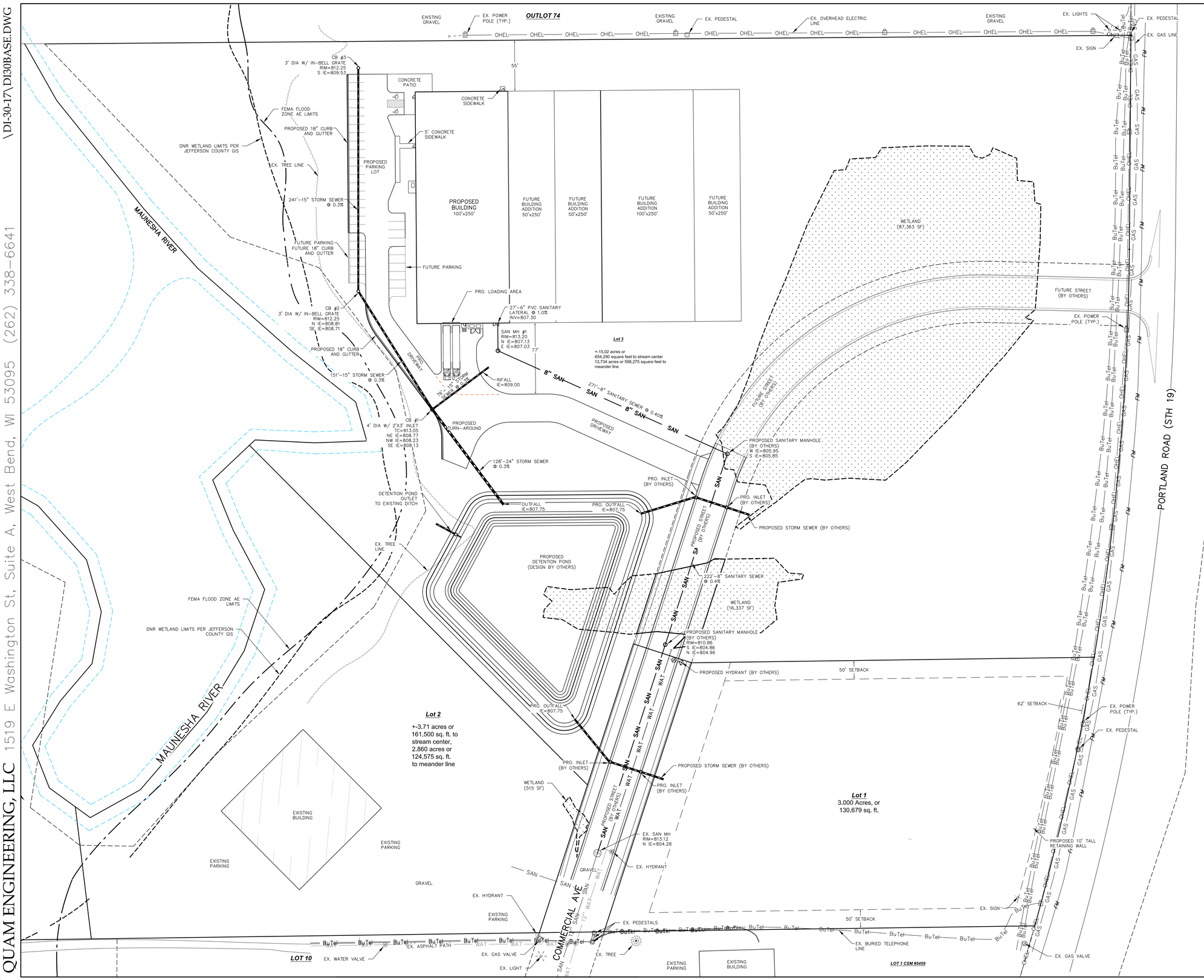

Ab E DISCOVERY, LLC – WATERLOO

PRELIMINARY UTILITY PLAN

DATED: NOVEMBER 27, 2017

C–103

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STRUCTURAL SHEET INDEX

SHEET NUMBER	SHEET NAME	CURRENT REVISION DATE	CURRENT REVISION DESCRIPTION
S001	STRUCTURAL GENERAL NOTES		
S002	STRUCTURAL GENERAL NOTES		
S100	FRAMING CONCEPT		
S101	FOUNDATION PLAN		
S201	MEZZANINE FRAMING PLAN		
S202	LOW ROOF FRAMING PLAN		
S203	HIGH ROOF FRAMING PLAN		
S301	FOUNDATION DETAILS		
S302	FOUNDATION DETAILS		
S401	BRACED FRAME ELEVATIONS		
S402	BRACED FRAME ELEVATIONS		
S501	STEEL FRAMING DETAILS		
S502	STEEL JOIST DETAILS		

GENERAL NOTES

1. THE CONTRACTOR IS RESPONSIBLE FOR JOB SITE SAFETY REQUIREMENTS.
2. THE BUILDING STRUCTURE IS DESIGNED TO FUNCTION AS A COMPLETE SYSTEM, AND HAS NOT BEEN ANALYZED OR DESIGNED FOR STABILITY DURING ERECTION. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO DESIGN AND PROVIDE ADEQUATE TEMPORARY BRACING TO INSURE STABILITY DURING THE ERECTION PROCESS.
3. THE CONTRACTOR IS RESPONSIBLE FOR CONSTRUCTION MEANS AND METHODS, AND IS RESPONSIBLE TO INSURE THAT CONSTRUCTION LOADS DO NOT EXCEED THE DESIGN CAPACITY OF THE FRAMING ELEMENTS WHEN THOSE LOADS ARE APPLIED.
4. DO NOT SCALE THE DRAWINGS.
5. THE CONTRACTOR IS REQUIRED TO COORDINATE THE STRUCTURAL DRAWINGS WITH THE ARCHITECTURAL, CIVIL, MECHANICAL, ELECTRICAL, AND PLUMBING DRAWINGS, AND TO BRING ANY DISCREPANCIES, INTERFERENCES, DIMENSIONAL INCONSISTENCIES, OR CONCERNS ASSOCIATED WITH THIS COORDINATION TO THE ARCHITECT AND ENGINEER IMMEDIATELY.

DESIGN LOADS

APPLICABLE DESIGN CODE AND REFERENCES

THE CODES AND STANDARDS LISTED HAVE BEEN USED FOR THE DESIGN OF THIS PROJECT. ALL CONSTRUCTION, FABRICATION, AND MATERIALS SHALL CONFORM TO THESE CODES AND STANDARDS.

2009 INTERNATIONAL BUILDING CODE WITH WISCONSIN AMMENDMENTS
ASCE 7-05 MINIMUM DESIGN LOADS FOR BUILDINGS
ACI 318-08 BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE
AISC 360-05 SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS

BUILDING DESIGN CRITERIA
BUILDING OCCUPANCY CATEGORY: II (SEE ASCE 7-05 TABLE 1-1)

BUILDING DESIGN LOADS AND DATA

DEAD LOADS

ROOF		20 PSF
	ROOFING & INSULATION	3.0 PSF
	METAL DECK	1.7 PSF
	JOISTS & JOIST GIRDERS	3.0 PSF
	CEILING ASSEMBLY ALLOWANCE	3.0 PSF
	MECHANICAL ALLOWANCE	4.0 PSF
	FIRE SPRINKLER ALLOWANCE	4.0 PSF
	MISC	1.3 PSF
FLOORS		68 PSF
	FLOORING	2.0 PSF
	2" TOPPING + 2" DECK (4" TOTAL)	39.0 PSF
	DEFLECTION CONCRETE	7.0 PSF
	BEAMS & GIRDERS	8.0 PSF
	CEILING ASSEMBLY ALLOWANCE	3.0 PSF
	MECHANICAL ALLOWANCE	4.0 PSF
	FIRE SPRINKLER ALLOWANCE	4.0 PSF
	MISC	1.0 PSF

DEAD LOADS INDICATED ABOVE ARE PRESUMED UNIFORM LOADS BASED ON PRELIMINARY ARCHITECTURAL DRAWINGS. CEILING, MECHANICAL AND FIRE SPRINKLER LOADS MUST BE VERIFIED BY THE CONTRACTOR AT THE TIME OF DESIGN TO ENSURE ALLOWANCES ARE NOT EXCEEDED.

LIVE LOADS

CORRIDOR & STAIRS	100 PSF
STORAGE WAREHOUSE	125 PSF

ROOF LIVE LOADS

TRIB. AREA < 200 SF	20 PSF
TRIB. AREA > 600 SF	12 PSF

ROOF LIVE LOADS FOR A MEMBER WITH TRIBUTARY AREA BETWEEN 200 SF AND 600 SF MAY BE DETERMINED USING LINEAR INTERPOLATION.

SNOW

GROUND SNOW (Pg)	30 PSF
SNOW IMPORTANCE FACTOR, (I)	1.0
EXPOSURE FACTOR (Ce)	1.0
THERMAL FACTOR (Ct)	1.0
FLAT ROOF SNOW (Pf)	21 PSF

SEE SNOW DRIFT SURCHARGE PLAN FOR ADDL SNOW LOADS REQUIRED

WIND DESIGN DATA

BASIC WIND SPEED	90 MPH
WIND IMPORTANCE FACTOR	1.0
DIRECTIONALITY FACTOR (Kd)	0.85
TOPOGRAPHY FACTOR (Kzt)	1.0
WIND EXPOSURE	C
ENCLOSURE CLASSIFICATION	ENCLOSED
INTERNAL PRESSURE COEFFICIENT	+/- 0.18

SEISMIC DESIGN DATA

SEISMIC IMPORTANCE FACTOR, Ie	1.0
MAPPED SPECTRAL RESPONSE COEFFICIENT, Ss	0.104
MAPPED SPECTRAL RESPONSE COEFFICIENT, S1	0.043
SITE CLASSIFICATION	D (PER GEOTECH)
SPECTRAL RESPONSE COEFFICIENT, Sds	0.111
SPECTRAL RESPONSE COEFFICIENT, Sd1	0.069
SEISMIC DESIGN CATEGORY	B
SEISMIC BASE SHEAR	26 KIPS
RESPONSE COEFFICIENT, Cs	0.037
RESPONSE MODIFICATION FACTOR, R	3
STRUCTURAL STEEL SYSTEM NOT SPECIFICALLY DETAILED FOR SEISMIC RESISTANCE	
ANALYSIS PROCEDURE	EQUIVALENT LATERAL FORCE

SOIL DESIGN DATA

ALLOWABLE NET SOIL BEARING PRESSURE	2,000 PSF (PER GEOTECH)

(NATIVE STIFF TO VERY STIFF CLAY AND/OR NATIVE MEDIUM DENSE TO DENSE GRANULAR SOILS. UNDERCUTTING WILL LIKELY BE REQUIRED BASED ON THE PRESENCE OF SHALLOW ZONES OF SOFT CLAY AND/OR LOOSE GRANULAR SOILS)

COEFFICIENT OF SLIDING FRICTION, μ	0.35 (PER GEOTECH)
LATERAL EARTH PRESSURES	
ACTIVE FLUID PRESSURE	35 PSF/FT
AT-REST FUILD PRESSURE	55 PSF/FT
PASSIVE PRESSURE	200 PSF/FT
SUBGRADE MODULUS	100 PCI

(SLAB SUBGRADE CONSISTING OF 4" TO 6" SAND OR GRAVEL PER GEOTECH)

SUBGRADE MODULUS	150 PCI

(SLAB SUBGRADE CONSISTING OF 6" OR THICKER DENSE GRADED BASE PER GEOTECH)

ALLOWABLE DEFLECTION CRITERIA

ROOF	L/360 SNOW; L/240 TOTAL
FLOOR	L/360 LIVE; L/240 TOTAL
EXTERIOR WALLS	L/240 WIND

FOUNDATION NOTES

1. THE FOUNDATIONS HAVE BEEN DESIGNED TO THE REQUIREMENTS SET FORTH IN THE GEOTECHNICAL REPORT PREPARED BY CGC, INC. DATED DECEMBER 5, 2017. FURTHEREMORE, IT IS ASSUMED THAT THE CONTRACTOR WILL EXECUTE THE GEOTECHNICAL RECOMENDATIONS TO THE FULLEST EXTENT POSSIBLE.
2. THE SUBSURFACE CONDITIONS DESCRIBED IN THE GEOTECHNICAL REPORT REPRESENT CONDITIONS ONLY AT THOSE SPECIFIC LOCATIONS AT THE PARTICULAR TIME THEY WERE MADE. SUBSURFACE CONDITIONS DESCRIBED ON THE DRAWINGS SHOULD BE CONSIDERED APPROXIMATE, AND CONFIRMED IN THE FIELD. THE OWNER'S GEOTECHNICAL CONSULTANT MUST REVIEW AND APPROVE ALL FINISHED EXCAVATIONS AND BEARING SUBGRADES BEFORE PLACING CONCRETE. PROVIDE ADDITIONAL EXCAVATION AS NECESSARY TO ACHIEVE THE REQUIRED BEARING CAPACITY.
3. SEE SITE PLAN FOR ELEVATION DATUM EQUAL TO FIRST FLOOR TOP OF CONCRETE (ELEVATION 100'-0).
4. DO NOT UNDERMINE EITHER NEW OR EXISTING CONSTRUCTION.
5. BEAR ALL FOOTINGS ON UNDISTURBED SOIL OR COMPACTED FILLS HAVING A MINIMUM NET ALLOWABLE BEARING CAPACITY INDICATED IN SOIL DESIGN DATA.
6. REMOVE TOPSOIL, ORGANICS, AND UNSUITABLE MATERIAL, AS DIRECTED BY THE OWNERS GEOTECHNICAL CONSULTANT, AND STOCKPILE AS REQUIRED FOR FINAL GRADING. PLACE ENGINEERED FILL AS REQUIRED IN HORIZONTAL LIFTS WITHIN +/-2 PERCENT OF OPTIMUM MOISTURE CONTENT. COMPACT TO THE SPECIFIED DENSITY REQUIREMENTS.
7. MINIMIZE CONSTRUCTION TRAFFIC OVER EXPOSED SUBGRADES IF WET. DO NOT ALLOW WATER TO POND ON THE SUBGRADES.
8. USE SIDE FORMS FOR ALL FOOTINGS AND GRADE BEAMS.
9. CLEAN REINFORCEMENT IMMEDIATELY PRIOR TO PLACING CONCRETE.
10. DO NOT PLACE CONCRETE IN ANY EXCAVATION CONTAINING FREE WATER, FROST, ICE OR FROZEN MATERIALS. PREVENT FROST OR ICE FROM PENETRATING ANY FOOTING OR SLAB SUBGRADE, BOTH BEFORE AND AFTER CONCRETE PLACEMENT AND UNTIL FOOTINGS OR SUBGRADES ARE FULLY PROTECTED BY THE PERMANENT BUILDING STRUCTURE.
11. PLACE THE CONCRETE FOR EACH FOOTING IN ONE CONTINUOUS POUR.
12. BRACE FOUNDATION WALLS AND GRADE BEAMS DURING THE OPERATION OF BACKFILLING AND COMPACTION.
13. BACKFILL AGAINST FOUNDATION WALLS SHALL BE PLACED IN LIFTS SUCH THAT THE DIFFERENCE IN ELEVATION ON OPPOSITE SIDES OF THE WALL DOES NOT EXCEED 1'-6".

CAST IN PLACE CONCRETE NOTES

1. SEE SPECIFICATION DIVISION 03 FOR REQUIREMENTS IN ADDITION TO THOSE LISTED BELOW.
2. MATERIAL SPECIFICATIONS

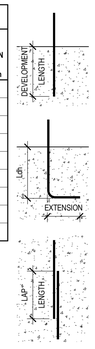
FOOTINGS	F'c = 4000 PSI @ 28 DAYS
FOUNDATION WALLS	F'c = 4000 PSI @ 28 DAYS
SLAB ON GRADE	F'c = 3000 PSI @ 28 DAYS
CONCRETE NOT OTHERWISE NOTED	F'c = 4000 PSI @ 28 DAYS
MILD REINFORCING STEEL BARS	Fy = 60 KSI; ASTM A615
FIBER REINFORCING FOR SLABS	ASTM C1116
ANCHOR RODS	SEE SCHEDULE

3. SUBMIT CONCRETE MIX DESIGNS, WITH REQUIRED BACKUP DATA, INCLUDING RECENT GRADATIONS FOR EACH AGGREGATE USED, FOR EACH TYPE OF CONCRETE PROPOSED FOR USE, TO THE ARCHITECT AND ENGINEER FOR REVIEW A MINIMUM OF TWO WEEKS PRIOR TO PLACEMENT. SEE SPECIFICATIONS FOR ADDITIONAL MIX DESIGN REQUIREMENTS. CONCRETE MIXES SUBMITTED SHALL BE DESIGNED TO BE PLACABLE FOR THE TEMPERATURE CONDITIONS AT THE JOBSITE, AND BE ABLE TO BE PLACED AND CONSOLIDATED AROUND THE REINFORCING INDICATED ON THE PLANS. DO NOT USE CALCIUM CHLORIDE IN ANY CONCRETE.
4. PROVIDE AIR-ENTERTAINING IN CONCRETE AS INDICATED IN THE SPECIFICATIONS.
5. ALL CONCRETE SHALL BE NORMAL WEIGHT (APPROX. 145 PCF) UNO.
6. SUBMIT DETAILED SHOP DRAWINGS INDICATING REINFORCEMENT SIZE, SPACING, BENDING, AND PLACEMENT TO THE ARCHITECT AND ENGINEER FOR REVIEW PRIOR TO FABRICATION. INCLUDE DETAILS AND LOCATIONS OF ALL CURBS, CONSTRUCTION JOINTS, SLAB DEPRESSIONS, SLEEVES, OPENING, ETC.
7. THE MAXIMUM TOTAL AMOUNT OF WATER THAT MAY BE ADDED TO THE MIX AFTER BATCHING IS THE AMOUNT INDICATED AS BEING WITHHELD ON THE BATCH TICKET FOR THE SPECIFIC BATCH.
8. SUBMIT ELECTRONIC COPIES OF ALL CONCRETE DELIVERY TICKETS WITHIN 5 DAYS OF PLACEMENT, INDICATING THE FOLLOWING INFORMATION:
   - TIME AND NUMBER OF CUBIC YARDS BATCHED
   - THEORETICAL TARGET AND ACTUAL BATCH WEIGHTS OF EACH INGREDIENT
   - AMOUNT OF WATER WITHHELD
   - AMOUNT OF WATER ADDED AT JOBSITE
   - MIX DESIGN NUMBER
   - STRUCTURE BEING PLACED
   - LOCATION OF PLACEMENT
   - NUMBER OF REVOLUTIONS AT MIXING SPEED
   - TOTAL REVOLUTIONS AT COMPLETION OF DISCHARGE
   - TIME AT COMPLETION OF DISCHARGE
   - SLUMP AND AIR CONTENT, IF TESTED
   - TEMPERATURE OF AIR AND CONCRETE
   - SAMPLE NUMBERS OF CYLINDERS MADE FROM LOAD
9. DETAIL, FABRICATE, SUPPORT, AND PLACE ALL CONCRETE REINFORCEMENT IN ACCORDANCE WITH ACI 315 "DETAILS AND DETAILING OF CONCRETE REINFORCEMENT" AND ACI 318 "BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE". FIELD BENDING OF REINFORCING BARS IS NOT PERMITTED EXCEPT WHERE INDICATED ON THE STRUCTURAL DRAWINGS.
10. COVERAGE FOR REINFORCEMENT SHALL NOT BE NOT LESS THAN:

CONDITION	COVER
CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH	3"
CONCRETE EXPOSED TO EARTH OR WEATHER	
#5 BARS AND SMALLER	1-1/2"
#6 THROUGH #18 BARS	2"
CONCRETE NOT EXPOSED TO WEATHER OR IN CONTACT WITH GROUND	
SLABS, WALLS, & JOISTS	
#14 AND #18 BARS	1-1/2"
#11 BARS AND SMALLER	3/4"
BEAMS AND COLUMINS	
PRIMARY REINFORCEMENT, TIES, & SPIRALS	1-1/2"

11. SEE DETAIL (1/S001) FOR CLASS B TENSION CONTACT LAP SPLICE LENGTHS. STAGGER ADJACENT LAPS 3' – 0" UNO.
12. PROVIDE (2) # 5 BARS DIAGONAL AT CORNERS OF OPENINGS AND AT RE-ENTRANT CORNERS. PROVIDE (2) # 5 BARS AROUND THE PERIMETER OF OPENINGS WITH SIDES EXCEEDING 18 INCHES IN LENGTH.
13. WELDING OF GRADE A615 REINFORCING BARS IS NOT PERMITTED.
14. COORDINATE LOCATION OF ALL CONSTRUCTION JOINTS WITH ENGINEER PRIOR TO COMMENCEMENT OF CONCRETE WORK. EXTERIOR BASEMENT WALLS AND RETAINING WALLS SHALL HAVE VERTICAL CONTROL JOINTS SPACED NOT FARTHER THAN 30'-0" ON CENTER. CONSTRUCTION JOINTS SHALL BE LOCATED TO COINCIDE WITH CONTROL JOINT LOCATIONS.
15. CLEAN AND MOISTEN ALL CONSTRUCTION JOINTS IMMEDIATELY PRIOR TO PLACING FRESH CONCRETE.
16. UNLESS NOTED OTHERWISE, PROVIDE DOWELS TO MATCH MAIN REINFORCEMENT SIZE AND SPACING. PROVIDE TENSION LAP SPLICE UNLESS NOTED OTHERWISE.
17. REFER TO THE ARCHITECTURAL, MECHANICAL, ELECTRICAL, AND PLUMBING DRAWINGS FOR CURBS, PADS, DEPRESSIONS, WALL/SLAB OPENINGS, REVEALS, REGLETS, DRIPS, SPECIAL FLOOR FINISHES, AND OTHER REQUIREMENTS NOT SHOWN ON STRUCTURAL DRAWINGS.
18. ALUMINUM CONDUIT SHALL NOT BE EMBEDDED IN CONCRETE.
19. DO NOT CAST OPENINGS OTHER THAN INDICATED ON THE REVIEWED SHOP DRAWINGS WITHOUT WRITTEN CONSENT OF EOR. DO NOT CORE HOLES IN COLUMNS, BEAMS, JOISTS, WALLS, OR STRUCTURAL CONCRETE SLABS WITHOUT WRITTEN CONSENT OF THE EOR.
20. REFER TO ACI 305 FOR REQUIREMENTS FOR PLACING CONCRETE IN HOT WEATHER AND TO ACI 306 FOR REQUIREMENTS FOR PLACING CONCRETE IN COLD WEATHER.

BAR SIZE	4,000 PSI CONCRETE				
	DEVELOPMENT LENGTHS		CLASS "B" TENSION LAP SPLICE LENGTHS		STD HOOK DEVELOPMENT LENGTH, Ldh
	STANDAR D	TOP BAR	STANDAR D	TOP BAR	
#3	12"	12"	16"	16"	6"
#4	12"	15"	16"	20"	7"
#5	15"	19"	19"	24"	9"
#6	18"	23"	23"	29"	10"
#7	29"	37"	37"	48"	12"
#8	36"	47"	47"	61"	14"
#9	44"	57"	57"	75"	15"
#10	54"	70"	70"	91"	17"
#11	65"	84"	84"	109"	19"



NOTES:

1. TOP BARS ARE DEFINES AT HORIZ BARS WITH MORE THAN 12" OF CONCRETE BELOW.
2. TABLE VALUES BASED ON 1 1/2" CLEAR COVER AND MINIMUM CENTER TO CENTER BAR SPACING OF 6".
3. SPLICE LENGTH SHALL BE BASED ON LARGER BAR BEING SPLICED.
4. HOOKED BAR EXTENSION = MIN. BEND DIAMETER + 12db
5. MIN. BEND DIAMETER = 6db FOR #3 - #8 (8db FOR #9 - #11)
6. HOOKED BAR DEVELOPMENT LENGTHS, Ldh, ASSUME
   a) SIDE COVER ≥ 2 1/2" AND
   b) COVER AT END OF EXTENSION ≥ 2"

(1/S001) REBAR LAP SPLICE LENGTHS
NTS

ABBREVIATIONS

ACI	AMERICAN CONCRETE INSTITUTE	INV	INVERT
ADJ	ADJACENT	JT	JOINT
ADDL	ADDITIONAL	K	KIPS
AESS	ARCHITECTURAL EXPOSED STRUCTURAL STEEL	KSF	KIPS PER SQUARE FOOT
AF&PA	AMERICAN FOREST & PAPER ASSOCIATION	KSI	KIPS PER SQUARE INCH
AISC	AMERICAN INSTITUTE OF STEEL CONSTRUCTION	L	ANGLE
ALT	ALTERNATE	LB(S)	POUND(S)
ALUM	ALUMINUM	LL	LIVE LOAD
APA	AMERICAN PLYWOOD ASSOCIATION	LLBB	LONG LEG BACK TO BACK
APPROX	APPROXIMATE	LLH	LONG LEG HORIZONTAL
AR	ANCHOR ROD	LLV	LONG LEG VERTICAL
ARCH	ARCHITECT(URAL)	LP	LOW POINT
ASCE	AMERICAN SOCIETY OF CIVIL ENGINEERS	LW	LONG WAY
ASTM	AMERICAN SOCIETY OF TESTING AND MATERIALS	LTWT	LIGHT WEIGHT
AWS	AMERICAN WELDING SOCIETY	MAX	MAXIMUM
B/	BOTTOM OF	MO	MASONRY OPENING
BFR	BLENDED FIBER REINFORCING	MS	MIDDLE STRIP
BLDG	BUILDING	MATL	MATERIAL
BLKG	BLOCK (ING)	MAX	MAXIMUM
BOT	BOTTOM	MECH	MECHANICAL
B PL	BASE PLATE	MEP	MECHANICAL ELECTRICAL & PLUMBING
BM	BEAM	MIN	MINIMUM
BRG	BEARING	MISC	MISCELLANEOUS
BSMT	BASEMENT	MFR	MANUFACTURER
BTWN	BETWEEN	NIC	NOT IN CONTRACT
CFS	COLD FORMED STEEL	NTS	NOT TO SCALE
CG	CENTER OF GRAVITY	NOM	NOMINAL
CL	CENTERLINE	NO	NUMBER
CIP	CAST-IN-PLACE	NS	NEAR SIDE
CJ	CONTROL OR CONSTRUCTION JOINT	OC	ON CENTER
CJP	COMPLETE JOINT PENETRATION	OPNG	OPENING
CLR	CLEAR	OD	OUTSIDE DIAMETER
CMU	CONCRETE MASONRY UNIT	OF	OUTSIDE FACE
CO	CLEAN OUT	OPP	OPPOSITE
COL	COLUMN	PL	PLATE
CONC	CONCRETE	PC	PRECAST CONCRETE
CONN	CONNECT (ION)	PCA	PORTLAND CEMENT ASSOCIATION
CONT	CONTINUOUS OR CONTINUE	PCAP	PILE CAP
CONST JT	CONSTRUCTION JOINT	PCF	POUNDS PER CUBIC FOOT
CRSI	CONCRETE REINFORCING STEEL INSTITUTE	PSI	POUNDS PER SQUARE INCH
CS	COLUMN STRIP	PSF	POUNDS PER SQUARE FOOT
CU YD	CUBIC YARD	PCC	PRECAST CONCRETE
DBA	DOWEL BAR ANCHOR	PEN	PENETRATION
DET	DETAIL	PERIM	PERIMETER
DIA	DIAMETER	PJP	PARTIAL JOINT PENETRATION
DIAG	DIAGONAL	PL	PLATE
DIM	DIMENSION	PSF	POUNDS PER SQUARE FOOT
DL	DEAD LOAD	PSI	POUNDS PER SQUARE INCH
DWG	DRAWING	P/T	POST TENSIONED
EA	EACH	PT	PRESSURE TREATED
EE	EACH END	PVC	POLYVINYL CHLORIDE
EF	EACH FACE	QTY	QUANTITY
EL	ELEVATION	R	RADIUS
ELEV	ELEVATOR	REF	REFERENCE
ELEC	ELECTRICAL	REINF	REINFORCE (D) (ING)
ES	EACH SIDE	REQD	REQUIRED
EW	EACH WAY	REV	REVISION
EQ	EQUAL	RD	ROOF DRAIN
EOD	EDGE OF DECK	RO	ROUGH OPENING
EOS	EDGED OF SLAB	SCHED	SCHEDULE
EXIST	EXISTING	SLIP C	SLIP CRITICAL
EXT	EXTERIOR	SECT	SECTION
EXP	EXPANSION	SER	STRUCTURAL ENGINEER OF RECORD
EJ	EXPANSION JOINT	SIM	SIMILAR
FD	FLOOR DRAIN	SJ	SEISMIC JOINT
FIN	FINISH	SQ	SQUARE
FLR	FLOOR	SPEC	SPECIFICATIONS
FND	FOUNDATION	SOG	SLAB-ON-GRADE
FP	FULL PENETRATION	SS	STAINLESS STEEL
FS	FAR SIDE	SSL	SHORT SLOT
FT	FOOT/FEET	STD	STANDARD
FTG	FOOTING	STIFF	STIFFENER
GA	GAGE	STL	STEEL
GALV	GALVANIZED	STRUCT	STRUCTURAL
GC	GENERAL CONTRACTOR	SW	SHORT WAY
GB	GRADE BEAM	SYM	SYMMETRICAL
HCA	HEADED CONCRETE ANCHOR	T&B	TOP AND BOTTOM
HLDN	HOLDOWN	T&G	TONGUE AND GROOVE
HORIZ	HORIZONTAL	T/	TOP OF
HP	HIGH POINT	THK	THICK (NESS)
HS	HIGH STRENGTH	TRANS	TRANSVERSE
HSS	HOLLOW STRUCTURAL SECTION	TYP	TYPICAL
HT	HEIGHT	UNO	UNLESS NOTED OTHERWISE
HWS	HEADED WELD STUDS	VIF	VERIFY IN FIELD
IBC	INTERNATIONAL BUILDING CODE	VERT	VERTICAL
ICC	INTERNATIONAL CODE COUNCIL	WP	WORK POINT
ID	INSIDE DIAMETER	W/	WITH
IF	INSIDE FACE	W/O	WITHOUT
IN	INCH	WD	WOOD
INFO	INFORMATION	WWF	WELDED WIRE FABRIC
INSUL	INSULATED (ION)	WF	WIDE FLANGE SECTION
INT	INTERIOR	WT	WIDE FLANGE TEE SECTION

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AB E DISCOVERY - NEW HIEP FACILITY

COMMERCIAL AVE.
WATERLOO, WI

DATE OF ISSUE: 12.18.17

PROJECT # 17112

STRUCTURAL GENERAL NOTES

S001

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SLAB ON GRADE NOTES

1. PREPARE SUBGRADE AS INDICATED IN SOIL REPORT. AT A MINIMUM, PROOF ROLL AND REMOVE ALL SOFT AREAS AND REPLACE WITH COMPATIBLE FILL.
2. SEE SPECIFICATIONS FOR SLAB ON GRADE VAPOR BARRIER, IF REQUIRED.
3. UNDER SLAB GRANULAR FILL PER GEOTECHNICAL REPORT.
4. SAWCUT SLABS ON GRADE AT A MAXIMUM SPACING OF 24 TO 36 TIMES THE SLAB THICKNESS, WITH A PANEL WIDTH TO LENGTH RATIO NOT TO EXCEED 1.5. START SAWCUTTING WITH EARLY ENTRY SAW AS SOON AS THE CONCRETE WILL SUPPORT THE WEIGHT OF THE SAW AND OPERATOR AND NOT RAVEL EDGES OR DISLODGE AGGREGATE, BUT IN NO CASE MORE THAN 6 HOURS AFTER THE SLAB IS PLACED. INSTALLATION OF JOINTS DOES NOT IMPLY ANY WARRANTY AGAINST THE OCCURRENCE OF SHRINKAGE CRACKS.

OR

CONTRACTION JOINT LOCATIONS INDICATED ON SLAB ON GRADE PLAN ARE A SUGGESTED PATTERN INTENDED TO AID THE CONTRACTOR, AND DO NOT IMPLY ANY WARRANTY AGAINST THE OCCURRENCE OF SHRINKAGE CRACKS. SAW TO A DEPTH OF AT LEAST ¼ THE SLAB THICKNESS. START SAWCUTTING WITH EARLY ENTRY SAW AS SOON AS THE CONCRETE WILL SUPPORT THE WEIGHT OF THE SAW AND OPERATOR AND NOT RAVEL EDGES OR DISLODGE AGGREGATE, BUT IN NO CASE MORE THAN 6 HOURS AFTER THE SLAB IS PLACED.

5. SEE ARCHITECTURAL DRAWINGS FOR LOCATIONS AND SIZES OF SLAB DEPRESSIONS.
6. SLAB ON GRADE REQUIRES FIBER REINFORCING. SEE SPECIFICATIONS FOR APPROVED MANUFACTURERS AND MINIMUM QUANTITIES.
7. SLAB ON GRADE THICKNESS, ELEVATION AND FLATNESS / LEVELNESS TOLERANCES:
   THICKNESS: PLUS ½ INCHES; MINUS 0 INCHES
   ELEVATION: SEE SPECIFICATIONS
   FLATNESS / LEVELNESS: SEE SPECIFICATIONS
8. DO NOT HARD TROWEL FINISH THE CONCRETE SLAB UNLESS INDICATED ON THE PLANS. CONCRETE SHOULD HAVE AN OPEN PORE STRUCTURE WHEN FINISHED TO FACILITATE SLAB DRYING, AND FLOORING ADHESION.
9. WET CURE SLAB UNLESS NOTED OTHERWISE ON DRAWINGS.

INTERIOR SLAB ON METAL DECK NOTES

1. SEE SPECIFICATION SECTION 03 FOR REQUIREMENTS IN ADDITION TO THOSE LISTED BELOW.
2. ***CAMBERED STEEL BEAMS WILL DEFLECT DURING CONCRETE PLACEMENT. THE CONTRACTOR SHALL ANTICIPATE AND ADDITIONAL 10% OF CONCRETE VOLUME TO ACHIEVE A FLAT FLOOR.***
3. FOR CAMBERED STEEL FRAMING, CONCRETE POURS SHOULD PROGRESS IN THE DIRECTION PERPINDICULAR TO THE DECKING FLUTES, AND DECKING LOADED AT LEAST THREE FOURTHS OF A BAY AHEAD OF SCREEDING, IN ORDER TO LOAD THE PRIMARY MEMBERS PRIOR TO SCREEDING.
4. FOR CAMBERED STEEL FRAMING, CONSTRUCTION JOINTS SHOULD BE LOCATED TO RUN PERPINDICULAR TO THE METAL DECK FLUTES, AND SHALL BE APPROVED BY THE ENGINEER A MINIMUM OF TWO WEEKS PRIOR TO SLAB PLACEMENT.
5. SLAB ON METAL DECK THICKNESS, ELEVATION, FLATNESS, LEVELNESS TOLERANCES:
   THICKNESS: PLUS 1½ INCHES; MINUS 0 INCHES
   ELEVATION: PLUS/MINUS 1/4 INCHES
   FLATNESS AND LEVELNESS:
   SPECIFIED OVERALL VALUE (SOV): FF30 / FL25
   MINIMUM LOCAL VALUE (MLV): FF20 / FL18
6. DO NOT HARD TROWEL FINISH THE CONCRETE SLAB UNLESS INDICATED ON THE PLANS. CONCRETE SHOULD HAVE AN OPEN PORE STRUCTURE WHEN FINISHED TO FACILITATE SLAB DRYING, AND FLOORING ADHESION.
7. WET CURE SLAB UNLESS NOTED OTHERWISE ON DRAWINGS.

COMPONENTS & CLADDING WIND DESIGN PRESSURES

ROOFS	TRIBUTARY AREA = 10 SF	POSITIVE (PSF)	NEGATIVE (PSF)
	ZONE 1	XX.X	XX.X
	ZONE 2	XX.X	XX.X
	ZONE 3	XX.X	XX.X
	TRIBUTARY AREA = 100 SF	POSITIVE (PSF)	NEGATIVE (PSF)
	ZONE 1	XX.X	XX.X
	ZONE 2	XX.X	XX.X
	ZONE 3	XX.X	XX.X
WALLS	TRIBUTARY AREA = 10 SF	POSITIVE (PSF)	NEGATIVE (PSF)
	ZONE 4	XX.X	XX.X
	ZONE 5	XX.X	XX.X
	TRIBUTARY AREA = 500 SF	POSITIVE (PSF)	NEGATIVE (PSF)
	ZONE 4	XX.X	XX.X
	ZONE 5	XX.X	XX.X
PARAPETS	TRIBUTARY AREA = 10 SF	POSITIVE (PSF)	NEGATIVE (PSF)
	INTERIOR ZONE	XX.X	XX.X
	EXTERIOR ZONE	XX.X	XX.X
	TRIBUTARY AREA = 500 SF	POSITIVE (PSF)	NEGATIVE (PSF)
	INTERIOR ZONE	XX.X	XX.X
	EXTERIOR ZONE	XX.X	XX.X

STRUCTURAL STEEL NOTES

1. SEE SPECIFICATION DIVISION 05 SECTION OR REQUIREMENTS IN ADDITION TO THOSE LISTED BELOW.
2. PROVIDE NEW MATERIAL CONFORMING TO THE FOLLOWING REQUIREMENTS FOR ALL STRUCTURAL STEEL:

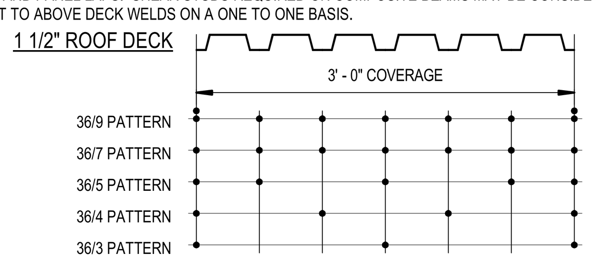
WIDE FLANGE SHAPES (ASTM A992)	Fy = 50 ksi; Fu = 65 ksi
M, S, HP, C, MC, AND L SHAPES (ASTM A36)	Fy = 36 ksi; Fu = 58 ksi
RECTANGULAR HSS SHAPES (ASTM A500-B)	Fy = 46 ksi; Fu = 58 ksi
ROUND HSS SHAPES (ASTM A500-B)	Fy = 42 ksi; Fu = 58 ksi
CARBON STEEL PIPE (ASTM A53-B)	Fy = 35 ksi; Fu = 60 ksi
PLATES AND BARS (ASTM A36)	Fy = 36 ksi; Fu = 58 ksi

3. DETAIL, FABRICATE AND ERECT STRUCTURAL STEEL IN CONFORMANCE WITH THE AISC SPECIFICATIONS AND CODES INDICATED.
4. PERFORM ALL WELDING USING CERTIFIED WELDERS AND IN ACCORDANCE WITH THE AWS "STRUCTURAL WELDING CODE – STEEL".
5. SUBMIT SHOP DRAWINGS TO THE ARCHITECT/ENGINEER FOR REVIEW. SHOW SHOP FABRICATION DETAILS, FIELD ASSEMBLY DETAILS, AND ERECTION DIAGRAMS FOR ALL STRUCTURAL STEEL. SCHEDULE SUBMISSIONS TO ALLOW ADEQUATE TIME FOR REVIEW PRIOR TO FABRICATION.
6. DETAIL ALL BEAMS FRAMING INTO CONCRETE WALLS, BEAMS OR COLUMNS TO ALLOW FOR HORIZONTAL FIELD TOLERANCES AND THERMAL MOVEMENT. PROVIDE CONNECTION DETAILS REQUIRED BY THE SPECIFIC CONSTRUCTION SEQUENCES.
7. PROVIDE SUITABLE BEARING PLATES AND ANCHOR RODS FOR BEAMS, JOISTS, OR GIRDERS WHICH BEAR ON WALLS. LOCATE ITEMS USING TEMPLATES OR SIMILAR METHODS. SET ALL PLATES IN FULL BEDS OF NON-SHRINK GROUT. COMPLETELY FILL ALL BEAM AND COLUMN POCKETS WITH CONCRETE PRIOR TO CASTING CONCRETE ABOVE.
8. REFER TO THE ARCHITECTURAL DRAWINGS FOR THE REQUIRED FIRE RATINGS AND UL ASSEMBLY NUMBERS
9. DO NOT FIELD CUT ANY STRUCTURAL STEEL UNLESS REVIEWED AND APPROVED IN WRITING BY THE EOR. CLEARLY INDICATE ALL STEEL MEMBER OPENINGS REQUIRED ON THE SHOP DRAWINGS. ALL COSTS FOR PROVIDING PENETRATIONS IN THE FIELD, INCLUDING MEMBER REINFORCING, IS THE RESPONSIBILITY OF THE CONTRACTOR.
10. ERECTION PROCEDURES, SEQUENCES AND COORDINATION OF WORK WITH OTHER TRADES IS THE RESPONSIBILITY OF THE CONTRACTOR. PROVIDE ANY ADDITIONAL STEEL REQUIRED FOR ERECTION PURPOSES AT NO COST TO THE OWNER. REMOVE THIS ADDITIONAL STEEL UNLESS DIRECTED OTHERWISE BY THE OWNER IN WRITING.
11. PROVIDE TEMPORARY BRACING AND SHORING AS REQUIRED FOR THE SAFETY, STABILITY AND ALIGNMENT OF THE STRUCTURE. LEAVE TEMPORARY BRACING IN PLACE UNTIL THE PERMANENT STRUCTURAL LATERAL LOAD RESISTING SYSTEM IS COMPLETE, INCLUDING FLOOR AND ROOF DIAPHRAGMS. PERFORM FINAL BOLTING AND WELDING ONLY ON THOSE PORTIONS OF THE STRUCTURE THAT HAVE BEEN ALIGNED AND PLUMBED WITHIN THE SPECIFIED TOLERANCES.
12. GROUT COLUMN BASE PLATES AFTER BUILDING FRAME HAS BEEN ALIGNED AND PLUMBED, AND PRIOR TO PLACEMENT OF CONCRETE FLOOR SYSTEMS (CIP CONCRETE SLABS, SLABS ON STEEL DECK, PRECAST, ETC). GROUT BEAM BEARING PLATES AFTER BEAM ALIGNMENT AND PRIOR TO PLACEMENT OF FL0OR SYSTEMS. MINIMUM GROUT STRENGTH EQUALS THE HIGHER OF 6000 PSI OR THE INDICATED COMPRESSIVE STRENGTH OF THE CONCRETE THE COLUMN IS BEARING ON.
13. SEE DETAIL FOR INSPECTION REQUIREMENTS
14. ALL STRUCTURAL STEEL IN DIRECT CONTACT WITH FIRE RETARDANT TREATED (FRT) OR PRESERVATIVE TREATED LUMBER MUST BE WRAPPED WITH A BARRIER MEMBRANE (GRACE VYCOR DECK PROTECTOR OR EQUAL). ALL FASTENERS ATTACHING TREATED LUMBER TO STEEL MUST BE GALVANIZED.
15. LONG SLOTTED HOLES ARE PERMITTED ONLY WHERE SHOWN IN THE CONSTRUCTION DOCUMENTS. IF SHOWN, 5/16" PLATE WASHERS ARE REQUIRED AT ALL LOCATIONS.

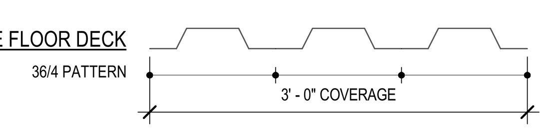
STEEL DECK NOTES

1. SEE SPECIFICATION SECTION 05310 FOR ADDITIONAL INFORMATION.
2. SEE ARCHITECTURAL DRAWINGS FOR EXACT LOCATIONS OF POUR STOPS.
3. ROOF DECK END LAPS SHALL OCCUR AT SUPPORTS WITH A 4" MINIMUM LAP LENGTH EXTENDING PAST THE CENTERLINE OF THE SUPPORTS AS SHOWN.
4. DECK SHALL BE STORED OFF GROUND WITH ONE END ELEVATED TO PROVIDE DRAINAGE AND SHALL BE PROTECTED FROM THE ELEMENTS WITH A WATERPROOF COVERING, VENTILATED TO AVOID CONDENSATION.
5. WELD WASHERS SHALL BE USED AT ALL INTERMEDIATE AND END OF PANEL WELDS FOR DECKING 24 GAUGE AND THINNER.
6. UNLESS NOTED OTHERWISE ON DRAWINGS, FLOOR DECK SHALL BE 2" 18 GAUGE GALVANIZED COMPOSITE DECK MEETING THE FOLLOWING MINIMUM DECK SECTION PROPERTIES:
   Ip = 0.559 in4
   Sp = 0.495 in3
   In = 0.558 in4
   Sn = 0.504 in3
   Fy = 50 KSI
7. UNLESS NOTED OTHERWISE ON DRAWINGS, ROOF DECK SHALL BE 1 1/2" 22 GAUGE PAINTED ROOF DECK MEETING THE FOLLOWING MINIMUM DECK SECTION PROPERTIES:
   Ip = 0.155 in4
   Sp = 0.186 in3
   In = 0.183 in4
   Sn = 0.192 in3
   Fy = 33 KSI
8. ROOF DECK ATTACHMENT
   TYPICAL ROOF DECK FASTENING (UNLESS NOTED OTHERWISE)
   DECK FASTENERS AT SUPPORTS: 5/8" PUDDLE WELDS AT 36/5 PATTERN
   DECK FASTENING AT SIDE LAPS: #10 TEK SCREWS AT 12" OC MAX
9. FLOOR DECK ATTACHMENT
   TYPICAL FLOOR DECK FASTENING (UNLESS NOTED OTHERWISE)
   DECK FASTENERS AT SUPPORTS: 5/8" PUDDLE WELDS AT 12" OC
   DECK FASTENING AT SIDE LAPS: #10 TEK SCREWS AT 36" OC
10. UNLESS NOTED ON THE DRAWINGS, DECK SHALL BE FASTENED AT ALL EDGE SUPPORTS, INTERMEDIATE SUPPORTS, AND PANEL LAPS. SHEAR STUDS REQUIRED ON COMPOSITE BEAMS MAY BE CONSIDERED EQUIVALENT TO ABOVE DECK WELDS ON A ONE TO ONE BASIS.

1 1/2" ROOF DECK



2" COMPOSITE FLOOR DECK



BAR JOIST NOTES

1. SEE SPECIFICATION SECTION 052100 FOR ADDITIONAL INFORMATION.
2. MAXIMUM WIND NET UPLIFT LOAD ON JOISTS = xx PSF (USING COMPONENTS & CLADDING WIND LOADS)
3. FIELD WELD ALL K-SERIES JOISTS, INCLUDING BOLTED JOISTS, TO SUPPORTS WITH A MINIMUM OF (2) 1/8" FILLET WELDS, 1" LONG.

   FIELD WELD ALL LH-SERIES JOISTS, INCLUDING BOLTED JOISTS, TO SUPPORTS WITH A MINIMUM OF (2) 1/4" FILLET WELDS, 2 1/2" LONG.
4. BOLTED JOISTS SHALL USE STANDARD WASHERS UNDER BOTH HEAD AND NUT.
5. DOUBLE DIAGONAL BRIDGING TO BE FIELD WELDED TO TOP AND BOTTOM CHORD OF ADJACENT JOIST. SINGLE DIAGONAL BRIDGING SHALL BE WELDED TO BOTTOM CHORD OF EXTERIOR JOIST AND TOP CHORD OF ADJACENT JOIST.
6. HORIZONTAL BRIDGING SHALL BE FIELD WELDED ALONG TOP AND BOTTOM CHORD OF ADJACENT JOISTS.
7. WHERE JOIST BRIDGING INTERFERES WITH DUCTWORK, OPENINGS, ETC., RELOCATE AND ADD BRIDGING EACH SIDE OF OBSTRUCTION.

COLD FORMED STEEL FRAMING

1. MATERIAL SPECIFICATIONS
   COLD FORMED STUDS, JOISTS, AND TRACKS ASTM C955 & ASTM A1003
   Fy=50 KSI, Fu=65 KSI (16 GAGE AND THICKER)
   Fy=33 KSI, Fu=45 KSI (18 GAGE AND THINNER)
2. GALVANIZED FINISHES: ALL COLD FORMED MEMBERS SHALL BE FORMED OF STEEL HAVING THE FOLLOWING GALVANIZED COATING MEETING THE REQUIREMENTS OF ASTM A653:
   STUDS, JOISTS, TRACK, BRIDGING, AND ACCESSORIES: G-60 GALVANIZED FINISH UNO
   ALL MEMBERS EXPOSED TO WEATHER: G90 GALVANIZED FINISH.
   JOIST RITE JOISTS : G90 GALVANIZED FINISH.
3. COLD FORMED STEEL STUDS (S) AND TRACKS (T) SHALL CONFORM TO THE STEEL STUD MANUFACTURERS ASSOCIATION (SSMA) STANDARDS.
4. ALL COLD FORMED STEEL FASTENERS SHOWN ON DRAWINGS ARE BY MARINO. SUBSTITUTIONS FOR THESE ITEMS SHALL BE SUBMITTED TO THE STRUCTURAL ENGINEER OF RECORD FOR APPROVAL PRIOR TO CONSTRUCTION.
5. HEAVIER GAUGE MATERIAL MAY BE SUBSTITUTED BY CONTRACTOR IF DESIRED.
6. WHEN PROVIDED, FACTORY PUNCH-OUTS WILL BE LOCATED ALONG THE CENTERLINE OF THE WEBS OF MEMBERS AND WILL HAVE A CENTER-TO-CENTER SPACING OF 24". PUNCH-OUTS WILL HAVE A MAXIMUM WIDTH = HALF THE MEMBER DEPTH (d/2) OR 2-1/2", WHICHEVER IS LESS, AND A MAXIMUM LENGTH = 4-1/2". THE MINIMUM DISTANCE BETWEEN THE END OF A MEMBER AND THE NEAREST EDGE OF THE WEB PUNCH-OUT SHALL BE 10".
7. THE CONTRACTOR SHALL SUBMIT COLD FORMED STEEL SHOP DRAWINGS TO STRUCTURAL ENGINEER OF RECORD FOR APPROVAL PRIOR TO CONSTRUCTION. SHOP DRAWING SHALL INCLUDE:
   A. PLANS INDICATING MEMBER SIZES AND LOCATIONS
   B. SECTIONS INDICATING COLD FORMED STEEL MEMBER CONNECTIONS
8. PROVIDE TOP AND BOTTOM TRACKS AT ALL WALLS. ALL TRACKS SHALL BE THE SAME GAUGE AS THE STUDS FRAMING INTO THEM UNLESS NOTED OTHERWISE.

   EXCEPTION: ALL TRACKS FASTENED INTO FOUNDATION SHALL BE 600S125-68 UNO
9. FIELD CUTTING OF COLD FORMED STEEL SHALL BE DONE BY SAWING OR SHEARING. TORCH CUTTING OF COLD FORMED MEMBERS IS NOT ACCEPTABLE.
10. NO NOTCHING OR COPING OF COLD FORMED MEMBERS IS ALLOWED UNLESS APPROVED BY THE STRUCTURAL ENGINEER OF RECORD.
11. ALL HEADERS AND BEAMS SHALL BE CONSTRUCTED WITH UNPUNCHED MATERIAL.
12. SPLICING OF WALL STUDS MUST CONFORM TO THE DETAILS SHOWN IN THIS DRAWING SET.
13. ALL BEARING AND SHEAR WALLS SHALL HAVE BRIDGING AT 48" OC MAX. STUD SUPPLIER TO . SUBMIT BRIDGING WITH SHOP DRAWINGS FOR REVIEW.
14. ANY COLD FORMED STEEL CONNECTIONS NOT SPECIFICALLY DETAILED ON THESE DRAWINGS SHALL BE DESIGNED & DETAILED BY THE COLD FORMED STEEL ENGINEER.
15. MINIMUM SCREW SPACING SHALL BE 3d
    MINIMUM SCREW EDGE SPACING SHALL BE 1.5d.
16. CFS JOIST WEB KNOCKOUTS SHALL NOT OCCUR A DISTANCE LESS THAN THE JOIST BEARING LENGTH + 4" FROM END OF JOIST.
17. THICKNESS OF WELDS TO COLD FORMED STEEL SHALL EQUAL THE THICKNESS OF THE MEMBER BEING WELDED.

DEFERRED SUBMITTALS

1. IN ACCORDANCE WITH THE IBC CHAPTER 1, SPECIALTY ITEMS, PRE-ENGINEERED COMPONENTS, AND DESIGN/ BUILD ELEMENTS MAY BE SUBMITTED FOR APPROVAL BY THE ENGINEER OF RECORD AND THE BUILDING OFFICIAL BY DEFERRED SUBMITTAL. SUCH ITEMS ARE DEFINED AS THOSE SPECIFIED IN CONSTRUCTION DOCUMENTS BUT WHICH REQUIRE DESIGN BY THE MANUFACTURER, SUPPLIER OR INSTALLER.
2. DEFERRED SUBMITTALS ARE REQUIRED FOR THE FOLLOWING:
   -STEEL STAIRS
3. SUBMITTALS SHALL INCLUDE:
   a) CALCULATIONS, PREPARED AND SEALED BY AN APPROPRIATELY REGISTERED ENGINEER (THE"SPECIALTY ENGINEER").
   b) DIAGRAM PREPARED AND SEALED BY THE SPECIALTY ENGINEER, SHOWING LOAD MAGNITUDES AND LOCATIONS - SEPARATED INTO DEAD, LIVE, WIND AND/OR SEISMIC COMPONENTS - THAT ARE APPLIED TO THE PRIMARY STRUCTURE.
   c) ERECTION OR DESIGN DRAWINGS BEARING THE SPECIALTY ENGINEER'S SEAL AND THE ARCHITECT'S STAMP INDICATING HIS REVIEW.
4. SUBMIT A SEALED COPY FOR THE STRUCTURAL ENGINEER OF RECORD'S FILE, AND ADDITIONAL COPIES AS ARE NECESSARY FOR THE BUILDING DEPARTMENT. SUBMITTALS CONTAINING EXCEPTIONS, CORRECTIONS, OR OTHER REVIEW COMMENTS ARE NOT ACCEPTABLE FOR SUBMITTAL TO THE BUILDING DEPARTMENT.
5. THE STRUCTURAL ENGINEER OF RECORD'S REVIEW IS STRICTLY LIMITED TO THE FOLLOWING:
   a) THE DRAWINGS AND CALCULATIONS ARE PROPERLY SEALED.
   b) THE LOAD CRITERIA IS CONSISTENT WITH THE CONTRACT DOCUMENTS AND UNIFORM BUILDING CODE REQUIREMENTS.
   c) THE CONNECTIONS TO THE PRIMARY STRUCTURE ARE CONSISTENT WITH THE PRIMARY DESIGN.
   d) THE BASE STRUCTURE IS CAPABLE OF SUPPORTING THE IMPOSED LOADS.
6. IF THE LOADS IMPOSED ON THE STRUCTURE EXCEED THE LOAD ALLOWANCE PROVIDED THE STRUCTURAL ENGINEER OF RECORD WILL REJECT THE SUBMITTAL. ONLY AT THE OWNER'S WRITTEN DIRECTION WILL MODIFICATIONS TO THE BASE STRUCTURE TO ACCOMMODATE THE SPECIALTY ITEM(S) BE MADE BY THE ENGINEER OF RECORD. DEFERRED SUBMITTAL ITEMS SHALL NOT BE INSTALLED UNTIL THE ENGINEER OR RECORD AND THE BUILDING OFFICIAL HAVE APPROVED THE SUBMITTAL DOCUMENTS.

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DATE OF ISSUE: 12.18.17

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STRUCTURAL GENERAL NOTES

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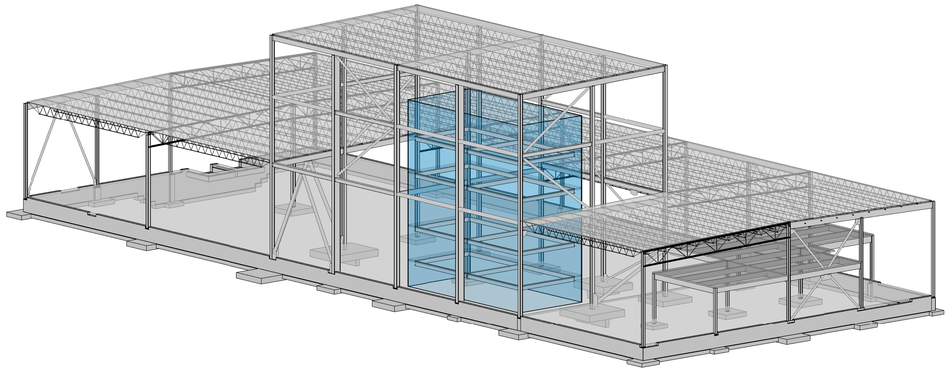
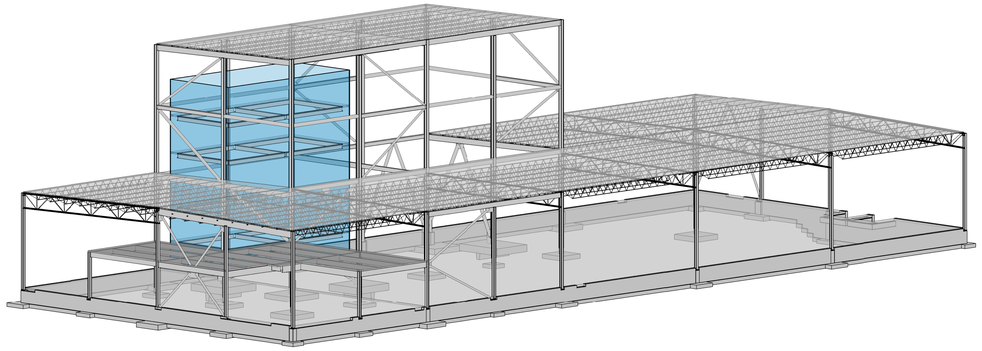


1 S100 CONCEPT - LOOKING SOUTHWEST



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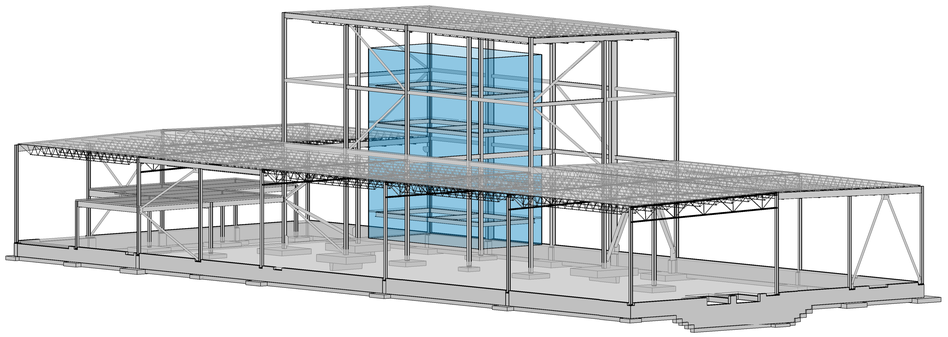

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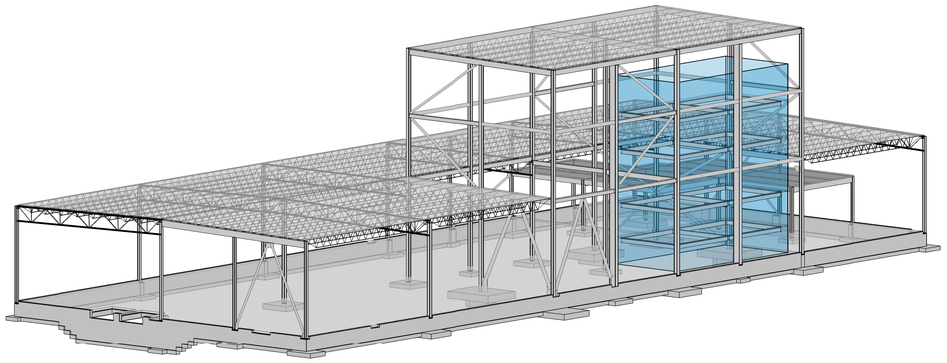

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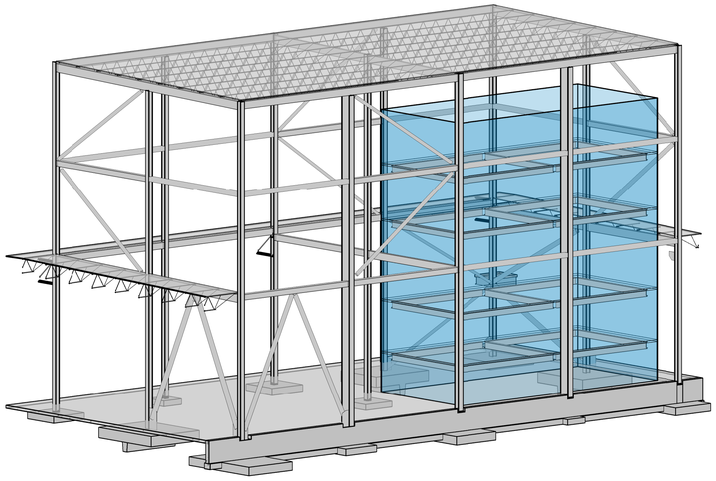
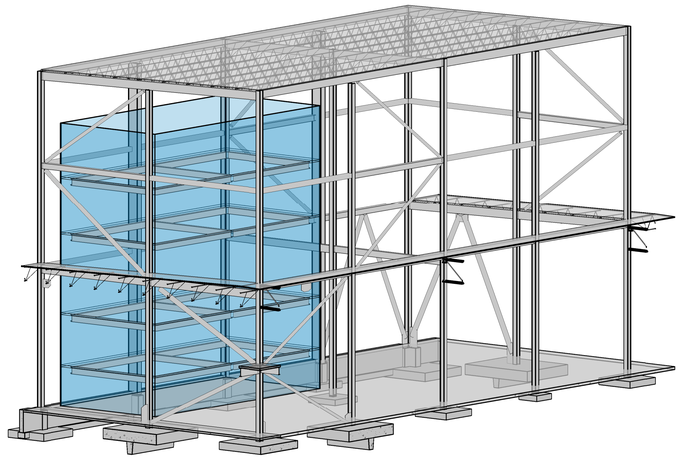


5 S100 CONCEPT - HIGH BAY - LOOKING NORTHWEST



6 S100 CONCEPT - HIGH BAY - LOOKING SOUTHEAST

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FRAMING CONCEPT

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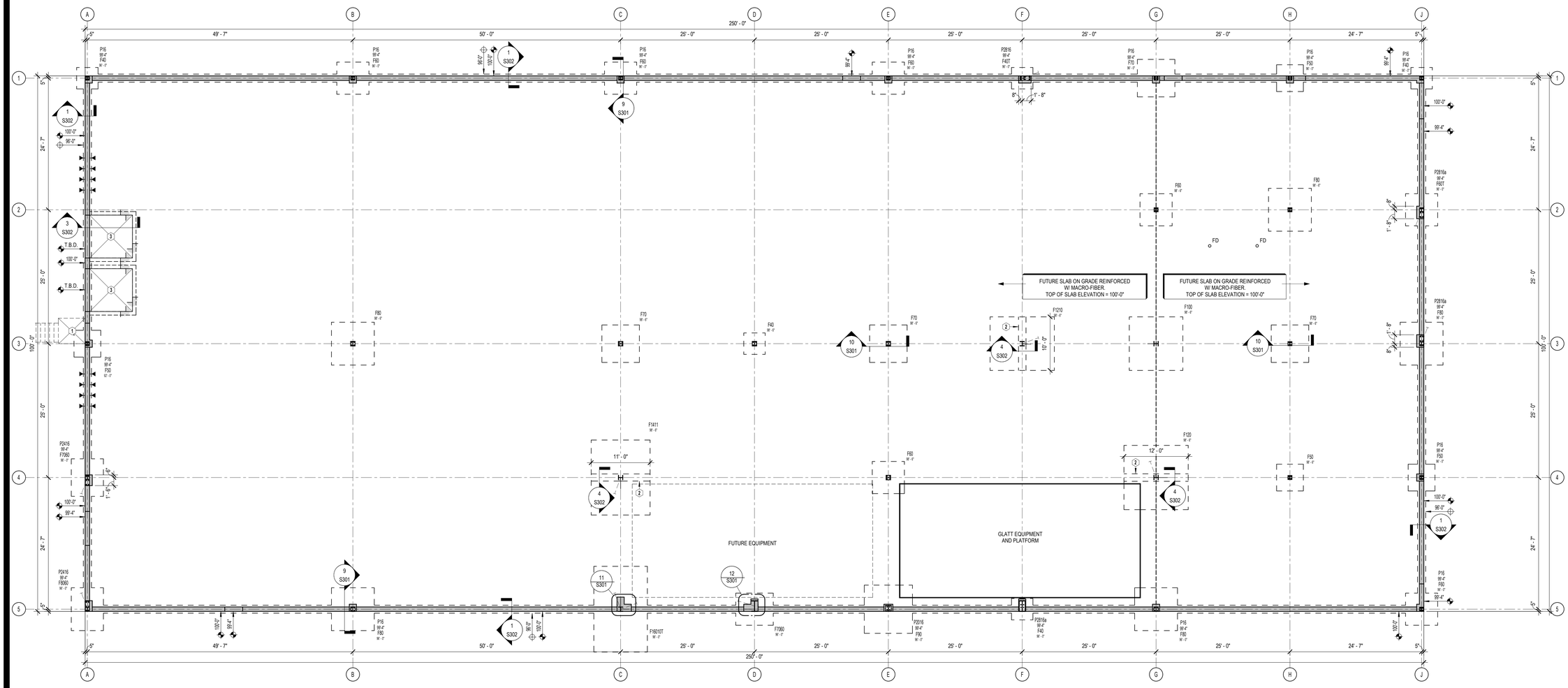
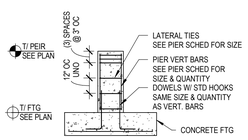


1 S101 FOUNDATION PLAN
1/8" = 1'-0"

NORTH

PIER TAKEOFF

MARK	SIZE: PIER WIDTH	SIZE: PIER LENGTH	REINFORCEMENT: VERTICAL BAR QUANTITY	REINFORCEMENT: VERTICAL BAR SIZE	REINFORCEMENT: HORIZONTAL TIE BAR SIZE	QUANTITY	VOLUME
P16	1' - 4"	1' - 4"	4	#6	#3	12	1.9 CY
P32	2' - 8"	1' - 4"	12	#6	#3	3	0.6 CY
P2016	1' - 8"	1' - 4"	4	#6	#3	1	0.1 CY
P2416	2' - 0"	1' - 4"	8	#6	#3 @ 10" OC	2	0.5 CY
P2816	2' - 4"	1' - 4"	8	#6	#3 @ 6" OC	1	0.1 CY
P2816a	2' - 4"	1' - 4"	8	#6	#3	4	0.8 CY
TOTAL						23	4.0 CY



FOUNDATION PLAN NOTES

1. SEE SHEET S001 FOR STRUCTURAL GENERAL NOTES.
2. VERIFY ALL DIMENSIONS WITH ARCHITECTURAL DRAWINGS.
3. ALL CONCRETE FOUNDATION WALLS SHALL BE 10" THICK UNO
4. TOP OF FOUNDATION WALL ELEVATION = 100'-0" UNO
5. PROVIDE CORNER REINFORCEMENT AT ALL WALL INTERSECTIONS PER DETAIL
6. SEE SHEET S001 AND DETAIL 5/S301 FOR SLAB ON GRADE JOINT INFORMATION.
7. REINFORCEMENT IN SPREAD FOOTINGS SHALL CONFORM TO DETAIL
8. SEE DETAILS 1/S501 2/S501 FOR COLUMN BASE PLATES AND ANCHOR RODS.
9. FOOTING STEPS SHALL BE PER DETAIL 7/S301

SHEET KEYNOTES

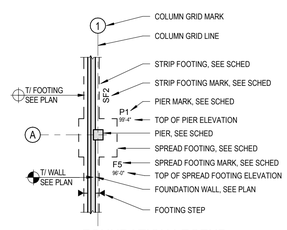
1. GALVANIZED EXTERIOR STEEL FRAMED STAIR AND LANDING DESIGNED AND SUPPLIED BY FABRICATOR FOR 100psf IMPOSED LOAD.
2. FOOTING KEY CENTERED ON COLUMN. SEE PLAN FOR LENGTH, SEE DETAIL FOR SIZE AND REINFORCEMENT.
3. DOCK LEVELER DEPRESSION. SEE CUT SHEET FOR EXACT PLAN SIZE AND DEPRESSION DEPTH. SUBMIT TO SER FOR APPROVAL.

FOOTING TAKEOFF

MARK	SIZE: LENGTH	SIZE: WIDTH	SIZE: THICKNESS	REINFORCMENT: BOTTOM REINFORCEMENT	REINFORCMENT: TOP REINFORCEMENT	QUANTITY	VOLUME
F40	4' - 0"	4' - 0"	1' - 0"	(5) #5 BARS EACH WAY	NONE	4	2.4 CY
F40T	4' - 0"	4' - 0"	1' - 0"	(4) #5 BARS EACH WAY	(4) #5 BARS EACH WAY	1	0.6 CY
F50	5' - 0"	5' - 0"	1' - 0"	(6) #5 BARS EACH WAY	NONE	4	3.7 CY
F60	6' - 0"	6' - 0"	1' - 0"	(7) #5 BARS EACH WAY	(7) #5 BARS EACH WAY	6	8.0 CY
F60T	6' - 0"	6' - 0"	1' - 2"	(6) #5 BARS EACH WAY	(6) #5 BARS EACH WAY	1	1.6 CY
F70	7' - 0"	7' - 0"	1' - 2"	(8) #5 BARS EACH WAY	NONE	4	8.5 CY
F80	8' - 0"	8' - 0"	1' - 4"	(10) #5 BARS EACH WAY	NONE	5	15.8 CY
F90	9' - 0"	9' - 0"	1' - 6"	(10) #6 BARS EACH WAY	NONE	1	4.5 CY
F100	10' - 0"	10' - 0"	1' - 4"	(11) #6 BARS EACH WAY	NONE	1	4.9 CY
F120	12' - 0"	12' - 0"	1' - 10"	(13) #6 BARS EACH WAY	NONE	1	9.8 CY
F1210	12' - 0"	10' - 0"	1' - 10"	(12) #6 LONG BARS (14) #6 SHORT BARS	NONE	1	8.1 CY
F1411	14' - 0"	11' - 0"	1' - 10"	(13) #6 LONG BARS (16) #6 SHORT BARS	NONE	1	10.5 CY
F7060	7' - 0"	6' - 0"	1' - 2"	(14) #5 LONG BARS (6) #5 SHORT BARS	(6) #5 LONG BARS (6) #5 SHORT BARS	2	3.6 CY
F8060	8' - 0"	6' - 0"	1' - 2"	(9) #5 LONG BARS (7) #5 SHORT BARS	(7) #5 LONG BARS (7) #5 SHORT BARS	1	2.1 CY
F16010T	16' - 0"	10' - 0"	1' - 6"	(14) #6 LONG BARS (17) #6 SHORT BARS	(9) #6 LONG BARS (17) #6 SHORT BARS	1	8.9 CY
TOTAL						34	92.9 CY

STRIP FOOTING TAKEOFF

MARK	WIDTH	THICKNESS	REINFORCEMENT	LENGTH	VOLUME
SF1.5	1' - 6"	1' - 0"	(2) #5 BARS	690'	31.4 CY
TOTAL				690'	31.4 CY



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FOUNDATION PLAN

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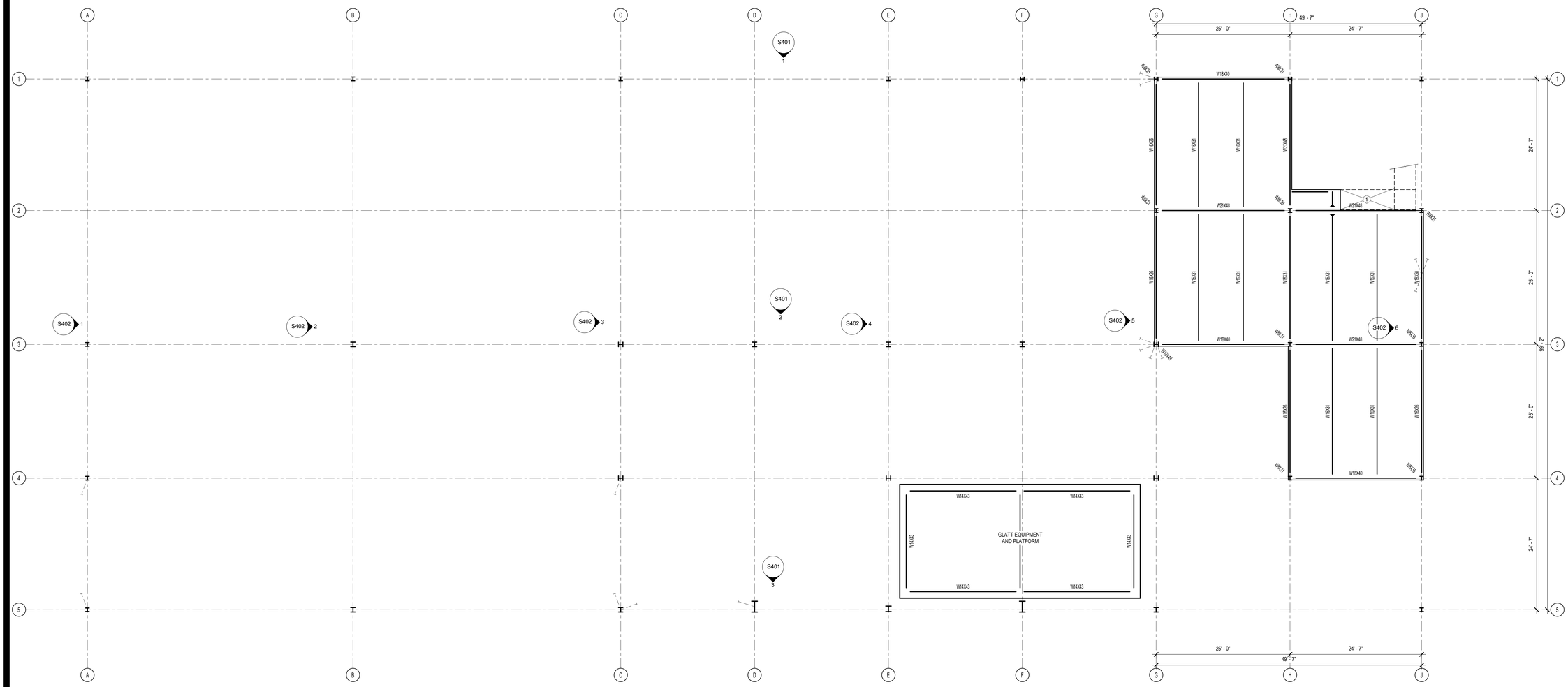


1 S201 2ND FLOOR FRAMING PLAN

1/8" = 1'-0"

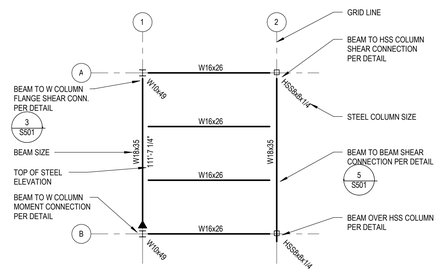
NORTH

FLOOR STEEL FRAMING PLAN NOTES

1. SEE SHEETS S001 FOR GENERAL NOTES.
2. TOP OF SLAB ELEVATION = 112'-0" UNO
   TOP OF STEEL ELEVATION = 111'-8" UNO
3. FLOOR CONSTRUCTION SHALL BE 2" CONCRETE TOPPING ON 2" x 20GA COMPOSITE DECK (4" TOTAL) INSTALL OVER A MINIMUM OF THREE SPANS.
   A. SUPPORT FASTENERS XXX
   B. SIDELAP FASTENERS XXX
   C. REINFORCE SLAB W/ FIBER MESH
4. REFER TO ARCH FOR SLAB EDGE DIMENSIONS.

SHEET KEYNOTES

1. STEEL FRAMED STAIR AND MID-HEIGHT LANDING DESIGNED AND SUPPLIED BY FABRICATOR FOR 100psf IMPOSED LOAD.



STEEL FRAMING LEGEND

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MEZZANINE FRAMING PLAN

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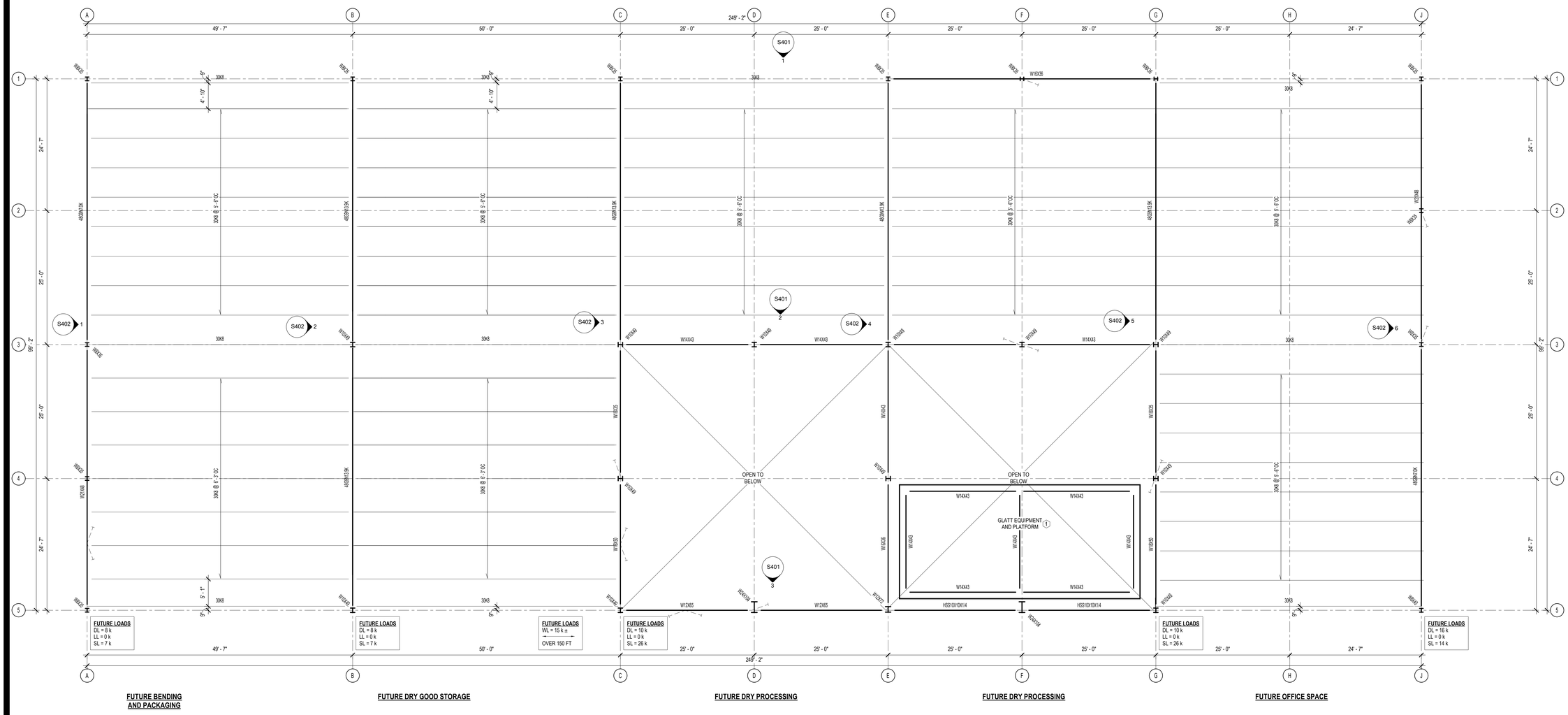


1 S202 LOW ROOF FRAMING PLAN
1/8" = 1'-0"

NORTH

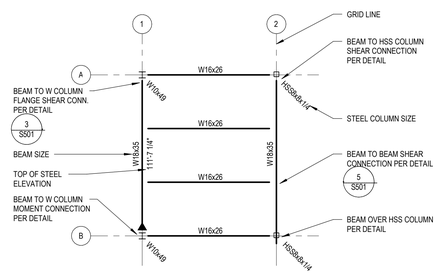
ROOF STEEL FRAMING PLAN NOTES

1. SEE SHEETS S001 FOR GENERAL NOTES.
2. TOP OF STEEL ELEVATIONS VARY WITH ROOF SLOPES. REFER TO PLAN.
   LOW ROOF HIGH POINT = 126'-0 1/2"
   LOW ROOF LOW POINT = 125'-0"

   HIGH ROOF HIGH POINT = 160'-0"
   HIGH ROOF LOW POINT = 158'-11 1/2"
3. ROOF CONSTRUCTION SHALL BE 1 1/2" x 22GA STEEL DECK INSTALL OVER A MINIMUM OF THREE SPANS.
   A. SUPPORT FASTENERS XXX
   B. SIDELAP FASTENERS XXX
4. REFER TO ARCH FOR ROOF DECK DIMENSIONS.

SHEET KEYNOTES

1. GLATT PLATFORM FRAMING, TYPICAL AT (4) PLATFORMS. SELF SUPPORTED. 100psf TOTAL LOAD ASSUMED FOR DEAD+LIVE. STAIRS NOT SHOWN. X-BRACING NOT SHOWN.



STEEL FRAMING LEGEND

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LOW ROOF FRAMING PLAN

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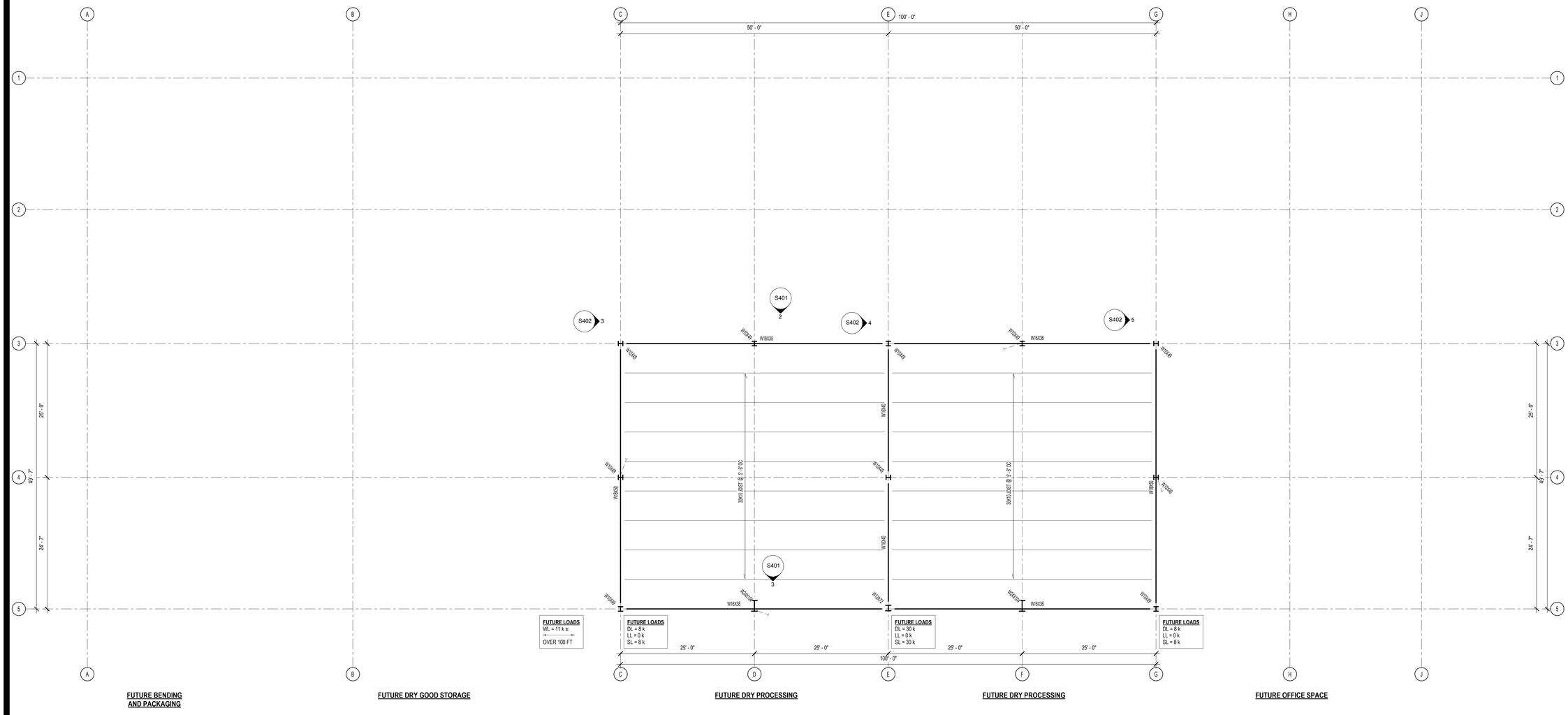


1 / S203 HIGH ROOF FRAMING PLAN

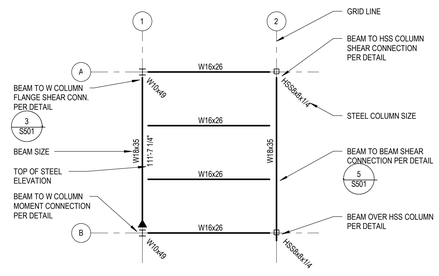
1/8" = 1'-0"

NORTH

ROOF STEEL FRAMING PLAN NOTES

1. SEE SHEETS S001 FOR GENERAL NOTES.
2. TOP OF STEEL ELEVATIONS VARY WITH ROOF SLOPES. REFER TO PLAN.
   - LOW ROOF HIGH POINT = 126'-0 1/2"
   - LOW ROOF LOW POINT = 125'-0"
   - HIGH ROOF HIGH POINT = 160'-0"
   - HIGH ROOF LOW POINT = 158'-11 1/2"
3. ROOF CONSTRUCTION SHALL BE 1 1/2" x 22GA STEEL DECK INSTALL OVER A MINIMUM OF THREE SPANS.
   - A. SUPPORT FASTENERS XXX
   - B. SIDELAP FASTENERS XXX
4. REFER TO ARCH FOR ROOF DECK DIMENSIONS.

SHEET KEYNOTES



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HIGH ROOF FRAMING PLAN

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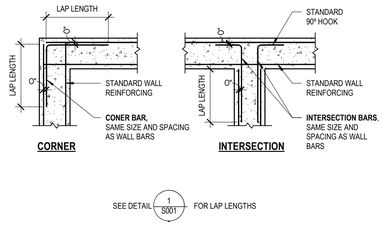
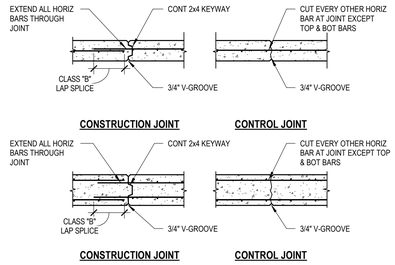
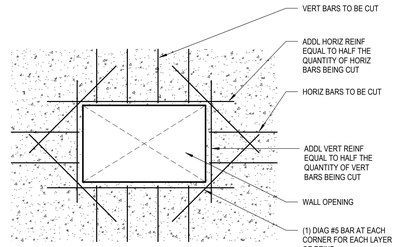


1 S301 TYPICAL CONCRETE WALL REINFORCEMENT
1/2" = 1'-0"



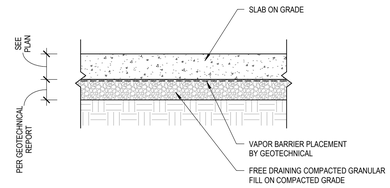
NOTES:
1. CONTROL JOINTS (WEAKENED PLANE) SHOULD OCCUR AT INTERVALS NOT EXCEEDING 25 FT AND 15 FT FROM MAIN BUILDING CORNERS.
2. SEE PLAN & SECTION DETAILS FOR WALL THICKNESS & REINFORCING.

2 S301 TYPICAL CONCRETE VERTICAL WALL JOINTS
1/2" = 1'-0"

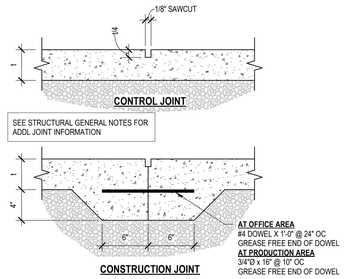


NOTES
1. TYPICAL FOR ALL WALL AND SLAB OPENINGS UNLESS SPECIFICALLY DETAILED ON PLANS.

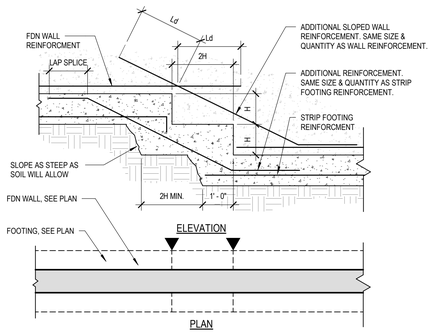
3 S301 TYPICAL ADDL REINF AT CONCRETE OPENINGS
1/2" = 1'-0"



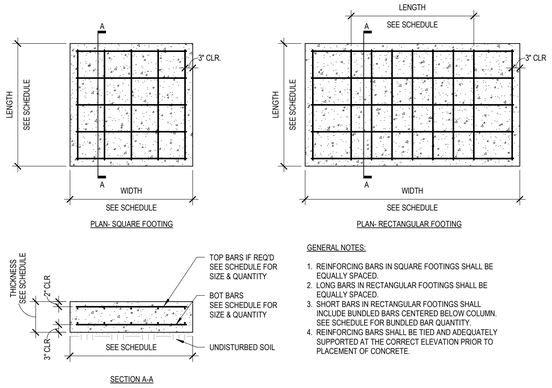
4 S301 TYPICAL SLAB-ON-GRADE (SOG)
1" = 1'-0"



5 S301 TYPICAL SLAB-ON-GRADE JOINTS
1 1/2" = 1'-0"

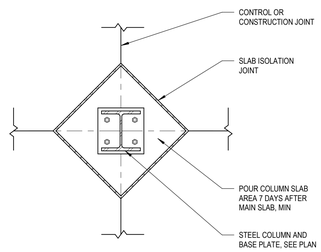


7 S301 FTG STEP DETAIL
1/2" = 1'-0"

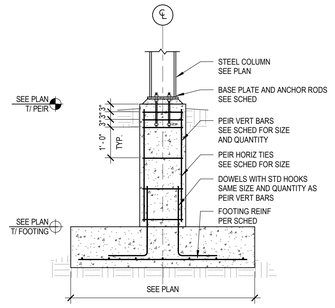


GENERAL NOTES:
1. REINFORCING BARS IN SQUARE FOOTINGS SHALL BE EQUALLY SPACED.
2. LONG BARS IN RECTANGULAR FOOTINGS SHALL BE EQUALLY SPACED.
3. SHORT BARS IN RECTANGULAR FOOTINGS SHALL INCLUDE BUNDLED BARS CENTERED BELOW COLUMN. SEE SCHEDULE FOR BUNDLED BAR QUANTITY.
4. REINFORCING BARS SHALL BE TIED AND ADEQUATELY SUPPORTED AT THE CORRECT ELEVATION PRIOR TO PLACEMENT OF CONCRETE.

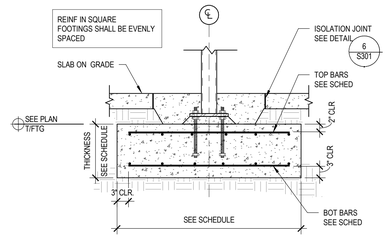
8 S301 TYPICAL SPREAD FOOTING BAR PLACEMENT
1/2" = 1'-0"



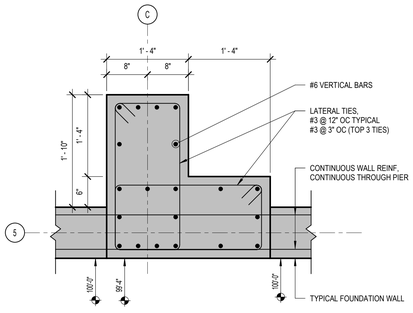
6 S301 SLAB ON GRADE ISOLATION JOINT
3/4" = 1'-0"



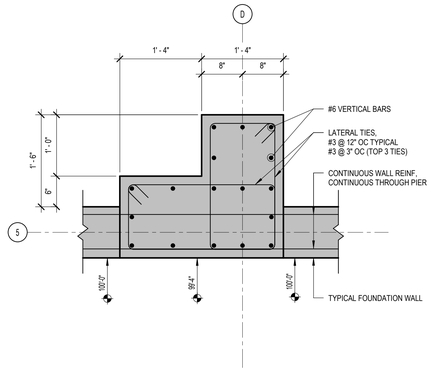
9 S301 STEEL COLUMN ON CONCRETE PEIR
1/2" = 1'-0"



10 S301 TYPICAL INTERIOR COLUMN FOOTING
3/4" = 1'-0"



11 S301 PIER PLAN DETAIL AT C-5
1" = 1'-0"



12 S301 PIER PLAN DETAIL AT D-5
1" = 1'-0"

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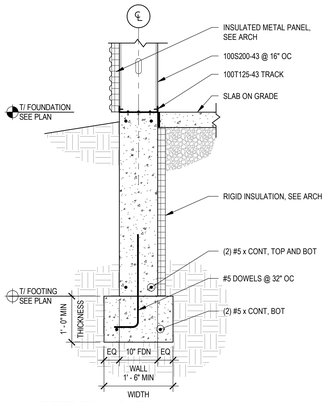
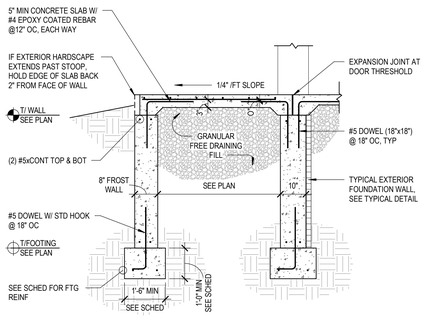
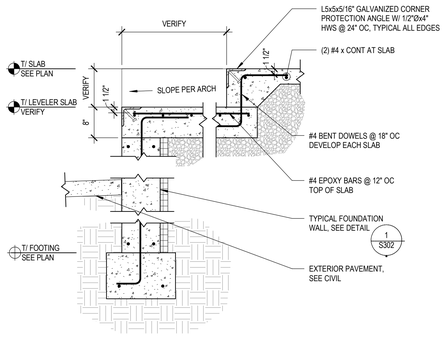


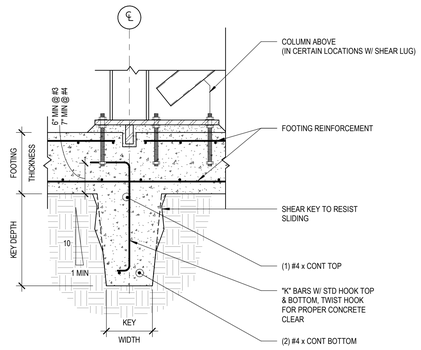
1 S302 CONCRETE FOUNDATION WALL
3/4" = 1'-0"



2 S302 EXTERIOR STOOP DETAIL
1/2" = 1'-0"



3 S302 PRELIMINARY DOCK LEVELER FOUNDATION
3/4" = 1'-0"



4 S302 FOOTING KEY AT BRACED FRAMES
3/4" = 1'-0"

FOOTING KEY SCHEDULE

COLUMN LOCATION		KEY WIDTH	KEY DEPTH	"K" BARS	COMMENTS
C	4	1'-0"	1'-8"	#4 @ 16" OC	
F	3	1'-0"	2'-0"	#4 @ 14" OC	
G	4	1'-0"	2'-2"	#4 @ 12" OC	

FOOTING KEY NOTES:

1. KEY MUST BE CAST MONOLITHICALLY W/ FOOTING. COLD JOINT NOT ALLOWED
2. SEE PLAN FOR KEY MINIMUM LENGTH. SEE ABOVE FOR SECTION SIZE.

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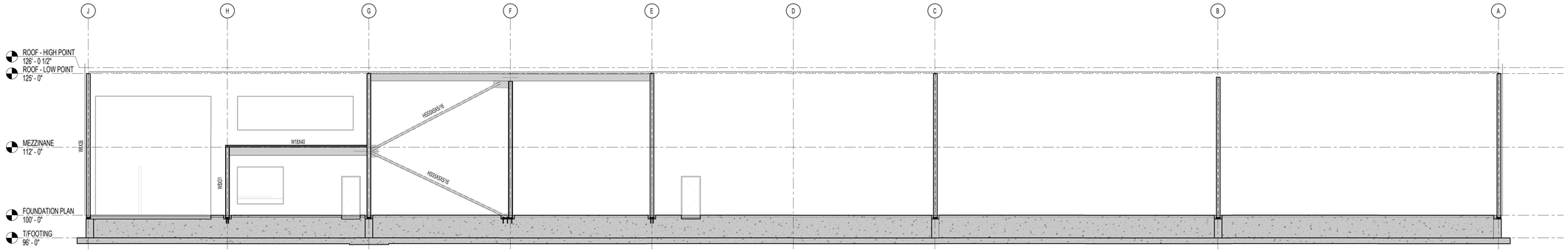
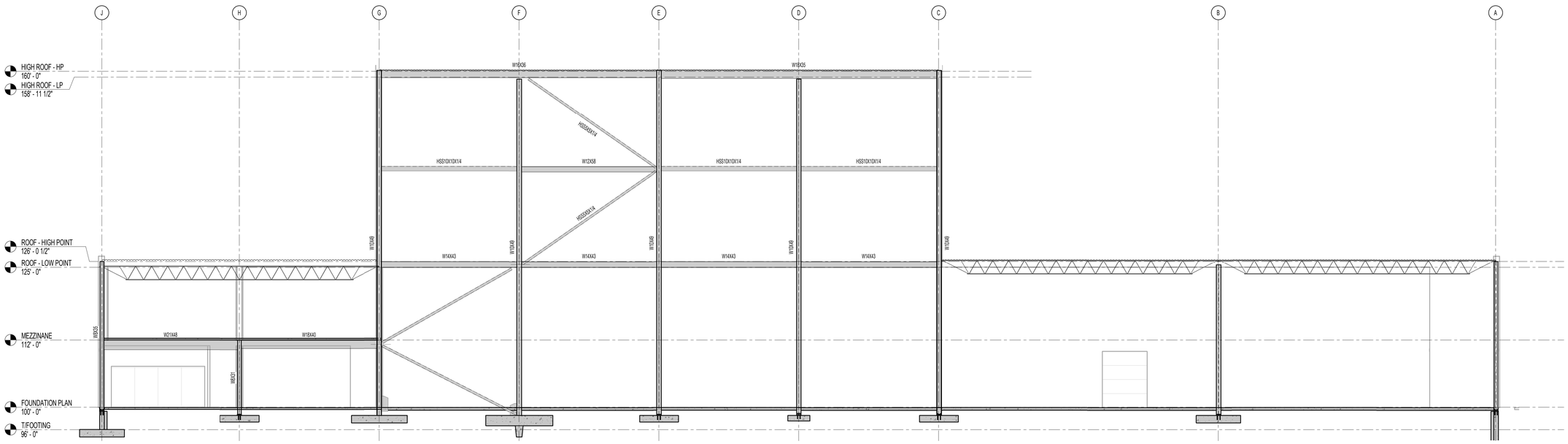
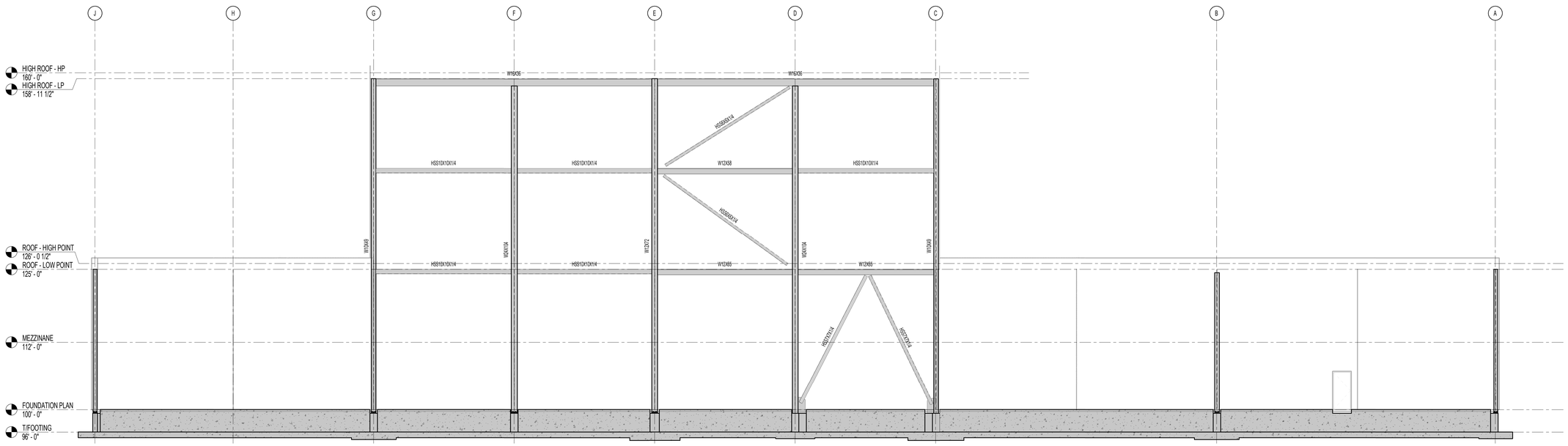


1 S401 BRACED FRAME - COLUMN LINE 1
1/8" = 1'-0"



2 S401 BRACED FRAME - COLUMN LINE 3
1/8" = 1'-0"



3 S401 BRACED FRAME - COLUMN LINE 5
1/8" = 1'-0"

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BRACED FRAME ELEVATIONS

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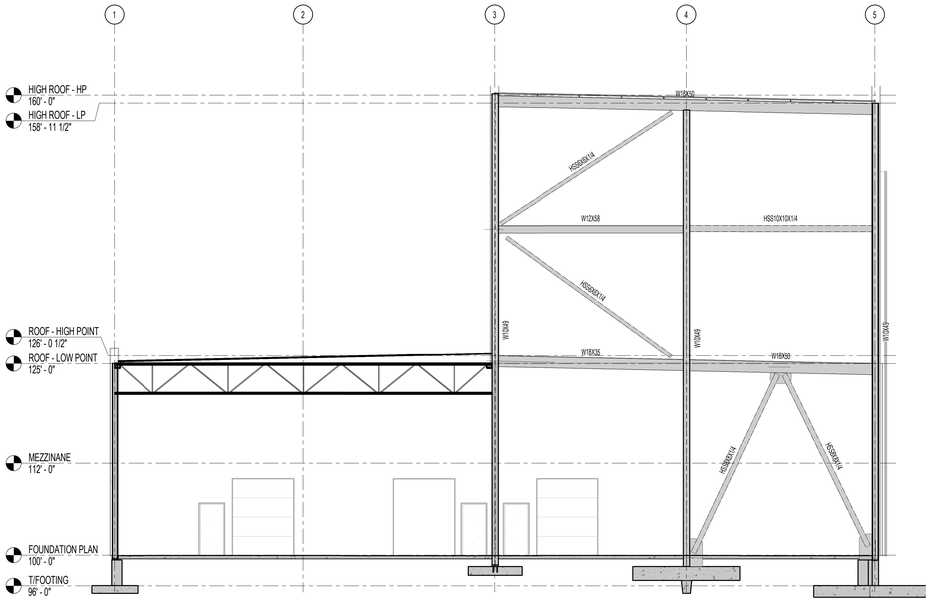
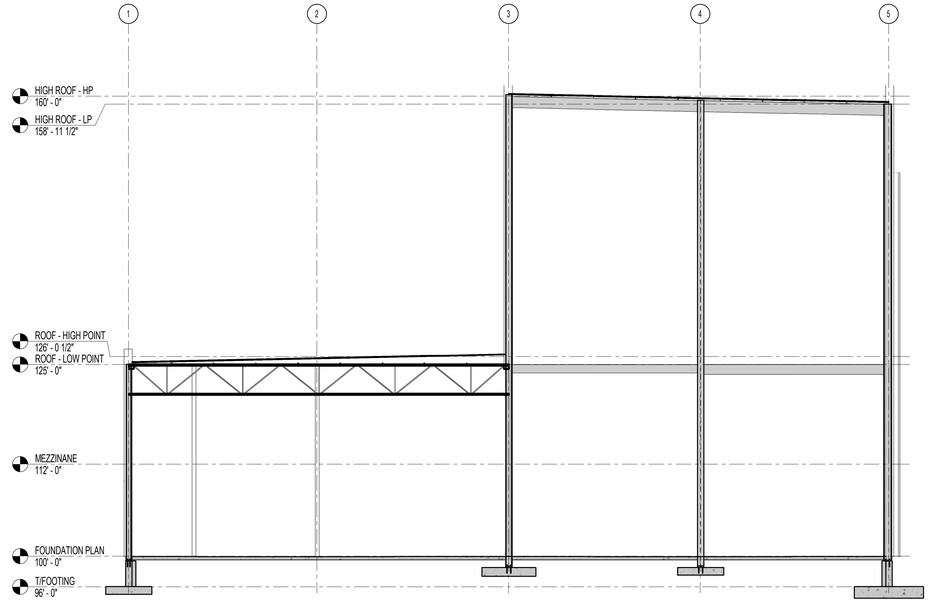
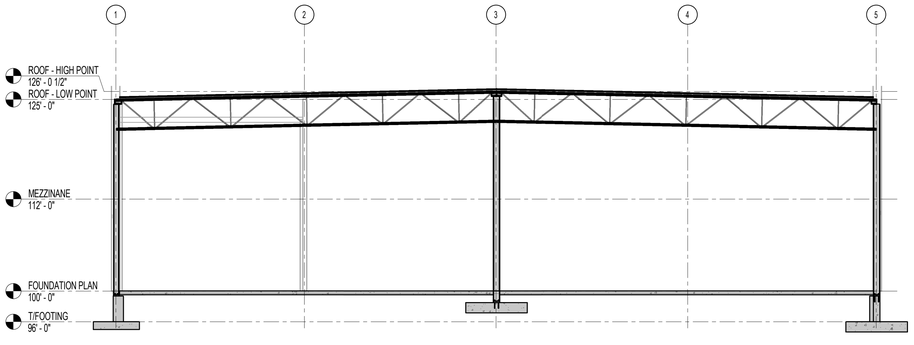


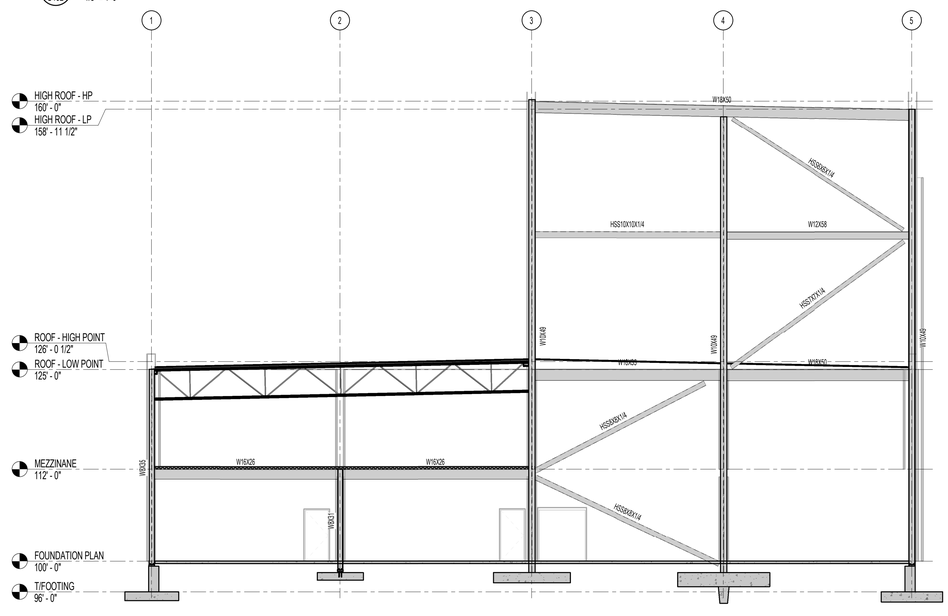
3 S402 BRACED FRAME - COLUMN LINE C
1/8" = 1'-0"



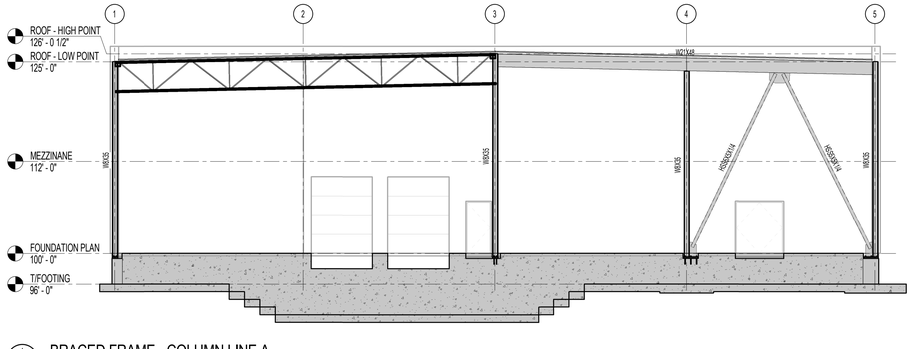
4 S402 BRACED FRAME - COLUMN LINE E
1/8" = 1'-0"



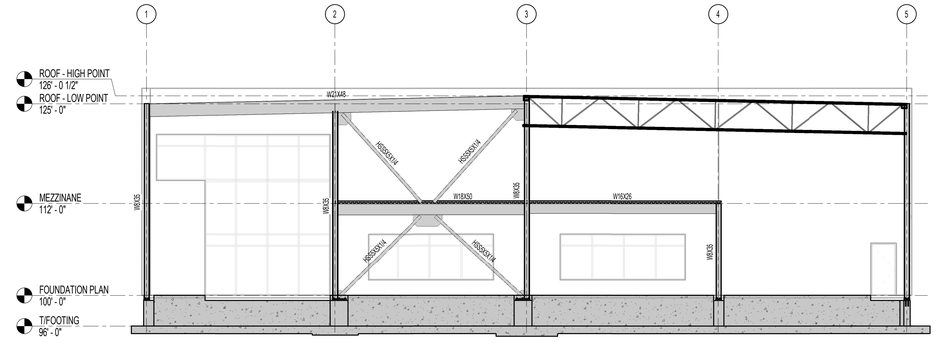
2 S402 BRACE FRAME - COLUMN LINE B
1/8" = 1'-0"



5 S402 BRACED FRAME - COLUMN LINE G
1/8" = 1'-0"



1 S402 BRACED FRAME - COLUMN LINE A
1/8" = 1'-0"



6 S402 BRACED FRAME - COLUMN LINE J
1/8" = 1'-0"

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BRACED FRAME ELEVATIONS

S402

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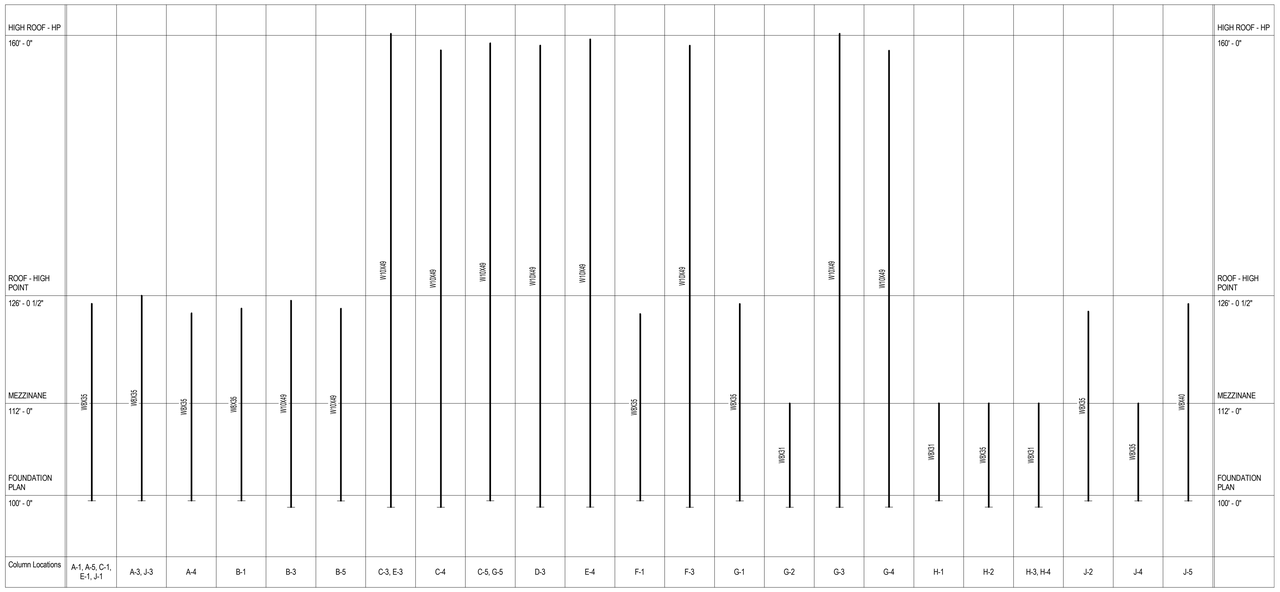
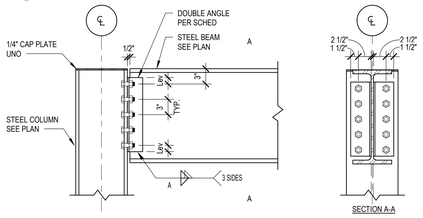
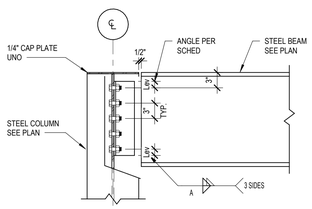


COLUMN SCHEDULE
1/8" = 1'-0"



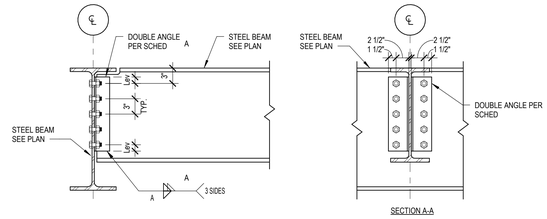
DOUBLE ANGLE CONNECTION SCHEDULE					
BEAM SIZE	BOLT QUANTITY	BOLT TYPE	ANGLE	WELD "A"	Lev
W8, W10	2	3/4" Ø A325-N	L4x3x5/16 (SLBB)	1/4"	1 1/4"
W12, W14	3				
W16	4				
W18	5				
W21	6				
W24, W27	7				
W30	8				
W33	9				
W36	10				

3 S501 STEEL BEAM TO WIDE FLANGE COLUMN FLANGE
1" = 1'-0"



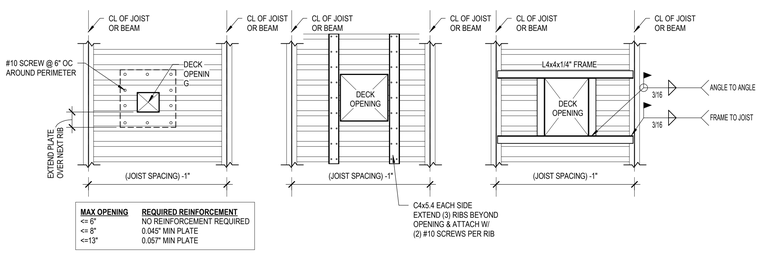
SINGLE PLATE CONNECTION SCHEDULE					
BEAM SIZE	BOLT QUANTITY	BOLT TYPE	ANGLE	WELD "A"	Lev
W8, W10	2	3/4" Ø A325-N	L4x3x5/16 (SLBB)	1/4"	1 1/4"
W12, W14	3				
W16	4				
W18	5				
W21	6				
W24, W27	7				
W30	8				
W33	9				
W36	10				

4 S501 STEEL BEAM TO WIDE FLANGE COLUMN WEB
1" = 1'-0"



DOUBLE ANGLE CONNECTION SCHEDULE					
BEAM SIZE	BOLT QUANTITY	BOLT TYPE	ANGLE	WELD "A"	Lev
W8, W10	2	3/4" Ø A325-N	L4x3x5/16 (SLBB)	1/4"	1 1/4"
W12, W14	3				
W16	4				
W18	5				
W21	6				
W24, W27	7				
W30	8				
W33	9				
W36	10				

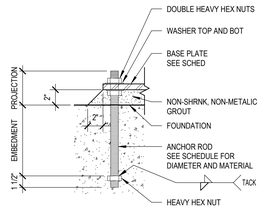
5 S501 STEEL BEAM CONNECTION TO STEEL BEAM
1" = 1'-0"



MAX OPENING	REQUIRED REINFORCEMENT
<= 6"	NO REINFORCEMENT REQUIRED
<= 8"	0.045" MIN PLATE
<=13"	0.057" MIN PLATE

DECK OPENINGS <= 13" **DECK OPENINGS <= 24"** **DECK OPENINGS > 24"**

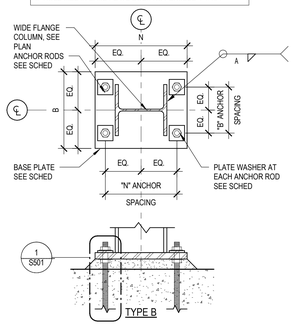
6 S501 05-300j REINFORCEMENT AT ROOF OPENINGS
1/2" = 1'-0"



1 S501 ANCHOR RODS
1 1/2" = 1'-0"

NOTE: PLATE WASHERS REQ'D AT EACH BASE PLATE. SEE AISC MANUAL FOR PLATE WASHER SIZE AND THICKNESS FOR EACH ANCHOR ROD DIAMETER.

EXCEPTION: 3/4" Ø ANCHOR RODS MAY OMIT PLATE WASHERS IF HOLE SIZE IN BASE PLATE DOES NOT EXCEED 1-1/16".



2 S501 BASE PLATES
1" = 1'-0"

STEEL COLUMN TAKEOFF					
TYPE	QUANTITY	WEIGHT PER FT	LENGTH	STRUCTURAL MATERIAL	TONNAGE
W8X31	1	31	13'	Steel ASTM A992	0.20
W8X31	3	31	41'	Steel ASTM A992	0.63
W8X35	1	35	13'	Steel ASTM A992	0.22
W8X35	1	35	14'	Steel ASTM A992	0.24
W8X35	2	35	49'	Steel ASTM A992	0.85
W8X35	2	35	50'	Steel ASTM A992	0.87
W8X35	6	35	154'	Steel ASTM A992	2.70
W8X35	2	35	53'	Steel ASTM A992	0.93
W8X40	1	40	26'	Steel ASTM A992	0.51
W10X49	1	49	25'	Steel ASTM A992	0.61
W10X49	1	49	27'	Steel ASTM A992	0.66
W10X49	6	49	359'	Steel ASTM A992	8.79
W10X49	1	49	61'	Steel ASTM A992	1.49
W10X49	3	49	185'	Steel ASTM A992	4.54
W12X72	1	72	60'	Steel ASTM A992	2.15
W24X104	2	104	117"	Steel ASTM A992	6.06
TOTAL	34		1244'		31.45

STEEL BEAM TAKEOFF						
TYPE	QUANTITY	WEIGHT PER FT.	LENGTH	REFERENCE LEVEL	STRUCTRUAL MATERIAL	TONNAGE
HSS5X5X1/4	5	15.6	118'	FOUNDATION PLAN	Steel ASTM A500, Grade B, Rectangular and Square	0.92
HSS5X5X1/4	3	15.6	66'	MEZZININE	Steel ASTM A500, Grade B, Rectangular and Square	0.51
HSS5X5X1/4	2	15.6	60'	ROOF - LOW POINT	Steel ASTM A500, Grade B, Rectangular and Square	0.47
HSS5X5X5/16	1	19	28'	FOUNDATION PLAN	Steel ASTM A500, Grade B, Rectangular and Square	0.26
HSS5X5X5/16	1	19	28'	MEZZININE	Steel ASTM A500, Grade B, Rectangular and Square	0.27
HSS6X6X1/4	2	19	61'	ROOF - LOW POINT	Steel ASTM A500, Grade B, Rectangular and Square	0.58
HSS6X6X1/4	3	19	89'	HIGH ROOF - LP	Steel ASTM A500, Grade B, Rectangular and Square	0.85
HSS7X7X1/4	2	22.4	56'	FOUNDATION PLAN	Steel ASTM A500, Grade B, Rectangular and Square	0.63
HSS7X7X1/4	1	22.4	31'	ROOF - LOW POINT	Steel ASTM A500, Grade B, Rectangular and Square	0.35
HSS8X8X1/4	3	25.8	86'	FOUNDATION PLAN	Steel ASTM A500, Grade B, Rectangular and Square	1.10
HSS8X8X1/4	1	25.8	28'	MEZZININE	Steel ASTM A500, Grade B, Rectangular and Square	0.36
HSS10X10X1/4	2	32.6	50'	ROOF - LOW POINT	Steel ASTM A992	0.82
HSS10X10X1/4	8	32.6	200'	HIGH ROOF - HP	Steel ASTM A992	3.26
W12X58	4	58	100'	HIGH ROOF - HP	Steel ASTM A992	2.90
W12X65	2	65	50'	ROOF - LOW POINT	Steel ASTM A992	1.63
W14X43	28	43	566'	FOUNDATION PLAN	Steel ASTM A992	12.17
W14X43	1	43	25'	ROOF - LOW POINT	Steel ASTM A992	0.54
W14X43	4	43	100'	ROOF - HIGH POINT	Steel ASTM A992	2.15
W16X26	4	26	99'	MEZZININE	Steel ASTM A992	1.29
W16X31	10	31	228'	MEZZININE	Steel ASTM A992	3.53
W16X36	2	36	75'	ROOF - LOW POINT	Steel ASTM A992	1.35
W16X36	2	36	100'	HIGH ROOF - LP	Steel ASTM A992	1.80
W16X36	1	36	50'	HIGH ROOF - HP	Steel ASTM A992	0.90
W18X35	2	35	50'	ROOF - LOW POINT	Steel ASTM A992	0.88
W18X35	1	35	50'	HIGH ROOF - HP	Steel ASTM A992	0.88
W18X40	3	40	75'	MEZZININE	Steel ASTM A992	1.50
W18X40	2	40	50'	HIGH ROOF - HP	Steel ASTM A992	1.00
W18X50	1	50	25'	MEZZININE	Steel ASTM A992	0.63
W18X50	2	50	50'	ROOF - LOW POINT	Steel ASTM A992	1.25
W18X50	2	50	100'	HIGH ROOF - HP	Steel ASTM A992	2.50
W21X48	5	48	105'	MEZZININE	Steel ASTM A992	2.52
W21X48	2	48	99'	ROOF - LOW POINT	Steel ASTM A992	2.37
TOTAL	112		2899'			52.14

BAR JOIST TAKEOFF					
TYPE	QUANTITY	BAR JOIST WEIGHT	LENGTH	REFERENCE LEVEL	TONNAGE
30K8	72	13.2	3590'	ROOF - LOW POINT	23.69
30K10 JOIST	16	15	800'	HIGH ROOF - HP	6.00
48G9N7.0K	2	40	100'	ROOF - LOW POINT	1.99
48G9N13.9K	5	69	240"	ROOF - LOW POINT	8.52
TOTAL	95		4733"		40.21

COMPOSITE SLAB TAKEOFF							
TYPE	LEVEL	COUNT	AREA	CONCRETE WEIGHT (psf)	DECK WEIGHT	CONCRETE VOLUME	DECK TONNAGE
2" CONCRETE ON 2" x 20GA COMPOSITE DECK	MEZZININE	1	2579 SF	36	1.89 psf	23.7 CY	2.4
TOTAL			2579 SF			23.7 CY	2.4

ROOF DECK TAKEOFF					
TYPE	LEVEL	COUNT	AREA	DECK WEIGHT	DECK TONNAGE
1 1/2" x 22GA METAL ROOF DECK	ROOF - HIGH POINT	2	19609 SF	1.63 psf	15.98
1 1/2" x 22GA METAL ROOF DECK	HIGH ROOF - HP	1	4959 SF	1.63 psf	4.04
TOTAL			24569 SF		20.02

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STEEL FRAMING DETAILS

S501

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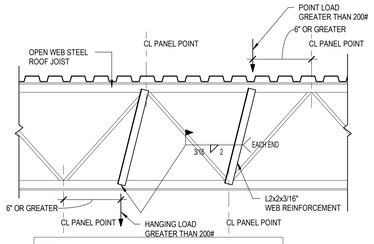
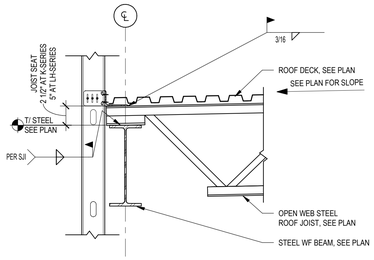
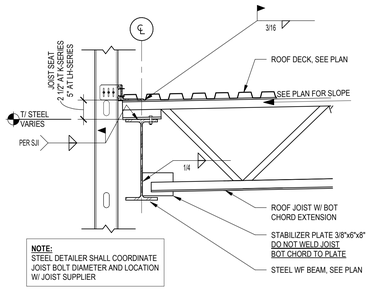


NOTE:
1. JOIST WEB REINFORCING TO BE COMPLETED BY CONTRACTOR IMPOSING THE POINT LOAD.
2. TYPICAL AT ALL LOCATIONS WHERE CONCENTRATED LOAD OCCURS BETWEEN JOIST PANEL POINTS.
3. WELD SIZES NOT TO EXCEED BASE METAL THICKNESS.

1 S502 TYPICAL JOIST REINFORCEMENT DETAIL
3/4" = 1'-0"

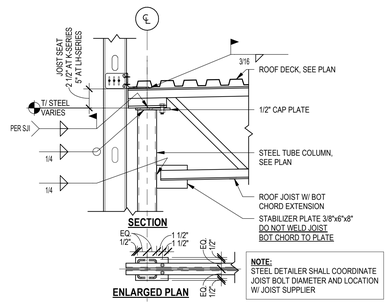


2 S502 JOIST BEARING AT PERIMETER BEAM
3/4" = 1'-0"



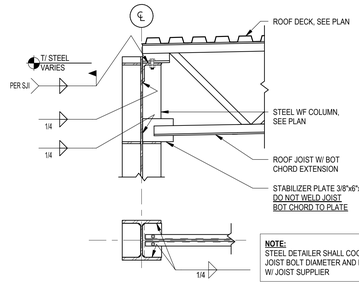
NOTE:
STEEL DETAILER SHALL COORDINATE JOIST BOLT DIAMETER AND LOCATION W/ JOIST SUPPLIER

3 S502 BOLTED JOIST CONNECTION AT BEAM
3/4" = 1'-0"



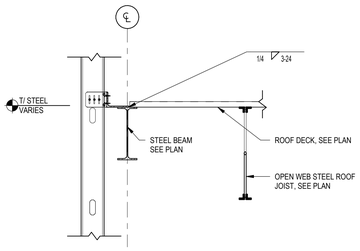
NOTE:
STEEL DETAILER SHALL COORDINATE JOIST BOLT DIAMETER AND LOCATION W/ JOIST SUPPLIER

4 S502 BOLTED JOIST BEARING AT EXT TUBE COL
3/4" = 1'-0"

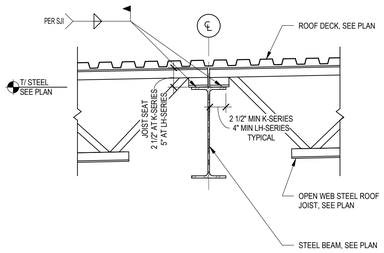


NOTE:
STEEL DETAILER SHALL COORDINATE JOIST BOLT DIAMETER AND LOCATION W/ JOIST SUPPLIER

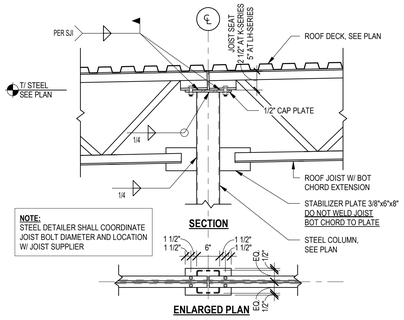
5 S502 BOLTED JOIST BEARING AT EXT WF COL
3/4" = 1'-0"



6 S502 JOIST PARALLEL AT PERIMETER BEAM
3/4" = 1'-0"



7 S502 JOIST BEARING AT INTERIOR BEAM
3/4" = 1'-0"



NOTE:
STEEL DETAILER SHALL COORDINATE JOIST BOLT DIAMETER AND LOCATION W/ JOIST SUPPLIER

8 S502 BOLTED JOIST BEARING AT COLUMN
3/4" = 1'-0"

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STEEL JOIST DETAILS

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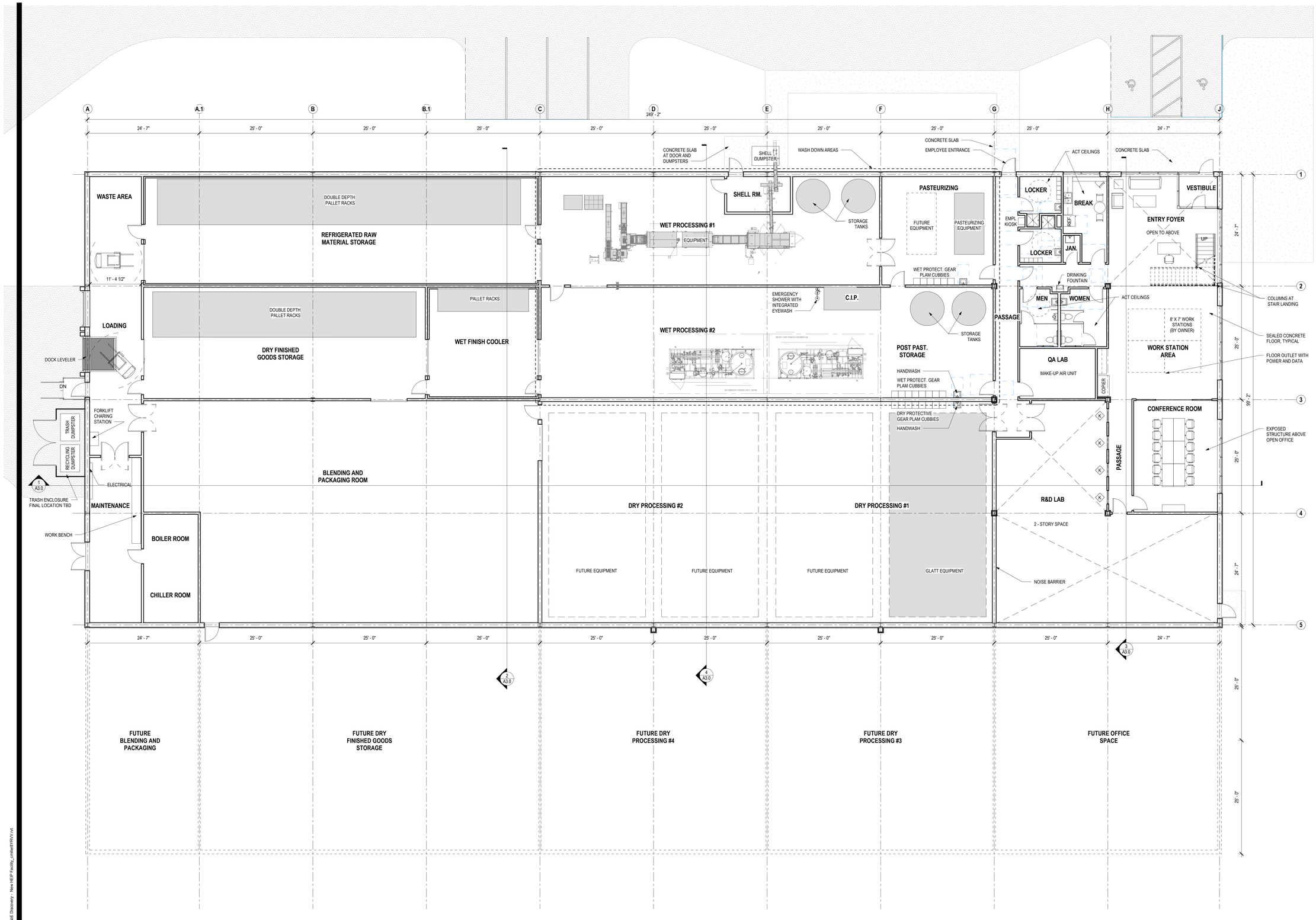

1 FIRST FLOOR PLAN
1/8" = 1'-0"

0' 2' 4' 8'

NORTH

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FIRST FLOOR PLAN

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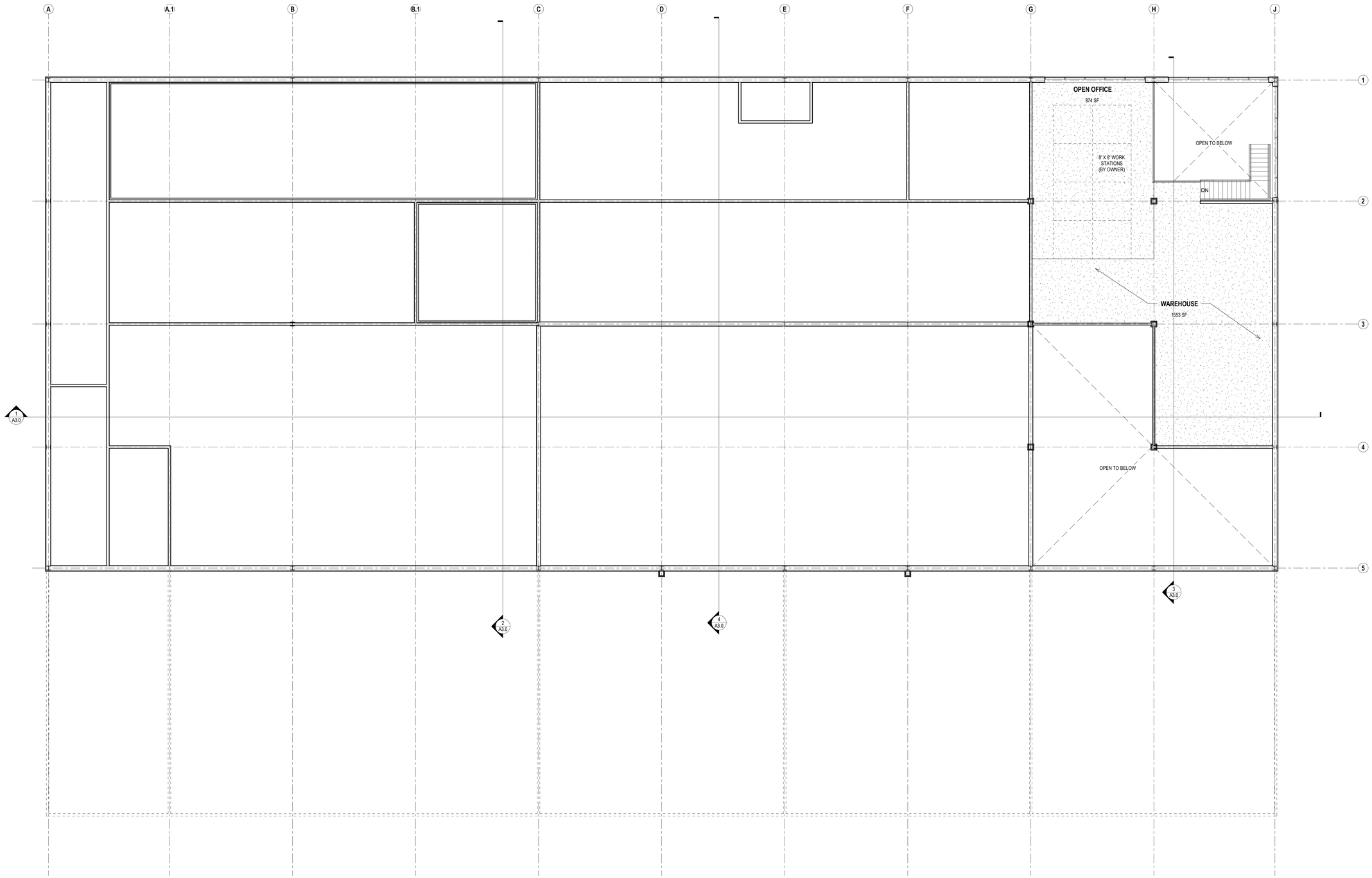

1 **MEZZANINE FLOOR PLAN**
1/8" = 1'-0"

0' 2' 4' 8'

NORTH

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MEZZANINE FLOOR PLAN

A1.2

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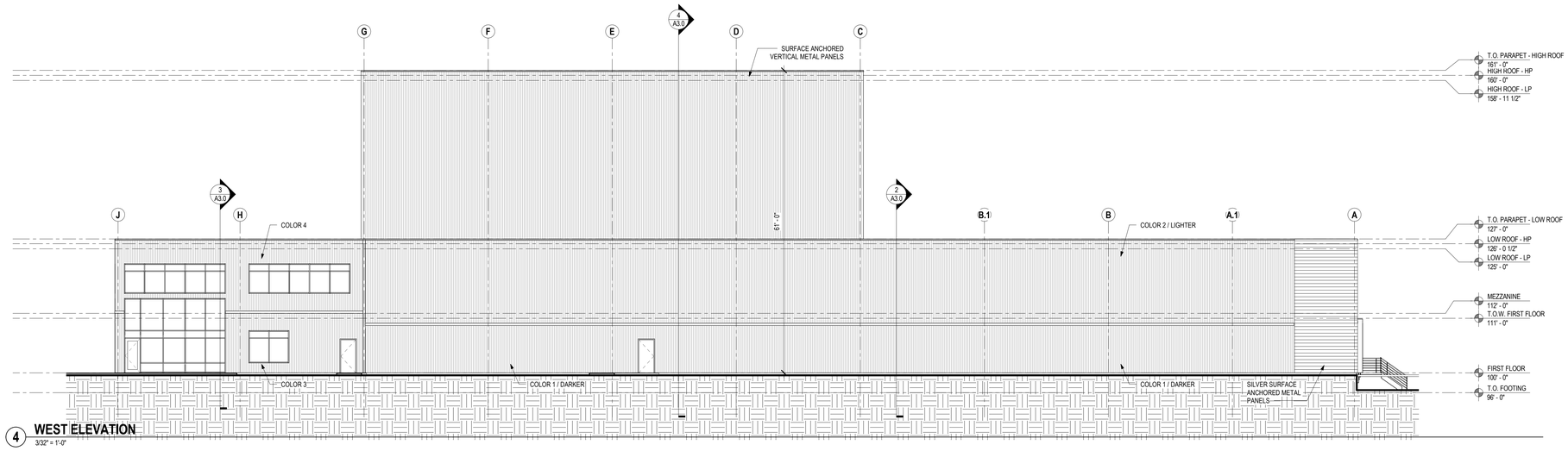
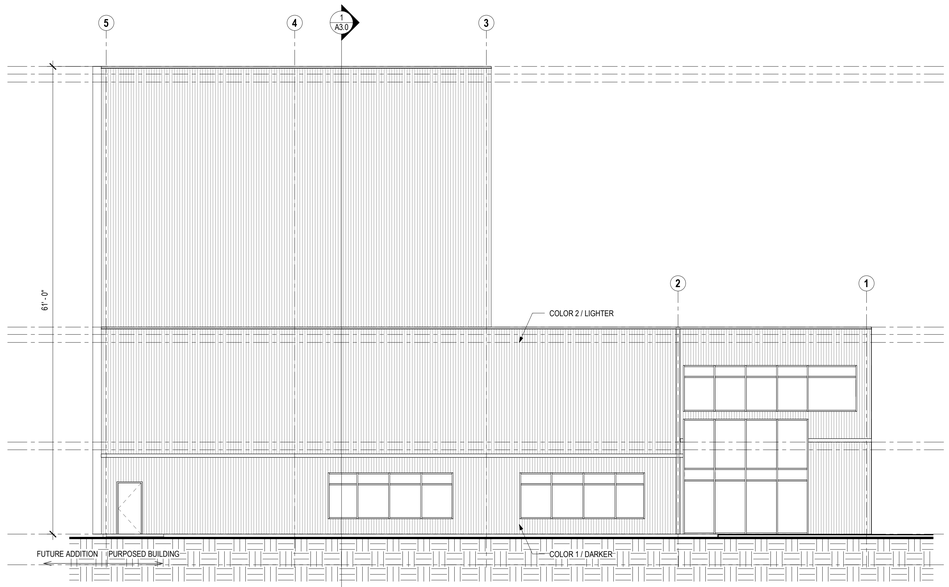
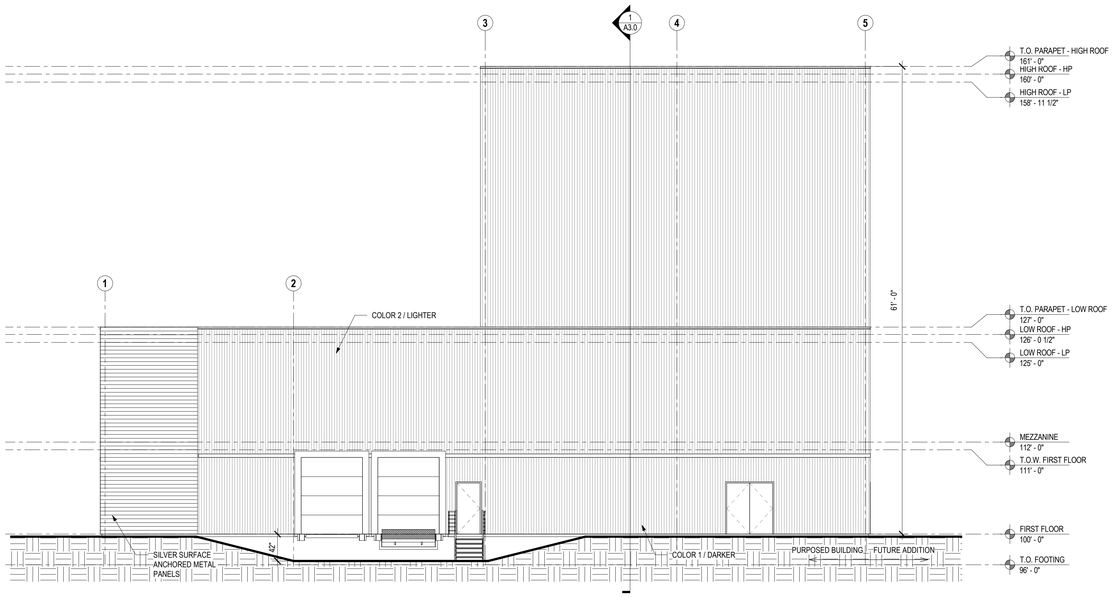


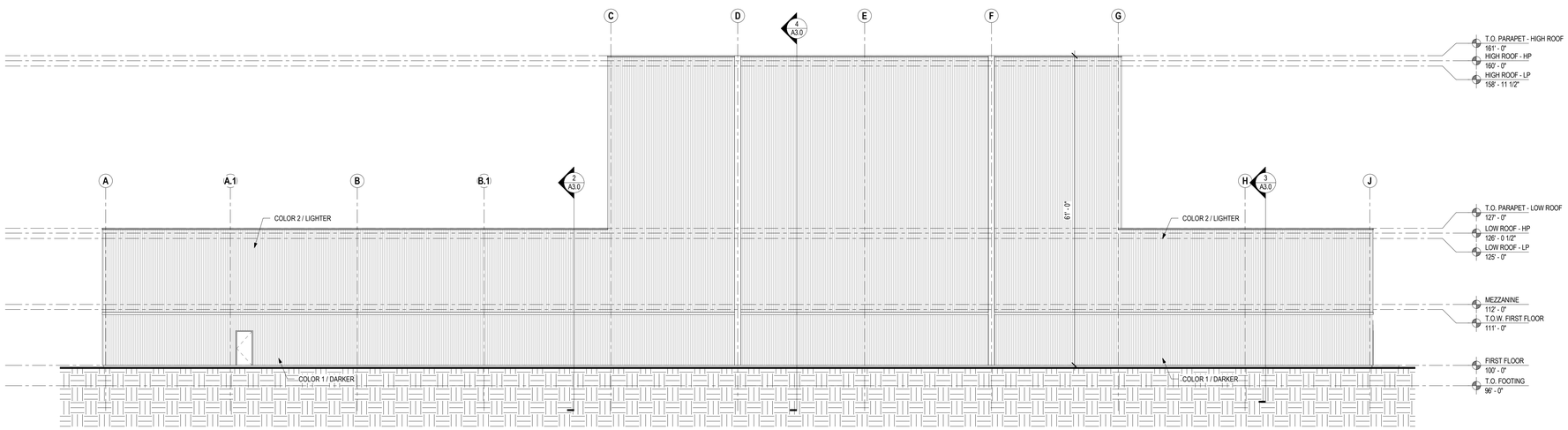
4 WEST ELEVATION
3/32" = 1'-0"



3 NORTH ELEVATION
1/8" = 1'-0"



1 SOUTH ELEVATION
1/8" = 1'-0"



2 EAST ELEVATION
3/32" = 1'-0"

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EXTERIOR ELEVATIONS

A2.0

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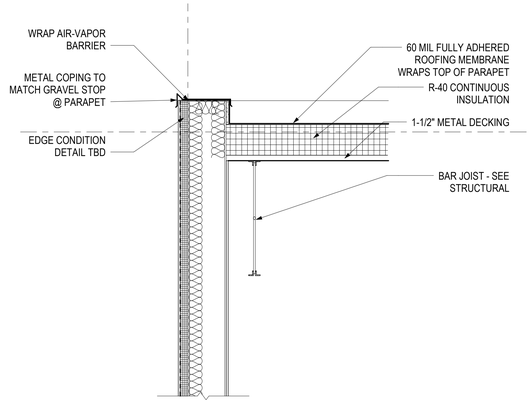
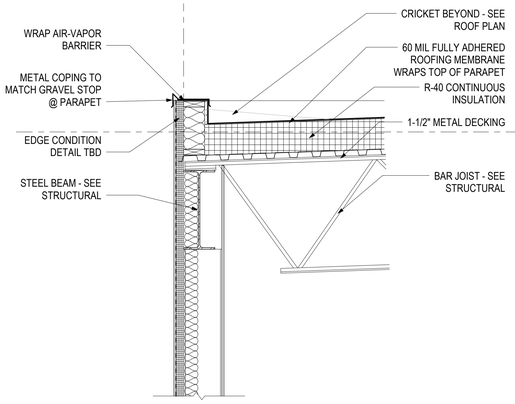
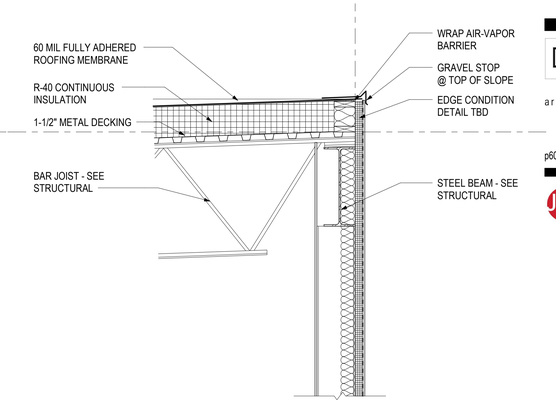


7 **TYPICAL WALL - PARAPET AT UNBRACED STRUCTURE**
3/4" = 1'-0"



6 **TYPICAL WALL - PARAPET AT BOTTOM OF SLOPE**
3/4" = 1'-0"



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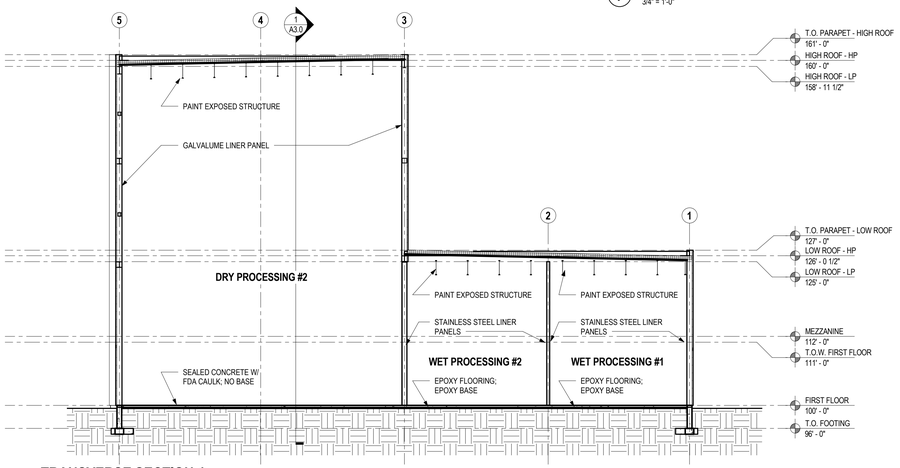
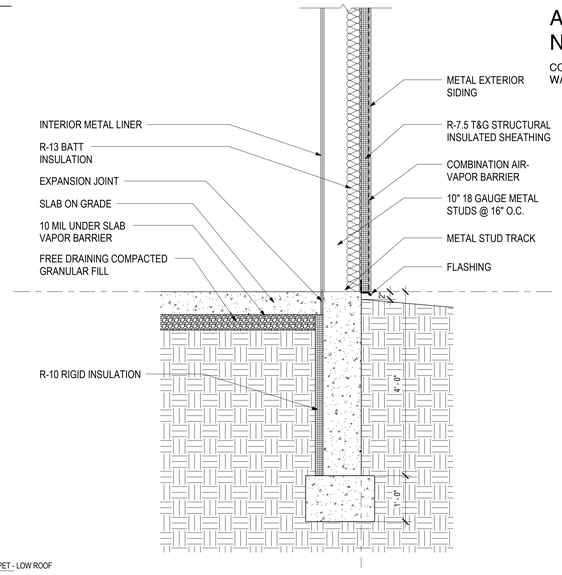
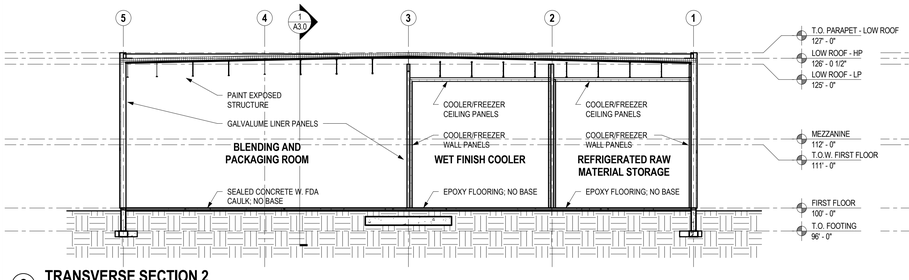


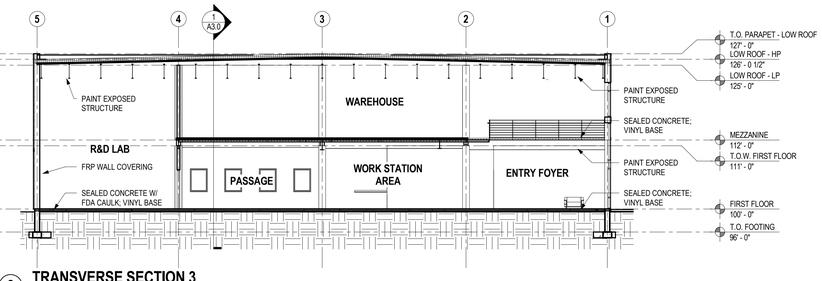
4 **TRANSVERSE SECTION 4**
3/32" = 1'-0"



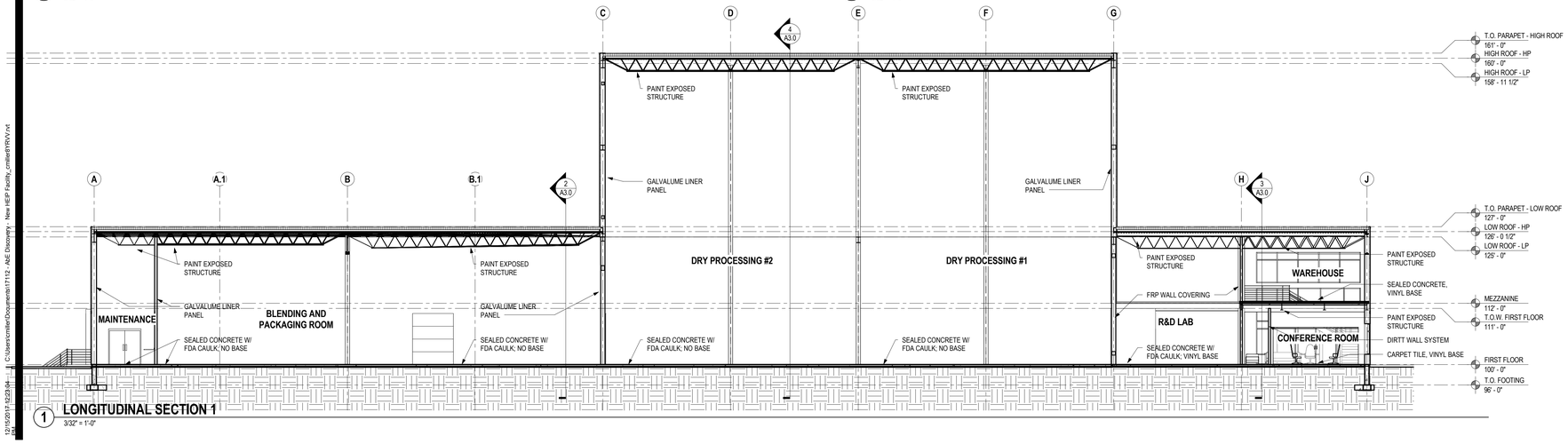
5 **TYPICAL WALL SECTION**
3/4" = 1'-0"



2 **TRANSVERSE SECTION 2**
3/32" = 1'-0"



3 **TRANSVERSE SECTION 3**
3/32" = 1'-0"



1 **LONGITUDINAL SECTION 1**
3/32" = 1'-0"

DATE OF ISSUE: 12/20/17

PRELIMINARY
Not for Construction

PROJECT # 17112

WALL AND BUILDING SECTIONS

A3.0

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