GENERAL NOTES

DESIGN CRITERIA:

1. BUILDING CODE = 2018 INTERNATIONAL BUILDING CODE
   OCCUPANCY CATEGORY = II
2. GRAVITY LOADS:
   DEAD:
   SELF WEIGHT OF ALL COMPONENTS
   ROOF COLLATERAL LOAD = 3 psf
   LIVE:
   ROOF (Reducible) = 20 psf
   SNOW:
   GROUND SNOW, p_g = 20 psf
   EXPOSURE FACTOR = 1.0
   THERMAL FACTOR = 1.0
   IMPORTANCE FACTOR = 1.0
   FLAT ROOF SNOW, p_f = 20 psf
   RAIN ON SNOW SURCHARGE = 0 psf
   ROOF SNOW USED FOR DESIGN = 20 psf
3. WIND LOADS:
   BASIC WIND SPEED = 110 MPH
   EXPOSURE = C
   BASIC VELOCITY PRESSURE q_s = 25 psf
4. SEISMIC:
   S_S = 0.098g
   S_1 = 0.067g
   S_{DS} = 0.105g
   S_{D1} = 0.107g
   IMPORTANCE FACTOR = 1.0
   SITE CLASS = D
   SEISMIC DESIGN CATEGORY = B

GENERAL:

1. ALL DESIGN AND CONSTRUCTION SHALL COMPLY WITH THE 2018 INTERNATIONAL BUILDING CODE AND ALL APPLICABLE LOCAL ORDINANCES.
2. REFERENCE TO 'CONTRACTOR' IN THESE DOCUMENTS SHALL MEAN THE OVERALL SUPERVISING GENERAL CONTRACTOR OR CONSTRUCTION MANAGER.
3. ALL CONSTRUCTION SHALL COMPLY WITH THE PROVISIONS OF THE FOLLOWING CODES, STANDARDS AND SPECIFICATIONS (LATEST EDITIONS, UNO.). EXCEPT WHERE NOTED TO THE CONTRARY ON DRAWINGS OR WHERE MORE STRINGENT REQUIREMENTS ARE SPECIFIED OR SHOWN:

ACI 117	"STANDARD SPECIFICATIONS FOR TOLERANCE OF CONCRETE CONSTRUCTION AND MATERIALS"
ACI 301	"SPECIFICATION FOR STRUCTURAL CONCRETE FOR BUILDINGS"
ACI 318	"BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE"
ACI 530	"BUILDING CODE REQUIREMENTS FOR MASONRY STRUCTURES"
AISI	"SPECIFICATIONS FOR THE DESIGN OF COLD-FORMED STEEL STRUCTURAL MEMBERS"
SJI	"SPECIFICATIONS, LOAD TABLES AND WEIGHT TABLES FOR STEEL JOISTS AND JOIST GIRDERS"
AISC 360	"SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS (INCLUDING COMMENTARIES)"
AISC 303	"CODE OF STANDARD PRACTICE FOR STEEL BUILDINGS & BRIDGES"
AISC	"STEEL DESIGN GUIDE 3 - SERVICEABILITY DESIGN CONSIDERATIONS FOR STEEL BUILDINGS"
SDI	"STEEL DECK MANUAL FOR FLOOR DECKS AND ROOF DECKS"
AWS D1.1	"STRUCTURAL WELDING CODE - STEEL"
AWS D1.3	"STRUCTURAL WELDING CODE - SHEET STEEL"

4. STRUCTURAL MEMBERS WILL REQUIRE INTERACTION WITH OTHER ELEMENTS FOR STABILITY AND RESISTANCE TO LATERAL FORCES. ALL FRAMING AND WALLS SHALL BE TEMPORARILY BRACED BY THE CONTRACTOR UNTIL PERMANENT BRACING, WALLS, FLOOR, AND ROOF DECKS HAVE BEEN INSTALLED AND CONNECTIONS BETWEEN THESE HAVE BEEN MADE. SEE MATERIAL SPECIFIC NOTES FOR STEEL AND CONCRETE FOR ADDITIONAL NOTES.
5. NEEDHAM & ASSOCIATES IS NOT ASSUMING ANY PROVISIONS OF SUPERVISION OF CONSTRUCTION MEANS, METHODS, OR PROCESSES.
6. DO NOT SCALE DRAWINGS.
7. CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING ALL DIMENSIONS BEFORE STARTING WORK AND REPORT ANY DISCREPANCIES TO THE ARCHITECT OR ENGINEER.
8. FRAMING CONDITIONS NOT SPECIFICALLY SHOWN OR INDICATED SHALL BE FRAMED SIMILAR TO DETAILS SHOWN FOR THE RESPECTIVE MATERIAL OR CONDITIONS.
9. THE SIZE AND LOCATIONS OF ALL EQUIPMENT PADS AND PENETRATIONS THROUGH THE STRUCTURE FOR MECHANICAL, ELECTRICAL AND PLUMBING WORK SHALL BE VERIFIED BY THE CONTRACTOR. PENETRATIONS SHALL BE SUBJECT TO APPROVAL BY THE ARCHITECT AND STRUCTURAL ENGINEER. REFER TO MECHANICAL, ELECTRICAL AND PLUMBING DRAWINGS FOR OPENING LOCATIONS NOT SHOWN ON THE STRUCTURAL DRAWINGS.
10. SUBMITTALS FOR ITEMS WITH DELEGATED DESIGN RESPONSIBILITIES SUCH AS PREMANUFACTURED STAIRS, LIGHT GAGE METAL STUDS, STEEL JOISTS, AND JOIST GIRDERS MUST BE SUBMITTED AND APPROVED BEFORE INSTALLATION CAN BEGIN.
11. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR JOB SITE CONDITIONS DURING COURSE OF CONSTRUCTION OF THIS PROJECT, INCLUDING SAFETY OF ALL PERSON AND PROPERTY.
12. LOADINGS FOR MECHANICAL EQUIPMENT ARE BASED ON THE UNITS SHOWN ON THE STRUCTURAL DRAWINGS. ANY CHANGES IN TYPE, SIZE, WEIGHT, OR NUMBER OF UNITS SHALL BE REPORTED TO THE ARCHITECT PRIOR TO FABRICATION.

SOIL/FOUNDATION CONDITIONS:

1. OWNER TO RETAIN QUALIFIED SOILS ENGINEER TO MONITOR FOUNDATION AND SUB-GRADE DURING SITE PREPARATION AND FOUNDATION CONSTRUCTION. EACH FOOTING EXCAVATION SHALL BE INSPECTED TO ENSURE THAT SATISFACTORY SOIL EXISTS BELOW THE BASE OF THE FOOTING. ALL EXCAVATION, FOUNDATION CONSTRUCTION, & SUBGRADE PREPARATION MUST BE IN STRICT COMPLIANCE WITH THE SOILS REPORT.
2. STRUCTURAL DESIGN IS BASED UPON A NET ALLOWABLE SOIL PRESSURE OF 2500 PSF FOR CONTINUOUS WALL FOOTINGS AND 3000 PSF FOR SPREAD FOOTINGS. FOOTINGS SHALL BEAR ON EXISTING SUBGRADE OR ENGINEERED FILL AS DESCRIBED IN THE SOILS REPORT BY: ALPHA-OMEGA GEOTECH, DATED AUGUST 28, 2023.
3. FROST DEPTH IS 36 INCHES BELOW GRADE. ALL EXTERIOR FOOTINGS SHALL BEAR BELOW FROST DEPTH.
4. ALL FOOTING EXCAVATIONS SHALL BE FREE FROM LOOSE OR SOFT SOILS, WATER, ICE AND OTHER UNSUITABLE MATERIALS BEFORE FOUNDATION PLACEMENT CAN CONTINUE.
5. THE FLOOR SLAB SHALL BE SUPPORTED ON A 4-6 INCH LAYER OF FREE DRAINING GRANULAR MATERIAL COMPACTED TO AT LEAST 95% OF ASTM D 6982 OVER STRUCTURAL FILL AS DESCRIBED IN THE GEOTECHNICAL REPORT. A SUBGRADE MODULUS OF 125 PCI IS USED FOR THE SLAB ON GRADE. SEE FOUNDATION DRAWINGS FOR ADDITIONAL INFORMATION.
6. FLOOR SLAB POURS SHALL BE SEPARATED BY A CONSTRUCTION JOINT. CONTROL JOINTS SHALL BE LOCATED AS SHOWN ON THE DRAWINGS OR AS DIRECTED BY THE ARCHITECT OR ENGINEER.

(03 30 00) CONCRETE:

1. THE EXTENT OF THE CONCRETE WORK IS SHOWN ON THE DRAWINGS.
2. SUBMITTALS ARE REQUIRED FOR REINFORCEMENT, CONCRETE MIXES, ADMIXTURES, CURING COMPOUNDS AND ANY OTHER ITEM AS REQUESTED BY THE CONSTRUCTION MANAGER.
3. ALL DESIGN SHALL BE PER THE LATEST EDITION OF THE ACI 318 "BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE AND COMMENTARY."
4. CONCRETE TESTING SHALL BE PERFORMED PER ACI REQUIREMENTS. SAMPLES SHALL BE TAKEN PER ASTM C172 WITH FREQUENCY AS FOLLOWS:
   A. A MINIMUM OF ONE SAMPLE A DAY WITH NO LESS THAN 5 SAMPLES FOR A GIVEN CLASS OF CONCRETE, TAKEN FROM 5 RANDOMLY SELECTED BATCHES, OR FROM EACH BATCH IF LESS THAN 5 BATCHES ARE USED.
   B. A MINIMUM OF ONE SAMPLE PER 150 CUBIC YARDS.
   C. A MINIMUM OF ONE SAMPLE FOR EACH 5,000 SQUARE FEET OF SLAB OR WALL.
   D. IF LESS THAN 50 CUBIC YARDS OF A GIVEN CLASS OF CONCRETE IS NEEDED, THE NEED FOR STRENGTH TESTS MAY BE WAIVED WITH THE APPROVAL OF THE ENGINEER.
   E. SAMPLES SHALL BE MOLDED AND CURED PER ASTM C31 SAMPLES SHALL BE TESTED PER ASTM C39 USING 4x8 OR 6x12 SAMPLES.
5. CONCRETE MEMBERS SHALL BE ASSIGNED DURABILITY REQUIREMENTS PER CHAPTER 4 OF ACI 318 AS SHOWN.

	FREEZE/THAW	SULFATE	PERMEABILITY	CORROSION
ALL CONCRETE UNO:	FO	SO	PO	CO
FOOTINGS, PIERS & GRADE BEAMS:	FO	SO	PO	CO
SLAB ON GRADE:	FO	SO	PO	CO
ELEVATED SLAB:	FO	SO	PO	CO
CONCRETE FILL:	FO	SO	PO	CO

6. MATERIALS SHALL COMPLY WITH LATEST EDITION OF ACI 318 AND AS NOTED BELOW.

PORTLAND CEMENT:	ASTM C150 TYPE I
FLY ASH (SEE NOTE 7):	ASTM C618
NORMAL WEIGHT AGGREGATE:	ASTM C33
LIGHT WEIGHT AGGREGATE:	ASTM C330
WATER	ASTM C1602/ASTM C94
NON WELDABLE REBAR:	ASTM A615, GRADE 60
WELDABLE REBAR:	ASTM A706
WELDED WIRE FABRIC:	ASTM A1064
AIR ENTRAINMENT (SEE NOTE 8):	ASTM C260

7. FLY ASH (CLASS C) CONTENT IN MIX DESIGN SHALL NOT EXCEED 20% OF TOTAL CEMENTIOUS MATERIAL CONTENT.
8. NORMAL WEIGHT AND LIGHT WEIGHT CONCRETE SUBJECT TO EXPOSURE CLASSES F1, F2, OR F3 SHALL BE AIR ENTRAINED WITH AIR CONTENT AS INDICATED. CONCRETE SUBJECT TO EXPOSURE CLASS F0 DOES NOT REQUIRE AIR ENTRAINMENT.

	AIR CONTENT, %	
NOMINAL AGGREGATE SIZE	F1	F2, F3
3/8"	6	7.5
1/2"	5.5	7
3/4"	5	6
1"	4.5	6
1 1/2"	4.5	5.5
2"	4	5
3"	3.5	4.5

9. COMPRESSIVE STRENGTH OF CONCRETE (28 DAY STRENGTH) AS FOLLOWS:

ALL CONCRETE U.N.O.:	4,000 PSI
FOOTINGS, PIERS, & GRADE BEAMS:	3,500 PSI
SLAB-ON-GRADE:	4,000 PSI
ELEVATED SLABS:	4,000 PSI
CONCRETE FILL:	2,500 PSI

10. PROPORTION ALL MIX DESIGNS TO HAVE A MAXIMUM SLUMP OF 4 INCHES UNLESS SPECIFICALLY APPROVED BY THE ENGINEER. MIX DESIGNS CONTAINING HIGH-RANGE WATER REDUCING ADMIXTURES SHALL HAVE A MAXIMUM SLUMP OF 8 INCHES AFTER ADMIXTURE IS ADDED TO THE CONCRETE.
11. THE MAXIMUM WATER/CEMENTIOUS MATERIAL SHALL BE LIMITED TO THE FOLLOWING UNLESS SPECIFICALLY APPROVED BY THE ENGINEER.

ALL CONCRETE U.N.O.:	0.45
FOOTINGS, PIERS, & GRADE BEAMS:	0.55
SLAB-ON-GRADE:	0.45
ELEVATED SLABS:	0.48
CONCRETE FILL:	0.60

12. FOR CONCRETE SUBJECT TO EXPOSURE CLASS C0, THE MAXIMUM WATER SOLUBLE CHLORIDE ION CONTENT IN CONCRETE AS DETERMINED BY ASTM C1218 SHALL BE 1.0% OF WEIGHT OF CEMENT.
13. ANCHOR RODS SHALL BE ASTM F1554-36 MATERIAL AND SHALL HAVE A MINIMUM EMBEDMENT OF 12 INCHES INTO THE CONCRETE UNLESS CALLED FOR OTHERWISE ON THE DRAWINGS. ALL THREADS SHALL BE CUT AND NOT ROLLED. THE EMBEDDED END SHALL CONSIST OF A HEAVY HEX NUT OR OTHER MECHANICAL ANCHOR. HOOK BOLTS ARE NOT ACCEPTABLE. ALL ANCHOR RODS MUST BE CLEANED OF OIL, RUST AND OTHER DELETERIOUS COATINGS PRIOR TO PLACEMENT. SET ALL EMBEDMENTS BY MEANS OF A TEMPLATE WHERE POSSIBLE.
14. DETAILING: ALL REINFORCING SHALL BE DETAILED, BOLSTERED AND SUPPORTED PER ACI STANDARDS #315, "MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCING CONCRETE STRUCTURES." NO MORE THAN 1/2 OF BARS MAY BE SPLICED AT ONE LOCATION.
15. CURING AND SEALING COMPOUNDS SHALL COMPLY WITH ASTM C309 OR ASTM C1315.
16. REINFORCEMENT SHALL BE SPLICED W/ A MECHANICAL, WELDED, OR LAP SPLICE THAT MEETS ACI 318. WELDED SPLICES SHALL CONFORM TO AWS & SHALL DEVELOP 125% OF THE YIELD STRENGTH OF THE BAR. WELDED REINFORCEMENT SHALL CONFORM TO ASTM A706. MECHANICAL SPLICES SHALL DEVELOP 125% OF THE YIELD STRENGTH OF THE BAR & SHALL BE APPROVED BY THE ENGINEER. LAP SPLICES SHALL BE IN ACCORDANCE WITH THE FOLLOWING TABLES FOR CLASS A&B SPICES. WHERE SPLICE CLASS IS NOT CALLED OUT ON DRAWINGS, A CLASS B SPLICE SHALL BE USED.

	TENSION SPLICES (INCHES)				COMPRESSION SPLICES (INCHES)
BAR	TOP BARS		OTHER BARS		ALL BARS
SIZE	"A"	"B"	"A"	"B"	
#3	13	17	12	13	12
#4	21	28	16	21	15
#5	31	41	24	31	19
#6	43	56	33	43	23

THE TABLE IS BASED ON THE FOLLOWING ASSUMPTIONS: f'c=3000 psi, CONCRETE IS NORMAL WEIGHT, BARS ARE NOT EPOXY COATED, CLEAR SPACING OF BARS IS EQUAL TO OR GREATER THAN TWO BAR DIAMETERS, AND CLEAR COVER IS 3/4". FOR LARGER CONCRETE STRENGTHS OR GREATER CONCRETE COVER, THE LAP SPLICE LENGTH MAY BE REDUCED THRU AN APPROVED SUBMITTAL TO THE ENGINEER. LAP SPLICES IN LIGHTWEIGHT CONCRETE ARE LARGER THAN SHOWN. CONTRACTOR TO SUBMIT LAP SPLICE LENGTHS IN LIGHTWEIGHT CONCRETE FOR APPROVAL BY THE ENGINEER. NOTE THAT 'TOP' BARS INDICATE HORIZONTAL REINFORCEMENT THAT IS PLACED W/ 12" OR MORE OF FRESH CONCRETE BELOW THE SPLICE.

17. WELDED WIRE FABRIC SHALL BE LAPPED ONE SPACING OF CROSS WIRES PLUS 2 INCHES.
18. COMPRESSION DOWEL EMBEDMENT SHALL BE 22 BAR DIAMETERS.
19. PROVIDE CORNER REINFORCING TO MATCH CONTINUOUS REINFORCEMENT SIZE AND QUANTITY AT INTERSECTIONS AND CORNERS OF WALLS AND FOOTINGS.
20. WALL, PIER, AND COLUMN DOWELS SHALL BE THE SAME SIZE, SPACING, AND MATERIAL AS WALL, PIER AND COLUMN REINFORCING, UNLESS NOTED OTHERWISE.
21. ALL CONCRETE IS REINFORCED UNLESS SPECIFICALLY NOTED "UNREINFORCED". REINFORCE ALL CONCRETE NOT OTHERWISE SHOWN WITH THE THE SAME REINFORCEMENT AS SIMILAR SECTIONS.

EXECUTION:

22. ALL CONCRETE SHALL BE MIXED PER ASTM C94 OR ASTM C685.
23. THE CONCRETE FOUNDATIONS AND SLAB-ON-GRADE MUST BE PLACED ON A SOUND BASE AS DESCRIBED IN THE SOILS REPORT & THE SOILS / FOUNDATION CONDITIONS NOTES.
24. PLACEMENT OF CONCRETE SHALL BE PER LATEST EDITION OF ACI 318. CONCRETE SHALL BE DEPOSITED AS NEAR TO ITS FINAL POSITION AS POSSIBLE. ALL CONCRETE SHALL BE THOROUGHLY CONSOLIDATED AROUND REINFORCEMENT AND EMBEDDED ITEMS. ALL REINFORCING STEEL MUST BE FREE FROM DIRT, RUST AND OTHER DELETERIOUS MATERIAL PRIOR TO PLACEMENT. DOWELS, ANCHOR BOLTS, INSERTS, ETC. SHALL BE SECURELY TIED IN PLACE PRIOR TO POURING OF CONCRETE OR GROUT.
25. SPECIFIED CONCRETE CLEAR COVERS ARE AS FOLLOWS:

CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH:	3"
CONCRETE PERMANENTLY EXPOSED TO EARTH OR WEATHER:	
#5 BAR OR SMALLER:	1½"
#6 BAR OR LARGER:	2"
SLABS NOT EXPOSED TO EARTH OR WEATHER (TO #11 BARS):	¾"
BEAMS AND COLUMNS NOT EXPOSED TO EARTH OR WEATHER:	1½"

26. PROVIDE CONTINUOUS 2" X 4" KEY-WAY IN ALL HORIZONTAL AND VERTICAL CONSTRUCTION JOINTS. OTHERWISE, ROUGHEN AND CLEAN ALL CONSTRUCTION JOINTS.
27. NO PIPES, DUCTS OR CONDUIT SHALL BE PLACED IN CONCRETE UNLESS SPECIFICALLY DETAILED OR NOTED.
28. NO ADMIXTURES OTHER THAN AIR ENTRAINMENT MAY BE ADDED WITHOUT THE SPECIFIC APPROVAL OF THE ENGINEER. NO CALCIUM CHLORIDE SHALL BE USED AT ANY TIME. WATER REDUCTION AGENTS SHALL MEET ASTM C494. WORKABILITY AGENTS SHALL CONFORM TO ASTM C1017.
29. CONCRETE SHALL BE MAINTAINED ABOVE 50°F AND IN A MOIST CONDITION FOR AT LEAST 7 DAYS AFTER PLACEMENT UNLESS AN ACCELERATED CURING METHOD IS USED. THIS ACCELERATED METHOD SHALL BE APPROVED BY THE ENGINEER.
30. CAST IN PLACE WALL CONTROL JOINTS SHALL BE PROVIDED AT A MAXIMUM OF 25'-0" O.C. COORDINATE W/ ARCHITECTURAL DRAWINGS.
31. PROVIDE CURING AND SEALING COMPOUND TO ALL EXPOSED INTERIOR SLABS AND TO ALL EXTERIOR SLABS, WALKS AND CURBS AS SOON AS FINAL FINISHING IS COMPLETE.
32. CONCRETE PLACED IN COLD WEATHER SHALL BE IN COMPLIANCE WITH ACI 306. DO NOT PLACE CONCRETE ON FROZEN SUB-GRADE OR ON GRADES CONTAINING FROZEN MATERIALS.
33. CONCRETE PLACED IN HOT WEATHER SHALL BE IN COMPLIANCE WITH ACI 305.

PRE-ENGINEERED METAL BUILDING:

1. ALL PEMB SECONDARY MEMBERS, WALL SHEETING, ROOF SHEETING AND RELATED CONNECTIONS SHALL BE DESIGNED FOR ALL "ELEMENTS AND COMPONENTS" WIND FORCES AS PRESCRIBED IN THE CODE. THIS SHALL BE SHOWN CLEARLY IN ALL RELATED APPROVAL DRAWINGS AND CALCULATIONS.
2. IF SSR IS USED, STANDING SEAM ROOF AND PURLIN DESIGN SHALL UTILIZE THE BASE TEST METHOD OF DETERMINING POSITIVE MOMENT CAPACITY. OTHERWISE, THE DESIGN MUST CONSIDER NO LATERAL SUPPORT FROM THE STANDING SEAM ROOF.

STANDARD ABBREVIATIONS

A.F.F.	:	ABOVE FINISHED FLOOR	JT.	:	JOINT
ALT.	:	ALTERNATE	LG.	:	LONG
B.O.F.	:	BOTTOM OF FOOTING	M.O.	:	MASONRY OPENING
BLDG.	:	BUILDING	NOM.	:	NOMINAL
BOT.	:	BOTTOM	N.S.	:	NEAR SIDE
C.L.	:	CENTER LINE	N.T.S.	:	NOT TO SCALE
COL.	:	COLUMN	O/C	:	ON CENTER
CONC.	:	CONCRETE	PEMB	:	PRE-ENGINEERED METAL BLDG.
CORR.	:	CORRUGATED	PEMBS	:	PRE-ENGINEERED METAL BLDG. SUPPLIER
CONST.	:	CONSTRUCTION	PL.	:	PLATE
DET.	:	DETAIL	R.	:	RADIUS
DIM.	:	DIMENSION	REINF.	:	REINFORCING
DWG.	:	DRAWING	R.F.	:	RIGID FRAME
E.J.	:	EXPANSION JOINT	R.O.	:	ROUGH OPENING
ELEV.	:	ELEVATION	S.B.	:	SOIL BORING
EQ.	:	EQUAL	S.F.	:	SQUARE FEET
E.W.	:	EACH WAY	SHT.	:	SHEET
EXP.	:	EXPANSION	SIM.	:	SIMILAR
EXT.	:	EXTERIOR	S.L.	:	STRUCTURAL LINE
FDN.	:	FOUNDATION	SLBB	:	SHORT LEG BACK-TO-BACK
F.F.	:	FINISHED FLOOR	SPEC.	:	SPECIFICATIONS
F.S.	:	FAR SIDE	STL.	:	STEEL
FTG.	:	FOOTING	T.O.	:	TOP OF
G.B.	:	GRADE BEAM	TYP.	:	TYPICAL
HT.	:	HEIGHT	U.N.O.	:	UNLESS NOTED OTHERWISE
INSUL.	:	INSULATION	VERT.	:	VERTICAL
INT.	:	INTERIOR	W.W.F.	:	WELDED WIRE FABRIC

INSPECTION

1. INSPECTION BY A REGISTERED DEPUTY BUILDING INSPECTOR EMPLOYED BY A TESTING LAB SHALL BE PROVIDED FOR THE ITEMS IN THE TABLE BELOW.
2. A CERTIFICATE OF SATISFACTORY COMPLETION OF WORK REQUIRING SPECIAL INSPECTION MUST BE COMPLETED AND SUBMITTED TO THE FIELD INSPECTION DIVISION.
3. THE OWNER IS RESPONSIBLE FOR THE SELECTION OF SPECIAL INSPECTION AND TESTING AGENCIES.

DUTIES & RESPONSIBILITIES OF THE INSPECTOR ARE COVERED IN SECTION 1704.1 OF IBC.

	ITEM	INSPECTION TYPE	REMARKS
CONCRETE	SLAB ON GRADE (f'c = 4000 PSI)	PERIODIC	PRIOR TO POURING OF CONCRETE & DURING THE TAKING OF TEST SPECIMENS
CONCRETE	GRADE BEAM AND FOUNDATION (f'c = 3000 PSI)	PERIODIC	PRIOR TO POURING OF CONCRETE & DURING THE TAKING OF TEST SPECIMENS & PLACING OF REINFORCED CONCRETE
BOLTS IN CONCRETE		PERIODIC	PRIOR TO AND DURING THE PLACEMENT OF CONCRETE AROUND BOLTS
FIELD WELDING	STRUCTURAL STEEL (ELECTRODE = E70XX) COMPLETE AND PARTIAL PENETRATION GROOVE WELDS, MULTI-PASS FILLET WELDS, AND SINGLE-PASS FILLET WELDS > 5/16"	CONTINUOUS	DURING THE WELDING
FIELD WELDING	STRUCTURAL STEEL (ELECTRODE = E70XX) SINGLE-PASS FILLET WELDS ≤ 5/16"	PERIODIC	DURING THE WELDING
FIELD WELDING	REINFORCING STEEL (ELECTRODE = E90XX)	CONTINUOUS	DURING THE WELDING
FIELD WELDING	METAL ROOF DECK WELDING	PERIODIC	DURING THE WELDING
REINFORCING STEEL		PERIODIC	PRIOR TO COVER UP
HIGH STRENGTH BOLTS	(A325 & A490)	PERIODIC	DURING INSTALLATION OF BOLTS & TIGHTENING
FOUNDATION	GRADING, EXCAVATION AND FILLING	CONTINUOUS	DURING EARTHWORK EXCAVATION, GRADING AND FILLING (SEE SOILS REPORT) VERIFY CONDITIONS ARE SUBSTANTIALLY IN CONFORMANCE WITH THE SOILS REPORT. VERIFY THAT FOUNDATION EXCAVATIONS EXTEND TO DEPTH AND BEARING STRATA. PROVIDE SOIL COMPACTION TEST RESULTS, DEPTH OF FILL, RELATIVE DENSITY AND BEARING VALUES. PROVIDE SOIL EXPANSION TEST RESULTS, EXPANSION INDEX, RECOMMENDATIONS FOR FOUNDATIONS AND ON-GRADE FLOOR SLAB DESIGN FOR EACH BUILDING SITE.
SPECIAL CASE		PERIODIC	WORK WHICH, IN THE OPINION OF THE BLDG OFFICIAL, INVOLVES UNUSUAL HAZARD OR CONDITIONS.

STATE OF MISSOURI
5-29-24
JEREMY J STECH
NUMBER PE-2021004872
PROFESSIONAL ENGINEER

WARD PROPERTY

1120-A NW Eagle Ridge Blvd.
Grain Valley, MO 64029

LAKEWOOD BUSINESS PARK
LEE'S SUMMIT, MO 64064

GENERAL NOTES

NEEDHAM DBS
Lenexa, KS | Fort Wayne, IN needham-dbs.com

No.	REVISION/RELEASE	DATE
A	FOR CONSTRUCTION	5/29/2024

Drawn by: DZ
Checked by: JJS
Engineer Approval: JJS
Client Approval: WD
Needham Project #: KC-060-24

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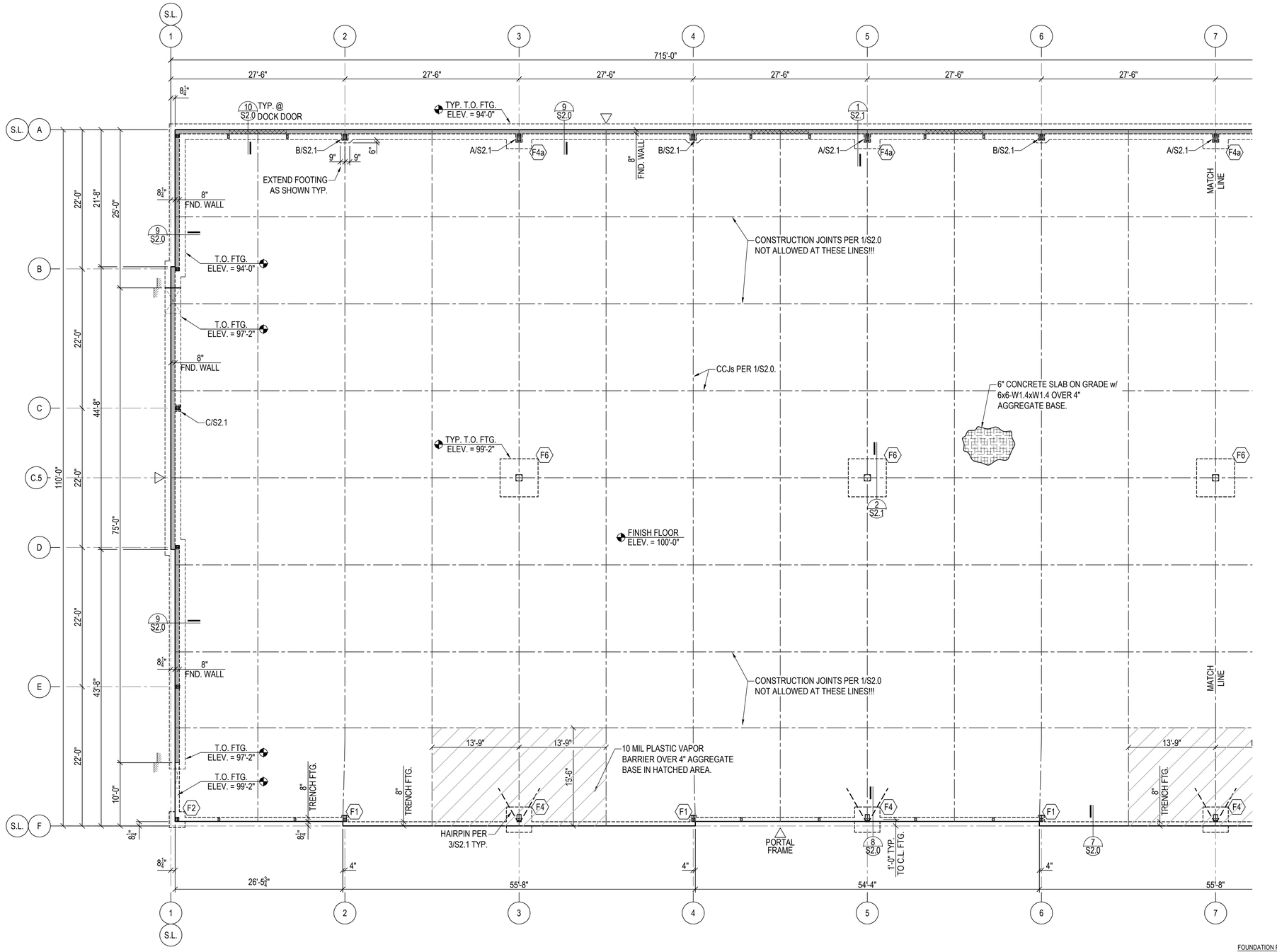

FOUNDATION SCHEDULE

MARK	SIZE (L x W x T)	REINFORCING AT BOTTOM OF FOOTING	REINFORCING AT TOP OF FOOTING	REMARKS
F1	1'-6" x 1'-6" x 2'-6"	-	-	NO REINF., EXTEND CONT. FTG.
F2	2'-6" x 2'-6" x 2'-6"	(4) #4s EW	-	
F4	4'-0" x 4'-0" x 2'-6"	(5) #4s EW	-	
F4a	4'-0" x 4'-0" x 1'-0"	(8) #4s EW	-	
F6	6'-0" x 6'-0" x 1'-3"	(11) #4s EW	-	

FOUNDATION PLAN NOTES:

1. FOOTINGS ARE BASED ALLOWABLE BEARING PRESSURE SHOWN IN THE GENERAL NOTES.
2. ALL FOOTING ELEVATIONS ARE RELATIVE TO FINISH FLOOR ELEVATION OF 100'-0" AT FIRST FLOOR SLAB ON GRADE.
3. (F) INDICATES FOUNDATION MARK. SEE FOUNDATION SCHEDULE FOR ELEVATION AND REINFORCEMENT DETAILS.
4. SLAB REINFORCEMENT SHALL BE PLACED 2" BELOW TOP OF SLAB.
5. SEE TYPICAL DETAILS FOR RE-ENTRANT CORNER DETAIL.
6. CONSTRUCTION POURS SHALL BE SEPARATED BY A CONSTRUCTION JOINT. CONTRACTOR TO SUBMIT PROPOSED CONSTRUCTION JOINT LOCATIONS TO ENGINEER.
7. SLAB SHALL HAVE CONTROL JOINTS AS DIRECTED BY THE ARCHITECT OR ENGINEER PER TYPICAL DETAILS.
8. CONTRACTOR SHALL READ THE SOILS REPORT AND THOROUGHLY FAMILIARIZE THEMSELVES WITH THE SITE AND SUBGRADE INFORMATION GIVEN THEREIN. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING EXACT QUANTITIES FOR ESTIMATING AND CONSTRUCTION.

STATE OF MISSOURI
5-29-24
JEREMY J STECH
NUMBER PE-2010048872
PROFESSIONAL ENGINEER

WARD PROPERTY

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Grain Valley, MO 64029

LAKEWOOD BUSINESS PARK
LEE'S SUMMIT, MO 64064

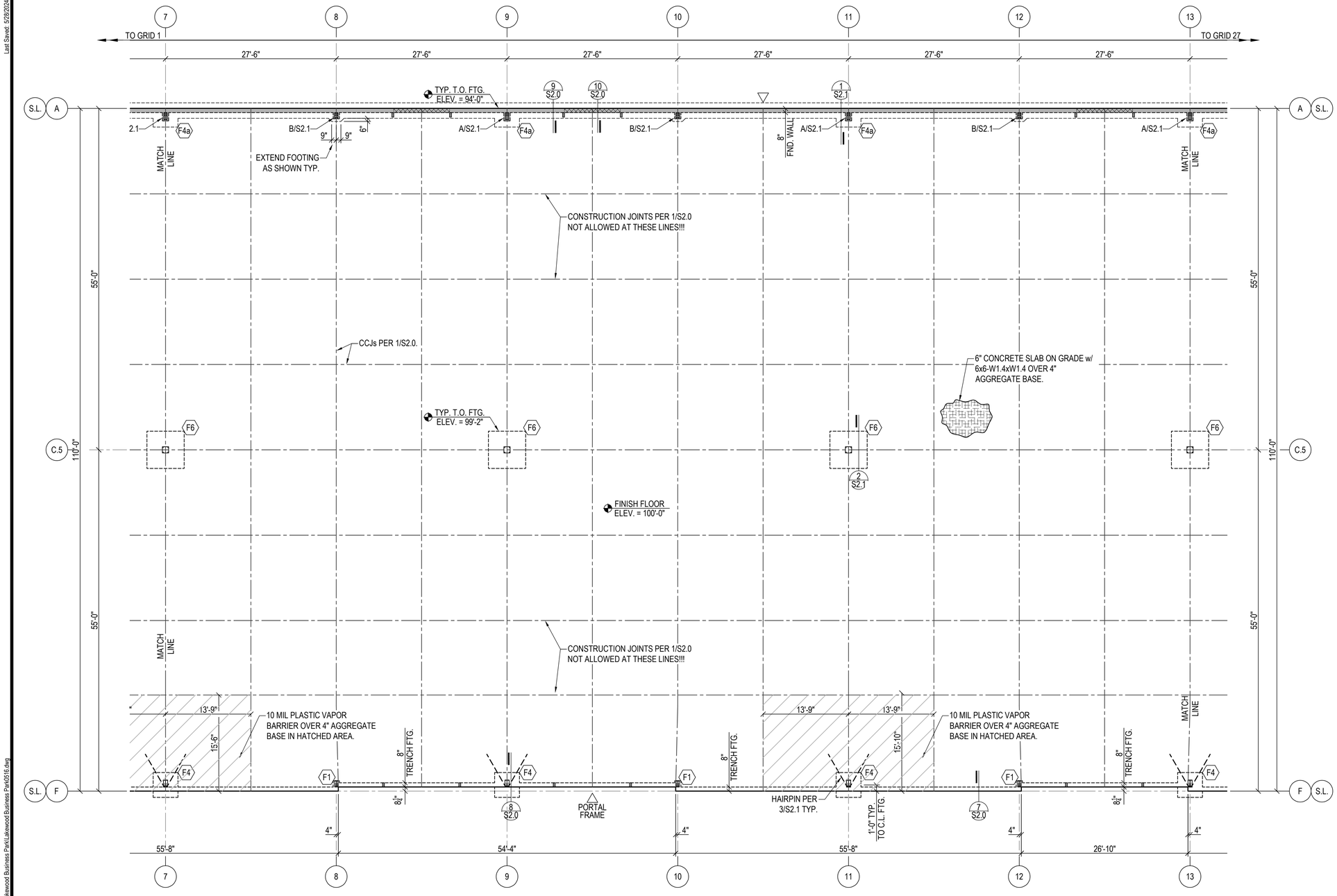
FOUNDATION PLAN

NEEDHAM DBS
Lenexa, KS | Fort Wayne, IN needham-dbs.com

No.	REVISION/RELEASE	DATE
A	FOR CONSTRUCTION	5/29/2024

Drawn by:	DZ
Checked by:	JJS
Engineer Approval:	JJS
Client Approval:	WD
Needham Project #:	KC-060-24

S1.0



FOUNDATION SCHEDULE

MARK	SIZE (L x W x T)	REINFORCING AT BOTTOM OF FOOTING	REINFORCING AT TOP OF FOOTING	REMARKS
F1	1'-6" x 1'-6" x 2'-6"	-	-	NO REINF., EXTEND CONT. FTG.
F2	2'-6" x 2'-6" x 2'-6"	(4) #4s EW	-	
F4	4'-0" x 4'-0" x 2'-6"	(5) #4s EW	-	
F4a	4'-0" x 4'-0" x 1'-0"	(8) #4s EW	-	
F6	6'-0" x 6'-0" x 1'-3"	(11) #4s EW	-	

FOUNDATION PLAN NOTES:

1. FOOTINGS ARE BASED ALLOWABLE BEARING PRESSURE SHOWN IN THE GENERAL NOTES.
2. ALL FOOTING ELEVATIONS ARE RELATIVE TO FINISH FLOOR ELEVATION OF 100'-0" AT FIRST FLOOR SLAB ON GRADE.
3. (F) INDICATES FOUNDATION MARK. SEE FOUNDATION SCHEDULE FOR ELEVATION AND REINFORCEMENT DETAILS.
4. SLAB REINFORCEMENT SHALL BE PLACED 2" BELOW TOP OF SLAB.
5. SEE TYPICAL DETAILS FOR RE-ENTRANT CORNER DETAIL.
6. CONSTRUCTION POURS SHALL BE SEPARATED BY A CONSTRUCTION JOINT. CONTRACTOR TO SUBMIT PROPOSED CONSTRUCTION JOINT LOCATIONS TO ENGINEER.
7. SLAB SHALL HAVE CONTROL JOINTS AS DIRECTED BY THE ARCHITECT OR ENGINEER PER TYPICAL DETAILS.
8. CONTRACTOR SHALL READ THE SOILS REPORT AND THOROUGHLY FAMILIARIZE THEMSELVES WITH THE SITE AND SUBGRADE INFORMATION GIVEN THEREIN. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING EXACT QUANTITIES FOR ESTIMATING AND CONSTRUCTION.

STATE OF MISSOURI
5-29-24
JEREMY J STECH
NUMBER PE-2010048572
PROFESSIONAL ENGINEER

WARD PROPERTY

1120-A NW Eagle Ridge Blvd.
Grain Valley, MO 64029

LAKEWOOD BUSINESS PARK
LEE'S SUMMIT, MO 64064

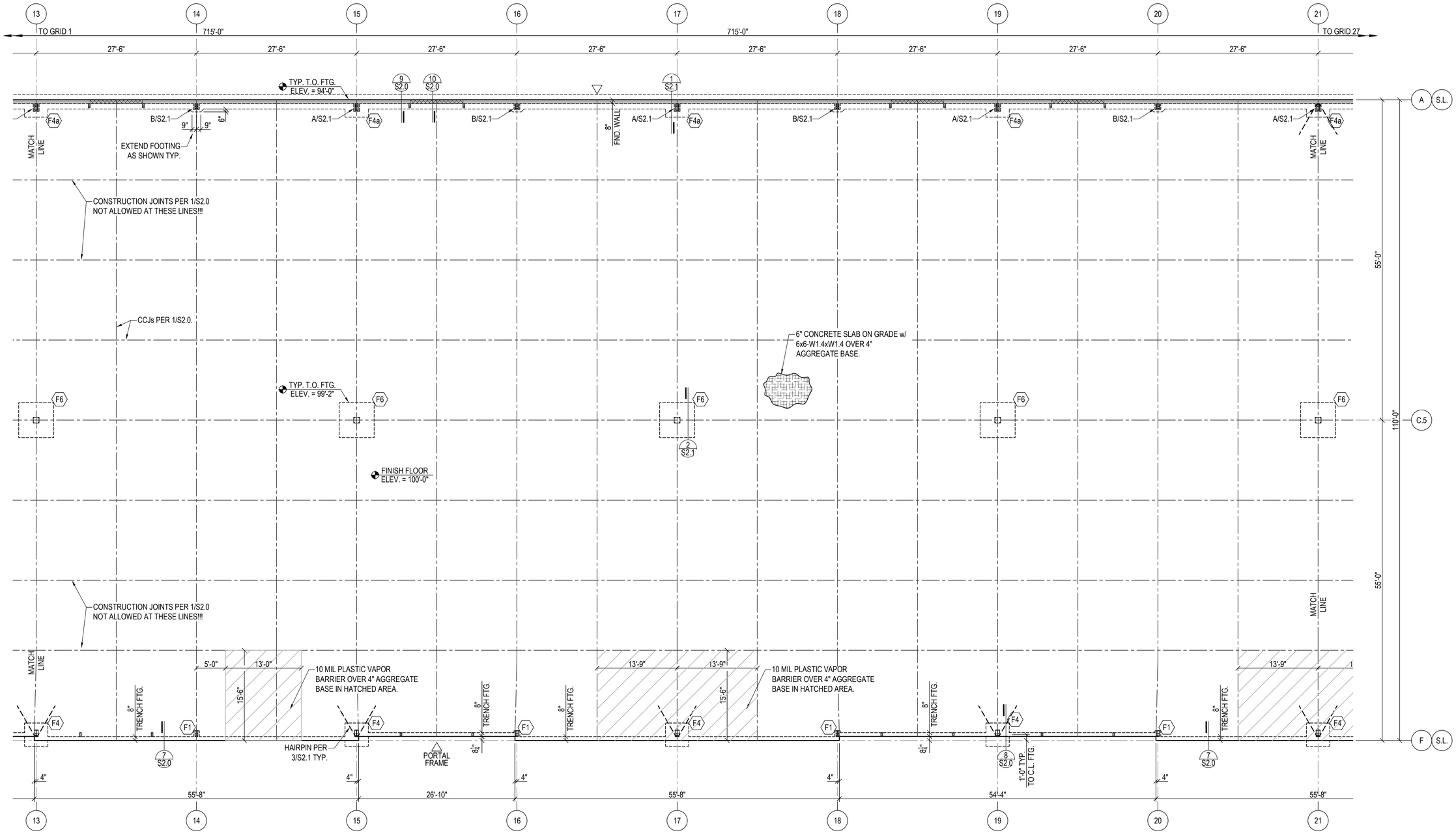
FOUNDATION PLAN

NEEDHAM DBS
Lenexa, KS | Fort Wayne, IN needham-dbs.com

No.	REVISION/RELEASE	DATE
A	FOR CONSTRUCTION	5/29/2024

Drawn by:	DZ
Checked by:	JJS
Engineer Approval:	JJS
Client Approval:	WD
Needham Project #:	KC-060-24

S1.1



FOUNDATION SCHEDULE

MARK	SIZE (L x W x T)	REINFORCING AT BOTTOM OF FOOTING	REINFORCING AT TOP OF FOOTING	REMARKS
F1	1'-6" x 1'-6" x 2'-6"	-	-	NO REINF., EXTEND CONT. FTG.
F2	2'-6" x 2'-6" x 2'-6"	(4) #4s EW	-	
F4	4'-0" x 4'-0" x 2'-6"	(5) #4s EW	-	
F4a	4'-0" x 4'-0" x 1'-0"	(8) #4s EW	-	
F6	6'-0" x 6'-0" x 1'-3"	(11) #4s EW	-	

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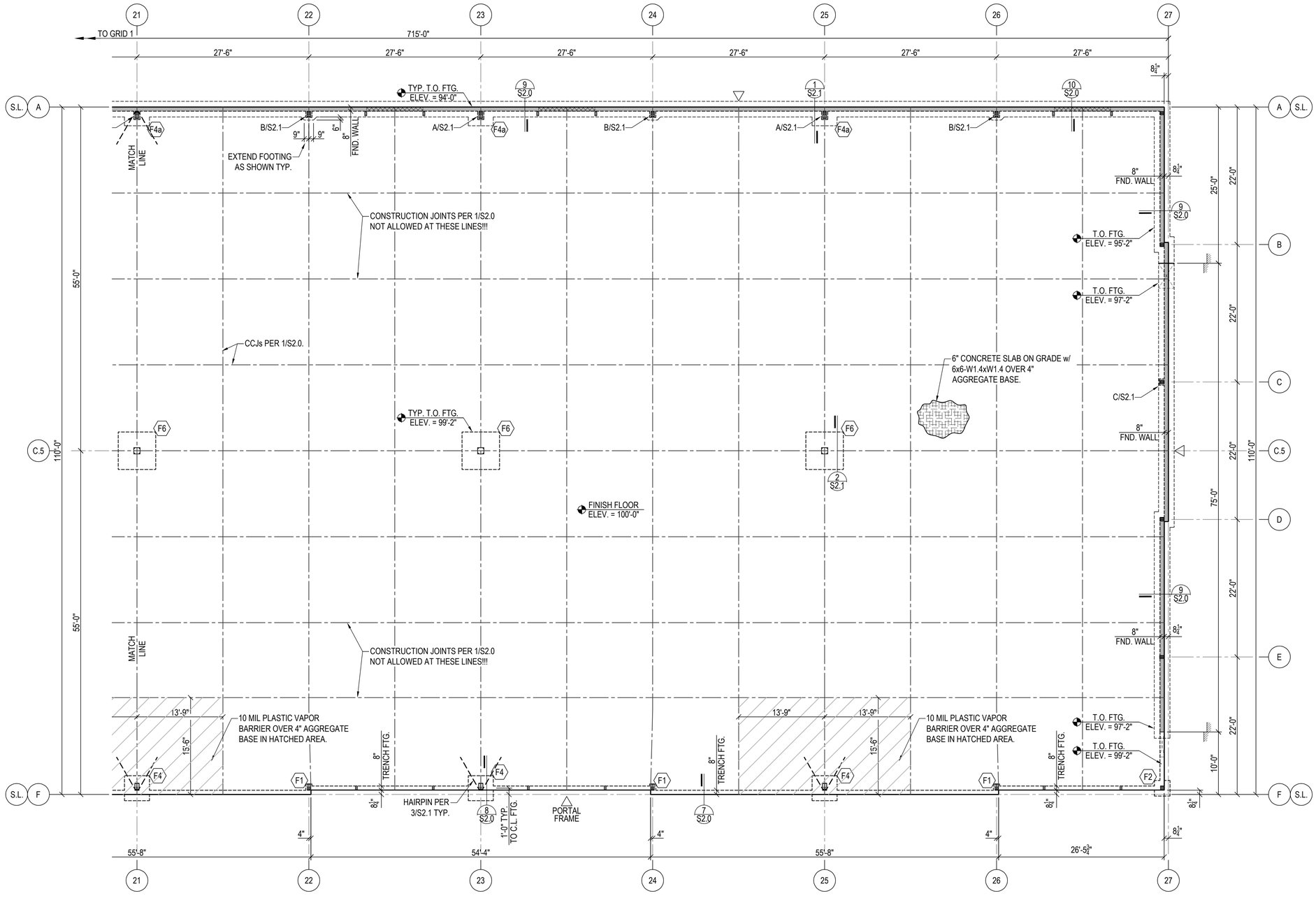
S1.2



FOUNDATION SCHEDULE

MARK	SIZE (L x W x T)	REINFORCING AT BOTTOM OF FOOTING	REINFORCING AT TOP OF FOOTING	REMARKS
F1	1'-6" x 1'-6" x 2'-6"	-	-	NO REINF., EXTEND CONT. FTG.
F2	2'-6" x 2'-6" x 2'-6"	(4) #4s EW	-	
F4	4'-0" x 4'-0" x 2'-6"	(5) #4s EW	-	
F4a	4'-0" x 4'-0" x 1'-0"	(8) #4s EW	-	
F6	6'-0" x 6'-0" x 1'-3"	(11) #4s EW	-	

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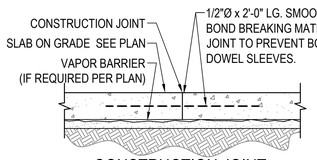
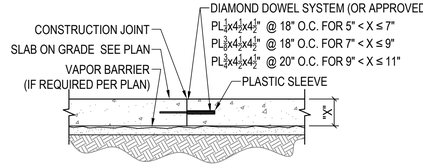
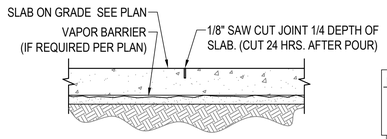
S1.3



CONSTRUCTION JOINT
OPTION 1 - SMOOTH DOWEL



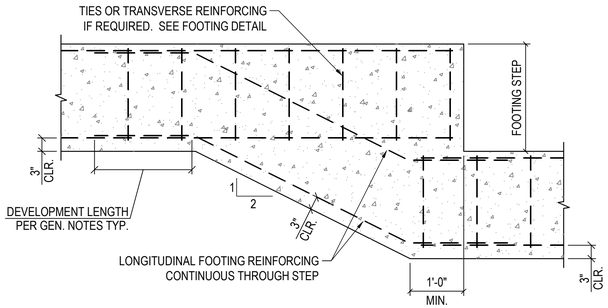
CONSTRUCTION JOINT
OPTION 2 - DIAMOND PLATE DOWEL



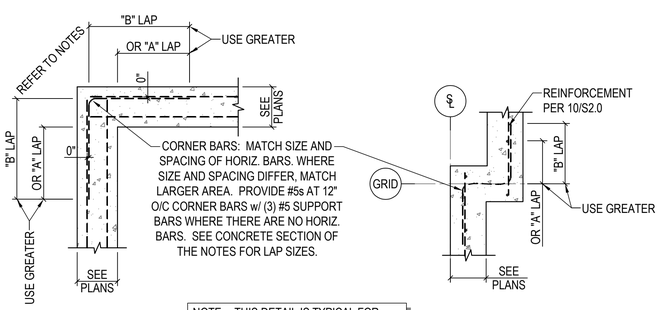
TYP. CRACK CONTROL JOINT - (CCJ)

NOTE: FLOOR JOINTS SHALL BE SPACED AT 30 TIMES THE SLAB THICKNESS OR AS SHOWN ON PLAN. WHERE POSSIBLE FLOOR JOINTS SHALL BE LOCATED ALONG COLUMN LINES.

TYPICAL SLAB ON GRADE JOINT DETAILS (1 / S2.0)
SCALE: 3/4" = 1'-0"

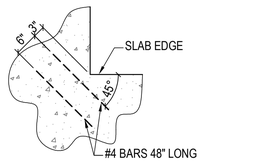


TYPICAL FOOTING STEP DETAIL (2 / S2.0)
SCALE: N.T.S.

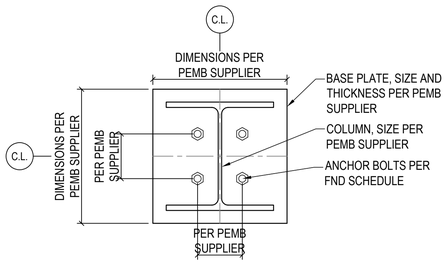


NOTE: THIS DETAIL IS TYPICAL FOR CONC. WALL, BEAMS, FOOTINGS, CONCRETE FILLED BOND BEAM AND THICKENED SLAB.

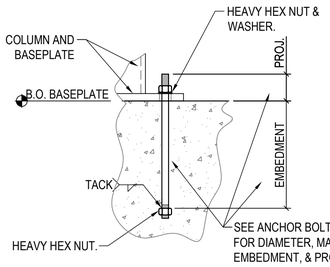
TYPICAL CORNER BAR DETAIL (3 / S2.0)
SCALE: N.T.S.



TYPICAL RE-ENTRANT CORNER REINF. (4 / S2.0)
SCALE: 3/4" = 1'-0"



TYPICAL PEMB BASEPLATE (5 / S2.0)
SCALE: N.T.S.

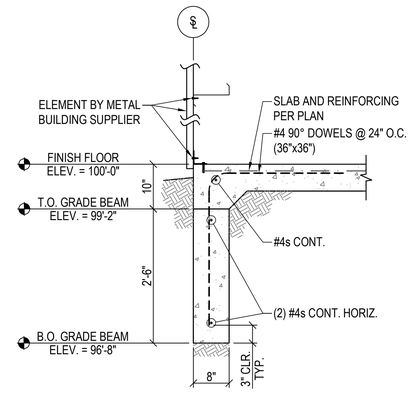


ANCHOR BOLT SCHEDULE

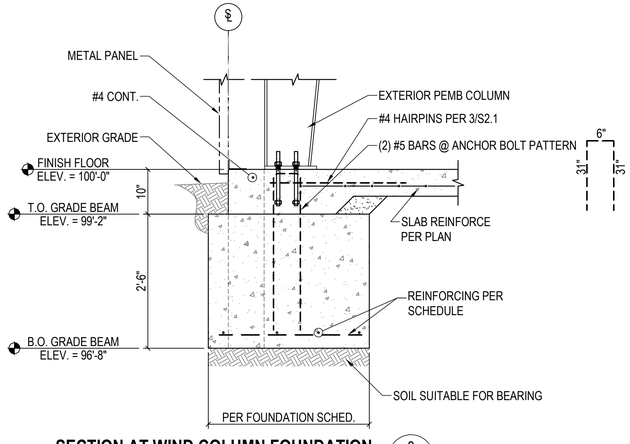
AB MARK	DIAMETER	MATERIAL	EMBEDMENT	PROJECTION
AB1	5/8"	F1554 Gr.36	8"	2"
AB2	3/4"	F1554 Gr.36	8"	2 1/2"

FOR ALL 5/8" ANCHORS NOTED ON PEMB PLANS
FOR ALL 3/4" ANCHORS NOTED ON PEMB PLANS

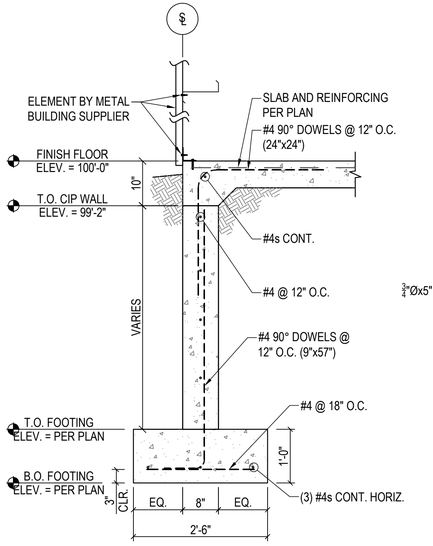
ANCHOR ROD DETAIL (6 / S2.0)
SCALE: N.T.S.



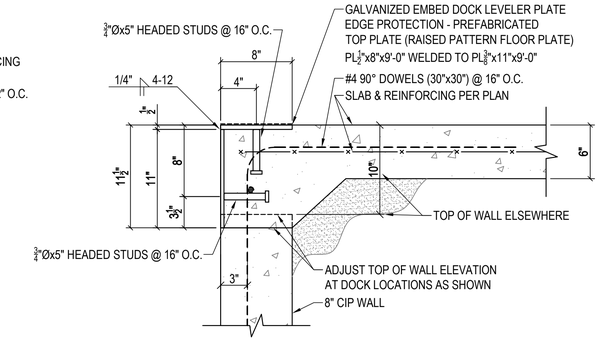
GRADE BEAM DETAIL (7 / S2.0)
SCALE: 3/4" = 1'-0"



SECTION AT WIND COLUMN FOUNDATION (8 / S2.0)
SCALE: 3/4" = 1'-0"



GRADE BEAM DETAIL AT STEP (9 / S2.0)
SCALE: 3/4" = 1'-0"



DOCK LEVELER ANGLE DETAIL (10 / S2.0)
SCALE: 1 1/2" = 1'-0"

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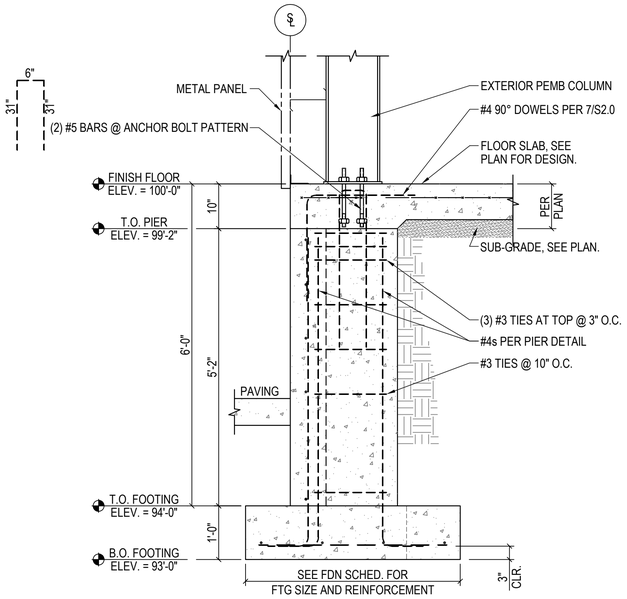
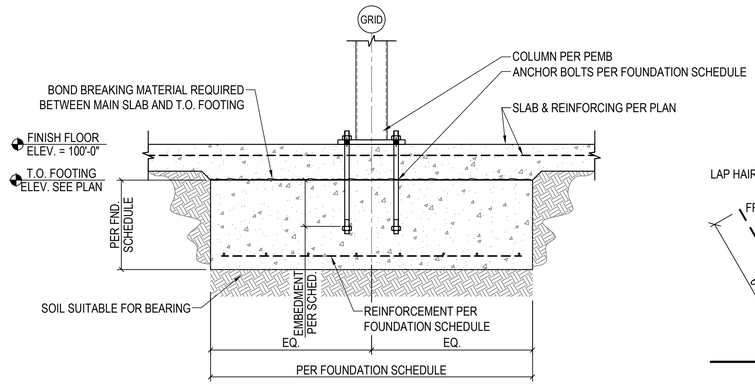
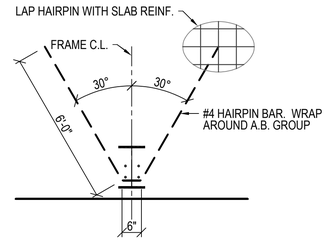


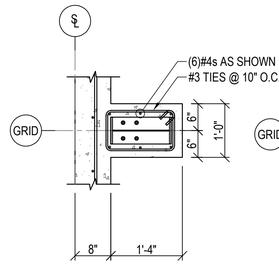
SECTION AT EXTERIOR COLUMN FOOTING 1 S2.1
SCALE: N.T.S.



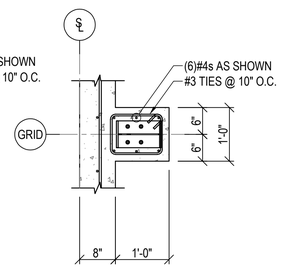
TYP. INTERIOR SPREAD FOOTING DETAIL 2 S2.1
SCALE: 3/4" = 1'-0"



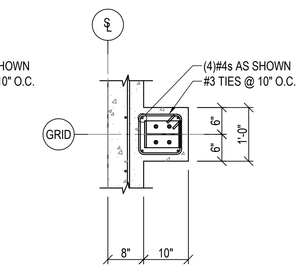
TYPICAL HAIRPIN DETAIL 3 S2.1
SCALE: 3/4" = 1'-0"



PIER DETAIL A S2.1
SCALE: N.T.S.



PIER DETAIL B S2.1
SCALE: N.T.S.



PIER DETAIL C S2.1
SCALE: N.T.S.

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