these drawings. Contractor shall pay for all permits and/or fees required for the work. 2. All work shall be installed in accordance with local codes. All work shall conform to the requirements of
- 3. This Contractor is responsible for all aspects of job-site safety. The Engineer is not responsible for means, methods and safety measures employed by the Contractor in the installation of the work depicted on these
- 4. The mechanical drawings indicate general design and arrangement of pipes, ductwork, equipment, and systems. Drawings are diagrammatic in nature, and do not indicate every required offsets, fittings, etc. Follow drawings as close as actual construction and the work of other trades permits.
- 5. All work shall be installed from field dimensions to assure that it can be installed as shown. Any conflicts shall be brought to the attention of the Architect and the Engineer immediately for resolution prior to fabrication of components, or installation of equipment. Carefully coordinate location of equipment and ductwork with ceiling, light fixtures, existing systems, structural elements, and the work of other trades.
- 6. Provide and connect all appliances, equipment, ductwork, piping, and accessories as specified and indicated for this project, in accordance with all applicable codes, manufacturer's published installation instructions, and
- as specified. Provide complete mechanical connections and terminations as indicated, and as required for complete and functional system(s). Coordinate with other trades, the Architect and conditions at the site to establish the actual location of each system. 7. The Contractor is responsible to coordinate all work under his contract, with the work of all other trades.
- 6. The equipment specified on these drawings has been selected as the basis for the design. The use of specified, or approved equals shall be coordinated by the Contractor as to space, configuration, and performance. Materials, equipment, and installation shall be guaranteed for a period of one (1) year after Building Owner acceptance.
- 9. All equipment shall be installed in accordance with the manufacturer's recommendations and published installation instructions, maintaining all necessary clearances for service and repair.
- 10. Installation of equipment on the roof, and all roof penetrations shall be coordinated with the structure, and with the Roofing Contractor. Access to the units shall meet the requirements of current codes as adopted by the local authority having jurisdiction for roof access.
- II. Contractor shall verify existing conditions at the site prior to the purchase or fabrication of materials, components, equipment, and the commencement of work. The bid shall serve as evidence of the Contractor's knowledge of the existing conditions. Notify the Architect and the Engineer of any conflicts requiring resolution as soon as such conflicts become apparent. Carefully coordinate location of equipment and ductwork with ceiling, light fixtures, structural elements, piping, conduits, and the work of other trades.
- 12. Refer to the Architectural drawings for exact location of partitions, walls, and general construction. Coordinate all grilles, registers, and louver locations with the Architectural drawings
- 13. Where applicable, all new ductwork shall be sheet-metal, fabricated and installed in accordance with SMACNA Standard for low velocity ducts. <u>Dimensions shown are outside sheet-metal</u>. Provide I" acoustic duct liner in rectangular ducts. Exhaust ductwork shall not be acoustically lined. <u>Rigid round ducts shall be spiral round type only</u>. <u>All</u> new rigid ductwork within the area of this scope of work shall be sealed with Rexcel, high velocity duct sealer 644600W/B as made by Rexcel Coatings Corporation of El Paso, Texas, "Iron Grip", "Flexigrip" or equal. Duct tape, or any other adhesive tape, is not acceptable as sealant for rigid ducts. Flexible ducts exposed to view, located above GB ceilings, or used for exhaust, shall be corrugated soft aluminum, U.L. approved, and be 4'- 0" minimum, 8'- 0" maximum in <u>unbroken</u> length. Splicing of flexible ducts is not permitted. Ductwork shall be painted per the Architects instructions. (Typical)
- 15. Piping in exterior walls shall be located at the interior part of the wall, with insulation between the pipe and the exterior part of the wall.
- lé. Where applicable, all duct and pipe penetrations through walls shall be properly sealed.
- 17. Use turning vanes in <u>all</u> 90 and 45 degree duct turns in rectangular ducts.
- 18. The Tenant shall provide and install programmable electronic thermostats to control the new packaged rooftop HVAC units under the tenant improvement phase. Thermostats shall be as made by Honeywell model 7300 electronic programmable thermostat, complete with one averaging temperature sensor.
- 19. Provide and install smoke detector in the return air duct of each rooftop HVAC unit specified to provide 2,000 or more CFM. Detector shall shut down HVAC unit upon smoke detection. Detector furnished by the Electrical Contractor, installed in the duct by the Mechanical Contractor, and wired by the Electrical
- 20. Line voltage wiring, and wiring required to be in conduit, by the Electrical Contractor. Low voltage wiring not required to be in conduit, by the Mechanical Contractor.

PLUMBING SPECIFICATIONS AND GENERAL NOTES

required by contract and the laws of the State.

to the Owner's satisfaction.

- All plumbing work shall be performed in accordance with the latest edition of the International Plumbing Code (IPC), International Mechanical Code (IMC), International Fuel Gas Code (IFGC), and as adopted by the local authorities having jurisdiction, as required by the State of Colorado and the amendments of local authorities
- 2. Prior to installation of any piping, this Contractor shall verify that the piping can be routed as shown in coordination with Contractors of other divisions of the work and the physical constraints of the Structural and
- . This Contractor shall furnish all labor, materials, tools, supervision and equipment required to complete the plumbing work as shown on the plumbing drawings. Provide all items such as fittings, hangers, insulation, and accessories required as part of the work even though not indicated. Drawings are diagrammatic in nature, and do not show all fittings, riser nipples, arm-overs, hangers, etc. Plumbing drawings are schematic and are not to be scaled. Refer to the Architectural Drawings for dimensions.
- This Contractor shall maintain at the site one (1) copy of all drawings in good order and record changes made during the construction. Upon completion of work, this Contractor shall prepare and submit to the Owner a reproducible "As-Built" drawing.
- 5. Provide sleeves for all pipes passing through concrete walls and floors. Provide chrome plated escutcheons for piping penetrations through ceilings, walls and floors where piping is exposed, in order to connect to
- equipment or fixtures in finished areas. Conceal all other work in finished areas. 6. This Contractor shall not cut through structural members without written consent from the Structural Engineer
- This Contractor shall secure and maintain for the term of this contract all insurance policies or coverage as
- 8. Coordinate all work with the work of other trades to insure that all work can be installed in an expedient and workmanlike manner. This Contractor shall cooperate with other Contractors in the placement of work to avoid conflicts and to maintain project progress. The General Contractor shall be advised of all conflicts.
- 9. This Contractor shall obtain permits and pay fees associated with the plumbing system installation. This Contractor shall also be responsible for arranging plumbing inspections with the appropriate building officials. 10. This Contractor is responsible for excavation required for plumbing work. When in-filling excavations, compact to 95% AASHTO Proctor density in 6 inch maximum layers at optimum moisture content. Should any settlement occur within the first year, this Contractor shall rework to original elevation and resolve any damage incurred
- All materials, equipment and devices furnished by this Contractor shall be guaranteed to be free from mechanical defects or faulty workmanship for a period of one year from date of acceptance by Owner.
- 12. Permanently seal around all pipe penetrations through foundation walls.
- 13. Properly seal fire rated wall penetrations with fire stopping materials as specified by the Architect where
- 14. Provide testing in accordance with the International Plumbing Code and General Conditions of the Contract. Conduct testing on piping and related systems in accordance with the referenced code, the State of Colorado, local jurisdiction and the latest standards.
- 15. Hangers, supports, and components shall be factory fabricated according to MSS-SP-2009. Pipe supports shall be adjustable band hangers, similar and equal to B Line Fig. B 3172 and Fig. B 3172 CT, with zinc electroplating for steel pipe, and copper electroplating for copper tube.
- 16. Insulation shall have a flame spread rating of 25 or less and a smoke developed rating of 50 or less and shall be manufactured by Certainteed, Knauf or Owens-Corning. All potable cold water shall be insulated with 1/2" thick and all potable hot water shall be insulated with 1" thick fiberglass pipe insulation and vapor barrier. Minimum thermal conductivity shall be 0.3 at 2000F.
- Soil, waste and vent pipes and fittings below grade shall be service weight hub and spigot cast iron with neoprene gaskets or schedule 80 PVC pipe.
- 18. Soil and Waste above grade: DWV copper, service weight cast iron soil pipe with no-hub fittings, or Schedule
- 19. Potable water piping routed within the building shall be type "L" copper tube with wrought copper fittings and 45% tin, 5% antimony soldered joints. All potable water piping within the building shall be insulated. Insulation shall be covered with all-service jacket. Potable water piping under the floor slab and outside the building shall be type K copper without joints. When joints are necessary, they shall be braised. It may be necessary to install vinyl wrapping for copper pipes below grade if there is reason to believe that the soil is corrosive.
- 20. Natural gas piping 2" and larger shall be black steel Sch. 40 ASTM A53, type 5 grade B pipe for butt weld, and fittings to be seamless carbon steel butt weld, ASTM A234; I-I/2" and smaller: Sch. 40 black steel ASTM with 150 lb. malleable iron fittings and threaded joints. Concealed gas pipe shall have welded joints. Gas piping shall be painted per the building standards.
- 21. Provide valves with proper pressure rating and application determined by the system type and working pressure. The following manufactures are acceptable: Apollo, Milwaukee, Nibco, Dezurik or equal.
- 22. Provide a pressure reducing station with strainers and ball valves at the domestic water service entry if the water service pressure exceeds 60 psi.
- 23. All condensing appliances located inside the building shall have condensate drainage properly piped into the adjacent floor drain.
- 24. Soil, waste and vent systems shall be air pressure tested at 10 psig for 30 minutes with no leaks. Potable water pipes, valves, and fittings shall be disinfected , and air pressure tested at 125 psig for 60 minutes with no drop in pressure. Natural gas systems shall be tested at 100 psig air pressure for three (3) hours with no

drop in pressure, with joints tested using standard soap and brush inspecti

25. Storm drainage piping above ground: no-hub cast iron service weight, cispi 301, with joints made of neoprene gaskets and stainless steel clamp and shield assemblies. Below ground: service weight cast iron, class b, astm a74, hub and spigot, cispi hsn compression type with astm

HVAC EQUIPMENT

- Rooftop HVAC unit selection is based on Carrier. Trane and York may bid equal equipment. All packaged rooftop HVAC units above 5.0 Ton nominal capacity shall be equipped with power exhaust. Rooftop HVAC units shall be provided with insulated factory roof curb, belt drive, hall guards and coil guards. All units shall be equipped with single point enthalpy controlled economizer cycle.
- Contractor shall install formed "P" trap with minimum depth of 2" on all rooftop HVAC units condensate drain connection. Condensate shall daylight on roof. All units shall be furnished with standard factory color, and shall be clearly marked as to the area they serve per the requirements of the International Mechanical Code (IMC). All cooling capacities listed are at 5,300 feet above sea level
- ROOFTOP HVAC UNIT (RTU-1, 2, 4, 5, 8 AND 9) Carrier single package rooftop unit model 48JCRV04F2M5-3U4F0.
- Gross sensible cooling capacity: 32,490 BTUH
- Gross total cooling capacity: 26,800 BTUH
 1,200 CFM at 1.0" w.g. ESP, 810F db/620F wb EAT and 950F ambient.
 Gas fired heating section input: 115 MBH. Output: 82 MBH at altitude.
- Electrical Data: MCA: 22.0 Amps. MOCP: 30 Amps at 208-3-60. Approximate operating weight: 961 lbs.
- 1)Provide staged fan with EC Motor and powered exhaust. 2)Provide hinaed access door 3)Provide 14" roof curb.
- 4)Provide louvered condenser coil hail guard. 5)Provide factory installed convenience outlet.
- b)Provide installéd fused disconnect.
- 7)Provide return air smoke detector
- 3)Provide 100% design supply low leak economizer with fault protection. Provide high-limit shutoff. 9)Provide Connectastat programmable thermostat with 5 degree dead band. 10) Provide SEER of 20.0 minimum.
- Fan speed shall be adjusted to deliver 1,200 CFM. Blance outside air to 300 cfm. Install smoke detector in the return air duct of the unit. Detector shall be provided by the Electrical Contractor, installed in the duct by the Mechanical Contractor, and wired by the Electrical Contractor. Smoke detector shall be compatible with, and connected to the building smoke control system where applicable. The smoke detector shall shut down unit upon smoke detection per section 606 of the International Mechanical Code (IMC).
- ROOFTOP HVAC UNIT (RTU-3, 6 AND 7)
 Carrier single package rooftop unit model 48LCF0052N5-0N5CO. Gross sensible cooling capacity: 41,300 BTUH
- Gross total cooling capacity: 41,300 BTUH
 1,600 CFM at 1.0" w.g. ESP, 810F db/620F wb EAT and 950F ambient.
- Gas fired heating section input: 150 MBH. Output: 91 MBH at altitude Electrical Data: MCA: 32.0 Amps. MOCP: 45 Amps at 208-3-60.
- Approximate operating weight: 873 lbs. 1)Provide staged fan with EC Motor and powered exhaust.
- 2)Provide hinged access doors.
- 3)Provide 14" roof curb. 4)Provide louvered condenser coil hail quard.
- 5)Provide factoru installed convenience outlet. 6)Provide installed fused disconnect.
- 7)Provide return air smoke detector
- 8)Provide 100% design supply low leak economizer with fault protection. Provide high-limit shutoff. 9)Provide Connectastat programmable thermostat with 5 degree dead band.
- 10)Provide SEER of 19.0 minimum. an speed shall be adjusted to deliver 2,000 CFM. Blance outside air to 500 cfm. Install smoke detector in
- the return air duct of the unit. Detector shall be provided by the Electrical Contractor, installed in the duct by <u>the Mechanical Contractor, and wired by the Electrical Contractor. Smoke detector shall be compatible with, and</u> connected to the building smoke control system where applicable. The smoke detector shall shut down unit upon smoke detection per section 606 of the International Mechanical Code (IMC).
- ELECTRIC UNIT HEATER (UH-I)

 QMark model MUH-03-81 with adjustable discharge louvers, built-in integral thermostat and optional wall bracket model MMB-10. Install unit suspended from the wall, immediately below the ceiling. 3.0 kW at 208 V-1-60, 350 CFM. Bottom of unit heater shall be at no more that 8'-0" AFF. Approximate dimensions: 14" W \times 16" H \times 7.5" D.

Approximate operating weight: 27 lbs. Thermostat shall be set to 50°F (Adjustable).

- PLUMBING FIXTURES AND EQUIPMENT NOTE: Final selection, and approval of all plumbing fixtures is the responsibility of the Building Owner. The following fixture specifications represent the Engineers understanding of the required fixtures. These specifications shall be reviewed by the Building Owner. Contractor shall not place any purchase orders for the fixtures prior to obtaining written approval from the Building Owner.
- FLOOR SINK (FS-I): Josam model 49000 indirect floor sink waste receptor. 8" square by 6" deep acid resistant porcelain enameled interior, and nickel bronze grate. Flashing flange and removable Lumaloy dome bottom strainer. Provide complete with cast iron "P" trap, and half grate configuration, unless shown otherwise.
- $\underline{\mathsf{ROOF}}\ \mathsf{DRAIN}\ (\mathsf{RD-I})$: J.R. Smith model 1470-NB or equal. See plans for size. <u>OVERFLOW DRAIN (OD-1):</u> J.R. Smith model 1070 or equal. See plans for size
- BACKFLOW PREVENTION DEVICE (BFP-1): Febco 1-1/2" reduced pressure backflow preventer model 825-Y complete with discharge drain funnel, test cocks and optional ball valve shut-offs. Install bronze Y strainer
- <u>HOSE BIBB (HB-I):</u> Woodford Model B-65 freezeless wall hydrant with chrome finish brass casing with hinged ocking cover and 3/4" hose connection outlet and integral vacuum breaker.
- All plumbing fixtures must be approved by the Building Owner prior to placement of the purchase order. Provide and install all anchors, supports, traps and trim, for a complete installation. Provide stop valves on all hot and cold water connections to fixtures. Properly caulk around fixtures with silicone based caulking compound. Note: Fixtures shall be installed to meet all current ADA requirements where applicable. Where plumbing equipment and trim protrude into knee space below ADA designated lavatories and sinks, they shall be covered with safety covers as made by Brocar Products, Inc. of Cincinnati, Ohio under the trade name Trap Wrap, or as made by Truebro, Inc. of Ellington, Connecticut, under the trade name Handi-Lav-Guard.

MECHANICAL PLAN KEYED NOTES

- Total storm drain area = horizontal area + $\frac{1}{2}$ × vertical area = 3,000 sqft.
- (2)Terminate overflow drain with lambs tongue. Refer to architect for details. 3)Storm drain down through slab and 5'-0" outside building and connect to storm drain system. Refer to civil drawings for continuation and invert elevation.
- 4) Provide 1-1/2" Febco model 860 or equal, reduced pressure backflow preventer as shown. Dumping port of backflow prevention device shall be piped into adjacent floor sink. Install bronze Y strainer upstream of the
- Connect new 1-1/2" potable cold water pipe to the potable water service as shown. See Civil drawings for additional information.
- (6)4" sanitary waste pipe 5'-0" outside the building. Refer to the Civil drawings for information and continuation. Pipe shall slope at a minimum of 1/8" per L.F.
- (7)Rough-in and connect 4" waste and 1-1/2" vent to the floor sink specified.
- Provide new electric unit heater immediately below the ceiling, complete with thermostat. Adjust front louvers to discharge the air in a downward direction. Set thermostat to 500F.
- (9) Provide new packaged rooftop HVAC unit on the roof with full perimeter roof curb. Air intake shall be no less than 10'-0" from any exhaust discharge, or sanitary vent. Install formed "P" trap for condensate drain in accordance with the manufacturer's published installation instructions. Place 24" x 24" concrete payer on the roof below the condensate drain discharge. Contractor shall label unit as to the area it serves, per the requirements of current codes as adopted by the local authority having jurisdiction.
- O Supply and return air ducts duct opening to remain without ductwork under the shell package. Temporarily
- suspend below the unit new Carrier Connectastat electronic programmable thermostat. (Typical) ll)Contractor shall coordinate with the local utility company to install gas service. Design service for 1,140 MBH (1,281 CFH) capacity. Gas pipe sizing is based on 0.5" w.g. pressure drop and total developed length as noted in accordance with Table 402.4(2) of the International Fuel Gas Code (IFGC). Install gas meter in this location. Installation of the gas meters by the local utility company. Gas piping downstream of the meter, by this contractor. Connection to the gas meter shall occur after appliances have been connected to the gas
- Provide new gas pipe up through to the roof. Terminate with roof jack. Properly seal roof penetration. Gas pipe routed concealed inside a wall shall have no threaded joints within the concealed space. If joints are required, they shall be welded. Coordinate riser locations with final tenant improvement drawings. (Typical) (B)Gas pipe routed on the roof. Install pipe supports per the requirements of Table 415.1 of the International Fuel Gas Code (1FGC) Typical of all gas piping on the roof.
- (14) Connect gas pipe to the new packaged rooftop HVAC unit. Gas pipe connection to the rooftop HVAC unit shall be made with lubricated plug valve and 6" dirt leg. Connected load: 150 MBH/169 CFH. Total developed length: 250 feet.
- (15)Connect gas pipe to the new packaged rooftop HVAC unit. Gas pipe connection to the rooftop HVAC unit shall be made with lubricated plug valve and 6" dirt leg. Connected load: 115 MBH/129 CFH. Total developed length: 250 feet. (16)Rough-in and connect 1/2" CW to hose bibb specified.

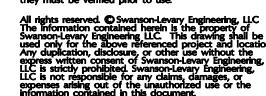
17)Fire service entry into the building. See the "Design-Build" fire protection contractor's drawings for

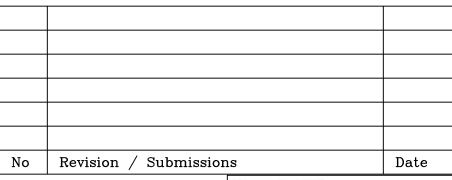
ENGINEERING, LLC 10080 EAST 112TH WAY

SWANSON-LEVARY

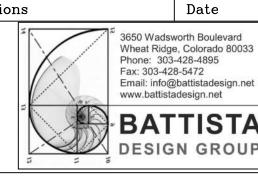
HENDERSON, CO 80640 303-660-3535

ryan@swansoneng.com









SVA GREELEY Shell Building 1911 59th AVENUE GREELEY, CO 80634

MECHANICAL PLAN



Designed: RMS Drawn: RMS Checked: RMS

1/4"=1'-0" Drawing Number:

1 of 2

Project Number:

45010.0

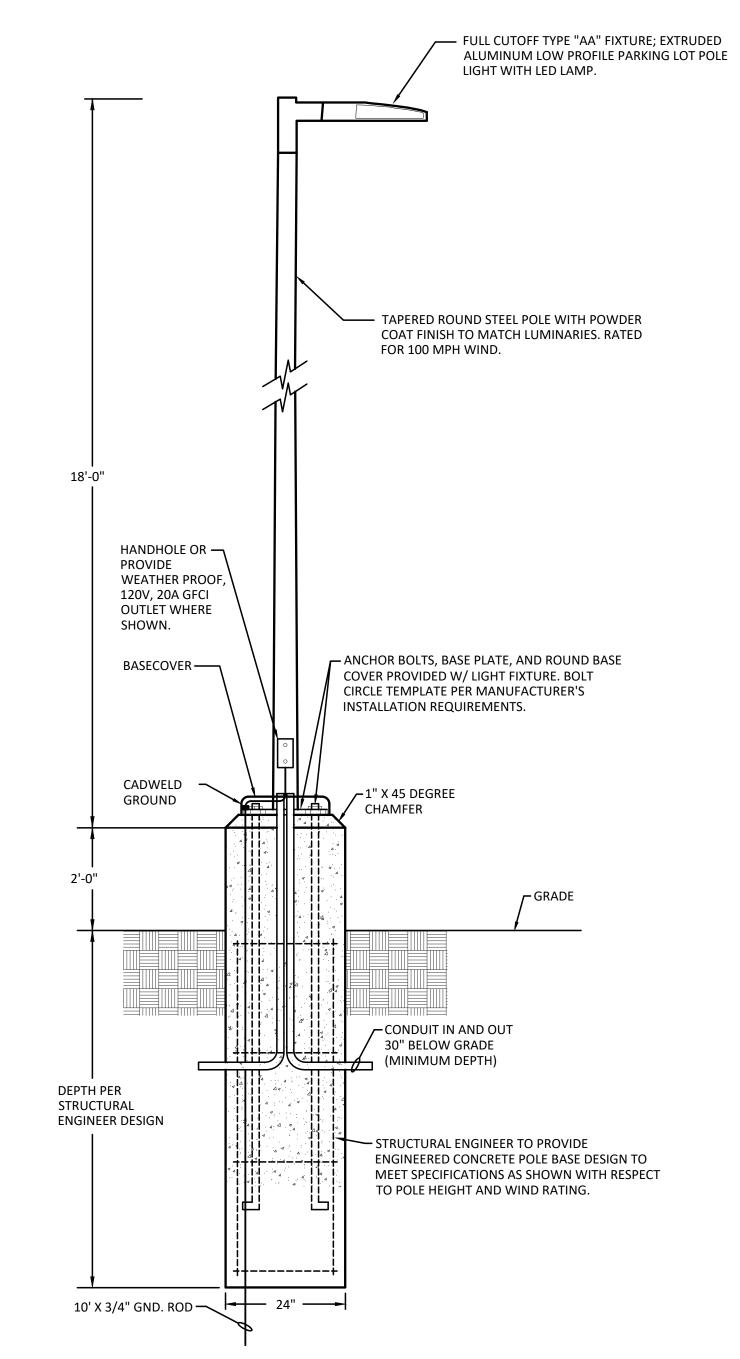
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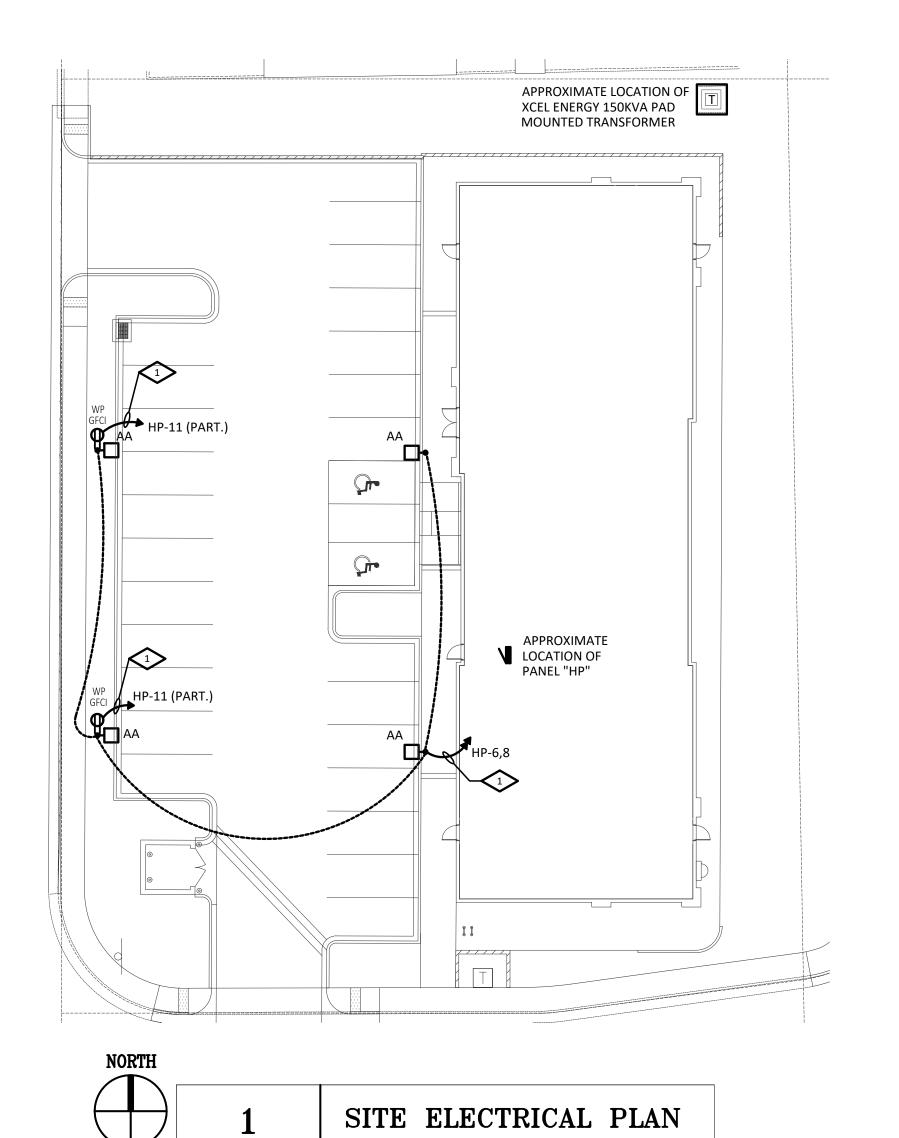
Reviewed: RMS Date: FEB 2025

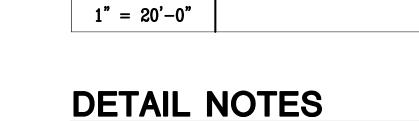
VOLTS: 208/120V MAINS: 600A M.L A.I.C.: 22KA		N										MTG: FLUSH NEMA 1 FGR: CH/ITE/SQD/GE TYPE: BOLT-ON
DESCRIPTION	Т	KVA	ВК	R	(CKT	#	ВК	R	KVA	Т	DESCRIPTION
RTU-1	М	2.38	30A		1	•	2	30A		2.38	М	RTU-
-	М	2.38			3	•	4			2.38	М	-
-	М	2.38		3P	5		• 6		3Р	2.38	М	-
RTU-3	М	3.46	45A	/	7	,	8	30A		2.38	М	RTU-
-	М	3.46			9	•	10			2.38	М	-
-	М	3.46		3P	11		• 12		3Р	2.38	М	-
RTU-5	М	2.38	30A		13	•	14	45A		3.46	М	RTU-
-	М	2.38			15	•	16			3.46	М	-
-	М	2.38		3P	17		• 18		3P	3.46	М	-
RTU-7	М	3.46	45A		19	,	20	30A		2.38	М	RTU
-	М	3.46			21	•	22			2.38	М	-
-	М	3.46		3P	23		• 24		3P	2.38	М	-
RTU-9	М	2.38	30A		25	,	26					SPAC
-	М	2.38			27	•	28					SPAC
-	М	2.38		3P	29		• 30					SPAC
SPACE					31	,	32					SPAC
SPACE					33	•	34					SPAC
SPACE					35		• 36					SPAC
SPACE					37	,	38	200A		0.90	Р	SUBFEED F
SPACE					39	•	40			0.72	Р	-
SPACE					41		• 42		3P		Р	-
LOAD KVA CONNECTED NEC DEMAND AMPS	RE: 1. 1.	6	MTR 73.9 76.5	7	75. 78. 21	.5 .1						

VOLTS: 208/120V MAINS: 200A M.L A.I.C.: 22KA		N								MTG: FLUSH NEMA 1 FGR: CH/ITE/SQD/GE TYPE: BOLT-ON
DESCRIPTION	Т	KVA	BKR		KT	#	BKR	KVA	Т	DESCRIPTION
ROOF RECS	R	0.90	20A1P	1 •		2	20A1P		Ħ	SPAI
ROOF RECS	R	0.72	20A1P	3	•	4	20A1P		H	SPAI
SPARE			20A1P	5		• 6	20A1P			SPAI
SPARE			20A1P	7 •	+	8	20A1P			SPAI
SPARE			20A1P	9	\downarrow	10	20A1P			SPAI
SPARE			20A1P	11	+	• 12	20A1P		\vdash	SPAI
SPARE			20A1P	13 •		14	20A1P		\vdash	SPAI
SPARE			20A1P	15	+	16	20A1P			SPAI
SPARE			20A1P	17	+	• 18	20A1P		Н	SPAI
SPARE			20A1P	19 •		20	20A1P		Н	SPAI
SPARE					\pm	22			\vdash	SPAI SPAI
SPARE SPARE			20A1P	21	+		20A1P		$\vdash \vdash$	
			20A1P	_	+	• 24	20A1P		\vdash	SPAI SPAI
SPARE			20A1P	25 •	+	26	20A1P		\vdash	
SPARE			20A1P	27	1	28	20A1P		Н	SPAI
SPARE			20A1P	29	_	• 30	20A1P			SPAI
SPARE			20A1P	31 •	_	32	20A1P		Н	SPAI
SPARE			20A1P	33	1	34	20A1P			SPAI
SPARE			20A1P	35	_	• 36	20A1P			SPA
SPARE			20A1P	37 •		38	20A1P		Ш	SPA
SPARE			20A1P	39	•	40	20A1P			SPA
SPARE			20A1P	41		• 42	20A1P			SPAI
SPARE			20A1P	43 •		44				SPA
SPARE			20A1P	45	•	46				SPA
SPARE			20A1P	47		48				SPA
SPARE			20A1P	49 •		50				SPA
SPARE			20A1P	51	•	52				SPA
SPARE			20A1P	53		• 54				SPA
SPARE			20A1P	55 •		56				SPA
SPARE			20A1P	57	•	58				SPA
SPARE			20A1P	59		• 60				SPA
SPARE			20A1P	61 •		62				SPA
SPARE			20A1P	63	•	64				SPA
SPARE			20A1P	65		• 66				SPA
SPARE			20A1P	67 •		68				SPA
SPARE			20A1P	69	•	70			\Box	SPA
SPARE			20A1P	71	+	• 72			\sqcap	SPA
SPARE			20A1P	73 •	+	74			$\vdash \vdash$	SPA
SPARE			20A1P	75	+	76			\Box	SPA
SPARE			20A1P	77	+	• 78			\Box	SPA
SPARE			20A1P	79 •	+	80			\Box	SPA
SPARE			20A1P	81	+	82			\vdash	SPA
SPARE			20A1P	83	+	• 84			\vdash	SPA:
LOAD KVA CONNECTED NEC DEMAND AMPS	RE 1. 1.	6	TOTAL 1.6 1.6 4	33		5 1			<u> </u>	31.6

^{**} PROVIDE SINGLE SECTION 84-CIRCUIT PANEL.



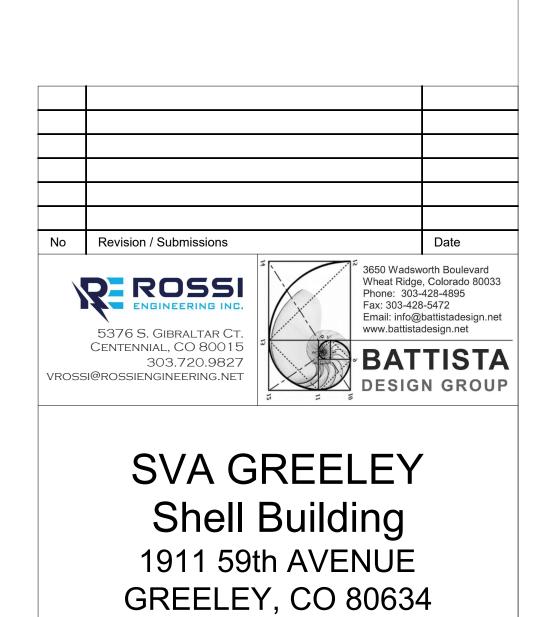




PROVIDE (2 #10 THWN CU & #10 CU GND) 3/4"C. HOME RUN.

FIXTURE TYPE "AA" POLE BASE DETAIL

					Fixture Sched						
Designation Lamps			Fixture Characteristics		Fixture Mountin	g		Fixture Specification			
							Recess				
	# of lamps	Lamp Type	Description	Finish	Method	Ceiling Type	Depth	Manufacturer	Catalog #	Voltage	
AA	1	166W (21,598	20' Full Cutoff Site Pole Light With Type III Optics	Bronze	Pole Mounted: 18'-0"	N/A	N/A	McGraw Edison	GLEON SA3 C 750 U T3 BZ	208	
		Lumens) LED			Pole With 2'-0" Base						
		5000K									
ВВ	1	12W (1,180	18" Decorative Exterior Wall Sconce - Full Cut-Off -	Satin Bronze	Wall @ 8'-6"	N/A	N/A	Lightway	618-LED-F2B-2-A-Z1	120	
		Lumens) LED	Dark Sky Compliant								
		3000K									
CCE	1	14W LED	Full Cut-Off Exterior Egress Light With 90 Minutes	Carbon Bronze	Above Door	N/A	N/A	Lumark	AXCS1A W BK	120	
		3000K	of Battery Backup								
FE	1	35W (4,718	4' LED Strip Light	White	Surface	N/A	N/A	Metalux	4SNLED-LD5-46SL-LC-UNV-L840-CD1-U-EL14W	120	
		Lumens) LED									
		4000K									
Х		LED	Universal Mount LED Exit Sign with 90 Minute	White/Green	Varies	Varies	N/A	Sure-Lites	LPX70GWH	120	
			Emegency Battery Backup								



SITE ELECTRICAL PLAN, POLE BASE DETAIL & SCHEDULES



Designed:
JH

Project Number:
25-010

Drawn:
JH

Scale:
As Shown

Checked:
VJR

Reviewed:
VRW

Date:

02/12/2025

1 of 4

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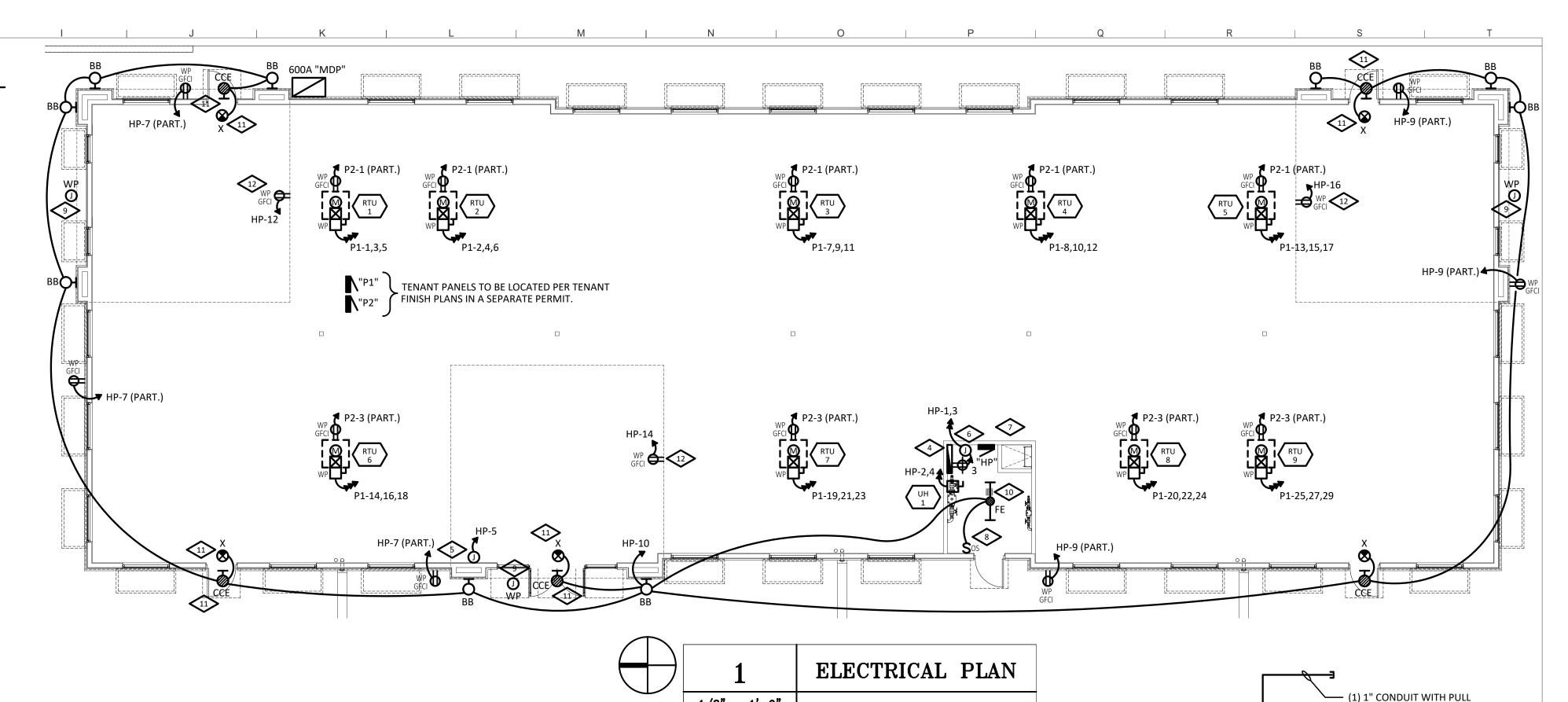
SYMBOL LEGEND Description Distribution Equipment; Switchgear, Panelboards Branch Circuit Panel Telephone Terminal T Transformer Fused Disconnect Switch (Non-Fused When Fusing Not Required) Combination Starter/Disconnect Sw. Magnetic Starter or Contactor M Meter Motor Outlet and Connection Fused Disconnect Sw., Diagrammatic Circuit Breaker, Diagrammatic 2 Indicates Detail Note Indicates Mechanical Equipment Indicates Kitchen Equipment, Riser, or Room Number Circuit Run; In Walls and Above Ceiling (Concealed) - - - │ Circuit Run; Underground or in Floor → · — Circuit Run; Exposed • Circuit Risers; Up,Down of Circuits Home Run; Arrows Indicate Number Overhead Service Entrance Letter Indicates Fixture Type, See Schedule for Description O_{Ba} Lower Case Subscript Indicates Shading Indicates Connection to Emergency, Egress, or Night-Light Circuit Fixtures Surface Mounted on Ceiling \vdash Fixtures Recessed in Ceiling 7 Wall Mounted Fixtures Exit Lights; Mounting Faces and Arrows as Indicated Porcelain Keyless Lampholder with 100W A19 Lamp; PC Indicates Pull Duplex Receptacle; Wall Double Duplex Receptacle • Switched Receptacle; Half, Full Isolated Ground Receptacle **♠** Ac Above Counter Receptacle; +4" Above Top Of Backsplash **♠** Weatherproof Duplex Receptacle **Ground Fault Interrupt Duplex** Receptacle ♠ AG Ground Fault Interrupt Duplex Tamper Resistant Duplex Receptacle Ceiling Mtd. Duplex Receptacle **Special Configuration Receptacle** Duplex Receptacle; Floor Recessed Clock Style Receptacle Junction Box; Wall Junction Box; Ceiling ▼ Telephone Outlet; Wall ▼ Computer Data Outlet; Wall Combination Telephone & Computer Data Outlet; Wall ▼ Telephone Outlet; Floor Special Configuration Combination Floor Outlet/Box **▼** T.V. Outlet Single Pole Switch; Subscripts Indicate Switching S² Double Pole Switch S³S⁴ Three and Four Way Switching **S**^P Switch with Pilot Light **S**^K Key Operated Switch **S**^{LV} Low Voltage Switch Sos Occupancy Sensor Switch Ceiling Mounted Occupancy Sensor Gang Mounted Switching Combination Switch and Duplex Receptacle **S**^{TO} Thermal Overload Switch D Dimmer Switch Time Clock Photo Cell Hood Outlet and Connection Disposer Receptacle and Connection Surface Raceway Pushbutton Stations

DETAIL NOTES

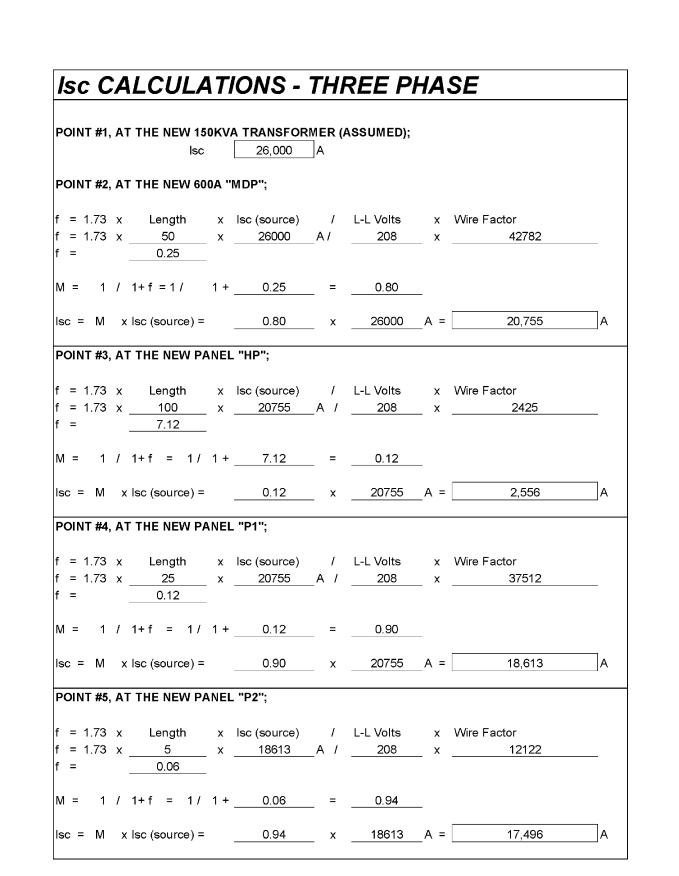
- (1) 4" CONDUIT WITH PULL ROPE RUN TO TELEPHONE PEDESTAL. VERIFY EXACT LOCATION OF TELEPHONE PEDESTAL PRIOR TO BID. 36" MINIMUM RADIUS SWEEPS. COORDINATE MAXIMUM LENGTHS AND PULL BOX REQUIREMENTS WITH PROVIDER PRIOR TO BIDS.
- 6-POLE MECHANICALLY HELD CONTACTOR IN NEMA-1 ENCLOSURE, TORK MODEL DGUM-200A (2-CHANNEL) AND TORK ROOF MOUNTED PHOTOCELL MODEL #EPC1. MOUNT PHOTOCELL ON ROOF AND FACE NORTH. LOCATE TIMECLOCK AS CLOSE AS POSSIBLE TO PANEL.
- PROVIDE INTERSYSTEM BONDING TERMINATION (IBT) DEVICE PER 2015 NEC 250.94. IBT IS TO BE ACCESSIBLE FOR CONNECTION AND INSPECTION, SHALL CONSIST OF A SET OF TERMINALS WITH THE CAPACITY FOR CONNECTION OF NOT LESS THAN (3) INTERSYSTEM BONDING CONDUCTORS AND NOT INTERFERE WITH OPENING THE ENCLOSURE FOR A SERVICE, BUILDING OR STRUCTURE DISCONNECTING MEANS, OR METERING EQUIPMENT. CONNECT VIA #6 AWG CU CONDUCTOR TO NEUTRAL-GROUND CONNECTION IN MAIN DISCONNECT.
- BUILDING MAIN TELEPHONE BOARD; REFER TO TELEPHONE RISER DETAIL ON THIS SHEET FOR ADDITIONAL INFORMATION. COORDINATE FINAL LOCATION WITH TENANT FINISH PLANS.
- PROVIDE 120V CONNECTION FOR FIRE ALARM PANEL; COORDINATE EXACT LOCATION IN FIELD.
- PROVIDE 120-VOLT, 20-AMP CONNECTION FOR IRRIGATION CONTROLLER. COORDINATE EXACT LOCATION WITH OWNER PRIOR TO INSTALLATION.
- COORDINATE FINAL LOCATION OF PANEL "HP" WITH ARCHITECT PRIOR TO ROUGH-IN.
- PROVIDE DUAL TECHNOLOGY WALL MOUNTED OCCUPANCY SENSOR FOR CONTROL OF FIXURES IN THE ROOM; WATTSTOPPER DW-100 OR EQUAL, (TYPICAL
- PROVIDE WEATHERPROOF JUNCTION BOX ON EXTERIOR OF BUILDING FOR FUTURE TENANT SIGNAGE. SIGN TO BE POWERED FROM TENANTS PANEL. COORDINATE EXACT LOCATION WITH OWNER/ARCHITECT PRIOR TO ROUGH-IN.
- EMERGENCY BATTERY PACK TO OPERATE ONLY UNDER POWER OUTAGE. FIXTURE TO OPERATE NORMALLY UNDER NORMAL CONDITIONS, (NOT A NIGHT LIGHT). RUN SWITCHED AND UNSWITCHED POWER TO BATTERY PACK.
- CONNECT ALL SHADED FIXTURES AHEAD OF SWITCHING FOR CONTINUOUS EGRESS & NIGHTLIGHT FUNCTIONS, (TYPICAL).
- LOCATE 120V, 20A, WP, GFCI RECEPTACLE ON HIGH TOWER ROOF; COORDINATE EXACT LOCATION WITH ARCHITECT PRIOR TO INSTALLATION.

PANEL "HP"										
VOLTS: 208/120V,3 MAINS: 100A M.L.C A.I.C.: 10KA	•	W								TG: SURFACE NEMA 1 IFGR: CH/ITE/SQD/GE TYPE: BOLT-ON
DESCRIPTION	Т	KVA	BKR	(СКТ	#	BKR	KVA	Т	DESCRIPTION
IRRIGATION CNTRL	R	0.18	20A1P	1		2	20A	1.50	Н	UH-1
TTB	R	0.36	20A1P	3	•	4	2P	1.50	Н	-
FACP	R	0.18	20A1P	5		• 6	20A	0.33	L	PARKING LOT LTG
BUILDING RECS	R	0.54	20A1P	7		8	2P	0.33	L	ı
BUILDING RECS	R	0.54	20A1P	9	•	10	20A1P	0.20	L	EXTERIOR BLDG LTG
EXTERIOR POLE RECS	R	0.36	20A1P	11		• 12	20A1P	0.18	R	HIGH TOWER ROOF RC
SPARE			20A1P	13		14	20A1P	0.18	R	HIGH TOWER ROOF RC
SPARE			20A1P	15	•	16	20A1P	0.18	R	HIGH TOWER ROOF RC
SPARE			20A1P	17		• 18	20A1P			SPARE
SPACE				19		20				SPACE
SPACE				21	•	22				SPACE
SPACE				23		• 24				SPACE
SPACE				25 •		26				SPACE
SPACE				27	•	28				SPACE
SPACE				29		• 30				SPACE
LOAD KVA CONNECTED NEC DEMAND	LT(0. 1.	9	REC 2.7 2.7	HTR 3.0 3.0			6.6 6.8			
AMPS							19			
PHASE KVA PHASE IMBALANCE	E (%)		A A/B	= =	2.7 1.6		B = B/C =	2.0	3.9	C = 1.1 C/A = 159.7

** PROVIDE LOCKABLE BREAKER FOR FACP.

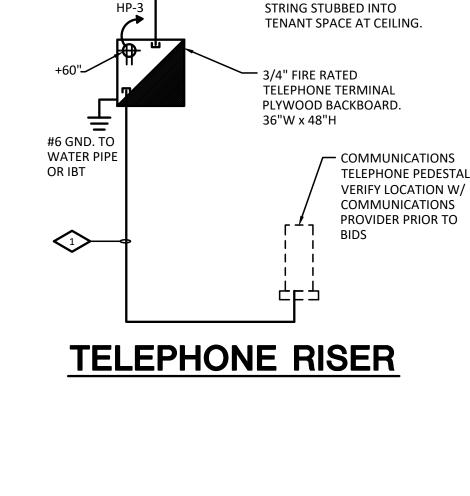


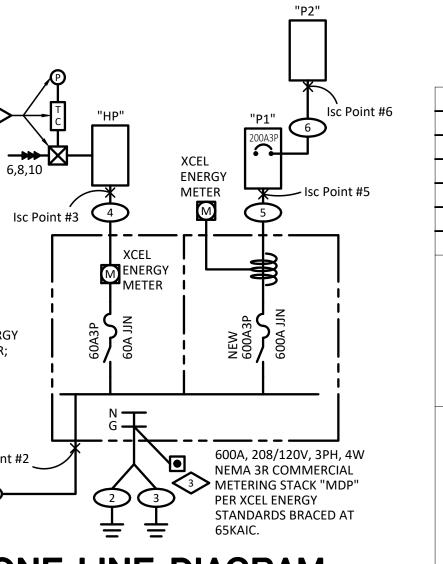
1/8" = 1'-0"



600A SERVICE LOAD SUMMARY **										
LOAD KVA CONNECTED NEC DEMAND AMPS	LTG 0.9 1.1	REC 4.3 4.3	MTR 73.9 76.5	HTR 3.0 3.0	TOT/ 82 84 23	.1				
PHASE KVA PHASE IMBALANCE (%)		A A/B	•	_0.0	B = B/C =	28.1 9.5	C C/A	=	25.7 10.0	

** LOAD SUMMARY INCLUDES PANELS "HP", "P1" AND "P2".





ONE-LINE DIAGRAM

NOTE: ALL ITEMS ARE NEW

Isc Point #2

150KVA (ASSUMED) XCEL ENERGY

PAD MOUNTED TRANSFORMER;

208/120V, 3PH SERVICE

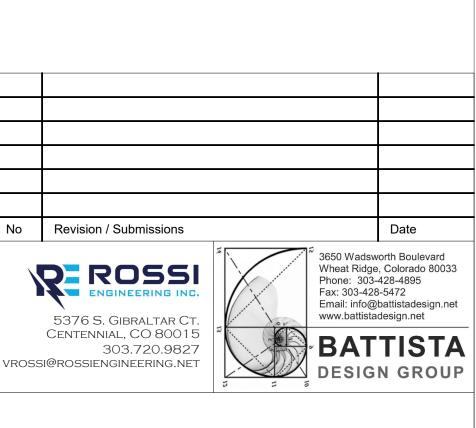
Isc Point #1

FEEDER SCHEDULE

- 2 SETS OF (4-500 KCMIL XHHW AL) 4"C.
- #2/0 CU GND TO BLDG STEEL, UFER & COLD WATER PIPE
- #6 CU TO 5/8" X 8' CLAD STEEL GROUND ROD
- (4 #6 THWN CU & #10 CU GND) 1"C.

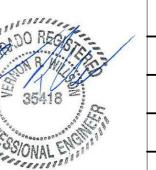
5 2 SETS OF (4-500 KCMIL XHHW AL & #2/0 AL GND) 3"C.

(4-250 KCMIL XHHW AL & #4 AL GND) 2-1/2"C.



SVA GREELEY Shell Building 1911 59th AVENUE GREELEY, CO 80634

SYMBOLS, ONE-LINE, ELECTRICAL PLAN, SCHEDULES & ISC CALCS



Project Number: Designed: Drawn: Scale: As Shown Checked: Drawing Number: Reviewed: VRW

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ELECTRICAL SYSTEMS

PART 1 - GENERAL 1.01 CONDITIONS AND REQUIREMENTS A. REFER TO THE GENERAL CONDITIONS, SUPPLEMENTARY GENERAL CONDITIONS, AND DIVISION 1 - GENERAL

B. PROVISIONS OF THIS SECTION SHALL APPLY TO ALL OF DIVISION 16 WORK.

1.02 SCOPE OF WORK

A. FURNISH AND INSTALL ALL MATERIALS AND EQUIPMENT, AND PROVIDE ALL LABOR REQUIRED AND NECESSARY TO COMPLETE THE WORK SHOWN ON THE DRAWINGS AND/OR AS SPECIFIED IN DIVISION 16. AND ALL OTHER WORK AND MISCELLANEOUS ITEMS, NOT SPECIFICALLY MENTIONED, BUT REASONABLY INFERRED FOR A COMPLETE INSTALLATION INCLUDING ALL ACCESSORIES AND APPURTENANCES REQUIRED FOR OPERATING AND TESTING THE SYSTEM. IT IS THE INTENT OF THE DRAWINGS AND SPECIFICATIONS THAT ALL SYSTEMS BE COMPLETE AND READY FOR OPERATION.

1.03 CODES, REGULATIONS, AND STANDARDS

A. ALL WORK SHALL BE IN STRICT ACCORDANCE WITH LOCAL BUILDING CODES, GOVERNING LAWS, ORDINANCES AND REGULATIONS, 2017 NATIONAL ELECTRICAL CODE, INTERNATIONAL BUILDING CODE, AND RULES AND REGULATIONS OF THE LOCAL POWER COMPANY.

1.04 MATERIAL STANDARDS

A. ALL MATERIAL SUPPLIED SHALL BE NEW AND SHALL BE EQUAL TO OR EXCEED MINIMUM REQUIREMENTS OF NEMA, IEEE,

B. ALL MATERIALS SHALL BEAR THE UNDERWRITERS' LABORATORIES, INC., LABEL PROVIDED A STANDARD HAS BEEN ESTABLISHED FOR THE MATERIAL IN QUESTION.

A. THE CONTRACTOR SHALL OBTAIN AND PAY FOR ALL LOCAL FEES, PERMITS, AND SERVICES OF INSPECTION AUTHORITIES REQUIRED BY WORK HEREUNDER. THE CONTRACTOR SHALL COORDINATE FULLY WITH THE LOCAL UTILITY COMPANIES WITH RESPECT TO THEIR SERVICES.

1.06 CONSTRUCTION DRAWINGS

A. THE DRAWINGS ARE DIAGRAMMATIC AND INDICATE THE GENERAL ARRANGEMENT OF ELECTRICAL WORK. LOCATIONS ARE APPROXIMATE AND SHALL BE SUBJECT TO MINOR MODIFICATIONS AS DICTATED BY FIELD CONDITIONS AND AS DIRECTED BY ARCHITECT AND/OR ENGINEER.

1.07 COORDINATION OF WORK

A. CONTRACTOR SHALL BE RESPONSIBLE FOR EXACT FITTING OF ALL MATERIALS, EQUIPMENT, ETC., IN BUILDING. ALL DIMENSIONS SHALL BE VERIFIED ON JOB.

1.08 SPECIFIED ITEMS AND BID ALTERNATES

A. EQUIPMENT OR MATERIALS SPECIFIED EXCLUSIVELY BY TRADE, NAME OF MANUFACTURER, OR BY CATALOG REFERENCE SHALL FORM BASIS OF WORK AND CONTRACT THEREFORE.

CONTRACTORS DESIRING TO USE ALTERNATE EQUIPMENT OR MATERIALS: MANUFACTURERS OR SUPPLIERS DESIRING TO FURNISH ALTERNATE MATERIALS OR EQUIPMENT IN LIEU OF THOSE SPECIFIED; SHALL SUBMIT REQUESTS FOR APPROVAL OF ALTERNATES TO ARCHITECT NOT LESS THAN SEVEN CALENDAR DAYS PRIOR TO SCHEDULED CLOSING DATE FOR RECEIPT

OF BIDS OR PROPOSALS. C. REQUESTS FOR APPROVAL OF PROPOSED ALTERNATES SHALL BE MADE IN WRITING AND SHALL INCLUDE COMPLETE DATA SHEETS, CATALOG CUTS, SAMPLES, AND APPROPRIATE CALCULATIONS.

D. CONTRACTOR SHALL BE RESPONSIBLE FOR PROPER INSTALLATION, COMPLETE IN ALL RESPECTS, AND OPERATION OF ALL EQUIPMENT OR MATERIALS USED AS RESULT OF APPROVAL OF REQUESTS TO SUBSTITUTE. NO ADDITIONAL PAYMENT WILL BE ISSUED DUE TO THE INCORPORATION OF APPROVED SUBSTITUTIONS.

A. FURNISH SIX COPIES OF SHOP DRAWINGS AND MATERIAL LISTS, AS HEREIN CALLED FOR, TO ARCHITECT PRIOR TO COMMENCEMENT OF WORK. MATERIAL LISTS SHALL INCLUDE CATALOG CUTS, DIAGRAMS AND OTHER DESCRIPTIVE MATERIAL, AND SHALL BE SUBMITTED AT THE SAME TIME IN BROCHURE ARRANGEMENT WITH ONE OF EACH REQUESTED ITEM IN EACH OF THE SIX BROCHURES. SHOP DRAWINGS SHALL BE SUBMITTED FOR THE FOLLOWING:

PANELBOARDS DISCONNECT SWITCHES LIGHTING FIXTURES

B. THE CONTRACTOR SHALL REVISE AND RESUBMIT SHOP DRAWINGS AND MATERIAL LISTS AS REQUIRED FOR APPROVAL.

1.10 OPERATION AND MAINTENANCE MANUALS

A. PROVIDE TWO COPIES OF OPERATING AND MAINTENANCE MANUALS FOR ALL EQUIPMENT AND/OR SYSTEMS.

A. THE CONTRACTOR SHALL GUARANTEE ALL MATERIALS AND EQUIPMENT FURNISHED AND INSTALLED HEREUNDER AGAINST ALL DEFECTS AND FAULTY INSTALLATION FOR A PERIOD OF 365 CALENDAR DAYS FROM DATE OF FINAL ACCEPTANCE OF WORK BY OWNER.

1.12 AS-BUILT DOCUMENTS

A. THE CONTRACTOR SHALL MAINTAIN ON THE JOB AN UP-TO-DATE SET OF WORKING DRAWINGS AND SPECIFICATIONS, MARKED UP TO SHOW ELECTRICAL SYSTEMS AS INSTALLED. THESE DRAWINGS AND SPECIFICATIONS SHALL BE AVAILABLE FOR INSPECTION BY THE ARCHITECT OR THEIR REPRESENTATIVE.

B. UPON COMPLETION OF THE WORK, THE ELECTRICAL CONTRACTOR SHALL PROVIDE THE OWNER WITH ONE SET OF AS-BUILT DRAWINGS AND MARKED UP SPECIFICATIONS, CERTIFIED ACCURATE BY ENDORSEMENT.

A. THE ELECTRICAL CONTRACTOR SHALL EXAMINE PROJECT SITE AND ALL CONDITIONS THEREON AND SHALL TAKE INTO CONSIDERATION ALL SUCH CONDITIONS AS MAY AFFECT THE WORK HEREUNDER.

A. PROVIDE TEMPORARY POWER AND LIGHTING FOR CONSTRUCTION IN ACCORDANCE WITH STATE AND LOCAL SAFETY LAWS AND IN PARTICULAR FEDERAL OSHA REQUIREMENTS AND THE NATIONAL ELECTRICAL CODE.

1.15 SLEEVES, INSERTS, AND EMBEDDED ITEMS

A. SLEEVES, INSERTS, HANGERS, ETC., FURNISHED UNDER THIS DIVISION AND INSTALLED UNDER ANOTHER DIVISION SHALL BE SUPPLIED IN SUCH MANNER AS WILL PERMIT ORDERLY PROGRESS OF WORK BY OTHERS.

A. THE ELECTRICAL CONTRACTOR SHALL CUT, CHANNEL, CHASE, AND/OR DRILL FLOORS, WALLS, PARTITIONS, CEILINGS, OR OTHER SURFACES AS REQUIRED FOR INSTALLATION, SUPPORT, ANCHORAGE, ETC., OF THE WORK. ALL PATCHING SHALL BE DONE BY THE GENERAL CONTRACTOR.

1.17 DELIVERY AND STORAGE

A. ELECTRICAL CONTRACTOR SHALL MAKE PROVISIONS FOR DELIVERY AND SAFE STORAGE OF MATERIALS FOR THIS CONTRACT AND SHALL ASSUME FULL RESPONSIBILITY FOR CONDITION AND/OR SAFEKEEPING OF MATERIALS FURNISHED BY OTHERS ON ACCEPTANCE OF MATERIALS.

1.18 INSPECTIONS AND TESTS

A. WORK SHALL BE SUBJECT TO INSPECTION BY ARCHITECT AND/OR ENGINEER AT ALL TIMES. B. AFTER ELECTRICAL INSTALLATION IS COMPLETED AND AT SUCH TIME AS THE ARCHITECT OR ENGINEER MAY DIRECT, THE CONTRACTOR SHALL CONDUCT AN OPERATING TEST FOR APPROVAL. INSTALLATION SHALL BE DEMONSTRATED TO BE IN ACCORDANCE WITH REQUIREMENTS OF THE DRAWINGS AND THIS SPECIFICATION. ANY DEFECTS REVEALED SHALL BE

CORRECTED PROMPTLY AND THE TESTS RECONDUCTED. C. THE CONTRACTOR SHALL REPAIR AND/OR REPLACE ALL DEFECTIVE AND/OR FAULTY WORKMANSHIP, MATERIALS, AND/OR EQUIPMENT AND SHALL REPAIR AND/OR REPLACE ALL OTHER WORK DAMAGED AS A RESULT OF SUCH DEFECTIVE AND/OR

FAULTY INSTALLATION, MATERIALS AND/OR EQUIPMENT WITHOUT CHARGE TO OWNER DURING GUARANTEE PERIOD. D. PARTIAL OCCUPANCY OF SITE BY OWNER SHALL NOT BE CONSTRUED AS FINAL ACCEPTANCE OF WORK.

PART 2 - PRODUCTS 2.01 BRANCH CIRCUIT PANELS

A. CIRCUIT BREAKER TYPE PANELBOARDS WITH MAIN LUGS OR MAIN CIRCUIT BREAKERS WHERE SHOWN, WITH NUMBER AND SIZE OF FULL WIDTH THERMAL MAGNETIC BOLTED BRANCH CIRCUIT BREAKERS WITH MINIMUM AIC RATING AS INDICATED. CIRCUIT BREAKERS SHALL BE LABELED FOR USE WITH CONDUCTORS WITH MINIMUM OF 75° INSULATION. PANELBOARDS ARE TO BE SURFACE OR FLUSH MOUNTED WITH SIZE OF BUS AS INDICATED. TWO AND THREE POLE BREAKERS SHALL HAVE COMMON TRIP AND SINGLE OPERATING HANDLE. PROVIDE SEPARATE GROUND BUS IN EACH

B. PANELBOARDS SHALL BE CONSTRUCTED OF CODE GAUGE GALVANIZED STEEL. FRONTS ARE TO BE COMPLETE WITH DOOR IN DOOR, LATCH AND MASTER-KEYED LOCKS. FRONTS SHALL HAVE ADJUSTABLE TRIM CLAMPS AND DIRECTORY FRAMES.

LIGHTING AND MISCELLANEOUS POWER PANELS: 208V OR 240V, 3 PHASE 208/120V, SINGLE OR 3 PHASE 240/120V,

SINGLE PHASE 10,000 AIC MINIMUM CUTLER-HAMMER TYPE PRL1 OR EQUIVALENT BY SQUARE D OR SIEMENS.

2.02 DISCONNECT SWITCHES

MAIN DISCONNECT SWITCHES RATED 800 AMPERES AND ABOVE SHALL BE BOLTED PRESSURE CONTACT TYPE, CUTLER-HAMMER OR EQUAL BY SQUARE D OR SIEMENS.

PROVIDE ENCLOSED, HEAVY DUTY, FUSIBLE OR NON-FUSIBLE SAFETY SWITCHES WHERE REQUIRED. EACH ENCLOSURE SHALL BE NEMA TYPE SUITABLE FOR THE SURROUNDING AREA AND CONDITIONS, AND SHALL BE LABELED FOR USE WITH CONDUCTORS HAVING MINIMUM OF 75° INSULATION. CONSULT MECHANICAL DRAWINGS AND SPECIFICATIONS OF MECHANICAL EQUIPMENT. DISCONNECTS AS APPROPRIATE FOR ACTUAL EQUIPMENT PROVIDED TO

THE PROJECT. ALL SWITCHES SHALL BE LABELED FOR FEEDER OR MOTOR SUPPLIED. D. PROVIDE FUSE REJECTION KITS FOR ALL FUSIBLE SWITCHES RATED 600 AMPERES AND BELOW.

A. FUSES SHALL BE OF THE TIME DELAY TYPE; CLASS "R" WITH REJECTION FEATURE UP TO 600 AMPERES, BOLT-IN CLASS "L" ABOVE 600 AMPERES. "FUSETRON", "LOW PEAK", OR "HI-CAP" AS MANUFACTURED BY THE BUSSMAN MANUFACTURING COOMPANY OR EQUIVALENT BY GOULD. INC. (GOULD SHAWMUTT FUSES). THE CONTRACTOR SHALL FURNISH AND INSTALL ONE COMPLETE SET OF FUSES FOR ALL FUSE HOLDING DEVICES SIZED IN ACCORDANCE WITH THE ASSOCIATED MOTOR AND/OR CONDUCTORS TO BE PROTECTED. FURNISH TO OWNER A MINIMUM OF THREE SPARES FOR EACH SIZE INSTALLED. PROVIDE A SPARE FUSE CABINET MOUNTED IN MAIN ELECTRICAL ROOM FOR FUSE STORAGE. PROVIDE A NAMEPLATE ON THE CABINET WHICH READS "SPARE FUSES".

2.04 CONDUIT AND FITTINGS

A. PROVIDE CONDUIT AND FITTINGS AS INDICATED AND AS REQUIRED PER PART 3 - INSTALLATION OF THIS SPECIFICATION. B. GALVANIZED RIGID STEEL CONDUIT (GRC): ZINC COATED, THREADED TYPE CONFORMING TO UL 6. PROVIDE ZINC

C. INTERMEDIATE METALLIC TUBING (IMC): ZINC COATED THREADED TYPE CONFORMING TO UL PROVIDE ZINC COATING

FUSED TO INSIDE AND OUTSIDE WALLS. PROVIDE CLOSED-END THREAD PROTECTORS.

D. ELECTRIC METALLIC TUBING (EMT): COMPLY WITH UL 794.

COATING FUSED TO INSIDE AND OUTSIDE WALLS. PROVIDE CLOSED-END THREAD PROTECTORS.

E. PVC EXTERNALLY COATED RIGID STEEL CONDUIT (PVC COATED GRC): PROVIDE RIGID STEEL ZINC COATED WITH AN ADDITIONAL 40 MIL. THICK COATING OF PVC AND INTERNAL GALVANIZED SURFACE. PVC COATING SHALL BE BONDED TO THE CONDUIT. EXTRUDED EXTERIOR COATING IS NOT ACCEPTABLE.

F. FLEXIBLE STEEL CONDUIT: FORMED FROM CONTINUOUS LENGTH OF SPIRALLY-WOUND, INTERLOCKED ZINC-COATED STRIP G. LIQUID-TIGHT, FLEXIBLE METAL CONDUIT: FORMED FROM A CONTINUOUS LENGTH OF FLEXIBLE. INTERLOCKED. AND DOUBLE-WRAPPED STEEL: GALVANIZED INSIDE AND OUTSIDE: COATED WITH LIQUID-TIGHT JACKET OF FLEXIBLE POLYVINYL

H. RIGID METAL CONDUIT FITTINGS: CAST-MALLEABLE IRON, GALVANIZED.

I. INTERMEDIATE METALLIC TUBING FITTINGS:

ELECTRIC METALLIC TUBING FITTINGS: STEEL OR IRON, COMPRESSION (SET SCREW). K. FLEXIBLE METALLIC CONDUIT FITTINGS: STEEL THREADLESS HINGED CLAMP TYPE.

FLEXIBLE NON-METALLIC CONDUIT FITTINGS: PLASTIC

M. CONDUIT BODIES: GALVANIZED STEEL CONDUIT BODIES OF TYPES, SHAPES, AND SIZES AS REQUIRED TO FULFILL JOB REQUIREMENTS AND NEC REQUIREMENTS. CONDUIT BODIES SHALL HAVE THREADED CONDUIT ENTRANCE ENDS, REMOVABLE COVERS, EITHER CAST OR GALVANIZED STEEL, AND CORROSION-RESISTANT SCREWS.

A. UNLESS OTHERWISE INDICATED, ALL CONDUCTORS SHALL BE COPPER. THE USE OF ALUMINUM WILL BE ACCEPTED ONLY TO THE EXTENT SPECIFICALLY INDICATED ON THE DRAWINGS. CONDUCTORS SIZED #10 AWG AND SMALLER SHALL BE SOLID ANNEALED COPPER, #8 AWG AND LARGER SHALL BE STRANDED.

B. MINIMUM CONDUCTOR SIZES SHALL BE #12 AWG FOR WIRING AT 120 VOLTS AND ABOVE, AND #18 AWG FOR SIGNAL AND CONTROL CIRCUITS. FOR 120 VOLT CIRCUITS 75 FEET OR LONGER TO THE FIRST OUTLET, MINIMUM SIZE SHALL BE INCREASED TO #10 AWG (FOR 277 VOLT CIRCUITS 150 FEET).

C. CONDUCTORS SHALL HAVE INSULATION RATED AT 600 VOLTS UNLESS OTHERWISE NOTED. THE FOLLOWING INSULATION STANDARDS SHALL APPLY: 1. UNDERGROUND AND WET LOCATIONS: TYPE THW OR THWN FOR #8 AWG AND LARGER; TW OR THWN FOR #10 AWG AND

SMALLER. INDOORS: TYPE THW, THWN, OR THHN FOR #8 AWG AND LARGER; TW, THWN, OR THHN FOR #10 AWG AND SMALLER. 3. AMPACITIES: CONDUCTOR AMPACITIES SHALL BE APPLIED PER NEC TABLE 310-16. RATINGS FOR CONDUCTORS HAVING

75°C INSULATION SHALL NOT BE EXCEEDED REGARDLESS OF WHICH INSULATION TYPE IS USED. D. CONNECTORS SHALL BE 3-M "SCOTCHLOCK", BUCHANAN "B-CAPS", IDEAL "WING NUT", OR BUCHANAN SPLICE CAPS. ALL CONNECTORS SHALL BE RATED AT 600 VOLTS FOR GENERAL USE, OR 1000 VOLTS FOR USE WITHIN FLUORESCENT OR HIGH INTENSITY DISCHARGE (HID) LIGHTING FIXTURES.

2.07 CABINETS AND WIREWAYS

A. CODE GAUGE GALVANIZED STEEL. CABINETS TO HAVE HINGED COVERS AND MASTER KEYED LOCKS. PROVIDE CABINET SIZES AS INDICATED, AND WIREWAY SIZED FOR APPLICATION PER NEC ARTICLE 362. PROVIDE APPROVED NEMA TYPE ENCLOSURE SUITABLE FOR LOCATION AND CONDITIONS ENCOUNTERED. FINISH SHALL BE ANSI 61 GRAY ENAMEL.

A. CAST METAL BOXES FOR EXPOSED CONDUIT AND IN EQUIPMENT ROOMS. ALL OUTLETS FOR EXTERIOR APPLICATION SHALL BE CAST, WEATHERPROOF TYPE, WITH GASKET AND CAST COVER PLATE. PROVIDE GALVANIZED OR ZINC COATED, COMPRESSED STEEL OUTLET BOXES FOR ALL OTHER APPLICATIONS. BOXES TO BE 4 INCHES SQUARE OR OCTAGONAL

UNLESS OTHERWISE REQUIRED FOR SPECIFIC OUTLET OR STRUCTURAL CONDITIONS, AND OF DEPTH AS REQUIRED.

2.09 WIRING DEVICES A. PROVIDE SPECIFICATION GRADE DEVICES IN ALL AREAS. HUBBELL, LEVITON, BRYANT, OR PASS AND SEYMOUR. ALL

DEVICES SHALL BE OF THE SAME MANUFACTURER. B. SWITCHES SHALL BE RATED FOR THE LOAD CONTROLLED. SWITCHES SHALL BE LEVITON #1201 (15 AMP) OR #1221 (20 AMP) OR EQUAL. ALL OTHER SWITCHES SHALL BE OF SIMILAR PREMIUM SPECIFICATION GRADE QUALITY.

C. THERMAL OVERLOAD SWITCHES SHALL BE PROPERLY SIZED OVERLOAD HEATER ELEMENTS. D. RECEPTACLES SHALL BE RATED FOR THE CIRCUIT LOAD SERVED. RECEPTACLES SHALL BE LEVITON #5252 (15 AMP) OR #5352 (20 AMP) OR EQUAL. ALL OTHER RECEPTACLES SHALL BE OF SIMILAR PREMIUM SPECIFICATION GRADE QUALITY.

E. PROVIDE STAINLESS STEEL COVERPLATES FOR ALL DEVICES IN KITCHEN AREAS AND AREAS WITH SURFACE MOUNTED RACEWAY AND BOXES. PROVIDE 0.140 INCH SMOOTH NYLON MATCHING COVERPLATES FOR ALL OTHER SWITCHES, RECEPTACLES, TELEPHONE, JUNCTION, AND UNUSED OUTLETS. DEVICE AND PLATE COLORS SHALL BE WHITE OR LIGHT COLOR ON LIGHT FINISHED SURFACES, AND BLACK, BROWN, OR OTHER DARK COLOR ON DARK FINISHED SURFACES. VERIFY COLOR OF DEVICES AND COVERPLATES WITH ARCHITECT BEFORE ORDERING.

2.10 LIGHTING FIXTURES AND LAMPS

A. ALL FIXTURES SHALL BEAR THE UNDERWRITERS LABORATORIES SEAL OF APPROVAL. B. FIXTURE TYPES ARE INDICATED ON THE DRAWINGS BY MEANS OF LETTERS. REFER TO THE FIXTURE SCHEDULE FOR FIXTURE SPECIFICATIONS. WHEN A FIXTURE TYPE IS INDICATED IN A ROOM OR AREA, ALL OTHER FIXTURES IN THE ROOM OR AREA SHALL BE OF THE SAME TYPE UNLESS NOTED OTHERWISE.

C. ALL FLUORESCENT LAMPHOLDERS SHALL BE WHITE PHENOLIC COMPOUND, POSITIVE SPRING ACTION TYPE. FLUORESCENT FIXTURES WITH RAPID START LAMPS SHALL BE EQUIPPED WITH HIGH POWER FACTOR ETL/CBM APPROVED ENERGY SAVING CLASS "P" BALLASTS (UNIVERSAL "SLH" OR ADVANCE MARK III). ALL BALLASTS SHALL BE GUARANTEED FOR TWO

D. CLASS P, CERTIFIED CBM, HIGH POWER FACTOR, PREMIUM LOW HEAT, HIGH FREQUENCY ELECTRONIC BALLAST WITH AUTOMATIC RESET THERMAL PROTECTION. BALLAST SHALL OPERATE AT 10 PERCENT OR LESS TOTAL HARMONIC DISTORTION. ADVANCE MARK V OR EQUAL BY MOTOROLA OR MAGNETEK.

E. FIXTURES EXPOSED TO COLD WEATHER AND COLD TEMPERATURE SHALL BE WEATHERPROOF AND OF THE LOW

TEMPERATURE TYPE SUITABLE FOR OPERATION AT CONDITIONS ENCOUNTERED. F. ALL FIXTURES SHALL BE SO MANUFACTURED THAT ALL METALLIC PARTS WILL BE CONTINUOUSLY GROUNDED. WHERE ACRYLIC LENSES ARE SPECIFIED, THICKNESS OF SUCH LENS SHALL BE NOMINAL 0.125 INCH.

G. INCANDESCENT LAMPS SHALL BE RATED 110 VOLTS. FLUORESCENT LAMPS SHALL BE F32T8 RAPID START TYPE OR AS NOTED ON DRAWINGS. NO SUBSTITUTIONS WILL BE ALLOWED FOR HIGH INTENSITY DISCHARGE (HID) AND FLUORESCENT LAMPS LISTED BY SPECIFIC MANUFACTURERS. ALL LAMPS SHALL BE GENERAL ELECTRIC, SYLVANIA, OR PHILLIPS UNLESS OTHERWISE NOTED.

2.11 FIRE ALARM SYSTEM

A. FURNISH AND INSTALL A COMPLETE DESIGN/BUILD, ELECTRICALLY SUPERVISED, CLASS B MULTIPLE-ZONE, CONTINUOUS RINGING FIRE ALARM SYSTEM AS DESCRIBED HEREIN PER LOCAL FIRE DEPARTMENT REQUIREMENTS. SYSTEM SHALL BE CAPABLE OF SUPPORTING ENTIRE BUILD-OUT OF FACILITY AND SHALL INCLUDE NECESSARY REQUIREMENTS FOR MEDICAL OFFICE TYPE TENANTS. ALL COMPONENTS OF THE ENTIRE SYSTEM SHALL BE NEW AND LISTED, LABELED, AND APPROVED FOR ITS APPLICATION AS FIRE ALARM EQUIPMENT FOR NFPA 72A BY UNDERWRITERS LABORATORIES, INC., AND FACTORY MUTUAL. ACTUATION OF ANY MANUAL OR AUTOMATIC ALARM INITIATING DEVICE SHALL CAUSE DESIGNATED ALARM SIGNALING UNITS TO RING CONTINUOUSLY, LIGHT THE RESPECTIVE ZONE ALARM LAMP ON THE REMOTE ANNUNCIATOR, AND PROVIDE AN ALARM SIGNAL SUITABLE FOR MONITORING BY AN APPROVED CENTRAL STATION.

B. PRIMARY POWER SHALL BE 120 VAC MONITORED, AND A POWER-ON LAMP SHALL BE PROVIDED. UPON POWER OUTAGE, THE SYSTEM SHALL LIGHT A POWER TROUBLE CONDITION LAMP, INDICATE A TROUBLE CONDITION, AND AUTOMATICALLY TRANSFER POWER SUPPLY TO STANDBY BATTERIES. THE CONTROL PANEL SHALL ALSO MONITOR THE BATTERIES, AND UPON A LOW BATTERY CONDITION, LIGHT THE LOW BATTERY LAMP AND INDICATE A TROUBLE CONDITION. UPON GROUND FAULT DETECTION, THE GROUND DETECTION LAMP SHALL LIGHT AND A TROUBLE SIGNAL SHALL BE INDICATED. PROVIDE A LAMP TEST SWITCH TO TEST ALL LAMPS ON THE CONTROL PANEL.

C. PROVIDE A MUNICIPAL TRIP CIRCUIT THAT IS A DISTINCT SEPARATE CIRCUIT UTILIZED FOR NO OTHER PURPOSE. A MUNICIPAL TRIP DISCONNECT TEST SWITCH SHALL BE PROVIDED. THE MUNICIPAL TRIP DISCONNECT LAMP SHALL INDICATE THAT THE MUNICIPAL TRIP IS DISCONNECTED.

D. MANUAL STATIONS SHALL BE DESIGNED FOR SEMI-FLUSH MOUNTING. PLASTIC STATIONS WILL NOT BE ACCEPTABLE STATIONS SHALL BE OF THE BREAK-GLASS DESIGN, AND MUST BE OPENED TO BE RESET. IT SHALL BE POSSIBLE, FOR TESTING PURPOSES, TO INITIATE AN ALARM WITHOUT BREAKING THE GLASS. PROVIDE A MINIMUM OF ONE SPARE GLASS ROD PER MANUAL STATION.

E. SMOKE DETECTORS SHALL BE LOW VOLTAGE, TWO WIRE, DUAL CHAMBER, IONIZATION TYPE. EACH DETECTOR SHALL BE SELF-COMPENSATING FOR THE EFFECTS OF AIR VELOCITY, TEMPERATURE, HUMIDITY AND ATMOSPHERIC PRESSURE. EACH DETECTOR SHALL CONTAIN AN INTEGRAL, VISUAL INDICATION OF ALARM VISIBLE FOR 360°

F. ALARM HORNS SHALL BE SUITABLE FOR INDOOR OR OUTDOOR APPLICATION. ALL HORNS SHALL BE 24 VDC POLARIZED. THE MINIMUM SOUND LEVEL SHALL BE 95 DB AT 10 FEET. HORNS SHALL BE SEMI-FLUSHED MOUNTED G. VISUAL SIGNALS SHALL BE PROVIDED WITH EACH FIRE SIGNALING DEVICE. ONE ENCLOSURE SHALL INCORPORATE BOTH

DEVICES. THE VISUAL SIGNAL SHALL FLASH ON ALARM OCCURRENCE. THE BEZEL SHALL EXTEND 1-1/2 INCHES MINIMUM FROM THE FINISHED WALL, AND BE APPROXIMATELY 3-1/2 INCHES BY 5 INCHES ENGRAVED "FIRE". H. EQUIPMENT SHALL BE AS FOLLOWS AS MANUFACTURED BY EDWARDS, INC., OR PRIOR APPROVED EQUAL:

CONTROL PANEL: 5751B

IONIZATION SMOKE DETECTOR: 5250B 3. THERMAL DETECTOR: 285A

4. ALARM HORN: 894B

REMOTE LIGHT: RL-85 REMOTE ANNUNCIATOR: G1344

PART 3 - EXECUTION

A. ALL WIRING SHALL BE INSTALLED IN CONDUIT. CONDUIT SHALL BE OF SIZE REQUIRED BY NEC OR LARGER AS INDICATED ON DRAWINGS, AND SHALL BE INSTALLED ACCORDING TO NEC. BENDS SHALL BE MADE WITH AN APPROVED HICKEY OR CONDUIT BENDING MACHINE. FACTORY BENDS OVER 1-1/4 INCHES ARE APPROVED.

PREMIUM QUALITY COMPRESSION (SET SCREW) TYPE COUPLINGS. PROVIDE INSULATED BUSHINGS FOR ALL

B. EXPOSED CONDUIT SHALL NOT BE INSTALLED IN FINISHED AREAS UNLESS PRIOR APPROVED BY ARCHITECT. EXPOSED CONDUIT MAY BE INSTALLED IN EQUIPMENT ROOMS AND AT SURFACE MOUNTED EQUIPMENT. ALL EXPOSED CONDUIT SHALL BE RUN AT RIGHT ANGLES AND PARALLEL TO THE BUILDING LINES.

C. ALL UNDERGROUND CONDUIT SHALL BE INSTALLED AT A MINIMUM OF 30 INCHES BELOW FINISHED GRADE. CONDUITS INSTALLED BELOW CONCRETE SLABS SHALL BE A MINIMUM OF 12 INCHES BELOW SLAB. ALL UNDERGROUND CONDUITS SHALL BE INSTALLED IN SELECT BACKFILL IN ACCORDANCE WITH THE EARTHWORK SECTION OF THESE SPECIFICATIONS. ALL UNDERGROUND CONDUIT SHALL BE SCHEDULE 40 PVC, WITH PVC COATED GRC ELBOWS FOR ALL RADIUS BENDS. D. USE APPROVED TYPE COUPLINGS AND CONNECTORS IN ALL CONDUIT RUNS, AND MAKE ALL JOINTS TIGHT. PROVIDE

TERMINATIONS IN PIPE SIZES 1-1/4 INCHES AND LARGER. PROVIDE WEATHERPROOF FITTINGS FOR RUNS EXPOSED TO WEATHER AND HIGH HUMIDITY, AND CONCRETE TIGHT FITTINGS FOR CONDUITS INSTALLED IN CONCRETE SLABS. PROVIDE SEAL-OFF FITTINGS WHERE CONDUITS ENTER OR LEAVE HAZARDOUS WIRING AREA OR AREAS OF WIDELY

DIFFERENT TEMPERATURE AND/OR HUMIDITY. MAXIMUM CONDUIT SIZE FOR INSTALLATION IN CONCRETE SLABS OR WALLS SHALL BE 1 INCH.

PRIOR TO PULLING OF CONDUCTORS, CONDUITS SHALL BE CLEANED OF ALL FOREIGN MATTER. PROVIDE 200 POUND TEST NYLON PULL-LINES IN ALL CONDUITS INTENDED FOR FUTURE USE (E.G. TELEPHONE, ETC.). PROVIDE CONDUIT WITH APPROPRIATE FITTINGS INSTALLED AS REQUIRED PER THE FOLLOWING CRITERIA:

1. BELOW GRADE IN EARTH: USE PVC OR PVC COATED RIGID STEEL CONDUIT. GRC IS REQUIRED WHERE UNDERGROUND OR UNDERSLAB CONDUITS PENETRATE A CONCRETE SLAB OR FOUNDATION WALL.

ABOVE GRADE, EXTERIOR (EXCEPT ROOFS): USE GRC, IMC, OR EMT WITH WEATHERPROOF FITTINGS.

ON ROOFS: USE GRC.

4. ABOVE GRADE, INTERIOR: a. IN LOCATIONS SUBJECT TO DAMAGE: USE GRC WITH THREADED GRC FITTINGS.

b. IN WET OR DAMP LOCATIONS: USE GRC WITH WEATHERPROOF FITTINGS. IN HAZARDOUS LOCATIONS: USE GRC, IMC, OR EMT AS REQUIRED FOR THE CLASSIFICATION OR THE AREA WITH

MATCHING COMPRESSION OR THREADED FITTINGS. d. IN DRY LOCATIONS, BLOCK WALLS, OR CONCRETE WALLS: USE GRC, IMC, OR EMT WITH COMPRESSION (SET-SCREW)

FITTINGS. IN SLAB ON GRADE: USE PVC OR PVC COATED GRC.

6. IN CONCRETE SLABS ABOVE THE GROUND FLOOR: USE PVC, GRC, IMC, OR EMT. (ALT. -- NO CONDUITS ARE ALLOWED IN

CONCRETE SLABS.) USE FLEXIBLE METALLIC CONDUIT IN THE FOLLOWING APPLICATIONS:

a. RECESSED LIGHTING FIXTURES MOTOR CONNECTIONS

c. CONNECTION BETWEEN FAN PLENUM AND STRUCTURE

d. AT EXPANSION JOINTS

e. AT TRANSFORMER AND OTHER EQUIPMENT WHICH PRODUCES VIBRATION

8. USE FLEXIBLE NON-METALLIC CONDUIT IN THE FOLLOWING APPLICATIONS:

a. AT ALL LOCATIONS LISTED ABOVE FOR FLEXIBLE METALLIC CONDUIT WHERE EXPOSED TO MOISTURE IN WET OF DAMP LOCATIONS.

H. PROVIDE SLEEVES WHERE CONDUIT PENETRATES A FIRE RATED WALL. SLEEVE SHALL BE RATED AS REQUIRED TO MAINTAIN THE FIRE RATING OF THE WALL THAT IS BEING PENETRATED.

USE PVC COATED OR BITUMINOUS COATED GALVANIZED RIGID METAL ELBOWS FOR STUB UPS AND 900 BENDS IN UNDERGROUND CONDUITS AND FOR ALL RISERS TO GRADE AND ENTRY FROM BUILDING EXTERIOR.

3.02 WIRING

A. NO WIRE SHALL BE INSTALLED PRIOR TO COMPLETION OF WORK WHICH MIGHT CAUSE DAMAGE TO CONDUCTORS. ALL SERVICE CONDUCTORS, FEEDERS, AND BRANCH CIRCUITS SHALL BE COLOR CODED IN ACCORDANCE WITH ARTICLE 210-5 OF THE NEC. COLOR CODING SHALL BE VIA COLORED INSULATION OR TAPE AT ALL TERMINATION LOCATIONS. WIRING FOR SPECIAL SYSTEMS SUCH AS MECHANICAL EQUIPMENT, ETC., SHALL BE IN ACCORDANCE WITH MANUFACTURERS

B. WIRING SHALL BE CONTINUOUS FROM OUTLET TO OUTLET OR JUNCTION BOX. SPLICES SHALL BE HELD TO A MINIMUM, AND SHALL BE MADE ONLY AT READILY ACCESSIBLE PULL BOX, JUNCTION BOX, OR OUTLET BOX. THE INSULATION VALUE OF THE JOINT SHALL EQUAL THAT OF THE CONDUCTOR. SPLICES AND CONNECTION SHALL BE MADE BY TWISTING TIGHT AND INSTALLING INSULATED PRESSURE OR WIRE NUT CONNECTORS FOR #10 AWG AND SMALLER, AND WITH STEEL

CRIMP-ON SLEEVES AND OVERALL NYLON INSULATOR FOR #8 AWG AND LARGER. WHERE ALUMINUM CONDUCTORS ARE INDICATED, ALL TERMINATIONS SHALL BE ACCOMPLISHED WITH APPROVED COMPRESSION TERMINATORS (BURNDY HYPLUG OR EQUAL). ALL ALUMINUM TERMINATIONS SHALL BE TREATED WITH

DEOXIDIZING SOLUTION (BURNDY PENETROX OR EQUAL). COLOR CODE ALL CONDUCTORS. WIRE SIZES #8 AWG OR SMALLER SHALL HAVE INTEGRAL COLOR-CODED INSULATION. WIRE SIZES #6 AWG AND LARGER MAY HAVE BLACK INSULATION BUT IDENTIFIED BY COLOR-CODED ELECTRICAL TAPE AT ALL JUNCTION, SPLICE, PULL, OR TERMINATION POINTS. COLOR TAPE SHALL BE APPLIED TO AT LEAST 6 INCHES OF THE

CONDUCTOR COLOR CODE WIRES AS FOLLOWS: 208/120 VOLTS PHASES: A-BLACK, B-RED, C-BLUE, NEUTRAL-WHITE,

GROUND-GREEN COLOR CODING OF WIRES USED FOR SIGNAL AND COMMUNICATION SYSTEMS ARE SPECIFIED UNDER THE RESPECTIVE SECTIONS FOR THESE SYSTEMS.

3.03 GROUNDING

A. PROVIDE GROUNDING ELECTRODE CONDUCTORS SIZED IN ACCORDANCE WITH THE DRAWINGS BETWEEN THE SERVICE GROUND BUS AND THE FOLLOWING GROUNDING ELECTRODES FOR THE MAIN SERVICE GROUNDING SYSTEM:

DOMESTIC AND FIRE PROTECTION METALLIC WATER PIPES.

THE METAL FRAME OR STRUCTURE OF THE BUILDING. 3. A MINIMUM OF 20 INCHES OF #2 AWG BARE SOLID COPPER CONDUCTOR LOCATED NEAR THE BOTTOM OF THE CONCRETE FOUNDATION OR FOOTING THAT IS IN DIRECT CONTACT WITH EARTH. ELECTRODE SHALL BE CADWELDED, OR EQUAL, TO ALL VERTICAL REINFORCING BARS, AND SHALL BE ENCASED BY AT LEAST 2 INCHES OF CONCRETE.

B. THE SERVICE NEUTRAL SHALL BE CONNECTED TO THE GROUND BUS WITH AN UNSPLICED CLASS B STRANDED COPPER

CONDUCTOR SIZED PER NEC TABLE 250-66. PROVIDE AN EQUIPMENT BONDING JUMPER TO THE NON-CURRENT CARRYING PARTS OF THE MAIN SERVICE SIZED PER NEC TABLE 250-112. ALL ELECTRICAL NEUTRALS, RACEWAYS, AND NON-CURRENT CARRYING PARTS OF ELECTRICAL EQUIPMENT AND ASSOCIATED ENCLOSURES SHALL BE GROUNDED IN ACCORDANCE WITH NEC ARTICLE 250. AN IDENTIFIED GROUNDING CONDUCTOR SHALL BE INSTALLED IN ALL FLEXIBLE METALLIC OR PVC CONDUITS. CONNECT GROUND WIRE TO THE

GROUND TERMINAL OF ALL DEVICES. PROVIDE GROUND BOND JUMPER FROM GROUNDING TERMINAL TO OUTLET BOX

WHERE GROUND WIRE IS NOT PULLED.

A. BOXES SHALL BE SUITABLE FOR REQUIREMENTS OF EACH OUTLET AND OF SUCH DIMENSIONS AS WILL FIT STRUCTURAL CONDITIONS. BOXES SHALL BE INSTALLED IN RIGID MANNER USING EXPANSION SHIELDS, POWER ACTUATED FASTENERS,

ETC., ON CONCRETE OR MASONRY AS REQUIRED. B. PROVIDE SINGLE GANG (OR AS REQUIRED FOR OUTLET) PLASTER OR TILE RINGS FOR ALL FLUSH OUTLETS INSTALLED AT

FINISHED WALL AND CEILING SURFACES (TILE, GYPSUM BOARD, PLASTER, ETC.). C. OUTLETS SHOWN "BACK-TO-BACK" ARE TO BE INSTALLED WITH A MINIMUM OF 6 INCHES HORIZONTAL SEPARATION TO

MINIMIZE SOUND TRANSMISSION. "THROUGH-THE-WALL" TYPE BOXES ARE NOT PERMITTED.

A. WALL SWITCH OUTLETS SHOWN AT DOOR LOCATIONS SHALL BE INSTALLED ON LATCH SIDE OF DOOR. ALL DEVICES SHALL BE MOUNTED VERTICALLY. THE FOLLOWING MOUNTING HEIGHTS TO CENTERLINE OF DEVICE FROM FINISHED FLOOR

WALL SWITCH OUTLETS: 48" GENERAL PURPOSE RECEPTACLES: 16"

RECEPTACLE OUTLETS IN UTILITY AND EQUIPMENT ROOMS: 42"

SHALL APPLY UNLESS OTHERWISE NOTED:

4. TELEPHONE OUTLET: 16" 5. TELEPHONE OUTLET FOR WALL TELEPHONE: 54" B. PROVIDE COVERPLATES FOR ALL OUTLETS.

A. ALL LIGHTING FIXTURES AND EQUIPMENT AS INDICATED ON THE DRAWINGS AND AS DESCRIBED HEREIN SHALL BE FURNISHED AND INSTALLED. ALL FIXTURES SHALL BEAR THE UL SEAL OF APPROVAL.

B. ALL FIXTURES SHALL BE SECURELY SUPPORTED AND ALL OUTLETS SHALL BE SECURELY ANCHORED. FURNISH ALL SUPPORTS NECESSARY FOR INSTALLATION INCLUDING STRUCTURAL MEMBERS WHERE REQUIRED. C. PROVIDE SEPARATE JUNCTION BOX AND WIRE TO RECESSED FIXTURES, IN FLEXIBLE CONDUIT WITH TYPE AF WIRE UNLESS UL APPROVED PREWIRED FIXTURES ARE USED. OPENINGS CUT IN CEILINGS FOR RECESSED FIXTURES SHALL BE COMPLETELY CONCEALED AFTER FIXTURE TRIM IS INSTALLED. WHERE FLEXIBLE CONDUIT IS USED WITH THREE OR FOUR LAMP FLUORESCENT FIXTURES, PROVIDE SEPARATE LEADS FOR EACH BALLAST, WITH INBOARD LAMPS CONNECTED TO ONE BALLAST, AND OUTBOARD LAMP(S) CONNECTED TO THE OTHER BALLAST. ALL INTERIOR LIGHTING SHALL BE LOCALLY

3.07 FLOOR MOUNTED EQUIPMENT A. PROVIDE 4 INCH HIGH CONCRETE CURBS FOR ALL FLOOR MOUNTED EQUIPMENT IN ACCORDANCE WITH THE CONCRETE SECTION OF THESE SPECIFICATIONS. CURBS TO BE 2 INCHES LONGER, IN ALL DIMENSIONS, THAN EQUIPMENT MOUNTED

3.08 BRANCH CIRCUIT PANELS

A. A TYPED DIRECTORY, PROPERLY IDENTIFYING EACH CIRCUIT, SHALL BE MOUNTED IN EACH DIRECTORY FRAME. INSTALL PANELS UP 6 FOOT, 6 INCHES TO TOP OF TRIM OR AS DIRECTED BY ARCHITECT. FOR BRANCH CIRCUIT PANELS, PROVIDE ENGRAVED LAMINATED PLASTIC NAMEPLATES (1 INCH BY 3 INCHES WITH 1/4 INCH HIGH BLACK LETTERS ON WHITE BACKGROUND) LISTING NAME, VOLTAGE, AND AMPACITY RATING IN ACCORDANCE WITH IDENTIFICATIONS ON SERVING SWITCHBOARD. DOORS AND TRIM INSTALLED IN FINISHED AREAS SHALL BE PRIME COATED.

A. FURNISH AND INSTALL COMPLETE TELEPHONE RACEWAYS SYSTEM AS INDICATED ON THE DRAWINGS. INSTALLATION SHALL BE IN STRICT ACCORDANCE WITH ALL REQUIREMENTS AND RECOMMENDATIONS OF THE TELEPHONE COMPANY. PROVIDE PLASTIC BUSHINGS FOR ALL ROUGH CONDUIT TERMINATIONS, AND 200 POUND TEST NYLON PULL-LINES IN ALL CONDUITS INTENDED FOR FUTURE USE. VERIFY ALL CONDUIT SIZES, TERMINAL SIZES, AND LOCATIONS WITH THE

TELEPHONE COMPANY. 3.10 WIRING FOR MECHANICAL EQUIPMENT A. FURNISH AND INSTALL CIRCUITS, FEEDERS, DISCONNECT SWITCHES, OUTLETS AND MAKE ALL CONNECTIONS TO MOTORS AND/OR CONTROLS FOR HEATING, VENTILATING, AIR CONDITIONING, AND PLUMBING EQUIPMENT AS CALLED FOR IN THE DRAWINGS AND SPECIFICATIONS.

B. FLEXIBLE CONDUIT SHALL BE USED FOR CONNECTIONS TO MOTORS AND/OR OTHER EQUIPMENT WHERE VIBRATION IS ENCOUNTERED AND/OR AS CALLED FOR ON THE DRAWINGS. EVERY EFFORT SHALL BE MADE TO MAINTAIN A MAXIMUM FLEXIBLE CONDUIT LENGTH OF 3 FEET. INSTALL AND CONNECT ALL MAGNETIC STARTERS AND LINE VOLTAGE CONTROLLERS, PUSHBUTTON STATIONS,

THERMOSTATS, ETC., FURNISHED BY OTHERS. LOCATE AS DIRECTED BY MECHANICAL CONTRACTOR. REFER TO

MECHANICAL DRAWINGS AND SPECIFICATIONS FOR ALL POWER AND CONTROL OUTLETS AND REQUIRED WIRING.

D. LINE VOLTAGE CONTROL WIRING, INCLUDING INTERLOCKS WITH OTHER MECHANICAL EQUIPMENT, SHALL BE BY ELECTRICAL CONTRACTOR, AT THE DIRECTION OF AND UNDER THE SUPERVISION OF THE MECHANICAL CONTRACTOR E. PROVIDE WEATHERPROOF SWITCHES FOR ALL EQUIPMENT LOCATED ON ROOF OR WHERE EXPOSED TO WEATHER.

END OF SECTION 26000

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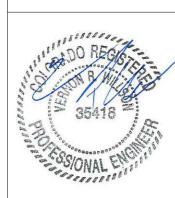
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ELECTRICAL SPECIFICATIONS

Designed:



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