REINFORCED CONCRETE NOTES

AND ELEVATIONS PRIOR TO THE INSTALLATION OF ANY MATERIAL

- . ALL CONCRETE WORK SHALL CONFORM TO ACI 318, "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE".
- 2. ALL CONCRETE PLACED SHALL BE VIBRATED BY MECHANICAL VIBRATORS.
- 3. COMPLETE FABRICATION AND PLACING DRAWINGS FOR REINFORCING STEEL SHALL BE SUBMITTED FOR APPROVAL. NO FABRICATION MAY BEGIN UNTIL SHOP DRAWINGS ARE COMPLETED AND APPROVED.
- 4. LAP SPLICES FOR REINFORCING STEEL SHALL BE IN ACCORDANCE WITH ACI 318. SPLICES SHALL BE AS CALLED FOR IN THE LATEST EDITION OF THE CRSI "MANUAL OF STANDARD PRACTICE".
- 5. REINFORCING OF ALL CONCRETE MEMBERS SHALL HAVE THE FOLLOWING CLEAR CONCRETE COVER: <u>MEMBERS</u> COVER (INCHES)

1 1/2

- CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH:
- CONCRETE EXPOSED TO EARTH OR
- WEATHER:
- #6 BARS THROUGH #18 BARS

OR IN CONTACT WITH EARTH:

- #5 BARS OR SMALLER CONCRETE NOT EXPOSED TO WEATHER
- SLAB AND WALLS:
- #14 AND #18 BARS
- #11 BARS AND SMALLER S. THE CONTRACTOR SHALL PROVIDE ADEQUATE SUPPORT FOR REINFORCING TO ENSURE THE
- REINFORCEMENT REMAINS IN ITS INTENDED POSITION WHEN CASTING CONCRETE. THE SUPPORT SHALL BE CONSTRUCTED OF A TYPE THAT WILL NOT DAMAGE THE VAPOR BARRIER BELOW. SPLICE WELDING OF REINFORCING STEEL SHALL BE DONE IN STRICT ACCORDANCE WITH THE
- AMERICAN WELDING SOCIETY "REINFORCING STEEL WELDING CODE". PREHEATING OF THE REINFORCING SHALL BE BASED ON THE CARBON EQUIVALENCY DETERMINED FROM REINFORCING MILL REPORTS. GRADE 40 REINFORCING SHALL BE WELDED WITH E90XX LOW HYDROGEN
- 8. MANUAL WELDING OF REINFORCING BARS FOR EMBEDS IS NOT ALLOWED.
- 9. SAWN JOINTS IN SLABS-ON-GRADE SHALL SHALL BE CUT AS SOON AS POSSIBLE AFTER THE CONCRET HARDENS. JOINTS CAN BE CUT WITH A POWER BLADE WITHIN 4 TO 12 HOURS AFTER THE SLAB HAS BEEN CAST AND FINISHED. JOINTS MUST BE CUT AS SOON AS THE CONCRETE IS FIRM ENOUGH NOT TO BE TORN OR DAMAGED BY THE BLADE. THE CONCRETE IS HARD ENOUGH WHEN THE BLADE DOES NOT DISLODGE ANY AGGREGATE AND WHEN THE EDGES OF THE CUT DO NOT RAVEL.
- 10.CONTROL JOINTS IN ALL FOUNDATION AND RETAINING WALLS SHALL BE PLACED NOT MORE THAN 15'-0" APART AND SHALL BE 3/4" V-CHAMFERED ON BOTH SIDES, UNLESS NOTED OTHERWISE, EXPANSION JOINTS SHALL BE LOCATED AS NOTED ON THE PLANS. SEE TYP. DETAIL SHEET.
- 11.CHAMFER EXPOSED CONCRETE EDGES 3/4".
- 12.CONCRETE WALLS SHALL BE REINFORCED AROUND ALL OPENINGS WITH 2~#5 BARS ON ALL SIDES AND EXTENDED 2'-0" BEYOND OPENING UNLESS NOTED OTHERWISE.
- 13.THE LONGITUDINAL REINFORCING STEEL IN BOND BEAMS. WALLS AND FOOTINGS SHALL BE CONTINUOUS AROUND CORNERS. SEE TYP. DETAIL SHEET.
- 14. THE CONCRETE MIX DESIGNS ARE THE RESPONSIBILITY OF THE SUPPLIER. MIX DESIGNS SHALL BE REVIEWED BY THE STRUCTURAL ENGINEER PRIOR TO CONCRETE PLACEMENT.
- 15. A MIX DESIGN SHALL BE PROVIDED FOR EACH TYPE OF CONCRETE. THE MIX DESIGNS SHALL CLEARLY INDICATE ALL MATERIALS USED IN THE MIX, THE TYPE (USE) OF THE CONCRETE MIX, AND ALL MIX
- BACK-UP, DATA, TO INCLUDE BUT NOT LIMITED TO, THE COMPRESSIVE STRENGTH BREAK DATA FOR EACH MIX BEING SUBMITTED, FINE AND COARSE AGGREGATE GRADATIONS, AND ALL ADMIXTURES. 16. THE USE OF FLY ASH IS PROHIBITED IN ANY EXPOSED MEMBERS. FLY ASH SHALL BE ALLOWED IN

FOUNDATIONS AND SUB-SLABS UPON ENGINEER'S APPROVAL. CONCRETE MIX DESIGNS SHALL BE

- SUBMITTED AND APPROVED PRIOR TO CASTING ANY CONCRETE. 17. CEMENT SHALL BE PORTLAND CEMENT CONFORMING TO ASTM C150, TYPE 1. MILL CERTIFICATE SHALL
- SHOW TOTAL ALKALINE CONTENT NOT EXCEEDING 0.6%. 18. CONCRETE SHALL HAVE A MAXIMUM SLUMP = 4±1" UNLESS APPROVED BY ENGINEER.
- 19. THE MIX SHALL HAVE A MAXIMUM WATER/CEMENT RATIO OF 0.50. TROWEL FINISHED INTERIOR SLABS SUBJECTED TO VEHICULAR TRAFFIC SHALL HAVE A MAXIMUM WATER/CEMENT RATIO OF 0.53.
- 20. ALL INTERIOR TROWEL FINISHED SLABS, SUBJECTED TO VEHICULAR TRAFFIC, SHALL HAVE A MAXIMUM ENTRAPPED AIR CONTENT OF 3%.
- 21. WATER SHALL BE POTABLE, CLEAN AND FREE FROM OILS, ACIDS, SALTS AND OTHER DELETERIOUS
- 22.ALL EXPOSED EXTERIOR CONCRETE, SUBJECTED TO FREEZE/THAW CYCLES, SHALL ACHIEVE AN AIR CONTENT OF 6% ± 1.5.
- 23. WATER REDUCING AGENTS SHALL CONFORM TO ASTM C494.1
- 24. AIR ENTRAINING AGENTS SHALL CONFORM TO ASTM C260.
- 25. AGGREGATE SHALL CONFORM TO ASTM C33. COARSE AGGREGATE SHALL BE CRUSHED ROCK OR CRUSHED GRAVEL AND SHALL BE GRADED FROM 1 1/2" TO A NO. 4 SIEVE FOR WALLS AND SLABS. A LARGER AGGREGATE, GRADED FROM 2" TO NO. 4 SIEVE FOR FOUNDATIONS IS ACCEPTABLE. COMBINED AGGREGATE GRADATION SHALL BE 8% TO 18% RETAINED ON EACH SIEVE BELOW THE TOP SIZE AND
- 26. AGGREGATES SHALL BE TESTED FOR SOUNDNESS IN ACCORDANCE WITH ASTM C88 AND FOR POTENTIAL REACTIVITY IN ACCORDANCE WITH ASTM C289. AGGREGATES USED FOR SLABS SHALL BE CONSIDERED INNOCUOUS WHEN TESTED IN ACCORDANCE WITH ASTM C289.
- 27. ALL CONCRETE TESTING SHALL BE PERFORMED BY AN APPROVED TESTING AGENCY AND IN ACCORDANCE WITH ALL APPLICABLE ASTM SPECIFICATIONS.
- 28. SAMPLE EACH TYPE/CLASS OF CONCRETE AT A RATE OF NOT LESS THAN ONE PER DAY NOR LESS THAN ONE PER 100 CU. YD. NOR LESS THAN ONE FOR EACH 5.000 SQ. FT. OF SURFACE AREA FOR SLABS AND WALLS (REF ACI 318, 5.6). IF TOTAL VOLUME OF CONCRETE IS SUCH THAT FREQUENCY OF TESTING REQUIRED WOULD PROVIDE LESS THAN 5 STRENGTH TESTS FOR A GIVEN CLASS OF CONCRETE, TESTS SHALL BE MADE FROM AT LEAST 5 RANDOMLY SELECTED BATCHES OR FROM EACH BATCH IF FEWER
- 29. EACH SAMPLE SHALL BE TESTED FOR, AS A MINIMUM, SLUMP, AIR CONTENT, TEMPERATURE, UNIT WEIGHT, AND COMPRESSIVE STRENGTH.
- 30. COMPRESSIVE STRENGTH TESTS SHALL BE AS FOLLOWS: 1 CYLINDER SHALL BE TESTED @ 7 DAYS AFTER POUR, 2 CYLINDERS SHALL BE TESTED @ 28 DAYS AFTER POUR AND 1 CYLINDER SHALL BE HELD
- 31. FLOOR FLATNESS, F(F) AND FLOOR LEVELNESS, F(L) SHALL BE TESTED IN ACCORDANCE WITH ASTM E1155. ACTUAL OVERALL F-VALUES SHALL BE CALCULATED USING THE INFERIOR/SUPERIOR AREA METHOD. A.) DOCK SLABS
- OVERALL F(F) 35, F(L) 25 B.) RACK STORAGE (FREEZER)
- C.) ELEVATED SLABS OVERALL F(F) 25, F(L) 17
- D.) SLABS SUPPORTING TANKS AND SPECIALTY EQUIPMENT REFERENCE EQUIPMENT DWGS FOR SPECIAL REQUIRMENTS RELATED TO FLATNESS AND LEVELNESS.
- 32. PROVIDE A STANDARD TROWEL FINISH ON ALL SUB-SLABS UNLESS OTHERWISE INDICATED.
- 33. ALL NEW SLABS SHALL PREFERABLY BE WET CURED FOR A MINIMUM OF 7 DAYS, AS APPLICABLE. REF. NOTES 36 AND 37 FOR ALTERNATE CURING METHODS.
- 34. FLOOR JOINTS AS INDICTED ON DESIGN DRAWINGS OR PROPRIETARY SLAB DRAWINGS. ALL JOINTS SHALL BE AIR CLEANED AND FILLED WITH JOINT FILLER AS INDICATED BELOW: WEAR SLAB IN AMBIENT AREAS: SPAL-PRO RS 88 BY METZGER-McGUIRE (33°F OR HIGHER) WEAR SLAB IN FREEZER AND COOLER: SPAL-PRO RSF BY METZGER-McGUIRE (32°F OR LOWER) WEAR SLAB IN AMBIENT, FREEZER AND COOLER AREAS: EUCO QUICKJOINT 200 BY EUCLID CHEMICAL CO.
- 35. USE DIAMOND DOWELS AT CONSTRUCTION JOINTS FOR SLABS ON GRADE AND LOAD PLATE BASKETS OF PD3 BASKETS AT CONTRACTION JOINTS AS NOTED ON PLANS.
- 36. DRESS AND SEAL 30 AS MANUFACTURED BY L&M CONSTRUCTION CHEMICALS OR SUPER DIAMOND CLEAR VOX AS MANUFACTURE BY EUCLID CHEMICAL COMPANY SHALL BE USED WITH NEW CONCRETE IN ALL AREAS NOT RECEIVING A FLOOR TOPPING.
- 37. L&M CURE AS MANUFACTURED BY L&M CONSTRUCTION CHEMICALS OR KUREZ W VOX AS MANUFACTURED BY EUCLID CHEMICAL COMPANY SHALL BE USED WITH NEW CONCRETE IN ALL AREAS ECEIVING A FLOOR TOPPING. I.E.
- 38.VAPOR RETARDER SHALL BE STEGO WRAP 10 MIL CLASS A OR APPROVED EQUAL. RETARDER SHALL BE INSTALLED, LAPPED 6" MIN. AND TAPED PER MFG. RECOMMENDATIONS.
- 39. ALL ANCHOR RODS AND EMBEDDED ITEMS SHALL BE ACCURATELY LOCATED AND SECURELY SUPPORTED PRIOR TO CONCRETE POUR, WET SETTING OF ANCHOR RODS AND EMBEDDED ITEMS IS PROBHIBITED.

STRUCTURAL STEEL NOTES

- \cdot 1. $\,$ ALL STRUCTURAL STEEL WORK SHALL CONFORM TO 360-16 "SPECIFICATIONS FOR STRUCTURAL STEEL BUILDINGS" OF THE A.I.S.C.
- 2. FABRICATORS AND ERECTORS SHALL BE MEMBERS OF THE A.I.S.C. OR CERTIFIED FOR CATEGORY I, A.I.S.C. QUALITY CERTIFICATION PROGRAM OR HAVE AT LEAST 10 YEARS EXPERIENCE IN FABRICATION AND ERECTION OF SIMILAR STEEL STRUCTURES.
- 3. SHOP DRAWINGS FOR ALL STRUCTURAL STEEL SHALL BE SUBMITTED AND APPROVED PRIOR TO ANY FABRICATION.
- 4. STEEL FRAMING CONNECTIONS SHALL BE BOLTED OR WELDED. BOLTS SHALL BE A MINIMUM OF 3/4" DIAMETER ASTM A325 BOLTS UNLESS NOTED OTHERWISE. ALL BOLTED CONNECTIONS SHALL BE "SNUG TIGHT" UNLESS NOTED OTHERWISE. TC BOLTS MAY BE USED. ALL CONNECTIONS SHALL HAVE A MINIMUM OF 2 BOLTS U.N.O. DESIGN CONNECTIONS TO PROVIDE SUITABLE ACCESS FOR FIELD
- 5. ALL WELDS SHALL CONFORM TO LATEST EDITION OF AWS D1.1. "STRUCTURAL WELDING CODE". ALL GROOVE WELDS SHOWN ON CONTRACT DOCUMENTS SHALL BE FULL PENETRATION UNLESS NOTED OTHERWISE. WELDING SHALL BE DONE WITH E-70XX ELECTRODES UNLESS NOTED OTHERWISE.
- 6. STRUCTURAL STEEL CONNECTIONS SHALL BE DESIGNED BY A QUALIFIED PROFESSIONAL ENGINEER LICENSED IN THE STATE WHERE THE PROJECT IS BEING CONSTRUCTED. STRUCTURAL ANALYSIS DATA SHALL BE SIGNED/SEALED BY THE QUALIFIED PROFESSIONAL ENGINEER RESPONSIBLE FOR THEIR PREPARATION AND SHALL BE PROVIDED WITH THE SHOP DRAWING SUBMITTALS. DESIGN CONNECTIONS TO PROVIDE SUITABLE ACCESS FOR FIELD INSTALLATION WHERE APPLICABLE
- 7. UNLESS OTHERWISE SHOWN, ALL BEAM CONNECTIONS SHALL BE STANDARD FRAMED OR SEATED CONNECTIONS. UNLESS GREATER REACTIONS ARE INDICATED ON THE PLANS. CONNECTIONS SHALL DEVELOP AT LEAST ONE-HALF OF THE TOTAL UNIFORM LOAD CAPACITY TABULATED IN THE TABLES OF THE MANUAL FOR THE GIVEN SHAPE AND SPAN OF THE BEAM IN QUESTION. IN NO CASE, HOWEVER, SHALL THE LENGTH OF THE FRAMED CONNECTIONS BE LESS THAN ONE-HALF OF THE "T" DISTANCE OF THE BEAM
- 8. WHERE PRACTICAL, UNLESS SHOWN DIFFERENTLY ON DRAWINGS, ALL BRACING CONNECTIONS SHALL BE DESIGNED AND DETAILED SO THAT ALL FORCE COMPONENTS CAN BE DELIVERED DIRECTLY TO THE CENTERLINE OF INTERSECTING MEMBERS. WHERE THIS IS NOT DONE, CONNECTIONS SHALL BE DESIGNED TO ACCOUNT FOR RESULTING ECCENTRICITIES.
- 9. SHOP OR FIELD SPLICES NOT SHOWN ON THE CONTRACT DOCUMENTS SHALL BE SUBMITTED TO THE STRUCTURAL ENGINEER FOR APPROVAL.
- 10. THE STRUCTURAL STEEL ERECTOR SHALL PROVIDE TEMPORARY BRACING OF THE STRUCTURAL STEEL FRAME WORK AGAINST LATERAL LOADING, SUCH AS WIND. THE BRACING SHALL REMAIN IN PLACE UNTIL THE FINAL SYSTEM FOR RESISTING LATERAL LOADS IS IN PLACE AND EFFECTIVE AS APPROVED BY THE STRUCTURAL ENGINEER.
- 11. GUSSET PLATES SHALL BE 3/8" THICK MINIMUM.
- 12. BEAMS SHALL BE FABRICATED AND ERECTED WITH NATURAL CAMBER UP.
- 13. THE CONTACT SURFACES WITHIN SLIP CRITICAL JOINTS SHALL BE FREE FROM OIL, PAINT, LACQUER OR GALVANIZING.
- 14. STRUCTURAL STEEL FRAMING SHALL BE ERECTED TRUE AND PLUMB IN ACCORDANCE WITH A.I.S.C. CODE OF STANDARD PRACTICE. ANY FRAMING EXCEEDING TOLERANCES OF THE CODE OF STANDARD PRACTICE SHALL BE CORRECTED AS DIRECTED BY THE STRUCTURAL ENGINEER.
- 15. ROOF DECKING SHALL BE INSTALLED IN ACCORDANCE WITH THE STEEL DECK INSTITUTE AND MANUFACTURER'S RECOMMENDATIONS. DECKING SHALL BE PLACED IN A THREE-SPAN CONTINUOUS CONDITION. SINGLE OR DOUBLE SPAN CONDITIONS REQUIRE PRIOR APPROVAL BY THE STRUCTURAL
- 16. STRUCTURAL STEEL EMBEDDED IN CONCRETE SHALL NOT BE PAINTED.
- 17. GROUT USED IN GROUT BEDS UNDER COLUMN BASE PLATES SHALL BE CEMENT BASED, NON-SHRINK. NON-METALLIC GROUT. THE GROUT SHALL EXHIBIT NO SHRINKAGE IN ACCORDANCE WITH ASTM C827-82, TEST METHOD FOR EARLY VOLUME CHANGE OF CEMENTITIOUS MIXTURES" AND SHALL HAVE A MINIMUM" 28-DAY COMPRESSIVE STRENGTH OF 5000 PSI WHEN TESTED IN ACCORDANCE WITH ASTMC-109-80. "TEST METHOD FOR COMPRESSIVE STRENGTH OF HYDRAULIC CEMENT MORTARS".
- 18. K-JOISTS SHALL BE ATTACHED TO THEIR SUPPORT W/ A MIN. OF 3/16" FILLET WELD x 2" LONG EACH SIDE OF JOIST SEAT OR EQUIVALENT. LH-JOISTS SHALL BE ATTACHED TO THEIR SUPPORT W/ A MIN. OF 1/4" FILLET WELD x 2" LONG EACH SIDE OF JOIST SEAT. JOIST GIRDERS SHALL BE ATTACHED TO THEIR SUPPORT w/ A MIN. OF 1/4" FILLET WELD x 4" LONG EACH SIDE OF GIRDER SEAT OR EQUIVALENT.
- 19. (- OR T) INDICATES TENSION IN MEMBERS (+ OR C) INDICATES COMPRESSION IN MEMBERS.
- 20. ALL BOTTOM CHORD BRACING, SWAY FRAMES, X-BRACING, LACE AND SIMILAR TYPE MEMBERS SHALL EITHER DEVELOP THE FORCE INDICATED ON THE DRAWINGS OR ONE-HALF THE ALLOWABLE TENSION FORCE IN THE MEMBER. WHICHEVER IS LARGER.
- 21.BAR JOISTS SHALL BE FABRICATED AND ERECTED, BRACED WITH RIGID BRIDGING AND ANCHORED TO THE SUPPORTING MEMBERS IN STRICT ACCORDANCE WITH THE STANDARD SPECIFICATIONS OF THE STEEL
- 22.PROVIDE JOISTS AS SHOWN ON PLANS. EXTEND BOTTOM CHORD OF JOISTS AT COLUMNS AND AS REQUIRED WHEN EQUIPMENT IS HUNG FROM THE BOTTOM CHORD PAST LAST PANEL POINT.
- 23. JOISTS AND JOIST GIRDERS SHALL BE DESIGNED FOR LOADS INDICATED ON PLANS. SEE SPECIAL LOAD TABLES FOR SPECIAL JOIST (SP) LOADING AND SPECIAL JOIST GIRDER (GSP) LOADING.
- 24.JOIST AND GIRDER FABRICATOR SHALL SUBMIT SIGNED AND SEALED CALCULATIONS BY A REGISTERED ENGINEER SHOWING ALL LOADS AND SPECIAL CONDITIONS TOGETHER WITH SHOP DRAWINGS AND BILL OF MATERIAL PRIOR TO ERECTION OF JOISTS AND GIRDERS.
- 25.JOISTS AND GIRDERS SHALL BE DESIGNED FOR UPLIFT AS INDICATED ON PLANS. BOTTOM CHORD BRACES AND UPLIFT BRIDGING SHALL BE DESIGNED AND FURNISHED BY THE JOIST GIRDER MANUFACTURER.

26.ALL JOIST GIRDERS SHALL HAVE BOTTOM CHORD BRACES AT MID SPAN AND AS DESIGNATED ON JOIST SHOP

- 27. WIND POSTS TERMINATE 11/2" BELOW JOIST AND JOIST GIRDER BOTTOM CHORD.
- 28.ALL SAG RODS SHALL BE 5/8"ø A36 SMOOTH BAR WITH THREADED ENDS. DOUBLE NUT EA. END OF SAG RODS. 29.ALL STRUCTURAL STEEL, MISCELLANEOUS STEEL AND STEEL JOISTS U.N.O. SHALL BE GIVEN ONE SHOP
- COAT AND ONE FIELD TOUCH UP PAINT, GRAY COLOR. 30.THE STEEL FABRICATOR SHALL INSPECT ALL ERECTED STEEL INCLUDING, BUT NOT LIMITED TO,
- STRUCTURAL SHAPES, JOISTS, JOIST GIRDERS AND METAL DECK. THE STEEL FABRICATOR SHALL BE RESPONSIBLE FOR THE ACCURACY, SIZE AND QUALITY OF FIELD CONNECTIONS.
- 31.ALL STEEL EXPOSED TO WEATHER SHALL BE HOT DIPPED GALVANIZED AND ALL VENT HOLES SHALL BE PLUG OR SEAL WELDED PRIOR TO ERECTION.
- 32. FOR ALL HANGING LOADS, PROVIDE HANGER WITHIN 6" OF JOIST PANEL POINT OR PROVIDE ADDITIONAL WEB MEMBER AS SHOWN IN "CONCENTRATED LOAD ON JOIST DETAIL" (REF. TYP. DETAIL SHEET).
- 33. SUPPORT HEAVY LINE LOADS (I.E. ANY SPRINKLER OR SIMILAR MAINS OVER 3" DIA.) FROM CENTER OF SUPPORT MEMBER (WF BEAM, JOIST, JOIST GIRDER) UTILIZING CENTER BEAM CLAMP OR TRAPEZE SYSTEM FROM CENTER OF MEMBER. SIDE MOUNTED CLAMPS, (I.E. C-CLAMP OR ECCENTRIC BEAM CLAMP) WILL NOT BE ACCEPTED. ECCENTRIC LOAD ON JOIST IS UNACCEPTABLE. SIDE MOUNTED CLAMPS SHALL NOT SUPPORT ANY LOAD OVER 100 LBS. WHEN SUPPORTING MEMBER IS A JOIST OR

INSULATED METAL PANEL (IMP)

JOIST GIRDER. (REF. "PIPE MAIN SUPPORT DETAIL" ON TYP. DETAILS SHEET)

- I. INSULATED METAL PANEL (IMP) MANUFACTURER SHALL SUBMIT SHOP DRAWINGS AND CALCULATIONS FOR PANEL STRENGTH AND ATTACHMENT TO CONCRETE, METAL DECK, STEEL, ETC... (FASTENING
- 2. MAXIMUM DEFLECTION = L/180 (EXT. WALL), L/120 (INT. WALL).
- 3. DESIGN WIND PRESSURE SHALL BE BASED ON PRESSURES RELATED TO A TRIBUTARY AREA OF 20 SQ. FT. LISTED IN THE COMPONENTS AND CLADDING TABLE ON THIS DRAWING.
- 4. WIND AND THERMAL LOADING NEED NOT BE COMBINED IF THE STEEL BUCKLING STRESS DUE TO
- THERMAL WARP IS LESS THAN 1/2 THE YIELD STRENGTH OF THE METAL SKIN. 5. FOR THERMAL LOADING, THE MAXIMUM OUTSIDE AMBIENT TEMPERTURE FOR IMP SHALL BE 90°F.

	STRUCTURAL SHEET LIST
DWG#	TITLE
S0001	STRUCTURAL GENERAL NOTES & INSPECTION SCHEDULE
S1000	OVERALL FOUNDATION PLAN
S1010	PARTIAL FOUNDATION PLAN - AREA 1
S1101	OVERALL SLAB PLAN
S1111	PARTIAL SLAB PLAN - AREA 1 & 3
S1201	OVERALL 2ND FLOOR FRAMING PLAN (AREA 2)
S1401	OVERALL ROOF FRAMING PLAN
S1411	PARTIAL ROOF FRAMING PLAN - AREA 1
S2001	STRUCTURAL FRAMING ELEVATIONS
S2002	STRUCTURAL TILT-UP ELEVATIONS & DETAILS
S4001	VESTIBULE PLANS AND STRUCTURAL ELEVATIONS
S4211	EMPTY PALLET STORAGE FRAMING PLANS
S4212	MAINTENANCE CATWALK FRAMING PLAN - AREA 1
S4601	STAIR PLANS AND SECTIONS - AREA 1
S5001	TYPICAL CONCRETE DETAILS
S5003	STRUCTURAL TYPICAL STEEL DETAILS
S5005	BASE PLATE, ANCHOR BOLTS AND PIER DETAILS
S5011	STRUCTURAL FOUNDATION DETAILS
S5012	STRUCTURAL FOUNDATION DETAILS
S5031	STRUCTURAL BRACING DETAILS
S5041	STRUCTURAL ROOF FRAMING DETAILS
S6001	ROOF DECK ATTACHMENT PLAN

S6002 ROOF JOIST UPLIFT DIAGRAM

STRUCTURAL SHEET IDENTIFIER

— LEVEL 1 DISCIPLINE DESIGNATOR LEVEL 2 DISCIPLINE DESIGNATOR ——— SHEET TYPE DESIGNATOR SHEET SUB-TYPE DESIGNATOR 2-DIGIT SEQUENCE NUMBER

- *SECTOR DESIGNATOR

* APPLICABLE TO PLANS ONLY

DISCIPLINE DESIGNATOR

S STRUCTURAL DRAWINGS

SHEET TYPE DESIGNATOR

GENERAL - SYMBOLS, LEGENDS, NOTES, ETC.

2 ELEVATIONS & PROFILES

3 SECTIONS 4 LARGE SCALE VIEWS 5 DETAILS

6 SCHEDULES AND DIAGRAMS 7 USER DEFINED

8 USER DEFINED 9 3D REPRESENTATION

0 FOUNDATION FIRST FLOOR / SLAB

2 ELEVATED FLOORS STRUCTURE & FRAMING, MEZZANINE

SHEET SUB-TYPE DESIGNATOR

3 INTERSTITIAL SPACE 4 ROOF STRUCTURE / FRAMING 5 ROOF RAISED PLATFORM

6 FIRST FLOOR REFLECTED CEILING

7 ELEVATED FLOOR STRUCTURE & FRAMING, MEZZANINE REFLECTED CEILING 8 INTERSTITIAL SPACE REFLECTED CEILING (OPTIONAL)

INTERNAL PRESSURE COEFFICIENT

DESIGN NOTES

ASIC WIND SPEED. ULTIMATE (ASCE 7-16) RISK CATEGORY II EXPOSURE ENCLOSURE CLASSIFICATION ENCLOSED BUILDING

COMPONENTS & CLADDING @ h = 58' (NOMINAL: 0.6 ULTIMATE WIND)								
REA	ROOF (GROSS, PSF)				AREA	WALLS (GROSS, PSF)		
Q.FT.	ZONE 1	ZONE 2	ZONE 3	ZONES 1, 2, 3 & 1'	SQ.FT.	ZONE 4	ZONE 5	ZONES 4 & 5
10	-39.1	-51.2	-69.8	+9.9/+10.0 MIN	10	-24.6	-30.3	+22.7
20	-36.6	-47.9	-63.2	+9.3/+10.0 MIN	20	-23.6	-28.3	+21.7
50	-33.3	-43.6	-54.5	+8.5/+10.0 MIN	50	-22.3	-25.6	+20.4
100	-30.8	-40.3	-47.9	+7.9/+10.0 MIN	100	-21.3	-23.6	+19.4
NOTE: REF. ROOF UPLIFT PLAN AND ZONE DIMENSIONS. NOTE: EDGE DISTANCE, a = 25' UNO						25' UNO		

COMPONENTS & CLADDING @ h = 25'-8 1/2" (NOMINAL: 0.6 ULTIMATE WIND)								
AREA	ROOF (GROSS, PSF)				AREA	WALLS (GROSS, PSF)		
SQ.FT.	ZONE 1	ZONE 2	ZONE 3	ZONES 1, 2, 3 & 1'	SQ.FT.	ZONE 4	ZONE 5	ZONES 4 & 5
10	-33.7	-44.1	-60.1	+8.5/+10.0 MIN	10	-20.8	-25.6	+19.2
20	-31.5	-41.3	-54.5	+8.0/+10.0 MIN	20	-20.0	-23.9	+18.4
50	-28.7	-37.5	-47.0	+7.3/+10.0 MIN	50	-18.8	-21.7	+17.2
100	-26.5	-34.7	-41.3	+6.8/+10.0 MIN	100	-18.0	-20.0	+16.4
NOTE:	NOTE: REF. ROOF UPLIFT PLAN AND ZONE DIMENSIONS. NOT					EDGE DIS	TANCE, a =	6' UNO

OCCUPANCY CATEGOR SITE CLASS IMPORTANCE FACTOR SPECIAL RESPONSE ACCELERATION

S1 = 0.051SPECTRAL RESPONSE COEFFICIENTS SDs = 0.093SD1 = 0.081SEISMIC DESIGN CATEGORY RESPONSE MODIFICATION FACTOR (R) 3.00: STEEL SYSTEM NOT SPECIFICALLY DETAILED FOR SEISMIC

D (ASSUMED)

No. 1993279 (12/19/2022)

Ss = 0.087

SOIL BEARING CAPACITY qall. = 2,000 PSF MODULUS OF SUBGRADE REACTION, K UNIVERSAL ENGINEERING SERVICES, LLC 4475 SW 35TH TERRACE, GAINESVILLE, FL 32608

MIN. FOUNDATION BRG DEPTH 18" BELOW FINISHED GRADE 20 PSF (WITH TRIBUTARY REDUCTIONS PER CODE) 100-YR RAIN INTENSITY

STAIRS AND LANDINGS HANDRAIL / GUARDRAIL CONTROLLING OF 50 PLF OR 200 LB. POINT LOAD LOCATED TO CAUSE MAXIMUM STRESS INTERIOR WALLS

100 PSF

0 PSF

0 PSF

(WITH RAIN ON SNOW) ROOF DEAD LOADS (PSF) WAREHOUSE WELFARE ROOF MEMBRANE ROOF INSULATION

MAINTENACE CATWALK

GROUND SNOW LOAD, Pa

FLAT ROOF SNOW LOAD.

METAL ROOF DECK

(REF. NOTES)

SAG RODS

METAL ROOF DECK

METAL FLOOR DECK

HEADED STUDS

WELDING ELECTRODES

STEEL JOISTS & JOIST GIRDERS

RIGID UNDER FLOOR INSULATION

ELEVATED OFFICE

 MAXIMUM DL USED FOR GRAVITY LOAD DESIGN AND MINIMUM DL USED FOR SEISMIC MASS AND WIND UPLIFT DESIGN. 2. COLLATERAL LOAD INCLUDES LIGHT MECH/ELEC/PLUMBING/SPRINKLER. 3. EQUIPMENT GREATER THAN 150LBS ACCOUNTED FOR INDEPENDENT OF COLLATERAL LOAD.

ELEVATED SLAB DEAD LOADS (PSF)					
	ELEVATED				
	OFFICE				
CONCRETE + DECK	37.0				
FLOOR BEAM STEEL	5.0				
COLLATERAL	6.0				
CEILING	2.0				

MATERIALS WIDE FLANGE STEEL A572 OR A992 (50 KSI) CHANNELS, ANGLES & PLATES A36 (36 KSI) RECTANGULAR STRUCTURAL TUBING A500 GRADE B (46 KSI) OR GRADE C (50 KSI) STANDARD PIPE A53 GRADE B HIGH STRENGTH BOLTS A325N, A325TC C.I.P. ANCHOR RODS POST-INSTALLED ANCHOR RODS

4. COLLATERAL LOAD OF 8PSF ACCOUNTS FOR PIPE RUNS LESS THAN 20PLF.

HEAVY HEX HEAD F1554 GRADE 36 and GRADE 55 (REF. S5005) ASTM A193 GRADE B7 W/ COATING AS SPECIFIED IN ESR-2322 OR ESR-3187 OR ESR-3814. POST-INSTALLED ANCHORS REQUIRE ENGINEER'S APPROVAL PRIOR TO USE 1 1/2", TYPE B, Fy=40 ksi (MIN.), GALV. G60 (UNDERSIDE SHOP PAINTED WHITE) (22 GA DECK UNLESS NOTED OTHERWISE, REF. S6001) 1.0C, 22GA., Fy=60 ksi

MIN. COMPRESSIVE STRENGTH = 25 PSI

RIGID INSULATION BLOCK MIN. COMPRESSIVE STRENGTH = 1000 PSI (LAST-A-FOAM R9330) STEEL GRATING 1 1/4"x3/16" GW (19W4) GRATING, GALV. STEEL, NAAMM 1 1/4"X3/16" CMW-4-125 (11W4) GRATING, GALV STEEL AS INDICATED ON ARCH DWG RAISED PATTERN FLOOR PLATE CONCRETE (28 DAYS) 3000 PSI

WEAR SLAB/SLAB-ON-GRADE 4000 PSI ELEVATED SLABS 3000 PSI SUB-SLAB 4000 PSI (3000 PSI @ 7 DAYS) ALL OTHER CONCRETE 3000 PSI REINFORCING STEEL A615 GRADE 60

WELDED WIRE FABRIC COMPOSITE STUDS SIZE AS NOTED ON DRAWINGS MEETING AWSD1.1 DEFORMED BAR ANCHORS (DBA) UNCOATED, ASTM-416 GRADE 270 ADHESIVE ANCHORING HILTI HIT-RE 500 V3 ADHESIVE ANCHOR SYSTEM (ICC ESR-3814) HILTI HIT-RE 500-SD ADHESIVE ANCHOR SYSTEM (ICC ESR-2322)

A108

HILTI HIT-HY 200 ADHESIVE ANCHOR SYSTEM (ICC ESR-3187) ALL STRUCTURAL COMPONENTS SHALL BE ERECTED WITHIN THE TOLERANCES SET FORTH BY AISC 303 "CODE OF STANDARD PRACTICE FOR STEEL BUILDINGS AND BRIDGES".

ABRICATION DRAWINGS AND CONNECTION DESIGN CALCULATIONS (SIGNED AND SEALED BY A PROFESSIONAL ENGINEER IN THE STATE THE PROJECT IS BEING CONSTRUCTED), AS NOTED BELOW, SHALL BE SUBMITTED FIRST TO THE ENGINEER OF RECORD FOR REVIEW FOLLOWED BY THE PERMITTING AGENCY PRIOR TO FABRICATION FOR THE FOLLOWING ITEMS. 1. STRUCTURAL STEEL (SIGNED AND SEALED CONNECTION CALCULATIONS) 2. STEEL JOISTS AND JOIST GIRDERS (SIGNED AND SEALED CALCULATIONS)

SPECIAL INSPECTION SCHEDULE ESTABLISHED PER 2018 IBC SECTION 110 AND CHAPTER 17 CONTINUOUS PERIODIC REFERENCE PRE-FAB CONSTRUCTION REFERENCE NOTES P1 & | P1. SPECIAL INSPECTION IS NOT REQUIRED WHERE THE WORK IS DONE ON THE PREMISES OF A FABRICATOR REGISTERED AND APPROVED TO PERFORM WORK WITHOUT SPECIAL INSPECTION PROVIDED THE FABRICATOR COMPLIES WITH IBC. INSPECTION FOR PREFABRICATED CONSTRUCTION SHALL BE THE SAME AS IF THE MATERIAL USED IN THE CONSTRUCTION TOOK PLACE ON SITE. SPECIAL INSPECTION WILL NOT BE REQUIRED DURING PREFABRICATION IF THE APPROVED AGENCY CERTIFIES THE CONSTRUCTION AND FURNISHES EVIDENCE OF COMPLIANCE S1. WELDING INSPECTIONS SHALL BE IN COMPLIANCE w/ AWS D1.1. STEEL CONSTRUCTION (IBC 1705.2) MATERIAL VERIFICATION OF STRUCTURAL STEEL AISC 360 ALL WELDS SHALL BE VISUALLY INSPECTED. ALL MATERIALS, IDENTIFICATION MARKINGS TO CONFORM WITH ASTM WELDING PROCEDURES AND QUALIFICATIONS OF WELDERS STANDARDS SPECIFIED IN THE DESIGN DRAWINGS SHALL BE VERIFIED PRIOR TO THE START OF WORK (AISC 360) CERTIFIED MILL TESTS **EACH SUBMITTAL** ALL COMPLETE PENETRATION WELDS SHALL BE TESTED ULTRASONICALLY OR BY USING ANOTHER APPROVED METHOD. SHOP AND FIELD WELDING REFERENCE NOTE S1 (AISC 360). SINGLE PASS FIELD WELD ≤ 5/16" Χ REFERENCE NOTE S2 PERIODIC SPECIAL INSPECTION IS ALLOWED FOR VERIFICATION REFERENCE NOTE S2 FILLET WELDS > 5/16" OF THE WELDABILITY IF REINFORCING STEEL OTHER THAN ASTM MULTI-PASS FILLET WELDS REFERENCE NOTE S2 A 706. IN ACCORDANCE WITH ANSI/AWS D1.4, CONTINUOUS SPECIAL INSPECTION IS REQUIRED FOR REINFORCING STEEL PARTIAL/COMPLETE PENETRATION WELDS REFERENCE NOTE S3 RESISTING FLEXURAL AND AXIAL FORCES IN INTERMEDIATE AND SPECIAL MOMENT FRAMES, BOUNDARY ELEMENTS OF LIGHT GAUGE METAL FRAMING WELDING REFERENCE NOTE S2 SPECIAL REINFORCED CONCRETE SHEAR WALLS AND SHEAR FLOOR AND ROOF DECK WELDING REFERENCE NOTE S2 Χ REINFORCEMENT, PERIODIC SPECIAL INSPECTION IS ALLOWED FOR WELDING OF OTHER ASTM A 706 REINFORCING STEEL FLOOR AND ROOF DECK MECH, FASTENERS X NOT INCLUDED IN THE CONTINUOUS SPECIAL INSPECTION REQUIREMENTS NOTED ABOVE. SIDE SEAM SCREWS, BUTTON PUNCHES ETC Χ INSPECTION OF STEEL FRAME JOINT DETAILS Χ SLIP-CRITICAL CONNECTIONS MAY HAVE PERIODIC SPECIAL INSPECTION PROVIDED THAT THE TURN-OF-THE-NUT METHOD EMBEDDED PLATES Χ WITH MATCH MARKING TECHNIQUES IS USED. HIGH STRENGTH BOLTING AISC 360 VERIFY MATERIALS OF NUTS, BOLTS & WASHERS Χ BEARING TYPE CONNECTIONS Χ SLIP-CRITICAL CONNECTIONS REFERENCE NOTE S5 X INSTALLATION OF OPEN-WEB STEEL JOISTS AND JOIST GIRDERS SJI SPECIFICATIONS A. END CONNECTIONS - WELDED OR BOLTED SECTION 2207.1 B. BRIDGING - HORIZONTAL AND DIAGONAL 1. STANDARD BRIDGING 2. BRIDGING THAT DIFFERS FROM SJI SPECIFICATIONS LISTED IN SECTION 2207.1 VERIFY FIELD INSTALLED WEB MEMBERS LOCATED AT POINTS Χ OF CONCENTRATED LOAD AS REQUIRED ON CONTRACT VERIFY DECK, DECK ASSESSORIES AND MECHANICAL X SDI QA/QC, TABLE 1 FASTENERS COMPLY WITH CONTRACT DOCUMENTS INCLUDING PROFILES, MATERAIL PROPERTIES ADN BASE METAL THICKNESS VERIFY DECK, DECK ASSESSORIES AND CONNECTIONS X SDI QA/QC, TABLE 1 INSTALLED PER SPECIFICATIONS AND CONSTRUCTION DOCUMENTS. VERIFY TYPE. SIZE AND LOCATION OF SUPPORT AND SIDELAP X SDI QA/QC, TABLE 1 CONNECTIONS. ACI 318 CONCRETE CONSTRUCTION (IBC 1705.3)

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X ACI 318, IBC 1912.1

INSPECTION OF REINFORCING STEEL, INCLUDING

INSPECT BOLTS TO BE INSTALLED IN CONCRETE PRIOR

TO AND DURING PLACEMENT OF CONCRETE WHERE

PRESTRESSING TENDONS, AND PLACEMENT.

ALLOWABLE LOADS HAVE BEEN INCREASED

VERIFYING USE OF REQUIRED DESIGN MIX.

TEMPERATURE AND TECHNIQUES.

EVALUATION OF CONCRETE STRENGTH

APPLICATION TECHNIQUES.

LOCATION AND DIMENSIONS.

AND STRUCTURAL SLABS

AT THE TIME FRESH CONCRETE IS SAMPLED TO

FABRICATE SPECIMENS FOR STRENGTH TESTS,

PERFORM SLUMP AND AIR CONTENT TESTS, AND

DETERMINE THE TEMPERATURE OF THE CONCRETE.

INSPECTION FOR MAINTENANCE OF SPECIFIED CURING

INSPECTION OF CONCRETE PLACEMENT FOR PROPER

INSPECTION OF FORMWORK FOR SHAPE, LINES,

INSPECTION OF PRESTRESSED CONCRETE

A. APPLICATION OF PRESTRESSING FORCES

B. GROUTING OF BONDED PRESTRESSING

RESISTING SYSTEM (AS APPLICABLE)

TENDONS IN THE SEISMIC-FORCE

ERECTION OF PRECAST CONCRETE MEMBERS

INSPECT FORMWORK FOR SHAPE, LOCATION AND

DIMENSIONS OF CONCRETE MEMBER(S) BEING FORMED.

SOILS (IBC 1705.6)

VERIFY MATERIALS BELOW FOOTING ARE ADEQUATE TO

VERIFY USE OF PROPER MATERIALS, DENSITIES AND LIFT

THICKNESS DURING PLACEMENT AND COMPACTION OF

PRIOR TO PLACEMENT OF CONTROLLED FILL, OBSERVE

VERIFY SITE PREPARATION COMPLIES WITH APPROVED

VERIFY DRY-DENSITY OF COMPACTED FILL COMPLIES

SUBGRADE AND VERIFY THAT SITE HAS BEEN PREPARED

VERIFY EXCAVATIONS ARE EXTENDED TO PROPER

DEPTH AND HAVE REACHED PROPER MATERIAL.

PERFORM CLASSIFICATION AND TESTING OF

CONTROLLED FILL MATERIALS.

WITH APPROVED SOILS REPORT.

SOILS REPORT.

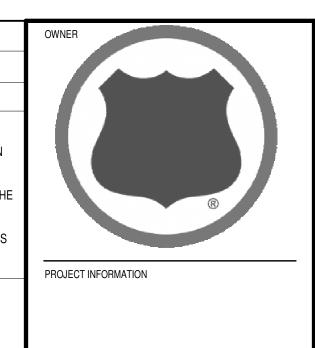
ACHIEVE THE DESIGN BEARING CAPACITY.

VERIFICATION OF IN-SITU CONCRETE STRENGTH, PRIOR TO

PRIOR TO REMOVAL OF SHORES AND FORMS FROM BEAMS

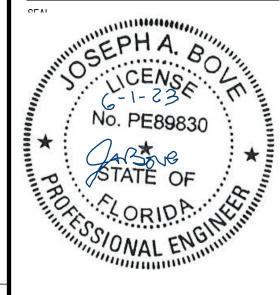
STRESSING OF TENDONS IN POST-TENSIONED CONCRETE AND

INSPECTION OF ANCHORS INSTALLED IN HARDENED



UNITED STATES COLD STORAGE PHASE III EXPANSION LAKE CITY, FLORIDA

THE STELLAR GROUP 2900 HARTLEY ROAD. JACKSONVILLE. FL. 32257 (904) 260-2900 WWW.STELLAR.NET FLORIDA ARCHITECTURAL LICENSE NO. AR0013370 FLORIDA ENGINEERING LICENSE NO. CA5930



E=jbove@stellar.net,

CN="Joseph A. Bove,

P.E.", OU=Corporate

Licensing, O=Stellar

Group Incorporated,

Date: 2023.05.28

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GENERAL SPECIAL INSPECTION NOTES:

SCHEDULE SHALL BE INSPECTED IN ACCORDANCE WITH CHAPTER

17 OF THE INTERNATIONAL BUILDING CODE BY A CERTIFIED SPECIAL

MATERIAL SAMPLING AND TESTING REQUIREMENTS, REFER TO THE

SPECIFICATIONS, AND/OR THE SPECIFIC GENERAL NOTES SECTIONS

THE TESTING AGENCY SHALL SEND COPIES OF ALL STRUCTURAL

TESTING AND INSPECTION REPORTS DIRECTLY TO THE ARCHITECT

DOCUMENTS SHALL IMMEDIATELY BE BROUGHT TO THE ATTENTION

OF THE CONTRACTOR FOR CORRECTION. IF DISCREPANCIES ARE

THE BUILDING OFFICIAL, ARCHITECT AND ENGINEER PRIOR TO

. ANY CONSTRUCTION OR MATERIAL THAT HAS FAILED INSPECTION

OBSERVATION OF WORK REQUIRING SPECIAL INSPECTION BY AN

APPROVED SPECIAL INSPECTOR WHO IS PRESENT IN THE AREA

OBSERVATION OF WORK REQUIRING SPECIAL INSPECTION BY AN

WHERE THE WORK HAS BEEN OR IS BEING PERFORMED AND AT THE

APPROVED SPECIAL INSPECTOR WHO IS PRESENT IN THE AREA

INSPECTION TESTING REQUIREMENTS APPLY EQUALLY TO ALL

WHERE THE WORK IS BEING PERFORMED. PERIODIC SPECIAL

COMPLETION OF THAT PHASE OF CONSTRUCTION.

SHALL BE SUBJECT TO REMOVAL AND REPLACEMENT.

B. CONTINUOUS SPECIAL INSPECTION MEANS THE FULL-TIME

INSPECTION MEANS THE PART-TIME OR INTERMITTENT

COMPLETION OF THE WORK (IBC SECTION 1704). SPECIAL

BIDDER DESIGNED COMPONENTS.

NOT CORRECTED, THEY SHALL BE BROUGHT TO THE ATTENTION OF

ENGINEER ,CONTRACTOR AND BUILDING OFFICIAL. ANY ITEMS

WHICH FAIL TO COMPLY WITH THE APPROVED CONSTRUCTION

THE ITEMS MARKED WITH A "X" IN THE SPECIAL INSPECTION

INSPECTOR FROM AN ESTABLISHED TESTING AGENCY. FOR

MATERIAL SAMPLING AND TESTING SECTION, THE PROJECT

L=Jacksonville.

S=FL, C=US

Plans Reviewed for Code Compliance

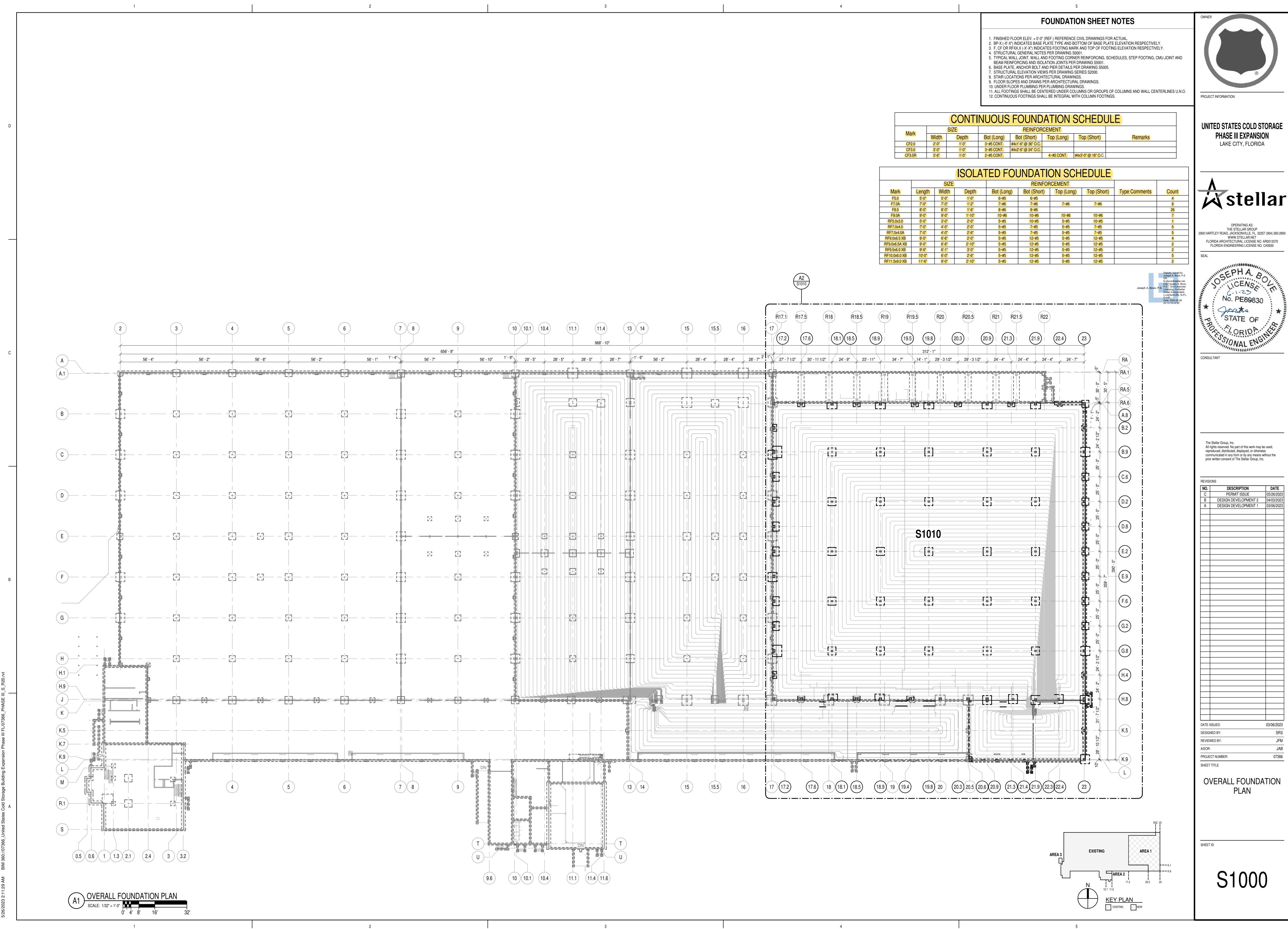
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DATE ISSUED: 03/06/2023 DESIGNED BY: REVIEWED BY A/FOR:

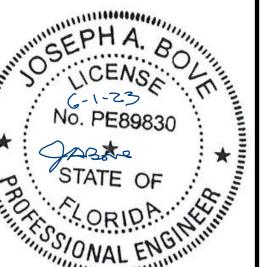
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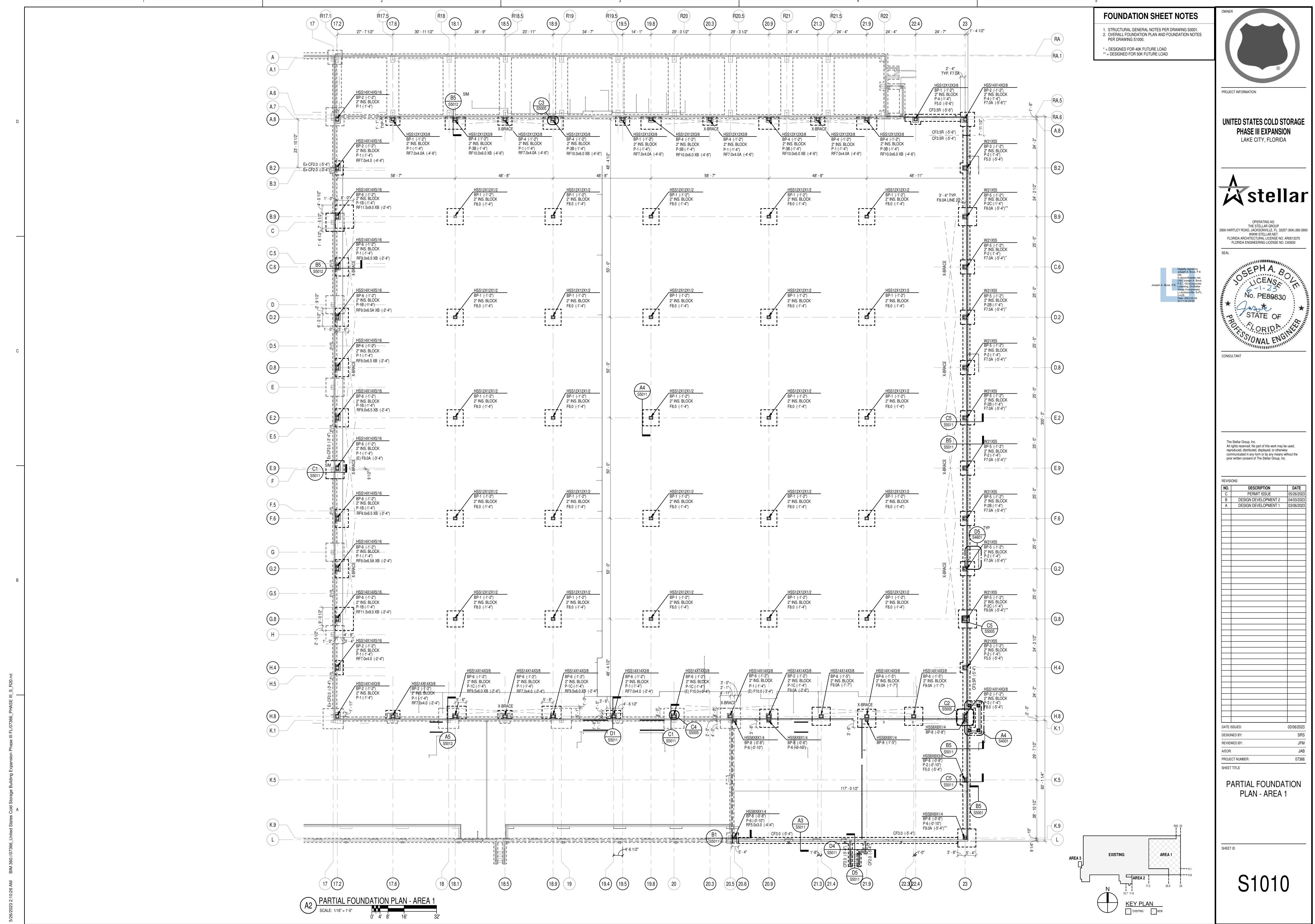
STRUCTURAL GENERAL **NOTES & INSPECTION**

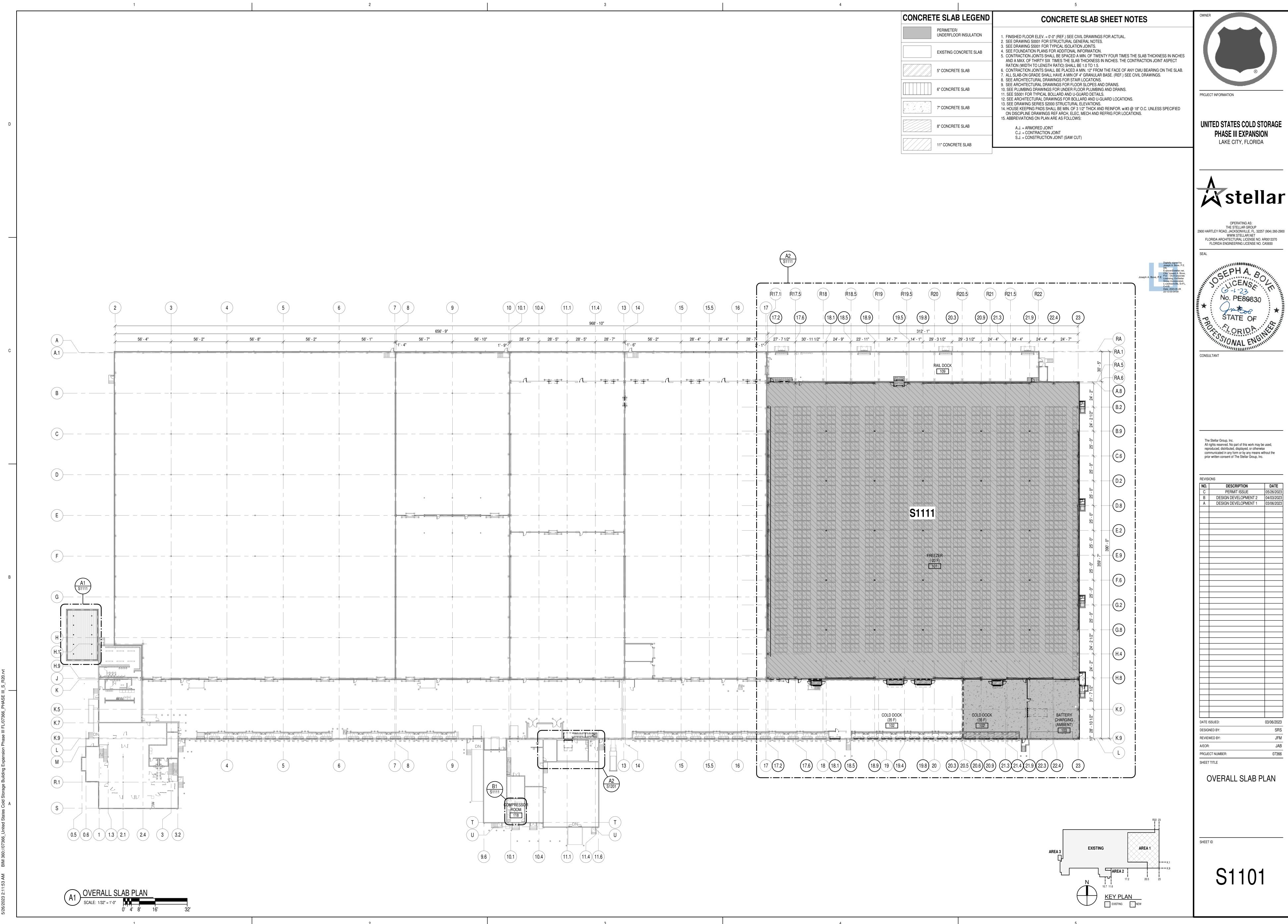
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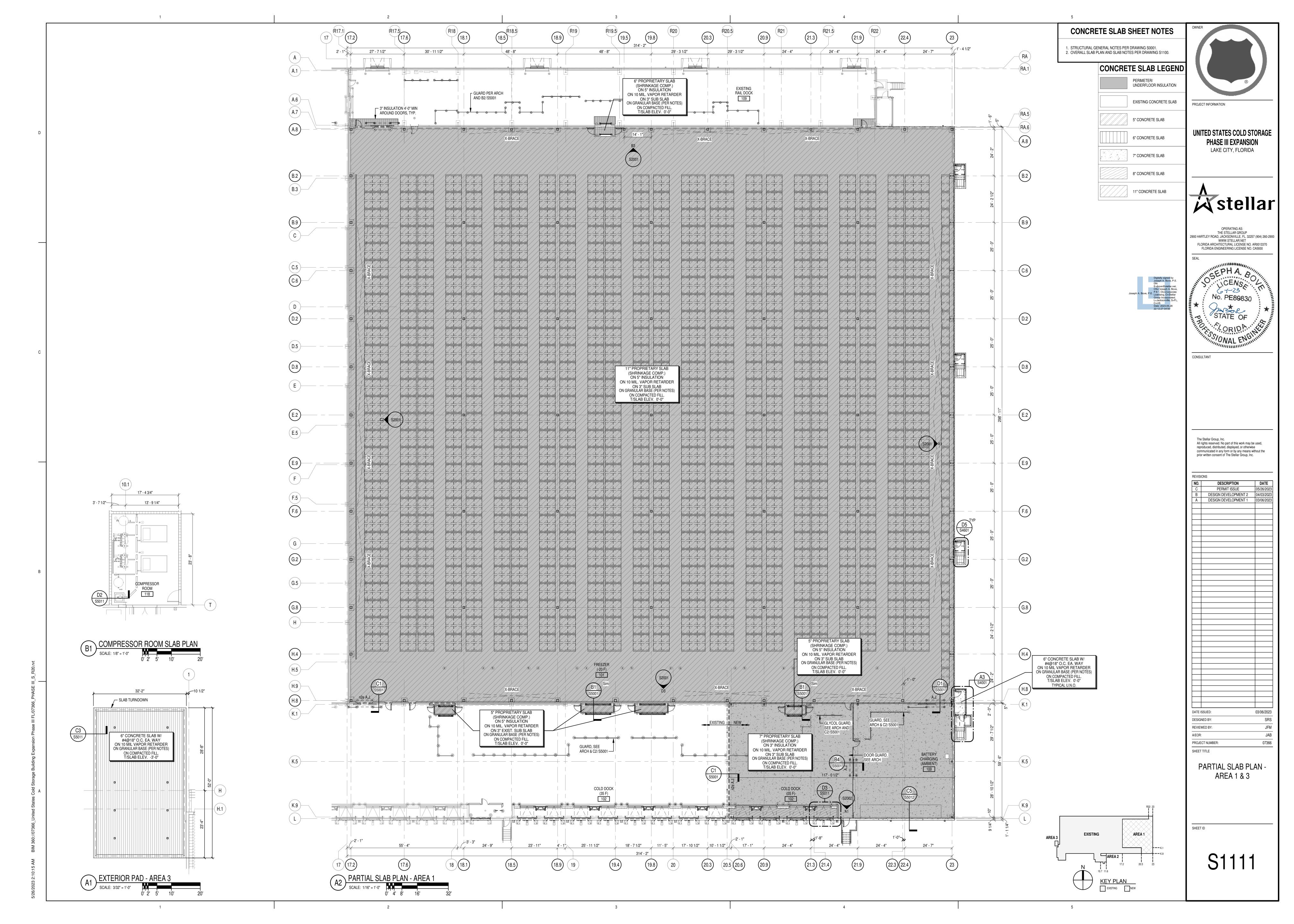


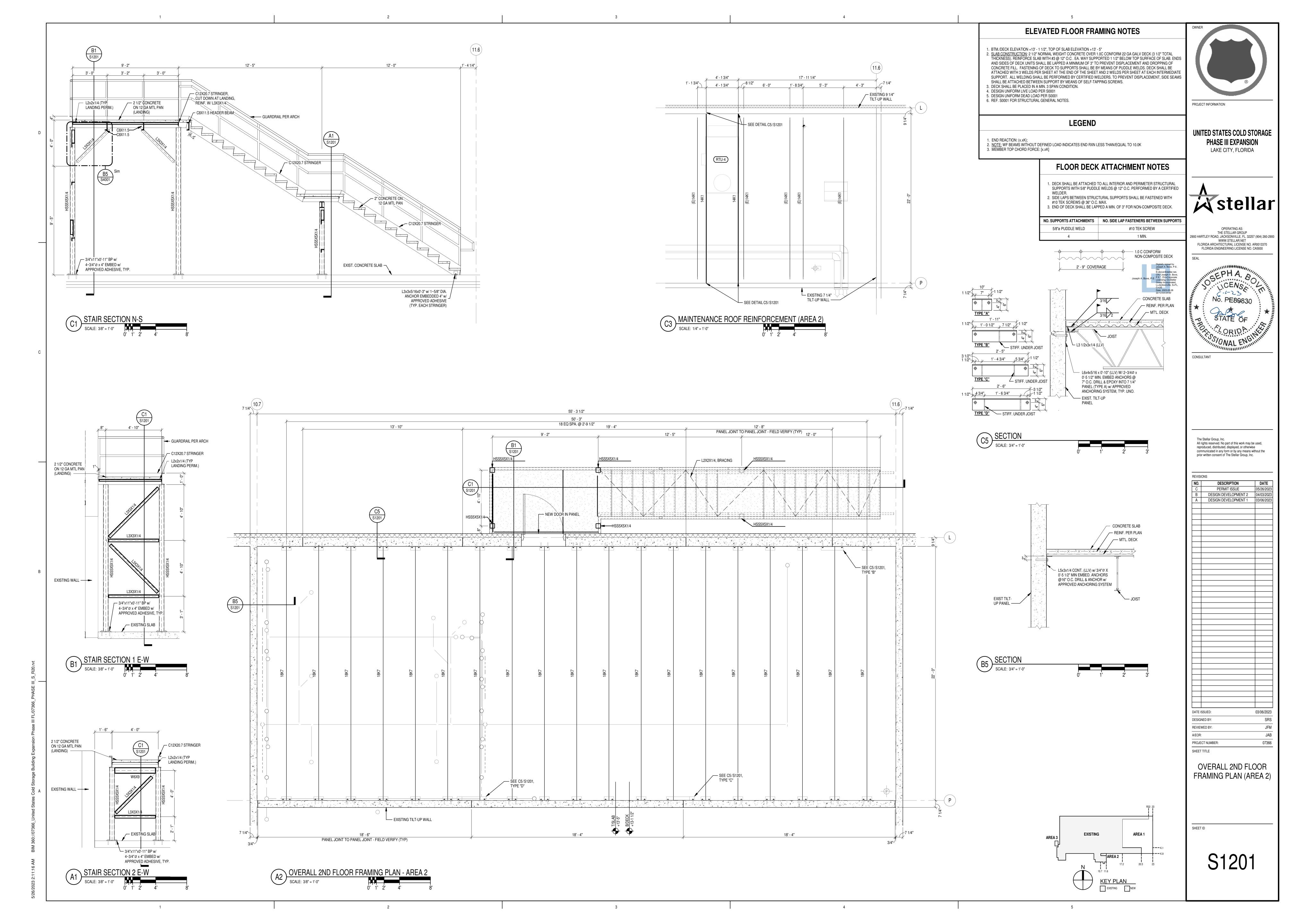


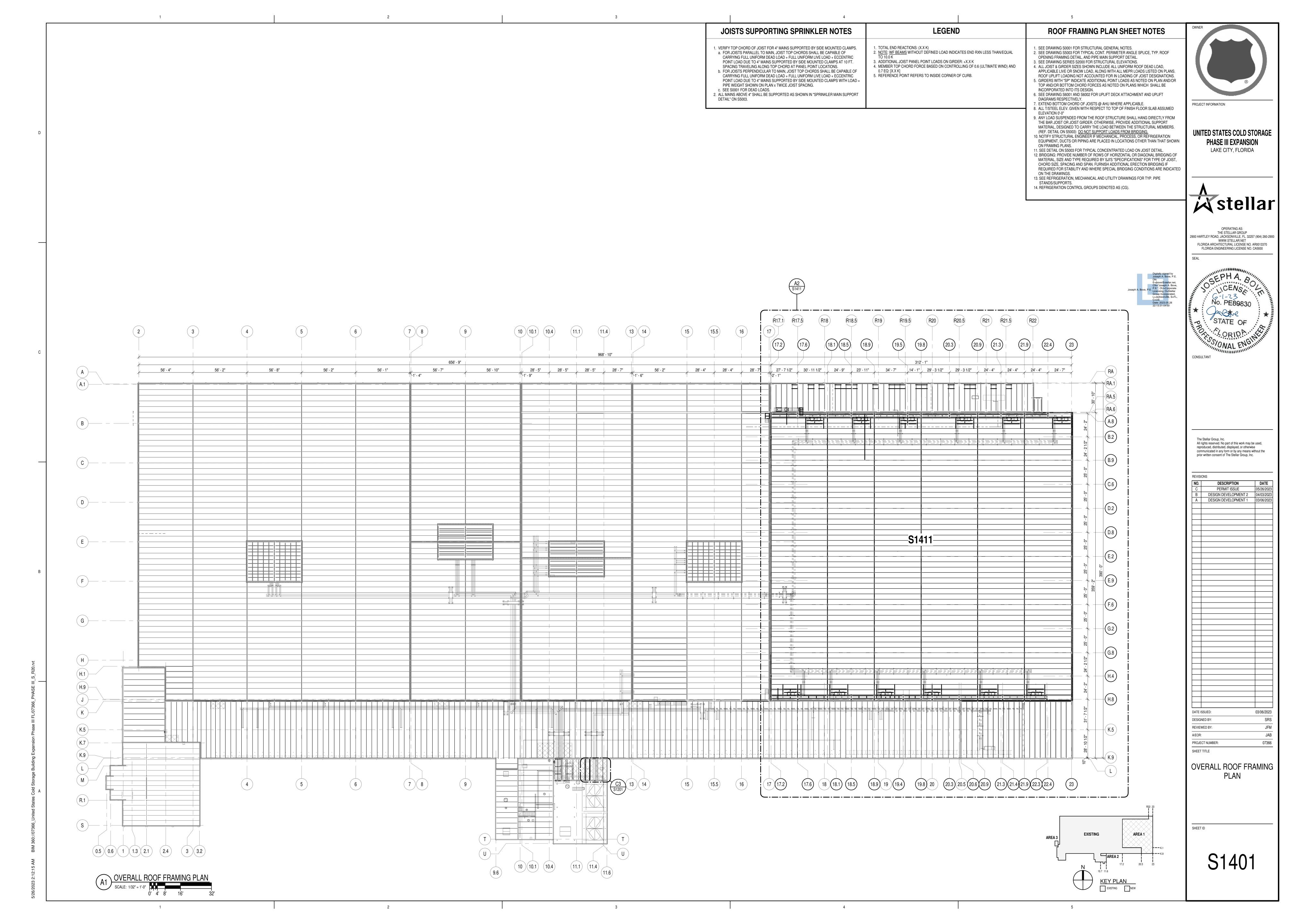


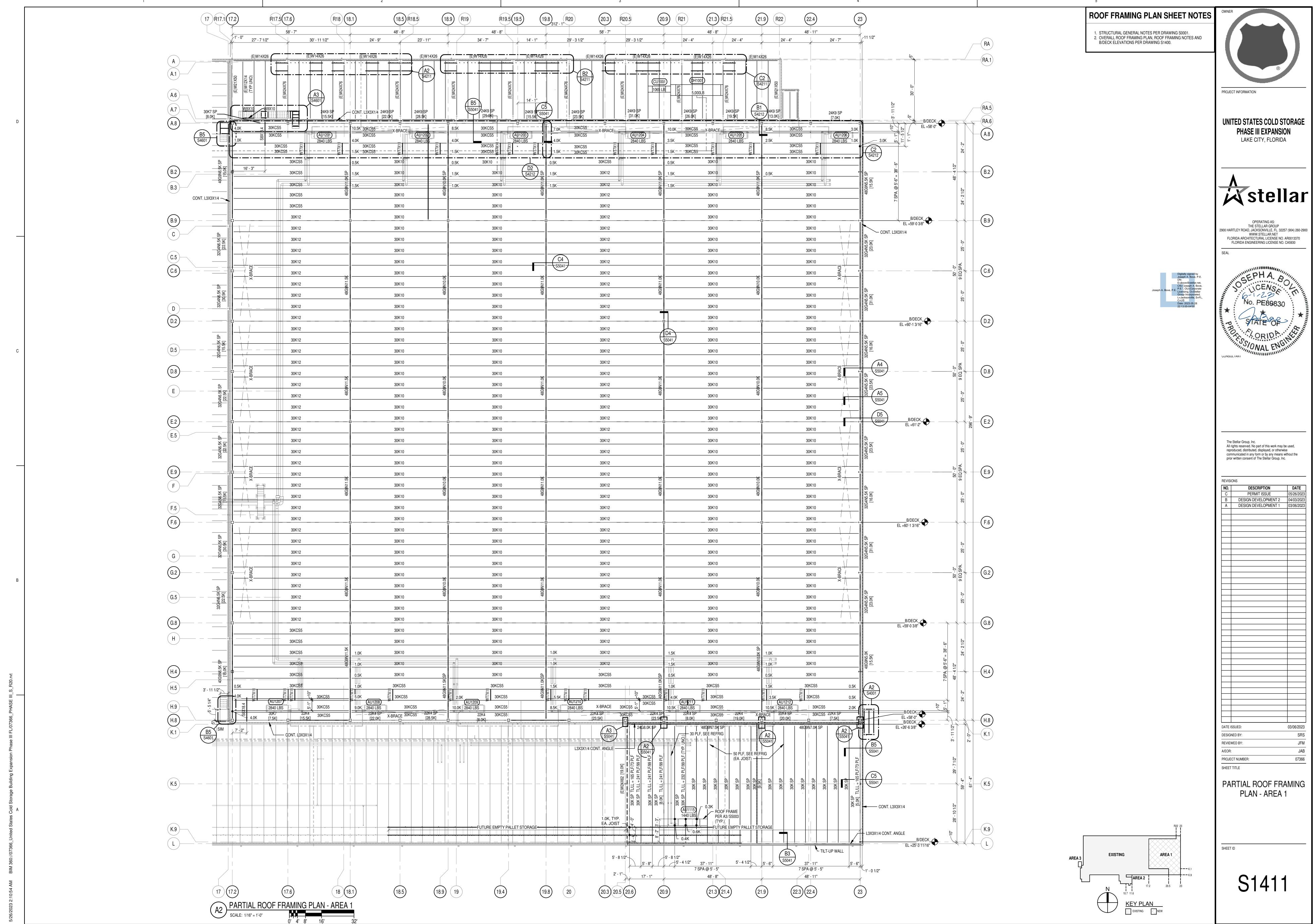


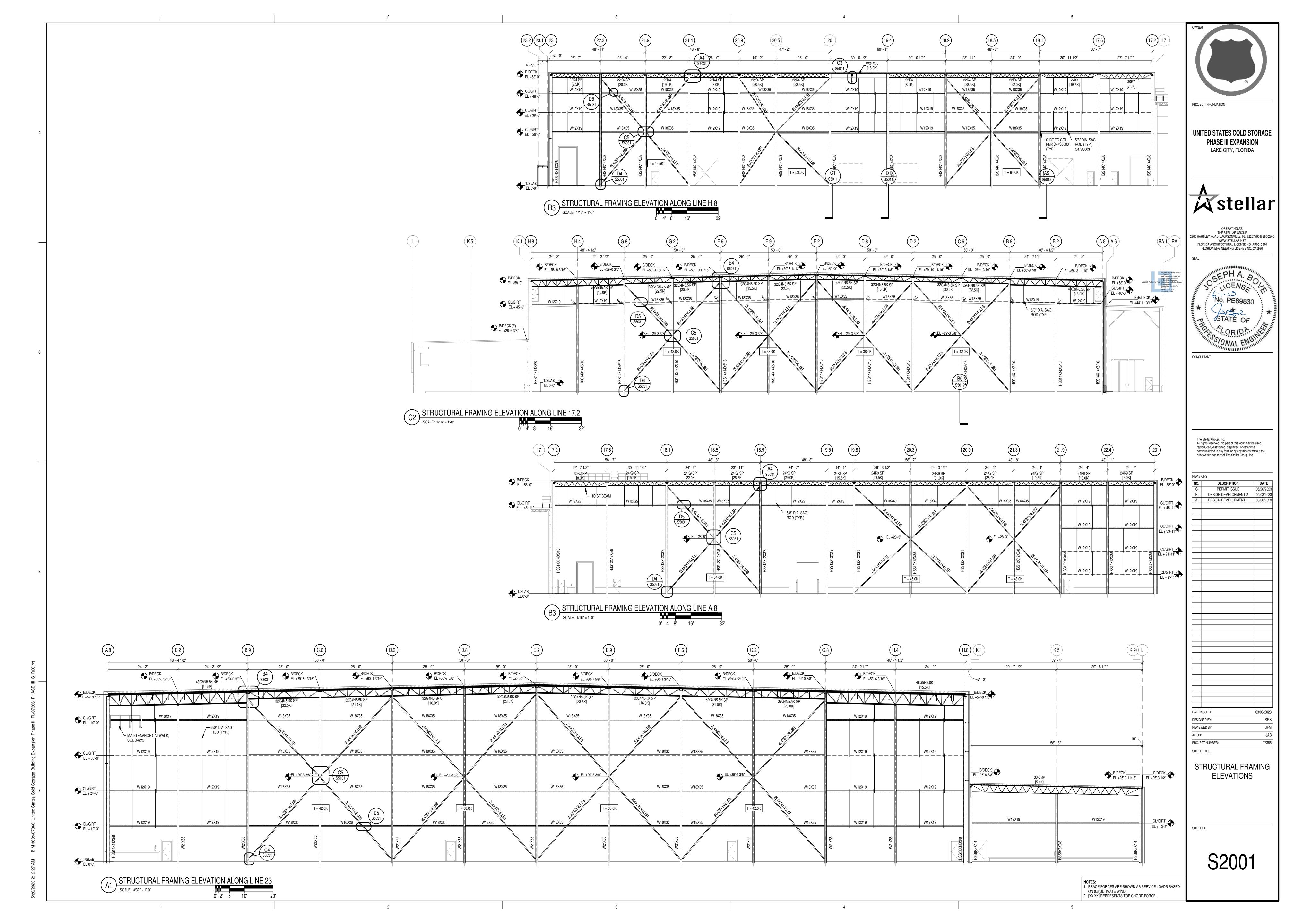


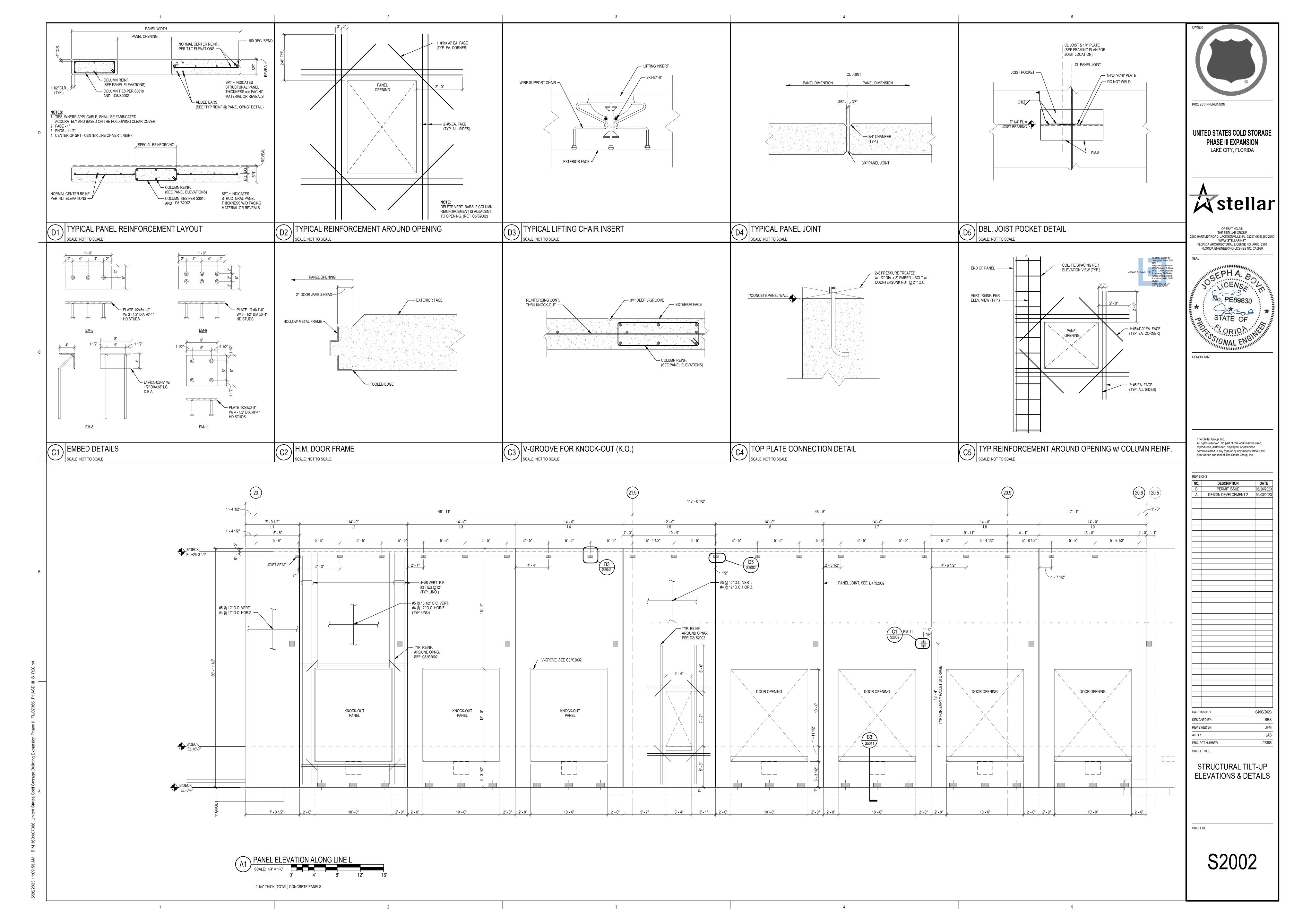


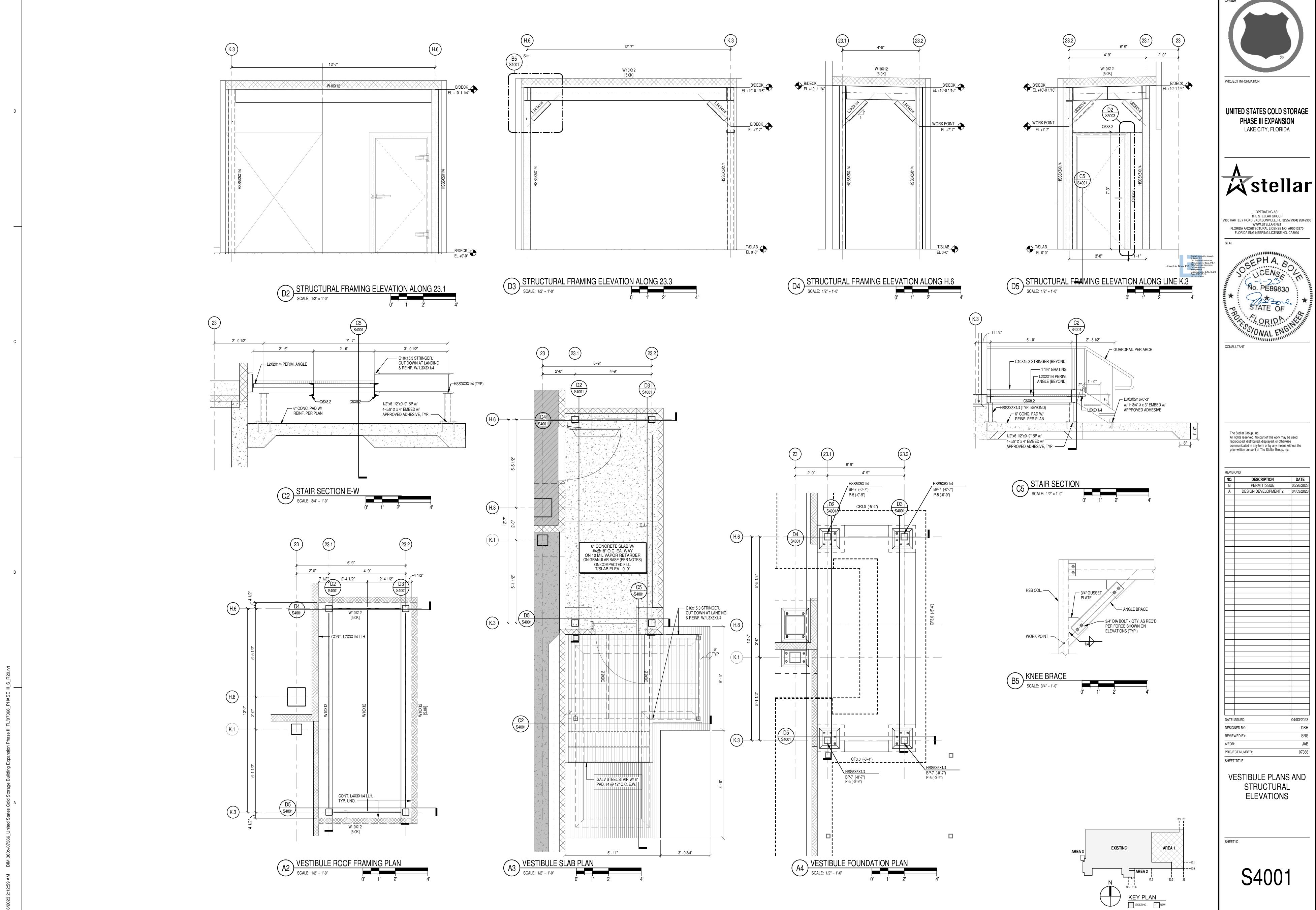


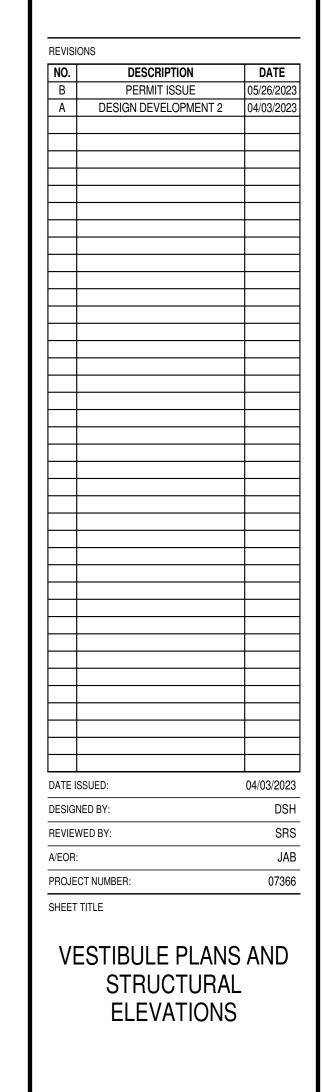


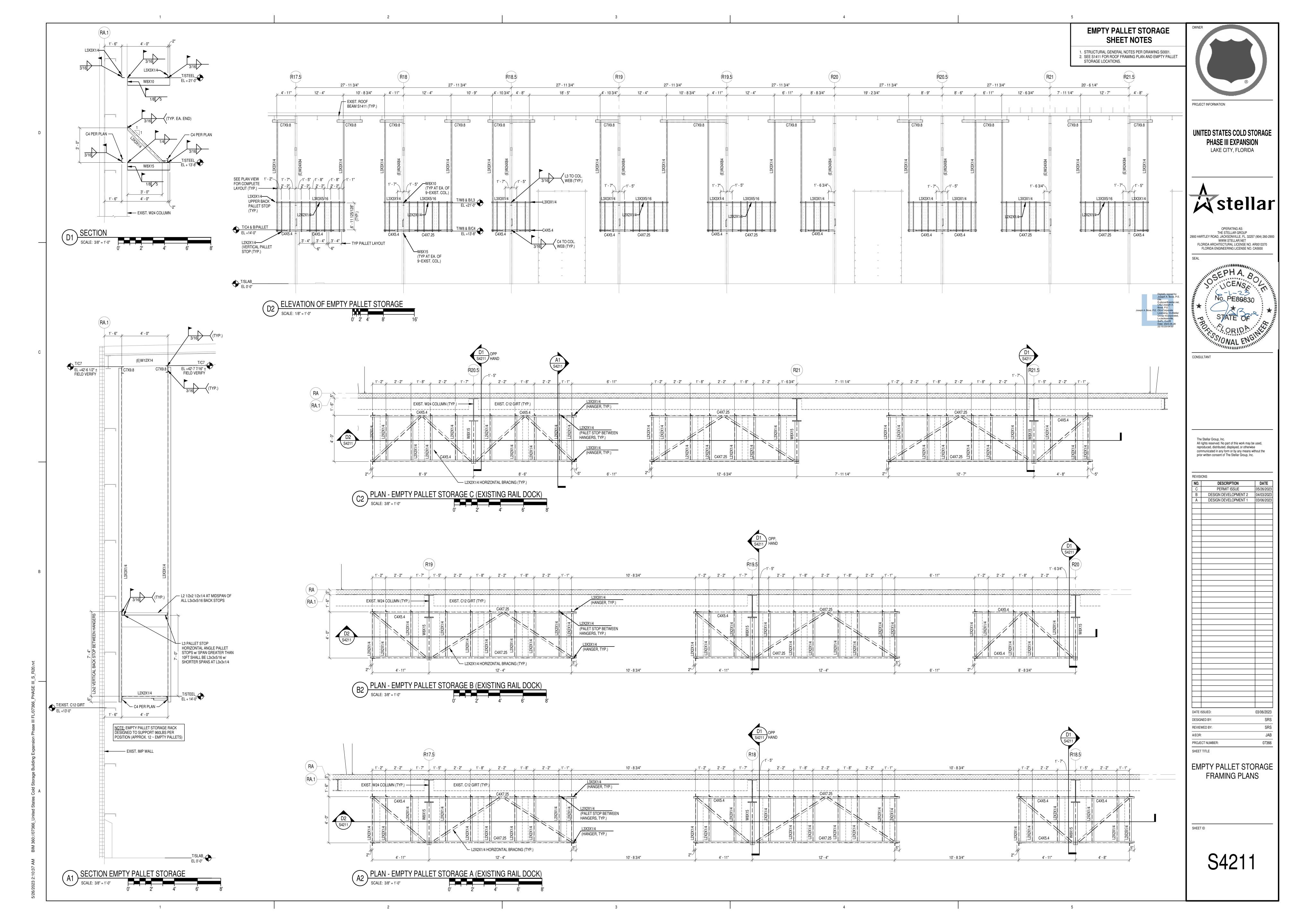


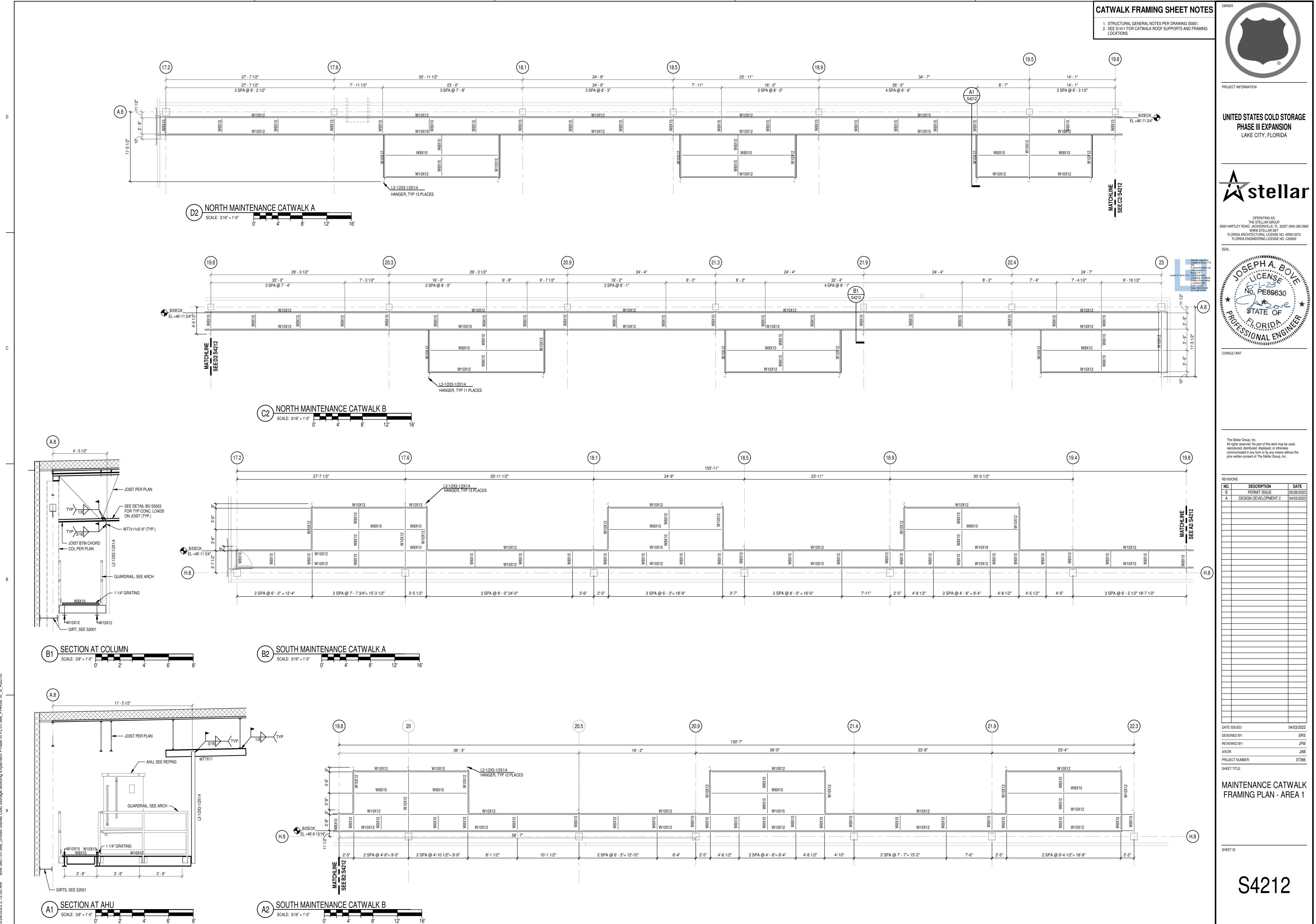












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