Permit #25-2535171-CM
RSN 1903242

QTS DATA CENTERS
QTS DEN1 DC2
FOUNDATIONS ONLY ISSUE FOR PERMIT

Please be advised, with this Foundation Only permit, the Owner/Developer is assuming all risk and liability associated with Foundation Only construction, prior to city of Aurora Civil plan approval. Final grading and utility design, included in the Civil plans, could significantly impact the foundation elevation, and it is therefore the sole responsibility of the Owner/Developer to modify or remove the foundation if necessary.

FOUNDATION ONLY PERMIT
- NOT APPROVED FOR VERTICAL CONSTRUCTION



CODE INFORMATION

PROJECT DATA	
PROJECT NAME:	QTS DEN1 DC2
PROJECT ADDRESS:	1140 N. GUN CLUB ROAD
OWNER:	QTS DATA CENTERS

APPLICABLE CODES	NOTE: INCLUDED IN SPECIFICATION SECTION 014100 REGULATORY REQUIREMENTS
BUILDING CODE:	2021 INTERNATIONAL BUILDING CODE (IBC)
ACCESSIBILITY CODE:	2009 ANSI A117.1 (ACCESIBILITY)
ELECTRICAL CODE:	2023 NATIONAL ELECTRICAL CODE (NEC)
ENERGY CODE:	2021 INTERNATIONAL ENEGERY CONSERVATION CODE (IECC)
FIRE CODE:	2021 INTERNATIONAL FIRE CODE (IFC)
MECHANICAL CODE:	2021 INTERNATIONAL MECHANICAL CODE (IMC)
PLUMBING CODE:	2021 INTERNATIONAL PLUMBING CODE (IPC)
REGIONAL OR MUNICIPAL CODE:	2021 INTERNATIONAL FUEL GAS CODE (IFGC)

LIFE SAFETY INFORMATION		REFERENCE
USE OR OCCUPANCY CLASSIFICATION		
OCCUPANCY:	MIXED B AND S-2	SECTION 508.4
TYPE OF CONSTRUCTION		
CONSTRUCTION TYPE:	TYPE IIB	
BUILDING EQUIPPED THROUGHOUT WITH AN AUTOMATIC SPRINKLER SYSTEM INSTALLED IN ACCORDANCE WITH SECTION 903. FIRE ALARMED AND MONITORED		
FIRE PROTECTION REQUIREMENTS:		
BEARING WALLS: INT./EXT.	0 HR.	TABLE 601
NONBEARING WALLS: INT./EXT.	0 HR.	TABLE 601
ROOF / CEILING:	0 HR.	TABLE 601
FLOOR/ CEILING:	0 HR.	TABLE 601
STRUCTURAL FRAME / COLUMNS:	0 HR.	TABLE 601
RATED SEPARATIONS:	1 HR. BETWEEN OCCUPANCIES	

DESIGN LIMITATIONS	MAX. ALLOWED		MAX. PROVIDED	
HEIGHT:	75' - 0"		61' - 0"	
AREA:	UNLIMITED		"B" AREA: 74,038 SF "S-2" AREA: 353,030 SF "TOTAL" AREA: 427,068 SF	1: B 2: S-2
NUMBER OF STORIES:	2	LEVEL 1 AREA: 213,534 SF LEVEL 2 AREA: 213,534 SF		
MEANS OF EGRESS	**MAX. ALLOWED**		**MAX. PROVIDED**	
TRAVEL DISTANCE TO EXIT:	B: 300'-0"	S-2: 400'-0"	289' -5"	TABLE 1017.2
TOTAL OCCUPANT LOAD:	B: 150 SF/Occ.	S-2: 300 SF/Occ.	1620	TABLE 1004.5
EGRESS WIDTH PER OCCUPANT	**MIN. ALLOWED**		**PROVIDED**	
0.2" STAIRS:	192.9" (9 STAIRS)		318" (9 STAIRS)	
0.15" DOORS:	96.45"		360.0"	

PLUMBING FIXTURE REQUIREMENTS (TABLE 2902.1)

B

	MALE		FEMALE	
	REQUIREMENT	# REQUIRED	# PROVIDED	# REQUIRED	# PROVIDED
WATER CLOSETS:	1:25 / 1:50	10	12	10	13
URINALS:	50% WC MAX	5	6	-	-
LAVATORIES:	1:40 / 1:80	7	13	7	14
SHOWERS:	-	-	2	-	2
OTHER:	-	-	-	-	-
	NON GENDER SPECIFIC				
	REQUIREMENT	# REQUIRED	# PROVIDED		
SERVICE SINK:	1	1	-		
DRINKING FOUNTAINS:	1:100	7	-		

PLUMBING FIXTURE REQUIREMENTS (TABLE 2902.1)

S-2

	MALE			FEMALE	
	REQUIREMENT	# REQUIRED	# PROVIDED	# REQUIRED	# PROVIDED
WATER CLOSETS:	1:100 -	5	5	5	5
URINALS:	50% WC MAX	3	-	-	-
LAVATORIES:	1:100 -	5	5	5	5
SHOWERS:	-	-	2	-	2
OTHER:	-	-	-	-	-
	NON GENDER SPECIFIC				
	REQUIREMENT	# REQUIRED	# PROVIDED		
SERVICE SINK:	1	1	-		
DRINKING FOUNTAINS:	1:1000	1	3		

DEFERRED SUBMITTALS
Fire Alarm System
Fire Sprinkler System
Gating System(s)
Access Control System
Separate Permit Required for Fire Sprinklers, Fire Alarms, Emergency Responder Radio Coverage In Compliance With 2021 IBC 107.2.1
Signage

BUILDING ENVELOPE REQUIREMENTS	
CLIMATE ZONE	**R-VALUE**
INSULATION ENTIRELY ABOVE ROOF DECK	R-30ci
WALLS - MASS	R-11.4ci
WALLS - METAL FRAMED	R-13 + 14ci
BELOW-GRADE WALL	R-7.5ci
FLOORS - MASS	R-14.6ci
FLOORS - JOIST/FRAMING	R-30ci
SLAB-ON-GRADE FLOORS - UNHEATED SLAB	R-15 for 24" below

Structural plan review is limited to a general survey for code compliance. No review is implied nor was undertaken to verify structural adequacy.

Field Inspection consultation is available upon request. Call 303-739-7420 to request a consultation

QTS Freedom Standard - Version Matrix
Project: DEN1-DC2 V3.0-rev3

Design Deliverable:
QTS Design Standards will be utilized as the Basis Of Design for the Data Center Building.
Design Consultant team to notate Version of QTS Design Standards.

Design Discipline	QTS Design Standard		
	Design Narrative	DD Drawing Set	Reference File
Civil	V3.0	N/A	
General	V3.0	V3.0	
Structural	V3.0	V3.0	LC BIM MODEL
Architectural	V3.0	V3.0	LC BIM MODEL
Fire Alarm	V3.0	V3.0	
Fire Protection	V3.0	V3.0	
Plumbing	V3.0	V3.0	
Process (I&C)	See Below	V3.0	LC BIM MODEL
Mechanical	V3.0	V3.0	LC BIM MODEL
Electrical	V3.0	V3.0	LC BIM MODEL
Technology (Telecom)	V3.0	V3.0	
Audio Visual	N/A	V3.0	

Design Discipline	QTS Design Standard		
	Design Narrative	DD Drawing Set	Reference File
Security	V3.0	V3.0	
Interior Standards	V3.0	See Architectural	3.0-rev1
Signage			INTrev4...
SDIs	N/A	N/A	SDI-018(v3.0) thru SDI-046
OFCI Catalog	V4.0		
SOO Catalog	V2.0		

Design Discipline	Q-Systems Design Standard BODs Version
Data Telecom BOD	Freedom Standard - Data Telecom - 04.14.2024
Physical Security BOD	Freedom Standard - Security Systems - 05.10.2024
DCIM - BMS BOD	Freedom Standard - BMS Content Consolidation - 09.16.2024
DCIM - EPMS BOD	Freedom Standard - EPMS Content Consolidation - 09.16.2024

PROJECT TEAM

ARCHITECT
CORGAN
T: 214.748.2000
401 N. Houston Street Dallas, TX 75202

STRUCTURAL
AG&E STRUCTURAL ENGENUITY
901 Main Street Suite 112 Fort Worth, Texas 76102
T: (214)520-7202

M E P
SYSKA HENNESSY GROUP
444 S. Flower Street
Suite 2000, Los Angeles, CA 90071
T: 415-288-9061

TCOM
TLD DESIGN CONSULTING, LLC
103 E Hanning St, Howe, Tx 75459
T: 903-436-4601

CORGAN
401 N. Houston Street Dallas, TX 75202
T: 214.748.2000

SYSKA HENNESSY GROUP

DESIGN CONSULTING LLC

AG/E

ISSUES		
1	12.20.24	DESIGN DEVELOPMENT
2	01.31.25	ISSUE FOR PERMIT
3	05.30.25	FOUNDATIONS ONLY IFP
4		
5		
6		
7		
8		
9		
10		

REVISIONS		
A	03.28.25	ADDENDUM 1
B	04.24.25	COA - PERMIT COMMENTS

COLORADO LICENSED
DONALD DREIMAN
00407039
ARCHITECT
4/24/25

Date of issue:
04.24.25

QTS DEN1 DC2
1140 N. GUN CLUB ROAD

COVER SHEET

JOB 24464.0000
DATE 04.18.25
SHEET G00-00

Permit #25-2535171-CM
RSN 1903242

DESIGN LOADS & DESIGN DATA

1.	BUILDING CODE			2021 INTERNATIONAL BUILDING CODE (IBC)/ ASCE/ SEI 7-16 WITH LOCAL COUNTY AMENDMENTS		
2.	GRAVITY LOADS AND DESIGN DATA					
	A.	DEAD LOADS				
		1.	ROOF			
			STEEL FRAMING, METAL DECK, ETC.	SELF-WEIGHT		
			COLLATERAL	AS NOTED ON LOADING DIAGRAMS		
		2.	FLOOR			
			STEEL FRAMING, COMPOSITE SLAB, ETC.	SELF-WEIGHT		
			COLLATERAL	AS NOTED ON LOADING DIAGRAMS		
		3.	ROOF TOP MECHANICAL PLATFORM			
			STEEL FRAMING, GRATING, ETC.	SELF-WEIGHT		
			COLLATERAL	AS NOTED ON LOADING DIAGRAMS		
	B.	LIVE LOADS		UNIFORM	CONCENTRATED	
		1.	ROOF	AS NOTED ON LOADING DIAGRAMS	300 LBS	
		2.	FLOOR	AS NOTED ON LOADING DIAGRAMS	2,500 LBS	
		3.	ROOF TOP MECHANICAL PLATFORM	AS NOTED ON LOADING DIAGRAMS	300 LBS	
		4.	STAIRS & EXIT WAYS	100 PSF (UNREDUCIBLE)	300 LBS	
	C.	SNOW LOADS				
		1.	GROUND SNOW LOAD, P g	40 PSF		
		2.	FLAT SNOW LOAD, Pf	54 PSF		
		3.	SNOW EXPOSURE FACTOR, Ce	1.0		
		4.	SNOW OCCUPANCY CATEGORY	IV		
		5.	SNOW LOAD IMPORTANCE FACTOR, I	1.20		
		6.	THERMAL FACTOR, Ct	1.0		
		7.	SNOW DRIFTS	AS NOTED ON LOADING DIAGRAMS		
	D.	1.	1-HR RAIN INTENSITY, i	3.42 IN/H		
3.	LATERAL LOADS & DESIGN DATA					
	A.	WIND DESIGN DATA				
		1.	ULTIMATE DESIGN WIND SPEED, V ult	125 MPH (3-SECOND GUST) VOLUNTARY CLIENT - REQUESTED UPGRADE		
		2.	NOMINAL DESIGN WIND SPEED, V asd	96.8 MPH (3-SECOND GUST)		
		3.	WIND RISK CATEGORY	IV		
		4.	WIND IMPORTANCE FACTOR, I	1.0		
		5.	WIND EXPOSURE CATEGORY	C		
		6.	INTERNAL PRESSURE COEFFICIENT, GC pi	±0.18		
		7.	MEAN ROOF HEIGHT, h (DATA HALL BUILDING)	45'-4"		
		8.	WIDTH OF END ZONE, (a) (DATA HALL BUILDING)	17'-1"		
		9.	MEAN ROOF HEIGHT, h (OFFICE BUILDING)	39'-4 1/4"		
		10.	WIDTH OF END ZONE, (a) (OFFICE BUILDING)	15'-9"		
	B.	COMPONENTS AND CLADDING (DATA HALL BUILDING)				
		1.	WALLS	SURFACE PRESSURE (PSF)		
			AREA	10 SF	100 SF	500 SF
			NEGATIVE ZONE 4	-42.5	-36.7	-32.7
			NEGATIVE ZONE 5	-52.3	-40.8	-32.7
			POSITIVE ZONE 4 & 5	39.2	33.5	29.4
		2.	PARAPET	SURFACE PRESSURE (PSF)		
			AREA	10 SF	100 SF	500 SF
			CASE A: ZONE 2	120.5	94.5	76.4
			CASE A: ZONE 3	120.5	94.5	76.4
			CASE B: ZONE 2	-71.2	-59.2	-50.8
			CASE B: ZONE 3	-81.3	-63.4	-50.8
		3.	ROOF	SURFACE PRESSURE (PSF)		
			AREA	10 SF	50 SF	100 SF
			NEGATIVE ZONE 1	-68.3	-57.8	-53.3
			NEGATIVE ZONE 1'	-39.2	-39.2	-39.2
			NEGATIVE ZONE 2 & 3	-90.1	-76.7	-70.9
			POSITIVE ZONE 1 & 1'	17.4	16.0	16.0
			POSITIVE ZONE 2 & 3	39.2	35.2	33.5
			OVERHANG ZONE 1 & 1'	-61.8	-59.2	-58.1
			OVERHANG ZONE 2 & 3	-83.6	-65.6	-57.9
	C.	COMPONENTS AND CLADDING (OFFICE BUILDING)				
		1.	WALLS	SURFACE PRESSURE (PSF)		
			AREA	10 SF	100 SF	500 SF
			NEGATIVE ZONE 4	-41.4	-35.8	-31.8
			NEGATIVE ZONE 5	-50.9	-39.7	-31.8
			POSITIVE ZONE 4 & 5	38.2	32.6	28.6
		2.	PARAPET	SURFACE PRESSURE (PSF)		
			AREA	10 SF	100 SF	500 SF
			CASE A: ZONE 2	114.7	90.0	72.8
			CASE A: ZONE 3	147.0	103.3	72.8
			CASE B: ZONE 2	-67.8	-56.4	-48.4
			CASE B: ZONE 3	-77.4	-60.3	-48.4
		3.	ROOF	SURFACE PRESSURE (PSF)		
			AREA	10 SF	50 SF	100 SF
			NEGATIVE ZONE 1	-66.5	-56.3	-51.9
			NEGATIVE ZONE 1'	-38.2	-38.2	-38.2
			NEGATIVE ZONE 2	-87.7	-74.6	-69.0
			NEGATIVE ZONE 3	-119.5	-93.4	-82.1
			POSITIVE ALL ZONES	17.0	16.0	16.0
			OVERHANG ZONE 1 & 1'	-60.1	-57.7	-56.6
			OVERHANG ZONE 2	-81.3	-63.9	-56.4
			OVERHANG ZONE 3	-113.2	-82.6	-69.5
	D.	ROOFTOP MECHANICAL PLATFORM (ASCE 7-16, SEC 29.4.1)				
		1.	BUILDING LENGTH, L	1071'-1 3/4"		
		2.	BUILDING WIDTH, B	171'-4"		
		3.	PRODUCT OF EXTERNAL PRESSURE COEFFICIENT AND GUST-EFFECT FACTOR TO BE USED IN DETERMINATION OF WIND LOADS FOR ROOFTOP STRUCTURES, (GCr)	1.5		
		4.	BASE PRESSURE, q h	36.3 PSF		
		5.	WIND NORMAL TO BUILDING LENGTH	485.2 KIPS		
		6.	WIND NORMAL TO BUILDING WIDTH	98.2 KIPS		
		7.	VERTICAL WIND PRESSURE	1368.8 KIPS		
	E.	SEISMIC DESIGN DATA (DATA HALL BUILDING & OFFICE BUILDING)				
		1.	SEISMIC OCCUPANCY CATEGORY	IV		
		2.	SEISMIC IMPORTANCE FACTOR, I	1.50		
		3.	SHORT PERIOD MAPPED SPECTRAL RESPONSE ACCELERATION, S s	0.186g		
		4.	1-SEC PERIOD MAPPED SPECTRAL RESPONSE ACCELERATION, S 1	0.054g		
		5.	SITE CLASS	D		
		6.	SHORT PERIOD SPECTRAL RESPONSE COEFFICIENT, S DS	0.199g		
		7.	1-SEC PERIOD SPECTRAL RESPONSE COEFFICIENT, S D1	0.087g		
		8.	SEISMIC DESIGN CATEGORY	C		
		9.	RESPONSE MODIFICATION FACTOR, R	3.00		
		10.	SYSTEM OVERSTRENGTH FACTOR, Ω	3.00		
		11.	DEFLECTION AMPLIFICATION FACTOR, Cd	3.00		
		12.	SEISMIC RESPONSE COEFFICIENT, Cs	0.054		
		13.	DESIGN BASE SHEAR, V	0.054W		
		14.	BASIC SEISMIC FORCE-RESISTING SYSTEM	STRUCTURAL STEEL SYSTEMS NOT SPECIFICALLY DETAILED FOR SEISMIC RESISTANCE		
		15.	ANALYSIS PROCEDURE	EQUIVALENT LATERAL FORCE PROCEDURE		
	F.	SEISMIC DESIGN DATA (ROOFTOP MECHANICAL PLATFORM)		NONBUILDING STRUCTURES SIMILAR TO BUILDINGS, SECTION 15.3.1, ASCE 7-16		
		1.	HEIGHT IN STRUCTURE OF POINT OF ATTACHMENT OF COMPONENT WITH RESPECT TO THE BASE, z	55'-0"		
		2.	SEISMIC DESIGN CATEGORY	C		
		3.	MECHANICAL AND ELECTRICAL COMPONENT	ROOF-MOUNTED STACKS, COOLING AND ELECTRICAL TOWERS LATERALLY BRACED BELOW THEIR CENTER OF MASS, ASCE 7-16, TABLE 13.6-1		
		4.	COMPONENT AMPLIFICATION FACTOR, a p	2.50		
		5.	COMPONENT RESPONSE MODIFICATION FACTOR, R p	3.00		
		6.	OVER-STRENGTH FACTOR, Ω 0	2.00		
		7.	SEISMIC DESIGN FORCE, F p	0.30W (ASCE 7-16, SEC 13.3.1)		
4.	DEFLECTION LIMITS					
	A.	ROOF MEMBERS				
		1.	LIVE LOAD MAXIMUM ALLOWABLE DEFLECTION	L/360, REF ROOF DEFLECTION DIAGRAMS FOR ADDITIONAL INFORMATION		
		2.	TOTAL LOAD MAXIMUM ALLOWABLE DEFLECTION	L/240, REF ROOF DEFLECTION DIAGRAMS FOR ADDITIONAL INFORMATION		
	B.	FLOOR MEMBERS				
		1.	LIVE LOAD MAXIMUM ALLOWABLE DEFLECTION	L/360, REF FLOOR DEFLECTION DIAGRAMS FOR ADDITIONAL INFORMATION		
		2.	TOTAL LOAD MAXIMUM ALLOWABLE DEFLECTION	L/240, REF FLOOR DEFLECTION DIAGRAMS FOR ADDITIONAL INFORMATION		
	C.	BUILDING FRAME				
		1.	MAXIMUM ALLOWABLE STORY DRIFT	H/400 (BASED ON 50-YR WIND)		
5.	FIRE RESISTANCE RATING INFORMATION					
	A.	STRUCTURAL FRAME				
		1.	FRAME RATING	UNRESTRAINED		

4/24/2025 4:16:39 PM S0-00 GENERAL NOTES

4 DESIGN LOADS AND DESIGN DATA
12" = 1'-0"

QTS Freedom Standard - Version Matrix
Project: QTS DEN1-DC2

V3.0-rev2

Design Deliverable:
QTS Design Standards will be utilized as the Basis Of Design for the Data Center Building.
Design Consultant team to notate Version of QTS Design Standards.

Design Discipline	QTS Design Standard		
	Design Narrative	DD Drawing Set	Reference File
Civil	V3.0	N/A	
General	V3.0	V3.0	
Structural	V3.0	V3.0	
Architectural	V3.0	V3.0	
Fire Alarm	V3.0	V3.0	
Fire Protection	V3.0	V3.0	
Plumbing	V3.0	V3.0	
Process (I&C)	See Below	V3.0	
Mechanical	V3.0	V3.0	
Electrical	V3.0	V3.0	
Technology (Telecom)	V3.0	V3.0	
Audio Visual	N/A	V3.0	
Security	V3.0	V3.0	
Interior Standards	V3.0	See Architectural	3.0-rev1
Signage			INTrev4 EXTrev3
SDIs	N/A	N/A	SDI-018(v3.0) thru 44
OFCI Catalog	V4.0		
SOO Catalog	V2.0		

Design Discipline	Q-Systems Design Standard BODs Version
Data Telecom BOD	Freedom Standard - Data Telecom - 04.14.2024
Physical Security BOD	Freedom Standard - Security Systems - 05.10.2024
DCIM - BMS BOD	Freedom Standard - BMS Content Consolidation - 04.16.2024
DCIM - EPMS BOD	Freedom Standard - EPMS Content Consolidation - 04.16.2024

ABBREVIATION LEGEND

ABBR	DEFINITION	ABBR	DEFINITION
AB	ANCHOR BOLT	LLH	LONG LEG HORIZONTAL
ACI	AMERICAN CONCRETE INSTITUTE	LLV	LONG LEG VERTICAL
ADD'L	ADDITIONAL	LO	LOW
AFF	ABOVE FINISHED FLOOR	LOC	LOCATION
AISC	AMERICAN INSTITUTE OF STEEL CONSTRUCTION	LONG	LONGITUDINAL
AISI	AMERICAN IRON AND STEEL INSTITUTE	LSH	LONG SIDE HORIZONTAL
ARCH	ARCHITECTURAL	LSV	LONG SIDE VERTICAL
ASCE	AMERICAN SOCIETY OF CIVIL ENGINEERS	LWC	LIGHT WEIGHT CONCRETE
ASTM	AMERICAN SOCIETY FOR TESTING AND MATERIALS	MAX	MAXIMUM
AWS	AMERICAN WELDING SOCIETY	MC	MOMENT CONNECTION
BFF	BELOW FINISHED FLOOR	MECH	MECHANICAL
BL	BLOCK LINTEL	MFR	MANUFACTURER
BM	BEAM	MIN	MINIMUM
BO	BOTTOM OF	MISC	MISCELLANEOUS
BOS	BOTTOM OF STEEL	MO	MASONRY OPENING
BOT	BOTTOM	MTL	METAL
BP	BASE PLATE	NIC	NOT IN CONTRACT
BRG	BEARING	NO	NUMBER
BTWN	BETWEEN	NS	NEAR SIDE
CGS	CENTROID OF TENDONS	NTS	NOT TO SCALE
CIP	CAST IN PLACE	NWC	NORMAL WEIGHT CONCRETE (150 PCF)
CJ	CONTROL JOINT	OC	ON CENTER
CL	CENTER LINE	OD	OUTSIDE DIAMETER
CJP	COMPLETE JOINT PENETRATION	OH	OPPOSITE HAND
CLR	CLEAR	PAF	POWDER ACTUATED FASTENER
CMU	CONCRETE MASONRY UNIT	PCC	PRECAST CONCRETE
COL	COLUMN	PCF	POUNDS PER CUBIC FOOT
CONN	CONNECTION	PCI	PRECAST AND PRESTRESSED CONCRETE INSTITUTE
CONC	CONCRETE	PE	PROFESSIONAL ENGINEER
CONST	CONSTRUCTION	PEMB	PRE-ENGINEERED METAL BUILDING
CONT	CONTINUOUS	PENTR	PENETRATION
CRSI	CONCRETE REINFORCING STEEL INSTITUTE	PL	PLATE
DIA	DIAMETER	PLAM	PLASTIC LAMINATE
DBA	DOWEL BAR ANCHOR	PLF	POUNDS PER LINEAR FOOT
DL	DEAD LOADS	PP	PARTIAL PENETRATION
DT	DOUBLE TEE	PSF	POUNDS PER SQUARE FOOT
EA	EACH	PSI	POUNDS PER SQUARE INCH
EDC	ELECTRICAL DISTRIBUTION CENTER	PT	POST-TENSIONING
EF	EACH FACE	PTI	POST-TENSIONING INSTITUTE
EIFS	EXTERIOR INSULATION AND FINISH SYSTEM	QTY	QUANTITY
EJ	EXPANSION JOINT	RAF	RAISED ACCESS FLOOR
EL	ELEVATION	REF	REFER TO
ELEC	ELECTRICAL	REINF	REINFORCING
EQ	EQUAL	REQD	REQUIRED
EQUIV	EQUIVALENT	REV	REVERSE
EW	EACH WAY	RO	ROUGH OPENING
EXIST	EXISTING	RTU	ROOF TOP UNIT
EXP	EXPANSION	SCHED	SCHEDULE
EXT	EXTERIOR	SE	STRUCTURAL ENGINEER
FABR	FABRICATOR	SHT	SHEET
FDN	FOUNDATION	SIM	SIMILAR
FF	FINISHED FLOOR	SJI	STEEL JOIST INSTITUTE
FM	FACTORY MUTUAL	SOG	SLAB ON GRADE
FRP	FIBER REINFORCED PLASTIC	SPECS	SPECIFICATIONS
FS	FAR SIDE	STAG	STAGGERED
FTG	FOOTING	STIFF	STIFFENER
FV	FIELD VERIFY	STL	STEEL
GA	GAUGE	STRUC	STRUCTURAL
GALV	GALVANIZED	T&B	TOP AND BOTTOM
GC	GENERAL CONTRACTOR	TB	TOP OF BEAM
GER	GEOTECHNICAL ENGINEER OF RECORD	TC	TRANSFER COLUMN
GR	GRADE	THK	THICKNESS
GYP BD	GYPSUM BOARD	TO	TOP OF
H	HEIGHT	TOC	TOP OF CONCRETE
HI	HIGH	TOF	TOP OF FOOTING
HORIZ	HORIZONTAL	TOGB	TOP OF GRADE BEAM
HSA	HEADED STUD ANCHOR	TOM	TOP OF MASONRY
IBC	INTERNATIONAL BUILDING CODE	TOP	TOP OF PAVING
INFO	INFORMATION	TOS	TOP OF STEEL
INT	INTERIOR	TOSC	TOP OF STRUCTURAL CONCRETE
ISO	ISOLATION	TOW	TOP OF WALL
IT	INVERTED TEE	TRANS	TRANSVERSE
JBE	JOIST BEARING ELEVATION	T&S	TEMPERATURE AND SHRINKAGE
JST	JOIST	TYP	TYPICAL
JT	JOINT	UL	UNDERWRITERS LABORATORIES
KIP	1000 POUNDS	UNO	UNLESS NOTED OTHERWISE
KSI	KIPS PER SQUARE INCH	VERT	VERTICAL
L	LENGTH	W	WIDTH
Ld	TENSION DEVELOPMENT LENGTH AS SHOWN IN REINFORCING LAP SCHEDULE	WP	WORK POINT
LB	POUNDS	WWF	WELDED WIRE FABRIC
LL	LIVE LOAD		

3 ABBREVIATION LEGEND
12" = 1'-0"

DELEGATED DESIGN

D1 ENGINEERING DESIGN FOR DELEGATED DESIGN SUBMITTALS PERFORMED BY CONTRACTORS:
- A. THE CONTRACTOR OR RESPONSIBLE SUBCONTRACTOR SHALL HAVE A PROFESSIONAL ENGINEER LICENSED IN THE PROJECT JURISDICTION PERFORM ENGINEERING DESIGN OF THE DELEGATED DESIGN SUBMITTALS AS NOTED BELOW.
- B. EACH DELEGATED DESIGN SUBMITTAL SHALL BE SIGNED AND SEALED BY A PROFESSIONAL ENGINEER LICENSED IN THE PROJECT JURISDICTION.
- C. EACH DELEGATED DESIGN SUBMITTAL SHALL BE SUBMITTED TO THE AUTHORITY HAVING JURISDICTION FOR REVIEW AND APPROVAL PRIOR TO INSTALLATION.

DD2 THE CONTRACTOR SHALL PROVIDE DELEGATED DESIGN SUBMITTAL FOR:
- A. ANCHORAGE AND BRACING OF INTERIOR MP EQUIPMENT - SEISMIC DESIGN CATEGORY C AND GREATER AND ALL EXTERIOR MEP EQUIPMENT REGARDLESS OF SEISMIC DESIGN CATEGORY INCLUDING BUT NOT LIMITED TO:
  1. CHILLERS
  2. GENERATORS
  3. AHU/CRAH
  4. SWITCHGEAR
  5. TRANSFORMERS
  6. BUSWAYS
  7. HVAC DUCTWORK
- B. DISTRIBUTED SYSTEM (PIPING AND CONDUIT) ANCHORAGE AND BRACING
- C. UNISTRUT FRAMING.
- D. PRE-FABRICATED METAL STAIRS, MID-LANDINGS, AND PLATFORMS.
- E. ARCHITECTURAL METALS, ACCESS LADER, AND FALL ARREST SYSTEM.
- F. PRE-FABRICATED HANDRAILS AND ANCHORAGE.
- G. ELEVATOR GUIDERAIL SUPPORT FRAMING AND ANCHORAGE.
- H. LOVERED SCREENWALL AND ANCHORAGE.
- J. INTERIOR AND EXTERIOR COLD-FORMED METAL FRAMING.
- K. ARCHITECTURAL SUSPENDED CEILING SYSTEM.
- L. CURTAIN WALL SYSTEM.
- M. STRUCTURED CEILING GRID SYSTEM.
- N. FIRE SPRINKLERS SUPPORT SYSTEM AND ANCHORAGE.
- P. INSULATED PRECAST CONCRETE NON LOAD- BEARING PANELS AND CONNECTIONS.
- Q. PRE-FABRICATED GUARD BOOTH

DD3 INTERIOR MEP EQUIPMENT REQUIRES POSITIVE ATTACHMENT PER APLLICABLE BUILDING CODE OR AS REQUIRED BY MANUFACTURER (MOST STRINGENT SHALL GOVERN).

DD4 REFER TO MEP SPECIFICATION FOR ADDITIONAL INFORMATION.

DD5 WHEN SUBMITTING, INDICATE LOCATION, DIRECTION, AND MAGNITUDE OF LOADS WHICH ARE APPLIED TO PRIMARY STRUCTURE. CONNECTIONS TO PRIMARY STRUCTURE SHALL NOT IMPOSE TORSION TO THE SUPPORTING BEAM/JOISTS.

DD6 ALL POST-INSTALLED ANCHORS TO PRIMARY STRUCTURAL FRAMING SHALL HAVE ICC-ESR APPROVALS SUBMITTED TO THESTRUCTURAL ENGINEER OF RECORD FOR REVIEW AND APPROVAL.

6 DELEGATED DESIGN
12" = 1'-0"

SYMBOLS LEGEND

TOS EL 115'-0"	LEVEL ELEVATION
EL 115'-0"	SPOT ELEVATION
	VERTICAL BRACE
	LOAD BEARING CMU WALL AND/OR SHEARWALL
	LOAD BEARING CONC WALL AND/OR SHEARWALL
	MATCHLINE
4 / S3.10 — DETAIL / SECTION DESIGNATION	DETAIL / SECTION REFERENCE CUT
4 / S3.10	PARTIAL PLAN OR PLAN DETAIL REFERENCE
1 / S-201	VERTICAL BRACE, SHEARWALL OR TRUSS ELEVATION REFERENCE
	SLOPE IN STRUCTURE, DROP IN STRUCTURE, RIDGES AND VALLEYS
RTU-1 — UNIT DESIGNATION PER MEP DRAWINGS REF SCHED FOR FULL OPERATING WEIGHT	MEP EQUIPMENT
*FACTORED TOTAL LOAD; JOIST DEPTH; DDCJ XXX / YYY / ZZZ; *FACTORED POST COMPOSITE LIVE LOAD; *FACTORED POST COMPOSITE DEAD LOAD. NOTES: 1. (*) DENOTES ALL JOIST GIRDER POINT LOADS ARE SERVICE LEVEL. 2. WHERE APPLICABLE, REFER TO DESIGN LOAD & DESIGN DATA TABLE FOR ULTIMATE ROOF WIND LOAD PRESSURES FOR COMPOSITE JOIST DESIGN.	COMPOSITE JOIST (CJ) KEY
STEEL COLUMN; STEEL BEAM; DENOTES MOMENT CONNECTION (REF TYPICAL STEEL DETAILS FOR MOMENT CONN REQUIREMENTS)	MOMENT CONNECTION
HSS8X8X1/4 BP; SPECIAL BASE PL TYPE; F1; 97'-0"; FOOTING TYPE; TOP OF FOOTING ELEVATION	COLUMN, BASE PLATE AND FOUNDATION MARK
W10X33 BP; SPECIAL BASE PL TYPE; P1; 97'-0"; PIER TYPE; TOP OF PIER ELEVATION	
NUMBER OF HEADED SHEAR CONNECTORS (IF REQD); STL BEAM SIZE; VERT BEAM REACTION IN KIPS (LRFD); BEAM CAMBER (INCHES) (IF REQD); HORIZONTAL COLLECTOR / DRAG FORCE IN KIPS ON BOTH SIDES OF COLUMN (LRFD) (IF REQD); 15K W14X22 (20) C=3/4" 15K; H=15K; [4"]; TO BEAM IF DIFFERENT FROM REFERENCE EL; COLLECTOR / DRAG CONNECTION (IF REQD)	STEEL BEAM KEY

2 SYMBOLS LEGEND
1/8" = 1'-0"

EQUIPMENT WEIGHT SCHEDULE

DESIGNATION	EQUIPMENT TYPE	FULLY LOADED OPERATING WEIGHT (LB)
AHU	AIR HANDLING UNIT	50,000
GEN	GENERATOR	110,000
XFMR	TRANSFORMER	20,000
UPS	UPS PODS	145,500
VS	VISTA SWITCHES	10,000
SG MAU	SWITCHGEAR	2,100
MAU	MAKEUP AIR UNIT	4,900
RU-RTXX	ROOF TO UNIT	10,000 MAX
CF	CHILLER FILTER	3,100
CHILLER	CHILLER UNIT	55,000
THST	THERMAL STORAGE TANK	60,000 MAX

5 EQUIPMENT WEIGHT SCHEDULE
12" = 1'-0"

Structural plan review is limited to a general survey for code compliance. No review is implied nor was undertaken to verify structural adequacy.

FOUNDATION ONLY PERMIT - NOT APPROVED FOR VERTICAL CONSTRUCTION

City of Aurora Building Division
Reviewed for Code Compliance
Approved as Noted: Dirk Anderson
Date: Jun 12, 2025
2021 INTERNATIONAL CODES & 2023 NEC

△3

SHEET LIST

SHEET NUMBER	SHEET NAME
S0-00	GENERAL NOTES
S0-01	GENERAL NOTES
S0-02	GENERAL NOTES
S0-03	LOADING DIAGRAM
S0-04	LOADING DIAGRAM
S0-05	LOADING DIAGRAM
S0-06	LOADING DIAGRAM
S0-07	SNOW LOAD DIAGRAM
S0-08	SNOW LOAD DIAGRAM
S0-09	OVERALL 3D VIEW
S0-11	ROOF WIND UPLIFT DIAGRAM
S0-12	GENERAL NOTES
S1-10	OVERALL FOUNDATION PLAN
S1-10A	FOUNDATION PLAN - SEGMENT A
S1-10B	FOUNDATION PLAN - SEGMENT B
S1-10C	FOUNDATION PLAN - SEGMENT C
S1-10D	FOUNDATION PLAN - SEGMENT D
S1-10E	FOUNDATION PLAN - SEGMENT E
S1-10F	FOUNDATION PLAN - SEGMENT F
S1-10G	FOUNDATION PLAN - SEGMENT G
S1-10H	FOUNDATION PLAN - SEGMENT H
S1-10J	FOUNDATION PLAN - SEGMENT J
S1-10K	FOUNDATION PLAN - SEGMENT K
S1-10L	FOUNDATION PLAN - SEGMENT L
S1-10M	FOUNDATION PLAN - SEGMENT M
S1-10N	FOUNDATION PLAN - SEGMENT N
S1-10P	FOUNDATION PLAN - SEGMENT P
S1-10Q	FOUNDATION PLAN - SEGMENT Q
S1-10R	FOUNDATION PLAN - SEGMENT R
S1-10S	FOUNDATION PLAN - SEGMENT S
S1-10T	FOUNDATION PLAN - SEGMENT T
S1-11	PARTIAL FOUNDATION PLANS
S1-20	OVERALL SECOND FLOOR FRAMING PLAN
S1-30	OVERALL ROOF FRAMING PLAN
S1-40	OVERALL PLATFORM FRAMING PLAN
S2-00	FRAME ELEVATIONS
S2-01	FRAME ELEVATIONS
S2-02	FRAME ELEVATIONS
S2-03	FRAME ELEVATIONS
S2-04	FRAME ELEVATIONS
S2-05	FRAME ELEVATIONS
S2-06	FRAME ELEVATIONS
S2-07	FRAME ELEVATIONS
S2-08	FRAME ELEVATIONS
S2-09	FRAME ELEVATIONS
S2-10	FRAME ELEVATIONS
S2-11	FRAME ELEVATIONS
S2-12	FRAME ELEVATIONS
S2-13	FRAME ELEVATIONS
S2-30	TYPICAL BRACING DETAILS
S3-00	PIER, GRADE BEAM SCHEDULE AND TYPICAL FOUNDATION DETAILS
S3-01	TYPICAL FOUNDATION DETAILS
S3-10	FOUNDATION DETAILS
S3-11	FOUNDATION DETAILS
S3-12	FOUNDATION DETAILS
S3-20	FOUNDATION DETAILS
S3-21	FOUNDATION DETAILS
S5-00	TYPICAL STEEL COLUMN DETAILS AND BASE PLATE SCHEDULE

1 SHEET LIST
12" = 1'-0"

CORGAN
401 N. Houston Street Dallas, TX 75202
T: 214.748.2000

AG/E

SYSKA HENNESSY GROUP

TLD DESIGN CONSULTING LLC

ISSUES

1	12.20.24	DESIGN DEVELOPMENT
2	01.31.25	ISSUE FOR PERMIT
3	05.30.25	FOUNDATION ONLY IFP
4		
5		
6		
7		
8		
9		
10		

REVISIONS

A	04.24.25	COA - PERMIT COMMENTS

COLORADO LICENSED
NICHOLAS W. HEYD
65236
PROFESSIONAL ENGINEER
AG&E Structural Engenuity

Date of issue:
05.25.2025

QTS DEN1 DC2
1140 N. GUN CLUB ROAD

GENERAL NOTES

JOB 24464.0000
DATE 05.25.2025
SHEET

S0-00

Permit #25-2535171-CM
RSN 1903242

GENERAL:

G1 STRUCTURAL DRAWINGS AND SPECIFICATIONS ARE PROTECTED BY U.S.A. COPYRIGHT LAWS. DO NOT USE THESE STRUCTURAL DRAWINGS FOR ANY PURPOSE OTHER THAN CONSTRUCTION OF STRUCTURE FOR BUILDING DESCRIBED IN ARCHITECTURAL DRAWINGS AT LOCATION INDICATED.

G2 UNLESS NOTED OTHERWISE, GENERAL NOTES AND DETAILS IN DRAWINGS DESIGNATED AS "TYPICAL DETAILS," ARE APPLICABLE TO CONSTRUCTION IN ALL LOCATIONS WHERE CONDITIONS ARE SIMILAR.

G3 NOTES PROVIDED ON STRUCTURAL DRAWINGS DO NOT REPLACE CONTRACT SPECIFICATIONS. IN EVENT OF A CONFLICT BETWEEN THE TWO, THE MORE STRINGENT INTERPRETATION BASED ON SOLE DISCRETION OF STRUCTURAL ENGINEER SHALL APPLY.

G4 CONSTRUCTION SHALL CONFORM TO PROVISIONS OF SPECIFIED BUILDING CODE AND ALL STANDARDS REFERENCED THEREIN IN THEIR ENTIRETY, WITH ALL LOCALLY ADOPTED AMENDMENTS, REFERENCED THEREIN. IN EVENT OF A CONFLICT BETWEEN BUILDING CODE AND STRUCTURAL DRAWINGS AND SPECIFICATIONS, THE MORE STRINGENT INTERPRETATION BASED ON SOLE DISCRETION OF STRUCTURAL ENGINEER SHALL APPLY.

G5 COMPLY WITH ALL APPLICABLE BUILDING CODES, REGULATION AND SAFETY REQUIREMENTS. CONTRACTOR IS SOLELY RESPONSIBLE FOR SAFETY ON JOBSITE DURING CONSTRUCTION.

G6 UNLESS ACCOMPANIED BY A FORMAL CHANGE ORDER, RESPONSES TO QUESTIONS AND RFI'S, COMMENTS MADE DURING REVIEW OF SUBMITTALS, AND DIRECTIVES PROVIDED IN ANY FORM, BY STRUCTURAL ENGINEER TO CONTRACTOR DURING CONSTRUCTION PROCESS ARE INTENDED TO BE CLARIFICATIONS OF CONTRACT DOCUMENTS OR CORRECTIONS TO PERCEIVED INTERPRETATION OF INTENT OF CONTRACT DOCUMENTS BY CONTRACTOR. SUCH CLARIFICATIONS AND CORRECTIONS ARE NOT INTENDED TO REPRESENT A CHANGE IN COST OF PROJECT TO OWNER AND ARE CONSIDERED TO BE INFERABLE FROM CONTENT OF CONTRACT DRAWINGS OR CONSISTENT WITH INDUSTRY STANDARDS OF CONSTRUCTION. IF CONTRACTOR DETERMINES THAT SUCH CLARIFICATIONS AND CORRECTIONS HAVE AN IMPACT ON COST OF PROJECT TO OWNER, SUBMIT A CHANGE ORDER REQUEST WITH DETAILED PRICING INFORMATION TO ARCHITECT BEFORE PURCHASING, DETAILING, FABRICATING OR INSTALLING ANY COMPONENT RELATED TO SUCH CLARIFICATIONS AND CORRECTIONS.

G7 ROOF STRUCTURE AND ITS SUPPORTING ELEMENTS HAVE BEEN DESIGNED WITH THE ASSUMPTION THAT ADEQUATE AND SUFFICIENT DRAINAGE HAS BEEN PROVIDED TO PREVENT PONDING OF WATER.

G8 INFORM ARCHITECT IN WRITING OF ANY DISCREPANCIES OR OMISSIONS NOTED ON DRAWINGS OR IN SPECIFICATIONS. UPON RECEIPT OF SUCH INFORMATION, ARCHITECT WILL SEND WRITTEN CLARIFICATIONS TO ALL CONCERNED.

G9 DESIGN AND PROVIDE ADEQUATE SHORING, BRACING, AND FORMWORK, AS REQUIRED FOR PROTECTION OF LIFE AND PROPERTY DURING CONSTRUCTION OF BUILDING, WHICH IS SOLE RESPONSIBILITY OF CONTRACTOR.

G10 CONTRACTOR IS SOLELY RESPONSIBLE FOR ALL EXCAVATION PROCEDURES INCLUDING LAGGING, SHORING, AND PROTECTION OF ADJACENT PROPERTY, STRUCTURES, STREETS AND UTILITIES.

G11 STRUCTURAL DRAWINGS ARE NOT TO BE VIEWED AS STAND ALONE DRAWINGS WITH RESPECT TO PROJECT DIMENSIONS OR ANY OTHER COMPONENT OF CONSTRUCTION THAT CAN AND MAY BE IDENTIFIED IN OTHER PARTS OF CONTRACT DOCUMENTS. REDUNDANT DIMENSIONS AND OTHER INFORMATION INDICATED ELSEWHERE IN CONTRACT DOCUMENTS MAY OR MAY NOT BE PROVIDED IN STRUCTURAL DRAWINGS. THE ENTIRE SET OF CONTRACT DOCUMENTS IS REQUIRED TO PROPERLY CONSTRUCT THE STRUCTURE AS WELL AS OTHER COMPONENTS OF BUILDING. ASSEMBLE AND COORDINATE REQUIREMENTS OF ALL COMPONENTS OF CONTRACT DOCUMENTS IN ORDER TO PROPERLY IMPLEMENT REQUIREMENTS OF CONTRACT. IF THERE IS SPECIFIC DIMENSIONAL OR OTHER INFORMATION THAT CONTRACTOR FEELS CAN NOT BE DETERMINED FROM CONTRACT DOCUMENTS AS A WHOLE, THEN CONTRACTOR SHALL BRING IT TO ATTENTION OF ARCHITECT.

G12 STRUCTURAL DRAWINGS ARE NOT TO BE VIEWED AS DETAILED SHOP OR ERECTION DRAWINGS. DETERMINE VARIOUS ANCILLARY DIMENSIONS REQUIRED FOR PROPER FIT-UP OF VARIOUS COMPONENTS OF STRUCTURE FROM INFORMATION PROVIDED IN CONTRACT DOCUMENTS. IT IS CONTRACTOR'S RESPONSIBILITY TO ESTABLISH WHERE SUCH ANCILLARY DIMENSIONS ARE NECESSARY AND TO CALCULATE AND VERIFY THESE DIMENSIONS AS REQUIRED TO ACHIEVE PROPER FIT-UP OF MATERIALS AND TO ACHIEVE COMPLIANCE WITH REQUIREMENTS OF CONTRACT DOCUMENTS AND CONSTRUCTION TOLERANCES.

G13 ANCHORS REQUIRED FOR ANCHORING MEP EQUIPMENT AND/OR PIPING ARE NOT INDICATED ON STRUCTURAL DRAWINGS. DETERMINE AND COORDINATE REQUIREMENTS FROM OTHER DISCIPLINES AND PROVIDE APPROPRIATE ALLOWANCES INTO BID. REFERENCE ARCHITECTURAL, ELECTRICAL, AND MECHANICAL DRAWINGS FOR SIZE AND LOCATION OF PIPES, VENTS, CHASES, DUCTS AND OTHER OPENINGS AND DETAILS NOT INDICATED ON STRUCTURAL DRAWINGS. CHECK AND VERIFY DIMENSIONS WITH ARCHITECTURAL DRAWINGS.

G14 DRAWINGS AND SPECIFICATIONS REPRESENT FINISHED STRUCTURE. UNLESS SO STATED OR NOTED, THEY DO NOT INDICATE COMPONENTS THAT ARE NECESSARY FOR SUPPORTING AND STABILIZING WORK DURING CONSTRUCTION OR MEANS AND METHODS OF CONSTRUCTION, ALL OF WHICH ARE RESPONSIBILITY OF CONTRACTOR. TEMPORARY BRACING, PROPERLY DESIGNED UNDER SUPERVISION OF A STRUCTURAL ENGINEER LICENSED TO PRACTICE IN STATE IN WHICH PROJECT IS LOCATED, SHALL BE PROVIDED AS REQUIRED TO HOLD ALL COMPONENTS OF STRUCTURE IN PLACE UNTIL FINISHED STRUCTURE IS COMPLETE.

G15 INSPECTIONS, SPECIAL OR OTHERWISE, THAT ARE REQUIRED BY BUILDING CODES, LOCAL BUILDING DEPARTMENTS, OR CONTRACT DOCUMENTS, SHALL BE PROVIDED BY AN INDEPENDENT INSPECTION COMPANY.

G16 VARIOUS OPENINGS, DEPRESSIONS, RECESSES, SLOPES, BLOCKOUTS, CURBS, AND EMBEDMENTS NOT INDICATED IN STRUCTURAL DOCUMENTS MAY BE REQUIRED IN COMPLETED STRUCTURE BY OTHER DISCIPLINE CONTRACT DOCUMENTS. INCORPORATE AND COORDINATE SUCH ITEMS AND BRING CONSTRUCTION OR INSTALLATION ISSUE TO ATTENTION OF ARCHITECT. COORDINATE ATTACHMENT AND EMBEDMENTS REQUIRED BY MANUFACTURERS AND INSTALLERS OF VARIOUS EQUIPMENT AND FINISHES. BRING CONSTRUCTION OR INSTALLATION ISSUES TO ATTENTION OF ARCHITECT PRIOR TO FABRICATION OF MATERIALS OR INSTALLATION. INCLUDE AN ALLOWANCE IN BID PRICE SUFFICIENT TO ADEQUATELY COVER STRUCTURAL REQUIREMENTS FOR SUCH ITEMS WITHOUT NEED FOR A FUTURE CHANGE TO BID PRICE.

G17 ELEVATIONS PROVIDED IN STRUCTURAL DRAWINGS ARE RELATIVE ELEVATIONS AND ARE NOT INTENDED TO ESTABLISH ACTUAL SEA LEVEL ELEVATION OF STRUCTURE. REFER TO ARCHITECTURAL AND CIVIL DRAWINGS FOR ACTUAL SEA LEVEL ELEVATIONS OF VARIOUS ELEMENTS OF BUILDING.

G18 LOCATIONS AND LOADINGS FOR MECHANICAL EQUIPMENT ARE BASED ON UNITS INDICATED ON MECHANICAL DRAWINGS AND IN EQUIPMENT SCHEDULE. REPORT CHANGES IN LOCATION, TYPE, SIZE, WEIGHT, OR NUMBER OF PIECES OF EQUIPMENT TO ARCHITECT FOR VERIFICATION OF ADEQUACY OF SUPPORTING MEMBERS PRIOR TO PLACEMENT OF SUCH EQUIPMENT.

G19 SUBMIT, IN WRITING WITH REQUIRED BACKUP DATA, PROPOSED SUBSTITUTIONS OF MATERIALS, PRODUCTS OR DETAILS DEPICTED IN CONTRACT DOCUMENTS. SHOP DRAWINGS THAT ARE SUBMITTED FOR REVIEW DO NOT CONSTITUTE "NOTICE IN WRITING." PROPOSED SUBSTITUTIONS OR DEVIATIONS WILL NOT BE REVIEWED OR RESPONDED TO WITHOUT REQUIRED BACKUP DATA. CONTRACTOR SHALL REMAIN LIABLE FOR ANY SUBSTITUTION OR DEVIATION UNLESS ACKNOWLEDGMENT AND ACCEPTANCE IS PROVIDED BY ARCHITECT IN WRITING.

G20 COORDINATE GRADES WITH CIVIL ENGINEER'S GRADING PLAN AND LANDSCAPE ARCHITECT'S PLAN. NOTIFY ARCHITECT OF ANY DISCREPANCIES.

G21 DO NOT SCALE DRAWINGS IN STRUCTURAL DOCUMENTS FOR ANY PURPOSE, INCLUDING DETERMINATION OF QUANTITIES AND FIT UP OF MATERIALS.

G22 OBTAIN ALL CONTRACT DOCUMENTS AND LATEST ADDENDA AND SUBMIT SUCH DOCUMENTS TO SUBCONTRACTORS AND MATERIAL SUPPLIERS PRIOR TO SUBMITTAL OF SHOP DRAWINGS, FABRICATION OF STRUCTURAL MEMBERS, AND CONSTRUCTION.

G23 UNLESS SPECIFICALLY INDICATED ON STRUCTURAL DRAWINGS, LOCATION OF EXISTING SUBGRADE UTILITIES OR OTHER OBSTRUCTIONS IS UNKNOWN. NOTIFY ARCHITECT OF CONFLICT OF DISCOVERED ITEMS WITH CONSTRUCTION OF NEW FOUNDATION ELEMENTS.

G24 UNLESS NOTED OTHERWISE, NO PROVISION HAS BEEN MADE IN STRUCTURAL DESIGN FOR FUTURE VERTICAL EXPANSION.

SHOP DRAWINGS:

SDR1 REVIEW ALL SUBMITTALS FOR COMPLIANCE WITH CONTRACT DOCUMENTS AND CERTIFY REVIEW BY A STAMP NOTING THAT SUBMITTAL HAS BEEN "APPROVED" AND WHICH BEARS SIGNATURE OF AN AUTHORIZED REPRESENTATIVE OF CONTRACTOR AND DATE. SUBMITTALS WHICH DO NOT REFLECT CONTRACTOR'S APPROVAL, SIGNATURE AND DATE; OR DO NOT APPEAR TO HAVE BEEN REVIEWED BY CONTRACTOR, WILL BE RETURNED WITHOUT REVIEW.

SDR2 REVIEW OF SUBMITTALS BY STRUCTURAL ENGINEER IS ONLY FOR GENERAL CONFORMANCE WITH DESIGN CONCEPT AND INFORMATION GIVEN IN STRUCTURAL CONTRACT DOCUMENTS. CORRECTIONS OR COMMENTS MADE ON SUBMITTALS DURING THIS REVIEW DO NOT RELIEVE CONTRACTOR FROM COMPLIANCE WITH REQUIREMENTS OF CONTRACT DOCUMENTS. APPROVAL OF A SPECIFIC ITEM DOES NOT IMPLY OR INCLUDE APPROVAL OF AN ASSEMBLY OF WHICH ITEM IS A COMPONENT. CONTRACTOR IS RESPONSIBLE FOR DIMENSIONS TO BE CONFIRMED AND CORRELATED AT JOBSITE; INFORMATION THAT PERTAINS SOLELY TO FABRICATION PROCESSES OR TO MEANS, METHODS, TECHNIQUES, SEQUENCES AND PROCEDURES OF CONSTRUCTION; COORDINATION OF WORK WITH THAT OF OTHER TRADES AND PERFORMING WORK IN A SAFE AND SATISFACTORY MANNER.

SDR3 DO NOT USE REPRODUCTIONS OR ELECTRONIC FILES OF CONTRACT DOCUMENTS FOR PREPARATION OF SHOP DRAWINGS.

SDR4 OMISSION FROM SHOP DRAWINGS OF ANY REQUIREMENTS OF CONTRACT DOCUMENTS SHALL NOT RELIEVE CONTRACTOR OF RESPONSIBILITY OF COMPLYING WITH OMITTED REQUIREMENTS, EVEN IF SHOP DRAWINGS HAVE BEEN REVIEWED AND RETURNED.

SDR5 ARCHITECT/ENGINEER SHALL NOT BE RESPONSIBLE FOR DELAYS CAUSED BY REJECTION OF INADEQUATE OR INCORRECT SHOP DRAWINGS.

SDR6 SHOP DRAWINGS THAT ARE NOT SPECIFICALLY REQUIRED BY CONTRACT DOCUMENTS WILL NOT BE REVIEWED OR RETURNED.

SDR7 SIGNED AND SEALED CALCULATIONS FOR A PARTICULAR SYSTEM SUBMITTED ARE REVIEWED FOR LOAD CRITERIA AND GENERAL CONFORMANCE WITH CONTRACT DOCUMENTS. CALCULATION REVIEW AND COMMENTS DO NOT INFER A DETAILED CHECK OF CALCULATIONS, NOR DOES REVIEW RELIEVE SUBMITTING STRUCTURAL ENGINEER OR CONTRACTOR OF RESPONSIBILITY.

GEOTECHNICAL REPORT:

GR1 FOUNDATION DESIGN AND SUBSURFACE INFORMATION IS BASED ON GEOTECHNICAL INVESTIGATION REPORT AS FOLLOWS:

GEOTECHNICAL CONSULTANT:	TERRACON CONSULTANTS, INC.
GEOTECHNICAL REPORT NUMBER:	25245150
GEOTECHNICAL REPORT NAME:	QTS DATA CENTER - DC2 AND DC3 GEOTECHNICAL REPORT (A)
GEOTECHNICAL REPORT LOCATION:	1120 NORTH GUN CLUB ROAD, AURORA, COLORADO
GEOTECHNICAL REPORT DATE:	OCTOBER 4, 2024

GR2 GEOTECHNICAL REPORT IS AVAILABLE TO CONTRACTOR AS A REFERENCE DOCUMENT UPON REQUEST TO OWNER.

GR3 ARCHITECT AND ENGINEER ARE NOT RESPONSIBLE OR LIABLE FOR ACCURACY OR APPLICABILITY OF INFORMATION PRESENTED IN GEOTECHNICAL REPORT.

SUBGRADE PREPARATION:

SP1 EXAMINE SITE THOROUGHLY AND CONTENTS OF GEOTECHNICAL REPORT AND ITS RECOMMENDATIONS. PERFORM ALL SUBGRADE PREPARATION, FILL, FILL PLACEMENT, AND FOUNDATION CONSTRUCTION IN STRICT COMPLIANCE WITH CONTRACT DOCUMENTS AND GEOTECHNICAL REPORT, AND DO NOT PROCEED WITH FOUNDATION CONSTRUCTION UNTIL SUBGRADE HAS BEEN OBSERVED, TESTED, AND APPROVED BY PROJECT'S GEOTECHNICAL-ENGINEER-OF-RECORD.

CONCRETE SLAB-ON-GRADE:

SOG1 INSTALL VAPOR RETARDER WHERE INDICATED ON DRAWINGS IN ACCORDANCE WITH SPECIFICATIONS AND MANUFACTURER'S RECOMMENDATIONS.

SOG2 REMOVE ANY STANDING WATER ON SURFACE OF VAPOR RETARDER PRIOR TO CONCRETE PLACEMENT.

SOG3 REFERENCE PLANS FOR SLAB REINFORCING. PROVIDE CLASS B TENSION LAP SPLICE FOR SLAB REINFORCING. PROVIDE ADDITIONAL #4X5'-0" AT RE-ENTRANT CORNERS, INCLUDING RE-ENTRANT CORNERS AROUND PERIMETER OF BUILDINGS, FLOOR RECESSES, AND OPENINGS.

SOG4 PROVIDE CONTROL JOINTS ALONG COLUMN LINES AND AT 15'-0" ON CENTER, EACH WAY, MAXIMUM, UNLESS NOTED OTHERWISE. PROVIDE ADDITIONAL CONTROL JOINTS AT RE-ENTRANT CORNERS.

SOG5 DO NOT PLACE HEAVY EQUIPMENT OR CONSTRUCTION STORAGE LOADS ON SLAB UNLESS CALCULATIONS, PREPARED BY A STRUCTURAL ENGINEER LICENSED TO PRACTICE IN STATE IN WHICH PROJECT IS LOCATED, HAVE BEEN SUBMITTED VERIFYING ADEQUACY OF SLAB.

DRILLED CONCRETE PIERS:

P1 STRAIGHT SHAFT (SS) DRILLED PIER DESIGNS ARE BASED UPON INFORMATION LISTED BELOW.

ALLOWABLE END BEARING PRESSURE:	25,000 PSF
ALLOWABLE COMPRESSION SKIN FRICTION RESISTANCE:	2,000 PSF
UPLIFT FROM SOIL	85 x PIER DIA
ALLOWABLE UPLIFT SKIN FRICTION RESISTANCE:	2,000 PSF
MINIMUM PIER CLEAR SPACING FOR FULL CAPACITY:	3 SHAFT DIA. OF THE LARGER PIER
BEARING STRATUM:	CLAYSTONE BEDROCK, OR AS APPROVED BY GER REPRESENTATIVE
BEARING STRATUM ELEVATION (FOR ESTIMATING PURPOSE ONLY):	20 FT

P2 CONSTRUCT PIERS AND PLACE CONCRETE IN PIERS IN ACCORDANCE WITH THE RECOMMENDATIONS IN THE GEOTECHNICAL REPORT AND AS PER THE CURRENT VERSION OF ACI 336. FILL PIER EXCAVATIONS WITH CONCRETE AS SOON AS PRACTICAL BEFORE END OF DAY, BUT NO LONGER THAN 8 HOURS AFTER START OF DRILLING IN PENETRATION OR BEARING ZONE. REFER TO GEOTECHNICAL REPORT FOR CASING REQUIREMENTS.

P3 PLACE PIERS NOT SPECIFICALLY LOCATED ON DRAWINGS ON CENTERLINE OF COLUMN ABOVE. WHERE NO COLUMN OCCURS, LOCATE PIER ON CENTERLINE OF WALL OR BEAM.

P4 HOLD REINFORCING CAGE SECURELY AWAY FROM EARTH AT SIDE AND BOTTOM BY SETS OF 3 SPACERS AT A MAXIMUM SPACING OF 8 FEET ALONG LENGTH OF CAGE AND 12-INCHES FROM BOTTOM.

P5 VERIFY DEPTHS OF PIERS BEFORE PIER STEEL IS CUT. PIER STEEL MAY BE DELIVERED TO JOBSITE IN STANDARD LENGTHS AND CUT AS REQUIRED.

P6 BELLING AT TOP OF PIERS IS PROHIBITED. FORM TOP OF PIER IF REQUIRED TO MAINTAIN SPECIFIED DIAMETER. REMOVE ANY CONCRETE EXTENDING BEYOND SPECIFIED DIAMETER.

P7 PROVIDE CASING, IF UTILIZED ON THIS PROJECT, WITH AN INSIDE DIAMETER EQUAL TO PIER DIAMETER INDICATED IN PIER SCHEDULE.

P8 WHERE CLEAR DISTANCE BETWEEN TWO PIERS IS LESS THAN PIER DIAMETER OF LARGER PIER, WAIT AT LEAST 48 HOURS AFTER CASTING FIRST PIER BEFORE DRILLING SECOND PIER.

P9 USE TEMPORARY TEMPLATES TO SET DOWELS AND ANCHOR BOLTS IN PIERS. PLACE DOWEL AND ANCHOR BOLTS PRIOR TO PIER CONCRETE ACHIEVING ITS INITIAL SET.

P10 FOR ESTIMATING PURPOSES ONLY, 20' IS DISTANCE FROM EXISTING GRADE TO REQUIRED BEARING STRATUM INDICATED IN TYPICAL PIER DETAIL.

P11 LOCATION TOLERANCE AT CUT-OFF SHALL BE NO GREATER THAN 1/24 OF SPECIFIED SHAFT DIAMETER OR 3 IN., WHICHEVER IS GREATER. OUT-OF-PLUMBNESS OF PIERS SHALL NOT EXCEED 1.5%.

P12 NOTIFY ARCHITECT/ENGINEER 48 HOURS PRIOR TO DRILLED PIER PLACEMENT.

MASS CONCRETE:

MC1 CONSTRUCT ELEMENTS OF CONCRETE THAT HAVE A LEAST DIMENSION OF GREATER THAN 59.9 INCHES, OR ARE SPECIFICALLY NOTED ON DRAWINGS PER ACI 207.1. MASS CONCRETE REQUIREMENTS DO NOT APPLY TO PORTIONS OF DRILLED PIERS BELOW GRADE. PROVIDE MASS CONCRETE COMPLYING WITH FOLLOWING REQUIREMENTS:
A. MAXIMUM INTERNAL TEMPERATURE OF PLACED CONCRETE SHALL NOT EXCEED 160 DEGREES F.
B. MAXIMUM TEMPERATURE DIFFERENCE BETWEEN CENTER AND SURFACE MASS OF CONCRETE PLACEMENTS SHALL NOT EXCEED 35 DEGREES. LOCATIONS OF SENSORS FOR MEASUREMENT OF MAXIMUM AND MINIMUM TEMPERATURES IN PLACEMENT SHALL BE STATED IN THERMAL CONTROL PLAN. PROVIDE A WRITTEN THERMAL CONTROL PLAN THAT ADDRESSES NEED FOR ITEMS SUCH AS INSULATING BLANKETS, COOLED MATERIALS AND DEVICES FOR INTERNAL CONCRETE CORE TEMPERATURE MEASUREMENT.
C. USE OF 56 DAY BREAKS IN LIEU OF 28 DAY BREAKS FOR DETERMINATION OF STRENGTHS IS PERMITTED.

CONCRETE MIX:

CM1 PROVIDE CONCRETE MEETING FOLLOWING:

CONCRETE MIX DESIGN SCHEDULE

USE	28-DAY STRENGTH (PSI)	MAX. WATER CEMENT RATIO	MAX. CURED DENSITY (PCF)	MAX. AGGREGATE SIZE (IN)	CEMENT TYPE (REF CM13)	MAX. ALLOWABLE % FLY ASH (REF CM5)	% AIR ENTRAINMENT	EXPOSURE CATEGORY
DRILLED PIERS	4,000	0.55	150	1	I / II	40	-	F0,S0
PEDESTALS, PILASTERS	4,500	0.45	150	1	I / II	20	6	F1,S0
GRADE BEAMS	4,500	0.45	150	1	I / II	20	6	F1,S0
PRECAST WALLS	4,500	0.45	150	1	I / II	30	6	F1,S0
NORMAL WEIGHT SLAB ON COMPOSITE METAL DECK (REF NOTE CM8)	4,000	0.45	150	1	I / II	20	-	F0,S0
SLAB FOR EQUIP PADS AND EXTERIOR SLAB-ON-GRADE	4,500	0.45	150	1	I / II	20	6	F1,S0
SLAB-ON-GRADE INTERIOR	4,000	0.50	150	1	I / II	20	-	F1,S0
MASS CONCRETE (ALSO REFER TO MASS CONCRETE NOTES)	4,500 AT 56 DAYS	0.40	150	1	II	40	-	F0,S0

CM2 CHANGING APPROVED MIX DESIGN REQUIRES A NEW MIX DESIGN SUBMITTAL. USE ADMIXTURES PLACED IN CONCRETE MIX IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS AND INCLUDE IN SUBMITTED CONCRETE MIX DESIGN FOR APPROVAL.

CM3 DO NOT PLACE CONCRETE WHEN AMBIENT AIR TEMPERATURE IS OUTSIDE LIMITS PROVIDED ON APPROVED MIX DESIGNS. USE OF CHLORIDES IN ANY ADMIXTURE IS NOT PERMITTED.

CM4 PROVIDE PORTLAND CEMENT CONFORMING TO ASTM C150, OF TYPES NOTED IN SCHEDULE. PROVIDE NORMAL WEIGHT AGGREGATE CONFORMING TO ASTM C33. PROVIDE LIGHT WEIGHT AGGREGATE CONFORMING TO ASTM C330.

CM5 DO NOT USE FLY ASH AS A CONSTITUENT IN ARCHITECTURALLY EXPOSED CONCRETE. FLY ASH IS ALLOWED IN ALL OTHER NON-ARCHITECTURALLY EXPOSED CONCRETE, UP TO MAXIMUM PERCENTAGE LISTED ABOVE. ADD WEIGHT OF FLY ASH TO WEIGHT OF CEMENT IN CALCULATION OF WATER CEMENT RATIO. CONFIRM IN MIX DESIGNSUBMITTAL THAT USE OF FLY ASH WILL NOT INTERFERE WITH PERFORMANCE OF OTHER PRODUCTS AND MATERIALS THAT WILL BE IN CONTACT WITH CONCRETE.

CM6 AIR ENTRAINMENT IS REQUIRED ONLY IN NORMAL WEIGHT CONCRETE PERMANENTLY EXPOSED TO WEATHER CONDITIONS. THE TOLERANCE FOR AIR CONTENT AS DELIVERED IS +/- 1.5%. DO NOT AIR-ENTRAIN INTERIOR FLOOR SLABS THAT RECEIVE HARD TROWEL FINISH.

CM7 MIX FOR TOPPING SLABS THAT ARE LESS THAN TWO INCHES THICK SHALL CONTAIN SIKA FIBERMESH - 150 FIBERS OR EQUIVALENT WITH A DOSAGE OF 1.5 POUNDS PER CUBIC YARD.

CM8 PROVIDE CONCRETE IN ELEVATED SLABS AND BEAMS WITH A SHRINKAGE LIMIT OF 0.02% AT 28 DAYS MEASURED IN ACCORDANCE WITH ASTM C157. SUBMIT LABORATORY TEST RESULTS TO ARCHITECT PRIOR TO CONSTRUCTION.

CM9 NON-CHLORIDE ACCELERATING ADMIXTURE MAY BE USED IN CONCRETE SLABS PLACED AT AMBIENT TEMPERATURES BELOW 50 DEGREES FAHRENHEIT AT CONTRACTOR'S OPTION.

CM11 SUBMIT MIX DESIGN SUBMITTALS TO PROJECT'S TESTING LABORATORY PRIOR TO SUBMITTING TO ARCHITECT. A SUBMITTAL WITHOUT TESTING LABORATORY'S APPROVAL WILL BE REJECTED.

CM12 PROPORTION CONCRETE MIXES WITH SLUMPS SUITABLE TO PROPERLY PLACE, CONSOLIDATE, AND FINISH CONCRETE IN ACCORDANCE WITH ACI 318 AND CONTRACT DOCUMENTS.

CM13 IF TYPE 1L CEMENT IS BEING SUBSTITUTED FOR TYPE I / II CEMENT IN THE CONCRETE MIX DESIGN FOR THE PROJECT, THE CONTRACTOR'S CONCRETE MIX SUPPLIER SHALL PROVIDE GUIDANCE FOR USE OF 1L CEMENT FOR ALL FLOOR SLABS ON THE PROJECT, INCLUDING DIRECTIONS FOR PLACEMENT, FINISHING, CURING AND POSSIBLE USE OF SURFACE DENSIFIER APPROPRIATE TO THE CHEMICAL COMPOSITION OF THE SPECIFIC TYPE 1L CEMENT TO BE UTILIZED. SUGGESTED COMPONENTS OF THE JUSTIFICATION FOR USE OF TYPE 1L WOULD INCLUDE:

1. A MOCKUP 20 FEET BY 20 FEET, WHICH IS NOT PART OF THE COMPLETED PROJECT WORK SHALL BE CAST, FINISHED, CURED, AND AS NEEDED DENSIFIED, FOR REVIEW BY THE DESIGN TEAM AND OWNER.
2. ALL FLOOR SLABS SHALL BE WET-CURED FOR A FULL 28-DAYS OR LESS IF DEMONSTRATED THAT A SHORTER WET-CURE PERIOD CAN ACHIEVE THE REQUIRED CONCRETE STRENGTH AND SLAB FINISH.
3. AS AN ALTERNATIVE TO WET-CURING, ADDITIONAL WATER MAY BE ADDED TO MIXTURE WITHIN CODE LIMITS AND DEMONSTRATED TO BE COMPATIBLE WITH CURING METHODS PROPOSED TO PREVENT FLOOR SLAB SURFACE DEFECTS.
4. APPLIED DENSIFIERS SHALL BE CONSIDERED FOR APPLICATION TO FLOOR SLABS PROVIDED DENSIFIER IS COMPATIBLE WITH TYPE 1L CEMENT AND WITHOUT THE RISK OF INTERFERING WITH FLOORING ADHESIVES AND VOIDING FLOOR FINISH WARRANTIES.

COLD-FORMED METAL FRAMING:

CF1 PROVIDE COLD-FORMED METAL FRAMING DESIGNED BY A STRUCTURAL ENGINEER LICENSED TO PRACTICE IN STATE IN WHICH PROJECT IS LOCATED, PER SPECIFICATIONS AND PER LOADS INDICATED IN STRUCTURAL CONTRACT DOCUMENTS AND MEETING FOLLOWING REQUIREMENTS AS A MINIMUM.
A. MEET MINIMUM REQUIREMENTS OF AISI STANDARDS, LATEST EDITION.
B. DESIGN IN ACCORDANCE WITH AISI SPECIFICATION FOR THE DESIGN OF COLD-FORMED STEEL STRUCTURAL MEMBERS, LATEST EDITION.
C. PROVIDE STRUCTURAL MEMBERS FORMED FROM CORROSION-RESISTANT STEEL, CORRESPONDING TO THE REQUIREMENTS OF ASTM A653.
D. PROVIDE STRUCTURAL MEMBERS WITH ZINC-COATED MEETING ASTM A924.
E. ANCHOR TOP AND BOTTOM RUNNER TRACKS OF EXTERIOR AND LOAD-BEARING INTERIOR WALLS TO STRUCTURE OVERHEAD AND FLOOR STRUCTURE BELOW BY WELDING, NAILING, OR BOLTING AS APPLICABLE.

EMBEDDED HEADED-STUD CONNECTORS & DEFORMED BAR ANCHORS (DBA):

SC1 PROVIDE HEADED-STUD CONNECTORS (SC) CONFORMING TO ASTM A108, AISI C-1015 THROUGH C-1020, HEADED STUD TYPE, COLD FINISHED CARBON STEEL; AWS D1.1, TYPE B (MINIMUM TENSILE STRENGTH 65,000 PSI). AUTOMATICALLY END WELD STUDS IN SHOP OR IN FIELD.

SC2 PROVIDE DEFORMED BAR ANCHORS (DBA) CONFORMING TO ASTM A1064-18 AND AWS D1.1, TYPE C (MINIMUM TENSILE STRENGTH 80,000PSI). AUTOMATICALLY END WELD DBA IN SHOP OR FIELD.

CONCRETE REINFORCING:

CR1 PROVIDE REINFORCING STEEL CONFORMING TO ASTM A615 USING NEW OR RECYCLED DOMESTIC BILLET STEEL OF A DOMESTIC MANUFACTURE. PROVIDE GRADES AS FOLLOWS:
A. #3 THROUGH #18...GRADE 60

CR2 PROVIDE REINFORCING STEEL SPECIFIED TO BE WELDED CONFORMING TO ASTM A706, WITH GRADES AS INDICATED ON DRAWINGS OR AS PERMITTED. WELD IN ACCORDANCE WITH AWS D1.4. WELDING OF REINFORCING STEEL FOR USE IN STRUCTURAL CONCRETE OR STRUCTURAL MASONRY IS PERMITTED ONLY WHERE SPECIFICALLY DESIGNATED ON DRAWINGS.

CR3 PROVIDE ELECTRICALLY-WELDED WIRE REINFORCEMENT (WWR) OF COLD-DRAWN WIRE (70,000 PSI YIELD) CONFORMING TO ASTM A185, OF SIZE INDICATED ON DRAWINGS.

CR4 WELD HEADED STUDS AND DEFORMED BAR ANCHORS (DBA) BY FULL-FUSION PROCESS, AS FURNISHED BY TRW NELSON STUD WELDING DIVISION OR EQUIVALENT.

CR5 DETAIL CONCRETE REINFORCING AND ACCESSORIES IN ACCORDANCE WITH ACI 315.

CR6 PROVIDE CLEAR CONCRETE COVER MEASURED TO OUTERMOST BAR, STIRRUP OR TIE AS FOLLOWS:

EXPOSURE CONDITION	BAR SIZE OR USE	MINIMUM COVER
CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH (WITH OR WITHOUT VAPOR RETARDER):	ALL	3"
EXPOSED TO EARTH OR WEATHER	#5 BAR AND SMALLER	1 1/2"
	#6 BAR AND LARGER	2"
NOT EXPOSED TO WEATHER OR IN CONTACT WITH THE GROUND: (TYPICAL INTERIOR CONDITIONS, CRAWL SPACES, AND UNDERSIDE OF PARKING FLOORS ARE IN THIS CATEGORY)	SLABS AND WALLS	1"
	WIDE MODULE JOISTS AND BEAMS	1 1/2"
	COLUMNS	1 5/8"

CR7 SPECIFIC COVER REQUIREMENTS ARE AS FOLLOWS:
(REF TABLE ABOVE IF SPECIFIC CASE IS NOT LISTED)

EXPOSURE CONDITION	BAR SIZE OR USE	MINIMUM COVER
GRADE BEAMS, TOP, BOTTOM AND SIDES WHEN THREE SIDES FORMED-OTHERWISE REF ABOVE	ALL	2"
SLAB BOTTOMS OVER VOID FORMS	ALL	2"
SLAB-ON-GRADE	ALL	2"
PIERS	ALL	3"

CR8 FOR BARS IN UNSCHEDULED CONCRETE MEMBERS WITHOUT A SPECIFIED BAR TYPE, SHAPE OR LENGTH, DETAIL BARS CONTINUOUSLY WITH HOOKS AT DISCONTINUOUS ENDS. SPLICE TOP BARS AT MIDSPAN BETWEEN SUPPORTS AND BOTTOM BARS DIRECTLY OVER SUPPORTS USING CLASS A SPLICES.

CR9 PROVIDE DOWELS TO MATCH WALL VERTICAL REINFORCEMENT.

CR10 SPLICE WELDED WIRE MESH AS FOLLOWS:
A. INSTALL WELDED WIRE FABRIC IN LONGEST PRACTICABLE LENGTHS ON BAR SUPPORTS SPACED TO MINIMIZE SAGGING. LAP EDGES AND ENDS OF ADJOINING SHEETS. MEASURE LENGTH OF LAP BETWEEN OUTERMOST CROSS WIRES OF EACH FABRIC SHEET AND PROVIDE LAP NOT LESS THAN ONE SPACING OF THE CROSS WIRES PLUS 2 INCHES. LACE OVERLAPS WITH WIRE.

CAST-IN-PLACE CONCRETE:

CIP1 PROVIDE CONCRETE CONSTRUCTION IN ACCORDANCE WITH MORE STRINGENT REQUIREMENT OF EITHER LOCAL BUILDING CODE OR ACI STANDARD "BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE" (ACI 318) (2019).

CIP2 CONSTRUCTION JOINTS:
A. PERMITTED ONLY WHERE INDICATED ON DRAWINGS.
B. WHERE NOT SPECIFICALLY INDICATED ON DRAWINGS, LOCATE JOINTS AS FOLLOWS:
1. LOCATE JOINTS NOT INDICATED TO LEAST IMPAIR STRENGTH AND APPEARANCE OF STRUCTURE. LOCATE VERTICAL JOINTS IN MIDDLE THIRD OF SPANS OF NON-POST-TENSIONED SLABS, BEAMS OR GIRDERS, UNLESS A BEAM INTERSECTS A GIRDER AT MIDDLE LOCATION, IN WHICH CASE OFFSET JOINTS IN GIRDERS TWICE WIDTH OF BEAM. LOCATE VERTICAL JOINTS WITHIN END THIRD OF SPANS OF POST-TENSIONED CONTINUOUS SLABS, BEAMS OR GIRDERS WHERE TENDON PROFILE IS AT OR NEAR CENTROID OF CONCRETE CROSS SECTION.
2. LOCATE HORIZONTAL JOINTS IN WALLS AND COLUMNS AT UNDERSIDE OF SUPPORTED ELEMENTS AT TOP OF WALL OR COLUMN AND AT TOP OF FOOTINGS OR FLOOR SLABS AT BOTTOM OF WALL OR COLUMN. ROUGHEN SURFACE OF HORIZONTAL OR NEARLY HORIZONTAL CONSTRUCTION JOINTS SO THAT AGGREGATE IS EXPOSED UNIFORMLY, LEAVING NO LAITANCE, LOOSENED PARTICLES OR DAMAGED CONCRETE.
C. REFER TO PLANS FOR JOINTS IN GRADE SUPPORTED SLABS.
D. JOINTS ARE NOT ALLOWED BETWEEN PILASTERS AND WALL.
E. SUBMIT CONSTRUCTION JOINT LAYOUT PLANS FOR APPROVAL BY ARCHITECT PRIOR TO CONSTRUCTION.

CIP3 CONDUITS, PIPES AND SLEEVES
A. VARIOUS CONDUITS, PIPES AND SLEEVES WHICH ARE NOT INDICATED ON STRUCTURAL DRAWINGS MAY BE REQUIRED BY EQUIPMENT SUPPLIERS OR ARCHITECTURAL, MECHANICAL, ELECTRICAL AND PLUMBING DRAWINGS. COORDINATE AND INSTALL THESE ITEMS INTO CONCRETE WORK OBSERVING FOLLOWING GUIDELINES.
B. COMPLY WITH ACI 318 AND THESE NOTES FOR ALL CONDUITS, PIPES AND SLEEVES EMBEDDED IN CONCRETE. THESE NOTES SHALL GOVERN WHERE THEY ARE IN CONFLICT WITH ACI. ALUMINUM EMBEDDED ITEMS ARE NOT PERMITTED.
C. HORIZONTAL CONDUITS AND PIPES EMBEDDED IN SLABS:
1. NO HORIZONTAL CONDUIT OR PIPE IS PERMITTED TO BE EMBEDDED IN SLAB WITHOUT PRIOR WRITTEN APPROVAL FROM ARCHITECT.
D. HORIZONTAL SLEEVES, CONDUITS OR PIPES EMBEDDED IN BEAMS OR JOISTS.
1. PLACE HORIZONTAL CONDUITS, PIPES AND SLEEVES AT RIGHT ANGLES TO SIDES OF MEMBER DO NOT PLACE LONGITUDINALLY WITHIN MEMBER.
E. VERTICAL CONDUITS, PIPES AND SLEEVES EMBEDDED IN CONCRETE BEAMS OR JOISTS.
1. NO VERTICAL CONDUITS, PIPES AND SLEEVES ARE PERMITTED TO BE EMBEDDED IN CONCRETE BEAMS WITHOUT PRIOR WRITTEN APPROVAL FROM ARCHITECT OR UNLESS SPECIFICALLY DETAILED OTHERWISE.
F. CONDUITS, PIPES AND SLEEVES, UNLESS SPECIFICALLY DETAILED IN STRUCTURAL DRAWINGS, ARE NOT ALLOWED IN PILASTERS OR COLUMNS WITHOUT PRIOR WRITTEN APPROVAL FROM ARCHITECT.

CIP4 WET CURE ALL CONCRETE THAT WILL BE COLORED OR STAINED.

CIP5 REMOVAL OF FORMWORK:
A. EXCEPT AS HEREIN SPECIFIED, REMOVE FORMWORK AND RESHORE IN ACCORDANCE WITH ACI 301 AND RECOMMENDATIONS OF ACI 347 TO ENSURE COMPLETE SAFETY OF FORMWORK AND STRUCTURE.
B. FORMWORK FOR COLUMNS, WALLS, SIDES OF BEAMS AND OTHER PARTS NOT SUPPORTING WEIGHT OF CONCRETE MAY BE REMOVED AFTER CONCRETE HAS HARDENED SUFFICIENTLY TO RESIST DAMAGE FROM FORMWORK REMOVAL OPERATIONS.
C. RETAIN FORMS AND SHORING FOR ALL HORIZONTAL WORK UNTIL CONCRETE HAS ACHIEVED AT LEAST 75% OF ITS DESIGNATED 28-DAY COMPRESSIVE STRENGTH AND WILL SAFELY SUPPORT ITS OWN WEIGHT AND UNTIL ALL COLUMNS ABOVE HAVE BEEN CAST AND HARDENED. RESHORE AS HEREIN SPECIFIED.
D. RETAIN FORMS AND SHORING FOR POST-TENSIONED GIRDERS, BEAMS, AND SLABS UNTIL MEMBER HAS BEEN FULLY TENSIONED, TENDON ELONGATIONS HAVE BEEN REVIEWED AND APPROVED BY ARCHITECT, AND UNTIL ALL COLUMNS ABOVE HAVE BEEN CAST AND HARDENED. RESHORE AS HEREIN SPECIFIED.

CIP6 PROVIDE A MINIMUM 4 INCH THICK HOUSE KEEPING PAD BELOW MEP EQUIPMENT. REFERENCE MEP OR ARCH PLANS FOR LOCATIONS AND SIZES OF PADS.

CIP7 UNLESS SPECIFICALLY NOTED OTHERWISE, PROVIDE A FLAT AND LEVEL TROWELED FINISH TOP OF CONCRETE SURFACES THAT SUPPORT PRECAST, MASONRY, CURTAIN WALL SYSTEMS, ETC.

CIP8 WATERSTOPS:
A. PROVIDE WATERSTOPS AT ALL SUBGRADE CONSTRUCTION JOINTS IN CONCRETE ELEMENTS WHERE EARTH SUBGRADE AT JOINT IS ON ONE SIDE OF CONCRETE MEMBER ONLY. PROVIDE WATERSTOPS AT OTHER LOCATIONS AS INDICATED IN DOCUMENTS.

CIP9 LATERALLY BRACE GRADE BEAMS OR WALLS AT DOCKS AND SIMILAR CONDITIONS (BOTH EXTERIOR AND INTERIOR) WHERE BACKFILL IS PLACED UP TO OR NEAR TOP OF BEAM OR WALL ON ONE SIDE AND GRADE ON OTHER SIDE OF BEAM OR WALL IS MORE THAN 2'-0" LOWER FROM LOW SIDE PRIOR TO PLACING FILL ON OTHER SIDE. BRACING SHALL REMAIN UNTIL FLOOR SLAB AT TOP OF BEAM OR WALL HAS BEEN CONSTRUCTED AND HAS ATTAINED ITS SPECIFIED 28 DAY STRENGTH.

SLABS ON NON-COMPOSITE METAL FLOOR DECK:

SD1 PROVIDE NON-COMPOSITE METAL FLOOR DECK MANUFACTURED FROM STEEL CONFORMING TO ASTM, A653-94, GRADE 80, GALVANIZED, WITH A G60 COATING AND SIZE NOTED ON PLANS WITH FOLLOWING MINIMUM PROPERTIES:

METAL FLOOR DECK SCHEDULE

TYPE	GAUGE	PROFILE	DEPTH (IN)	MOMENT OF INERTIA (+) (IN4/FT)	MOMENT OF INERTIA (-) (IN4/FT)	SECTION MODULUS (+) (IN3/FT)	SECTION MODULUS (-) (IN3/FT)	NRC)
1.0 NC	20	NON-COMPOSITE	1.0	0.088	0.088	0.167	0.165	-

SD2 UNSHORED NON-COMPOSITE BEAMS RELY ON WELDED CONNECTIONS OF DECK TO TOP FLANGES FOR LATERAL BRACING.

SD3 REINFORCE SLABS WITH WELDED WIRE MESH, SUPPLIED IN FLAT SHEETS, AT MID-HEIGHT OF SLAB ABOVE DECK, TYPICAL UNLESS NOTED OTHERWISE. PROVIDE ADEQUATELY DESIGNED CHAIRS THAT MAINTAIN REINFORCING POSITION FROM SLAB'S SURFACE AS SPECIFIED. MINIMUM SPACING OF 2'-6" OC MAX OVER BEAMS WHERE WIRED MESH IS SPECIFIED. LAP EDGES AND ENDS OF ADJOINING SHEETS. PROVIDE LENGTH OF LAP MEASURED BETWEEN OUTER MOST CROSS WIRES OF FABRIC SHEET AND NOT LESS THAN ONE SPACING OF CROSS WIRES PLUS 2 INCHES. LACE OVERLAPS WITH WIRE.

SD4 INSTALL DECK WITH ENDS ALIGNED OVER SUPPORTING FRAME WITH A MINIMUM END BEARING LENGTH OF 1 1/2" ON STEEL SUPPORT SURFACE, WITH END JOINTS BUTTED; DO NOT OVERLAP.

SD5 ATTACH DECK TO SUPPORTING STEEL WITH 3/4" PUDDLE WELDS AT 12" OC MAX. USE WELD WASHERS FOR DECKS THINNER THAN 22 GAUGE. CONNECT NON-COMPOSITE METAL FLOOR DECK TO ALL CONCRETE OR MASONRY SUPPORTING ELEMENTS WITH POWDER ACTUATED FASTENERS AT 12" O.C. PROVIDE ZINC COATED FASTENER WITH 0.145 INCH SHANK DIAMETER AND 1 1/4 INCH SHANK LENGTH. X-DNI PIN BY HILTI, OR EQUIVALENT.

SD6 FASTEN SIDE LAPS OF PANELS BETWEEN SUPPORTS, AT 24 INCHES ON CENTER MAXIMUM WITH SELF-DRILLING NO. 10 DIAMETER OR LARGER CARBON-STEEL SCREWS, OR WITH A MINIMUM OF 1 1/2 INCH-LONG WELDS.

SD7 WELD GIRDER FILLERS TO STEEL BEAM WITH 2" LONG FUSION WELDS AT A MAXIMUM SPACING OF 12 INCHES. CONNECT GIRDER FILLERS TO ADJACENT PIECES OF DECK PER SPECIFIED SIDE LAPS.

SD8 NON-COMPOSITE METAL DECK IS DESIGNED TO BE CONTINUOUS OVER THREE OR MORE SPANS UNLESS FEWER THAN THREE SPANS ARE INDICATED ON STRUCTURAL DRAWINGS.

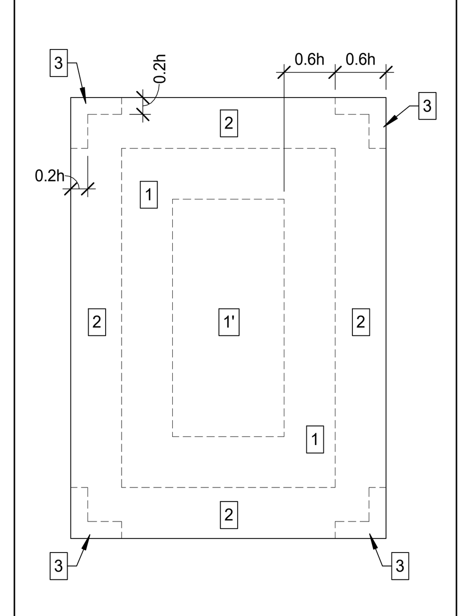
SD9 PREPARE AND REPAIR DAMAGED GALVANIZED COATINGS ON BOTH SURFACES OF DECK WITH GALVANIZED REPAIR PAINT ACCORDING TO ASTM A780 AND MANUFACTURER's WRITTEN INSTRUCTIONS.

SD10 STEEL FLOOR FRAMING DEFLECTION NOTES:
1. STEEL FRAMING HAS BEEN DESIGNED TO BE WITHIN DEFLECTION LIMITS (UP TO SPAN DIVIDED BY 240 FOR DEAD LOADS). ACCOUNT FOR ANY ADDITIONAL CONCRETE THAT RESULTS DUE TO SUCH DEFLECTIONS IN FLOOR CONCRETE QUANTITIES.
2. METAL DECK MAY DEFLECT UP TO 3/4" ACCOUNT FOR ANY ADDITIONAL CONCRETE THAT RESULTS DUE TO SUCH DEFLECTIONS IN FLOOR CONCRETE QUANTITIES.

SD11 DETAILS IN CONTRACT DOCUMENTS CALL FOR BLOCKOUTS OF FLOOR OPENINGS, WITH DECK TO BE CUT AFTER SLAB IS PLACED AND ACHIEVES ITS SPECIFIED STRENGTH. IF OPENINGS IN DECK MUST BE CUT PRIOR TO SLAB BEING PLACED, REINFORCE OPENINGS WITH C6x8.2 CHANNELS BETWEEN BEAMS TO SUPPORT METAL DECK, UNLESS NOTED OTHERWISE.

SD12 DO NOT APPLY CONSTRUCTION LOADS TO SLAB UNTIL CONCRETE HAS REACHED 75% OF SPECIFIED STRENGTH.

SD13 NO CONDUITS ALLOWED IN SLABS



GABLE, SAWTOOTH, AND MULTISPAN
GABLE Θ ≤ 7 DEG & MONOSLOPE ≤ 3 DEG
(H ≤ 60' & ALT DESIGN H < 90')

ROOF WIND PRESSURE ZONES

Structural plan review is limited to a general survey for code compliance. No review is implied nor was undertaken to verify structural adequacy.

FOUNDATION ONLY PERMIT - NOT APPROVED FOR VERTICAL CONSTRUCTION

City of Aurora Building Division
Reviewed for Code Compliance
Approved as Noted: Dirk Anderson
Date: Jun 12, 2025
2021 INTERNATIONAL CODES & 2023 NEC

1 GENERAL NOTES
12" = 1'-0"

CORGAN
401 N. Houston Street Dallas, TX
75202
T: 214.748.2000

AG/E

SYSKA HENNESSY GROUP

TED DESIGN CONSULTING LLC

ISSUES

1	12.20.24	DESIGN DEVELOPMENT
2	01.31.25	ISSUE FOR PERMIT
3	05.30.25	FOUNDATION ONLY IFP
4		
5		
6		
7		
8		
9		
10		

REVISIONS

A	04.24.25	COA - PERMIT COMMENTS

COLORADO LICENSED PROFESSIONAL ENGINEER
NICHOLAS W. DAVID
65236

AG&E Structural Engenuity

Date of issue:
04.24.2025

QTS DEN1 DC2
1140 N. GUN CLUB ROAD

GENERAL NOTES

JOB 24464.0000
DATE 04.24.2025
SHEET
S0-01

Permit #25-2535171-CM
RSN 1903242

POST-INSTALLED CONCRETE ANCHORS:

PA1 USE POST-INSTALLED ANCHORS ONLY WHERE SPECIFIED ON CONSTRUCTION DOCUMENTS. OBTAIN APPROVAL FROM ARCHITECT PRIOR TO INSTALLING POST-INSTALLED ANCHORS IN PLACE OF MISSING OR MISPLACED CAST-IN-PLACE ANCHORS.

PA2 DRILL AND CLEAN HOLES IN ACCORDANCE WITH MANUFACTURER'S WRITTEN INSTRUCTIONS.

PA3 PROVIDE POST INSTALLED CONCRETE ANCHORS OF SIZE, TYPE, AND QUANTITY AS NOTED ON DETAILS AS MANUFACTURED BY HILTI OR EQUIVALENT.

PA4 USE ONLY ANCHORS FROM ONE MANUFACTURER ON THIS PROJECT.

PA5 PROVIDE HOLES IN CONNECTION PLATES FOR EXPANSION BOLTS NOT MORE THAN 1/16" LARGER THAN BOLT DIAMETER. IF FIELD CONDITIONS OR TOLERANCES REQUIRE LARGER HOLES, PROVIDE PLATE WASHERS WITH BOLTS HOLES 1/16" LARGER THAN BOLT DIAMETER THAT ARE WELDED TO CONNECTION PLATE. SIZE PLATE WASHERS AND WELDS TO TRANSFER SHEAR AND TENSION CAPACITY OF EXPANSION BOLT.

PA6 INSTALL POST INSTALLED BOLTS IN ACCORDANCE WITH MANUFACTURER'S WRITTEN RECOMMENDATIONS.

PA7 PRIOR TO DRILLING FOR ANCHORS, USE A PACHOMETER OR ANOTHER APPROVED METHOD TO LOCATE EXISTING REINFORCING TO ENSURE THERE IS NO CONFLICT. IF A CONFLICT EXISTS, ANCHOR POSITION CAN BE ADJUSTED BY NO MORE THAN 1 INCH. IF A LARGER DEVIATION IS NECESSARY, CONTACT ARCHITECT. FILL ABANDONED OR UNUSED HOLES WITH EPOXY GROUT.

PA8 ONCE FINAL POSITION OF THE ANCHORS IS SET, USE TEMPLATES TO TRANSFER FINAL LOCATION OF BOLT GROUP ON TO CONNECTION PLATE.

PA9 CONSTRUCTION OF POST INSTALLED ANCHORS REQUIRES CONTINUOUS INSPECTION BY TESTING AGENCY TO ENSURE PROPER EMBEDMENT AND INSTALLATION PER MANUFACTURER'S SPECIFICATIONS.

PA10 USE ONLY PERSONNEL CERTIFIED BY ACI/CRSI ADHESIVE ANCHOR INSTALLER PROGRAM TO INSTALL ANCHORAGE SYSTEM IN A HORIZONTAL OR UPWARDLY INCLINED ORIENTATION AND WHERE SUPPORTING SUSTAINED TENSION LOADS.

STRUCTURAL STEEL FRAMING:

SS1 PROVIDE STRUCTURAL STEEL MEETING FOLLOWING MINIMUM YIELD STRENGTHS AND ASTM SPECIFICATIONS:

STRUCTURAL STEEL TYPE	YIELD STRESS, Fy	TENSILE STRESS, Fu	ASTM SPECIFICATION
WIDE FLANGE AND WT SHAPES	50 KSI	65 KSI	A992
	65 KSI	80 KSI	A913, GRADE 65
HOLLOW STRUCTURAL SECTIONS	46 KSI ROUND 50 KSI RECTANGULAR	62 KSI	A500, GRADE C
PIPES	35 KSI	60 KSI	A53 TYPE E, GRADE B
ANGLES	36 KSI	58 KSI	A36
CHANNELS	36 KSI	58 KSI	A36
BARS	36 KSI	58 KSI	A36
PLATES	36 KSI	58 KSI	A36
	50 KSI	65 KSI	A572, GRADE 50
BOLTS (HEAVY-HEX)	92 KSI	120 KSI	A325
NUTS (HEAVY-HEX)	92 KSI	120 KSI	A563, GRADE DH
WASHERS	36 KSI	58 KSI	F436
ANCHOR RODS	36 KSI	58 KSI	F1554, GRADE 36
	55 KSI	75 KSI	F1554, GRADE 55, S1
	105 KSI	125 KSI	F1554, GRADE 105
SHEAR-STUD CONNECTORS	50 KSI	65 KSI	A108
RAISED-PATTERN FLOOR PLATE	-	-	A786, COMMERCIAL GRADE

SS2 DRAWINGS INDICATE VARIOUS NON-PRIMARY STRUCTURAL FRAME ELEMENTS SUCH AS SHELF ANGLES, LINTELS, SUPPORT MEMBERS FOR CURTAIN WALLS OR MASONRY, AND EDGE ANGLES FOR OPENINGS AND PERIMETER CONDITIONS WHICH ARE INTENDED TO SUPPORT OR BE COORDINATED WITH MATERIALS FURNISHED BY OTHER TRADES. WHERE THESE NON-PRIMARY STRUCTURAL FRAME ELEMENTS ARE INDICATED TO BE WELDED IN DRAWINGS, CONTRACTOR SHALL HAVE FINAL RESPONSIBILITY FOR DETERMINING IF WELDS SHOULD BE MADE IN SHOP OR FIELD IN ORDER TO ACHIEVE PROPER FIT-UP OF VARIOUS COMPONENTS OF FRAMING AND FOR MEETING TOLERANCES REQUIRED BY OTHER TRADES.

SS3 CONTRACTOR IS RESPONSIBLE FOR PROPER FIT-UP OF VARIOUS COMPONENTS OF FRAMING AND FOR MEETING TOLERANCES REQUIRED BY OTHER TRADES, WHICH MAY BE MORE STRINGENT THAN A.I.S.C. TOLERANCES FOR STRUCTURAL STEEL.

SS4 USE 3/4" DIAMETER ASTM A 325-N HIGH-STRENGTH BOLTS FOR STEEL BEAM AND COLUMN, UNO. ALL BOLTED CONNECTIONS ARE BEARING TYPE, UNLESS NOTED OTHERWISE.

SS5 PROVIDE WELDING IN ACCORDANCE WITH ANSI/AWS D1.1 STRUCTURAL WELDING CODE USING 70 KSI LOW HYDROGEN ELECTRODES.

SS6 STEEL CONNECTION NOTES
A. DESIGN OF STRUCTURAL STEEL CONNECTIONS, WHICH ARE NOT FULLY DETAILED OR SCHEDULED WITHIN CONTRACT DOCUMENTS IS RESPONSIBILITY OF CONTRACTOR. PROVIDE CONNECTION DESIGNS USING LRFD DESIGN PRINCIPLES PREPARED BY A STRUCTURAL ENGINEER LICENSED TO PRACTICE IN STATE IN WHICH THE PROJECT IS LOCATED (ENGINEER OF CONTRACTOR) IN ACCORDANCE WITH LATEST ADOPTED EDITION OF AISC 303, "CODE OF STANDARD PRACTICE FOR STEEL BUILDINGS AND BRIDGES".
B. ENGINEER OF CONTRACTOR SHALL REVIEW AND CONFIRM IN WRITING THAT SHOP AND ERECTION DRAWINGS PROPERLY INCORPORATE CONNECTION DESIGNS PREPARED BY ENGINEER OF CONTRACTOR AND PROPERLY INCORPORATE DESIGNS SPECIFICALLY DETAILED OR SCHEDULED WITHIN CONTRACT DOCUMENTS PRIOR TO SUBMITTING CONNECTION CALCULATIONS AND SHOP DRAWINGS FOR REVIEW.
C. EACH CONNECTION ON SHOP DRAWINGS AND ERECTION DRAWINGS TO IDENTIFY SPECIFIC CONNECTION DESIGN THAT WAS UTILIZED, WHETHER DESIGNED BY ENGINEER OF CONTRACTOR OR WHETHER SPECIFICALLY DETAILED OR SCHEDULED WITHIN CONTRACT DOCUMENTS.
D. CONNECTION DESIGN FORCES ARE INDICATED WITHIN CONTRACT DOCUMENTS AND ARE IN UNITS OF KIPS AND FEET. UNLESS NOTED OTHERWISE, SPECIFIED CONNECTION DESIGN FORCES ARE ULTIMATE LOADS (LRFD LOADS).
E. WHERE HORIZONTAL FORCES ARE INDICATED ON PLAN AS "H=_K" (LRFD), SIZE CONNECTION TO TRANSFER HORIZONTAL FORCE IN ADDITION TO REQUIRED VERTICAL REACTION. SLOTTED HOLES ARE NOT PERMITTED AT CONNECTIONS WITH HORIZONTAL FORCES.
F. UNLESS NOTED OTHERWISE, CONNECT MISCELLANEOUS STEEL MEMBERS WITH FILLET WELDS AS REQUIRED TO DEVELOP FULL TENSION CAPACITY OF SMALLEST MEMBER BEING JOINED.
G. UNLESS NOTED OTHERWISE, DETAIL MOMENT CONNECTIONS WITH COMPLETE JOINT PENETRATION WELD AND DESIGN TO DEVELOP FULL FLEXURAL CAPACITY OF MEMBER.
H. PROVIDE WELDED SPACER PLATES AT THREE FEET ON CENTER AT BACK TO BACK CHANNELS OR DOUBLE ANGLES.
I. PROVIDE MINIMUM 1/4" THICK CLOSURE PLATES AT ENDS OF HOLLOW STRUCTURAL STEEL SECTIONS UNLESS SPECIFICALLY DETAILED WITH A CAP OR BASE PLATE. MATCH INSIDE DIMENSION OF HOLLOW SECTION AND WELD ALL AROUND WITH GROOVE WELD.
J. TIGHTEN BOLTS IN CONNECTIONS TO A "SNUG TIGHT" CONDITION AS DEFINED BY AISC UNLESS NOTED OTHERWISE. TENSION CONTROL BOLTS MAY BE USED IN LIEU OF CONVENTIONAL HIGH-STRENGTH BOLTS, UNO. TENSION CONTROL BOLTS ARE NOT PERMITTED IN CRAWLSPACE CONNECTIONS.

SS7 PROVIDE DOUBLE NUTS AND DOUBLE WASHERS FOR STEEL COLUMN ANCHOR BOLTS TO ALLOW FOR ADJUSTMENT IN BASE PLATE ELEVATION. GROUT UNDER BEARING AND BASEPLATES IMMEDIATELY AFTER ANY REQUIRED PLUMBING OF COLUMN, BEAM OR FRAME AND PRIOR TO APPLICATION OF LOADS. PROVIDE HIGH STRENGTH, NON-SHRINK, NON-METALLIC GROUT BELOW BASE PLATES WITH A MINIMUM COMPRESSIVE STRENGTH OF 10,000 PSI.

SS8 PAINT STRUCTURAL STEEL, EXCEPT EMBEDDED ITEMS, WITH ONE SHOP COAT OF RUST INHIBITIVE PAINT UNLESS OTHERWISE NOTED. DO NOT PAINT TOP FLANGE OF COMPOSITE STEEL BEAMS OR SURFACE OF COLUMNS TO WHICH SHEAR STUD CONNECTORS WILL BE WELDED. DO NOT PAINT SURFACES TO RECEIVE APPLIED FIREPROOFING.

SS9 HOT DIP GALVANIZE STRUCTURAL STEEL AND CONNECTIONS EXPOSED TO EARTH OR WEATHER OR LOCATED IN CRAWLSPACE WITH G-90 COATING. HOT DIP GALVANIZE COOLING TOWER GRILLAGE WITH G-135 COATING. TOUCH UP ANY DAMAGE TO GALVANIC MATERIAL DURING WELDING WITH GALVANIZING REPAIR PAINT: HIGH-ZINC-DUST-CONTENT PAINT FOR REGALVANIZING WELDS AND REPAIR PAINTING GALVANIZED STEEL, WITH DRY FILM CONTAINING NOT LESS THAN 93 PERCENT ZINC DUST BY WEIGHT, AND COMPLYING WITH DOD-P-21035A OR SSPC-PAINT 20.

SS10 DESIGN, FURNISH, AND INSTALL TEMPORARY SUPPORTS, BRACES, FALSE WORK, SHORES, CRIBBING OR OTHER SUPPORTS REQUIRED DURING ERECTION TO KEEP STRUCTURAL STEEL SECURE, SUPPORTED, PLUMB, AND IN ALIGNMENT.

SS11 WHERE FILLET WELD SIZE IS NOT INDICATED ON DRAWINGS, PROVIDE MINIMUM WELD PER AISC.

SS12 USE SLIP CRITICAL BOLTS OR WELDED CONNECTIONS AT BEAMS WITH LATERAL BRACING ATTACHED AND WEB CONNECTIONS OF MOMENT-CONNECTED BEAMS.

SS13 PERFORM WELDING BY WELDERS CERTIFIED FOR WELDS TO BE MADE.

SS14 PROVIDE ARCHITECTURALLY EXPOSED STRUCTURAL STEEL (AESS), WHERE INDICATED ON CONTRACT DOCUMENTS, CONFORMING TO AISC 303 SECTION 10.

SS15 INSTALL ANGLES FOR FASCIA BRICK SUPPORT SUCH THAT SWEEP OR CAMBER DOES NOT EXCEED 1/8 INCH DEVIATION FROM STRAIGHT LINE.

SS16 ANY SUPPORTING ELEMENTS SUSPENDED FROM STEEL BEAM FRAMING SHALL BE ATTACHED CONCENTRICALLY TO THE BEAM CENTERLINE.

METAL ROOF DECKING:

MD1 COMPLY WITH CURRENT STEEL DECK INSTITUTE SPECIFICATIONS. METAL ROOF DECKING SIZES ARE INDICATED ON STRUCTURAL DRAWINGS AND WITH FOLLOWING MINIMUM PROPERTIES:

METAL ROOF DECK SCHEDULE									
TYPE	GAUGE	PROFILE	DEPTH (IN)	MOMENT OF INERTIA (+) (IN4)	MOMENT OF INERTIA (-) (IN4)	SECTION MODULUS (+) (IN3)	SECTION MODULUS (-) (IN3)	YIELD STRENGTH (KSI)	NRC
1.5WR	18	WIDE RIB	1.5	0.289	0.295	0.318	0.327	50	-

MD2 REFER TO ROOF DIAPHRAGM FASTENER DIAGRAM AND SCHEDULE FOR REQUIRED ATTACHMENT PATTERN.

MD3 METAL ROOF DECK IS DESIGNED TO BE CONTINUOUS OVER THREE OR MORE SPANS UNLESS FEWER THAN THREE SPANS ARE INDICATED ON STRUCTURAL DRAWINGS.

MD4 PROVIDE METAL ROOF DECKING: GALVANIZED WITH G60 COATING CONFORMING TO ASTM A924.

MD5 COORDINATE METAL DECK LENGTHS WITH FINAL JOIST AND BEAM LAYOUT. FINAL JOIST AND BEAM LAYOUT CAN BE DIFFERENT THAN THAT INDICATED IN STRUCTURAL DRAWINGS DEPENDING ON WHETHER JOIST BEARING SEATS ARE BUTTED OR STAGGERED. JOIST LOCATIONS INDICATED IN STRUCTURAL DRAWINGS DO NOT ACCOUNT FOR SMALL DIFFERENCE IN JOIST LOCATION DUE TO VARIOUS JOIST BEARING CONDITIONS THAT COULD EXIST IN THE FIELD.

MD6 DO NOT SUSPEND APPURTENANCES SUCH AS LIGHT FIXTURES, DUCTS AND OTHER UTILITIES FROM METAL ROOF DECK.

COMPOSITE STEEL CONSTRUCTION:

CSC1 PROVIDE COMPOSITE METAL FLOOR DECK WITH TOP SURFACE PHOSPHATIZED AND UNDERSIDE SURFACE SHOP PRIMED WITH MANUFACTURERS' STANDARD GRAY OR WHITE PRIMER AND WITH FOLLOWING MINIMUM PROPERTIES:

METAL FLOOR DECK SCHEDULE									
TYPE	GAUGE	PROFILE	DEPTH (IN)	MOMENT OF INERTIA (+) (IN4)	MOMENT OF INERTIA (-) (IN4)	SECTION MODULUS (+) (IN3)	SECTION MODULUS (-) (IN3)	YIELD STRENGTH (KSI)	NRC
3.0CI	18	COMPOSITE INTERLOCKING	3.0	1.252	1.252	0.761	0.794	50	-

CSC2 COMPOSITE STEEL FRAMING IS DESIGNED AS NON-SHORED CONSTRUCTION. DO NOT SHORE BEAMS DURING CONCRETE PLACEMENT OPERATION.

CSC3 COMPOSITE METAL DECK, SLAB AND SLAB REINFORCING
A. PROVIDE COMPOSITE METAL DECK AND SLAB INDICATED ON STRUCTURAL DRAWINGS.
B. INSTALL DECK IN THREE SPAN LENGTHS WITHOUT SHORING UNLESS FEWER THAN THREE SPANS ARE INDICATED ON STRUCTURAL DRAWINGS.
C. UNLESS SPECIFIED OTHERWISE ON STRUCTURAL DRAWINGS, REINFORCE SLAB OVER METAL DECK WITH WELDED WIRE MESH, PROVIDED IN FLAT SHEETS AS FOLLOWS:
1. 2" TO 3 1/4" SLAB THICKNESS OVER TOP OF DECK - 6X6-W1.4XW1.4
2. 3 1/2" TO 4 1/2" SLAB THICKNESS OVER TOP OF DECK - 6X6-W2.1XW2.1
3. GREATER THAN 4 1/2" OVER TOP OF DECK - TWO LAYERS OF 6X6-W2.1XW2.1
4. PROVIDE A 6'-0" WIDE EXTRA LAYER OF WELDED WIRE MESH IN TOP OF SLAB OVER ALL GIRDERS THAT ARE PARALLEL TO DECK SPAN TYPICAL, UNLESS NOTED OTHERWISE.
5. LAP EDGES AND ENDS OF ADJOINING SHEETS. PROVIDE LENGTH OF LAP MEASURED BETWEEN OUTER MOST CROSS WIRES OF FABRIC SHEET AND NOT LESS THAN ONE SPACING OF CROSS WIRES PLUS 2 INCHES. LACE OVERLAPS WITH WIRE.
6. SUPPORT WELDED WIRE MESH ON CHAIRS WITH A 3/4" COVER FROM TOP OF SLAB.
D. PROVIDE 14 GAUGE COLD FORMED STEEL POUR STOPS WELDED TO STEEL BEAM FLANGE WITH 1" FILLET WELDS AT 12" OC. UNLESS NOTED OTHERWISE.

CSC4 STEEL BEAM CAMBER
A. DURING SHIPMENT AND HANDLING SUPPORT CAMBERED MEMBERS IN A MANNER THAT WILL MINIMIZE LOSS OF CAMBER.
B. ERECT MEMBERS WITH CAMBER UP.

CSC5 COMPOSITE STEEL DECK CONNECTIONS
A. INSTALL DECK WITH ENDS ALIGNED OVER SUPPORTING FRAME WITH A MINIMUM END BEARING LENGTH OF 1.5" WITH END JOINTS BUTTED WITH A MAXIMUM GAP OF 1". DO NOT OVERLAP.
B. ATTACH COMPOSITE STEEL DECK TO SUPPORTING STEEL AT 12" OC MAX. ATTACH STEEL DECK TO SUPPORTING STEEL BEAMS BY WELDING SPECIFIED SHEAR CONNECTORS THROUGH DECK BY THE FULL-FUSION PROCESS, AS FURNISHED BY TRW NELSON STUD WELDING DIVISION OR EQUIVALENT. WHERE SPECIFIED SHEAR CONNECTOR SPACING EXCEEDS 12" OC, PROVIDE 3/4" PUDDLE WELDS BETWEEN SHEAR STUD CONNECTORS TO MAINTAIN A MAXIMUM DECK CONNECTION SPACING OF 12" OC. WHERE DECK UNITS ABUT SIDE TO SIDE OR END TO END OVER A STEEL BEAM OR ABUT TO A GIRDER FILLER, PROVIDE 3/4" PUDDLE WELDS AT 12" OC ON EACH DECK UNIT.
C. WHERE COMPOSITE STEEL DECK IS SUPPORTED BY A STEEL LEDGE ANGLE ATTACHED TO A CONCRETE OR MASONRY WALL, ATTACH DECK TO LEDGE ANGLE WITH 3/4" PUDDLE WELDS AT 12" OC.
D. WELD GIRDER FILLERS TO STEEL BEAM WITH 2" LONG FILLET WELDS AT A MAXIMUM SPACING OF 12 INCHES.
E. CONNECT SIDES OF ADJACENT UNITS WITH 1 1/2" LONG WELDS AT 3'-0" OC MAX.

CSC6 CONCRETE PLACEMENT
A. DO NOT PLACE EXCESSIVE AMOUNTS OF CONCRETE IN ANY ONE LOCATION ON METAL DECK OR ANY ONE BEAM DURING CONCRETE PLACEMENT OPERATION. MONITOR DEFLECTION OF STEEL BEAMS, SLAB THICKNESS AND PLACING OF CONCRETE TO PREVENT EXCESSIVE LOAD ON ANY BEAM.
B. CONCRETE PLACEMENT IN RESPONSE TO SUPPORTING STEEL DEFLECTIONS.
1. PLACE FLOOR ELEVATION, UNLESS SPECIFICALLY NOTED OTHERWISE, WITHIN SPECIFIED TOLERANCES. HOWEVER, DECK AND SUPPORTING STEEL WILL DEFLECT AT VARIOUS LOCATIONS DURING CONCRETE PLACEMENT WHICH WILL HAVE IMPACT ON THICKNESS OF SLAB.
2. STEEL BEAMS WILL NOT DEFLECT AT SUPPORT LOCATIONS SUCH AS COLUMNS, WALLS, PERIMETER GRADE BEAMS, ETC. MAINTAIN SPECIFIED SLAB THICKNESS AND SPECIFIED FINISHED FLOOR ELEVATION AT BEAM SUPPORT LOCATIONS.
3. DECK WILL DEFLECT BETWEEN SUPPORTS. THEREFORE, SLAB THICKNESS AT MIDSPAN OF DECK WILL BE GREATER THAN SLAB THICKNESS AT DECK SUPPORT LOCATIONS. MAXIMUM ANTICIPATED DECK DEFLECTION IS **3/8"**.
4. BEAMS WITHOUT A SPECIFIED CAMBER WILL DEFLECT. THEREFORE, SLAB THICKNESS AT THESE BEAMS AND BEAMS THEY SUPPORT, IF ANY, WILL INCREASE OVER SPECIFIED THICKNESS. ANTICIPATED MAXIMUM DEFLECTION OF MEMBERS WITHOUT A SPECIFIED CAMBER IS **3/4"**.
5. BEAMS WITH SPECIFIED CAMBERS ARE SIZED TO DEFLECT AN AMOUNT EQUAL TO OR SLIGHTLY GREATER THAN SPECIFIED CAMBER. THEREFORE, IF ACTUAL CAMBER IS EQUAL TO SPECIFIED CAMBER, SLAB THICKNESS AT THESE BEAMS AND BEAMS THEY SUPPORT, IF ANY, WILL BE EQUAL TO OR SLIGHTLY THICKER THAN SPECIFIED THICKNESS.
6. SLAB THICKNESS TOLERANCES:
a. AT LOCATIONS WHERE SUPPORTING STEEL AND DECK DO NOT DEFLECT, PLUS SLAB THICKNESS TOLERANCE IS +1/4". AT LOCATIONS WHERE SUPPORTING STEEL AND DECK DO DEFLECT, A PLUS SLAB THICKNESS TOLERANCE IS NOT APPLICABLE SINCE THE SLAB CAN BE THICKER THAN SPECIFIED THICKNESS AT SOME LOCATIONS DUE TO THE DEFLECTION OF THE SUPPORTING STRUCTURE DURING CONCRETE PLACEMENT. HOWEVER, NOTIFY ARCHITECT IMMEDIATELY IF ATTEMPTS TO PROVIDE A SPECIFIED FINAL FLOOR ELEVATION RESULT IN A SLAB THICKNESS GREATER THAN SPECIFIED SLAB THICKNESS BY MORE THAN **1 1/2"**.
b. MINUS SLAB THICKNESS TOLERANCE IS -1/4". HOWEVER, NOTIFY ARCHITECT IMMEDIATELY IF ATTEMPTS TO PROVIDE A SPECIFIED FINAL FLOOR ELEVATION RESULTS IN A SLAB THICKNESS THAT IS LESS THAN SPECIFIED THICKNESS, WITH TOLERANCE, DUE TO RESIDUAL CAMBER IN THE BEAMS.
7. ADJUSTMENTS TO CONTRACT PRICE FOR CONCRETE WILL NOT BE MADE DUE TO EFFECTS OF DECK AND BEAM DEFLECTIONS

CSC7 SHEAR CONNECTORS: ASTM A108, AISI C-1015 THROUGH C-1020, HEADED STUD TYPE, COLD-FINISHED CARBON STEEL; AWS D1.1, TYPE B.
A. PROVIDE SHEAR CONNECTORS IN ACCORDANCE WITH FOLLOWING:

DECK THICKNESS	TOTAL SLAB THICKNESS	SHEAR CONNECTOR SIZE
1.5" & 2"	4.5"	3/4" DIA X 4"
2", 3", 3.5"	>= 5.5"	3/4" DIA X 5"

B. SHEAR CONNECTORS INDICATED ARE FINAL INSTALLATION LENGTHS.
C. APPLY SHEAR CONNECTORS IN FIELD AND PLACE IN DECK FLUTES IN CONTACT WITH TOP FLANGE OF BEAM.
D. ESTABLISH APPROPRIATE SHEAR CONNECTOR PLACEMENT PRIOR TO INSTALLATION OF SHEAR CONNECTORS.

CSC8 DO NOT LOAD COMPOSITE FLOORS UNTIL CONCRETE REACHES 75 PERCENT OF ITS SPECIFIED STRENGTH.

CSC9 NO CONDUITS ALLOWED IN SLABS.

CSC10 DO NOT HANG CONCENTRATED LOAD EXCEEDING 100LB FROM COMPOSITE METAL DECKING. SUPPORT MEP APPURTENANCES EXCEEDING 100LB BY STEEL BEAMS OR JOISTS.

BAR GRATING:

BG1 DESIGN GRATING PER SPECIFICATIONS AND PER LOADS INDICATED IN CONTRACT DOCUMENTS.

BG2 GALVANIZE GRATING AND COMPLY WITH NAAMM STANDARDS AND TOLERANCES.

BG3 WELD EVERY THIRD BEARING BAR TO SUPPORTING BEAMS WITH 3/16"x1" FILLET WELDS.

BG4 PROVIDE MINIMUM BEARING LENGTHS IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS AS REQUIRED TO ACHIEVE ALLOWABLE LOADS LISTED IN MANUFACTURERS LOAD TABLES.

BG5 PROVIDE MAXIMUM DISTANCE BETWEEN END OF GRATING AND VERTICAL LEG OF EDGE ANGLES OF 1/2".

ELEVATOR FRAMING:

EF1 PROVIDE HEAVIER OR REINFORCED GUIDE RAILS WHICH DO NOT REQUIRE INTERMEDIATE STRUCTURAL SUPPORT WHERE FLOOR TO FLOOR DISTANCE IS GREATER THAN ALLOWABLE SPAN FOR ELEVATOR'S STANDARD RAILS. IF REINFORCED RAILS ARE NOT POSSIBLE, PROVIDE ALLOWANCE FOR SUPPLEMENTAL STEEL SPANNING BETWEEN FLOORS AS TYPICAL ELEVATOR RAILING SUPPORT. DESIGN THIS SUPPLEMENTAL STEEL, AS A DELEGATED DESIGN, BY A STRUCTURAL ENGINEER LICENSED TO PRACTICE IN STATE IN WHICH PROJECT IS LOCATED. IF ELEVATOR RAIL SUPPORT FRAMING APPEARS IN STRUCTURAL DRAWINGS, IT'S INTENT IS DIAGRAMATIC ONLY. REFER TO ELEVATOR DRAWINGS FOR EXACT NUMBER OF ELEVATOR RAILS.

EF2 COORDINATE ELEVATOR PIT DIMENSIONS AND ROUGH FLOOR OPENINGS AND CLEAR HEIGHTS FOR ELEVATORS WITH FINAL FRAMING SHOP DRAWINGS. CLEARLY INDICATE CHANGES TO DIMENSIONS INDICATED ON STRUCTURAL DRAWINGS ON FRAMING SHOP DRAWINGS.

EF3 CONFIRM ELEVATOR REACTIONS INDICATED ON STRUCTURAL DRAWINGS WITH FINAL ELEVATOR SHOP DRAWINGS. CLEARLY INDICATE ON SHOP DRAWINGS ANY CHANGES TO REACTIONS INDICATED ON STRUCTURAL DRAWINGS.

EF4 COORDINATE REQUIRED ELEVATOR EMBEDS WITH ELEVATOR MANUFACTURER PRIOR TO CONSTRUCTION.

PRECAST CONCRETE WALL PANELS:

PCW1 DESIGN PRECAST IN ACCORDANCE WITH PROVISIONS OF ACI AND PRECAST CONCRETE INSTITUTE TO PROVIDE POSITIVE LOAD PATH TO FOUNDATIONS FOR OUT OF PLANE AND IN PLANE LATERAL LOADS NOTED IN CONTRACT DOCUMENTS IN ADDITION TO THEIR SELF WEIGHT AND OTHER GRAVITY LOADING FROM FLOOR OR ROOF. WHERE PANELS DO NOT RECEIVE GRAVITY LOADING FROM FLOORS OR ROOF, PROVIDE FOR AT LEAST 1.50" OF VERTICAL MOVEMENT IN FLOOR AND AT LEAST 1.50" OF VERTICAL DOWNWARD MOVEMENT, 0.50" OF VERTICAL UPWARD MOVEMENT IN ROOF FRAMING CONNECTIONS TO PRECAST PANELS.

PCW2 ONLY WALLS INTENDED TO BE PART OF LATERAL FORCE RESISTING SYSTEM. PROVIDE CONNECTIONS BETWEEN PRECAST WALLS AND FLOOR AND ROOF FRAMING TO TRANSMIT OUT-OF-PLANE WIND AND SEISMIC FORCES BUT ARE CONFIGURED TO PREVENT THE TRANSFER OF IN-PLANE FORCES. CONFIGURE CONNECTIONS FOR IN-PLANE LATERAL MOVEMENT OF 2.50 IN. AT LEVEL 2 AND 4.00 IN. AT THE ROOF IN EITHER DIRECTION. ALLOW FOR 2.00 IN. INTERSTORY DRIFT BETWEEN LEVEL 2 AND THE ROOF. ADDITIONALLY, DESIGN CONNECTIONS FOR FORCES THAT MAY RESULT FROM OUT-OF-PLANE DISPLACEMENTS OF 3.50 IN. AT LEVEL 2 AND 6.50 IN. AT THE ROOF WITH MAXIMUM INTERSTORY DRIFT BETWEEN THE 2ND LEVEL AND THE ROOF OF 3.00 IN.

PCW4 PROVIDE COUPLERS AT FOUNDATION (OR AT JOINTS ALONG HEIGHT OF PANELS) CAPABLE OF RESISTING 150% OF YIELD STRENGTH OF REINFORCEMENT BEING COUPLED.

PCW6 FURNISH AND INSTALL INSERTS, BRACES, STRONG-BACKS, AND OTHER REQUIRED LIFTING ACCESSORIES AND LOCATE IN ACCORDANCE WITH ACCEPTED PRACTICES. DESIGN LOCATIONS AND SIZES OF INSERTS, BRACES, OR STRONG-BACKS TO PREVENT CRACKING DUE TO ERECTION STRESSES. SHOULD PROPER INSERTS OR BRACES NOT BE PROVIDED TO MEET THE ABOVE CRITERIA, PROVIDE SPECIAL REINFORCING, AS MAY BE REQUIRED, TO PREVENT FLEXURAL CRACKS FROM OCCURRING IN PANELS DURING LIFTING AND HANDLING OPERATIONS.

PCW7 TEMPORARILY BRACE PANELS SECURELY IN ERECTED POSITION UNTIL THEY CAN BE PERMANENTLY ANCHORED AND BRACED AT FLOOR AND ROOF. DO NOT REMOVE PANEL BRACES UNTIL ROOF STRUCTURE AND DECK ARE COMPLETELY INSTALLED AND ADJOINING FLOOR SLAB IS PLACED AND CURED FOR A MINIMUM OF 7 DAYS.

PCW10 INSULATED PRECAST PANELS:
A. REFERENCE ARCHITECTURAL DRAWINGS FOR PANEL FINISHES, THICKNESS, AND REVEAL PATTERNS. PROVIDE MAXIMUM 3/4" DEPTH REVEALS
B. REFERENCE ARCHITECTURAL DRAWINGS FOR DETAILS OF INSULATION OUTSIDE STRUCTURAL PORTION OF PANELS.

STATEMENT OF SPECIAL INSPECTIONS:

SI1 THIS STATEMENT OF SPECIAL INSPECTIONS IS SUBMITTED IN ACCORDANCE WITH THE SPECIAL INSPECTION AND STRUCTURAL TESTING REQUIREMENTS OF THE BUILDING CODE WITH LOCAL AMENDMENTS. IT INCLUDES A SCHEDULE OF SPECIAL INSPECTIONS SERVICES APPLICABLE TO THIS PROJECT.

SI2 THE OWNER SHALL EMPLOY ONE OR MORE QUALIFIED SPECIAL INSPECTORS, APPROVED BY THE BUILDING OFFICIAL, TO PERFORM SPECIAL INSPECTIONS AND TESTS DURING CONSTRUCTION IN ACCORDANCE WITH BUILDING CODE. SPECIAL INSPECTORS SHALL PERFORM ALL DUTIES AND RESPONSIBILITIES AS REQUIRED BY THE BUILDING CODE. JOB SITE VISITS BY THE STRUCTURAL ENGINEER DO NOT CONSTITUTE AND ARE NOT A SUBSTITUTE FOR SPECIAL INSPECTIONS. ALL INSPECTORS SHALL BE QUALIFIED BY TRAINING AND EXPERIENCE FOR THE REQUIRED INSPECTIONS AND TEST PROCEDURES.

SI3 THE SPECIAL INSPECTOR SHALL KEEP RECORDS OF ALL SPECIAL INSPECTIONS AND TESTS AND SHALL SUBMIT REPORTS OF INSPECTIONS AND TESTS TO THE BUILDING OFFICIAL AND THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE. REPORTS SHALL INDICATED THAT WORK INSPECTED OR TESTED WAS OR WAS NOT COMPLETED IN CONFORMANCE TO APPROVED CONSTRUCTION DOCUMENTS. DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE BUILDING OFFICIAL AND TO THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE PRIOR TO COMPLETION OF THAT PHASE OF THE WORK. INTERIM TESTING AND INSPECTION REPORTS SHALL BE SUBMITTED ON A DAILY BASIS TO THE BUILDING OFFICIAL AND THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE. A FINAL REPORT DOCUMENTING THE REQUIRED SPECIAL INSPECTIONS AND TESTS, AND CORRECTION OF ANY DISCREPANCIES NOTED IN THE INSPECTIONS OR TESTS, SHALL BE SUBMITTED AT A POINT IN TIME AGREED UPON PRIOR TO THE START OF WORK BY THE OWNER OR THE OWNER'S AUTHORIZED AGENT TO THE BUILDING OFFICIAL.

SI4 IT IS THE CONTRACTOR'S SOLE RESPONSIBILITY TO ENSURE THE REQUIRED SPECIAL INSPECTIONS AND TESTS ARE PERFORMED IN ACCORDANCE WITH THE BUILDING CODE AND CONSTRUCTION DOCUMENTS. THE SPECIAL INSPECTION PROGRAM DOES NOT RELIEVE THE CONTRACTOR OF THE RESPONSIBILITY TO COMPLY WITH THE CONTRACT DOCUMENTS. JOB SITE SAFETY AND MEANS AND METHODS OF CONSTRUCTION ARE SOLELY THE RESPONSIBILITY OF THE CONTRACTOR.

SI5 ARCHITECTURAL, MECHANICAL AND ELECTRICAL COMPONENTS REQUIRING SPECIAL INSPECTIONS AND TESTING PER THE BUILDING CODE ARE NOT LISTED HERE. REFER TO ARCHITECTURAL, MECHANICAL AND ELECTRICAL DRAWINGS AND SPECIFICATIONS FOR SPECIAL INSPECTION REQUIREMENTS FOR THESE COMPONENTS.

SI6 THE FOLLOWING SPECIAL INSPECTIONS AND TESTS SCHEDULE CONTAINS A LIST OF THE MATERIALS, SYSTEMS, COMPONENTS AND WORK REQUIRED TO HAVE SPECIAL INSPECTIONS AND/OR TESTS BY THE SPECIAL INSPECTOR RESPONSIBLE FOR EACH PORTION OF THE WORK. REFER TO THE GENERAL NOTES AND PROJECT SPECIFICATIONS FOR ADDITIONAL INSPECTION AND TESTING REQUIREMENTS. WHERE CONFLICTS OCCUR, THE MOST STRINGENT REQUIREMENT SHALL CONTROL.

A

SPECIAL INSPECTIONS AND TESTS SCHEDULE PER IBC 2021		
CHECK IF APPLICABLE	MATERIALS, SYSTEMS, COMPONENTS AND WORK REQUIRED TO HAVE SPECIAL INSPECTIONS OR TESTS BY THE SPECIAL INSPECTOR RESPONSIBLE FOR EACH PORTION OF THE WORK	SPECIAL INSPECTION SHALL BE PERFORMED IN ACCORDANCE WITH IBC SECTION
■	STRUCTURAL STEEL	1705.2
■	CONCRETE CONSTRUCTION	1705.3
☐	MASONRY CONSTRUCTION	1705.4
☐	WOOD CONSTRUCTION	1705.5
■	SOILS	1705.6
☐	DRIVEN DEEP FOUNDATIONS	1705.7
■	CAST-IN-PLACE DEEP FOUNDATIONS	1705.8
☐	HELICAL PILE FOUNDATIONS	1705.9
☐	STRUCTURAL INTEGRITY OF DEEP FOUNDATION ELEMENTS	1705.10
■	FABRICATED ITEMS	1705.11
☐	SPECIAL INSPECTIONS FOR WIND RESISTANCE	1705.12
☐	SPECIAL INSPECTIONS FOR SEISMIC RESISTANCE	1705.13
☐	TESTING FOR SEISMIC RESISTANCE	1705.14

NON-COMPOSITE TOPPING SLABS:

NCT1 WHERE INDICATED IN CONTRACT DOCUMENTS PROVIDE MINIMUM 3 INCH THICK NON-COMPOSITE TOPPING SLAB REINFORCED WITH 4 LBS/CYD STRUX 90/40 STRUCTURAL FIBER OR EQUIVALENT REINFORCING, UNLESS NOTED OTHERWISE.

NCT2 PROVIDE BASE CONCRETE SURFACE BELOW TOPPING WITH A SMOOTH TROWELED FINISH. PLACE BOND BREAKER BETWEEN BASE CONCRETE SURFACE AND TOPPING SLAB.

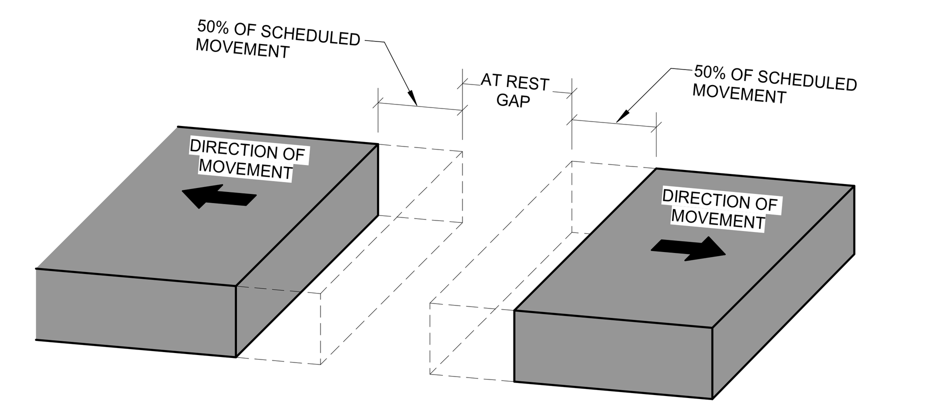
NCT3 PROVIDE JOINT PATTERN INDICATED IN ARCHITECTURAL DRAWINGS BUT DO NOT EXCEED JOINT SPACING OF 5 FEET ON CENTER IN EITHER DIRECTION. PROVIDE 1/2 INCH DEEP JOINTS TOOLED OR SAWED WITHIN 4 HOURS OF CONCRETE PLACEMENT.

NCT4 WET CURE TOPPING SLABS.

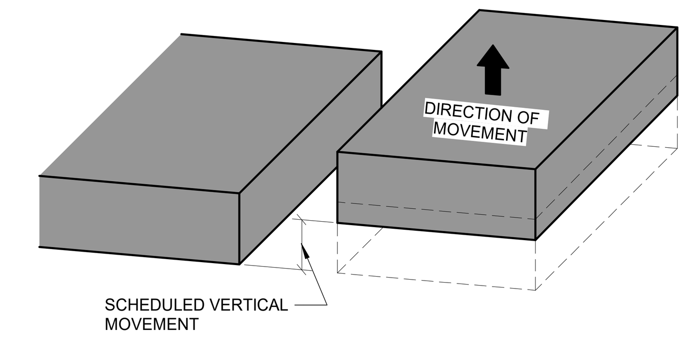
Structural plan review is limited to a general survey for code compliance. No review is implied nor was undertaken to verify structural adequacy.

City of Aurora Building Division
Reviewed for Code Compliance
Approved as Noted: Dirk Anderson
Date: Jun 12, 2025
2021 INTERNATIONAL CODES & 2023 NEC

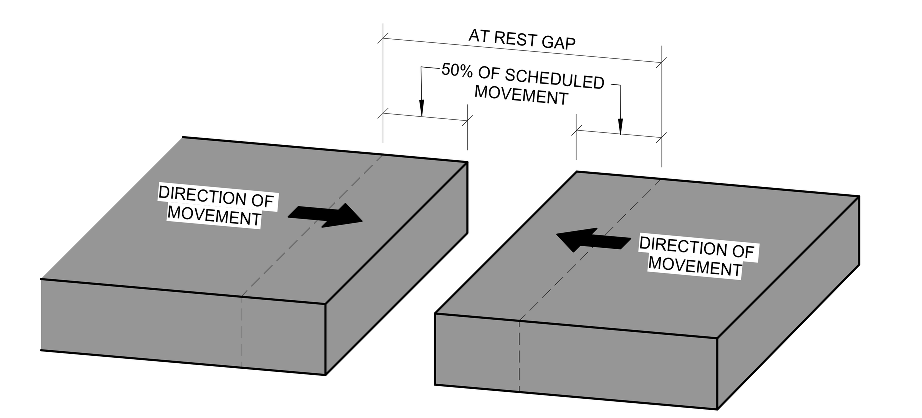
FOUNDATION ONLY PERMIT - NOT APPROVED FOR VERTICAL CONSTRUCTION



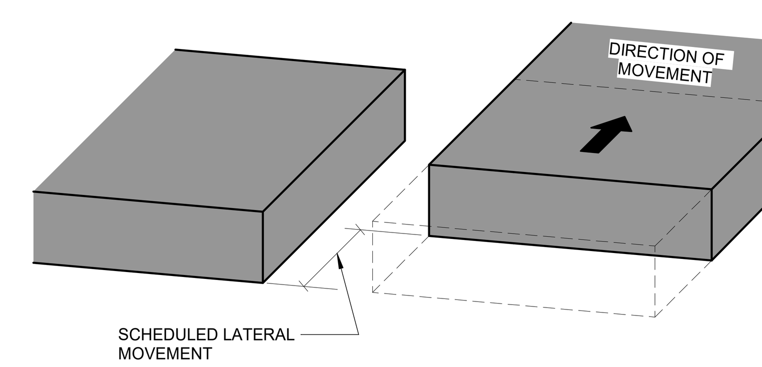
MAXIMUM OUTWARD LATERAL MOVEMENT PERPENDICULAR TO JOINT (1)



MAXIMUM VERTICAL MOVEMENT PERPENDICULAR TO JOINT (3)



MAXIMUM INWARD LATERAL MOVEMENT PERPENDICULAR TO THE JOINT (2)



MAXIMUM LATERAL MOVEMENT PARALLEL TO THE JOINT (4)

SEPARATION JOINT ANTICIPATED MOVEMENTS				
LEVEL	MAXIMUM OUTWARD LATERAL MOVEMENT PERPENDICULAR TO JOINT (1)	MAXIMUM INWARD LATERAL MOVEMENT PERPENDICULAR TO JOINT (2)	MAXIMUM VERTICAL MOVEMENT PERPENDICULAR TO JOINT (3)	MAXIMUM LATERAL MOVEMENT PARALLEL TO THE JOINT (4)
ROOF	4.75"	4.75"	1.75"	7.75"
SECOND FLOOR	3.25"	3.25"	1.75"	4.50"

NOTES:

1. JOINT DEVICES SHALL ACCOMODATE THE SIMULTANEOUS MOVEMENTS NOTED ABOVE. (1) THRU (4)

SEPARATION JOINT MOVEMENT DETAIL

1 GENERAL NOTES CONTINUED
12" = 1'-0"

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REVISIONS		
A	04.24.25	COA - PERMIT COMMENTS

COLORADO LICENSED PROFESSIONAL ENGINEER NICHOLAS W. DAVID 65236

AG&E Structural Engenuity

Date of issue:
04.24.2025

QTS DEN1 DC2
1140 N. GUN CLUB ROAD

GENERAL NOTES

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Permit #25-2535171-CM
RSN 1903242

FIRST FLOOR LOADING LEGEND



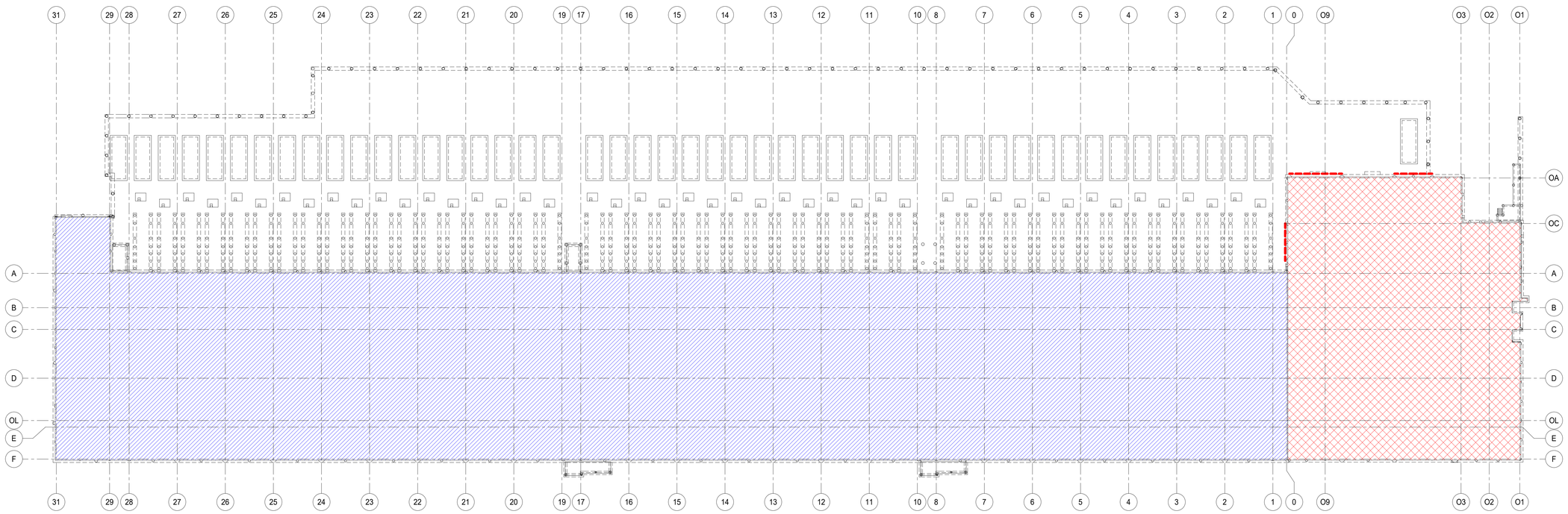
DESIGN DEAD LOADS
SLAB ON GRADE.....SELF WT

DESIGN CABINETS STORAGE LOADS
FLOOR LOADS.....SINGLE ARRAY OF SINGLE 6,000LBS (4'-6" x 2'-0" RACK DIMENSIONS) SERVER CABINETS SEPARATED BY 6' HOT AISLES AND 6' COLD AISLES 3,000 LB (CONCENTRATED)

DESIGN LIVE LOADS
FLOOR LIVE (TYP).....40 PSF IN HOT AISLES, 100 PSF IN COLD AISLES

DESIGN DEAD LOADS
SLAB ON GRADE.....SELF WT

DESIGN LIVE LOADS
FLOOR LIVE LOADS.....250 PSF (REDUCIBLE) 2,000 LB (CONCENTRATED)
MECHANICAL/ELECTRICAL/STORAGE.....250 PSF (UNREDUCIBLE) 2,000 LB (CONCENTRATED)



2 FIRST FLOOR LOADING DIAGRAM
1" = 40'-0"

Structural plan review is limited to a general survey for code compliance. No review is implied nor was undertaken to verify structural adequacy.

City of Aurora Building Division
Reviewed for Code Compliance
Approved as Noted: Dirk Anderson
Date: Jun 12, 2025
2021 INTERNATIONAL CODES & 2023 NEC

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REVISIONS

1	03.28.25	ADDENDUM 1

COLORADO LICENSED
NICHOLAS W. KEVID
65236
PROFESSIONAL ENGINEER

AG&E Structural Engenuity

Date of issue:
03.28.2025

QTS DEN1 DC2
1140 N. GUN CLUB ROAD

KEYPLAN

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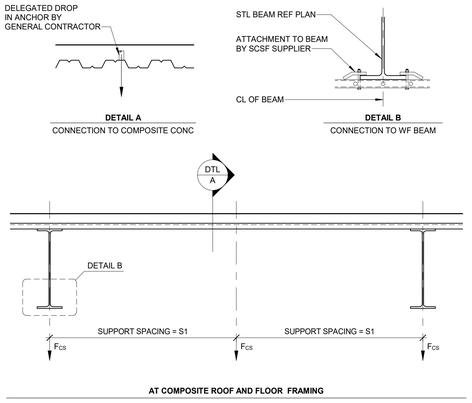
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DATE 03.28.2025
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3/28/2025 4:32:31 PM S0-03 LOADING DIAGRAM

Permit #25-2535171-CM
RSN 1903242



STRUCTURED CEILING SUPPORT NOTES:

1. REFER TO THE LOADING DIAGRAMS FOR COLLATERAL DEAD LOADS HANGING BELOW THE FLOORS AND ROOF FOR WHICH THE STRUCTURED CEILING SUPPORT FRAMING (SCSF) SHALL BE DESIGNED FOR.
2. DESIGN OF ALL SCSF AND ITS APPURTENANCES IS CONSIDERED DELEGATED DESIGN AND SHALL BE PERFORMED BY A STRUCTURAL ENGINEER LICENSED IN THE STATE WHERE THE PROJECT IS LOCATED.
3. HANGERS TO SUPPORT THESE STRUCTURED CEILINGS AND/OR THE SCSF MAY BE ATTACHED DIRECTLY TO THE COMPOSITE CONCRETE SLAB OR ROOF USING THE ANCHORS AS SHOWN IN THIS DETAIL. DESIGN OF ANY ALTERNATE HANGERS ATTACHMENT METHOD TO THE COMPOSITE CONCRETE SLAB OR ROOF SHALL BE CONSIDERED PART OF THE DELEGATED DESIGN OF THE SCSF AND WILL BECOME THE RESPONSIBILITY OF THE SCSF SYSTEM'S STRUCTURAL ENGINEER.
4. THE CONTRACTOR MUST CARRY AN APPROPRIATE ALLOWANCE IN THEIR BIDS FOR ANY MISCELLANEOUS FRAMING THAT IS REQUIRED TO BYPASS ANY OBSTRUCTION SUCH AS AN EXISTING MEP APPURTENANCE OR A FRAMING MEMBER TO TRANSMIT THE HANGING LOAD TO THE ANCHORS AS SHOWN IN THIS DETAIL.
5. IF THE STRUCTURED CEILING HANGERS ARE ATTACHED DIRECTLY TO THE COMPOSITE SLAB, ANY OTHER MEP APPURTENANCES GREATER THAN 100 POUNDS MUST BE HUNG FROM FLOOR FRAMING MEMBERS, NOT FROM THE SLAB.
6. ATTACHMENT OF THE SCSF AND/OR THE CEILING HANGER TO THE METAL ROOF DECK IS NOT ALLOWED.
7. ATTACHMENTS TO FLOOR FRAMING MEMBERS SHALL BE SYMMETRICAL TO THE CENTERLINE OF THE FRAMING MEMBER, AND ANY CLAMP TYPE DEVICES THAT INDUCE TORSIONAL STRESSES IN THE FLOOR FRAMING MEMBERS ARE NOT PERMITTED.

2 STRUCTURED CEILING ATTACHMENT DETAIL
3/4" = 1'-0"

SECOND FLOOR LOADING LEGEND

DESIGN DEAD LOADS
FRAMING MEMBERS.....SELF WEIGHT
MISC (CEILING, MECH, FLOORING, ETC).....15 PSF

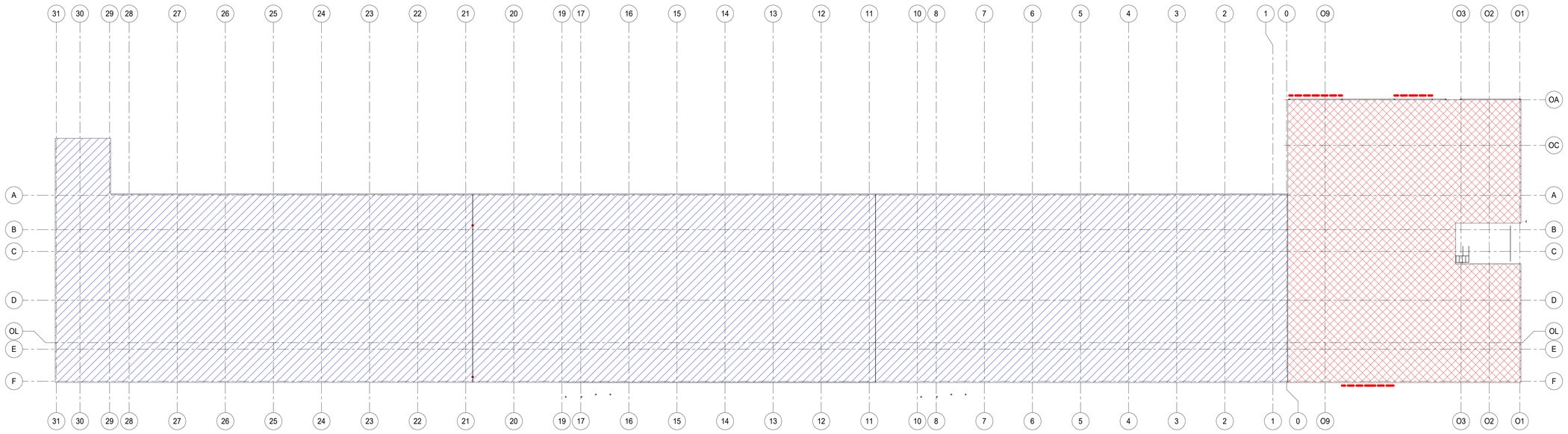
DESIGN LIVE LOADS
FLOOR LIVE (TYP).....250 PSF (UNREDUCIBLE)
250 PSF (UNREDUCIBLE AT STAIRS)
250 PSF (UNREDUCIBLE AT STORAGE ROOMS)
2,000 LB (CONCENTRATED)

DESIGN DEAD LOADS
COLLATERAL HANGING BELOW FLOOR FRAMING.....100 PSF
ATTACHMENTS TO FLOOR FRAMING MEMBERS SHALL BE SYMMETRICAL TO THE CENTERLINE OF THE FRAMING MEMBER. NO ATTACHMENT TO THE UNDERSIDE OF DECK ALLOWED. 65 PSF FOR WEIGHT OF BASE BUILDING SYSTEMS INCLUDING THE WEIGHT OF THE CEILING SYSTEM + 35 PSF HANGING LOAD AVAILABLE TO THE CUSTOMER). REF 2-S0-04 FOR ADD'L INFO.

FLOOR DEAD LOAD.....SELF WEIGHT

DESIGN SERVER CABINET STORAGE LOADS:
FLOOR LOADS.....SINGLE ARRAY OF SINGLE 6,000 LBS (4'-6" x 2'-0" RACK DIMENSIONS) SERVER CABINETS SEPARATED BY 6' HOT AISLES AND 6' COLD AISLES
3,000 LBS (CONCENTRATED)

DESIGN LIVE LOADS
FLOOR LIVE (TYP).....40 PSF IN HOT AISLES, 100 PSF IN COLD AISLES



1 SECOND FLOOR LOADING DIAGRAM
1" = 40'-0"

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Approved as Noted: Dirk Anderson
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DESIGN CONSULTING LLC

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REVISIONS

COLORADO LICENSED
NICHOLAS W. [illegible]
65236
PROFESSIONAL ENGINEER

AG&E Str[illegible] genuity
F-04-20

Date of issue:
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QTS DEN1 DC2
1140 N. GUN CLUB ROAD

KEYPLAN

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ROOF LOADING LEGEND

DESIGN DEAD LOADS
FRAMING MEMBERS.....SELF WT
ROOFING AND INSULATION.....10 PSF
COLLATERAL HANGING BELOW ROOF FRAMING.....8 PSF
(INCLUDES CEILINGS, PIPING, DUCTWORK, LIGHTS, ELECTRICAL)

DESIGN LIVE LOADS
ROOF LIVE.....20 PSF (UNREDUCIBLE)
ROOF SNOW.....40 PSF + DRIFTS (UNREDUCIBLE)

DESIGN DEAD LOADS
FRAMING MEMBERS.....SELF WT
ROOFING INSULATION.....10 PSF
COLLATERAL HANGING BELOW FLOOR FRAMING.....100 PSF
ATTACHMENTS TO FLOOR FRAMING MEMBERS SHALL BE SYMMETRICAL TO THE CENTERLINE OF THE FRAMING MEMBER. NO ATTACHMENT TO THE UNDERSIDE OF DECK IS ALLOWED. 65 PSF FOR WEIGHT OF BASE BUILDING SYSTEMS INCLUDING THE WEIGHT OF THE CEILING SYSTEM + 35 PSF HANGING LOAD AVAILABLE TO THE CUSTOMER). REF 2-S0-04 FOR ADDTL INFO

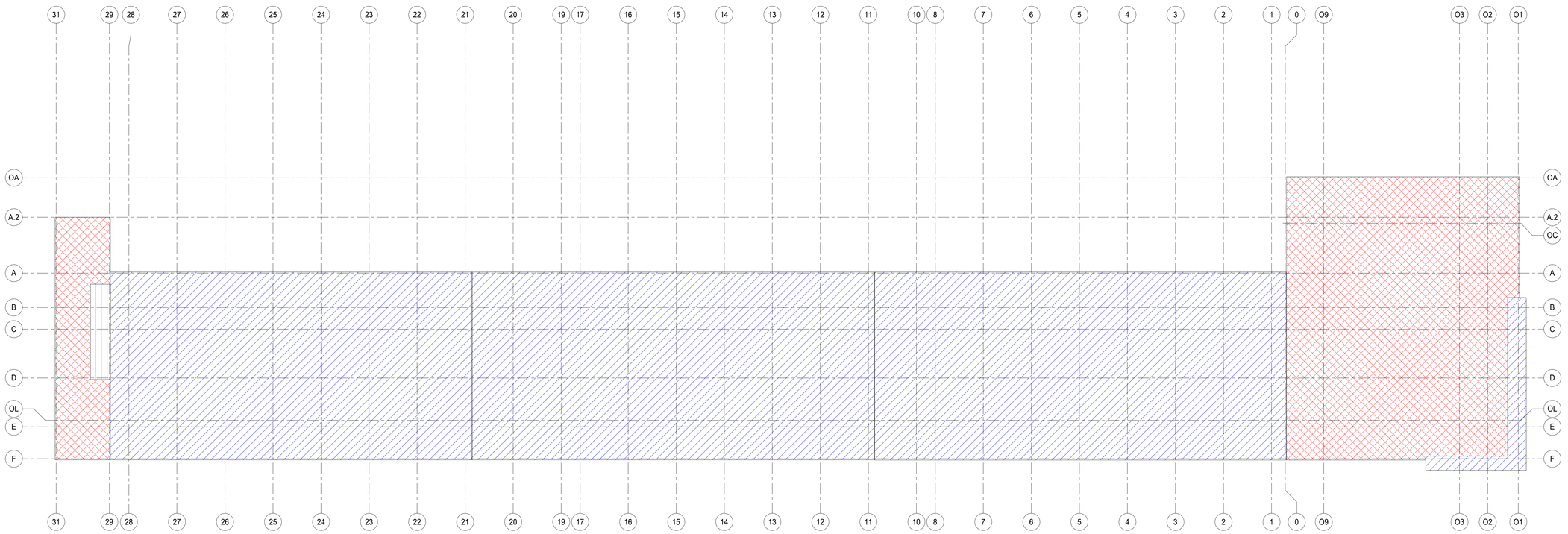
DESIGN LIVE LOADS
ROOF LIVE.....20 PSF (UNREDUCIBLE)
ROOFING INSULATION.....SEE SNOW LOADING PLAN

DESIGN LIVE LOADS
ROOF LIVE.....20 PSF (UNREDUCIBLE)
ROOF SNOW.....40 PSF + DRIFTS

DESIGN DEAD LOADS
FRAMING MEMBERS.....SELF WT
MISC (CEILING, MECH, FLOORING, ETC).....10 PSF

DESIGN LIVE LOADS
FLOOR LIVE.....100 PSF (UNREDUCIBLE)
100 PSF (UNREDUCIBLE AT STAIRS)
100 PSF (UNREDUCIBLE AT STORAGE ROOMS)

2,000 LBS (CONCENTRATED)



1 ROOF LOADING DIAGRAM
1" = 40'-0"

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COLORADO LICENSED
NICHOLAS W. DAVID
65236
PROFESSIONAL ENGINEER

AG&E Structural Ingenuity
F-04-20

Date of issue:
01.31.2025

QTS DEN1 DC2
1140 N. GUN CLUB ROAD

KEYPLAN

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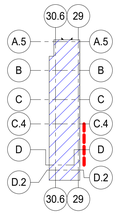
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Permit #25-2535171-CM
RSN 1903242

PENTHOUSE ROOF LOADING LEGEND

DESIGN DEAD LOADS
FRAMING MEMBERS.....SELF WT
ROOFING INSULATION.....10 PSF
COLLATERAL HANGING BELOW ROOF FRAMING.....8 PSF
(INCLUDES CEILINGS, PIPING, DUCTWORK, LIGHTS, ELECTRICAL)

DESIGN LIVE LOADS
ROOF LIVE.....20 PSF (UNREDUCIBLE)



PLATFORM LOADING LEGEND

DESIGN DEAD LOADS
FRAMING MEMBERS.....SELF WT

DESIGN LIVE LOADS
FLOOR LIVE.....60 PSF (UNREDUCIBLE)
EQUIPMENT LOADING.....SELF WT
HANGING BELOW PLATFORM FRAMING.....50 PSF (UNREDUCIBLE)

DESIGN DEAD LOADS
FRAMING MEMBERS.....SELF WT

DESIGN LIVE LOADS
FLOOR LIVE.....60 PSF (UNREDUCIBLE)
EQUIPMENT LOADING.....SELF WT
HANGING BELOW PLATFORM FRAMING.....100 PSF (UNREDUCIBLE)

DESIGN DEAD LOADS
FRAMING MEMBERS.....SELF WT
MISC (CEILING, MECH, FLOORING, ETC.).....15 PSF

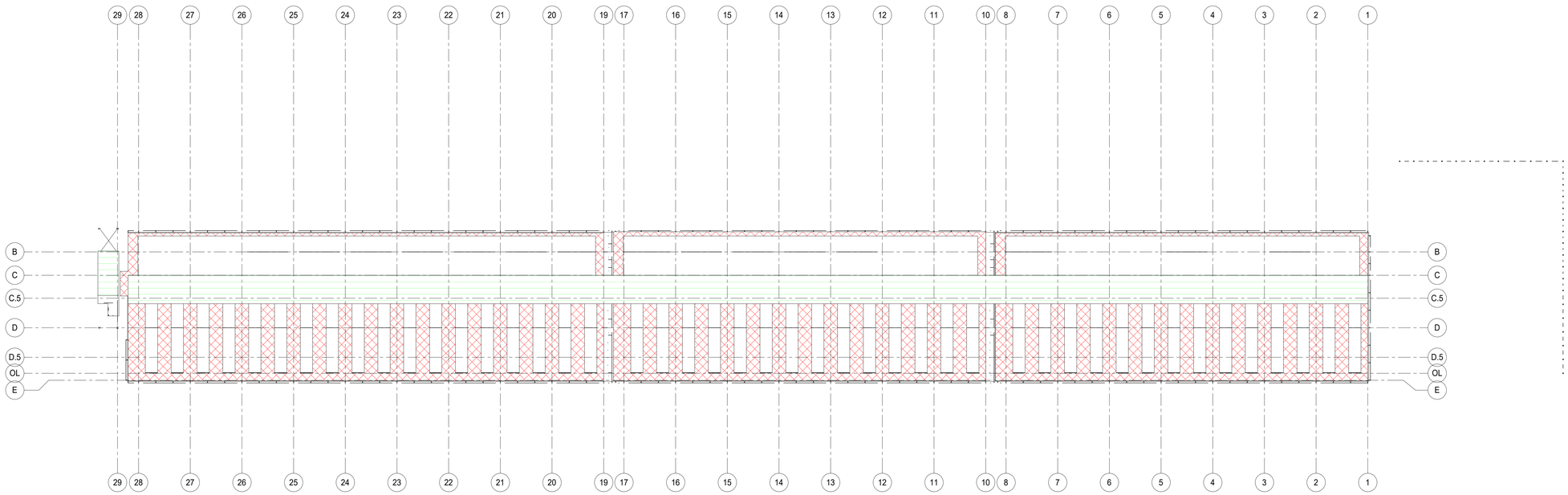
DESIGN DEAD LOADS
FLOOR LIVE.....100 PSF (UNREDUCIBLE)
100 PSF (UNREDUCIBLE AT STAIRS)
100 PSF (UNREDUCIBLE AT STORAGE ROOM)
2,000 LB (CONCENTRATED)

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2021 INTERNATIONAL CODES & 2023 NEC

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2 PENTHOUSE ROOF LOADING DIAGRAM
1" = 40'-0"



1 PLATFORM LOADING DIAGRAM
1" = 40'-0"

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NICHOLAS W. DAVID
65236
PROFESSIONAL ENGINEER

AG&E Structural Ingenuity
F-04-20

Date of issue:
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QTS DEN1 DC2
1140 N. GUN CLUB ROAD

KEYPLAN

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SNOW LOADING KEY

1	81 PSF+ BALANCED SNOW LOAD, X = 16'-10"
2	173 PSF+ BALANCED SNOW LOAD, X = 28'-0"
3	226 PSF+ BALANCED SNOW LOAD, X = 12'-0"
4	94 PSF+ BALANCED SNOW LOAD, X = 19'-6"
5	184 PSF+ BALANCED SNOW LOAD, X = 38'-6"
6	46 PSF+ BALANCED SNOW LOAD, X = 10'-0"
7	66 PSF+ BALANCED SNOW LOAD, X = 24'-6"
8	94 PSF+ BALANCED SNOW LOAD, X = 14'-9"
9	225 PSF+ BALANCED SNOW LOAD, X = 46'-6"
10	79 PSF+ BALANCED SNOW LOAD, X = 16'-4"
11	39 PSF+ BALANCED SNOW LOAD, X = 8'-3"
12	266 PSF+ BALANCED SNOW LOAD, X = 37'-8"
13	44 PSF+ BALANCED SNOW LOAD, X = 26'-0"
14	66 PSF+ BALANCED SNOW LOAD, X = 33'-6"
15	172 PSF+ BALANCED SNOW LOAD, X = 36'-0"

SNOW LOADING PRESENTED FOR INFORMATION ONLY. DRIFTS HAVE BEEN CONSIDERED IN JOIST AND JOIST GIRDER SELECTIONS SHOWN ON PLANS.

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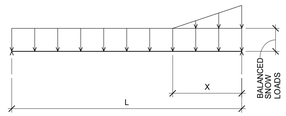
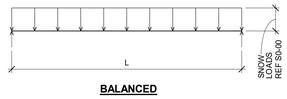
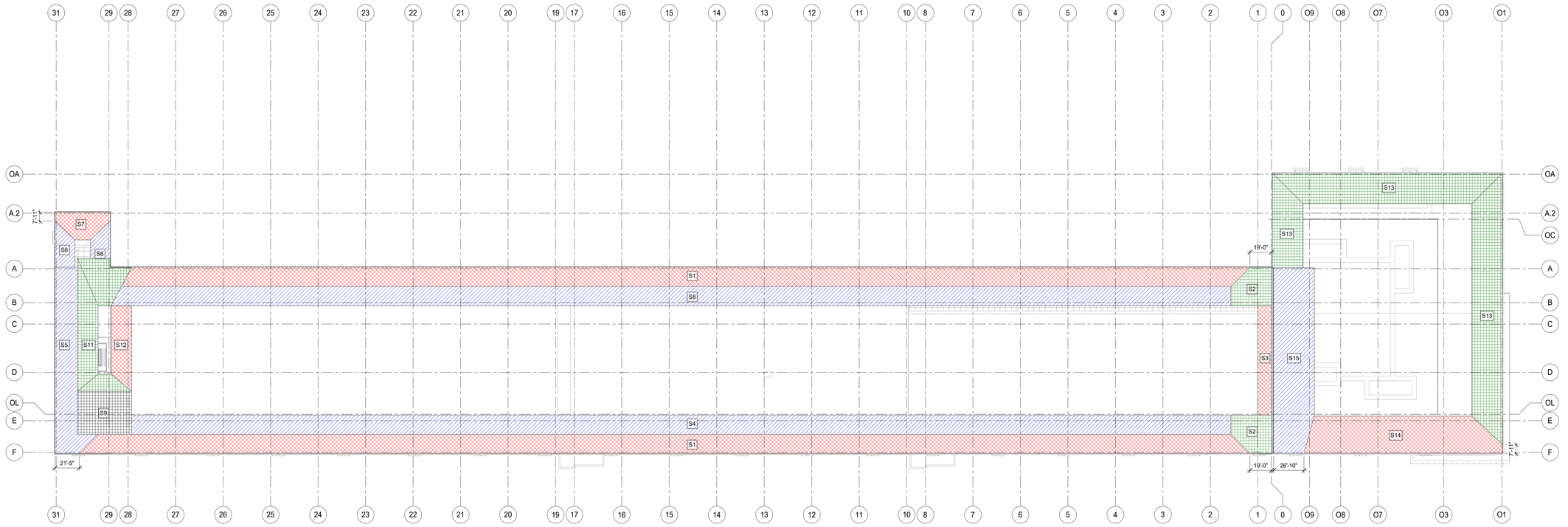


DIAGRAM 1



BALANCED



1 ROOF SNOW LOADING DIAGRAM
1" = 40'-0"

2/4/2025 4:06:41 PM S0-07 SNOW LOAD DIAGRAM

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COLORADO LICENSED NICHOLAS W. DAVID 65236 PROFESSIONAL ENGINEER

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1140 N. GUN CLUB ROAD

KEYPLAN

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SNOW LOAD DIAGRAM

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RSN 1903242

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SNOW LOADING KEY

1	227 PSF+ BALANCED SNOW LOAD, X = 16'-10'
2	117 PSF+ BALANCED SNOW LOAD, X = 28'-0"
3	51 PSF+ BALANCED SNOW LOAD, X = 12'-0"

SNOW LOADING PRESENTED FOR INFORMATION ONLY. DRIFTS HAVE BEEN CONSIDERED IN JOIST AND JOIST GIRDER SELECTIONS SHOWN ON PLANS.

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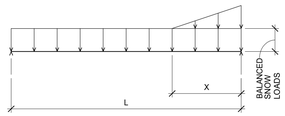
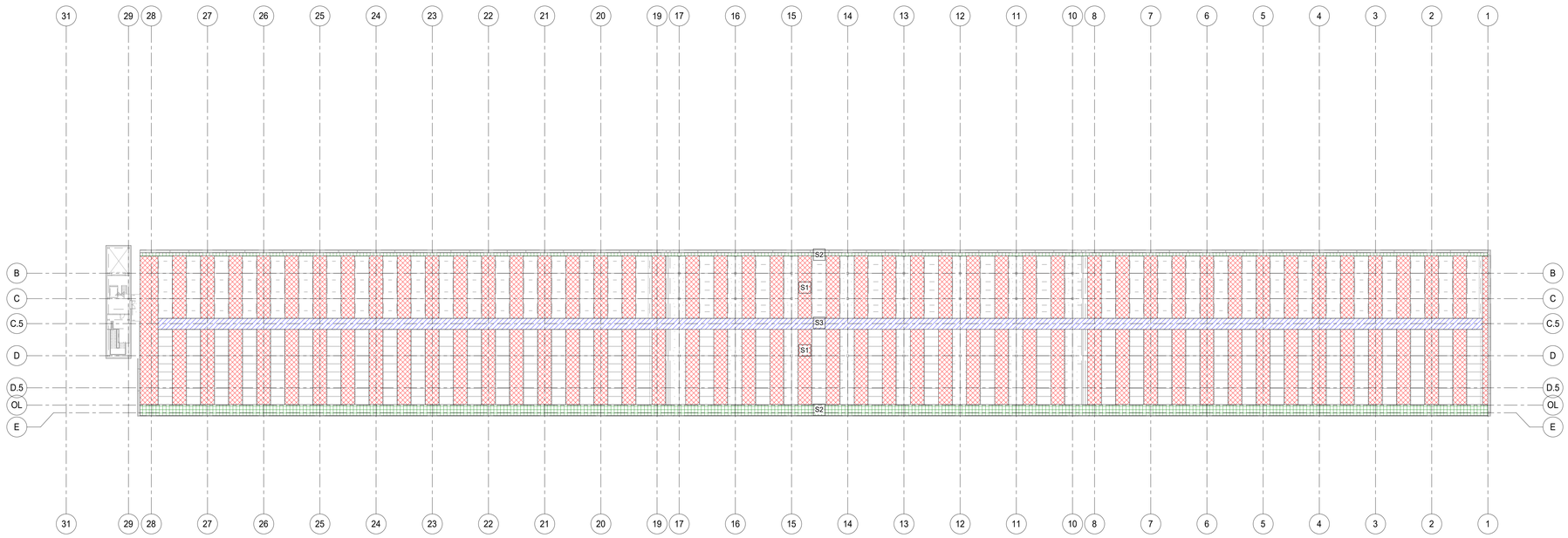


DIAGRAM 1



BALANCED



1 PLATFORM SNOW LOADING DIAGRAM
1" = 40'-0"

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COLORADO LICENSED
NICHOLAS W. DAVID
65236
PROFESSIONAL ENGINEER

AG&E Structural Ingenuity
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KEYPLAN

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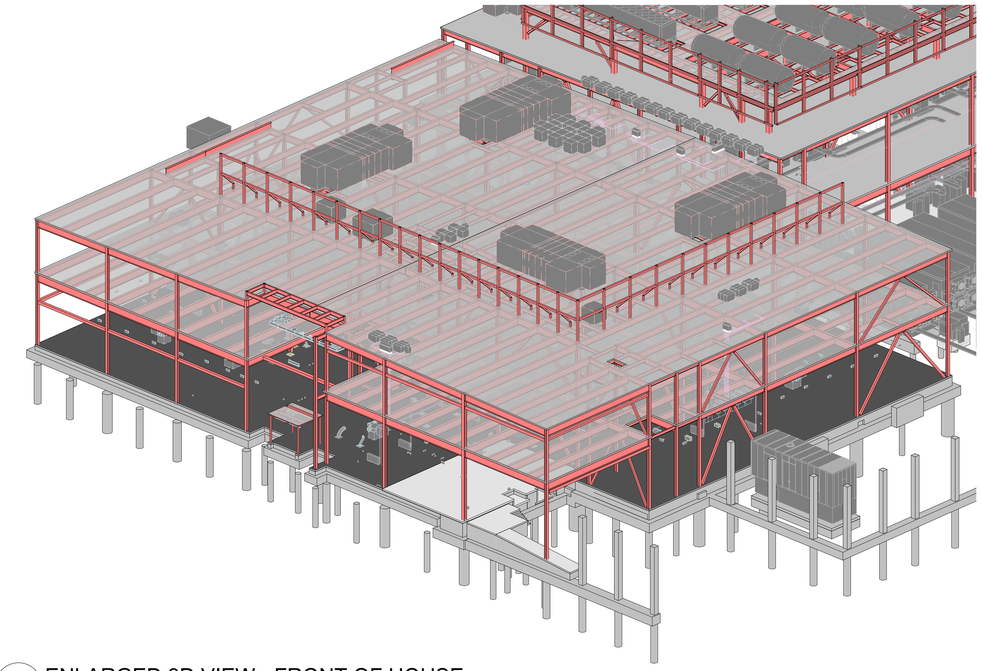
SNOW LOAD DIAGRAM

JOB 24464.0000
DATE 01.31.2025
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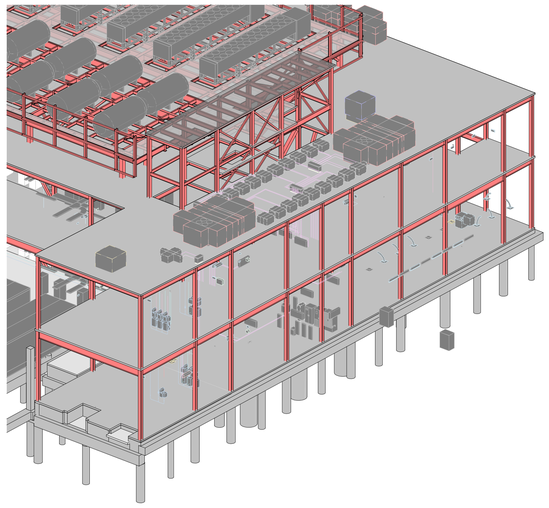
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2/4/2025 4:06:58 PM S0-08 SNOW LOAD DIAGRAM

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RSN 1903242

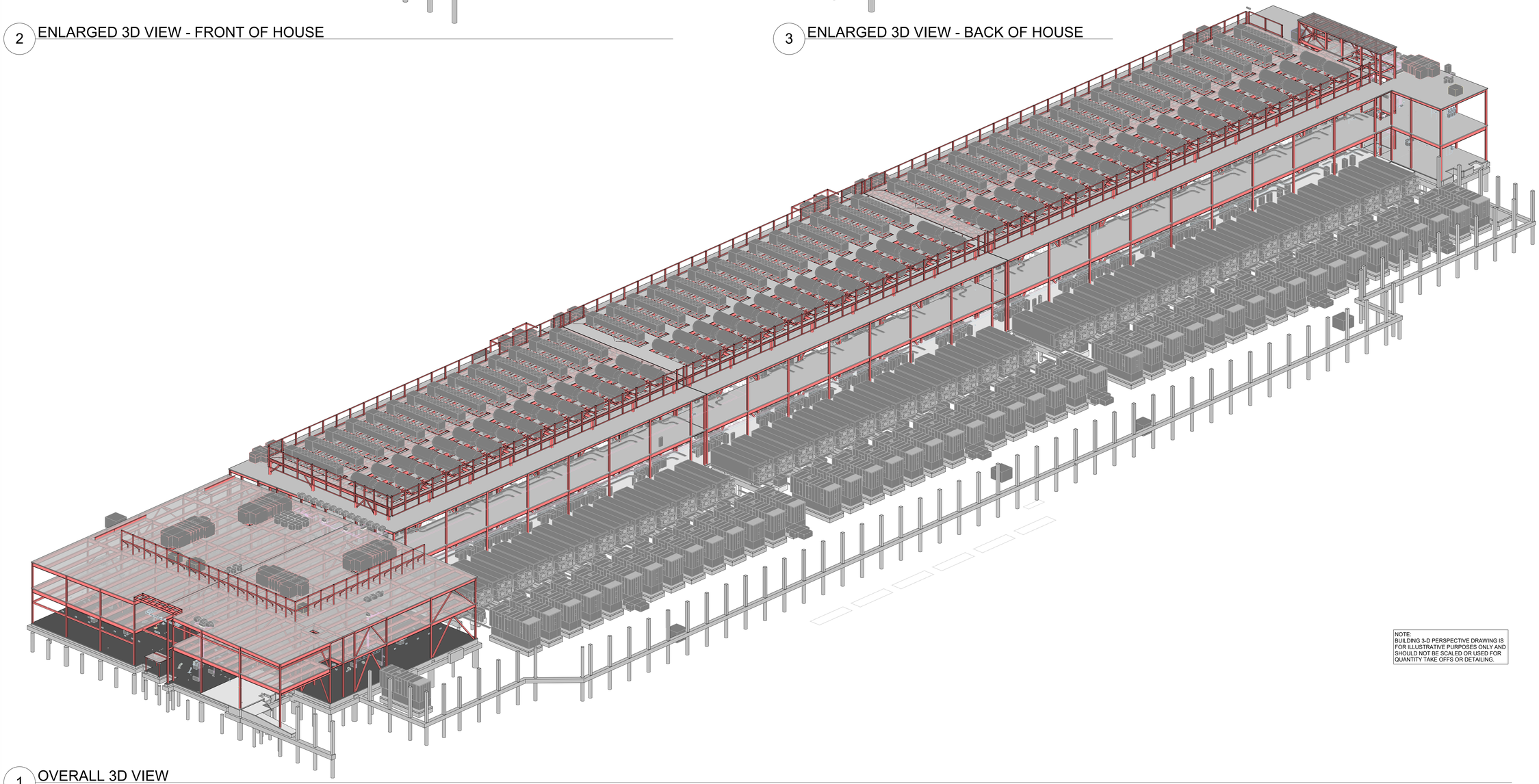


2 ENLARGED 3D VIEW - FRONT OF HOUSE



3 ENLARGED 3D VIEW - BACK OF HOUSE

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NOTE:
BUILDING 3-D PERSPECTIVE DRAWING IS FOR ILLUSTRATIVE PURPOSES ONLY AND SHOULD NOT BE SCALED OR USED FOR QUANTITY TAKE OFFS OR DETAILING.

1 OVERALL 3D VIEW

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GROUP

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REVISIONS

COLORADO LICENSED
NICHOLAS W. DAVID
65236
PROFESSIONAL ENGINEER

AG&E Structural Engineering
Texas F-10430

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OVERALL 3D VIEW

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SHEET

S0-09

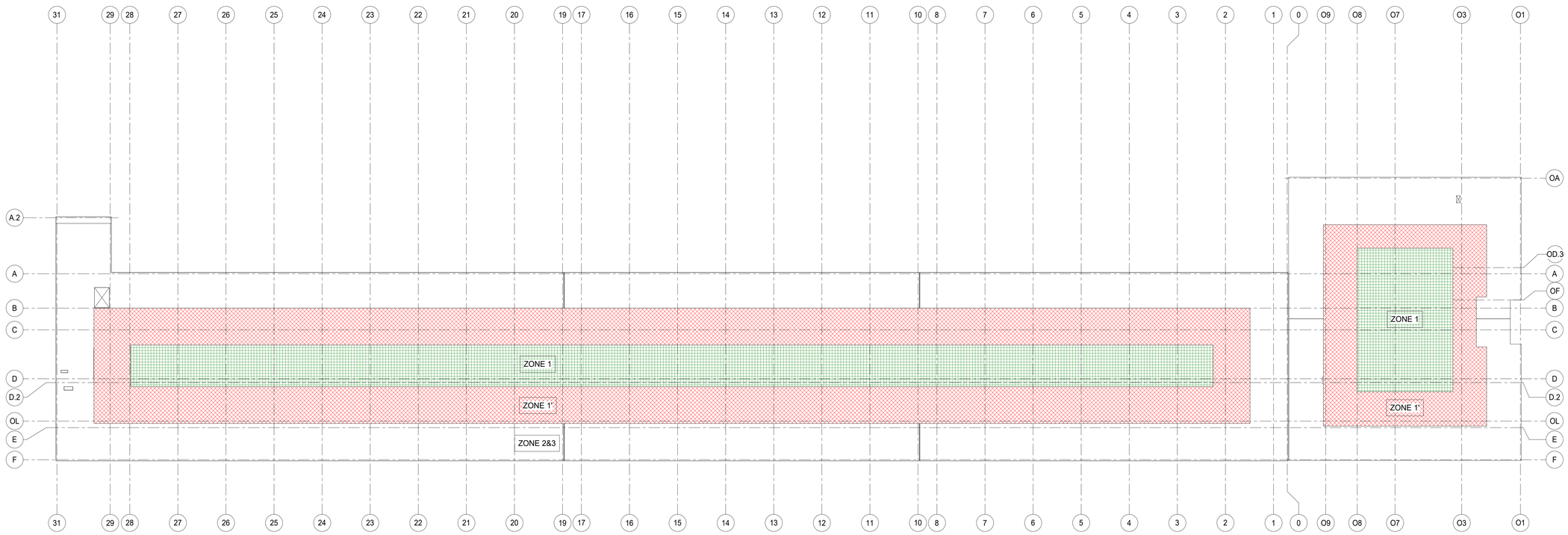
2/4/2025 4:07:27 PM S0-09 OVERALL 3D VIEW

Permit #25-2535171-CM
RSN 1903242

Structural plan review is limited to a general survey for code compliance. No review is implied nor was undertaken to verify structural adequacy.

City of Aurora Building Division
Reviewed for Code Compliance
Approved as Noted: Dirk Anderson
Date: Jun 12, 2025
2021 INTERNATIONAL CODES & 2023 NEC

FOUNDATION ONLY PERMIT - NOT APPROVED FOR VERTICAL CONSTRUCTION



1 ROOF WIND UPLIFT DIAGRAM
1" = 40'-0"

2/4/2025 4:07:41 PM S0-11 ROOF WIND UPLIFT DIAGRAM

CORGAN

401 N. Houston Street Dallas, TX
75202
T: 214.748.2000

AG/E

SYSKA HENNESSY GROUP

TLD DESIGN CONSULTING LLC

ISSUES		
1	12.20.24	DESIGN DEVELOPMENT
2	01.31.25	ISSUE FOR PERMIT
3	05.30.25	FOUNDATION ONLY IFP
4		
5		
6		
7		
8		
9		
10		

REVISIONS

COLORADO LICENSED
NICHOLAS W. DAVID
65236
PROFESSIONAL ENGINEER

AG&E Structural Ingenuity
F-04-20

Date of issue:
01.31.2025

QTS DEN1 DC2
1140 N. GUN CLUB ROAD

KEYPLAN

S	Q	N	L	J	G	E	C	A	
T	R	P	M	K	H	F	D	B	

ROOF WIND UPLIFT DIAGRAM

JOB 24464.0000
DATE 01.31.2025
SHEET

S0-11

Permit #25-2535171-CM
RSN 1903242

SPECIAL INSPECTIONS

SPECIAL INSPECTIONS SHALL CONFORM TO SECTION 1705 OF THE 2021 IBC, CONTRACT DOCUMENTS AND APPROVED SUBMITTALS.

THESE ARE CONSIDERED MINIMUM SPECIAL INSPECTION REQUIREMENTS FOR STRUCTURAL ITEMS. CONTRACTOR TO FULFILL ADDITIONAL SPECIAL INSPECTIONS REQUIRED BY OWNER AND OTHER DISCIPLINES.

THE OWNER SHALL EMPLOY A SPECIAL INSPECTOR DURING CONSTRUCTION ON THE FOLLOWING PHASES OF WORK:

STEEL CONSTRUCTION

THE SPECIAL INSPECTIONS AND NONDESTRUCTIVE TESTING OF STEEL CONSTRUCTION IN BUILDINGS, STRUCTURES, AND PORTIONS THEREOF SHALL BE IN ACCORDANCE WITH THIS SECTION.

EXCEPTION:
SPECIAL INSPECTIONS OF THE STEEL FABRICATION PROCESS SHALL NOT BE REQUIRED WHERE THE FABRICATOR DOES NOT PERFORM ANY WELDING, THERMAL CUTTING OR HEATING OPERATION OF ANY KIND AS PART OF THE FABRICATION PROCESS. IN SUCH CASES, THE FABRICATOR SHALL BE REQUIRED TO SUBMIT A DETAILED PROCEDURE FOR MATERIAL CONTROL THAT DEMONSTRATES THE FABRICATOR'S ABILITY TO MAINTAIN SUITABLE RECORDS AND PROCEDURES SUCH THAT, AT ANY TIME DURING THE FABRICATION PROCESS, THE MATERIAL SPECIFICATION AND GRADE FOR THE MAIN STRESS-CARRYING ELEMENTS ARE CAPABLE OF BEING DETERMINED. MILL TEST REPORTS SHALL BE IDENTIFIABLE TO THE MAIN STRESS-CARRYING ELEMENTS WHEN REQUIRED BY THE APPROVED CONSTRUCTION DOCUMENTS.

NOTE 1
THE SPECIAL INSPECTOR NEED NOT BE CONTINUOUSLY PRESENT DURING WELDING OF THE FOLLOWING ITEMS, PROVIDED THAT THE MATERIALS, WELDING PROCEDURES AND QUALIFICATIONS OF WELDERS ARE VERIFIED PRIOR TO THE START OF THE WORK; PERIODIC INSPECTIONS ARE MADE OF THE WORK IN PROGRESS; AND A VISUAL INSPECTION OF ALL WELDS IS MADE PRIOR TO COMPLETION OR PRIOR TO SHIPMENT OF SHOP WELDING:
- SINGLE-PASS FILLET WELDS NOT EXCEEDING 5/16 INCH (7.9 MM) IN SIZE.
- FLOOR AND ROOF DECK WELDING.
- WELDED STUDS WHERE NOT INSTALLED WITH AN AUTOMATICALLY TIMED STUD WELDING MACHINE IN ACCORDANCE WITH SECTION 7 OF AWS D1.1.
- WELDED SHEET STEEL FOR COLD-FORMED STEEL MEMBERS.
- WELDING OF STAIRS AND RAILING SYSTEMS.

FOR WELDED STUDS INSTALLED WITH AN AUTOMATICALLY TIMED STUD WELDING MACHINE AND IN ACCORDANCE WITH SECTION 7 OF AWS D1.1, THE SPECIAL INSPECTOR NEED NOT BE CONTINUOUSLY PRESENT DURING INSTALLATION OF WELDED STUDS SUBJECT TO THE FOLLOWING PROVISIONS:
THE SPECIAL INSPECTOR SHALL PERFORM A VISUAL INSPECTION OF ALL WELDED STUDS IN ACCORDANCE WITH SECTIONS 7 AND 7.8.1 OF AWS D1.1. VISUAL INSPECTION OF WELDED STUDS INSTALLED WITH AN AUTOMATICALLY TIMED STUD WELDING MACHINE MAY TAKE PLACE EITHER IN THE FABRICATION SHOP PRIOR TO COMPLETION OR PRIOR TO SHIPMENT, OR ON-SITE PRIOR TO COVERAGE.
THE FABRICATOR SHALL SUBMIT A CERTIFICATE OF COMPLIANCE TO THE BUILDING OFFICIAL STATING THAT THE WORK WAS PERFORMED IN ACCORDANCE WITH THE APPROVED CONSTRUCTION DOCUMENTS.

STRUCTURAL STEEL
SPECIAL INSPECTIONS AND NONDESTRUCTIVE TESTING OF STRUCTURAL STEEL ELEMENTS IN BUILDINGS, STRUCTURES, AND PORTIONS THEREOF SHALL BE IN ACCORDANCE WITH THE QUALITY ASSURANCE INSPECTION REQUIREMENTS OF AISC 360.

EXCEPTION:
SPECIAL INSPECTION OF RAILING SYSTEMS COMPOSED OF STRUCTURAL STEEL ELEMENTS SHALL BE LIMITED TO WELDING INSPECTION OF WELDS AT THE BASE OF CANTILEVERED RAIL POSTS.

STRUCTURAL DETAILS

THE QAI SHALL BE ON THE PREMISES FOR INSPECTION DURING THE PLACEMENT OF ANCHOR RODS AND OTHER EMBEDMENTS SUPPORTING STRUCTURAL STEEL FOR COMPLIANCE WITH THE CONSTRUCTION DOCUMENTS. AS A MINIMUM, THE DIAMETER, GRADE, TYPE AND LENGTH OF THE ANCHOR ROD OR EMBEDDED ITEM, AND THE EXTENT OR DEPTH OF EMBEDMENT INTO THE CONCRETE, SHALL BE VERIFIED PRIOR TO PLACEMENT OF CONCRETE.
THE QAI SHALL INSPECT THE FABRICATED STEEL OR ERECTED STEEL FRAME, AS APPROPRIATE, TO VERIFY COMPLIANCE WITH THE DETAILS SHOWN ON THE CONSTRUCTION DOCUMENTS.

INSPECTION OF WELDING

WELDING INSPECTION TASKS SHALL BE IN ACCORDANCE WITH THE TABLES BELOW.

O - OBSERVE ON A RANDOM BASIS
P - PERFORM THESE TASKS FOR EACH WELDED JOINT OR MEMBER
QC - QUALITY CONTROL
QCI - QUALITY CONTROL INSPECTION
QA - QUALITIY ASSURANCE
QAI - QUALITY ASSURANCE INSPECTION

REQUIRED VERIFICATION AND INSPECTION OF STEEL CONSTRUCTION

VERIFICATION AND INSPECTION	CONTINUOUS	PERIODIC	REFERENCED STANDARD*
1. MATERIAL VERIFICATION OF HIGH-STRENGTH BOLTS, NUTS AND WASHERS:			
a. IDENTIFICATION MARKINGS TO CONFORM TO ASTM STANDARDS AND SPECIFIED IN THE APPROVED CONSTRUCTION DOCUMENTS.	-	X	AISC 360, SECTION A3.3 AND APPLICABLE ASTM MATERIAL STANDARDS
b. MANUFACTURER'S CERTIFICATE OF COMPLIANCE REQUIRED.	-	X	-
2. INSPECTION OF HIGH-STRENGTH BOLTING:			
a. SNUG-TIGHT JOINTS.	-	X	AISC 360, SECTION M2.5 SEE ADDITIONAL REQUIREMENT IN AISC 360, SECTION N5. ITEM 6
b. PRETENSIONED AND SLIP-CRITICAL JOINTS USING TURN-OF-NUT WITH MATCHMARKING, TWIST-OFF BOLT OR DIRECT TENSION INDICATOR METHODS OF INSTALLATION.	-	X	
c. PRETENSIONED AND SLIP-CRITICAL JOINTS USING TURN-OF-NUT WITHOUT MATCHMARKING OR CALIBRATED WRENCH METHODS OF INSTALLATION.	X	-	
3. MATERIAL VERIFICATION OF STRUCTURAL STEEL:			
a. FOR STRUCTURAL STEEL, IDENTIFICATION MARKINGS TO CONFORM TO AISC 360.	-	X	AISC 360, SECTION N2.1
b. FOR OTHER STEEL, IDENTIFICATION MARKINGS TO CONFORM TO ASTM STANDARDS SPECIFIED IN THE APPROVED CONSTRUCTION DOCUMENTS.	-	X	APPLICABLE ASTM MATERIAL STANDARDS
c. MANUFACTURER'S CERTIFIED TEST REPORTS.	-	X	-
4. MATERIAL VERIFICATION OF COLD-FORMED STEEL DECK:			
a. MANUFACTURER'S CERTIFIED TEST REPORTS.	-	X	-
5. MATERIAL VERIFICATION OF WELD FILLER MATERIALS:			
a. IDENTIFICATION MARKINGS TO CONFORM TO AWS SPECIFICATION IN THE APPROVED CONSTRUCTION DOCUMENTS.	-	X	AISC 360, SECTION A3.5 ANDAPPLICABLE AWS A5 DOCUMENTS
b. MANUFACTURER'S CERTIFICATE OF COMPLIANCE REQUIRED.	-	X	-
6. INSPECTION OF WELDING:			
a. STRUCTURAL STEEL AND COLD-FORMED STEEL DECK:			
1) COMPLETE AND PARTIAL JOINT PENETRATION GROOVE WELDS.	X	-	AWS D1.1
2) MULTIPASS FILLET WELDS.	X	-	
3) SINGLE-PASS FILLET WELDS > 5/16".	X	-	
4) PLUG AND SLOT WELDS.	X	-	
5) SINGLE-PASS FILLET WELDS ≤ 5/16".	-	X	
6) FLOOR AND ROOF DECK WELDS.	-	X	AWS D1.3
b. REINFORCING STEEL:			
1) VERIFICATION OF WELDABILITY OF REINFORCING STEEL OTHER THAN ASTM A706.	-	X	AWS D1.4, ACI 318 SECTION 4.2.2
2) REINFORCING STEEL RESISTING FLEXURAL AND AXIAL FORCES IN INTERMEDIATE AND SPECIAL MOMENT FRAMES, AND BOUNDARY ELEMENTS OF SPECIAL STRUCTURAL WALLS OF CONCRETE AND SHEAR REINFORCEMENT.	X	-	
3) SHEAR REINFORCEMENT.	X	-	
4) OTHER REINFORCING STEEL.	-	X	
7. INSPECTION OF STEEL FRAME JOINT DETAILS FOR COMPLIANCE:			
a. DETAILS SUCH AS BRACING AND STIFFENING.	-	X	-
b. MEMBER LOCATION.	-	X	
c. APPLICATION OF JOINT DETAILS AT EACH CONNECTION.	-	X	

WHERE APPLICABLE, SEE ALSO SECTION 1705.12, SPECIAL INSPECTIONS FOR SEISMIC RESISTANCE.

SPECIAL INSPECTIONS SHALL CONFORM TO SECTION 1705 OF THE 2019 OSSC, CONTRACT DOCUMENTS AND APPROVED SUBMITTALS. REFER TO TABLES 1 THROUGH 2A FOR SPECIAL INSPECTION AND TABLES 6 FOR TESTING REQUIREMENTS.

INSPECTION OF OTHER STEEL ELEMENTS

OTHER STEEL ELEMENTS INSPECTION TASKS SHALL BE IN ACCORDANCE WITH THE TABLE BELOW.

O - OBSERVE ON A RANDOM BASIS
P - PERFORM THESE TASKS FOR EACH ITEM OR ELEMENT

INSPECTION OF OTHER STEEL ELEMENTS	QC	QA
1. RBS REQUIREMENTS, IF APPLICABLE - CONTOUR AND FINISH - DIMENSIONAL TOLERANCES	P	P
2. PROTECTED ZONE - NO HOLES AND UNAPPROVED ATTACHMENTS MADE BY FABRICATOR OR ERECTOR, AS APPLICABLE	P	P

INSPECTION OF COMPOSITE CONSTRUCTION

COMPOSITE CONSTRUCTION INSPECTION TASKS SHALL BE IN ACCORDANCE WITH THE TABLE BELOW.

O - OBSERVE ON A RANDOM BASIS
P - PERFORM THESE TASKS FOR EACH ITEM OR ELEMENT
QC - QUALITY CONTROL
QCI - QUALITY CONTROL INSPECTION
QA - QUALITY ASSURANCE
QAI - QUALITY ASSURANCE INSPECTION

INSPECTION OF STEEL ELEMENTS OF COMPOSITE CONSTRUCTION PRIOR TO CONCRETE PLACEMENT	QC	QA
1. PLACEMENT AND INSTALLATION OF STEEL DECK	P	P
2. PLACEMENT AND INSTALLATION OF STEEL HEADED STUD ANCHORS	P	P
3. DOCUMENT ACCEPTANCE OR REJECTION OF STEEL ELEMENTS	P	P

INSPECTION OF COLD-FORMED STEEL DECK

SPECIAL INSPECTIONS AND QUALIFICATION OF WELDING SPECIAL INSPECTORS FOR COLD-FORMED STEEL FLOOR AND ROOF DECK SHALL BE IN ACCORDANCE WITH THE QUALITY ASSURANCE INSPECTION REQUIREMENTS OF SDI QA/QC. COLD-FORMED STEEL DECK INSPECTION TASKS SHALL BE IN ACCORDANCE WITH THE TABLES BELOW.

O - OBSERVE ON A RANDOM BASIS
P - PERFORM THESE TASKS FOR EACH ITEM OR ELEMENT

INSPECTION TASKS PRIOR TO DECK PLACEMENT	QC	QA
1. VERIFY COMPLIANCE OF MATERIALS (DECK AND ALL DECK ACCESSORIES) WITH CONSTRUCTION DOCUMENTS, INCLUDING PROFILES, MATERIAL PROPERTIES, AND BASE METAL THICKNESS	P	P
2. DOCUMENT ACCEPTANCE OR REJECTION OF DECK AND DECK ACCESSORIES	P	P

INSPECTION TASKS AFTER DECK PLACEMENT	QC	QA
1. VERIFY COMPLIANCE OF DECK AND ALL DECK ACCESSORIES INSTALLATION WITH CONSTRUCTION DOCUMENTS	P	P
2. VERIFY DECK MATERIALS ARE REPRESENTED BY THE MILL CERTIFICATIONS THAT COMPLY WITH THE CONSTRUCTION DOCUMENTS	-	P
3. DOCUMENT ACCEPTANCE OR REJECTION OF INSTALLATION OF DECK AND DECK ACCESSORIES	P	P

INSPECTION TASKS PRIOR TO WELDING	QC	QA
1. WELDING PROCEDURE SPECIFICATIONS (WPSs) AVAILABLE	O	O
2. MANUFACTURER CERTIFICATIONS FOR WELDING CONSUMABLES AVAILABLE	O	O
3. MATERIAL IDENTIFICATION (TYPE/GRADE)	O	O
4. CHECK WELDING EQUIPMENT	O	O

INSPECTION TASKS DURING WELDING	QC	QA
1. USE OF QUALIFIED WELDERS	O	O
2. CONTROL AND HANDLING OF WELDING CONSUMABLES	O	O
3. ENVIRONMENTAL CONDITIONS (WIND SPEED, MOISTURE, TEMPERATURE)	O	O
4. WPS FOLLOWED	O	O

INSPECTION TASKS AFTER WELDING	QC	QA
1. VERIFY SIZE AND LOCATION OF WELDS, INCLUDING SUPPORT, SIDELAP, AND PERIMETER WELDS.	P	P
2. WELDS MEET VISUAL ACCEPTANCE CRITERIA	P	P
3. VERIFY REPAIR ACTIVITIES	P	P
4. DOCUMENT ACCEPTANCE OR REJECTION OF WELDS	P	P

INSPECTION TASKS PRIOR TO MECHANICAL FASTENING	QC	QA
1. MANUFACTURER INSTALLATION INSTRUCTIONS AVAILABLE FOR MECHANICAL FASTENERS	O	O
2. PROPER TOOLS AVAILABLE FOR FASTENER INSTALLATION	O	O
3. PROPER STORAGE FOR MECHANICAL FASTENERS	O	O

INSPECTION TASKS DURING MECHANICAL FASTENING	QC	QA
1. FASTENERS ARE POSITIONED AS REQUIRED	O	O
2. FASTENERS ARE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS	O	O

INSPECTION TASKS AFTER MECHANICAL FASTENING	QC	QA
1. CHECK SPACING, TYPE, AND INSTALLATION OF SUPPORT FASTENERS	P	P
2. CHECK SPACING, TYPE, AND INSTALLATION OF SIDELAP FASTENERS	P	P
3. CHECK SPACING, TYPE, AND INSTALLATION OF PERIMETER FASTENERS	P	P
4. VERIFY REPAIR ACTIVITIES	P	P
5. DOCUMENT ACCEPTANCE OR REJECTION OF MECHANICAL FASTENERS	P	P

CONCRETE CONSTRUCTION

THE SPECIAL INSPECTIONS AND VERIFICATIONS FOR CONCRETE CONSTRUCTION SHALL BE AS REQUIRED BELOW. REFER TO OSSC 2021 IBC FOR REFERENCE STANDARDS.

WELDING OF REINFORCING BARS

SPECIAL INSPECTIONS OF WELDING AND QUALIFICATIONS OF SPECIAL INSPECTORS FOR REINFORCING BARS SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF AWS D1.4 FOR SPECIAL INSPECTION AND OF AWS D1.4 FOR SPECIAL INSPECTOR QUALIFICATION.

MATERIAL TESTS

IN THE ABSENCE OF SUFFICIENT DATA OR DOCUMENTATION PROVIDING EVIDENCE OF CONFORMANCE TO QUALITY STANDARDS FOR MATERIALS IN CHAPTERS 19 AND 20 OF ACI 318, TESTING OF MATERIALS IS REQUIRED IN ACCORDANCE WITH THE APPROPRIATE STANDARDS AND CRITERIA FOR THE MATERIAL IN CHAPTERS 19 AND 20 OF ACI 318.

CONCRETE CONSTRUCTION	CONTINUOUS	PERIODIC
1. INSPECT REINFORCEMENT, INCLUDING PRESTRESSING TENDONS, AND VERIFY PLACEMENT		X
2. REINFORCING BAR WELDING:		
a. VERIFY WELDABILITY OF REINFORCING BARS OTHER THAN ASTM A706;		X
b. INSPECT SINGLE-PASS FILLET WELDS, MAXIMUM 5/16"; AND		X
c. INSPECT ALL OTHER WELDS.	X	
3. INSPECT ANCHORS CAST IN CONCRETE.		X
4. INSPECT ANCHORS POST-INSTALLED IN HARDENED CONCRETE MEMBERS.		
a. ADHESIVE ANCHORS INSTALLED IN HORIZONTALLY OR UPWARDLY INCLINED ORIENTATIONS TO RESIST SUSTAINED TENSION LOADS.	X	
b. MECHANICAL ANCHORS AND ADHESIVE ANCHORS NOT DEFINED IN 4.a.		X
5. VERIFY USE OF REQUIRED DESIGN MIX.		X
6. PRIOR TO CONCRETE PLACEMENT, FABRICATE SPECIMENS FOR STRENGTH TESTS, PERFORM SLUMP AND AIR CONTENT TESTS, AND DETERMINE THE TEMPERATURE OF THE CONCRETE.	X	
7. INSPECT CONCRETE AND SHOTCRETE PLACEMENT FOR PROPER APPLICATION TECHNIQUES.	X	
8. VERIFY MAINTENANCE OF SPECIFIED CURING TEMPERATURE AND TECHNIQUES.		X
9. INSPECT PRESTRESSED CONCRETE FOR:		
a. APPLICATION OF PRESTRESSING FORCES; AND	X	
b. GROUTING OF BONDED PRESTRESSING TENDONS	X	
10. INSPECTION ERECTION OF PRECAST CONCRETE MEMBERS.		X
11. VERIFY IN-SITU CONCRETE STRENGTH, PRIOR TO STRESSING OF TENDONS IN POST-TENSIONED CONCRETE AND PRIOR TO REMOVAL OF SHORES AND FORMS FROM BEAMS AND STRUCTURAL SLABS.		X
12. INSPECT FORMWORK FOR SHAPE, LOCATION AND DIMENSIONS OF THE CONCRETE MEMBER BEING FORMED.		X

EXCEPTIONS:
1. ISOLATED SPREAD FOOTINGS OF BUILDINGS 3 STORIES OR LESS ABOVE GRADE PLANE THAT ARE FULLY SUPPORTED ON EARTH OR ROCK.
2. CONTINUOUS FOOTINGS SUPPORTING WALLS OF BUILDINGS 3 STORIES OF LESS ABOVE GRADE PLANE THAT ARE FULLY SUPPORTED ON EARTH OR ROCK WHERE:
   a. THE FOOTINGS SUPPORT WALLS OF LIGHT-FRAME CONSTRUCTION
   b. THE FOOTINGS ARE DESIGNED IN ACCORDANCE WITH TABLE 1809.7.
   c. THE STRUCTURAL DESIGN OF THE FOOTING IS BASED ON A SPECIFIED COMPRESSIVE STRENGTH F'c <= 2500 PSI, REGARDLESS OF THE COMPRESSIVE STRENGTH SPECIFIED IN THE APPROVED CONSTRUCTION DOCUMENTS OR USED IN THE FOOTING CONSTRUCTION.
3. NONSTRUCTURAL CONCRETE SLABS SUPPORTED DIRECTLY ON THE GROUND, INCLUDING PRESTRESSED SLABS ON GRADE, WHERE THE EFFECTIVE PRESTRESS IN THE CONCRETE IS LESS THAN 150 PSI.
4. CONCRETE FOUNDATION WALLS CONSTRUCTED IN ACCORDANCE WITH TABLE 1807.1.6.2.
5. CONCRETE PATIOS, DRIVEWAYS AND SIDEWALKS, ON GRADE.

INSPECTION OF SOILS

SOILS INSPECTION TASKS SHALL BE IN ACCORDANCE WITH SECTION 1705.6 OF 2021 IBC AND THE TABLE BELOW.

SOILS	CONTINUOUS	PERIODIC
1. VERIFY MATERIALS BELOW SHALLOW FOUNDATIONS ARE ADEQUATE TO ACHIEVE THE DESIGN BEARING CAPACITY.		X
2. VERIFY EXCAVATIONS ARE EXTENDED TO PROPER DEPTH AND HAVE REACHED PROPER MATERIAL.		X
3. PERFORM CLASSIFICATION AND TESTING OF COMPACTED FILL MATERIALS.		X
4. VERIFY USE OF PROPER MATERIALS, DENSITIES AND LIFT THICKNESSES DURING PLACEMENT AND COMPACTION OF COMPACTED FILL.	X	
5. PRIOR TO PLACEMENT OF COMPACTED FILL, INSPECT SUBGRADE AND VERIFY THAT SITE HAS BEEN PREPARED PROPERLY.		X

INSPECTION OF CAST-IN-PLACE DEEP FOUNDATIONS

CAST-IN-PLACE DEEP FOUNDATIONS TASKS SHALL BE IN ACCORDANCE WITH SECTION 1705.8 OF 2021 IBC AND THE TABLE BELOW.

SOILS	CONTINUOUS	PERIODIC
1. INSPECT DRILLING OPERATIONS AND MAINTAIN COMPLETE ACCURATE RECORDS FOR EACH ELEMENT.	X	
2. VERIFY PLACEMENT LOCATIONS AND PLUMBNESS, CONFIRM ELEMENT DIAMETERS, BELL DIAMETERS (IF APPLICABLE), LENGHT, EMBEDMENT INTO BEDROCK (IF APPLICABLE) AND ADEQUATE END-BEARING STRATA CAPACITY. RECORD CONCRETE OR GROUT VOLUMES.	X	
3. FOR CONCRETE ELEMENTS, PERFORM TESTS AND ADDITIONAL SPECIAL INSPECTIONS IN ACCORDANCE WITH SECTION 1705.3.	IN ACCORDANCE WITH SECTION 1705.3	

EXPANSION ANCHORS

- DURING INSTALLATION OF EXPANSION BOLTS TO VERIFY ANCHOR TYPE, ANCHOR DIMENSIONS, CONCRETE TYPE, DRILL-BIT TYPE, HOLE DIMENSIONS, HOLE CLEANING PROCEDURE, ANCHOR SPACING, EDGE DISTANCES, CONCRETE MEMBER THICKNESS, ANCHOR EMBEDMENT, TIGHTENING TORQUE AND ADHERENCE TO THE MANUFACTURER'S PUBLISHED INSTALLATION INSTRUCTIONS.

EPOXY ANCHORS AND DOWELS

- DURING INSTALLATION OF EPOXY ANCHORS AND DOWELS TO VERIFY ANCHOR/DOWEL TYPE, ANCHOR/DOWEL DIMENSIONS, CONCRETE TYPE, ADHESIVE IDENTIFICATION AND EXPIRATION DATE, DRILL-BIT TYPE, HOLE DIMENSIONS, HOLE CLEANING PROCEDURE, ANCHOR/DOWEL SPACING, EDGE DISTANCES, CONCRETE MEMBER THICKNESS, ANCHOR/DOWEL EMBEDMENT, TIGHTENING TORQUE AND ADHERENCE TO THE MANUFACTURER'S PUBLISHED INSTALLATION INSTRUCTIONS.
- SPECIAL INSPECTOR SHALL VERIFY INITIAL INSTALLATION OF EACH TYPE AND SIZE OF ANCHOR/DOWEL BY CONSTRUCTION PERSONNEL ON SITE.
- ANY CHANGE IN ANCHOR/DOWEL PRODUCT BEING INSTALLED OR PERSONNEL PERFORMING THE INSTALLATION MUST REQUIRE AN INITIAL INSPECTION.
- FOR ONGOING INSTALLATIONS OVER A PERIOD OF TIME, SPECIAL INSPECTOR SHALL PERFORM REGULAR INSPECTIONS TO CONFIRM CORRECT HANDLING AND INSTALLATION OF PRODUCT.

NON-SHRINK GROUT

- DURING TIME FRESH GROUT IS SAMPLED TO FABRICATE SPECIMENS FOR STRENGTH TESTS AND AS RECOMMENDED BY MANUFACTURER.
- INSPECTION OF GROUT PLACEMENT FOR PROPER APPLICATION TECHNIQUES AND TO VERIFY FULL BEARING BELOW BASE PLATE.

BOLTS INSTALLED IN CONCRETE

- DURING INSTALLATION OF BOLTS AND PLACING OF CONCRETE AROUND SUCH BOLTS.

WIND-RESISTING COMPONENTS

PERIODIC SPECIAL INSPECTION IS REQUIRED FOR FASTENING OF THE FOLLOWING SYSTEMS AND COMPONENTS:
1. ROOF COVERING, ROOF DECK AND ROOF FRAMING CONNECTIONS.
2. EXTERIOR WALL COVERING AND WALL CONNECTIONS TO ROOF AND FLOOR DIAPHRAGMS AND FRAMING.

ARCHITECTURAL, MEP COMPONENTS

ARCHITECTURAL, MECHANICAL AND ELECTRICAL COMPONENTS REQUIRING SPECIAL INSPECTIONS AND TESTING PER THE BUILDING CODE ARE NOT LISTED HERE. REFER TO ARCHITECTURAL, MECHANICAL AND ELECTRICAL DRAWINGS AND SPECIFICATIONS FOR SPECIAL INSPECTION REQUIREMENTS FOR THESE COMPONENTS.

SPECIAL INSPECTOR

THE SPECIAL INSPECTOR SHALL BE A QUALIFIED PERSON WHO SHALL DEMONSTRATE HIS COMPETENCE, TO THE SATISFACTION OF THE BUILDING OFFICIAL, FOR INSPECTION OF A PARTICULAR TYPE OF CONSTRUCTION OR OPERATION REQUIRING SPECIAL INSPECTION.

DUTIES AND RESPONSIBILITIES OF THE SPECIAL INSPECTOR

- THE SPECIAL INSPECTOR SHALL OBSERVE THE WORK ASSIGNED FOR CONFORMANCE WITH THE APPROVED DESIGN DRAWINGS AND SPECIFICATIONS.
- THE SPECIAL INSPECTOR SHALL FURNISH INSPECTION REPORTS TO THE ENGINEER OR ARCHITECT OF RECORD, AND OTHER DESIGNATED PERSONS. ALL DISCREPANCIES SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE CONTRACTOR FOR CORRECTION, THEN, IF UNCORRECTED, TO THE PROPER DESIGN AUTHORITY.
- THE SPECIAL INSPECTOR SHALL SUBMIT A FINAL SIGNED REPORT STATING WHETHER THE WORK REQUIRING SPECIAL INSPECTION WAS, TO THE BEST OF THE INSPECTOR'S KNOWLEDGE, IN CONFORMANCE WITH THE APPROVED PLANS AND SPECIFICATIONS AND THE APPLICABLE WORKMANSHIP PROVISIONS OF THE CODE.

CONTRACTOR RESPONSIBILITY

EACH CONTRACTOR RESPONSIBLE FOR THE CONSTRUCTION OF A MAIN WIND OR SEISMIC FORCE RESISTING SYSTEM, DESIGNATED SEISMIC SYSTEM OR A WIND OR SEISMIC COMPONENT LISTED IN THE STATEMENT OF SPECIAL INSPECTIONS SHALL SUBMIT A WRITTEN STATEMENT OF RESPONSIBILITY TO THE BUILDING OFFICIAL AND OWNER PRIOR TO COMMENCEMENT OF WORK ON THE SYSTEM OR COMPONENT. THE STATEMENT OF RESPONSIBILITY SHALL CONTAIN THE FOLLOWING:
1. ACKNOWLEDGEMENT OF AWARENESS OF THE SPECIAL INSPECTION REQUIREMENTS CONTAINED IN THE STATEMENT OF SPECIAL INSPECTION.
2. ACKNOWLEDGEMENT THAT CONTROL WILL BE EXERCISED TO OBTAIN CONFORMANCE WITH THE CONSTRUCTION DOCUMENTS APPROVED BY THE BUILDING OFFICIAL.
3. PROCEDURES FOR EXERCISING CONTROL WITHIN THE CONTRACTOR'S ORGANIZATION, THE METHOD AND FREQUENCY OF REPORTING AND THE DISTRIBUTION OF THE REPORTS, AND
4. IDENTIFICATION AND QUALIFICATIONS OF THE PERSON(S) EXERCISING SUCH CONTROL AND THEIR POSITION(S) IN THE ORGANIZATION.

STRUCTURAL OBSERVATION REQUIREMENT & STATEMENT

1. PER SECTION 1704.6, THE OWNER OR THE OWNER AUTHORIZED AGENT SHALL EMPLOY THE REGISTERED DESIGN PROFESSIONAL TO PERFORM STRUCTURAL OBSERVATIONS. STRUCTURAL OBSERVATION DOES NOT INCLUDE OR WAIVE THE RESPONSIBILITY FOR THE INSPECTIONS OR THE SPECIAL INSPECTIONS.
2. THE STRUCTURAL OBSERVATION WILL BE PERFORMED IN ACCORDANCE TO SECTIONS 1704.6.1 AND 1704.6.2 TO REVIEW THE CONSTRUCTION OF THE LATERAL RESISTING SYSTEM. THE STRUCTURAL OBSERVATION WILL BE LIMITED TO VISUAL OBSERVATIONS OF THE CONSTRUCTION AND TO VERIFY GENERAL CONFORMANCE TO THE APPROVED STRUCTURAL DRAWINGS AND SPECIFICATIONS AND DOES NOT SUBSTITUTE FOR ANY SPECIAL INSPECTIONS REQUIRED BY CODE AND/OR THE BUILDING DEPARTMENT.
3. AFTER EACH STRUCTURAL OBSERVATION, A REPORT WILL BE SUBMITTED TO THE OWNER AND BUILDING OFFICIALS WHICH INCLUDES A SUMMARY OF THE ELEMENTS/ CONNECTIONS OBSERVED AND ANY DEFICIENCIES IDENTIFIED.
4. AT THE CONCLUSION OF THE WORK INCLUDED IN PERMIT, THE STRUCTURAL OBSERVER SHALL SUBMIT A WRITTEN STATEMENT TO THE OWNER AND BUILDING OFFICIALS THAT THE SITE VISITS HAVE BEEN MADE AND IDENTIFY ANY REPORTED DEFICIENCIES THAT, TO THE BEST OF THE STRUCTURAL OBSERVER'S KNOWLEDGE, HAVE NOT BEEN SOLVED.
5. STRUCTURAL OBSERVATIONS SHALL BE PERFORMED AT THE FOLLOWING STAGES OF CONSTRUCTION AS A MINIMUM. GENERAL CONTRACTOR TO PROVIDE MINIMUM 3 DAYS NOTIFICATIONS TO THE STRUCTURAL ENGINEER PRIOR TO THESE STAGES.
   a. PRIOR TO PLACEMENT OF CONCRETE AND AFTER PLACEMENT OF STEEL REINFORCEMENT FOR THE FIRST FOUNDATION POUR (I.E., PILES, PILE CAPS, GRADE BEAMS, PEDESTALS, AND SLABS)
   b. DURING STRUCTURAL STEEL ERECTION AT ALL FLOORS.
   c. AFTER ERECTION OF THE FIRST SEISMIC RESISTING SYSTEM ELEMENTS (I.E., BRACED FRAMES, COLLECTORS AND THEIR CONNECTIONS)
   d. PRIOR TO THE PLACEMENT OF CONCRETE IN METAL DECK (AND AFTER PLACEMENT OF METAL DECK, REINFORCEMENTS AND SHEAR STUDS).
   e. FINAL PUNCH WALK AFTER COMPLETION OF ALL STRUCTURAL COMPONENTS AND PRIOR TO ARCHITECTURAL FINISHES.

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City of Aurora Building Division
Reviewed for Code Compliance
Approved as Noted: Dirk Anderson
Date: Jun 12, 2025
2021 INTERNATIONAL CODES & 2023 NEC

FOUNDATION ONLY PERMIT
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1 STATEMENT OF SPECIAL INSPECTIONS CONT.
12" = 1'-0"

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75202
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SYSKA HENNESSY GROUP
DESIGN CONSULTING LLC

ISSUES

1	12.20.24	DESIGN DEVELOPMENT
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REVISIONS

A	04.24.25	COA - PERMIT COMMENTS

COLORADO LICENSED
NICHOLAS W. HEYD
65236
PROFESSIONAL ENGINEER

AG&E Structural Engeneuity

Date of issue:
04.24.2025

QTS DEN1 DC2
1140 N. GUN CLUB ROAD

GENERAL NOTES

JOB 24464.0000
DATE 04.24.2025
SHEET

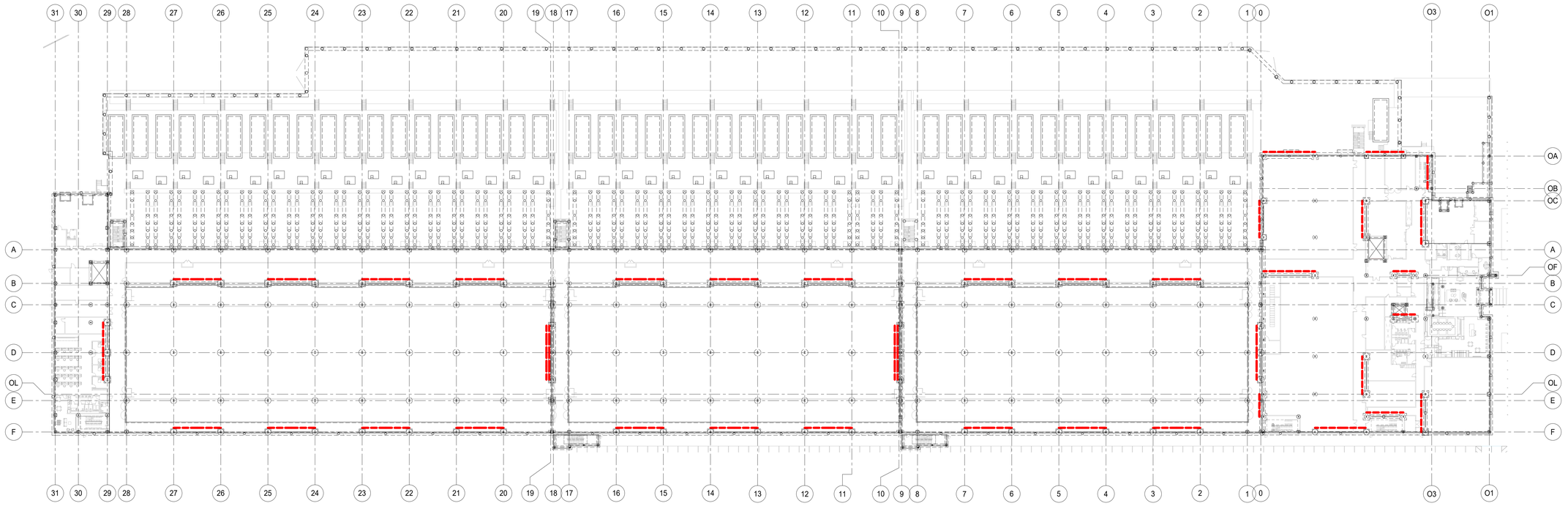
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Permit #25-2535171-CM
RSN 1903242

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City of Aurora Building Division
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1 OVERALL FOUNDATION PLAN
1" = 40'-0"

2/4/2025 4:07:47 PM S1-10 OVERALL FOUNDATION PLAN

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SYSKA HENNESSY GROUP

TLD DESIGN CONSULTING LLC

	ISSUES	
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	REVISIONS	

COLORADO LICENSED
NICHOLAS W. DAVID
65236
PROFESSIONAL ENGINEER

AG&E Structural Engineering
F-04-20

Date of issue:
01.31.2025

QTS DEN1 DC2
1140 N. GUN CLUB ROAD

KEYPLAN

S	Q	N	L	J	G	E	C	A	
T	R	P	M	K	H	F	D	B	

OVERALL FOUNDATION PLAN

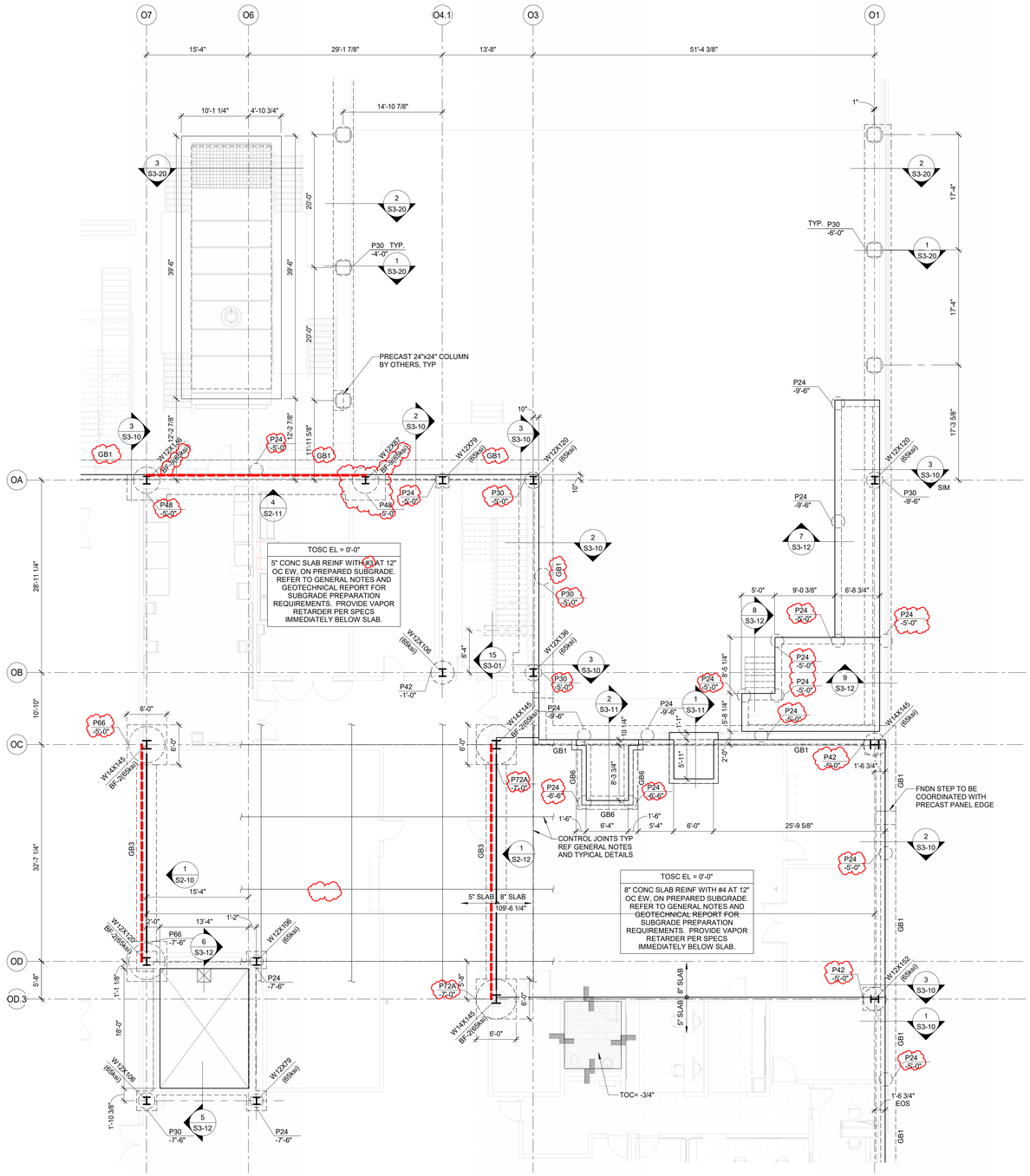
JOB 24464.0000
DATE 01.31.2025
SHEET

S1-10

Permit #25-2535171-CM
RSN 1903242

SHEET NOTES

1. ALL ELEVATIONS ARE BASED ON TOSC EL = 0'-0"
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10. METAL STAIR AND CANOPY BY STAIR MANUF.



1 FOUNDATION PLAN - SEGMENT A
1/8" = 1'-0"

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City of Aurora Building Division
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Date: Jun 12, 2025
2021 INTERNATIONAL CODES & 2023 NEC

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SYSKA HENNESSY GROUP
DESIGN CONSULTING LLC

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REVISIONS		
1	03.28.25	ADDENDUM 1

COLORADO LICENSED
NICHOLAS W. KIVLIN
65236
PROFESSIONAL ENGINEER
AG&E Structural Engenuity

Date of issue:
03.28.2025

QTS DEN1 DC2
1140 N. GUN CLUB ROAD

KEYPLAN

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FOUNDATION PLAN - SEGMENT A

JOB 24464.0000
DATE 03.28.2025
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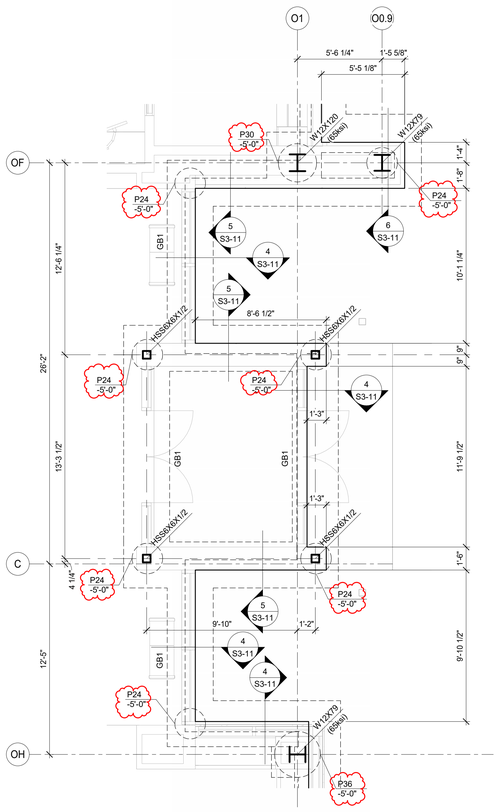
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Page 15 of 77

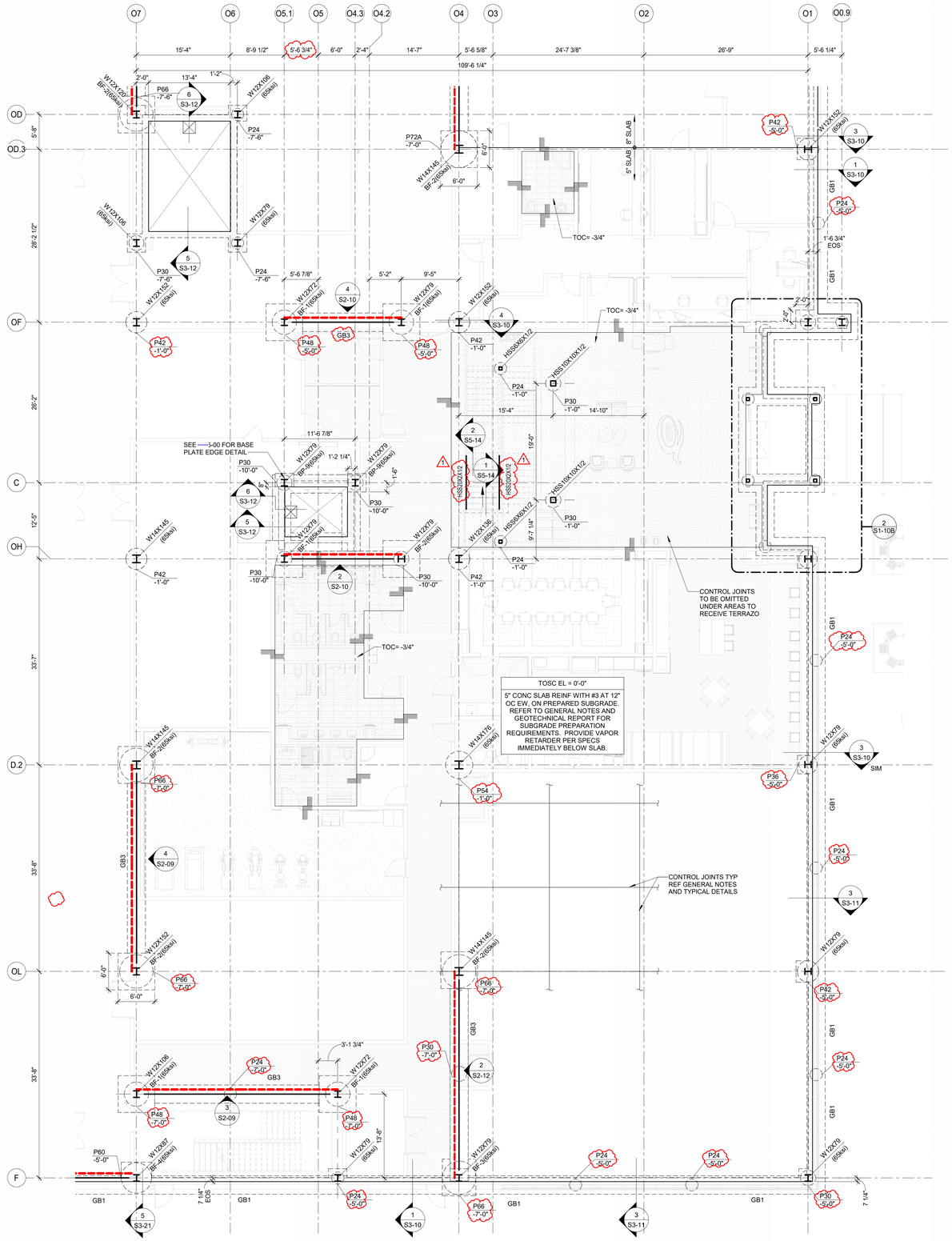
Permit #25-2535171-CM
RSN 1903242

SHEET NOTES

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10. METAL STAIR AND CANOPY BY STAIR MANUF.



2 VESTIBULE FOUNDATION PLAN
1/4" = 1'-0"



1 FOUNDATION PLAN - SEGMENT B
1/8" = 1'-0"

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REVISIONS

1	03.28.25	ADDENDUM 1

COLORADO LICENSED
NICHOLAS W. KIVLIN
65236
PROFESSIONAL ENGINEER

AG&E Structural Engenuity

Date of issue:
03.28.2025

QTS DEN1 DC2
1140 N. GUN CLUB ROAD

KEYPLAN

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T	R	P	M	K	H	F	D	B	

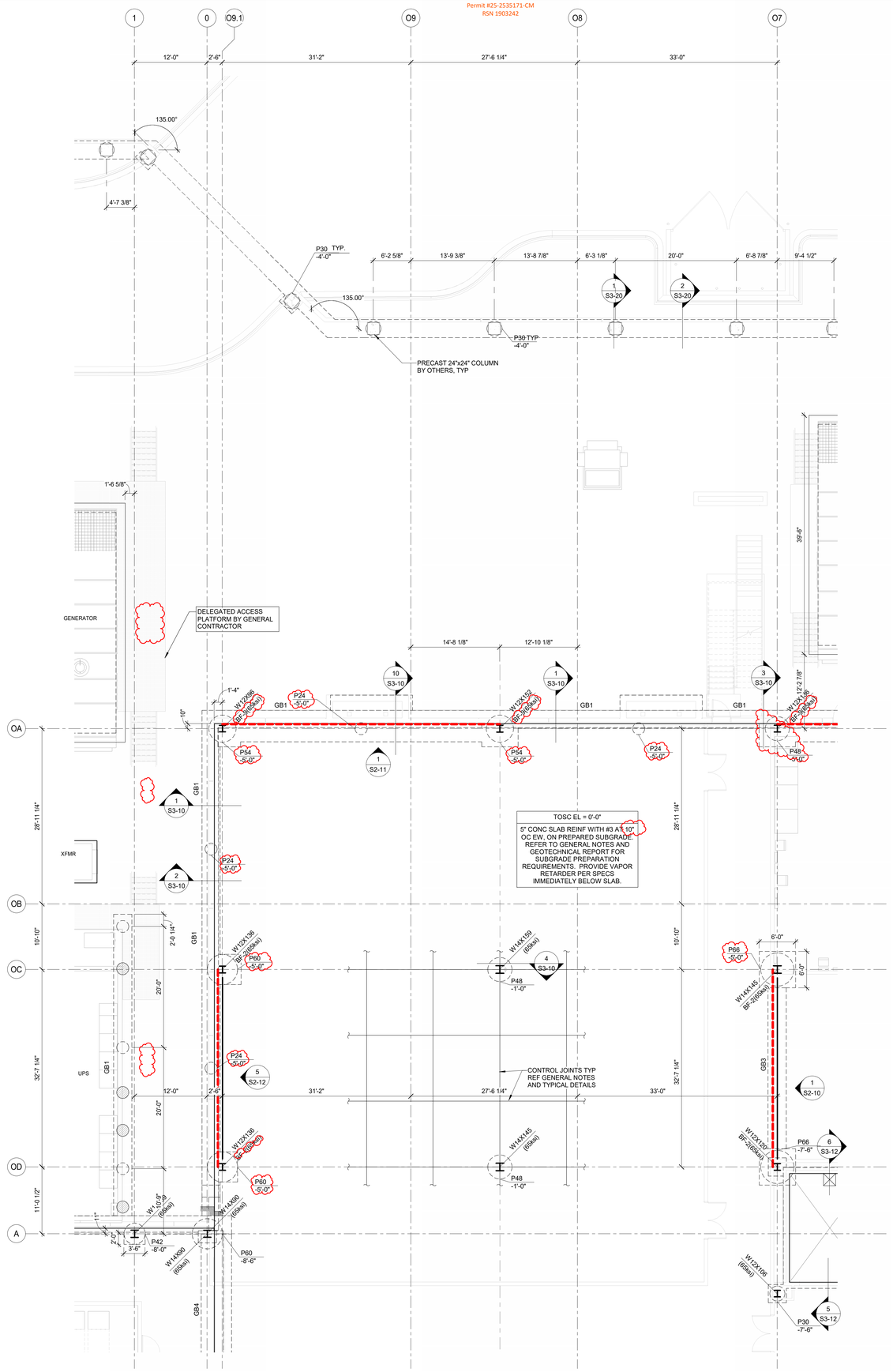
FOUNDATION PLAN - SEGMENT B

JOB 24464.0000
DATE 03.28.2025
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Permit #25-2535171-CM
RSN 1903242



1 FOUNDATION PLAN - SEGMENT C
1/8" = 1'-0"

SHEET NOTES

1. ALL ELEVATIONS ARE BASED ON TOSC EL = 0'-0"
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REVISIONS		
1	03.28.25	ADDENDUM 1

COLORADO LICENSED
NICHOLAS W. KEVIL
65236
PROFESSIONAL ENGINEER
AG&E Structural Engenuity

Date of issue:
03.28.2025

QTS DEN1 DC2
1140 N. GUN CLUB ROAD

KEYPLAN

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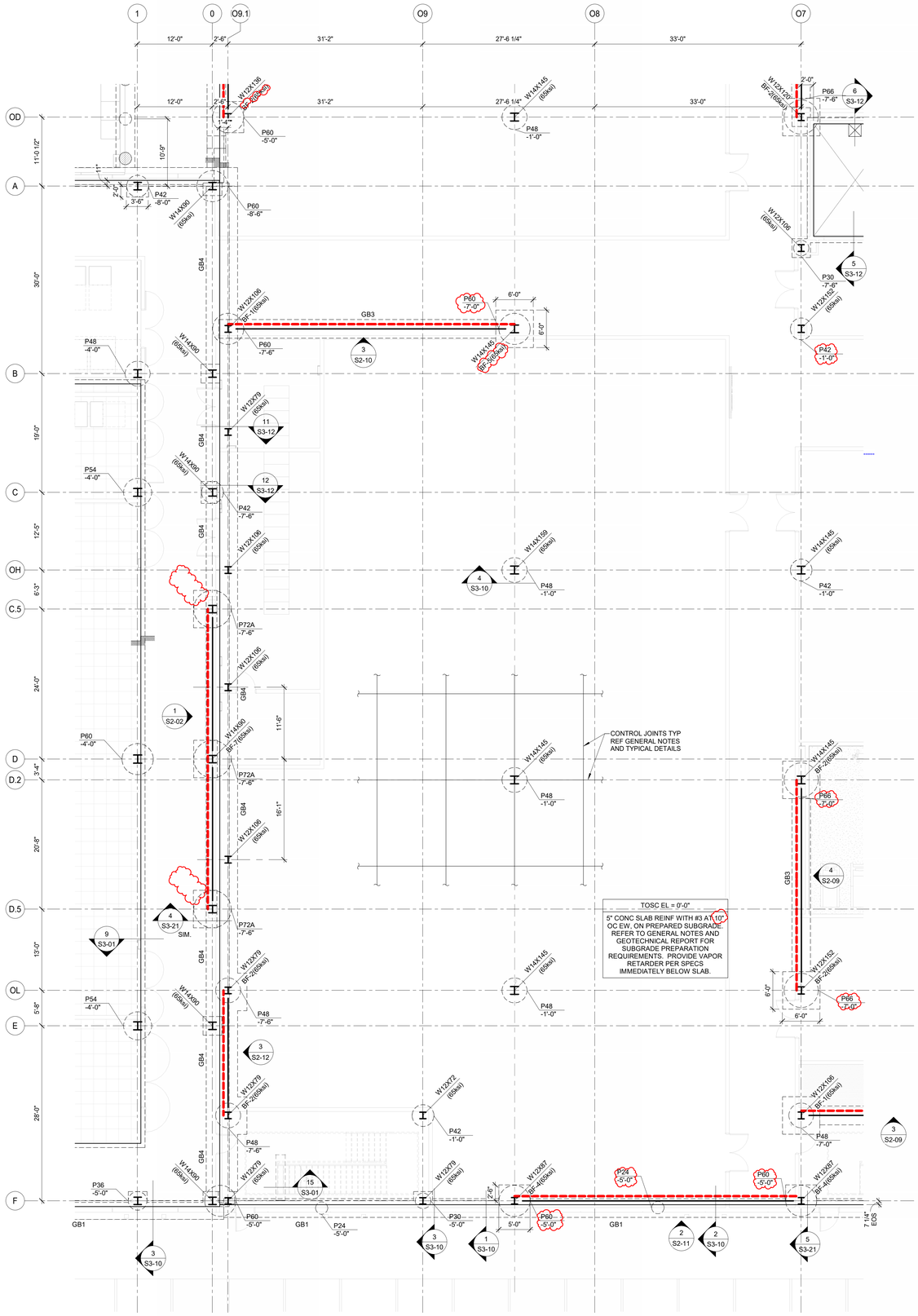
FOUNDATION PLAN - SEGMENT C

JOB 24464.0000
DATE 03.28.2025
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Permit #25-2535171-CM
RSN 1903242



1 FOUNDATION PLAN - SEGMENT D
1/8" = 1'-0"

SHEET NOTES

1. ALL ELEVATIONS ARE BASED ON TOSC EL = 0'-0"
2. VERIFY ALL WALL OPENING DIMENSIONS AND LOCATIONS WITH ARCH DRAWINGS.
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City of Aurora Building Division
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Date: Jun 12, 2025
2021 INTERNATIONAL CODES & 2023 NEC

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DESIGN CONSULTING LLC

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	REVISIONS	
1	03.28.25	ADDENDUM 1

COLORADO LICENSED
NICHOLAS W. KEVID
65236
PROFESSIONAL ENGINEER
AG&E Structural Engenuity

Date of issue:
03.28.2025

QTS DEN1 DC2
1140 N. GUN CLUB ROAD

KEYPLAN

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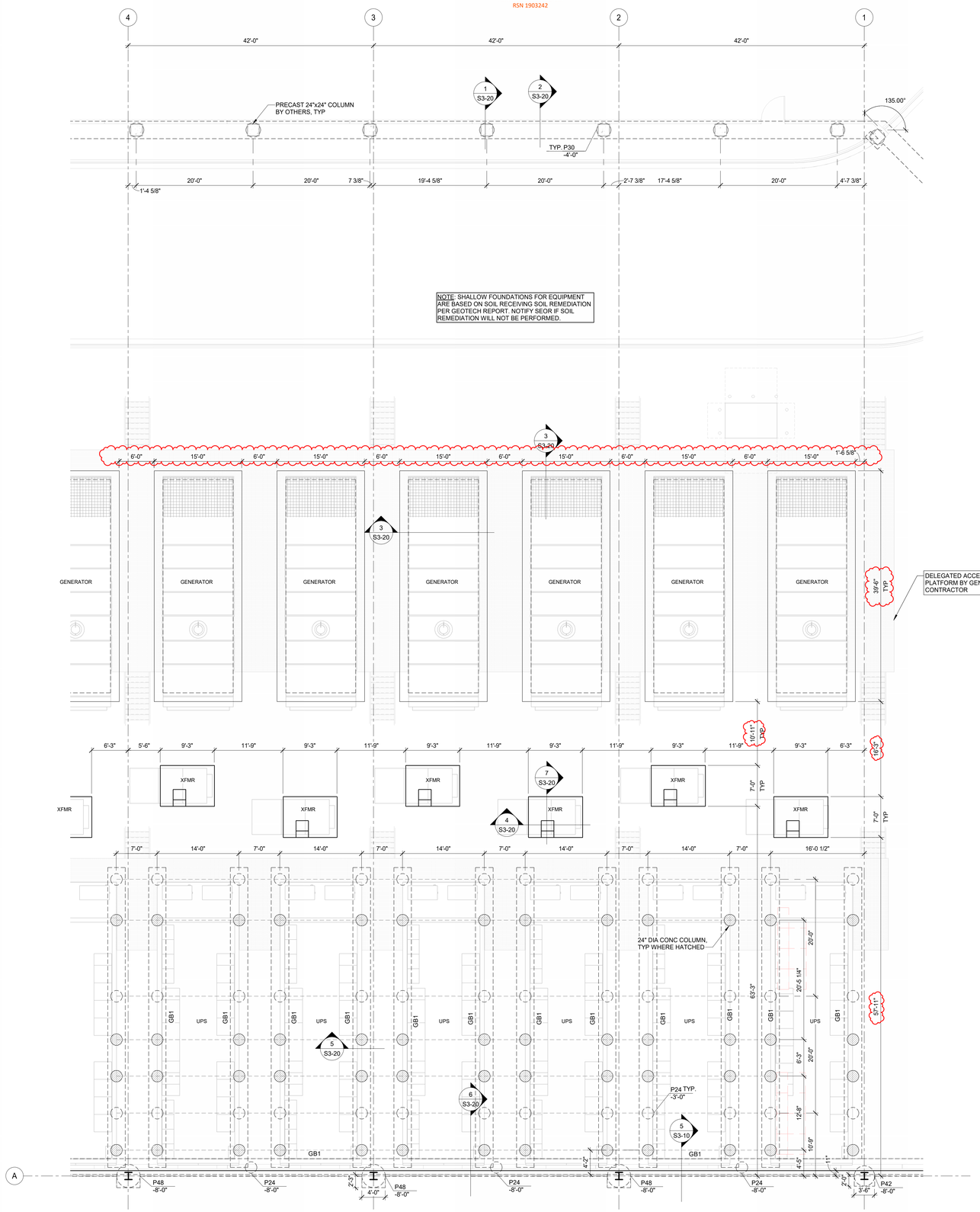
FOUNDATION PLAN - SEGMENT D

JOB 24464.0000
DATE 03.28.2025
SHEET

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Permit #25-2535171-CM
RSN 1903242



SHEET NOTES

1. ALL ELEVATIONS ARE BASED ON TOSC EL = 0'-0"
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SYSKA HENNESSY GROUP

TLD DESIGN CONSULTING LLC

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REVISIONS		
1	03.28.25	ADDENDUM 1

COLORADO LICENSED
NICHOLAS W. KEVID
65236
PROFESSIONAL ENGINEER
AG&E Structural Engenuity

Date of issue:
03.28.2025

QTS DEN1 DC2
1140 N. GUN CLUB ROAD

KEYPLAN

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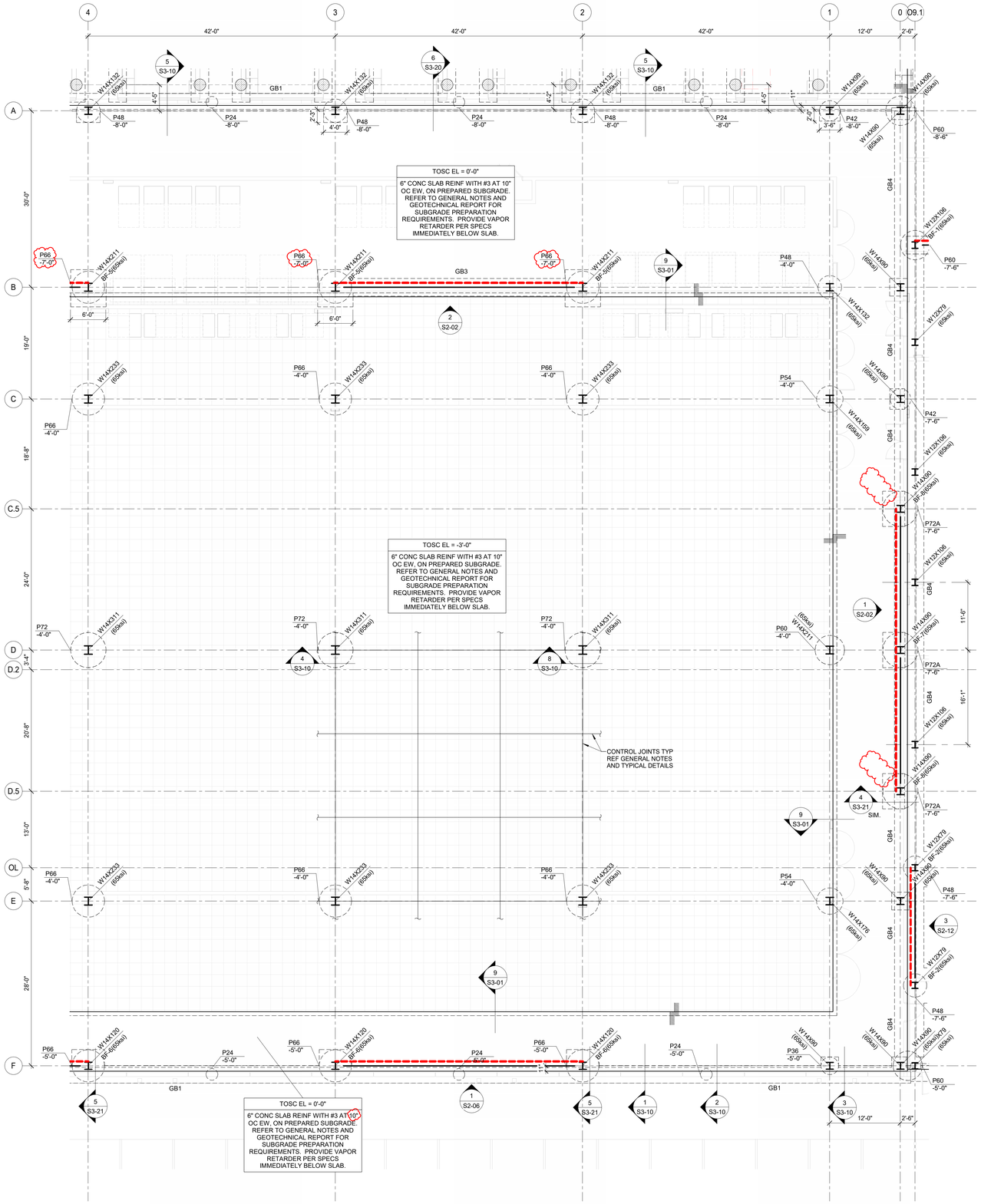
FOUNDATION PLAN - SEGMENT E

JOB 24464.0000
DATE 03.28.2025
SHEET S1-10E

1 FOUNDATION PLAN - SEGMENT E
1/8" = 1'-0"

3/28/2025 4:32:55 PM S1-10E FOUNDATION PLAN - SEGMENT E

Permit #25-2535171-CM
RSN 1903242



1 FOUNDATION PLAN - SEGMENT F
1/8" = 1'-0"

SHEET NOTES

1. ALL ELEVATIONS ARE BASED ON TOSC EL = 0'-0"
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DESIGN CONSULTING LLC

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REVISIONS

1	03.28.25	ADDENDUM 1

COLORADO LICENSED
NICHOLAS W. WYVILL
65236
PROFESSIONAL ENGINEER
AG&E Structural Engenuity

Date of issue:
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QTS DEN1 DC2
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KEYPLAN

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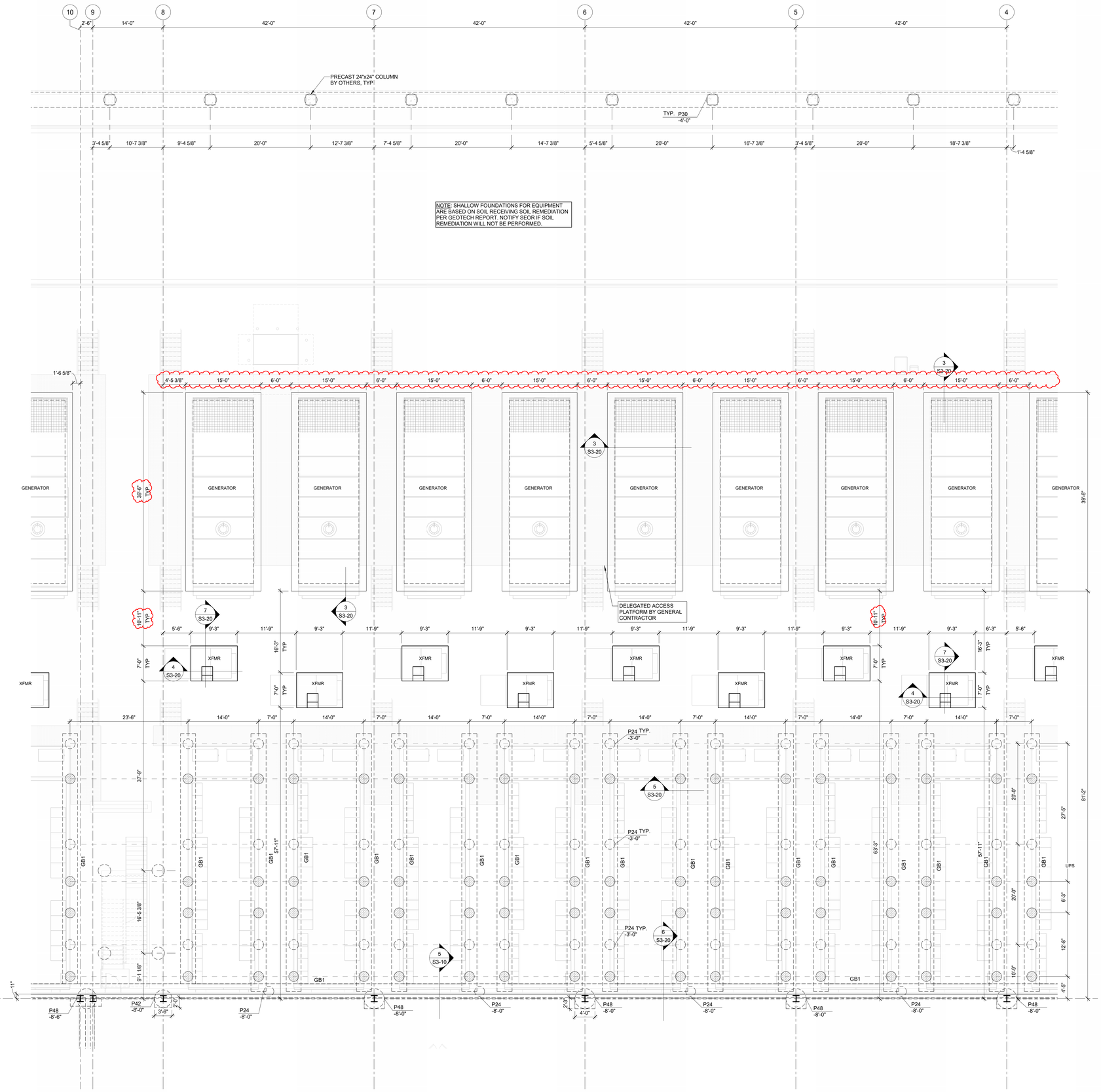
FOUNDATION PLAN - SEGMENT F

JOB 24464.0000
DATE 03.28.2025
SHEET

S1-10F

3/28/2025 4:33:00 PM S1-10F FOUNDATION PLAN - SEGMENT F

Permit #25-2535171-CM
RSN 1903242



1 FOUNDATION PLAN - SEGMENT G
1/8" = 1'-0"

SHEET NOTES

1. ALL ELEVATIONS ARE BASED ON TOSC EL = 0'-0"
2. VERIFY ALL WALL OPENING DIMENSIONS AND LOCATIONS WITH ARCH DRAWINGS.
3. DEVIATIONS FROM CONST JOINT/CONTROL JOINT PATTERN SHOWN MUST BE APPROVED BY THE ENGINEER OF RECORD.
4. REFER TO SHEET S3-00 FOR PIER SCHEDULE.
5. REFER TO SHEET S5-00 FOR COLUMN AND BASE PLATE SCHEDULE.
6. REFER TO S2-00 FOR BRACE FRAME ELEVATIONS.
7. PIERS WITHOUT CENTERLINES SHOWN ON PLANS, SECTIONS AND/OR DETAILS SHALL BE LOCATED AS FOLLOWS:
   A. COLUMNS AND PILASTERS: CENTERLINE OF THE COLUMN.
   B. GRADE BEAMS AND WALLS: CENTERLINE OF THE GRADE BEAM OR WALL.
   C. ALONG THE LENGTH OF GRADE BEAMS AND WALLS: INTERMEDIATE PIERS SHALL BE SPACED EQUALLY BETWEEN PIERS THAT ARE DIMENSIONALLY SET ON PLAN OR AS NOTED ABOVE.
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10. METAL STAIR AND CANOPY BY STAIR MANUF.

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FOUNDATION ONLY PERMIT - NOT APPROVED FOR VERTICAL CONSTRUCTION

City of Aurora Building Division
Reviewed for Code Compliance
Approved as Noted: Dirk Anderson
Date: Jun 12, 2025
2021 INTERNATIONAL CODES & 2023 NEC

CORGAN
401 N. Houston Street Dallas, TX 75202
T: 214.748.2000
AG/E
SYSKA HENNESSY GROUP
DESIGN CONSULTING LLC

	ISSUES	
1	12.20.24	DESIGN DEVELOPMENT
2	01.31.25	ISSUE FOR PERMIT
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	REVISIONS	
1	03.28.25	ADDENDUM 1

COLORADO LICENSED
NICHOLAS W. KIVIO
65236
PROFESSIONAL ENGINEER
AG&E Structural Engenuity

Date of issue:
03.28.2025

QTS DEN1 DC2
1140 N. GUN CLUB ROAD

KEYPLAN

S	Q	N	L	J	G	E	C	A	
T	R	P	M	K	H	F	D	B	

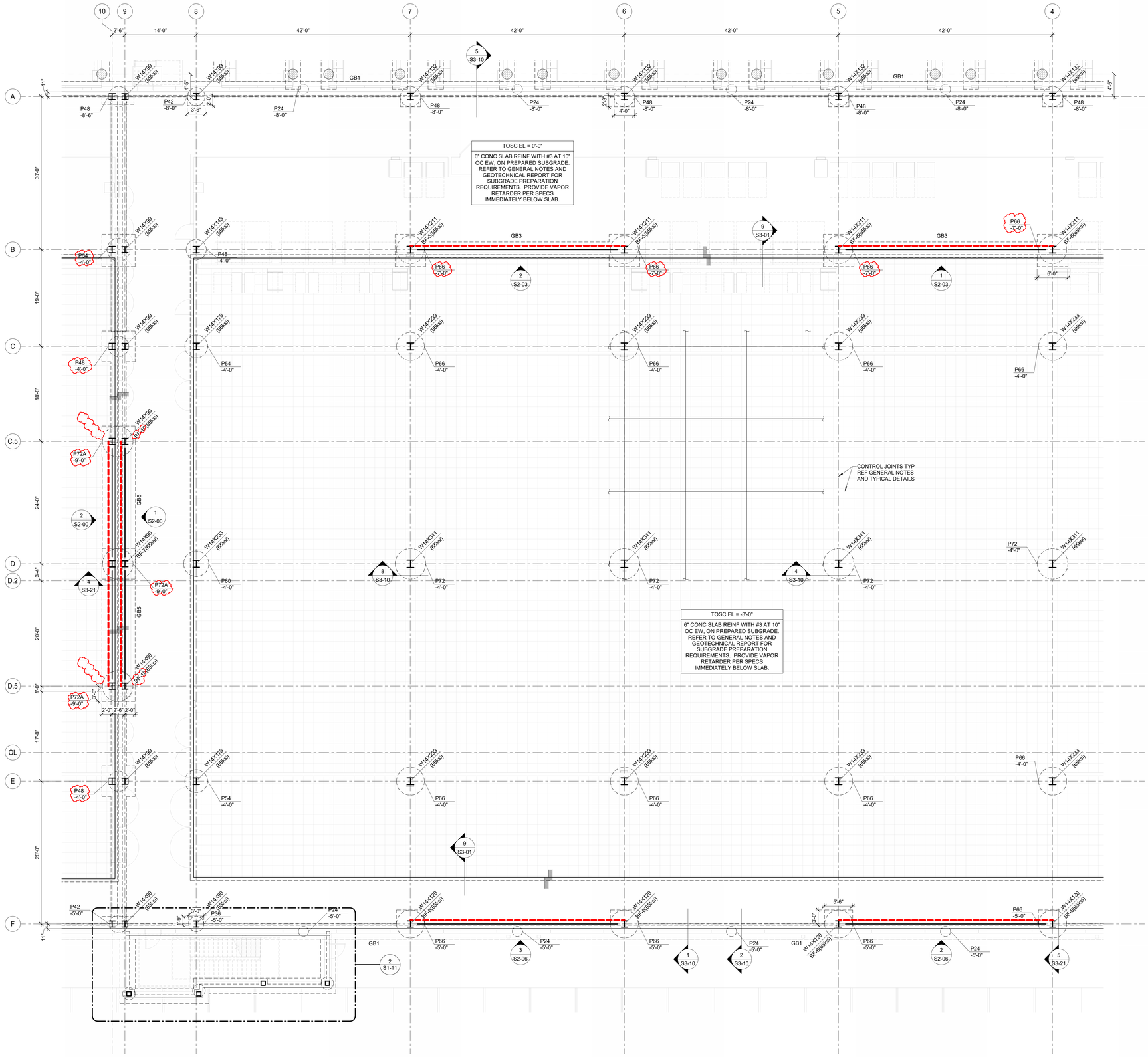
FOUNDATION PLAN - SEGMENT G

JOB 24464.0000
DATE 03.28.2025
SHEET

S1-10G

3/28/2025 4:33:06 PM S1-10G FOUNDATION PLAN - SEGMENT G

Permit #25-2535171-CM
RSN 1903242



1 FOUNDATION PLAN - SEGMENT H
1/8" = 1'-0"

SHEET NOTES

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REVISIONS		
1	03.28.25	ADDENDUM 1

COLORADO LICENSED
NICHOLAS W. KIVLIN
65236
PROFESSIONAL ENGINEER
AG&E Structural Engenuity

Date of issue:
03.28.2025

QTS DEN1 DC2
1140 N. GUN CLUB ROAD

KEYPLAN

S	Q	N	L	J	G	E	C	A	
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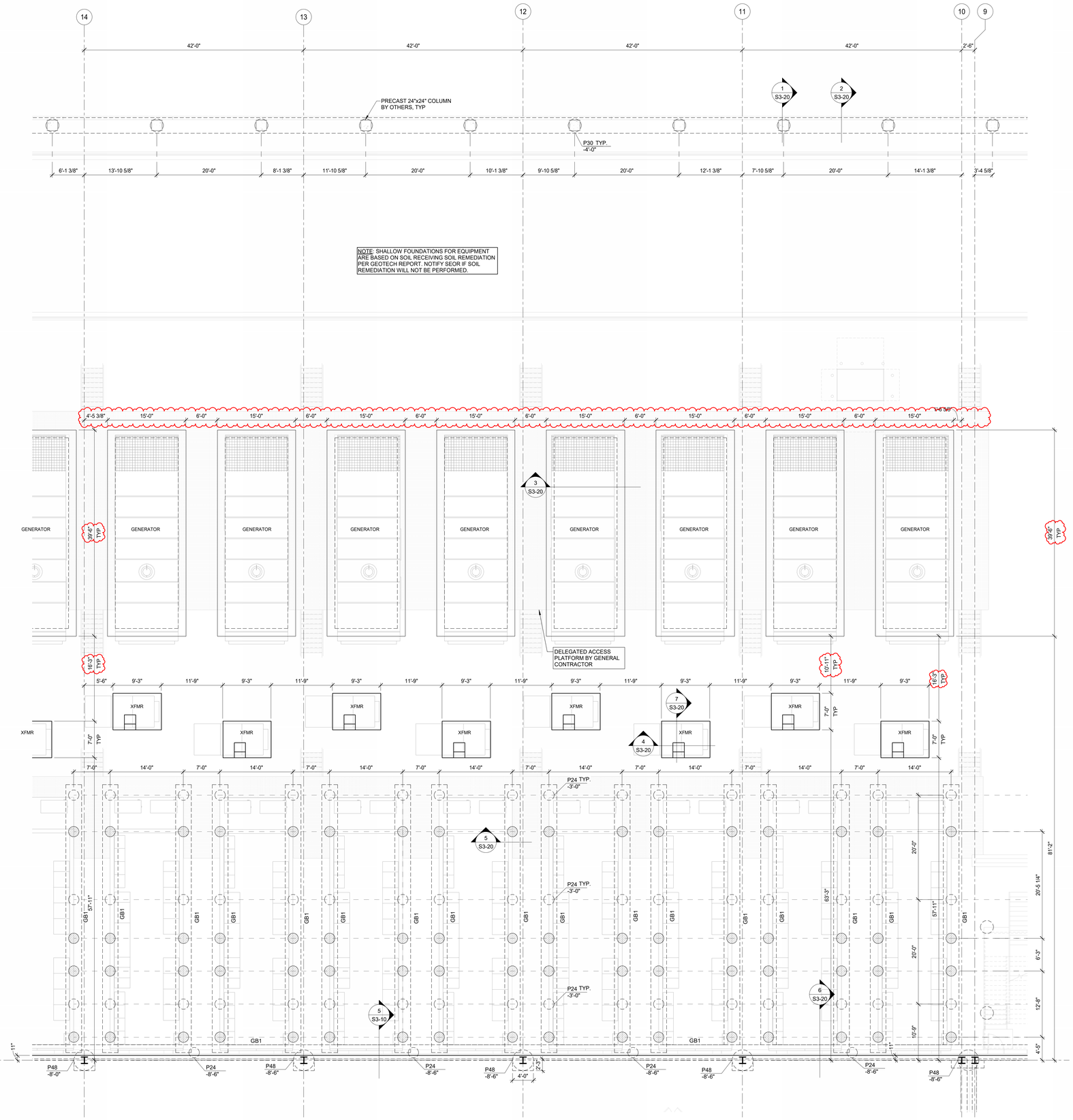
FOUNDATION PLAN - SEGMENT H

JOB 24464.0000
DATE 03.28.2025
SHEET

S1-10H

3/28/2025 4:33:11 PM S1-10H FOUNDATION PLAN - SEGMENT H

Permit #25-2535171-CM
RSN 1903242



1 FOUNDATION PLAN - SEGMENT J
1/8" = 1'-0"

SHEET NOTES

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SYSKA HENNESSY GROUP

TLD DESIGN CONSULTING LLC

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REVISIONS		
1	03.28.25	ADDENDUM 1

COLORADO LICENSED
NICHOLAS W. REVID
65236
PROFESSIONAL ENGINEER
AG&E Structural Engenuity

Date of issue:
03.28.2025

QTS DEN1 DC2
1140 N. GUN CLUB ROAD

KEYPLAN

S	Q	N	L	J	G	E	C	A	
T	R	P	M	K	H	F	D	B	

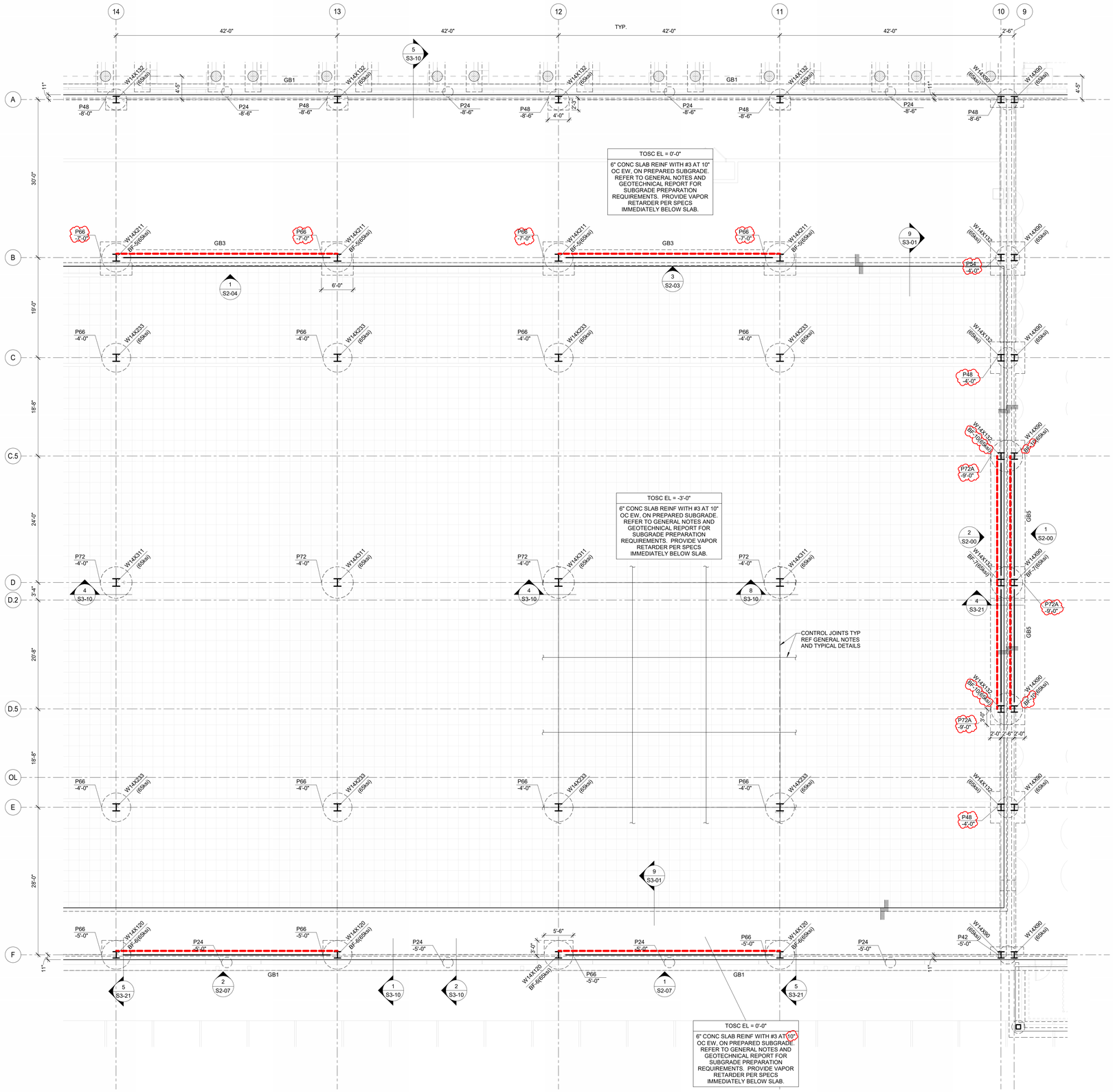
FOUNDATION PLAN - SEGMENT J

JOB 24464.0000
DATE 03.28.2025
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S1-10J

3/28/2025 4:33:17 PM S1-10J FOUNDATION PLAN - SEGMENT J

Permit #25-2535171-CM
RSN 1903242



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1 FOUNDATION PLAN - SEGMENT K
1/8" = 1'-0"

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401 N. Houston Street Dallas, TX
75202
T: 214.748.2000

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SYSKA HENNESSY GROUP

DESIGN CONSULTING LLC

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	REVISIONS	
1	03.28.25	ADDENDUM 1

COLORADO LICENSED
NICHOLAS W. HAYDEN
65236
PROFESSIONAL ENGINEER
AG&E Structural Engenuity

Date of issue:
03.28.2025

QTS DEN1 DC2
1140 N. GUN CLUB ROAD

KEYPLAN

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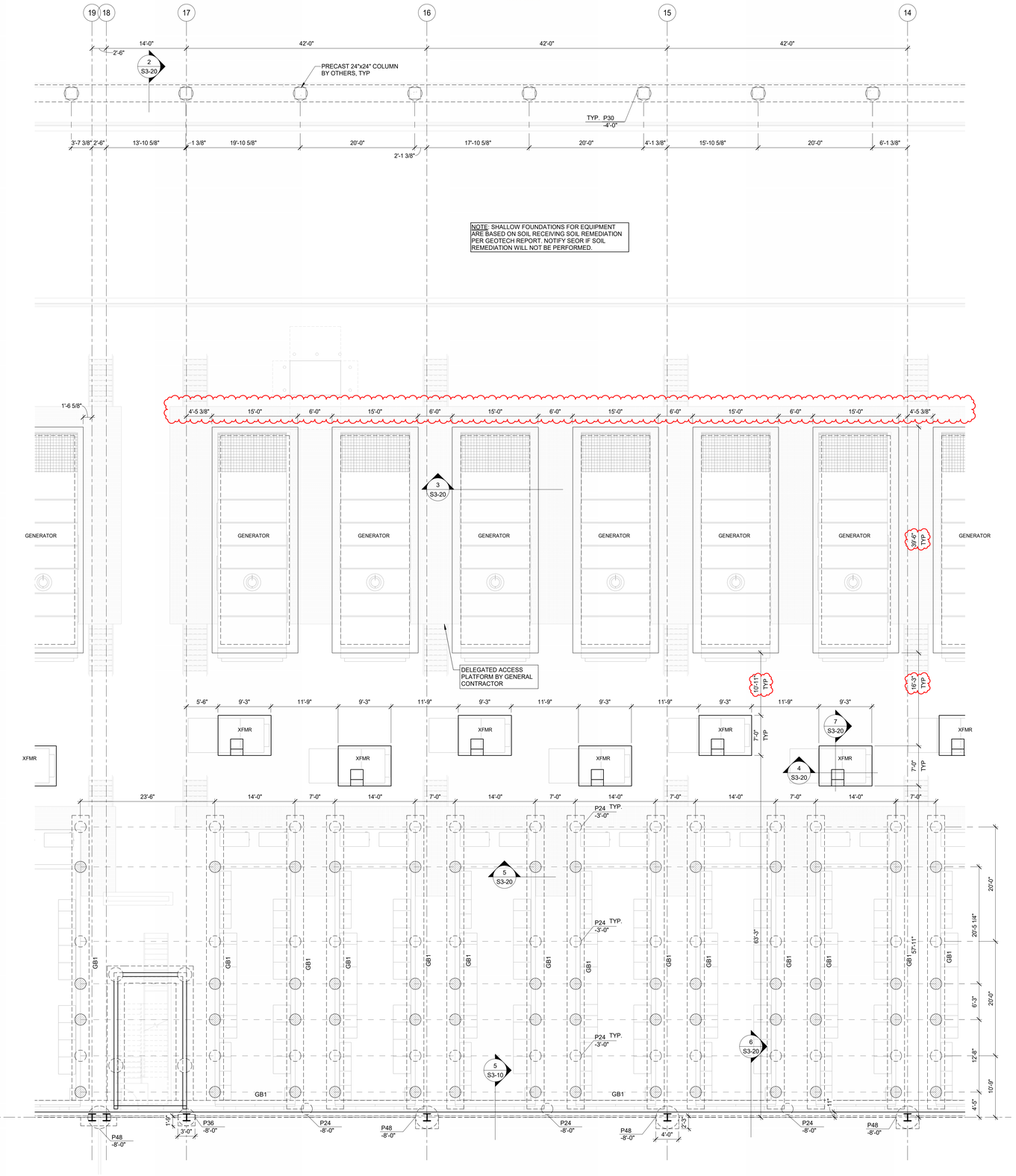
FOUNDATION PLAN - SEGMENT K

JOB 24464.0000
DATE 03.28.2025
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S1-10K

3/28/2025 4:33:22 PM S1-10K FOUNDATION PLAN - SEGMENT K

Permit #25-2535171-CM
RSN 1903242



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SYSKA HENNESSY GROUP

TLD DESIGN CONSULTING LLC

ISSUES		
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REVISIONS		
1	03.28.25	ADDENDUM 1

COLORADO LICENSED
NICHOLAS W. KIVIO
65236
PROFESSIONAL ENGINEER
AG&E Structural Engenuity

Date of issue:
03.28.2025

QTS DEN1 DC2
1140 N. GUN CLUB ROAD

KEYPLAN

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1 FOUNDATION PLAN - SEGMENT L
1/8" = 1'-0"

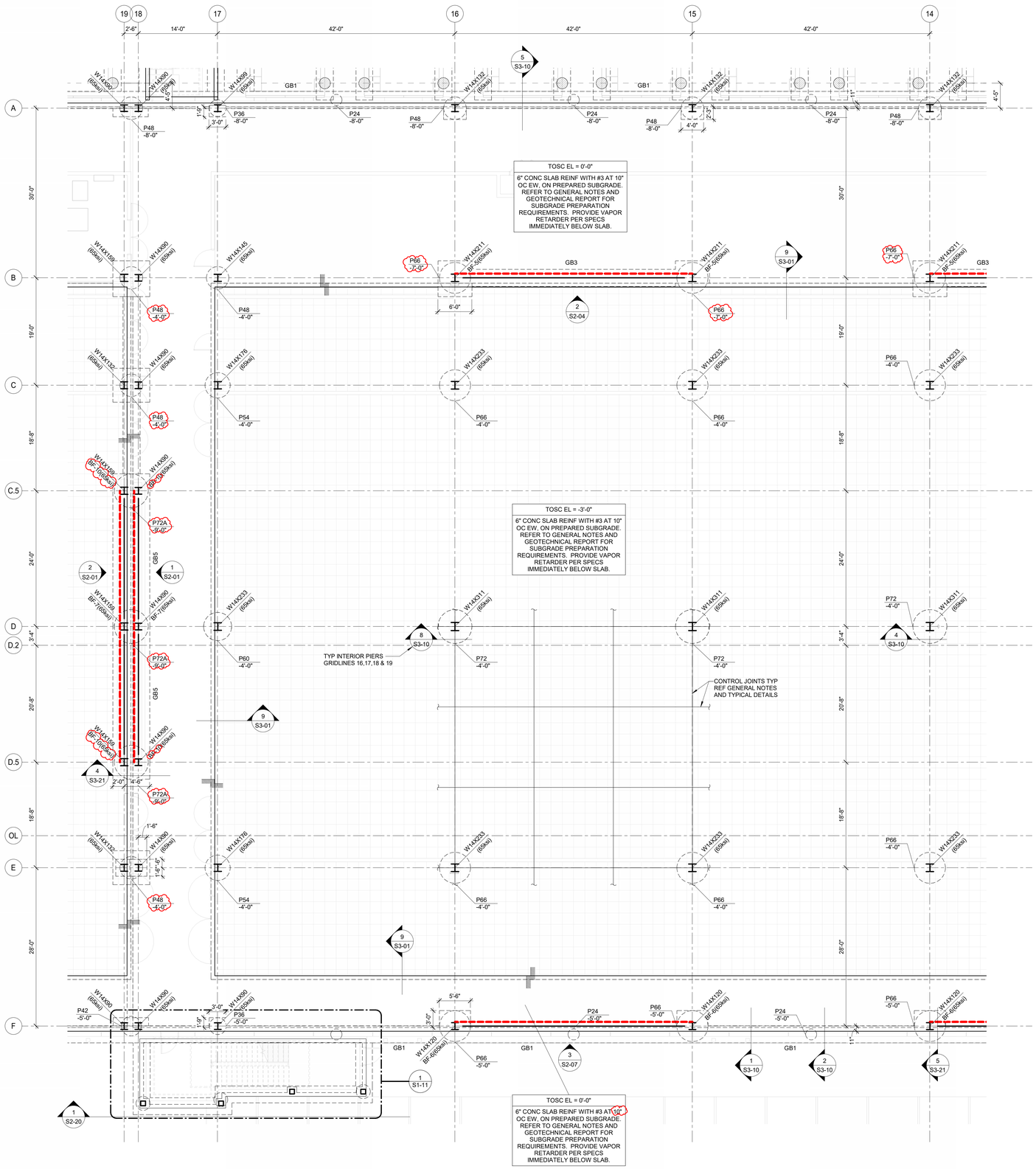
FOUNDATION PLAN - SEGMENT L

JOB 24464.0000
DATE 03.28.2025
SHEET

S1-10L

3/28/2025 4:33:27 PM S1-10L FOUNDATION PLAN - SEGMENT L

Permit #25-2535171-CM
RSN 1903242



1 FOUNDATION PLAN - SEGMENT M
1/8" = 1'-0"

SHEET NOTES

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	REVISIONS	
1	03.28.25	ADDENDUM 1

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KEYPLAN

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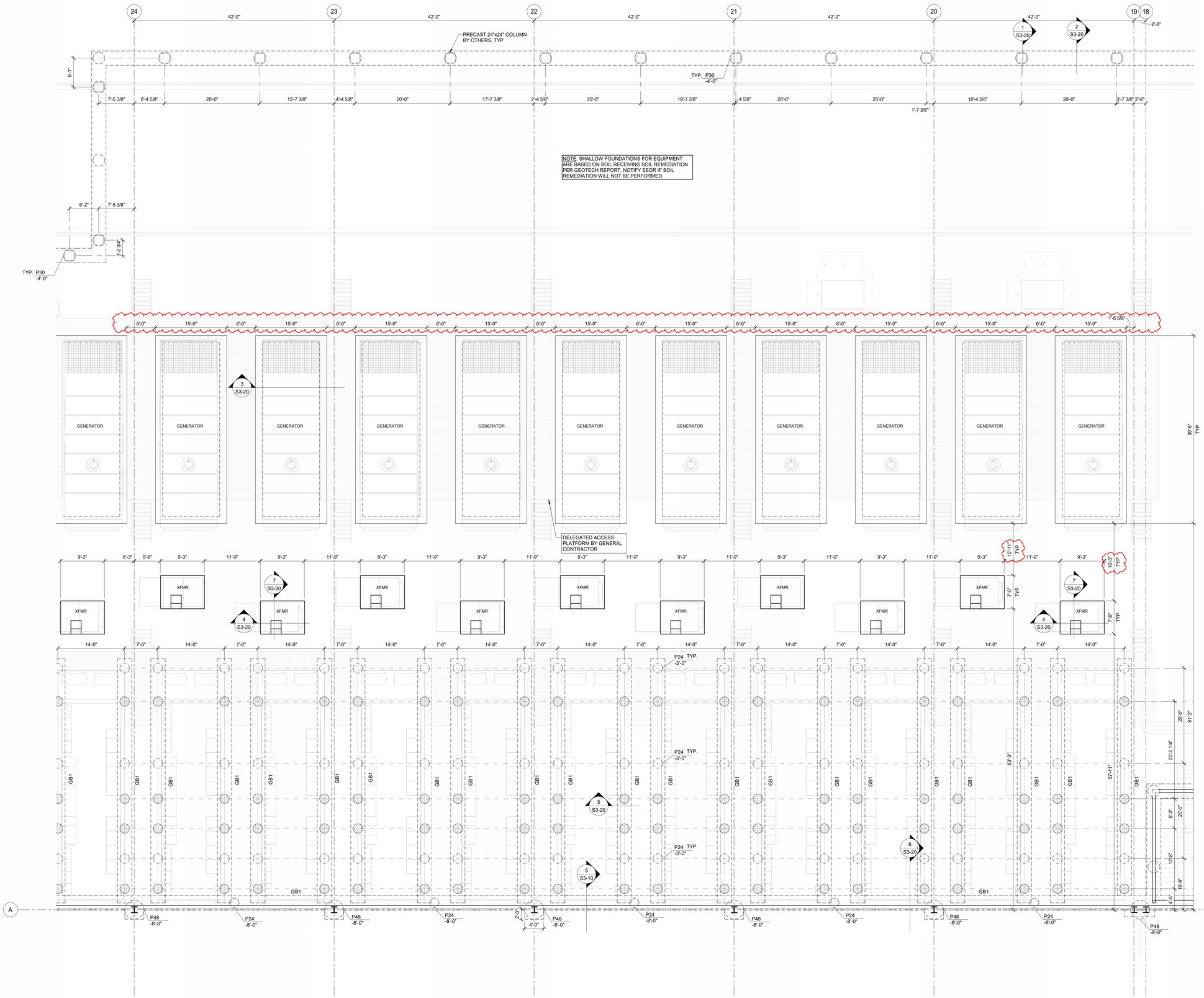
FOUNDATION PLAN - SEGMENT M

JOB 24464.0000
DATE 03.28.2025
SHEET

S1-10M

3/28/2025 4:33:32 PM S1-10M FOUNDATION PLAN - SEGMENT M

Permit #25-2535171-CM
RSN 1903242



1 FOUNDATION PLAN - SEGMENT N
1/8" = 1'-0"

SHEET NOTES

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REVISIONS

1	03.28.25	ADDENDUM 1

COLORADO LICENSED
NICHOLAS W. KEVID
65236
PROFESSIONAL ENGINEER

AG&E Structural Engenuity

Date of issue:
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QTS DEN1 DC2
1140 N. GUN CLUB ROAD

KEYPLAN

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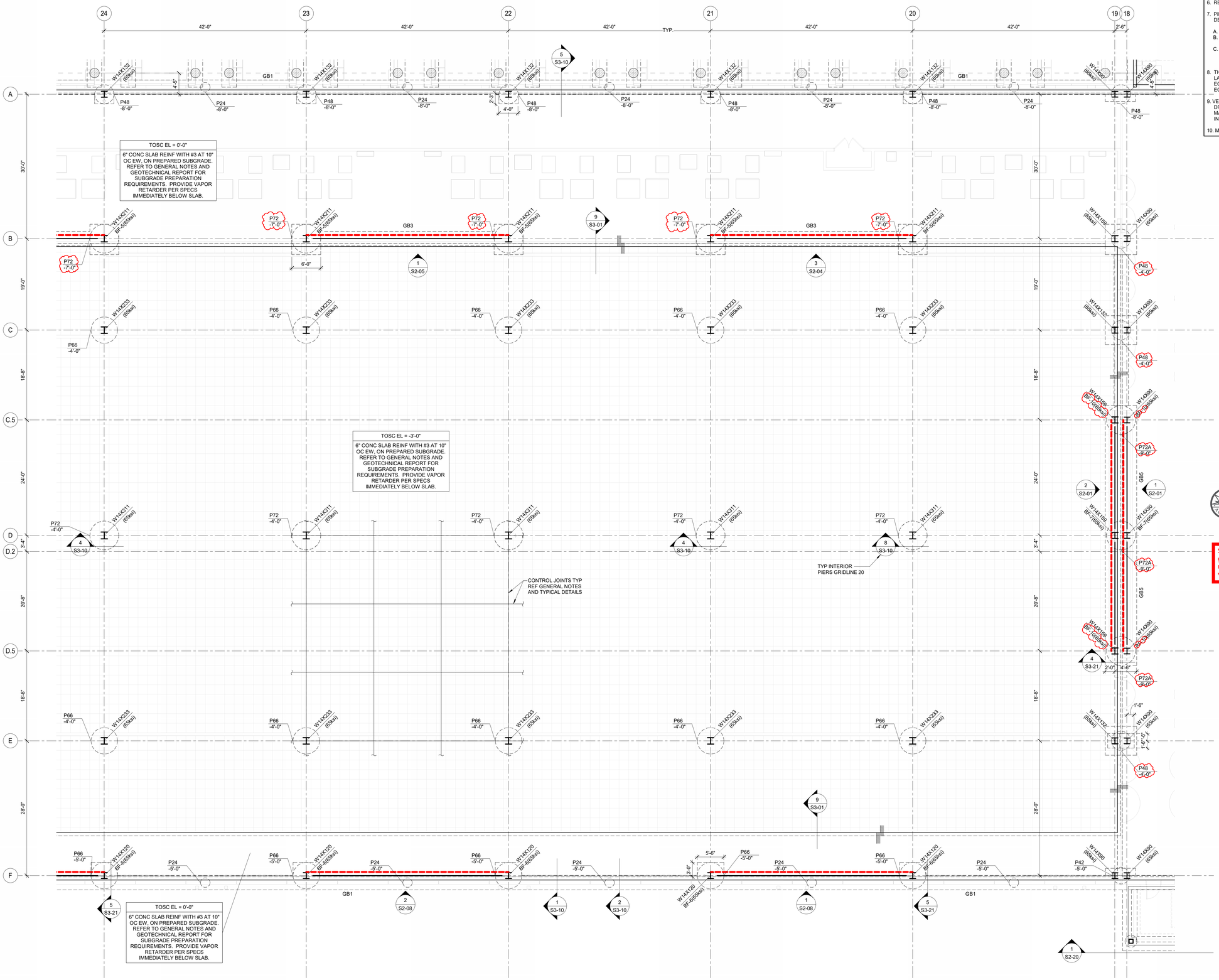
FOUNDATION PLAN - SEGMENT N

JOB 24464.0000
DATE 03.28.2025
SHEET

S1-10N

3/28/2025 4:33:39 PM S1-10N FOUNDATION PLAN - SEGMENT N

Permit #25-2535171-CM
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1 FOUNDATION PLAN - SEGMENT P
1/8" = 1'-0"

CORGAN
401 N. Houston Street Dallas, TX 75202
T: 214.748.2000
AG/E
SYSKA HENNESSY GROUP
DESIGN CONSULTING LLC

ISSUES		
1	12.20.24	DESIGN DEVELOPMENT
2	01.31.25	ISSUE FOR PERMIT
3	05.30.25	FOUNDATION ONLY IFP
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REVISIONS		
1	03.28.25	ADDENDUM 1

COLORADO LICENSED
NICHOLAS W. KEVIL
65236
PROFESSIONAL ENGINEER
AG&E Structural Engenuity

Date of issue:
03.28.2025

QTS DEN1 DC2
1140 N. GUN CLUB ROAD

KEYPLAN

S	Q	N	L	J	G	E	C	A	
T	R	P	M	K	H	F	D	B	

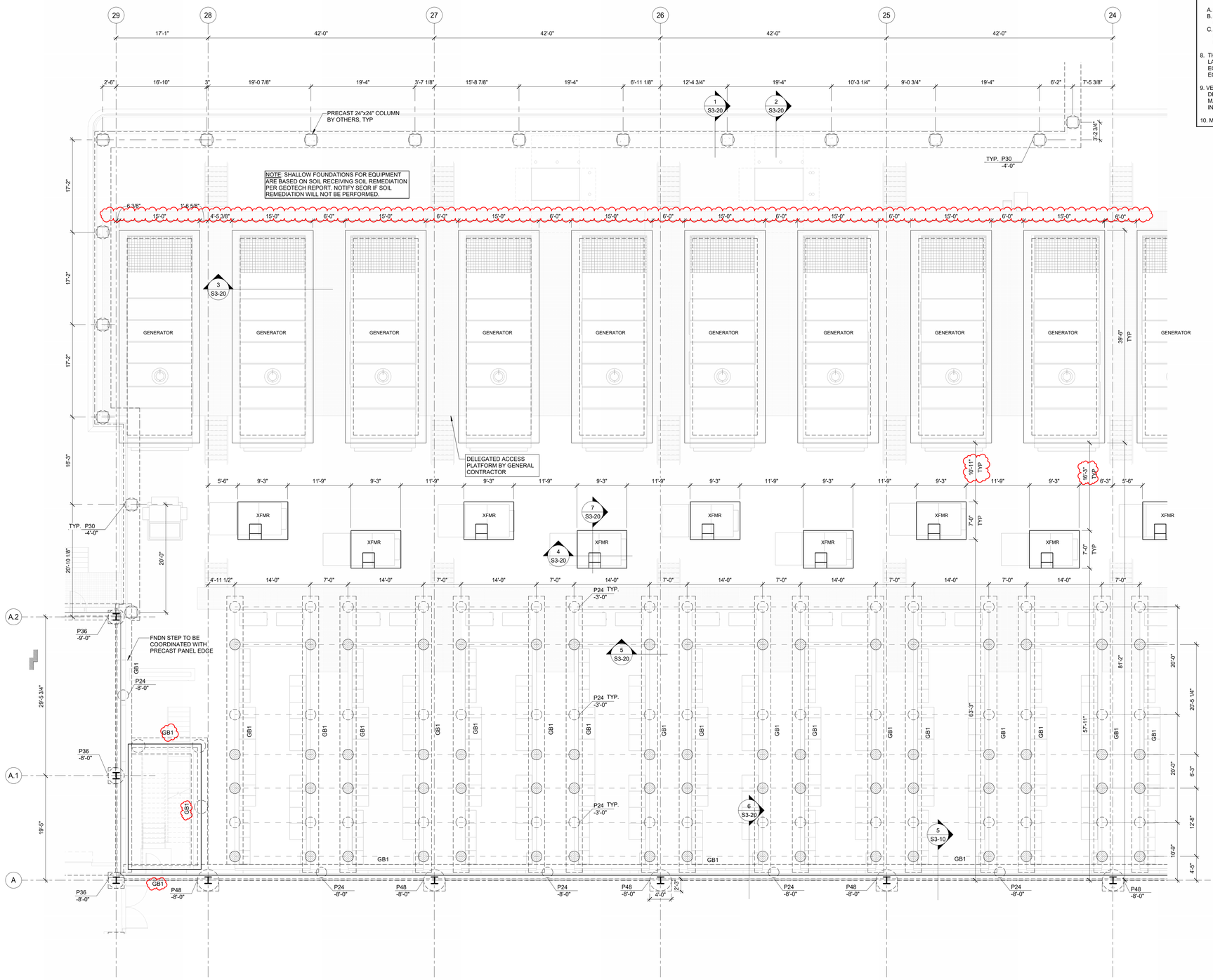
FOUNDATION PLAN - SEGMENT P

JOB 24464.0000
DATE 03.28.2025
SHEET

S1-10P

3/28/2025 4:33:44 PM S1-10P FOUNDATION PLAN - SEGMENT P

Permit #25-2535171-CM
RSN 1903242



1 FOUNDATION PLAN - SEGMENT Q
1/8" = 1'-0"

SHEET NOTES

1. ALL ELEVATIONS ARE BASED ON TOSC EL = 0'-0"
2. VERIFY ALL WALL OPENING DIMENSIONS AND LOCATIONS WITH ARCH DRAWINGS.
3. DEVIATIONS FROM CONST JOINT/CONTROL JOINT PATTERN SHOWN MUST BE APPROVED BY THE ENGINEER OF RECORD.
4. REFER TO SHEET S3-00 FOR PIER SCHEDULE.
5. REFER TO SHEET S5-00 FOR COLUMN AND BASE PLATE SCHEDULE.
6. REFER TO S2-00 FOR BRACE FRAME ELEVATIONS.
7. PIERS WITHOUT CENTERLINES SHOWN ON PLANS, SECTIONS AND/OR DETAILS SHALL BE LOCATED AS FOLLOWS:
   A. COLUMNS AND PILASTERS: CENTERLINE OF THE COLUMN.
   B. GRADE BEAMS AND WALLS: CENTERLINE OF THE GRADE BEAM OR WALL.
   C. ALONG THE LENGTH OF GRADE BEAMS AND WALLS: INTERMEDIATE PIERS SHALL BE SPACED EQUALLY BETWEEN PIERS THAT ARE DIMENSIONALLY SET ON PLAN OR AS NOTED ABOVE.
8. THE SERVICE YARD LAYOUT PROVIDED IS BASED ON INITIAL MEP LAYOUT. ALL DIMENSIONS SHALL BE COORDINATED WITH FINAL EQUIPMENT LAYOUT. ANY DISCREPANCIES SHALL BE PROVIDED TO THE EOR FOR APPROPRIATE CHANCES PRIOR TO INSTALLATION.
9. VERIFY ALL PAD OPENING DIMENSIONS AND LOCATIONS WITH ARCH/MEP DRAWINGS. VERIFY ALL PAD DIMENSIONS WITH EQUIPMENT MANUFACTURER PRIOR TO FABRICATING REINFORCING AND INSTALLATION.
10. METAL STAIR AND CANOPY BY STAIR MANUF.

FOUNDATION ONLY PERMIT - NOT APPROVED FOR VERTICAL CONSTRUCTION

City of Aurora Building Division
Reviewed for Code Compliance
Approved as Noted: Dirk Anderson
Date: Jun 12, 2025
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REVISIONS

1	03.28.25	ADDENDUM 1

COLORADO LICENSED
NICHOLAS W. KIVIO
65236
PROFESSIONAL ENGINEER
AG&E Structural Engenuity

Date of issue:
03.28.2025

QTS DEN1 DC2
1140 N. GUN CLUB ROAD

KEYPLAN

S	Q	N	L	J	G	E	C	A
T	R	P	M	K	H	F	D	B

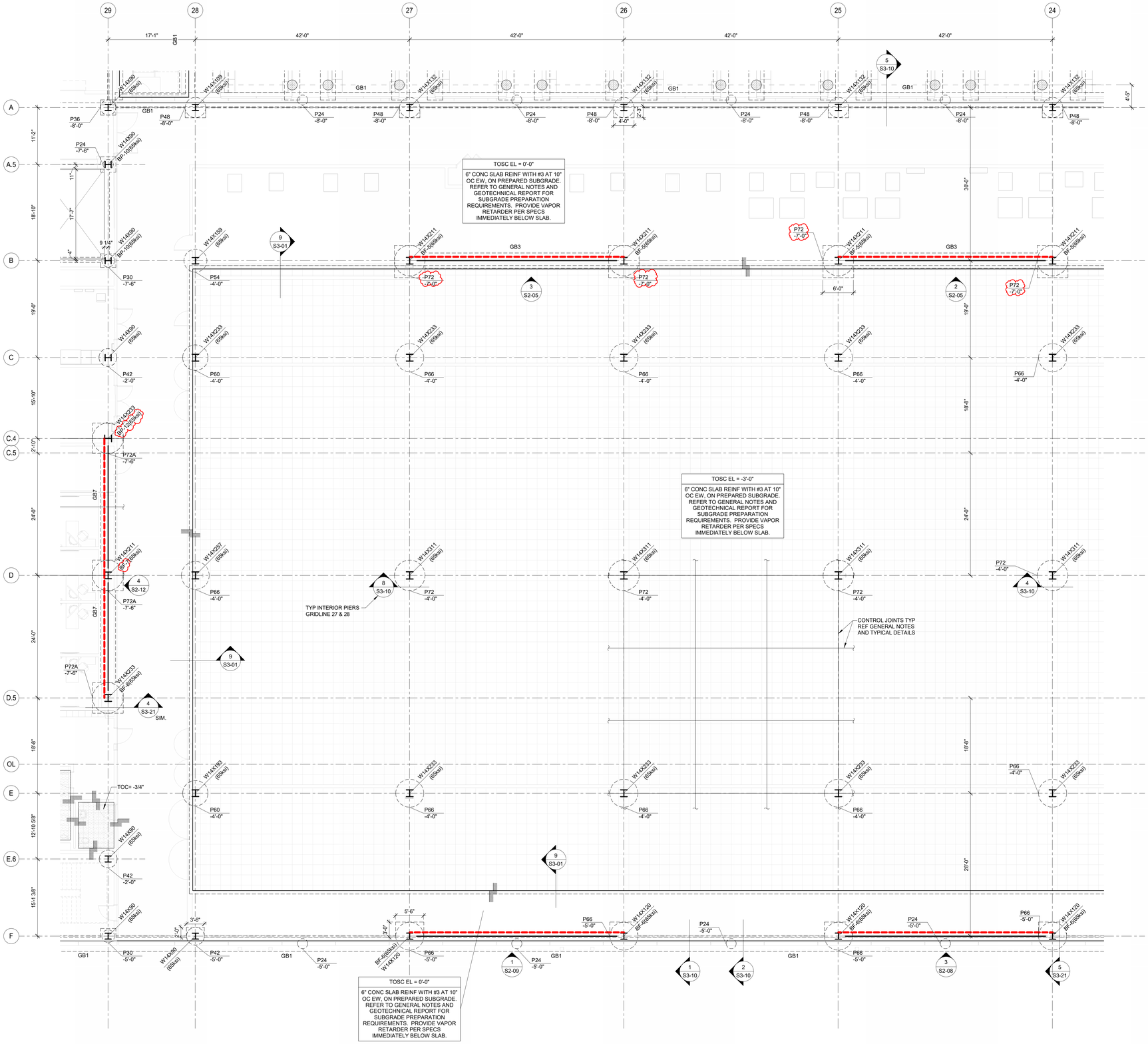
FOUNDATION PLAN - SEGMENT Q

JOB 24464.0000
DATE 03.28.2025
SHEET

S1-10Q

3/28/2025 4:33:50 PM S1-10Q FOUNDATION PLAN - SEGMENT Q

Permit #25-2535171-CM
RSN 1903242



1 FOUNDATION PLAN - SEGMENT R
1/8" = 1'-0"

SHEET NOTES

1. ALL ELEVATIONS ARE BASED ON TOSC EL = 0'-0"
2. VERIFY ALL WALL OPENING DIMENSIONS AND LOCATIONS WITH ARCH DRAWINGS.
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9. VERIFY ALL PAD OPENING DIMENSIONS AND LOCATIONS WITH ARCH/MEP DRAWINGS. VERIFY ALL PAD DIMENSIONS WITH EQUIPMENT MANUFACTURER PRIOR TO FABRICATING REINFORCING AND INSTALLATION.
10. METAL STAIR AND CANOPY BY STAIR MANUF.

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DESIGN CONSULTING LLC

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REVISIONS

1	03.28.25	ADDENDUM 1

COLORADO LICENSED
NICHOLAS W. HOYD
65236
PROFESSIONAL ENGINEER
AG&E Structural Engenuity

Date of issue:
03.28.2025

QTS DEN1 DC2
1140 N. GUN CLUB ROAD

KEYPLAN

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T	R	P	M	K	H	F	D	B	

FOUNDATION PLAN - SEGMENT R

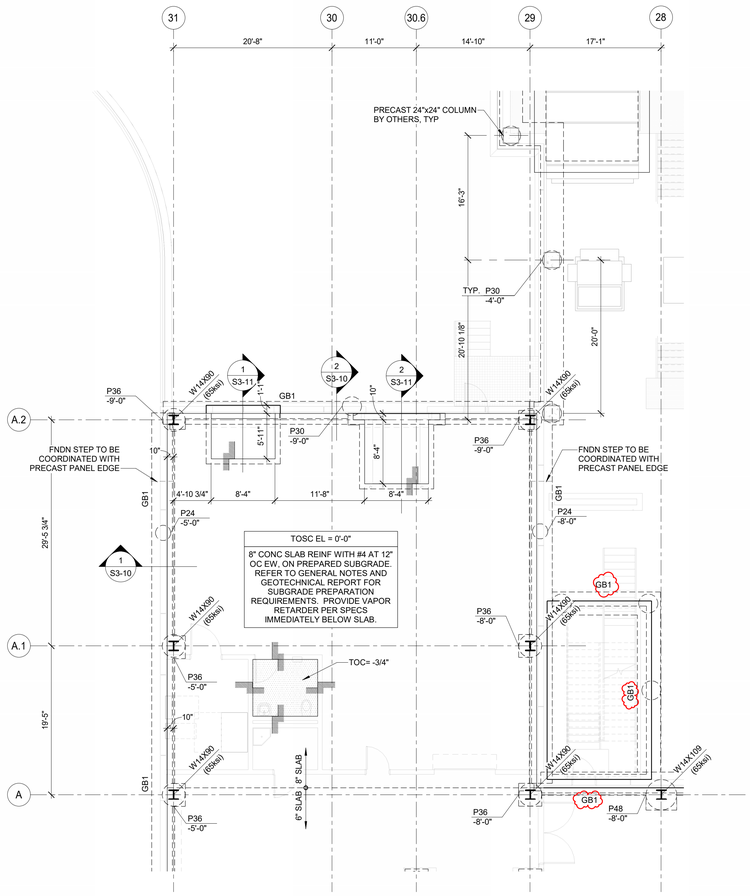
JOB 24464.0000
DATE 03.28.2025
SHEET S1-10R

3/28/2025 4:33:56 PM S1-10R FOUNDATION PLAN - SEGMENT R

Permit #25-2535171-CM
RSN 1903242

SHEET NOTES

1. ALL ELEVATIONS ARE BASED ON TOSC EL = 0'-0"
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10. METAL STAIR AND CANOPY BY STAIR MANUF.



1 FOUNDATION PLAN - SEGMENT S
1/8" = 1'-0"

City of Aurora Building Division
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AG/E

SYSKA HENNESSY GROUP

TLD DESIGN CONSULTING LLC

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REVISIONS		
1	03.28.25	ADDENDUM 1

COLORADO LICENSED
NICHOLAS W. KIVIO
65236
PROFESSIONAL ENGINEER

AG&E Structural Engenuity

Date of issue:
03.28.2025

QTS DEN1 DC2
1140 N. GUN CLUB ROAD

KEYPLAN

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T	R	P	M	K	H	F	D	B

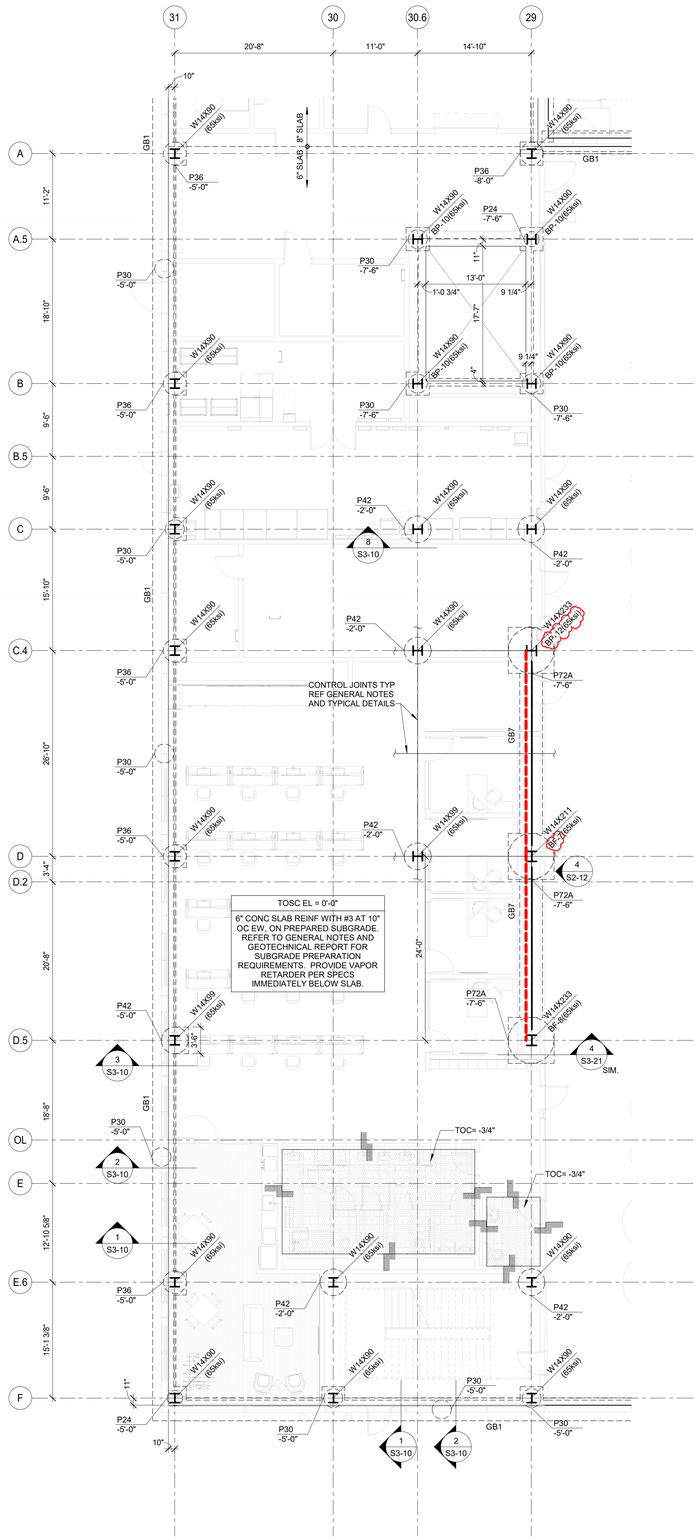
FOUNDATION PLAN - SEGMENT S

JOB 24464.0000
DATE 03.28.2025
SHEET

S1-10S

3/28/2025 4:33:59 PM S1-10S FOUNDATION PLAN - SEGMENT S

Permit #25-2535171-CM
RSN 1903242



1 FOUNDATION PLAN - SEGMENT T
1/8" = 1'-0"

SHEET NOTES

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SYSKA HENNESSY GROUP

DESIGN CONSULTING LLC

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	REVISIONS	
1	03.28.25	ADDENDUM 1

COLORADO LICENSED
NICHOLAS W. KEVID
65236
PROFESSIONAL ENGINEER

AG&E Structural Engenuity

Date of issue:
03.28.2025

QTS DEN1 DC2
1140 N. GUN CLUB ROAD

KEYPLAN

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T	R	P	M	K	H	F	D	B

FOUNDATION PLAN - SEGMENT T

JOB 24464.0000
DATE 03.28.2025
SHEET

S1-10T

3/28/2025 4:34:03 PM S1-10T FOUNDATION PLAN - SEGMENT T

Permit #25-2535171-CM
RSN 1903242

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SYSKA HENNESSY GROUP

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COLORADO LICENSED
NICHOLAS W. KEVID
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AG&E Structural Engenuity

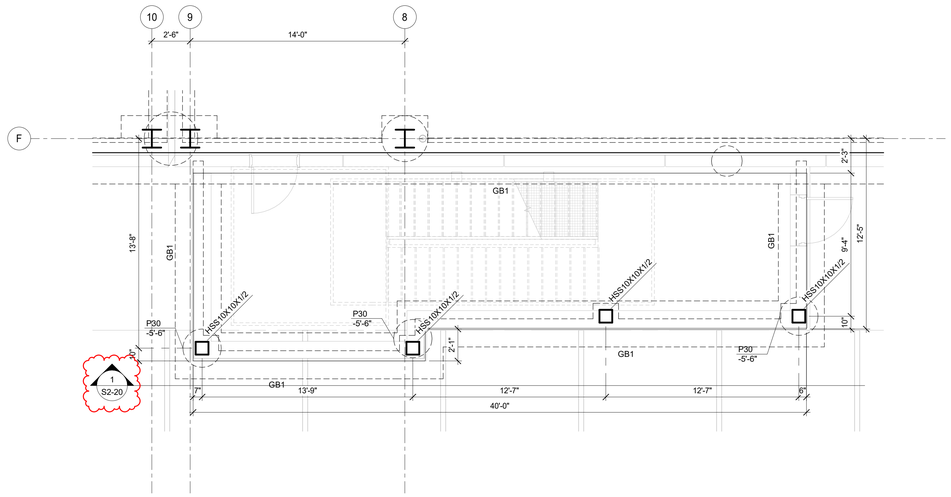
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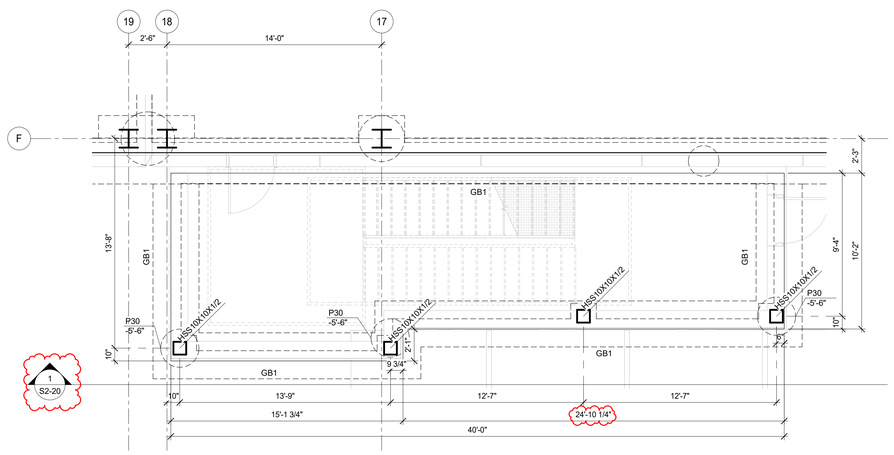
FOUNDATION ONLY PERMIT
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VERTICAL CONSTRUCTION

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QTS DEN1 DC2
1140 N. GUN CLUB ROAD



2 EXTERIOR STAIR FOUNDATION PLAN
1/4" = 1'-0"



1 EXTERIOR STAIR FOUNDATION PLAN
1/4" = 1'-0"

PARTIAL FOUNDATION PLANS

JOB 24464.0000
DATE 03.28.2025
SHEET

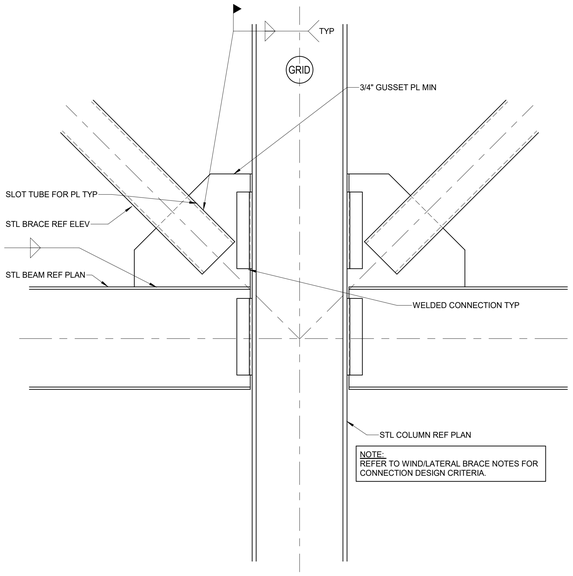
S1-11

3/28/2025 4:34:04 PM S1-11 PARTIAL FOUNDATION PLANS

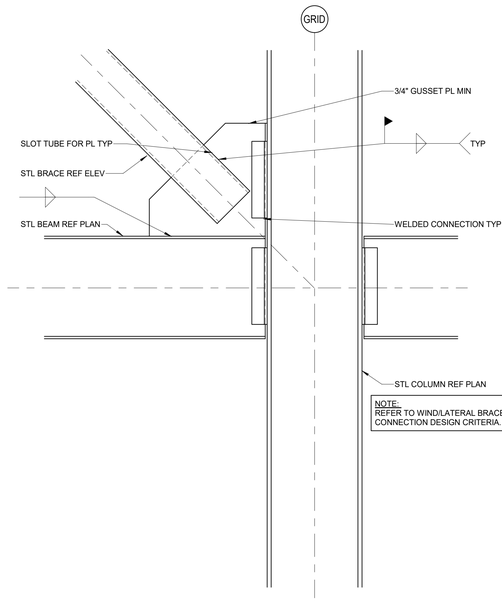
Permit #25-2535171-CM
RSN 1903242

WIND/LATERAL BRACE NOTES

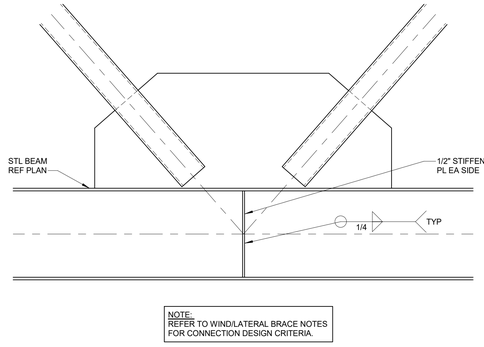
1. DESIGN CONNECTIONS FOR FORCES SHOWN ON BRACE ELEVATIONS. WHERE FORCES ARE NOT GIVEN, DESIGN FOR THE TENSILE CAPACITY OF THE DIAGONAL MEMBERS.
2. ALL WELDS AND GUSSET PLATES SHALL BE DESIGNED BY THE FABRICATOR FOR SHEAR, TENSION, AND ECCENTRICITIES OF FORCES. DESIGN CONNECTIONS USING THE UNIFORM FORCE METHOD PER AISC MANUAL, ASSUMING THE WORKING POINT (W.P.) IS LOCATED AT THE INTERSECTION OF COLUMN AND BEAM CENTERLINES. CHECK TENSION, FLEXURAL, AND RUPTURE CAPACITY OF GUSSET PLATES. AS A MINIMUM, WELDS OF GUSSET PLATES TO BASE PLATES TO BE DESIGNED FOR HORIZONTAL COMPONENT OF DIAGONAL BRACE FORCE. EXTEND BASE PLATE IF REQD TO MATCH WELD LENGTH.
3. ALL CALCULATIONS SHALL BE SUBMITTED WITH THE SHOP DRAWINGS, AND SHALL BE SEALED BY A REGISTERED ENGINEER VERIFYING THE CAPACITY OF EACH CONNECTION.
4. REF SPECIFIC BRACE ELEVATIONS FOR TYPE OF DIAGONAL MEMBERS.
5. ROD DIAGONALS TO HAVE SLEEVE NUTS TO ALLOW FOR TIGHTENING OF RODS.



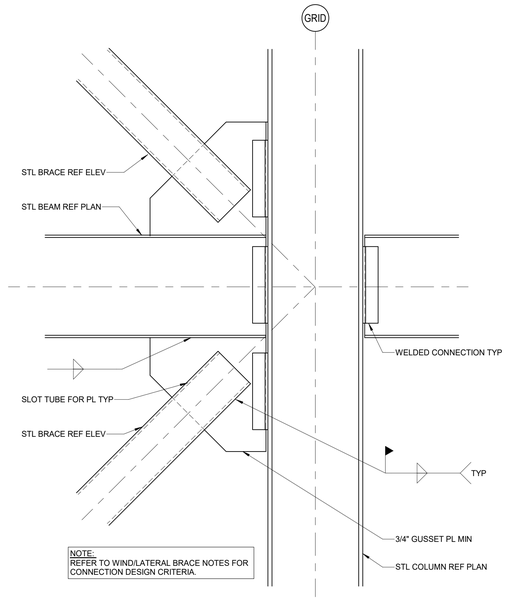
7 TYPICAL BRACE AT BEAM
3/4" = 1'-0"



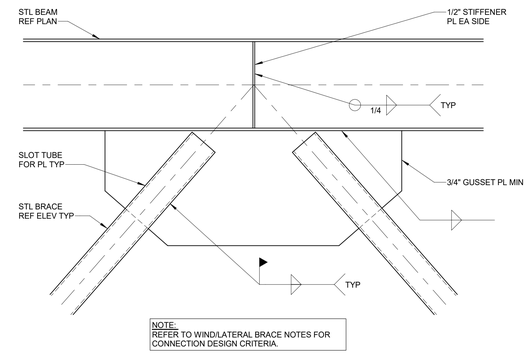
3 TYPICAL BRACE DETAIL
3/4" = 1'-0"



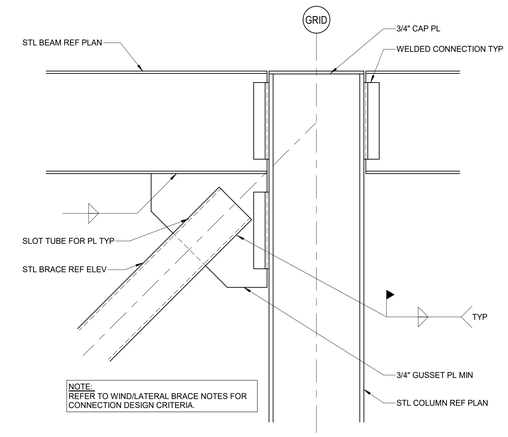
6 TYPICAL BRACE DETAIL
3/4" = 1'-0"



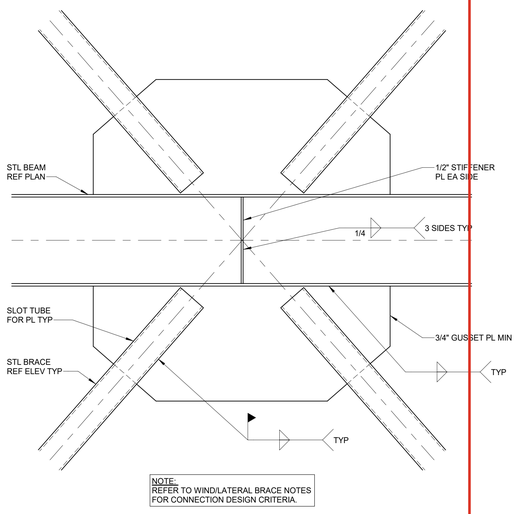
5 TYPICAL BRACE AT BEAM
3/4" = 1'-0"



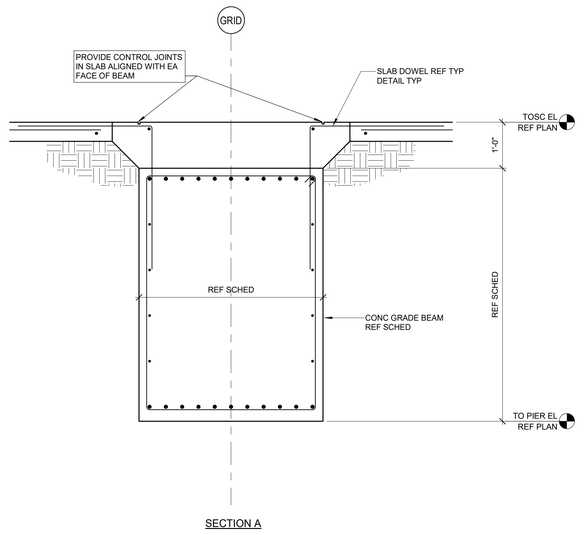
4 TYPICAL BRACE DETAIL
3/4" = 1'-0"



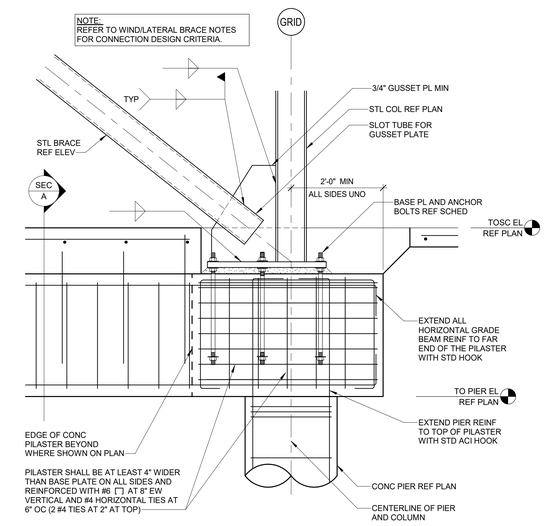
3 TYPICAL BRACE DETAIL
3/4" = 1'-0"



2 TYPICAL BRACE DETAIL
3/4" = 1'-0"



1 TYPICAL BRACED FRAME AT STRAP BEAM
3/4" = 1'-0"



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REVISIONS

COLORADO LICENSED NICHOLAS W. [illegible] 65236 PROFESSIONAL ENGINEER

AG&E Str[illegible]genuity F-04420

Date of issue:
01.31.2025

QTS DEN1 DC2
1140 N. GUN CLUB ROAD

TYPICAL BRACING DETAILS

JOB 24464.0000
DATE 01.31.2025
SHEET S2-30

2/4/2025 4:12:53 PM S2-30 TYPICAL BRACING DETAILS

Permit #25-2535171-CM
RSN 1903242

STEEL REINF CLASS B TENSION LAP SPLICE SCHEDULE L_{st}

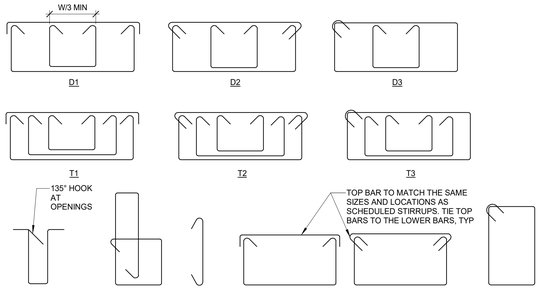
	3000 PSI CONC		4000 PSI CONC		5000 PSI CONC		6000 PSI CONC		7000 PSI CONC		8000 PSI CONC	
	TYP	OTHER	TYP	OTHER	TYP	OTHER	TYP	OTHER	TYP	OTHER	TYP	OTHER
#6 AND SMALLER BARS	74db	57db	64db	50db	58db	44db	53db	41db	49db	38db	46db	35db
#7 TO #11 BARS	93db	71db	81db	62db	72db	55db	66db	51db	61db	47db	57db	44db

NOTES:

1. THE CLASS B TENSION LAP SPLICE SCHEDULE SHOWN IS FOR NORMAL WEIGHT CONCRETE AND GRADE 60 NON EPOXY COATED REINFORCING.
2. TYPICAL IS FOR BEAM TOP AND INTERMEDIATE BARS, WALL TOP AND HORIZONTAL BARS AND SLAB/FOOTING TOP BARS FOR SLAB/FOOTING THICKNESS GREATER THAN 13".
3. FOR EPOXY COATED TYPICAL BARS, INCREASE SPLICE LENGTHS BY 31%. FOR EPOXY COATED OTHER BARS, INCREASE SPLICE LENGTHS BY 50%.
4. FOR LIGHTWEIGHT CONCRETE, INCREASE SPLICE LENGTHS BY 33%.
5. FOR GRADE 75 REBARS, INCREASE SPLICE LENGTHS BY 25%.
6. FOR #7 TO #11 SLAB OR WALL REINFORCING WITH CLEAR COVER LESS THAN 1 BAR DIAMETER, INCREASE SPLICE LENGTHS BY 50%.
7. SPLICE LENGTH FOR BARS OF DIFFERENT SIZE SHALL BE THE GREATER OF SPLICE LENGTH/1.3 OF THE LARGER BAR AND SPLICE LENGTH OF THE SMALLER BAR.
8. FOR CONCRETE STRENGTH IN BETWEEN THOSE SHOWN IN THE SCHEDULE, USE SPLICE LENGTHS OF LOWER CONCRETE STRENGTH.
9. THE SCHEDULED LAP SPLICE LENGTH WITH THE APPLICABLE MODIFACTION FACTORS SHALL NOT BE LESS THAN 12".

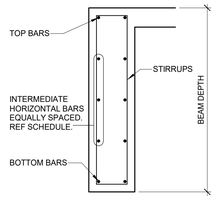
11 TYPICAL STEEL REINF CLASS B TENSION LAP SCHEDULE

3/4" = 1'-0"



10 STIRRUP TYPES AT GRADE BEAMS

3/4" = 1'-0"



INTERMEDIATE BAR SCHEDULE

BEAM DEPTH	NUMBER OF BARS EA FACE	SIZE OF BAR
> 36" - 48"	5	#3
49" - 54"	5	#4
55" - 60"	5	#5
61" - 66"	6	#5
67" - 78"	7	#5
79" AND ABOVE	AT 9" OC	#5

NOTES:

1. ALTERNATE LAP SPLICE INTERMEDIATE BARS BETWEEN SUPPORT AND MIDSPAN. PROVIDE STANDARD ACI HOOK AT DISCONTINUOUS ENDS.
2. BEAMS WITH DEPTH OF 36" OR LESS, DO NOT NEED INTERMEDIATE BARS UNLESS REQUIRED BY BEAM SCHEDULE.
3. WHERE "EXTRA INTERMEDIATE BARS" ARE SCHEDULED, PROVIDE SCHEDULED BARS IN LIEU OF THOSE REQUIRED BY THIS DETAIL.

9 TYPICAL INTERMEDIATE BAR SCHEDULE

3/4" = 1'-0"

CONCRETE GRADE BEAM SCHEDULE

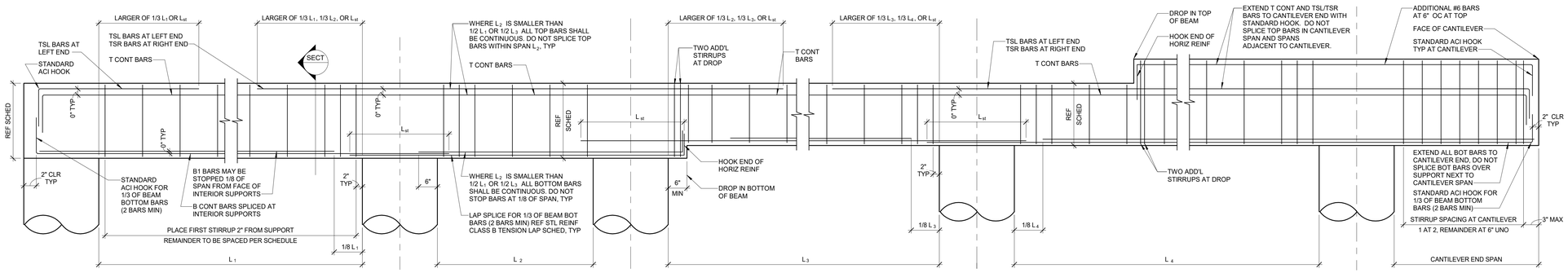
MARK	WIDTH	DEPTH	REINFORCEMENT			STIRRUPS		STIRRUP SPACING FROM EACH END
			TOP	BOTTOM	INTERMEDIATE EA FACE	SIZE	TYPE	
GB1	36"	36"	(6) #8	(6) #8	REF 9-S3-00	#4	S3	1@2", R@12", (R@9" AT CANT)
GB2	36"	42"	(6) #8	(6) #8	REF 9-S3-00	#4	S3	1@2", R@12", (R@9" AT CANT)
GB3	36"	60"	(7) #9	(7) #9	REF 9-S3-00	#4	S3	1@2", R@12", (R@9" AT CANT)
GB4	72"	66"	(15) #14	(15) #14	(10) #5	#5	T3	1@2", R@6", (R@6" AT CANT)
GB5	78"	48"	(16) #8	(16) #8	REF 9-S3-00	#4	S3	1@2", R@12", (R@9" AT CANT)
GB6	24"	24"	(6) #5	(6) #5	REF 9-S3-00	#4	S3	1@2", R@12", (R@9" AT CANT)
GB7	36"	66"	(8) #9	(8) #9	REF 9-S3-00	#4	S3	1@2", R@12", (R@9" AT CANT)

NOTES:

1. REF 7-S3-00 FOR ADDITIONAL INFORMATION.
2. FOR STIRRUP TYPE REF 10-S3-00.
3. REF TYPICAL STL REINF CLASS B TENSION LAP SPLICE SCHEDULE FOR ALL LAP REQUIREMENTS.

8 CONCRETE GRADE BEAM SCHEDULE

3/4" = 1'-0"

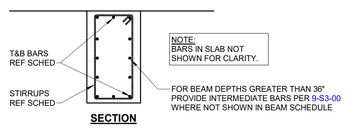


NOTES:

1. L_{st} = LAP SPLICE LENGTH - REF TYP STL REINF CLASS B TENSION LAP SCHED
2. SCHEDULED LEFT AND RIGHT END OF MEMBERS READ ON PLAN AS LEFT AND RIGHT OF THE SHEET OR BOTTOM AND TOP OF THE SHEET RESPECTIVELY AS SHOWN BELOW. SCHEDULED LEFT AND RIGHT END OF MEMBERS SHOWN DIAGONALLY ON PLAN READ AS LEFT AND RIGHT ON SHEET AS SHOWN BELOW:

L R | R L | L R

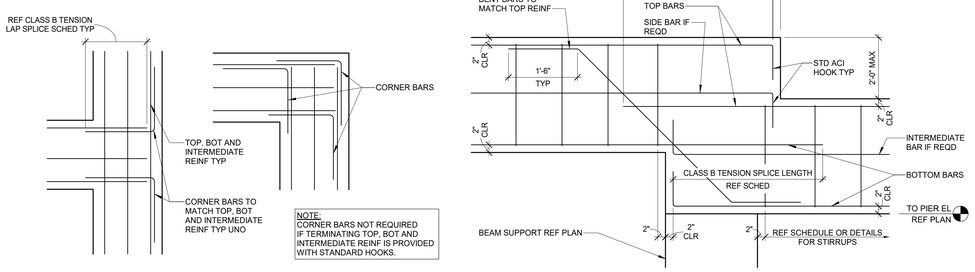
3. T CONT BARS MAY BE SPLICED AT MID-SPAN OF BEAM ONLY. EXCEPT AT CANTILEVER SPANS, SPANS ADJACENT TO CANTILEVER SPANS AND SPANS WITH LENGTH NOT GREATER THAN ONE HALF OF THE ADJACENT SPAN LENGTH.
4. ALL HOOKS SHOWN ARE STANDARD HOOKS (90° OR 180°).
5. SPLICES IN SCHEDULED BARS LESS THAN 60'-0" LENGTH ARE ONLY PERMITTED AT THE SPECIFIED LOCATIONS SHOWN. SPLICES IN SCHEDULED BARS MORE THAN 60'-0" LENGTH SHALL BE REFERRED TO ENGINEER FOR APPROVAL.



SECTION

7 TYPICAL CONCRETE GRADE BEAM BAR PLACING DIAGRAM

3/4" = 1'-0"

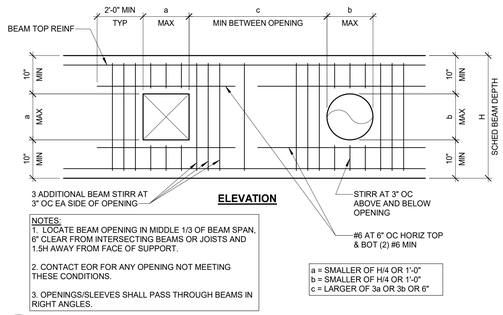


6 TYPICAL CORNER BAR REINFORCING

3/4" = 1'-0"

5 TYPICAL BEAM STEP

3/4" = 1'-0"



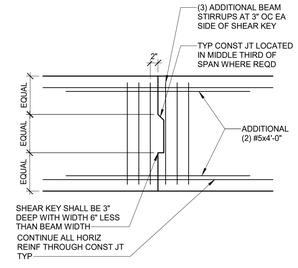
NOTES:

1. LOCATE BEAM OPENING IN MIDDLE 1/3 OF BEAM SPAN, 6" CLEAR FROM INTERSECTING BEAMS OR JOISTS AND 1.5H AWAY FROM FACE OF SUPPORT.
2. CONTACT EOR FOR ANY OPENING NOT MEETING THESE CONDITIONS.
3. OPENINGS/SLEEVES SHALL PASS THROUGH BEAMS IN RIGHT ANGLES.

ELEVATION

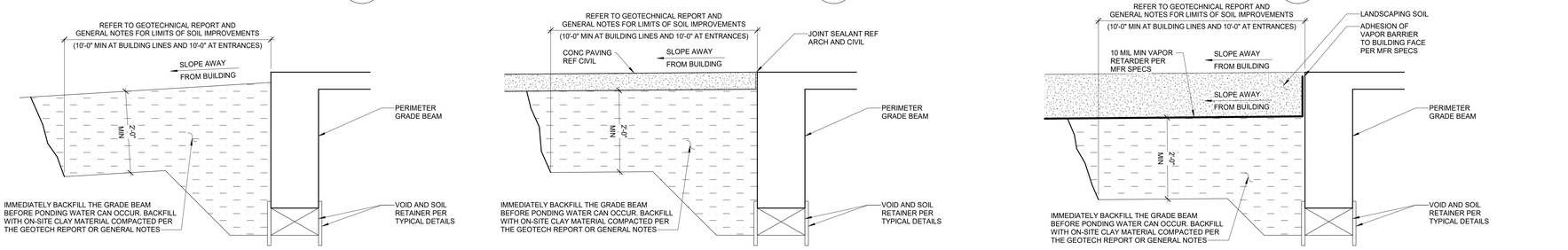
4 TYPICAL HORIZONTAL OPENING IN BEAM

3/4" = 1'-0"



3 TYPICAL BEAM CONST JT

3/4" = 1'-0"



NOTES:

1. IF SELECT FILL OR ENGINEERED FILL IS UTILIZED BELOW SLAB, THE DEPTH OF GRADE BEAM OR PANEL MUST BE AT LEAST 6" BELOW THE BOT OF SUCH FILL.
2. THE DETAILS OF THE SOIL IMPROVEMENT PROCESS SUCH AS MOISTURE CONDITIONING OR WATER INJECTION ARE PRESENTED IN THE GEOTECHNICAL REPORT. USE OF IMPORTED SOIL IN THIS ZONE IS PROHIBITED.
3. ALL TREES SHALL BE PLANTED WITH PERMANENT ROOT BARRIERS.

2 TYPICAL BACKFILL DETAILS AT BUILDING PERIMETER

3/4" = 1'-0"

PIER SCHEDULE

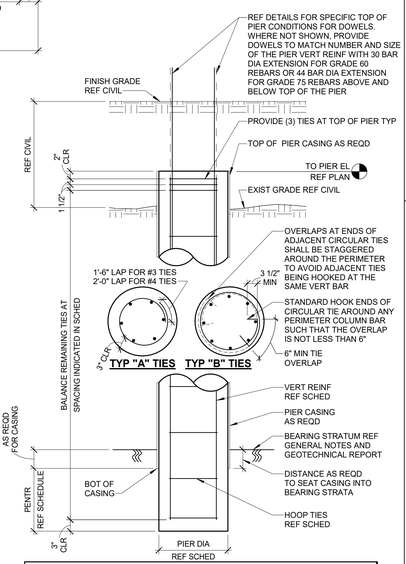
MARK	PIER DIAMETER	PENTR	VERT REINF	HOOP TIES
P24	24"	30'-0"	(10) #8	#3 AT 12" OC
P30	30"	30'-0"	(12) #8	#4 AT 12" OC
P36	36"	35'-0"	(14) #8	#3 AT 12" OC
P42	42"	35'-0"	(14) #9	#4 AT 12" OC
P48	48"	40'-0"	(20) #9	#4 AT 12" OC
P54	54"	40'-0"	(20) #10	#4 AT 12" OC
P60	60"	45'-0"	(24) #10	#4 AT 12" OC
P66	66"	50'-0"	(22) #11	#4 AT 12" OC
P72	72"	55'-0"	(26) #11	#4 AT 12" OC
P72A	72"	65'-0"	(36) #14	#4 AT 12" OC

NOTE(S):

1. DEPTH OF BEARING STRATUM IS INDICATED FOR INFORMATION ONLY. ACTUAL DEPTH MAY VARY. REFER TO THE GEOTECHNICAL REPORT AND THE GRADING PLAN FOR DEPTH OF BEARING STRATUM BELOW FINISH FLOOR, AND ADJUST DEPTHS AS REQD. CONTRACTOR TO PROVIDE AN ALTERNATE PIER LENGTH FOR CASE FOR ADD AND DEDUCT ALL PIERS SHALL EXTEND A MINIMUM OF 35FT BELOW TOP OF PIER ELEVATION. REFER TO GEOTECHNICAL REPORT FOR ADDITIONAL INFORMATION. B
2. SPLICE VERTICAL REINFORCING IN PIERS WITH CLASS B TENSION LAP SPLICE. NO MORE THAN 50% OF THE BARS SHALL BE LAP SPLICED AT ONE LOCATION.
3. FOR PIERS LOCATED WITHIN TWO SHAFT DIAMETERS CLEAR SPACING, THE SECOND PIER SHALL BE DRILLED A MIN OF 48 HOURS AFTER THE FIRST.
4. REFER TO THE GEOTECHNICAL REPORT FOR PIER CASING REQUIREMENTS. IF CASING IS REQUIRED, CASING SHALL BE SIZED TO MAINTAIN THE PIER DIAMETER INDICATED IN SCHEDULE.
5. USE TYPE "A" TIES, TYP, UNO. USE TYPE "B" TIES FOR PIERS ABOVE GRADE (INCLUDING PIERS ABOVE GRADE IN CRAWL SPACE), IN SEISMIC DESIGN CATEGORY D, E, & F AND WHERE SPECIFIED IN SCHEDULE.
6. PROVIDE 3" HIGH x 3" DEEP SHEAR RINGS AT 16" OC AT BOTTOM 15' OF ALL PIERS.

1 TYPICAL PIER REINFORCING DIAGRAM AND SCHEDULE

3/4" = 1'-0"



CORGAN
401 N. Houston Street Dallas, TX 75202
T: 214.748.2000
AG/E
SYSKA HENNESSY GROUP
DESIGN CONSULTING LLC

ISSUES

1	12.20.24	DESIGN DEVELOPMENT
2	01.31.25	ISSUE FOR PERMIT
3	05.30.25	FOUNDATION ONLY IFP
4		
5		
6		
7		
8		
9		
10		

REVISIONS

B	05.05.25	COA - PERMIT COMMENTS R2

FOUNDATION ONLY PERMIT - NOT APPROVED FOR VERTICAL CONSTRUCTION

City of Aurora Building Division
Reviewed for Code Compliance
Approved as Noted: Dirk Anderson
Date: Jun 12, 2025
2021 INTERNATIONAL CODES & 2023 NEC

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COLORADO LICENSED
NICHOLAS W. REVID
65236
PROFESSIONAL ENGINEER
AG&E Structural Engenuity

Date of issue:
05.05.2025

QTS DEN1 DC2
1140 N. GUN CLUB ROAD

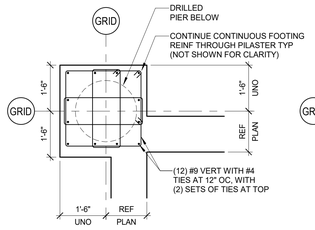
PIER, GRADE BEAM SCHEDULE AND TYPICAL FOUNDATION DETAILS

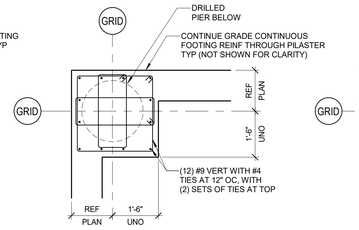
JOB 24464.0000
DATE 05.05.2025
SHEET

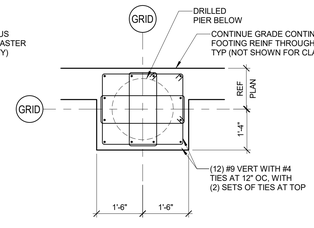
S3-00

5/8/2025 11:06:01 AM S3-00

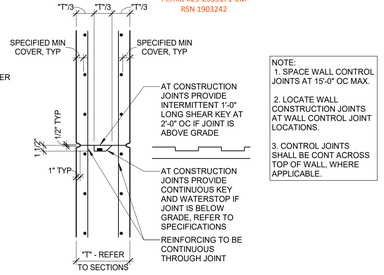
Permit #25-2535171-CM
RSN 1903242



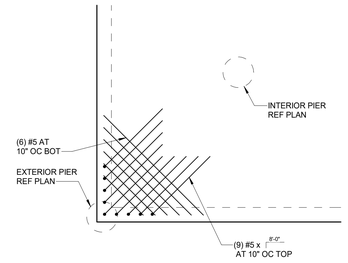




20 TYPICAL PILASTER DETAILS
1/2" = 1'-0"

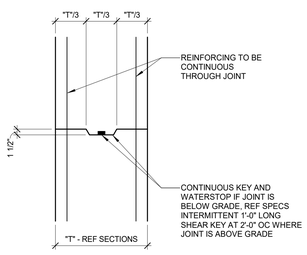


18 TYPICAL VERTICAL CONTROL/ CONSTRUCTION JOINT IN WALL
3/4" = 1'-0"

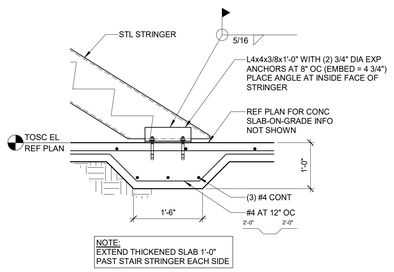


PLAN

17 CORNER REINFORCING
NTS

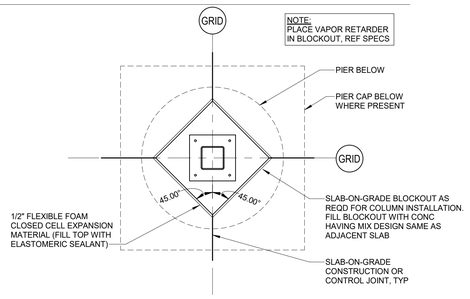


16 TYPICAL HORIZONTAL CONSTRUCTION JOINT IN WALL OR BEAM
3/4" = 1'-0"

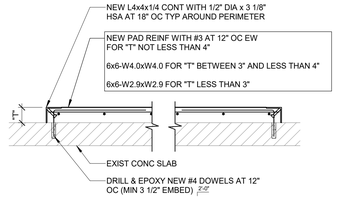


NOTE:
EXTEND THICKENED SLAB 1'-0" PAST STAIR STRINGER EACH SIDE

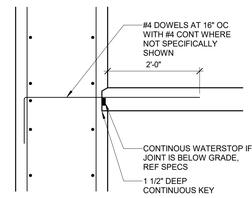
15 TYPICAL MTL STAIR AT SLAB-ON-GRADE
3/4" = 1'-0"



14 TYP COLUMN BLOCKOUT (SLAB-ON-GRADE ONLY)
3/4" = 1'-0"



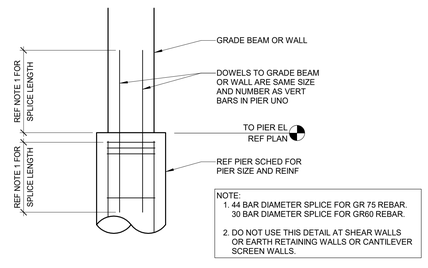
13 TYPICAL HOUSEKEEPING PAD OR TOPPING SLAB
3/4" = 1'-0"



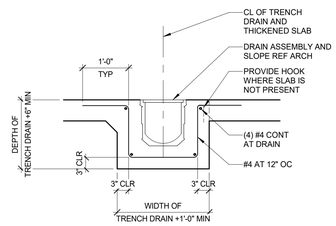
12 TYPICAL SLAB SHEAR KEY TO BEAM OR WALL
3/4" = 1'-0"

5 TYPICAL DETAIL OF MULTIPLE LAYERS OF BEAM REINFORCING
3/4" = 1'-0"

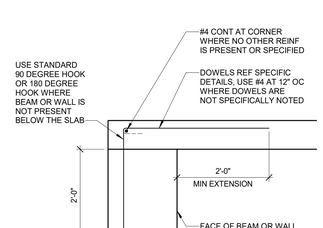
4 TYPICAL VERTICAL SLEEVES IN CONCRETE BEAMS
3/4" = 1'-0"



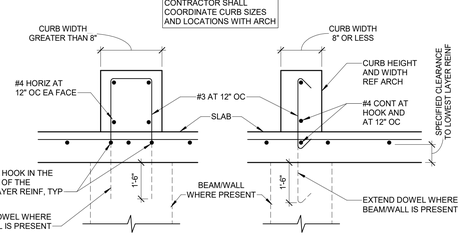
3 TYPICAL DOWELS TO PIER AT CONCRETE WALL OR GRADE BEAM
3/4" = 1'-0"



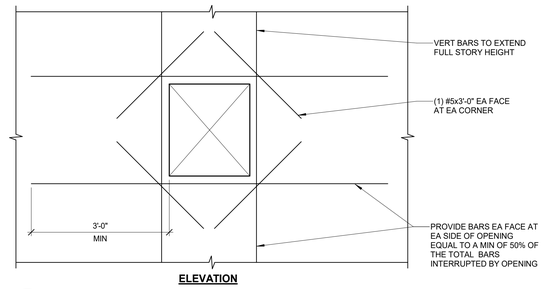
2 TYPICAL TRENCH DRAIN AT SLAB-ON-GRADE
3/4" = 1'-0"



1 TYPICAL SLAB DOWEL
3/4" = 1'-0"



7 TYPICAL CONCRETE CURB
1" = 1'-0"



ELEVATION

6 TYPICAL OPENING IN CONCRETE WALL
3/4" = 1'-0"

3" OR LESS OFFSET

3" TO 18" OFFSET

18" TO 36" OFFSET

9 TYPICAL OFFSETS IN SLAB-ON-GRADE
3/4" = 1'-0"

B: CONSTRUCTION JOINT (CONST JT)

A: CONTROL JOINT (CJ)

8 TYPICAL SLAB-ON-GRADE JOINTS
3/4" = 1'-0"

Structural plan review is limited to a general survey for code compliance. No review is implied nor was undertaken to verify structural adequacy.

FOUNDATION ONLY PERMIT
- NOT APPROVED FOR VERTICAL CONSTRUCTION

City of Aurora Building Division
Reviewed for Code Compliance
Approved as Noted: Dirk Anderson
Date: Jun 12, 2025
2021 INTERNATIONAL CODES & 2023 NEC

CORGAN
401 N. Houston Street Dallas, TX 75202
T: 214.748.2000
AG/E
SYSKA HENNESSY GROUP
DESIGN CONSULTING LLC

	ISSUES	
1	12.20.24	DESIGN DEVELOPMENT
2	01.31.25	ISSUE FOR PERMIT
3	05.30.25	FOUNDATION ONLY IFP
4		
5		
6		
7		
8		
9		
10		

	REVISIONS	

COLORADO LICENSED
NICHOLAS W. [illegible]
65236
PROFESSIONAL ENGINEER
AG&E Structural Engineering
F-04-20

Date of issue:
01.31.2025

QTS DEN1 DC2
1140 N. GUN CLUB ROAD

TYPICAL FOUNDATION DETAILS

JOB 24464.0000
DATE 01.31.2025
SHEET

S3-01

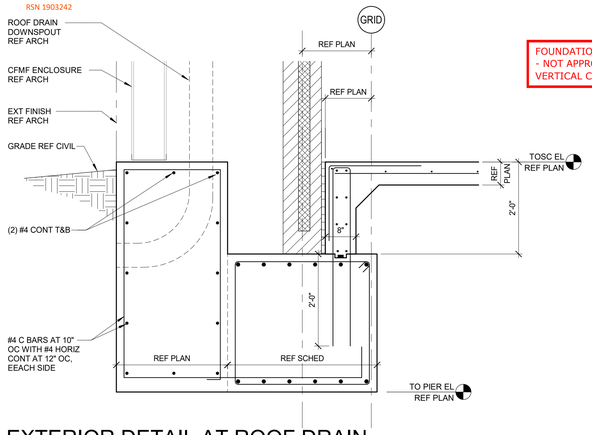
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Permit #25-2535171-CM
RSN 1903242

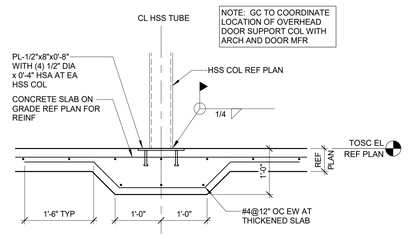
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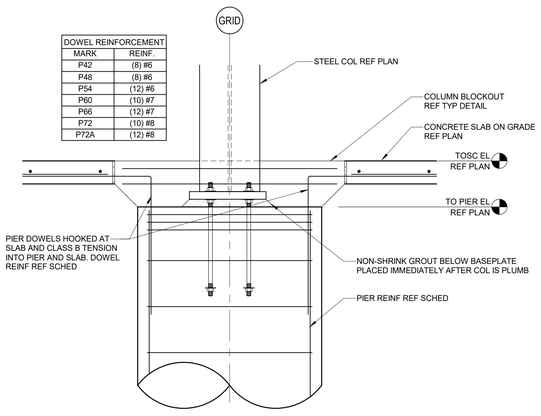
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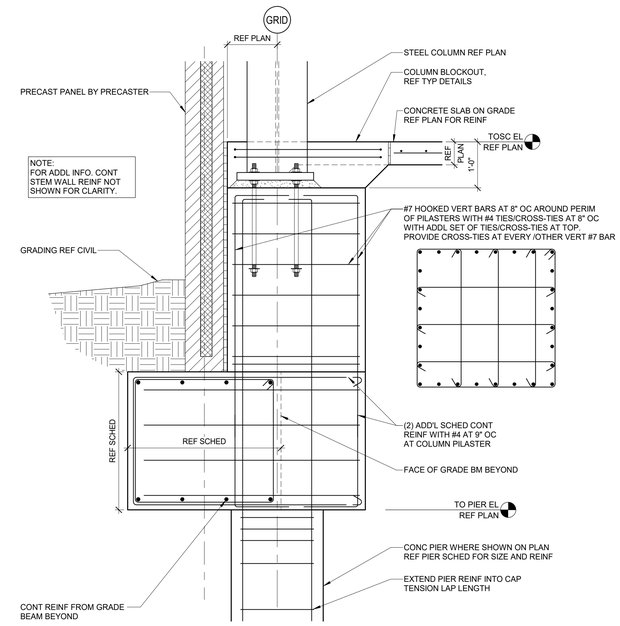
10 EXTERIOR DETAIL AT ROOF DRAIN
3/4" = 1'-0"



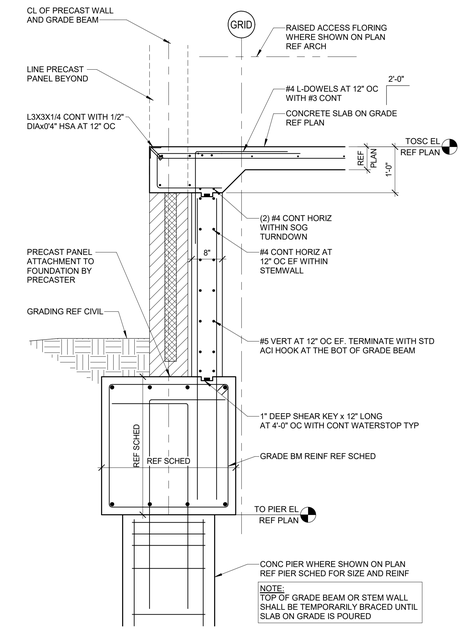
9 OVERHEAD DOOR SUPPORT AT FLOOR
3/4" = 1'-0"



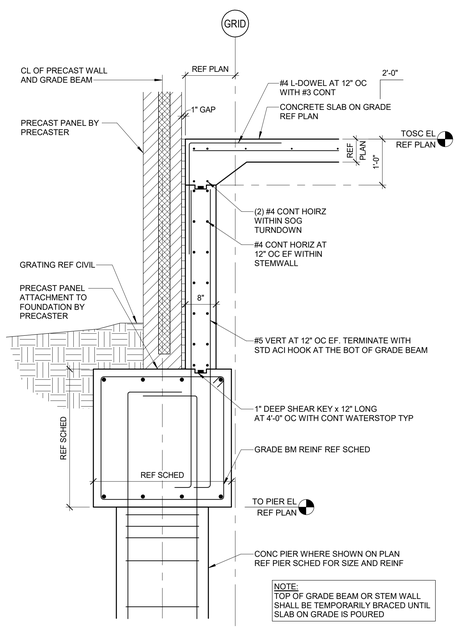
8 TYPICAL INTERIOR DETAIL AT COLUMN
3/4" = 1'-0"



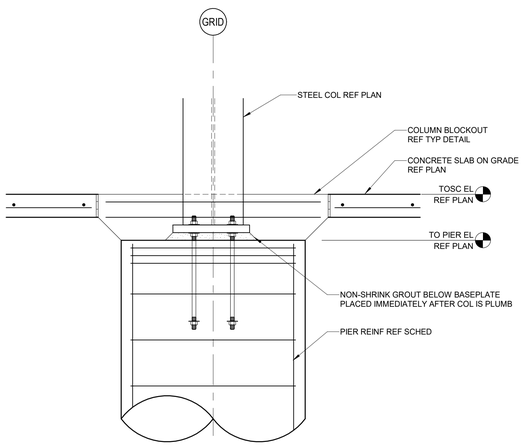
7 TYPICAL RECESSED EXTERIOR DETAIL COLUMN
3/4" = 1'-0"



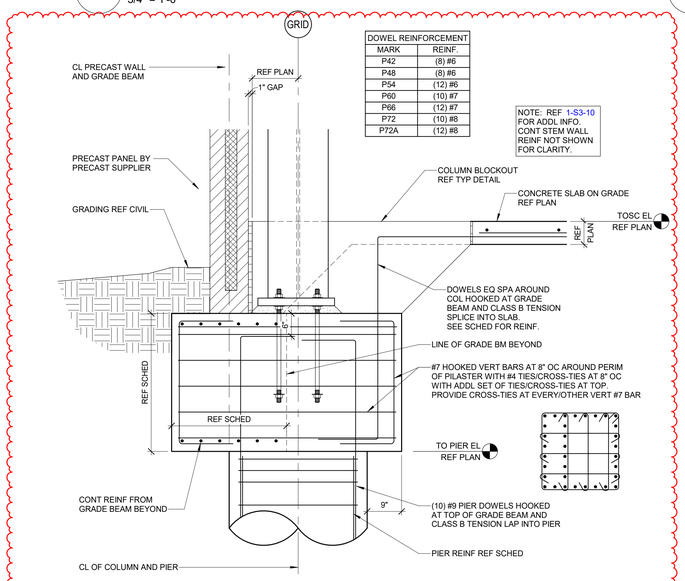
6 TYPICAL RECESSED EXTERIOR DETAIL AT PIER
3/4" = 1'-0"



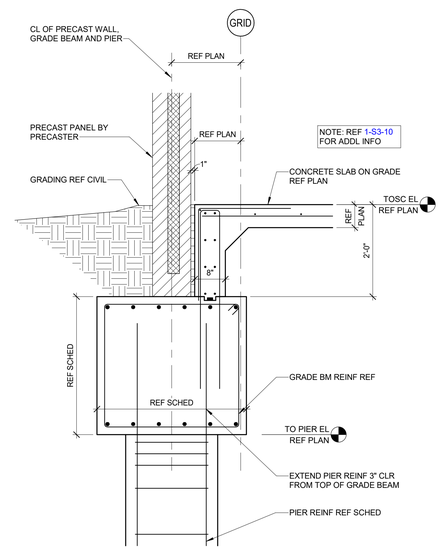
5 TYPICAL RECESSED EXTERIOR DETAIL
3/4" = 1'-0"



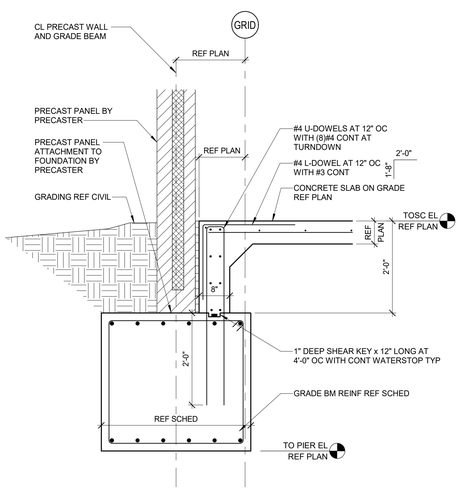
4 TYPICAL INTERIOR DETAIL AT COLUMN
3/4" = 1'-0"



3 TYPICAL EXTERIOR DETAIL AT COLUMN
3/4" = 1'-0"



2 TYPICAL EXTERIOR DETAIL AT PIER
3/4" = 1'-0"



1 TYPICAL EXTERIOR DETAIL
3/4" = 1'-0"

CORGAN
401 N. Houston Street Dallas, TX 75202
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SYSKA HENNESSY GROUP

TLD DESIGN CONSULTING LLC

ISSUES		
1	12.20.24	DESIGN DEVELOPMENT
2	01.31.25	ISSUE FOR PERMIT
3	05.30.25	FOUNDATION ONLY IFP
4		
5		
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8		
9		
10		

REVISIONS		
1	03.28.25	ADDENDUM 1

COLORADO LICENSED NICHOLAS W. KEVID 65236 PROFESSIONAL ENGINEER

AG&E Structural Engenuity

Date of issue:
03.28.2025

QTS DEN1 DC2
1140 N. GUN CLUB ROAD

FOUNDATION DETAILS

JOB 24464.0000
DATE 03.28.2025
SHEET

S3-10

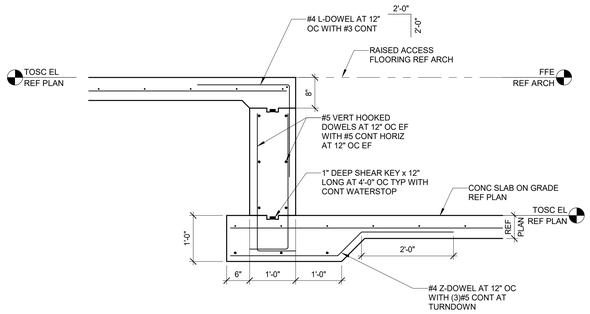
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Permit #25-2535171-CM
RSN 1903242

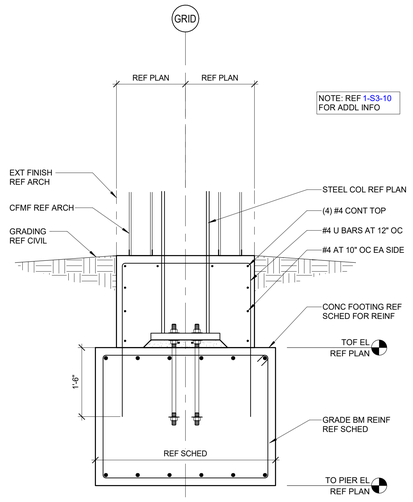
FOUNDATION ONLY PERMIT
- NOT APPROVED FOR
VERTICAL CONSTRUCTION

City of Aurora Building Division
Reviewed for Code Compliance
Approved as Noted: Dirk Anderson
Date: Jun 12, 2025
2021 INTERNATIONAL CODES & 2023 NEC

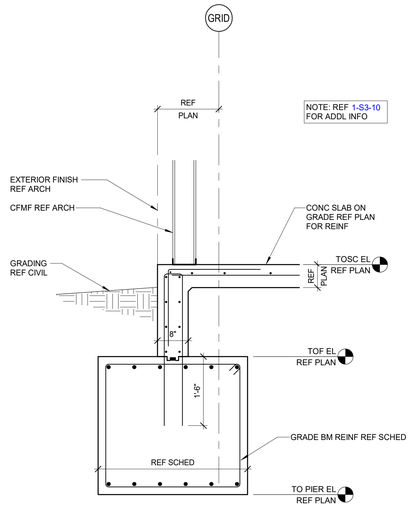
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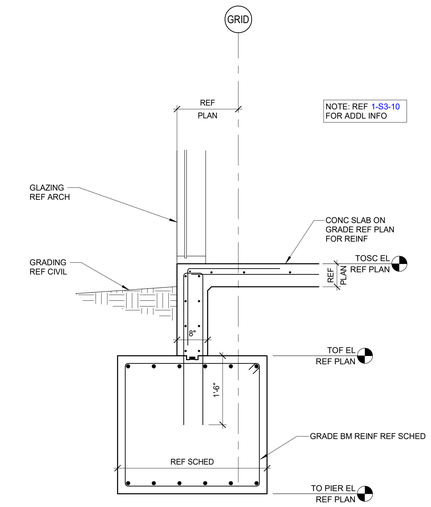
7 DETAIL12
3/4" = 1'-0"



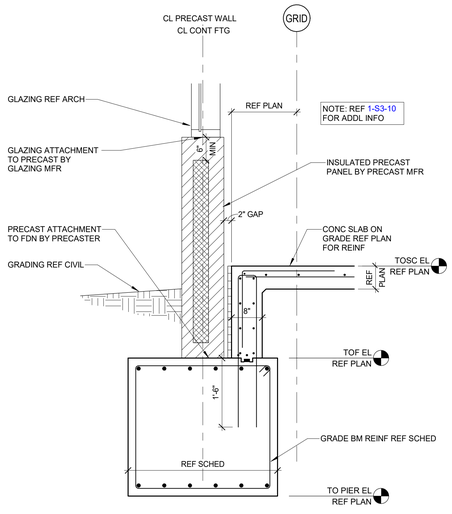
6 SOG AT EXTERIOR
3/4" = 1'-0"



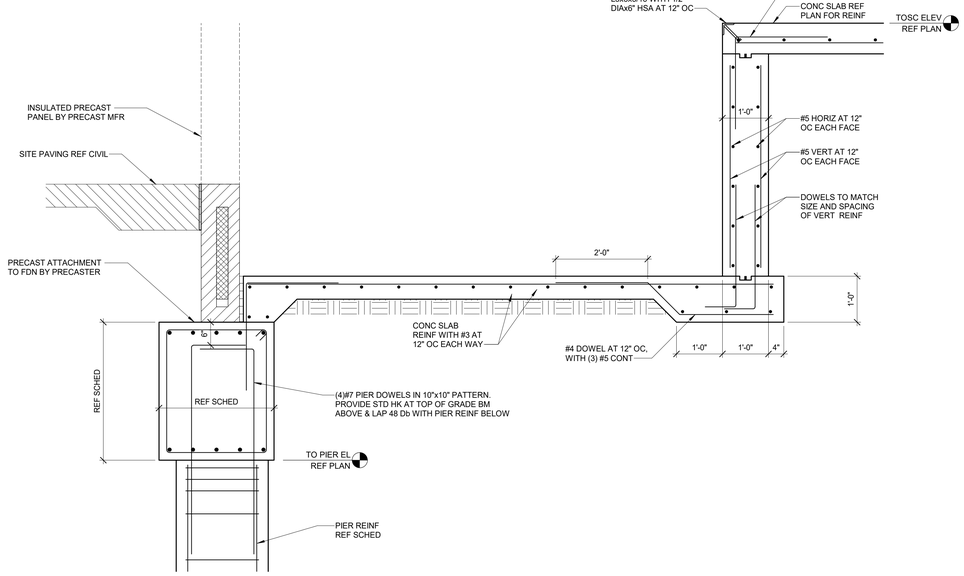
5 SOG AT EXTERIOR
3/4" = 1'-0"



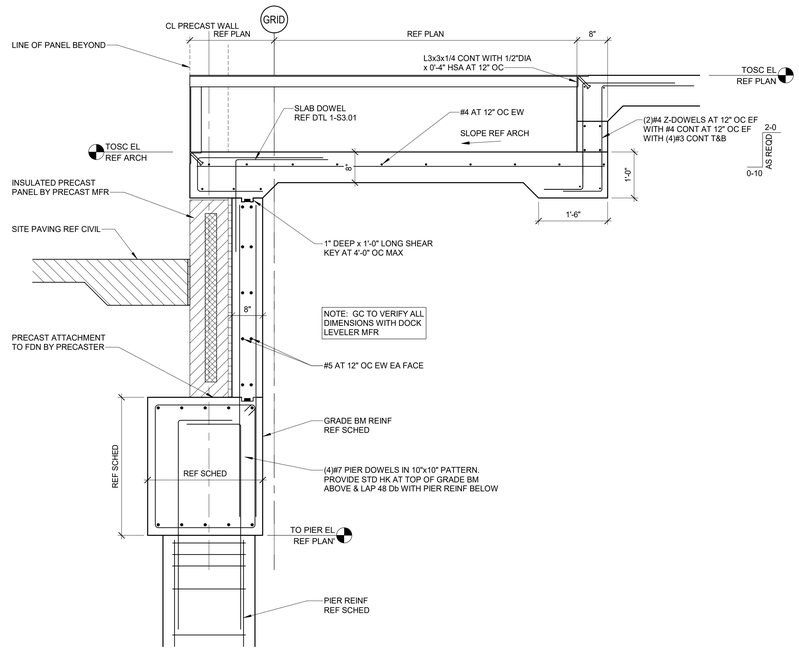
4 SOG AT EXTERIOR
3/4" = 1'-0"



3 SOG AT PERIMETER OF BUILDING
3/4" = 1'-0"



2 DETAIL AT DOCK LIFT
3/4" = 1'-0"



1 DETAIL AT DOCK LEVELER
3/4" = 1'-0"

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SYSKA HENNESSY
GROUP

DESIGN CONSULTING LLC

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10		

	REVISIONS	

COLORADO LICENSED
NICHOLAS W. [illegible]
65236
PROFESSIONAL ENGINEER

AG&E Stru[illegible]genuity
F-04-20

Date of issue:
01.31.2025

QTS DEN1 DC2
1140 N. GUN CLUB ROAD

FOUNDATION DETAILS

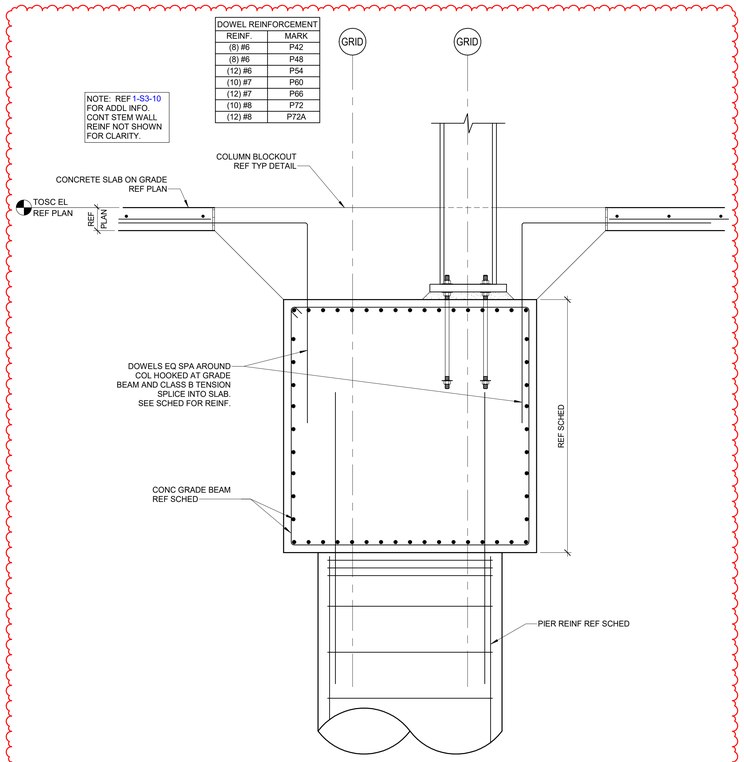
JOB 24464.0000
DATE 01.31.2025
SHEET

S3-11

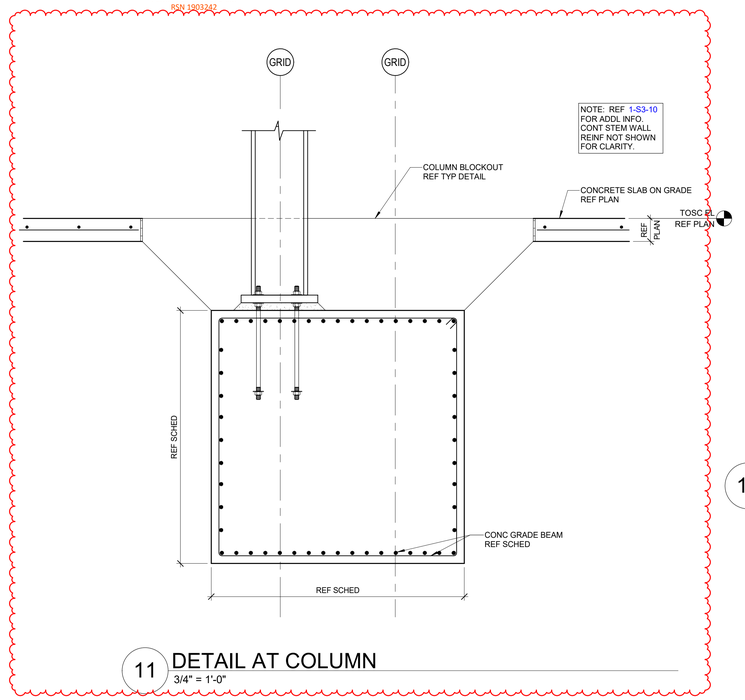
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Permit #25-2535171-CM
BSN 1803242

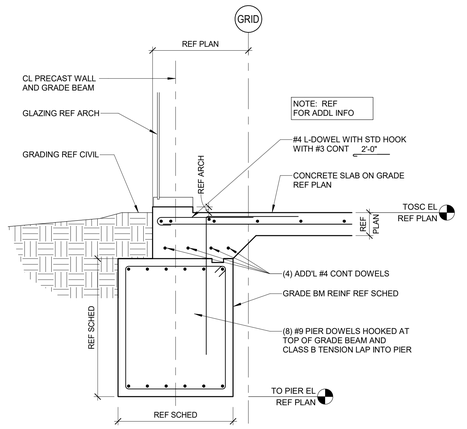
DOWEL REINFORCEMENT	
REINF.	MARK
(8) #6	P42
(8) #6	P48
(12) #6	P54
(10) #7	P60
(12) #7	P66
(10) #8	P72
(12) #8	P72A



12 DETAIL AT COLUMN/PIER
3/4" = 1'-0"



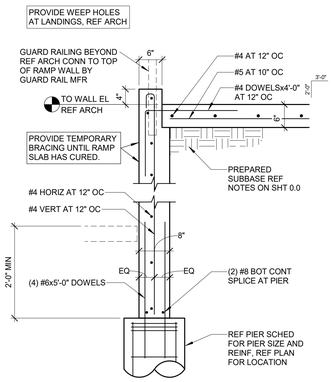
11 DETAIL AT COLUMN
3/4" = 1'-0"



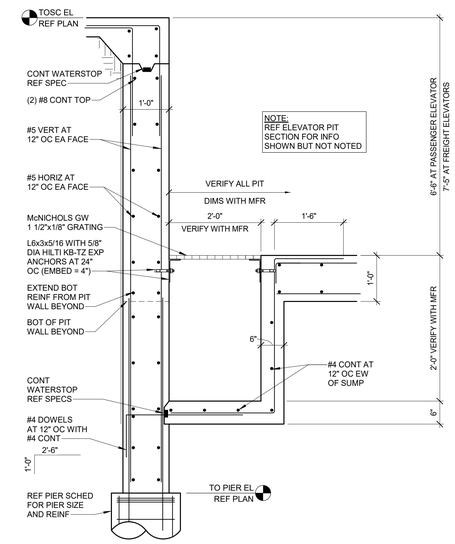
10 DETAIL
3/4" = 1'-0"

9 RAMP/LANDING AT PANEL
3/4" = 1'-0"

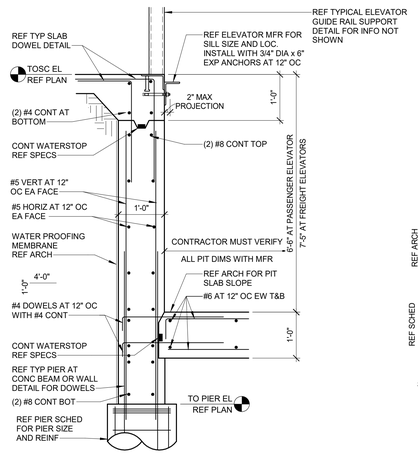
8 CONCRETE STAIR DETAIL
3/4" = 1'-0"



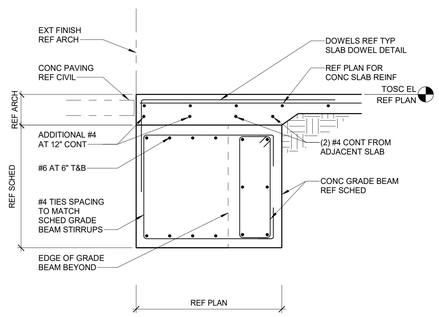
7 RAMP/LANDING AT PIER
3/4" = 1'-0"



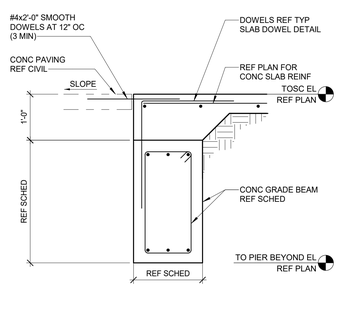
6 ELEVATOR SUMP PIT
3/4" = 1'-0"



5 ELEVATOR PIT
3/4" = 1'-0"

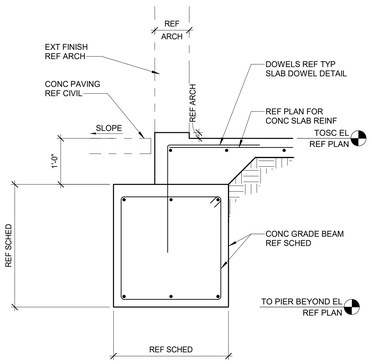


4 WIDENED GRADE BEAM
3/4" = 1'-0"

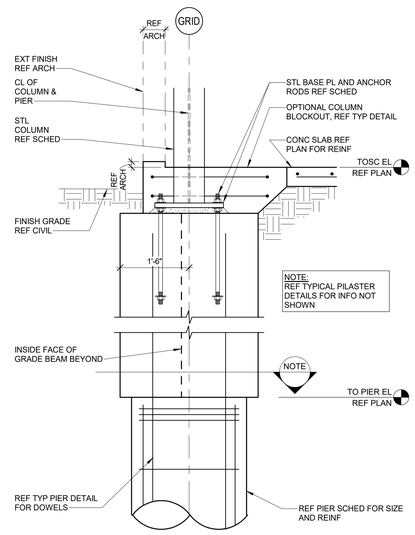


3 GRADE BEAM AT DOOR OPENING
3/4" = 1'-0"

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2 EXTERIOR AT GRADE BEAM
3/4" = 1'-0"



1 COLUMN AT PILASTER
3/4" = 1'-0"

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SYSKA HENNESSY GROUP

DESIGN CONSULTING LLC

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City of Aurora Building Division
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Date: Jun 12, 2025
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REVISIONS		
1	03.28.25	ADDENDUM 1

COLORADO LICENSED
NICHOLAS W. KEVIL
65236
PROFESSIONAL ENGINEER
AG&E Structural Engenuity

Date of issue:
03.28.2025

QTS DEN1 DC2
1140 N. GUN CLUB ROAD

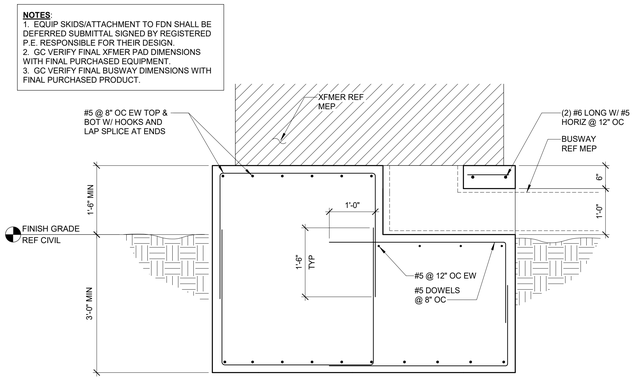
FOUNDATION DETAILS

JOB 24464.0000
DATE 03.28.2025
SHEET

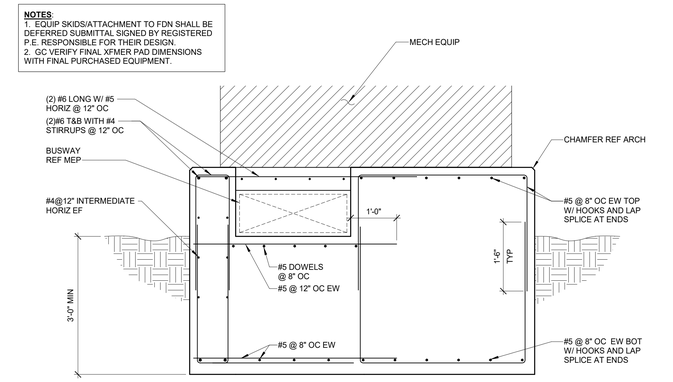
S3-12

3/28/2025 4:36:56 PM S3-12 FOUNDATION DETAILS

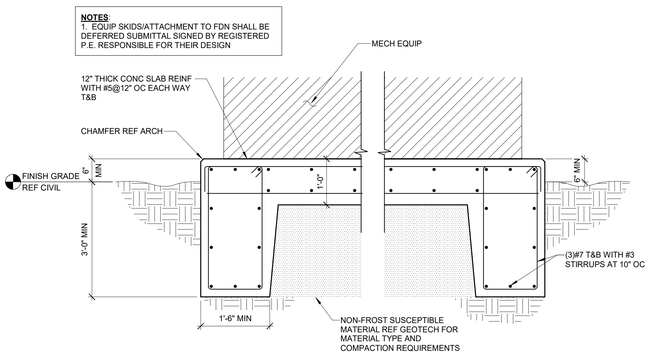
Permit #25-2535171-CM
RSN 1903242



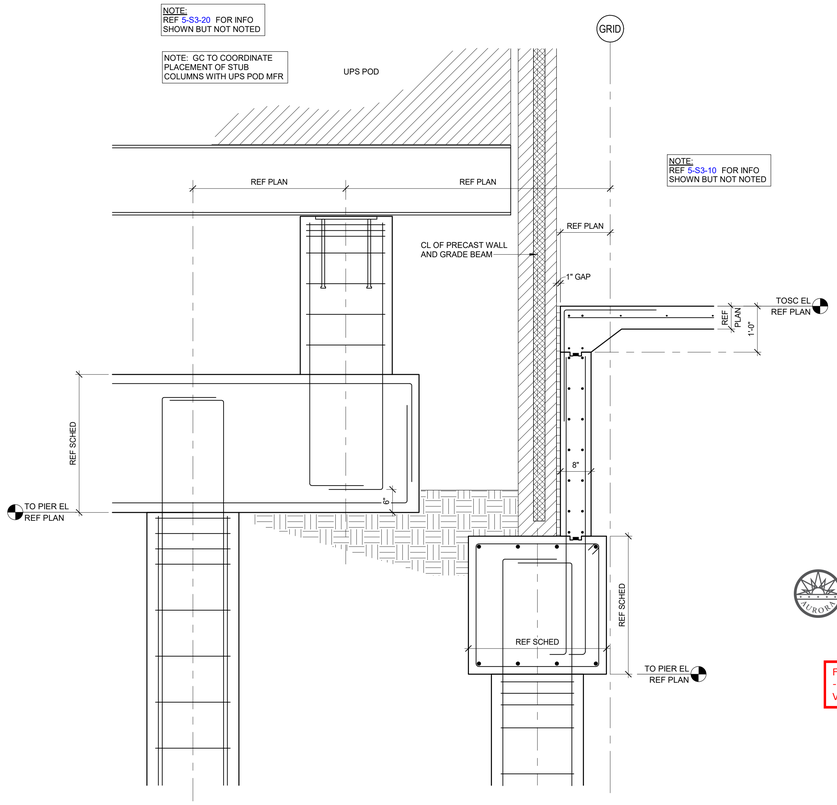
7 TRANSFORMER PAD DETAIL
3/4" = 1'-0"



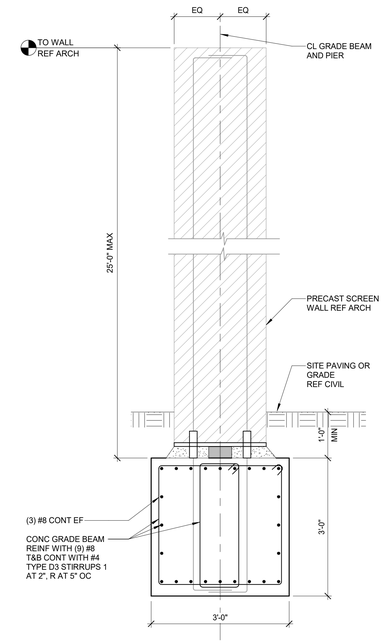
4 TRANSFORMER PAD DETAIL
3/4" = 1'-0"



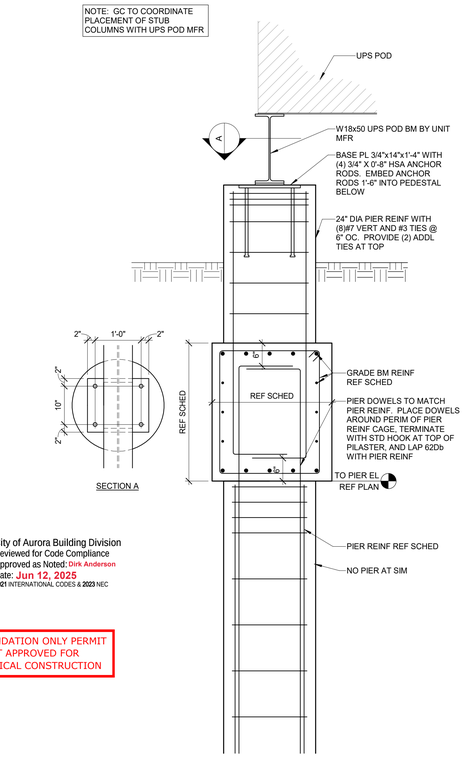
3 GENERATOR PAD DETAIL
3/4" = 1'-0"



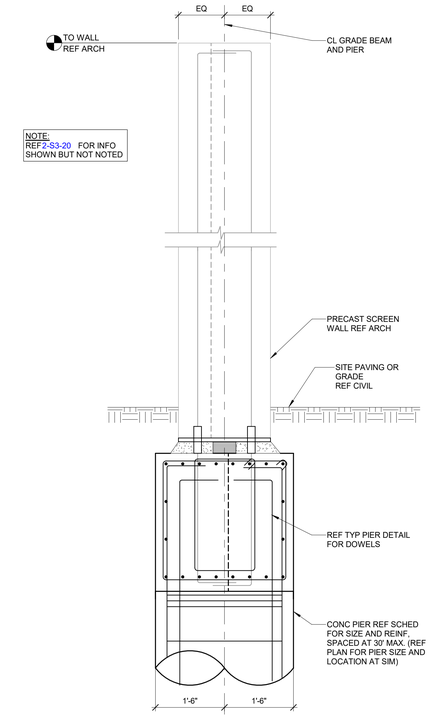
6 UPS POD PILASTER AT GRADE RECESSED EXTERIOR
3/4" = 1'-0"



2 PRECAST SCREENWALL AT GRADE BEAM
3/4" = 1'-0"



5 UPS POD PILASTER AT GRADE
3/4" = 1'-0"



1 PRECAST SCREENWALL AT PIER
3/4" = 1'-0"

City of Aurora Building Division
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Approved as Noted: Dirk Anderson
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SYSKA HENNESSY GROUP
DESIGN CONSULTING LLC

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	REVISIONS	

COLORADO LICENSED
NICHOLAS W. DAVID
65236
PROFESSIONAL ENGINEER

AG&E Structural Engineering

Date of issue:
01.31.2025

QTS DEN1 DC2
1140 N. GUN CLUB ROAD

FOUNDATION DETAILS

JOB 24464.0000
DATE 01.31.2025
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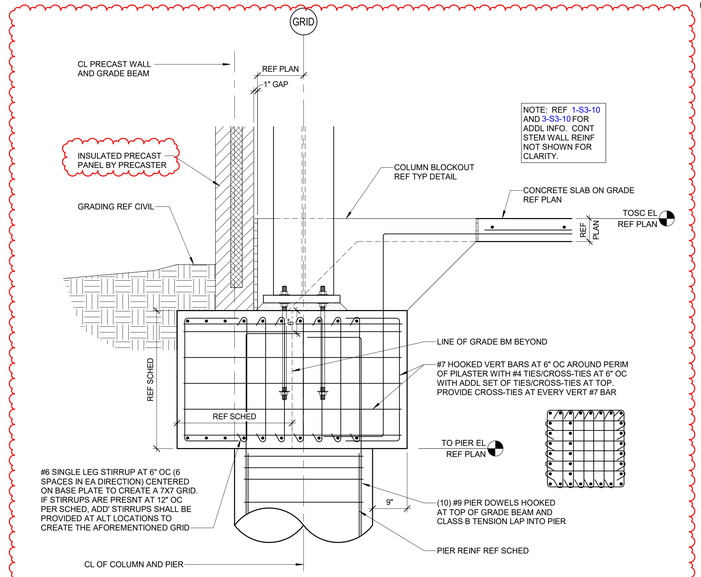
S3-20

2/4/2025 4:12:59 PM S3-20 FOUNDATION DETAILS

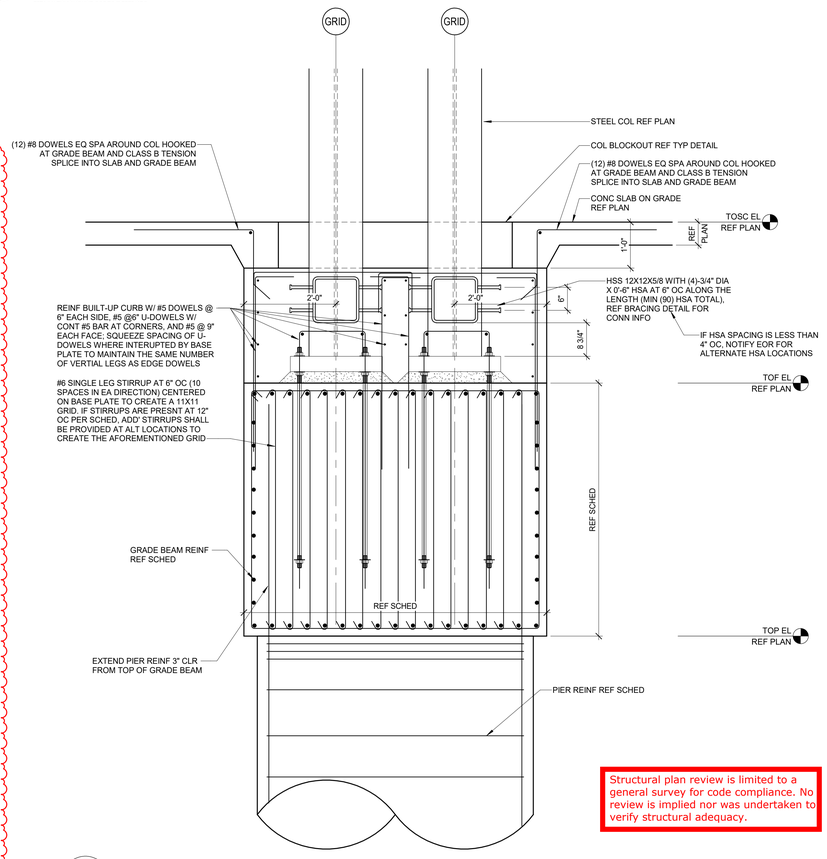
Permit #25-2535171-CM
RSN 1903242

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City of Aurora Building Division
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2021 INTERNATIONAL CODES & 2023 NEC

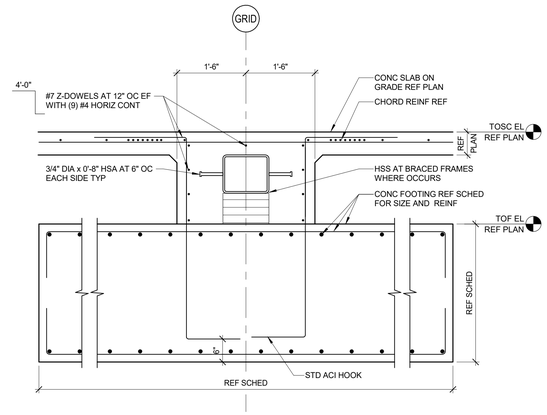


5 EXTERIOR DETAIL AT BRACE FRAME COL ALONG GRID F
3/4" = 1'-0"

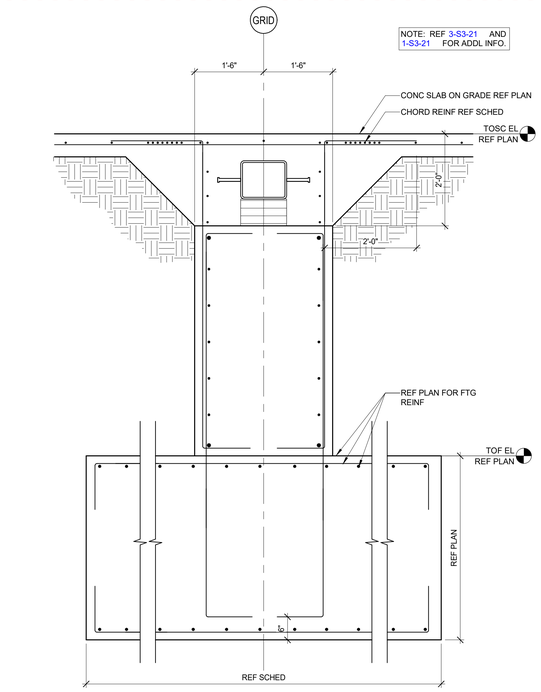


4 TYPICAL INTERIOR DETAIL AT COLUMN
3/4" = 1'-0"

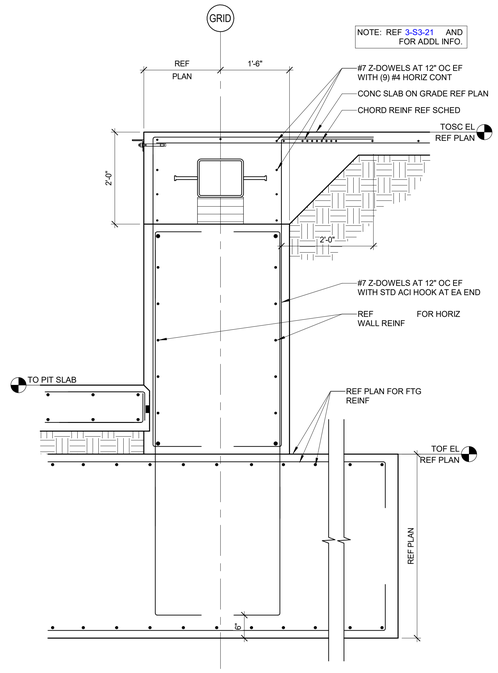
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3 DETAIL
3/4" = 1'-0"



2 DETAIL
3/4" = 1'-0"



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

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SYSKA HENNESSY GROUP

DESIGN CONSULTING LLC

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1	03.28.25	ADDENDUM 1

COLORADO LICENSED
DOUGLAS W. KEVIL
65236
PROFESSIONAL ENGINEER

AG&E Structural Engenuity

Date of issue:
03.28.2025

QTS DEN1 DC2
1140 N. GUN CLUB ROAD

KEYPLAN

S	Q	N	L	J	G	E	C	A
T	R	P	M	K	H	F	D	B

FOUNDATION DETAILS

JOB 24464.0000
DATE 03.28.2025
SHEET S3-21

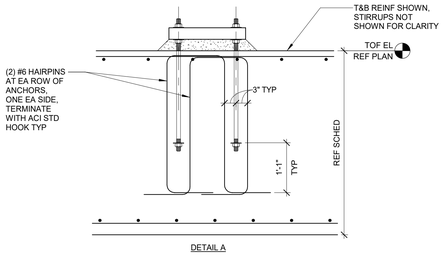
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Permit #25-2535171-CM
RSN 1903242

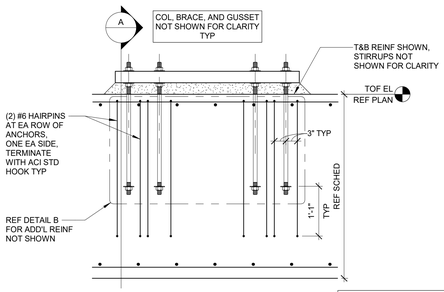
FOUNDATION ONLY PERMIT - NOT APPROVED FOR VERTICAL CONSTRUCTION

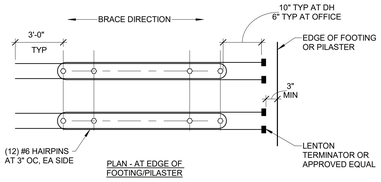
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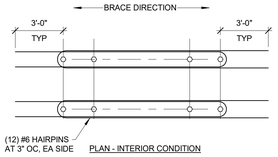


DETAIL A

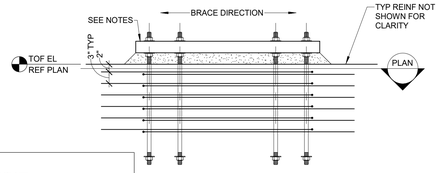




PLAN - AT EDGE OF FOOTING/PILASTER



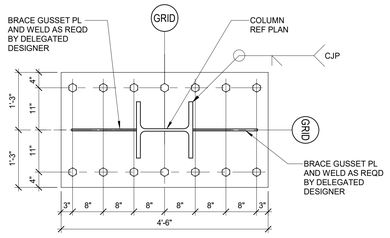
PLAN - INTERIOR CONDITION



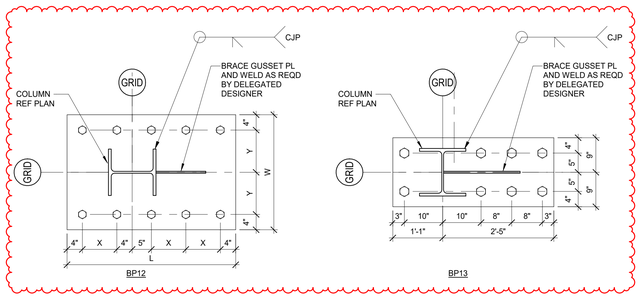
DETAIL B

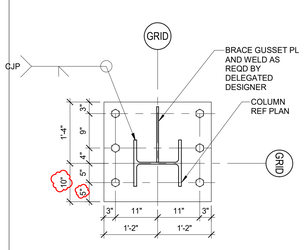
NOTE:
1. PROVIDE:
•OVERSIZE HOLES IN BASE PLATE
•STANDARD HOLES IN WASHERS
2. PLATE WASHERS MUST BE WELDED TO THE BASE PLATE.
3. SEE "ANCHOR ROD DETAIL" ON 1-S5-00 FOR WELD SIZE.

5 ANCHOR ROD REINFORCING
3/4" = 1'-0"

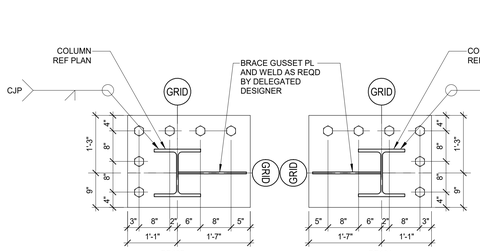


BP11

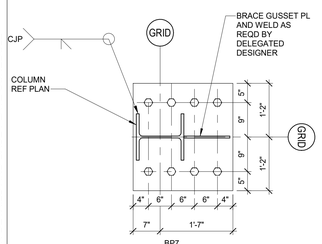




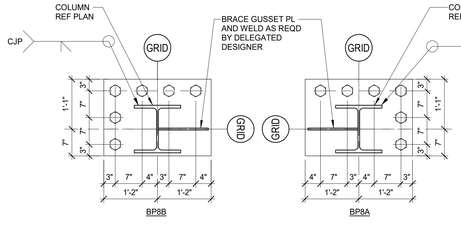
BP9



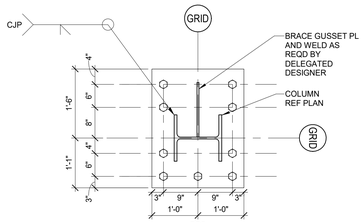
BP10B BP10A



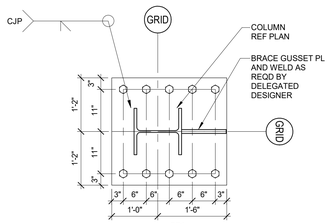
BP7



BP8B BP8A



BP5



BP6

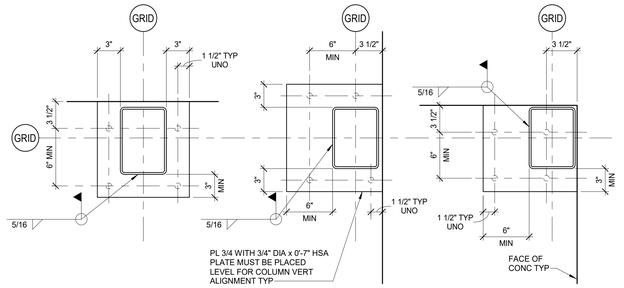
2 COLUMN BASE PLATE AND ANCHOR ROD DETAILS
3/4" = 1'-0"

BASE PLATE AND ANCHOR ROD SCHEDULE AND DETAILS

BASE PLATE TYPE	SIZE	(L)	(W)	(T)	(X)	(Y)	BASE PLATE TYPE	ANCHORS RODS	ANCHOR ROD GRADE	COMMENTS
BP-1	W12X106/120 (PERIMETER) W14X90/99/109 (PERIMETER)	18"	18"	1 1/4"	3"	4"	BP3	(4) 3/4" DIA x 1'-6"	GR 36	-
BP-2	W12X79/136/152 (PERIMETER)	18"	18"	1 1/2"	3"	4"	BP3	(4) 3/4" DIA x 1'-6"	GR 36	-
BP-3	W14X132/145 (PERIMETER)	18"	18"	1 3/4"	3"	4"	BP3	(4) 3/4" DIA x 1'-6"	GR 36	-
BP-4	W12X72/79/106 (INTERIOR) W14X90/99 (INTERIOR)	24"	24"	1 1/2"	9"	9"	BP2	(4) 3/4" DIA x 1'-6"	GR 36	-
BP-5	W12X136/152 (INTERIOR) W14X132 (INTERIOR)	24"	24"	1 3/4"	9"	9"	BP2	(4) 3/4" DIA x 1'-6"	GR 36	-
BP-6	W14X145/159/176/193 (INTERIOR)	24"	24"	2 1/4"	9"	9"	BP2	(4) 3/4" DIA x 1'-6"	GR 36	-
BP-7	W14X211/233 (INTERIOR)	28"	28"	2 1/2"	10"	10"	BP2	(4) 3/4" x 1'-6"	GR 36	-
BP-8	W14X257/311 (INTERIOR)	36"	36"	3"	12"	12"	BP2	(4) 3/4" x 1'-6"	GR 36	-
BP-9	W12X79 (ELEVATOR)	14"	18"	1 1/4"	3"	4"	BP3	(4) 3/4" x 1'-6"	GR 36	-
BP-10	W14X90 (ELEVATOR)	16"	18"	1 1/4"	3 1/2"	4"	BP3	(4) 3/4" x 1'-6"	GR 36	-
BP-11	W14X233 (INTERIOR)	34"	32"	4"	13"	8"	BP4	(8) 2" x 2'-6"	GR 105	REF NOTE 5 & 5/S5.00
BP-12	HSS6X6X1/2	12"	12"	1"	4"	4"	BP1	(4) 3/4" x 1'-6"	GR 36	-
BP-13	HSS10X10X1/2	18"	18"	1"	7"	7"	BP1	(4) 3/4" x 1'-6"	GR 36	-
BF-1	WF12(BF) WF14(BF)	REF 2-S5-00		2 1/2"	REF 2-S5-00		BP5	(9) 1" x 2'-0"	GR 105	REF 5/S5.00
BF-2	WF12(BF) WF14(BF)	REF 2-S5-00		2 1/4"	REF 2-S5-00		BP6	(10) 1" x 2'-0"	GR 105	REF 5/S5.00
BF-3	WF12(BF)	REF 2-S5-00		2 1/4"	REF 2-S5-00		BP7	(8) 1" x 2'-0"	GR 105	-
BF-4	WF12(BF)	REF 2-S5-00		3"	REF 2-S5-00		BP8A&B	(6) 1 3/4" x 2'-0"	GR 105	REF NOTE 5 & 5/S3-21
BF-5	WF14(BF)	REF 2-S5-00		2 3/4"	REF 2-S5-00		BP9	(6) 1" x 2'-0"	GR 105	-
BF-6	WF14(BF)	REF 2-S5-00		3"	REF 2-S5-00		BP10A&B	(6) 1 1/2" x 2'-0"	GR 105	REF NOTE 5 & 5/S3-21
BF-7	WF14(BF)	REF 2-S5-00		3"	REF 2-S5-00		BP11	(14) 1" x 2'-0"	GR 105	REF 5/S5.00
BF-8	WF14(BF)	44"	32"	4"	9"	12"	BP12	(10) 2 1/2" x 4'-0"	GR 105	REF NOTE 5 & 4/S3-21
BF-9	WF12(BF)	REF 2-S5-00		2 1/2"	REF 2-S5-00		BP13	(8) 1 1/2" x 2'-0"	GR 105	REF NOTE 5 & 5/S5.00
BF-10	WF14(BF)	44"	30"	4"	9"	11"	BP12	(10) 2 1/2" x 4'-0"	GR 105	REF NOTE 5 & 4/S3-21

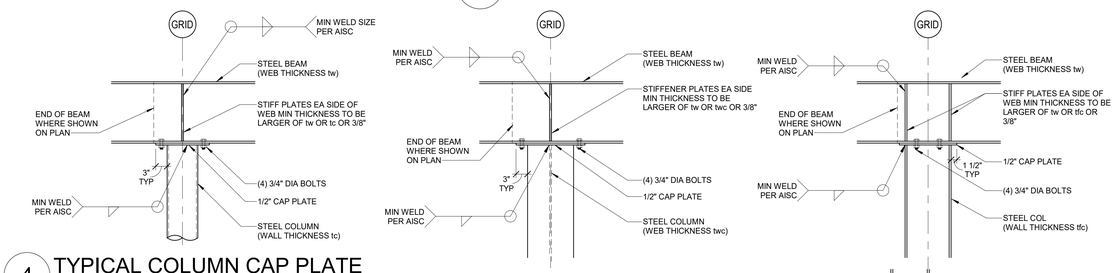
NOTES:
1. BASE PLATE SIZES ARE BASED ON COLUMN SIZES UNLESS DENOTED BY A SPECIFIC "BPX" IN THE COLUMN SCHEDULE OR ON THE PLAN.
2. ALL BASE PLATES SHALL BE ASTM A572 GR 50, UNLESS NOTED OTHERWISE.
3. ALL ANCHOR RODS SHALL BE ASTM F1554 GRADE AS NOTED.
4. SIZE WELDS PER AISC MINIMUM FILLET REQUIREMENTS, 5/16" MINIMUM.
5. ADDITIONAL WASHERS PER SCHEDULE TO BE PLACED AT EMBEDED END OF ANCHOR RODS.
6. BF = BRACE FRAME

1 COLUMN BASE PLATE AND ANCHOR ROD SCHEDULE AND DETAILS
1 1/2" = 1'-0"

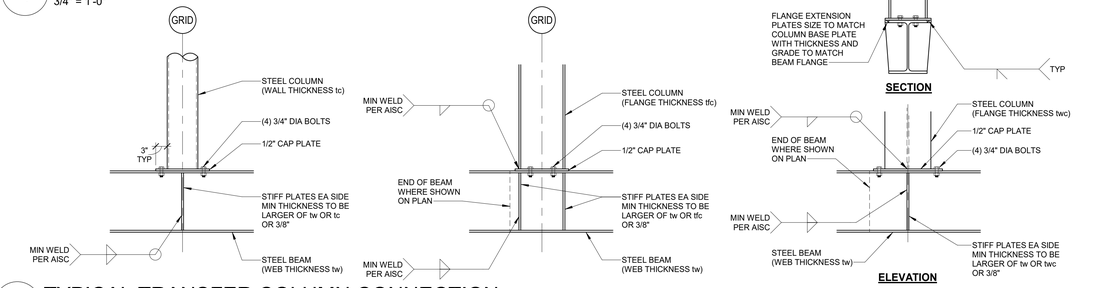


PLAN A PLAN B PLAN C

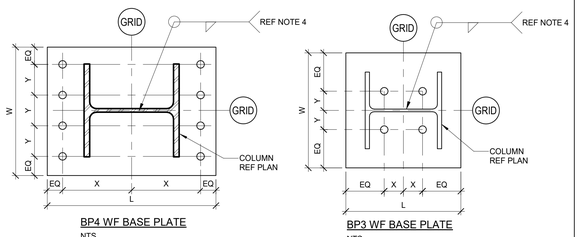
6 TYPICAL COLUMN BASE PLATE AT EDGE OF CONCRETE
1 1/2" = 1'-0"



4 TYPICAL COLUMN CAP PLATE
3/4" = 1'-0"

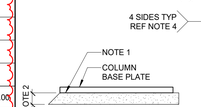


3 TYPICAL TRANSFER COLUMN CONNECTION
3/4" = 1'-0"



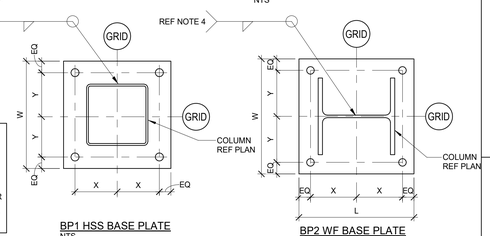
BP4 WF BASE PLATE
NTS

BP3 WF BASE PLATE
NTS



NOTES:
1. GROUT MAY BE BEVELED OR FORMED BUT SHALL EXTEND A MIN OF 1 1/2" BEYOND FACE OF BASE PLATE.
2. GROUT THICKNESS SHALL BE 2" FOR COLUMN WITH UP TO 1 1/4" DIA ANCHOR RODS. FOR COLUMNS WITH ANCHOR RODS GREATER THAN 1 1/4" DIA, USE 3" GROUT THICKNESS.

GROUT PLACEMENT
NTS



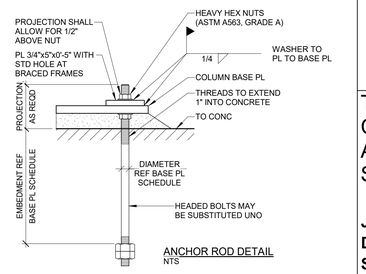
BP1 HSS BASE PLATE
NTS

BP2 WF BASE PLATE
NTS

ANCHOR ROD HOLE & WASHER SCHEDULE

ANCHOR ROD DIAMETER	MAX HOLE DIAMETER	MIN WASHER SIZE	MIN WASHER THICKNESS
3/4"	1 1/4"	2"	1/4"
7/8"	1 1/2"	2 1/2"	5/16"
1"	1 3/4"	3"	3/8"
1 1/4"	2"	3"	1/2"
1 1/2"	2 1/4"	3 1/2"	1/2"
1 3/4"	2 1/2"	4"	5/8"
2"	3 1/4"	5"	3/4"
2 1/2"	3 3/4"	5 1/2"	7/8"

NOTE(S):
1. CIRCULAR OR SQUARE WASHERS MEETING THE SIZE SHOWN ARE ACCEPTABLE.



ANCHOR ROD DETAIL
NTS

CORGAN
401 N. Houston Street Dallas, TX 75202
T: 214.748.2000

AG/E

SYSKA HENNESSY GROUP

TCD DESIGN CONSULTING LLC

ISSUES

1	12.20.24	DESIGN DEVELOPMENT
2	01.31.25	ISSUE FOR PERMIT
3	05.30.25	FOUNDATION ONLY IFP
4		
5		
6		
7		
8		
9		
10		

REVISIONS

1	03.28.25	ADDENDUM 1

COLORADO LICENSED
NICHOLAS W. REVID
65236
PROFESSIONAL ENGINEER

AG&E Structural Engenuity

Date of issue:
03.28.2025

QTS DEN1 DC2
1140 N. GUN CLUB ROAD

TYPICAL STEEL COLUMN DETAILS AND BASE PLATE SCHEDULE

JOB 24464.0000
DATE 03.28.2025
SHEET

S5-00

3/28/2025 4:36:58 PM S5-00 TYPICAL STEEL COLUMN DETAILS AND BASE PLATE SCHEDULE

Permit #25-2535171-CM
RSN 1903242

W — WATER SERVICE LINE
PRWC — PRIMARY RAIN WATER CONDUCTOR
SRWC — SECONDARY RAIN WATER CONDUCTOR
CDL — CONDENSATE DRAIN LINE
SAN — SANITARY SEWER LINE (SAN)
V — BRANCH VENT LINE (V)
CW — COLD WATER LINE (CW)
HW — HOT WATER LINE (HW)
HWR — HOT WATER RETURN LINE (HWR)
TP — TRAP PRIMER LINE (TP)
PD — PLUMBING DISCHARGE (PD)
WATER RISER
SANITARY/WASTE OR VENT STACK
AUTOMATIC AIR VENT
BACK FLOW PREVENTER
BALANCING VALVE
BALL VALVE LEVER
BALL VALVE SOLENOID
CHECK VALVE
CIRCULATING PUMP
END OF LINE CLEANOUT
CLEANOUT EXTENDED UP TO FLOOR/GRADE
DOUBLE CHECK VALVE
CAP OR PLUG
FILTER
FLEX CONNECTION
FLOOR DRAIN
FLOW DIRECTION ARROW

FUNNEL DRAIN
PRESSURE REGULATOR VALVE
SOLENOID VALVE
WATER HAMMER ARRESTER
METER
PIPE ANCHOR
PIPE BOTTOM CONNECTION
PIPE DOWN
PIPE GUIDE
PRESSURE GAUGE
PRESSURE REDUCING VALVE
PRESSURE SWITCH
THERMOSTATIC MIXING VALVE (TMV)
RELIEF VALVE
ROOF DRAIN (RD)
STRAINER
TEMPERATURE GAUGE
UNION
VALVE AND VALVE BOX
HB — HOSE BIBB
WH — WALL HYDRANT
X — INDICATES NOTE LOCATED ELSEWHERE ON DRAWING AND NOTE NUMBER
SQUARE FOOT

DETAIL/PLAN REFERENCE SYMBOL
X — INDICATES DETAIL/PLAN NUMBER
PXXX — INDICATES DRAWING No. FOR WHICH THE DETAIL/PLAN IS LOCATED.

CONNECT TO EXISTING
ROOF HYDRANT (HD)

2 SYMBOLS

1. EXTEND ALL CLEANOUTS ON SEWER LINES BELOW SLAB ON GRADE TO FINISHED FLOOR LEVEL.
2. COORDINATE LOCATIONS OF ALL LINES AND EQUIPMENT WITH OTHER CONTRACTORS.
3. AT LOCATIONS INDICATED TO CONNECT NEW PLUMBING LINES TO EXISTING LINES; CONTRACTOR TO DETERMINE EXACT SIZE, LOCATION AND ELEVATION OF EXISTING LINES AT SITE BEFORE INSTALLING NEW LINES.
4. THE LOCATIONS, SIZES AND ELEVATIONS OF EXISTING LINES SHOWN ON PLAN ARE RESULTS OF INFORMATION OBTAINED FROM EXISTING DRAWING AND FIELD SURVEYS. THE CONTRACTOR SHALL VERIFY THE EXACT LOCATIONS, SIZE AND ELEVATIONS OF EXISTING LINES AT THE SITE BEFORE THE START OF NEW WORK.
5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATION WITH ALL UTILITY AUTHORITIES FOR INSTALLATION REQUIREMENTS, REGULATIONS, FEES, PERMITS AND APPROVALS BEFORE THE START OF WORK.
6. ALL INTERIOR STORMWATER PIPING, 4" AND LARGER, SHALL BE SLOPED AT 1/8" PER FOOT, UNLESS NOTED OTHERWISE. ALL INTERIOR STORMWATER PIPING, 3" AND SMALLER, SHALL BE SLOPED AT 1/4" PER FOOT, UNLESS OTHERWISE NOTED.
7. THE CONTRACTOR SHALL REFER TO APPLICABLE CODES DRAINAGE SYSTEM FITTINGS.
8. ALL INTERIOR, ABOVE GROUND, HORIZONTAL AND VERTICAL STORM DRAINAGE SYSTEMS SHALL BE INSULATED AS SPECIFIED.
9. DIELECTRIC UNIONS AND FLANGES SHALL BE USED ON ALL CONNECTIONS BETWEEN DISSIMILAR METALS.
10. THE DRAWINGS ARE DIAGRAMMATIC AND SHOW ONLY THE GENERAL ARRANGEMENTS OF ALL PIPING AND EQUIPMENT. BECAUSE OF THE SMALL SCALE OF THE DRAWINGS, IT IS NOT POSSIBLE TO SHOW OR INDICATE ALL OFFSETS, FITTINGS, AND ACCESSORIES WHICH MAY BE REQUIRED TO AVOID STRUCTURAL FEATURES.
11. ALL PIPE PENETRATIONS THROUGH CHASE, WALLS OR FLOORS WHICH ARE FIRE-RATED, SHALL BE PROPERLY SEALED TO MAINTAIN FIRE PROTECTIONS. CONTRACTOR SHALL SUMMIT PROPOSED UL LISTED SYSTEM FOR REVIEW.
12. REPORT AND DISCREPANCIES FOUND IN THE DRAWINGS AND/OR IN THE SPECIFICATIONS DURING THE BIDDING PROCESS FOR CLARIFICATION BY THE ENGINEER AND/OR ARCHITECT.
13. MEANS OF ACCESS SHALL BE PROVIDED TO CONCEALED TRAPS, VALVES, CLEANOUTS, DRAIN POINTS OR SIMILAR ITEMS. CONTRACTORS SHALL COORDINATE THE LOCATIONS AND QUANTITIES OF ALL ACCESS PANELS DURING BIDDING PHASE. ACCESS PANELS WILL BE FURNISHED AND INSTALLED BY OTHERS.
14. PROVIDE CLEANOUTS IN SANITARY AND STORM PIPING SYSTEMS AT ENDS OF RUNS, AT CHANGES IN DIRECTION, AT BASE OF STACKS, AND AT 50 FOOT INTERVALS IN HORIZONTAL PIPING, AND ELSEWHERE AS INDICATED.
15. ALL PIPING NOTED ABOVE OR AT CEILING, SHALL BE TIGHT TO UNDERSIDE OF FLOOR SLAB WITH THE SPACE FOR INSULATION AND HANGERS AS REQUIRED.
16. WHERE DOMESTIC COLD WATER, DOMESTIC HOT WATER AND DOMESTIC HOT WATER RETURN LINES ARE NOTED TO BE RUN AT CEILING AND/OR ABOVE CEILING, RUN LINES AS HIGH AS POSSIBLE.
17. WHERE SANITARY SEWER, SANITARY AND VENT LINES ARE NOTED TO BE RUN AT CEILING, ABOVE CEILING AND/OR BELOW FLOOR, RUN LINES AS HIGH AS POSSIBLE UNLESS LINES ARE RUN BELOW SLAB ON GRADE.
18. DEEP SEAL TRAPS WITH TRAP PRIMERS, SHALL BE INSTALLED ON ALL FLOOR DRAINS WHICH ARE LOCATED IN ROOMS CONTAINING AIR HANDLING MACHINERY WHEN SUCH ROOM IS USED AS AN AIR PLENUM.
19. DOMESTIC COLD AND HOT WATER PIPING SHALL BE INSTALLED AS HIGH AS POSSIBLE AT UNDERSIDE OF STRUCTURE. COORDINATE WITH ALL OTHER TRADES.
20. ALL SANITARY PIPING FOR THIS PROJECT SHALL BE INSTALLED AT 1/8"FT SLOPE, UNLESS NOTED OTHERWISE.
21. CONDENSATE DRAIN LINES SHALL BE INSTALLED AS HIGH AS POSSIBLE AT 1/8" PER FOOT SLOPED, UNLESS OTHERWISE NOTED COORDINATED WITH ALL OTHER TRADES.
22. PROVIDE TRAP PRIMERS OR TRAP SEAL BARRIER DEVICES AT FLOOR DRAINS, PER LOCAL AUTHORITY HAVING JURISDICTION.
23. PLUMBING CONTRACTOR SHALL INSTALL TRAP PRIMERS OR TRAP GUARDS TO SATISFY LOCAL CODE AUTHORITIES.

3 GENERAL NOTES

ABV	ABOVE	HW	HOT WATER
AFF	ABOVE FINISHED FLOOR	HWR	HOT WATER RETURN
BLW	BELOW	INV ELEV	INVERT ELEVATION
CDL	CONDENSATE DRAIN LINE	L	LAVATORY
CLG	CEILING	PD	PUMP DISCHARGE
CW	COLD WATER	PRWC	PRIMARY RAIN WATER CONDUCTOR
DCVA	DOUBLE CHECK VALVE ASSEMBLY	RD	ROOF DRAIN
DFU	DRAINAGE FIXTURE UNIT	RPZBP	REDUCED PRESSURE ZONE BACKFLOW PREVENTER
DN	DOWN	S	SINK
DR	DRAIN	SAN	SANITARY
DWH	DOMESTIC WATER HEATER	SH	SHOWER
EF	EMERGENCY FIXTURE	SQ FT	SQUARE FOOT
EWC	ELECTRIC WATER COOLER	SRWC	SECONDARY RAIN WATER CONDUCTOR
EX	EXISTING	TD	TRENCH DRAIN
FD	FLOOR DRAIN	TYP	TYPICAL
FLR	FLOOR	U	URINAL
FNL	FUNNEL	UOD	UNDERSIDE OF DECK ABOVE
GPF	GALLON PER FLUSH	V	VENT
GPH	GALLON PER HOUR	VTR	VENT THROUGH ROOF
GPM	GALLONS PER MINUTE	WC	WATER CLOSET
HB	HOSE BIBB	WCO	WALL CLEANOUT
HD	HUB DRAIN	WH	WALL HYDRANT
HDL	HUMIDIFIER DRAIN LINE	WS	WASTE STACK
		WSFU	WATER SUPPLY FIXTURE UNIT

4 SHEET LIST

NO.	TITLE	SCALE
P00-00	SYMBOLS, ABBREVIATIONS, AND GENERAL NOTES	NONE
P02-00	PLUMBING FLOOR PLAN - LEVEL ONE UG - OVERALL	1" = 40'-0"
P02-00A	PLUMBING FLOOR PLAN - LEVEL ONE UG - SEGMENT A	1" = 40'-0"
P02-00B	PLUMBING FLOOR PLAN - LEVEL ONE UG - SEGMENT B	1" = 40'-0"
P02-00C	PLUMBING FLOOR PLAN - LEVEL ONE UG - SEGMENT C	1/8" = 1'-0"
P02-00D	PLUMBING FLOOR PLAN - LEVEL ONE UG - SEGMENT D	1" = 40'-0"
P02-00F	PLUMBING FLOOR PLAN - LEVEL ONE UG - SEGMENT F	1" = 40'-0"
P02-00H	PLUMBING FLOOR PLAN - LEVEL ONE UG - SEGMENT H	1" = 40'-0"
P02-00K	PLUMBING FLOOR PLAN - LEVEL ONE UG - SEGMENT K	1" = 40'-0"
P02-00M	PLUMBING FLOOR PLAN - LEVEL ONE UG - SEGMENT M	1" = 40'-0"
P02-00P	PLUMBING FLOOR PLAN - LEVEL ONE UG - SEGMENT P	1/8" = 1'-0"
P02-00R	PLUMBING FLOOR PLAN - LEVEL ONE UG - SEGMENT R	1/8" = 1'-0"
P02-00ST	PLUMBING FLOOR PLAN - LEVEL ONE UG - SEGMENT S-T	1/8" = 1'-0"
P05-01	DETAILS	NONE

FOUNDATION ONLY PERMIT
- NOT APPROVED FOR VERTICAL CONSTRUCTION

City of Aurora Building Division
Reviewed for Code Compliance
Approved as Noted: Dirk Anderson
Date: Jun 12, 2025
2021 INTERNATIONAL CODES & 2023 NEC

QTS Freedom Standard - Version Matrix
Project: DEN1-DC2 V3.0-rev3

Design Deliverable:
QTS Design Standards will be utilized as the Basis Of Design for the Data Center Building.
Design Consultant team to notate Version of QTS Design Standards.

Design Discipline	QTS Design Standard		
	Design Narrative	DD Drawing Set	Reference File
Civil	V3.0	N/A	
General	V3.0	V3.0	
Structural	V3.0	V3.0	LC BIM MODEL
Architectural	V3.0	V3.0	LC BIM MODEL
Fire Alarm	V3.0	V3.0	
Fire Protection	V3.0	V3.0	
Plumbing	V3.0	V3.0	
Process (I&C)	See Below	V3.0	LC BIM MODEL
Mechanical	V3.0	V3.0	LC BIM MODEL
Electrical	V3.0	V3.0	LC BIM MODEL
Technology (Telecom)	V3.0	V3.0	
Audio Visual	N/A	V3.0	
Security	V3.0	V3.0	
Interior Standards	V3.0	See Architectural	3.0-rev1
Signage			INTrev4...
SDIs	N/A	N/A	SDI-018(v3.0) thru SDI-25.03.04
OFCI Catalog	V4.0		
SOO Catalog	V2.0		

Design Discipline	Q-Systems Design Standard BODs Version
Data Telecom BOD	Freedom Standard - Data Telecom - 04.14.2024
Physical Security BOD	Freedom Standard - Security Systems - 05.10.2024
DCIM - BMS BOD	Freedom Standard - BMS Content Consolidation - 09.16.2024
DCIM - EPMS BOD	Freedom Standard - EPMS Content Consolidation - 09.16.2024
Federal BOD	Federal Standard - V1.0

3 QTS FREEDOM STANDARD - VERSION MATRIX

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SYSKA HENNESSY GROUP

DESIGN CONSULTING LLC

ISSUES

1	12.20.24	DESIGN DEVELOPMENT
2	01.31.25	ISSUE FOR PERMIT
3	05.30.25	FOUNDATIONS ONLY IFP
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REVISIONS

A	03.28.25	ADDENDUM 1

COLORADO LICENSED
WILLIAM B. HODGES
47948
PROFESSIONAL ENGINEER
05.30.25

Date of issue:
05.30.25

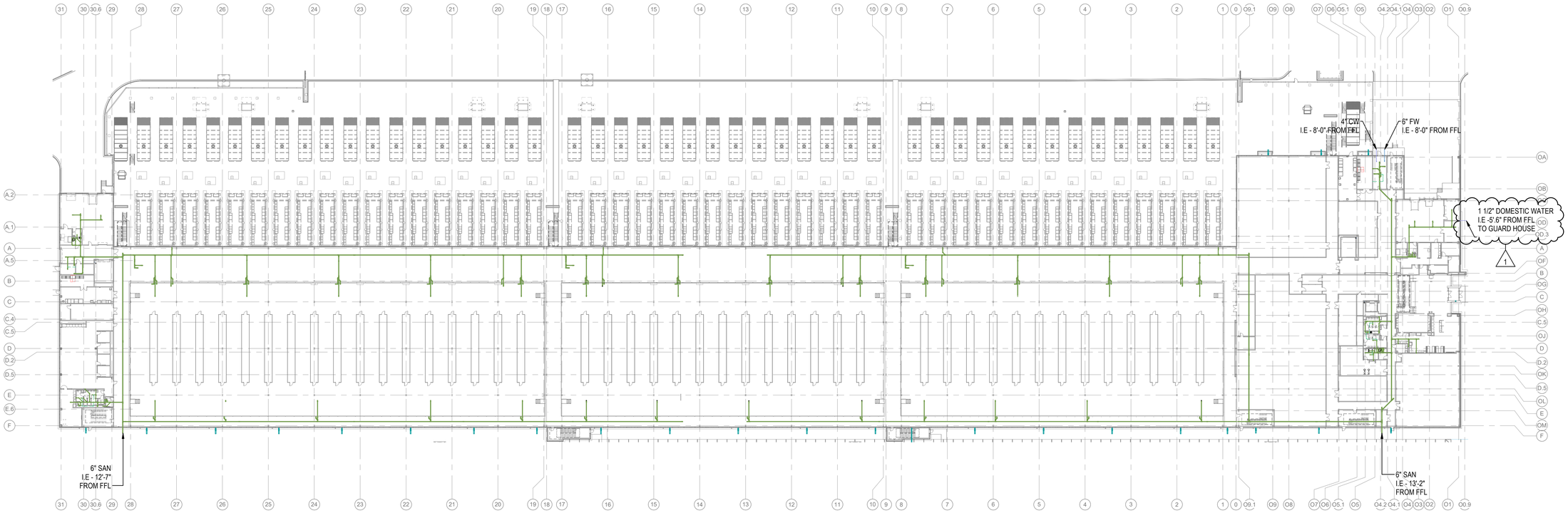
QTS DEN1 DC2
1140 N. GUN CLUB ROAD
QTS

SYMBOLS, ABBREVIATIONS, AND GENERAL NOTES

JOB 24464.0000
DATE 05.30.25
SHEET P00-00

5/30/2025 8:50:06 AM P00-00 SYMBOLS, ABBREVIATIONS, AND GENERAL NOTES

Permit #25-2535171-CM
RSN 1903242



1 LEVEL 1 UG PLUMBING PLAN
SCALE: 1" = 40'-0"

FOUNDATION ONLY PERMIT
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VERTICAL CONSTRUCTION

City of Aurora Building Division
Reviewed for Code Compliance
Approved as Noted: Dirk Anderson
Date: Jun 12, 2025
2021 INTERNATIONAL CODES & 2023 NEC

SHEET NOTES

SHEET KEYNOTES

5/30/2025 8:51:55 AM P02-00 PLUMBING FLOOR PLAN - LEVEL ONE UG - OVERALL

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REVISIONS

A	03.28.25	ADDENDUM 1
1	05.30.25	ISSUE FOR CONSTRUCTION

COLORADO LICENSED
WILLIAM B. HODGES
47948
PROFESSIONAL ENGINEER
05.30.25

Date of issue:
05.30.25

QTS DEN1 DC2
1140 N. GUN CLUB ROAD
QTS

KEYPLAN

S Q N L J G E C A
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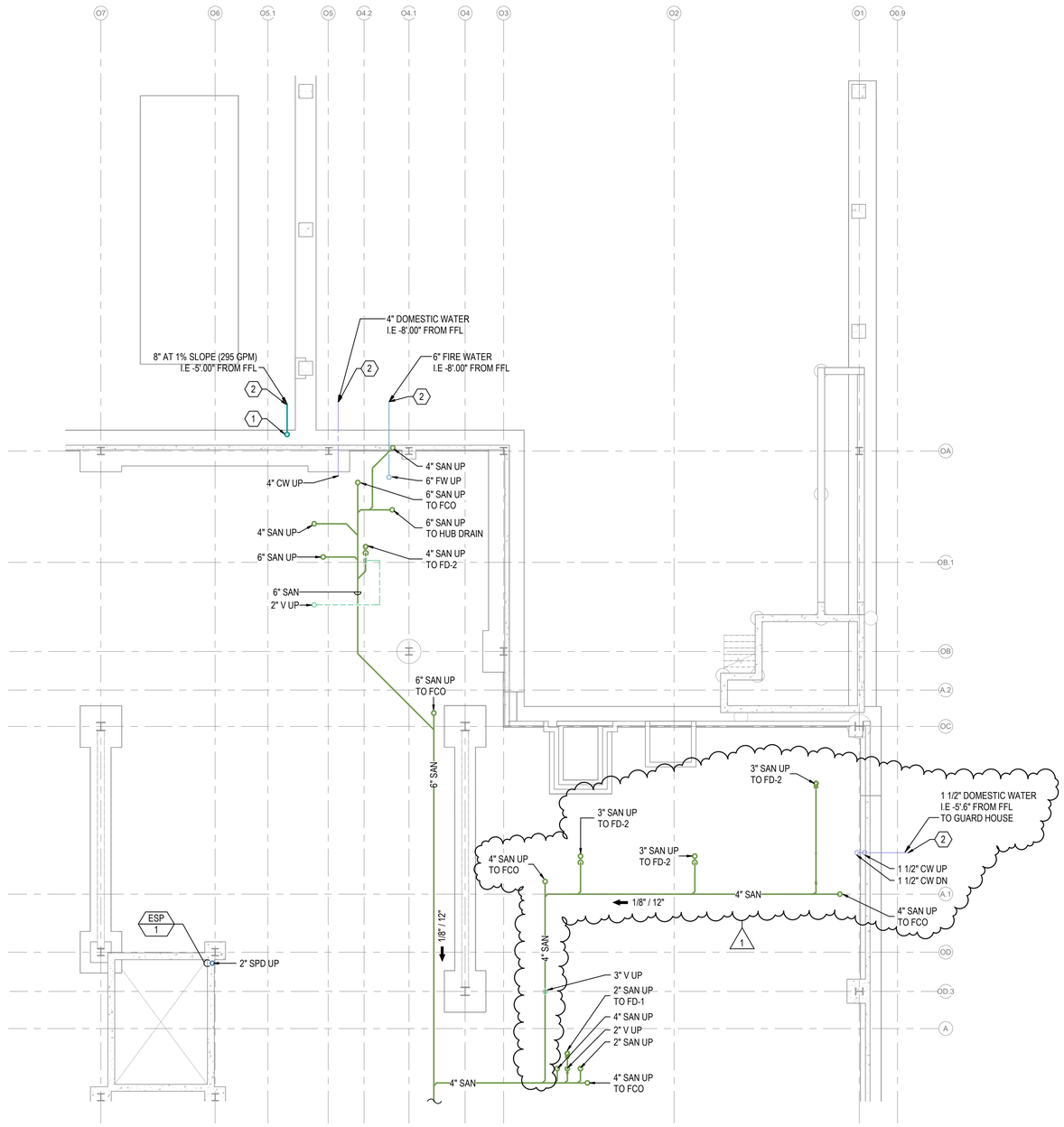
PLUMBING FLOOR PLAN - LEVEL ONE UG - OVERALL

JOB 24464.0000
DATE 05.30.25
SHEET

P02-00

Page 44 of 77

Permit #25-2535171-CM
RSN 1903242



1 LEVEL 1 UG PLUMBING PLAN - A
SCALE: 1/8" = 1'-0"

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VERTICAL CONSTRUCTION

SHEET NOTES

1. ALL SANITARY PIPING SHALL BE INSTALLED AT 1/8"/FT SLOPE, UNLESS NOTED OTHERWISE.

SHEET KEYNOTES

1. PLUMBING CONTRACTOR SHALL CONNECT 8" SCHEDULE 80 PVC TO TRANSITION FITTING ON SCUPPER BOX, AND SHALL DROP 8" PRIMARY STORM PIPING TO BELOW GRADE AND EXTEND 5'-0" OUT FROM BUILDING. INVERT ELEVATION OF PIPING SHALL BE INSTALLED TO RESULT IN PROPER BURIAL DEPTH AND COVER TO COMPLY WITH APPLICABLE CODES. THE CIVIL CONTRACTOR WILL CONNECT TO STORM PIPING AT 5'-0" OUTSIDE OF BUILDING AND EXTEND TO SITE STORM SYSTEMS. INCLUDE ALL NECESSARY HANGERS AND SUPPORTS FOR A COMPLETE INSTALLATION. SCUPPER BOX AND TRANSISTION FITTING PROVIDED UNDER GENERAL CONTRACTOR WORK.
2. FOR PIPING CONTINUATIONS OUTSIDE OF BUILDING - REFER TO CIVIL DRAWINGS.

City of Aurora Building Division
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2021 INTERNATIONAL CODES & 2023 NEC

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ISSUES

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3	05.30.25	FOUNDATIONS ONLY IFP
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REVISIONS

A	03.28.25	ADDENDUM 1
1	05.30.25	ISSUE FOR CONSTRUCTION

COLORADO LICENSED
WILLIAM B. HODGES
47948
PROFESSIONAL ENGINEER
05.30.25

Date of issue:
05.30.25

QTS DEN1 DC2
1140 N. GUN CLUB ROAD
QTS

KEYPLAN

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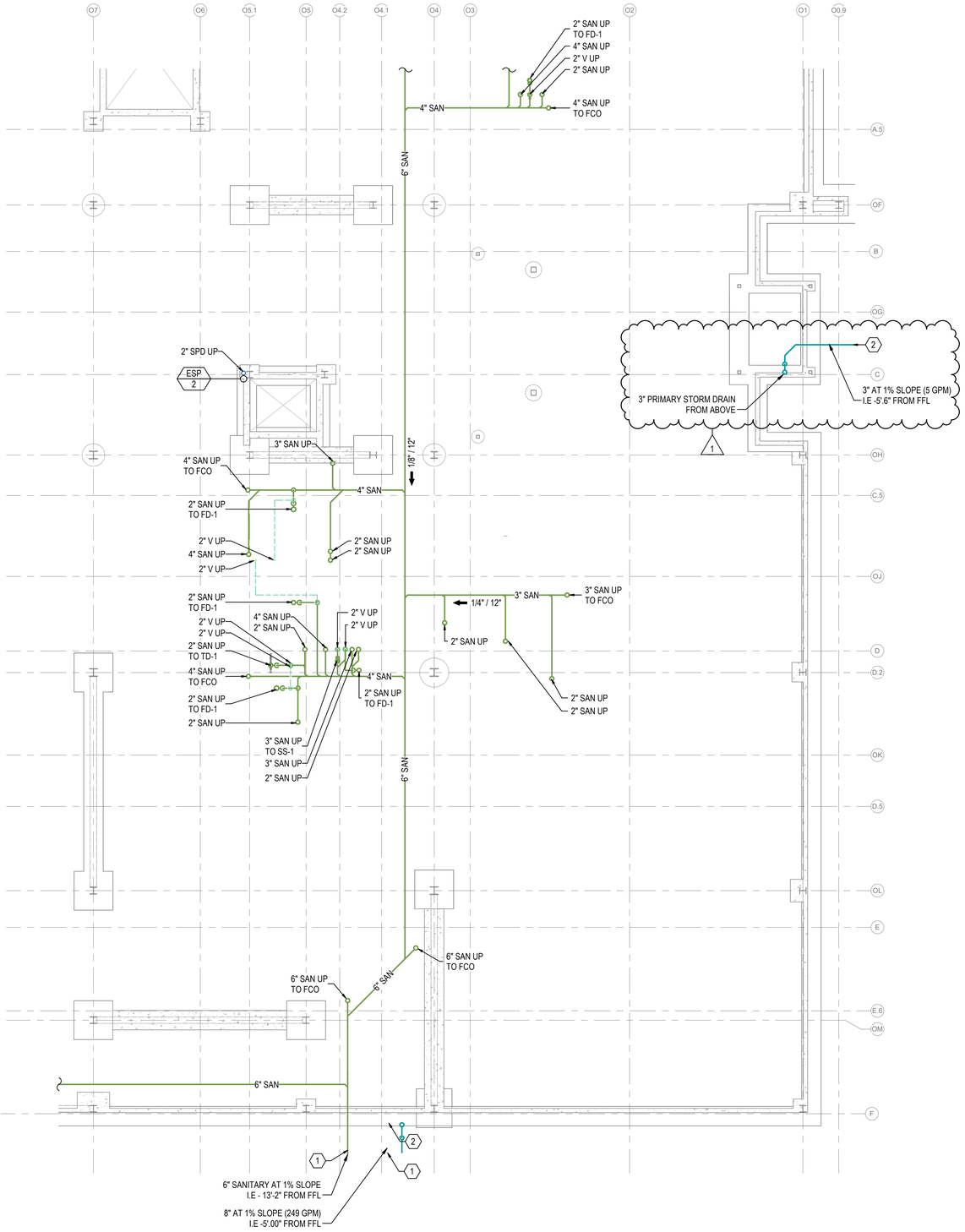
PLUMBING FLOOR PLAN - LEVEL ONE UG - SEGMENT A

JOB 24464.0000
DATE 05.30.25
SHEET

P02-00A

5/30/2025 8:51:57 AM P02-00A PLUMBING FLOOR PLAN - LEVEL ONE UG - SEGMENT A

Permit #25-2535171-CM
RSN 1903242



1 LEVEL 1 UG PLUMBING PLAN - B
SCALE: 1/8" = 1'-0"

SHEET NOTES

1. ALL SANITARY PIPING SHALL BE INSTALLED AT 1/8"/FT SLOPE, UNLESS NOTED OTHERWISE.

SHEET KEYNOTES

1. PLUMBING CONTRACTOR SHALL CONNECT 8" SCHEDULE 80 PVC TO TRANSITION FITTING ON SCUPPER BOX, AND SHALL DROP 8" PRIMARY STORM PIPING TO BELOW GRADE AND EXTEND 5'-0" OUT FROM BUILDING. INVERT ELEVATION OF PIPING SHALL BE INSTALLED TO RESULT IN PROPER BURIAL DEPTH AND COVER TO COMPLY WITH APPLICABLE CODES. THE CIVIL CONTRACTOR WILL CONNECT TO STORM PIPING AT 5'-0" OUTSIDE OF BUILDING AND EXTEND TO SITE STORM SYSTEMS. INCLUDE ALL NECESSARY HANGERS AND SUPPORTS FOR A COMPLETE INSTALLATION. SCUPPER BOX AND TRANSISTION FITTING PROVIDED UNDER GENERAL CONTRACTOR WORK.
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REVISIONS		
A	03.28.25	ADDENDUM 1
1	05.30.25	ISSUE FOR CONSTRUCTION

COLORADO LICENSED
WILLIAM B. HODGES
47948
PROFESSIONAL ENGINEER
05.30.25

Date of issue:
05.30.25

QTS DEN1 DC2
1140 N. GUN CLUB ROAD
QTS

KEYPLAN

S Q N L J G E C A
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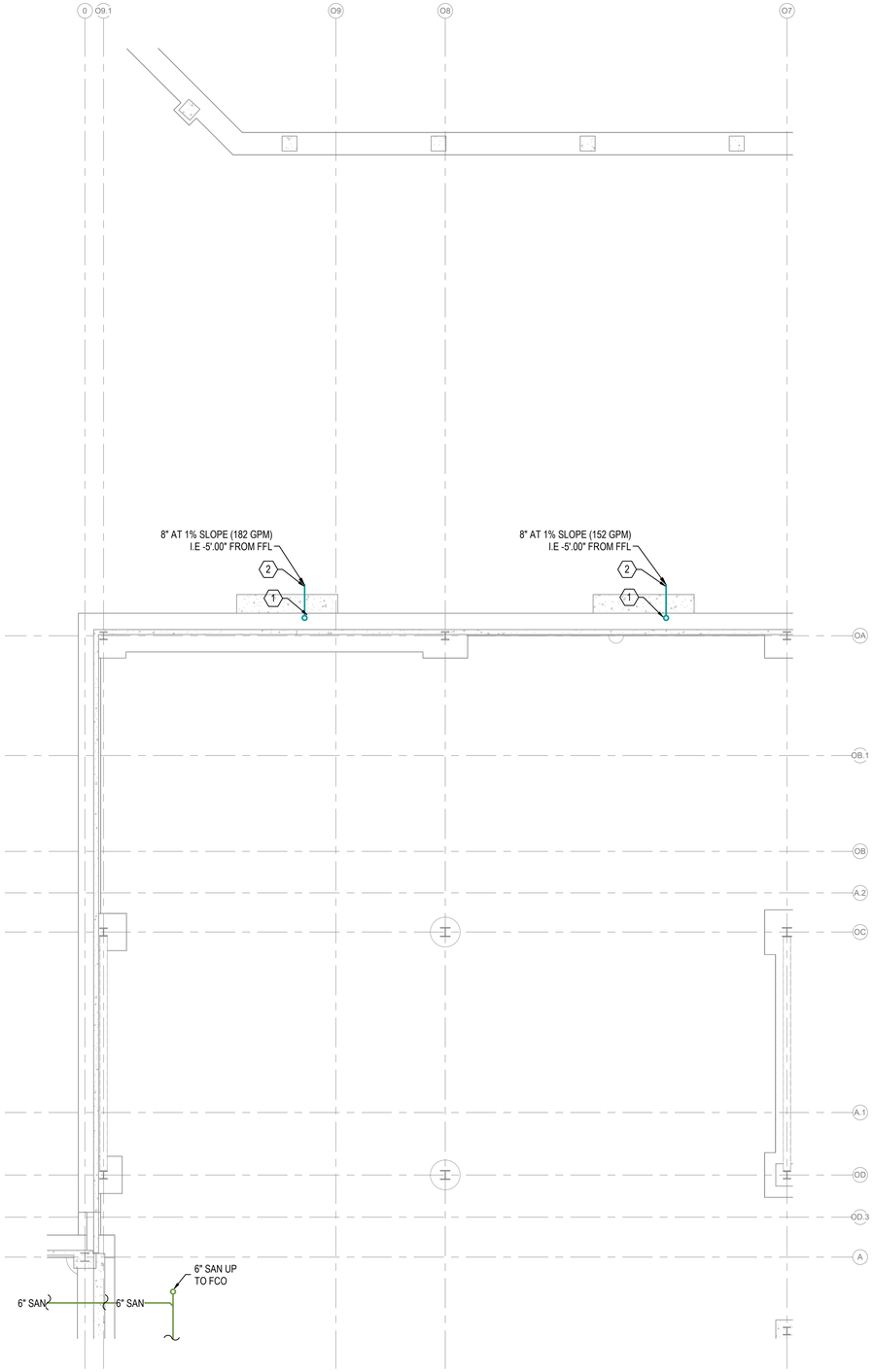
PLUMBING FLOOR PLAN - LEVEL ONE UG - SEGMENT B

JOB 24464.0000
DATE 05.30.25
SHEET

P02-00B

5/30/2025 8:51:59 AM P02-00B PLUMBING FLOOR PLAN - LEVEL ONE UG - SEGMENT B

Permit #25-2535171-CM
RSN 1903242



1 LEVEL 1 UG PLUMBING PLAN - C
SCALE: 1/8" = 1'-0"

SHEET NOTES

1. ALL SANITARY PIPING SHALL BE INSTALLED AT 1/8"/FT SLOPE, UNLESS NOTED OTHERWISE.

SHEET KEYNOTES

1. PLUMBING CONTRACTOR SHALL CONNECT 8" SCHEDULE 80 PVC TO TRANSITION FITTING ON SCUPPER BOX, AND SHALL DROP 8" PRIMARY STORM PIPING TO BELOW GRADE AND EXTEND 5'-0" OUT FROM BUILDING. INVERT ELEVATION OF PIPING SHALL BE INSTALLED TO RESULT IN PROPER BURIAL DEPTH AND COVER TO COMPLY WITH APPLICABLE CODES. THE CIVIL CONTRACTOR WILL CONNECT TO STORM PIPING AT 5'-0" OUTSIDE OF BUILDING AND EXTEND TO SITE STORM SYSTEMS. INCLUDE ALL NECESSARY HANGERS AND SUPPORTS FOR A COMPLETE INSTALLATION. SCUPPER BOX AND TRANSISTION FITTING PROVIDED UNDER GENERAL CONTRACTOR WORK.
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ISSUES

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REVISIONS

A	03.28.25	ADDENDUM 1

COLORADO LICENSED
WILLIAM B. HODGES
47948
PROFESSIONAL ENGINEER
05.30.25

Date of issue:
05.30.25

QTS DEN1 DC2
1140 N. GUN CLUB ROAD
QTS

KEYPLAN

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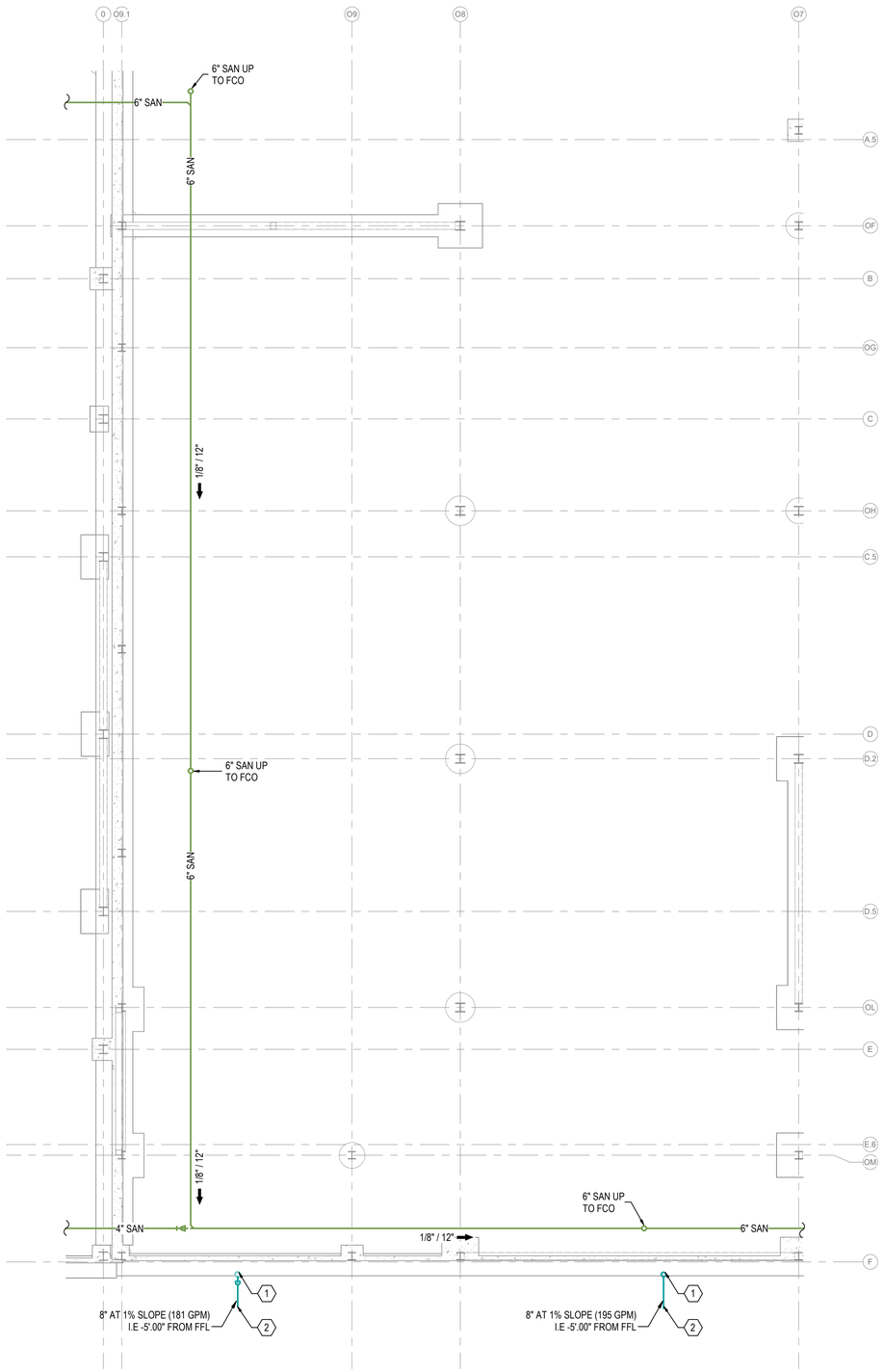
PLUMBING FLOOR PLAN - LEVEL ONE UG - SEGMENT C

JOB 24464.0000
DATE 05.30.25
SHEET

P02-00C

5/30/2025 8:52:00 AM P02-00C PLUMBING FLOOR PLAN - LEVEL ONE UG - SEGMENT C

Permit #25-2535171-CM
RSN 1903242



1 LEVEL 1 UG PLUMBING PLAN - D
SCALE: 1/8" = 1'-0"

SHEET NOTES

1. ALL SANITARY PIPING SHALL BE INSTALLED AT 1/8"/FT SLOPE, UNLESS NOTED OTHERWISE.

SHEET KEYNOTES

1. PLUMBING CONTRACTOR SHALL CONNECT 8" SCHEDULE 80PVC TO TRANSITION FITTING ON SCUPPER BOX, AND SHALL DROP 8" PRIMARY STORM PIPING BELOW GRADE AND EXTEND 5'-0" OUT FROM BUILDING. INVERT ELEVATION OF PIPING SHALL BE INSTALLED TO RESULT IN PROPER BURIAL DEPTH AND COVER TO COMPLY WITH APPLICABLE CODES. THE CIVIL CONTRACTOR WILL CONNECT TO STORM PIPING AT 5'-0" OUTSIDE OF BUILDING AND EXTEND TO SITE STORM SYSTEMS. INCLUDE ALL NECESSARY HANGERS AND SUPPORTS FOR A COMPLETE INSTALLATION. SCUPPER BOX AND TRANSITION FITTING PROVIDED UNDER GENERAL CONTRACTOR WORK.
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Date: Jun 12, 2025
2021 INTERNATIONAL CODES & 2023 NEC

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TLC DESIGN CONSULTING LLC

ISSUES

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REVISIONS

A	03.28.25	ADDENDUM 1

COLORADO LICENSED
WILLIAM B. HODGES
47948
PROFESSIONAL ENGINEER
05.30.25

Date of issue:
05.30.25

QTS DEN1 DC2
1140 N. GUN CLUB ROAD
QTS

KEYPLAN

S Q N L J G E C A
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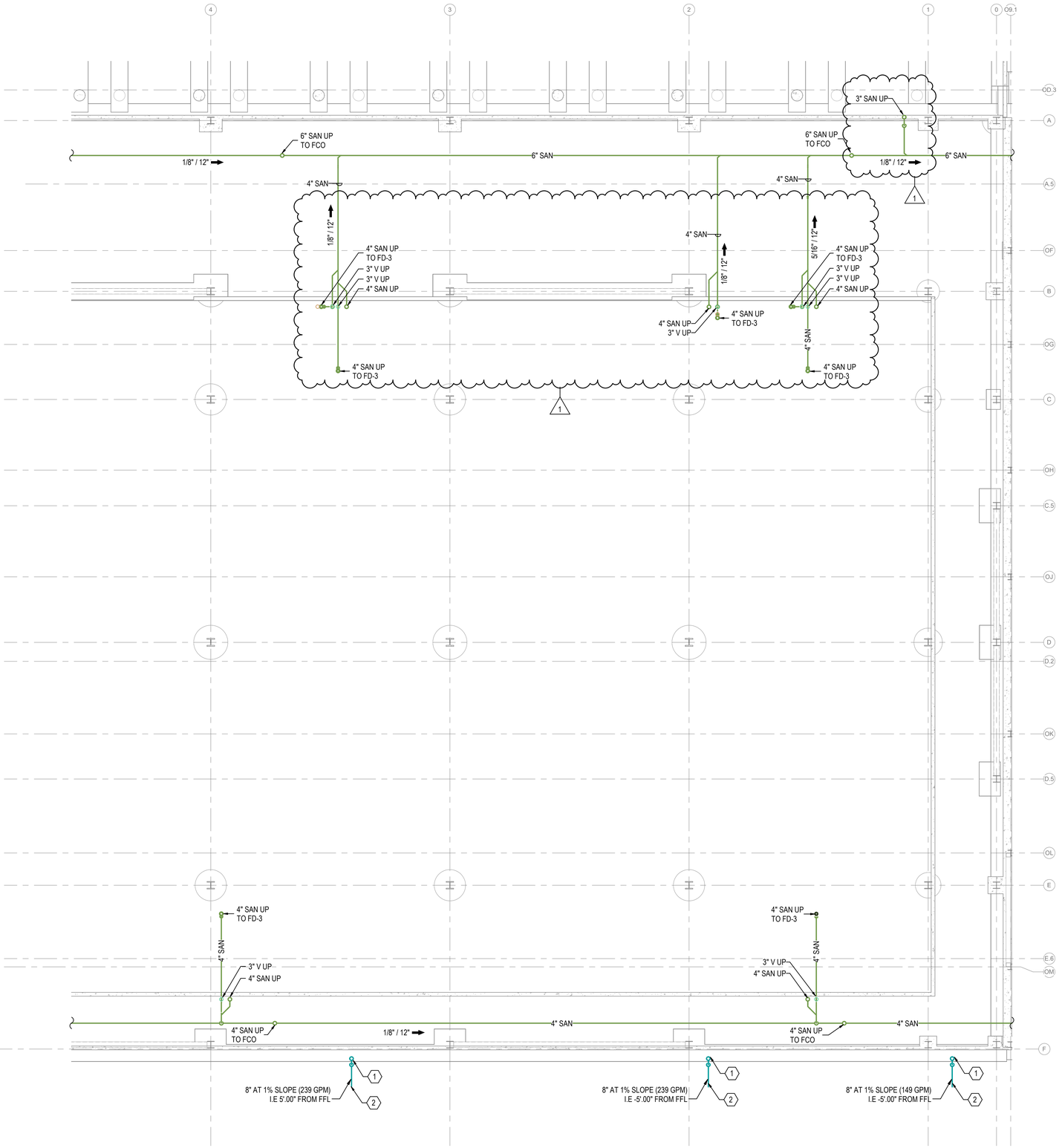
PLUMBING FLOOR PLAN - LEVEL ONE UG - SEGMENT D

JOB 24464.0000
DATE 05.30.25
SHEET

P02-00D

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Permit #25-2535171-CM
RSN 1903242



1 LEVEL 1 UG PLUMBING PLAN - F
SCALE: 1/8" = 1'-0"

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SHEET NOTES

1. ALL SANITARY PIPING SHALL BE INSTALLED AT 1/8"/FT SLOPE, UNLESS NOTED OTHERWISE.

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REVISIONS		
A	03.28.25	ADDENDUM 1
1	05.30.25	ISSUE FOR CONSTRUCTION

COLORADO LICENSED
WILLIAM B. HODGES
47948
PROFESSIONAL ENGINEER
05.30.25

Date of issue:
05.30.25

QTS DEN1 DC2
1140 N. GUN CLUB ROAD
QTS

KEYPLAN

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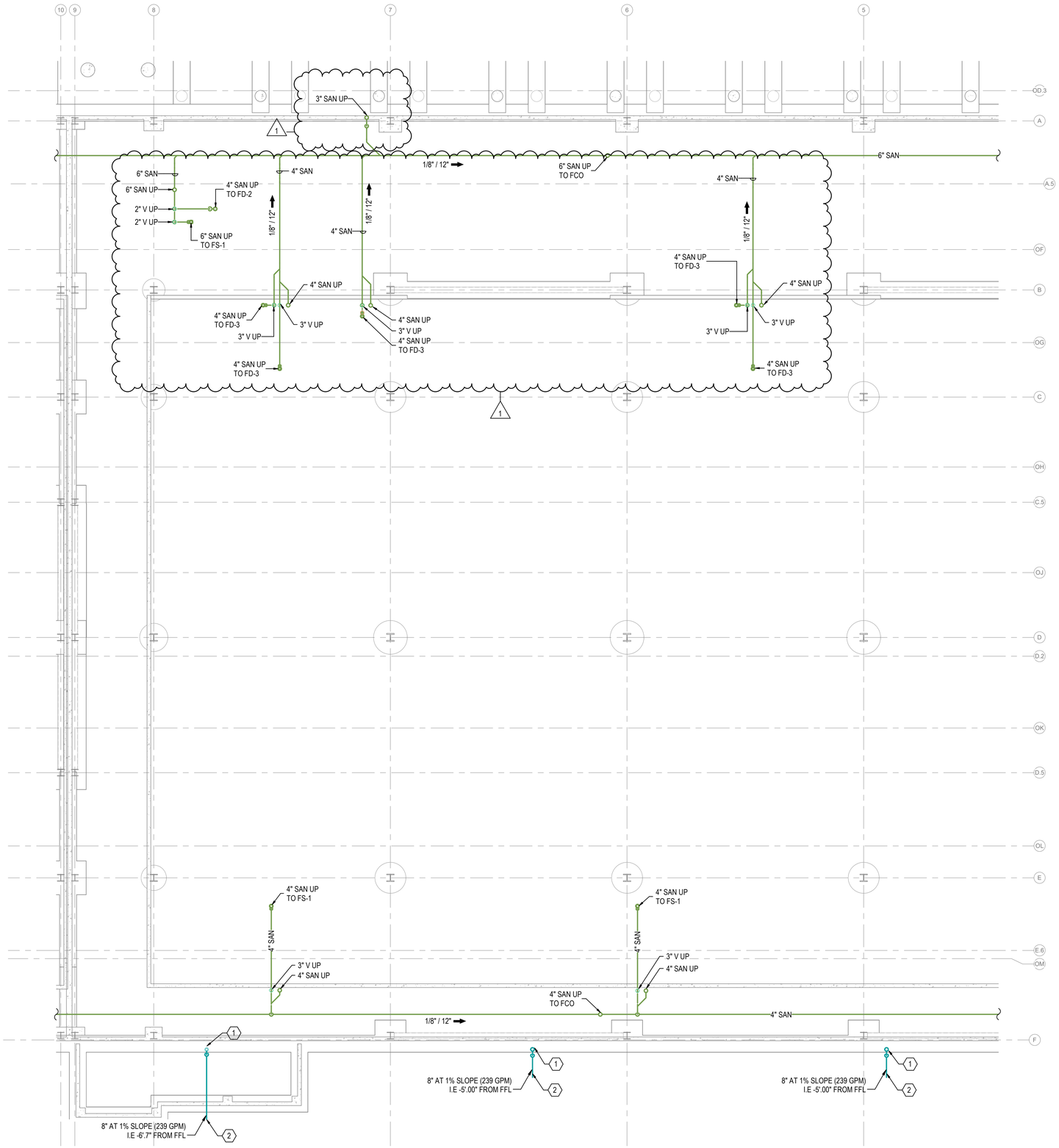
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PLUMBING FLOOR PLAN - LEVEL ONE UG - SEGMENT F

JOB 24464.0000
DATE 05.30.25
SHEET P02-00F

5/30/2025 8:52:04 AM P02-00F PLUMBING FLOOR PLAN - LEVEL ONE UG - SEGMENT F

Permit #25-2535171-CM
RSN 1903242



1 LEVEL 1 UG PLUMBING PLAN - H
SCALE: 1/8" = 1'-0"

FOUNDATION ONLY PERMIT - NOT APPROVED FOR VERTICAL CONSTRUCTION

SHEET NOTES

1. ALL SANITARY PIPING SHALL BE INSTALLED AT 1/8"/FT SLOPE, UNLESS NOTED OTHERWISE.

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DESIGN CONSULTING LLC

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REVISIONS		
A	03.28.25	ADDENDUM 1
1	05.30.25	ISSUE FOR CONSTRUCTION

COLORADO LICENSED
WILLIAM B. HODGES
47948
PROFESSIONAL ENGINEER
05.30.25

Date of issue:
05.30.25

QTS DEN1 DC2
1140 N. GUN CLUB ROAD
QTS

KEYPLAN

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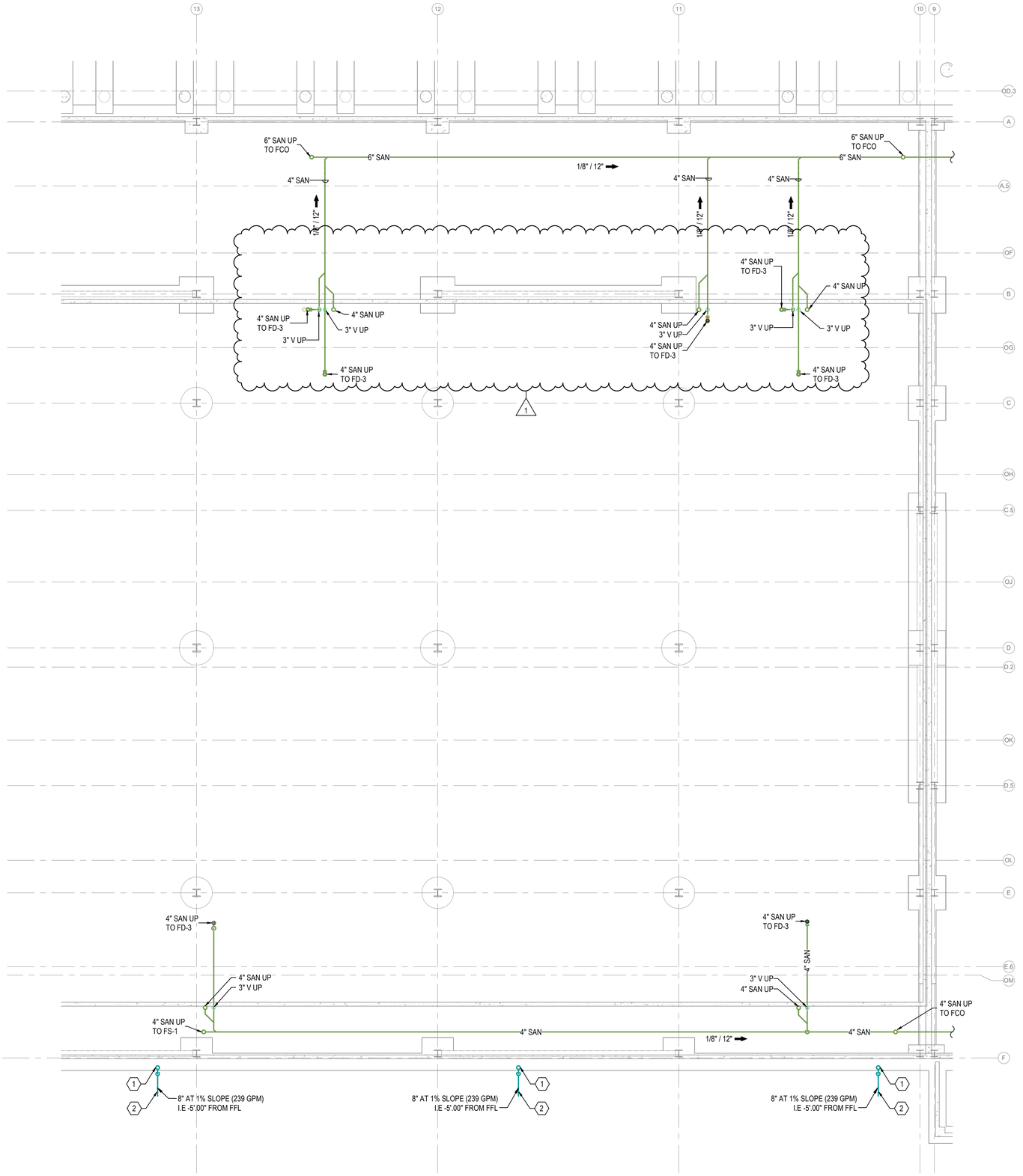
PLUMBING FLOOR PLAN - LEVEL ONE UG - SEGMENT H

JOB 24464.0000
DATE 05.30.25
SHEET

P02-00H

5/30/2025 8:52:06 AM P02-00H PLUMBING FLOOR PLAN - LEVEL ONE UG - SEGMENT H

Permit #25-2535171-CM
RSN 1903242



1 LEVEL 1 UG PLUMBING PLAN - K
SCALE: 1/8" = 1'-0"

SHEET NOTES

1. ALL SANITARY PIPING SHALL BE INSTALLED AT 1/8"/FT SLOPE, UNLESS NOTED OTHERWISE.

SHEET KEYNOTES

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SYSKA HENNESSY GROUP

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ISSUES		
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REVISIONS		
A	03.28.25	ADDENDUM 1
1	05.30.25	ISSUE FOR CONSTRUCTION

COLORADO LICENSED
WILLIAM B. HODGES
47948
PROFESSIONAL ENGINEER
05.30.25

Date of issue:
05.30.25

QTS DEN1 DC2
1140 N. GUN CLUB ROAD
QTS

KEYPLAN

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T	R	P	M	K	H	F	D	B

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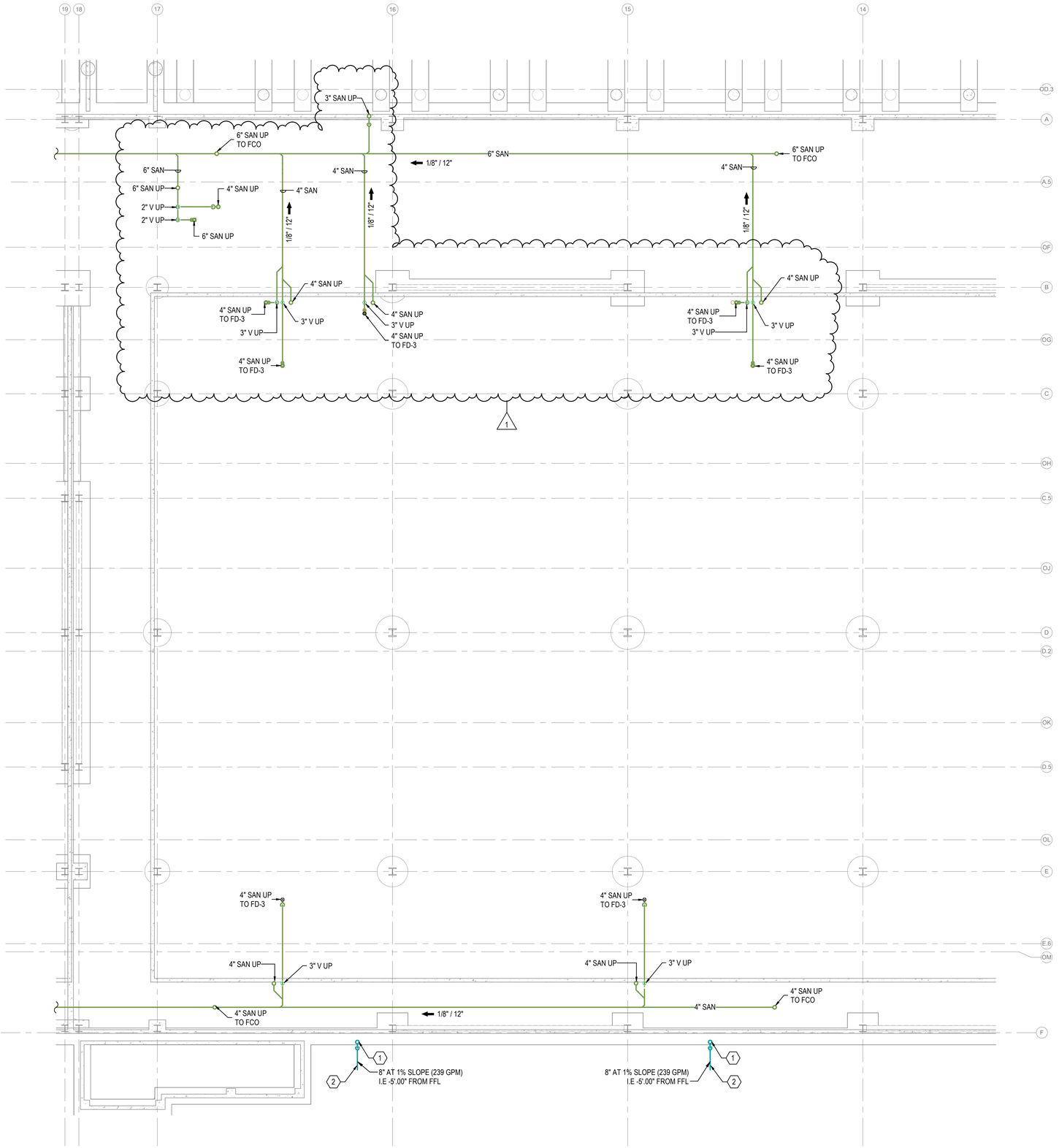
PLUMBING FLOOR PLAN - LEVEL ONE UG - SEGMENT K

JOB 24464.0000
DATE 05.30.25
SHEET

P02-00K

5/30/2025 8:52:08 AM P02-00K PLUMBING FLOOR PLAN - LEVEL ONE UG - SEGMENT K

Permit #25-2535171-CM
RSN 1903242



1 LEVEL 1 UG PLUMBING PLAN - M
SCALE: 1/8" = 1'-0"

SHEET NOTES

1. ALL SANITARY PIPING SHALL BE INSTALLED AT 1/8"/FT SLOPE, UNLESS NOTED OTHERWISE.

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QTS DEN1 DC2
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QTS

KEYPLAN

S	Q	N	L	J	G	E	C	A	
T	R	P	M	K	H	F	D	B	

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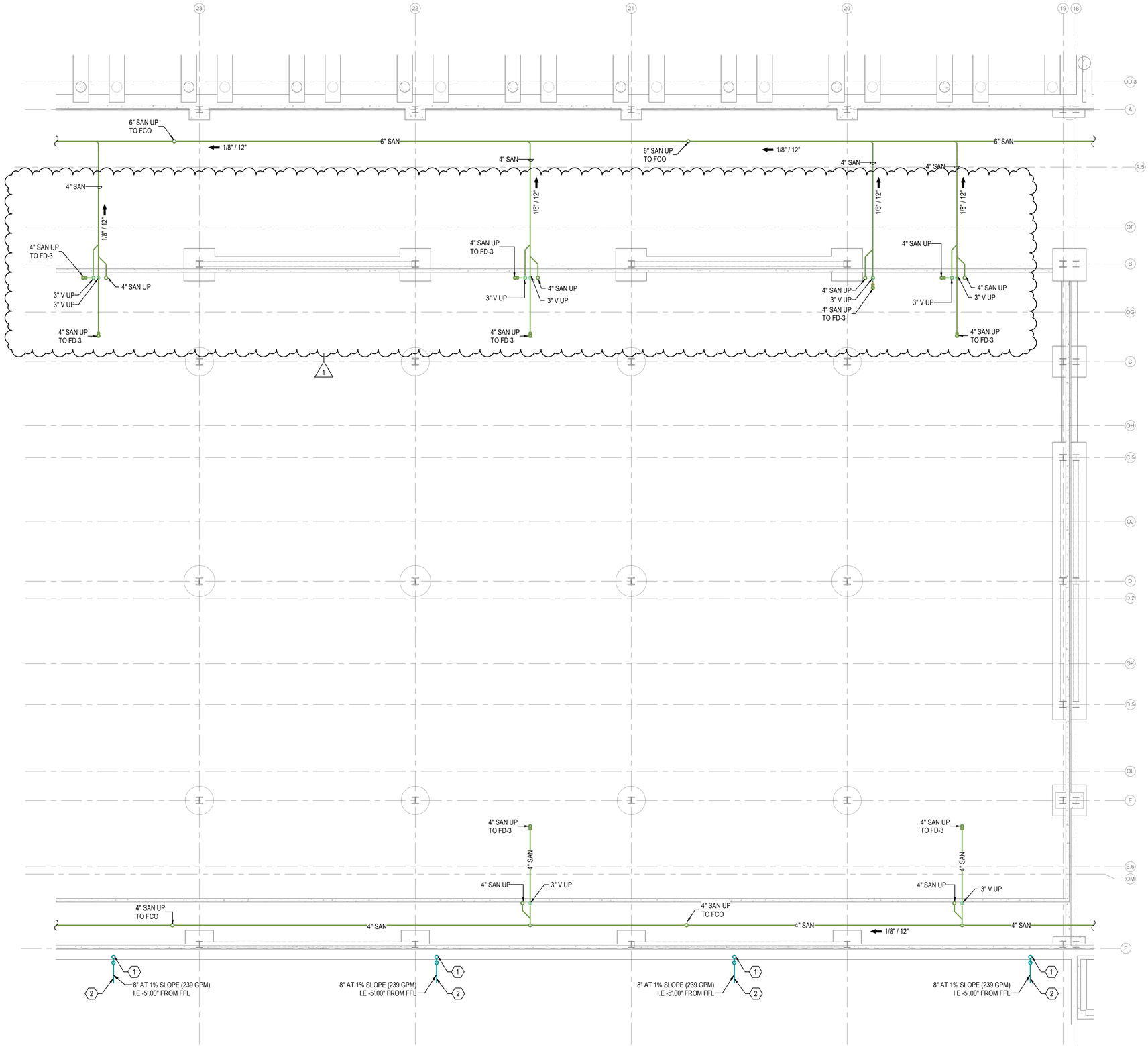
PLUMBING FLOOR PLAN - LEVEL ONE UG - SEGMENT M

JOB 24464.0000
DATE 05.30.25
SHEET

P02-00M

5/30/2025 8:52:10 AM P02-00M PLUMBING FLOOR PLAN - LEVEL ONE UG - SEGMENT M

Permit #25-2535171-CM
RSN 1903242



1 LEVEL 1 UG PLUMBING PLAN - P
SCALE: 1/8" = 1'-0"

SHEET NOTES

1. ALL SANITARY PIPING SHALL BE INSTALLED AT 1/8"/FT SLOPE, UNLESS NOTED OTHERWISE.

SHEET KEYNOTES

1. PLUMBING CONTRACTOR SHALL CONNECT 8" SCHEDULE 80PVC TO TRANSITION FITTING ON SCUPPER BOX, AND SHALL DROP 8" PRIMARY STORM PIPING BELOW GRADE AND EXTEND 5'-0" OUT FROM BUILDING. INVERT ELEVATION OF PIPING SHALL BE INSTALLED TO RESULT IN PROPER BURIAL DEPTH AND COVER TO COMPLY WITH APPLICABLE CODES. THE CIVIL CONTRACTOR WILL CONNECT TO STORM PIPING AT 5'-0" OUTSIDE OF BUILDING AND EXTEND TO SITE STORM SYSTEMS. INCLUDE ALL NECESSARY HANGERS AND SUPPORTS FOR A COMPLETE INSTALLATION. SCUPPER BOX AND TRANSITION FITTING PROVIDED UNDER GENERAL CONTRACTOR WORK.
2. FOR PIPING CONTINUATIONS OUTSIDE OF BUILDING - REFER TO CIVIL DRAWINGS.

FOUNDATION ONLY PERMIT - NOT APPROVED FOR VERTICAL CONSTRUCTION

City of Aurora Building Division
Reviewed for Code Compliance
Approved as Noted: Dirk Anderson
Date: Jun 12, 2025
2021 INTERNATIONAL CODES & 2023 NEC

CORGAN
401 N. Houston Street Dallas, TX
75202
T: 214.748.2000

AG/E

SYSKA HENNESSY GROUP

DESIGN CONSULTING LLC

ISSUES		
1	12.20.24	DESIGN DEVELOPMENT
2	01.31.25	ISSUE FOR PERMIT
3	05.30.25	FOUNDATIONS ONLY IFP
4		
5		
6		
7		
8		
9		
10		

REVISIONS		
A	03.28.25	ADDENDUM 1
1	05.30.25	ISSUE FOR CONSTRUCTION

COLORADO LICENSED
WILLIAM B. HODGES
PROFESSIONAL ENGINEER
47948
05.30.25

Date of issue:
05.30.25

QTS DEN1 DC2
1140 N. GUN CLUB ROAD
QTS

KEYPLAN

S	Q	N	L	J	G	E	C	A
T	R	P	M	K	H	F	D	B

N

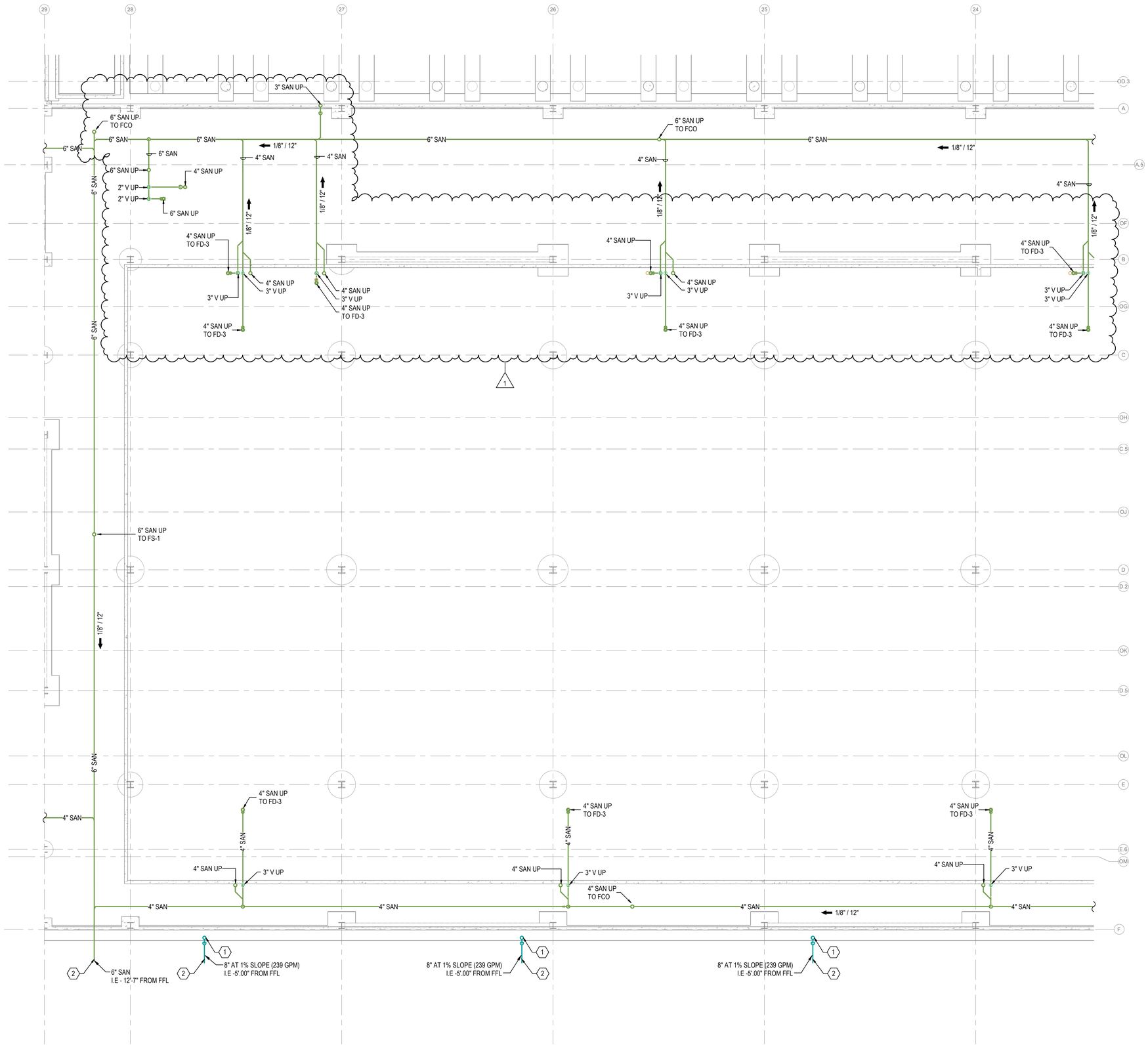
PLUMBING FLOOR PLAN - LEVEL ONE UG - SEGMENT P

JOB 24464.0000
DATE 05.30.25
SHEET

P02-00P

5/30/2025 8:52:12 AM P02-00P PLUMBING FLOOR PLAN - LEVEL ONE UG - SEGMENT P

Permit #25-2535171-CM
RSN 1903242



1 LEVEL 1 UG PLUMBING PLAN - R
SCALE: 1/8" = 1'-0"

SHEET NOTES

1. ALL SANITARY PIPING SHALL BE INSTALLED AT 1/8"/FT SLOPE, UNLESS NOTED OTHERWISE.

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SYSKA HENNESSY GROUP

DESIGN CONSULTING LLC

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COLORADO LICENSED
WILLIAM B. HODGES
ARCHITECT
47948
05.30.25

Date of issue:
05.30.25

QTS DEN1 DC2
1140 N. GUN CLUB ROAD
QTS

KEYPLAN

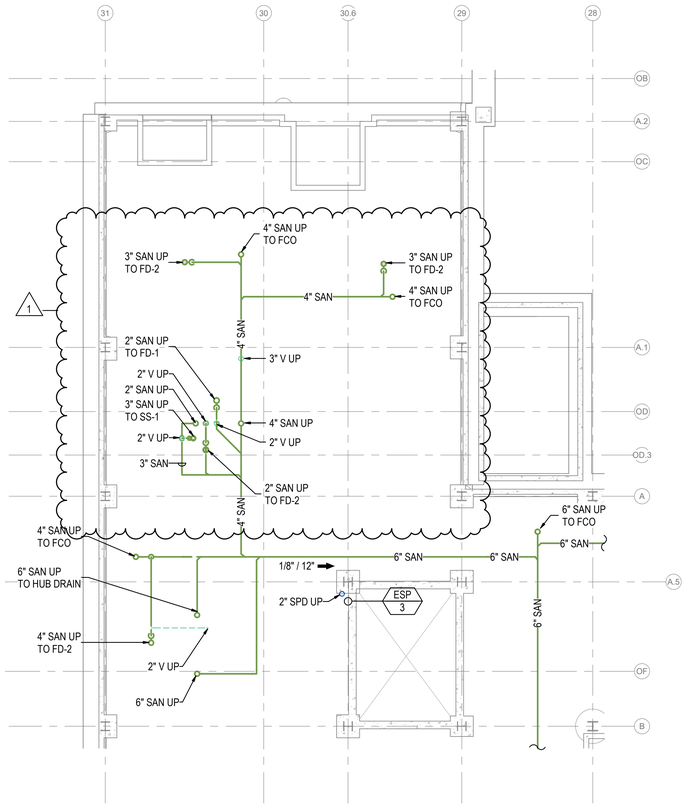
S Q N L J G E C A
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PLUMBING FLOOR PLAN - LEVEL ONE UG - SEGMENT R

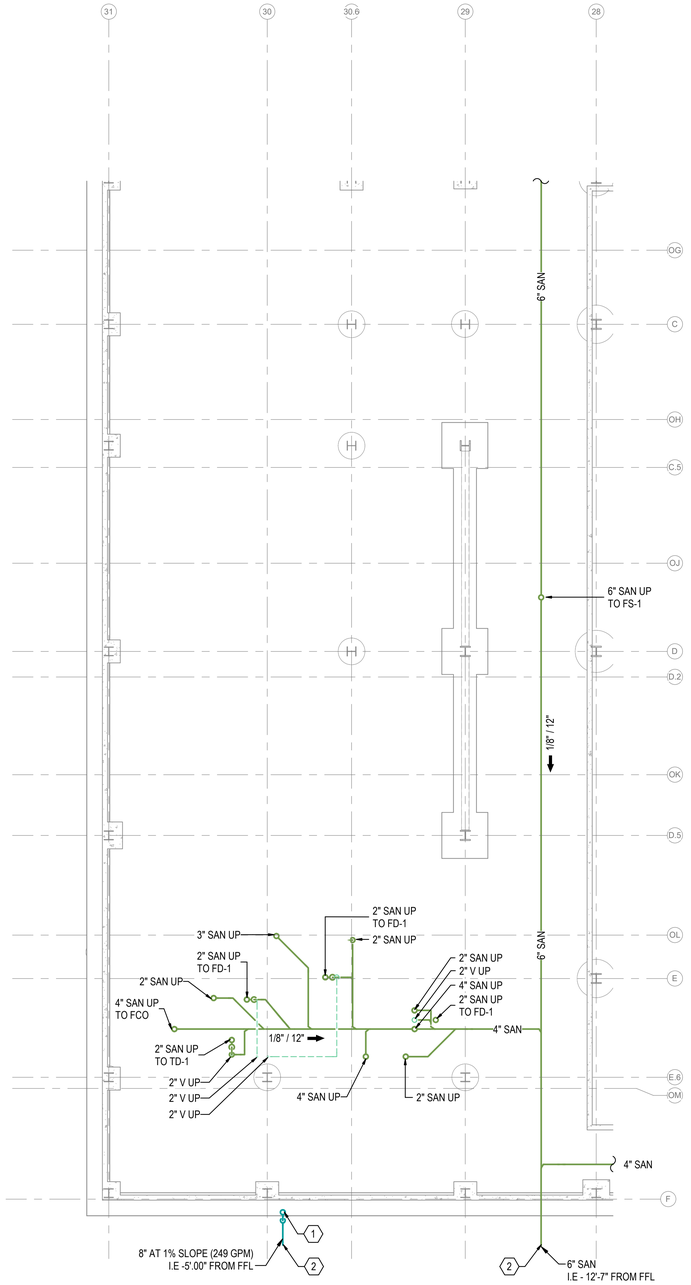
JOB 24464.0000
DATE 05.30.25
SHEET
P02-00R

5/30/2025 8:52:14 AM P02-00R PLUMBING FLOOR PLAN - LEVEL ONE UG - SEGMENT R

Permit #25-2535171-CM
RSN 1903242



1 LEVEL 1 UG PLUMBING PLAN - S
SCALE: 1/8" = 1'-0"



2 LEVEL 1 UG PLUMBING PLAN - T
SCALE: 1/8" = 1'-0"

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TCD DESIGN CONSULTING LLC

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KEYPLAN

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	R	P	M	K	H	F	D	B

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PLUMBING FLOOR PLAN - LEVEL ONE UG - SEGMENT S-T

JOB 24464.0000
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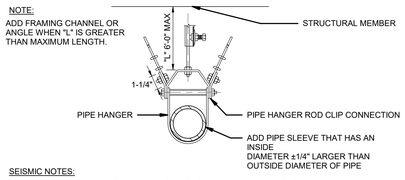
P02-00ST

5/30/2025 8:52:17 AM P02-00STPLUMBING FLOOR PLAN - LEVEL ONE UG - SEGMENT S-T

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Permit #25-2535171-CM
RSN 1903242

1 CABLE BRACING DETAIL



SEISMIC NOTES:

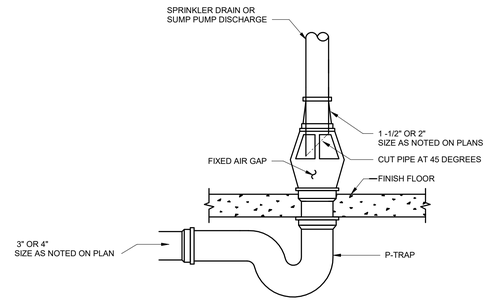
SEISMIC BRACING SHALL BE INSTALLED UNDER THE FOLLOWING CONDITIONS:

1. GAS PIPING 1" DIAMETER AND GREATER.
2. ALL PIPING 2.5" DIAMETER AND GREATER.
3. EXCEPTION: ALL PIPING SUSPENDED BY INDIVIDUAL HANGERS 12" OR LESS IN LENGTH FROM THE TOP OF PIPE TO THE POINT OF ATTACHMENT OF THE HANGER TO THE STRUCTURE DOES NOT REQUIRE SEISMIC BRACING. THE SIZE, TYPE, SPACING, AND METHOD OF INSTALLATION OF SEISMIC BRACING SHALL BE IN ACCORDANCE WITH THE LATEST "SMACNA SEISMIC RESTRAINT MANUAL GUIDELINES FOR MECHANICAL SYSTEMS." GAS PIPING IS TO BE CLASSIFIED UNDER "SEISMIC HAZARD LEVEL A" AND ALL OTHER PIPING SYSTEMS "SEISMIC HAZARD LEVEL C" IN THE SMACNA MANUAL

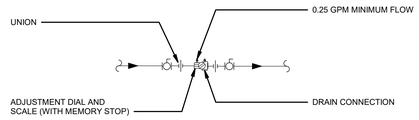
SMACNA SEISMIC MANUAL NOTES:

1. REFER TO CHAPTER 3 FOR GENERAL REQUIREMENTS.
2. SEE PAGE 4.14 FOR LONGITUDE BRACING.
3. SEE TABLE 5-4, 6-4 OR 7-4 FOR VERTICAL HANGERS, DIAGONAL BRACING, SIZE, CONNECTION TO SUPPORTING STRUCTURE, AND SPACING OF BRACING.

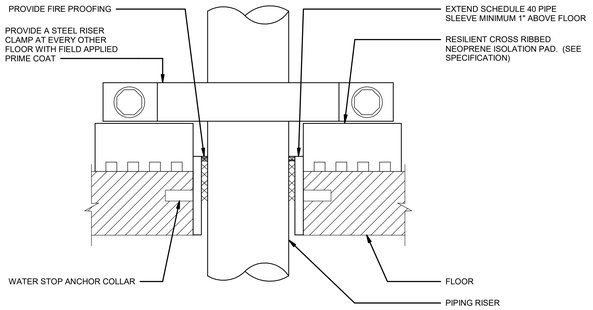
2 FIXED AIR GAP DETAIL



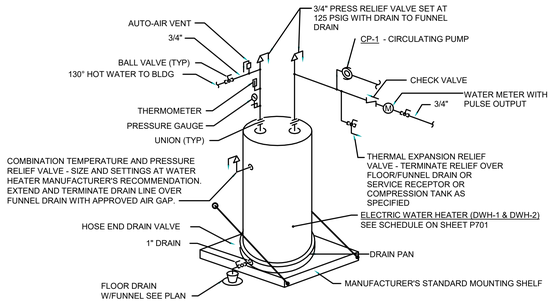
3 HOT WATER RETURN AUTOMATIC BALANCING VALVE UNIT



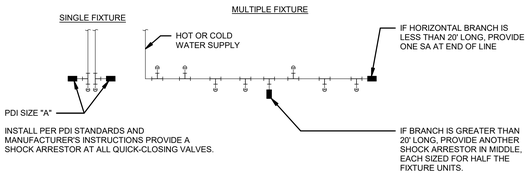
4 PIPE FLOOR SLEEVE



5 SHELF MOUNTED WATER HEATER



6 SHOCK ARRESTERS

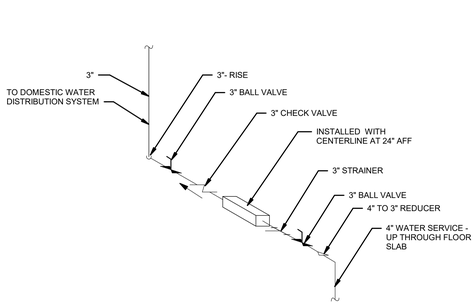


INSTALL PER PDI STANDARDS AND MANUFACTURER'S INSTRUCTIONS PROVIDE A SHOCK ARRESTOR AT ALL QUICK-CLOSING VALVES.

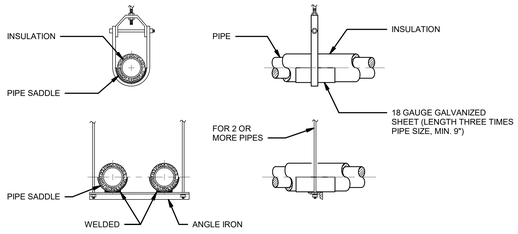
PDI SIZE	PIPE SIZE	FIXTURE UNIT LOAD
A	1/2"	1-11
B	3/4"	12-32
C	1"	33-60
D	1-1/4"	61-113
E	1-1/2"	114-154
F	2"	155-330

PLUMBING CONTRACTOR TO PROVIDE SHOCK ARRESTORS BY ZURN OR APPROVED EQUIVALENT WITH PISTON O-RING CONSTRUCTION, HAVING PDI #WH-201, ASSE #1010 AND ANSI #A112.26.1M CERTIFICATION. INSTALL IN HORIZONTAL OR VERTICAL POSITION, BUT NEVER UPSIDE DOWN. INSTALL IN LINE WITH WATER FLOW DIRECTION IF POSSIBLE SIZE THE UNITS AS PER THE TABLES SHOWN ABOVE. SHOCK ARRESTORS TO BE INSTALLED IN AN ACCESSIBLE LOCATION. PROVIDE ACCESS PANELS WHERE REQUIRED.

7 WATER ENTRANCE RISER



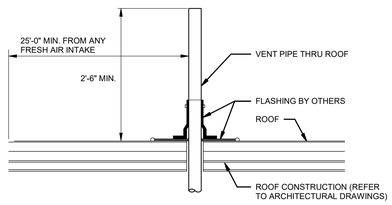
8 TYPICAL HANGER FOR INSULATED PIPING



NOTES:

1. INSULATION ABOVE SADDLES SHALL BE RIGID, OF SAME THICKNESS AS PIPE INSULATION AND A COMPRESSIVE STRENGTH OF NOT LESS THAN 3,300 PSI.
2. HANGER RODS SHALL BE OF THE SAME SIZE REQUIRED BUT NOT SMALLER THAN 1/2" DIAMETER
3. HANGERS ARE ALSO TYPICAL FOR UNINSULATED PIPING (WITHOUT INSULATION AND SADDLES).
4. CONNECT TO TOP OR BOTTOM CHORD OF JOISTS.

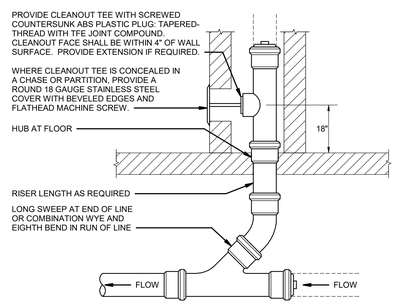
9 VENT PIPING ROOF PENETRATION



NOTE:

ALL VENT RISERS SHALL BE OFFSET AS REQUIRED TO CLEAR ROOF STRUCTURE, DUCTWORK OR ROOF TOP UNITS. PLUMBING CONTRACTOR MUST COORDINATE WITH OTHER TRADES.

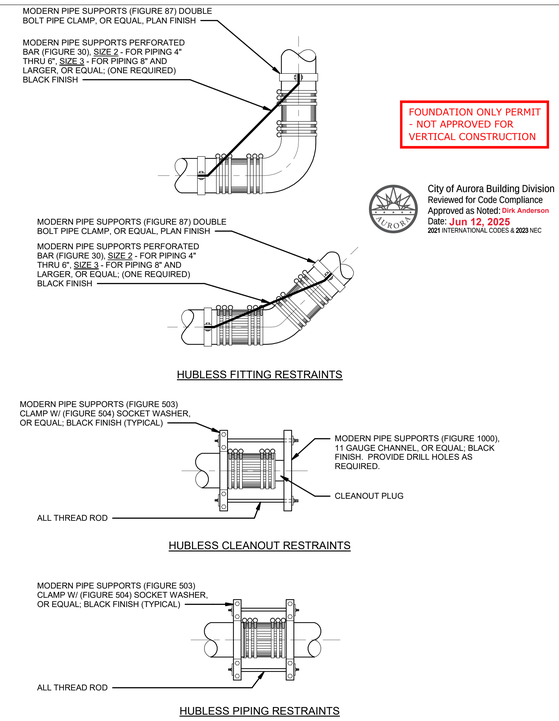
10 WALL CLEANOUT DETAIL



NOTE:

REFER TO PLUMBING FIXTURE AND SPECIFICATIONS FOR FURTHER INFORMATION. COORDINATE WITH ARCHITECTURAL PLANS.

11 STORM DRAINAGE PIPING RESTRAINING DETAILS



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NOTE:

ALL JOINTS ON THE ENTIRE ABOVE GROUND RAIN WATER CONDUCTOR SYSTEM IN THE BUILDING SHALL INCLUDE RESTRAINTS.

CORGAN
401 N. Houston Street Dallas, TX 75202
T: 214.748.2000

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TLD DESIGN CONSULTING LLC

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REVISIONS

A	03.28.25	ADDENDUM 1

COLORADO LICENSED WILLIAM B. HODGES 47948 PROFESSIONAL ENGINEER
05.30.25

Date of issue: 05.30.25

QTS DEN1 DC2
1140 N. GUN CLUB ROAD
QTS

DETAILS

JOB 24464.0000
DATE 05.30.25
SHEET

P05-01

5/30/2025 8:56:28 AM P05-01 DETAILS

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QUADRAPLEX RECEPTACLE	
WC	WATER COOLER - DUPLEX RECEPTACLE
	DUPLEX RECEPTACLE - MOUNTED 1'-6" ABOVE FINISHED FLOOR
2	DOUBLE DUPLEX RECEPTACLE - MOUNTED 1'-6" ABOVE FINISHED FLOOR
USB	DUPLEX RECEPTACLE W/ USB-A & USB-C CONNECTIONS
AB	DUPLEX RECEPTACLE ABOVE COUNTER - MOUNTED 1'-6" ABOVE FINISHED FLOOR
GFI	DUPLEX GROUND FAULT INTERRUPTER TYPE RECEPTACLE
TV	TELEVISION POWER OUTLET - 12" BELOW CEILING UNO
WP	DUPLEX WEATHERPROOF RECEPTACLE
T	TWISTLOCK RECEPTACLE - RATING AS SHOWN ON DRAWINGS
IG	DUPLEX ISOLATED GROUND TYPE RECEPTACLE
	SPECIAL PURPOSE OUTLET - CONFIGURATION TO MATCH EQUIPMENT SUPPLIED
	FINAL CONNECTION BY EC TO EQUIPMENT
J	JUNCTION BOX
R	RELAY
PP	POWER POLE
M	MANUAL MOTOR SWITCH, ONE POLE FOR EVERY MOTOR PHASE
	MAGNETIC MOTOR STARTER-RATING AS NOTED
VFD	VARIABLE FREQUENCY DRIVE BY EC
	COMBINATION DISCONNECT SWITCH AND STARTER-RATING AS NOTED

	DISCONNECT SWITCH - RATING AS NOTED
	ELECTRICAL PANELBOARD
M	MOTOR
	MULTI-OUTLET ASSEMBLY (RATING AS NOTED)
1	INDICATES NOTES ELSEWHERE
	PHASE
	BUSWAY
T	TRANSFORMER - SIZE AND VOLTAGE AS NOTED
	CROSSHATCHING INDICATES EQUIPMENT AND/OR WIRING TO BE RENDERED DEAD AND REMOVED BY EC
	SWITCH LEG
	BRANCH CIRCUIT
	SWITCHED CIRCUIT
	CONTROL WIRING
	HOMERUN TO PANELBOARD - 3 #12-3/4"C UNO
	EXISTING
	FUTURE
	NEW
	COMBINATION FURNITURE POWER AND TELE/DATA CONNECTION FLOOR BOX (FLUSH IN FLOOR)
	DEDICATED COPIER/ PRINTER/ FAX POWER AND TELE/ DATA FLOOR BOX. COORDINATE RECEPTACLE REQUIREMENTS WITH EQUIPMENT SUPPLIER.

MOD	MOTOR OPERATED DAMPER
	POWER FLEX CONDUIT FEED TO WORKSTATION - MOUNTED 18" ABOVE FINISHED FLOOR UNLESS NOTED OTHERWISE
F	POWER FLEX CONDUIT FEED TO WORKSTATION FROM FLUSH FLOOR BOX
P	POWER FLEX CONDUIT FEED TO WORKSTATION - FED FROM FLOOR MOUNTED PEDESTAL
WP	POWER FLEX CONDUIT FEED TO WORKSTATION - FED FROM WALL
	COMBINATION DUPLEX RECEPTACLE/INFORMATION OUTLET FLUSH IN FLOOR
	MUSHROOM STYLE HEAD PUSHBUTTON - EMERGENCY FUNCTION AS NOTED
	GROUND TEST WELL
	GROUND ROD. 3/4" X 10'-0", COPPER CLAD
PP	POWER POLE CONNECTION - 8 WIRE CONFIGURATION
PS	SECURITY OR DOOR HARDWARE POWER SUPPLY CONNECTION. VERIFY TERMINATION WITH VENDOR.
	GROUNDING - INTERIOR GROUND LOOP
	GROUNDING - EQUIPMENT BONDING CONDUCTOR
	GROUNDING - GROUNDNG CONDUCTOR
	GROUNDING - RF BARRIER

1 POWER SYMBOLS LEGEND

A	AMPERE
AB	ABOVE COUNTER
AC	ALTERNATING CURRENT
AF	AMP FRAME, AMP FUSE
AFF	ABOVE FINISHED FLOOR
AHU	AIR HANDLING UNIT
ALT	ALTERNATE
AT	AMP TRIP OR AMP TAP
ATS	AUTOMATIC TRANSFER SWITCH
AUX	AUXILIARY
AWG	AMERICAN WIRE GAGE
C	CONDUIT
CB	CIRCUIT BREAKER
CCTV	CLOSED CIRCUIT TV
CKT	CIRCUIT
℄	CENTERLINE
CLG	CEILING
CT	CURRENT TRANSFORMER
CU	COPPER
DIA	DIAMETER
DC	DIRECT CURRENT
EA	EACH
EC	ELECTRICAL CONTRACTOR
EF	EXHAUST FAN
EM	EMERGENCY
EMT	ELECTRICAL METALLIC TUBING
EX	EXISTING (EXIST)
EWC	ELECTRIC WATER COOLER
FA	FIRE ALARM / FEEDER AMPLIFIER
FDR	FEEDER
FS	FUSIBLE SWITCH
FU	FUSE
GC	GENERAL CONTRACTOR
GEN	GENERATOR
GFI	GROUND FAULT INTERRUPTER
GRD	GROUND
HH	HAND HOLE
HP	HORSEPOWER
HUH	HORIZONTAL UNIT HEATER
HZ	FREQUENCY IN CYCLES PER SECOND
JB	JUNCTION BOX
KCMIL	THOUSAND CIRCULAR MILS
KV	KILOVOLT
KVA	KILOVOLT AMPERES
KVAR	KILOVOLT AMPERES REACTIVE
KW	KILOWATT
KWH	KILOWATT HOURS
MC	METAL CLAD CABLE
MCB	MAIN CIRCUIT BREAKER
MDP	MAIN DISTRIBUTION PANEL
MCC	MOTOR CONTROL CENTER
MH	MANHOLE
MISC	MISCELLANEOUS
MLO	MAIN LUGS ONLY
MOD	MOTOR OPERATED DAMPER
MTD	MOUNTED
NC	NORMALLY CLOSED
NE	NORMAL EMERGENCY
NEC	NATIONAL ELECTRICAL CODE
NEUT	NEUTRAL
NL	NIGHTLIGHT
NF	NON FUSED
NIC	NOT IN CONTRACT
NO	NORMALLY OPEN
NTS	NOT TO SCALE
OC	ON CENTER
OCP	OVERCURRENT PROTECTIVE DEVICE
OD	OUTSIDE DIAMETER
OH	OVERHEAD
OL	OVERLOAD ELEMENT
P	POLE(S) OR PILOT
PB	PULLBOX
PF	POWER FACTOR
PL	PILOT LIGHT
PNL	PANELBOARD
PR	PAIR
PRI	PRIMARY
PVC	POLYVINYL CHLORIDE
PT	POTENTIAL TRANSFORMER
R	RELAY
RECP	RECEPTACLE
REV	REVISION
RTU	ROOF TOP UNIT
SEC	SECONDARY
SMR	SURFACE MOUNTED RACEWAY
SPECS	SPECIFICATIONS
STR	STARTER
SW	SWITCH
SWD	SWITCHBOARD
SWR	SWITCHGEAR
TEMP	TEMPORARY
TSP	TWISTED SHIELDED PAIR
TYP	TYPICAL
UG	UNDERGROUND
UNO	UNLESS NOTED OTHERWISE
UPS	UNINTERRUPTIBLE POWER SUPPLY
V	VOLT
W	WIRE
W/	WITH
WP	WEATHERPROOF
XFMR	TRANSFORMER
XP	EXPLOSION PROOF

4 ELECTRICAL ABBREVIATIONS

5 LIGHTING & LIGHTING CONTROL SYMBOLS LEGEND

	LIGHTING FIXTURE - RECESSED MOUNTED
	EMERGENCY LIGHTING FIXTURE - RECESSED MOUNTED
	LIGHTING FIXTURE - SURFACE MOUNTED
	LIGHTING FIXTURE - PENDANT MOUNTED
	LIGHTING FIXTURE - WALL MOUNTED
	LIGHTING FIXTURE STRIP
	EMERGENCY LIGHTING FIXTURE STRIP
	RECESSED DOWN LIGHT
	LIGHTING FIXTURE - WALL MOUNTED
	FLOOD TYPE LIGHTING FIXTURE OR TRACK HEAD
	EMERGENCY BATTERY PACK LIGHTING FIXTURE - WALL MOUNTED
	PENDANT MOUNTED LIGHTING FIXTURE
	PENDANT MOUNTED LIGHTING FIXTURE W/ QUARTZ RESTRIKE
	PENDANT MOUNTED LIGHTING FIXTURE W/ EMERGENCY ONLY QUARTZ SOCKET

NOTE
DESIGNATION INDICATES LIGHTING FIXTURE TYPE.
REFER TO SPECIFICATIONS FOR LIGHTING FIXTURE SCHEDULE.

	EXIT SIGN - WALL MOUNTED - SINGLE FACE
	EXIT SIGN - WALL MOUNTED - DOUBLE FACE
	EXIT SIGN - CEILING MOUNTED - SINGLE FACE
	EXIT SIGN - CEILING MOUNTED - DOUBLE FACE

NOTE
SEE FLOOR PLANS FOR EXIT SIGNS REQUIRING DIRECTIONAL ARROWS.

$	SINGLE POLE SWITCH
$OS	SENSOR SWITCH WSX (PIR LINE VOLTAGE WALL SWITCH OCCUPANCY SENSOR).
$3	3-WAY SWITCH
$4	4-WAY SWITCH
$K	KEY OPERATED SWITCH
$D	IN WALL-TYPE DIMMER
$OSD	PIR LINE VOLTAGE SWITCH VACANCY SENSOR WITH DIMMING CAPABILITY
$VSD	VACANCY SWITCH WITH DIMMING CAPABILITY
$WP	WEATHERPROOF SWITCH
$VS	SENSOR SWITCH WSX (PIR LINE VOLTAGE WALL SWITCH VACANCY SENSOR)
$LV	DATALINE SWITCH
$3LV	DATALINE SWITCH 3 WAY
OS1	SENSOR SWITCH CM-11 (PASSIVE INFRARED LOW VOLTAGE CEILING OCCUPANCY SENSOR FOR HALLWAYS)
OS2	SENSOR SWITCH CM-10 (PASSIVE INFRARED LOW VOLTAGE CEILING OCCUPANCY SENSOR)
OS3	SENSOR SWITCH CM-9 (PIR LOW VOLTAGE CEILING OCCUPANCY SENSOR)
OS4	WATTSTOPPER LMDC-100 (PIR LOW VOLTAGE CEILING OCCUPANCY SENSOR) OR APPROVED EQUAL
PP	SENSOR SWITCH PP-20 (POWER PACK FOR LOW VOLTAGE OCCUPANCY SENSORS)

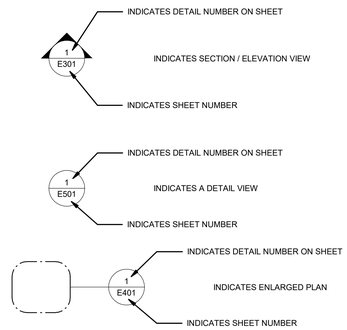
NOTE: ULTRASONIC SENSING TECHNOLOGY SHALL NOT BE UTILIZED WITHIN 10'-0" OF ANY PROPOSED FUTURE SECURE BOUNDARY. DUAL-TECH SENSORS RECOMMENDED TO BE USED OTHERWISE.

6 ELECTRICAL SINGLE LINE SYMBOLS LEGEND

	INVERTER
	DISCONNECT SWITCH
	DRAWOUT CIRCUIT BREAKER ABOVE 600V
	DRAWOUT AIR CIRCUIT BREAKER 600V AND LOWER
< >	PROVISIONAL SPACE
	FUSED SWITCH ABOVE 600V
	FUSED SWITCH 600V AND LOWER
	MOLDED CASE AIR CIRCUIT BREAKER 600V & LOWER
	TRANSFORMER
	POTENTIAL TRANSFORMER
	CURRENT TRANSFORMER - SINGLE CONDUCTOR
	LIGHTNING ARRESTER WITH GROUND
S.A.	SURGE ARRESTOR
K	KIRK KEY
SKRU	SOLENOID KEY RELEASE UNIT
F	FREQUENCY METER
V	VOLTMETER
VS	VOLTMETER SWITCH
A	AMMETER
AS	AMMETER SWITCH
51 50	INSTANTANEOUS/TIME OVERCURRENT RELAY
51N 50N	INSTANTANEOUS/TIME GROUND FAULT RELAY RESIDUAL CT CONNECTION
27	UNDERVOLTAGE RELAY
86	LOCKOUT RELAY
G	GENERATOR
XXXX	FEEDER SCHEDULE TAG
	EPMS EQUIPMENT CONNECTION
	BREAKER TRIP UNIT
GW	SERIAL TO ETHERNET GATEWAY
PQM	POWER QUALITY MONITOR
PQMT	POWER QUALITY MONITOR WITH TRANSIENT CAPTURE
VR	VOLTAGE RELAY

Permit #25-2535171-CM
RSN 1903242

2 SECTION AND ELEVATION MARKS



For foundation only, no approval for vertical construction on this permit.

Refer to table 300.5 of 2023 NEC for minimal cover requirements for 1000 volts of less, table 305.15 for greater than 1000 volts.

Call for rough electrical inspection before covering any raceways or conductors.

7 ELECTRICAL DRAWING LIST

NO.	TITLE	SCALE
E00-01	SYMBOLS, ABBREVIATIONS AND GENERAL NOTES	NONE
E01-01	POWER SITE PLAN	1" = 40'-0"
E03-11A	ROUTING FLOOR PLAN - LEVEL ONE - SEGMENT A	1/8" = 1'-0"
E03-11C	ROUTING FLOOR PLAN - LEVEL ONE - SEGMENT C	1/8" = 1'-0"
E03-11D	ROUTING FLOOR PLAN - LEVEL ONE - SEGMENT D	1/8" = 1'-0"
E03-11E	ROUTING FLOOR PLAN - LEVEL ONE - SEGMENT E	1/8" = 1'-0"
E03-11G	ROUTING FLOOR PLAN - LEVEL ONE - SEGMENT G	1/8" = 1'-0"
E03-11J	ROUTING FLOOR PLAN - LEVEL ONE - SEGMENT J	1/8" = 1'-0"
E03-11L	ROUTING FLOOR PLAN - LEVEL ONE - SEGMENT L	1/8" = 1'-0"
E03-11N	ROUTING FLOOR PLAN - LEVEL ONE - SEGMENT N	1/8" = 1'-0"
E03-11Q	ROUTING FLOOR PLAN - LEVEL ONE - SEGMENT Q	1/8" = 1'-0"
E03-11ST	ROUTING FLOOR PLAN - LEVEL ONE - SEGMENT ST	1/8" = 1'-0"
E04-01	POWER ENLARGED PLAN - LEVEL ONE	1/8" = 1'-0"
E04-02	POWER ENLARGED PLAN - LEVEL ONE	1/8" = 1'-0"
E05-01	DETAILS	NONE
E06-01	SINGLE LINE DIAGRAM - MEDIUM VOLTAGE (SUBSTATION)	NONE
E06-02	SINGLE LINE DIAGRAM - MEDIUM VOLTAGE (DH1100/2100)	NONE
E06-03	SINGLE LINE DIAGRAM - MEDIUM VOLTAGE (DH1200/2200)	NONE
E06-04	SINGLE LINE DIAGRAM - MEDIUM VOLTAGE (DH1300)	NONE
E06-05	SINGLE LINE DIAGRAM - MEDIUM VOLTAGE (DH2300)	NONE
E07-10	TYPICAL FEEDER SCHEDULE	NONE

1. THIS SCHEDULE IS A STANDARD SCHEDULE. CERTAIN SYMBOLS & ABBREVIATIONS INDICATED ON THIS SCHEDULE MAY NOT APPEAR ON THE DRAWINGS. EQUIPMENT SYMBOLS SHOWN DASHED ON THE DRAWINGS INDICATE EXISTING EQUIPMENT.
2. FOR ADDITIONAL INFORMATION, COORDINATION AND WORK REFER TO TELECOMMUNICATION DRAWINGS.
3. THE EC SHALL COORDINATE EXACT LOCATION OF FLOOR BOXES WITH THE USING AGENCY PRIOR TO INSTALLATION.
4. EQUIPMENT SYMBOLS SHOWN DASHED ON THE DRAWINGS INDICATE EXISTING EQUIPMENT OR FUTURE EQUIPMENT.
5. REFER TO ARCHITECTURAL DETAILS AND REFLECTED CEILING DRAWINGS FOR LOCATION AND COORDINATION OF LIGHTING FIXTURES IN CEILING CONSTRUCTION.

CAUTION NOTICE TO CONTRACTOR:

- THE ENGINEER OF RECORD SHALL REVIEW THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES AND INCORPORATE INTO THE CONSTRUCTION DOCUMENTS BASED ON RECORDS OF THE VARIOUS UTILITY COMPANIES AND, WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THE ENGINEER OF RECORD SHALL INVESTIGATE THE LOCATION OF THE PROPOSED UTILITIES TO CONFIRM COMPLIANCE WITH THE LOCAL AUTHORITY HAVING JURISDICTION AND ALL APPLICABLE CODES. UTILITY FEEDS TO THE FACILITY SHALL BE DIVERSE PATHS AS REQUIRED AND OUTLINED WITHIN THE OPR DOCUMENT.
- THE CONTRACTOR SHALL CONFIRM ALL FINAL CONNECTION POINTS TO EXISTING UTILITIES.
- THIS SITE CONTAINS BOTH UTILITY AND OWNER UNDERGROUND UTILITIES. CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING ALL EXCAVATING ACTIVITIES WITH BOTH OWNER AND UTILITY.

QTS Freedom Standard - Version Matrix
Project: DEN1-DC2 V3.0-rev3

Design Deliverable:
QTS Design Standards will be utilized as the Basis Of Design for the Data Center Building.
Design Consultant team to notate Version of QTS Design Standards.

Design Discipline	QTS Design Standard		
	Design...	DD Drawing Set	Reference File
Civil	V3.0	N/A	
General	V3.0	V3.0	
Structural	V3.0	V3.0	LC BIM MODEL
Architectural	V3.0	V3.0	LC BIM MODEL
Fire Alarm	V3.0	V3.0	
Fire Protection	V3.0	V3.0	
Plumbing	V3.0	V3.0	
Process (I&C)	See Below	V3.0	LC BIM MODEL
Mechanical	V3.0	V3.0	LC BIM MODEL
Electrical	V3.0	V3.0	LC BIM MODEL
Technology (Telecom)	V3.0	V3.0	
Audio Visual	N/A	V3.0	
Security	V3.0	V3.0	
Interior Standards	V3.0	See Architectural	3.0-rev1
Signage			INTrev4...
SDIs	N/A	N/A	SDI-018(v3.0) thru SDI-25.03.04
OFCI Catalog	V4.0		
SOO Catalog	V2.0		

Design Discipline	Q-Systems Design Standard BODs Version
Data Telecom BOD	Freedom Standard - Data Telecom - 04.14.2024
Physical Security BOD	Freedom Standard - Security Systems - 05.10.2024
DCIM - BMS BOD	Freedom Standard - BMS Content Consolidation - 09.16.2024
DCIM - EPMS BOD	Freedom Standard - EPMS Content Consolidation - 09.16.2024
Federal BOD	Federal Standard - V1.0

FORMAT

GROUP 1 SITE	GROUP 2 BUILDING	GROUP 3 EQUIPMENT	GROUP 4 SYSTEM	GROUP 5 SEQUENCE
XXXX	XXX	XXXX	XXXX	XX

XXXX-XXX EXAMPLES

XXXX-XXX-UTL-A (UTILITY FEED A)
XXXX-XXX-UTL-B (UTILITY FEED B)
XXXX-XXX-MVG-01 (MEDIUM VOLTAGE GEAR 01)
XXXX-XXX-SUB-A11 (SUBSTATION A1)
XXXX-XXX-SUB-B11 (SUBSTATION B1)
XXXX-XXX-SUB-A1-2 (SUBSTATION A1 FEEDER BREAKER #2)
XXXX-XXX-UPS-A11 (UPS SYSTEM A11)
XXXX-XXX-UPS-A11-3 (UPS SYSTEM A11 - UNIT #3)
XXXX-XXX-COD-A11 (COD BOARD A11)
XXXX-XXX-COD-A11-1 (COD BOARD A11 - BREAKER #1)
XXXX-XXX-STS-A11R11-03 (3RD STS UNIT FED FROM CODs A11 AND R11)
XXXX-XXX-PDU-A11R11-03 (PDU UNIT FED FROM STS-A11R11-03)
XXXX-XXX-PNL-A11R11-03-A (PANEL A FED FROM PDU-A11R11-03)
XXXX-XXX-CKT-A11R11-03-A-01,03,05 (3-PHASE CIRCUIT)

8 ELECTRICAL EQUIPMENT NAMING STANDARD

VOLTAGE DROP NOTE:

THE FOLLOWING LIST APPLIES TO ALL NEW 20A BRANCH WIRING PROVIDED UNDER THIS CONTRACT. LISTS INDICATED THE NECESSARY GAUGE OF CONDUCTORS NECESSARY FOR BRANCH CIRCUITS ONE WAY FROM PANEL TO LAST OUTLET OR LIGHTING FIXTURE ON THE CIRCUIT:

120/208V CIRCUITS	WIRE SIZE	277V CIRCUITS
• 0-65 FEET	No. 12 AWG	0-150 FEET
• 66-145 FEET	No. 10 AWG	151-250 FEET
• 146-160 FEET	No. 8 AWG	251-375 FEET

9 VOLTAGE DROP REQUIREMENTS

CODES AND AMENDMENTS

- 2021 INTERNATIONAL BUILDING CODE
- 2021 INTERNATIONAL PLUMBING CODE
- 2021 INTERNATIONAL MECHANICAL CODE
- 2021 INTERNATIONAL ENERGY CONSERVATION CODE
- 2021 INTERNATIONAL FUEL GAS CODE
- 2021 INTERNATIONAL FIRE CODE
- 2023 NFPA 70, NATIONAL ELECTRICAL CODE (NEC)
- LOCAL FIRE DEPARTMENT REQUIREMENTS
- COLORADO ACCESSIBILITY CODE 2017/ANSI A117.1
- NATIONAL FIRE PROTECTION ASSOCIATION CODES
- ENGINEER OF RECORD SHALL INCLUDE ALL INTERNATIONAL, STATE AND LOCAL CODES APPLICABLE BASED ON LOCATION AND JURISDICTION OF BUILDING SITE. ENGINEER OF RECORD SHALL USE THE LATEST VERSIONS OF CODES ADOPTED BY THE JURISDICTION OF BUILDING SITE.

10 CODES

11 ELECTRICAL GENERAL NOTES

12 DESIGN STANDARDS

CORGAN
401 N. Houston Street Dallas, TX 75202
T: 214.748.2000

AG/E

SYSKA HENNESSY GROUP

DESIGN CONSULTING LLC

ISSUES

1	12.20.24	DESIGN DEVELOPMENT
2	01.31.25	ISSUE FOR PERMIT
3	05.30.25	FOUNDATIONS ONLY IFP
4		
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REVISIONS

A	03.28.25	ADDENDUM 1
1	05.30.25	ISSUE FOR CONSTRUCTION

COLORADO REGISTERED JAMES SCOTT COPE 34544 PROFESSIONAL ENGINEER
5/30/2025

Date of issue:
05.30.25

QTS DEN1 DC2
1140 N. GUN CLUB ROAD
QTS

SYMBOLS, ABBREVIATIONS AND GENERAL NOTES

JOB 24464.0000
DATE 05.30.25
SHEET

E00-01

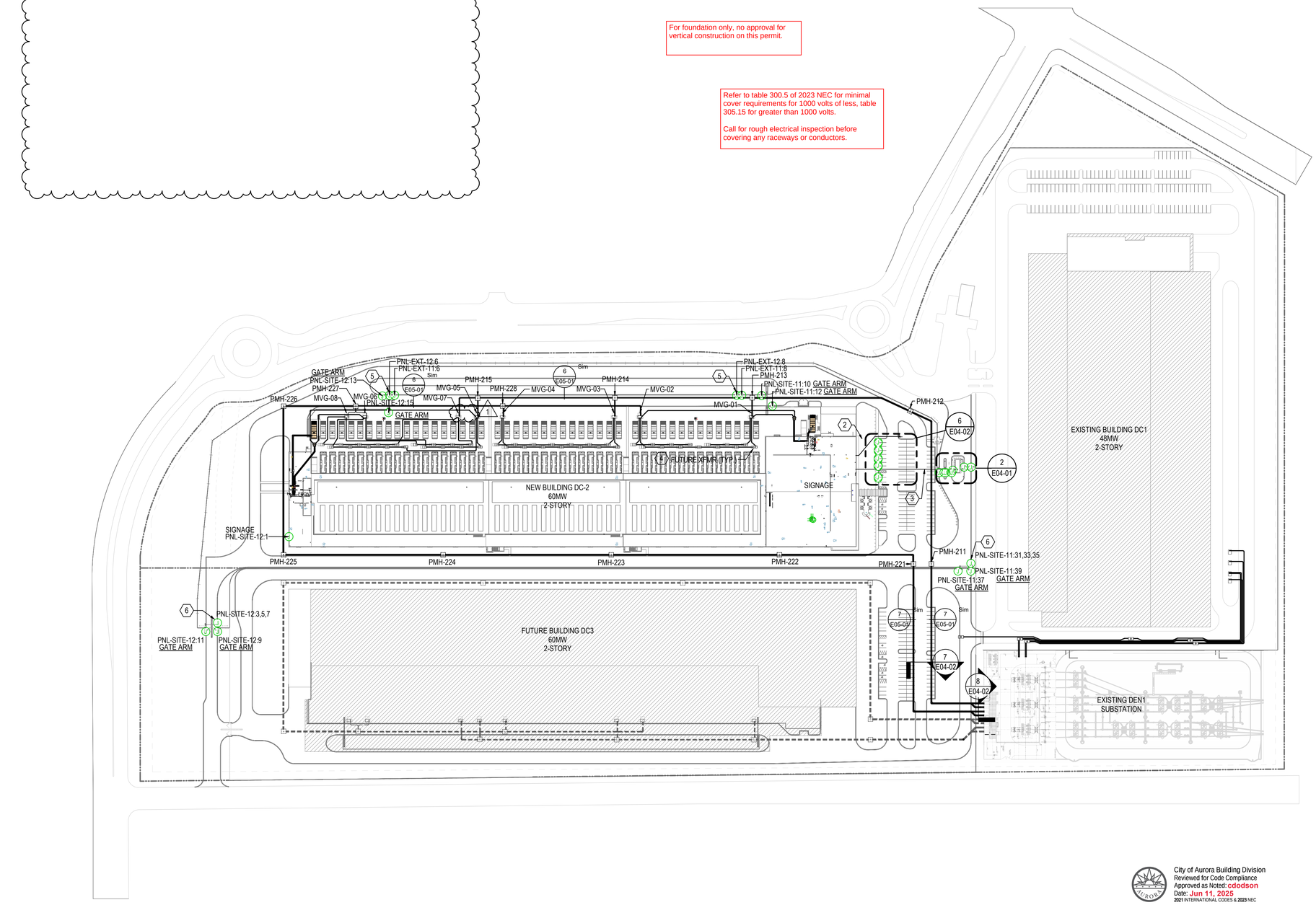
5/30/2025 1:48:03 PM E00-01 SYMBOLS, ABBREVIATIONS AND GENERAL NOTES

Permit #25-2535171-CM
RSN 1903242

For foundation only, no approval for vertical construction on this permit.

Refer to table 300.5 of 2023 NEC for minimal cover requirements for 1000 volts of less, table 305.15 for greater than 1000 volts.

Call for rough electrical inspection before covering any raceways or conductors.



1 LEVEL 1 POWER SITE PLAN
SCALE: 1" = 100'-0"

City of Aurora Building Division
Reviewed for Code Compliance
Approved as Noted: cdodson
Date: Jun 11, 2025
2021 INTERNATIONAL CODES & 2023 NEC

SHEET NOTES:

A. SEE DRAWING E00-01 FOR LEGENDS, NOTES AND ABBREVIATIONS.
B. COORDINATE ALL CONDUIT ROOF PENETRATIONS WITH ROOF DRAWINGS.
C. COORDINATE STUB UP LOCATIONS WITH EQUIPMENT MANUFACTURER SITE SPECIFIC SHOP DRAWINGS PRIOR TO INSTALLATION.
D. UNDERGROUND DUCT BANKS OUTSIDE OF THE BUILDING SHALL BE INSTALLED AS SHALLOW AS POSSIBLE, MINIMUM 30" COVER. COORDINATE MAXIMUM ALLOWED DEPTHS AND INFILL REQUIREMENTS WITH E5 SERIES.
E. COORDINATE UNDERGROUND CONDUITS WITH OTHER TRADES PRIOR TO INSTALLATION.
F. COORDINATE VAULT QUANTITY AND LOCATIONS WITH CABLING/PULL CALCULATIONS AND CONTRACTOR SUBMITTALS.
G. REFER TO TELECOM DRAWINGS FOR COMMUNICATIONS SITE PLAN.
H. ALL ROUTING OF UNDERGROUND FEEDERS SHALL BE COORDINATED WITH ALL OTHER UTILITIES.
I. ALL LOCATIONS AND ROUTING OF ELECTRICAL UTILITIES ARE APPROXIMATE. CONTRACTOR SHALL COORDINATE EXACT LOCATIONS, CONDUIT, ROUTING, AND ELEVATIONS WITH ALL TRADES INCLUDING CIVIL DRAWINGS SO THAT OTHER UTILITIES WILL PASS BELOW ELECTRICAL DUCT BANK AND NOTIFY ENGINEER OF ANY DISCREPANCIES ENCOUNTERED.
J. MANHOLES AND DUCTBANK ASSOCIATED WITH BUILDING DC3 IS FUTURE.
K. CABLE BUS ROUTING IS DIAGRAMMATIC AND SHALL BE COORDINATED WITH MANUFACTURER. PROVIDE SHOP DRAWINGS FOR ENGINEERING REVIEW AND APPROVAL PRIOR TO INSTALLATION.
L. MAXIMUM DISTANCE BETWEEN VAULTS FOR UNDERGROUND MEDIUM VOLTAGE FEEDERS SHALL BE 450 FEET.

KEYNOTES:

1. PROVIDE CONNECTION TO DUAL EV CHARGING STATION - (2)1"C.-2#8 & 1#10 GND.
2. PROVIDE (1) 2 1/2"C + (1) SPARE 2 1/2"C FOR POWER TO EV TRANSFORMER. CONDUIT SHALL STUB UP WITHIN THE BUILDING AND ROUTE OVERHEAD BACK TO THE HOUSE ELECTRICAL ROOM.
3. PROVIDE (1) 1"C + (1) SPARE 1"C FOR POWER TO GUARD HOUSE. CONDUIT SHALL STUB UP WITHIN THE BUILDING AND ROUTE OVERHEAD BACK TO THE HOUSE ELECTRICAL ROOM.
4. PROVIDE TRANSFORMER SLAB BOX WITH CONDUIT STUB-UPS AS INDICATED ON SINGLE LINE. PROVIDE VOID SPACE FOR PRIMARY CONDUIT TERMINATION IN ACCORDANCE WITH NEC REQUIREMENTS FOR WIRE BENDING SPACE.
5. PROVIDE DUAL REDUNDANT 120V/20A FEEDS FOR NEW EXTERIOR SECURITY PANEL. COORDINATE FINAL LOCATION WITH SECURITY DRAWINGS AND INSTALLER.
6. PROVIDE POWER CONNECTION TO GATE ARM - 1"C.-3#8 & 1#10 GND.

5/30/2025 1:48:45 PM E01-01 POWER SITE PLAN

CORGAN
401 N. Houston Street Dallas, TX
75202
T: 214.748.2000

AG/E

SYSKA HENNESSY GROUP

DESIGN CONSULTING LLC

	ISSUES	
1	12.20.24	DESIGN DEVELOPMENT
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	REVISIONS	
A	03.28.25	ADDENDUM 1
1	05.30.25	ISSUE FOR CONSTRUCTION

COLORADO REGISTERED JAMES SCOTT COE 34544 PROFESSIONAL ENGINEER
5/30/2025

Date of issue:
05.30.25

QTS DEN1 DC2
1140 N. GUN CLUB ROAD
QTS

KEYPLAN

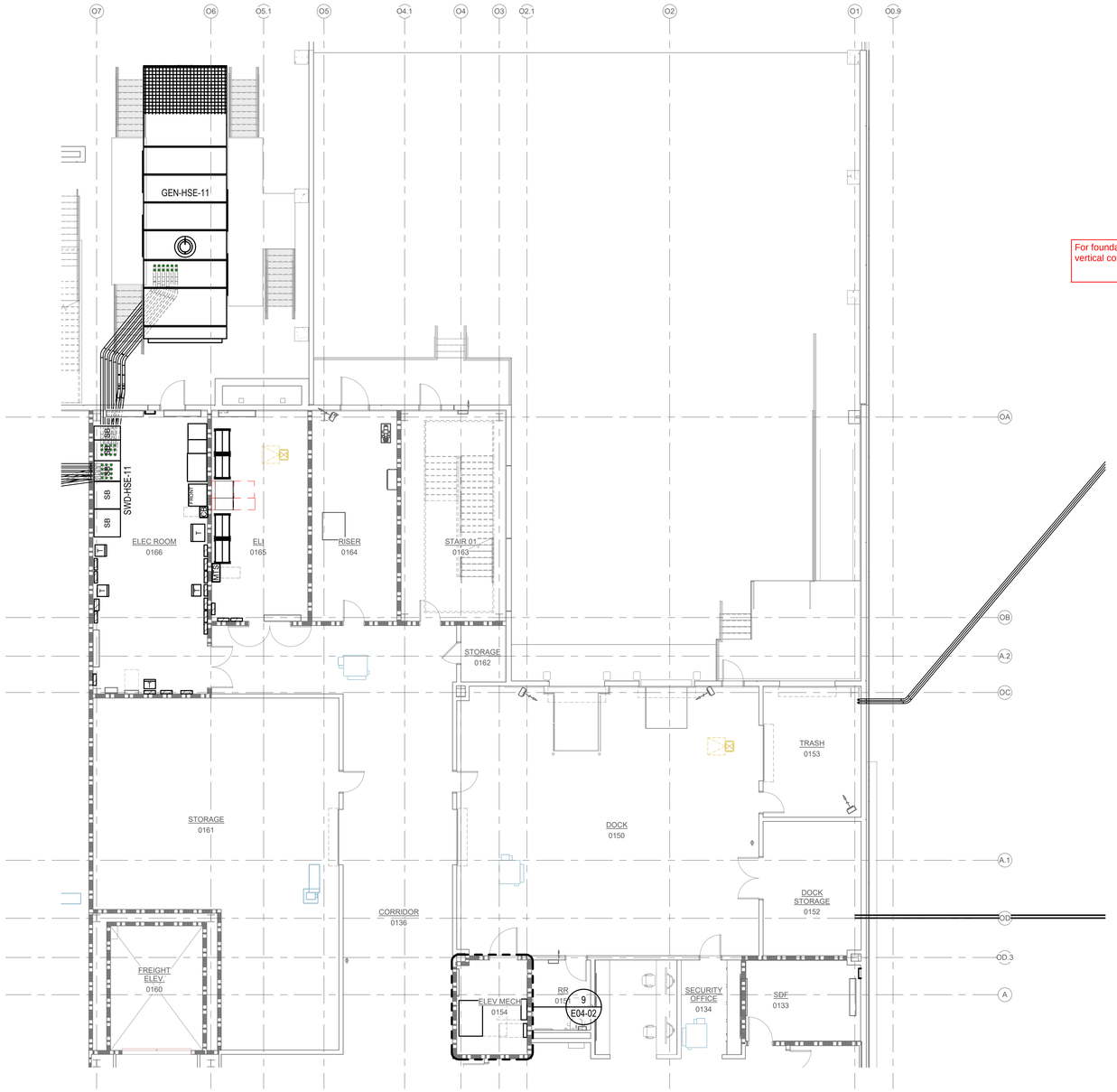
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POWER SITE PLAN

JOB 24464.0000
DATE 05.30.25
SHEET

E01-01

Permit #25-2535171-CM
RSN 1903242



1 LEVEL 1 ROUTING PLAN - A
SCALE: 1/8" = 1'-0"

For foundation only, no approval for vertical construction on this permit.

Refer to table 300.5 of 2023 NEC for minimal cover requirements for 1000 volts of less, table 305.15 for greater than 1000 volts.

Call for rough electrical inspection before covering any raceways or conductors.

City of Aurora Building Division
Reviewed for Code Compliance
Approved as Noted: cdodson
Date: Jun 11, 2025
2021 INTERNATIONAL CODES & 2023 NEC

SHEET NOTES

A. SEE DRAWING E00-01 FOR LEGENDS, NOTES AND ABBREVIATIONS.
B. SEE E6 DRAWING SERIES AND E07-10 FOR ADDITIONAL INFORMATION ON CONDUCTOR SIZES AND TERMINATION POINTS. REFER TO E05-01 FOR UNDERGROUND DUCTBANK DETAILS.
C. CONTRACTOR SHALL BE REPONSIBLE FOR CONFIRMING WIDTH OF CABLE TRAY BASED ON INSTALLED CONDUCTOR(S).
D. PROVIDE BONDING OF CABLE TRAYS PER NEC 250.92, 250.96, AND GROUNDING PER 250.120, 250.122 AND PER NEC 392.
E. COORDINATE STUB-UP LOCATION WITH EQUIPMENT MANUFACTURER SITE SPECIFIC SHOP DRAWINGS PRIOR TO INSTALLATION.
F. COORDINATE UNDERGROUND CONDUITS WITH OTHER TRADES PRIOR TO INSTALLATION.
G. COORDINATE WITH OWNER THE EXTENT OF WORK TO BE CONSTRUCTED. STUB CONDUITS FOR FUTURE PHASES AT LIMIT OF WORK AND CAP FOR FUTURE EXTENSION.
H. UNDERGROUND ROUTING SHOWN FOR REFERENCE ONLY. ALL FINAL ROUTING SHALL BE THE RESPONSIBILITY OF THE INSTALLING CONTRACTOR. CONTRACTOR SHALL RUN PULL CALCULATIONS PRIOR TO INSTALL.
I. REFER TO NEHER-MCGRATH REPORT FOR ADDITIONAL DETAILS. INSTALLING CONTRACTOR SHALL BE RESPONSIBLE FOR RECALCULATING ANY ROUTING THAT DEVIATES FROM THE ENGINEER PROVIDED CALCUALTIONS AND LIMITATIONS.

SHEET KEYNOTES

CORGAN
401 N. Houston Street Dallas, TX
75202
T: 214.748.2000

AG/E

SYSKA HENNESSY GROUP

TLD DESIGN CONSULTING LLC

ISSUES

1	12.20.24	DESIGN DEVELOPMENT
2	01.31.25	ISSUE FOR PERMIT
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REVISIONS

A	03.28.25	ADDENDUM 1

COLORADO REGISTERED JAMES SCOTT COE 34544 PROFESSIONAL ENGINEER
5/30/2025

Date of issue:
05.30.25

QTS DEN1 DC2
1140 N. GUN CLUB ROAD
QTS

KEYPLAN

S Q N L J G E C A
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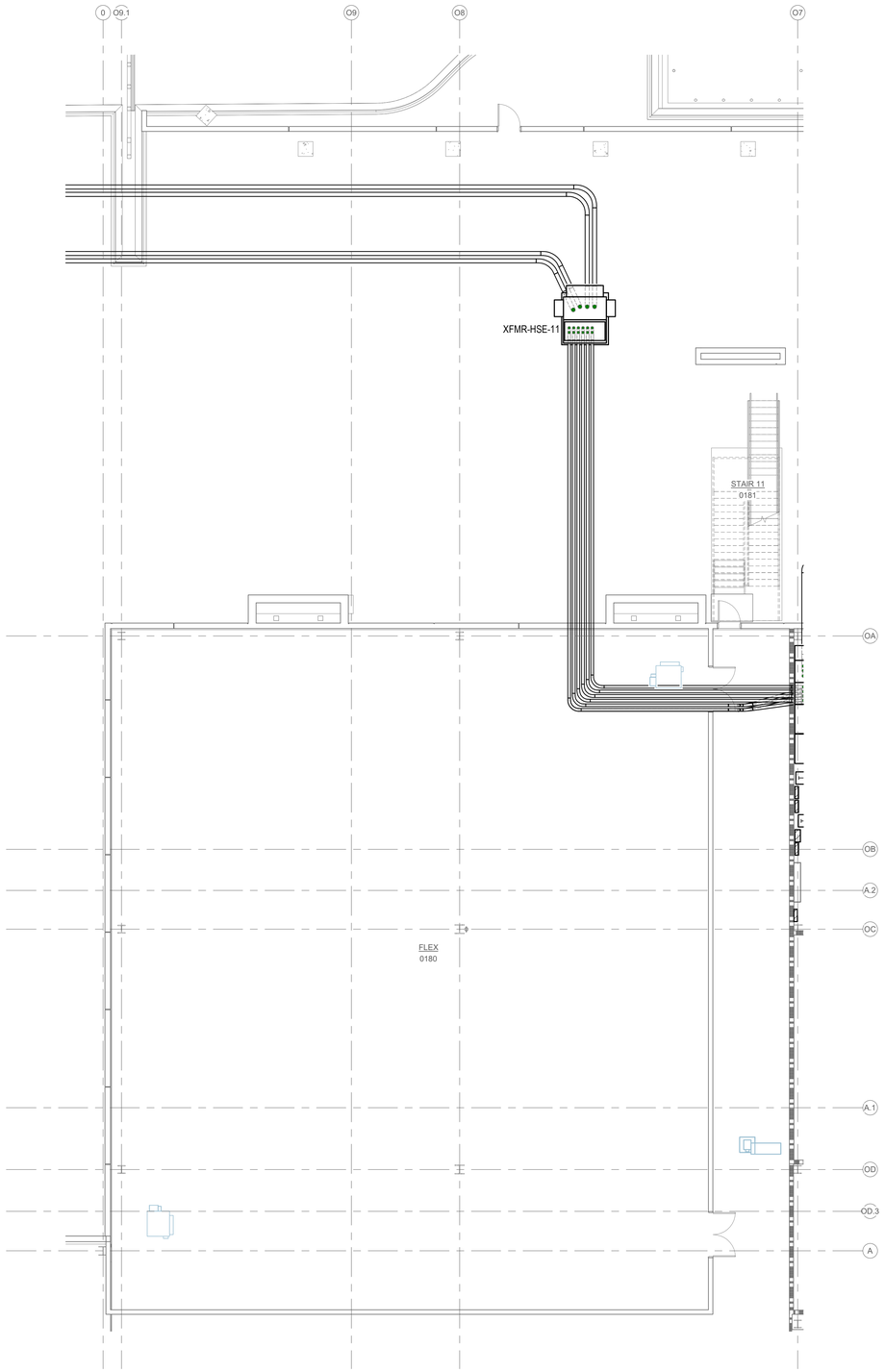
ROUTING FLOOR PLAN - LEVEL ONE - SEGMENT A

JOB 24464.0000
DATE 05.30.25
SHEET

E03-11A

5/30/2025 1:56:11 PM E03-11A ROUTING FLOOR PLAN - LEVEL ONE - SEGMENT A

Permit #25-2535171-CM
RSN 1903242



1 LEVEL 1 ROUTING PLAN - C
SCALE: 1/8" = 1'-0"

SHEET NOTES

A. SEE DRAWING E00-01 FOR LEGENDS, NOTES AND ABBREVIATIONS.
B. SEE E6 DRAWING SERIES AND E07-10 FOR ADDITIONAL INFORMATION ON CONDUCTOR SIZES AND TERMINATION POINTS. REFER TO E05-01 FOR UNDERGROUND DUCTBANK DETAILS.
C. CONTRACTOR SHALL BE REPONSIBLE FOR CONFIRMING WIDTH OF CABLE TRAY BASED ON INSTALLED CONDUCTOR(S).
D. PROVIDE BONDING OF CABLE TRAYS PER NEC 250.92, 250.96, AND GROUNDING PER 250.120, 250.122 AND PER NEC 392.
E. COORDINATE STUB-UP LOCATION WITH EQUIPMENT MANUFACTURER SITE SPECIFIC SHOP DRAWINGS PRIOR TO INSTALLATION.
F. COORDINATE UNDERGROUND CONDUITS WITH OTHER TRADES PRIOR TO INSTALLATION.
G. COORDINATE WITH OWNER THE EXTENT OF WORK TO BE CONSTRUCTED. STUB CONDUITS FOR FUTURE PHASES AT LIMIT OF WORK AND CAP FOR FUTURE EXTENSION.
H. UNDERGROUND ROUTING SHOWN FOR REFERENCE ONLY. ALL FINAL ROUTING SHALL BE THE RESPONSIBILITY OF THE INSTALLING CONTRACTOR. CONTRACTOR SHALL RUN PULL CALCULATIONS PRIOR TO INSTALL.
I. REFER TO NEHER-MCGRATH REPORT FOR ADDITIONAL DETAILS. INSTALLING CONTRACTOR SHALL BE RESPONSIBLE FOR RECALCULATING ANY ROUTING THAT DEVIATES FROM THE ENGINEER PROVIDED CALCUALTIONS AND LIMITATIONS.

SHEET KEYNOTES

For foundation only, no approval for vertical construction on this permit.

Refer to table 300.5 of 2023 NEC for minimal cover requirements for 1000 volts of less, table 305.15 for greater than 1000 volts.

Call for rough electrical inspection before covering any raceways or conductors.

City of Aurora Building Division
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Approved as Noted: cdodson
Date: Jun 11, 2025
2021 INTERNATIONAL CODES & 2023 NEC

CORGAN
401 N. Houston Street Dallas, TX
75202
T: 214.748.2000

AG/E

SYSKA HENNESSY GROUP

TLD DESIGN CONSULTING LLC

ISSUES

1	12.20.24	DESIGN DEVELOPMENT
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3	05.30.25	FOUNDATIONS ONLY IFP
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REVISIONS

COLORADO REGISTERED JAMES SCOTT COPE 34544 PROFESSIONAL ENGINEER
5/30/2025

Date of issue:
05.30.25

QTS DEN1 DC2
1140 N. GUN CLUB ROAD
QTS

KEYPLAN

S	Q	N	L	J	G	E	C	A
T	R	P	M	K	H	F	D	B

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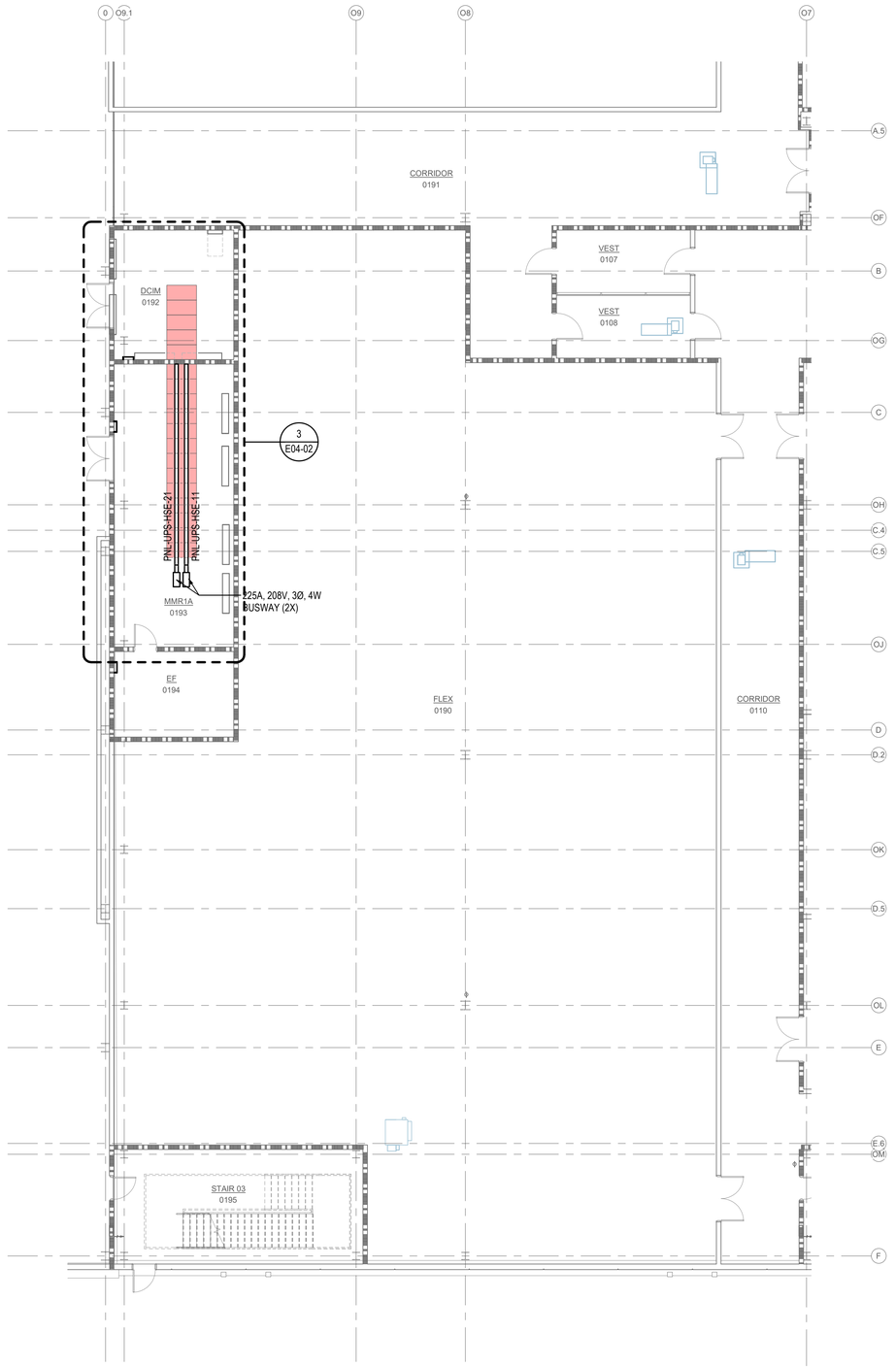
ROUTING FLOOR PLAN - LEVEL ONE - SEGMENT C

JOB 24464.0000
DATE 05.30.25
SHEET

E03-11C

5/30/2025 1:56:17 PM E03-11C ROUTING FLOOR PLAN - LEVEL ONE - SEGMENT C

Permit #25-2535171-CM
RSN 1903242



1 LEVEL 1 ROUTING PLAN - D
SCALE: 1/8" = 1'-0"

SHEET NOTES

A. SEE DRAWING E00-01 FOR LEGENDS, NOTES AND ABBREVIATIONS.
B. SEE E6 DRAWING SERIES AND E07-10 FOR ADDITIONAL INFORMATION ON CONDUCTOR SIZES AND TERMINATION POINTS. REFER TO E05-01 FOR UNDERGROUND DUCTBANK DETAILS.
C. CONTRACTOR SHALL BE REPONSIBLE FOR CONFIRMING WIDTH OF CABLE TRAY BASED ON INSTALLED CONDUCTOR(S).
D. PROVIDE BONDING OF CABLE TRAYS PER NEC 250.92, 250.96, AND GROUNDING PER 250.120, 250.122 AND PER NEC 392.
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G. COORDINATE WITH OWNER THE EXTENT OF WORK TO BE CONSTRUCTED. STUB CONDUITS FOR FUTURE PHASES AT LIMIT OF WORK AND CAP FOR FUTURE EXTENSION.
H. UNDERGROUND ROUTING SHOWN FOR REFERENCE ONLY. ALL FINAL ROUTING SHALL BE THE RESPONSIBILITY OF THE INSTALLING CONTRACTOR. CONTRACTOR SHALL RUN PULL CALCULATIONS PRIOR TO INSTALL.
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SHEET KEYNOTES

For foundation only, no approval for vertical construction on this permit.

Refer to table 300.5 of 2023 NEC for minimal cover requirements for 1000 volts of less, table 305.15 for greater than 1000 volts.

Call for rough electrical inspection before covering any raceways or conductors.

City of Aurora Building Division
Reviewed for Code Compliance
Approved as Noted: cdodson
Date: Jun 11, 2025
2021 INTERNATIONAL CODES & 2023 NEC

CORGAN
401 N. Houston Street Dallas, TX
75202
T: 214.748.2000

AG/E

SYSKA HENNESSY GROUP

DESIGN CONSULTING LLC

ISSUES

1	12.20.24	DESIGN DEVELOPMENT
2	01.31.25	ISSUE FOR PERMIT
3	05.30.25	FOUNDATIONS ONLY IFP
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REVISIONS

A	03.28.25	ADDENDUM 1

COLORADO REGISTERED
JAMES SCOTT COPE
34544
PROFESSIONAL ENGINEER
5/30/2025

Date of issue:
05.30.25

QTS DEN1 DC2
1140 N. GUN CLUB ROAD
QTS

KEYPLAN

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T	R	P	M	K	H	F	D	B	

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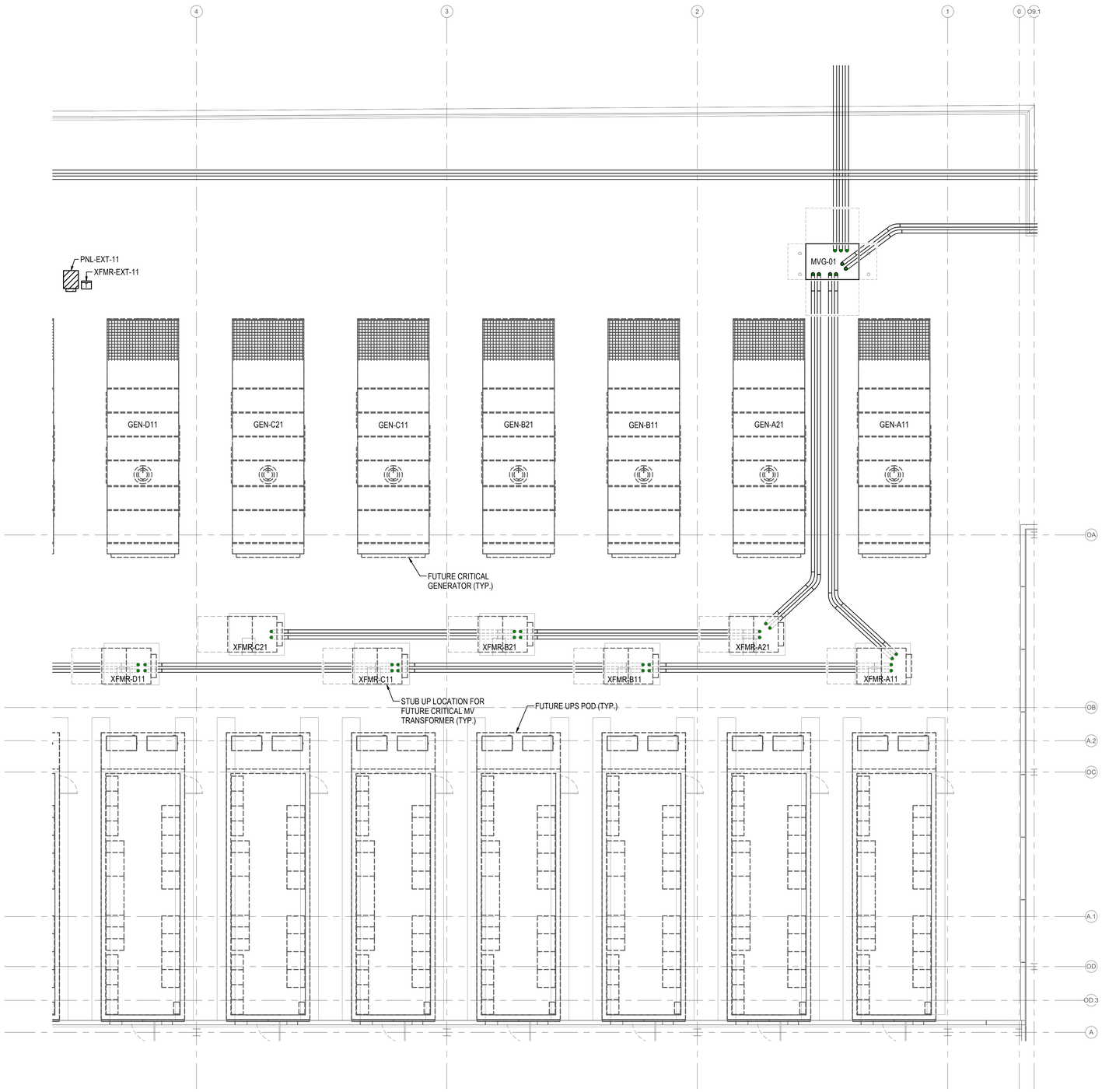
ROUTING FLOOR PLAN - LEVEL ONE - SEGMENT D

JOB 24464.0000
DATE 05.30.25
SHEET

E03-11D

5/30/2025 1:56:24 PM E03-11D ROUTING FLOOR PLAN - LEVEL ONE - SEGMENT D

Permit #25-2535171-CM
RSN 1903242



1 LEVEL 1 ROUTING PLAN - E
SCALE: 1/8" = 1'-0"

SHEET NOTES

A. SEE DRAWING E00-01 FOR LEGENDS, NOTES AND ABBREVIATIONS.
B. SEE E6 DRAWING SERIES AND E07-10 FOR ADDITIONAL INFORMATION ON CONDUCTOR SIZES AND TERMINATION POINTS. REFER TO E05-01 FOR UNDERGROUND DUCTBANK DETAILS.
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SHEET KEYNOTES

For foundation only, no approval for vertical construction on this permit.

Refer to table 300.5 of 2023 NEC for minimal cover requirements for 1000 volts of less, table 305.15 for greater than 1000 volts.

Call for rough electrical inspection before covering any raceways or conductors.

City of Aurora Building Division
Reviewed for Code Compliance
Approved as Noted: cdodson
Date: Jun 11, 2025
2021 INTERNATIONAL CODES & 2023 NEC

CORGAN
401 N. Houston Street Dallas, TX 75202
T: 214.748.2000

AG/E

SYSKA HENNESSY GROUP

TLD DESIGN CONSULTING LLC

ISSUES

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2	01.31.25	ISSUE FOR PERMIT
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REVISIONS

COLORADO REGISTERED JAMES SCOTT COPE 34544 PROFESSIONAL ENGINEER
5/30/2025

Date of issue:
05.30.25

QTS DEN1 DC2
1140 N. GUN CLUB ROAD
QTS

KEYPLAN

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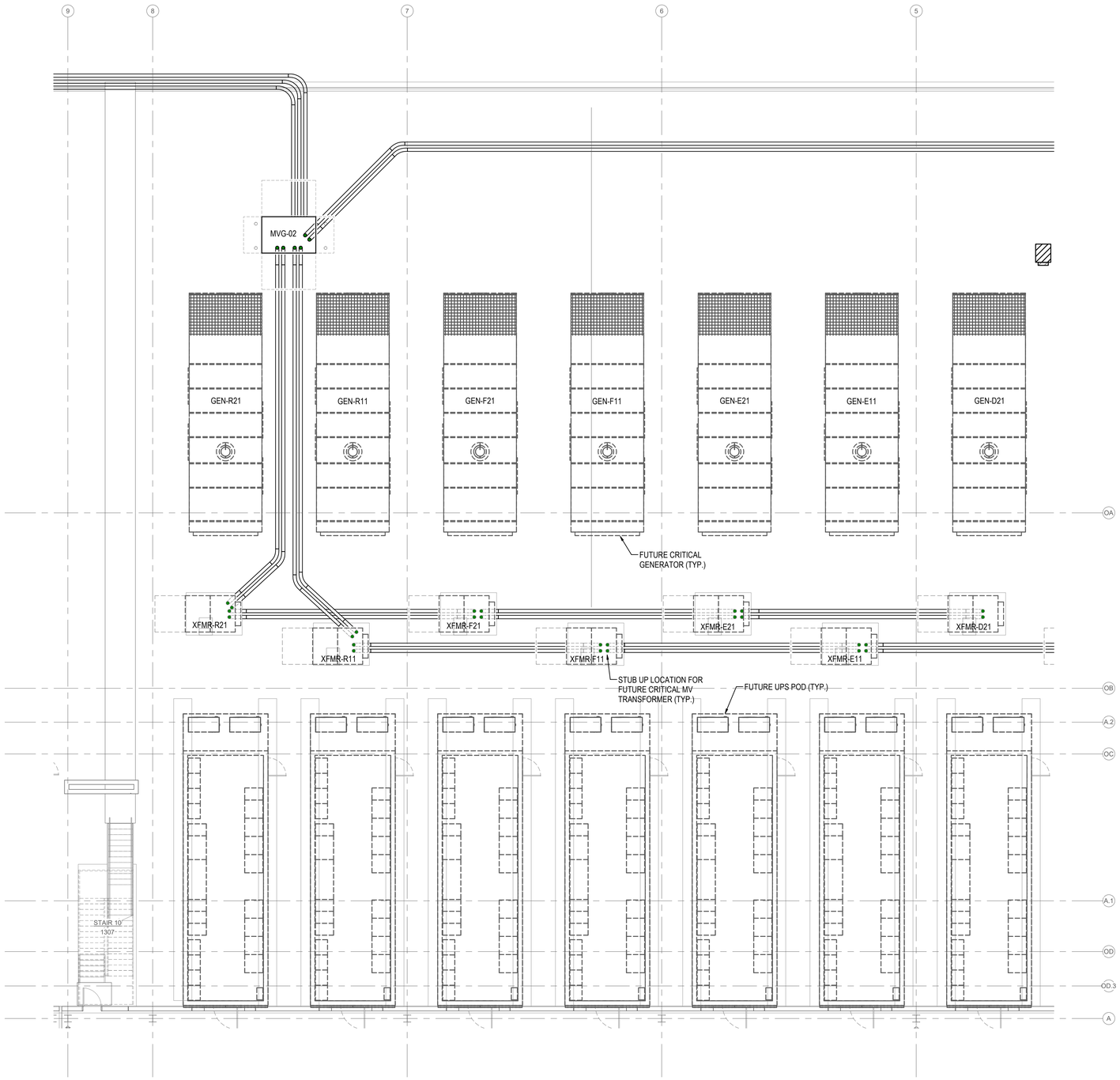
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ROUTING FLOOR PLAN - LEVEL ONE - SEGMENT E

JOB 24464.0000
DATE 05.30.25
SHEET

E03-11E

Permit #25-2535171-CM
RSN 1903242



1 LEVEL 1 ROUTING PLAN - G
SCALE: 1/8" = 1'-0"

SHEET NOTES

A. SEE DRAWING E00-01 FOR LEGENDS, NOTES AND ABBREVIATIONS.
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SHEET KEYNOTES

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City of Aurora Building Division
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Date: Jun 11, 2025
2021 INTERNATIONAL CODES & 2023 NEC

CORGAN
401 N. Houston Street Dallas, TX 75202
T: 214.748.2000

AG/E

SYSKA HENNESSY GROUP

DESIGN CONSULTING LLC

ISSUES

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REVISIONS

COLORADO REGISTERED JAMES SCOTT COPE 34544 PROFESSIONAL ENGINEER
5/30/2025

Date of issue:
05.30.25

QTS DEN1 DC2
1140 N. GUN CLUB ROAD
QTS

KEYPLAN

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T	R	P	M	K	H	F	D	B	

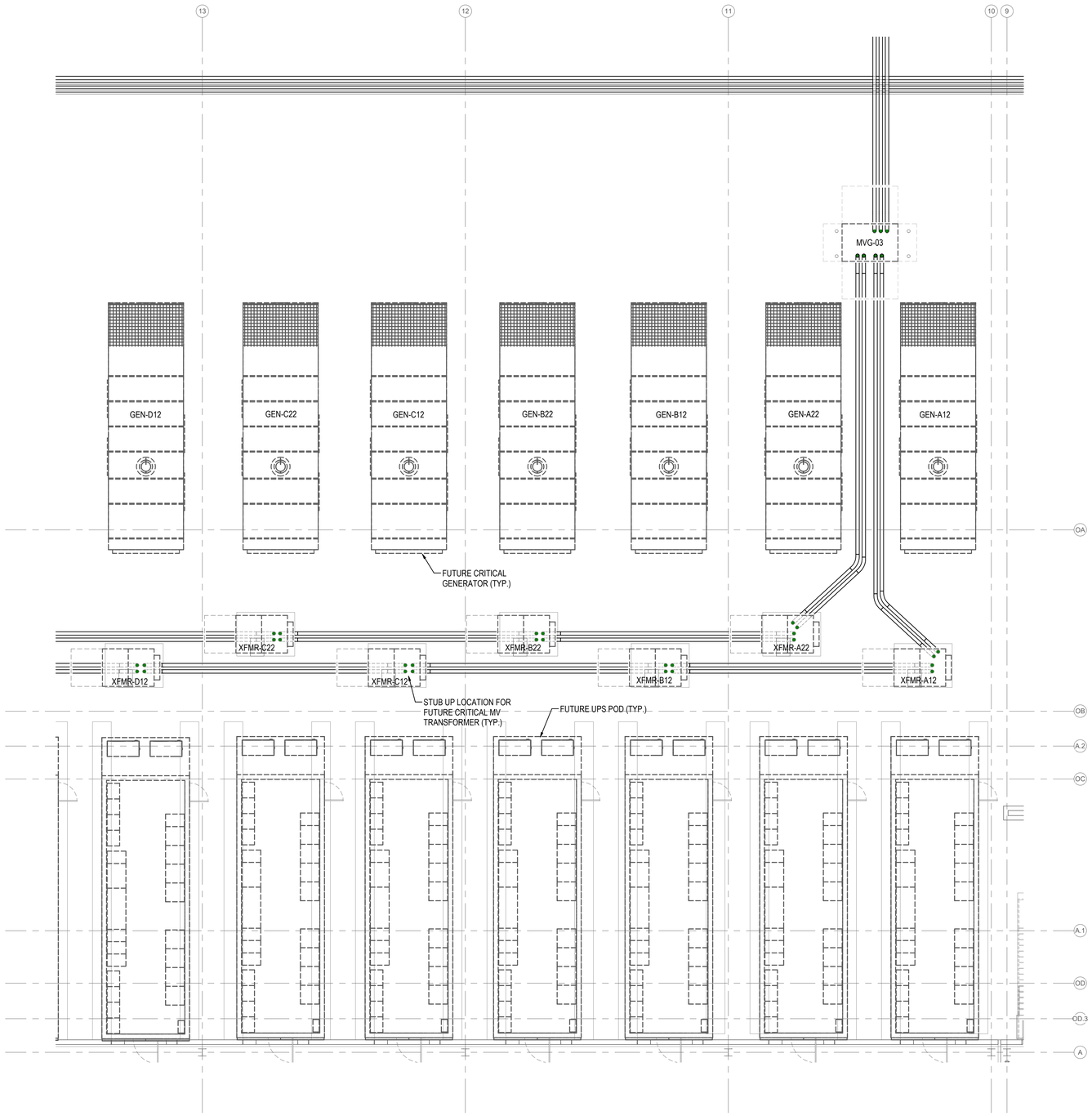
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ROUTING FLOOR PLAN - LEVEL ONE - SEGMENT G

JOB 24464.0000
DATE 05.30.25
SHEET

E03-11G

Permit #25-2535171-CM
RSN 1903242



1 LEVEL 1 ROUTING PLAN - J
SCALE: 1/8" = 1'-0"

SHEET NOTES

A. SEE DRAWING E00-01 FOR LEGENDS, NOTES AND ABBREVIATIONS.
B. SEE E6 DRAWING SERIES AND E07-10 FOR ADDITIONAL INFORMATION ON CONDUCTOR SIZES AND TERMINATION POINTS. REFER TO E05-01 FOR UNDERGROUND DUCTBANK DETAILS.
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SHEET KEYNOTES

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City of Aurora Building Division
Reviewed for Code Compliance
Approved as Noted: cdodson
Date: Jun 11, 2025
2021 INTERNATIONAL CODES & 2023 NEC

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Call for rough electrical inspection before covering any raceways or conductors.

CORGAN
401 N. Houston Street Dallas, TX 75202
T: 214.748.2000

AG/E

SYSKA HENNESSY GROUP

TLD DESIGN CONSULTING LLC

ISSUES		
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REVISIONS

COLORADO REGISTERED JAMES SCOTT COPE 34544 PROFESSIONAL ENGINEER
5/30/2025

Date of issue:
05.30.25

QTS DEN1 DC2
1140 N. GUN CLUB ROAD
QTS

KEYPLAN

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T	R	P	M	K	H	F	D	B	

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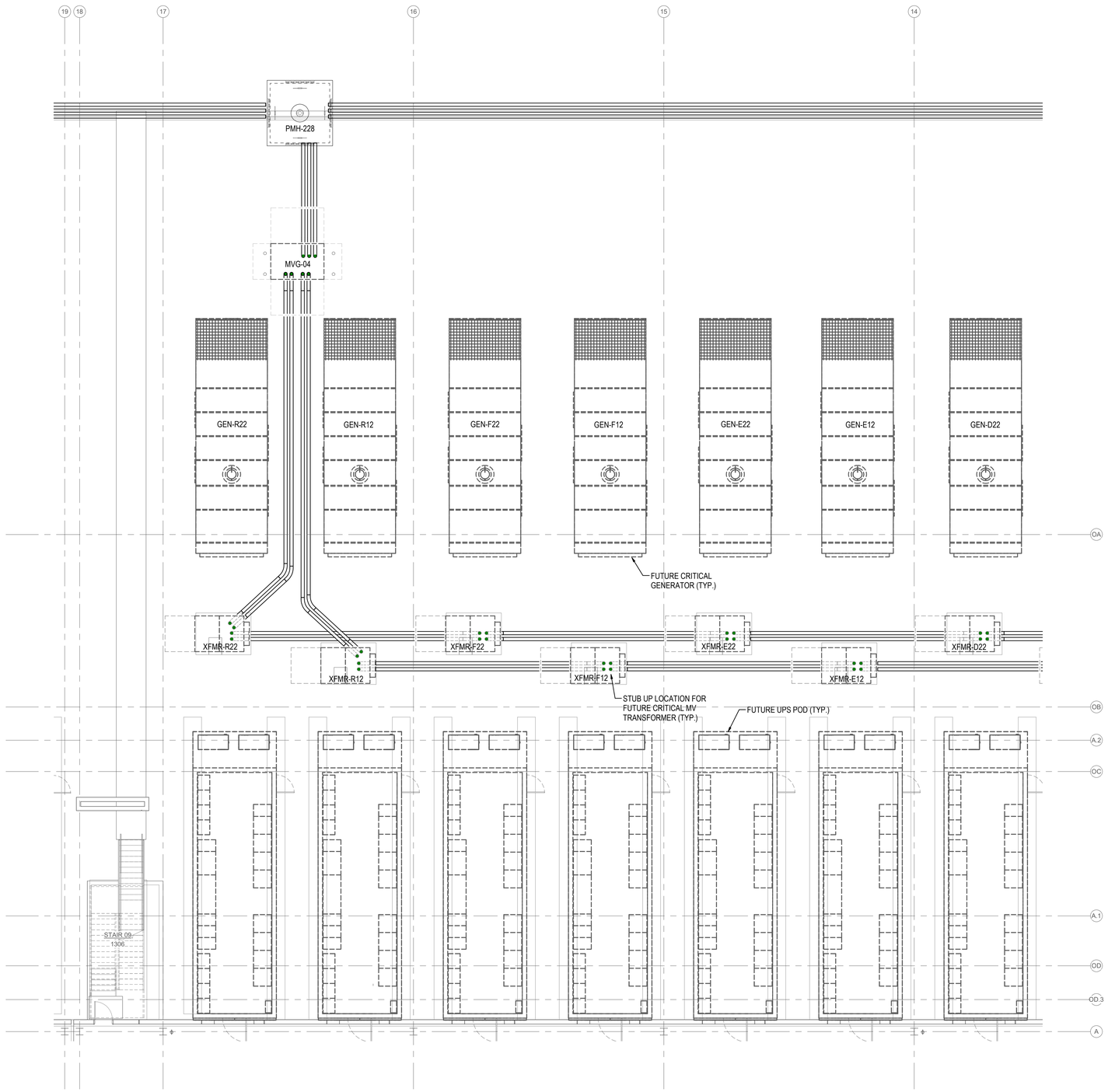
ROUTING FLOOR PLAN - LEVEL ONE - SEGMENT J

JOB 24464.0000
DATE 05.30.25
SHEET

E03-11J

5/30/2025 1:56:47 PM E03-11J ROUTING FLOOR PLAN - LEVEL ONE - SEGMENT J

Permit #25-2535171-CM
RSN 1903242



1 LEVEL 1 ROUTING PLAN - L
SCALE: 1/8" = 1'-0"

SHEET NOTES

A. SEE DRAWING E00-01 FOR LEGENDS, NOTES AND ABBREVIATIONS.
B. SEE E6 DRAWING SERIES AND E07-10 FOR ADDITIONAL INFORMATION ON CONDUCTOR SIZES AND TERMINATION POINTS. REFER TO E05-01 FOR UNDERGROUND DUCTBANK DETAILS.
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City of Aurora Building Division
Reviewed for Code Compliance
Approved as Noted: cdodson
Date: Jun 11, 2025
2021 INTERNATIONAL CODES & 2023 NEC

For foundation only, no approval for vertical construction on this permit.

CORGAN
401 N. Houston Street Dallas, TX 75202
T: 214.748.2000

AG/E

SYSKA HENNESSY GROUP

TCD DESIGN CONSULTING LLC

ISSUES

1	12.20.24	DESIGN DEVELOPMENT
2	01.31.25	ISSUE FOR PERMIT
3	05.30.25	FOUNDATIONS ONLY IFP
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REVISIONS

COLORADO REGISTERED JAMES SCOTT COE 34544 PROFESSIONAL ENGINEER
5/30/2025

Date of issue: 05.30.25

QTS DEN1 DC2
1140 N. GUN CLUB ROAD
QTS

KEYPLAN

S	Q	N	L	J	G	E	C	A
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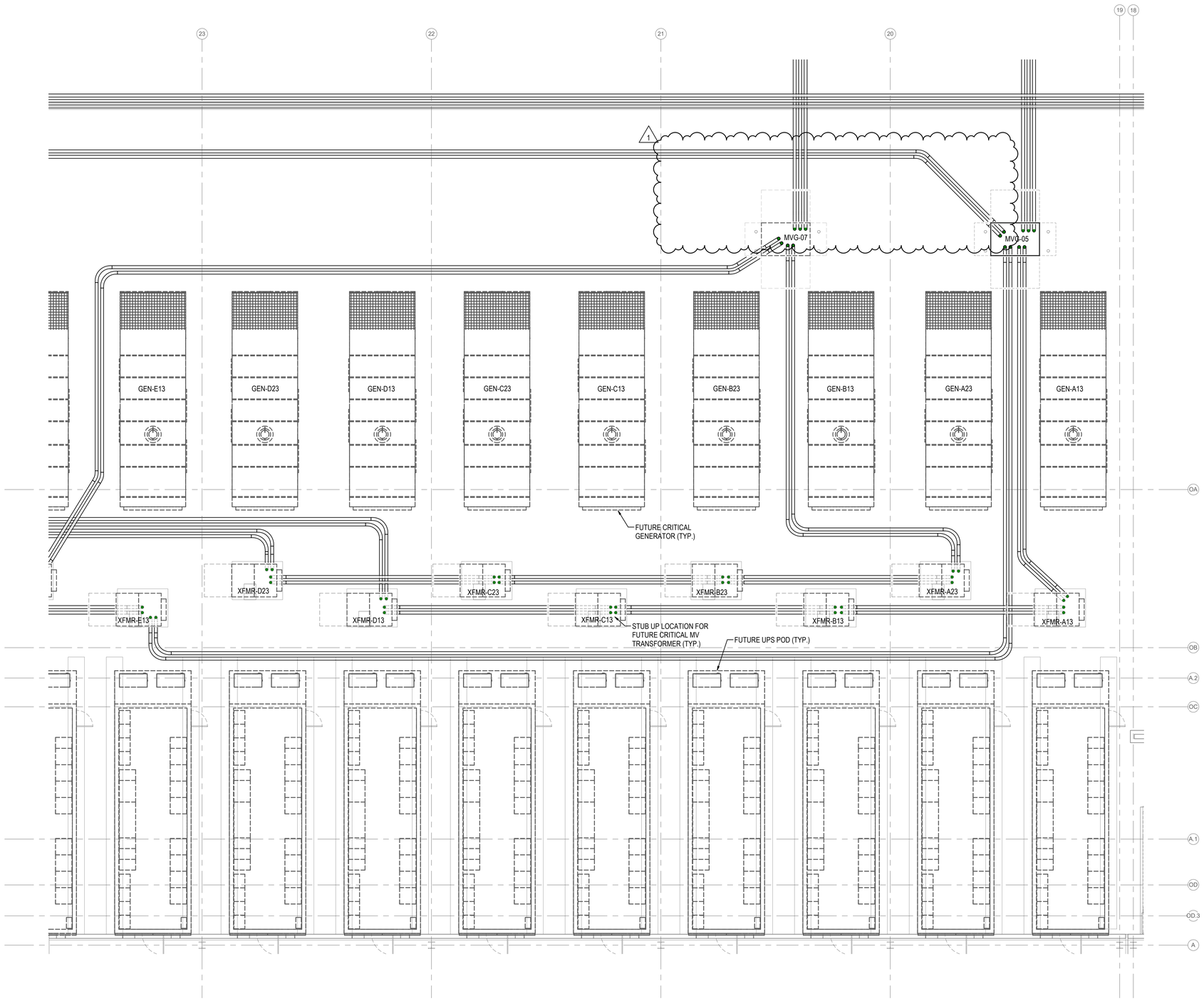
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ROUTING FLOOR PLAN - LEVEL ONE - SEGMENT L

JOB 24464.0000
DATE 05.30.25
SHEET E03-11L

Page 63 of 77

Permit #25-2535171-CM
RSN 1903242



1 LEVEL 1 ROUTING PLAN - N
SCALE: 1/8" = 1'-0"

SHEET NOTES

A. SEE DRAWING E00-01 FOR LEGENDS, NOTES AND ABBREVIATIONS.
B. SEE E6 DRAWING SERIES AND E07-10 FOR ADDITIONAL INFORMATION ON CONDUCTOR SIZES AND TERMINATION POINTS. REFER TO E05-01 FOR UNDERGROUND DUCTBANK DETAILS.
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For foundation only, no approval for vertical construction on this permit.

City of Aurora Building Division
Reviewed for Code Compliance
Approved as Noted: **cdodson**
Date: **Jun 11, 2025**
2021 INTERNATIONAL CODES & **2023** NEC

CORGAN
401 N. Houston Street Dallas, TX
75202
T: 214.748.2000

AG/E

SYSKA HENNESSY GROUP

DESIGN CONSULTING LLC

ISSUES		
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REVISIONS		
1	05.30.25	ISSUE FOR CONSTRUCTION

COLORADO REGISTERED
JAMES SCOTT COE
34544
PROFESSIONAL ENGINEER
5/30/2025

Date of issue:
05.30.25

QTS DEN1 DC2
1140 N. GUN CLUB ROAD
QTS

KEYPLAN

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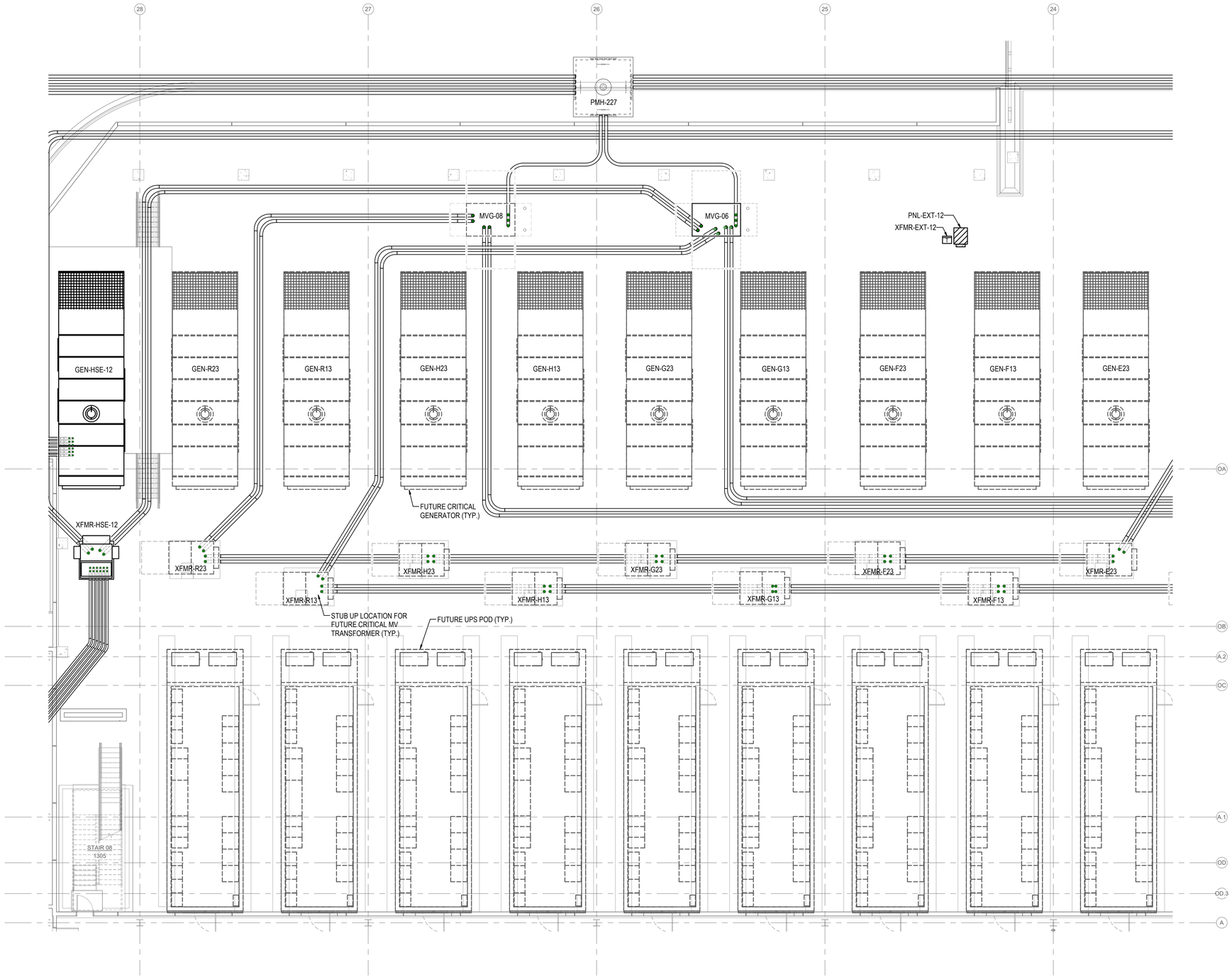
ROUTING FLOOR PLAN - LEVEL ONE - SEGMENT N

JOB 24464.0000
DATE 05.30.25
SHEET

E03-11N

5/30/2025 1:57:00 PM E03-11N ROUTING FLOOR PLAN - LEVEL ONE - SEGMENT N

Permit #25-2535171-CM
RSN 1903242



1 LEVEL 1 ROUTING PLAN - Q
SCALE: 1/8" = 1'-0"

SHEET NOTES

A. SEE DRAWING E00-01 FOR LEGENDS, NOTES AND ABBREVIATIONS.
B. SEE E6 DRAWING SERIES AND E07-10 FOR ADDITIONAL INFORMATION ON CONDUCTOR SIZES AND TERMINATION POINTS. REFER TO E05-01 FOR UNDERGROUND DUCTBANK DETAILS.
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Date: Jun 11, 2025
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For foundation only, no approval for vertical construction on this permit.

CORGAN
401 N. Houston Street Dallas, TX 75202
T: 214.748.2000

AG/E

SYSKA HENNESSY GROUP

TCD DESIGN CONSULTING LLC

ISSUES		
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REVISIONS		

COLORADO REGISTERED JAMES SCOTT COE 34544 PROFESSIONAL ENGINEER
5/30/2025

Date of issue:
05.30.25

QTS DEN1 DC2
1140 N. GUN CLUB ROAD
QTS

KEYPLAN

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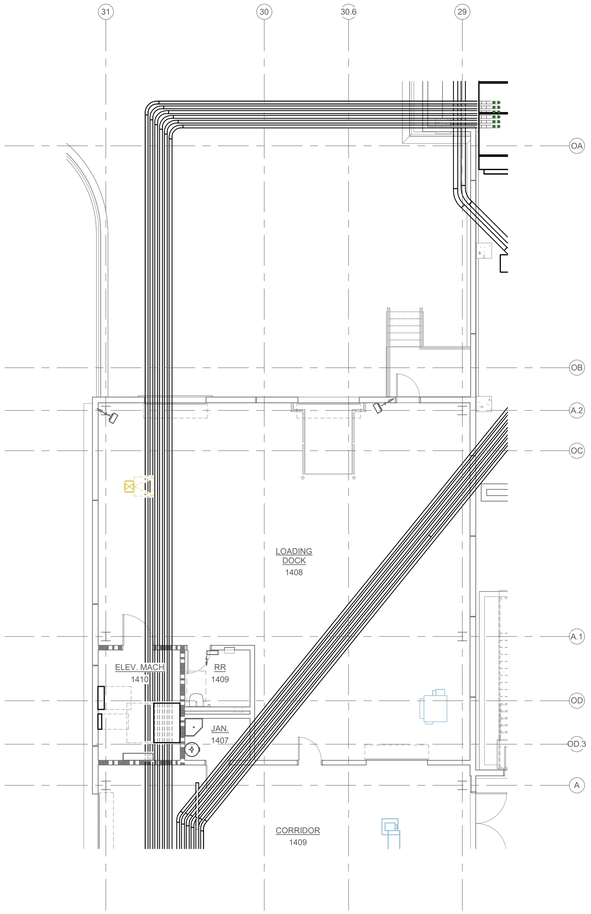
ROUTING FLOOR PLAN - LEVEL ONE - SEGMENT Q

JOB 24464.0000
DATE 05.30.25
SHEET

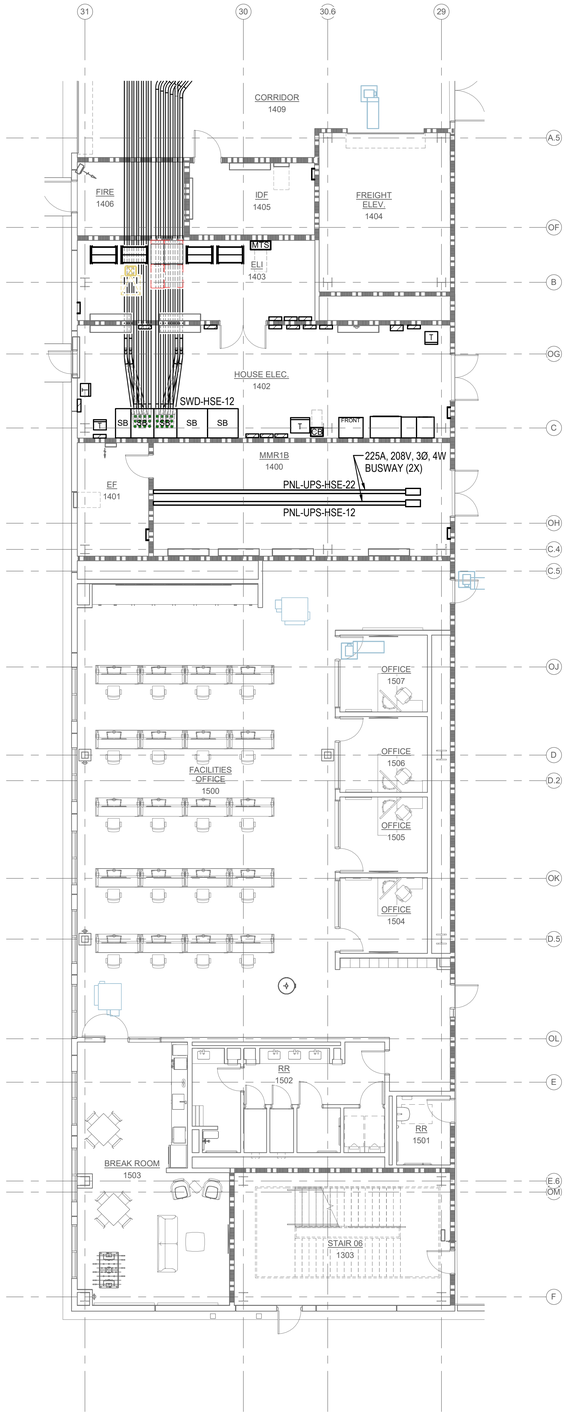
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Permit #25-2535171-CM
RSN 1903242



1 LEVEL 1 ROUTING PLAN - S
SCALE: 1/8" = 1'-0"



2 LEVEL 1 ROUTING PLAN - T
SCALE: 1/8" = 1'-0"

SHEET NOTES

A. SEE DRAWING E00-01 FOR LEGENDS, NOTES AND ABBREVIATIONS.
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TCD DESIGN CONSULTING LLC

ISSUES

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REVISIONS

COLORADO REGISTERED JAMES SCOTT COE 34544 PROFESSIONAL ENGINEER
5/30/2025

Date of issue:
05.30.25

QTS DEN1 DC2
1140 N. GUN CLUB ROAD
QTS

KEYPLAN

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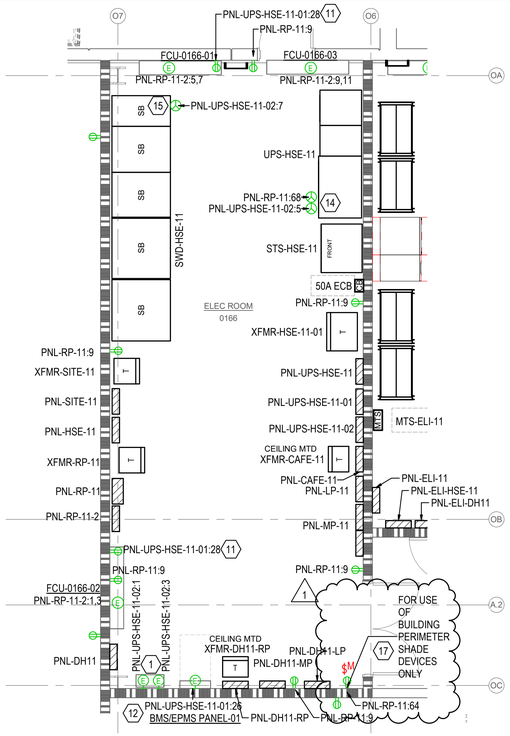
ROUTING FLOOR PLAN - LEVEL ONE - SEGMENT ST

JOB 24464.0000
DATE 05.30.25
SHEET

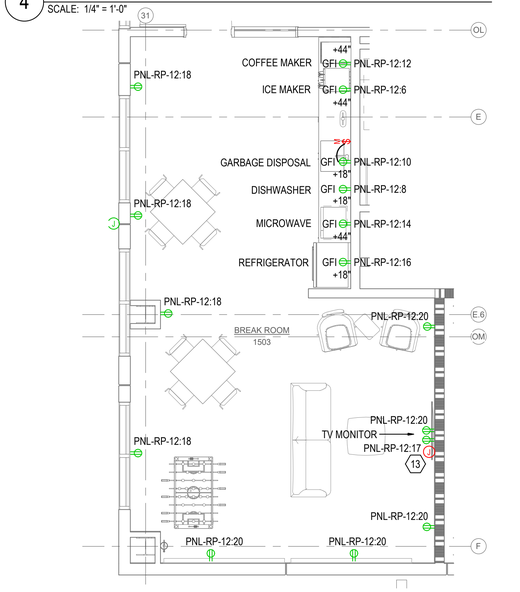
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5/30/2025 1:57:14 PM E03-11STROUTING FLOOR PLAN - LEVEL ONE - SEGMENT ST

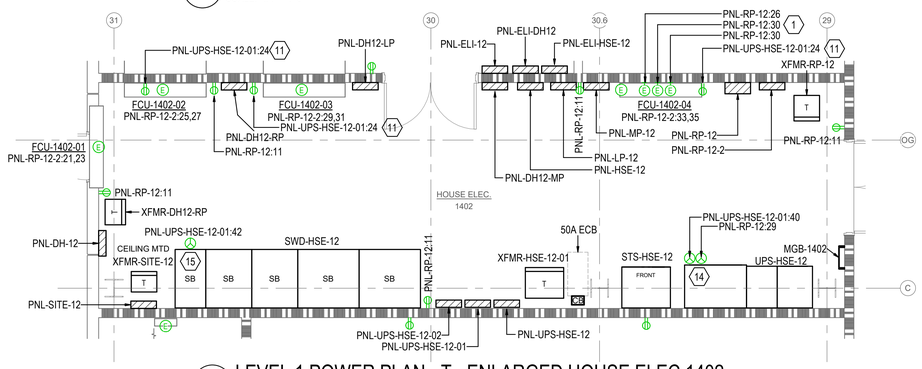
Permit #25-2535171-CM
RSN 1903242



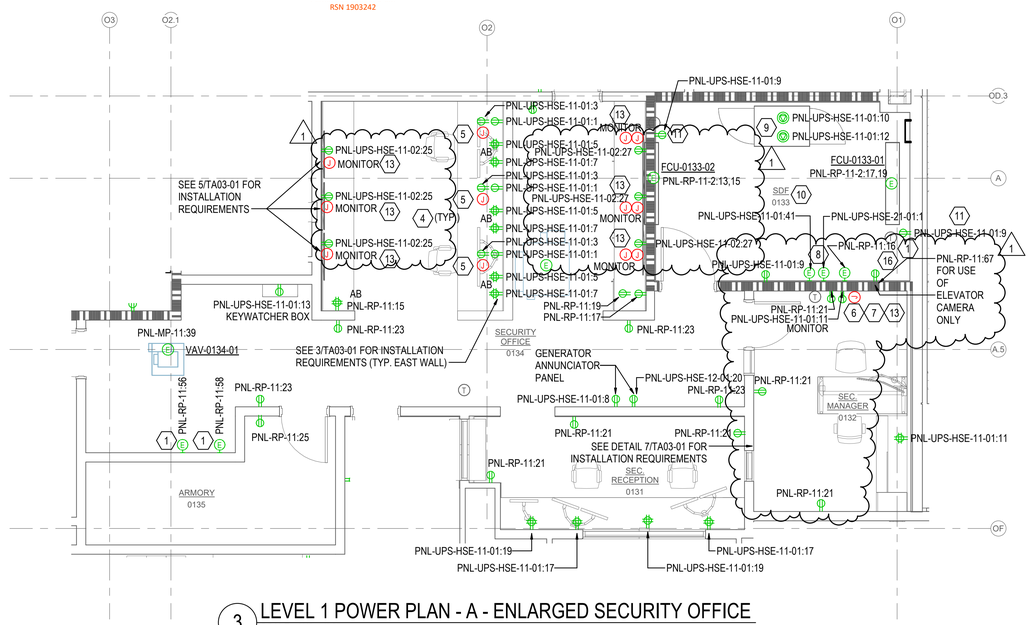
4 LEVEL 1 POWER PLAN - A - ENLARGED ELEC
SCALE: 1/4" = 1'-0"



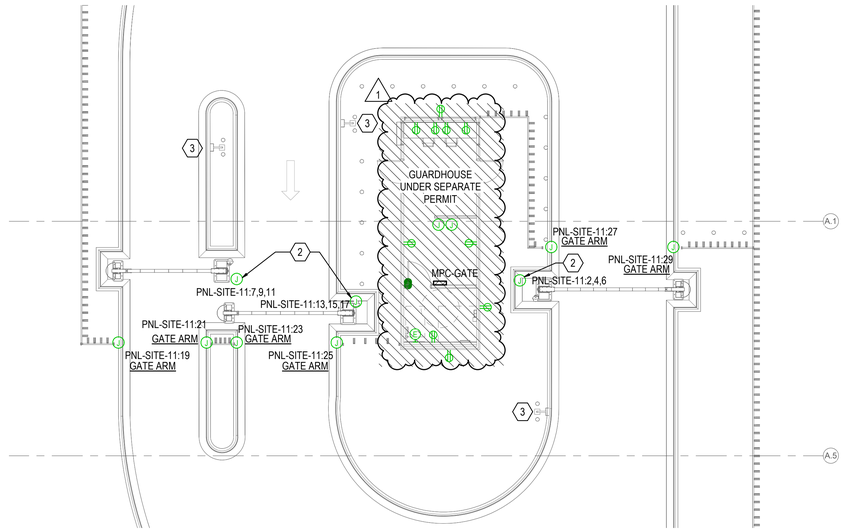
5 LEVEL 1 POWER PLAN - T - ENLARGED BREAK ROOM 1503
SCALE: 1/4" = 1'-0"



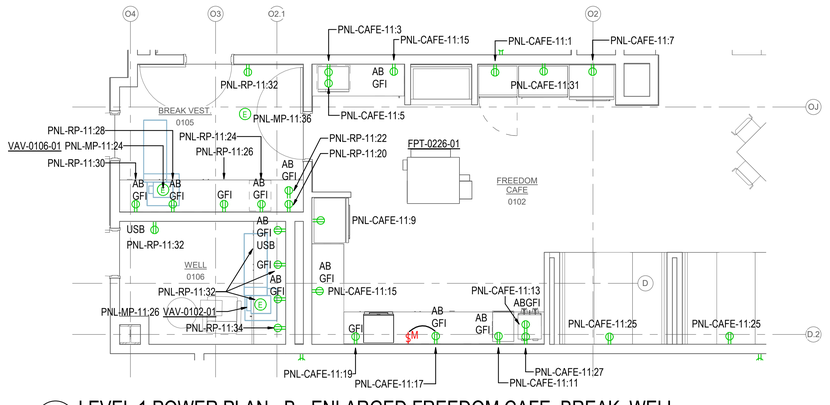
6 LEVEL 1 POWER PLAN - T - ENLARGED HOUSE ELEC 1402
SCALE: 1/4" = 1'-0"



3 LEVEL 1 POWER PLAN - A - ENLARGED SECURITY OFFICE
SCALE: 1/4" = 1'-0"



2 LEVEL 1 POWER SITE PLAN - GATE HOUSE
SCALE: 1/8" = 1'-0"



1 LEVEL 1 POWER PLAN - B - ENLARGED FREEDOM CAFE, BREAK, WELL.
SCALE: 1/4" = 1'-0"

SHEET NOTES

A. SEE DRAWING E00-01 FOR LEGENDS, NOTES AND ABBREVIATIONS.
B. SEE DRAWING E01-01 FOR UNDERGROUND CONDUIT REQUIREMENTS.
C. COORDINATE ALL CONDUIT ROOF PENETRATIONS WITH ROOF DRAINS.
D. SEE DRAWING E05-21 FOR ELECTRICAL SEQUENCE OF OPERATIONS.
E. SEE DETAIL 2/E05-18 FOR ANY CONDUITS PASSING THROUGH A SECURE BOUNDARY.
F. FOR ALL 277V MOTOR LOADS SERVED FROM 480Y/277V PANELS, CONTRACTOR SHALL PROVIDE/VERIFY DIVERSIFICATION. CONTRACTOR SHALL ADJUST POLE LOCATIONS TO ENSURE THAT 277V LOADS ARE BALANCED ACROSS PHASES.

Refer to table 300.5 of 2023 NEC for minimal cover requirements for 1000 volts of less, table 305.15 for greater than 1000 volts.

Call for rough electrical inspection before covering any raceways or conductors.

SHEET KEYNOTES

1 PROVIDE ELECTRICAL CONNECTION FOR FIRE ALARM PANEL. CIRCUIT BREAKER SERVING FIRE ALARM PANEL SHALL BE LOCKABLE AND PROVIDED WITH A RED LABEL INDICATING "FIRE ALARM CIRCUIT". REFER TO FIRE ALARM DRAWINGS FOR ADDITIONAL REQUIREMENTS.
2 PROVIDE POWER CONNECTION TO GATE ARM - 1*C.-3#8 & 1#10 GND.
3 PROVIDE POWER CONNECTION TO GATE CARD READER - 3/4"C.-2#12 & 1#12 GND.
4 COORDINATE EXACT QUANTITY AND LOCATION OF MONITORS, RECEPTACLES AND TV'S WITH TC AND AV DESIGNER.
5 CONTRACTOR SHALL PROVIDE LEGRAND EFSB4 AT A HEIGHT COORDINATED WITH ARCHITECT FOR EACH WALL MOUNTED MONITOR. PROVIDE 120V RECEPTACLE, (1) DATA CABLE, AND (1) 1 1/4" CONDUIT (EMPTY) FOR HDMI CABLE FROM EACH MONITOR LOCATION.
6 PROVIDE AND INSTALL POWER AND LOW VOLTAGE ROUGH-IN FOR WALL MOUNTED DISPLAY. ROUTE CONDUIT FROM TV TO THE TABLE WALL PLATE DEVICE FOR A/V. REFER TO THE IT AND A/V DRAWINGS FOR ADDITIONAL INFORMATION.
7 COORDINATE A/V REQUIREMENTS WITH THE A/V DRAWINGS, A/V INSTALLER, AND ARCHITECT. PROVIDE ALL CONDUIT AND BACK-BOXES FOR A COMPLETE INSTALLATION.
8 PROVIDE DUAL REDUNDANT 120V/20A CIRCUITS FOR SECURITY ACP. COORDINATE FINAL LOCATION WITH SECURITY INSTALLER.
9 PROVIDE (2) L5-30R PER CABINET MOUNTED ON RACK ABOVE. REFER TO T-SERIES DRAWINGS FOR ADDITIONAL INFORMATION.
10 COORDINATE ADDITIONAL CONDUIT AND BACKBOX REQUIRMENTS WITH TELECOM DRAWINGS.
11 CONTRACTOR SHALL INSTALL RECEPTACLE AT 150" AFF FOR SPLIT SYSTEM LEAK DETECTION.
12 PROVIDE ELECTRICAL CONNECTION FOR BMS/EPMS PANEL. REFER TO INSTRUMENTATION AND CONTROL DRAWINGS FOR ADDITIONAL REQUIREMENTS.
13 PROVIDE AND INSTALL BACKBOX TYPE PAC526F BY CHIEF FOR WALL MOUNTED SCREEN SYSTEM. PROVIDE AND 1-1/4" CONDUIT TO ABOVE CEILING NON-PLENUM AREA. COORDINATE ADDITIONAL CONDUIT REQUIREMENTS WITH AV DRAWINGS.
14 LITHIUM BATTERY CABINET CONTROL POWER SOURCES. ONE POWER SOURCE SHALL BE PROVIDED FROM HOUSE POWER AND THE ALTERNATE POWER SOURCE SHALL BE PROVIDED FROM HOUSE UPS POWER.
15 AUTOMATIC TRANSFER CONTROL POWER SOURCE. COORDINATE LOCATION OF 120V SOURCE WITH EQUIPMENT MANUFACTURER.
16 LOCATE POWER FOR ELEVATOR CAMERA,COORDINATE EXACT LOCATION WITH ARCHITECT PLAN.
17 LOCATE POWER FOR LUTRON QUANTUM BOX,COORDINATE EXACT LOCATION WITH ARCHITECT PLAN.

City of Aurora Building Division
Reviewed for Code Compliance
Approved as Noted: ccodson
Date: Jun 11, 2025
2021 INTERNATIONAL CODES & 2023 NEC

For foundation only, no approval for vertical construction on this permit.

CORGAN
401 N. Houston Street Dallas, TX 75202
T: 214.748.2000

AG/E

SYSKA HENNESSY GROUP

DESIGN CONSULTING LLC

ISSUES

1	12.20.24	DESIGN DEVELOPMENT
2	01.31.25	ISSUE FOR PERMIT
3	05.30.25	FOUNDATIONS ONLY IFP
4		
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REVISIONS

A	03.28.25	ADDENDUM 1
1	05.30.25	ISSUE FOR CONSTRUCTION

COLORADO REGISTERED JAMES SCOTT COE 34544 PROFESSIONAL ENGINEER
5/30/2025

Date of issue: 05.30.25

QTS DEN1 DC2
1140 N. GUN CLUB ROAD
QTS

KEYPLAN

S	Q	N	L	J	G	E	C	A	
T	R	P	M	K	H	F	D	B	

N

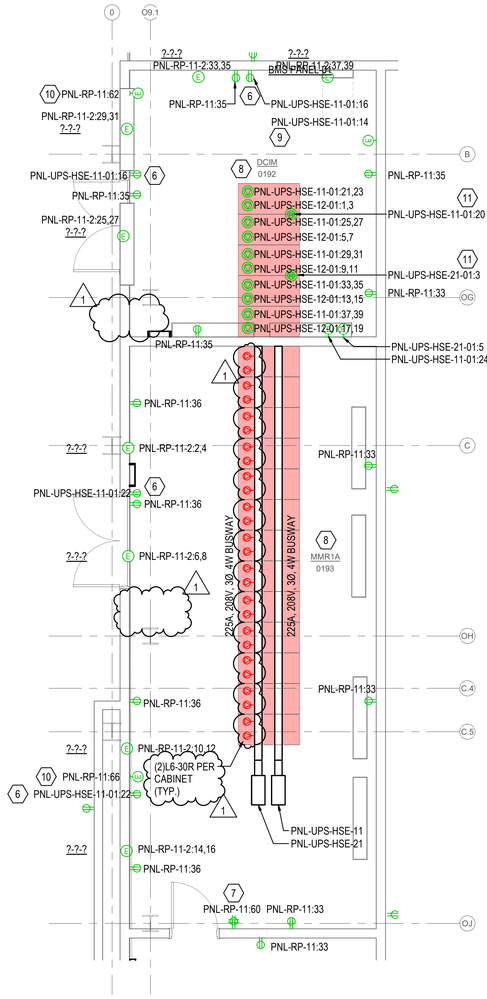
POWER ENLARGED PLAN - LEVEL ONE

JOB 24464.0000
DATE 05.30.25
SHEET

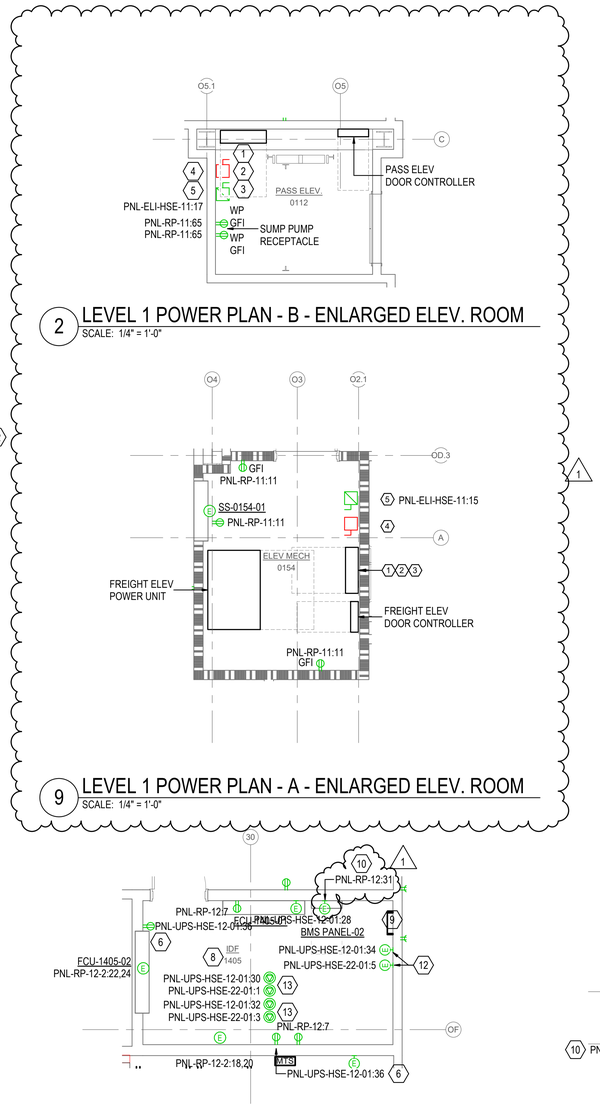
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Permit #25-2535171-CM
RSN 1903242

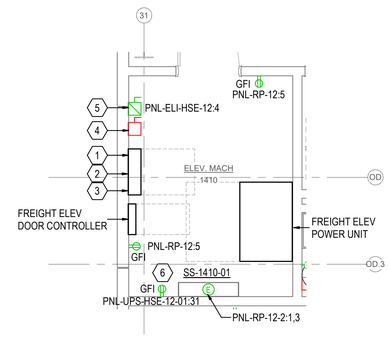


3 LEVEL 1 POWER PLAN - D - ENLARGED MMR
SCALE: 1/4" = 1'-0"

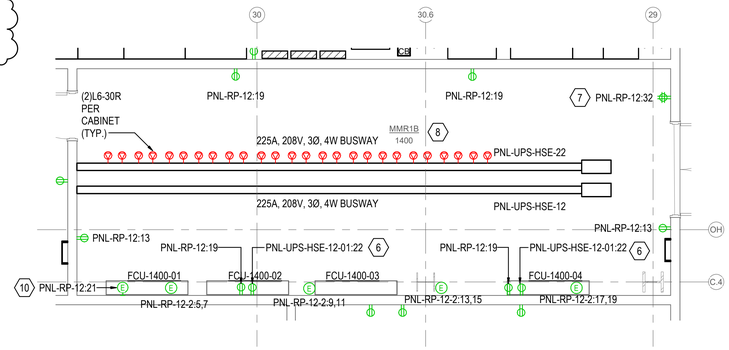


2 LEVEL 1 POWER PLAN - B - ENLARGED ELEV. ROOM
SCALE: 1/4" = 1'-0"

9 LEVEL 1 POWER PLAN - A - ENLARGED ELEV. ROOM
SCALE: 1/4" = 1'-0"

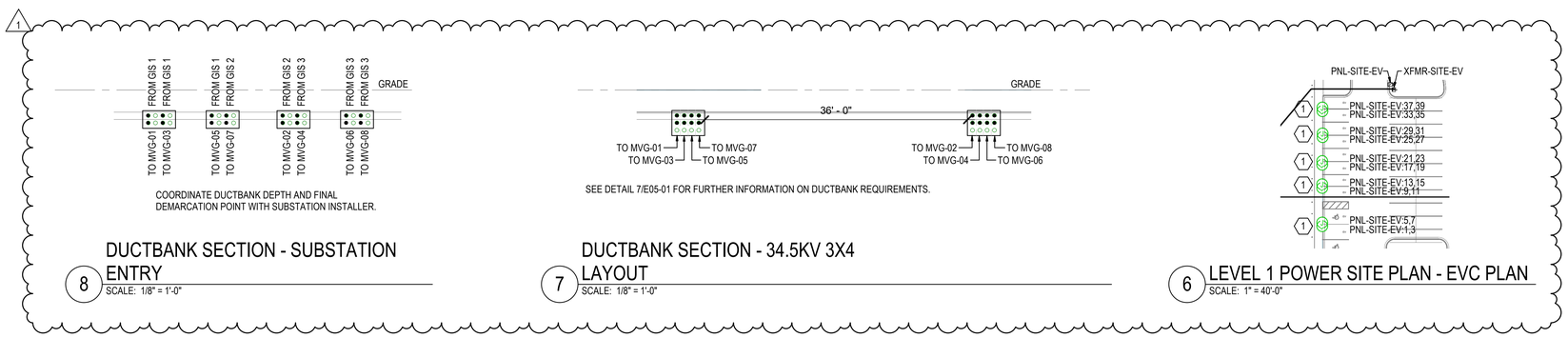


1 LEVEL 1 POWER PLAN - S - ENLARGED ELEV. ROOM
SCALE: 1/4" = 1'-0"



5 LEVEL 1 POWER PLAN - T - ENLARGED MMR
SCALE: 1/4" = 1'-0"

4 LEVEL 1 POWER PLAN - T - ENLARGED IDF ROOM
SCALE: 1/4" = 1'-0"



8 DUCTBANK SECTION - SUBSTATION ENTRY
SCALE: 1/8" = 1'-0"

7 DUCTBANK SECTION - 34.5KV 3X4 LAYOUT
SCALE: 1/8" = 1'-0"

6 LEVEL 1 POWER SITE PLAN - EVC PLAN
SCALE: 1" = 40'-0"

SHEET NOTES

A. SEE DRAWING E00-01 FOR LEGENDS, NOTES AND ABBREVIATIONS.
B. SEE DRAWING E01-01 FOR UNDERGROUND CONDUIT REQUIREMENTS.
C. COORDINATE ALL CONDUIT ROOF PENETRATIONS WITH ROOF DRAINS.
D. SEE DRAWING E05-21 FOR ELECTRICAL SEQUENCE OF OPERATIONS.
E. SEE DETAIL 2/E05-18 FOR ANY CONDUITS PASSING THROUGH A SECURE BOUNDARY.
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Call for rough electrical inspection before covering any raceways or conductors.

RECEPTACLE LEGEND

L5-30R 1#10 HOT, 1#10 NEUTRAL, 1#10 GROUND
L6-30R 2#10 HOT, 1#10 GROUND

SHEET KEYNOTES

1 POINT OF CONNECTION FOR ELEVATOR CONTROLLER. BASIS OF DESIGN: 480V, 3PH, 75HP FREIGHT ELEVATOR MOTOR OR 15HP PASSENGER ELEVATOR MOTOR. PROVIDE ONE (1) 100VA RATED CONTROL POWER TRANSFORMER WITH PRIMARY AND SECONDARY FUSES, ONE (1) NORMALLY OPEN DRY CONTACT TO ENERGIZE THE ISOLATION RELAY AND ACTIVATE THE SHUNT TRIP SOLENOID, ONE (1) 120V KEY TO TEST SWITCH ONE (1) 1-NO/1-NC MECHANICALLY INTERLOCED AUXILIARY CONTACT. PROVIDE NEW FIRE ALARM RELAY AND INTERFACE TO THE NEW ELEVATOR CONTROLLER FOR RECALL. COORDINATE REQUIREMENTS WITH MANUFACTURER.
2 REFER TO SINGLE LINE DIAGRAMS FOR CIRCUITING INFORMATION.
3 PROVIDE TELEPHONE CABLES TO ELEVATOR CONTROLLER FOR ELEVATOR CAB PHONE.
4 PROVIDE LOCKABLE MAIN LINE DISCONNECT SWITCH FOR ELEVATOR MOTOR, SIZED PER SINGLE LINE DIAGRAMS.
5 PROVIDE NEW ENCLOSED, LOCKABLE FUSED DISCONNECT SWITCH FOR ELEVATOR CAB LIGHT, CAPABLE OF BEING LOCKED IN THE OPEN POSITION ONLY. PROVIDE 20A FUSES AS REQUIRED.
6 CONTRACTOR SHALL INSTALL RECEPTACLE AT 150" AFF FOR SPLIT SYSTEM LEAK DETECTION.
7 PROVIDE 120V DEDICATED RECEPTACLE FOR POTS LINE PANEL. COORDINATE FINAL LOCATION AND ELEVATION ABOVE FINISHED FLOOR WITH INSTALLING CONTRACTOR.
8 COORDINATE ADDITIONAL CONDUIT AND BACKBOX REQUIRMENTS WITH TELECOM DRAWINGS.
9 PROVIDE ELECTRICAL CONNECTION FOR BMS/EPMS PANEL. REFER TO INSTRUMENTATION AND CONTROL DRAWINGS FOR ADDITIONAL REQUIREMENTS.
10 PROVIDE ELECTRICAL CONNECTION FOR FIRE ALARM PANEL. CIRCUIT BREAKER SERVING FIRE ALARM PANEL SHALL BE LOCKABLE AND PROVIDED WITH A RED LABEL INDICATING "FIRE ALARM CIRCUIT". REFER TO FIRE ALARM DRAWINGS FOR ADDITIONAL REQUIREMENTS.
11 PROVIDE (1) 5-20 QUAD RECEPTACLE PER CABINET MOUNTED ON RACK ABOVE. REFER TO T-SERIES DRAWINGS FOR ADDITIONAL INFORMATION.
12 PROVIDE DUAL REDUNDANT 120V/20A CIRCUITS FOR SECURITY ACP. COORDINATE FINAL LOCATION WITH SECURITY INSTALLER.
13 PROVIDE (2) L5-30R PER CABINET MOUNTED ON RACK ABOVE. REFER TO T-SERIES DRAWINGS FOR ADDITIONAL INFORMATION.

For foundation only, no approval for vertical construction on this permit.

City of Aurora Building Division
Reviewed for Code Compliance
Approved as Noted: cdodson
Date: Jun 11, 2025
2021 INTERNATIONAL CODES & 2023 NEC

CORGAN
401 N. Houston Street Dallas, TX 75202
T: 214.748.2000

AG/E

SYSKA HENNESSY GROUP

TCD DESIGN CONSULTING LLC

ISSUES

1	12.20.24	DESIGN DEVELOPMENT
2	01.31.25	ISSUE FOR PERMIT
3	05.30.25	FOUNDATIONS ONLY IFP
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REVISIONS

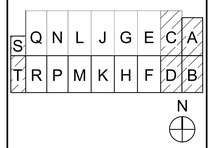
A	03.28.25	ADDENDUM 1
1	05.30.25	ISSUE FOR CONSTRUCTION

COLORADO REGISTERED JAMES SCOTT COE 34544 PROFESSIONAL ENGINEER
5/30/2025

Date of issue: 05.30.25

QTS DEN1 DC2
1140 N. GUN CLUB ROAD
QTS

KEYPLAN



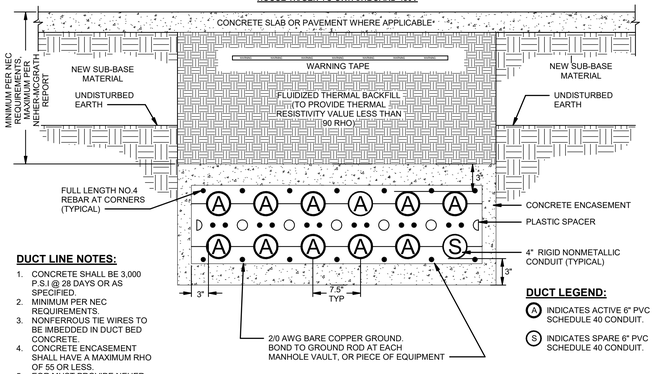
POWER ENLARGED PLAN - LEVEL ONE

JOB 24464.0000
DATE 05.30.25
SHEET E04-02

5/30/2025 1:59:52 PM E04-02 POWER ENLARGED PLAN - LEVEL ONE

Permit #25-2535171-CM
RSN 1903242

HOUSE TX/GEN TO SWITCHBOARD 480V



DUCT LINE NOTES:

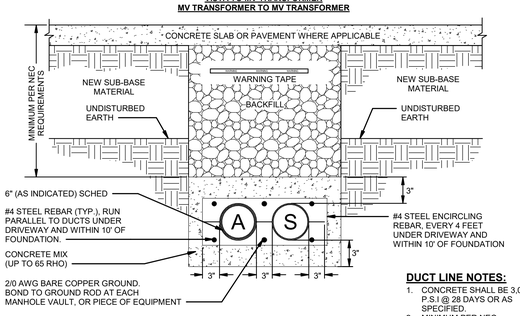
1. CONCRETE SHALL BE 3,000 P.S.I @ 28 DAYS OR AS SPECIFIED.
2. MINIMUM PER NEC REQUIREMENTS.
3. NONFERROUS TIE WIRES TO BE IMBEDDED IN DUCT BED CONCRETE.
4. CONCRETE ENCASEMENT SHALL HAVE A MAXIMUM RHO OF 55 OR LESS.
5. EOR MUST PROVIDE NEHER-MCGRATH CALCS FOR QTS REVIEW. CONTRACTOR MUST PROVIDE THE RHO VALUES OF THE SOIL AND CONCRETE TO EOR PRIOR TO INSTALLATION.

DUCT LEGEND:

- (A) INDICATES ACTIVE 6" PVC SCHEDULE 40 CONDUIT.
- (S) INDICATES SPARE 6" PVC SCHEDULE 40 CONDUIT.

1 DUCTBANK DETAIL - MV XFMR/GEN TO HOUSE - 2 x 6 DUCT

VISTA TO MV TRANSFORMER
MV TRANSFORMER TO MV TRANSFORMER



DUCT LINE NOTES:

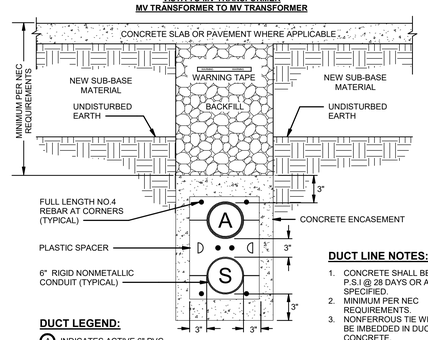
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DUCT LEGEND:

- (A) INDICATES ACTIVE 6" PVC SCHEDULE 40 CONDUIT.
- (S) INDICATES SPARE 6" PVC SCHEDULE 40 CONDUIT.

2 DUCTBANK DETAIL - MV SWGR TO MV XFMR - 1 x 2 DUCT

VISTA TO MV TRANSFORMER
MV TRANSFORMER TO MV TRANSFORMER



DUCT LINE NOTES:

1. CONCRETE SHALL BE 3,000 P.S.I @ 28 DAYS OR AS SPECIFIED.
2. MINIMUM PER NEC REQUIREMENTS.
3. NONFERROUS TIE WIRES TO BE IMBEDDED IN DUCT BED CONCRETE.
4. CONCRETE ENCASEMENT SHALL HAVE A MAXIMUM RHO OF 55 OR LESS.
5. EOR MUST PROVIDE NEHER-MCGRATH CALCS FOR QTS REVIEW. CONTRACTOR MUST PROVIDE THE RHO VALUES OF THE SOIL AND CONCRETE TO EOR PRIOR TO INSTALLATION.

DUCT LEGEND:

- (A) INDICATES ACTIVE 6" PVC SCHEDULE 40 CONDUIT.
- (S) INDICATES SPARE 6" PVC SCHEDULE 40 CONDUIT.

3 DUCTBANK DETAIL - MV SWGR TO MV XFMR - 2 x 1 DUCT

VISTA TO MV TRANSFORMER

DUCT LINE NOTES:

1. CONCRETE SHALL BE 3,000 P.S.I @ 28 DAYS OR AS SPECIFIED.
2. MINIMUM PER NEC REQUIREMENTS.
3. NONFERROUS TIE WIRES TO BE IMBEDDED IN DUCT BED CONCRETE.
4. CONCRETE ENCASEMENT SHALL HAVE A MAXIMUM RHO OF 55 OR LESS.
5. EOR MUST PROVIDE NEHER-MCGRATH CALCS FOR QTS REVIEW. CONTRACTOR MUST PROVIDE THE RHO VALUES OF THE SOIL AND CONCRETE TO EOR PRIOR TO INSTALLATION.

DUCT LEGEND:

- (A) INDICATES ACTIVE 6" PVC SCHEDULE 40 CONDUIT.
- (S) INDICATES SPARE 6" PVC SCHEDULE 40 CONDUIT.

4 DUCTBANK DETAIL - MV SWGR TO MV XFMR - 2 x 2 DUCT

MV CAMPUS LOOP: SUBSTATION TO VISTA

DUCT LINE NOTES:

1. CONCRETE SHALL BE 3,000 P.S.I @ 28 DAYS OR AS SPECIFIED.
2. MINIMUM PER NEC REQUIREMENTS.
3. NONFERROUS TIE WIRES TO BE IMBEDDED IN DUCT BED CONCRETE.
4. CONCRETE ENCASEMENT SHALL HAVE A MAXIMUM RHO OF 55 OR LESS.
5. EOR MUST PROVIDE NEHER-MCGRATH CALCS FOR QTS REVIEW. CONTRACTOR MUST PROVIDE THE RHO VALUES OF THE SOIL AND CONCRETE TO EOR PRIOR TO INSTALLATION.

DUCT LEGEND:

- (A) INDICATES ACTIVE 6" PVC SCHEDULE 40 CONDUIT.
- (S) INDICATES SPARE 6" PVC SCHEDULE 40 CONDUIT.

Refer to table 300.5 of 2023 NEC for minimal cover requirements for 1000 volts of less, table 305.15 for greater than 1000 volts.

Call for rough electrical inspection before covering any raceways or conductors.

5 DUCTBANK DETAIL - SUBSTATION TO MVG - 1 x 3 DUCT

MV CAMPUS LOOP: SUBSTATION TO VISTA

DUCT LINE NOTES:

1. CONCRETE SHALL BE 3,000 P.S.I @ 28 DAYS OR AS SPECIFIED.
2. MINIMUM PER NEC REQUIREMENTS.
3. NONFERROUS TIE WIRES TO BE IMBEDDED IN DUCT BED CONCRETE.
4. CONCRETE ENCASEMENT SHALL HAVE A MAXIMUM RHO OF 55 OR LESS.
5. EOR MUST PROVIDE NEHER-MCGRATH CALCS FOR QTS REVIEW. CONTRACTOR MUST PROVIDE THE RHO VALUES OF THE SOIL AND CONCRETE TO EOR PRIOR TO INSTALLATION.

DUCT LEGEND:

- (A) INDICATES ACTIVE 6" PVC SCHEDULE 40 CONDUIT.
- (S) INDICATES SPARE 6" PVC SCHEDULE 40 CONDUIT.

FOR REFERENCE ONLY

6 DUCTBANK DETAIL - SUBSTATION TO MVG - 2 x 3 DUCT

MV CAMPUS LOOP: SUBSTATION TO VISTA

DUCT LINE NOTES:

1. CONCRETE SHALL BE 3,000 P.S.I @ 28 DAYS OR AS SPECIFIED.
2. MINIMUM PER NEC REQUIREMENTS.
3. NONFERROUS TIE WIRES TO BE IMBEDDED IN DUCT BED CONCRETE.
4. CONCRETE ENCASEMENT SHALL HAVE A MAXIMUM RHO OF 55 OR LESS.
5. EOR MUST PROVIDE NEHER-MCGRATH CALCS FOR QTS REVIEW. CONTRACTOR MUST PROVIDE THE RHO VALUES OF THE SOIL AND CONCRETE TO EOR PRIOR TO INSTALLATION.

DUCT LEGEND:

- (A) INDICATES ACTIVE 6" PVC SCHEDULE 40 CONDUIT.
- (S) INDICATES SPARE 6" PVC SCHEDULE 40 CONDUIT.

FOR REFERENCE ONLY. ACTIVE CONDUIT POSITIONS MAY VARY BY LOCATION.

7 DUCTBANK DETAIL - SUBSTATION TO MVG - 3 x 4 DUCT

NOTES:

1. CONDUIT STUBS SHALL BE ADJACENT TO WALL (< 3") WHEN SHOWN NEAR WALL (TYPICAL)
2. EMPTY CONDUITS SHALL BE CAPPED, OCCUPIED CONDUITS SHALL BE APPROPRIATELY SEALED.

8 UNDERSLAB ELECTRICAL CONDUIT DETAIL

3000A 600V 3 PHASE 4 WIRE SYSTEM WITH GROUND
(MAX OPERATING TEMP 75°C W/ 40°C AMBIENT)
APPROXIMATE WEIGHT: 45 LBS/FT
NEC 110.14(C) COMPLIANT

For foundation only. No approval for vertical construction on this permit.

City of Aurora Building Division
Reviewed for Code Compliance
Approved as Noted: cdodson
Date: Jun 11, 2025
2021 INTERNATIONAL CODES & 2023 NEC

9 CABLE BUS CROSS SECTION

CORGAN
401 N. Houston Street Dallas, TX 75202
T: 214.748.2000

AG/E

SYSKA HENNESSY GROUP

DESIGN CONSULTING LLC

	ISSUES	
1	12.20.24	DESIGN DEVELOPMENT
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4		
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	REVISIONS	

COLORADO REGISTERED JAMES SCOTT CODE 34544 PROFESSIONAL ENGINEER
5/30/2025

Date of issue:
05.30.25

QTS DEN1 DC2
1140 N. GUN CLUB ROAD
QTS

DETAILS

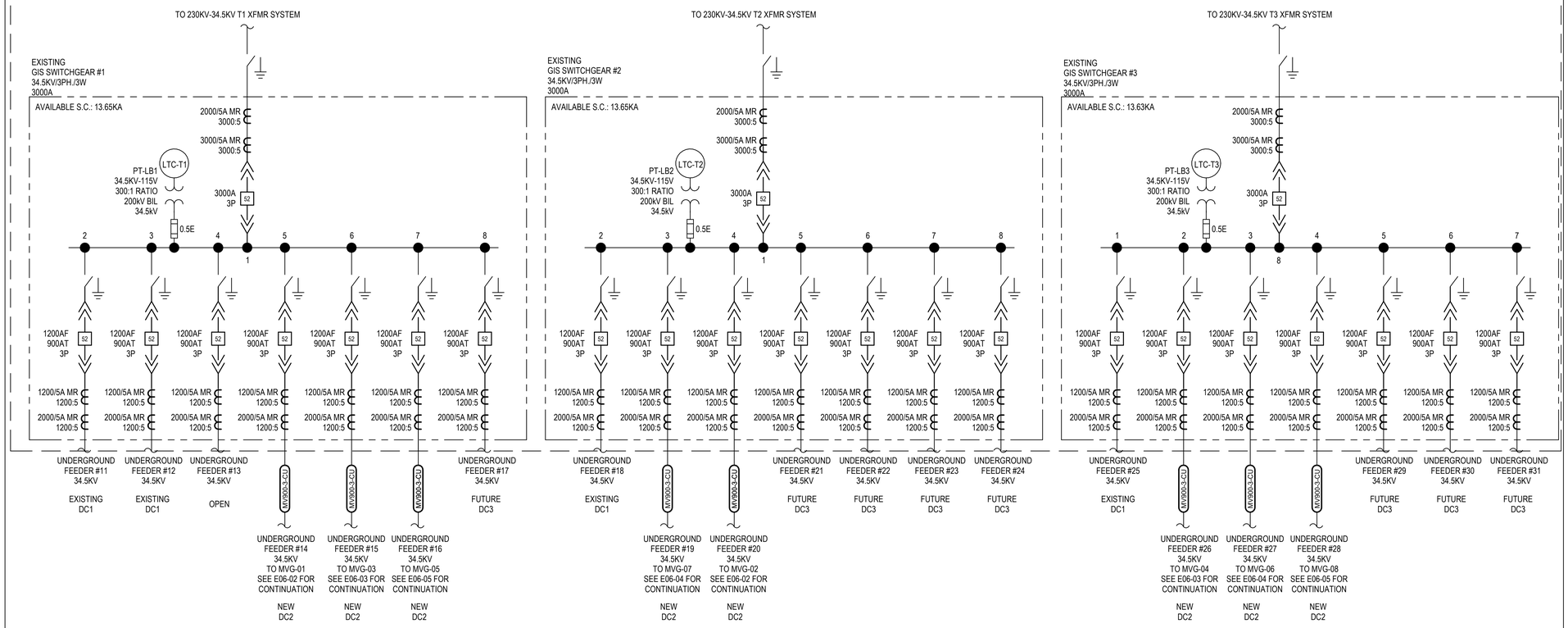
JOB 24464.0000
DATE 05.30.25
SHEET

E05-01

5/30/2025 2:00:04 PM E05-01 DETAILS

Permit #25-2535171-CM
RSN 1903242

N.I.C.



FINAL PLANNED CAMPUS LOAD - NORMAL OPERATION

Failed Block		(T1, T2, T3)					
Peak PUE	1.5						
Campus Power Factor	0.95						
				3N/2 DR FAILOVER			
	Load (MW)	Source 1	Source 2		T1	T2	T3
DEN1-DC1.1/DEN1-DC1.2	36	T1	T2		18	18	
DEN1-DC1.3/DEN1-DC1.4	36	T1	T3		18		18
DEN1-DC2.1/DEN1-DC2.2	27	T1	T2		13.5	13.5	
DEN1-DC2.3/DEN1-DC2.4	27	T1	T3		13.5		13.5
DEN1-DC2.5/DEN1-DC2.6	18	T1	T3		9		9
DEN1-DC2.7/DEN1-DC2.8	18	T2	T3			9	9
DEN1-DC3.1/DEN1-DC3.2	27	T2	T1		13.5	13.5	
DEN1-DC3.3/DEN1-DC3.4	27	T3	T2			13.5	13.5
DEN1-DC3.5/DEN1-DC3.6	18	T3	T2			9	9
DEN1-DC3.7/DEN1-DC3.8	18	T3	T2			9	9
Total Campus Load (MW)					85.5	85.5	81
Total Campus Load (MVA)					90	90	85.263...
Total Campus Load (Amps @ 34.5kV)					1506.1...	1506.1...	1426.9...

FINAL PLANNED CAMPUS LOAD - FAILOVER OPERATION

Failed Block	T1	(T1, T2, T3)					
Peak PUE	1.5						
Campus Power Factor	0.95						
				3N/2 DR FAILOVER			
	Load (MW)	Source 1	Source 2		T1	T2	T3
DEN1-DC1.1/DEN1-DC1.2	36	T1	T2		0	36	
DEN1-DC1.3/DEN1-DC1.4	36	T1	T3		0		36
DEN1-DC2.1/DEN1-DC2.2	27	T1	T2		0	27	
DEN1-DC2.3/DEN1-DC2.4	27	T1	T3		0		27
DEN1-DC2.5/DEN1-DC2.6	18	T1	T3		0		18
DEN1-DC2.7/DEN1-DC2.8	18	T2	T3			9	9
DEN1-DC3.1/DEN1-DC3.2	27	T2	T1		0	27	
DEN1-DC3.3/DEN1-DC3.4	27	T3	T2			13.5	13.5
DEN1-DC3.5/DEN1-DC3.6	18	T3	T2			9	9
DEN1-DC3.7/DEN1-DC3.8	18	T3	T2			9	9
Total Campus Load (MW)					0	130.5	121.5
Total Campus Load (MVA)					0	137.36...	127.89...
Total Campus Load (Amps @ 34.5kV)					0	2298.8...	2140.3...

Refer to table 300.5 of 2023 NEC for minimal cover requirements for 1000 volts of less, table 305.15 for greater than 1000 volts.

Call for rough electrical inspection before covering any raceways or conductors.

For foundation only, no approval for vertical construction on this permit.

City of Aurora Building Division
Reviewed for Code Compliance
Approved as Noted: cdodson
Date: Jun 11, 2025
2021 INTERNATIONAL CODES & 2023 NEC

SHEET NOTES

A. SEE DRAWING E00-01 FOR LEGENDS, NOTES, ABBREVIATIONS. SEE DRAWING E07-10 FOR FEEDER SCHEDULES.

B. REFER TO E03 SERIES DRAWINGS FOR ELECTRICAL EQUIPMENT LOCATIONS.

C. SERVICE EQUIPMENT IS TO BE LEGIBLY MARKED WITH THE MAXIMUM AVAILABLE FAULT CURRENT AS PROVIDED BY THE SERVING UTILITY. THE CONTRACTOR SHALL COORDINATE WITH THE SERVING UTILITY TO OBTAIN THE MAXIMUM AVAILABLE FAULT CURRENT. CONTRACTOR SHALL PROVIDE LABELING NOTING AVAILABLE FAULT CURRENT AND DATE OF CALCULATION IN ACCORDANCE WITH COLORADO ELECTRICAL CODE, LATEST EDITION.

SHEET KEYNOTES

LINETYPE LEGEND

- NEW FEEDER
- EXISTING FEEDER
- FUTURE FEEDER
- CONDUIT ONLY
- EXISTING CONDUIT, NEW WIRE

CORGAN
401 N. Houston Street Dallas, TX 75202
T: 214.748.2000

AG/E

SYSKA HENNESSY GROUP

DESIGN CONSULTING LLC

ISSUES

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REVISIONS

COLORADO REGISTERED JAMES SCOTT COTE 34544 PROFESSIONAL ENGINEER
5/30/2025

Date of issue:
05.30.25

QTS DEN1 DC2
1140 N. GUN CLUB ROAD
QTS

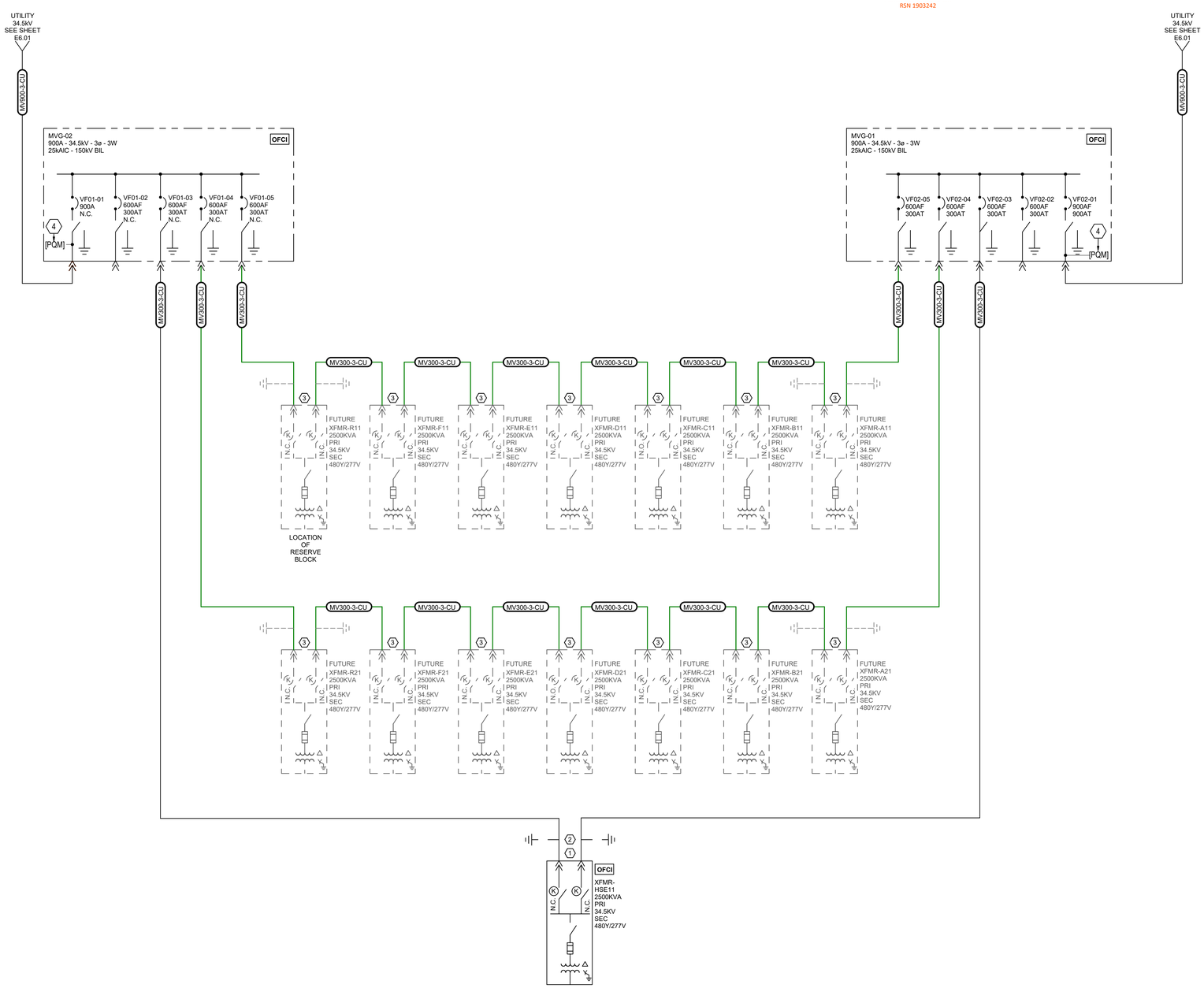
SINGLE LINE DIAGRAM - MEDIUM VOLTAGE (SUBSTATION)

JOB 24464.0000
DATE 05.30.25
SHEET

E06-01

5/30/2025 2:00:47 PM E06-01 SINGLE LINE DIAGRAM - MEDIUM VOLTAGE (SUBSTATION)

Permit #25-2535171-CM
RSN 1903242



SHEET NOTES

A. SEE DRAWING E00-01 FOR LEGENDS, NOTES, ABBREVIATIONS. SEE DRAWING E07-10 FOR FEEDER SCHEDULES.

B. REFER TO E03 SERIES DRAWINGS FOR ELECTRICAL EQUIPMENT LOCATIONS.

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SHEET KEYNOTES

1. MEDIUM VOLTAGE TRANSFORMER LOOP SHALL BE MECHANICALLY INTERLOCKED TO PREVENT ALL SWITCHES IN THE LOOPS FROM BEING CLOSED AT THE SAME TIME. PROVIDE A LOCK CFCI KEY SYSTEM SUCH THAT UNDER NORMAL OPERATING CONDITIONS ONE SWITCH SHALL REMAIN LOCKED IN THE OPEN POSITION. TO CLOSE THE LOCKED OPEN SWITCH, THE OPERATOR MUST OPEN ANY OTHER SWITCH WITHIN THE SAME LOOP, RELEASING ITS KEY AND RENDERING THAT SWITCH LOCKED IN THE OPEN POSITION. THAT KEY CAN THEN BE USED TO CLOSE THE PREVIOUSLY LOCKED OPEN SWITCH.
2. TYPICAL SURGE ARRESTER. PROVIDE ELBOW TYPE SURGE ARRESTER AS PART OF MEDIUM VOLTAGE FEEDER TERMINATION.
3. STUB UP AND CAP CONDUIT AT TRANSFORMER PAD FOR FUTURE USE.
4. PROVIDE SEL-735 OR EQUAL REVENUE GRADE METER AT INCOMING SWITCH POSITION WITH 2" CONDUIT FROM BASE BUILDING TO SUBSTATION FOR FIBER CONNECTIVITY. REFERENCE POWER PLANS FOR 120V SOURCE(S).

For foundation only, no approval for vertical construction on this permit.

Refer to table 300.5 of 2023 NEC for minimal cover requirements for 1000 volts of less, table 305.15 for greater than 1000 volts.

Call for rough electrical inspection before covering any raceways or conductors.

City of Aurora Building Division
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Date: Jun 11, 2025
2021 INTERNATIONAL CODES & 2023 NEC

LINETYPE LEGEND

- NEW FEEDER
- EXISTING FEEDER
- FUTURE FEEDER
- CONDUIT ONLY
- EXISTING CONDUIT, NEW WIRE

CORGAN
401 N. Houston Street Dallas, TX
75202
T: 214.748.2000

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REVISIONS

COLORADO REGISTERED JAMES SCOTT COPE 34544 PROFESSIONAL ENGINEER
5/30/2025

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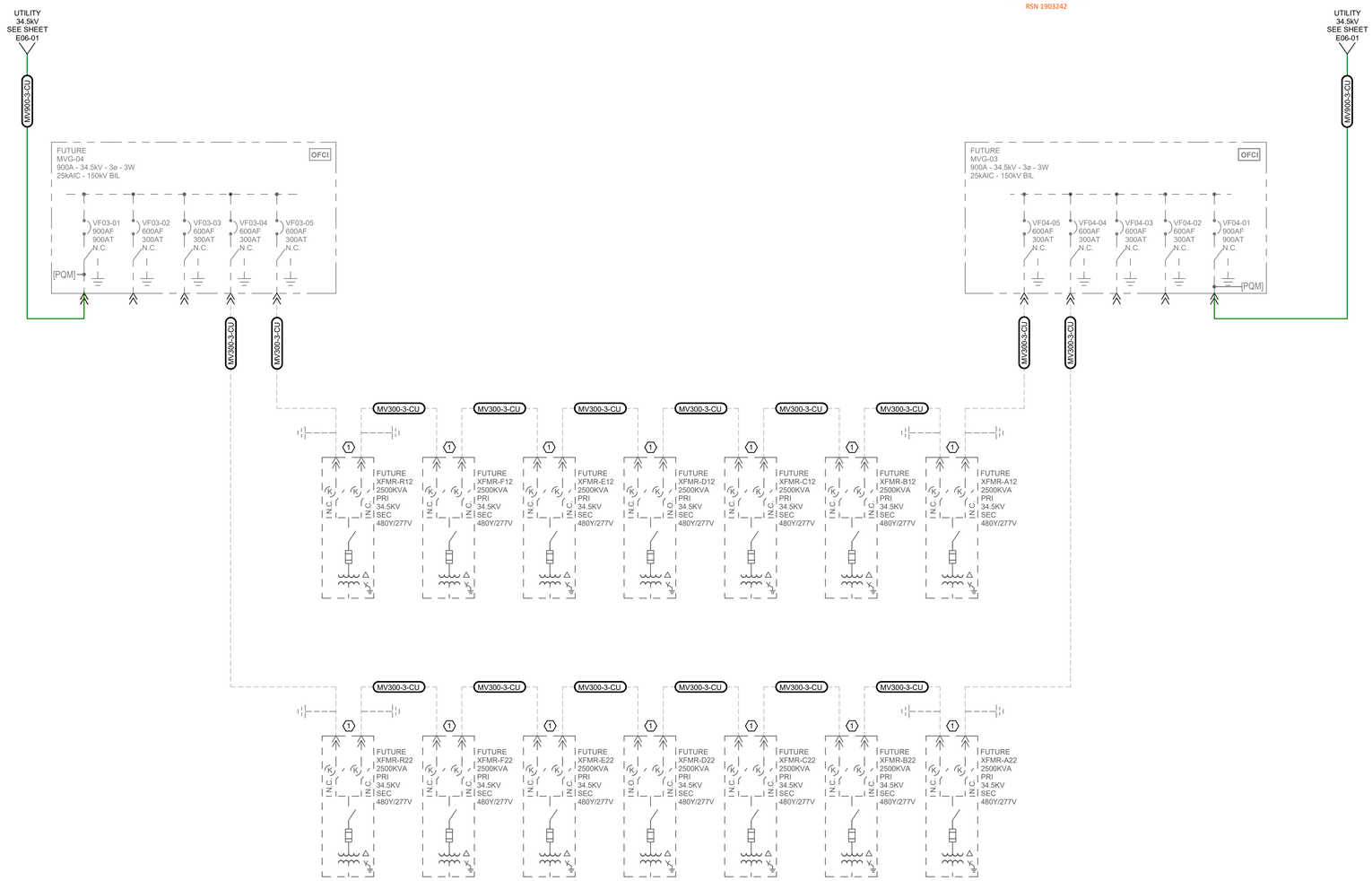
QTS DEN1 DC2
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QTS

SINGLE LINE DIAGRAM - MEDIUM VOLTAGE (DH1100/2100)

JOB 24464.0000
DATE 05.30.25
SHEET E06-02

Page 13 of 17

Permit #25-2535171-CM
RSN 1903242



SHEET NOTES

A. SEE DRAWING E00-01 FOR LEGENDS, NOTES, ABBREVIATIONS. SEE DRAWING E07-10 FOR FEEDER SCHEDULES.

B. REFER TO E03 SERIES DRAWINGS FOR ELECTRICAL EQUIPMENT LOCATIONS.

C. SERVICE EQUIPMENT IS TO BE LEGIBLY MARKED WITH THE MAXIMUM AVAILABLE FAULT CURRENT AS PROVIDED BY THE SERVING UTILITY. THE CONTRACTOR SHALL COORDINATE WITH THE SERVING UTILITY TO OBTAIN THE MAXIMUM AVAILABLE FAULT CURRENT. CONTRACTOR SHALL PROVIDE LABELING NOTING AVAILABLE FAULT CURRENT AND DATE OF CALCULATION IN ACCORDANCE WITH COLORADO ELECTRICAL CODE, LATEST EDITION.

SHEET KEYNOTES

1. STUB UP AND CAP CONDUIT AT TRANSFORMER PAD FOR FUTURE USE.

For foundation only, no approval for vertical construction on this permit.

Refer to table 300.5 of 2023 NEC for minimal cover requirements for 1000 volts of less, table 305.15 for greater than 1000 volts.

Call for rough electrical inspection before covering any raceways or conductors.

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LINETYPE LEGEND

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- EXISTING FEEDER
- FUTURE FEEDER
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401 N. Houston Street Dallas, TX
75202
T: 214.748.2000

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REVISIONS

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JAMES SCOTT COPE
34544
PROFESSIONAL ENGINEER
5/30/2025

Date of issue:
05.30.25

QTS DEN1 DC2
1140 N. GUN CLUB ROAD
QTS

SINGLE LINE DIAGRAM - MEDIUM VOLTAGE (DH1200/2200)

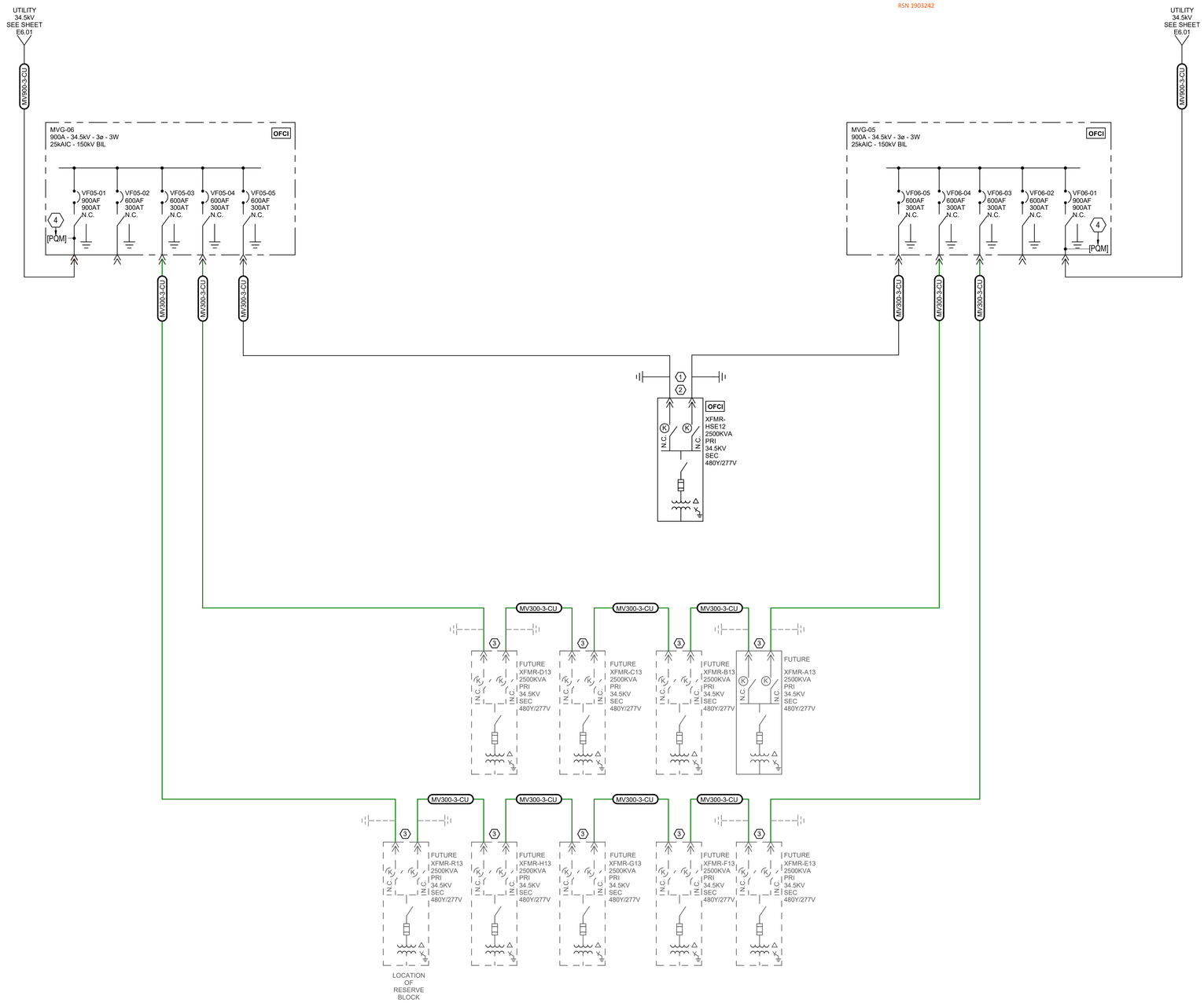
JOB 24464.0000
DATE 05.30.25
SHEET

E06-03

5/30/2025 2:00:52 PM E06-03 SINGLE LINE DIAGRAM - MEDIUM VOLTAGE (DH1200/2200)

Page 14 of 17

Permit #25-2535171-CM
RSN 1903242



SHEET NOTES

A. SEE DRAWING E00-01 FOR LEGENDS, NOTES, ABBREVIATIONS. SEE DRAWING E07-10 FOR FEEDER SCHEDULES.

B. REFER TO E03 SERIES DRAWINGS FOR ELECTRICAL EQUIPMENT LOCATIONS.

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2. TYPICAL SURGE ARRESTER. PROVIDE ELBOW TYPE SURGE ARRESTER AS PART OF MEDIUM VOLTAGE FEEDER TERMINATION.
3. STUB UP AND CAP CONDUIT AT TRANSFORMER PAD FOR FUTURE USE.
4. PROVIDE SEL-735 OR EQUAL REVENUE GRADE METER AT INCOMING SWITCH POSITION WITH 2" CONDUIT FROM BASE BUILDING TO SUBSTATION FOR FIBER CONNECTIVITY. REFERENCE POWER PLANS FOR 120V SOURCE(S).

For foundation only, no approval for vertical construction on this permit.

Refer to table 300.5 of 2023 NEC for minimal cover requirements for 1000 volts of less, table 305.15 for greater than 1000 volts.

Call for rough electrical inspection before covering any raceways or conductors.

City of Aurora Building Division
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LINETYPE LEGEND

- NEW FEEDER
- EXISTING FEEDER
- FUTURE FEEDER
- CONDUIT ONLY
- EXISTING CONDUIT, NEW WIRE

CORGAN
401 N. Houston Street Dallas, TX
75202
T: 214.748.2000

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REVISIONS

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JAMES SCOTT CORE
34544
PROFESSIONAL ENGINEER
5/30/2025

Date of issue:
05.30.25

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1140 N. GUN CLUB ROAD
QTS

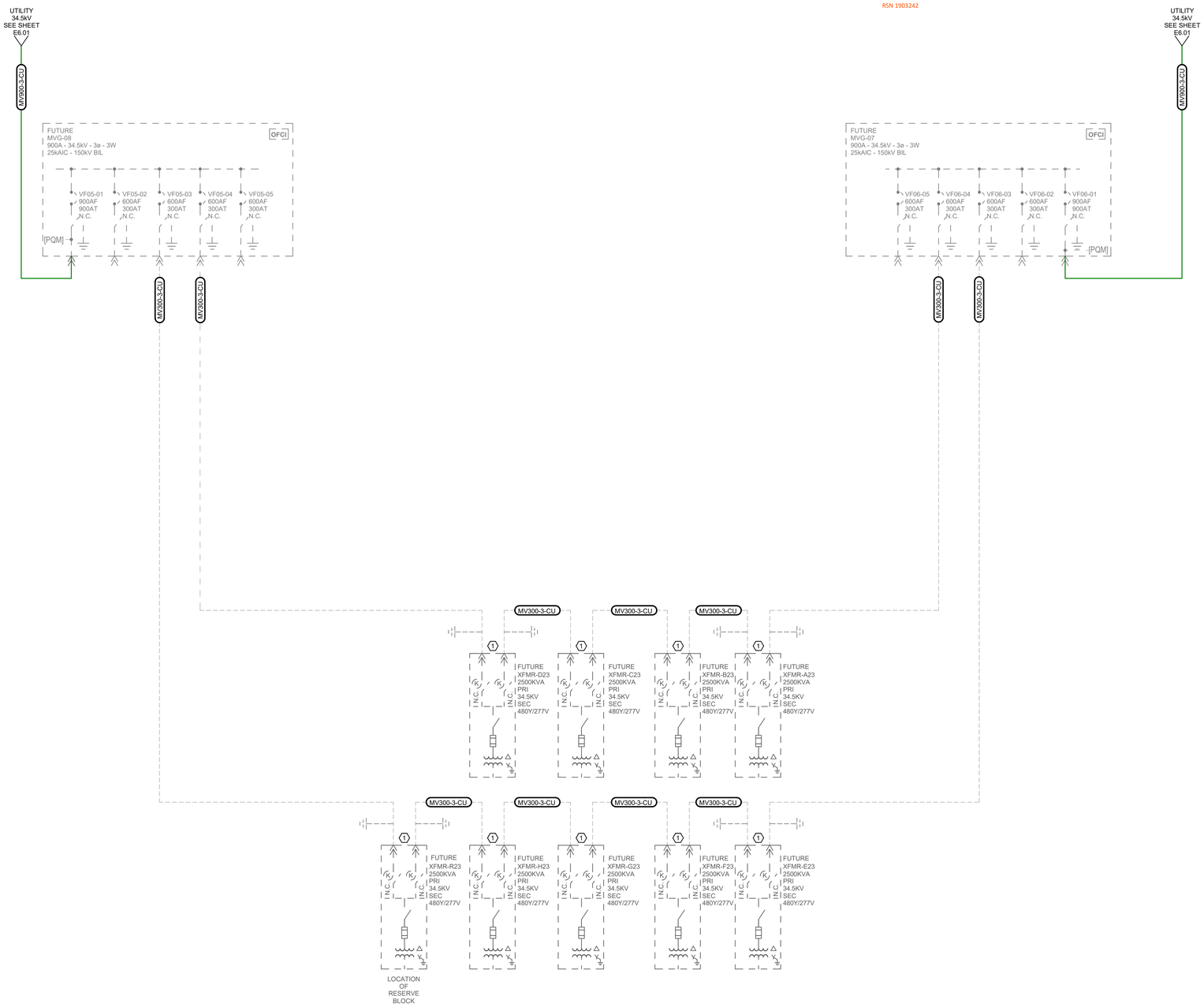
SINGLE LINE DIAGRAM - MEDIUM VOLTAGE (DH1300)

JOB 24464.0000
DATE 05.30.25
SHEET

E06-04

5/30/2025 2:00:53 PM E06-04 SINGLE LINE DIAGRAM - MEDIUM VOLTAGE (DH1300)

Permit #25-2535171-CM
RSN 1903242



SHEET NOTES

A. SEE DRAWING E00-01 FOR LEGENDS, NOTES, ABBREVIATIONS. SEE DRAWING E07-10 FOR FEEDER SCHEDULES.

B. REFER TO E03 SERIES DRAWINGS FOR ELECTRICAL EQUIPMENT LOCATIONS.

C. SERVICE EQUIPMENT IS TO BE LEGIBLY MARKED WITH THE MAXIMUM AVAILABLE FAULT CURRENT AS PROVIDED BY THE SERVING UTILITY. THE CONTRACTOR SHALL COORDINATE WITH THE SERVING UTILITY TO OBTAIN THE MAXIMUM AVAILABLE FAULT CURRENT. CONTRACTOR SHALL PROVIDE LABELING NOTING AVAILABLE FAULT CURRENT AND DATE OF CALCULATION IN ACCORDANCE WITH COLORADO ELECTRICAL CODE, LATEST EDITION.

SHEET KEYNOTES

1. STUB UP AND CAP CONDUIT AT TRANSFORMER PAD FOR FUTURE USE.

For foundation only, no approval for vertical construction on this permit.

Refer to table 300.5 of 2023 NEC for minimal cover requirements for 1000 volts of less, table 305.15 for greater than 1000 volts.

Call for rough electrical inspection before covering any raceways or conductors.

City of Aurora Building Division
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LINETYPE LEGEND

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401 N. Houston Street Dallas, TX
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5/30/2025

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05.30.25

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SINGLE LINE DIAGRAM - MEDIUM VOLTAGE (DH2300)

JOB 24464.0000
DATE 05.30.25
SHEET

E06-05

5/30/2025 2:00:53 PM E06-05 SINGLE LINE DIAGRAM - MEDIUM VOLTAGE (DH2300)

Permit #25-2535171-CM
RSN 1903242

FEEDER SCHEDULE - CONDUIT AND MC CABLE

NAME	# OF SETS	FEEDER AMPACITY	CONDUCTOR TYPE	PHASE CONDUCTORS		NEUTRAL CONDUCTORS		GROUND SIZE (CU)	CONDUIT SIZE
		GROSS		SIZE	QTY PER...	SIZE	QTY PER...		
20-3-CU	1	20 A	CU-THWN-2	#12 AWG	3	NA	NA	#12 AWG	3/4"
25-3-CU	1	30 A	CU-THWN-2	#10 AWG	3	NA	NA	#10 AWG	3/4"
30-3-CU	1	30 A	CU-THWN-2	#10 AWG	3	NA	NA	#10 AWG	3/4"
50-3-CU	1	55 A	CU-THWN-2	#6 AWG	3	NA	NA	#10 AWG	3/4"
50-4-CU	1	55 A	CU-THWN-2	#6 AWG	3	#6 AWG	1	#10 AWG	3/4"
60-3-CU	1	70 A	CU-THWN-2	#4 AWG	3	NA	NA	#10 AWG	1"
60-4-CU	1	70 A	CU-THWN-2	#4 AWG	3	#4 AWG	1	#10 AWG	1"
70-4-CU	1	70 A	CU-THWN-2	#4 AWG	3	#4 AWG	1	#8 AWG	1"
100-3-CU	1	110 A	CU-THWN-2	#1 AWG	3	NA	NA	#8 AWG	1 1/2"
100-4-CU	1	110 A	CU-THWN-2	#1 AWG	3	#1 AWG	1	#8 AWG	1 1/2"
100T-4-CU	1	110 A	CU-THWN-2	#1 AWG	3	#1 AWG	1	#6 AWG	1 1/2"
125-3-AL	1	135 A	AL-THWN-2	#2/0 AWG	3	NA	NA	#4 AWG	2"
150-3-AL	1	155 A	AL-THWN-2	#3/0 AWG	3	NA	NA	#4 AWG	2"
150-4-AL	1	155 A	AL-THWN-2	#3/0 AWG	3	#3/0 AWG	1	#4 AWG	2"
225-3-AL	1	230 A	AL-THWN-2	300 kCMIL	3	NA	NA	#2 AWG	2 1/2"
250-3-AL	1	250 A	AL-THWN-2	350 kCMIL	3	NA	NA	#2 AWG	2 1/2"
250-4-AL	1	250 A	AL-THWN-2	350 kCMIL	3	350 kCMIL	1	#2 AWG	3"
300-4-AL	1	310 A	AL-THWN-2	500 kCMIL	3	500 kCMIL	1	#2 AWG	3"
400-3-AL	2	410 A	AL-THWN-2	250 kCMIL	3	NA	NA	#1 AWG	2 1/2"
400-4-AL	2	410 A	AL-THWN-2	250 kCMIL	3	250 kCMIL	1	#1 AWG	2 1/2"
400T-4-AL	2	410 A	AL-THWN-2	250 kCMIL	3	250 kCMIL	1	#1/0 AWG	2 1/2"
600-3-AL	2	620 A	AL-THWN-2	500 kCMIL	3	NA	NA	#2/0 AWG	3"
800-3-AL	3	810 A	AL-THWN-2	400 kCMIL	3	NA	NA	#3/0 AWG	3"
800-4-AL	3	810 A	AL-THWN-2	400 kCMIL	3	400 kCMIL	1	#3/0 AWG	3"
1000-3-AL	3	1020 A	AL-THWN-2	600 kCMIL	3	NA	NA	#4/0 AWG	3"
1200-3-AL	4	1240 A	AL-THWN-2	500 kCMIL	3	NA	NA	250 kCMIL	3"
1200-3-CU	3	1260 A	CU-THWN-2	600 kCMIL	3	NA	NA	#3/0 AWG	3"
2000-3-AL	6	2040 A	AL-THWN-2	600 kCMIL	3	NA	NA	400 kCMIL	3"
2000-4-AL	6	2040 A	AL-THWN-2	600 kCMIL	3	600 kCMIL	1	400 kCMIL	3 1/2"
3000-3-AL	8	3080 A	AL-THWN-2	750 kCMIL	3	NA	NA	600 kCMIL	3 1/2"
3000-4-AL	11*	3080 A	AL-THWN-2	750 kCMIL	3	750 kCMIL	1	750 kCMIL	4"

* UPSIZED PER UNDERGROUND NEHER-MCGRATH HEAT CALCULATIONS.

NOTES:
1. CONDUIT SIZES ARE BASED ON ELECTRIC METALLIC TUBING, FOR OTHER RACEWAY TYPES REFER TO APPROPRIATE CONDUIT AND TUBING FILL TABLES IN ANNEX C OF NEC.
2. TABLE DOES NOT TAKE INTO ACCOUNT VOLTAGE DROP. CONTRACTOR IS RESPONSIBLE FOR PERFORMING VOLTAGE DROP CALCULATIONS AND UPSIZING FEEDERS AND GROUND CONDUCTORS TO COMPENSATE FOR VOLTAGE DROP BASED ON THE FINAL INSTALLED LENGTH OF THE FEEDER.
3. DO NOT USE THIS TABLE FOR SERVICE ENTRANCE CONDUCTORS, REFER TO NEC 230.42.
4. CONTRACTOR SHALL VALIDATE SIZING BASED ON INSTALLED CONDITIONS TO VERIFY COMPLIANCE WITH NEHER-MCGRATH AND VOLTAGE DROP CALCULATIONS. FEEDERS SHALL BE DE-RATED UNDER THE FOLLOWING CONDITIONS, AND OTHER APPLICABLE NEC REQUIREMENTS:
   A. VOLTAGE DROP
   B. NEHER-MCGRATH CALCULATIONS
   C. SYSTEMS WITH MORE THAN 3 CURRENT CARRYING CONDUCTORS (NEUTRAL CONDUCTOR SHALL BE CONSIDERED ACCORDING TO NEC REQUIREMENTS)
   D. GROUND CONDUCTOR SIZES INDICATED ARE BASED ON COPPER GROUND.
   E. CONTRACTOR SHALL PROVIDE FINAL CALCULATIONS BASED ON INSTALLED CONDITIONS AND SHALL SUBMIT ALL SUCH CALCULATIONS FOR VERIFICATION BY THE ENGINEER OF RECORD.

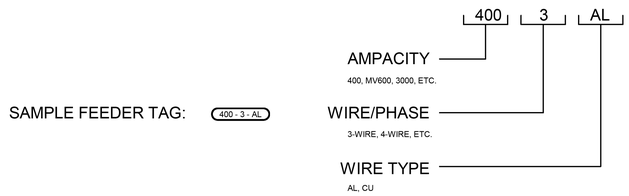
MV FEEDER SCHEDULE - CONDUIT (C)

NAME	# OF SETS	FEEDER AMPACITY	CONDUCTOR TYPE	PHASE CONDUCTORS		NEUTRAL CONDUCTORS		GROUND SIZE (CU)	CONDUIT SIZE
		GROSS		SIZE	QTY PER CONDUIT	SIZE	QTY PER CONDUIT		
MV200 - 3 - CU	1	215 A	CU-MV-105	#1/0 AWG	3	NA	NA	#4 AWG	6"
MV300 - 3 - CU	1	315 A	CU-MV-105	#4/0 AWG	3	NA	NA	#2 AWG	6"
MV400 - 3 - CU	1	415 A	CU-MV-105	350 KCMIL	3	NA	NA	#1 AWG	6"
MV600 - 3 - CU	1	610 A	CU-MV-105	750 kCMIL	3	NA	NA	#2/0 AWG	6"
MV900 - 3 - CU	2	1000 A	CU-MV-105	500 KCMIL	3	NA	NA	#4/0 AWG	6"
MV1200 - 3 - CU	2	1220 A	CU-MV-105	750 KCMIL	3	NA	NA	250 KCMIL	6"

FEEDER SCHEDULE - CABLE BUS (CB)

NAME	# OF SETS	FEEDER AMPACITY	CONDUCTOR TYPE	PHASE CONDUCTORS	NEUTRAL CONDUCTORS		GROUND SIZE (CU)	TRAY SIZE
		GROSS		SIZE	SIZE	QTY PER CONDUIT		
3000 - 3 - AL	9	3000 A	AL-XHHW-2	750 KCMIL	NA	NA	SEE NOTE	10" X 23.5"
3000 - 4 - AL	9	3000 A	AL-XHHW-2	750 KCMIL	750KCMIL	1	SEE NOTE	10" X 23.5"

NOTE:
1. GROUND CONDUCTOR WILL DIFFER FOR GENERATOR CABLE BUS FEEDERS AND TRANSFORMER CABLE BUS FEEDERS. THE GROUND CONDUCTOR FOR GENERATORS SHALL BE A 600KCMIL COPPER GROUND, THE TRANSFORMER GROUND CONDUCTOR SHALL BE 2-500KCMIL COPPER GROUNDS.
2. CONTRACTOR SHALL PROVIDE ENGINEER OF RECORD WITH SUBMITTAL FOR REVIEW TO CONFIRM SUFFICIENT AMPACITY OF CABLE BUS.



FEEDER TAG LEGEND

TRANSFORMER SCHEDULE (CFCI)

TRANSFORMER DESIGNATION	KVA	PRIMARY WINDING			SECONDARY WINDING			GROUNDING	INSUL	INSUL	PHASE	DB	K	REMARKS
		TYPE	VOLTS	CONDUIT & WIRE	TYPE	VOLTS	CONDUIT & WIRE	ELECTRODE (CU)	CLASS	RISE			RATING	
XFMR-SITE-11	75	DELTA	480	SEE ONE-LINE DIAGRAM	WYE	480/277	SEE ONE-LINE DIAGRAM	1#6	220	150	3	NEMA ST 20	-	AL WINDINGS
XFMR-CAFÉ-11	30	DELTA	480	SEE ONE-LINE DIAGRAM	WYE	208/120	SEE ONE-LINE DIAGRAM	1#6	220	150	3	NEMA ST 20	-	AL WINDINGS
XFMR-SITE-EV	150	DELTA	480	SEE ONE-LINE DIAGRAM	WYE	208/120	SEE ONE-LINE DIAGRAM	1#1/0	220	150	3	NEMA ST 20	-	AL WINDINGS, NEMA 3R
XFMR-RP-11	150	DELTA	480	SEE ONE-LINE DIAGRAM	WYE	208/120	SEE ONE-LINE DIAGRAM	1#1/0	220	150	3	NEMA ST 20	-	AL WINDINGS
XFMR-RP-21	150	DELTA	480	SEE ONE-LINE DIAGRAM	WYE	208/120	SEE ONE-LINE DIAGRAM	1#1/0	220	150	3	NEMA ST 20	-	AL WINDINGS
XFMR-DH11-RP	30	DELTA	480	SEE ONE-LINE DIAGRAM	WYE	208/120	SEE ONE-LINE DIAGRAM	1#6	220	150	3	NEMA ST 20	-	AL WINDINGS
XFMR-DH21-RP	30	DELTA	480	SEE ONE-LINE DIAGRAM	WYE	208/120	SEE ONE-LINE DIAGRAM	1#6	220	150	3	NEMA ST 20	-	AL WINDINGS
XFMR-EXT-11	30	DELTA	480	SEE ONE-LINE DIAGRAM	WYE	208/120	SEE ONE-LINE DIAGRAM	1#6	220	150	3	NEMA ST 20	-	AL WINDINGS
XFRM-HSE-11-01	112.5	DELTA	480	SEE ONE-LINE DIAGRAM	WYE	208/120	SEE ONE-LINE DIAGRAM	1#1/0	220	150	3	NEMA ST 20	-	AL WINDINGS
XFMR-HSE-12-01	112.5	DELTA	480	SEE ONE-LINE DIAGRAM	WYE	208/120	SEE ONE-LINE DIAGRAM	1#1/0	220	150	3	NEMA ST 20	-	AL WINDINGS
XFRM-HSE-21-01	112.5	DELTA	480	SEE ONE-LINE DIAGRAM	WYE	208/120	SEE ONE-LINE DIAGRAM	1#1/0	220	150	3	NEMA ST 20	-	AL WINDINGS
XFMR-HSE-22-01	112.5	DELTA	480	SEE ONE-LINE DIAGRAM	WYE	208/120	SEE ONE-LINE DIAGRAM	1#1/0	220	150	3	NEMA ST 20	-	AL WINDINGS
XFMR-EXT-12	30	DELTA	480	SEE ONE-LINE DIAGRAM	WYE	208/120	SEE ONE-LINE DIAGRAM	1#6	220	150	3	NEMA ST 20	-	AL WINDINGS
XFMR-SITE-12	75	DELTA	480	SEE ONE-LINE DIAGRAM	WYE	208/120	SEE ONE-LINE DIAGRAM	1#2	220	150	3	NEMA ST 20	-	AL WINDINGS
XFMR-RP-11	75	DELTA	480	SEE ONE-LINE DIAGRAM	WYE	208/120	SEE ONE-LINE DIAGRAM	1#2	220	150	3	NEMA ST 20	-	AL WINDINGS
XFMR-RP-21	75	DELTA	480	SEE ONE-LINE DIAGRAM	WYE	208/120	SEE ONE-LINE DIAGRAM	1#2	220	150	3	NEMA ST 20	-	AL WINDINGS
XFMR-DH11-RP	30	DELTA	480	SEE ONE-LINE DIAGRAM	WYE	208/120	SEE ONE-LINE DIAGRAM	1#6	220	150	3	NEMA ST 20	-	AL WINDINGS
XFMR-DH21-RP	30	DELTA	480	SEE ONE-LINE DIAGRAM	WYE	208/120	SEE ONE-LINE DIAGRAM	1#6	220	150	3	NEMA ST 20	-	AL WINDINGS

For foundation only, no approval for vertical construction on this permit.

Refer to table 300.5 of 2023 NEC for minimal cover requirements for 1000 volts of less, table 305.15 for greater than 1000 volts.

Call for rough electrical inspection before covering any raceways or conductors.

City of Aurora Building Division
Reviewed for Code Compliance
Approved as Noted: cdodson
Date: Jun 11, 2025
2021 INTERNATIONAL CODES & 2023 NEC

CORGAN
401 N. Houston Street Dallas, TX
75202
T: 214.748.2000

AG/E

SYSKA HENNESSY GROUP

TLD DESIGN CONSULTING LLC

ISSUES

1	12.20.24	DESIGN DEVELOPMENT
2	01.31.25	ISSUE FOR PERMIT
3	05.30.25	FOUNDATIONS ONLY IFP
4		
5		
6		
7		
8		
9		
10		

REVISIONS

A	03.28.25	ADDENDUM 1

COLORADO REGISTERED JAMES SCOTT COPE 34544 PROFESSIONAL ENGINEER
5/30/2025

Date of issue:
05.30.25

QTS DEN1 DC2
1140 N. GUN CLUB ROAD
QTS

TYPICAL FEEDER SCHEDULE

JOB 24464.0000
DATE 05.30.25
SHEET

E07-10

5/30/2025 2:01:01 PM E07-10 TYPICAL FEEDER SCHEDULE