EXTRA COST.

STRUCTURAL GENERAL NOTES

F. EARTHWORK:

FOUNDATION DESIGN IS BASED ON SOIL INVESTIGATION AND REPORT BY GRUBS, HOSKYN, BARTON, & WYATT,

2. FOUNDATION DESIGN IS BASED ON THE FOLLOWING MINIMUM NET ALLOWABLE BEARING PRESSURE:

2.25 KSF a. CONTINUOUS FOOTINGS:

b. INDIVIDUAL PAD FOOTINGS: 2.75 KSF

ALL FOUNDATION BEARING CONDITIONS SHALL BE VERIFIED AND APPROVED BY THE GEOTECHNICAL ENGINEER PRIOR TO CONSTRUCTION

3. BOTTOM OF FOUNDATION ELEVATIONS ARE GIVEN FOR BIDDING PURPOSES ONLY. ALL FOUNDATIONS SHALL BE FOUNDED A MINIMUM OF 1.5 FEET BELOW EXISTING GRADE IN PROPERLY COMPACTED STRUCTURAL FILL OR THE STIFF TO VERY STIFF FINE SANDY CLAY.

4. REMOVE APPROXIMATELY 2 TO 4 FEET OF EXISTING SUB GRADE UNDER THE BUILDING AS DIRECTED BY THE GEOTECHNICAL ENGINEER (EXTENDING 5 FEET BEYOND THE BUILDING PERIMETER) AND BACKFILL AS PER THE GEOTECHNICAL REPORT AND SPECIFICATION DIVISION 31, EARTHWORK, USING SPECIFIED MATERIAL

THE SANDY CLAY SOILS ENCOUNTERED BENEATH THE FILL AT THE SURFACE OF THE SITE ARE SUBJECT TO STRENGTH LOSS UPON SATURATION, THUS CREATING POTENTIAL CONSTRUCTION DIFFICULTIES. THEREFORE, IT IS RECOMMENDED THAT DISTURBANCE OF THESE UPPER SOILS BE KEPT TO A MINIMUM WHENEVER POSSIBLE. EXCAVATION SHOULD BE INITIATED DURING DRIER SEASONS OF THE YEAR. POSITIVE SURFACE DRAINAGE IS IMPORTANT DURING THE INITIAL PHASES OF SITE GRADING AND SHOULD BE MAINTAINED DURING CONSTRUCTION AND FOLLOWING COMPLETION OF THE STRUCTURE TO PREVENT SURFACE PONDING AND SUBSEQUENT SATURATION OF THE SUB GRADE SOILS. IF CONSTRUCTION IS INITIATED DURING WETTER SEASONS OF THE YEAR, IT IS LIKELY THAT A PERCHED GROUND WATER CONDITION WILL EXIST AND MINOR SEEPAGE INTO EXCAVATIONS MAY OCCUR IN LOCALIZED AREAS.

TAKE ADEQUATE MEASURES TO ALLOW FOR WORKING SURFACE DURING CONSTRUCTION OF FOUNDATIONS AND SLAB-ON-GRADE, SUCH AS GRAVEL BED OF ADEQUATE DEPTH, ETC

7. PROVIDE EARTH RETENTION SYSTEMS AND TEMPORARY BRACING OR SHORING (INCLUDING UNDERPINNING) AS REQUIRED TO SUPPORT EXCAVATIONS AND TO PROTECT EXISTING STRUCTURES DURING CONSTRUCTION. TRENCHING AND EXCAVATIONS SHALL MEET ALL OSHA REQUIREMENTS.

WATER ACCUMULATION IS ANTICIPATED IN FOOTING EXCAVATIONS; PROVIDE DRAINAGE OF EXCAVATIONS FROM SURFACE WATER AND SEEPAGE. EXCAVATIONS SHALL BE DRAINED OR PUMPED DRY BEFORE POURING

PROTECT ALL UTILITY LINES, ETC. ENCOUNTERED DURING EXCAVATION AND BACKFILLING.

CONCRETE AND REINFORCING STEEL:

1. THE DESIGN OF THE CONCRETE STRUCTURE IS BASED ON ACI318-19 BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE.

2. CAST IN PLACE CONCRETE SHALL HAVE THE FOLLOWING MINIMUM 28 DAY COMPRESSIVE STRENGTHS (f'c): COMPONENT **FOOTINGS** 4500 PSI WALLS AND EXTERIOR SLABS

INTERIOR SLABS ON GRADE SEE SPECIFICATION SECTION 033000 FOR ADDITIONAL MIX DESIGN REQUIREMENTS

ALL DEFORMED REINFORCING STEEL SHALL BE A615 GRADE 60 STEEL, U.N.O. ALL WELDED WIRE REINFORCING STEEL SHALL BE A1064. ALL WELDED WIRE REINFORCEMENT SHALL BE PROVIDED IN SHEETS.

ALL CONCRETE WORK SHALL CONFORM TO THE LATEST ACI CODE AND ACI DETAILING MANUAL

MINIMUM CONCRETE COVER FOR REINFORCING STEEL SHALL BE: CONCRETE CAST AGAINST EARTH CONCRETE EXPOSED TO EARTH OR WEATHER: **#5 BARS AND SMALLER:** #6 BARS AND LARGER:

ALL CONCRETE CONSTRUCTION AND MATERIALS SHALL BE PLACED ACCORDING TO ACI 117 TOLERANCES.

ALL CONCRETE REINFORCING STEEL SHALL BE SPLICED USING TENSION SPLICES:

a. UNLESS NOTED OTHERWISE, LAP SPLICE ALL CONCRETE REINFORCING STEEL BARS #6 AND SMALLER: 48 BAR DIAMETERS BARS #7 AND LARGER: **60 BAR DIAMETERS** WELDED WIRE REINFORCING: ONE MESH PLUS 2"

b. ONLY APPROVED MECHANICAL SPLICE SYSTEMS SHALL BE USED TO PROVIDE TENSION SPLICES.

MECHANICAL SPLICES SHALL DEVELOP 125% OF THE YIELD STRENGTH OF THE BAR.

TERMINATE CONTINUOUS BARS AT NON-CONTINUOUS END WITH STANDARD HOOKS. 10. PROVIDE CORNER BARS IN ALL CONCRETE MEMBERS AT INTERSECTIONS. MATCH SIZE AND SPACING OF HORIZONTAL BARS IN THOSE MEMBERS.

11. ALL REINFORCING STEEL SHALL BE SECURELY HELD IN PLACE WHILE PLACING CONCRETE. ADDITIONAL BARS OR STIRRUPS SHALL BE PROVIDED AS REQUIRED TO FURNISH SUPPORT FOR ALL REINFORCING STEEL.

12. PROVIDE SUPPORT FOR ALL CONCRETE REINFORCING (INCLUDING SLABS ON GRADE AND ELEVATED COMPOSITE SLABS) AS REQUIRED TO MAINTAIN CLEAR COVER DIMENSIONS. SPACING SHALL NOT EXCEED

13. HORIZONTAL CONSTRUCTION JOINTS SHALL NOT BE PERMITTED UNLESS SPECIFICALLY DETAILED ON THE STRUCTURAL DRAWINGS. HORIZONTAL OR NEAR HORIZONTAL JOINTS SHALL BE PREPARED BY ROUGHENING THE SURFACE IN AN APPROVED MANNER SO THAT THE AGGREGATE IS EXPOSED UNIFORMLY, LEAVING NO LAITANCE, LOOSENED PARTICLES, OR DAMAGED CONCRETE.

14. PIPES OR CONDUITS PLACED IN FOUNDATIONS AND SLABS SHALL NOT BE SPACED CLOSER THAN 3 DIAMETERS ON CENTERS. PIPES AND CONDUITS PLACED IN SLAB SHALL NOT HAVE AN OUTSIDE DIAMETER LARGER THAN 1/3 OF SLAB THICKNESS. ALUMINUM CONDUITS SHALL NOT BE PLACED IN CONCRETE. NO CONDUIT SHALL BE PLACED WITHIN 24" OF COLUMN FACE.

15. LOCATION OF SLOTTED INSERTS, WELD PLATES AND ALL OTHER ITEMS TO BE EMBEDDED IN CONCRETE SHALL BE COORDINATED WITH ARCHITECTURAL AND MECHANICAL DRAWINGS.

16. REINFORCING BARS SHALL NOT BE WELDED.

17. VERIFY DIMENSIONS AND LOCATIONS OF ALL OPENINGS, PIPE SLEEVE CURBS, ETC., AS REQUIRED BY OTHER TRADES BEFORE CONCRETE IS PLACED.

18. AGGREGATE FOR CONCRETE SHALL NOT CONTAIN LIGNITE, STEEL, OR OTHER MATERIALS THAT MAY BE DETRIMENTAL TO THE CONCRETE. ALKALI-SILICA REACTIVE (ASR) AGGREGATES ARE NOT ALLOWED. 19. MAXIMUM TOLERANCE FOR SLAB EDGES IS 1/2" +/- EXCEPT WHERE TIGHTER TOLERANCE IS REQUIRED FOR

ARCHITECTURAL REASONS. 20. CONCRETE SHALL BE PLACED AND CURED IN ACCORDANCE WITH THE SPECIFICATIONS. WHEN THE AIR

TEMPERATURE IS OVER 85 DEGREES FOLLOW THE RECOMMENDATIONS OF ACI 305R. WHEN THE AIR TEMPERATURE IS BELOW 40 DEGREES FOLLOW THE RECOMMENDATIONS OF ACI 306R.

CROMWELL

501.372.2900

1300 East 6th Street Little Rock, AR 72202

Description

Date

CROMWELL ARCHITECTS/ **ENGINEERS** #5



. CROMWELL ARCHITECTS ENGINEERS, INC.

2. THIS SHEET DESIGNED FOR COLOR PRINTING. **CRITICAL INFORMATION MAY BE LOST WITH**

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Project Number ————————————————————————————————————	
2024-0	4

Sheet Title — STRUCTURAL DESIGN

07-31-2024

CRITERIA AND **GENERAL NOTES**

Sheet Number

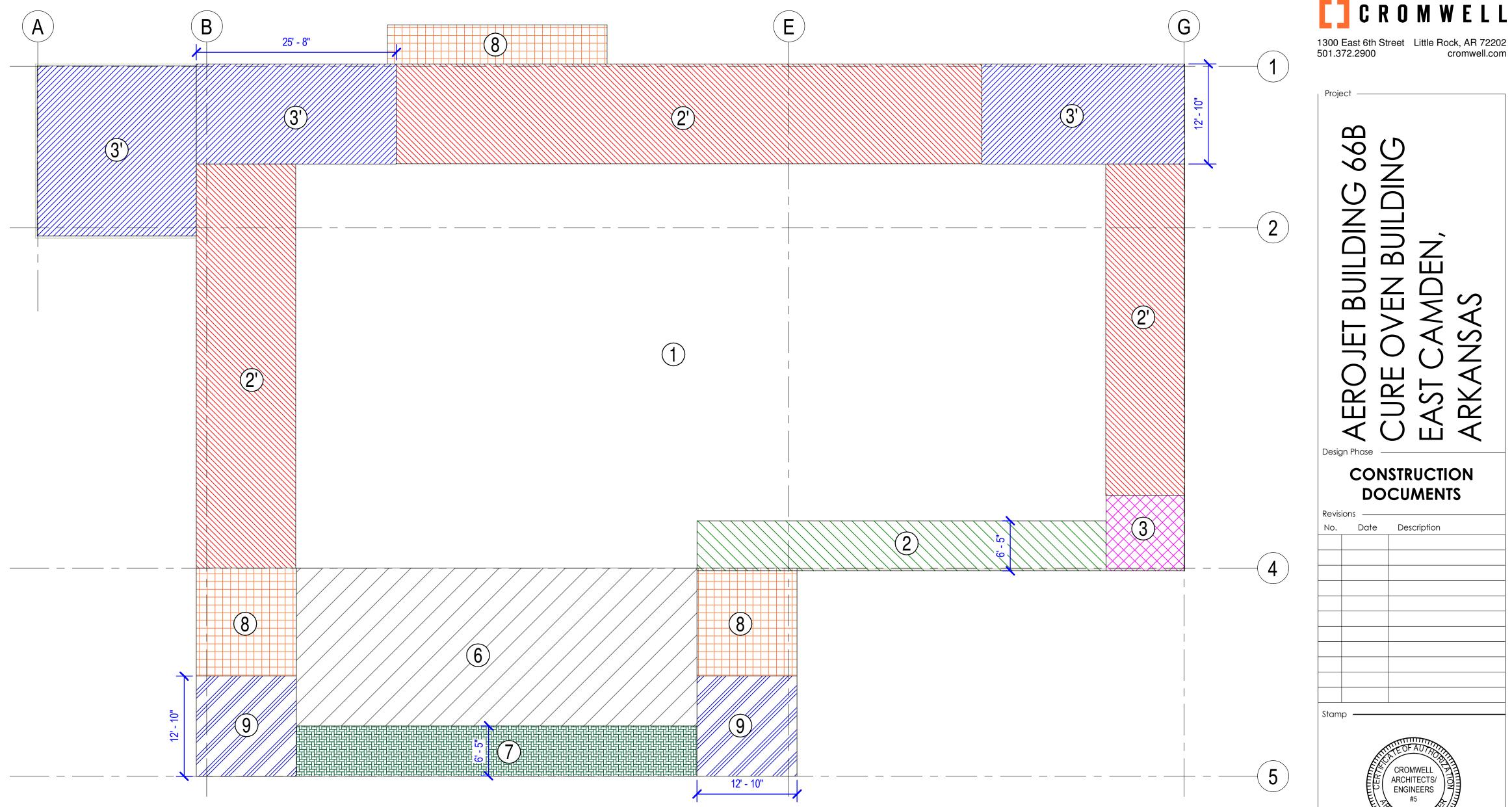
STRUCTURAL GENERAL NOTES CONT'D

H. METAL BUILDING SYSTEMS:

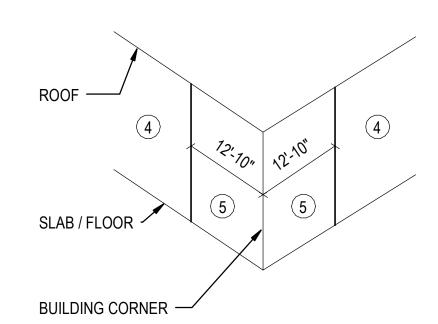
- 1. THE METAL BUILDING SYSTEM MANUFACTURER SHALL BE IAS AC472 ACCREDITED AND A MEMBER OF MBMA.
- 2. THE METAL BUILDING SYSTEM MANUFACTURER SHALL:
- a. DESIGN THE METAL BUILDING SYSTEM FOR THE LOADS AND DESIGN CRITERIA SHOWN ON THE PLANS AND IN SPECIFICATIONS.
- b. DESIGN THE BUILDING FOR A MAXIMUM DRIFT OF H/200 UNDER THE NOMINAL WIND SPEED INDICATED UNDER THE STRUCTURAL DESIGN CRITERIA. SEISMIC DRIFT SHALL BE LIMITED BASED ON ASCE 7 ASSUMING ACCOMMODATIONS FOR STORY DRIFTS HAVE NOT BEEN INCORPORATED INTO THE DESIGN. COLUMN BASES SHALL BE ASSUMED TO BE PINNED CONDITION.
- c. CHECK THE FOUNDATION DESIGN LOADS SHOWN ON THE DRAWINGS AND NOTIFY THE ENGINEER/ARCHITECT IF ANY OF THE LOADS FROM THE BUILDING WILL EXCEED THE LOADS SHOWN ON THE DRAWINGS.
- 3. DO NOT CONSTRUCT FOUNDATIONS UNTIL THE ENGINEER/ARCHITECT HAS APPROVED THE METAL BUILDING SYSTEM SUBMITTAL AND MADE ANY NECESSARY CHANGES TO THE FOUNDATION DRAWINGS.
- 4. PLACE AND SECURE ANCHOR RODS IN FOOTING EXCAVATION PRIOR TO POURING CONCRETE FOR FOOTING. DO NOT PLACE ANCHOR RODS IN WET CONCRETE.
- 5. ALL WELDING SHALL BE PERFORMED BY WELDERS CERTIFIED BY AWS TO PERFORM THE WELDING IN ACCORDANCE WITH AWS.
- 6. FINAL BOLTING OR WELDING SHALL NOT BE PERFORMED UNTIL THE STRUCTURE HAS BEEN PROPERLY ALIGNED.
- 7. THE METAL BUILDING SYSTEM MANUFACTOR SHALL PROVIDE ADEQUATE CLEARANCE FOR INDEPENDENT OVEN SYSTEMS

I. POST-INSTALLED ANCHORS IN CONCRETE:

POST-INSTALLED ANCHORS (MECHANICAL OR ADHESIVE) SHALL ONLY BE USED WHERE SPECIFIED ON THE CONSTRUCTION DOCUMENTS. THE CONTRACTOR SHALL OBTAIN APPROVAL FROM THE ENGINEER-OF-RECORD PRIOR TO INSTALLING POST-INSTALLED ANCHORS IN PLACE OF MISSING OR MISPLACED CAST-IN-PLACE ANCHORS OR DOWELS. POST-INSTALLED ANCHORS SHALL BE BUILDING CODE COMPLIANT, INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S WRITTEN INSTRUCTIONS AND INSPECTED PER THE APPLICABLE ICC-ES OR IAPMO UES EVALUATION REPORT. SEE SPECIFICATIONS SECTION(S) 03 30 00 FOR ADDITIONAL INFORMATION.



COMPONENTS & CLADDING WIND PRESSURES ROOF PLAN NOT TO SCALE



ZONE	TRIBUTARY AREA (SQ. FT.)			
	10	50	100	
4	-32/+29 PSF	-29/+26 PSF	-27/+25 PSF	
5	-39/+29 PSF	-33/+26 PSF	-31/+25 PSF	

- NOTES:
 1. ULTIMATE WIND SPEED: 116 MPH
- NOMINAL WIND SPEED: 89.9 MPH
- WIND PRESSURES ARE BASED ON ASCE 7-16 STRENGTH DESIGN (ULTIMATE).
- POSITIVE / NEGATIVE VALUES INDICATE FORCES ARE ACTING TOWARDS / AWAY FROM
- ELEMENT, RESPECTIVELY. 5. COMPONENTS SUBJECTED TO PARAPET WIND FORCE ON BOTH SIDES (e.g. WALL PANELS)
- SHALL BE DESIGNED FOR CUMULATIVE FORCES. 6. SERVICE LEVEL LOADS MAY BE CALCULATED BY MULTIPLYING THE NUMBERS ABOVE BY 0.6.

GROSS WIND UPLIFT (STRENGTH DESIGN)

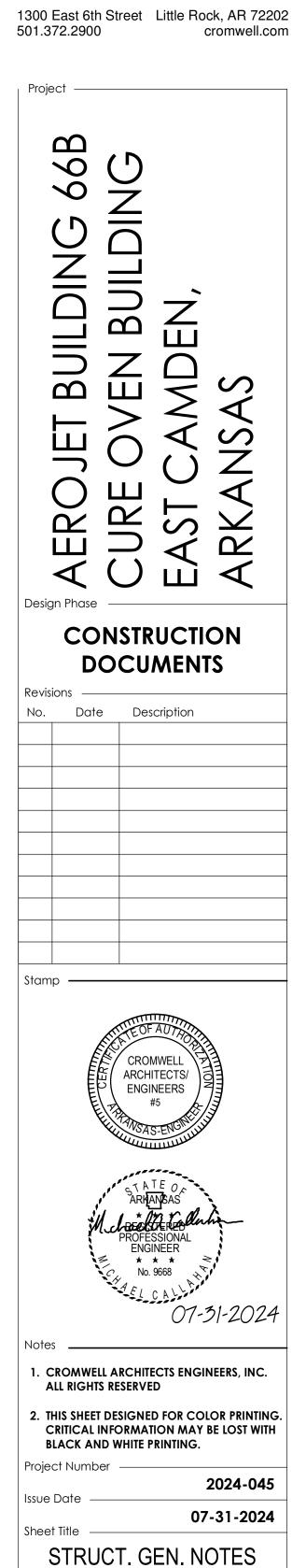
ZONE		TRIBUTARY AREA (SQ. FT.)			
		10	50	100	
	1	-35/+16 PSF	-35/+16 PSF	-35/+16 PSF	
	2	-40/+16 PSF	-38/+16 PSF	-38/+16 PSF	
	2'	-48/+16 PSF	-47/+16 PSF	-46/+16 PSF	
\times	3	-54/+16 PSF	-42/+16 PSF	-38/+16 PSF	
	3'	-76/+16 PSF	-57/+16 PSF	-48/+16 PSF	

OVERHANG/SOFFIT UPLIFT (STRENGTH DESIGN)

ZONE		TRIBUTARY AREA (SQ. FT.)		
		10	50	100
	6	-67/+45 PSF	-64/+42 PSF	-62/+41 PSF
	7	-72/+45 PSF	-67/+42 PSF	-65/+41 PSF
	8	-88/+45 PSF	-80/+42 PSF	-76/+41 PSF
	9	-101/+48 PSF	-82/+44 PSF	-74/+43 PSF

COMPONENTS AND CLADDING WALL WIND PRESSURES

COMPONENTS AND CLADDING ROOF WIND PRESSURES

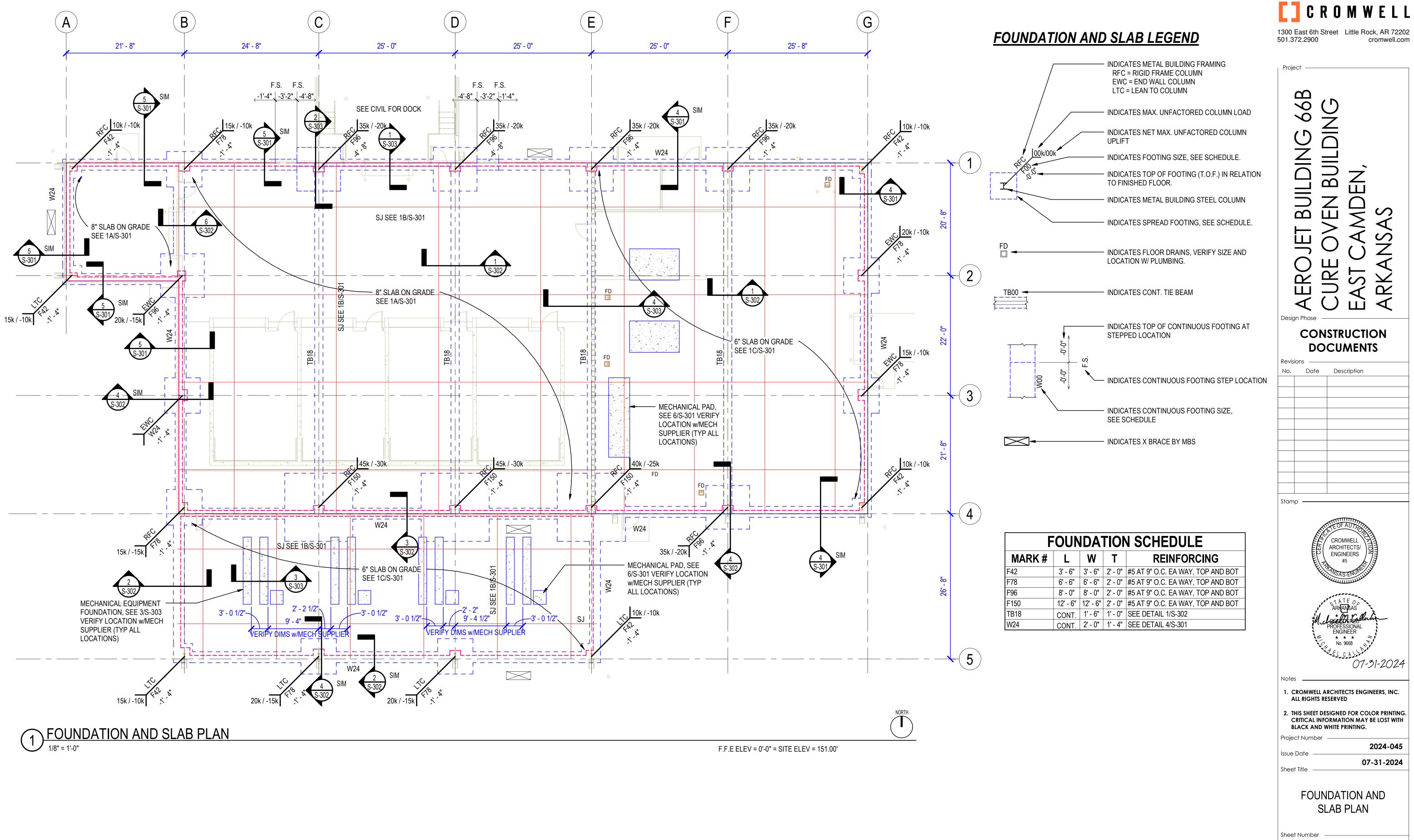


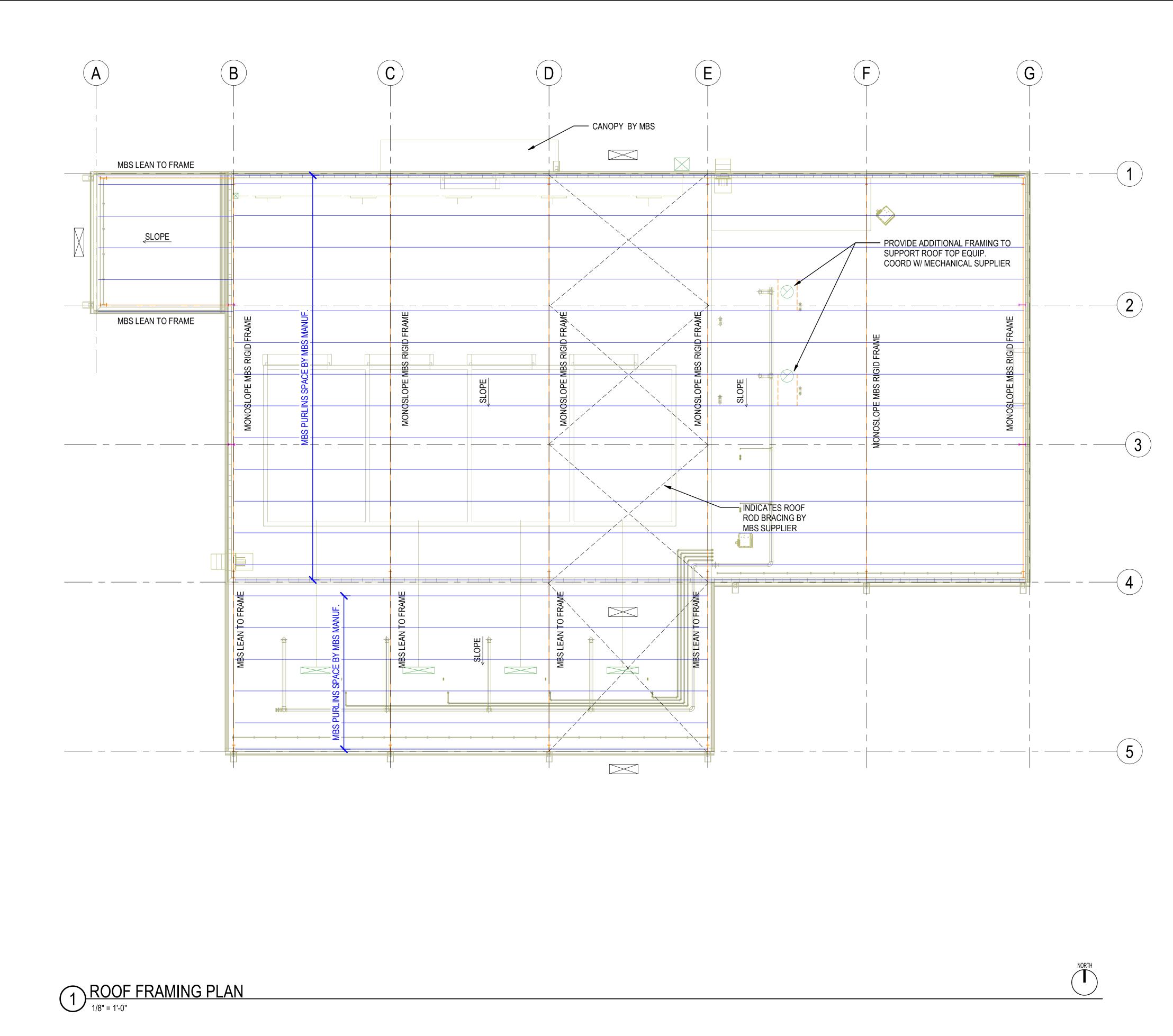
CONT'D AND COMP.

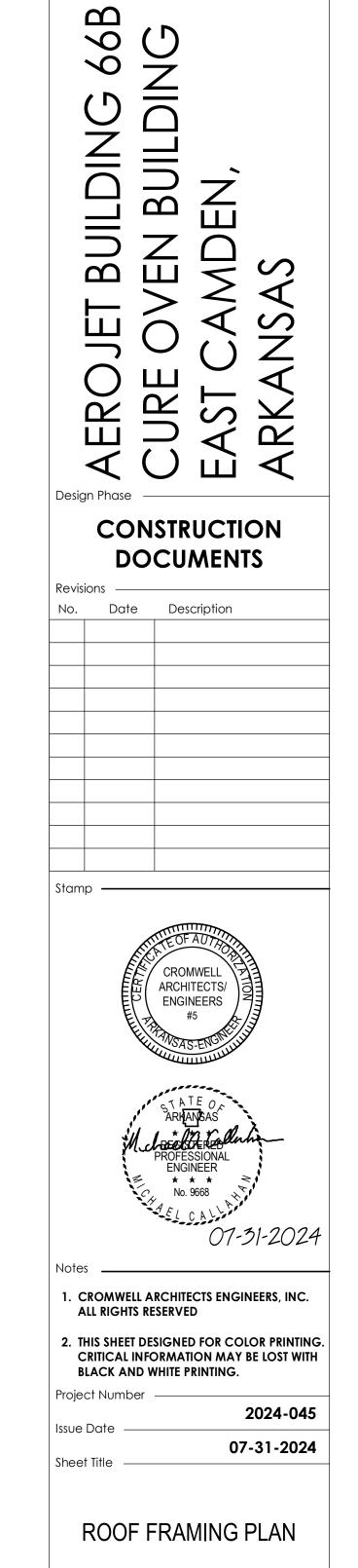
AND CLADDING WIND

PRESSURES

Sheet Number



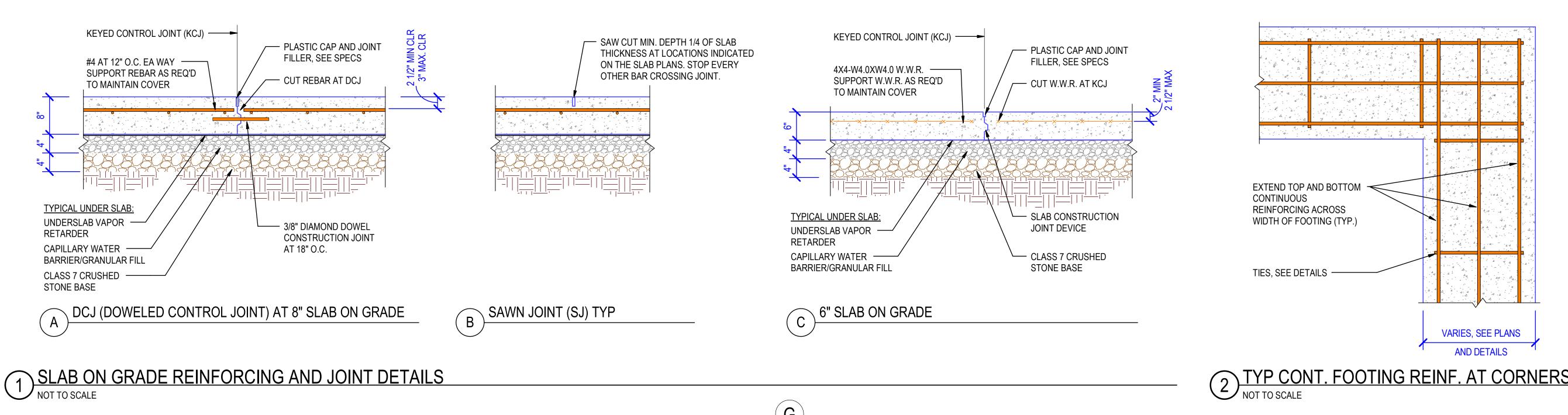




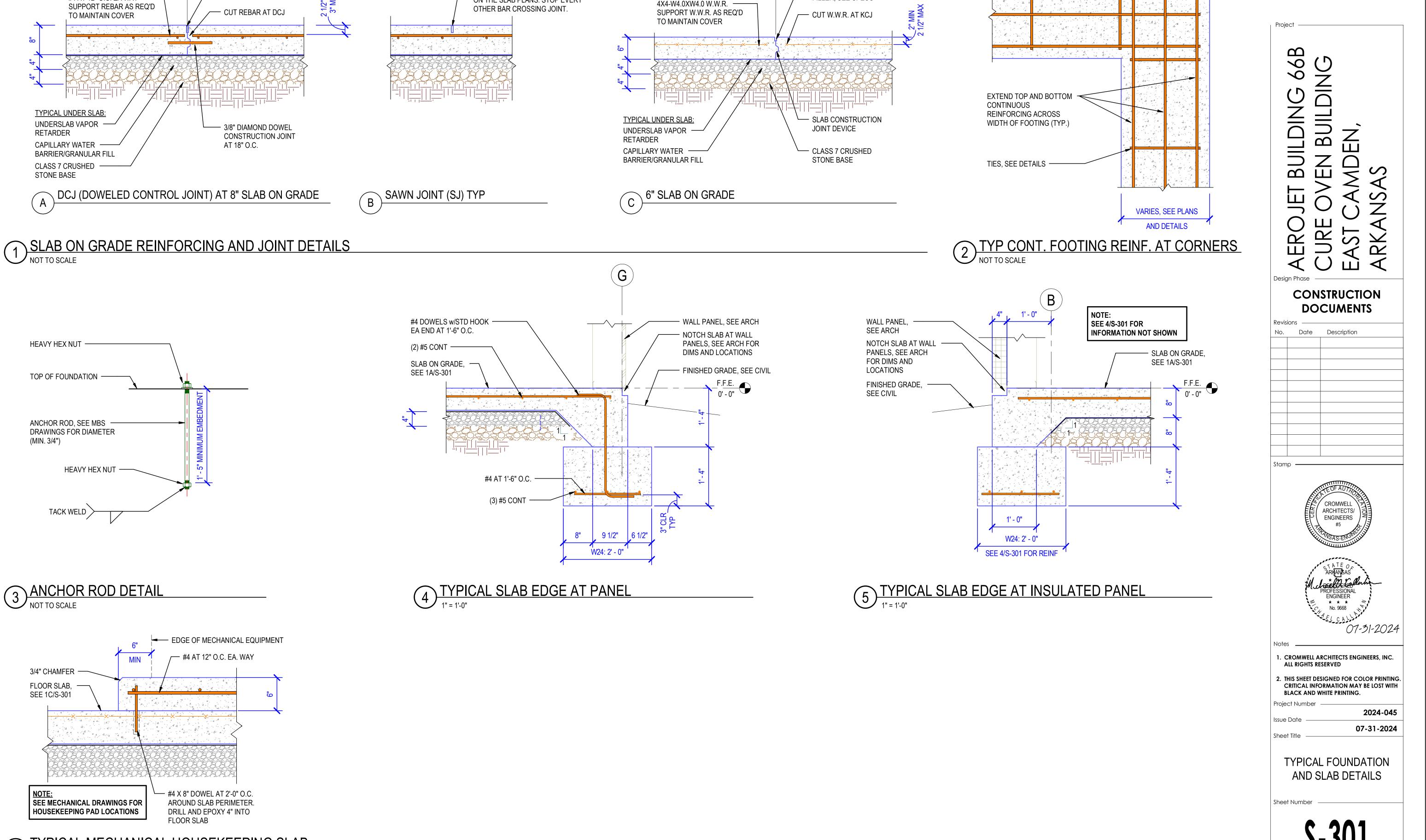
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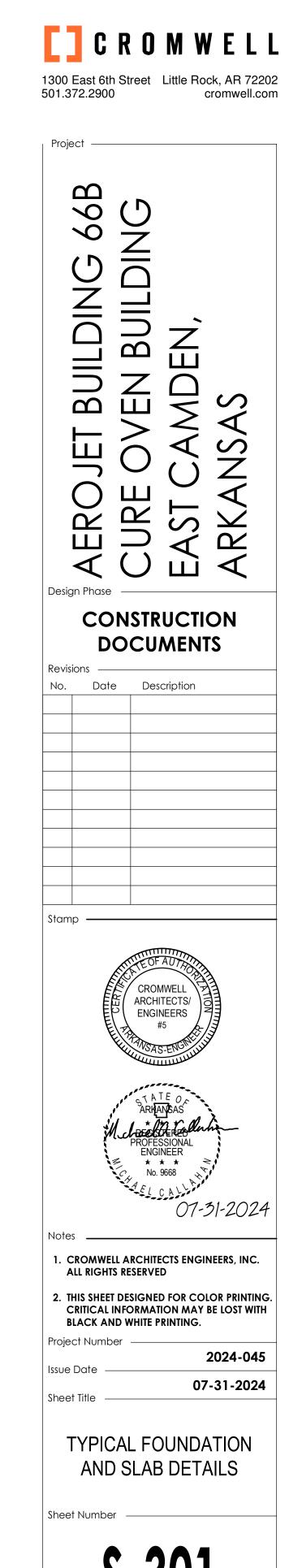
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#4 DOWELS w/STD HOOK EA END AT 1'-6" O.C. HEAVY HEX NUT -(2) #5 CONT — SLAB ON GRADE, — SEE 1A/S-301 TOP OF FOUNDATION — ANCHOR ROD, SEE MBS DRAWINGS FOR DIAMETER (MIN. 3/4") HEAVY HEX NUT —— (3) #5 CONT -9 1/2" 6 1/2"





6 TYPICAL MECHANICAL HOUSEKEEPING SLAB
NOT TO SCALE

3/4" CHAMFER

FLOOR SLAB, SEE 1C/S-301

SEE MECHANICAL DRAWINGS FOR

HOUSEKEEPING PAD LOCATIONS

