# PROJECT: ROLL-OFFS OF DES MOINES

02/24/2025 SR JS

REVISED:

PROJECT:

# ROLL OFFS OF DES MOINES

1649 E COURT AVENUE, DES MOINES, IA 50316



**ISSUED FOR: 75% CD - BUDGET SET** 

### OWNER

### **ROLL-OFF OF DES MOINES**

20 E. 18TH ST DES MOINES, IA 50316 CONTACT: TONY HOLT 515-441-2275

### STRUCTURAL ENGINEER:

### LONG ENGINEERING

URBANDALE, IA 50323 CONTACT: BEN LONG 515-361-5440

### ARCHITECT:

## 617 N. SW 3RD ST ST. 108

617 N. SW 3RD ST ST. 108 ANKENY, IA 50023 CONTACT: KARL CHAMBERS 515-965-5336

### MECHANICAL / ELECTRICAL ENGINEER:

3737 WOODLAND AVE SUITE 420
WEST DES MOINES, IA 50266
CONTACT: CASEY ADAMS
515-452-8341

### CIVIL ENGINEER:

## CIVIL ENGINEERING CONSULTANTS

2400 86TH ST. #12 URBANDALE, IA 50322 CONTACT: PAT SHEPARD 515-276-4884



VICINITY MAP

	SHEET LIST
NO.	SHEET NAME
OFNER	241
GENEF G000	COVER SHEET
G000	COVER SHEET
STRUC	CTURAL
S001	GENERAL NOTES
S100	FOUNDATION PLAN
S101	LOWER LEVEL SLAB PLAN
S102	UPPER LEVEL FLOOR FRAMING PLAN
S103	UPPER LEVEL SLAB & FLOOR PLATE PLAN
S104	ROOF FRAMING PLAN
S300	STRUCTURAL BUILDING SECTIONS
S301	STRUCTURAL SECTIONS
S501	FOUNDATION DETAILS
S502	FOUNDATION DETAILS
S503	FLOOR FRAMING DETAILS
S505	ROOF FRAMING DETAILS
ARCHI <sup>*</sup>	TECTURE
A102	UPPER LEVEL
A104	ROOF PLAN
A200	EXTERIOR ELEVATIONS
A501	EXTERIOR DETAILS
A000	ARCHITECTURAL GENERAL INFORMATION
A001	ACCESSIBILITY
A010	CODE PLAN REVIEW
A101	LOWER LEVEL
A151	REFLECTED CEILING PLAN
A152	REFLECTED CEILING PLAN
A300	BUILDING SECTIONS
A301	BUILDING SECTIONS
A350	WALL SECTIONS
A351	WALL SECTIONS
A500	EXTERIOR DETAILS
A600	DOOR & FRAME SCHEDULE
A601	GARAGE OPENINGS

PLUME	BING
P000	PLUMBING NOTES & SCHEDULES
P100	LOWER LEVEL UNDERFLOOR PLUMBING PLAN
P101	LOWER LEVEL PLUMBING PLAN
P102	UPPER LEVEL PLUMBING PLAN
MECH	ANICAL
M000	MECHANICAL NOTES & SCHEDULES
M101	LOWER LEVEL MECHANICAL PLAN
M102	UPPER LEVEL MECHANICAL PLAN
ELECT	RICAL
E000	ELECTRICAL NOTES & SCHEDULES
E101	LOWER LEVEL ELECTRICAL PLAN
E102	UPPER LEVEL ELECTRICAL PLAN
E201	LOWER LEVEL LIGHTING PLAN
F202	UPPER LEVEL LIGHTING PLAN

ELIMINARY - NOT F

G000

MPRINT

ARCHITECTS

1605 N. ANKENY BLVD #130 ANKENY, IOWA 50023 PHONE: (515) 965-5336 FAX: (515) 965-5335 info@imprintarchitects.com

DESIGN DATA 1. CODES AND STANDARDS 2021 INTERNATIONAL BUILDING CODE ASCE/SEI 7-16 "MINIMUM DESIGN LOADS FOR BUILDINGS AND OTHER STRUCTURES" 2. RISK CATEGORY 3. ROOF LIVE LOADS: ROOF LIVE LOAD:

> GROUND SNOW LOAD Pg = 30 PSFSNOW EXPOSURE FACTOR: SNOW THERMAL FACTOR Ct = 1.10SNOW LOAD IMPORTANCE FACTOR: ROOF SNOW LOAD: Pf = 24 PSFPLUS ALLOWANCE FOR DRIFTED AND UNBALANCED SNOW PER ASCE/SEI 7-16

4. FLOOR LIVE LOADS STAIRS & EXITS: 150 PSF OR POSTED LOADS MECHANICAL ROOMS UPPER LEVEL BAYS: LOWER LEVEL BAYS: 250 PSF ULTIMATE DESIGN WIND SPEED: 115 MPH EXPOSURE CATEGORY: WIND DIRECTIONAL FACTOR INTERNAL PRESSURE COEFFICIENT: ± 0.55 SEISMIC LOAD: SPECTRAL ACCELERATIONS S1 = .052SITE COEFFICIENTS: DESIGN SPECTRAL RESPONSE ACCELERATION: Sd1 = 0.083SEISMIC DESIGN CATEGORY SEISMIC IMPORTANCE FACTOR: le = 1.07. FOUNDATION DESIGN: GEOTECHNICAL ENGINEER **TERRACON** 

REPORT NUMBER

REQUIRED NET ALLOWABLE BEARING PRESSURE

UPPER LEVEL FOUNDATIONS

LOWER LEVEL FOUNDATIONS

I. ELEVATIONS NOTED THUS (120'-8") ARE TO TOP OF SLABS, BEAMS OR OTHER STRUCTURAL FEATURES WITH REFERENCE TO THE LOWER LEVEL FINISHED FLOOR ELEVATION = 100'-0".

2. CONTRACTOR SHALL FIELD VERIFY EXISTING CONDITIONS, ELEVATIONS, AND DIMENSIONS PRIOR TO START OF CONSTRUCTION, AND NOTIFY ARCHITECT OF ANY DISCREPANCIES FOUND AT THE SITE IN RELATION TO INFORMATION IN THE CONTRACT DOCUMENTS.

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1 500 PSF

2,500 PSF

3. DIMENSIONS MARKED V.I.F. REQUIRE FIELD VERIFICATION BY THE CONTRACTOR.

4. CONTRACTOR SHALL NOTIFY ARCHITECT IMMEDIATELY OF ANY DISCREPANCIES FOUND BETWEEN STRUCTURAL DOCUMENTS AND ARCHITECTURAL, MECHANICAL, ELECTRICAL OR SITE DOCUMENTS OR BETWEEN DRAWINGS AND SPECIFICATIONS.

5. VERIFY SIZE AND LOCATION OF ALL OPENINGS OR INSERTS AS REQUIRED BY MECHANICAL ELECTRICAL OR PLUMBING CONTRACTORS. ANY OPENINGS OR INSERTS SHOWN ON STRUCTURAL DRAWINGS ARE FOR GENERAL INFORMATION ONLY AND SHALL BE VERIFIED PRIOR TO FRAMING.

6. NO BEAMS, JOISTS, COLUMNS OR SLABS SHALL BE FIELD CUT OR MODIFIED WITHOUT THE STRUCTURAL ENGINEERS WRITTEN APPROVAL. 7. THE STRUCTURAL CONTRACT DOCUMENTS REPRESENT THE FINISHED STRUCTURE. THEY DO NOT INDICATE THE MEANS AND METHODS OF CONSTRUCTION, UNLESS NOTED OR INDICATED OTHERWISE.

8. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING ALL TEMPORARY SHORING OR BRACING OF WALLS, COLUMNS, BEAMS, JOISTS, ETC. AS REQUIRED TO PREVENT EXCESSIVE STRESSES IN THE STRUCTURAL ELEMENTS AND TO HOLD THEM IN PLACE DURING CONSTRUCTION.

9. THE CONTRACTOR IS RESPONSIBLE FOR COMPLYING WITH ALL APPLICABLE LOCAL, STATE, AND FEDERAL LAWS, ORDINANCES, LAWS, AND REGULATIONS PERTAINING TO CONSTRUCTION SAFETY.

10. OBSERVATION VISITS TO THE SITE BY STRUCTURAL ENGINEER'S FIELD REPRESENTATIVES SHALL

1. SHOP DRAWINGS. MIX DESIGNS, PRODUCT DATA AND CALCULATIONS SHALL BE SUBMITTED FOR APPROVAL FOR ALL STRUCTURAL COMPONENTS AND/OR SYSTEMS PRIOR TO THEIR CONSTRUCTION. REFER TO PROJECT MANUAL FOR SUBMITTAL PROCEDURES.

A. CONCRETE & REINFORCEMENT I. CONCRETE MIX DESIGNS 3. SLAB-ON-GRADE JOINT LAYOUT B. STRUCTURAL STEEL 1. ANCHOR BOLT LAYOUT 2. LINTELS & EMBEDS FOR MASONRY 3. ERECTION & PIECE DRAWINGS FOR FRAMING 4. ERECTION & PIECE DRAWINGS FOR STAIRS & MISCELLANEOUS METALS 5. STRUCTURAL CALCULATIONS FOR STAIRS C. LIGHT GAGE FRAMING 1 PRODUCT DATA D. TEMPORARY SUPPORTS, SHORING, AND BRACING 1. LAYOUT AND SEQUENCING DRAWINGS

2. ANY ENGINEERING DESIGN PROVIDED BY OTHERS AND SUBMITTED FOR REVIEW OR RECORD SHALL BEAR THE STAMP AND SIGNATURE OF A PROFESSIONAL STRUCTURAL ENGINEER REGISTERED IN THE

2. STRUCTURAL CALCULATIONS

3. CONTRACTOR IS RESPONSIBLE TO CHECK SHOP DRAWINGS, ETC. PRIOR TO SUBMITTAL TO ARCHITECT OR ENGINEER. SHOP DRAWINGS NOT CHECKED WILL BE RETURNED. CONTRACTOR SHALL VERIFY DIMENSIONS, QUANTITIES, AND COORDINATE WITH ALL OTHER TRADES.

SPECIAL INSPECTION

1. A SPECIAL INSPECTION PROGRAM SHALL BE PERFORMED IN ACCORDANCE WITH CHAPTER 17 OF THE INTERNATIONAL BUILDING CODE AND THE PROJECT MANUAL.

2. THE SPECIAL INSPECTION PROGRAM SHALL BE PERFORMED BY AN INDEPENDENT AGENCY HIRED DIRECTLY BY THE OWNER.

3. A SPECIAL INSPECTION AND TESTING PROGRAM REVIEW MEETING IS REQUIRED PRIOR TO CONSTRUCTION. THE STRUCTURAL ENGINEER, SPECIAL INSPECTOR, LOCAL BUILDING INSPECTOR GENERAL CONTRACTOR, AND ALL SUBCONTRACTORS PERFORMING STRUCTURAL WORK SHALL BE IN

4. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO INFORM THE SPECIAL INSPECTION & TESTING AGENCY AT LEAST ONE WORKING DAY PRIOR TO PERFORMING ANY WORK THAT REQUIRES SPECIAL INSPECTION & TESTING. WORK PERFORMED WITHOUT REQUIRED SPECIAL INSPECTIONS & TESTS IS

5. THE FOLLOWING ITEMS SHALL BE INCLUDED IN THE SPECIAL INSPECTION PROGRAM:

A. SPECIAL GRADING, EXCAVATION AND FILLING 1. SUBGRADE PREPARATION 2. VERIFY COMPACTION OF FILL MATERIAL 3. VERIFY DESIGN BEARING CAPACITY 4. EXPANSIVE SOIL CHARACTERISTICS B. STEEL REINFORCEMENT 1 PLACEMENT INSPECTION 2. WELDED REINFORCEMENT C. CONCRETE 1. AIR TESTS

2. SLUMP TESTS 3. CONCRETE TEMPERATURE 4. COMPRESSION TESTS D. BOLTS INSTALLED IN CONCRETE 1. PRIOR TO AND DURING CONCRETE PLACEMENT 2. POST INSTALLED ANCHORS E. STRUCTURAL WELDING (PERIODIC VISUAL INSPECTIONS)

1. SINGLE PASS FILLET WELDS 2. STEEL DECK WELDED STUDS 4. COLD FORMED STUDS & JOISTS 5. STAIR & RAILING SYSTEMS F. HIGH STRENGTH BOLTING

ALL SNUG TIGHT

6. AS PRESCRIBED IN CHAPTER 17 OF THE INTERNATIONAL BUILDING CODE, SPECIAL INSPECTIONS ARE NOT REQUIRED FOR STRUCTURAL STEEL FABRICATION PROVIDED THAT THE WORK IS DONE ON THE PREMISES OF A FABRICATOR THAT IS AISC CERTIFIED.

FOOTINGS AND FOUNDATIONS

1. FOUNDATION DESIGN IS IN ACCORDANCE WITH RECOMMENDATIONS MADE IN GEOTECHNICAL

2. FOOTINGS AND FOUNDATIONS SHALL BEAR ON FIRM, UNDISTURBED SOIL OR COMPACTED, ENGINEERED FILL WITH A MINIMUM NET ALLOWABLE BEARING CAPACITY LISTED IN DESIGN DATA.

3. FOOTING ELEVATIONS AND SOIL BEARING CAPACITIES SHOWN ON THE DRAWINGS ARE ESTIMATED FROM THE GEOTECHNICAL REPORT. FINAL ELEVATIONS AND BEARING CAPACITIES SHALL BE FIELD VERIFIED BY THE OWNER'S GEOTECHNICAL ENGINEER. NOTIFY STRUCTURAL ENGINEER WHEN

REQUIRED NET ALLOWABLE BEARING PRESSURE IS NOT ACHIEVED 4. ALL FOOTINGS SHALL BE EXTENDED TO FROST DEPTH AND BEAR 3'-6" BELOW ACTUAL GRADE DURING WINTER CONSTRUCTION SITUATIONS. CONSULT STRUCTURAL ENGINEER FOR

REINFORCEMENT REVISIONS. 5. CENTER THE FOOTINGS UNDER COLUMNS OR WALLS, UNLESS NOTED OTHERWISE.

6. WALLS BACKFILLED ON ONE SIDE ONLY SHALL BE BRACED, UNTIL BACKFILL AND TOP AND BOTTOM ADJACENT SLABS ARE IN PLACE.

7. EXTEND REINFORCING IN CONTINUOUS WALL FOOTINGS 2'-0" MINIMUM INTO ADJACENT COLUMN PAD

8. "TRANSVERSE" FOOTING REINFORCING, WHERE INDICATED SHALL BE IN THE BOTTOM LAYER AND TIED TO THE CONTINUOUS REINFORCING.

9. PROVIDE DOWELS FROM TOP OF FOOTINGS AT ALL WALLS AND COLUMNS. MATCH SIZE AND SPACING OF VERTICAL REINFORCING. LAP 48 DIAMETERS UNLESS NOTED OTHERWISE. 10. INSTALL ANCHOR BOLTS AND DOWELS FROM TOP OF FOOTINGS OR FOUNDATIONS ACCURATELY.

SET WITH TEMPLATES, AND PROTECT FROM DAMAGE OR MOVEMENT. INSERTING BOLTS OR DOWELS INTO PARTIALLY SET CONCRETE IS PROHIBITED. 11. PROVIDE SLEEVES FOR ALL DUCTS, PIPES, UTILITY LINES AND OTHER PENETRATIONS THROUGH

TRENCH FOOTINGS OR FOUNDATION WALLS. CORE DRILLING IS NOT PERMITTED.

12. SLOPE DRAIN TILE UNIFORMLY 1/8" PER FOOT MINIMUM. [SEE CIVIL DRAWINGS FOR CONNECTIONS AND PIPING TO DRAINAGE STRUCTURES.]

1. SLABS-ON-GRADE SHALL BE PLACED ON 6" MINIMUM DRAINAGE FILL (FREE-DRAINING GRANULAR BASE MATERIAL) MEETING IOWA DOT SPECIFICTION SECTION 4121 REQUIREMENTS.

2. PREPARE SUBGRADE IN ACCORDANCE WITH GEOTECHNICAL REPORT.

4. SLABS-ON-GRADE SHALL BE SEPARATED FROM ALL VERTICAL SURFACES BY EXPANSION JOINTS. 5. PROVIDE CONTROL JOINTS IN SLABS-ON-GRADE AS SHOWN ON THE DRAWINGS. JOINTS SHALL BE

1/8" WIDE BY 1/4 OF THE SLAB THICKNESS. CUTTING OPERATIONS SHALL BE AS SOON AS POSSIBLE AFTER PLACING CONCRETE WITHOUT RAVELING EDGES. 6. CONTRACTOR SHALL SUBMIT PROPOSED JOINT LAYOUT FOR APPROVAL WHEN JOINTS ARE NOT SHOWN ON DRAWINGS. MAXIMUM SPACING OF JOINTS SHALL BE 30 TIMES THE SLAB THICKNESS IN

ANY DIRECTION. JOINT LAYOUT SHALL FORM A REGULAR GRID PATTERN WITH JOINTS INTERSECTING AT 90 DEGREES AND AT COLUMNS WHERE POSSIBLE. MAXIMUM RATIO OF LONG SIDE TO SHORT SIDE SHALL NOT EXCEED 1.5 WHEN SLAB AREAS ARE NOT SQUARE.

7. CONSTRUCTION JOINTS IN SLABS-ON-GRADE SHALL BE AT CONTROL JOINT LOCATIONS AS IDENTIFIED ABOVE WHEN ENTIRE FLOOR SLAB IS NOT PLACED IN ONE SEQUENCE. SEE DETAILS FOR PLATE DOWEL AND LOAD BASKET REQUIREMENTS.

8. REFER TO ARCHITECTURAL DRAWINGS FOR LOCATIONS OF DEPRESSIONS IN SLABS-ON-GRADE.

1. CONCRETE WORK SHALL BE IN ACCORDANCE WITH "SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BUILDINGS (ACI 301)" AND "BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE (ACI

2. PROVIDE CONCRETE WITH MINIMUM 28 DAY COMPRESSIVE STRENGTH AS SHOWN BELOW: A. FOOTINGS B. FOUNDATION WALLS C. SLABS-ON-GRADE D. SUSPENDED SLABS, BEAMS, & COLUMNS 5,000 PSI 3. CONCRETE SHALL CONSIST OF THE FOLLOWING: PORTLAND CEMENT ASTM C150, TYPE I OR II NORMAL WEIGHT AGGREGATES ASTM C33 POTABLE WATER ASTM C94

4. MAXIMUM AGGREGATE SIZE SHALL BE 1" UNLESS NOTED OTHERWISE.

5. REPLACEMENT OF PORTLAND CEMENT WITH FLY ASH SHALL NOT EXCEED 20% OF ALL

6. NO MATERIAL CONTAINING CALCIUM CHLORIDE, SALT OR ANTIFREEZE AGENTS IS PERMITTED FOR

7. ALL CONCRETE EXPOSED TO EARTH OR WEATHER SHALL BE AIR ENTRAINED.

8. WATER REDUCING ADMIXTURES (PLASTICIZERS AND SUPER PLASTICIZERS) MAY BE USED WHEN INCLUDED IN THE APPROVED CONCRETE MIX DESIGN. 9. SLUMP SHALL BE 3" TO 5" MAXIMUM FOR CONCRETE MIXES WITHOUT WATER REDUCING ADMIXTURES AND 8" MAXIMUM WHEN WATER REDUCING ADMIXTURES ARE INCLUDED IN THE MIX

DESIGN. REFER TO SPECIFICATIONS. 10. REINFORCING SHALL BE DETAILED AND PLACED IN ACCORDANCE WITH ACI 315, UNLESS DETAILED

11. REINFORCING STELL SHALL CONFORM TO THE FOLLOWING: A. DEFORMED BARS ASTM A615, GRADE 60

B. WELDED WIRE FABRIC 12. REINFORCING STEEL SHALL BE SECURELY WIRED IN PLACE AND SUPPORTED PRIOR TO PLACING

CONCRETE. MAXIMUM SPACING OF BARS SUPPORTS SHALL BE 3'-0". 13. PROVIDE MINIMUM CONCRETE COVER OVER REINFORCING AS FOLLOWS: A. CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH = 3" B. EXPOSED TO EARTH OR WEATHER

#6 THROUGH #18 BARS = 2 #5 OR SMALLER BARS = 11/2 C. NOT EXPOSED TO EARTH OR WEATHER OR IN CONTACT WITH THE GROUND SLABS, WALLS AND JOISTS (#11 & SMALLER) = 1" BEAMS AND COLUMNS = 11/2"

14. LAP ALL REINFORCING SPLICES MINIMUM OF 48 BAR DIAMETERS OR 2'-0", WHICHEVER IS GREATER, UNLESS NOTED OTHERWISE. 15. PROVIDE CORNER BARS AT ALL INTERSECTIONS AND CORNERS IN WALLS AND FOOTINGS. LAP 2'-0"

WITH HORIZONTAL BARS. MATCH NUMBER AND SPACING OF HORIZONTA 16. PROVIDE (2) #5 EACH SIDE OF OPENINGS IN CONCRETE WALLS AND SLABS. UNLESS OTHERWISE

NOTED. BARS SHALL EXTEND 2'-0" BEYOND OPENING EDGES. PROVIDE 5'-0" #5 DIAGONAL BARS AT 17. SPLICES OF VERTICAL REINFORCEMENT ARE NOT PERMITTED, UNLESS NOTED OTHERWISE.

18. CONCRETE COLUMNS IN WALLS SHALL BE BUILT SIMULTANEOUSLY WITH THE WALLS. 19. CONSTRUCTION JOINTS IN WALLS SHALL BE KEYED, WITH REINFORCING EXTENDED THROUGH THE JOINT. LOCATE JOINTS AT QUARTER POINT OF SPAN BETWEEN SUPPORTS.

20. SLEEVES IN CONCRETE BEAMS ARE NOT PERMITTED, EXCEPT BY APPROVAL OF THE STRUCTURAL 21. CONSTRUCTION JOINTS IN CONCRETE BEAMS ARE NOT ALLOWED EXCEPT AT LOCATIONS OF

MINIMUM SHEAR APPROVED BY THE STRUCTURAL ENGINEER. 22. PROVIDE STEEL EMBEDS IN CONCRETE WHERE NECESSARY FOR ATTACHMENT OF BRACES, BRACKETS, HANGERS, OR MISCELLANEOUS STEEL. REFER TO DETAILS FOR SIZES.

POST INSTALLED ANCHORS

B. THREADED ROD BASIS OF DESIGN:

1. POST INSTALLED ANCHORS SHALL BE INSTALLED PER MANUFACTURER'S WRITTEN INSTRUCTIONS INCLUDED IN THE ANCHOR PACKAGING.

2. CONTRACTOR IS RESPONSIBLE TO VERIFY DRILL BIT DIAMETER COMPLIES WITH MANUFACTURER'S REQUIREMENTS FOR TYPE AND DIAMETER OF ANCHOR TO BE INSTALLED.

3. FASTEN STRUCTURAL STEEL MEMBERS TO CONCRETE (CRACKED) WITH SCREW ANCHORS OR

THREADED ROD ADHESIVE ANCHORS. SEE DETAILS FOR MINIMUM DIAMETER AND EMBEDMENT DEPTH. A. SCREW ANCHOR BASIS OF DESIGN: SIMPSON STRONG-TIE TITEN HD

HILTI KWIK HUS-EZ ASTM A36 THREADED ROD

HILTI HIT-HAS ROD

SIMPSON STRONG-TIE SET-3G C. ADHESIVE BASIS OF DESIGN: HILTI HIT-HY 200 OR HIT RE-500 V3

4. FASTEN REBAR DOWELS TO EXISTING CONCRETE WITH ASTM A615, GRADE 60 DEFORMED BARS AND SIMPSON STRONG-TIE SET-XP / SET-3G OR HILTI HIT-HY 200 / HIT RE-500 V3.

5. SUBSTITUTION REQUESTS FOR ALTERNATE ANCHOR AND ADHESIVE PRODUCTS MUST BE APPROVED IN WRITING BY THE ENGINEER PRIOR TO INSTALLATION. SUBMITTAL SHALL DEMONSTRATE TENSION & SHEAR VALUES GREATER THAN OR EQUAL TO PRODUCT(S) SPECIFIED AS LISTED IN ICC-

6. DO NOT CUT REINFORCING STEEL IN NEW OR EXISTING CONSTRUCTION WITHOUT ENGINEER'S

7. INSTALL ANCHORS IN ACCORDANCE WITH SPACING AND EDGE CLEARANCES INDICATED ON DRAWINGS TO MAINTAIN APPROPRIATE ANCHOR CAPACITY.

STRUCTURAL STEEL

WRITTEN APPROVAL.

1. ALL DESIGN, DETAILING, FABRICATION AND ERECTION OF STRUCTURAL STEEL SHALL CONFORM TO AISC MANUAL OF STEEL CONSTRUCTION 16th EDITION AND SPECIFICATIONS FOR STEEL BUILDINGS (AISC 360-22) UNLESS NOTED OTHERWISE.

2. ALL STRUCTURAL STEEL SHALL MEET THE MATERIAL REQUIREMENTS AS SHOWN BELOW. A. WIDE FLANGE SECTIONS B. CHANNELS, PLATES, & ANGLES C. STRUCTURAL PIPE ASTM A53, GRADE B D. STRUCTURAL TUBE (46 KSI) ASTM A500, GRADE B E. STRUCTURAL TUBE - ROUND (42 KSI) ASTM A500, GRADE B F. HIGH STRENGTH BOLTS ASTM A325 G. ANCHOR RODS (36 KSI) ASTM F1554

3. CONNECTIONS OF BEAMS TO COLUMNS, GIRDERS, ETC. SHALL BE IN ACCORDANCE WITH CONNECTION SCHEDULES.

4. FABRICATOR MAY SUBSTITUTE ALTERNATE CONNECTION DETAILS TO STRUCTURAL ENGINEER FOR WRITTEN APPROVAL PRIOR TO SHOP DRAWING SUBMITTAL. CONNECTIONS SHALL BE DESIGNED AND DETAILED UNDER THE DIRECT PERSONAL SUPERVISION OF A PROFESSIONAL STRUCTURAL ENGINEER EXPERIENCED IN DESIGN OF THIS WORK AND LICENSED IN THE STATE OF IOWA. INCLUDE SEALED CALCULATIONS WITH SUBMITTAL OF ALTERNATE DESIGN.

5. SIMPLE BEAM, BOLTED CONNECTIONS SHALL BE BEARING TYPE WITH THE THREADED PARTS INCLUDED IN THE SHEAR PLANE (TYPE N). MINIMUM SIZE OF BOLTS SHALL BE 3/4" DIAMETER, AND EACH CONNECTION SHALL HAVE MINIMUM OF 2 BOLTS. WITH ONE HARDENED WASHER PER BOLT.

6. ALL CONNECTIONS SHALL BE SNUG TIGHTENED JOINTS, UNLESS NOTED OR DETAILED OTHERWISE. HIGH STRENGTH BOLTING SHALL CONFORM TO RCSC SPECIFICATION FOR STRUCTURAL JOINTS USING ASTM A325 OR A490 BOLTS, LATEST EDITION.

7. ALL WELDING SHALL CONFORM TO AMERICAN WELDING SOCIETY STANDARDS AND SPECIFICATIONS, AND SHALL BE DONE BY CERTIFIED WELDERS WITH EXPERIENCE AND CERTIFICATION IN THE TYPE OF

9. SEQUENCE WELDS TO AVOID DISTORTION OF MEMBERS. DO NOT WELD OR BOLT UNTIL MEMBER IS PROPERLY ALIGNED AND SECURED IN ITS FINAL POSITION.

8. ALL WELDING ELECTRODES SHALL BE E70 SERIES, UNLESS NOTED OTHERWISE.

10. WELDS NOT OTHERWISE NOTED SHALL BE 3/16" CONTINUOUS FILLET WELDS.

11. PARTIAL AND/ OR FULL PENETRATION WELDS SHALL BE FULLY DETAILED ON SHOP DRAWINGS. 12. ( ▶ ) SYMBOL ON PLANS INDICATES "MOMENT-CONNECTION" BETWEEN STEEL MEMBERS.

13. MOMENT CONNECTIONS NOT FULLY DETAILED ON DRAWINGS SHALL BE DESIGNED BY THE FABRICATOR UNDER THE DIRECT PERSONAL SUPERVISION OF A PROFESSIONAL STRUCTURAL ENGINEER EXPERIENCED IN DESIGN OF THIS WORK AND LICENSED IN THE STATE OF IOWA. REACTIONS, WHEN SHOWN, ARE SERVICE LEVEL LOADS.

14. (c = 1/2") DESIGNATION AT STEEL BEAMS INDICATES THE AMOUNT OF CAMBER FABRICATED INTO THE BEAM. WHERE NONE IS INDICATED, FABRICATE BEAM SO THAT THE NATURAL MILL CAMBER IS

15. APPROVED AND DESIGNED OPENINGS IN STEEL MEMBERS SHALL BE SHOWN ON SHOP DRAWINGS. CUTTING OR BURNING HOLES IN FIELD IS NOT PERMITTED WITHOUT PRIOR WRITTEN APPROVAL OF

16. PROVIDE WEB STIFFENER PLATES, EACH SIDE OF WEB IN BEAMS SUPPORTING STEEL COLUMNS

ABOVE, OR IN BEAMS CANTILEVERING OVER STEEL OR CONCRETE COLUMNS. MINIMUM STIFFENER PLATE SHALL BE 3/8" UNLESS NOTED OTHERWISE 17. PROVIDE BEARING PLATES FOR ALL STEEL JOISTS, BEAMS OR COLUMNS BEARING ON CONCRETE OR MASONRY WALLS. BEAR BEAMS FOR A MINIMUM OF 8" AND ANCHOR TO WALL WITH (2) 5/8" DIA. x 12"

ANCHOR RODS UNLESS DETAILED OTHERWISE. 18. PROVIDE STEEL EMBED PLATES FOR CONNECTION OF STEEL JOISTS, BEAMS, AND MISCELLANEOUS MEMBERS TO CAST-IN- PLACE CONCRETE AS DETAILED. ALL STEEL HEADED STUD ANCHORS SHALL BE IN ACCORDANCE WITH ASTM A108 & AWS D1.1.

19. PROVIDE ONE COAT OF SHOP APPLIED RUST INHIBITIVE PRIMER TO ALL STRUCTURAL MEMBERS. DO NOT PAINT SURFACES TO BE GALVANIZED, FIELD WELDED, EMBEDDED IN CONCRETE OR MASONRY, CONTACT SURFACES OF FRICTION CONNECTIONS, AND SURFACES TO RECEIVE SPRAY ON

20. ALL STRUCTURAL STEEL LOCATED IN EXTERIOR WALLS OR PERMANENTLY EXPOSED TO WEATHER SHALL BE HOT DIPPED GALVANIZED IN ACCORDANCE WITH ASTM A123.

COLD FORMED METAL FRAMING

1. MATERIAL, DESIGN AND MANUFACTURE SHALL BE IN ACCORDANCE WITH THE "NORTH AMERICA SPECIFICATION FOR THE DESIGN OF COLD FORMED STEEL STRUCTURAL MEMBERS" AND THE "COLD FORMED STEEL DESIGN MANUAL" OF THE AMERICAN IRON AND STEEL INSTITUTE, CURRENT EDITIONS. SECTION DESIGNATIONS SHOWN ARE BASED ON INDUSTRY STANDARD NOMENCLATURE PROPERTIES. ALL SUPPLIED MATERIALS SHALL MEET OR EXCEED THESE PROPERTIES.

2. PROVIDE MANUFACTURER'S STANDARD STEEL TRACKS, BLOCKING, LINTELS, CLIP ANGLES, REINFORCEMENT, FASTENERS, BRACING, AND ACCESSORIES RECOMMENDED BY MANUFACTURER TO PROVIDE A COMPLETE FRAMING SYSTEM FOR EACH TYPE OF METAL FRAMING SYSTEM REQUIRED..

4. LIGHT GAGE WALL GIRTS AND ROOF PURLINS MATERIALS TO BE "ZEE" SHAPED SECTIONS. 5. FRAMING COMPONENTS SHALL BE FORMED FROM LIGHT GAGE STEEL WITH 55 KSI MINIMUM YIELD

3. LIGHT GAGE BASE, JAMBS, SILLS AND HEADERS MATERIALS TO BE "CEE" SHAPED SECTIONS.

6. ALL CONNECTION INFORMATION SHOWN INCLUDING WELD SIZE OR LENGTH AND FASTENER SIZE, QUANTITY OR SPACING SHALL BE CONSIDERED MINIMUM REQUIRED.

7. FRAME WALL OPENINGS LARGE THAN 2'-0" SQUARE AS DETAILED.

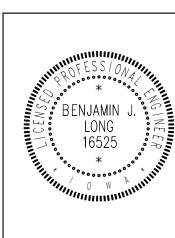
8. ALL FRAMING COMPONENTS SHALL BE CUT SQUARELY FOR ATTACHMENT TO PERPENDICULAR MEMBERS. ALL FIELD CUTTING TO BE DONE BY SAWING.

9. IN THE EVENT A TRACK BUTT JOINT OCCURS WITHIN A PANEL, ABUTTING PIECES OF TRACK SHALL BE SPLICED TOGETHER. NO SUCH SPLICES SHALL OCCUR AT ANY HEAD OR SILL CONDITION.

10. ALL WELDED CONNECTIONS ARE TO BE PERFORMED IN ACCORDANCE WITH AMERICAN WELDING SOCIETY (AWS) D1.3 LATEST EDITION "SPECIFICATION FOR WELDING SHEET STEEL IN STRUCTURES". CONSULT AWS D19.0, LATEST EDITION, "WELDING ZINC COATED STEEL SHEET" AND ANSI STANDARD Z49.1 FOR INFORMATION REGARDING SAFE WELDING PROCEDURES.

CONCRETE COLUMN / PIER SCHEDULE SIZE REINFORCEMENT **MARK** 22x22 24x48 (20) #7 VERTICAL & #4 TIES AT 12" O.C. 32x48

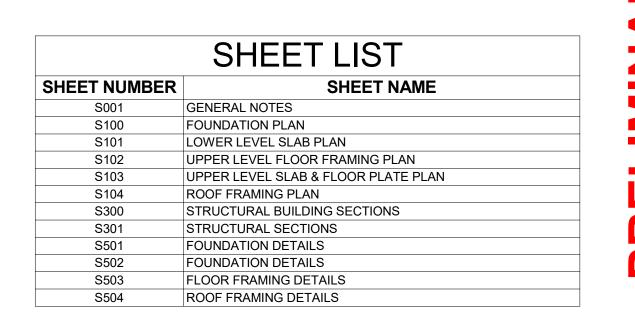
STEEL COLUMN SCHEDULE **BASE PLATE** MARK W14X90



hereby certify that this engineering document was prepared by me or under my direct personal supervision and that I am a duly licensed Professional Engineer under the laws of the State of Iowa.

Signature Benjamin J Long License number 16525

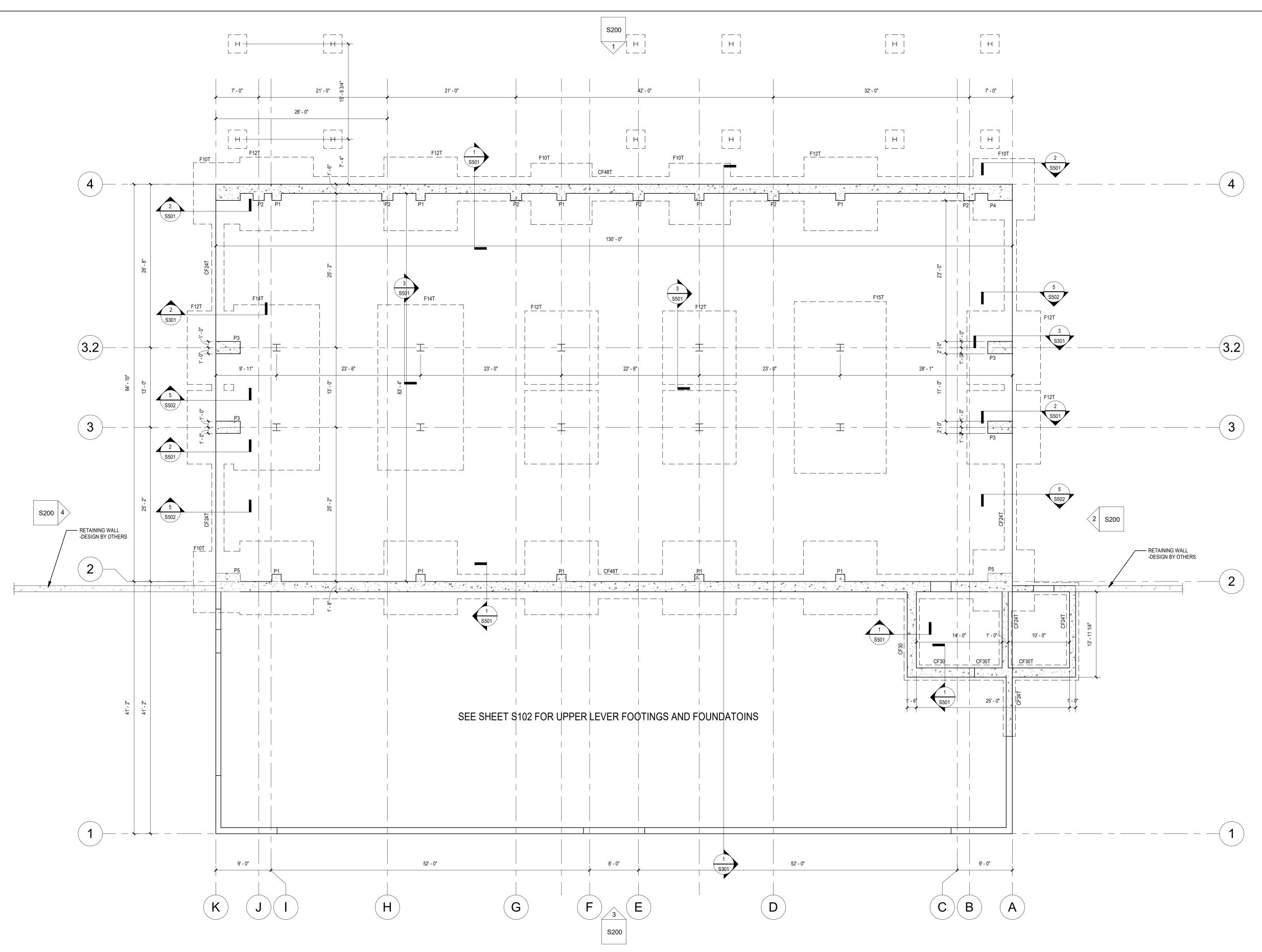
My license renewal date is December 31, 2024. Pages or sheets covered by this seal: Refer to Sheet List





01/13/2025 BJL BJI

REVISED:



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

FOUNDATION PLAN NOTES

1. SEE ARCHITECTURAL DRAWINGS FOR DIMENSIONS AND ELEVATIONS NOT SHOWN.

2. ALL ELEVATIONS REFERENCED TO LOWER LEVEL FINISH FLOOR ELEVATION = 100'-0". 3. TOP OF FOOTINGS = (X'-X") UNLESS NOTED OTHERWISE.

4. REINFORCE CAST-IN-PLACE CONCRETE FOUNDATION WALLS AS FOLLOWS: A. 8" THICK: #4 AT 18" O.C. VERTICAL, #4 AT 12" O.C. HORIZONTAL, CENTERED B. 12" THICK: #5 AT 12" O.C. VERTICAL, #4 AT 16" O.C. HORIZONTAL, EACH FACE C. 18" THICK: #6 AT 12" O.C. VERTICAL, #5 AT 12" O.C. HORIZONTAL, EACH FACE D. 20" THICK: #6 AT 12" O.C. VERTICAL, #5 AT 12" O.C. HORIZONTAL, EACH FACE

5. REFER TO SHEET S101 FOR LOWER LEVEL SLAB-ON-GRADE. 6. REFER TO SHEET S103 FOR UPPER LEVEL SLAB-ON-GRADE.

CONTINUOUS F			OTING SCHEDULE		
MARK	WIDTH	THICKNESS	REINFORCING		
CF24	2' - 0"	1' - 0"	(3) #5 CONT.		
CF30	2' - 6"	1' - 0"	(3) #5 CONT. & #5 AT 24" O.C. TRANSVERSE		
CF8T	8"	3' - 6"	(2) #5 CONT. TOP & BOTTOM AND #4 VERTICAL AT 24" O.C.		
CF24T	2' - 0"	3' - 6"	(3) #5 CONT. TOP & BOTTOM & #4 TIES AT 24: O.C.		
CF30T	2' - 6"	3' - 6"	(4) #5 CONT. TOP & BOTTOM & #4 TIES AT 24: O.C.		

ISOLATED FOOTING SCHEDULE					
REINFORCING	THICKNES S	WIDTH	LENGTH	MARK	
4) #5 EACH WAY	1' - 6"	4' - 0"	4' - 0"	F4	
8) #6 EACH WAY	1' - 6"	6' - 0"	6' - 0"	F6	
12) #5 VERTICAL & #4 TIES AT 12" O.C.	3' - 6"	10' - 0"	10' - 0"	F10T	
12) #5 VERTICAL & #4 TIES AT 12" O.C.	3' - 6"	12' - 0"	12' - 0"	F12T	
12) #5 VERTICAL & #4 TIES AT 12" O.C.	3' - 6"	14' - 0"	14' - 0"	F14T	
12) #5 VERTICAL & #4 TIES AT 12" O.C.	3' - 6"	15' - 0"	15' - 0"	F15T	

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23034

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1/8" = 1'-0"

SLAB-ON-GRADE PLAN NOTES

1. SEE ARCHITECTURAL DRAWINGS FOR DIMENSIONS AND ELEVATIONS NOT SHOWN.

2. ALL ELEVATIONS REFERENCED TO LOWER LEVEL FINISH FLOOR ELEVATION = 100'-0".

3. 8" CONCRETE SLAB-ON-GRADE REINFORCED WITH #5 AT 12" ON CENTER EACH WAY OVER 2" RIGID INSULATION, OVER VAPOR BARRIER, OVER FREE DRAINING GRANULAR FILL.

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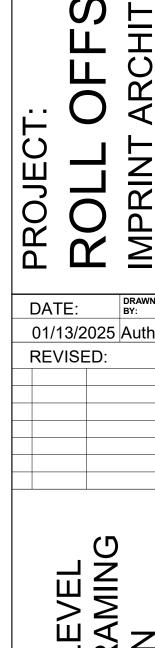
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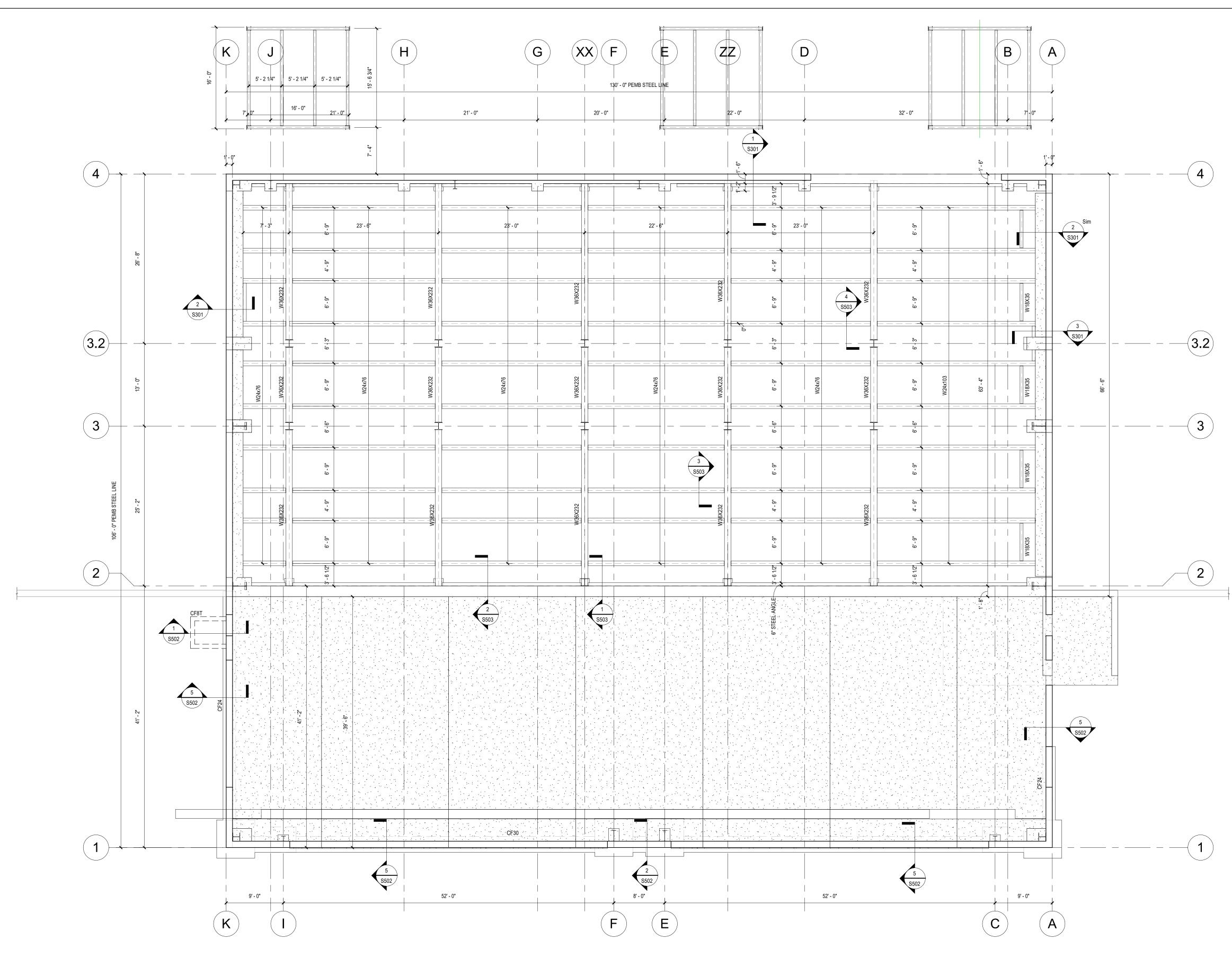
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### UPPER LEVEL FRAMING 1/8" = 1'-0"

FLOOR FRAMING PLAN NOTES

1. SEE ARCHITECTURAL DRAWINGS FOR DIMENSIONS AND ELEVATIONS NOT SHOWN.

2. ALL ELEVATIONS REFERENCED TO LOWER LEVEL FINISH FLOOR ELEVATION = 100'-0".

3. TOP OF STEEL = (+119'-11") U.N.O.

4. SEE SHEET S103 FOR FLOOR PLATE PLAN AND DETAILS.

5. 8" CONCRETE SLAB-ON-GRADE REINFORCED WITH #5 AT 12" ON CENTER EACH WAY OVER 2" RIGID INSULATION, OVER VAPOR BARRIER, OVER FREE DRAINING GRANULAR FILL.

6. TOP OF FOOTINGS = (119'-4") UNLESS NOTED OTHERWISE. 7. TOP OF FOUNDATION WALL = (119'-0") UNLESS NOTED OTHERWISE.

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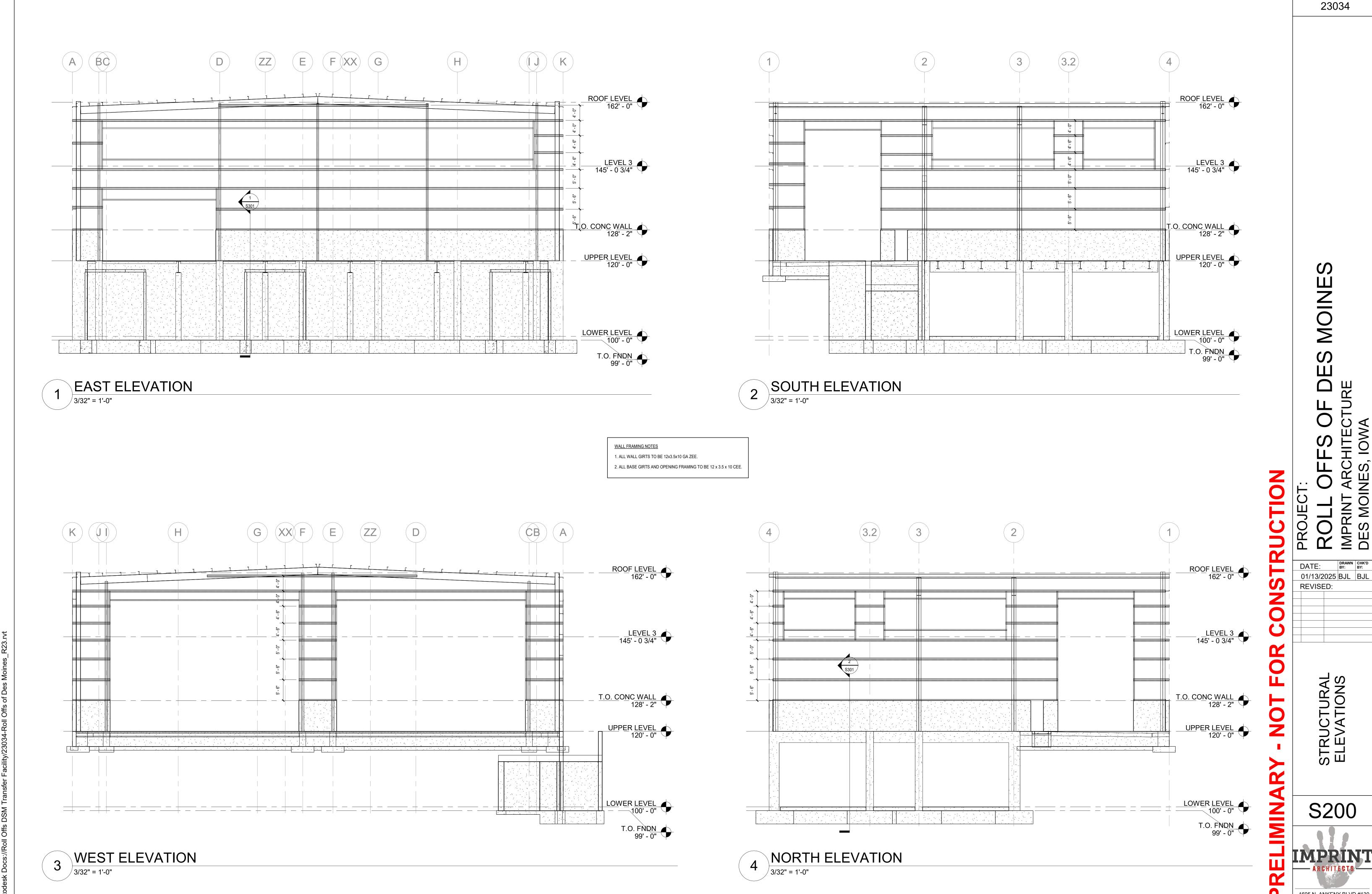
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ROOF FRAMING PLAN

S104

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MOINES



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STRUCTURAL BUILDING SECTIONS

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S300

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STRUCTURAL SECTIONS

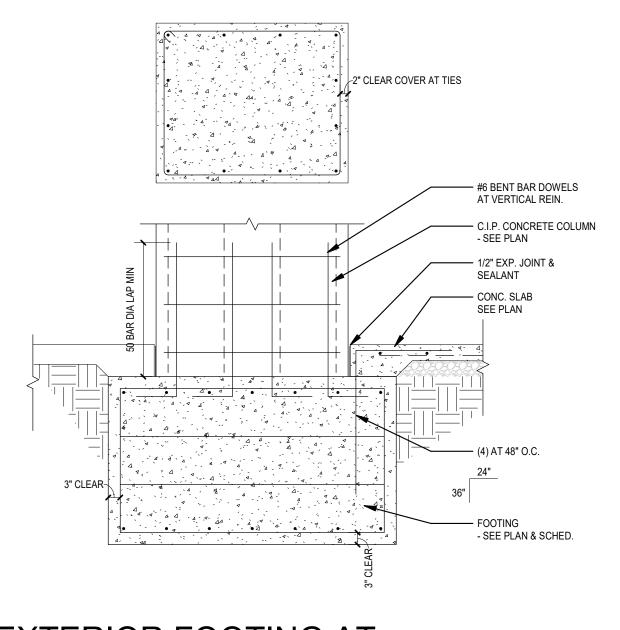
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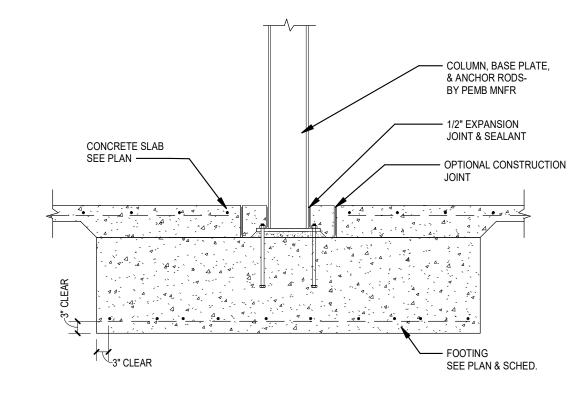
FOUNDATION DETAILS

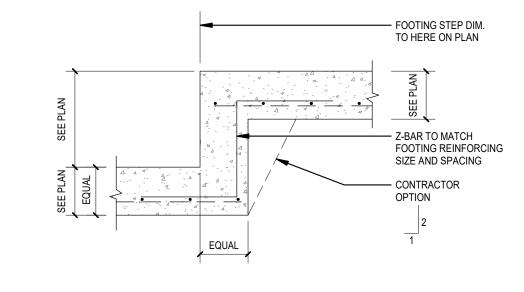
S501

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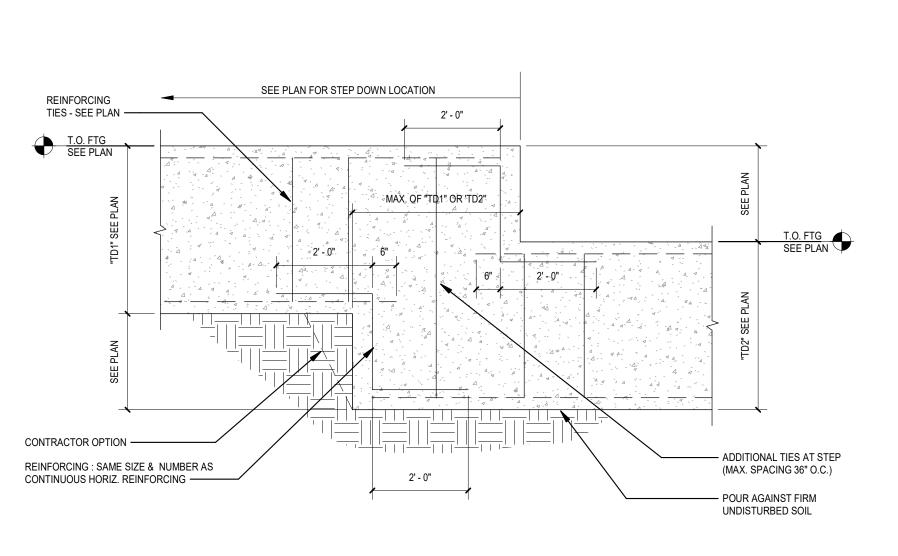




SPREAD FOOTING STEP

EXTERIOR FOOTING AT COLUMN w/ ISOLATION JOINT / 1/2" = 1'-0"

INTERIOR COLUMN FTNG

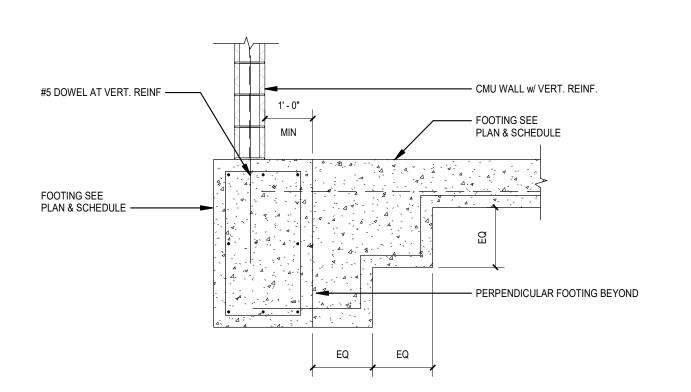


FOUNDATION WALLSEE PLAN

— CONCRETE SLAB SEE PLAN

GRANULAR FILL

PLAN & SCHEDULE



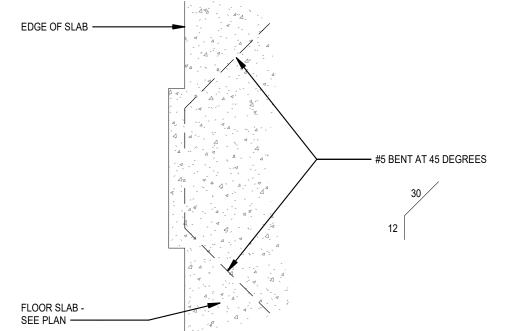
TRENCH FOOTING STEP

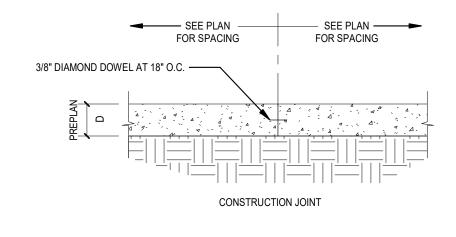
BASEMENT FOUNDATION WALL

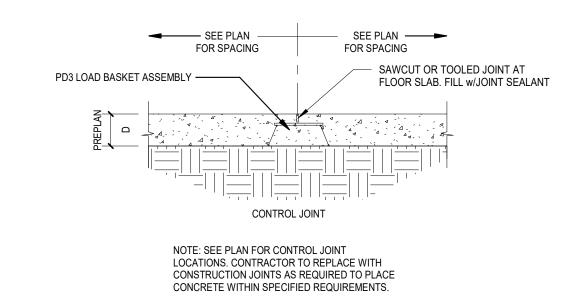
CONT WATERSTOP -

FOUNDATION DRAIN -SEE PLAN —









SLAB REINFORCING AT DOORS

1/2" = 1'-0"

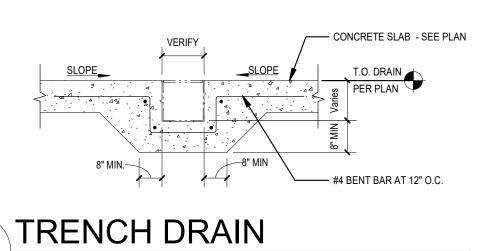
1/2" EXPANSION JOINT & SEALANT ----

> DRIVE SLAB -SEE CIVIL -

OVERHEAD DOOR -

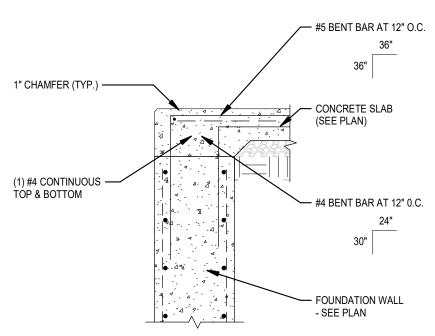
— FOOTING - SEE PLAN & SCHEDULE

3 SLAB ON GRADE JOINT
1/2" = 1'-0"





DRIVE DOOR FOUNDATION 1/2" = 1'-0"



S502

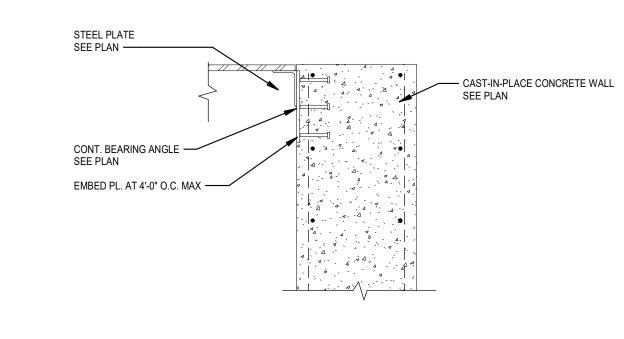
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MOINE

MOINES

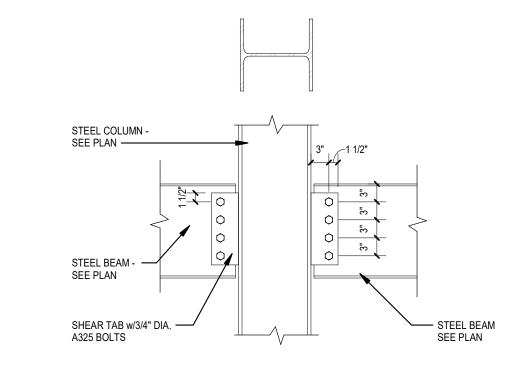
BEAM BEARING AT CONCRETE WALL



DECK BEARING AT PRECAST WALL

DOUBLE ANGLE CONN. W/ 3/4" DIA. A325 BOLTS — 3 BEAM TO BEAM CONNECTION

3/4" = 1'-0"



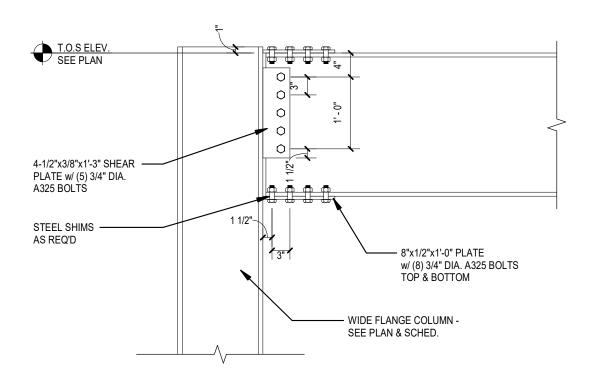
BEAM TO COLUMN CONNECTION

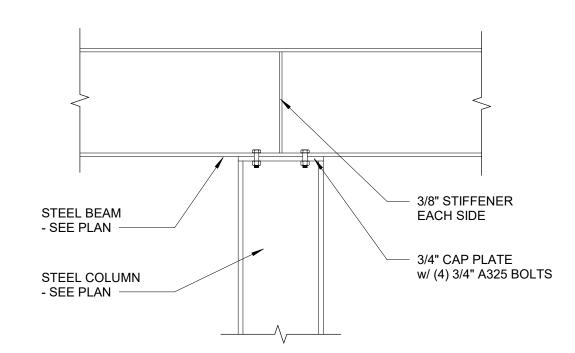
3/4" = 1'-0"

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FLOOR FRAMING DETAILS S503

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GIRDER MOMENT CONNECTION 3/4" = 1'-0"

BEAM OVER COLUMN

ROOF FRAMING DETAILS

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S504 1605 N. ANKENY BLVD #130 ANKENY, IOWA 50023 PHONE: (515) 965-5336 FAX: (515) 965-5335 info@imprintarchitects.com

**703.4.1 - LOCATION OF** TACTILE CHARACTERS A.F.F.

**ELEVATION** 

**306.2 TOE CLEARANCE** 

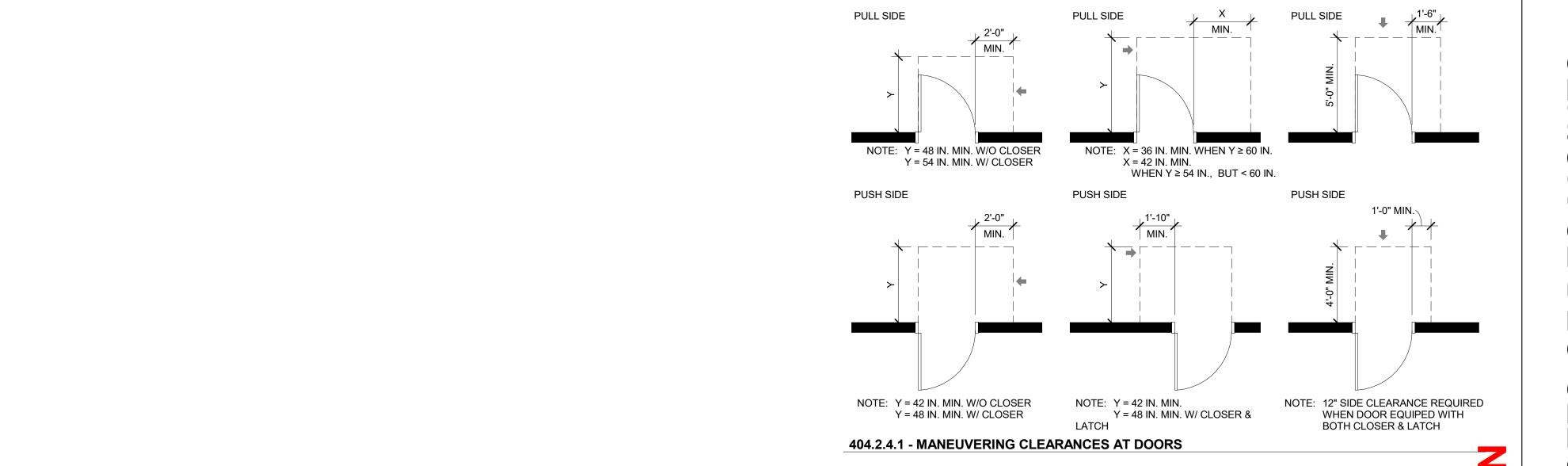
### **SIGNAGE GENERAL NOTES:**

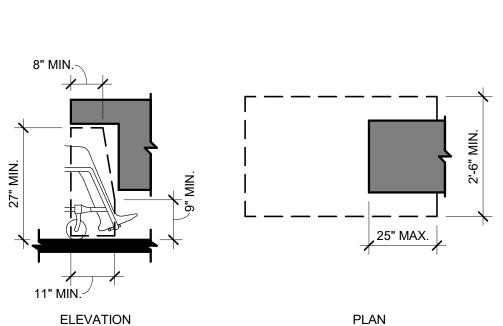
- SIGNAGE PROPORTION: LETTERS AND NUMBERS ON SIGNS SHALL HAVE A WIDTH-TO-HEIGHT RATIO
- BETWEEN 3:5 AND 1:1 AND A STROKE-WIDTH-TO-HEIGHT RATIO BETWEEN 1:5 AND 1:10. CHARACTER HEIGHT: CHARACTERS AND NUMBERS ON SIGNS SHALL BE SIZED ACCORDING TO THE VIEWING DISTANCE FROM WHICH THEY ARE TO BE READ. THE MINIMUM HEIGHT IS MEASURED USING AN
- UPPER CASE X. LOWER CASE CHARACTERS ARE PERMITTED. 3 INCH MININUM HEIGHT. RAISED AND BRAILLED CHARACTER AND PICTORIAL SYMBOL SIGNS: LETTERS AND NUMERALS SHALL BE RAISED 1/32 INCH IN UPPER CASE SANS SERIF OR SIMPLE SERIF TYPE AND SHALL BE ACCOMPANIED WITH GRADE 2 BRAILLE. RAISED CHARACTERS SHALL BE AT LEAST 5/8 INCH HIGH, BUT NO HIGHER THAN 2 INCHES. PICTOGRAMS SHALL BE ACCOMPANIED BY THE EQUIVALENT VERBAL DESCRIPTION PLACED DIRECTLY BELOW THE PICTOGRAM. THE BORDER DIMENSION OF THE PICTOGRAM SHALL BE 6 INCHES MINIMUM IN HEIGHT.
- FINISH AND CONTRAST: THE CHARACTERS AND BACKGROUND OF SIGNS SHALL BE EGGSHELL, MATTE, OR OTHER NON-GLARE FINISH. CHARACTERS AND SYMBOLS SHALL CONTRAST WITH THEIR BACKGROUND -EITHER LIGHT CHARACTERS ON A DARK BACKGROUND OR DARK CHARACTERS ON A LIGHT BACKGROUND. MOUNTING LOCATION AND HEIGHT: WHERE PERMANENT INDENTIFICATION IS PROVIDED FOR ROOMS AND SPACES, SIGNS SHALL BE INSTALLED ON THE WALL ADJACENT TO THE LATCH SIDE OF THE DOOR. WHERE THERE IS NO WALL SPACE TO THE LATCH SIDE OF THE DOOR, INCLUDING AT DOUBLE LEAF DOORS, SIGNS SHALL BE PLACED ON THE NEAREST ADJACENT WALL. MOUNTING HEIGHT SHALL BE 60 INCHES ABOVE THE FINISH FLOOR TO THE CENTERLINE OF THE SIGN. MOUNTING LOCATION FOR SUCH SIGNAGE SHALL BE SO THAT A PERSON MAY APPROACH WITHIN 3 INCHES OF SIGNAGE WITHOUT ENCOUNTERING PROTRUDING

OBJECTS OR STANDING WITHIN THE SWING OF A DOOR.

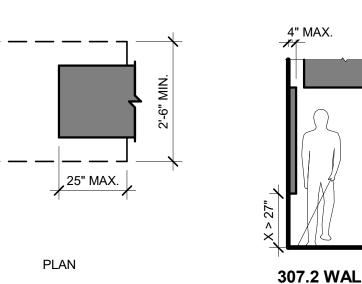
### 2009 ANSI A117.1 STANDARDS GENERAL NOTES:

THIS DATA IS PROVIDED AS AN ADDITIONAL RESOURCE TO THE TEAM OF OWNER, CLIENT, ARCHITECT, ENGINEER, AND SPECIFICALLY, CONTRACTOR. THIS IS A TOOL TO APPRISE ALL PARTIES OF GENERAL ACCESSIBLE CONDITIONS AS PUBLISHED PER THE "ICC ANSI A117.1-2009 ACCESSIBILE AND USABLE BUILDINGS AND FACILITIES". THE DIAGRAMS ARE VERBATIM DUPLICATIONS OF THE STANDARDS AND ARE NOT INDICATIVE OF ALL CONDITIONS AND CERTAINLY DO NOT FULLY REPRESENT THE ENTIRETY OF THE WRITTEN GUIDELINES AS CONTAINED IN THE STANDARDS. THIS DATA IS IN SUPPORT OF GENERAL ARCHITECTURAL AND ENGINEERING DOCUMENTATION, WHICH IS INTENDED TO BE CONSISTENT WITH ACCESSIBLE CONDITIONS. THIS DATA IS PROVIDED TO ACT AS AN ADDED SAFEGUARD TO FULLY FAMILIARIZE THE TEAM WITH EXPECTATIONS ASSOCIATED WITH THE 2009 ANSI STANDARDS AND TO ASSIST THE TEAM IN ACHIEVING FULLY ACCESSIBLE CONDITIONS AS REQUIRED BY CIVIL LAW. WE ENCOURAGE THE DETAILED REVIEW BY OWNER AND CONTRACTOR.





305.7 MANUVERING CLEARANCE IN AN ALCOVE



17"-25"

PLAN

SIGNAGE REQUIREMENTS

**703.4.2 - LOCATION OF** 

TACTILE SIGNS AT DOORS

- FACE OF SIGNAGE

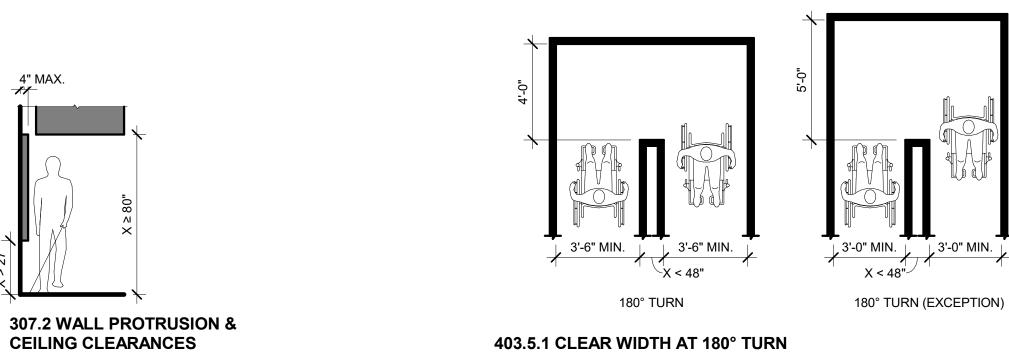
2'-6" MIN. CLEAR

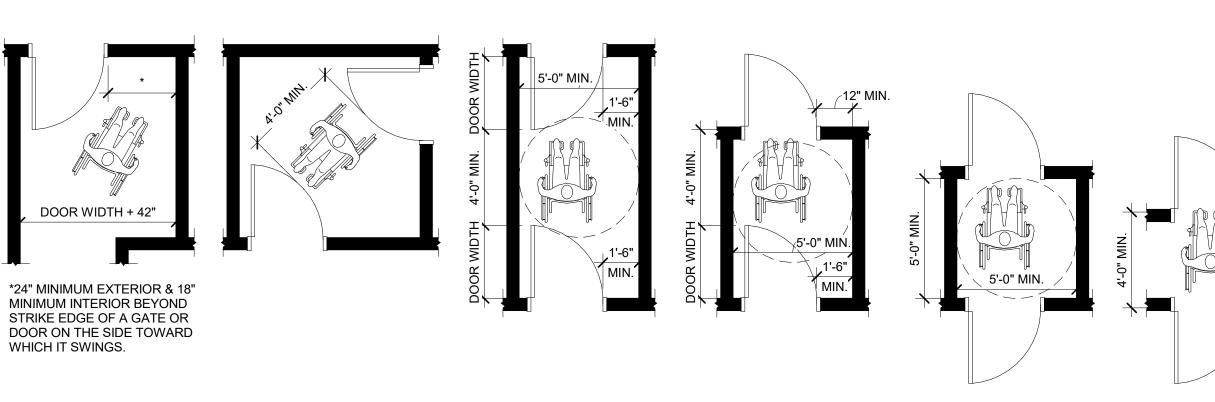
11/1

6" MAX.

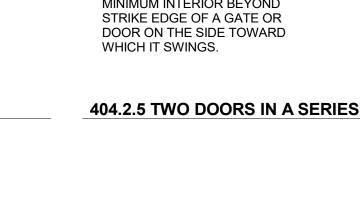
**DRINKING FOUNTAIN/WATER** 

COOLER CLEARANCES

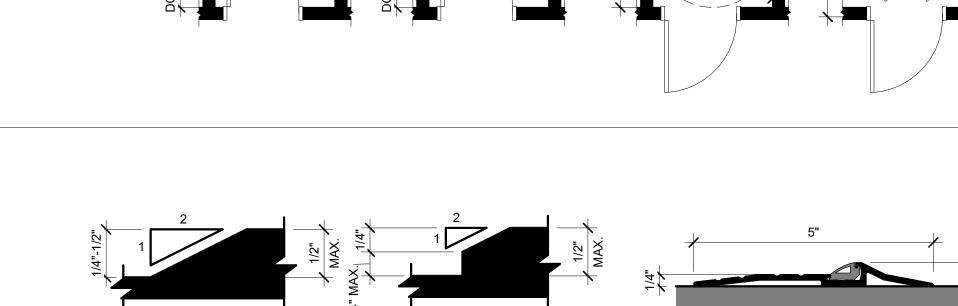


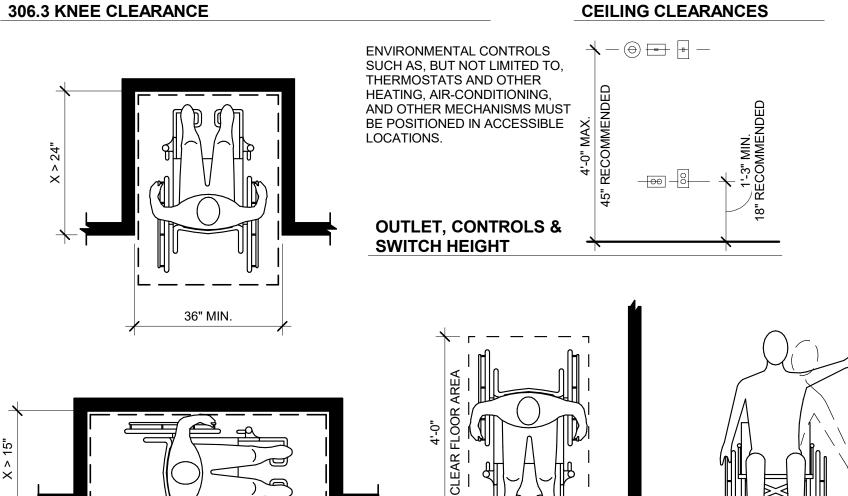


303.3 BEVELED CHANGES IN LEVEL



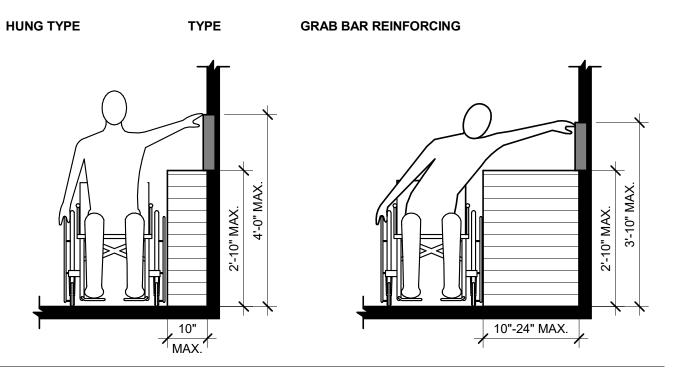
303.2 VERTICAL CHANGE IN LEVEL

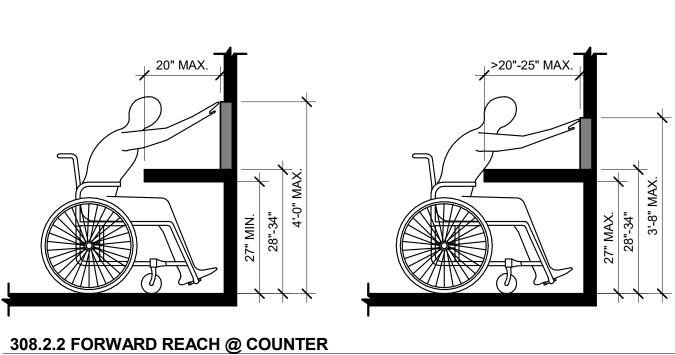


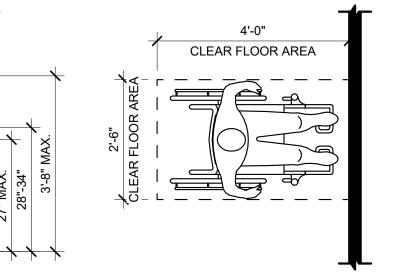


2'-6" CLEAR FLOOR AREÂMAX

308.3.1 SIDE REACH LIMITS







308.2.1 FORWARD READ



**EXTERIOR DOOR THRESHOLD** 

302 & 303 - FLOOR SURFACES & CHANGES IN LEVEL

**ACCE** 

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SSIBILITY

**REVISED**:

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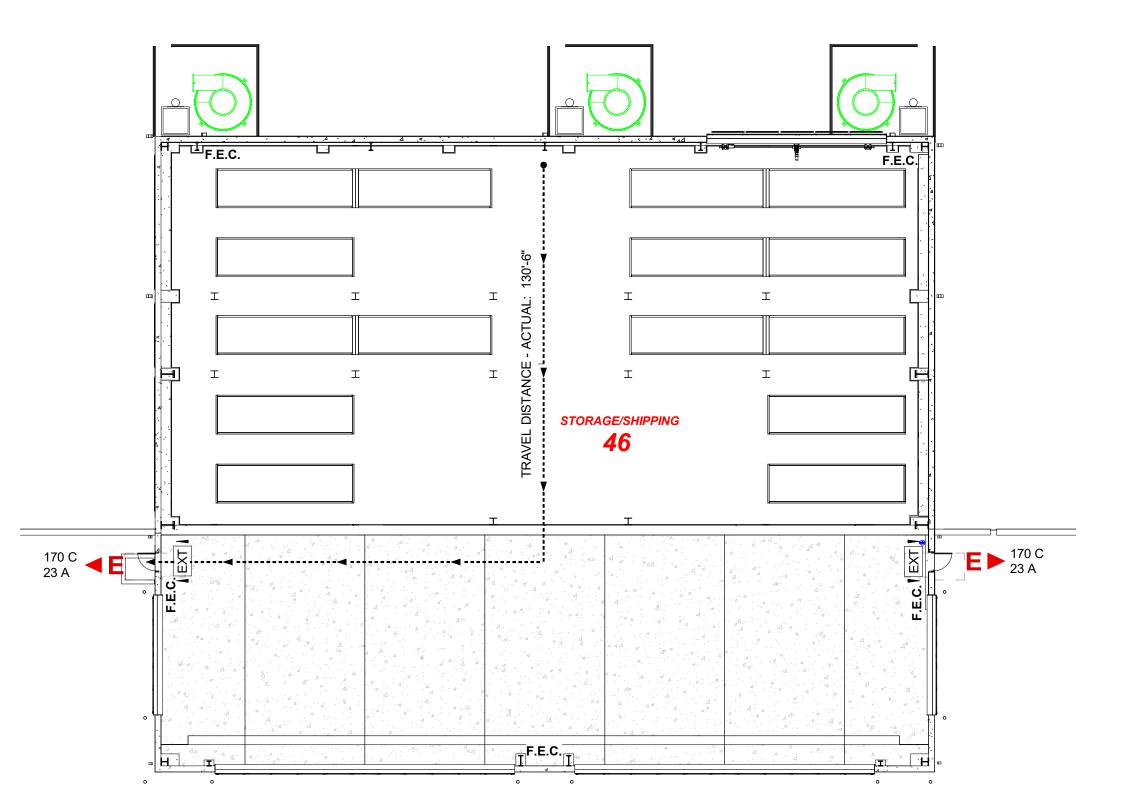
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OCCUPANT LOAD SCHEDULE - AREA - PER SECTION 1004

FACTOR LOAD FACTOR OCCUPANCY **FUNCTION** WIDTH OWER LEVEL GROSS 300 SF MECH 1 136 SF GROSS 300 SF 0.15 SHIPPING GROSS 300 SF **UPPER LEVEL** STORAGE/SHIPPING 13545 SF GROSS 300 SF



2 UPPER LEVEL LIFE SAFETY
1/16" = 1'-0"

LIFE SAFETY PLAN SYMBOLS LEGEND

TRAVEL DISTANCE - ACTUAL: 20'-0"

**~-----**-

(CAPACITY) ### C

(ACTUAL) ### A

(CAPACITY) ### C

(ACTUAL) ### A

F.E.C.

EXIT PATH AND

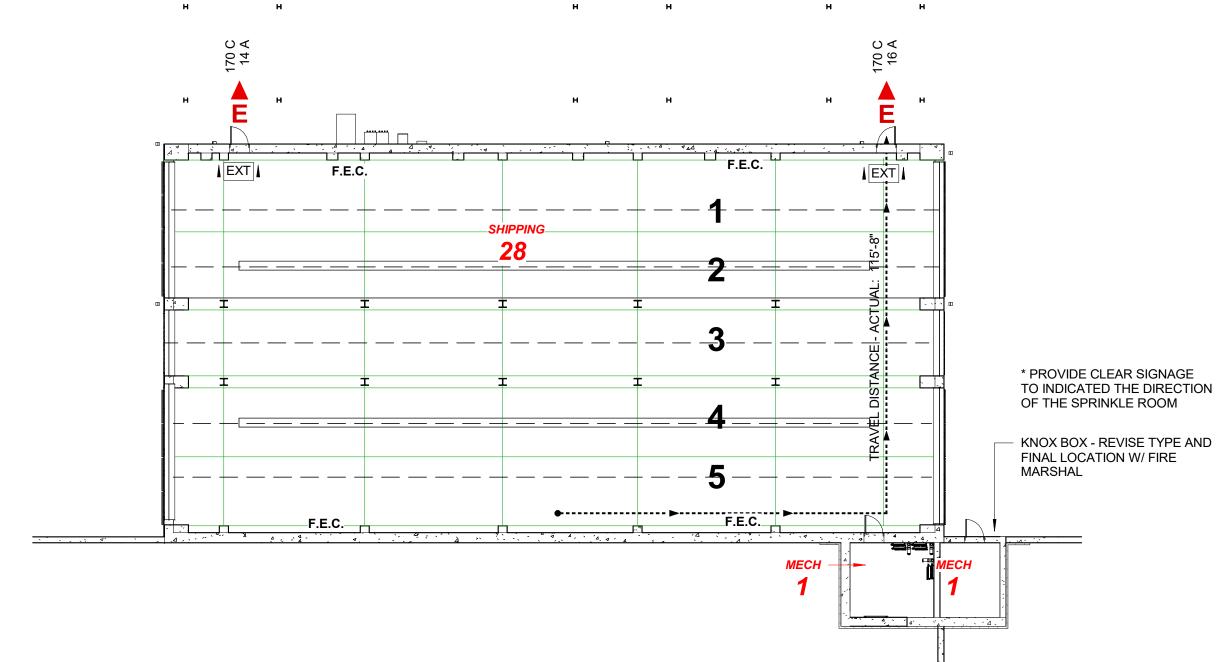
EXIT DISCHARGE

**EXIT ACCESS** 

DISTANCE

ASSOCIATED TRAVEL

FIRE EXTINGUISHER



### PROJECT DESCRIPTION:

ROLL- OFFS OF DES MOINES

20,931 GSF TWO STORY CONSTRUCTION OF A TRANSFER FACILITY

BUILDING MATERIAL: PRE- ENGINEERED STEEL BUILDING W/ METAL SIDING / POURED REINFORCED CONCRETE LOWER

### **INTERNATIONAL BUILDING CODE (IBC) 2018**

### **CHAPTER 3 - USE AND OCCUPANCY CLASSIFICATION:**

### OCCUPANCY TYPE:

F-1 (MODERATE-HAZARD FACTORY INDUSTRIAL)

INCLUDES THE USE OF A BUILDING OR STRUCTURE, OR A PORTION THEREOF, FOR ASSEMBLING, DISASSEMBLING, FABRICATING, FINISHING, MANUFACTURING, PACKAGING, REPAIR, OR PROCESSING OPERATIONS THAT ARE NOT CLASSIFIED AS A GROUP H HAZARDOUG OR GROUP S STORAGE OCCUPANCY

### **CHAPTER 5 - GENERAL BUILDING HEIGHTS AND AREAS**

-CONSTRUCTION: TYPE II-B - SPRINKLED:

### ALLOWABLE BUILDING HEIGHT IN FEET ABOVE GRADE PLAN PER TABLE 504.3

OCCUPANCY CLASSIFICATION		TYPE OF CONSTRUCTION	ACTUAL
F-1	S	TYPE II-B = 75'	42'

### ALLOWABLE NUMBER OF STORIES ABOVE GRADE PLAN 504.4

OCCUPANCY CLASSIFICATION		TYPE OF CONSTRUCTION	ACTUAL
F-1	S	TYPE II-B = 3 STORY	2 STORY
1-1		117211-0 - 33101(1	231081

### ALLOWABLE AREA FACTOR IN SQUARE FEET 506.2

OCCUPANCY CLASSIFICATION		TYPE OF CONSTRUCTION	ACTUAL
F-1	S	TYPE II-B = 62,000 S.F.	20,931 GSF

REQUIRED REPARTITION OF OCCUPANCIES

-NON-SEPARATED OCCUPANCIES PER TABLE 508.4 - ALL BUILDING IS ONE OCCUPANCY

### **CHAPTER 6 - TYPES OF CONSTRUCTION**

### **GENERAL PER SEC. 601**

- FIRE-RESISTANT RATING REQUIREMENT FOR BUILDING ELEMENTS (HOURS) PER TABLE 601:

CONSTRUCTION TYPE:	TYPE II-B
BUILDING ELEMENT	RATING -HOURS
PRIMARY STRUCTURAL FRAME	0
BEARING WALLS EXTERIOR	0
BEARING WALL INTERIOR	0
NON BEARING WALLS EXTERIOR	0
NON BEARING WALLS INTERIOR	0
FLOOR CONSTRUCTION	0
ROOF CONSTRUCTION	0

### CHAPTER 7 - FIRE AND SMOKE PROTECTION FEATURES

### -MAXIMUM AREA OF EXTERIOR WALL OPENINGS BASED ON FIRE SEPARATION DISTANCE AND DEGREE OF OPENING PROTECTION. TABLE 705.8

MAXIMUM AREA OF EXTERIOR WALL OPENING					
FIRE SEPARATION DISTANCE	DEGREE OF OPENING PROTECTION	ALLOWABLE AREA			
30' OR GREATER	UNPROTECTED, SPRINKLED	NO LIMIT			

### **CHAPTER 8 - INTERIOR FINISHES**

### WALL AND CEILING FINISHES 803

INTERIOR WALL AND CEILING FINISHES MATERIALS SHALL BE CLASSIFIED FOR FIRE PERFORMANCE AND SMOKE DEVELOPMENT IN ACCORDANCE WITH SECTION 803.1.1 OR 803.1.2

### INTERIOR WALL AND CEILING FINISH MATERIALS 803.1.1

INTERIOR WALL AND CEILING FINISH MATERIALS SHALL BE CLASSIFIED IN ACCORDANCE WITH ASTM E84 AND UL 723

### CLASS A= FLAME SPREAD INDEX 0-25; SMOKE DEVELOPED INDEX 0-450

CLASS B= FLAME SPREAD INDEX 26-75; SMOKE DEVELOPED 0-450 CLASS C= FLAME SPREAD INDEX 76-200; SMOKE DEVELOPED 76-200

ROOM CORNER TEST FOR INTERIOR WALL OR CEILING FINISH MATERIALS. INTERIOR WALL OR CEILING FINISH MATERIALS SHALL BE PERMITTED TO BE TESTED IN ACCORDANCE WITH NFPA 286.

### -INTERIOR WALL AND CEILING FINISH REQUIREMENTS BY OCCUPANCY PER TABLE 803.11

SPRINKLED	SPRINKLED					
GROUP	INTERIOR EXIT STAIRWAYS AND RAMS AND EXIT PASSAGEWAY	CORRIDORS AND ENCLOSURE FOR EXIT ACCESS STAIRWAYS AND RAMPS	ROOM AND ENCLOSED SPACES			
F-1	С	С	С			

### CHAPTER 9 - FIRE PROTECTION SYSTEMS

### AUTOMATIC SPRINKLER SYSTEM 903

AN AUTOMATIC SPRINKLER SYSTEM SHALL BE PROVIDED THROUGHOUT ALL BUILDINGS CONTAINING A GROUP F-1 OCCUPANCY WHERE ONE OF THE FOLLOWING CONDITION EXISTS:

### 1. A GROUP F-1 FIRE AREA EXCEEDS 12,000 SQUARE FEET

### 903.3.1.1 NFPA 13 SPRINKLER SYSTEM.

WHERE THE PROVISION OF THIS CODE REQUIRE THAT A BUILDING OR PORTION THERE OF BE EQUIPPED THROUGHOUT WITH AN AUTOMATIC SPRINKLER SYSTEM IN ACCORDANCE WITH THIS SECTION, SPRINKLER SHALL BE INSTALLED THROUGHOUT IN ACCORDANCE WITH NFPA 13 EXCEPT AS PROVIDED IN SECTION 903.3.1.1 AND 903.3.1.1.2.

### PORTABLE FIRE EXTINGUISHERS 906

-PORTABLE FIRE EXTINGUISHERS SHALL BE INSTALLED IN ALL OF THE FOLLOWING LOCATIONS: 1. IN GROUP B, F & S OCCUPANCIES.

### -GENERAL REQUIREMENTS 906.2

PORTABLE FIRE EXTINGUISHERS SHALL BE SELECTED AND INSTALLED IN

ACCORDANCE WITH THIS SECTION AND NFPA 10

-FIRE EXTINGUISHERS - 75' MAX TRAVEL DISTANCE & WHERE REQUIRED BY FIRE CODE OFFICIAL TABLE 906.3 (1) - SEE FLOOR PLAN. FINAL #, TYPE AND LOCATION TO BE DECIDED BY FIRE MARSHAL

### **CHAPTER 10 - MEANS OF EGRESS**

OCCUPANT LOAD PER SECTION 1004

SEE OCCUPANT LOAD TABLE - APPROX. 28 OCCUPANTS

### **MEANS OF EGRESS SIZING 1005**

- CALCULATIONS PER SECTION BELOW 1005.3.2

OCC. LOAD	STAIRWA	YS (INCHES)	OTHER EGRES	S COMPONENTS (INCHES)
	REQ'D	PROVIDED	REQ'D	PROVIDED
76			76x0.2 = 15.2"	(SEE FLOOR PLAN)

### **NUMBER OF EXITS AND EXIT ACCESS DOORWAYS 1006**

MIN. NUMBER OF EXITS PER STORY PER TABLE 1006.3.1

1006.3.1		
OCCUPANT LOAD	MIN. # OF EXITS OR ACCESS TO EXITS FROM STORY	PROVIDED
1-500	2	2 (FACHLEVEL)

### **EXIT AND EXIT ACCESS DOORWAY CONFIGURATION 1007**

-THE DISTANCE OF EXITS SHALL BE APART EQUAL TO NOT LESS THAN ONE HALF OF THE LENGTH OF THE MAXIMUM OVERALL DIAGONAL DIMENSION OF THE BUILDING

EXCEPTION 2. WHERE A BUILDING IS EQUIPPED THROUGHOUT WITH AN AUTOMATIC SPRINKLER SYSTEM IN ACCORDANCE WITH SECTION 903.3.1.1 OR 903.3.1.2, THE SEPARATION DISTANCE SHALL BE NOT LESS THAN A ONE-THIRD OF THE LENGHT OF THE MAXIMUN OVERALL DIAGONAL DIMANESION OF THE AREA SERVERD.

### **MEANS OF EGRESS ILLUMINATION 1008**

-MEANS OF EGRESS ILLUMINATION SHALL BE PROVIDED IN THE MEANS OF EGRESS IN ACCORDANCE WITH SECTION 1008.2. UN PER EMERGENCY POWER, MEANS OF EGRESS ILLUMINATION SHALL COMPLY WITH SECTION 1008.3.

### **ACCESSIBLE MEANS OF EGRESS 1009**

\* (2) ACCESSIBLE MEANS OF EGRESS PROVIDED IN THE BUILDING

### -ACCESSIBLE MEANS OF EGRESS 1009.2

EACH REQUIRED ACCESSIBLE MEANS OF EGRESS SHALL BE CONTINUOUS TO A PUBLIC WAY AND SHALL CONSIST OF ONE OR MORE OF THE FOLLOWING COMPONENTS.

1.ACCESSIBLE ROUTES COMPLYING WITH 1104

### DOOR, GATES AND TURNSTILES 1010

- SIZE OF DOORS 1010.1.1 THE REQUIRED CAPACITY OF EACH DOOR OPENING SHALL BE SUFFICIENT FOR THE OCCUPANT LOAD THEREOF AND SHALL PROVIDE A MIN. CLEAR WIDTH OF 32".

### (ALL DOORS IN PROJECT ARE 34" CLEAR WIDTH OR WIDER)

DOOR HANDLE, PULL, LATCHES, LOCKS AND OTHER OPERATING DEVICES ON DOORS REQUIRED TO BE ACCESSIBLE BY CHAPTER 11 SHALL NOT REQUIRED TIGHT GRASPING, TIGHT PINCHING OR TWISTING OF THE WRIST TO OPERATE.

- THRESHOLD 1010.1.7 THRESHOLD AT DOORWAYS SHALL NOT EXCEED 1/2" ABOVE FINISH FLOOR OR LANDING.

### - HARDWARE HEIGHT1010.1.9.2 DOOR HANDLES, PULLS, LATCHES, LOCKS AND OTHER OPERATING DEVICES SHALL BE INSTALLED AT 34" MIN.

AND 48" MAX. ABOVE FINISH FLOOR.

### **EXIT ACCESS TRAVEL DISTANCE 1017**

-TRAVEL DISTANCE PER TABLE 1017.2:

OCCUPANCY	WITH SPRINKLER SYSTEM (FEET)	PROVIDED
F-1	250 FEET	200 FEET OR LESS

### **CHAPTER 11- ACCESSIBILITY**

BUILDING IS DESIGNED IN ACCORDANCE WITH CHAPTER 11 OF THE

### 2018 IBC AS WELL AS THE 2010 ADA STANDARDS

CAN APPROACH, ENTER AND EXIT THE WORK AREA.

-1103.2.2 EMPLOYEE WORK AREAS. SPACES AND ELEMENTS WITHIN EMPOYEE WORK AREAS SHALL ONLY BE REQUIRED TO COMPLY WITH SECTION 907.5.2.3.1, 1009 AND 1104.3.1 AND SHALL BE DESIGN AND CONSTRUCTED SO THAT INDIVIDUALS WITH DISABILITIES

### - SITE ARRIVAL POINTS 1104.1

AT LEAST ONE ACCESSIBLE ROUTE WITHIN THE SITE SHALL BE PROVIDED FROM PUBLIC TRANSPORTATION STOPS, ACCESSIBLE PARKING, ACCESSIBLE PASSENGER LOADING ZONES AND PUBLIC STREETS OR SIDEWALKS TO THE ACCESSIBLE BUILDING ENTRANCE SERVED.

### - PUBLIC ENTRANCE 1105.1

IN ADDITION TO ACCESSIBLE ENTRANCES REQUIRED BY SECTIONS 1105.1.1 THROUGH 1005.1.7, AT LEAST 60 PERCENT OF ALL PUBLIC ENTRANCES SHALL BE ACCESSIBLE

### CHAPTER 29- PLUMBING

\*RESTROOMS AND DRINKING FOUNTAIN FACILITIES WILL BE PROVIDED IN A SEPARATE BUILDING AS PART OF THE CAMPUS

REQUIRED		PROVIDED	
MINIMUM PLUMBING FACILITI	ES (SECTION 2902)	MINIMUM PLUMBING FACILITI	ES (SECTION 2902)
TOTAL OCCUPANTS:	76	TOTAL OCCUPANTS:	76

TOTAL OCCUPANTS:	70	TOTAL OCCUPANTS:	76
WATER CLOSET:	1 PER 100	WATER CLOSET:	2 (ONE MALE AND ONE FEMALE RESTROOM
LAVATORIES:	1 PER 100	LAVATORIES:	2 (ONE, EACH RESTROOM)
DRINKING FOUNTAIN	1PER 400	DRINKING FOUNTAIN	1
SERVICE SINK:	1	SERVICE SINK:	1

### 2901.2 SEPARATE FACILITIES WHERE PLUMBING FIXTURES ARE REQUIRED, SEPARATE FACILITIES SHALL BE PROVIDED FOR EACH SEX.

2902.3.3 LOCATION OF TOILET FACILITIES IN OCCUPANCIES OTHER THAN MALLS. IN OCCUPANTIONS OTHER THAN COVERED AND OPEN MALL BUILDINGS, THE REQUIRED PUBLIC AND EMPLOYEE TOILET FAICLITIES SHALL BE LOCATED NOT MORE THAN ONE STORY ABOVE OR BELOW THE SPACE REQUIRED TO BE PROVIDED WITH TOILET FACILITIES, AND THE PATH OF TRAVEL TO SUCH FACILITIES SHALL NOT EXCEED A DISTANCE OF 500 FEET.

\*EXCEPTION: THE LOCATION AND MAXIMUN DISTANCES OF TRAVEL TO REQUIRED EMPOYEE FACILITIES IN FACTORY AND INDUSTRIAL OCCUPANCIES ARE PERMITTED TO EXCEED THAT REQUIRED BY THIS SECTION, PROVIDED THAT THE LOCATION AND MAXIMUN DISTANCE OF TRAVEL ARE APPROVED.

REQUIRED PUBLIC FACILITIES SHALL BE PROVIDED WITH SIGNS THAT DESIGNATE THE SEX AS REQUIRED BY SECTION 2901.2. SIGNS SHALL BE REDILY VISIBLE AND LOCATED NEAR THE ENTRANCE TO EACH TOILET FACILITY. SIGNS FOR ACCESSIBLE TOILET FACILITIES SHALL COMPLY WITH SECTION 1111.

### 2902.5 DRINKING FOUNTAIN LOCATION.

DRINKING FOUNTAIN SHALL NOT BE REQUIRED TO BE LOCATED IN INDIVIDUALTENANT SPACES PROVIDED THAT PUBLIC DRINKING FOUNTAINS ARE LOCATED WITHIN A DISTANCE OF TRAVEL OF 500 FEET OF THE MOST REMOTE LOCATION IN

LOWER LEVEL FLOOR PLAN · 1/16" = 1'-0"

**FLOOR PLAN GENERAL NOTE:** 

REFER TO ADDITIONAL NOTES AND REQUIREMENTS ON ALL OTHER

DOCUMENTS, DISCIPLINES AND SPECIFICATIONS.

EXTERIOR DIMENSIONS ARE TYPICALLY INDICATED TO THE EXTERIOR FACE OF THE STEEL STRUCTURE/GRID LINE UNLESS OTHERWISE NOTED.

INTERIOR PARTITION DIMENSIONS ARE TYPICALLY INDICATED TO THE FACE OF STUDS OR CMU UNLESS OTHERWISE NOTED.

ALL SITE INFO, FIXTURES AND EQUIPMENT SHOWN ON THIS SHEET IS PROVIDED FOR COORDINATION PURPOSES ONLY. THE LAYOUT IS CONSIDERED CONCEPTUAL. REFER TO CIVIL, MECHANICAL, ELECTRICAL, PLUMBING, FIRE SPRINKLER, LIFE-SAFETY, ETC. DOCUMENTS FOR SPECIFIC DESIGN INFORMATION.

FOR WALL TYPES NOT SEEN ON PLAN REFER TO WALL SECTIONS AND

REFER TO ENLARGED PLANS IF ITS AVAILABLE FOR ADDITIONAL EXTERIOR AND INTERIOR INFORMATION.

BUILDING STRUCTURAL ELEMENTS SUCH MAIN FRAMES AND COLUMNS ARE SHOWN FOR REFERENCE ONLY. SEE STRUCTURAL AND PEMB DRAWINGS

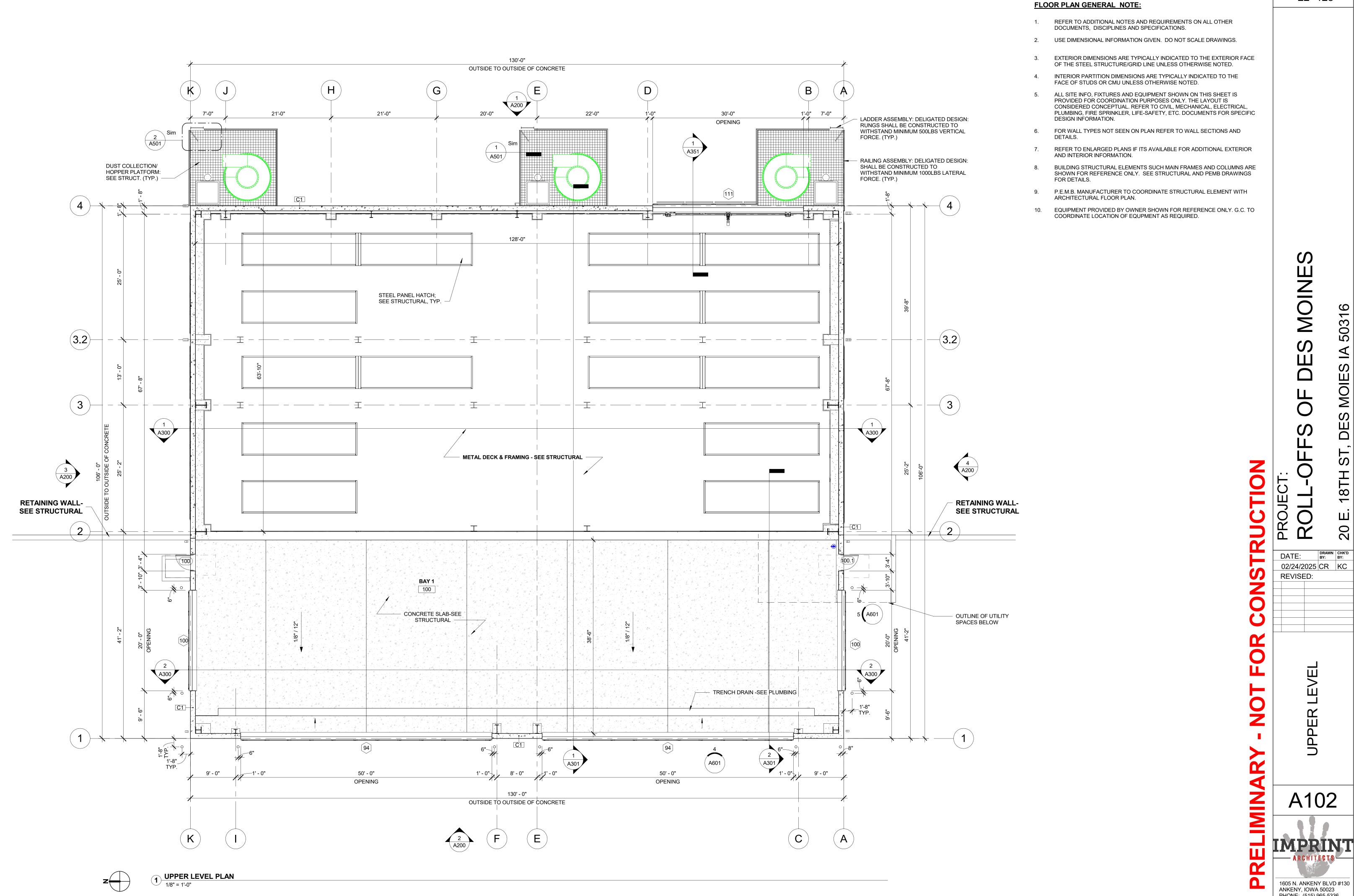
P.E.M.B. MANUFACTURER TO COORDINATE STRUCTURAL ELEMENT WITH ARCHITECTURAL FLOOR PLAN.

EQUIPMENT PROVIDED BY OWNER SHOWN FOR REFERENCE ONLY. G.C. TO COORDINATE LOCATION OF EQUPMENT AS REQUIRED.

> 02/24/2025 CR KC REVISED:

22- 125

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22- 125

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ALL ROOF SLOPES, INCLUDING FLATTENED ROOF AREAS TO OBTAIN POSITIVE DRAINAGE. PROVIDE TAPERED RIGID INSULATION TO MAINTAIN MINIMUM 1/4" PER FOOT SLOPE AT ALL FLATTENED ROOF AREAS AND CRICKETS.

INSULATE AND SEAL TO ENSURE ADEQUATE AIR INFILTRATION BARRIER AROUND ALL EXTERIOR PENETRATIONS TO PREVENT WATER AND SPRINKLER PIPE FREEZING.

ALL CURBS AND VENTS SHALL MEET THE 8" MIN. FLASHING HEIGHT REQUIREMENT.

CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING WATER TIGHT CONDITION AT ALL TIMES DURING CONSTRUCTION.

SEE EXTERIOR ELEVATION FOR INFORMATION REGARDING DOWNSPOUTS. SEE STRUCTURAL FOR SLEEVE FOOTING DETAIL

PROVIDE PARAPET BRACING AS REQUIRED.

### DOWNSPOUT AND GUTTERS

MIN. GUTTER SIZE: 7" WIDE X 5" DEPTH

MIN. DOWNSPOUT: 4" WIDE X 3" DEPTH

SEE EXTERIOR ELEVATION FOR ADDITIONAL INFORMATION AND FINISH

PROJECT: 02/24/2025 CR JS REVISED:

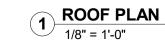
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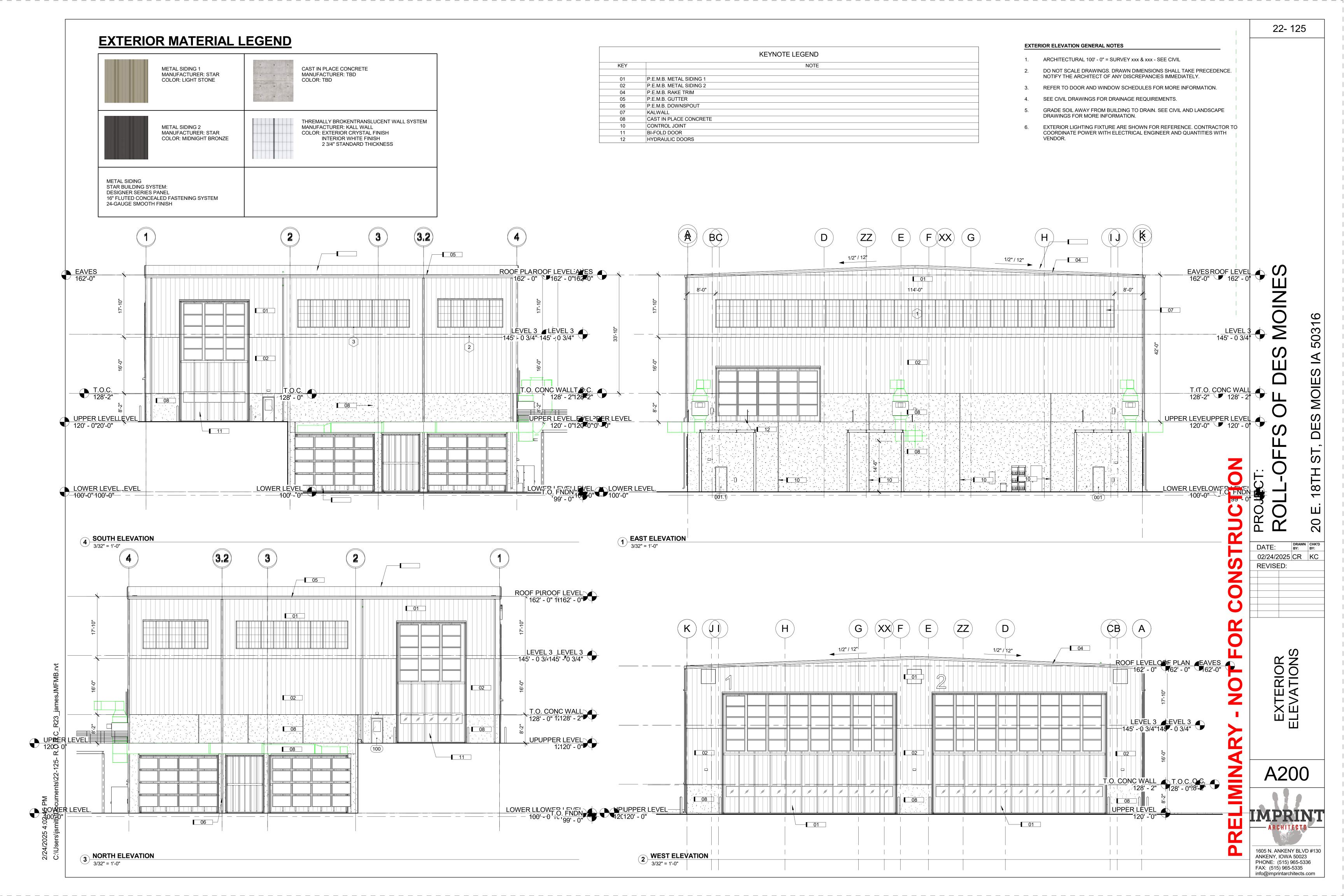
D.S. 4"x3" D.S. -4" KINGRIB ROOF PROVIDED BY OWNER--INSTALL BY GC-1/2" / 12"\_\_\_ \_\_1/2" / 12"\_\_ SNOW GUARD - SNOW GUARD D.S. 4"x3" (TYP) 7"x5" MIN. P.E.M.B GUTTER; 1/8" SLOPE MIN. TO D.S. (TYP.) 7"x5" MIN. P.E.M.B GUTTER; 1/8" MIN. SLOPE TO D.S. (TYP) D.S. RIDGE CAP BY P.E.M.B RAKE TRIM BY P.E.M.B

- RAKE TRIM BY P.E.M.B



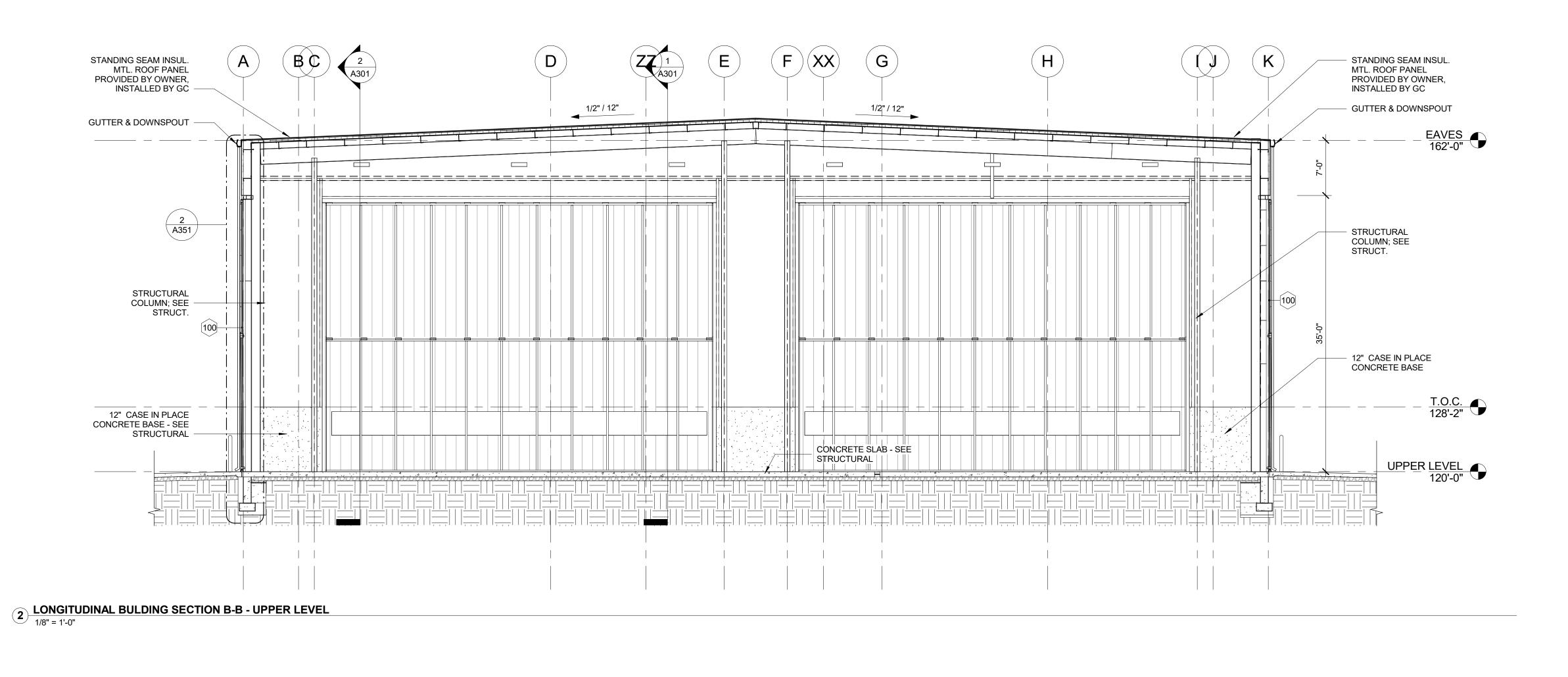


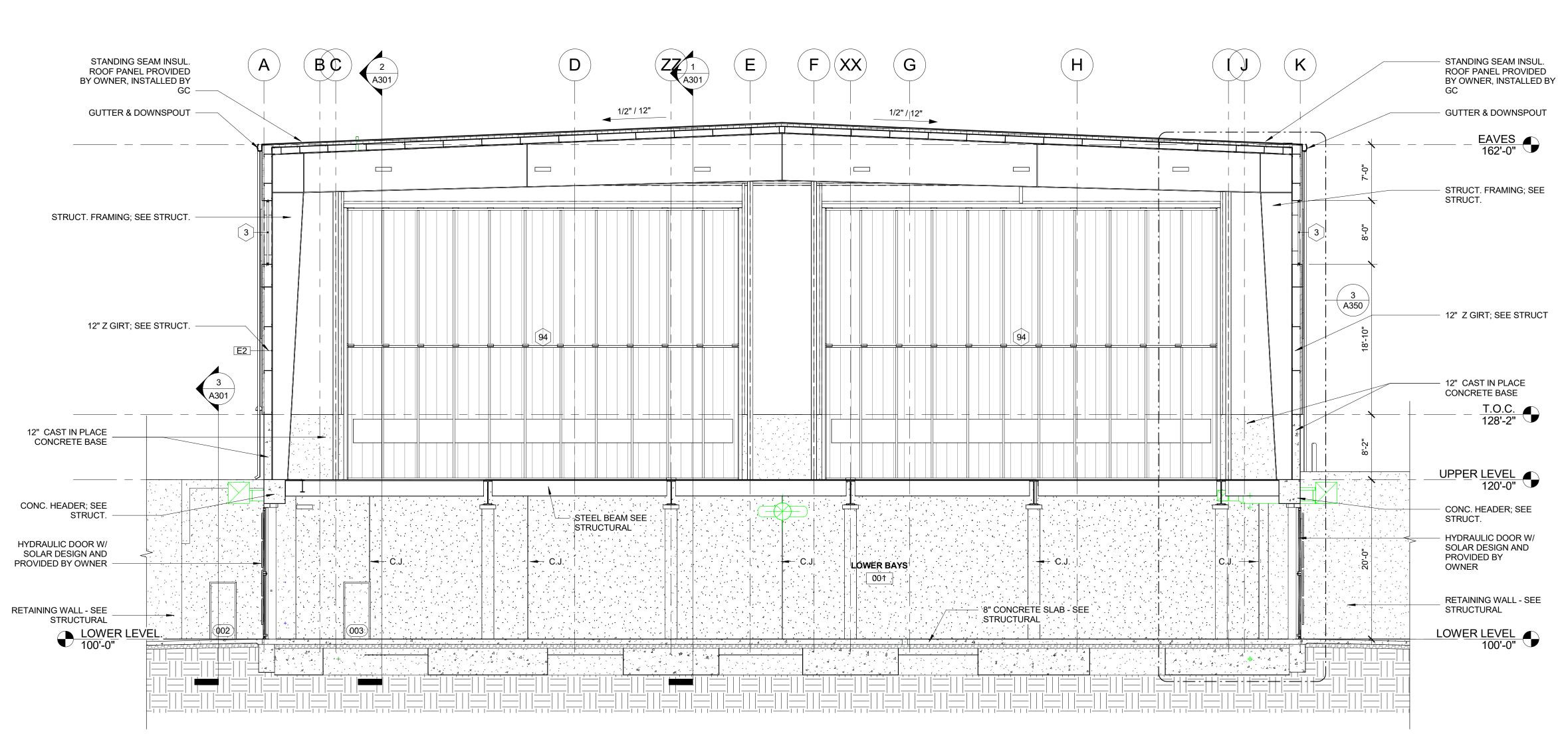
D.S.



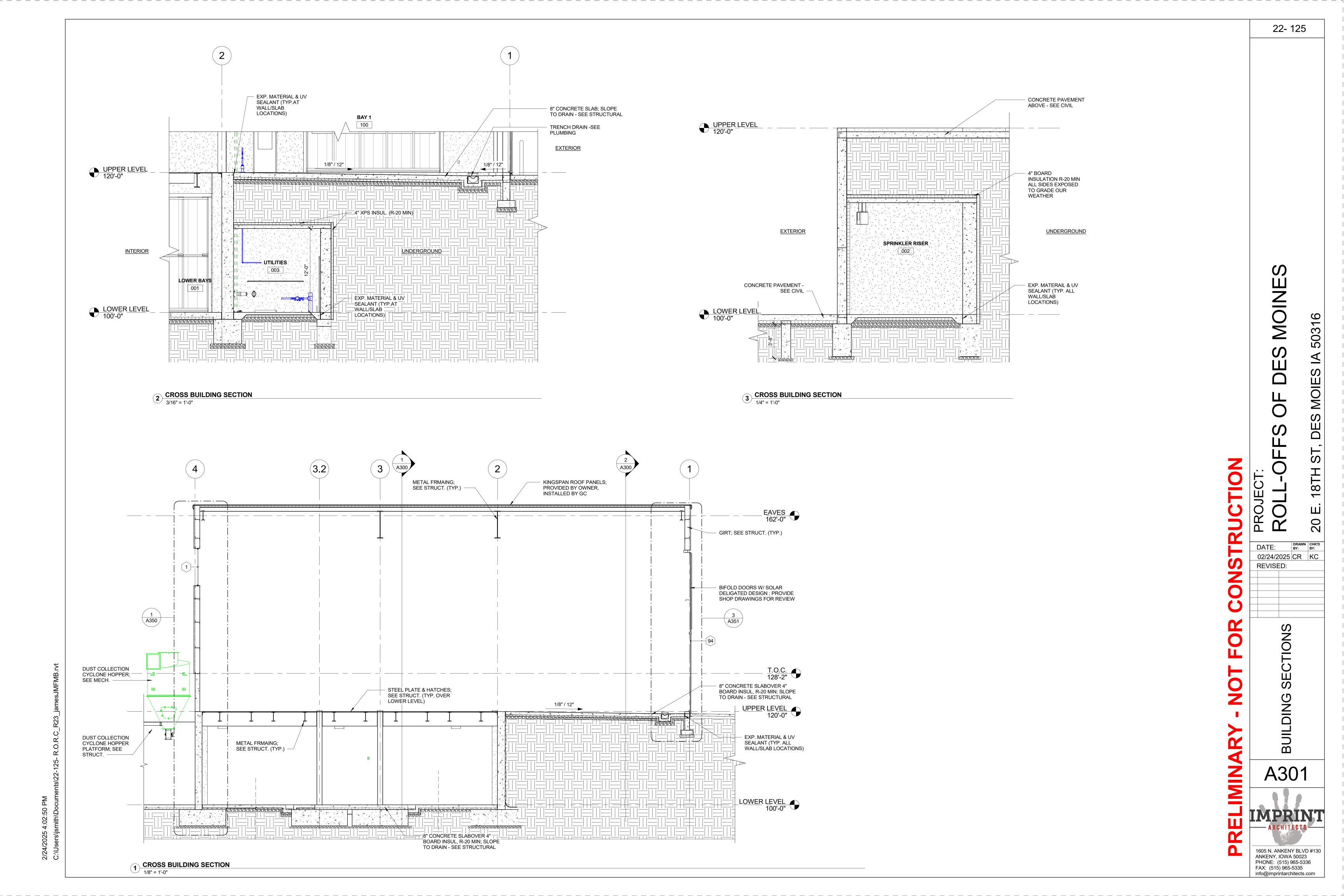
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1 LONGITUDINAL BULDING SECTION B-B - UPPER AND LOWER LEVEL



DOOR & FRAME SCHEDULE	DOOR AND FRAME GENERAL NOTES	22- 125
DOOR NO.   ROOM   WD   HT   TK   TYPE   L   GLAZ   TYPE   MTRL   GLAZ   HDWR   REMARKS	<ol> <li>G.C. TO COORDINATE PLAN OPENING WIDTH DIMENSIONS W/ SCHEDULE.</li> <li>SAFETY GLAZING SHOULD BE INSTALLED AT THE FOLLOWING LOCATIONS: INGRESS AND EGRESS DOORS         <ul> <li>FIXED AND SLIDING PANELS OF SLIDING DOOR ASSEMBLIES AND PANELS IN SWINGING DOORS.</li> </ul> </li> </ol>	
001   LOWER BAYS   3'-0"   7'-0"   1 3/4"   F   HM     HM-001   HM     1   GALVANIZED H.M. H.D.     001.1   LOWER BAYS   3'-0"   7'-0"   1 3/4"   F   HM     HM-001   HM     1   GALVANIZED H.M. H.D.     002   SPRINKLER RISER   3'-0"   7'-0"   1 3/4"   F   HM     HM-001   HM     2   GALVANIZED H.M. H.D. INSULATED     003   UTILITIES   3'-0"   7'-0"   1 3/4"   F   HM     HM-001   HM     2   GALVANIZED H.M. H.D.     100   BAY 1   3'-0"   7'-0"   1 3/4"   HG   HM   GLAZING   HM-001   HM     1   GALVANIZED H.M. H.D.	B. FIXED OR OPERABLE PANELS ADJACENT TO A DOOR WHERE THE NEAREST EXPOSED EDGE OF THE GLAZING IS WITHIN A 24" ARC OF EITHER VERTICAL EDGE OF THE DOOR IN A CLOSED POSITION AND WHERE THE BOTTOM EXPOSED EDGE OF THE GLAZING IS LESS THAN 60" ABOVE THE WALKING SURFACE. C. GLAZING IN AN INDIVIDUAL OR OPERABLE PANEL, OTHER THAN	
100	THOSE LOCATIONS NOTED ABOVE THAT MEETS <u>ALL</u> OF THE FOLLOWING CONDITIONS:  1. EXPOSED AREA OF AN INDIVIDUAL PANE GREATER THAN 9 SQ. FT.  2. EXPOSED TOP EDGE GREATER THAN 36" ABOVE THE FLOOR.	
HARDWARE SET 1  • ENTRY LOCKSET • STORAGE LOCKSET • (3) HINGE • (3) HINGE • EXIT HARDWARE • EXIT HARDWARE • EXIT HARDWARE	3. ONE OR MORE WALKING SURFACES WITHIN 36" HORIZONTALLY OF THE PLANE OF THE GLASS.  4. EXPOSED BOTTOM EDGE LESS THAN 18" ABOVE THE FLOOR D. AS OTHERWISE SPECIFIED.  3. INSTALL FIRE RESISTANT GLASS AS REQUIRED FOR RATING AT ALL RATED DOOR/ FRAME OPENINGS WITH GLASS.	
<ul> <li>(3) SILENCER</li> <li>CLOSER</li> <li>CLOSER</li> <li>RESTRICTOR BAR</li> <li>KICKPLATE</li> <li>THRESHOLD</li> <li>THRESHOLD</li> <li>RAIN GUARD</li> <li>RAIN GUARD</li> <li>SAIN GUARD</li> <li>(3) SILENCER</li> <li>CLOSER</li> <li>CLOSER</li> <li>KESTRICTOR BAR</li> <li>KICKPLATE</li> <li>KICKPLATE</li> <li>THRESHOLD</li> <li>THRESHOLD</li> <li>TAIN GUARD</li> <li>RAIN GUARD</li> </ul>	<ol> <li>NO WIRE GLASS ALLOWED ON PROJECT, PROVIDE TEMPERED OR LAMINATED GLASS AS REQ'D. FOR SAFETY GLASS, AND FIRE RATED GLASS AT FIRE RATED LOCATIONS.</li> <li>ALL HOLLOW METAL DOORS, DOOR FRAMES, &amp; WINDOW FRAMES TO BE PAINTED UNLESS NOTED OTHERWISE.</li> <li>ALL DOORS ARE TO BE 1 3/4" THICK GALV. H.M. COMERCIAL GRADE 1 HEAVY</li> </ol>	
• DOOR SWEEP • DOOR SWEEP  AS SCHEDULE  AS SCHEDULE  AS SCHEDULE  AS SCHEDULE  AS SCHEDULE	DUTY UNLESS OTHERWISE NOTED OR SCHEDULED.  7. DOOR/FRAME GLAZING IS TO BE 1/4" FLOAT GLASS UNLESS REQUIRED TO BE SAFETY GLASS AS STATED IN GENERAL NOTES. NOTES FOR OBSCURE GLASS & FIRE RATED CLEAR GLASS STILL APPLY. OPENINGS NOTED AS "SOUND REDUCTION ASSEMBLY" ARE TO HAVE LAMINATED GLASS EXCEPT	
AS SCHEDULE  AS SCHEDULE  FOR AS SCHEDULE	AT RATED OPENINGS. EXTERIOR DOORS TO HAVE DOUBLE PANE INSULATING GLASS AS SPEC'D.  8. DOORS NEXT TO WALLS, NOT LOCATED BY DIMENSION ON PLANS OR DETAILS SHALL BE INSTALLED SUCH THAT THE DOOR, WHEN IN THE FULL OPEN POSITION AGAINST WALL STOP, IS PARALLEL TO ADJACENT WALL. COORDINATE WITH DOOR HARDWARE.	
S SCHEDULE S SCHEDULE	9. HM FRAMES TO BE PROVIDED FULL DEPTH OF WALL ASSEMBLY UNLESS NOTED OTHERWISE.	SШ
F HG HM - 001	DOOR HARDWARE GENERAL NOTES  1. ALL LOCKS SHALL BE REMOVABLE CYLINDER TYPE, MASTER KEYED.(CONTRACTOR TO COORDINATE KEYING WITH OWNER) 2. THUMB TURN LOCKS ARE NOT ALLOWED. DEADBOLTS ARE ONLY ALLOWED	9 NO
DOOR ELEVATION DOOR FRAME	PER CODE. 3. PROVIDE HARDWARE FOR ALL DOORS AS NOTED. HARDWARE SHALL BE HEAVY DUTY COMMERCIAL GRADE 4. ALL EXTERIOR DOORS: (UNLESS OTHERWISE NOTED) A. SHALL BE FULLY INSULATED, HEAVY-DUTY CONSTRUCTION.	S M(
	B. FRAMES SHALL BE HEAVY-DUTY HOLLOW METAL CONSTRUCTION. C. SHALL HAVE LEVER STYLE ADA DOOR HANDLES AND/OR PULLS. D. SHALL HAVE LOCKING DEVICES. PANIC HARDWARE AT REQUIRED EXITS. 5. ALL INTERIOR DOORS: (UNLESS OTHERWISE NOTED) A. SHALL BE SOLID-CORE, WOOD.	三 三 S I/
	B. DOORS BETWEEN FULL HVAC AND REDUCED HVAC SPACES SHALL BE FULLY INSULATED. C. FRAMES SHALL BE HEAVY DUTY HOLLOW METAL CONSTRUCTION.  GLASS KEY	OF D
	S SAFETY GLAZING VISION GLASS SPANDREL GLASS	FS , DE
	TRANSLUCENT PANEL SYSTEM BASIS OF DESIGN:	T: -OF TH ST
	-MANUFACTURER: KALLWALL  -THERMALLY BROKEN STANDARD WALL SYSTEM  - 2 3/4" CONTINUOUS TRANSLUCENT PANEL SYSTEM. CRYSTAL EXTERIOR FINISH AND WHITE INTERIOR FINISH.	OJEC <b>JLL</b> E. 18 <sup>°</sup>
	CICTOTAL EXTERIOR FINISH AND WHITE INTERIOR FINISH.	DATE: DRAWN CHK'D BY: BY:
		02/24/2025 CR KC  REVISED:
18'-8"  VERTICAL MULLEN @ EQ. SPACING  VERTICAL MULLENS @ EQ. SPACING	S	
	S C	
	<u> </u>	RAME
2  LEVEL 3  LEVEL 3  LEVEL 3  LEVEL 3  145' - 0 3/4"  TRANSLUCENT PANEL SYSTEM 2. SEE NORTH 8 SOUTH ELEVATION		7 & F HEDI
TRANSLUCENT PANEL SYSTEM - 2 - SEE NORTH & SOUTH ELEVATION  1/4" = 1'-0"  TRANSLUCENT PANEL SYSTEM - 3 - SEE NORTH & SOUTH ELEVATION  1/4" = 1'-0"		)         
VERTICAL MULLEN @ EQ. SPACING		<b>A COO</b>
		A600
		IMPRINT  ARCHITECTS
3 TRANSLUCENT PANEL SYSTEM -1 - SEE EAST ELEVATION — — — — — — — — — — — — — — — — — — —	LEVEL 3 145' - <mark>0 3/</mark> 4"	DOS N. ANKENY BLVD #130 ANKENY, IOWA 50023 PHONE: (515) 965-5336 FAX: (515) 965-5335

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22- 125

BI-FOLD DOOR AND FRAME GENERAL NOTES

ALL BI-FOLD DOORS SHALL BE DELIGATED DESIGN. PROVIDE SHOP DRAWINGS AND CALCULATIONS WITH ALL STRUCTURAL AND ASSEMBLY COMPONENTS LABELED, SIZED, DIMENSIONED, AND REACTIONS STAMPED AND SIGNED BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF IOWA FOR DESIGN TEAM REVIEW. FABRICATION SPECIAL INSPECTIONS SHALL BE REQUIRED FOR ALL GC SELF FABRICATED COMPONENTS; SEE STRUCTURAL DRAWINGS.

ALL ITEMS, EQUIPMENT, AND FIXTURES MOUNTED TO DOOR PANELS SHALL BE INCLUDED IN SHOP DRAWINGS AND DOOR, FRAME, AND REACTION

3. G.C. TO COORDINATE PLAN OPENING/FRAME WIDTH DIMENSIONS.

LAMINATED POLYCARBONATE GLAZING SHOULD BE INSTALLED ON ALL BI-FOLD DOORS WHERE GLAZING IS SHOWN.

BI-FOLD DOOR HARDWARE GENERAL NOTES

1. ALL LOCKS AND HARDWARE SETS SHALL BE INCLUDED WITH DOOR SHOP DRAWINGS AND INCLUDE REMOVABLE CYLINDER TYPE, MASTER

KEYED (CONTRACTOR TO COORDINATE KEYING WITH OWNER) 2. BI-FOLD DOOR HARDWARE SHALL BE HEAVY DUTY COMMERCÍAL GRADE

PROJECT: REVISED:

02/24/2025 CR KC

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- 1. ALL WORK SHALL CONFORM TO THE REQUIREMENTS OF ALL APPLICABLE LOCAL, STATE, AND NATIONAL CODES, AS WELL AS LOCAL UTILITY REQUIREMENTS. PROVIDE ALL REQUIRED ACCESSORIES AND EQUIPMENT FOR A COMPLETE OPERATIONAL SYSTEM AND MAINTAIN WARRANTY REQUIREMENTS. VERIFY ALL EQUIPMENT PROVIDED IS SUITABLE FOR INTENDED USE.
- OPERATIONAL SYSTEM.
- 3. ALL MATERIALS AND EQUIPMENT SHALL BE NEW AND SHALL CONFORM TO GRADE, QUALITY, AND STANDARDS SPECIFIED HEREIN.
- PRODUCED AND RECOMMENDED FOR SERVICE IN ACCORDANCE WITH ENGINEERING DATA, RATINGS, OR OTHER COMPREHENSIVE LITERATURE MADE AVAILABLE TO THE PUBLIC AND IN EFFECT AT THE TIME OF
- 5. INSTALL HANGERS AND SUPPORTS AS REQUIRED TO ADEQUATELY AND SECURELY SUPPORT MECHANICAL SYSTEM COMPONENTS IN A NEAT AND WORKMANLIKE MANNER. DO NOT FASTEN SUPPORTS TO PIPES, DUCTS, MECHANICAL EQUIPMENT, OR CONDUIT.
- 6. ALL EQUIPMENT SHALL BE INSTALLED IN STRICT ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS FOR TYPE AND CAPACITY OF EACH PIECE OF EQUIPMENT USED.
- 8. PLUMBING SYSTEMS SHALL BE TESTED WITH WATER OR AIR AND PROVEN TIGHT TO THE SATISFACTION OF
- 9. ALL WATER PIPING SHALL BE STERILIZED IN ACCORDANCE WITH A.W.W.A. SPECIFICATION C601-53T.
- A. PVC PIPE: ASTM D2665 OR ASTM D3034.

- a. COPPER PIPE: ASTM B42, HARD DRAWN.
- FITTINGS: ASME B16.18, CAST COPPER ALLOY OR ASME B16.22 WROUGHT COPPER AND BRONZE.

- FITTINGS: ASME B16.18, CAST COPPER ALLOY OR ASME B16.22, WROUGHT COPPER AND BRONZE.
- MECHANICAL PRESS SEALED FITTINGS: DOUBLE-PRESSED TYPE, NSF 61 AND NSF 372 APPROVED
- OR CERTIFIED, UTILIZING EPDM, NONTOXIC, SYNTHETIC RUBBER SEALING ELEMENTS.
- MANUFACTURERS:
- 2. UPONOR, INC: WWW.UPONORENGINEERING.COM
- 4. ZURN INDUSTRIES, LLC: WWW.ZURN.COM
- 160 PSIG AT MAXIMUM 73 DEGREES F.
- FITTINGS: BRASS AND COPPER.
- FITTINGS: BRASS AND ENGINEERED POLYMER (EP) ASTM F1960.
- JOINTS: ASTM F1960 COLD-EXPANSION FITTINGS.
- DIRECTLY FROM STRUCTURE OR TRUSSES.
- CONNECTIONS.
- BY CODE. COORDINATE LOCATIONS WITH ENGINEER. 17. CONTRACTOR(S) SHALL UNCONDITIONALLY WARRANTY IN WRITING ALL MATERIALS, EQUIPMENT, AND
- WORKMANSHIP FOR ONE YEAR FROM DATE OF ACCEPTANCE BY OWNER, CONTRACTOR(S) SHALL PROVIDE FREE SERVICE FOR ALL EQUIPMENT INVOLVED IN THEIR CONTRACT DURING THE WARRANTY PERIOD.
- 18. PROVIDE O&M MANUALS FOR ALL PLUMBING SYSTEMS AND EQUIPMENT TO OWNER WITHIN 30 DAYS OF FINAL COMPLETION.
- 19. COORDINATE UNDERFLOOR STUB-UP LOCATIONS AND INVERT ELEVATIONS PRIOR TO START OF WORK.

2.	WORK NOT SPECIFICALLY SHOWN IN DETAIL, REFERENCED, OR OTHERWISE IMPLIED, SHALL BE PROVIDED IN
	ACCORDANCE WITH TRADE OR INDUSTRY BEST STANDARD PRACTICES TO PROVIDE A COMPLETE

- 4. ALL EQUIPMENT LISTED UNDER THESE SPECIFICATIONS SHALL BE LIMITED TO PRODUCTS REGULARLY

- 7. ALL EXPOSED PIPES PASSING THROUGH WALLS, FLOORS, CEILINGS, ETC, SHALL BE PROVIDED WITH SOLID PATTERN HEAVY ESCUTCHEONS WITH SET SCREW UNLESS OTHERWISE NOTED, ESCUTCHEONS AND PLATES SHALL BE STEEL OR MALLEABLE IRON WITH PRIME COAT READY FOR PAINTING.
- REPRESENTATIVES OF THE OWNER AND/OR CODE INSPECTORS.
- 10. SANITARY, AND VENT PIPING:
  - a. FITTINGS: PVC,DWV PATTER
  - b. JOINTS: SOLVENT WELDED, WITH ASTM D2564 SOLVENT CEMENT.
- 11. DOMESTIC WATER PIPING:
- A. BELOW GRADE:
- b. CROSS-LINKED POLYETHYLENE (PEX) PIPE: ASTM F876 OR ASTM F877.
- PPI TR-4 PRESSURE DESIGN BASIS:
- 160 PSIG AT MAXIMUM 73 DEGREES F.
- B. ABOVE GRADE:
- a. COPPER TUBE: ASTM B88 (ASTM B88M), TYPE L (B), DRAWN (H).
- JOINTS: ASTM B32, ALLOY SN95 SOLDER.
- b. CROSS-LINKED POLYETHYLENE (PEX) PIPE: ASTM F876 OR ASTM F877.
  - 1. SHARKBITE, A BRAND OF RELIANCE WORLDWIDE CORPORATION: WWW.SHARKBITE.COM
  - 3. VIEGA LLC: WWW.VIEGA.US
- PPI TR-4 PRESSURE DESIGN BASIS:

- 14. NO LOADS SHALL BE PERMITTED TO BE HUNG FROM ROOF DECKING. ALL HANGERS SHALL BE HUNG
- 15. PROVIDE SHUT OFF VALVES ON DOMESTIC COLD WATER PIPE BRANCHES AND ALL FIXTURE/EQUIPMENT
- 16. PROVIDE CLEANOUTS WHERE SHOWN ON DRAWINGS, AT MINIMUM OF 100 FT INTERVALS AND AS REQUIRED

- 20. COORDINATE LOCATIONS OF PLUMBING FIXTURES WITH ARCHITECTURAL PLANS AND ALL OTHER TRADES PRIOR TO ROUGH-IN.

				PLUMBING FIXTUR	E SCHEDULE						
				Basis of Design		Connec	ction Size	Approved			
Mark	Description	Manufacturer Model		Description	Trim	CW	HW	Waste	Vent	Manufacturers	Notes
RH-1	Roof Hydrant	Woodford	SRH-MS	Freezless, level handle hydrant specifically designed for roof installation with intergral double check backflor prenetor. Hydrant shall drain when hose is disconnected. Provide cast iron hydrant support including under deck flange, seal, and EPDM boot.		3/4"				Watts, Zurn	
TD-1	Trench Drain - 12" Wide	Zurn	Z874-12-HDG	Internally sloped, high density polyethylene trench drain system. Provide catch basins at outlet.	Class E ductile iron sloted grate, ductile iron top rails.			4"		Smiths, Watts	
TD-2	Trench Drain - 18" Wide	Zurn	Z874-18-HDG	Internally sloped, high density polyethylene trench drain system. Provide catch basins at outlet.	Class E ductile iron sloted grate, ductile iron top rails.			4"		Smiths, Watts	

Provide with extra key.

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JMBING NOT SCHEDULES

22-125

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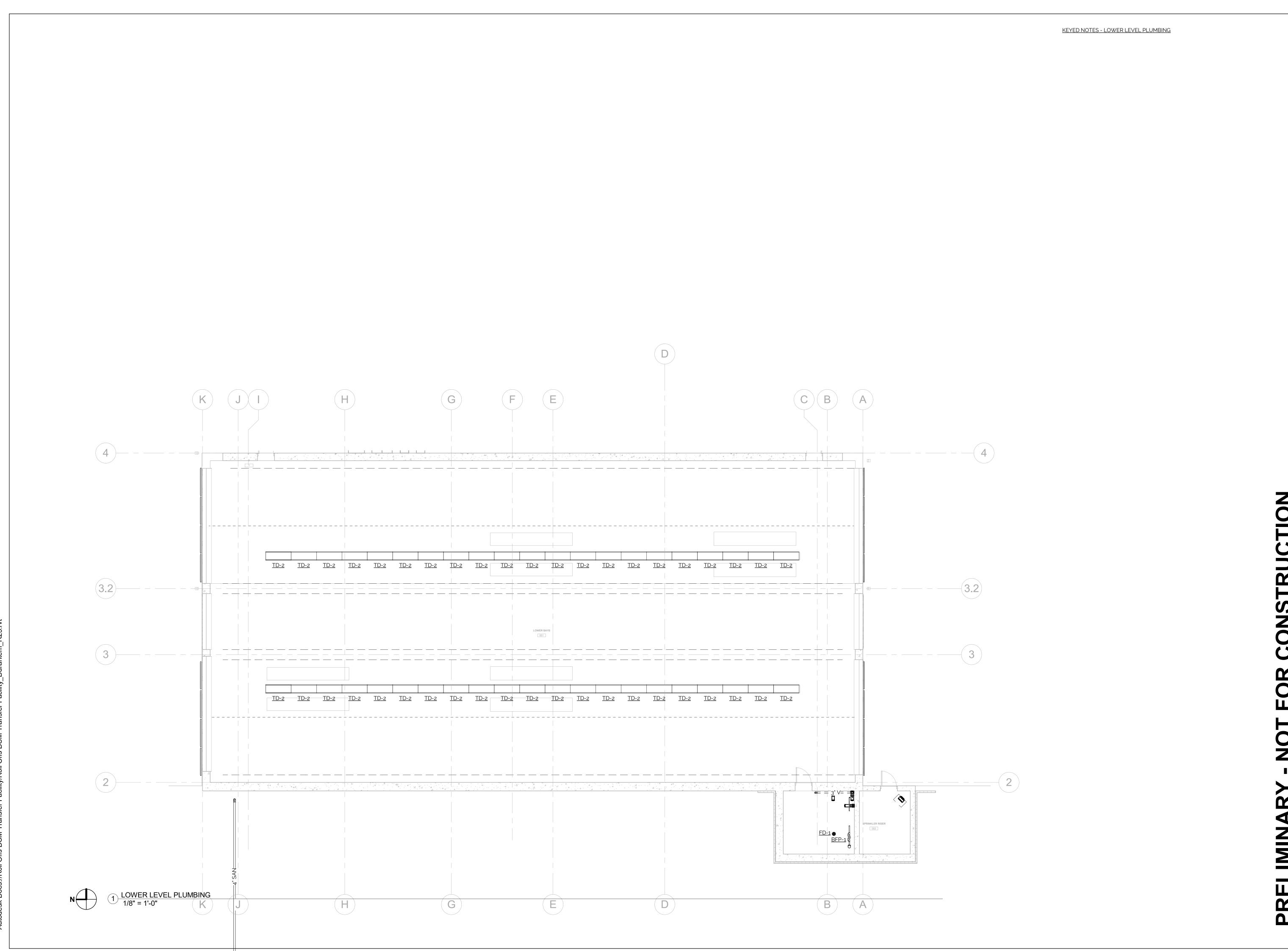
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MOINES

22-125



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LOWER LEVEL PLUMBING PLAN

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22-125

MOINES

22-125

UPPER LEVEL PLUMBING PLAN

- 2. WORK NOT SPECIFICALLY SHOWN IN DETAIL, REFERENCED, OR OTHERWISE IMPLIED, SHALL BE PROVIDED IN ACCORDANCE WITH TRADE OR INDUSTRY BEST STANDARD PRACTICES TO PROVIDE A COMPLETE
- 3. ALL MATERIALS SHALL BE NEW AND SHALL BE OF THE TYPE AND SHALL MEET THE CAPACITIES OF EQUIPMENT SPECIFIED ON THE DRAWINGS.
- 4. ALL EQUIPMENT LISTED UNDER THESE SPECIFICATIONS SHALL BE LIMITED TO PRODUCTS REGULARLY PRODUCED AND RECOMMENDED FOR SERVICE IN ACCORDANCE WITH ENGINEERING DATA, RATINGS, OR OTHER COMPREHENSIVE LITERATURE MADE AVAILABLE TO THE PUBLIC AND IN EFFECT AT THE TIME OF OPENING BIDS.
- 5. EQUIPMENT SHALL BE INSTALLED IN STRICT ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS AND CODE REQUIREMENTS FOR TYPE AND CAPACITY OF EACH PIECE OF EQUIPMENT USED.
- 6. ALL CUTTING AND PATCHING REQUIRED FOR MECHANICAL WORK SHALL BE PERFORMED BY THE MECHANICAL CONTRACTOR UNLESS NOTED OTHERWISE. ALL FINISHED SURFACES THAT ARE CUT SHALL BE REPLACED IN KIND SO THERE IS NO VISIBLE EVIDENCE OF CUTTING AND/OR PATCHING.
- 7. INSTALL HANGERS AND SUPPORTS AS REQUIRED TO ADEQUATELY AND SECURELY SUPPORT MECHANICAL SYSTEM COMPONENTS IN A NEAT AND WORKMANLIKE MANNER. DO NOT FASTEN SUPPORTS TO PIPES, DUCTS, MECHANICAL EQUIPMENT, OR CONDUIT.
- 8. ALL ROOF PENETRATIONS SHALL BE SEALED BY ROOFING CONTRACTOR. COORDINATE PENETRATIONS WITH ALL TRADES.
- 9. ALL DUCTWORK, ELBOWS, TRANSITIONS, CONNECTIONS, ETC SHALL BE BUILT AND SEALED IN ACCORDANCE
- WITH SMACNA AND NFPA 90A STANDARDS AND GUIDELINES. A. DUCTS: G60 GALVANIZED STEEL, UNLESS OTHERWISE INDICATED.
- B. LOW PRESSURE SUPPLY (HEATING SYSTEMS): 2 INCH W.G. PRESSURE CLASS, GALVANIZED STEEL.C. LOW PRESSURE SUPPLY (SYSTEM WITH COOLING COILS): 2 INCH W.G. PRESSURE CLASS, GALVANIZED
- D. RETURN AND RELIEF: 1 INCH W.G. PRESSURE CLASS, GALVANIZED STEEL.
- E. GENERAL EXHAUST: 1 INCH W.G. PRESSURE CLASS, GALVANIZED STEEL.
- F. FLAT OVAL DUCTS: MACHINE MADE FROM ROUND SPIRAL LOCKSEAM DUCT.
- G. SPIRAL DUCTS: ROUND SPIRAL LOCKSEAM DUCT WITH GALVANIZED STEEL OUTER WALL.
  H. ROUND DUCTS: ROUND LOCKSEAM DUCT WITH GALVANIZED STEEL OUTER WALL.
- I. FLEXIBLE DUCTS: TWO PLY VINYL FILM SUPPORTED BY HELICALLY WOUND SPRING STEEL WIRE.
  a. PRESSURE RATING: 10 INCHES WG ( 2.50 KPA ) POSITIVE AND 1.0 INCHES WG ( 250 PA ) NEGATIVE.
- 10. ALL EXPOSED DUCTWORK AND ACCESSORIES IN FINISHED AREAS SHALL BE PAINTED. REFER TO ARCHITECTURAL FOR COLOR.
- 11. COORDINATE DUCTWORK ROUTING AND EQUIPMENT WITH BUILDING STRUCTURE AND ALL OTHER TRADES.
- 12. DUCTWORK DIMENSIONS ARE INTERNAL FREE AREA DIMENSIONS. LINED DUCTWORK SIZE SHALL BE INCREASED TO MAINTAIN REQUIRED FREE AREA. MAXIMUM HEIGHT OF DUCTWORK AND INSULATION SHALL BE LESS THAN 16".
- 13. DUCTWORK SUPPORTS SHALL BE SECURED TO STRUCTURE AT 5'-0" ON CENTER.
- 14. FLEXIBLE DUCTWORK SHALL ONLY BE ALLOWED WITHIN 5'-0" OF AIR TERMINAL. FLEXIBLE DUCTWORK SHALL BE PROPERLY SUPPORTED IF TURNING AN ANGLE GREATER THAN 30-DEGREES.
- 15. PROVIDE VIBRATION ISOLATORS FOR MOTORIZED EQUIPMENT HUNG FROM STRUCTURE. HANG EQUIPMENT IN ACCORDANCE WITH THE INTERNATIONAL MECHANICAL CODE AND ALL OTHER REQUIREMENTS.
- 16. PROVIDE FLEXIBLE DUCT CONNECTIONS IMMEDIATELY UPSTREAM AND DOWNSTREAM OF ALL MOTORIZED EQUIPMENT.
- 17. PROVIDE BALANCING DAMPERS ON ALL DUCT BRANCHES AS REQUIRED TO BALANCE SYSTEM. DAMPERS INCLUDED WITH DIFFUSERS AND GRILLES DO NOT CONSTITUTE AS BALANCING DAMPERS.
- 18. DUCT INSULATION:
- A. GLASS FIBER, FLEXIBLE
  a. INSULATION: ASTM C553; FLEXIBLE, NONCOMBUSTIBLE BLANKET.
- a. INSULATION. ASTM C553, FLEXIBLE, NONCOMBOSTIBLE BLANKET.b. VAPOR BARRIER JACKET: KRAFT PAPER WITH GLASS FIBER YARN AND BONDED TO ALUMINIZED FILM.
- B. GLASS FIBER, RIGIDa. INSULATION: ASTM C612; RIGID, NONCOMBUSTIBLE BLANKET.
- b. VAPOR BARRIER JACKET: KRAFT PAPER WITH GLASS FIBER YARN AND BONDED TO ALUMINIZED FILM.
  C. DUCT LINER
- a. GLASS FIBER INSULATION: NON-CORROSIVE, INCOMBUSTIBLE GLASS FIBER COMPLYING WITH ASTM C1071; FLEXIBLE BLANKET AND RIGID BOARD; IMPREGNATED SURFACE AND EDGES COATED WITH POLY VINYL ACETATE POLYMER, ACRYLIC POLYMER, OR BLACK COMPOSITE.
- D. INSULATION SCHEDULE:
- a. SUPPLY DUCT IN CONCEALED AREAS: 1-1/2" FLEXIBLE WRAPb. SUPPLY DUCT IN UNCONDITIONED/EXTERIOR AREAS: 2" RIGID GLASS FIBER
- b. SUPPLY DUCT IN UNCONDITIONED/EXTERIORc. OUTSIDE AIR DUCT: 2" RIGID GLASS FIBER
- d. EXHAUST DUCT WITH-IN 3' OF EXTERIOR WALL OR ROOF: 1-1/2" FLEXIBLE WRAP.e. RETURN DUCT, SOUND ELBOWS AND TRANSFER DUCT: 1" LINER
- 19. ALL EXPOSED MATERIALS SHALL BE PLENUM RATED.
- 20. NO LOADS SHALL BE PERMITTED TO BE HUNG FROM ROOF DECKING. ALL HANGERS SHALL BE HUNG DIRECTLY FROM STRUCTURE.
- 21. OUTSIDE AIR INTAKES SHALL BE LOCATED A MINIMUM OF TEN (10) FEET HORIZONTALLY OR THREE (3) FEET VERTICALLY BELOW ANY EXHAUST OUTLET OR PLUMBING VENT AS REQUIRED BY THE INTERNATIONAL MECHANICAL CODE AND ALL OTHER REQUIREMENTS.
- 22. PROVIDE THIRD PARTY TESTING AND BALANCING OF MECHANICAL SYSTEM. REPORT RESULTS TO OWNER.
- 23. PROVIDE AS-BUILT DRAWINGS FOR MECHANICAL SYSTEMS WITHIN 30 DAYS OF FINAL COMPLETION.
- 24. PROVIDE 0&M MANUALS FOR ALL SYSTEMS AND EQUIPMENT TO OWNER WITHIN 30 DAYS OF FINAL COMPLETION.
- 25. COORDINATE LOCATIONS OF CEILING FIXTURES AND DEVICES WITH ALL TRADES. ALIGN CENTERLINE OF FIXTURES AND DEVICES WHEREVER POSSIBLE.

						PUMP SCHI	EDULE									
					<b>Suction Size</b>	Discharge Size	Impeller Diameter	Flow	Head				Motor			
Mark	Manufacturer	Model	Configuration	Serves	(in)	(in)	(in)	(gpm)	(ft)	Fluid	bHP	HP	RPM	Voltage	Phase	Notes
CP-1	Wilo	Star E 21	Close Coupled Inline	RFM-1				7.6	8.2	Water	0.05	0.25	3,603	115	1	1,2,3
CP-2	Wilo	Star E 21	Close Coupled Inline	RFM-2				7.7	5.1	Water	0.03	0.25	3,135	115	1	1,2,3
CP-3	Wilo	Stratos-MAXO 1.5x3-52 1	Close Coupled Inline	SMM-1				32.7	42.6	Water	0.59	1.05	3,518	115	1	1,2,3

### <u>Notes:</u>

1. Provide with integral speed controller.

Pump shall be non-overloading.

2.1 drip shall be non overtedaing.	
3. Approved manufacturers: Bell & Gossett, Tag	co, Wilo

				F	RADIANT FLO	OR MANIFOLE	SCHEDULE					
Mark	Zone Qty	Circuit Qty	Pipe Spacing (in)	Area (sqft)	Output (Btuh/sqft)	Surface Temp (°F)	Circuit Length (ft)	Flowrate (gpm)	Head Loss (ft)	EWT (°F)	LWT (°F)	Notes
RFM-1	2	10	12	2,110	27.4	95.1	2,795	7.58	10.1	95	75	1,2,3,4
RFM-2	2	11	12	2,132	27.4	95.1	2,939	7.66	7.0	95	75	1,2,3,4
SMM-1	1	11	9	2,195	1,974.4	85	3,252	32.65	47.3	149	119	1,2,3,4
Notes:												

### 1. 5/8" diameter PEX pipe.

- 2. Provide stainless steel manifold system with individual loop balancing valves and flow gauge.
- 3. Provide floor sensor for each zone.
- 4. Each manifold shall include isolation valves on supply and return piping.

	EXHAUST FAN SCHEDULE														
			Equipment		Airflow	ESP		Power	Elec	trical					
Mark	Manufacturer	Model	Served	Drive	(cfm)	(in WC)	RPM	(hp)	Volts	Phase	dBA	Notes			
EF-1	Cook	290-MHA-HD	DC-1	Belt	32,000	1.5	845	50	460	3	89	1,2,3			
EF-2	Cook	290-MHA-HD	DC-2	Belt	32,000	1.5	845	50	460	3	89	1,2,3			
EF-3	Cook	290-MHA-HD	DC-3	Belt	32,000	1.5	845	50	460	3	89	1,2,3			

### <u>Notes:</u>

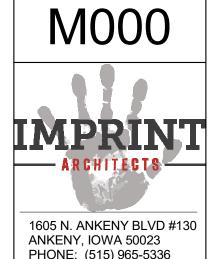
1. Provide with premium efficiency motor, shaft grounding ring, hinged access door, drain, and OSHA shaft w/ belt guard.
2. Approved manufacturers: Acme, Cook, Twin City Fans

ELECTRIC HEATER SCHEDULE													
				Airflow	Capacity		Elect	rical					
Mark	Manufacturer	Model	Туре	(cfm)	(W)	Voltage	Phase	MCA	МОСР	Notes			
EUH-1	Qmark	MUH0381	Unit Heater	350	3.0	208	1	15	20	1,2			

### 1 Droi

- 1. Provide with ceiling mounting bracket, integral disconnect, and integral thermostat.
- 2. Approved Manufacturers: Berko, Indeeco, Markel, Qmark, Redd-i

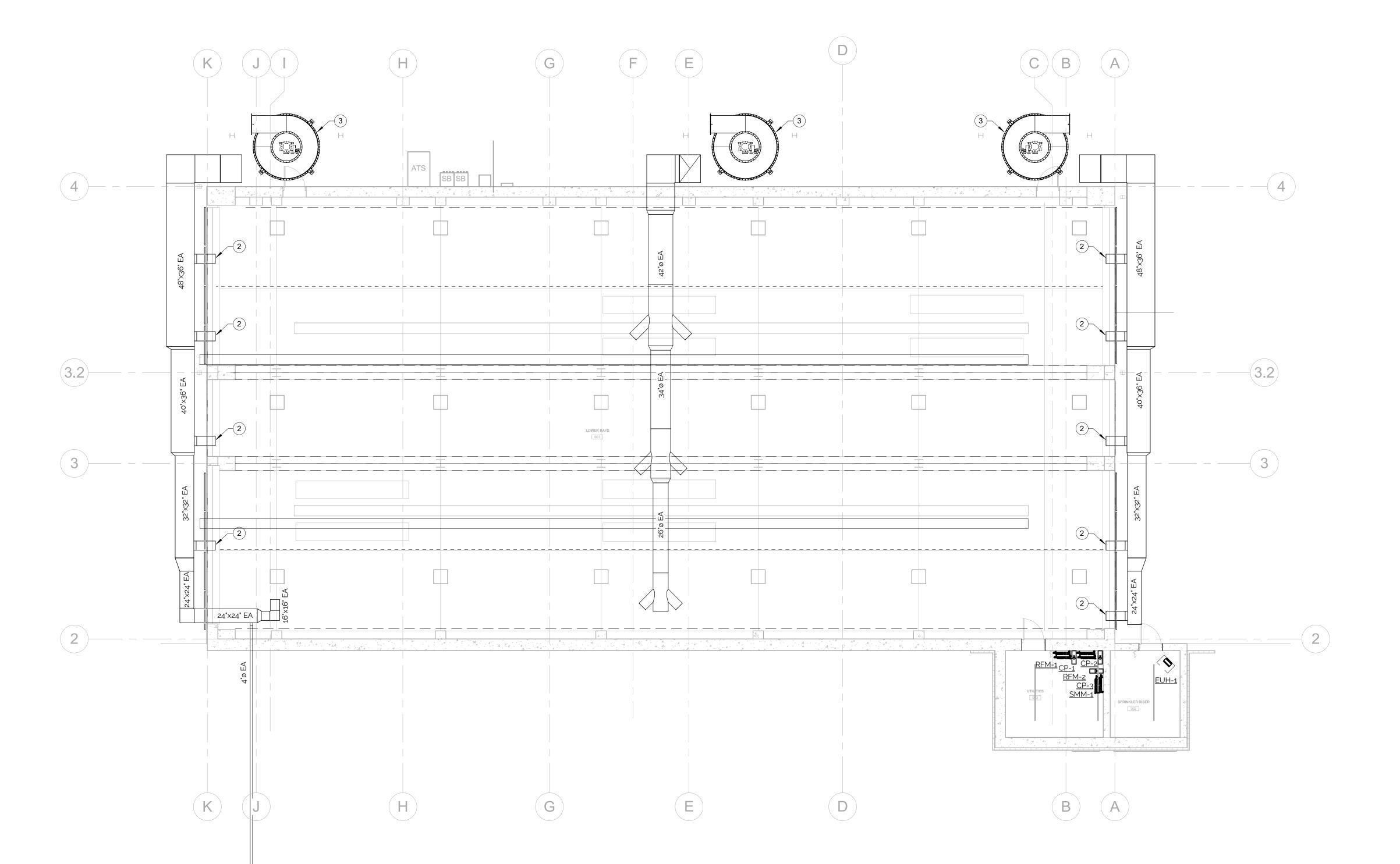
MECHANIC 8 SCHE



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MOINES

- ROUTE 4"Ø EA BELOW GRADE AND CONNECT TO VERTICAL SANITARY PIPING
- FROM TRENCH DRAIN.
- 16"x16" EA THROUGH WALL. TERMINATE OPEN DUCT ~6" INSIDE WALL. PROVIDE AERODYNE GPC-84V DUST COLLECTION CYCLONE SYSTEM WITH POWERED ROTARY VALVE. MOUNT BOTTOM OF SYSTEM AT 15'-0" AFG. COORDINATE WITH ARCHITECTURAL AND STRUCTURAL DRAWINGS.



DATE:

02/24/2025 REVISED:

LOWER LEVEL MECHANICAL PLA

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1 LOWER LEVEL MECHANICAL 1/8" = 1'-0"

REVISED: UPPER LEVEL MECHANICAL PLA

DATE: 02/24/2025

MOINES

22-125

### **ELECTRICAL NOTES:**

- 1. ALL WORK SHALL CONFORM TO THE REQUIREMENTS OF ALL APPLICABLE LOCAL, STATE, AND NATIONAL CODES, AS WELL AS LOCAL UTILITY REQUIREMENTS. PROVIDE ALL REQUIRED ACCESSORIES AND EQUIPMENT FOR A COMPLETE OPERATIONAL SYSTEM AND MAINTAIN WARRANTY REQUIREMENTS. VERIFY ALL EQUIPMENT PROVIDED IS SUITABLE FOR INTENDED USE. INSTALL ALL EQUIPMENT IN STRICT ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.
- 2. WORK NOT SPECIFICALLY SHOWN IN DETAIL, REFERENCED, OR OTHERWISE IMPLIED, SHALL BE PROVIDED IN ACCORDANCE WITH TRADE OR INDUSTRY BEST STANDARD PRACTICES TO PROVIDE A COMPLETE OPERATIONAL SYSTEM.
- 3. CIRCUIT ROUTING INDICATED IS DIAGRAMMATIC. WHEN CIRCUIT DESTINATION IS INDICATED AND ROUTING IS NOT SHOWN, DETERMINE EXACT ROUTING
- 4. COORDINATE EXACT WIRING REQUIREMENTS WITH MANUFACTURER'S REQUIREMENTS FOR EACH FIXTURE AND PIECE OF EQUIPMENT.

- a. ALL CONDUCTORS SHALL BE COPPER. ALUMINUM CONDUCTORS ARE NOT PERMITTED UNLESS OTHERWISE NOTED.
- b. NONMETALLIC SHEATHED CABLE, ARMORED CABLE, AND METAL-CLAD CABLE ARE NOT PERMITTED.
- EXCEPTION: MC CABLING IS ALLOWED FOR CONNECTIONS TO RECESSED LIGHT FIXTURES. LENGTH SHALL NOT EXCEED 5'-0".
- a. 20A CIRCUITS UP TO 75' SHALL BE MINIMUM SIZE #12 AWG CONDUCTORS.
- b. 20A CIRCUITS FROM OVER 75' AND UNDER 150' SHALL BE MINIMUM SIZE #10 AWG CONDUCTORS. c. 20A CIRCUITS OVER 150' AND UNDER 250' SHALL BE MINIMUM SIZE #8 AWG CONDUCTORS.
- d. 20A CIRCUITS ABOVE 250' SHALL BE MINIMUM SIZE #6 AWG CONDUCTORS.
- e. CONTROL CIRCUITS SHALL BE MINIMUM SIZE #14 AWG CONDUCTORS. f. WHERE CONDUCTOR SIZING IS NOT INDICATED, SIZE TO COMPLY WITH NFPA 70 AND MANUFACTURER'S REQUIREMENTS. COMPLY WITH LARGEST
- SIZE REQUIRED. C. SINGLE CONDUCTOR BUILDING WIRE
  - a. FEEDERS AND BRANCH CIRCUITS
  - SIZE #10 AWG AND SMALLER: SOLID. SIZE #8 AWG AND LARGER: STRANDED.
  - CONTROL CIRCUITS: STRANDED. b. INSULATION
  - VOLTAGE RATING: 600V
  - COPPER BUILDING WIRE: TYPE THHN/THWN OR THHN/THWN-2 EXCEPT AS NOTED BELOW:
  - SIZE #4 AWG AND LARGER: TYPE XHHW-2. 2. INSTALLED UNDERGROUND: TYPE XHHW-2.
- 6. INSTALL HANGERS AND SUPPORTS AS REQUIRED TO ADEQUATELY AND SECURELY SUPPORT ELECTRICAL SYSTEM COMPONENTS IN A NEAT AND WORKMANLIKE MANNER AS SPECIFIED IN NECA 1. DO NOT FASTEN SUPPORTS TO PIPES, DUCTS, MECHANICAL EQUIPMENT, OR CONDUIT.
- 7. CONDUIT
- A. INSTALL CONDUIT SECURELY IN A NEAT AND WORKMANLIKE MANNER AS SPECIFIED IN NECA 1.
- B. INSTALL NO MORE THAN EQUIVALENT OF THREE 90 DEGREE BENDS BETWEEN BOXES. USE CONDUIT BODIES TO MAKE SHARP CHANGES IN DIRECTION, AS AROUND BEAMS. SUPPORT CONDUIT USING COATED STEEL OR MALLEABLE IRON STRAPS, LAY-IN ADJUSTABLE HANGERS, CLEVIS HANGERS, AND SPLIT HANGERS.
- C. APPLICATIONS
- a. UNDERGROUND: RIGID PVC.
- b. CONCEALED WITHIN MASONRY OR HOLLOW STUD WALLS OR ABOVE ACCESSIBLE CEILINGS: ELECTRICAL METALLIC TUBING (EMT).
- c. INTERIOR DAMP OR WET LOCATIONS: GALVANIZED STEEL RIGID METAL CONDUIT.
- d. EXPOSED INTERIOR, NOT SUBJECT TO PHYSICAL DAMAGE: ELECTRICAL METALLIC TUBING (EMT).
- e. EXPOSED INTERIOR, SUBJECT TO PHYSICAL DAMAGE: GALVANIZED STEEL RIGID METAL CONDUIT OR INTERMEDIATE METAL CONDUIT (IMC). f. LOCATIONS SUBJECT TO PHYSICAL DAMAGE INCLUDE, BUT ARE NOT LIMITED, TO LOCATIONS WHERE CONDUIT IS EXPOSED BELOW 8'-0", EXCEPT
- WITHIN ELECTRICAL/COMMUNICATIONS ROOMS AND CLOSETS.
- g. EXPOSED EXTERIOR: GALVANIZED STEEL RIGID METAL CONDUIT OR PVC-COATED GALVANIZED STEEL RIGID METAL CONDUIT. h. CONNECTIONS TO VIBRATING EQUIPMENT
- DRY LOCATIONS: FLEXIBLE METAL CONDUIT.
- DAMP, WET, OR CORROSIVE LOCATIONS: LIQUIDTIGHT FLEXIBLE METAL CONDUIT. k. MAXIMUM LENGTH: 6 FEET UNLESS OTHERWISE INDICATED.
- a. BRANCH CIRCUITS: 1/2" TRADE SIZE.
- b. BRANCH CIRCUIT HOMERUNS: 3/4" TRADE SIZE. c. FLEXIBLE CONNECTIONS TO LUMINAIRES: 3/8" TRADE SIZE.
- d. UNDERGROUND, INTERIOR: 3/4" TRADE SIZE.
- e. UNDERGROUND, EXTERIOR: 1" TRADE SIZE.
- f. WHERE CONDUIT SIZE IS NOT INDICATED, SIZE TO COMPLY WITH NFPA 70 BUT NOT LESS THAN APPLICABLE MINIMUM SIZE REQUIREMENTS
- 8. INSTALL DISCONNECT SWITCHES, CONTROLLERS, CONTROL STATIONS, AND CONTROL DEVICES TO COMPLETE EQUIPMENT WIRING REQUIREMENTS.
- 9. JUNCTION BOXES SHALL NOT BE LOCATED IN NON-ACCESSIBLE LOCATIONS.
- 10. USE FAR-SIDE SUPPORT TO SECURE FLUSH-MOUNTED BOXES SUPPORTED FROM SINGLE STUD IN HOLLOW STUD WALLS. REPAIR OR REPLACE SUPPORTS FOR BOXES THAT PERMIT EXCESSIVE MOVEMENT.
- 11. NO LOADS SHALL BE PERMITTED TO BE HUNG FROM ROOF DECKING. ALL HANGERS SHALL BE HUNG DIRECTLY FROM STRUCTURE OR SUPPLEMENTARY MEMBERS ACCEPTABLE TO THE STRUCTURAL ENGINEER AND ONLY WITH PRIOR APPROVAL.
- 12. LIGHTING CONTROLS
- A. LIGHTING CONTROL SYSTEM SHOWN IS DIAGRAMMATIC ONLY. COORDINATE EXACT CONTROLS LOCATIONS WITH MANUFACTURER'S
- B. TEST LIGHTING SYSTEMS TO ENSURE PROPER CALIBRATION, ADJUSTMENT, PROGRAMMING, AND OPERATION.
- C. TIME SWITCHES a. MANUFACTURERS: INTERMATIC, TORK.
- b. ASTRONOMICAL TIME SWITCHES
- SINGLE CHANNEL, CAPABLE OF DIFFERENT SCHEDULE FOR EACH DAY OF THE WEEK WITH ADDITIONAL HOLIDAY SCHEDULE AVAILABLE TO OVERRIDE NORMAL SCHEDULE FOR SELECTED DAYS AND FIELD-CONFIGURABLE ASTRONOMIC FEATURE TO AUTOMATICALLY ADJUST FOR
- SEASONAL CHANGES IN SUNRISE AND SUNSET TIMES.
- SCHEDULE CAPACITY: NOT LESS THAN 16 PROGRAMMABLE ON/OFF OPERATIONS.
- PROVIDE AUTOMATIC DAYLIGHT SAVINGS TIME AND LEAP YEAR COMPENSATION. PROVIDE POWER OUTAGE BACKUP TO RETAIN PROGRAMMING AND MAINTAIN CLOCK.
- MANUAL OVERRIDE: CAPABLE OF OVERRIDING CURRENT SCHEDULE BOTH PERMANENTLY AND TEMPORARILY UNTIL NEXT SCHEDULED
- PROVIDE REMOTE PHOTOCELL INPUT WITH LIGHT LEVEL ADJUSTMENT.
- INPUT SUPPLY VOLTAGE: AS REQUIRED ON DRAWINGS. D. OUTDOOR PHOTO CONTROLS
- a. MANUFACTURERS: INTERMATIC, TORK.
- b. BUTTON TYPE OUTDOOR PHOTO CONTROLS • DIRECT-WIRED PHOTO CONTROL UNIT COMPLYING WITH ANSI C136.24 WITH WEATHERPROOF GASKETED WALL PLATE, LISTED AND LABELED
  - AS COMPLYING WITH UL 773A. HOUSING: WEATHER RESISTANT POLYCARBONATE.
  - PHOTO SENSOR: CADMIUM SULFIDE. • LIGHT LEVEL ACTIVATION: 1 TO 3 FOOTCANDLES TURN-ON AND 3 TO 1 TURN-OFF TO TURN-ON RATIO WITH DELAYED TURN-OFF.
- VOLTAGE: AS REQUIRED ON DRAWINGS. FAILURE MODE: FAILS IN THE ON POSITION.
- LOAD RATING: AS REQUIRED TO CONTROL THE LOAD INDICATED ON DRAWINGS.
- 13. REFER TO PANEL SCHEDULES FOR CIRCUITING OF DEVICES SHOWN ON FLOOR PLANS.
- 14. PROVIDE TYPE-WRITTEN PANEL DIRECTORY ON ELECTRICAL PANELS. HANDWRITTEN TEXT IS NOT ACCEPTABLE.
- 15. LABEL CIRCUITS WITH TYPE-WRITTEN LABELS AT ALL EQUIPMENT AND RECEPTACLE LOCATIONS. LABELS IN COMMON AREAS AND OFFICES SHALL BE ON THE BACKSIDE OF COVER PLATES.
- 16. COORDINATE COLOR OF RECEPTACLES AND COVER PLATES TO MATCH THE COLOR SCHEME PER ARCHITECTURAL DRAWINGS.
- 18. COORDINATE LOCATIONS OF CEILING FIXTURES AND DEVICES WITH ALL TRADES. ALIGN CENTERLINE OF FIXTURES AND DEVICES WHEREVER POSSIBLE.

17. EMERGENCY LIGHTS AND EXIT SIGNS SHALL BE CONNECTED TO UNSWITCHED LEG OF CIRCUIT SERVING ADJACENT LIGHTING WITHIN THE AREA.

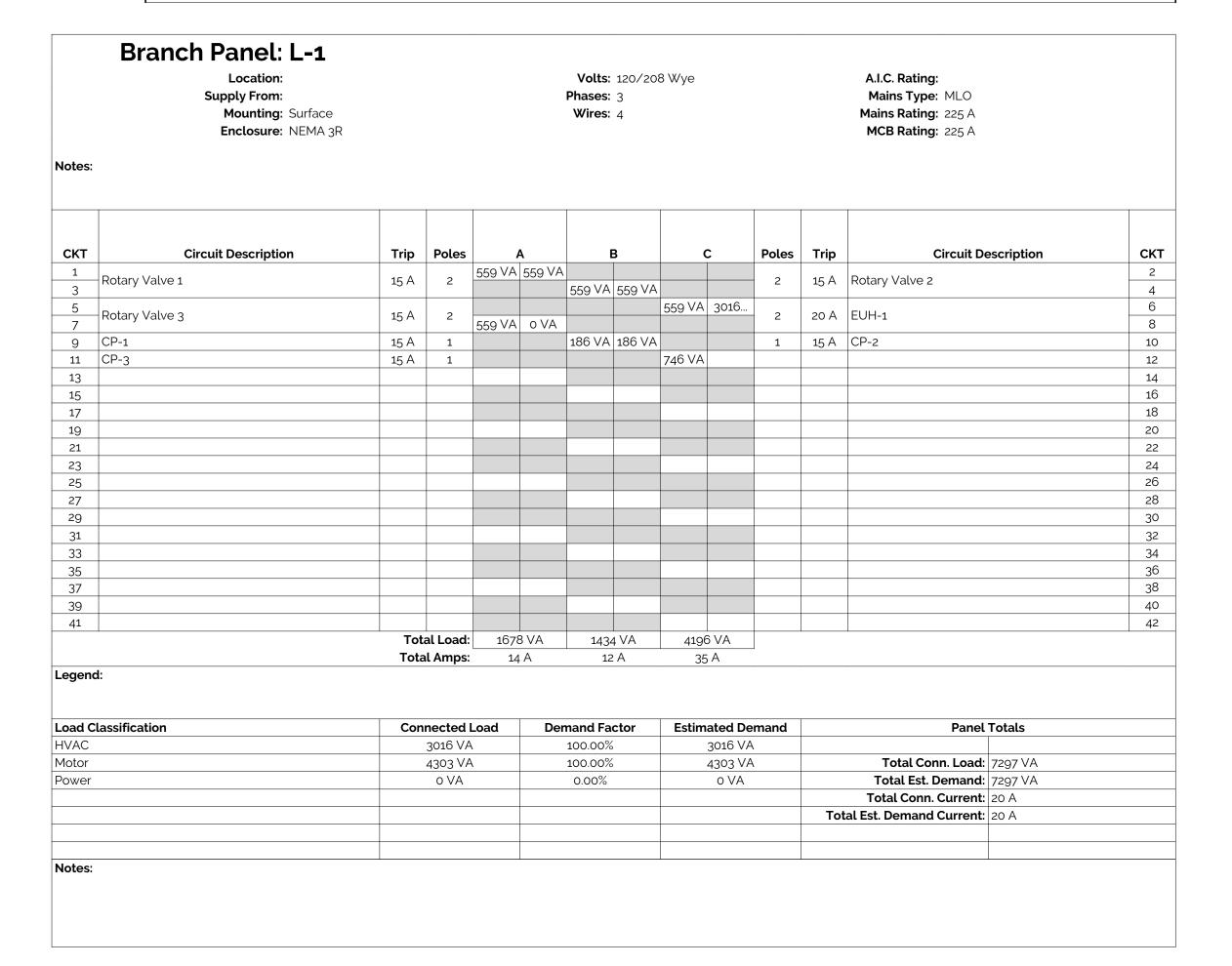
- 19. ALL EXPOSED CABLING SHALL BE PLENUM RATED.
- 20. PROVIDE AS-BUILT DRAWINGS FOR ELECTRICAL SYSTEMS WITHIN 30 DAYS OF FINAL COMPLETION.
- 21. PROVIDE 0&M MANUALS FOR ALL SYSTEMS AND EQUIPMENT TO OWNER WITHIN 30 DAYS OF FINAL COMPLETION.

					LIGHT	FIXTURE	SCHEDU	JLE										
			Basis of Design			Fixt	ure Data				Mounting Type							
											L	ocatio	n	Arr	angen	nent		
					Delivered		Efficacy		Color	CRI	eiling	all	ole	ade	pesseo	ırface		
Mark	Fixture Description	Manufacturer	Model	Driver	Lumens	Watts	(lm/w)	Voltage	Temp	(min)	ပြီ	≽	Ъс	ট	Re	Su	Options	Notes
A1	High Bay	Keystone	KT-HBLED185-2F-8XX-VDIM-P/G2	0-10V	27935	185	151	120-277	5000K	80	X					X	Mount to Bottom of Structure	

TRANSFORMER SCHEDULE										
					Voltage					
Mark	Manufacturer	Model	Туре	KVA	Primary	Secondary	Enclosure	Weight		
T1	Square D	EXN45T3H	Dry	45	480 Delta	208Y/120	NEMA 3R	370		
Notes.			,							

1. Approved Manufacturers: Eaton, Square D

Location: Enclosure: NEMA 3R Mounting:			Volts: 480 Phases: 3 Wires: 4	0/277 Wye	A.I.C. Rating: Mains Rating: 1800 A MCB Rating: 1800 A		
Notes:							
СКТ	Load Nam	e Rating	Number of Poles	True Load Phase A	A True Load Phase B	True Load Phase	
1	EF-1	100 A	3	9967 VA	9967 VA	9967 VA	
2	EF-2	100 A	3	9967 VA	9967 VA	9967 VA	
3	EF-3	100 A	3	9967 VA	9967 VA	9967 VA	
4							
5							
6							
7							
8							
9							
10							
11							
12			Total Loa	ad: 29900 VA	29900 VA	29900 VA	
			Total Amp		108 A	108 A	
Legend:							
Load Classification		Connected Load	Demand Factor	Estimated Demand	Switchboard Totals		
Cooling		89700 VA	100.00%	89700 VA			
Default					Total Conn. Load: 89700 VA		
Equipment					Total Est. Demand: 89700 VA  Total Conn. Current: 108 A		
Motor		0 \/^	Not Companies	Net Computed 2 1/A			
Power Notes:		o VA	Not Computed	o VA	Total Est. Demand Current:	100 A	





STRICAL NO SCHEDULE

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# LIMINARY - NOT FOR CONSTRUCTION

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LOWER LEVEL ELECTRICAL PLAN

SATE: 2/24/2025

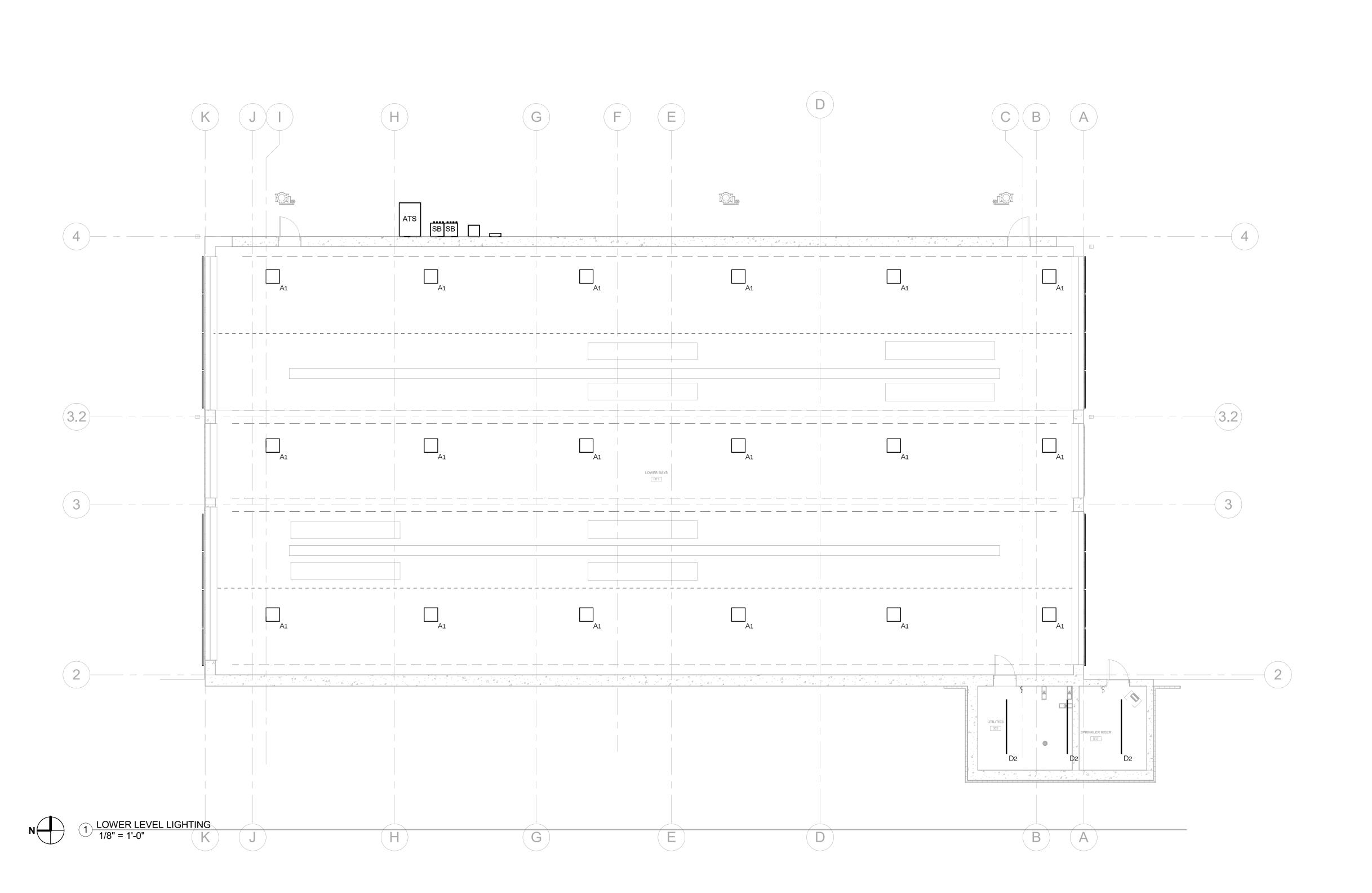
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MOINES

18TH ST, DES MOINES IA 50316

UPPER LEVEL ELECTRICAL PLAN

KEYED NOTES - LOWER LEVEL ELECTRICAL



# IMINARY - NOT FOR CONSTRUCTION

E201

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ARCHITECTS

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LOWER LEVEL LIGHTING PLAN

DATE:

O2/24/2025

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