PROJECT INFORMATION



Q39

LEE'S SUMMIT, MO
OLDHAM VILLAGE

ADDENDUM 2
10/15/25

PROJECT SUMMARY

-	EXTERIOR STEEL STUD FRAMING
-	EXTERIOR FINISHES
-	EXTERIOR CANOPY
-	LANDSCAPING

CODE SUMMARY

REF LOCAL CODE AMENDMENTS IN ADDITION TO THE CODES BELOW

APPLICABLE CODES	
BUILDING CODE	2018 INTERNATIONAL BUILDING CODE
ELECTRICAL CODE	2017 NATIONAL ELECTRICAL CODE
PLUMBING CODE	2018 INTERNATIONAL PLUMBING CODE
MECHANICAL CODE	2018 INTERNATIONAL MECHANICAL CODE
FIRE CODE	2018 INTERNATIONAL FIRE CODE
ACCESSIBILITY	ICC/ANSI A117.1-2009, ACCESSIBLE AND USABLE BUILDINGS AND FACILITIES
ENERGY CODE	2018 INTERNATIONAL ENERGY CODE
FUEL GAS CODE	2018 INTERNATIONAL FUEL GAS CODE

FUTURE / SEPARATE SUBMITTALS	
FUTURE INTERIOR SCOPE	
PLANNING AND ZONING	
FIRE	

CODE ANALYSIS

PROPOSED PRIMARY OCCUPANCY GROUP (MIXED OCCUPANCY)	
A2	RESTAURANT
S-1	STORAGE

BUILDABLE AREA	
TOTAL ALLOWABLE AREA	24,000 SF
ALLOWABLE HEIGHT	60'
TOTAL BUILDING AREA	10,179 SF
CONSTRUCTION TYPE (WOOD TO BE FIRE RETARDANT IN ACCORDANCE WITH IBC SECTION 603; ALL WOOD TO ACHIEVE CLASS "C" FLAME SPREAD PER ASTM E84)	
CONSTRUCTION TYPE	IIB; FULLY SPRINKLERED

FIRE PROTECTION (HOURLY FIRE RESISTANCE RATING REQUIREMENTS PER TABLE 601)	
LOCATION	REQUIRED / PROVIDED
STRUCTURAL FRAME	0
ROOF CONSTRUCTION	0
EXTERIOR NONBEARING WALLS	0
EXTERIOR BEARING WALLS	0
INTERIOR NONBEARING WALLS	0
INTERIOR BEARING WALLS	0
FLOOR CONSTRUCTION	0

ACCESSIBILITY NOTES

1. FLOOR SURFACES ARE SLIP RESISTANT.
2. ALL CHANGES IN FLOOR ELEVATION ALONG ACCESSIBLE ROUTE SHALL NOT EXCEED 1/2" IN HEIGHT. CHANGES BETWEEN 1/4" AND 1/2" SHALL BE CUT OR GROUND TO A BEVEL WITH 1:2 STEEPNESS.
3. LATCHING AND LOCKING DOORS ARE SPECIFIED TO BE OPERABLE WITH A SINGLE EFFORT BY HARDWARE THAT DOES NOT REQUIRE TIGHT GRASPING, PINCHING OR TWISTING OF THE WRIST. DOOR OPENING HARDWARE IS SPECIFIED TO BE MOUNTED BETWEEN 34" AND 48" ABOVE FLOOR FINISH.
4. CLOSERS FOR FIRE-RATED DOORS ARE SPECIFIED TO BE POWER LEVEL 3 FOR INTERIOR DOORS 38" OR LESS IN WIDTH.
5. MAXIMUM PULL OR PUSH EFFORT TO OPERATE NON-FIRE-RATED DOORS SHALL NOT EXCEED 8.5 POUNDS FOR EXTERIOR DOORS AND 5 POUNDS FOR INTERIOR DOORS, MEASURED AT RIGHT ANGLES TO HINGED DOORS AND AT CENTER PLANE OF SLIDING OR FOLDING DOORS. SPECIFIED CLOSERS TO BE ADJUSTED TO COMPLY.
6. ALL DOORS ARE SPECIFIED 3'-0" MINIMUM IN WIDTH AND 6'-8" MINIMUM IN HEIGHT. DOORS ARE CAPABLE OF OPENING AT LEAST 90 DEGREES WITH A MINIMUM OF 32" CLEAR WIDTH.
7. FLOOR AREAS ON EACH SIDE OF DOORS ARE SPECIFIED TO BE LEVEL AND CLEAR. THE DIMENSIONS OF THE LEVEL AREAS ARE SPECIFIED TO MEET ICC A117.1 2009 UAC AND ADA. CLEARANCE REQUIREMENTS. A MAXIMUM CHANGE IN LEVEL OF 1/2" ALLOWED AT THRESHOLD OF THE DOORWAY. CHANGES BETWEEN 1/4" AND 1/2" SHALL BE CUT OR GROUND TO A BEVEL WITH 1:2 STEEPNESS.
8. MOUNT ALL SWITCHES, RECEPTACLES, THERMOSTATS, ETC IN COMPLIANCE WITH ADA STANDARDS.

MOLD/MILDEW REQUIREMENTS

1. IN THE EVENT THE CONTRACTOR DISCOVERS, AT ANY TIME DURING DEMOLITION, CONSTRUCTION AND/OR REMODELING OPERATIONS, EXISTING CONDITIONS POTENTIALLY INCLUDING THE PRESENCE OF MOLD AND/OR MILDEW, IMMEDIATELY NOTIFY CLIENT AND THE PROFESSIONAL OF RECORD, IN WRITING, OF THE CONCERNS AND/OR SUSPICIONS.
2. RETAIN A MOLD AND MILDEW CERTIFIED TESTING AGENCY TO PERFORM AN INVESTIGATION AND TESTING AS REQUIRED TO EVALUATE THE NATURE AND EXTENT OF DAMAGES. IF THE TESTING AGENCY CONFIRMS HAZARDS, OBTAIN A MINIMUM OF TWO (2) BIDS FROM COMPANIES QUALIFIED AND LICENSED TO PERFORM ALL NECESSARY REMEDIATION WORK, COMPLYING WITH ALL LOCAL, STATE AND FEDERAL ENVIRONMENTAL REGULATIONS, CODES, AND STATUTES.
3. ONCE DISCOVERY OR SUSPICION OF MOLD AND/OR MILDEW IS MADE, TAKE ALL RESPONSIBLE MEASURES AND PRACTICE PRECAUTIONS TO PROTECT ALL CONSTRUCTION PERSONNEL AND THE PUBLIC FROM EXPOSURE TO MOLD AND/OR MILDEW. ANY SUCH PRECAUTIONS SHALL REMAIN IN PLACE UNTIL SUCH A TIME AS THE CLIENT OR HEALTH AUTHORITY DIRECTS OTHERWISE. CONSTRUCTION OPERATIONS SHALL NOT BE STOPPED OR CURTAILED, EXCEPT IN THE AREA OF MOLD/MILDEW CONCERN, DUE TO THESE REQUIRED PRECAUTIONS.
4. MAKE ALL REASONABLE EFFORTS TO AVOID CONDITIONS FAVORABLE TO THE DEVELOPMENT OF MOLD AND MILDEW, ESPECIALLY IN NON-VENTILATED VOIDS OR WALL CAVITIES. IN ALL CASES, INTERIOR SPACES AND INTERIOR FINISHED CONSTRUCTION SHALL BE MAINTAINED IN DRY AND WELL-VENTILATED CONDITIONS.
5. COMPLY WITH FEDERAL ENVIRONMENTAL AND OSHA REGULATIONS AND ALL LOCAL AND STATE HEALTH DEPARTMENT REQUIREMENTS AND RECOMMENDATIONS REGARDING MOLD AND MILDEW.
6. ALL PENETRATIONS SHALL BE SEALED WATER-TIGHT TO PREVENT MOISTURE MIGRATION FROM PENETRATING THE WEATHER BARRIER LOCATED WITHIN THE EXTERIOR BUILDING WALLS.
7. ENSURE PLUMBING CHASES ARE FREE OF ANY LEAKING PIPES CAUSING ADDED MOISTURE. ALL EXISTING SUPPLY AIR PATHS AND ALL EXISTING RETURN AIR PATHS AND PLENUMS SHALL BE KEPT DRY.
8. CLEAN AND TREAT ALL REUSED DUCTWORK FOR REMOVAL OF ANY POTENTIAL MOLD AND MILDEW. ALL DAMP AREAS SHALL BE DRIED THOROUGHLY INSIDE AND OUTSIDE OF THE DUCT WORK PRIOR TO ENCLOSURE.

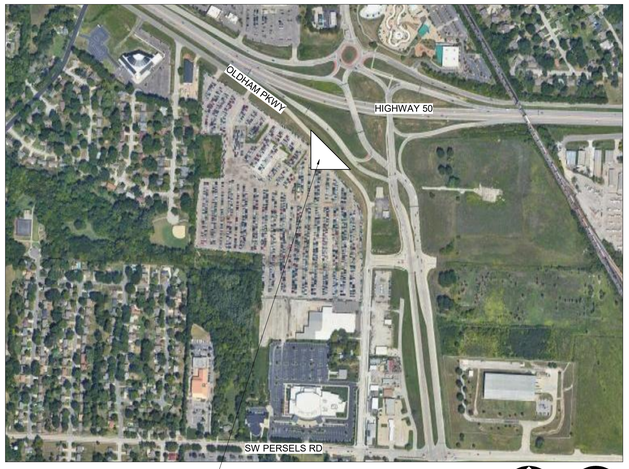
SIGNAGE REQUIREMENTS

1. REQUIRED ACCESSIBLE ELEMENTS SHALL BE IDENTIFIED BY THE INTERNATIONAL SYMBOL OF ACCESSIBILITY AT THE FOLLOWING LOCATIONS:
   -ACCESSIBLE ENTRANCES WHERE NOT ALL ENTRANCES ARE ACCESSIBLE.
   -ACCESSIBLE ROOMS WHERE MULTIPLE SINGLE-USER TOILETS ARE CLUSTERED AT A SINGLE LOCATION.
   -ACCESSIBLE CHECK-OUT AISLES WHERE NOT ALL AISLES ARE ACCESSIBLE. THE SIGN, WHERE PROVIDED, SHALL BE ABOVE THE CHECK-OUT AISLE IN THE SAME LOCATION AS THE CHECK-OUT AISLE NUMBER OR TYPE OF CHECK-OUT IDENTIFICATION.
   -UNISEX TOILET AND BATHING ROOMS.
2. DIRECTIONAL SIGNAGE INDICATING THE ROUTE TO THE NEAREST LIKE ACCESSIBLE ELEMENT SHALL BE PROVIDED AT THE ABOVE LISTED LOCATIONS. THESE DIRECTIONAL SIGNS SHALL INCLUDE THE INTERNATIONAL SYMBOL OF ACCESSIBILITY AT EACH SEPARATE -SEX TOILET INDICATING THE LOCATION OF THE NEAREST UNISEX TOILET.
3. THE INTERNATIONAL SYMBOL OF ACCESSIBILITY SHALL CONSIST OF A WHITE FIGURE ON A BLUE BACKGROUND. THE BLUE SHALL BE EQUAL TO COLOR NO. 15090 IN FEDERAL STANDARD 595B. PICTOGRAMS OF THE FIGURE AND FIELDS SHALL HAVE A NON-GLARE FINISH. PICTOGRAMS SHALL CONTRAST THEIR FIELDS, WITH EITHER A LIGHT PICTOGRAM ON A DARK FIELD OR A DARK PICTOGRAM ON A LIGHT FIELD.
4. CHARACTER AND SYMBOLS OF SIGNS SHALL BE IN CONTRAST WITH THEIR BACKGROUND AND SHALL BE EGGSHELL, MATTE, OR OTHER NON-GLARE MATERIAL OR FINISHES.
5. THE UPPERCASE LETTER "O" SHALL BE USED TO DETERMINE THE ALLOWABLE WIDTH OF ALL CHARACTERS OF A FONT. THE WIDTH OF THE UPPERCASE LETTER "O" OF THE FONT SHALL BE 55 PERCENT MINIMUM AND 110 PERCENT MAXIMUM OF THE HEIGHT OF THE UPPERCASE "I" OF THE FONT. 2010 ADA SECTION 703.2 CHARACTER HEIGHT MEASURED FROM THE BASELINE OF THE CHARACTER SHALL BE 5/8" (16 MM) MINIMUM AND 2 INCHES (51 MM) MAXIMUM BASED ON THE HEIGHT OF THE UPPERCASE LETTER "I".
6. WHEN RAISED CHARACTERS OR SYMBOLS ARE USED, THEY SHALL CONFORM TO THE FOLLOWING:
   - LETTERS AND NUMBERS ON SIGNS SHALL BE RAISED 1/32" MINIMUM AND SHALL BE SANS-SERIF UPPERCASE CHARACTERS.
   - RAISED CHARACTERS OR SYMBOLS SHALL BE A MINIMUM OF 5/8" HIGH AND 2" MAXIMUM BASED ON THE HEIGHT OF THE UPPERCASE LETTER "I".
   - PICTORIAL SYMBOL SIGNS (PICTOGRAMS) SHALL BE ACCOMPANIED BY THE EQUIVALENT VERBAL DESCRIPTION PLACED DIRECTLY BELOW THE PICTOGRAM. THE BORDER DIMENSION OF THE PICTOGRAM SHALL BE A MINIMUM OF 6" IN HEIGHT.
7. ACCESSIBLE SIGNAGE SHALL USE GRADE II BRAILLE.
8. A TACTILE SIGN STATING "EXIT" SHALL BE PROVIDED ADJACENT TO EACH DOOR TO AN EXIT PASSAGEWAY AND THE EXIT DISCHARGE. REFERENCE DOOR SCHEDULE FOR LOCATIONS.

GENERAL REQUIREMENTS

1. THE GENERAL CONTRACTOR AND EACH SUBCONTRACTOR IS RESPONSIBLE FOR HAVING A THOROUGH KNOWLEDGE OF ALL CONTRACT DOCUMENTS. THE FAILURE TO REVIEW AND UNDERSTAND DOCUMENTS DOES NOT RELIEVE ANY RESPONSIBILITY FOR PROPERLY PREFORMING WORK. NO ADDITIONAL COMPENSATION SHALL BE ALLOWED BECAUSE OF CONDITIONS THAT OCCUR DUE TO FAILURE TO FAMILIARIZE WORKERS WITH THIS KNOWLEDGE.
2. REVIEW AND BID ALL CONTRACT DOCUMENTS, INCLUDING DRAWINGS, SPECIFICATIONS, AND ANY ADDITIONAL REQUIREMENTS DELIVERED AS RESPONSES TO BID QUESTIONS AND ADDENDUMS, BULLETINS OR REVISIONS. ALSO REVIEW AND BID CLIENT PROVIDED DOCUMENTS, SUCH AS THE DESIGN DEVELOPMENT PACKAGE, EQUIPMENT CUT SHEETS, AND VENDOR SHOP DRAWINGS. NOTIFY THE ARCHITECT AND CLIENT OF QUESTIONS OR DISCREPANCIES PRIOR TO BID SUBMISSIONS.
3. DO NOT SCALE DRAWINGS. DIMENSIONS SHOWN ON PLANS ARE TO FACE OF FINISH OR CENTER LINE OF COLUMN, UNO.
4. FOLLOW SUBSTITUTION REQUESTS AS DESCRIBED WITHIN PROJECT MANUAL. NO DEVIATION FROM CONTRACT DRAWINGS AND SPECIFICATIONS ALLOWED WITHOUT APPROVAL OF THE ARCHITECT OR CLIENT.
5. FOLLOW TYPICAL CONDITION DETAILS IN ASSUMPTION THAT ALL LIKE OR SIMILAR CONDITIONS ARE THE SAME, UNLESS SPECIFICALLY NOTED OR DETAILED OTHERWISE. BRING ANY DISCREPANCY QUESTIONS OF APPLICABLE DETAILS TO THE ATTENTION OF THE ARCHITECT FOR REVIEW IMMEDIATELY UPON DISCOVERY.
6. REPORT ANY DRAWING DISCREPANCIES FOUND IN THE FIELD IMMEDIATELY TO CLIENT AND THE ARCHITECT PRIOR TO MAKING ANY STRUCTURAL MODIFICATIONS OR ORDERING ANY MATERIALS.
7. GENERAL CONTRACTOR IS SOLELY RESPONSIBLE FOR CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES AND PROCEDURES AND FOR COORDINATING ALL PORTIONS OF CONSTRUCTION ACTIVITIES.
8. PROVIDE ALL REQUIRED NOTICES FOR INSPECTIONS AND APPROVALS OF THE WORK BY THE AUTHORITY HAVING JURISDICTION. THE MOST RESTRICTIVE CODE REQUIREMENTS AS INTERPRETED BY LOCAL OFFICIALS APPLY.
9. FURNISH AND INSTALL ALL EQUIPMENT AND MATERIALS UNLESS IT IS SPECIFICALLY NOTED AS BEING FURNISHED BY CLIENT. EVEN EQUIPMENT OR MATERIALS FURNISHED BY CLIENT MAY REQUIRE UNLOADING BY THE GENERAL CONTRACTOR.
10. ORDER MATERIALS TO PROHIBIT DELAYS OF THE CONSTRUCTION SCHEDULE OF THIS PROJECT. COORDINATE DELIVERY OF ALL MATERIALS IN A TIMELY MANNER UPON A CLIENT APPROVED CONSTRUCTION SCHEDULE.
11. ARRANGE PRECONSTRUCTION MEETING WITH ALL TRADES AND CLIENT. MEETING SHALL TAKE PLACE PRIOR TO COMMENCING WORK OR ORDERING MATERIALS.
12. PROVIDE OR MAINTAIN EXISTING SANITARY FACILITIES DURING THE DURATION OF THIS PROJECT IN ACCORDANCE WITH INTERNATIONAL PLUMBING CODE AND PROJECT SPECS.
13. WORK IN A SAFE AND PROFESSIONAL MANNER AND IN STRICT ACCORDANCE WITH THE APPLICABLE HEALTH AND SAFETY, BUILDING CODES, AND ORDINANCES.
14. KEEP WORK AREA CLEAN AND FREE OF DEBRIS AND IS TO REMOVE ALL TRASH AND DEBRIS FROM THE CONSTRUCTION AREA DAILY.
15. PROTECT SLAB FROM DAMAGE OR STAINING.
16. REPAIR OR REPLACE ANY DAMAGE TO PROPERTY (ADJACENT OR EXISTING), WHICH OCCURS DURING THE PROCESS OF CONSTRUCTION AT NO ADDITIONAL COST TO CLIENT.
17. CLEAN MUD AND REMOVE DEBRIS TRACKED ONTO EXTERIOR PAVING OR CITY STREETS DURING CONSTRUCTION ACTIVITIES.
18. COORDINATE CONCRETE WASH DOWN AREA WITH CLIENT.
19. PROVIDE FINAL CLEANING AND SANITIZATION FOR ALL FOOD PREPARATION ROOMS, EQUIPMENT, AND RESTROOM AREAS. CLIENT MUST INSPECT AND APPROVE THIS WORK.
20. PROVIDE RECORD DRAWINGS AND WARRANTY DOCUMENTATION IN CONJUNCTION WITH THE CERTIFICATE OF OCCUPANCY. RECORD DRAWINGS SHALL PROVIDE AS BUILT INFORMATION INCLUDING GRAPHIC MODIFICATIONS OF ALL DEVIATIONS OCCURRING IN THE FIELD DURING CONSTRUCTION ACTIVITIES. CONSOLIDATE AND INCORPORATE ALL SUBCONTRACTORS' MODIFICATIONS INTO THE RECORD DRAWINGS. CONFIRM FORMAT WITH OWNER.
21. PROVIDE 1/4" CONTINUOUS CAULK / SEALANT AT ALL DISSIMILAR MATERIAL TRANSITIONS, PLUMBING FIXTURES, COUNTERS, ETC. UNO, COORDINATE WITH CLIENT AND REFERENCE PROJECT MANUAL FOR SPECIFICATIONS.
22. AVOID EXPOSED UTILITY PIPING OR CONDUIT ALONG COOLER FREEZER PANELS. HOWEVER, WHERE UTILITIES MUST BE EXPOSED AT COOLER FREEZER PANELS, CONTRACTOR SHALL PROVIDE INSTALL FOLLOWING AN OPTION DESCRIBED BELOW.
    - SURFACE MOUNT UTILITIES WITH NON-CORROSIVE ANCHORS; SEAL PANEL CONTINUOUSLY WITH SEALANT.
    - INSTALL UTILITIES 1/2" OFF FACE OF PANEL TO ALLOW FOR CLEANING, USE ONLY NON-CORROSIVE MATERIALS FOR SPACERS AND ANCHORS.
    - COVER UTILITIES WITH 20 GAUGE STAINLESS STEEL BENT PLATES MOUNTED TO WALL WITH NON-CORROSIVE ANCHORS; APPLY CONTINUOUS SEALANT ALONG EDGES AND JOINTS.
23. PROVIDE LETTERING INDICATING UNIT NUMBERS ON ALL ROOF TOP UNITS.
24. ALL BLOCKING BY GC, COORDINATE WITH CLIENT AND REFERENCE DETAILS AND SECTIONS FOR LOCATIONS, CUT TO SIZE AS REQUIRED.
25. NO VISIBLE INSULATION AT GLAZING OR FRAMING.
26. ALL EXTERIOR WALLS TO HAVE INSULATION R25 PER COMCHECK CALCULATIONS. NOT SHOWN IN DETAILS FOR CLARITY.
27. PROVIDE WEATHER BARRIER FOR THE ENTIRE EXTERIOR, REF SPECS FOR TYPES AND LOCATIONS / 3

VICINITY MAP



PROJECT SITE

TRUE PLAN

SYMBOLS LEGEND

NEW

EXISTING

DEMOLISHED

NOT IN SCOPE

1 / A101 — SECTION INDICATOR

1 / A101 — ELEVATION INDICATOR

A101 — DETAIL INDICATOR

0 — GRIDLINE INDICATOR

Name / Elevation — LEVEL INDICATOR

101 ROOM NAME — ROOM TAG

a,c,b,d — REVISION TAG

? — FINISH TAG

AA6 — INTERIOR WALL TAG

A — EXTERIOR WALL TAG

205A — DOOR TAG

5 — WINDOW TAG

EQ01 — EQUIPMENT TAG

FIRE SAFETY REQUIREMENTS

1. MAINTAIN EXISTING FIRE PROTECTION, MEANS OF EGRESS, AND LIFE SAFETY REQUIRED BY LOCAL, STATE, AND FEDERAL AUTHORITIES HAVING JURISDICTION AT ALL TIMES DURING DEMOLITION AND NEW CONSTRUCTION.
2. MAKE FIELD ADJUSTMENTS TO ALL EXIT SIGNS AND EMERGENCY LIGHTING PER INSPECTIONS FROM THE FIRE MARSHAL HAVING AUTHORITY PRIOR FOR FINAL APPROVALS. LIGHTS SHOWN ON ELECTRICAL DRAWINGS ARE SUBJECT TO CHANGE BASED ON INSPECTIONS.
3. PREVENT FLAMMABLE MATERIALS OR LIQUID STORAGE WITHIN BUILDING OR CLIENT DEMISED PREMISE.
4. PROVIDE FIRE EXTINGUISHERS IN ACCORDANCE WITH NFPA 10. AUTHORITY HAVING JURISDICTION SHALL APPROVE FINAL FIRE EXTINGUISHER QUANTITY AND LOCATIONS. FOR BIDDING PURPOSES, PROVIDE COST PER UNIT. PORTABLE FIRE EXTINGUISHER SHALL BE LOCATED WITHIN 30 FEET OF COMMERCIAL COOKING EQUIPMENT. FIRE EXTINGUISHERS ARE TO BE MOUNTED SUCH THAT THE BOTTOM OF THE UNIT IS 26" AFF MAX.
5. PROVIDE (1) UL LISTED 2A:20BC DRY CHEMICAL FIRE EXTINGUISHER, OR (1) STANDARD UL LISTED 2-1/2 GALLON WATER (E-10) AND (1) UL LISTED 10BC CARBON DIOXIDE FIRE EXTINGUISHER MOUNTED TOGETHER IN EACH 3000 SQFT OF WORK AREA OR FRACTION THEREOF (MINIMUM OF TWO AVAILABLE IN ALL CONSTRUCTION AREAS AT ALL TIMES) DURING ENTIRE CONSTRUCTION PERIOD.
6. PROVIDE AND INSTALL KNOX BOX. COORDINATE TYPE OF BOX AND LOCATION WITH FIRE DEPARTMENT OFFICIAL.
7. SEAL ALL FIRE RATED EGRESS CORRIDORS WITH INTUMESCENT SEALING SYSTEMS TO DECK. SEAL BOTH SIDES OF VERTICAL JOINTS AT CMU / GYPSUM BOARD WALLS. SEAL WALL PENETRATIONS SUCH AS BAR JOISTS, PIPING, CONDUIT, DUCTWORK, ETC. PER FIRE STOP MANUFACTURER'S RECOMMENDATIONS.
8. PROVIDE FIRE-STOPPED MATERIAL IN ACCORDANCE WITH LOCAL CODES FOR PENETRATIONS IN WALLS, FLOORS OR ROOF REQUIRING PROTECTED OPENINGS.
9. HIRE A LICENSED SPRINKLER CONTRACTOR. CONTRACTOR IS TO SUBMIT SIGNED AND SEALED SPRINKLER DRAWINGS FOR APPROVAL PRIOR TO ANY ALTERATION OF THE AUTOMATIC SPRINKLER SYSTEM UNDER SEPARATE PERMIT. SUBMIT PLANS TO ARCHITECT AND ENGINEER FOR REVIEW. CONFIRM ALL WATER FLOW TEST INFORMATION WITH LOCAL FIRE DEPARTMENT AND WATER DEPARTMENT VIA SPRINKLER CONTRACTOR. INSTALL IBC APPROVED AUTOMATIC FIRE SPRINKLER SYSTEM THROUGHOUT NEW SCOPE OF WORK AREA WITH REQUIRED ADJUSTMENTS TO EXISTING WORK, FURNISHED AND INSTALLED BY A LICENSED SPRINKLER CONTRACTOR. ANY MODIFICATION TO EXISTING SPRINKLER MAIN LINES MUST BE COORDINATED WITH ARCHITECT AND ENGINEER FOR CLIENT APPROVAL.
10. PROVIDE FIRE BLOCKING IN ACCORANCE WITH SECTION 718.2 AT THE FOLLOWING LOCATIONS:
    - IN CONCEALED SPACES OF STUD WALLS AND PARTITIONS, INCLUDING FURRED SPACES AT THE CEILING AND FLOOR LEVELS.
    - IN CONCEALED SPACES OF STUD WALLS AND PARTIOITNS, INCLUDING FURRED SPACES, AT 10-FOOT INTERVALS ALONG THE LENGTH OF THE WALL.
    - AT ALL INTERCONNECTIONS BETWEEN CONCEALED VERTICAL AND HORIZONTALS SPACES SUCH AS THOSE OCCURING AT SOFFITS, DROP CEILINGS AND COVE CEILINGS.
    - IN CONCEALED SPACES BETWEEN STAIRWAY STRINGERS AT THE TOP AND BOTTOM OF THE RUN AND BETWEEN STUDS ALONG AND IN LINE WITH THE RUN OF STAIRS IF THE WALL UNDER THE STAIR IS UNFINISHED.
    - IN OPENINGS AROUND VENTS, PIPES, DUCTS, CHIMNEYS, FIREPLACES AND SIMILAR OPENINGS WHICH AFFORD A PASSAGE FOR FIRE AT CEILING AND FLOOR LEVELS, WITH NONCOMBUSTIBLE MATERIALS.

ABBREVIATION	DEFINITION
BH	BUGLE HEAD (FLAT HEAD, COUNTERSUNK)
BP	BLACK PHOSPHATE OVER CARBON STEEL
HEX	SLOTTED HEX WASHER
H/L	HIGH / LOW
KS	KNURLED SHANK
PAF	POWDER ACTUATED FASTENER
SD	SELF DRILLING
ST	SELF TAPPING

FASTENER SCHEDULE

THESE ARE MINIMUM REQUIREMENTS FOR CONNECTING AND ATTACHING INTERIOR NON-STRUCTURAL FRAMING MEMBERS AND SHALL NOT SUPERSEDE STRUCTURAL REQUIREMENTS

MATERIALS	SIZE	DRIVER DESIGN	HEAD	LENGTH	TIP	THREADS	QUANTITY
DRYWALL TO METAL FRAMING	#10 WITH SERRATIONS	PHILLIPS #2	PANCAKE	1/2" MIN PENETRATION BEYOND METAL FRAMING	SD	FINE	TO MEET THE GYPSUM ASSOCIATION GUIDELINES
METAL STUD TO TRACKS	#10 WITH SERRATIONS	PHILLIPS #2	PANCAKE	3/4" MIN	SD	---	ONE PER STUD FLANGE
METAL TO METAL FRAMING	#10 WITH SERRATIONS	HEX	HEX	3/4" MIN	SD	---	AS SHOWN ON DETAILS WITH MIN 1-1/2" BETWEEN EACH (MIN 3)
DRYWALL TO METAL FRAMING	#8	PHILLIPS #2	BH	1/2" MIN PENETRATION BEYOND THE STUD	ST	FINE	TO MEET THE GYPSUM ASSOCIATION GUIDELINES
SHEET METAL TO STEEL	#12	HEX	HEX	1/2" MIN PENETRATION BEYOND THE STEEL THICKNESS	SD	---	AS SHOWN ON DETAILS WITH MIN 1-1/2" BETWEEN EACH
CEMENT BOARD TO METAL FRAMING	#8 COATED	PHILLIPS #2	WAFER	1/2" MIN PENETRATION BEYOND METAL FRAMING	SD	H/L	TO MEET THE GYPSUM ASSOCIATION GUIDELINES
CEMENT BOARD TO WOOD FRAMING	#9 COATED	PHILLIPS #2	WAFER	3/4" PENETRATION INTO WOOD	ST	H/L	TO MEET THE GYPSUM ASSOCIATION GUIDELINES
WOOD TO STEEL	#12	HEX	HEX	1/2" MIN PENETRATION BEYOND THE STEEL THICKNESS	SD	---	AS SHOWN ON DETAILS
WOOD TO STEEL	.157" DIA	PAF	---	PENETRATION THROUGH STEEL	KS	---	AS SHOWN ON DETAILS
WOOD TO METAL FRAMING	#12	PHILLIPS #3	FLAT	1/2" MIN PENETRATION BEYOND METAL FRAMING	SD	---	AS SHOWN ON DETAILS
METAL STUD TRACK TO CONCRETE FLOOR	1/4"	HEX	HEX	1-1/2" MIN EMBEDMENT	---	---	(2) AT 16" OC - LOCATE 1/4" FROM EDGE OF TRACK
METAL STUD TRACK TO CONCRETE FLOOR	.157" DIA	PAF	---	1-1/4" MIN EMBEDMENT	KS	---	(2) AT 16" OC - LOCATE 1/4" FROM EDGE OF TRACK
METAL STUD TRACK TO COOLER PANEL	#12	HEX	HEX	1-1/2" MAX EMBEDMENT	SD	---	AS SHOWN ON DETAILS

DRAWING INDEX

NUMBER	NAME	LATEST REVISION	DATE REVISED
00 - GENERAL			
A000	COVER SHEET	ADDENDUM 2	10/15/25
A001	LIFE SAFETY PLAN	ADDENDUM 2	10/15/25
A002	COMCHECK REPORT	ADDENDUM 2	10/15/25
A003	SIGHT LINE STUDY	ADDENDUM 1	06/20/25
01 - CIVIL			
C100	DEMOLITION PLAN	ADDENDUM 1	06/20/25
C200	SITE PLAN	ADDENDUM 1	06/20/25
C300	DIMENSION PLAN	ADDENDUM 1	06/20/25
C400	GRADING PLAN	ADDENDUM 1	06/20/25
C401	DETAILED GRADING	ADDENDUM 1	06/20/25
C500	PRE-CONSTRUCTION EROSION	ADDENDUM 1	06/20/25
C501	MID-CONSTRUCTION EROSION	ADDENDUM 1	06/20/25
C502	POST-CONSTRUCTION EROSION	ADDENDUM 1	06/20/25
C600	EXISTING DRAINAGE MAP	ADDENDUM 1	06/20/25
C601	PROPOSED DRAINAGE MAP	ADDENDUM 1	06/20/25
C700	STORM LINE 100	ADDENDUM 1	06/20/25
C701	STORM LINE 200 & 300	ADDENDUM 1	06/20/25
C702	DOWNSPOUT PIPE PLAN	ADDENDUM 1	06/20/25
C800	UTILITY PLAN	ADDENDUM 1	06/20/25
C900	EROSION CONTROL DETAILS	ADDENDUM 1	06/20/25
C901	CONSTRUCTION DETAILS	ADDENDUM 1	06/20/25
C902	CONSTRUCTION DETAILS	ADDENDUM 1	06/20/25
C903	CONSTRUCTION DETAILS	ADDENDUM 1	06/20/25
L100	LANDSCAPE PLAN	ADDENDUM 1	06/20/25
L200	PLANTING DETAILS	ORIGINAL ISSUE	05/01/25
03 - ARCHITECTURAL			
A100	SITE PLAN	ADDENDUM 2	10/15/25
A101	PARTITION PLAN	ADDENDUM 2	10/15/25
A102	PARTITION DETAILS	ADDENDUM 2	10/15/25
A200	CANOPY ENLARGED PLAN AND DETAILS	ADDENDUM 2	10/15/25
A201	CANOPY DETAILS	ADDENDUM 2	10/15/25
A300	ROOF PLAN	ADDENDUM 1	06/20/25
A301	ROOF DETAILS	ORIGINAL ISSUE	05/01/25
A302	BUILDING SECTIONS	ADDENDUM 2	10/15/25
A400	EXTERIOR ELEVATIONS	ADDENDUM 2	10/15/25
A500	WALL SECTIONS	ADDENDUM 2	10/15/25
A501	WALL SECTIONS	ADDENDUM 2	10/15/25
A600	TRASH ENCLOSURE PLAN AND DETAILS	ORIGINAL ISSUE	05/01/25
A601	ENLARGED PATIO PLAN AND DETAILS 2	ADDENDUM 2	10/15/25
A602	ENLARGED STORAGE ROOF PLAN AND DETAILS 2	ADDENDUM 1	06/20/25
A800	DOOR AND WINDOW INFORMATION	ADDENDUM 2	10/15/25
03 - STRUCTURAL			
S001	GENERAL NOTES	ORIGINAL ISSUE	05/01/25
S002	SPECIAL INSPECTIONS	ORIGINAL ISSUE	05/01/25
S003	CONCRETE TABLES	ORIGINAL ISSUE	05/01/25
S004	LOADING DIAGRAMS	ADDENDUM 1	06/20/25
S101	FOUNDATION PLAN	ADDENDUM 2	10/15/25
S102	ROOF FRAMING PLAN	ADDENDUM 2	10/15/25
S201	TYPICAL FOUNDATION DETAILS & SECTIONS	ORIGINAL ISSUE	05/01/25
S211	FOUNDATION DETAILS & SECTIONS	ORIGINAL ISSUE	05/01/25
S301	TYPICAL FRAMING DETAILS & SECTIONS	ORIGINAL ISSUE	05/01/25
S311	FRAMING DETAILS & SECTIONS	ADDENDUM 1	06/20/25
S312	FRAMING DETAILS & SECTIONS	ADDENDUM 1	06/20/25
S321	STEEL SCHEDULES	ADDENDUM 1	06/20/25
S401	SITE DETAILS	ORIGINAL ISSUE	05/01/25
S501	MASONRY SCHEDULES AND DETAILS	ADDENDUM 1	06/20/25
04 - MECHANICAL			
M100	FLOOR PLAN - MECHANICAL	ADDENDUM 2	10/15/25
M200	ROOF PLAN - MECHANICAL	ADDENDUM 2	10/15/25
M300	MECHANICAL DETAILS, GEN. NOTES, & SYMBOLS	ADDENDUM 2	10/15/25
MEP100	SPECIFICATIONS	ORIGINAL ISSUE	05/01/25
MEP101	SPECIFICATIONS	ORIGINAL ISSUE	05/01/25
MEP102	SPECIFICATIONS	ORIGINAL ISSUE	05/01/25
MEP103	MEP SCHEDULES	ADDENDUM 2	10/15/25
05 - PLUMBING			
P100	FLOOR PLAN - PLUMBING	ADDENDUM 2	10/15/25
P200	ROOF PLAN - PLUMBING	ADDENDUM 2	10/15/25
P300	PLUMBING SCHEDULES, GEN. NOTES, & SYMBOLS	ADDENDUM 2	10/15/25
06 - ELECTRICAL			
E001	SITE PLAN - ELECTRICAL	ADDENDUM 2	10/15/25
E002	SITE PLAN - PHOTOMETRIC	ADDENDUM 1	06/20/25
E002	SITE PLAN - PHOTOMETRIC	ORIGINAL ISSUE	05/01/25
E003	SCHEDULES, DETAILS, & SPECS	ORIGINAL ISSUE	05/01/25
E100	FLOOR PLAN - POWER	ADDENDUM 2	10/15/25
E200	FLOOR PLAN - LIGHTING	ADDENDUM 2	10/15/25
E300	FLOOR PLAN - SYSTEMS	ADDENDUM 1	06/20/25
E400	ROOF PLAN - ELECTRICAL	ADDENDUM 2

CODE ANALYSIS

BUILDING AND SPACE ARE FULLY SPRINKLERED	
TOTAL OCCUPANT LOAD (REF LIFE SAFETY PLAN FOR ADDITIONAL INFORMATION)	
TOTAL OCCUPANT LOAD	620
EGRESS (REF LIFE SAFETY PLAN FOR ADDITIONAL EGRESS INFORMATION)	
EGRESS WIDTH REQUIRED	122"
EGRESS WIDTH PROVIDED	338"
MAXIMUM COMMON PATH OF TRAVEL	75'
MAXIMUM TRAVEL DISTANCE	250'

EXIT CAPACITY

EXIT DOOR	EXIT WIDTH (IN)	UNIT FACTOR	OCCUPANTS
1	68	0.2	340
2	34	0.2	170
3	68	0.2	340
4	66	0.2	330
5	34	0.2	170
6	34	0.2	170
7	34	0.2	170
TOTALS			
REQUIRED	122		620
PROVIDED	338		1690

OCCUPANT LOAD CALCULATIONS

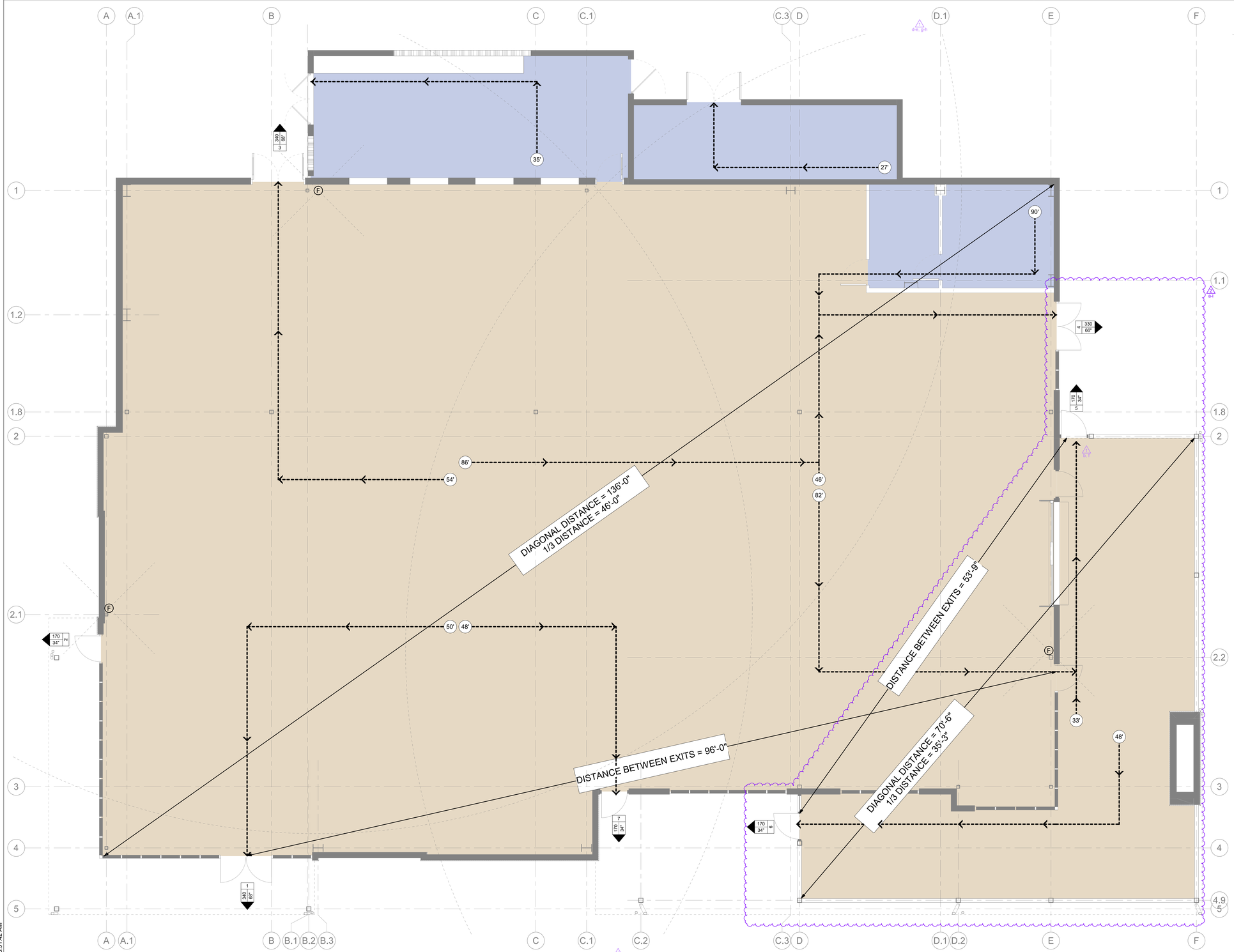
OCCUPANCY	AREA (SF)	LOAD FACTOR	OCCUPANTS	WIDTH FACTOR	REQUIRED WIDTH (IN)
ASSEMBLY 2	9234	15	616	0.2	124
STORAGE	1127	300	4	0.2	1
TOTALS	10361		620		125

SHEET NOTES

1. REFERENCE ELECTRICAL FOR EXIT SIGNAGE AND EMERGENCY LIGHTING
2. GC TO PROVIDE ALL FIRE EXTINGUISHERS, COORDINATE LOCATION, TYPE, AND REQUIREMENTS WITH INSPECTOR AND CLIENT. CONFIRM REQUIREMENT FOR RECESSED CABINETS WITH CLIENT.
3. CENTER EXIT SIGNS ABOVE DOOR, IN HALLWAY, OR ON AISLE, UNO

SYMBOLS LEGEND

- ASSEMBLY 2
- STORAGE
- PATH OF TRAVEL
- DOOR NUMBER
- OCCUPANT LOAD
- EXIT TAG
- CLEAR WIDTH
- TRAVEL DISTANCE
- FIRE EXTINGUISHER COVERAGE
- FIRE EXTINGUISHER



1 LIFE SAFETY PLAN
1/4" = 1'-0"

PLAN

10/13/2025 8:31:42 AM

RELEASED FOR CONSTRUCTION
As Noted on Plans Review
Development Services Department
Lee's Summit, Missouri
10/23/2025

ARCHITECT OF RECORD

brr

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SUITE 302
OVERLAND PARK, KS 66204
WWW.BRRARCH.COM
TEL: 913-262-9096
FAX: 913-262-9044

CONSULTANT

CLIENT

PROJECT TITLE

Q39 (SHELL)
LEE'S SUMMIT, MO
OLDHAM VILLAGE

PROJECT NUMBER
62500002

PROJECT MANAGER	DRAWN BY	CHECKED BY
TM	TM	

PROFESSIONAL SEAL

STATE OF MISSOURI
MARK SCHISSLER
NUMBER A-2010017224
REGISTERED ARCHITECT

10/13/2025

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ISSUES AND REVISIONS

NUMBER	DATE	DESCRIPTION
0	05/01/25	ORIGINAL ISSUE
1	06/20/25	ADDENDUM 1
2	10/15/25	ADDENDUM 2

SHEET NAME

LIFE SAFETY PLAN

SHEET NUMBER

A001

BRR ORIGINAL PRINTED ON RECYCLED PAPER

COM*check* Software Version COMcheckWeb

Envelope Compliance Certificate

Project Information

Energy Code: 2018 IECC
Project Title: Q39 (SHELL) Lee's Summit, MO
Location: Lees Summit, Missouri
Climate Zone: 4a
Project Type: New Construction
Vertical Glazing / Wall Area: 18%

Construction Site:
Lee's Summit, Missouri

Owner/Agent:

Designer/Contractor:
Taylor Massey
BRR Architecture
8131 Metcalf Ave. #300
Overland Park, Kansas 66204
913-236-3309
taylor.massey@brrarch.com

Additional Efficiency Package(s)

Credits: 1.0 Required 1.0 Proposed
Reduced Lighting Power, 1.0 credit

Building Area	Floor Area
1-Dining: Family : Nonresidential	7873

Envelope Assemblies

Assembly	Gross Area or Perimeter	Cavity R-Value	Cont. R-Value	Proposed U-Factor	Budget U-Factor$_{alt}$
Roof: Insulation Entirely Above Deck, [Bldg. Use 1 - Dining: Family]	8078	---	30.0	0.032	0.032
Floor: Unheated Slab-On-Grade, Vertical 2 ft., [Bldg. Use 1 - Dining: Family] (c)	384	---	10.0	0.540	0.540
NORTH					
Ext. Wall: Steel-Framed, 16in. o.c., [Bldg. Use 1 - Dining: Family]	1272	23.0	10.0	0.050	0.064
Door: Insulated Metal, Swinging, [Bldg. Use 1 - Dining: Family]	42	---	---	0.600	0.610
Door: Insulated Metal, Swinging, [Bldg. Use 1 - Dining: Family]	21	---	---	0.600	0.610
Ext. Wall: Steel-Framed, 16in. o.c., [Bldg. Use 1 - Dining: Family]	378	23.0	0.0	0.098	0.064
Ext. Wall: Steel-Framed, 16in. o.c., [Bldg. Use 1 - Dining: Family]	34	23.0	0.0	0.098	0.064
EAST					
Ext. Wall: Steel-Framed, 16in. o.c., [Bldg. Use 1 - Dining: Family]	318	23.0	10.0	0.050	0.064
Ext. Wall: Steel-Framed, 16in. o.c., [Bldg. Use 1 - Dining: Family]	830	23.0	0.0	0.098	0.064
Window: Metal Frame with Thermal Break: Fixed, Perf. Specs.: Product ID 00186-00001, SHGC 0.27, [Bldg. Use 1 - Dining: Family] (b)	49	---	---	0.260	0.380
Window: Metal Frame with Thermal Break: Fixed, Perf. Specs.: Product ID 00186-00001, SHGC 0.27, [Bldg. Use 1 - Dining: Family] (b)	142	---	---	0.260	0.380

Assembly	Gross Area or Perimeter	Cavity R-Value	Cont. R-Value	Proposed U-Factor	Budget U-Factor$_{alt}$
Window: Metal Frame with Thermal Break: Fixed, Perf. Specs.: Product ID 00186-00001, SHGC 0.27, [Bldg. Use 1 - Dining: Family] (b)	16	---	---	0.260	0.380
Window: Metal Frame with Thermal Break: Fixed, Perf. Specs.: Product ID 00186-00001, SHGC 0.27, [Bldg. Use 1 - Dining: Family] (b)	8	---	---	0.260	0.380
Door: Glass (over 50% glazing): Metal Frame, Entrance Door, Perf. Specs.: Product ID 00223-00001, SHGC 0.21, [Bldg. Use 1 - Dining: Family] (b)	26	---	---	0.450	0.770
Window: Metal Frame: Operable, Perf. Specs.: Product ID OVERHEAD DOOR 521 INSULATED GLASS, SHGC 0.50, PF 2.46, [Bldg. Use 1 - Dining: Family] (b)	59	---	---	0.300	0.450
Door: Glass (over 50% glazing): Metal Frame, Entrance Door, Perf. Specs.: Product ID 00223-00001, SHGC 0.21, [Bldg. Use 1 - Dining: Family] (b)	52	---	---	0.450	0.770
Door: Glass (over 50% glazing): Metal Frame, Entrance Door, Perf. Specs.: Product ID 00223-00001, SHGC 0.21, [Bldg. Use 1 - Dining: Family] (b)	26	---	---	0.450	0.770
Ext. Wall: Steel-Framed, 16in. o.c., [Bldg. Use 1 - Dining: Family]	125	23.0	0.0	0.098	0.064
Ext. Wall: Steel-Framed, 16in. o.c., [Bldg. Use 1 - Dining: Family]	1148	23.0	0.0	0.098	0.064
SOUTH					
Ext. Wall: Steel-Framed, 16in. o.c., [Bldg. Use 1 - Dining: Family]	307	23.0	10.0	0.050	0.064
Ext. Wall: Steel-Framed, 16in. o.c., [Bldg. Use 1 - Dining: Family]	200	23.0	0.0	0.098	0.064
Window: Metal Frame with Thermal Break: Fixed, Perf. Specs.: Product ID 00186-00001, SHGC 0.27, [Bldg. Use 1 - Dining: Family] (b)	95	---	---	0.260	0.380
Ext. Wall: Steel-Framed, 16in. o.c., [Bldg. Use 1 - Dining: Family]	451	23.0	0.0	0.098	0.064
Window: Metal Frame with Thermal Break: Fixed, Perf. Specs.: Product ID 00186-00001, SHGC 0.27, [Bldg. Use 1 - Dining: Family] (b)	95	---	---	0.260	0.380
Window: Metal Frame with Thermal Break: Fixed, Perf. Specs.: Product ID 00186-00001, SHGC 0.27, [Bldg. Use 1 - Dining: Family] (b)	142	---	---	0.260	0.380
Window: Metal Frame with Thermal Break: Fixed, Perf. Specs.: Product ID 00186-00001, SHGC 0.27, [Bldg. Use 1 - Dining: Family] (b)	8	---	---	0.260	0.380
Door: Glass (over 50% glazing): Metal Frame, Entrance Door, Perf. Specs.: Product ID 00223-00001, SHGC 0.21, [Bldg. Use 1 - Dining: Family] (b)	26	---	---	0.450	0.770
Ext. Wall: Steel-Framed, 16in. o.c., [Bldg. Use 1 - Dining: Family]	928	23.0	0.0	0.098	0.064
Window: Metal Frame with Thermal Break: Fixed, Perf. Specs.: Product ID 00186-00001, SHGC 0.27, [Bldg. Use 1 - Dining: Family] (b)	47	---	---	0.260	0.380
Window: Metal Frame with Thermal Break: Fixed, Perf. Specs.: Product ID 00186-00001, SHGC 0.27, [Bldg. Use 1 - Dining: Family] (b)	189	---	---	0.260	0.380
Window: Metal Frame with Thermal Break: Fixed, Perf. Specs.: Product ID 00186-00001, SHGC 0.27, [Bldg. Use 1 - Dining: Family] (b)	16	---	---	0.260	0.380
Door: Glass (over 50% glazing): Metal Frame, Entrance Door, Perf. Specs.: Product ID 00223-00001, SHGC 0.21, [Bldg. Use 1 - Dining: Family] (b)	52	---	---	0.450	0.770
WEST					
Ext. Wall: Steel-Framed, 16in. o.c., [Bldg. Use 1 - Dining: Family]	33	23.0	0.0	0.098	0.064
Ext. Wall: Steel-Framed, 16in. o.c., [Bldg. Use 1 - Dining: Family]	833	23.0	0.0	0.098	0.064
Window: Metal Frame with Thermal Break: Fixed, Perf. Specs.:	236	---	---	0.260	0.380

Assembly	Gross Area or Perimeter	Cavity R-Value	Cont. R-Value	Proposed U-Factor	Budget U-Factor$_{alt}$
Product ID 00186-00001, SHGC 0.27, [Bldg. Use 1 - Dining: Family] (b)					
Window: Metal Frame with Thermal Break: Fixed, Perf. Specs.: Product ID 00186-00001, SHGC 0.27, [Bldg. Use 1 - Dining: Family] (b)	8	---	---	0.260	0.380
Door: Glass (over 50% glazing): Metal Frame, Entrance Door, Perf. Specs.: Product ID 00223-00001, SHGC 0.21, [Bldg. Use 1 - Dining: Family] (b)	26	---	---	0.450	0.770
Ext. Wall: Steel-Framed, 16in. o.c., [Bldg. Use 1 - Dining: Family]	351	23.0	10.0	0.050	0.064

(a) Budget U-factors are used for software baseline calculations ONLY, and are not code requirements.
(b) Fenestration product performance must be certified in accordance with NFRC and requires supporting documentation.
(c) Slab-On-Grade proposed and budget U-factors shown in table are F-factors.

Envelope PASSES: Design 8% better than code

Envelope Compliance Statement

Compliance Statement: The proposed envelope design represented in this document is consistent with the building plans, specifications, and other calculations submitted with this permit application. The proposed envelope systems have been designed to meet the 2018 IECC requirements in COMcheck Version COMcheckWeb and to comply with any applicable mandatory requirements listed in the Inspection Checklist.

Name - Title Signature Date

COM*check* Software Version COMcheckWeb

Inspection Checklist

Energy Code: 2018 IECC

Requirements: 0.0% were addressed directly in the COM*check* software

Text in the "Comments/Assumptions" column is provided by the user in the COMcheck Requirements screen. For each requirement, the user certifies that a code requirement will be met and how that is documented, or that an exception is being claimed. Where compliance is itemized in a separate table, a reference to that table is provided.

Section # & Req.ID	Plan Review	Complies?	Comments/Assumptions
C103.2 [PR1]^{I}	Plans and/or specifications provide all information with which compliance can be determined for the building envelope and document where exceptions to the standard are claimed.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C402.4.1 [PR10]^{I}	The vertical fenestration area <= 30 percent of the gross above-grade wall area.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C402.4.1 [PR11]^{I}	The skylight area <= 3 percent of the gross roof area.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C402.4.2 [PR14]^{I}	In enclosed spaces > 2,500 ft2 directly under a roof with ceiling heights >15 ft, and used as an office, lobby, atrium, concourse, corridor, storage, gymnasium/exercise center, convention center, automotive service, manufacturing, non-refrigerated warehouse, retail store, distribution/sorting area, transportation, or workshop, the following requirements apply: (a) the daylight zone under skylights is >= half the floor area; (b) the skylight area to daylight zone is >= 3 percent with a skylight VT >= 0.40; or a minimum skylight effective aperture >= 1 percent.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C406 [PR9]^{I}	Plans, specifications, and/or calculations provide all information with which compliance can be determined for the additional energy efficiency package options.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	

Additional Comments/Assumptions:

1 High Impact (Tier 1) 2 Medium Impact (Tier 2) 3 Low Impact (Tier 3)

Section # & Req.ID	Footing / Foundation Inspection	Complies?	Comments/Assumptions
C303.2 [FO4]^{I}	Slab edge insulation installed per manufacturer's instructions.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C303.2.1 [FO6]^{I}	Exterior insulation protected against damage, sunlight, moisture, wind, landscaping and equipment maintenance activities.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C105 [FO3]^{I}	Installed slab-on-grade insulation type and R-value consistent with insulation specifications reported in plans and COMcheck reports.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	*See the Envelope Assemblies table for values.*
C402.2.4 [FO7]^{I}	Slab edge insulation depth/length. Slab insulation extending away from building is covered by pavement or >= 10 inches of soil.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	*See the Envelope Assemblies table for values.*

Additional Comments/Assumptions:

1 High Impact (Tier 1) 2 Medium Impact (Tier 2) 3 Low Impact (Tier 3)

Section # & Req.ID	Framing / Rough-In Inspection	Complies?	Comments/Assumptions
C303.1.3 [FR12]^{I}	Fenestration products rated in accordance with NFRC.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C303.1.3 [FR13]^{I}	Fenestration products are certified as to performance labels or certificates provided.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C402.4.3 [FR10]^{I}	Vertical fenestration SHGC value.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	*See the Envelope Assemblies table for values.*
C402.4.3, C402.4.3.4 [FR8]^{I}	Installed vertical fenestration U-factor and SHGC consistent with label specifications and as reported in plans and COMcheck reports.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	*See the Envelope Assemblies table for values.*
C402.5.1.2.1 [FR19]^{I}	The building envelope contains a continuous air barrier that is sealed in an approved manner and material permeability <= 0.004 cfm/ft2. Air barrier penetrations are sealed in an approved manner.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C402.5.2, C402.5.4 [FR18]^{I}	Factory-built fenestration and doors are labeled as meeting air leakage requirements.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C402.5.7 [FR17]^{I}	Vestibules are installed on all building entrances. Doors have self-closing devices.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	

Additional Comments/Assumptions:

1 High Impact (Tier 1) 2 Medium Impact (Tier 2) 3 Low Impact (Tier 3)

Section # & Req.ID	Mechanical Rough-In Inspection	Complies?	Comments/Assumptions
C402.5.5, C403.2.4.3 [ME3]^{I}	Stair and elevator shaft vents have motorized dampers that automatically close. Reference section C403.7.7 for operational details.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C403.7.7 [ME58]^{I}	Outdoor air and exhaust systems have motorized dampers that automatically shut when not in use and meet maximum leakage rates. Check gravity dampers where allowed. Reference section language for operational details.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	

Additional Comments/Assumptions:

1 High Impact (Tier 1) 2 Medium Impact (Tier 2) 3 Low Impact (Tier 3)

Section # & Req.ID	Rough-In Electrical Inspection	Complies?	Comments/Assumptions
C405.6 [EL26]^{I}	Low-voltage dry-type distribution electric transformers meet the minimum efficiency requirements of Table C405.6.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C405.7 [EL27]^{I}	Electric motors meet the minimum efficiency requirements of Tables C405.7(1) through C405.7(4). Efficiency verified through certification under an approved certification program or the equipment efficiency ratings shall be provided by motor manufacturer (where certification programs do not exist).	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C405.8.2, C405.8.2.1 [EL28]^{I}	Escalators and moving walks comply with ASME A17.1/CSA B44 and have automatic controls configured to reduce speed to the minimum permitted speed in accordance with ASME A17.1/CSA B44 or applicable local code when not conveying passengers.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C405.9 [EL29]^{I}	Total voltage drop across the combination of feeders and branch circuits <= 5%.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	

Additional Comments/Assumptions:

1 High Impact (Tier 1) 2 Medium Impact (Tier 2) 3 Low Impact (Tier 3)

Section # & Req.ID	Insulation Inspection	Complies?	Comments/Assumptions
C303.1 [IN3]^{I}	Roof insulation installed per manufacturer's instructions. Blown or poured loose-fill insulation is installed only where the roof slope is <=3 in 12.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C402.2.1 [IN20]^{I}	Insulation installed on a suspended ceiling having ceiling tiles is not being specified for room/ceiling assemblies. Continuous insulation board installed in 2 or more layers with edge joints offset between layers.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C303.1 [IN10]^{I}	Building envelope insulation is labeled with R-value or insulation certificate providing R-value and other relevant data.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C303.2 [IN7]^{I}	Above-grade wall insulation installed per manufacturer's instructions.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C105 [IN5]^{I}	Installed above-grade wall insulation type and R-value consistent with insulation specifications reported in plans and COMcheck reports.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	*See the Envelope Assemblies table for values.*
C402.2.3 [IN8]^{I}	Installed floor insulation type and R-value consistent with insulation specifications reported in plans and COMcheck reports.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	*See the Envelope Assemblies table for values.*
C402.2.6 [IN18]^{I}	Radiant panels and associated components, designed for heat transfer from the panel surfaces to the occupants or indoor space are insulated with a minimum of R-3.5.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C105 [IN2]^{I}	Installed roof insulation type and R-value consistent with insulation specifications reported in plans and COMcheck reports. For some ceiling systems, verification may need to occur during Framing Inspection.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	*See the Envelope Assemblies table for values.*
C402.5.1.1 [IN1]^{I}	All sources of air leakage in the building thermal envelope are sealed, caulked, gasketed, weather stripped or wrapped with moisture vapor-permeable wrapping material to minimize air leakage.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	

Additional Comments/Assumptions:

1 High Impact (Tier 1) 2 Medium Impact (Tier 2) 3 Low Impact (Tier 3)

Section # & Req.ID	Final Inspection	Complies?	Comments/Assumptions
C402.5.6 [FI37]^{I}	Weatherseals installed on all loading dock cargo door openings and provide direct contact along the top and sides of vehicles parked in the doorway.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C402.5.8 [FI26]^{I}	Recessed luminaires in thermal envelope to limit infiltration and be IC rated and labeled. Seal between interior finish and luminaire housing.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C408.1.1 [FI57]^{I}	Building operations and maintenance documents will be provided to the owner. Documents will cover manufacturers' information, specifications, programming procedures and means of illustrating to owner how building, equipment and systems are intended to be installed, maintained, and operated.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	

Additional Comments/Assumptions:

1 High Impact (Tier 1) 2 Medium Impact (Tier 2) 3 Low Impact (Tier 3)

10/13/2025 8:31:43 AM

RELEASED FOR CONSTRUCTION
As Noted on Plans Review
Development Services Department
Lee's Summit, Missouri
10/23/2025

ARCHITECT OF RECORD

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CONSULTANT

CLIENT

PROJECT TITLE

Q39 (SHELL)
LEE'S SUMMIT, MO
OLDHAM VILLAGE

PROJECT NUMBER
62500002

PROJECT MANAGER	DRAWN BY	CHECKED BY
TM	TM	

PROFESSIONAL SEAL

STATE OF MISSOURI
MARK SCHISLER
NUMBER A-2010017514
REGISTERED ARCHITECT
10/13/2025

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ISSUES AND REVISIONS

NUMBER	DATE	DESCRIPTION
0	09/01/25	ORIGINAL ISSUE
1	09/29/25	ADDENDUM 1
2	10/13/25	ADDENDUM 2

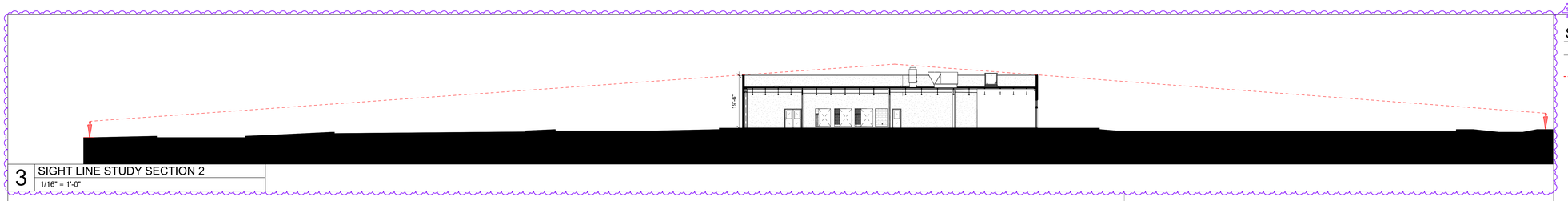
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COMCHECK REPORT

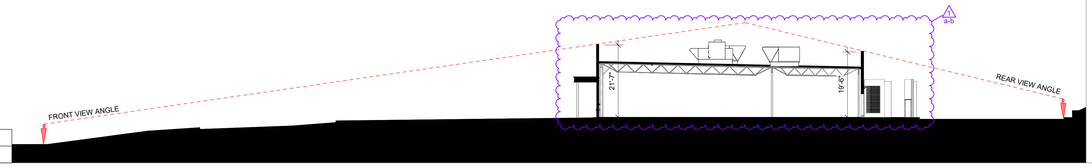
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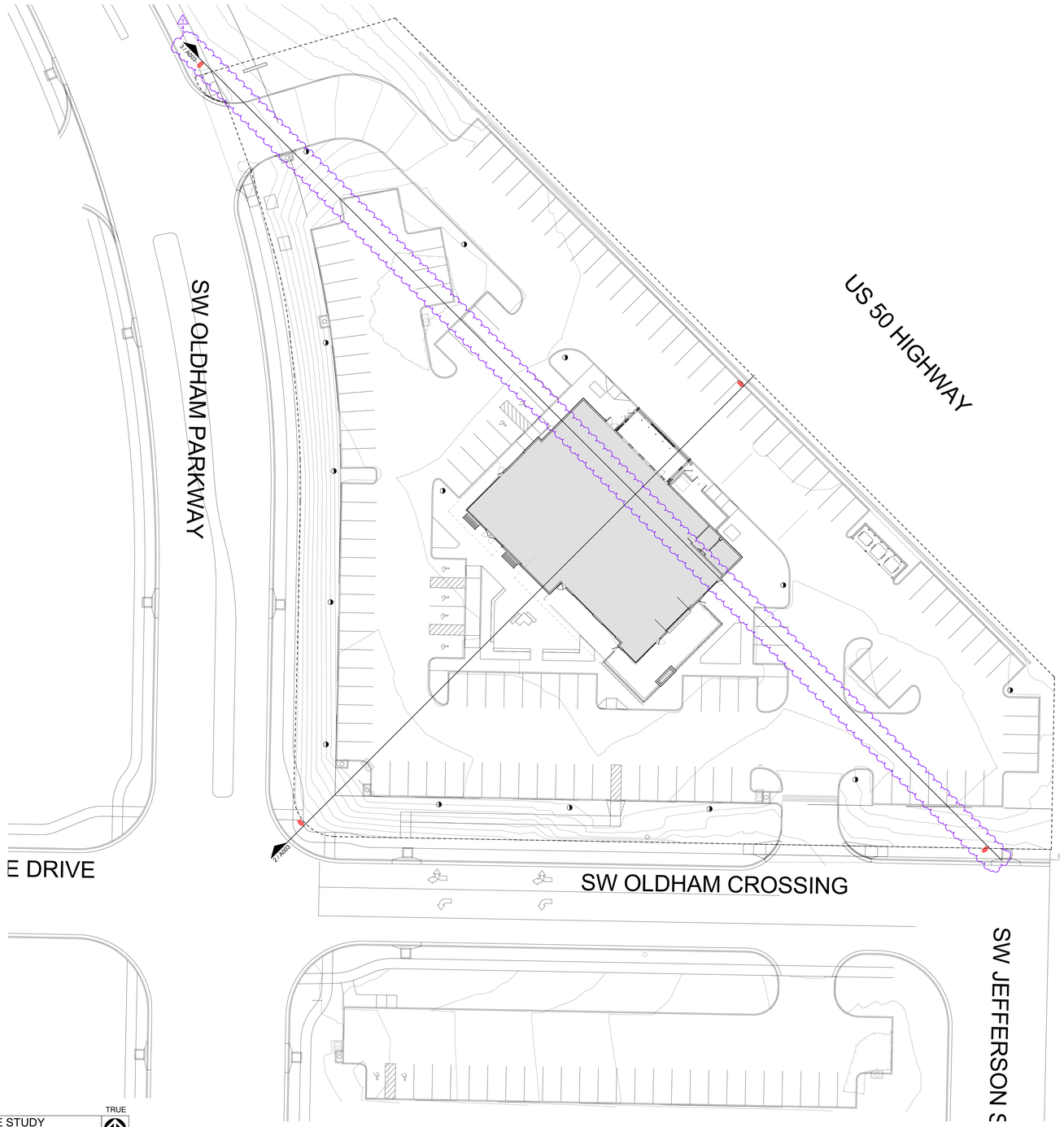
BRR ORIGINAL PRINTED ON RECYCLED PAPER



3 SIGHT LINE STUDY SECTION 2
1/16" = 1'-0"



2 SIGHT LINE STUDY SECTION
1/16" = 1'-0"



1 SITE PLAN - SIGHT LINE STUDY
3/64" = 1'-0"

TRUE

SYMBOLS LEGEND

- TOPOGRAPHY LINES, REF CIVIL
- SITE LINE VIEW ANGLE
- VIEW ANGLE LOCATION IN PLAN

RELEASED FOR CONSTRUCTION
As Noted on Plans Review
Development Services Department
Lee's Summit, Missouri
10/23/2025

ARCHITECT OF RECORD

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CONSULTANT

CLIENT

PROJECT TITLE

Q39 (SHELL)
LEE'S SUMMIT, MO
OLDHAM VILLAGE

PROJECT NUMBER
62500002

PROJECT MANAGER	DRAWN BY	CHECKED BY
TM	TM	CTJ

PROFESSIONAL SEAL

STATE OF MISSOURI
MARK SCHERRER
NUMBER A-2020010624
ARCHITECT

6/24/2025

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ISSUES AND REVISIONS

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0	05/01/25	ORIGINAL ISSUE
1	06/20/25	ADDENDUM 1

SHEET NAME

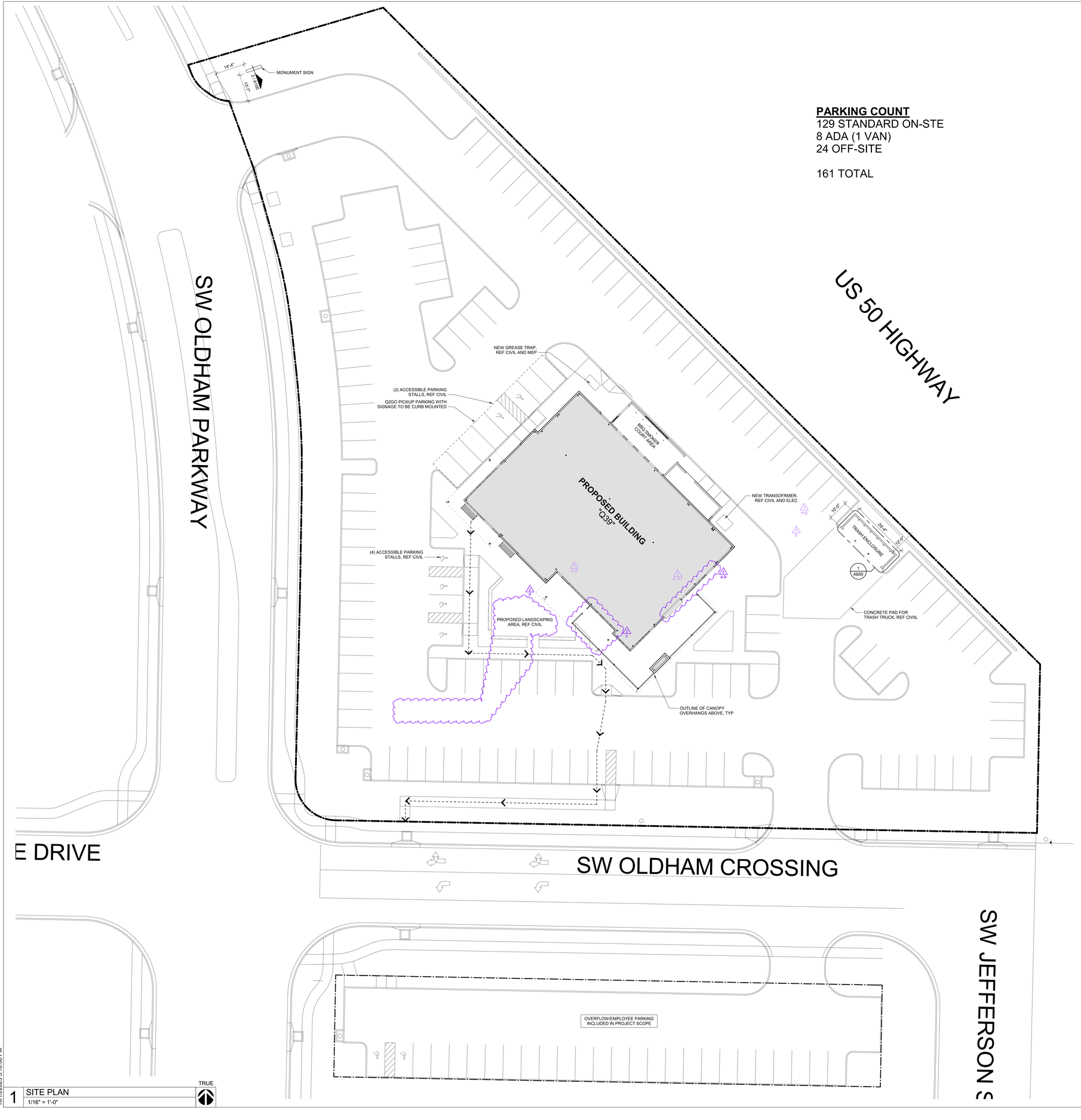
SIGHT LINE STUDY

SHEET NUMBER

A003

6/20/2025 11:23:11 AM

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PARKING COUNT
129 STANDARD ON-STE
8 ADA (1 VAN)
24 OFF-SITE

161 TOTAL

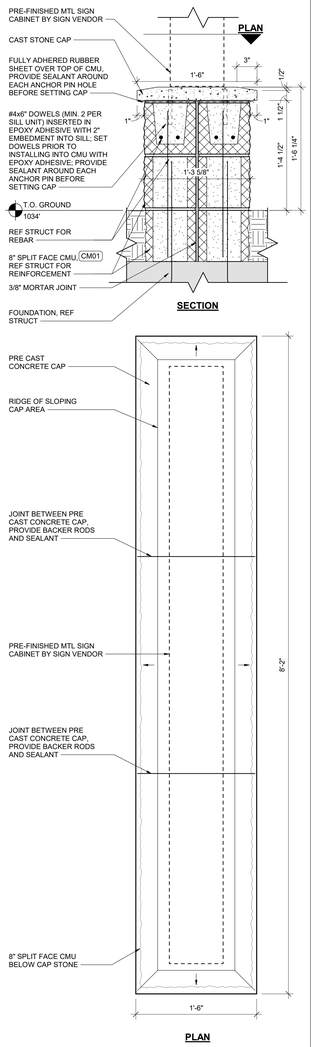
SHEET NOTES

1. ALL EXTERIOR SIDEWALK JOINTS TO BE FILLED WITH SEALANT, REF CIVIL
2. REF CIVIL AND MEP FOR LOCATION OF GREASE INTERCEPTOR
3. REF CIVIL, STRUCTURAL, AND MEP FOR ADDITIONAL INFORMATION
4. REF CIVIL FOR ALL CONCRETE WORK OUTSIDE OF BUILDINGS EXTERIOR WALLS

SYMBOLS LEGEND

LINE OF SCOPE DELINEATION, ALL SCOPE SHOWN WITHIN THESE LIMITS IS BY Q39 GC. AS A GENERAL RULE, THE SCOPE LIMIT LINE IS BACK FACE OF THE SURROUNDING CONCRETE CURB.

ACCESSIBLE PATH TO PUBLIC RIGHT OF WAY, REF CIVIL



SECTION

PLAN

1 SITE PLAN — 1/16" = 1'-0"

2 MONUMENT SIGN — 1 1/2" = 1'-0"

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Development Services Department
Lee's Summit, Missouri
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CONSULTANT

CLIENT

PROJECT TITLE

Q39 (SHELL)
LEE'S SUMMIT, MO
OLDHAM VILLAGE

PROJECT NUMBER
62500002

PROJECT MANAGER	DRAWN BY	CHECKED BY
TM	ND	

PROFESSIONAL SEAL

STATE OF MISSOURI
MARK SCHIRRER
NUMBER A-2012001024
ARCHITECT

10/13/2025

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2	10/13/25	ADDENDUM 2

SHEET NAME

SITE PLAN

SHEET NUMBER

A100

10/13/2025 3:10:38 PM

TRUE

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SHEET NOTES

1. ALL INTERIOR AND EXTERIOR PLAN DIMENSIONS ARE TO FACE OF FINISH, UNO
2. ALL JOINTS BETWEEN DISSIMILAR MATERIALS SHALL BE SEALED AS REQUIRED FOR A COMPLETE AND PROPER INSTALLATION, REGARDLESS OF WHETHER SHOWN ON THE DRAWINGS OR INDICATED IN THE SPECIFICATIONS. SUCH JOINTS NOT SHOWN OR SCHEDULED SHALL BE SEALED WITH SEALANTS CONSISTENT WITH SPECIFIED MATERIALS OR AS RECOMMENDED BY THE MANUFACTURER FOR THE SPECIFIC APPLICATION
3. INTERIOR FINISH OF EXTERIOR STUD WALLS TO BE INCLUDED IN FUTURE SCOPE UNDER A SEPARATE PERMIT
4. ALL BOLLARDS, RAILS, BARRIERS, OR GUARDS ARE USED ONLY TO PROVIDE VISUAL CUES SEPARATING PEDESTRIAN, EQUIPMENT, AND VEHICLE AREAS AND ARE NOT INTENDED TO COMPLY WITH ASCE, ASTM F3016, ASTM F2656, OR ANY PROVISION ESTABLISHING, TESTING, OR RATING REQUIREMENTS FOR VEHICLE IMPACT
5. REFERENCE DOOR AND WINDOW INFORMATION FOR ADDITIONAL INFORMATION
6. LOCATE INTERIOR DOORS 4" OFF ADJACENT WALL BEHIND HINGE, UNO
7. NO SUBSTITUTIONS OR EXCEPTIONS ALLOWED WHERE SPECIAL FRAMING IS REQUIRED FOR 3 5/8" STUDS SPANNING FLOOR TO DECK, REFERENCE LEGEND FOR REQUIREMENTS AND LOCATION
8. PROVIDE R25 BATT INSULATION IN EXTERIOR WALLS PER COMCHECK REPORT.

WALL TYPES NOTES

1. METAL STUDS ARE TO BE SPECIFIED BY CFS SUPPLIER, TYP
2. METAL STUDS ARE SPACED AT 16" ON CENTER MAX, UNO
3. METAL STUD FLANGE WIDTHS ARE TO BE SPECIFIED BY CFS SUPPLIER, TYP
4. FULLY SHEATHED WALLS TO RECEIVE BRIDGING AT 96" OC MAX VERTICALLY
5. UNSHEATHED OR PARTIALLY SHEATHED WALLS TO RECEIVE BRIDGING AT 48" OC MAX VERTICALLY FOR THE PORTION OF WALL WHICH IS NOT FULLY SHEATHED
6. REF WALL TYPE DETAILS FOR CMU THICKNESSES
7. REF STRUCTURAL FOR LOCATIONS & MIN AND MAX REQUIREMENTS OF CONTROL JOINTS
8. WALL HEIGHTS SHOWN ON PLAN ARE TO TOP OF THE STUD, TYP. REF WALL SECTIONS AND DETAILS FOR PARAPET CAP CONSTRUCTION AND FINISH HEIGHT.

114 BBQ SMOKER COURT

115 STORAGE

125 PLUMBING

126 ELECTRICAL

100 RESTAURANT INTERIOR

102 PATIO

CORE DRILL WEEP HOLES AND LINE WITH 1-1/2" PVC PIPE, COORD WITH CIVIL GRADING, 8'-0" OC MAX

OUTLINE OF FUTURE SMOKERS

CONFIRM OPENING SIZE WITH EQUIPMENT SPEC, TYP

EIFS UNDER 8'-0" AFF SHALL REQUIRE THE HIGH IMPACT RESISTANCE MESH

TO BLOCK SLOPES DOWN AT 1/4":12"

EXTERIOR MATERIAL CHANGE

16" MIN. WIDE LADDER, 3/4"ø RUNGS AND 3" X 3/8" STRINGERS EACH SIDE, CENTER IN ROOF HATCH OPENING

STEEL COLUMN, TYP, REF STRUC

VERTICAL OLYMPUS COMMERCIAL 42" TALL TOP MOUNT - 1"X3" WHITE OAK CLEAR STAINED WOOD TOP RAILING BY GC; ALIGN WITH EDGE OF COLUMN

NOTE:
INTERIOR SLAB AND BUILD OUT TO BE INCLUDED IN FUTURE SCOPE OF WORK UNDER A SEPARATE PERMIT

NOTE:
INTERIOR FINISHES TO BE COMPLETED AS PART OF FUTURE PERMIT, INTERIOR FINISHES OF EXTERIOR WALLS SHOWN FOR FUTURE INTENT

NOTE:
CFS ELEMENTS TO BE ENGINEERED, COORDINATED, AND SUPPLIED BY OTHERS, TYP

1 PARTITION PLAN
1/4" = 1'-0"

10/13/2025 8:31:47 AM

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Lee's Summit, Missouri
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CONSULTANT

CLIENT

PROJECT TITLE

Q39 (SHELL)
LEE'S SUMMIT, MO
OLDHAM VILLAGE

PROJECT NUMBER
62500002

PROJECT MANAGER	DRAWN BY	CHECKED BY
TM	ND	

PROFESSIONAL SEAL

STATE OF MISSOURI
MARK ECHSEIER
NUMBER A-2010171224
REGISTERED ARCHITECT

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2	10/15/25	ADDENDUM 2

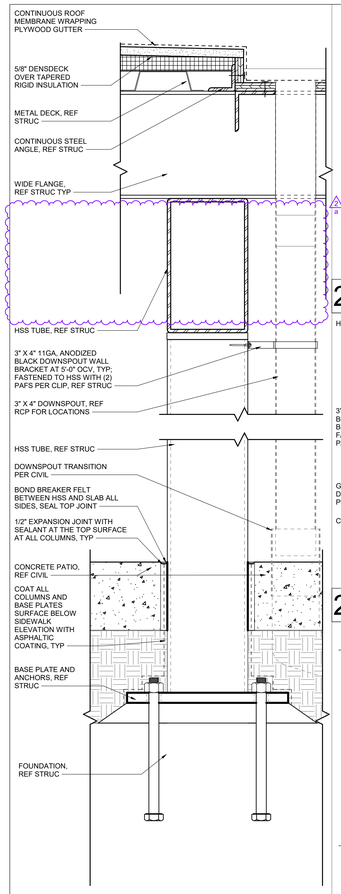
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PARTITION PLAN

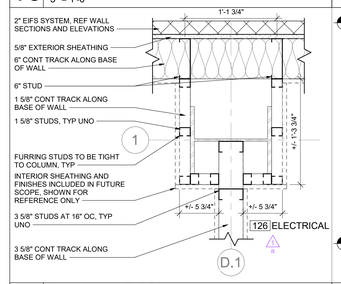
SHEET NUMBER

A101

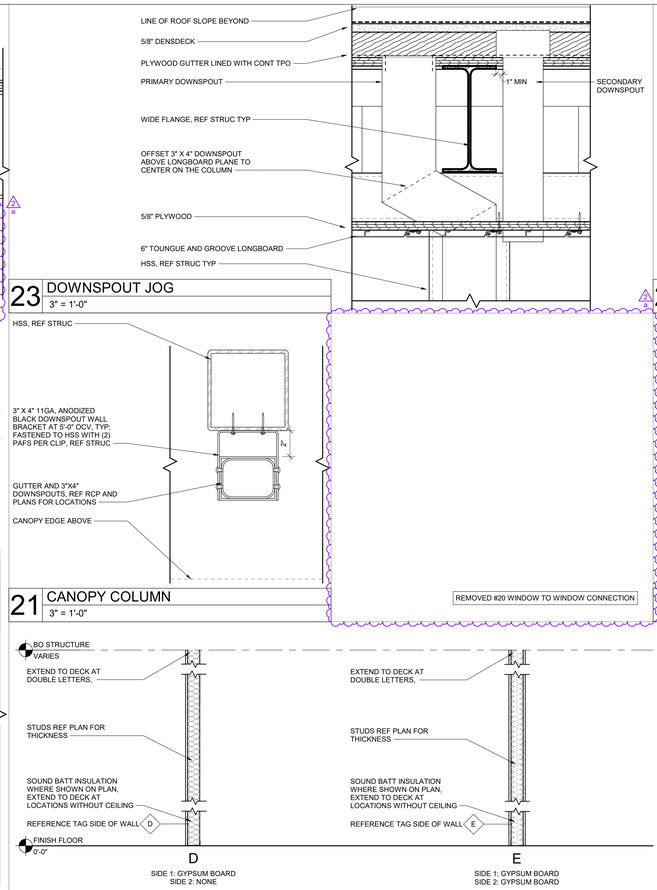
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16 CANOPY COLUMN SECTION
3" = 1'-0"



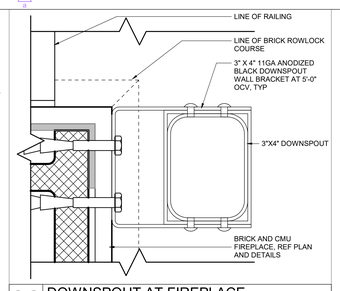
12 FUR OUT AT COLUMN
1 1/2" = 1'-0"



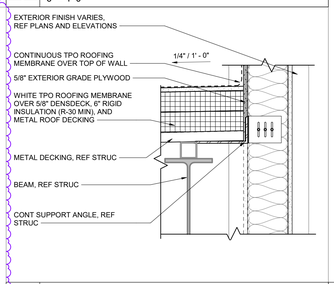
23 DOWNSPOUT JOG
3" = 1'-0"

21 CANOPY COLUMN
3" = 1'-0"

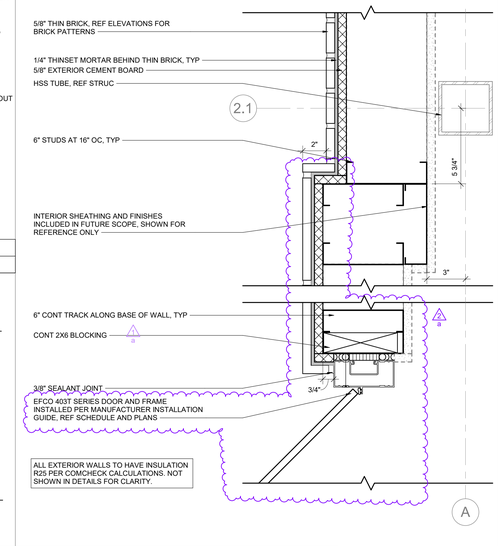
REMOVED #20 WINDOW TO WINDOW CONNECTION



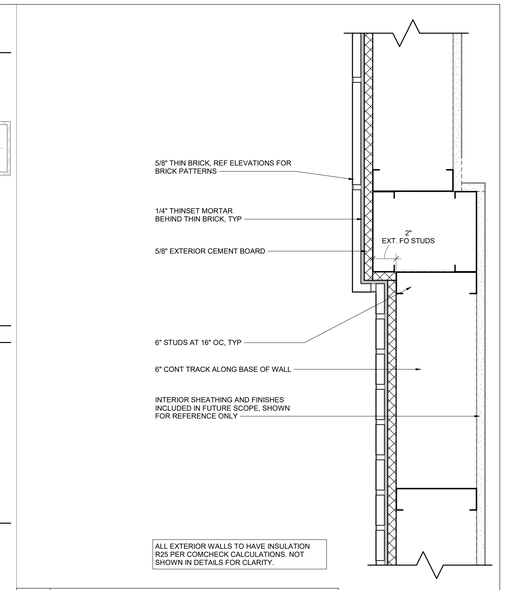
22 DOWNSPOUT AT FIREPLACE
6" = 1'-0"



19 ROOF CONNECTION
1 1/2" = 1'-0"

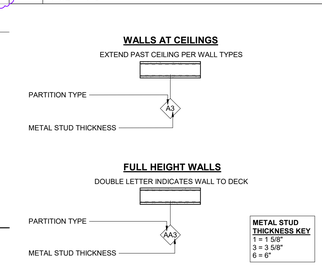


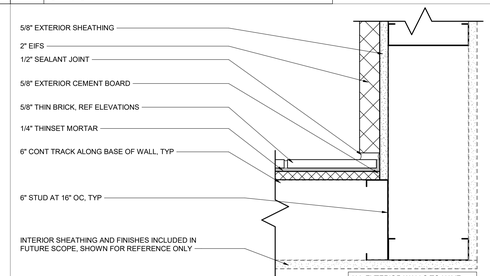
18 DOOR JAMB AT WALL JOG
3" = 1'-0"



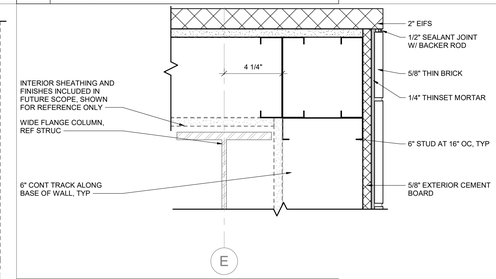
17 JOG THIN BRICK TRANSITION
3" = 1'-0"

15 INTERIOR WALL TYPES
3/4" = 1'-0"



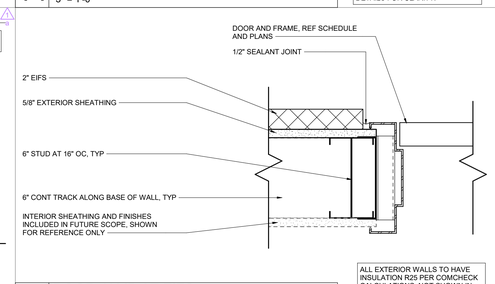


14 THIN BRICK TO EIFS INNER CORNER
3" = 1'-0"

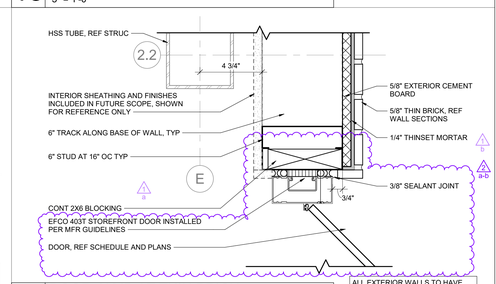


13 THIN BRICK TO EIFS OUTER CORNER
3" = 1'-0"

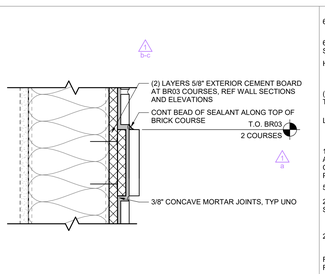
11 EXTERIOR WALL TYPES
1 1/2" = 1'-0"



10 DOOR JAMB AT EIFS
3" = 1'-0"

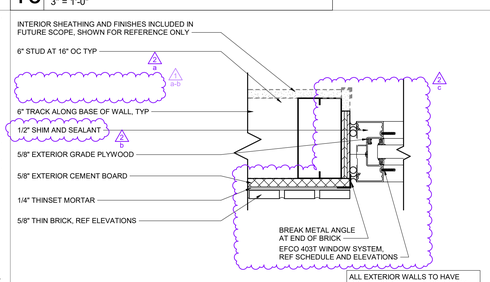


9 DOOR JAMB AT THIN BRICK
3" = 1'-0"



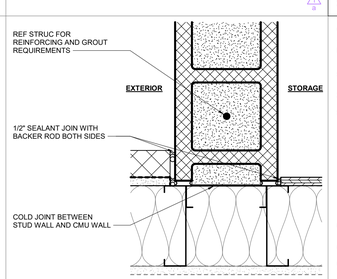
8 FAUX ROWLOCK BRICK COURSE
3" = 1'-0"

7 SMOKER OPENING SECTION
3" = 1'-0"

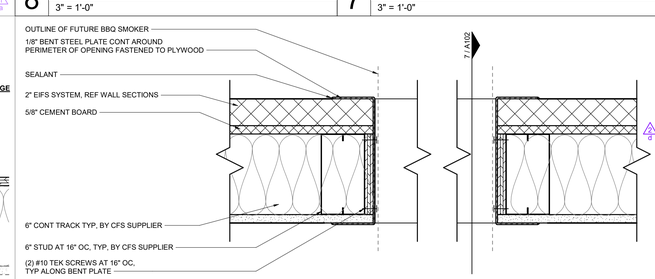


6 WINDOW WALL JAMB
3" = 1'-0"

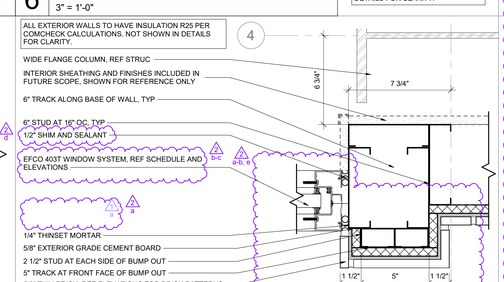
REMOVED #5 DOOR JAMB AT WINDOW WALL



4 CMU TO METAL STUD
3" = 1'-0"



3 SMOKER OPENING PLAN
3" = 1'-0"



2 WALL JOG AT WINDOW WALL
3" = 1'-0"

REMOVED #1 STOREFRONT AT CORNER

REMOVED: #4 PICKUP WINDOW JAMB

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CONSULTANT

CLIENT

PROJECT TITLE

Q39 (SHELL)
LEE'S SUMMIT, MO
OLDHAM VILLAGE

PROJECT NUMBER
62500002

PROJECT MANAGER	DRAWN BY	CHECKED BY
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PROFESSIONAL SEAL

STATE OF MISSOURI
MARK ECHERER
NUMBER A-2010017524
REGISTERED ARCHITECT

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ISSUES AND REVISIONS

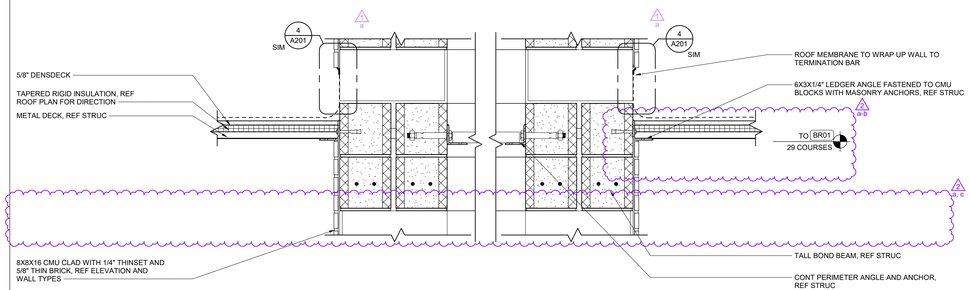
NUMBER	DATE	DESCRIPTION
0	05/01/25	ORIGINAL ISSUE
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2	10/15/25	ADDENDUM 2

SHEET NAME

PARTITION DETAILS

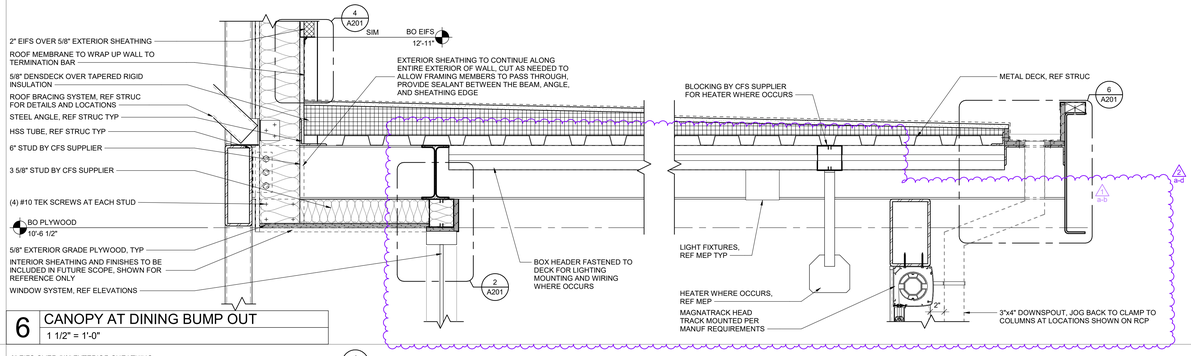
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A102



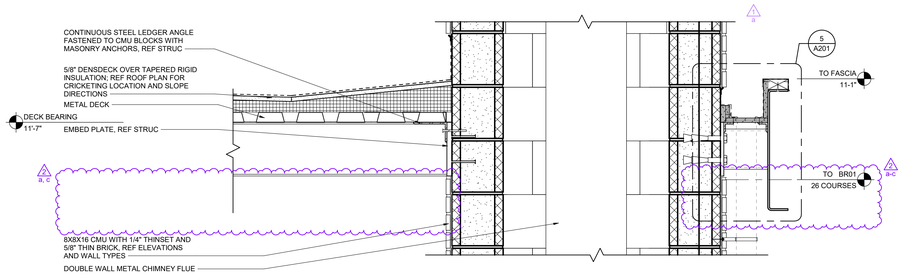
7 CANOPY AT FIREPLACE 02

1 1/2" = 1'-0"



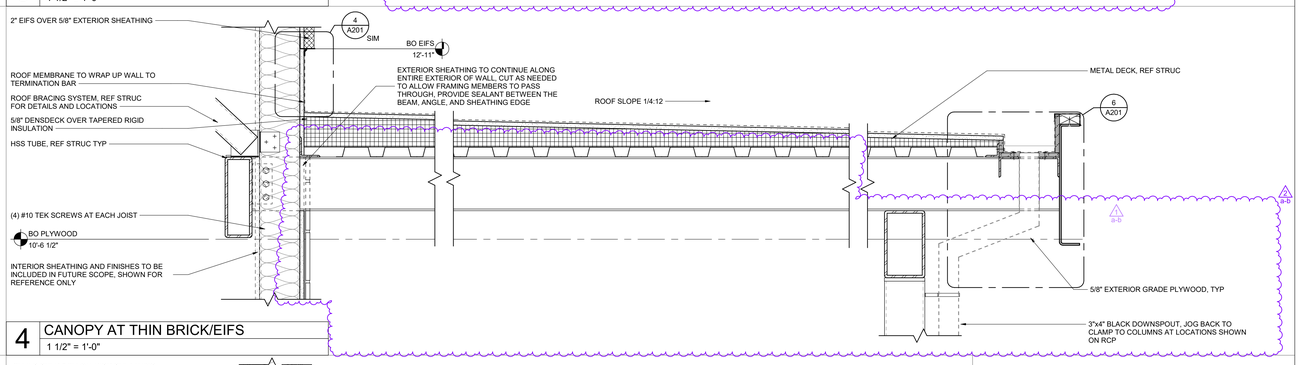
6 CANOPY AT DINING BUMP OUT

1 1/2" = 1'-0"



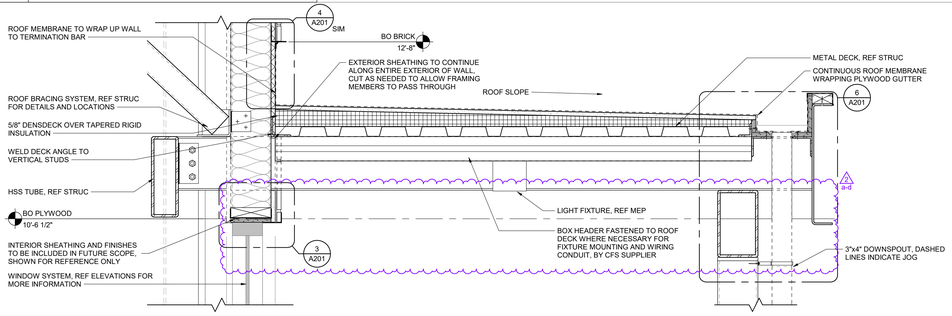
5 CANOPY AT FIREPLACE 01

1 1/2" = 1'-0"



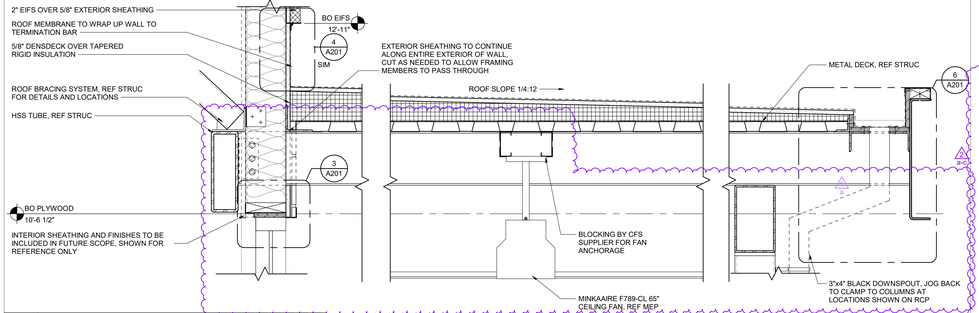
4 CANOPY AT THIN BRICK/EIFS

1 1/2" = 1'-0"



3 ENTRY CANOPY AT WINDOW WALL

1 1/2" = 1'-0"



2 CANOPY AT WINDOW WALL

1 1/2" = 1'-0"

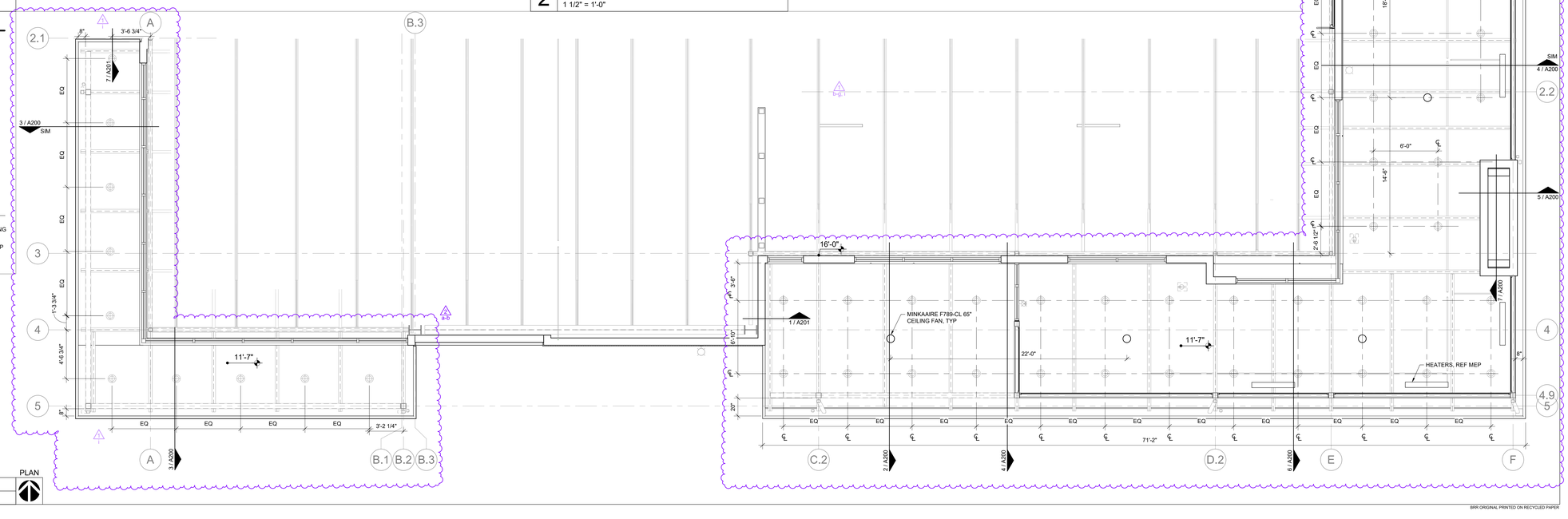
SHEET NOTES

1. REFERENCE ELECTRICAL FOR LIGHTING LAYOUT AND SPECS, SHOWN FOR REFERENCE ONLY
2. REMOVE ALL STICKERS OR TAGS ON OVERHEAD UTILITIES, UNLESS RESTRICTED BY CODE OR INDICATING WARRANTY AND CERTIFICATION INFORMATION
3. DIMENSIONS SHOWN TO/FROM FACE OF FINISH, UNO
4. WOOD HATCH DIRECTION INDICATES PLANK AND GRAIN DIRECTION, COORDINATE WITH FINISH SCHEDULE
5. CEILING JOISTS UNO:
   A. SPANS UP TO 14'-0"
   - 16" OC JOIST SPACING
   - 600S162-43 (6"X1 5/8"X18GA)
   - LATERAL BRIDGING IS REQUIRED AT MID SPAN ONLY
   B. SPANS UP TO 20'-0"
   - 16" OC JOIST SPACING
   - 600S162-54 (6"X1 5/8"X16GA)
   - LATERAL BRIDGING IS REQUIRED AT THIRD POINTS

SYMBOLS LEGEND

X'-XX" BOTTOM OF CEILING HEIGHT

LIGHTING, REF MEP



1 REFLECTED CEILING PLAN

1/4" = 1'-0"

PLAN

10/13/2025 8:31:59 AM

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OVERLAND PARK, KS 66204
WWW.BRRARCH.COM
TEL: 913-262-5095
FAX: 913-262-5044

CONSULTANT

CLIENT

PROJECT TITLE

Q39 (SHELL)
LEE'S SUMMIT, MO
OLDHAM VILLAGE

PROJECT NUMBER
62500002

PROJECT MANAGER	DRAWN BY	CHECKED BY
TM	ND	

PROFESSIONAL SEAL



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ISSUES AND REVISIONS

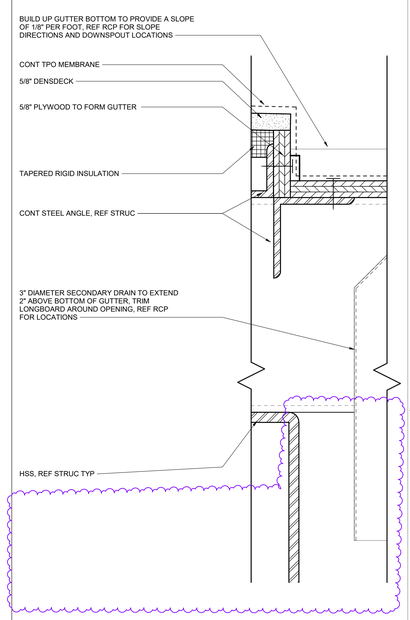
NUMBER	DATE	DESCRIPTION
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1	06/20/25	ADDENDUM 1
2	10/15/25	ADDENDUM 2

SHEET NAME

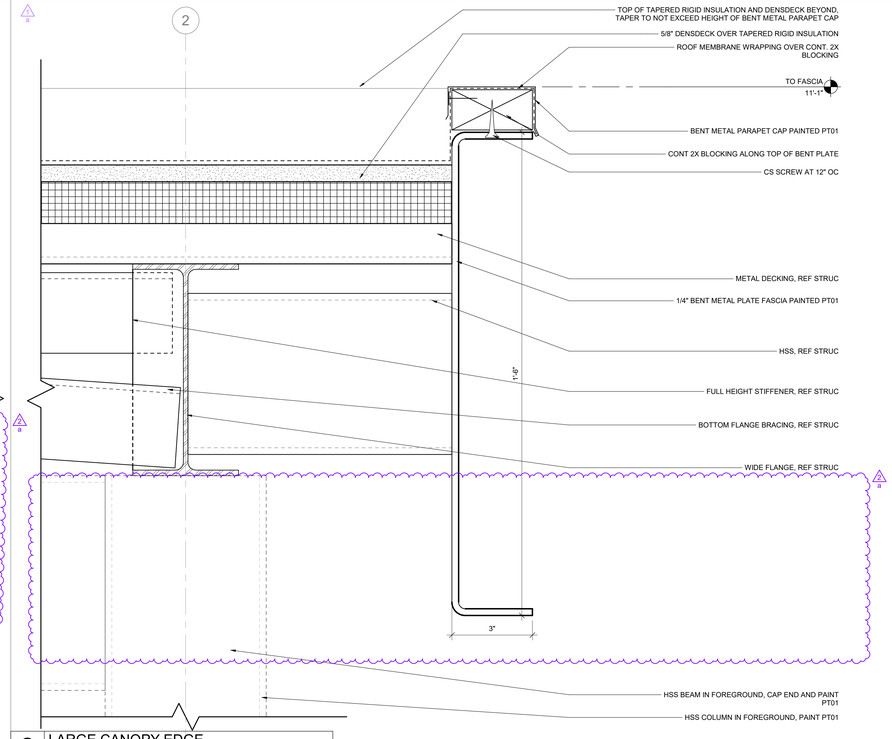
CANOPY ENLARGED PLAN AND DETAILS

SHEET NUMBER

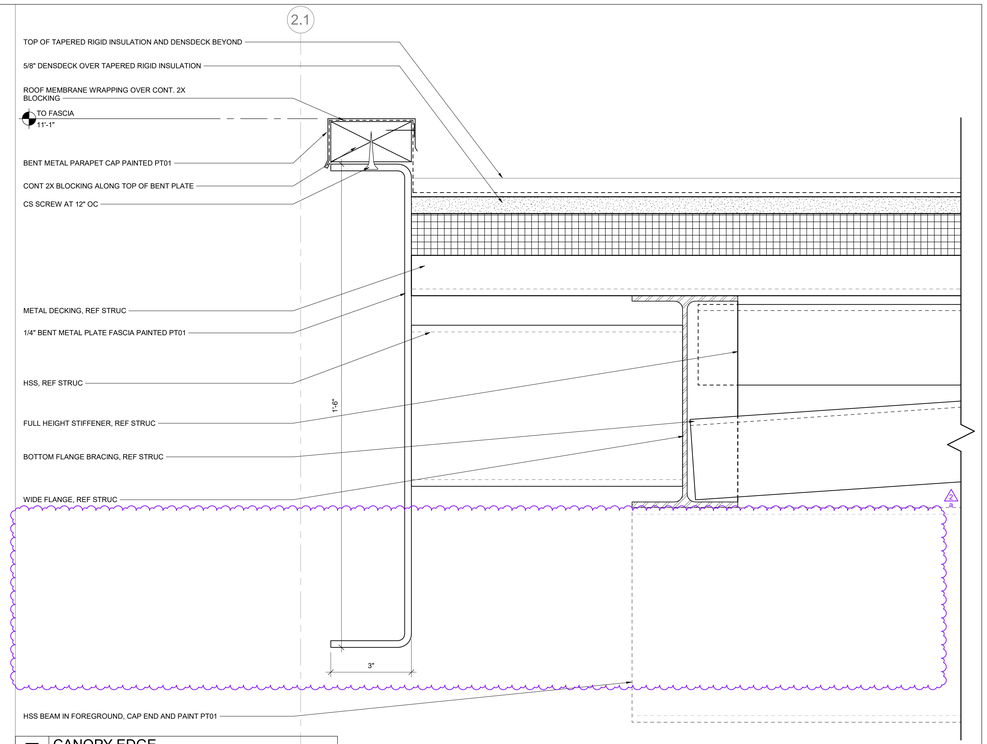
A200



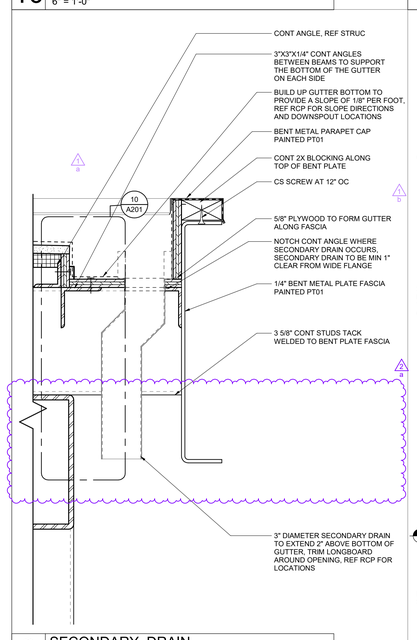
10 SECONDARY DRAIN ATTACHMENT
6" = 1'-0"



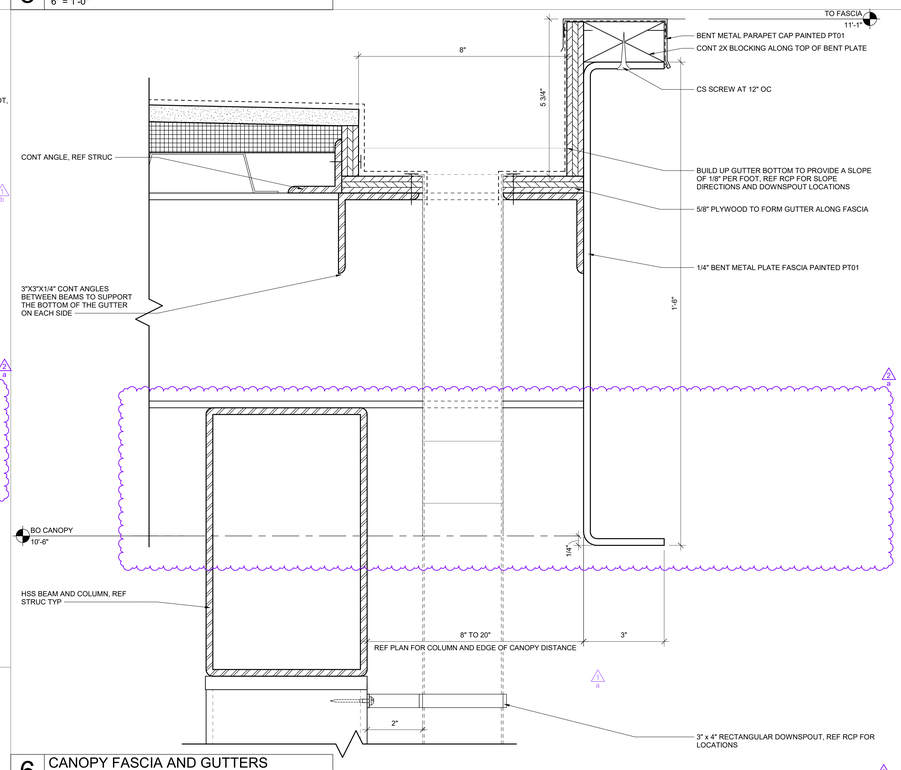
8 LARGE CANOPY EDGE
6" = 1'-0"



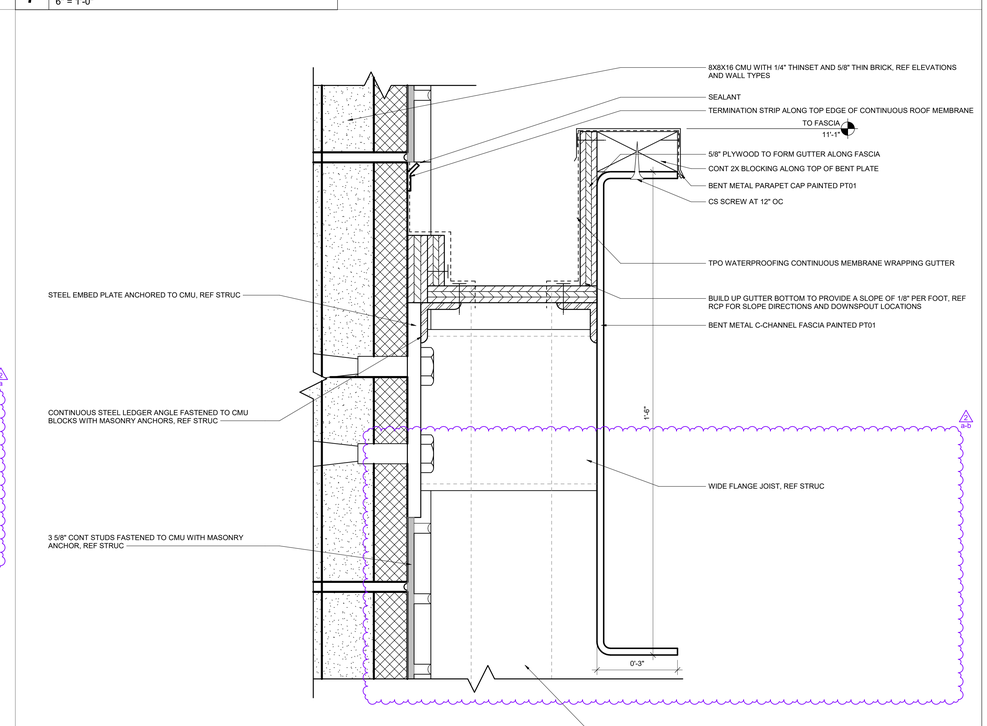
7 CANOPY EDGE
6" = 1'-0"



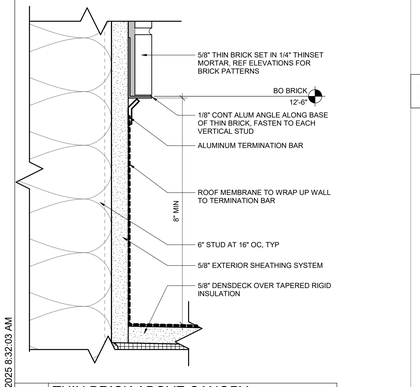
9 SECONDARY DRAIN
3" = 1'-0"



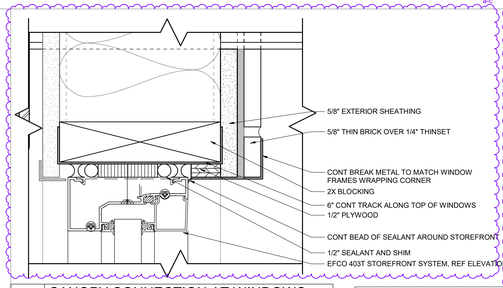
6 CANOPY FASCIA AND GUTTERS
6" = 1'-0"



5 FASCIA AT FIREPLACE
6" = 1'-0"

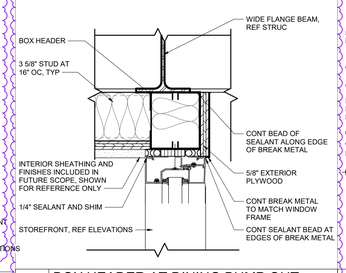


4 THIN BRICK ABOVE CANOPY
6" = 1'-0"

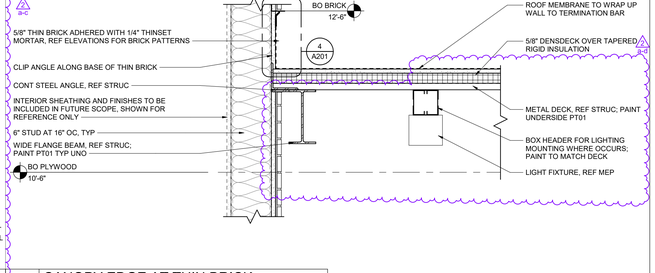


3 CANOPY CONNECTION AT WINDOWS
6" = 1'-0"

INTERIOR SHEATHING AND FINISHES INCLUDED IN FUTURE SCOPE, SHOWN FOR REFERENCE ONLY



2 BOX HEADER AT DINING BUMP OUT
3" = 1'-0"



1 CANOPY EDGE AT THIN BRICK
1 1/2" = 1'-0"

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FAX: 913-262-5044

CONSULTANT

CLIENT

PROJECT TITLE

Q39 (SHELL)
LEE'S SUMMIT, MO
OLDHAM VILLAGE

PROJECT NUMBER
62500002

PROJECT MANAGER	DRAWN BY	CHECKED BY
TM	ND	

PROFESSIONAL SEAL

STATE OF MISSOURI
MARK SCHIEBER
NUMBER A-2010017524
REGISTERED ARCHITECT

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0	05/01/25	ORIGINAL ISSUE
1	06/20/25	ADDENDUM 1
2	10/10/25	ADDENDUM 2

SHEET NAME

CANOPY DETAILS

SHEET NUMBER

A201

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SHEET NOTES

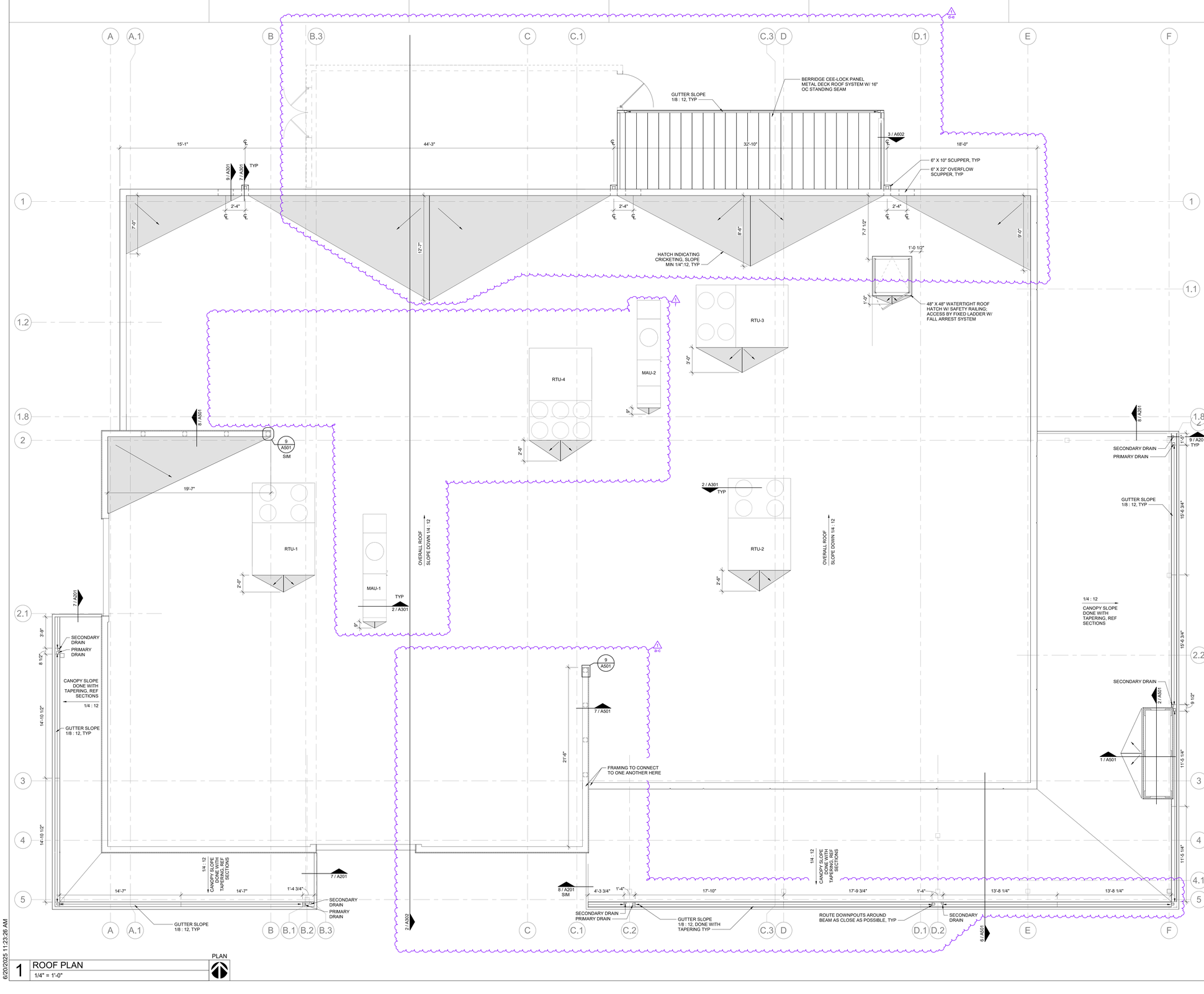
1. REFERENCE STRUCTURAL FOR ROOF REINFORCEMENT AT NEW TENANT EQUIPMENT
2. REFERENCE MEPR FOR NEW TENANT EQUIPMENT AND PENETRATIONS, SHOWN FOR REFERENCE ONLY
3. PAINT ALL PIPING SAFETY YELLOW
4. PROVIDE CONTINUOUS WALKWAY PAD AND CRICKET AT NEW ROOFTOP EQUIPMENT. PROVIDE WALKWAY PAD FROM ROOF ACCESS POINT TO ALL SERVICEABLE EQUIPMENT. COORDINATE WITH FUTURE TENANT EQUIPMENT, TYP
5. PROVIDE R30 CONTINUOUS INSULATION ION ROOF PER COMCHECK REPORT.

SYMBOLS LEGEND

RTU, REF MEP

FAN, REF MEP

ROOF DRAIN/VENT, REF MEP



1 ROOF PLAN
1/4" = 1'-0"
PLAN

6/20/2025 11:23:26 AM

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CONSULTANT

CLIENT

PROJECT TITLE

Q39 (SHELL)
LEE'S SUMMIT, MO
OLDHAM VILLAGE

PROJECT NUMBER
62500002

PROJECT MANAGER	DRAWN BY	CHECKED BY
TM	ND	CTJ

PROFESSIONAL SEAL

STATE OF MISSOURI
MARK SCHERRER
NUMBER A-2020010624
REGISTERED ARCHITECT

6/24/2025

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ISSUES AND REVISIONS

NUMBER	DATE	DESCRIPTION
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1	06/20/25	ADDENDUM 1

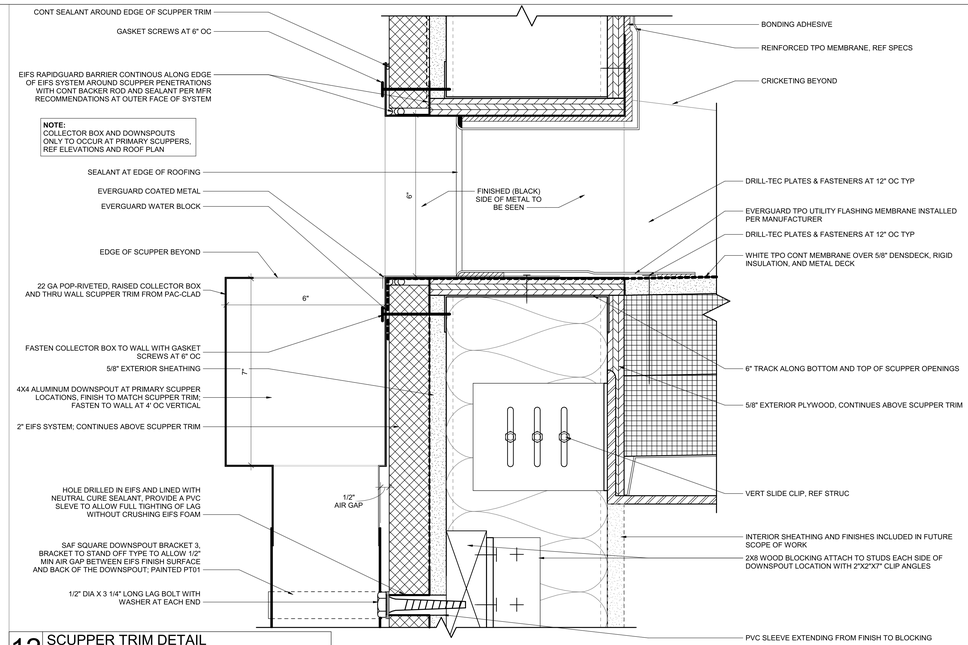
SHEET NAME

ROOF PLAN

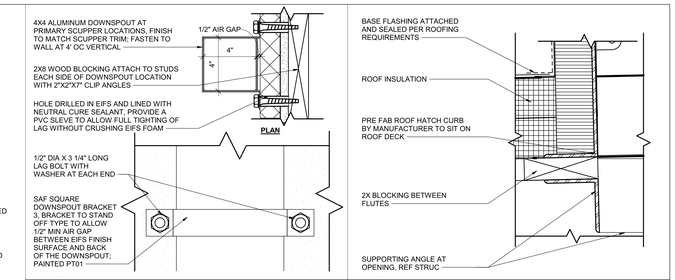
SHEET NUMBER

A300

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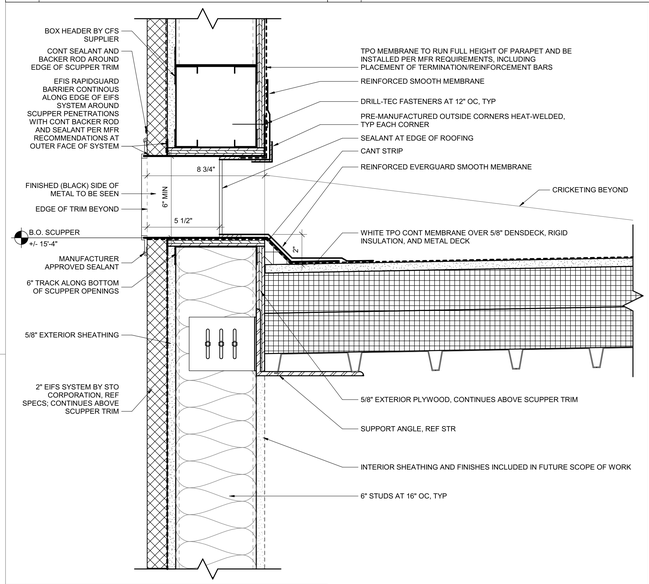


12 SCUPPER TRIM DETAIL
6" = 1'-0"

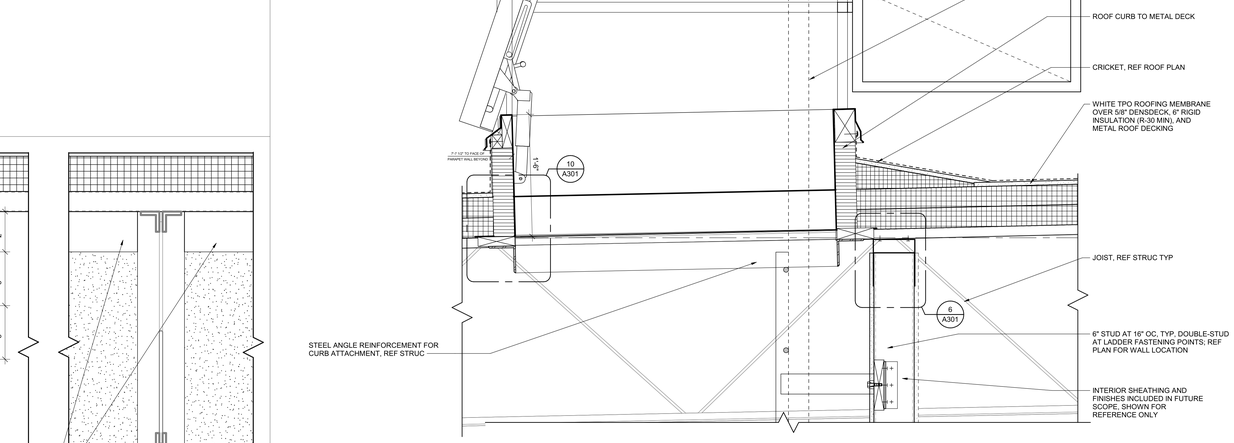


11 SCUPPER DOWNSPOUT CLAMP
6" = 1'-0"

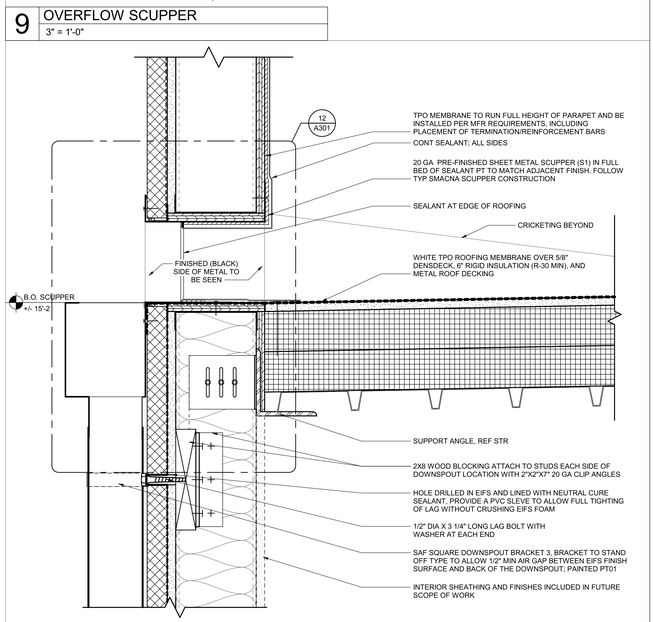
10 ROOF HATCH CURB
3" = 1'-0"



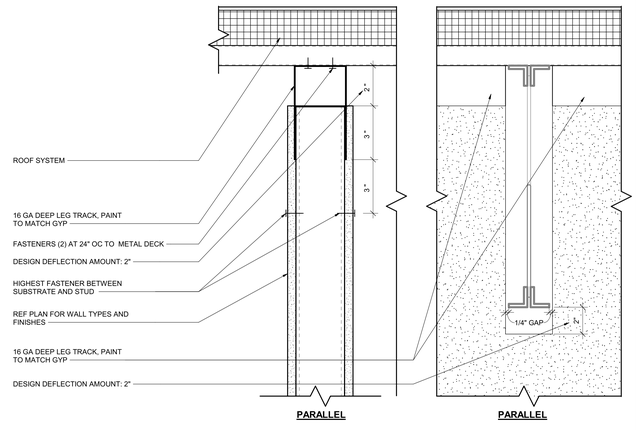
9 OVERFLOW SCUPPER
3" = 1'-0"

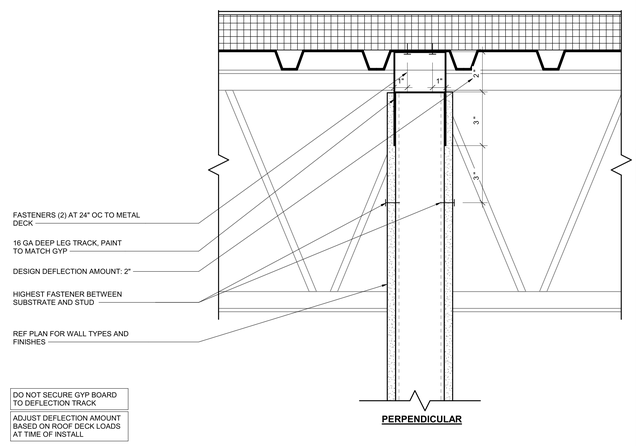


8 ROOF HATCH SECTION
1 1/2" = 1'-0"



7 PRIMARY SCUPPER & DOWNSPOUT
3" = 1'-0"

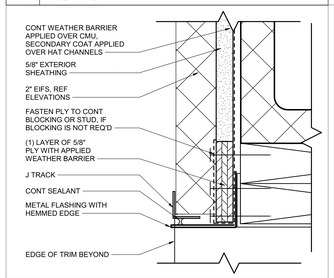




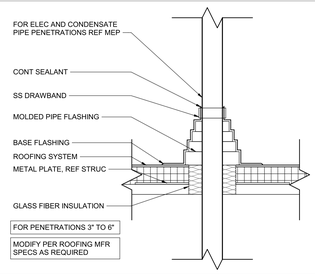
DO NOT SECURE GYP BOARD TO DEFLECTION TRACK

ADJUST DEFLECTION AMOUNT BASED ON ROOF DECK LOADS AT TIME OF INSTALL

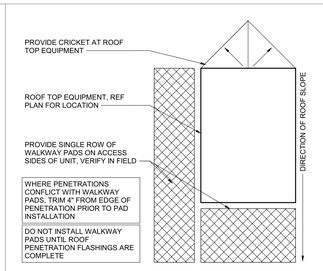
6 DEFLECTION TRACK
3" = 1'-0"



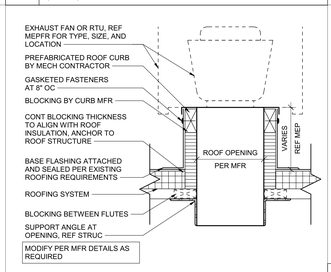
5 SCUPPER TRIM PLAN DETAIL
6" = 1'-0"



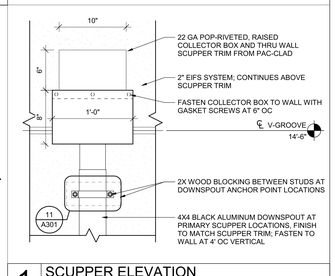
4 MOLDED FLASHING
1 1/2" = 1'-0"



3 WALKWAY PADS AND CRICKETS
1 1/2" = 1'-0"



2 CURB
1 1/2" = 1'-0"



1 SCUPPER ELEVATION
1 1/2" = 1'-0"

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CONSULTANT

CLIENT

Q39 (SHELL)
LEE'S SUMMIT, MO
OLDHAM VILLAGE

PROJECT TITLE

PROJECT NUMBER
62500002

PROJECT MANAGER	DRAWN BY	CHECKED BY
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STATE OF MISSOURI
MARK SCHERER
NUMBER
A-2010016624
ARCHITECT
5/1/2025

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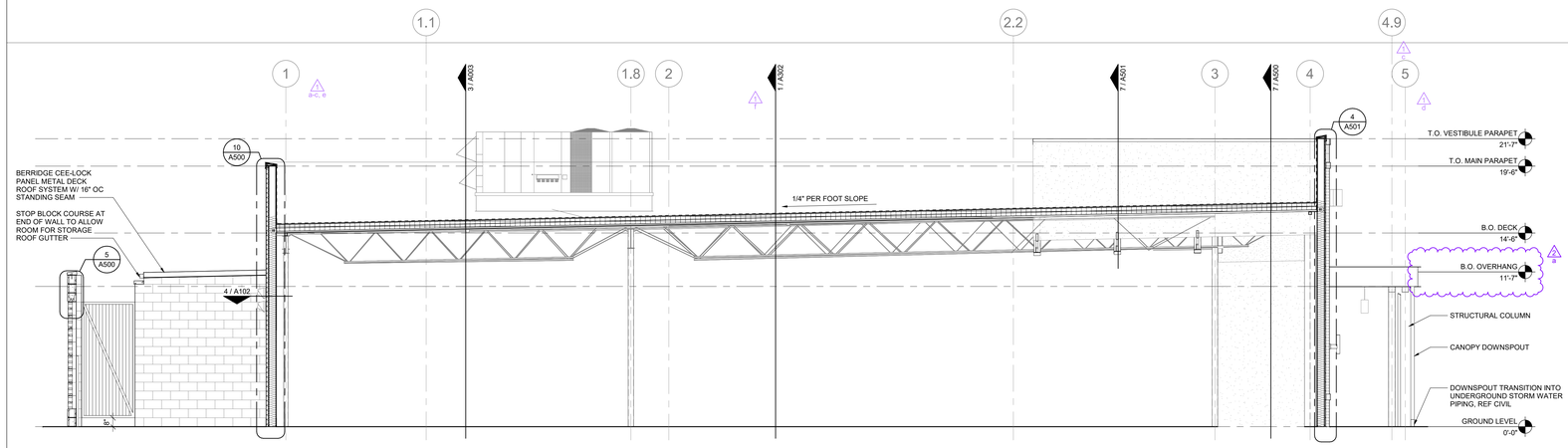
ROOF DETAILS

SHEET NUMBER

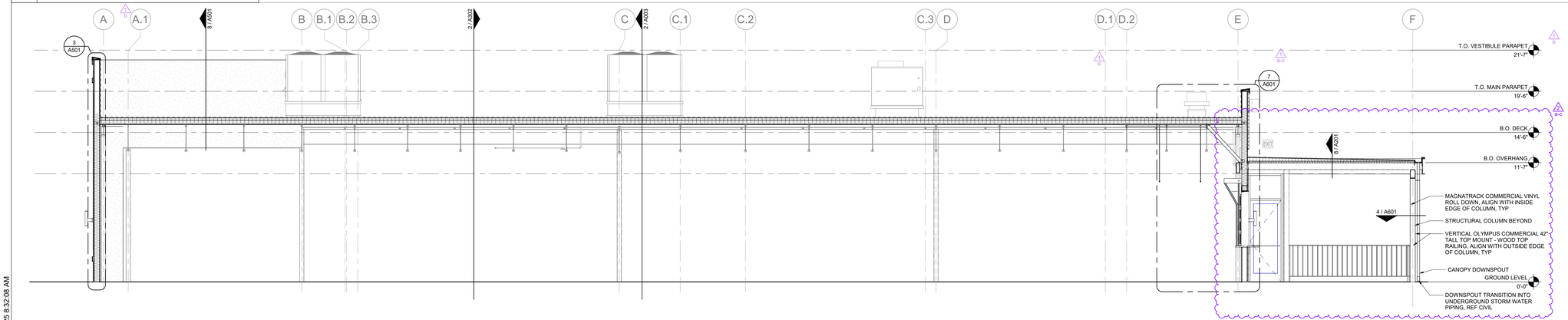
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2 NORTH-SOUTH SECTION
1/4" = 1'-0"



1 EAST-WEST SECTION
1/4" = 1'-0"

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FAX: 913-262-9044

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PROJECT TITLE

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LEE'S SUMMIT, MO
OLDHAM VILLAGE

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2	10/13/25	ADDENDUM 2

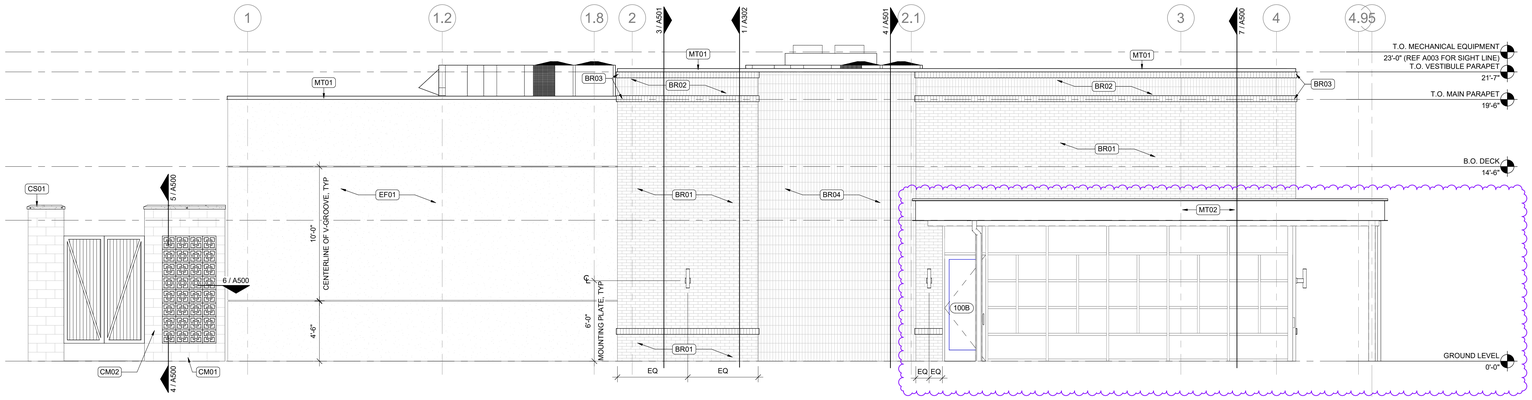
SHEET NAME

BUILDING SECTIONS

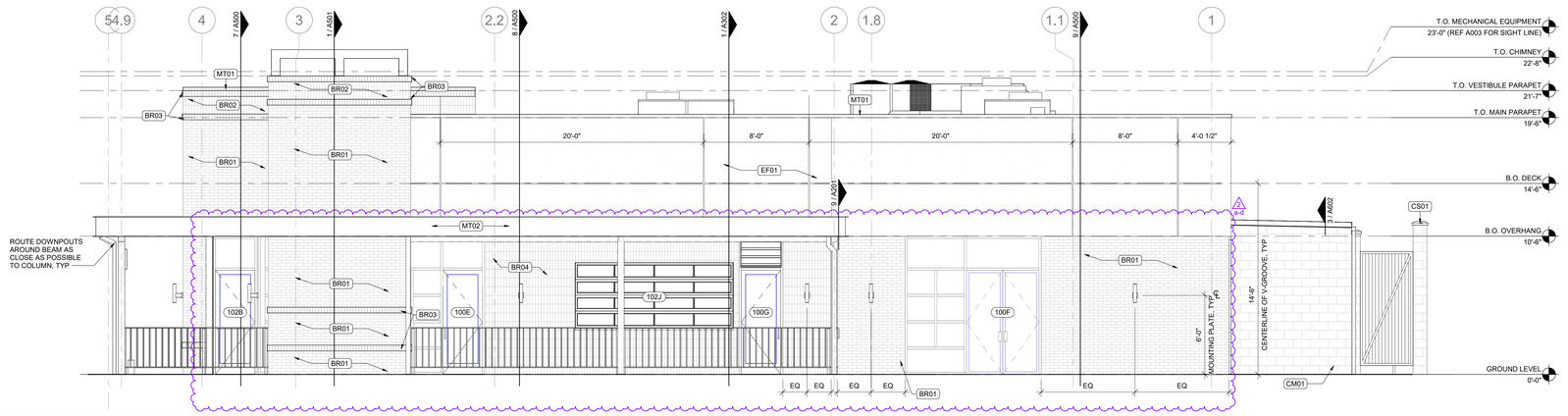
SHEET NUMBER

A302

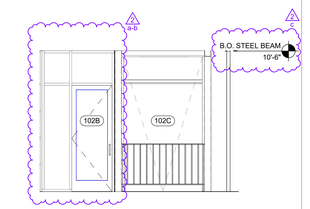
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4 WEST ELEVATION
1/4" = 1'-0"



3 EAST ELEVATION
1/4" = 1'-0"



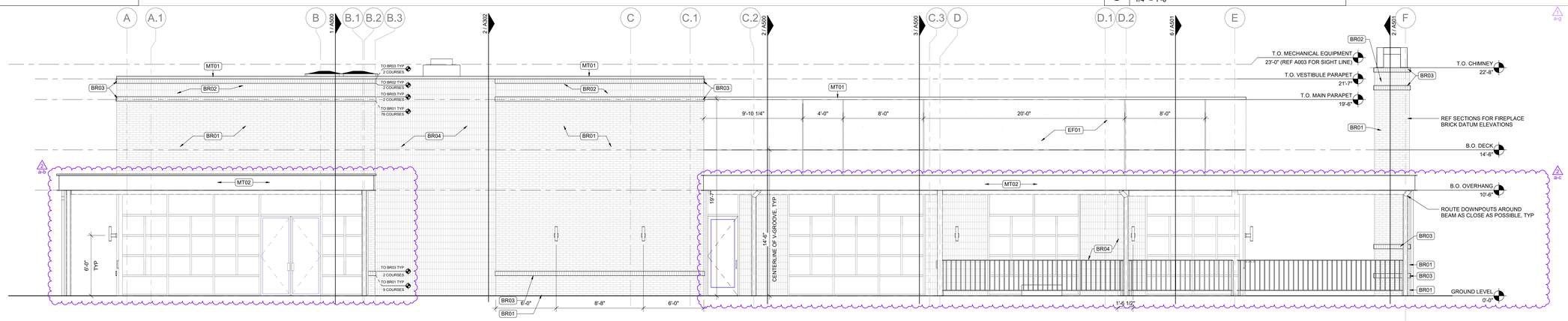
5 PATIO EGRESS DOOR
1/4" = 1'-0"

SHEET NOTES

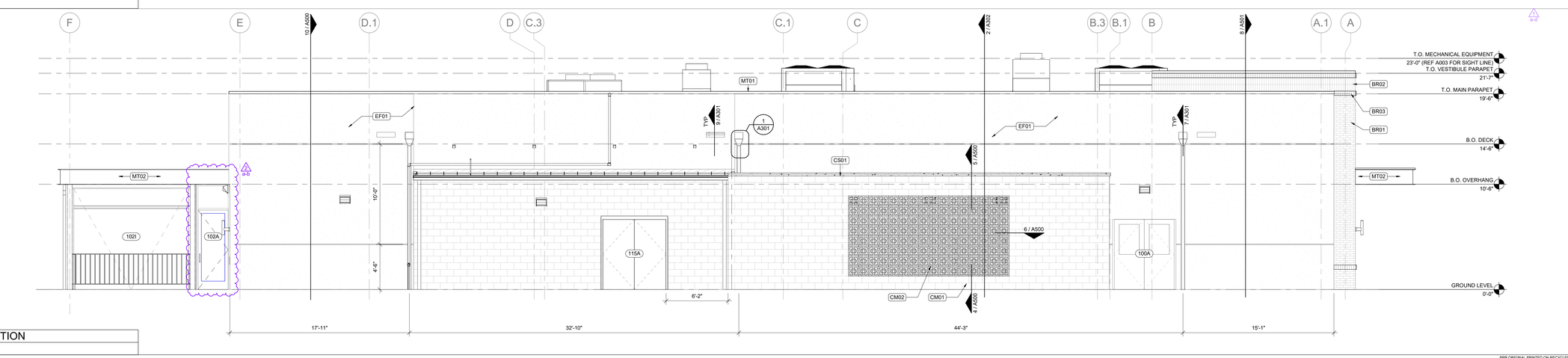
1. REFERENCE PARTITION DETAILS FOR TRANSITIONS BETWEEN SUBSTRATES
2. PROVIDE CONTROL JOINTS IN GYPSUM BOARD FRAMED ASSEMBLIES AT 30' OC MAX, OR AS INDICATED ON PLAN
3. WOOD HATCH DIRECTION INDICATES PLANK AND GRAIN DIRECTION, COORDINATE WITH FINISH SCHEDULE
4. TILE HATCH INDICATES GROUT PATTERN, COORDINATE WITH FINISH SCHEDULE
5. EQUIPMENT SHOWN DASHED FOR CLARITY
6. JOINT SEALANT COLOR TO MATCH ADJACENT FINISHED SURFACES

FINISH SCHEDULE

MARK	SUPPLIER/ MANUFACTURER	PRODUCT NAME/ NUMBER	COLOR/FINISH	NOTES
BRICK (BRXX)				
BR01	BELDEN BRICK	5/8" FACE BRICK	ALASKA WHITE	HORIZONTAL RUNNING BOND, GR01
BR02	BELDEN BRICK	5/8" FACE BRICK	ALASKA WHITE	VERTICAL SOLDIER COURSE, GR01
BR03	BELDEN BRICK	5/8" FACE BRICK	ALASKA WHITE	BR02 CUT TO HEIGHT OF TWO STANDARD BRICK COURSES, INSTALL AS FAUX ROWLOCK PATTERN, GR01
BR04	BELDEN BRICK	5/8" FACE BRICK	BLACK DIAMOND	VERTICAL SOLIDER COURSE GR02
CAST STONE (CS##)				
CS01	N/A	PRE-CAST CONCRETE CAP	CONCRETE LIGHT GREY	
CONCRETE MASONRY UNIT (CMXX)				
CM01	BEST BLOCK	SPLIT FACE BLOCK	SNOW	8" X 8" X 16"
CM02	TESSELLE	SCREEN BLOCK	WHITE	TOWN SQUARE, 11.4"
EIFS (EFXX)				
EF01	STO CORP	REF SPECS	16279	TRADITIONAL FINE TEXTURE
GROUT (GRXX)				
GR01	LATICRETE	44	BRIGHT WHITE	REF SPECS
GR02	LATICRETE	22	MIDNIGHT BLACK	REF SPECS
METAL (MTXX)				
MT01	REF SPECS FOR MANUFACTURER OPTIONS	STEEL	BLACK / PT01	ROOF COPINGS / EDGE FLASHINGS
MT02	GC TO FURNISH	STEEL	PT01	CANOPY FASCIA
PAINT (PTXX)				
PT01	SHERWIN WILLIAMS	TRICORN BLACK 6258	MATTE	



2 SOUTH ELEVATION
1/4" = 1'-0"



1 NORTH ELEVATION
1/4" = 1'-0"

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BRR ARCHITECTURE INC.
8131 METCALF AVENUE
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OVERLAND PARK, KS 66204
WWW.BRRARCH.COM
TEL: 913-262-9096
FAX: 913-262-9044

CONSULTANT

CLIENT

PROJECT TITLE

Q39 (SHELL)
LEE'S SUMMIT, MO
OLDHAM VILLAGE

PROJECT NUMBER
62500002

PROJECT MANAGER	DRAWN BY	CHECKED BY
TM	ND	

PROFESSIONAL SEAL



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2	10/15/25	ADDENDUM 2

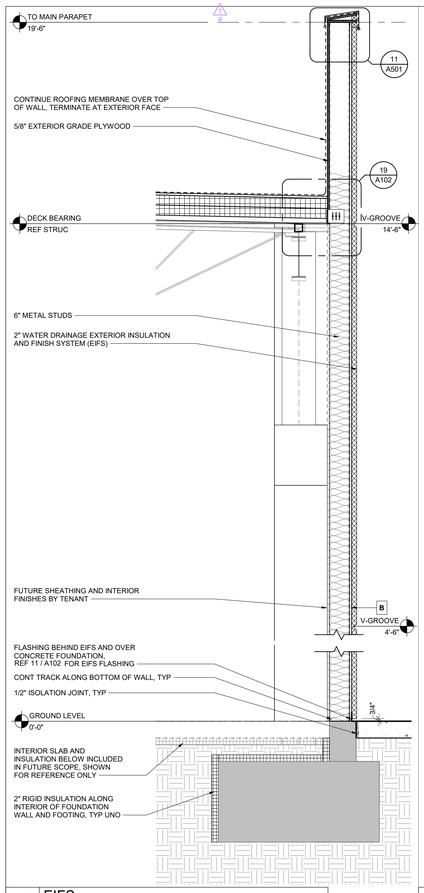
SHEET NAME

EXTERIOR ELEVATIONS

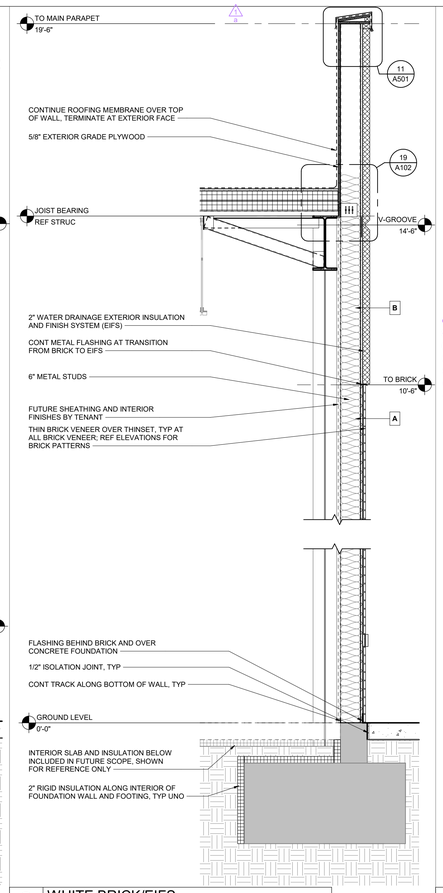
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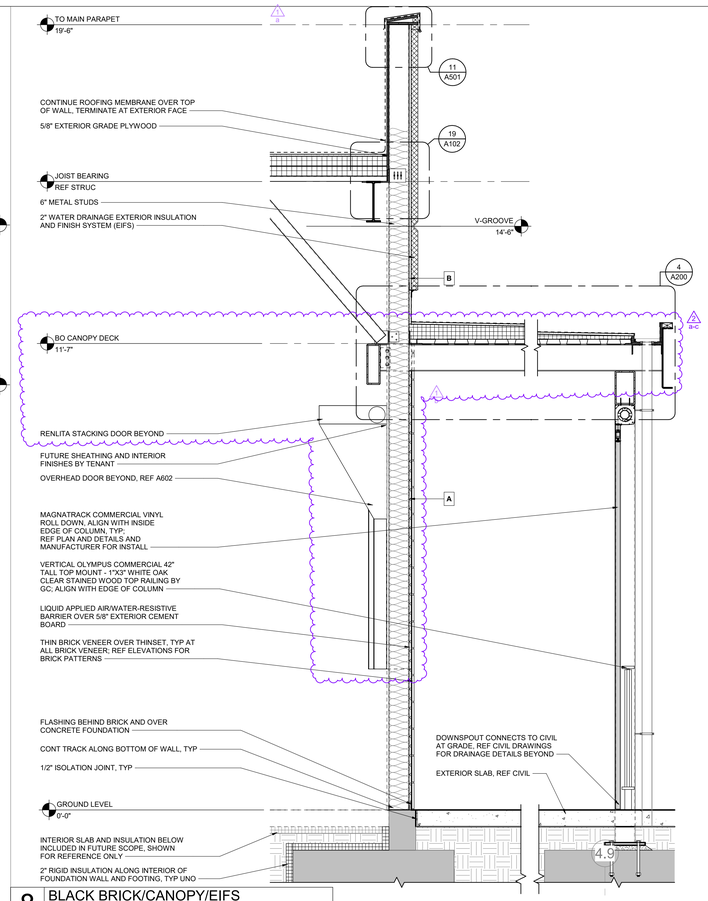
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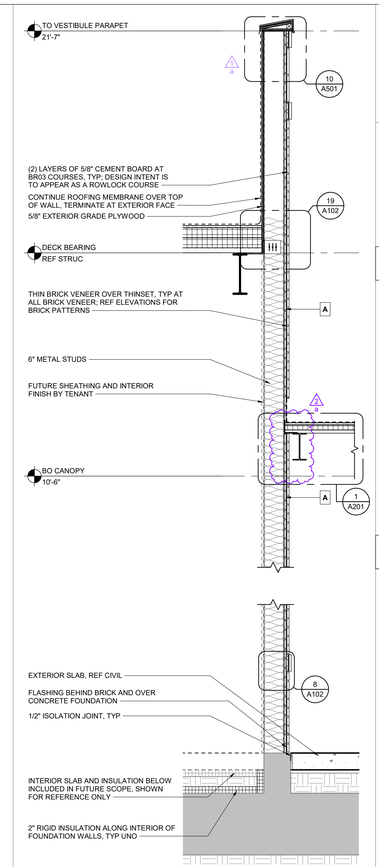
10 EIFS
3/4" = 1'-0"



9 WHITE BRICK/EIFS
3/4" = 1'-0"



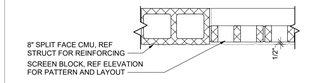
8 BLACK BRICK/CANOPY/EIFS
3/4" = 1'-0"



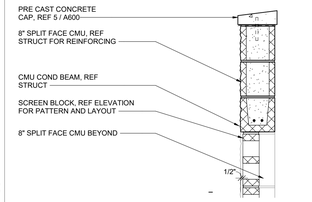
7 WHITE BRICK/CANOPY/WHITE BRICK
3/4" = 1'-0"

SHEET NOTES

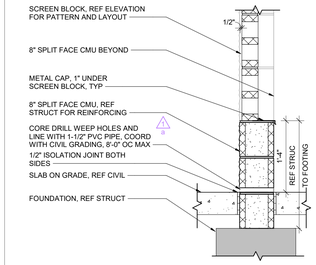
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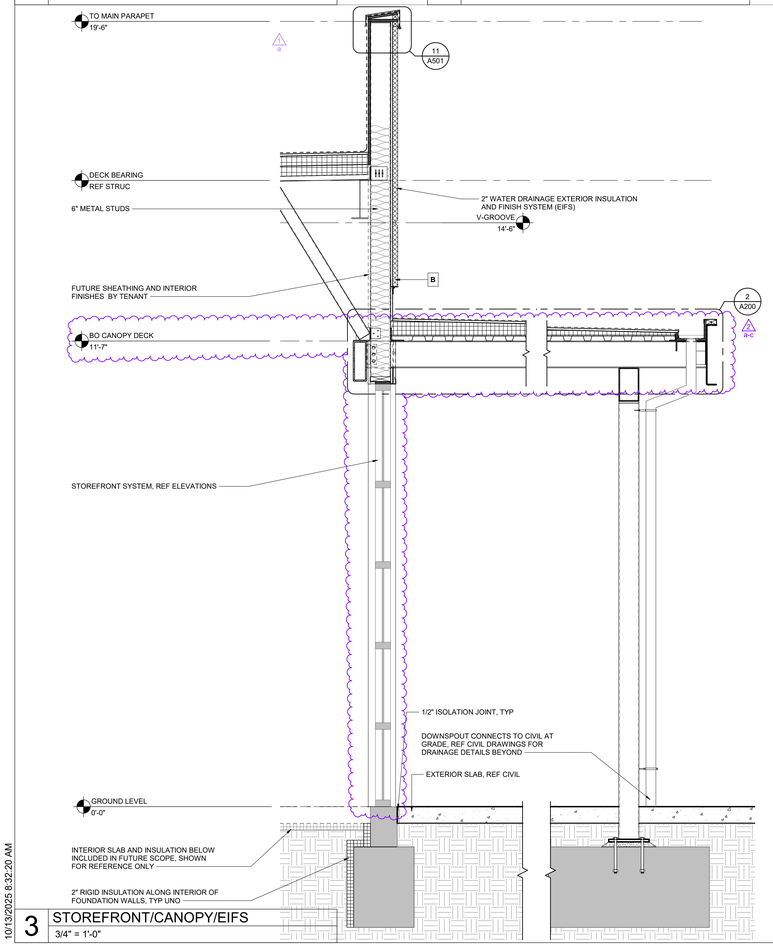
6 SMOKER COURT WALL
1" = 1'-0"



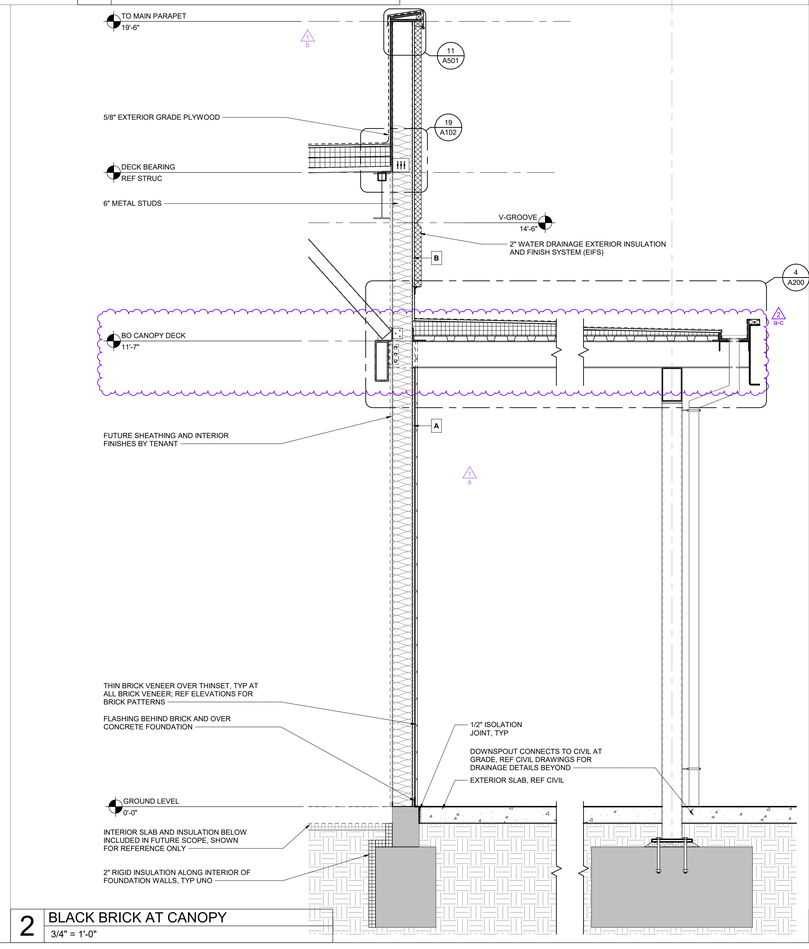
5 TOP OF SMOKER COURT WALL
1" = 1'-0"



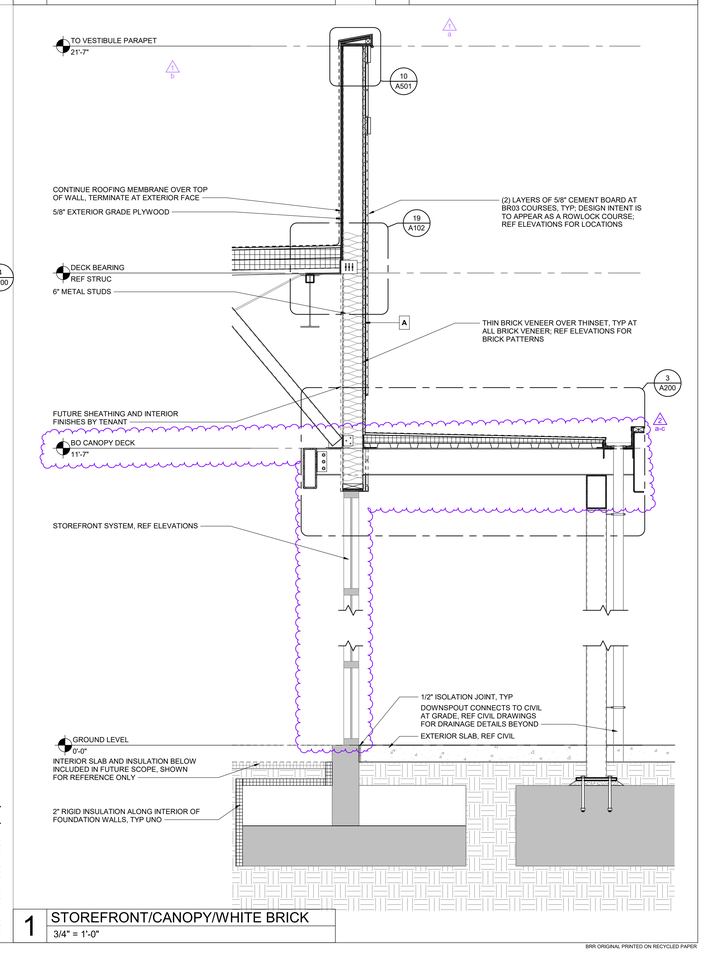
4 BASE OF SMOKER COURT WALL
1" = 1'-0"



3 STOREFRONT/CANOPY/EIFS
3/4" = 1'-0"



2 BLACK BRICK AT CANOPY
3/4" = 1'-0"



1 STOREFRONT/CANOPY/WHITE BRICK
3/4" = 1'-0"

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CONSULTANT

CLIENT

PROJECT TITLE

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LEE'S SUMMIT, MO
OLDHAM VILLAGE

PROJECT NUMBER
62500002

PROJECT MANAGER	DRAWN BY	CHECKED BY
TM	ND	

PROFESSIONAL SEAL

STATE OF MISSOURI
MARK ECHEKER
NUMBER
A-2010017524
REGISTERED ARCHITECT

10/13/2025

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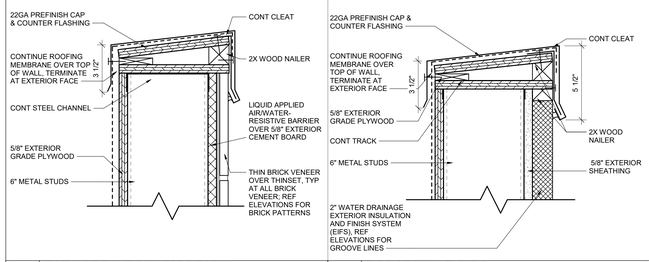
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SHEET NAME

WALL SECTIONS

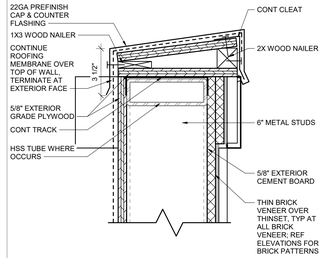
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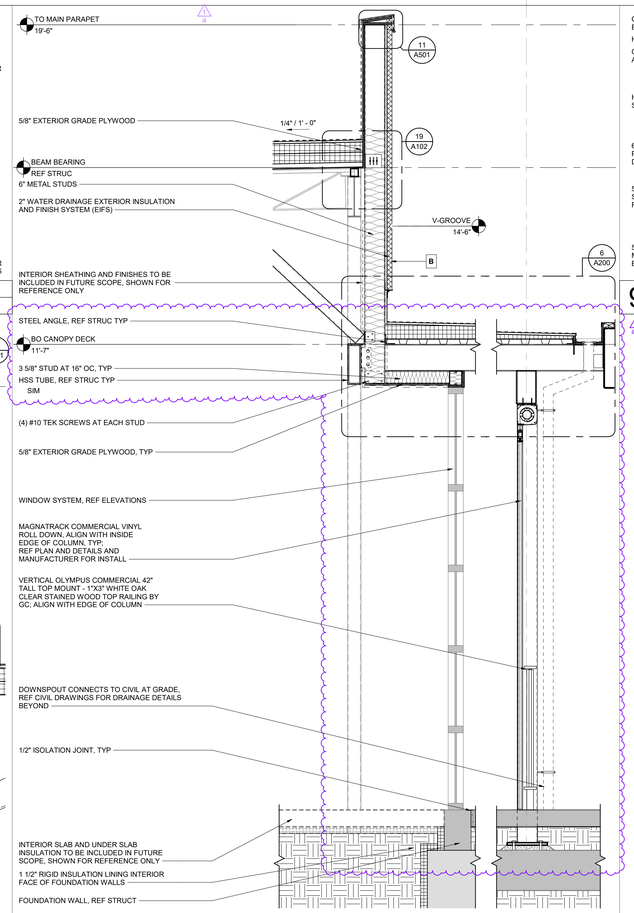


12 PARAPET AT BLACK BRICK
3" = 1'-0"

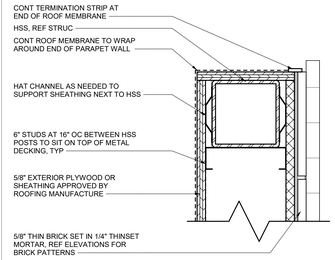
11 PARAPET AT EIFS
3" = 1'-0"



10 PARAPET AT WHITE BRICK
3" = 1'-0"



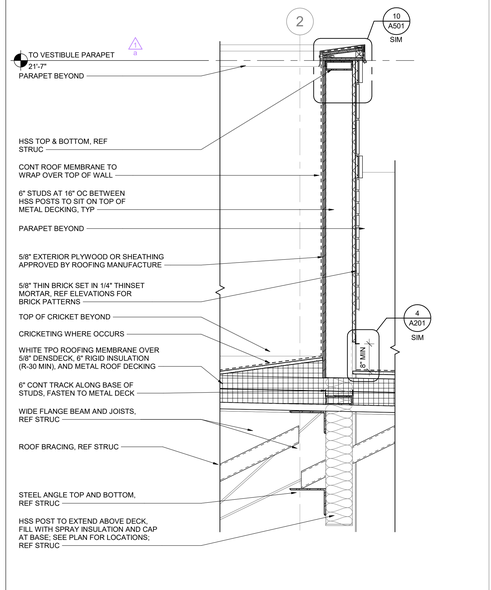
6 DINING PROTRUSION SECTION
3/4" = 1'-0"



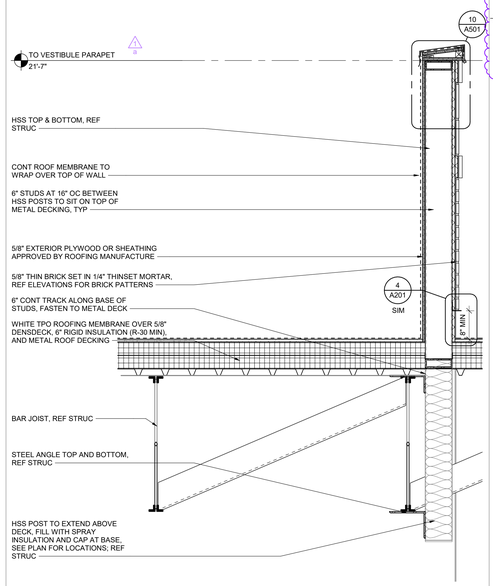
9 PARAPET WALL END
3" = 1'-0"

SHEET NOTES

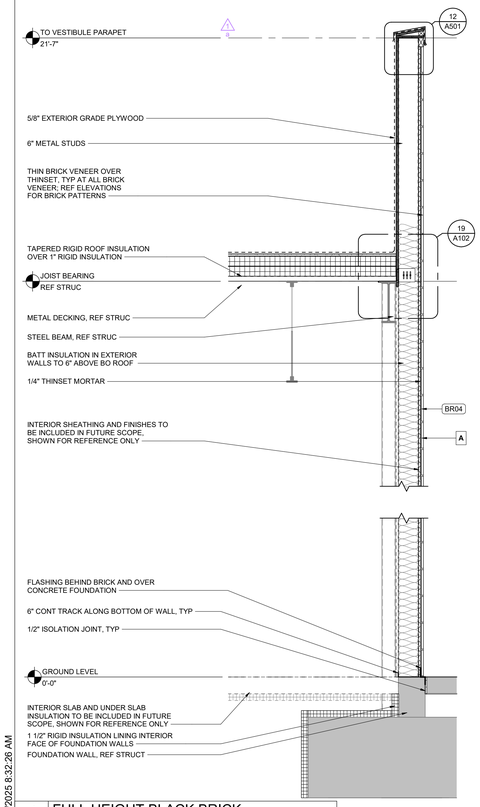
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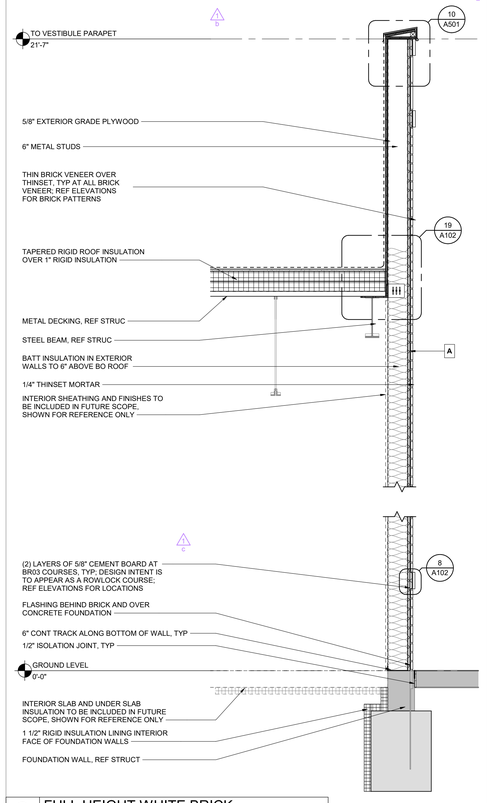
8 PARAPET WALL ANCHOR 02
1" = 1'-0"



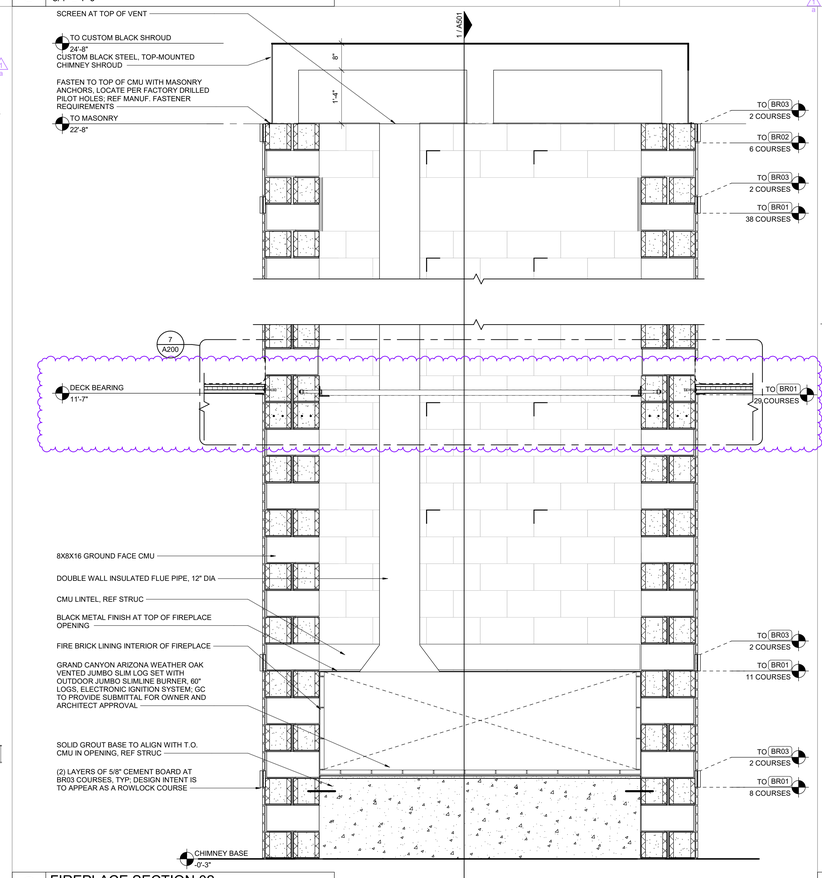
7 PARAPET WALL ANCHOR 01
1" = 1'-0"



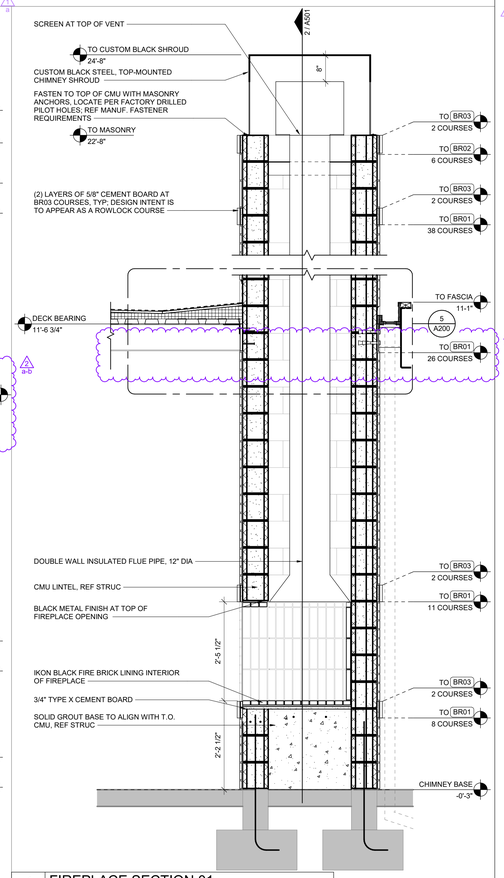
4 FULL HEIGHT BLACK BRICK
3/4" = 1'-0"



3 FULL HEIGHT WHITE BRICK
3/4" = 1'-0"



2 FIREPLACE SECTION 02
3/4" = 1'-0"



1 FIREPLACE SECTION 01
3/4" = 1'-0"

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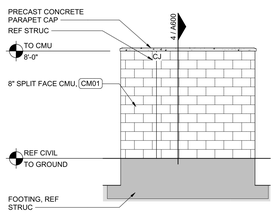
SHEET NAME

WALL SECTIONS

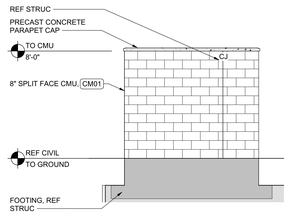
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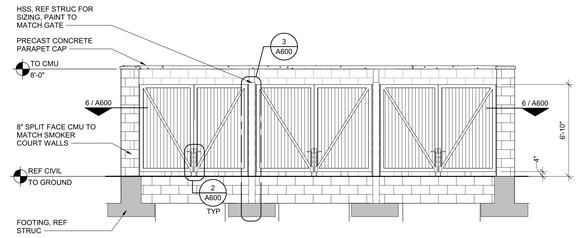
ALL BOLLARDS, RAILS, BARRIERS, OR GUARDS ARE USED ONLY TO PROVIDE VISUAL CUES SEPARATING PEDESTRIAN, EQUIPMENT, AND VEHICLE AREAS AND ARE NOT INTENDED TO COMPLY WITH ASCE, ASTM F3016, ASTM 2656, OR ANY PROVISION ESTABLISHING TESTING OR RATING REQUIREMENTS FOR VEHICLE IMPACT.



10 WEST TRASH ENCLOSURE
1/4" = 1'-0"

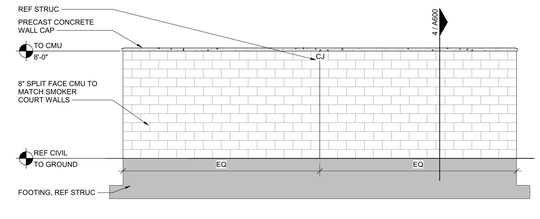


9 EAST TRASH ENCLOSURE
1/4" = 1'-0"

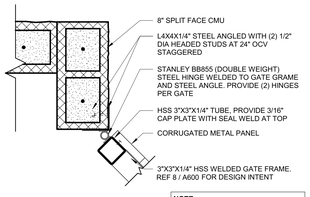


8 SOUTH TRASH ENCLOSURE
1/4" = 1'-0"

EXACT GATE WIDTH TO BE COORDINATED WITH TRASH CONTAINER SIZES

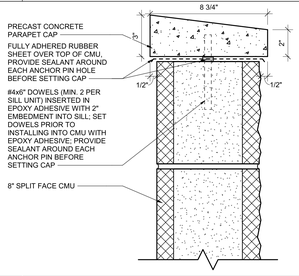


7 NORTH TRASH ENCLOSURE
1/4" = 1'-0"

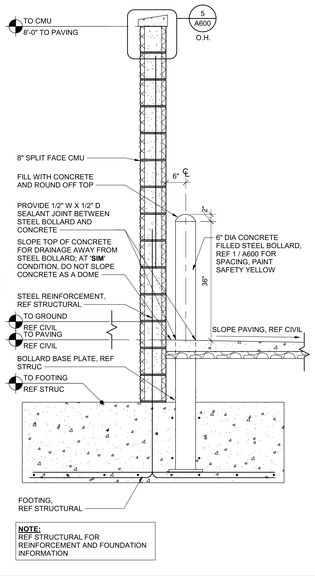


NOTE:
1. GRIND ALL WELDS SMOOTH
2. REF STRUCTURAL FOR CMU REINFORCING AT END OF WALL
3. GATE AND HARDWARE TO BE PAINTED. PT01

6 GATE HINGE POST
1 1/2" = 1'-0"

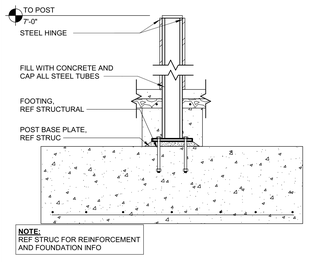


5 WALL CAP DETAIL
3" = 1'-0"



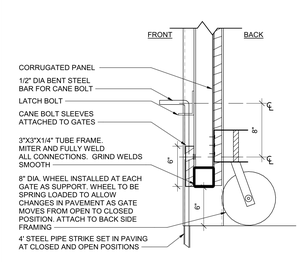
NOTE:
REF STRUCTURAL FOR REINFORCEMENT AND FOUNDATION INFORMATION

4 ENCLOSURE SECTION
3/4" = 1'-0"

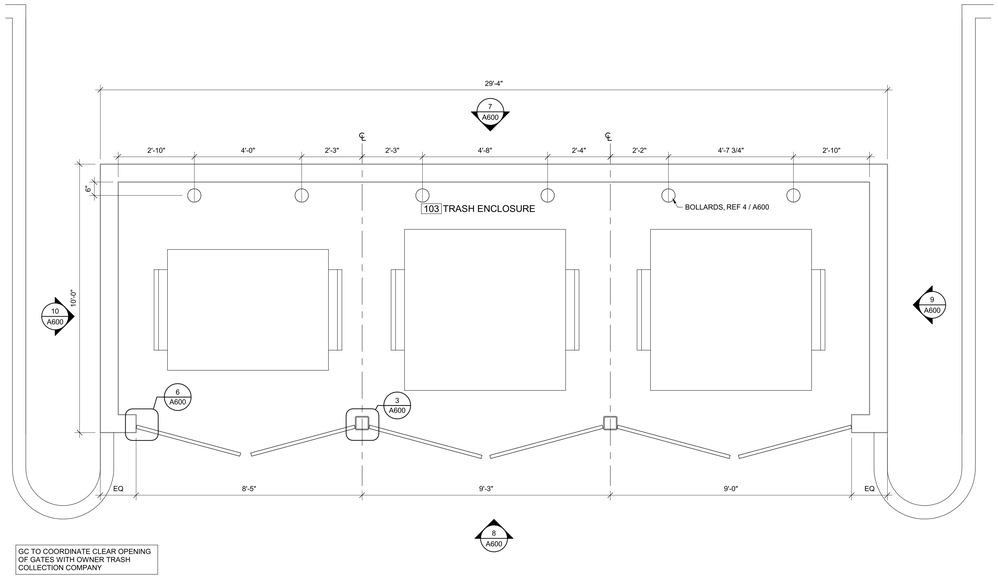


NOTE:
REF STRUC FOR REINFORCEMENT AND FOUNDATION INFO

3 CENTER POST
3/4" = 1'-0"



2 GATE CANE BOLT
1 1/2" = 1'-0"



GC TO COORDINATE CLEAR OPENING OF GATES WITH OWNER TRASH COLLECTION COMPANY

TRASH GATES ARE CUSTOM MADE STEEL GATES

1 TRASH ENCLOSURE PLAN
1/2" = 1'-0"

5/1/2025 3:54:33 PM

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As Noted on Plans Review
Development Services Department
Lee's Summit, Missouri
10/23/2025

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BRR ARCHITECTURE INC.
8131 METCALF AVENUE
SUITE 300
OVERLAND PARK, KS 66204
WWW.BRRARCH.COM
TEL: 913-262-5095
FAX: 913-262-5044

CONSULTANT

CLIENT

PROJECT TITLE

Q39 (SHELL)
LEE'S SUMMIT, MO
OLDHAM VILLAGE

PROJECT NUMBER
62500002

PROJECT MANAGER	DRAWN BY	CHECKED BY
TM	ND	CTS

PROFESSIONAL SEAL



5/1/2025

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ISSUES AND REVISIONS

NUMBER	DATE	DESCRIPTION
0	05/01/25	ORIGINAL ISSUE

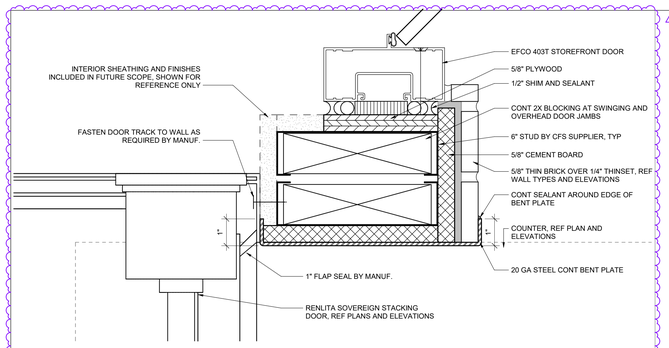
SHEET NAME

TRASH ENCLOSURE PLAN AND DETAILS

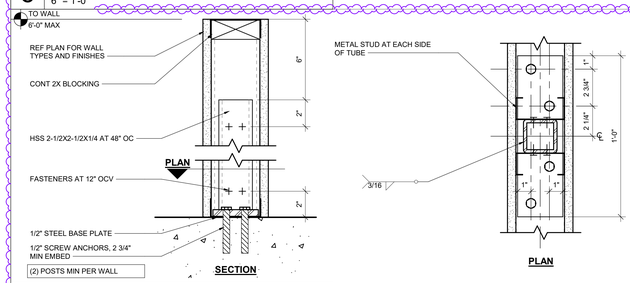
SHEET NUMBER

A600

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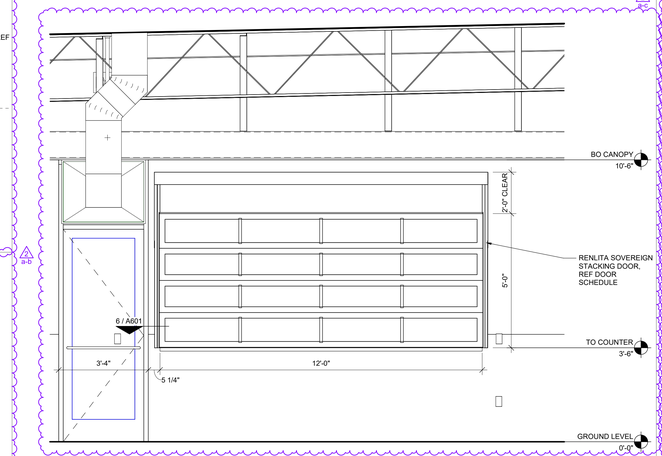


6 GARAGE DOOR JAMB
6" = 1'-0"

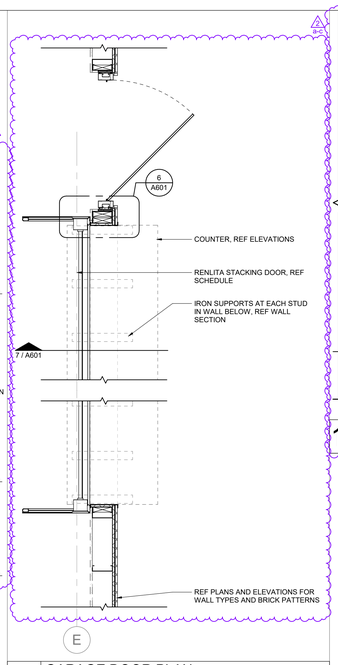


9 LOW WALL REINFORCEMENT
3" = 1'-0"

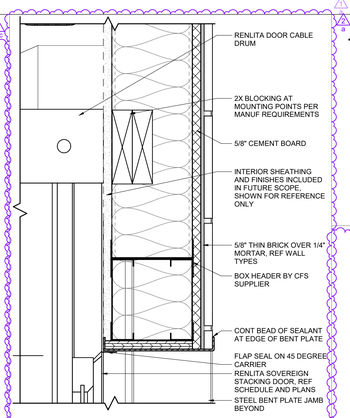
REMOVE DETAIL #9 UNISTRUT CONNECTION



8 GARAGE DOOR ELEVATION
1/2" = 1'-0"



5 GARAGE DOOR PLAN
3/4" = 1'-0"

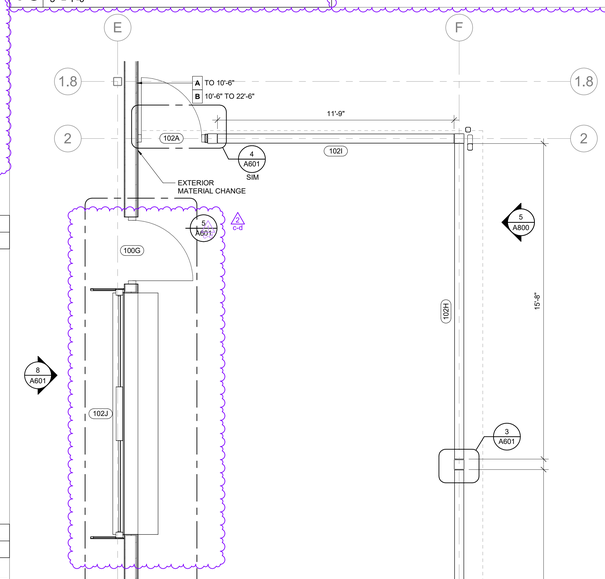


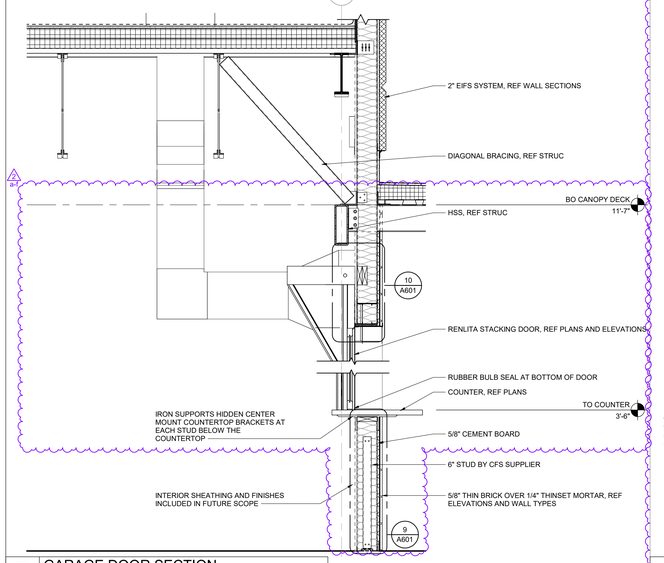
10 GARAGE DOOR HEAD
3" = 1'-0"

SHEET NOTES

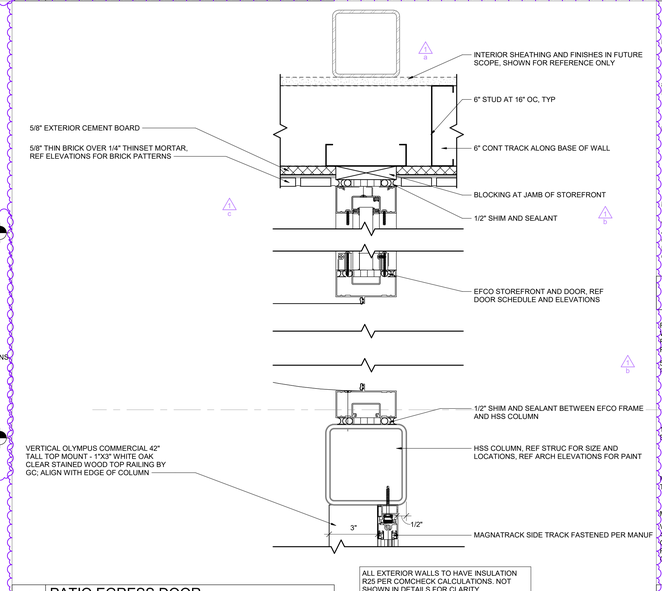
1. ALL INTERIOR AND EXTERIOR PLAN DIMENSIONS ARE TO FACE OF FINISH, UNO
2. ALL JOINTS BETWEEN DISSIMILAR MATERIALS SHALL BE SEALED AS REQUIRED FOR A COMPLETE AND PROPER INSTALLATION, REGARDLESS OF WHETHER SHOWN ON THE DRAWINGS OR INDICATED IN THE SPECIFICATIONS. SUCH JOINTS NOT SHOWN OR SCHEDULED SHALL BE SEALED WITH SEALANTS CONSISTENT WITH SPECIFIED MATERIALS OR AS RECOMMENDED BY THE MANUFACTURER FOR THE SPECIFIC APPLICATION
3. INTERIOR FINISH OF EXTERIOR STUD WALLS TO BE INCLUDED IN FUTURE SCOPE UNDER A SEPARATE PERMIT
4. ALL BOLLARDS, RAILS, BARRIERS, OR GUARDS ARE USED ONLY TO PROVIDE VISUAL CUES SEPARATING PEDESTRIAN, EQUIPMENT, AND VEHICLE AREAS AND ARE NOT INTENDED TO COMPLY WITH ASCE, ASTM F3016, ASTM F2656, OR ANY PROVISION ESTABLISHING, TESTING, OR RATING REQUIREMENTS FOR VEHICLE IMPACT
5. REFERENCE DOOR AND WINDOW INFORMATION FOR ADDITIONAL INFORMATION
6. LOCATE INTERIOR DOORS 4" OFF ADJACENT WALL BEHIND HINGE, UNO
7. NO SUBSTITUTIONS OR EXCEPTIONS ALLOWED WHERE SPECIAL FRAMING IS REQUIRED FOR 3 5/8" STUDS SPANNING FLOOR TO DECK, REFERENCE LEGEND FOR REQUIREMENTS AND LOCATION
8. PROVIDE R25 BATT INSULATION IN EXTERIOR WALLS PER COMCHECK REPORT.

REMOVE DETAIL #11 GARAGE TRACK TO WALL

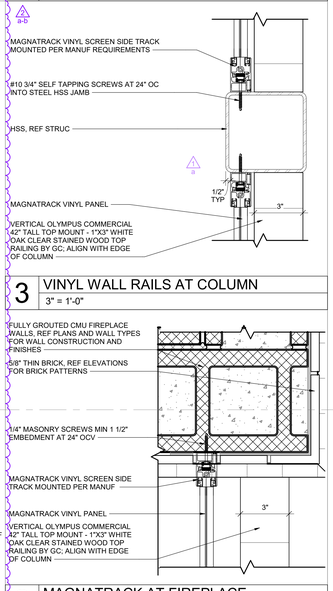




7 GARAGE DOOR SECTION
3/4" = 1'-0"

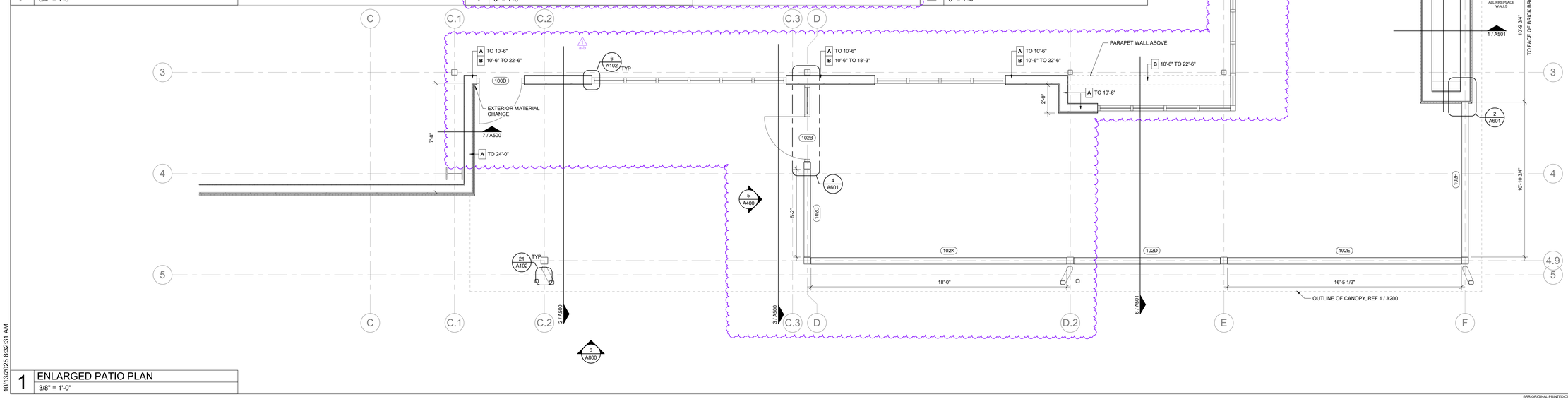


4 PATIO EGRESS DOOR
3" = 1'-0"



3 VINYL WALL RAILS AT COLUMN
3" = 1'-0"

2 MAGNATRACK AT FIREPLACE
3" = 1'-0"



1 ENLARGED PATIO PLAN
3/8" = 1'-0"

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CONSULTANT

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PROJECT TITLE

Q39 (SHELL)
LEE'S SUMMIT, MO
OLDHAM VILLAGE

PROJECT NUMBER
62500002

PROJECT MANAGER	DRAWN BY	CHECKED BY
TM	ND	

PROFESSIONAL SEAL

STATE OF MISSOURI
MARK SCHERER
NUMBER A-2023017524
REGISTERED ARCHITECT
10/13/2025

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ISSUES AND REVISIONS

NUMBER	DATE	DESCRIPTION
0	05/01/25	ORIGINAL ISSUE
1	06/20/25	ADDENDUM 1
2	10/15/25	ADDENDUM 2

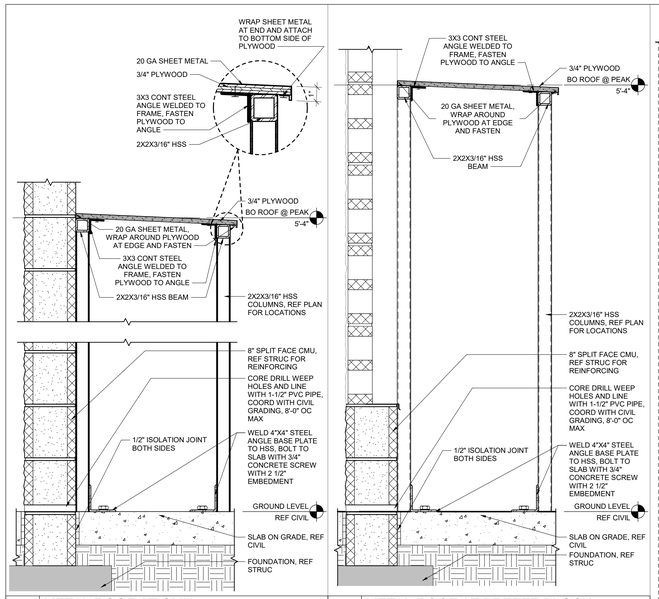
SHEET NAME

ENLARGED PATIO PLAN AND DETAILS

SHEET NUMBER

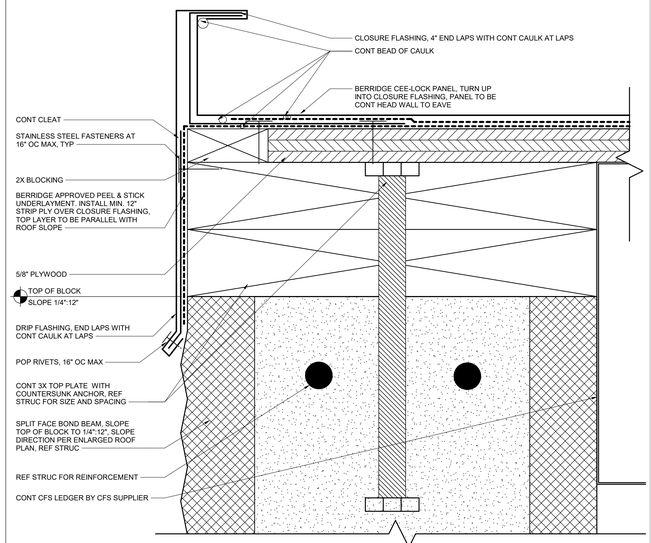
A601

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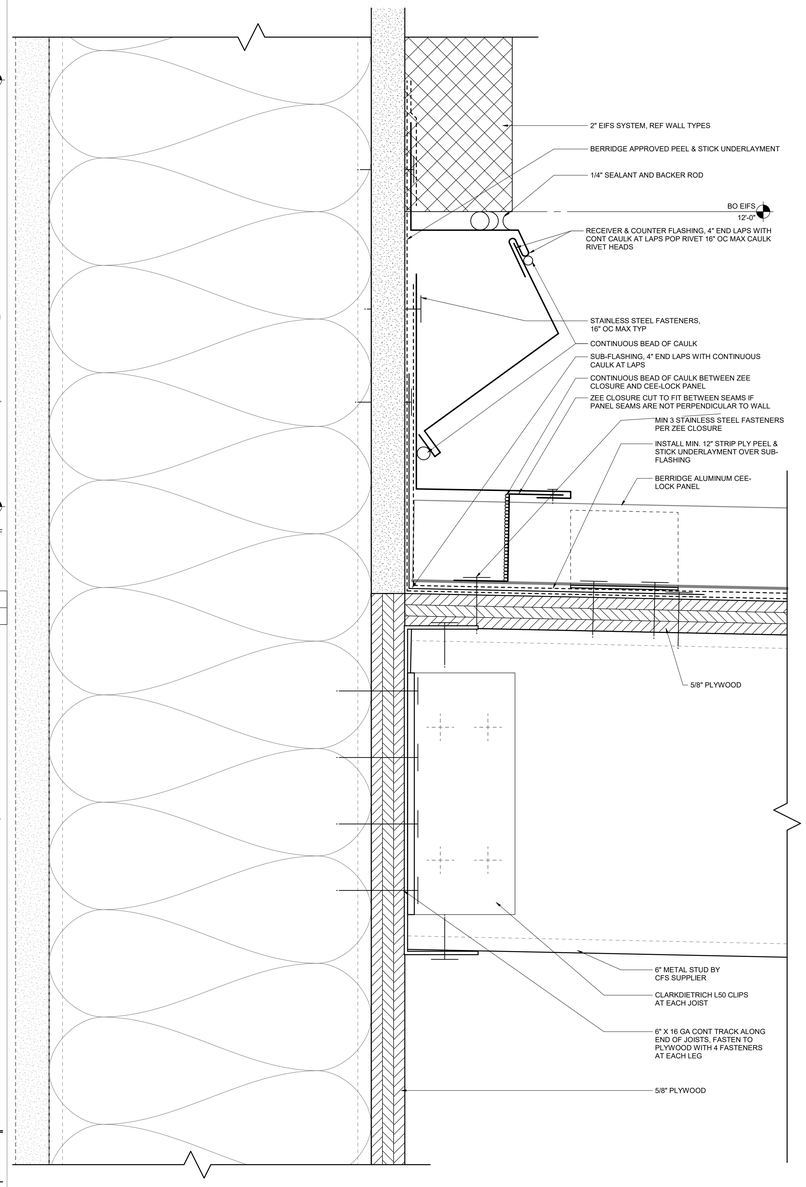
5 METAL ROOF AT CMU
1 1/2" = 1'-0"

4 METAL ROOF AT BREEZE BLOCK
1 1/2" = 1'-0"



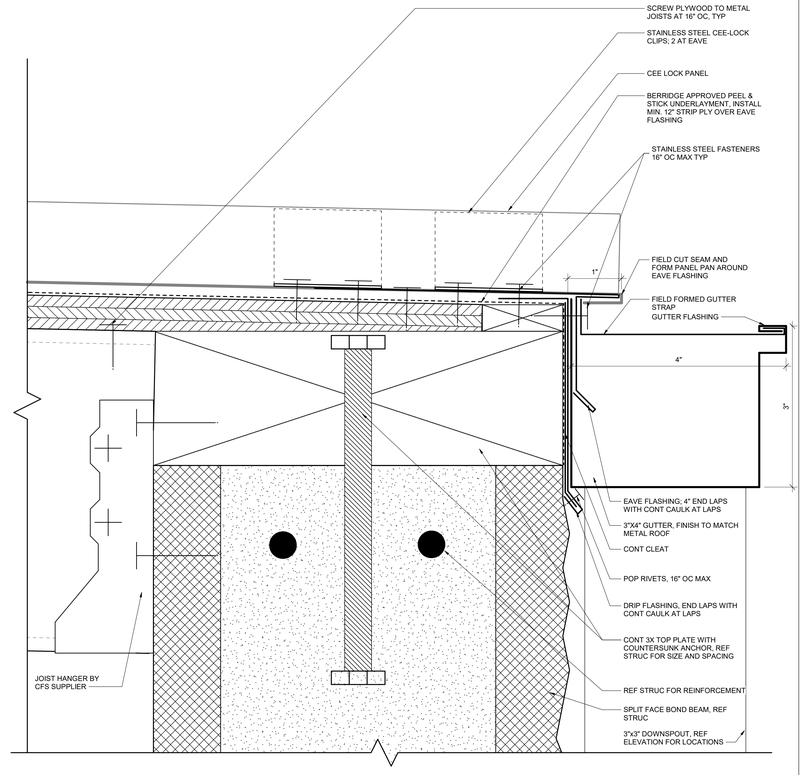
3 METAL ROOF EDGE
12" = 1'-0"

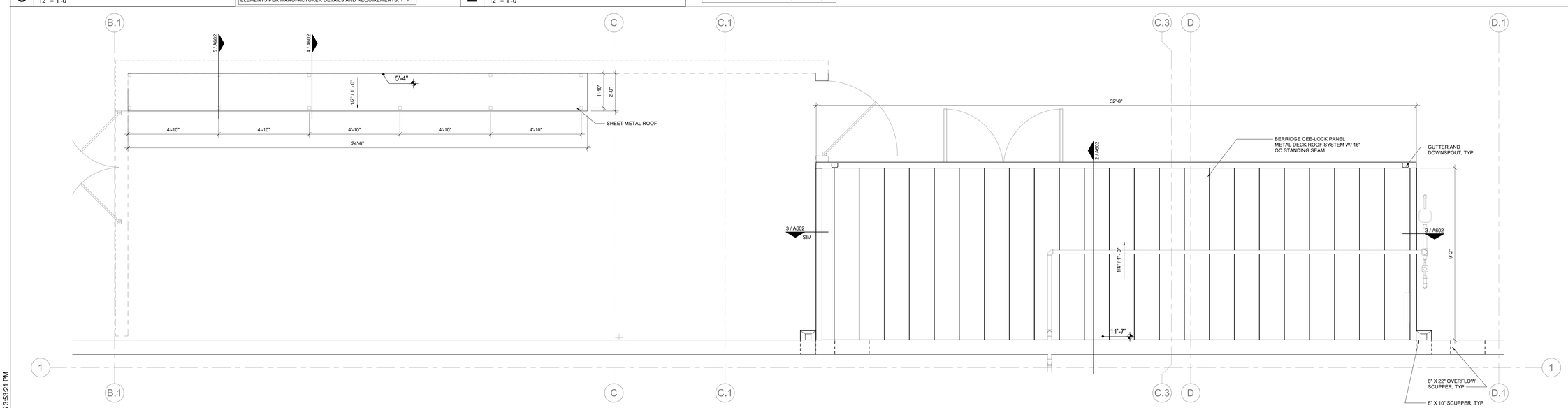
NOTE:
DETAILS SHOWN FOR REFERENCE; INSTALL BERRIDGE CEE-LOCK ELEMENTS PER MANUFACTURER DETAILS AND REQUIREMENTS, TYP



2 STORAGE ROOF SECTION
12" = 1'-0"

NOTE:
DETAILS SHOWN FOR REFERENCE; INSTALL BERRIDGE CEE-LOCK ELEMENTS PER MANUFACTURER DETAILS AND REQUIREMENTS, TYP





1 STORAGE ROOF ENLARGED PLAN
1/2" = 1'-0"

6/20/2025 3:53:21 PM

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Lee's Summit, Missouri
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CONSULTANT

CLIENT

PROJECT TITLE

Q39 (SHELL)
LEE'S SUMMIT, MO
OLDHAM VILLAGE

PROJECT NUMBER
62500002

PROJECT MANAGER	DRAWN BY	CHECKED BY
TM	ND	CTJ

PROFESSIONAL SEAL

STATE OF MISSOURI
MARK SCHERRER
NUMBER A-2020010624
ARCHITECT

6/24/2025

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1	06/20/25	ADDENDUM 1

SHEET NAME

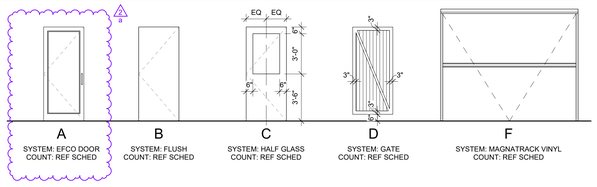
ENLARGED STORAGE ROOF PLAN AND DETAILS

SHEET NUMBER

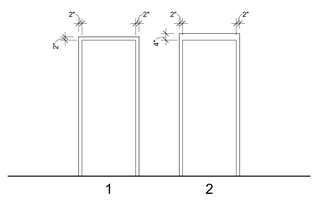
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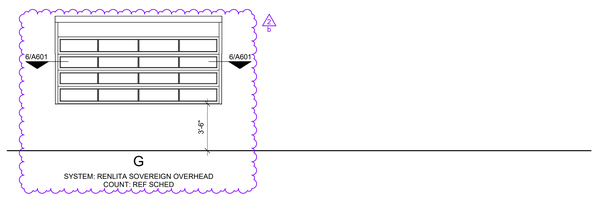
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DOOR TYPES



FRAME TYPES





HARDWARE SCHEDULE

QTY	ITEM	MANUFACTURER	MODEL
SET 1.0			
2	CONTINUOUS HINGES	PEMKO	CFMXXXHD1
1	SURFACE VERT. ROD EXIT, NIGHTLATCH	ASSA ABLOY	7170LBR AU627F 630
1	SURFACE VERT. ROD EXIT, EXIT ONLY	ASSA ABLOY	7170 LBR EO 630
1	RIM CYLINDER	SARGENT	34XLA KEYWAY US32D
2	SURF OVERHEAD STOP W/ HOLD OPEN	NORTON RIXSON	9-X26 689
2	PARALLEL HEAVY DUTY OFFSET ARM SURFACE CLOSER	ASSA ABLOY	PRO4400 689
2	ARMOR PLATE	ROCKWOOD	K1050 34"X1" LDW CSK BEV US32D
2	ASTRAGAL	PEMKO	18041CNB
1	GASKETING	PEMKO	2891APK
1	RAIN GUARD	PEMKO	346A
2	SWEEP	PEMKO	3452ANB
1	THRESHOLD	PEMKO	2005AT
SET 2.0			
1	CONTINUOUS HINGE	PEMKO	CFMXXXHD1
1	RIM EXIT DEVICE, CLASSROOM	ASSA ABLOY	7100 AU626F 626
1	RIM CYLINDER	SARGENT	34XLA KEYWAY US32D
1	SURF OVERHEAD STOP W/ HOLD OPEN	NORTON RIXSON	9-X26 689
1	PARALLEL HEAVY DUTY OFFSET ARM SURFACE CLOSER	ASSA ABLOY	PRO4400 689
1	ARMOR PLATE	ROCKWOOD	K1050 34"X2" LDW CSK BEV US32D
1	GASKETING	PEMKO	2891APK
1	RAIN GUARD	PEMKO	346A
1	SWEEP	PEMKO	3452ANB
1	THRESHOLD	PEMKO	2005AT
SET 3.0			
3	HINGE, FULL MORTISE	MCKINNEY	TA2714 4-1/2"X4-1/2" US26D
1	STOREROOM OR CLOSET LOCK	ASSA ABLOY	AU 4705LN SARGENT LA 626
1	SURF OVERHEAD STOP	NORTON RIXSON	9-X36 689
3	SILENCER	ROCKWOOD	608/609 RKW
SET 4.0			
3	HINGE, FULL MORTISE	MCKINNEY	TA2714 4-1/2"X4-1/2" US26D
1	RIM EXIT DEVICE, PASSAGE	ASSA ABLOY	7100 AU626F 626
1	WALL STOP	ROCKWOOD	400/403 US26D
3	SILENCER	ROCKWOOD	608/609 RKW
SET 5.0			
2	PIVOT SET	NORTON RIXSON	147 622
2	INTERMEDIATE PIVOT	NORTON RIXSON	M19 622
1	CONCEALED VERT. ROD EXIT, EXIT ONLY	ASSA ABLOY	7220 EO BSP
1	CONCEALED VERT. ROD EXIT, NIGHTLATCH	ASSA ABLOY	7220 121NL BSP
1	RIM CYLINDER	SARGENT	34XLA KEYWAY BSP
2	DOOR PULL	ROCKWOOD	RM3311-48 MTG-TYPE 1XHD BSP
2	PARALLEL SURFACE CLOSER W/ HOLD OPEN AND STOP ARM	ASSA ABLOY	4430 BSP
2	ASTRAGAL	PEMKO	18041BSPNB
1	GASKETING	PEMKO	2891BSPPK
1	RAIN GUARD	PEMKO	346BSP
2	SWEEP	PEMKO	3452BSPNB
1	THRESHOLD	PEMKO	2005BSPT
SET 6.0			
1	PIVOT SET	NORTON RIXSON	147 622
1	INTERMEDIATE PIVOT	NORTON RIXSON	M19 622
1	RIM EXIT DEVICE, NIGHTLATCH	ASSA ABLOY	7200 121NL BSP
1	RIM CYLINDER	SARGENT	34XLA KEYWAY BSP
1	DOOR PULL	ROCKWOOD	RM3311-48 MTG-TYPE 1XHD BSP
1	PARALLEL SURFACE CLOSER W/ HOLD OPEN AND STOP ARM	ASSA ABLOY	4430 BSP
1	GASKETING	PEMKO	2891BSPPK
1	RAIN GUARD	PEMKO	346BSP
1	SWEEP	PEMKO	3452BSPNB
1	THRESHOLD	PEMKO	2005BSPT
SET 7.0			
1	PIVOT SET	147 622	NORTON RIXSON
1	INTERMEDIATE PIVOT	M19 622	NORTON RIXSON
1	PUSH PLATE	RM1020H BSP	ROCKWOOD
1	DOOR PULL	RM3311-48 MTG-TYPE 1XHD BSP	ROCKWOOD
1	PARALLEL SURFACE CLOSER W/ HOLD OPEN AND STOP ARM	4430 BSP	ASSA ABLOY
1	GASKETING	2891BSPPK	PEMKO
1	RAIN GUARD	346BSP	PEMKO
1	SWEEP	3452BSPNB	PEMKO
1	THRESHOLD	2005BSPT	PEMKO
SET 8.0			
2	HINGE	D&D TECHNOLOGIES	CI3520
1	GATE CLOSER	D&D TECHNOLOGIES	72108423
SET 9.0			
4	HINGE	D&D TECHNOLOGIES	CI3520
2	GATE CLOSER	D&D TECHNOLOGIES	72108423
SET 10.0			
2	CONTINUOUS HINGE	PEMKO	CFMXXXHD1
1	DUST PROOF STRIKE	ROCKWOOD	570 US26D
2	MANUAL FLUSH BOLT W/M	ROCKWOOD	557/555-12"/72" A.F.F. US26D
1	RIM CYLINDER	SARGENT	34XLA KEYWAY US32D
1	STOREROOM OR CLOSET LOCK	ASSA ABLOY	AU 4705LN SARGENT LA 626
2	PARALLEL SURFACE CLOSER	ASSA ABLOY	PRO4400 689
2	ARMOR PLATE	ROCKWOOD	K1050 34"X1" LDW CSK BEV US32D
2	DOOR STOP & HOLDER	ROCKWOOD	494-RKW US26D
2	ASTRAGAL	PEMKO	18041CNB
1	GASKETING	PEMKO	2891APK
1	RAIN GUARD	PEMKO	346A
2	SWEEP	PEMKO	3452ANB
1	THRESHOLD	PEMKO	2005AT

DOOR SCHEDULE

MARK	ROOM	DOOR TYPE	DOOR QUANTITY	DOOR DIMENSIONS OVERALL WIDTH	DOOR DIMENSIONS LEAF WIDTH	DOOR DIMENSIONS HEIGHT	DOOR MATERIAL	FRAME TYPE	FRAME MATERIAL	HARDWARE	NOTE	DETAIL
100A	RESTAURANT INTERIOR	CC	PR	6'-0"	3'-0"	7'-0"	HOLLOW METAL	1	HOLLOW METAL	1	1	1/A800
100B	RESTAURANT INTERIOR	A	1	3'-1"	3'-0"	7'-11"	ALUMINUM / GLASS	BY MANUF.	ALUMINUM	6	3, 7	18/A102
100C	RESTAURANT INTERIOR	AA	PR	5'-11½	3'-0"	7'-11"	ALUMINUM / GLASS	BY MANUF.	ALUMINUM	5	1, 3, 7	-
100D	RESTAURANT INTERIOR	A	1	3'-0"	3'-0"	7'-11"	ALUMINUM / GLASS	BY MANUF.	ALUMINUM	6	3, 7	9/A102
100E	RESTAURANT INTERIOR	A	1	3'-0"	3'-0"	7'-11"	ALUMINUM / GLASS	BY MANUF.	ALUMINUM	6	3, 7	9/A102
100F	RESTAURANT INTERIOR	AA	PR	5'-6"	2'-9"	7'-11"	ALUMINUM / GLASS	BY MANUF.	ALUMINUM	5	1, 3, 7	9/A102
100G	RESTAURANT INTERIOR	A	1	3'-0"	3'-0"	7'-11"	ALUMINUM / GLASS	BY MANUF.	ALUMINUM	6	3, 7	9/A102
102A	PATIO	A	1	3'-0"	3'-0"	7'-11"	ALUMINUM / GLASS	BY MANUF.	ALUMINUM	7	4, 7	4/A601
102B	PATIO	A	1	3'-0"	3'-0"	7'-11"	ALUMINUM / GLASS	BY MANUF.	ALUMINUM	7	4, 7	4/A601
102J	PATIO	G	1	12'-0"	12'-0"	5'-0"	ALUMINUM / GLASS	-	STEEL	-	6	6/A601 & 7/A601
114A	BBQ SMOKER COURT	C	1	3'-0"	3'-0"	7'-0"	HOLLOW METAL	1	HOLLOW METAL	2	-	1/A800
114B	BBQ SMOKER COURT	DD	PR	6'-0"	3'-0"	10'-0"	HOLLOW METAL	-	-	9	1,5	6/A600
114C	BBQ SMOKER COURT	D	1	4'-0"	4'-0"	10'-0"	HOLLOW METAL	-	-	8	1, 5	
115A	STORAGE	CC	PR	6'-4"	3'-2"	7'-0"	HOLLOW METAL	2	HOLLOW METAL	10	4	3/A800
125A	PLUMBING	B	1	3'-0"	3'-0"	7'-0"	HOLLOW METAL	1	HOLLOW METAL	3	-	1/A800
126A	ELECTRICAL	B	1	3'-0"	3'-0"	7'-0"	HOLLOW METAL	1	HOLLOW METAL	4	-	1/A800

MAGNATRACK SCHEDULE*

MARK	ROOM	DOOR TYPE	DOOR QUANTITY	DOOR DIMENSIONS LEAF WIDTH	DOOR DIMENSIONS HEIGHT	DOOR MATERIAL	FRAME TYPE	FRAME MATERIAL	HARDWARE	NOTE
102C	PATIO	F	1	7'-0"	10'-0"	VINYL	-	-		2
102D	PATIO	F	1	15'-10"	9'-7"	VINYL	-	-		2
102E	PATIO	F	1	15'-10"	9'-7"	VINYL	-	-		2
102F	PATIO	F	1	11'-8"	10'-0"	VINYL	-	-		2
102G	PATIO	F	1	15'-0"	9'-7"	VINYL	-	-		2
102H	PATIO	F	1	15'-0"	9'-7"	VINYL	-	-		2
102I	PATIO	F	1	11'-0"	10'-0"	VINYL	-	-		2
102K	PATIO	F	1	10'-1"	9'-7"	VINYL	-	-		2

*GC TO FIELD VERIFY DIMENSIONS BEFORE ORDERING MAGNATRACK

REMOVED WINDOW SCHEDULE

SCHEDULE NOTES

1. GC TO ADJUST HARDWARE SET QUANTITY FOR LOCATIONS WHERE OPENING CALLS FOR A PAIR OF DOORS
2. COMMERCIAL ROLL DOWN VINYL DOOR BY MAGNATRACK, REF MANUFACTURER FOR MORE INFORMATION
3. THERMALLY BROKEN FRAME, FULL GASKETED, LOCKABLE DOOR WITH PANIC HARDWARE, REF HARDWARE SCHEDULE
4. LOCKABLE WITH A KEY ONLY, NO THUMB TURN
5. DOOR TYPE D IS A CUSTOM MADE STEEL GATES TO MATCH TRASH ENCLOSURE DOORS
6. 1/2" INSULATED GLAZING PER MANUFACTURER OPTION
7. SERIES D302 STOREFRONT DOOR BY EFCO, REF MANUFACTURER FOR MORE INFO AND INSTALLATION INFORMATION

DOOR NOTES

1. FINAL KEYING BY CLIENT, COORDINATE WITH CM
2. SCHEDULED WIDTH AND HEIGHT INDICATE DOOR SIZE
3. PROVIDE COMMERCIAL GRADE XCLUDER DOOR SWEEP (HEIGHT MAY VERY) AT BOTTOM OF ALL EXISTING EXTERIOR DOORS. CONFIRM ALL DOOR LOCATIONS WITH CLIENT
4. PROVIDE FULLY THROATED DOOR FRAMES ALL LOCATIONS, UNO
5. PROVIDE 1 3/4" DOOR THICKNESS, UNO
6. GC TO PROVIDE CLOSER LATCH AND WHEELS FOR CHAINLINK SWING GATES THAT ARE WIDER THAN 4'-0"

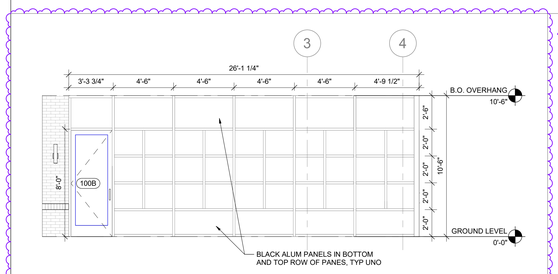
GLAZING NOTES

1. PROVIDE TEMPERED GLAZING ALL LOCATIONS, UNO
2. CENTER GLAZING SYSTEMS ON WALL DEPTH, UNO
3. 1/4" GLASS THICKNESS, UNO

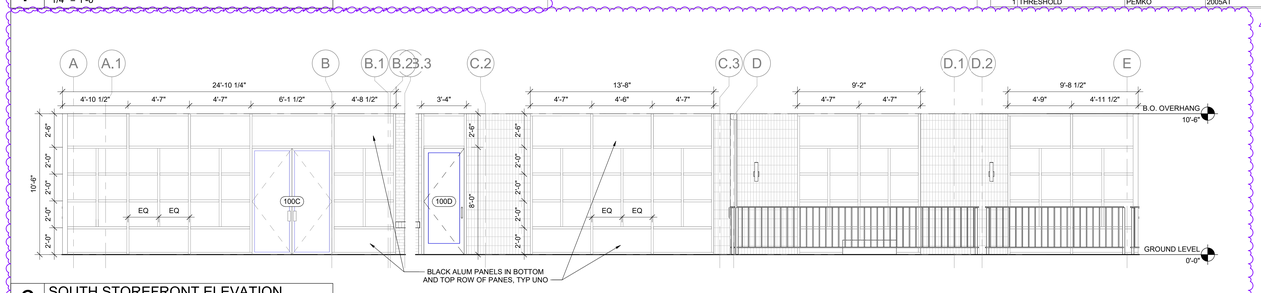
HARDWARE NOTES

1. INSTALL HARDWARE IN COMPLIANCE WITH ADA REGULATIONS

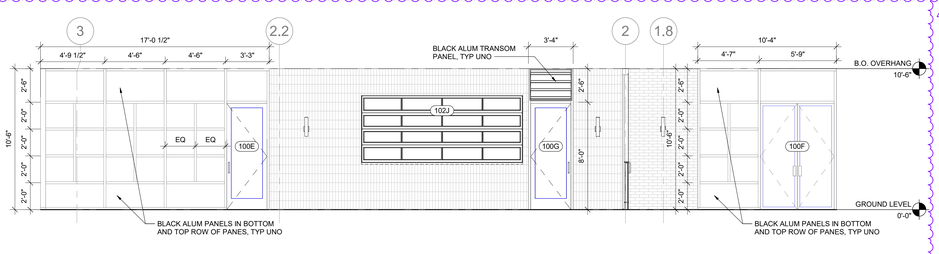
REMOVED WINDOW TYPES



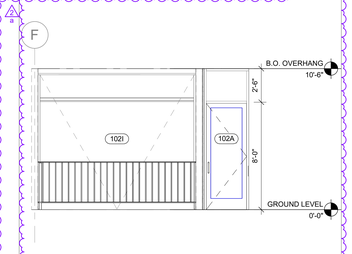
7 WEST STOREFRONT ELEVATION
1/4" = 1'-0"



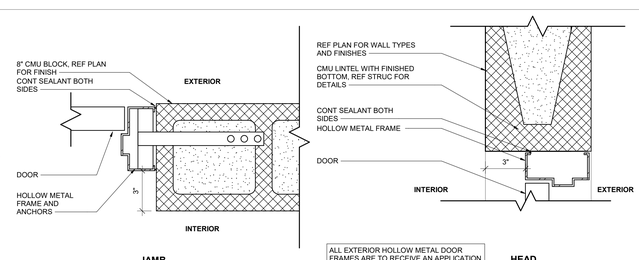
6 SOUTH STOREFRONT ELEVATION
1/4" = 1'-0"



5 EAST STOREFRONT ELEVATION
1/4" = 1'-0"

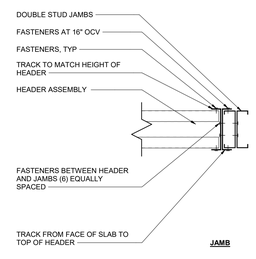


4 NORTH STOREFRONT ELEVATION
1/4" = 1'-0"



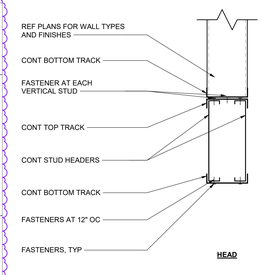
ALL EXTERIOR HOLLOW METAL DOOR FRAMES ARE TO RECEIVE AN APPLICATION OF BITUMINOUS COATING ON THE INSIDE SURFACE OF THE FRAME

3 HM FRAME AT CMU
3" = 1'-0"

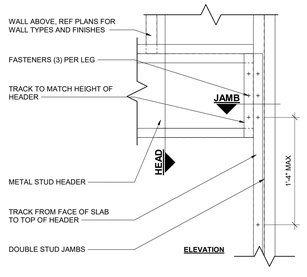


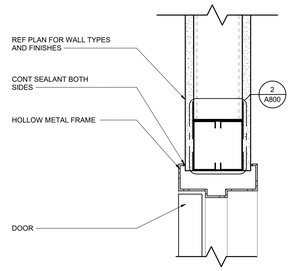
FRAMING NOTES

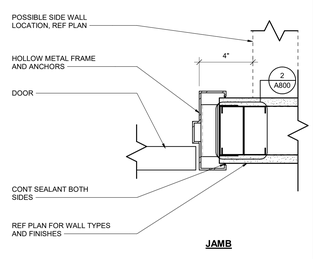
1. CFS HEADERS TO BE ENGINEERED, COORDINATED, AND SUPPLIED BY OTHERS, TYP



2 STUD HEADER
1 1/2" = 1'-0"







1 FRAME AT HM
3" = 1'-0"

RELEASED FOR CONSTRUCTION
As Noted on Plans Review
Development Services Department
Lee's Summit, Missouri
10/23/2025

ARCHITECT OF RECORD

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BRR ARCHITECTURE INC.
8131 METCALF AVENUE
SUITE 350
OVERLAND PARK, KS 66204
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CONSULTANT

CLIENT

PROJECT TITLE

Q39 (SHELL)
LEE'S SUMMIT, MO
OLDHAM VILLAGE

PROJECT NUMBER
62500002

PROJECT MANAGER	DRAWN BY	CHECKED BY
TM	ND	

PROFESSIONAL SEAL

STATE OF MISSOURI
MARK ECHTERER
NUMBER
A-2023037524
REGISTERED ARCHITECT
10/13/2025

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ISSUES AND REVISIONS

NUMBER	DATE	DESCRIPTION
0	09/01/25	ORIGINAL ISSUE
1	09/30/25	ADDENDUM 1
2	10/15/25	ADDENDUM 2

SHEET NAME

DOOR AND WINDOW INFORMATION

SHEET NUMBER

A800

10/13/2025 8:32:35 AM

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STRUCTURAL NOTES

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GOVERNING CODE

2018 INTERNATIONAL BUILDING CODE (REFERENCES ASCE-7 16) WITH THE CITY OF LEE'S SUMMIT AMMENDMENTS.

DESIGN LOADS

1. ROOF LOAD.

A.	MINIMUM COMBINATION OF WIND LOAD, LIVE LOAD, RAIN LOAD, OR SNOW LOAD (P_r OR P_m)	20 PSF*
B.	ROOF MEMBRANE & INSULATION	4 PSF
C.	METAL DECK	2 PSF
D.	JOIST FRAMING LOAD	3 PSF
E.	SPRINKLERS	3 PSF
F.	DUCTS, LIGHTS, MISC. MECHANICAL	4 PSF
G	CEILING	2 PSF
	TOTAL LOAD ON JOISTS	38 PSF MIN
G.	BEAM/JOIST GIRDER LOAD	2 PSF
H.	TOTAL ON BEAMS/JOIST GIRDERS	40 PSF MIN

*FLAT ROOF SNOW LOAD, P_f = 14 PSF
GROUND SNOW, P_g = 20 PSF
SNOW LOAD IMPORTANCE FACTOR, I_S = 1.0
SNOW EXPOSURE FACTOR, C_e = 1.0
SNOW LOAD THERMAL FACTOR, C_t = 1.0
MINIMUM SNOW LOAD, P_m = 20 PSF

SEE SNOW DRIFT PLAN FOR DRIFT LOADS (P_d). SPECIFIED DRIFT LOADS (P_d) SHALL BE COMBINED WITH FLAT ROOF SNOW LOAD (P_f) OR SLOPED ROOF SNOW LOAD (P_s) FOR TOTAL SNOW LOADING AT DRIFT CONDITIONS

SECONDARY ROOF DRAINAGE VIA SCUPPERS OR OVERFLOW DRAINS SHALL BE PROVIDED IN ACCORDANCE WITH THE APPLICABLE PLUMBING CODE AND ASCE 7 SECONDARY ROOF DRAINAGE SHALL BE DESIGNED BY OTHERS TO LIMIT THE TOTAL DEPTH OF WATER (STATIC HEAD + HYDRAULIC HEAD OVER SECONDARY ROOF DRAINS) TO 5" MAXIMUM ABOVE THE ROOF MEMBRANE AT THE PRIMARY ROOF DRAIN.

COORDINATE ROOF FRAMING WITH FINAL SELECTION OF ROOF SUPPORTED MECHANICAL EQUIPMENT AND ASSOCIATED OPENINGS. ITEMS TO BE COORDINATED INCLUDE SIZE, LOCATION, TOTAL WEIGHT, WEIGHT DISTRIBUTION, AND SUPPORT FRAME REQUIREMENTS.

2. WIND LOAD (PER ASCE 7):

A. BASIC DESIGN WIND SPEED, V= 109 MPH
B. ALLOWABLE STRESS DESIGN WIND SPEED, V_{ASD} = 85 MPH
C. RISK CATEGORY = II
D. WIND EXPOSURE = C (ALL WIND DIRECTIONS)
E. INTERNAL PRESSURE COEFFICIENT, GC_{pi} = +0.18, -0.18
F. DESIGN PRESSURES FOR EXTERIOR COMPONENT AND CLADDING ITEMS NOT SPECIFICALLY DESIGNED BY THE ENGINEER OF RECORD: SEE TYPICAL COMPONENT AND CLADDING WIND PRESSURE TABLE.

3. SEISMIC LOAD

A.	SEISMIC RISK CATEGORY	= II
B.	SEISMIC IMPORTANCE FACTOR, I_e	= 1.0
C.	MAPPED SPECTRAL RESPONSE ACCELERATION FACTOR AT SHORT PERIOD, S_S	= 0.1
D.	MAPPED SPECTRAL RESPONSE ACCELERATION FACTOR AT 1 SECOND, S_1	= 0.068
E.	SITE CLASS	= D
F.	DESIGN SPECTRAL RESPONSE ACCELERATION FACTOR AT SHORT PERIOD, S_{DS}	= 0.107
G.	DESIGN SPECTRAL RESPONSE ACCELERATION FACTOR AT 1 SECOND PERIOD, S_{D1}	= 0.109
H.	SEISMIC DESIGN CATEGORY	= B
I.	BASIC SEISMIC FORCE RESISTING SYSTEM	= STEEL MOMENT FRAMES NOT SPECIFICALLY DETAILED FOR SEISMIC RESISTANCE
J.	RESPONSE MODIFICATION COEFFICIENT, R	= 3
K.	SEISMIC RESPONSE COEFFICIENT, C_S	= 0.036
L.	DESIGN BASE SHEAR	= 10 KIP
M.	ANALYSIS PROCEDURE USED	= ELFP

CONSTRUCTION AND SAFETY

1. CONTRACTOR SHALL BRACE ENTIRE STRUCTURE AS REQUIRED TO MAINTAIN STABILITY UNTIL COMPLETE AND FUNCTIONING AS THE DESIGNED UNIT.
2. ENGINEER SHALL NOT BE RESPONSIBLE FOR THE MEANS, METHODS, TECHNIQUES, SEQUENCES OR PROCEDURES OF CONSTRUCTION SELECTED BY CONTRACTOR.
3. THE CONTRACTOR WILL BE SOLELY AND COMPLETELY RESPONSIBLE FOR CONDITIONS OF THE JOB SITE INCLUDING SAFETY OF ALL PERSONS AND PROPERTY DURING PERFORMANCE OF THE WORK. THIS REQUIREMENT WILL APPLY CONTINUOUSLY AND IS NOT LIMITED TO NORMAL WORKING HOURS. WHEN ON SITE, THE ENGINEER IS RESPONSIBLE FOR HIS/HER OWN SAFETY BUT HAS NO RESPONSIBILITY FOR THE SAFETY OF OTHER PERSONNEL OR SAFETY CONDITIONS AT THE SITE.
4. PRIOR TO COMMENCEMENT OF STEEL ERECTION, CONTRACTOR MUST PROVIDE THE STEEL ERECTOR WRITTIFICATION THAT THE CONCRETE IN THE FOOTINGS, PIERS AND WALLS OR THE MORTAR IN THE MASONRY PIERS AND WALLS HAS ATTAINED EITHER 75 PERCENT OF THE INTENDED MINIMUM COMPRESSIVE DESIGN STRENGTH OR SUFFICIENT STRENGTH TO SUPPORT THE LOADS IMPOSED DURING STEEL ERECTION.
5. ANCHOR RODS AND FOUNDATION DOWELS SHALL NOT BE REPAIRED, REPLACED OR FIELD-MODIFIED WITHOUT THE WRITTEN APPROVAL OF THE STRUCTURAL ENGINEER OF RECORD.

LATERAL LOAD RESISTING SYSTEM

1. THE LATERAL LOAD RESISTING SYSTEM CONSISTS OF THE FOLLOWING ELEMENTS:
   A. METAL ROOF DECK DIAPHRAGM THROUGHOUT
   B. STEEL MOMENT NOT DETAILED FOR SEISMIC RESISTANCE AROUND THE FOLLOWING LOCATIONS:
      i. ON COLUMN LINE 1, BETWEEN COLUMN LINES C.3 AND D.1
      ii. ON COLUMN LINE A.1, BETWEEN COLUMN LINES 1 AND 1.2
      iii. ON COLUMN LINE 4, BETWEEN COLUMN LINES B.3 AND B.4
      iv. ON COLUMN LINE E, BETWEEN COLUMN LINES 1 AND 1.1

FOUNDATIONS

1. FOUNDATION DESIGN IS BASED UPON RECOMMENDATIONS DESCRIBED IN THE GEOTECHNICAL ENGINEER'S REPORT BY ALPHA-OMEGA GEOTECH, DATED 4/17/25. THE GEOTECHNICAL ENGINEER'S REPORT IS AVAILABLE UPON REQUEST.
   A. ALL FOOTINGS SHALL BEAR ON LEVEL WITHIN 1 IN 12) UNDISTURBED SOIL OR APPROVED ENGINEERED FILL. FOUNDATIONS HAVE BEEN DESIGNED FOR A MAXIMUM ALLOWABLE SOIL BEARING PRESSURE OF 2000 PSF BELOW STRIP FOOTINGS AND 2400 PSF BELOW COLUMN FOOTINGS.
2. ALL AREAS WITHIN THE FOOTPRINT OF THE BUILDING, INCLUDING UTILITY TRENCHES, MUST BE FREE OF ANY WET AND/OR SOFT AREAS PRIOR TO PLACEMENT OF FILL MATERIAL OR SLAB.
3. CONTRACTOR SHALL CONTACT UTILITY COMPANIES FOR LOCATING UNDERGROUND SERVICES AND IS RESPONSIBLE FOR THEIR PROTECTION AND SUPPORT.
4. FILL MATERIALS: ALL FILL MATERIALS SHALL BE APPROVED BY A GEOTECHNICAL ENGINEER, INCLUDING THE SUITABILITY OF ALL EXCAVATED ON-SITE SOILS FOR RE-USE. MATERIAL SHALL NOT BE PLACED ON FROZEN GROUND.
   A. CONTROLLED LOW STRENGTH MATERIAL (CLSM): SELF LEVELING AND SELF COMPACTING CEMENTITIOUS MATERIAL WITH AN UNCONFINED COMPRESSIVE STRENGTH BETWEEN 50 PSI AND 150 PSI.
   B. WELL GRADED GRANULAR MATERIAL: WELL GRADED MIXTURE OF CRUSHED GRAVEL, CRUSHED STONE, AND SAND PER ASTM D294 WITH AT LEAST 95 PERCENT PASSING A 1 ½" SIEVE AND NOT MORE THAN 8 PERCENT PASSING A NO. 200 SIEVE.
   C. FREE DRAINING GRANULAR FILL: NARROWLY GRADED MIXTURE OF CRUSHED STONE PER ASTM D448 WITH COARSE AGGREGATE GRADING SIZE 67 WITH 100 PERCENT PASSING A 1 INCH SIEVE AND NO MORE THAN 5 PERCENT PASSING A NO. 4 SIEVE.
   D. IMPERVIOUS FILL: LEAN CLAYEY GRAVEL AND SAND MIXTURE CAPABLE OF COMPACTING TO A DENSE STATE.
5. FOUNDATION ELEVATIONS SHOWN ARE FOR BIDDING PURPOSES AND MAY VARY TO SUIT SUB-SURFACE SOIL CONDITION. ELEVATION AND BEARING STRATA SHALL BE APPROVED BY A GEOTECHNICAL ENGINEER PRIOR TO PLACING CONCRETE. PROVIDE ENGINEERED FILL OR CLSM UNDER FOUNDATIONS AT SOFT SPOTS AND FOR EXTENDING EXCAVATION TO ADEQUATE BEARING MATERIAL. INSTALL FOUNDATIONS AT DESIGNED ELEVATIONS
6. FROST DEPTH IS 36 INCHES BELOW GRADE. BOTTOM OF FOOTINGS, MAT FOUNDATIONS AND GRADE BEAMS THAT ARE NOT PART OF AN INSULATED FROST PROTECTED FOUNDATION SYSTEM AND ARE NOT WITHIN CONDITIONED SPACE MUST BE BELOW SPECIFIED MINIMUM FROST DEPTH AS MEASURED FROM EXTERIOR GRADE. MAINTAIN SPECIFIED T/FDN ELEVATIONS AND THICKEN FOOTING OR PLACE ON CLSM AS REQUIRED.
7. FOUNDATIONS MAY BE PLACED WITHOUT SIDE FORMS IF EXCAVATED WALLS STAND APPROXIMATELY VERTICAL
8. LATERAL SOIL PRESSURES: LATERAL EARTH PRESSURES INDICATED BELOW DO NOT INCLUDE HYDROSTATIC OR COMPACTION PRESSURES DURING BACKFILL OPERATIONS. WALLS SHALL HAVE ADEQUATE DRAINAGE TO PREVENT HYDROSTATIC PRESSURES. COMPACT USING HAND-OPERATED TAMPERS ONLY.
   A. CANTILEVERED RETAINING WALLS (ACTIVE PRESSURE): 55 PCF EQUIVALENT FLUID PRESSURE, TRIANGULAR DISTRIBUTION + SURCHARGE, RECTANGULAR DISTRIBUTION.
9. BACKFILL AGAINST WALLS:
   A. INTERIOR FACE OF SHALLOW FOUNDATIONS WALLS:
      i. CLSM OR IMPERVIOUS FILL (COMPACTED IN 6" LIFTS TO 98% STANDARD PROCTOR MAXIMUM DRY DENSITY AND WITHIN +/- 3% OPTIMUM MOISTURE CONTENT). OR
      ii. WELL GRADED GRANULAR MATERIAL (COMPACTED IN 6" LIFTS TO 95% STANDARD PROCTOR MAXIMUM DRY DENSITY AND WITHIN +/- 2% OPTIMUM MOISTURE CONTENT); AT THE BOTTOM OF THE GRANULAR BACKFILL PLACE A 4" DIAMETER PERFORATED FOUNDATION DRAIN PIPE. PROVIDE A POSITIVE SLOPE TO DAYLIGHT OR TO SUMP
   B. EXTERIOR FACE OF SHALLOW FOUNDATION WALLS:
      i. CLSM OR IMPERVIOUS FILL (COMPACTED IN 6" LIFTS TO 98% STANDARD PROCTOR MAXIMUM DRY DENSITY AND WITHIN +/- 3% OPTIMUM MOISTURE CONTENT). OR
      ii. WELL GRADED GRANULAR MATERIAL (COMPACTED IN 6" LIFTS TO 95% STANDARD PROCTOR MAXIMUM DRY DENSITY AND WITHIN +/- 2% OPTIMUM MOISTURE CONTENT); AT THE BOTTOM OF THE GRANULAR BACKFILL PLACE A 4" DIAMETER PERFORATED FOUNDATION DRAIN PIPE. PROVIDE A POSITIVE SLOPE TO DAYLIGHT OR TO SUMP
10. ENGINEERED FILL BENEATH FOOTINGS: MINIMUM COMPACTION 98% STANDARD PROCTOR MAXIMUM DRY DENSITY WITHIN +/- 3% OPTIMUM MOISTURE CONTENT.
11. FILL BELOW FLOOR SLABS:
   A. SUBGRADE: PROOF ROLL TOP 24" OF SUBGRADE BELOW INTERIOR SLAB TO 95% STANDARD PROCTOR MAXIMUM DRY DENSITY WITHIN +/- 2% OPTIMUM MOISTURE CONTENT PRIOR TO PLACEMENT OF BASE COURSE.
   B. BASE COURSE: 4" OF CLEAN, OPEN GRADED CRUSHED LIMESTONE.
12. FILL AT UTILITY TRENCHES BELOW FOOTINGS, EXCAVATED PRIOR TO FOOTING CONSTRUCTION.
   A. BACKFILL TRENCHES UNDER FOOTINGS AND WITHIN 18 INCHES OF BOTTOM OF FOOTINGS WITH CLSM TO THE BOTTOM OF FOOTING ELEVATION.
   B. BACKFILL TRENCHES EXCAVATED UNDER FOOTINGS AND MORE THAN 18 INCHES BELOW BOTTOM OF FOOTINGS WITH CLSM OR OTHER FILL MATERIAL APPROVED BY GEOTECHNICAL ENGINEER.
13. FILL AT UTILITY TRENCHES BELOW FOOTINGS, EXCAVATED AFTER FOOTING CONSTRUCTION.
   A. BACKFILL TRENCHES EXCAVATED UNDER EXISTING FOOTINGS WITH CLSM TO THE BOTTOM OF FOOTING ELEVATION.
14. SEAL UTILITY TRENCH AT THE EXTERIOR FOUNDATION WALL BY USING A COMPACTED IMPERVIOUS FILL OR CLSM TO CREATE A DAM TO PREVENT ENTRY OF WATER.
15. FINISHED GRADE SHALL SLOPE AWAY FROM THE PERIMETER FOUNDATION
16. EXCAVATIONS:
   A. EXCAVATIONS IN THE VICINITY OF EXISTING FOUNDATIONS SHALL BE PERTINENT WITHOUT ANY SPECIAL MEASURES AS LONG AS THE BOTTOM NEAR EDGE OF THE EXCAVATION IS ABOVE A LINE WITH SLOPE OF 2 HORIZONTAL TO 1 VERTICAL EXTENDING OUTWARD AND DOWNWARD FROM THE NEAREST BOTTOM CORNER OF THE EXISTING FOUNDATION.
17. UTILITY TRENCHES PARALLEL TO FOOTINGS AND WITH PIPES BELOW THE BOTTOM OF FOOTING ELEVATION MUST BE LOCATED SO THAT THE SLOPE BETWEEN THE PIPE INVERT ELEVATION AND THE NEAREST BOTTOM CORNER OF THE FOOTING IS A MINIMUM OF 2 HORIZONTAL TO 1 VERTICAL.

CAST-IN-PLACE CONCRETE

1. CONCRETE MIXTURES: REFER TO CONCRETE MIXTURE REQUIREMENTS TABLE FOR CONCRETE MIX INFORMATION.
2. CONCRETE MATERIALS:
   A. CEMENTITIOUS MATERIALS
      i. PORTLAND CEMENT: ASTM C150, TYPE I OR TYPE II.
      ii. BLENDED HYDRAULIC CEMENT: ASTM C595, TYPE IL, PORTLAND LIMESTONE CEMENT
      iii. FLY ASH: ASTM C618, CLASS F OR C. FLY ASH SHALL NOT EXCEED 25% OF TOTAL CEMENTITIOUS CONTENT BY MASS.
      iv. GROUND GRANULATED BLAST FURNACE SLAG: ASTM C989, GRADE 100 OR 120. COMBINATION SLAG AND FLY ASH SHALL NOT EXCEED 50% OF TOTAL CEMENTITIOUS CONTENT BY MASS.
   B. AGGREGATES:
      i. NORMAL WEIGHT AGGREGATES: ASTM C33, COARSE GRADED.
      ii. LIGHTWEIGHT AGGREGATES: ASTM C330.
   C. ADMIXTURES: ADMIXTURES CONTAINING CHLORIDE ARE NOT PERMITTED IN REINFORCED CONCRETE OR CONCRETE CONTAINING METALS.
      i. WATER REDUCING ADMIXTURE: ASTM C494.
      ii. PLASTICIZING ADMIXTURE: ASTM C1017.
      iii. AIR ENTRAINING ADMIXTURE: ASTM C260.
   D. WATER: ASTM C94 AND POTABLE
3. DETAILING REQUIREMENTS
   A. CONTRACTION JOINTS IN SLABS ON GROUND SHALL NOT EXCEED A LENGTH TO WIDTH RATIO OF 1.5:1. SEE PLAN FOR MAXIMUM JOINT SPACING.
   B. CONSTRUCTION JOINTS IN SLABS ON GROUND MAY BE LOCATED AT ANY CONTRACTION JOINT LOCATION. SEE DRAWINGS FOR TYPICAL DETAILS.
   C. PROVIDE 3/4" CHAMFER AT CORNERS OF EXPOSED CONCRETE.
   D. WHERE BRITTLE FLOOR FINISHES ARE TO BE APPLIED TO FLOOR SLABS, COORDINATE CONTRACTION JOINT LOCATIONS WITH FLOOR FINISH JOINT LOCATIONS AND ARCHITECT.
   E. PROVIDE CONTRACTION/CONSTRUCTION JOINTS IN CONCRETE WALLS AT A MAXIMUM SPACING OF TWICE THE HEIGHT OF THE WALL ABOVE THE TOP OF FOOTING. MAXIMUM JOINT SPACING SHALL NOT EXCEED 24 FT. CONTRACTION JOINTS SHALL HAVE A 1-1/2" DEEP BY 3/4" WIDE TAPERED REVEAL EACH SIDE OF THE WALL. AT CONTRACTION JOINTS, EXPOSED OTHER HORIZONTAL BAR SHALL BE CUT BACK 1-1/2" FROM THE CONTRACTION JOINT. CONSTRUCTION JOINTS SHALL BE FORMED SIMILAR TO CONTRACTION JOINTS. AT CONSTRUCTION JOINTS, ALL HORIZONTAL STEEL SHALL BE DISCONTINUOUS AND A DOWEL BAR OF SIZE AND SPACING TO MATCH THE HORIZONTAL REINFORCING SHALL BE EMBEDDED A MINIMUM OF 40 BAR DIAMETERS EACH SIDE OF THE CONSTRUCTION JOINT. SEE ARCHITECTURAL DRAWINGS FOR ARCHITECTURAL JOINT TREATMENT.
   F. CONDUITS AND PIPES OF ALUMINUM SHALL NOT BE EMBEDDED IN STRUCTURAL CONCRETE UNLESS EFFECTIVELY COATED TO PREVENT ALUMINUM-CONCRETE REACTION OR ELECTROLYTIC ACTION BETWEEN ALUMINUM AND STEEL.
   G. SEE ARCHITECTURAL DRAWINGS AND SPECIFICATIONS FOR VAPOR BARRIER REQUIREMENTS. VAPOR BARRIER, WHERE REQUIRED, SHALL BE PLACED OVER GRANULAR BASE.
4. CONCRETE PLACEMENT
   A. DO NOT BACKFILL AGAINST RETAINING WALLS UNTIL CONCRETE STRENGTH HAS REACHED 0.75 f'c AND A MINIMUM OF 7 DAYS.
   B. ROUGHENED SURFACES, WHERE INDICATED, SHALL EITHER BE:
      i. ROUGHENED TO A FULL AMPLITUDE OF APPROXIMATELY 1/4" AND BE CLEAN AND FREE OF LAITANCE.;
      ii. FORMED BY EXPANDED METAL LEAVE-IN-PLACE MESH. SUBMIT PRODUCT INFORMATION FOR APPROVAL.
5. PERFORMANCE
   A. CONCRETE WORK IN COLD WEATHER SHALL CONFORM TO ALL REQUIREMENTS OF ACI 306.1-90 "STANDARD SPECIFICATION FOR COLD WEATHER CONCRETING" AND ACI 306R-16 "GUIDE TO COLD WEATHER CONCRETING".
   B. CONCRETE WORK IN HOT WEATHER SHALL CONFORM TO ALL REQUIREMENTS OF ACI 305.1-14 "SPECIFICATION FOR HOT WEATHER CONCRETING" AND ACI 305R-10 "GUIDE TO HOT WEATHER CONCRETING". THE HOT WEATHER TEMPERATURE, RELATIVE HUMIDITY, CONCRETE TEMPERATURE, AND WIND SPEED SHALL BE ENTERED INTO NOMOGRAPH FIGURE 4.2 IN ACI 305R-10 TO DETERMINE IF PRECAUTIONS AGAINST PLASTIC SHRINKAGE ARE REQUIRED.
   C. TOLERANCES: CONFORM TO ACI 117-14
   D. IF CONCRETE ARRIVES AT THE POINT OF DELIVERY WITH A SLUMP BELOW THAT WHICH WILL RESULT IN THE SPECIFIED SLUMP AT THE POINT OF PLACEMENT AND IS UNSUITABLE FOR PLACING AT THAT SLUMP, THE SLUMP MAY BE ADJUSTED ONCE ONLY TO THE REQUIRED VALUE BY ADDING WATER UP TO THE AMOUNT ALLOWED IN THE ACCEPTED MIXTURE PROPORTIONS. ADDITION OF WATER SHALL BE IN ACCORDANCE WITH ASTM C94. DO NOT EXCEED THE SPECIFIED WATER-CEMENTITIOUS MATERIAL RATIO OR SLUMP IN THE APPROVED MIX DESIGN. DO NOT ADD WATER TO CONCRETE DELIVERED IN EQUIPMENT NOT ACCEPTABLE FOR MIXING. AFTER PLASTICIZING OR WATER REDUCING ADMIXTURES ARE ADDED TO THE CONCRETE AT THE SITE TO ACHIEVE FLOWABLE CONCRETE, DO NOT ADD WATER TO THE CONCRETE. MEASURE SLUMP (AND AIR CONTENT OF AIR ENTRAINED CONCRETE), AFTER SLUMP ADJUSTMENT, TO VERIFY COMPLIANCE WITH SPECIFIED REQUIREMENTS.
   E. SLUMP SHALL BE MEASURED PRIOR TO THE ADDITION OF ADMIXTURES AND AFTER THE ADDITION OF ADMIXTURES.
   F. INTERIOR SLAB FINISHING AND CURING
      i. FINISH: MACHINE TROWEL FINISH FLOOR SLAB UNLESS NOTED OTHERWISE.
      ii. CURING: "CURE AND SEAL" LIQUID MEMBRANE FORMING CURING COMPOUND (ASTM C1315, TYPE 1, CLASS A, VOC COMPLIANT) OR MOISTURE-RETAINING COVER (ASTM C171) POLYETHYLENE FILM OR CURING PAPER CONSISTING OF TWO LAYERS OF FIBERED KRAFT PAPER LAMINATED WITH DOUBLE COATING OF ASPHALT.
   G. FLOOR SLAB-ON-GRADE SHALL CONFORM TO THE FOLLOWING SURFACE PROFILE TOLERANCES PER ASTM E-1155 AND ACI 117-14 (FF = FLOOR FLATNESS, FI = FLOOR LEVELNESS):
      i. SPECIFIED OVERALL VALUE FF = 25, FI = 20
      ii. MINIMUM LOCAL VALUE FF = 17, FI = 15
6. SUBMITTALS:
   A. CONSTRUCTION JOINT LAYOUT
   B. CONCRETE MIX DESIGNS: CONCRETE MIX DESIGNS INCLUDING PRODUCT DATA FOR ALL CONSTITUENTS AND ADMIXTURES SHALL BE SUBMITTED FOR EACH TYPE OF CONCRETE TO THE STRUCTURAL ENGINEER FOR APPROVAL IN ACCORDANCE WITH ACI 301-16 FIELD TEST DATA OR TRIAL MIXTURES SUBMITTAL DATA MUST INCLUDE FIELD TEST DATA FROM AT LEAST 10 TESTS OR A THREE POINT CURVE GENERATED USING TRIAL MIXTURES.
   C. PRODUCT DATA FOR CURING MATERIALS
7. QUALITY ASSURANCE
   A. CONCRETE WORK AND TESTING, AS PERFORMED BY "QUALIFIED FIELD TESTING TECHNICIANS" AND "QUALIFIED LABORATORY TECHNICIANS", SHALL CONFORM TO ALL REQUIREMENTS OF ACI 301-16, "SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BUILDINGS", EXCEPT AS MODIFIED BY THE SUPPLEMENTAL REQUIREMENTS ABOVE. REPORTS FROM TESTS REQUIRED BY SECTION 1.6 OF ACI 301-16 SHALL BE SUBMITTED TO STRUCTURAL ENGINEER, ARCHITECT, OWNER, CONTRACTOR, CONCRETE SUPPLIER, AND BUILDING OFFICIAL.

CONCRETE REINFORCING

1. MATERIALS
   A. DEFORMED BARS: ASTM A615, OR ASTM A706, GRADE 60.
      i. ASTM A706 DEFORMED BARS ARE REQUIRED FOR ALL WELDED REINFORCING BARS.
2. REINFORCING DEVELOPMENT AND LAP SPLICES (UNLESS OTHERWISE NOTED)
   A. SEE REINFORCING BAR DEVELOPMENT TABLES FOR REQUIRED DEVELOPMENT AND LAP SPLICE LENGTHS.
3. DETAILING REQUIREMENTS
   A. AT SLAB AND WALL OPENING CORNERS AND REENTRANT CORNERS, PROVIDE (1) #5 BAR IN EACH FACE PARALLEL TO EACH EDGE EXTENDING A MINIMUM OF 2'-0" PAST EDGE OF OPENING. THIS STEEL MAY BE OMITTED IF TYPICAL WALL STEEL EXCEEDS THIS MINIMUM REQUIREMENT.
   B. SEE PLAN FOR INTERIOR SLAB ON GROUND REINFORCEMENT. LOCATE REINFORCEMENT 2" CLEAR BELOW TOP OF SLAB.
4. PERFORMANCE
   A. COMPLY WITH CRSI'S "MANUAL OF STANDARD PRACTICE" FOR PLACING AND SUPPORTING REINFORCEMENT.
   B. REINFORCING BARS SHALL HAVE CLEAR COVER AS INDICATED ON THE DRAWINGS. WHERE NOT INDICATED, PROVIDE MINIMUM CLEAR COVER PER ACI-318.
   C. REINFORCING BARS SHALL BE FREE OF DIRT AND FORM RELEASE AGENTS.
5. SUBMITTALS
   A. SHOP DRAWINGS FOR REINFORCING STEEL (COMPLY WITH ACI SP-066):

MASONRY

1. CONSTRUCTION AND MATERIALS SHALL CONFORM TO ALL REQUIREMENTS OF "SPECIFICATIONS FOR MASONRY STRUCTURES" (TMS 602-16), EXCEPT AS MODIFIED BY THE REQUIREMENTS OF THESE CONTRACT DOCUMENTS.
2. COMPRESSIVE STRENGTH SHALL BE DETERMINED FOR EACH TYPE OF MASONRY BY THE UNIT STRENGTH METHOD.
   A. CONCRETE MASONRY: f'm = 2000 PSI AT 28 DAYS.
3. SUBMITTALS SHALL BE MADE FOR THE FOLLOWING:
   A. COLD WEATHER CONSTRUCTION PROCEDURE.
   B. HOT WEATHER CONSTRUCTION PROCEDURE.
   C. MANUFACTURERS LITERATURE FOR:
      i. HORIZONTAL JOINT REINFORCING.
      ii. REINFORCING STEEL POSITIONERS.
      iii. MOVEMENT JOINT MATERIALS.
      iv. TIES & ANCHORS.
   D. SHOP DRAWINGS SHOWING:
      i. DETAILS OF STEEL REINFORCING.
      ii. LINTELS.
   E. MANUFACTURERS CERTIFICATE OF COMPLIANCE FOR SPECIFIED:
      i. MASONRY UNIT.
      ii. REINFORCING STEEL.
   F. PROPORTIONS OF MATERIAL IN ACCORDANCE WITH REFERENCED SPECIFICATIONS OF:
      i. MORTAR.
      ii. GROUT.
4. MATERIALS
   A. CONCRETE MASONRY UNITS: ASTM C90 TYPE I
      i. BELOW GRADE: NORMAL WEIGHT AGGREGATE PER ASTM C33.
      ii. ABOVE GRADE: NORMAL WEIGHT AGGREGATE PER ASTM C33.
   B. FACING BRICK: ASTM C216 GRADE SW. COLOR AND SIZE AS NOTED ON THE ARCHITECTURAL DRAWINGS.
   C. MORTAR: ASTM C270
      i. ALL MASONRY UNLESS NOTED OTHERWISE: TYPE S
      ii. ABOVE GRADE VENEER: TYPE N
   D. PORTLAND CEMENT-LIME MORTAR:
      i. PORTLAND CEMENT: TYPE I.
      ii. HYDRATED LIME: TYPE S.
   E. MASONRY CEMENT MORTAR IS PERMITTED.
   F. GROUT: ASTM C476. SLUMP 8" TO 11". MINIMUM COMPRESSIVE STRENGTH = 2000 PSI AT 28 DAYS.
   G. REINFORCING STEEL: ASTM A615, ASTM A706, OR ASTM A996, 60 KSI YIELD.
   H. HORIZONTAL JOINT REINFORCING FOR SINGLE WYTHE CONCRETE MASONRY: ASTM A951 9 GAGE LADDER TYPE. HOT DIPPED GALVANIZED PER ASTM A153 CLASS B. PLACE HORIZONTAL JOINT REINFORCING AT 16" CENTERS VERTICALLY FOR CONCRETE MASONRY. LAP HORIZONTAL JOINT REINFORCING 6" MINIMUM. HORIZONTAL JOINT REINFORCING SHALL BE DISCONTINUOUS ACROSS MOVEMENT JOINTS.
   I. BRICK VENEER ANCHORS FOR METAL STUD AND WOOD STUD BACKUP: HOHMANN & BARNARD HB-213 OR WIRE-BOND RJ-711 WITH 3/16" DIAMETER PINTLE. HOT-DIPPED GALVANIZED PER ASTM A153 CLASS B. VERTICAL DISTANCE BETWEEN HORIZONTAL PINTLE WIRE AND CLIP PLATE SHALL NOT EXCEED 1 1/4 INCH. (FLAT CORRUGATED TIES ARE NOT PERMITTED.) PROVIDE BRICK VENEER ANCHORS WITH MAXIMUM HORIZONTAL SPACING OF 24" AND MAXIMUM VERTICAL SPACING OF 16". BRICK VENEER ANCHORS SHALL BE EMBEDDED 2" MINIMUM INTO BRICK.
      i. SCREWS FOR METAL STUD ANCHORAGE SHALL BE HEX HEAD SELF-DRILLING SELF TAPPING WITH MILL FINISH AND HARDENED TIP WITH ORGANIC POLYMER COATING AND NEOPRENE OR EPDM WASHER, MINIMUM #10 SIZE. ACCEPTABLE PRODUCTS ARE ELCO DRIL-FLEX WITH STALGARD FINISH AND ITW BUILDEX TEKS SELECT WITH CLIMASEAL FINISH. (STAINLESS STEEL AND COPPER-COATED SCREWS ARE NOT PERMITTED.) SUBSTITUTES COMPLYING WITH AC118 MAY BE CONSIDERED.
5. MORTAR PROPORTIONS MUST BE ACCURATELY MEASURED PRIOR TO MIXING. ADD CEMENT TO MIX IN FULL BAG QUANTITIES. MEASURE SAND IN BOX WITH VOLUME OF ONE CUBIC FOOT OR LESS AS OFTEN AS NECESSARY TO MAINTAIN CONSISTENT PROPORTIONS AND AT LEAST ONCE DAILY AND EVERY 4 HOURS OF MIXING.
6. SEE ARCHITECTURAL DRAWINGS FOR LOCATIONS AND SPECIFICATIONS OF FIRE RATED MASONRY.
7. PROVIDE PREFABRICATED "L" AND "T" SHAPED HORIZONTAL JOINT REINFORCING AT WALL INTERSECTIONS.
8. RUNNING BOND PATTERN SHALL BE USED FOR ALL MASONRY WORK UNLESS OTHERWISE NOTED.
9. PROVIDE MOVEMENT (CONTROL AND EXPANSION) JOINTS IN WALLS WHERE INDICATED ON ARCHITECTURAL DRAWINGS. BOND BEAMS SHALL BE DISCONTINUOUS ACROSS MOVEMENT JOINTS UNLESS NOTED OTHERWISE:
   A. MOVEMENT JOINTS IN CONCRETE BLOCK: SASH BLOCK UNIT WITH PREFORMED SHEAR KEY. CAULK BOTH FACES. ALTERNATE DETAILS FOR CONTROL JOINTS MAY BE ACCEPTABLE -- SUBMIT DETAILS FOR APPROVAL.
   B. PROVIDE BUILDING PAPER BOND BREAK BELOW LINTEL BEARING ADJACENT TO CONTROL JOINTS.
10. UNLESS NOTED OTHERWISE ON PLANS, UNDER LINTELS, BEARING PLATES, BEAMS, ETC.; FILL CELLS WITH GROUT, 3 COURSES MINIMUM BELOW BEARING.
11. UNLESS NOTED OTHERWISE ON PLANS, LINTELS SHALL HAVE 8" MINIMUM END BEARING.
12. ALL REINFORCING STEEL SHALL BE SUPPORTED AND FASTENED TO APPROVED POSITIONERS LOCATED AT 192 BAR DIAMETERS MAXIMUM SPACING AND WITH A MINIMUM OF TWO POSITIONERS PER GROUT POUR (ONE NEAR THE BOTTOM AND ONE NEAR THE TOP) TO PREVENT DISPLACEMENT DURING THE PLACEMENT OF GROUT.
13. GROUT ALL CELLS BELOW GRADE SOLID.
14. PROVIDE REINFORCING BAR SPLICES AS SPECIFIED IN THE FOLLOWING TABLE. BAR SPLICE COUPLERS MAY BE CONSIDERED AS A SUBSTITUTE, SUBMIT MANUFACTURER'S DATA PRIOR TO INSTALLATION.

BAR SIZE	LAP SPLICE
#4	36"
#5	45"
#6	54"
#7	63"

STRUCTURAL STEEL

1. MATERIALS (UNLESS NOTED OTHERWISE):
   A. W AND WT SHAPES: ASTM A992, Fy = 50 KSI
   B. C AND MC SHAPES (DEPTH ≥ 8 INCHES): ASTM A992, Fy = 50 KSI
   C. C AND MC SHAPES (DEPTH < 8 INCHES): ASTM A36, Fy = 36 KSI
   D. L SHAPES: ASTM A572, GRADE 50, Fy = 50 KSI
   E. PLATES AND BARS (THICKNESS ≤ 4 INCHES): ASTM A572, GRADE 50, Fy = 50 KSI
   F. PLATES AND BARS (THICKNESS > 4 INCHES): ASTM A36, Fy = 36 KSI
   G. HSS SHAPES: ASTM A500, GRADE C, Fy = 50 KSI
   H. BOLTS: ASTM F3125, GRADE A325-N, 3/4" DIAMETER (UNLESS NOTED OTHERWISE)
   I. ANCHOR RODS (TYPICAL): ASTM F1554, GRADE 36
   J. WELDS: AWS E70XX, LOW HYDROGEN ELECTRODES. FILLER METALS WITH SPECIFIED MIN CHARPY V-NOTCH TOUGHNESS OF 20 FT-LBS AT 40 DEGREES FAHRENHEIT SHALL BE USED IN THE FOLLOWING JOINTS OR WHERE OTHERWISE INDICATED:
      i. CJP WELDS OF ROLLED SHAPES WITH FLANGE THICKNESS EXCEEDING 2 INCHES
      ii. CJP W

SCHEDULE OF SPECIAL INSPECTION SERVICES - 1705.2.1 STRUCTURAL STEEL

Item	Sub Item / Scope	Extent: Observe	Extent: Perform	Extent: N/A	Agency Qualifications	Comments
In-Plant Special Inspections	**Fabrication and implementation procedures:** In addition to special inspections provided on site, provide special inspections indicated below on the premises of fabricator's shop. Verify that the fabricator maintains detailed fabrication and quality control procedures.		X	X	As Noted Below	Special inspections on the premises of the fabricators shop are not required provided the fabricator is an ***Approved Fabricator*** in accordance with section 1704.2. Fabricator is required to submit documentation/certification that they are an ***Approved Fabricator***.
1. Fabricator and erector documents	Verify reports and certificates as listed in AISC 360, chapter N, paragraph 3.2 for compliance with construction documents		X		Schaefer Submittal Review	
2. Material verification of structural steel	Verify material in shop and field inspection		X		Testing Agency	
3. Embedments	Verify diameter, grade, type, length, embedment. See Table 1705.3 for anchors		X		Testing Agency	
4. Verify compliance with construction documents	Verify member locations, braces, stiffeners, and application of joint details at each connection comply with construction documents		X		Testing Agency	
5.4-1. Visual Welding Inspection - Inspection Tasks Before Welding:	1. Welder qualifications records and continuity records.		X		Testing Agency AWS - Certified Welding Inspector	
	2. Welding procedure specifications (WPS) available		X			
	3. Manufacturer certifications for welding consumables available.		X			
	4. Material Identification (type/grade)	X				
	5. Welder identification system (The fabricator or erector, as applicable, shall maintain a system by which a welder who has welded a joint or member can be identified. Stamps, if used, shall be the low-stress type.)	X				
	6. Fit up of Groove Welds (Including Joint Geometry): Inspection shall include Joint preparation, Dimensions (alignment, root opening, roof face, and bevel), Cleanliness (condition of steel surfaces), Tacking (tack weld quality and location), Backing type and fit (if applicable)	X				
	7. Pre-fit up CJP Groove Welds of HSS T-, K-, Y-, and K-joints (Including Joint Geometry): Inspection shall include Joint preparation, Dimensions (alignment, root opening, roof face, and bevel), Cleanliness (condition of steel surfaces), Tacking (tack weld quality and location), Backing type and fit (if applicable)		X			
	8. Configuration and finish of access holes	X				
	9. Fit-up of Fillet Welds: Inspection shall include: Dimensions (alignment, root opening, roof face, and bevel), Cleanliness (condition of steel surfaces), Tacking (tack weld quality and location)	X				
	10. Check welding equipment.	X				
5.4-2. Visual Welding Inspection - Inspection Tasks During Welding:	1. Control and Handling of Welding Consumables: Packaging and Exposure control)	X			Testing Agency AWS - Certified Welding Inspector	
	2. No welding over cracked tack welds.	X				
	3. Environmental Conditions: Wind speed within limits, and Precipitation and temperature.	X				
	4. WPS Followed: Observe Settings on welding equipment, Travel speed, Selected welding materials, Shielding gas type/flow rate, Preheat applied, Interpass temperature maintained (min and max), and Proper position (F,V,F,OH)	X				
	5. Welding Techniques: Interpass and final cleaning, Each pass within profile limitations, Each pass meets quality requirements	X				
	6. Placement and installation of steel headed stud anchors.		X			
5.4-3. Visual Welding Inspection - Inspection Tasks After Welding	1. Welds Cleaned:	X			Testing Agency AWS - Certified Welding Inspector	
	2. Size, Length, and Location of Welds:		X			
	3. Welds meet visual acceptance criteria: Crack prohibition, Weld/base-metal fusion, Crater cross section, Weld profiles, Weld size, Undercut, Porosity.		X			
	4. Arc strikes:		X			
	5. k-area		X			
	6. Weld access holes in rolled heavy shapes and built-up heavy shapes					
	7. Backing Removed and weld tabs removal (if required):		X			
	8. Repair Activities:		X			
	Document acceptance or rejection of welded joint or member		X			
	No prohibited welds have been added without the approval of the EOR	X				
5.5 Non-destructive Testing of Welds	**b. CJP Groove Welds:** Ultrasonic testing shall be performed on 100 percent of CJP groove welds subject to transversely applied tension loading in butt, T- and corner joints, in materials 5/16 in thick or greater. Ultrasonic testing in materials less than 5/16 in thick is not required. Reduction of Rate of Ultrasonic Testing is permitted if the conditions of AISC 360-16 Appendix N.5.e are met.		X		Testing Agency AWS - Certified Welding Inspector	Perform NDT for both in field and shop welds.
	c. Weld Joints Subjected to Fatigue: Welded joints requiring weld soundness to be established by Radiographic or Ultrasonic Inspections. Reduction rate is prohibited.			X		Perform NDT for both in field and shop welds.
5.6-1. Inspection of Bolting: Inspection Tasks Prior to Bolting	1. Manufacturer's certifications available for fastener materials.		X		Testing Agency	
	2. Fasteners marked in accordance with ASTM requirements	X			Testing Agency	
	3. Proper fasteners selected for the joint detail (grade, type, and bolt length if threads are excluded from shear plane),	X			Testing Agency	
	4. Proper bolting procedure selected for joint detail.	X			Testing Agency	
	5. Connecting elements: Verify elements are fabricated properly, including the appropriate faying surface condition and hole preparation, if specified, meets the applicable requirements	X			Testing Agency	
	6. Pre-installation verification testing conducted for fastener assemblies and methods used	X			Testing Agency	
	7. Proper storage provided for bolts, nuts, washers, and other fastener components	X			Testing Agency	
5.6-2. Inspection of Bolting: Inspection Tasks During Bolting	1. Fastener assemblies, of suitable condition, placed in all holes and washers (if required) are properly positioned	X			Testing Agency	
	2. Joint brought to the snug tight condition prior to the pretensioning operation	X			Testing Agency	
	3. Fastener component not turned by the wrench prevented from rotating	X			Testing Agency	
	4. Bolts are pretensioned in accordance with the RCSC specification, progressing systematically from most rigid point toward free edges	X			Testing Agency	
5.6-3. Inspection of Bolting: Inspection Tasks After Bolting	1. Document accepted and rejected connections:		X		Testing Agency	

SCHEDULE OF SPECIAL INSPECTION SERVICES - 1705.2.2 COLD FORMED STEEL DECK

Item	Sub Item / Scope	Extent: Observe	Extent: Perform	Extent: N/A	Agency Qualifications	Comments
1. Inspection Tasks Prior to Deck Placement	a. Verify compliance of materials (deck and all deck accessories) with construction documents, including profiles, material, properties, and base metal thickness		X		Testing Agency	
	b. Document acceptance or rejection of deck and deck accessories		X			
2. Inspection Tasks After Deck Placement	a. Verify compliance of deck and all deck accessories installation with construction documents		X		Testing Agency	
	b. Verify deck materials are represented by the mill certifications that comply with the construction documents		X			
	c. Document acceptance or rejection of installation of deck and deck accessories		X			
3. Inspection Prior to Welding	a. Welding procedure specifications (WPS) available	X			Testing Agency AWS Certified Welding Inspector	
	b. Manufacturer certifications for welding consumables available	X				
	c. Material Identification (type/grade)	X				
	d. Check Welding Equipment	X				
4. Inspection Tasks During Welding	a. Use of qualified welders.	X			Testing Agency AWS Certified Welding Inspector	
	b. Control and handling of welding consumables.	X				
	c. Environmental conditions	X				
	d. WPS followed	X				
5. Inspection Tasks After Welding	a. Verify size and location of welds, including support, sidelap, and perimeter welds.		X		Testing Agency AWS Certified Welding Inspector	
	b. Weld meets visual inspection criteria.		X			
	c. Verify repair activities.		X			
	d. Document acceptance or rejection of welds		X			
6. Inspection Tasks Prior to Mechanical Fastening	a. Manufacturer installation instructions are available for mechanical fasteners	X			Testing Agency	
	b. Proper tools are available for fastener installation	X				
	c. Proper storage for mechanical fasteners	X				
7. Inspection Tasks During Mechanical Fastening	a. Fasteners are positioned as required	X			Testing Agency	
	b. Fasteners are installed in accordance with manufacturer's instructions	X				
8. Inspection Tasks After Mechanical Fastening	a. Check spacing, type, and installation of support fasteners		X		Testing Agency	
	b. Check spacing, type, and installation of sidelap fasteners		X			
	c. Check spacing, type, and installation of perimeter fasteners		X			
	d. Verify repair activities		X			
	e. Document acceptance or rejection of mechanical fasteners		X			

SCHEDULE OF SPECIAL INSPECTION SERVICES - 1705.2.3 OPEN WEB STEEL JOISTS AND JOIST GIRDERS

Item	Sub Item / Scope	Extent: Cont.	Extent: Periodic	Extent: N/A	Agency Qualifications	Comments
1. Installation of open-web steel joists and joist girders:	a. End Connections - Welding or Bolting. Reference SJI Specifications listed in IBC 2207.1		X		Testing Agency AWS Certified Welding Inspector	
	b. Bridging - horizontal or diagonal		X		Testing Agency	
	b.1. Standard bridging. Reference SJI Specifications listed in IBC 2207.1		X			
	b.2. Bridging that differs from the SJI specifications listed in Section 2207.1		X			

SCHEDULE OF SPECIAL INSPECTION SERVICES - 1705.6 SOILS

Item	Sub Item / Scope	Extent: Cont.	Extent: Periodic	Extent: N/A	Agency Qualifications	Comments
1. Bearing Materials	Verify materials below shallow foundations are adequate to achieve the design bearing capacity.		X		Testing Agency Under supervision of Licensed Geotechnical Engineer	
2. Excavations	Verify excavations are extended to proper depth and have reached proper material		X		Testing Agency Under supervision of Licensed Geotechnical Engineer	
3. Fill Classification	Perform classification and testing of compacted fill materials		X		Testing Agency Under supervision of Licensed Geotechnical Engineer	
4. Placement and Fill Compaction	Verify use of proper materials, densities, and lift thicknesses during placement and compaction of compacted fill	X			Testing Agency Under supervision of Licensed Geotechnical Engineer	
5. Subgrade	Prior to placement of compacted fill, inspect subgrade and verify that the site has been prepared properly		X		Testing Agency Under supervision of Licensed Geotechnical Engineer	

SCHEDULE OF SPECIAL INSPECTION SERVICES - 1705.3 CONCRETE CONSTRUCTION

Item	Sub Item / Scope	Extent: Cont.	Extent: Periodic	Extent: N/A	Agency Qualifications	Comments
In-Plant Special inspections (Precast Concrete)	**Fabrication and implementation procedures:** In addition to special inspections provided on site, provide special inspections indicated below on the premises of fabricator's shop. Verify that the fabricator maintains detailed fabrication and quality control procedures.			X	As Noted Below	Special inspections on the premises of the fabricator's shop are not required provided the fabricator is an ***Approved Fabricator*** in accordance with section 1704.2.5.1. Fabricator is required to submit documentation/certification that they are an ***Approved Fabricator***.
1. Reinforcing steel	**a. Mild Reinforcing Steel:** Inspect size, spacing, cover, positioning and grade of reinforcing steel: Verify that reinforcing bars are free of form oil or other deleterious materials. Inspect bar laps and mechanical splices. Verify that bars are adequately tied and supported on chairs or bolsters. Verify welded wire fabric is supported per construction documents. Reference ACI 318: 20, 25.2, 25.3, 26.6.1-26.6.3, and IBC 1908.4.		X		Testing Agency	
	b. Prestress Steel: Inspect size, spacing, cover, and position of prestressing tendons:			X	Testing Agency	
2. Welding of Reinforcing Steel	a. Verify weldability of reinforcing bars other than ASTM A706. Reference ACI 318: 26.6.4 and AWS D1.4			X	Testing Agency	
	b. Inspect single pass fillet welds, maximum 5/16"			X	Testing Agency AWS - Certified Welding Inspector	
	c. Inspect all other welds	X			Testing Agency AWS - Certified Welding Inspector	
3. Cast in Place Anchor Rods	Inspect size, position and embedment of cast in place bolts and anchor rods. Inspect concrete placement and consolidation around anchors. Reference ACI 318: 17.8.2		X		Testing Agency	
4. Post Installed Anchors (Anchors installed in Hardened Concrete)	a. Adhesive anchors installed in horizontally or upwardly inclined orientations to resist sustained tension loads. Inspect type and size of anchor, concrete type and compressive strength, hole cleaning procedures, anchor embedment, anchor spacing and edge distances, and tightening torque (where applicable). Reference ACI 318: 17.8.2.4	X			Testing Agency	Reference evaluation report (identified in project general notes) for additional inspection scope required by manufacturer.
	b. Mechanical anchors and adhesive anchors not defined in 4.a. Inspect type and size of anchor, concrete type and compressive strength, hole cleaning procedures, anchor embedment, anchor spacing and edge distances, and tightening torque (where applicable). Reference ACI 318:		X		Testing Agency	
5. Mix Design	Prior to concrete placement, fabricate specimens for strength tests, perform slump and air content tests, and determine the temperature of the concrete.		X		Testing Agency	
6. Sampling and Testing of Concrete	At the time fresh concrete is sampled to fabricate specimens for strength tests, perform slump and air content tests as required by construction documents, and determine the temperature of concrete. Reference ASTM C 172, ASTM C31, ACI 318 19, 26.4.3, 26.4.4, and IBC 1904.1, 1904.2, 1908.2, 1908.3	X			Testing Agency	
7. Concrete and Shotcrete Placement	Inspect concrete and shotcrete placement for proper application techniques. Reference ACI 318: 26.5 and IBC 1908.6, 1908.7, and 1908.8. Verify that concrete conveyance and depositing avoids segregation or contamination. Verify that concrete is properly consolidated.	X			Testing Agency	
8. Curing and Protection	Inspect for maintenance of specified curing temperature and techniques. Inspect cold weather and hot weather protection procedures as applicable. Reference ACI 318: 26.5.3-26.5.5 and IBC 1908.9		X		Testing Agency	
9. Prestressed (Post-tensioned) Concrete	**a. Application of Prestressing Forces:** Inspect placement, stressing, grouting and protection of post-tensioning tendons. Verify that tendons are correctly positioned, supported, tied and wrapped. Record tendon elongations. Reference ACI 318: 26.10.2			X	Testing Agency	
	b. Grouting of Bonded Prestressing Tendons in the Seismic-Force Resisting System: Reference ACI 318: 26.10.1			X	Testing Agency	
10. Precast Concrete Erection	Inspect erection of precast concrete including member configuration, connections, welding and grouting. Reference ACI 318: Ch 26.9			X	Testing Agency	
11. Verification of In-Situ Concrete Strength	Verify concrete strength prior to the removal of shores and forms from beams and structural slabs and prior to the stressing of tendons in post-tensioned concrete. Reference ACI 318: 26.10.2 & 26.11.11.2		X		Testing Agency	
12. Formwork Geometry	Inspect formwork for shape, location and dimensions of the concrete member being formed. Reference ACI 318: 26.11		X		Testing Agency	

SCHEDULE OF SPECIAL INSPECTION SERVICES - 1705.4 MASONRY CONSTRUCTION (LEVEL 2)

Item	Sub Item / Scope	Extent: Cont.	Extent: Periodic	Extent: N/A	Agency Qualifications	Comments
Minimum Verification Requirements	Prior to construction, verification of compliance of submittals (TMS 602 Art.1.5)	X			Schaefer Submittal Review	Required
	Prior to construction, verification of f'm and f'AAC, except where specifically exempted by the code (TMS 602 Art.1.4b)		X		Schaefer Submittal Review	Required
	During Construction, verification of slump flow and Visual Stability Index (VSI) when self-consolidating grout is delivered to the project site. (TMS 602: Art 1.5 &1.6.3)		X		Testing Agency	Not Required
	During construction, verification of f'm and f'aac for every 5,000 sq. ft. (TMS 602 Art.1.4b)			X	Testing Agency	Not Required
	During construction, verification of proportions of materials as delivered to the project site for premixed or prebended mortar, prestressing grout, and grout other than self-consolidating grout. (TMS 602 Art.1.4b)			X	Testing Agency	Required
1. As masonry construction begins, verify that the following are in compliance:	a. Proportions of Site-Prepared Mortar (TMS 602 Art. 2.1. 2.6A & 2.6C)		X		Testing Agency	
	b. Grade and size of prestressing tendons and anchorages (TMS 602 Art.2.4B & 2.4H)			X	Testing Agency	
	c. Placement of reinforcement, connectors and anchor bolts. (TMS 602 Art.3.4 & 3.6A)		X		Testing Agency	
	d. Prestressing technique (TMS 602 Art.3.6B)			X	Testing Agency	
	e. Properties of thin-bed mortar for AAC masonry (TMS 602 Art.2.1 C.1)			X	Testing Agency	Continuous for the first 5000 sq ft, and Periodic after
	f. Sample panel construction (TMS 602 Art.1.6D)		X		Testing Agency	
2. Prior to Grouting, verify that the following are in compliance:	a. Grout Space: Verify grout space is clean. (TMS 602: Art 3.2D and 3.2F)		X		Testing Agency	
	b. Placement of prestressing tendons and anchorages (TMS 602 Art. 2.4 & 3.6)			X	Testing Agency	
	c. Placement of reinforcement, connectors and anchor bolts. (TMS 602 Art. 3.2E & 3.4)		X		Testing Agency	
	d. Proportions of site-prepared grout and prestressing grout for bonded tendons. (TMS 602 Art. 2.6B & 2.4G.1.b)			X	Testing Agency	
3. Verify compliance with the following during construction:	a. Materials and procedures with the approved submittals (TMS 602 Art. 1.5)		X		Testing Agency	
	b. Placement of masonry units and mortar joint construction (TMS 602 Art. 3.3B)		X		Testing Agency	
	c Size and Location of structural members (TMS 602 Art. 3.3F)		X		Testing Agency	
	d. Type, size, and location of anchors, including other details of anchorage of masonry to structural members, frames, or other construction (TMS 402 Sec. 1.2.1E, 6.2.1.8 & 6.3.1)		X		Testing Agency	
	e. Welding of reinforcement (TMS 402 Sec 6.1.6.1.2)			X	Testing Agency	
	f. Preparation, construction, and protection of masonry during cold weather (temperature below 40F) or hot weather (temperature above 90F). (TMS 602 Art. 1.8C & 1.8D)		X		Testing Agency	
	g. Application and measurement of prestressing force (TMS 602 Art.3.6 B)			X	Testing Agency	
	h1. Placement of grout is in compliance (TMS 602 Art. 3.5)	X			Testing Agency	
	h2. Placement of prestressing grout for bonded tendons is in compliance (TMS 602 Art. 3.5 & 3.6C)			X	Testing Agency	
	i. Placement of AAC masonry units and construction of thin-bed mortar joints (TMS 602 Art. 3.3B.9 & 3.3F.1.b)			X	Testing Agency	Continuous for the first 5000 sq ft, and Periodic after
4.	Observe preparation of grout specimens, mortar specimens, and/or prisms. (TMS 602: Art 1.4)			X	Testing Agency (compliance with ASTM C1093)	

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As Noted on Plans Review
Development Services Department
Kelly Parkway, Missouri
10/23/2025

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PROJECT TITLE

Q39 (SHELL)
LEE'S SUMMIT, MO
OLDHAM VILLAGE

PROJECT NUMBER
62910099

PROJECT MANAGER	DRAWN BY	CHECKED BY
DDA	GJB	

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ISSUES AND REVISIONS

NUMBER	DATE	DESCRIPTION
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Schaefer Project Number: 24-1921

SHEET NAME

SPECIAL INSPECTIONS

SHEET NUMBER

S002

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CONCRETE MIXTURE REQUIREMENTS										
CONCRETE CLASS	DESCRIPTION	EXPOSURE CLASS F	S	W	C	MINIMUM f'c AT 28 DAYS (PSI)	MAXIMUM w/c RATIO	AIR CONTENT	MINIMUM CEMENTITIOUS MATERIAL (LB/CY)	REMARKS
A	FOOTINGS	F0	S0	W0	C0	3000	--	--	--	--
B	FOUNDATION WALLS	F2	S0	W0	C1	4500	0.45	6% ±1.5%	--	--
C1	INTERIOR SLABS-ON-GROUND	F0	S0	W0	C0	4000	--	3% MAX	540	

CONCRETE MIXTURE NOTES:
A. PROVIDE MIX DESIGNS IN ACCORDANCE WITH ACI 301-16 FOR SPECIFIED EXPOSURE CLASS AND AGGREGATE.
B. NOMINAL MAX AGGREGATE SIZE = 3/4" UNLESS OTHERWISE NOTED
C. ALL CONCRETE SHALL BE NORMAL WEIGHT UNLESS OTHERWISE NOTED

SCHEDULE OF TENSION DEVELOPMENT AND LAP SPLICE LENGTHS

FOOTINGS (f'c = 3000PSI)

BAR SIZE	Ld		Ls		Ldh
	OTHER BARS	TOP BARS	OTHER BARS	TOP BARS	
	(in)	(in)	(in)	(in)	(in)
#3	17	22	22	28	9
#4	22	29	29	38	11
#5	28	36	36	47	14
#6	33	43	43	56	17
#7	48	63	63	81	20
#8	55	72	72	93	22
#9	62	81	81	105	25
#10	70	91	91	118	28
#11	78	101	101	131	31
#14	93	121	121	157	38

LAP AND DEVELOPMENT TABLE CRITERIA:
A. GRADE 60 UNCOATED REINFORCING STEEL
  i. FOR EPOXY COATED: MULTIPLY Ld, Ls BY 1.5; Ldh BY 1.2
B. NORMAL WEIGHT CONCRETE
  i. FOR LIGHTWEIGHT CONCRETE: MULTIPLY Ld, Ls, Ldh BY 1.33
C. CLEAR COVER GREATER THAN db
D. MIN 2"db CLEAR SPACING BETWEEN BARS

FOR BARS THAT DO NOT MEET THE CLEAR COVER OR CLEAR SPACING INDICATED:
#6 AND SMALLER: Ld = 66 BAR DIAMETERS; Ls = 86 BAR DIAMETERS
#7 AND LARGER: Ld = 83 BAR DIAMETERS; Ls = 107 BAR DIAMETERS
FOR TOP BARS MULTIPLY BY 1.3
MINIMUM Ld AND Ls = 12"

FOUNDATION WALLS (f'c = 4500PSI)

BAR SIZE	Ld		Ls		Ldh
	OTHER BARS	TOP BARS	OTHER BARS	TOP BARS	
	(in)	(in)	(in)	(in)	(in)
#3	12	12	16	16	7
#4	12	14	16	19	9
#5	14	18	18	23	12
#6	17	21	21	28	14
#7	24	31	31	40	16
#8	27	35	35	46	18
#9	34	44	44	57	21
#10	42	54	54	70	23
#11	50	65	65	84	26
#14	68	88	88	115	31

LAP AND DEVELOPMENT TABLE CRITERIA:
A. GRADE 60 UNCOATED REINFORCING STEEL
  i. FOR EPOXY COATED: MULTIPLY Ld, Ls BY 1.5; Ldh BY 1.2
B. NORMAL WEIGHT CONCRETE
  i. FOR LIGHTWEIGHT CONCRETE: MULTIPLY Ld, Ls, Ldh BY 1.33
C. 2" MIN CLEAR COVER
D. 4" MIN CLEAR SPACING BETWEEN BARS

FOR BARS THAT DO NOT MEET THE CLEAR COVER OR CLEAR SPACING INDICATED:
#6 AND SMALLER: Ld = 54 BAR DIAMETERS; Ls = 70 BAR DIAMETERS
#7 AND LARGER: Ld = 68 BAR DIAMETERS; Ls = 88 BAR DIAMETERS
FOR TOP BARS MULTIPLY BY 1.3
MINIMUM Ld AND Ls = 12"

INTERIOR SLABS-ON-GROUND (f'c = 4000PSI)

BAR SIZE	Ld		Ls		Ldh
	OTHER BARS	TOP BARS	OTHER BARS	TOP BARS	
	(in)	(in)	(in)	(in)	(in)
#3	12	12	16	16	8
#4	12	15	16	20	10
#5	15	19	19	25	12
#6	18	23	23	29	15
#7	25	33	33	43	17
#8	29	37	37	49	19
#9	36	46	46	60	22
#10	44	57	57	74	25
#11	53	68	68	89	27
#14	72	94	94	122	33

LAP AND DEVELOPMENT TABLE CRITERIA:
A. GRADE 60 UNCOATED REINFORCING STEEL
  i. FOR EPOXY COATED: MULTIPLY Ld, Ls BY 1.5; Ldh BY 1.2
B. NORMAL WEIGHT CONCRETE
  i. FOR LIGHTWEIGHT CONCRETE: MULTIPLY Ld, Ls, Ldh BY 1.33
C. 2" MIN CLEAR COVER
D. 4" MIN CLEAR SPACING BETWEEN BARS

FOR BARS THAT DO NOT MEET THE CLEAR COVER OR CLEAR SPACING INDICATED:
#6 AND SMALLER: Ld = 57 BAR DIAMETERS; Ls = 74 BAR DIAMETERS
#7 AND LARGER: Ld = 72 BAR DIAMETERS; Ls = 93 BAR DIAMETERS
FOR TOP BARS MULTIPLY BY 1.3
MINIMUM Ld AND Ls = 12"

LAP AND DEVELOPMENT TABLE NOTES & DEFINITIONS:
A. TOP BARS = HORIZ BARS WITH MORE THAN 12" OF CONCRETE CAST BELOW THE BARS
B. db = BAR DIAMETER
C. s = CENTER-TO-CENTER BAR SPACING
D. Ath = TOTAL AREA OF TIES OR STIRRUPS CONFINING HOOKED BARS
E. Ahs = TOTAL AREA OF HOOKED BARS BEING DEVELOPED
F. WHERE BARS OF DIFFERENT SIZES ARE SPLICED, Ls FOR THE LARGER BAR SHALL BE USED
G. ALL TENSION SPLICES SHALL BE CLASS B, UNLESS NOTED OTHERWISE
H. Ldh VALUES FOR #11 BARS AND SMALLER MAY BE REDUCED AS FOLLOWS (PER ACI 318-14)
  i. MULTIPLY BY 0.70 FOR (1) OR (2)
    (1) SIDE COVER ≥ 2 1/2"
    (2) 90° HOOKS WITH COVER ON BAR EXTENSION BEYOND HOOK ≥ 2"
  ii. MULTIPLY BY 0.80 FOR (3), (4), or (5)
    (3) 90° HOOKS ENCLOSED ALONG Ldh WITHIN TIES OR STIRRUPS AT s ≤ 3db
    (4) 90° HOOKS ENCLOSED ALONG THE BAR EXTENSION WITHIN TIES OR STIRRUPS AT s ≤ 3db
    (5) 180° HOOKS ENCLOSED ALONG Ldh WITHIN TIES OR STIRRUPS AT s ≤ 3db
  iii. Ldh SHALL NOT BE LESS THAN THE LARGER OF 8db OR 6" WITH REDUCTIONS APPLIED

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LEE'S SUMMIT, MO
OLDHAM VILLAGE

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Approver	Author	

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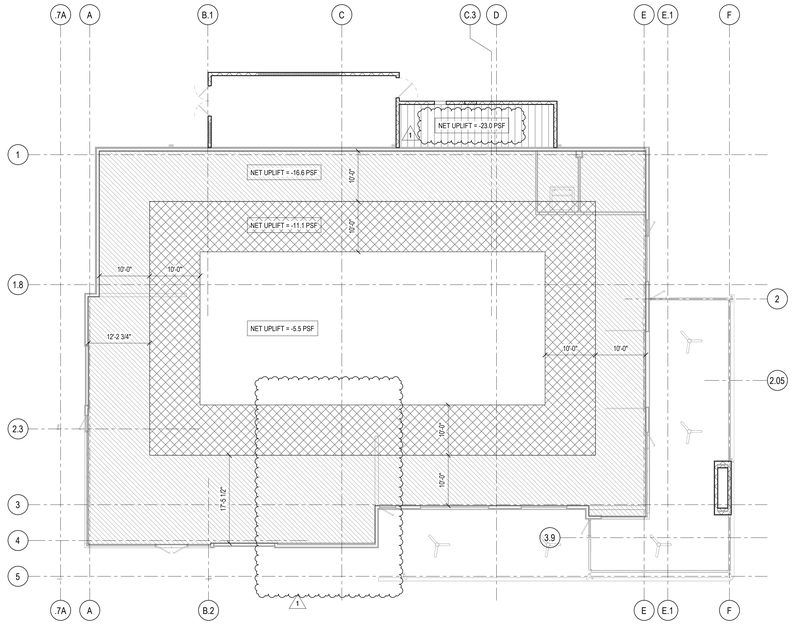
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CONCRETE TABLES

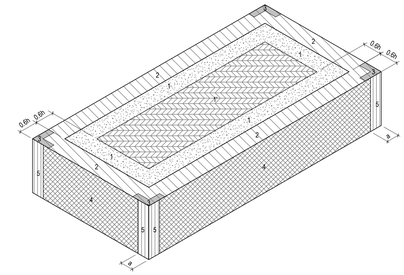
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S003



JOIST UPLIFT PLAN
3/32" = 1'-0"

NOTE:
NET UPLIFT IS BASED ON ASD LOAD COMBINATION: 0.6D+0.6W



ASCE7-16 WIND ZONE ISOMETRIC
NTS

h = 16'-0"
a = 4'-0"

NOTE:
1. APPLY HIGH ROOF LOADS TO THE SHADED PORTION OF THE LOWER ROOF.
2. APPLY POSITIVE WALL PRESSURES TO THE SHADED PORTION OF THE LOWER ROOF.
3. ISOMETRIC VIEW SHOWS GENERAL SIZE AND LOCATION OF WALL ZONES ONLY. SEE PLAN FOR SPECIFIC ROOF PRESSURE ZONES. TYPE 5 WALL ZONES OCCUR AT BUILDING CORNERS WITH A TYPE 3 ROOF ZONE AS SHOWN ON THE ROOF PLAN VIEW.
4. WIND LOADS SHOWN ARE ULTIMATE (1.0WL)

ROOF

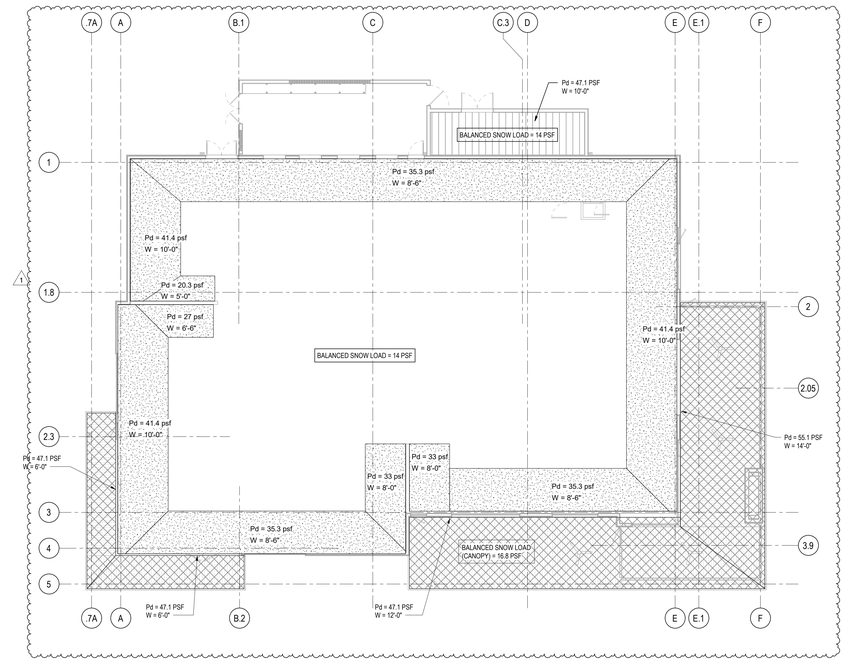
AREA	SURFACE PRESSURE (psf)							
	10 sf	20 sf	50 sf	100 sf	200 sf	350 sf	500 sf	1000 sf
NEGATIVE ZONE 1	-40.5	-37.8	-34.3	-31.6	-28.9	-26.8	-25.4	-25.4
NEGATIVE ZONE 1'	-23.3	-23.3	-23.3	-23.3	-20.0	-17.4	-16.0	-16.0
NEGATIVE ZONE 2	-53.4	-50.0	-45.4	-42.0	-38.6	-35.8	-34.0	-34.0
NEGATIVE ZONE 3	-53.4	-50.0	-45.4	-42.0	-38.6	-35.8	-34.0	-34.0
POSITIVE ZONE 1 & 1'	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0
POSITIVE ZONES 2 & 3	23.3	22.2	20.9	19.8	18.8	18.0	17.4	17.4
OVERHANG ZONE 1&1'	-36.6	-36.0	-35.1	-34.5	-28.9	-24.4	-21.5	-21.5
OVERHANG ZONE 2	-49.5	-44.9	-38.9	-34.3	-29.7	-26.0	-23.7	-23.7
OVERHANG ZONE 3	-49.5	-44.9	-38.9	-34.3	-29.7	-26.0	-23.7	-23.7

PARAPET

AREA		SURFACE PRESSURE (psf)					
		10 sf	20 sf	50 sf	100 sf	200 sf	500 sf
CASE A:	ZONE 2 :	72.2	67.5	61.4	56.7	52.0	45.8
	ZONE 3 :	72.2	67.5	61.4	56.7	52.0	45.8
CASE B:	INTERIOR ZONE :	-42.7	-40.5	-37.6	-35.5	-33.3	-30.5
	CORNER ZONE :	-48.7	-45.5	-41.2	-38.0	-34.7	-30.5

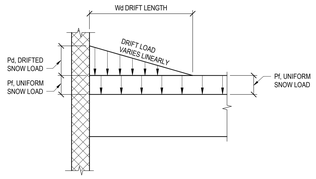
WALL

AREA	SURFACE PRESSURE (psf)			
	10 sf	100 sf	200 sf	500 sf
NEGATIVE ZONE 4	-25.2	-21.8	-20.7	-19.4
NEGATIVE ZONE 5	-31.0	-24.2	-22.1	-19.4
POSITIVE ZONE 4 & 5	23.3	19.8	18.8	17.4

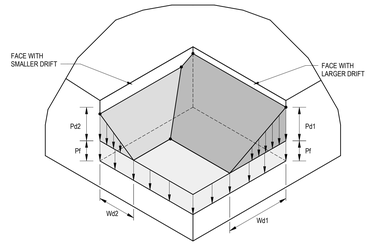


SNOW DRIFT PLAN
3/32" = 1'-0"

NOTES:
1. HATCHED PATTERNS INDICATE DRIFTED SNOW PRESSURES OCCURRING IN A TRIANGULAR SHAPE, BEGINNING @ FACE OF WALL @ MAX PRESSURE & EXTENDING INWARD TOWARD BLDG CENTER @ BALANCED SNOW PRESSURE.
2. HATCHED DRIFTED SNOW PRESSURES ARE ON TOP OF & ADDITIVE TO BALANCED SNOW PRESSURES.



DRIFTED SNOW LOAD LEGEND
NTS



TYPICAL ADJACENT DRIFTS AT CORNER DETAIL
NTS

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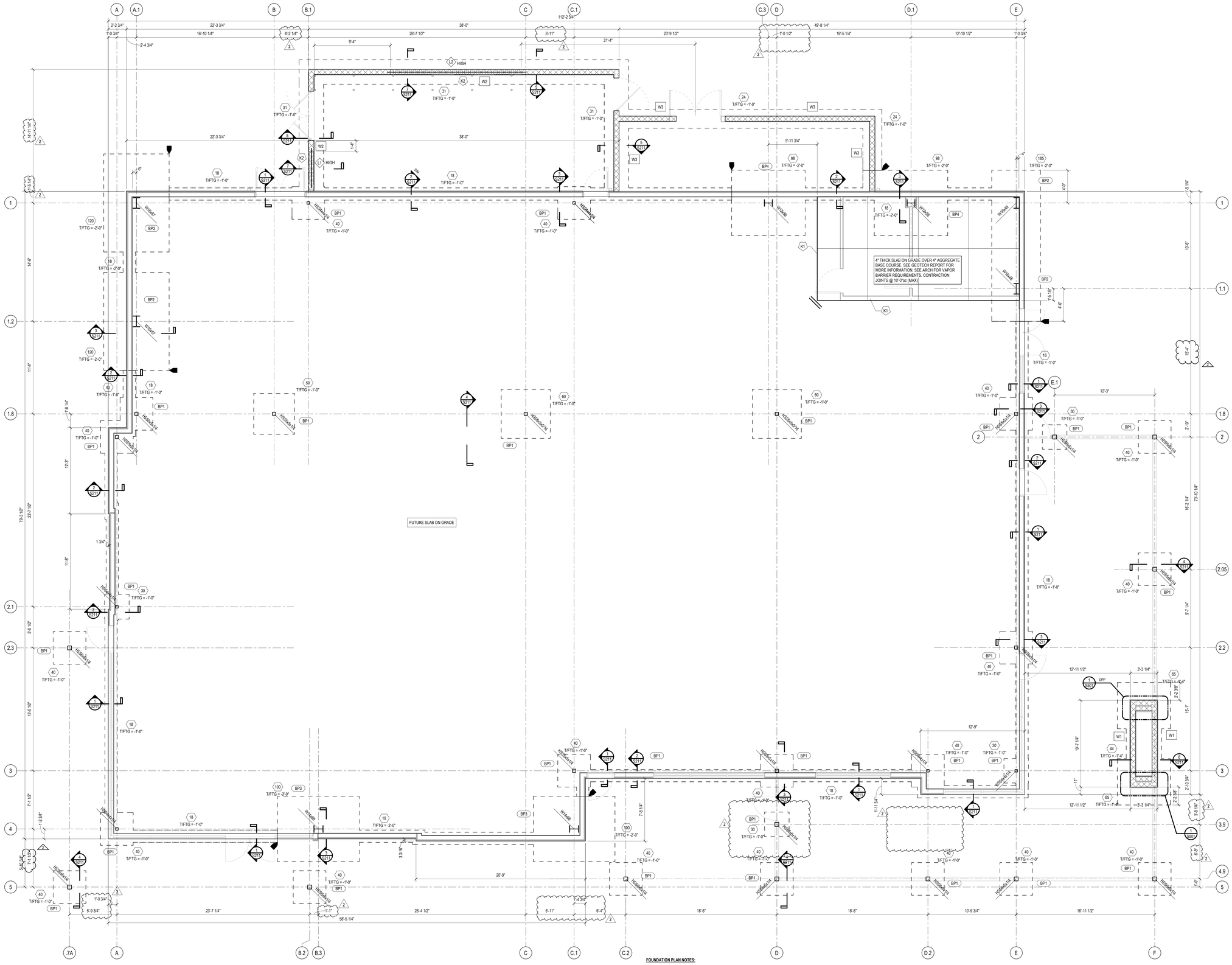
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FOUNDATION PLAN

1/4" = 1'-0"

FOUNDATION PLAN NOTES:

1. REFERENCE PLAN ELEVATION 0'-0" = 1040.00' ± (FINISH FLOOR ELEVATION AT MEAN SEA LEVEL). CONFIRM WITH CIVIL ENGINEER PRIOR TO CONSTRUCTION.
2. DOORS ARE SHOWN IN APPROXIMATE LOCATIONS, SEE ARCH DWGS FOR EXACT LOCATIONS.
3. SEE SHEET S001 FOR GENERAL NOTES, ABBREVIATIONS & LEGEND (SYMBOLS).
4. SEE SHEET S331 FOR BASEPLATE SCHEDULE.
5. SEE SHEET S201 FOR TYPICAL SLAB ON GRADE DETAILS & FOUNDATION DETAILS.
6. DIMENSIONS TO WALL FOOTING STEP LOCATIONS ARE APPROXIMATE. CONTRACTOR SHALL COORDINATE FOOTING STEPS w/ LOCATIONS INDICATED ON FOUNDATION PLANS & TYPICAL FOOTING STEP DETAIL ON SHEET S201.

CONTINUOUS FOOTING SCHEDULE

MARK	SIZE WIDTH (B)	SIZE THICKNESS (H)	REINFORCING	REMARKS
18	1'-6"	2'-0"	(2) #5 CONT TOP & BOT	
24	2'-0"	2'-0"	(3) #5 CONT TOP & BOT	
31	3'-0"	2'-0"	(3) #5 CONT TOP & BOT	
44	4'-4"	2'-0"	(4) #5 CONT TOP & BOT	

FOOTING NOTES:
1. WHERE FOOTINGS INTERSECT, PROVIDE REINFORCING STEEL PER SCHEDULE & FOOTING SIZE SUCH THAT DIMENSIONS SHOWN IN SCHEDULE ARE MET OR EXCEEDED.
2. CENTER ALL COLUMN FOOTINGS UNDER COLUMN CENTERLINES, UNO IN PLAN OR SECTION.

ISOLATED FOOTING SCHEDULE

MARK	SIZE LENGTH (L)	SIZE WIDTH (B)	SIZE THICKNESS (H)	REINFORCING	REMARKS
30	3'-0"	3'-0"	2'-0"	(4) #5 EA WAY TOP & BOT	
40	4'-0"	4'-0"	2'-0"	(6) #5 EA WAY TOP & BOT	
50	5'-0"	5'-0"	2'-0"	(4) #6 EA WAY TOP & BOT	
60	6'-0"	6'-0"	2'-0"	(7) #6 EA WAY TOP & BOT	
65	6'-6"	5'-8"	2'-0"	(10) #5 EA WAY TOP & BOT	
98	9'-8"	8'-0"	2'-0"	#6 @ 10"oc EA WAY BOT & #5 @ 12"oc EA WAY TOP	
100	10'-0"	8'-0"	2'-6"	#6 @ 8"oc EA WAY BOT & #5 @ 10"oc EA WAY TOP	
120	12'-0"	8'-0"	2'-6"	#6 @ 8"oc EA WAY BOT & #5 @ 10"oc EA WAY TOP	
185	18'-6"	6'-0"	2'-6"	(9) #6 LONGITUDINAL BARS TOP & BOTTOM w/ #5 TRANS BARS @ 10"oc TOP & BOT	

FOUNDATION KEYNOTES

NO.	DESCRIPTION
K1	SLAB ON GRADE CONSTRUCTION JOINT, SEE TYPICAL DETAIL ON S201
K2	FENCE BLOCK, SEE ARCH

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CONSULTANT

CLIENT

Q39 (SHELL)
LEE'S SUMMIT, MO
OLDHAM VILLAGE

PROJECT TITLE

PROJECT NUMBER
62910099

PROJECT MANAGER	DRAWN BY	CHECKED BY
DDA	GJB	

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STATE OF MISSOURI
JOHN RAY HUNTON
NUMBER PE-2009031054
PROFESSIONAL ENGINEER
10/23/2025

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ISSUES AND REVISIONS

NUMBER	DATE	DESCRIPTION
0	05/01/25	ORIGINAL ISSUE
1	06/20/25	ADDENDUM 1
2	10/15/25	ADDENDUM 2

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SHEET NAME

FOUNDATION PLAN

SHEET NUMBER

S101

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LEE'S SUMMIT, MO
OLDHAM VILLAGE

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62910099

PROJECT MANAGER	DRAWN BY	CHECKED BY
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PROFESSIONAL ENGINEER
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NUMBER	DATE	DESCRIPTION
0	05/01/25	ORIGINAL ISSUE
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2	10/15/25	ADDENDUM 2

SHEET NAME
ROOF FRAMING PLAN

SHEET NUMBER
S102

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FRAMING PLAN LEGEND

Mx=XXk-ft = MOMENT CONNECTION SEE TYPICAL DETAIL ON S301
MOMENT
A=XXk = BEAM AXIAL CONNECTION FORCE
= DENOTES LOCATION OF FULL DEPTH STIFFENER & BOTTOM FLANGE BRACE. ARROW INDICATES DIRECTION OF BRACE UP TO ADJACENT BEAM TOP FLANGE OR JOIST TOP CHORD. DASHED LINE (WHERE INCLUDED) INDICATES BOTTOM FLANGE BRIDGING. REFER TO TYPICAL STEEL DETAILS. FOR SINGLE BRACE PROVIDE AT MIDSPAN & FOR MULTIPLE BRACES SPACE EVENLY ALONG BEAM SPAN.

VERTICAL SHEAR
HORIZONTAL SHEAR
BEAM SIZE
XXx VVxX XXx
Vy=XXk Vy=XXk

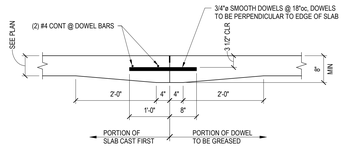
ROOF FRAMING KEYNOTES

NO.	DESCRIPTION
K1	L4x4x1/4. SEE SECTION 13/S311
K2	ROOF HATCH. SEE "TYPICAL LARGE ROOF DECK OPENING DETAIL" ON SHEET S301
K3	L3x3x1/4 DIAGONAL BRACE. SEE SECTION 7/S311
K4	6" DEEP C-CHANNEL JOIST BY OTHERS AT 24"OC MAX SPACING
K5	NOT USED
K6	SEE TYPICAL DETAIL ON S351 FOR FRAMING AROUND MECHANICAL UNITS
K7	KITCHEN VENTS - COORDINATION LOCATION AND WEIGHT WITH THE MECHANICAL DRAWINGS.

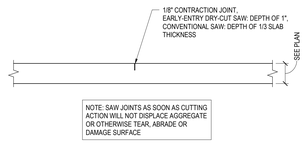
ROOF FRAMING PLAN
1/4" = 1'-0"

NORTH

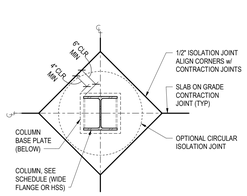
PLAN NOTES:
1. SEE SHEET S001 FOR ABBREVIATIONS & LEGEND (SYMBOLS).
2. BOD ELEV = SEE PLAN.
   A. LOW ROOF BOD (CANOPY) = 11'-6", SEE ARCH FOR TAPERED INSULATION.
3. EDGE OF DECK IS 6" FROM CENTER OF STEEL BEAMS, TYPICAL AT PERIMETER, UNO.
4. JOIST MANUFACTURER:
   A. ROOF JOIST ARE SUBJECT TO A NET UPLIFT DUE TO WIND, SEE SHEET S004 FOR DESIGN UPLIFT.
   B. DESIGN JOISTS FOR 9 PSF DOWNWARD WIND LOAD (0.6WL). APPLY PER APPROPRIATE ASCE 7 LOAD COMBINATIONS.
   C. DESIGN JOISTS FOR UNIFORM LOAD AS STATED PLUS THE CONCENTRATED POINT LOADS SHOWN ON PLANS. JOIST UNIFORM LOADS ARE SERVICE LEVEL (1.0DL+1.0Lr / 1.0Lr).
   D. DESIGN ALL JOISTS FOR AN ADDITIONAL (1) 500 LB CONCENTRATED FUTURE MECHANICAL UNIT LIVE LOAD LOCATED AT ANY TOP CHORD PANEL POINT. BAR JOIST NEED ONLY BE DESIGNED FOR (1) FUTURE MECHANICAL UNIT CONCENTRATED LOAD AT ANY GIVEN TIME. FUTURE MECHANICAL UNIT CONCENTRATED LOAD IS NOT INCLUDED IN THE JOIST LOADS LISTED ON FRAMING PLANS.
   E. DESIGN JOIST TOP CHORDS FOR THE HORIZONTAL IN-PLANE AXIAL FORCES SHOWN ON PLAN. ALL AXIAL FORCES ARE SERVICE-LEVEL (0.6 WL, 0.7 EQ). SEE SHEET PLAN & SECTIONS FOR TIE PLATES REQUIRED AT ENDS OF JOISTS WITH AXIAL FORCES.
   F. JOIST LOADS SHOWN ON PLAN DO NOT INCLUDE WEIGHTS OF MECHANICAL UNITS OR SPRINKLER MAIN LINES. GC SHALL COORDINATE FINAL MECHANICAL UNIT AND SPRINKLER MAIN SIZES, LOCATIONS, & WEIGHTS w/ JOIST MANUFACTURER PRIOR TO JOIST FABRICATION.
   G. DESIGN JOISTS FOR L/240 MAXIMUM WIND, SEISMIC, OR ROOF LIVE LOAD VERTICAL DEFLECTION, UNLESS NOTED OTHERWISE. DESIGN JOISTS FOR L/180 MAXIMUM TOTAL LOAD DEFLECTION.
   H. FABRICATE ALL JOISTS w/ SJI RECOMMENDED CAMBER, UNO.
   I. MECHANICAL UNITS (RTUS) SHOWN ON PLAN ARE ESTIMATE WEIGHTS & LOCATIONS ONLY. JOIST MANUFACTURER SHALL DESIGN THE TOP CHORD OF EACH SUPPORTING JOIST FOR 25% OF THE LOAD SPECIFIED. GC SHALL COORDINATE FINAL RTU SIZE, LOCATION, & WEIGHT w/ JOIST MANUFACTURER PRIOR TO JOIST FABRICATION. WEIGHTS ON PLAN INCLUDE A 1.2 FACTOR.
   J. PROVIDE BRIDGING AT JOISTS PER SJI
5. ALL SIMPLE SHEAR CONNECTIONS SHALL BE DESIGNED FOR A MINIMUM OF 10.0k (LRFD) UNO ON PLAN.
6. DECKING IS TO BE CONTINUOUSLY SUPPORTED AT EACH END OF DECK SPAN.
7. DOORS AND WINDOWS ARE SHOWN IN APPROXIMATE LOCATIONS, SEE ARCHITECTURAL DRAWINGS FOR EXACT LOCATIONS.
8. SPRINKLER MAINS SHALL BE INSTALLED AT THE SPECIFIC LOCATIONS SHOWN ON THE FIRE PROTECTION DRAWINGS.
9. SEE SHEET S321 FOR METAL DECK CONNECTION PLAN & SCHEDULE.
10. SEE SHEET S301 FOR TYPICAL FRAMING DETAILS.
11. ALL LOADS, FORCES, & MOMENTS ARE ULTIMATE LEVEL (LRFD) UNLESS NOTED OTHERWISE.
12. MECHANICAL EQUIPMENT SIZES, LOCATIONS, AND WEIGHTS SHOWN ARE BASIS OF DESIGN. CONTRACTOR SHALL CONFIRM FINAL WEIGHTS DO NOT EXCEED THE VALUES INDICATED AND SHALL COORDINATE SUPPORTING STEEL LOCATIONS BASED ON THE FINAL UNIT SIZES AND MECHANICAL CURB DETAIL. PROVIDE COORDINATED FRAMING LOCATION DIMENSIONS ON SUBMITTED SHOP DRAWINGS FOR REVIEW BY EOR
13. SEE TYPICAL ROOF MECHANICAL UNIT SUPPORT DETAILS FOR ADDITIONAL FRAMING REQUIRED AT UNITS.



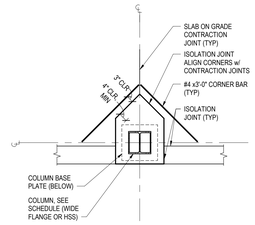
SLAB ON GRADE TYPICAL CONSTRUCTION JOINT
NTS



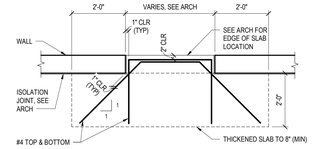
SLAB ON GRADE TYPICAL CONTRACTION JOINT
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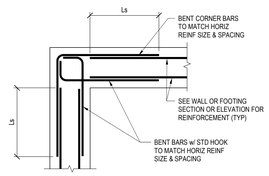
TYPICAL COLUMN BOX OUT ISOLATION JOINT
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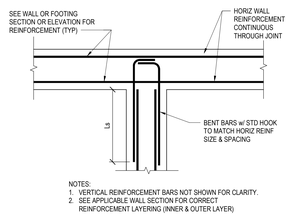
TYPICAL CONCRETE COLUMN
BOX OUT ISOLATION JOINT AT EDGE OF SLAB
NTS



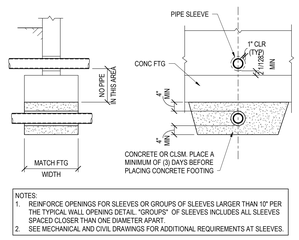
TYPICAL SLAB ON GRADE AT DOOR THRESHOLD
NTS



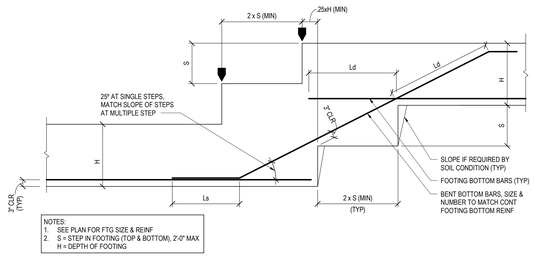
TYPICAL CONCRETE WALL & FOOTING CORNER
REINFORCEMENT DETAIL
AT DOUBLE CURTAIN OF STEEL
NTS



TYPICAL CONCRETE WALL & FOOTING
INTERSECTION
REINFORCEMENT DETAIL
AT DOUBLE CURTAIN OF STEEL
NTS



TYPICAL PIPE SLEEVE THROUGH STRIP FOOTING
NTS



TYPICAL STEP IN FOOTING
NTS

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CONSULTANT

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PROJECT TITLE

Q39 (SHELL)
LEE'S SUMMIT, MO
OLDHAM VILLAGE

PROJECT NUMBER
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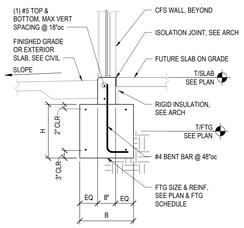
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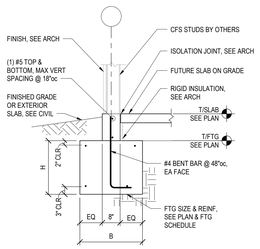
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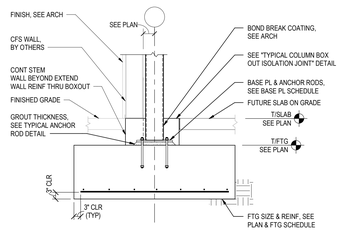
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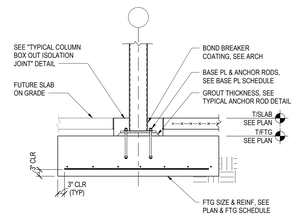
SECTION 1 / 1/2" = 1'-0" / S211



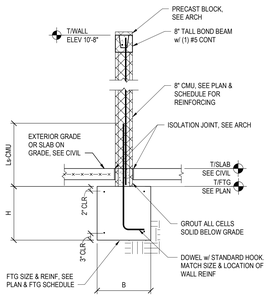
SECTION 2 / 1/2" = 1'-0" / S211



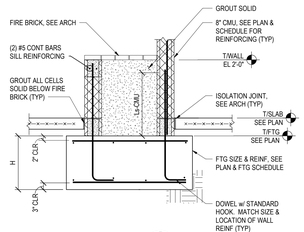
SECTION 3 / 1/2" = 1'-0" / S211



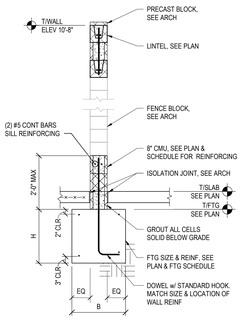
SECTION 4 / 1/2" = 1'-0" / S211



SECTION 5 / 1/2" = 1'-0" / S211



SECTION 6 / 1/2" = 1'-0" / S211



SECTION 7 / 1/2" = 1'-0" / S211

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SHEET NAME

FOUNDATION
DETAILS & SECTIONS

SHEET NUMBER

S211

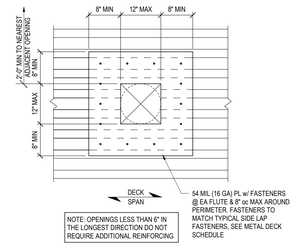
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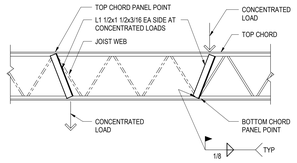
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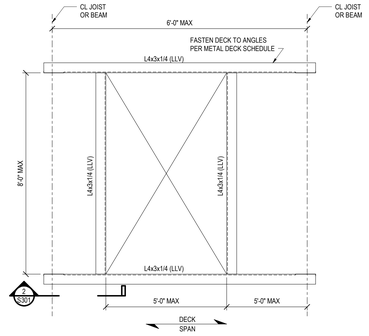
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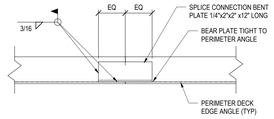
TYPICAL SMALL ROOF DECK OPENING DETAIL
FOR OPENINGS ≤ 12"
NTS



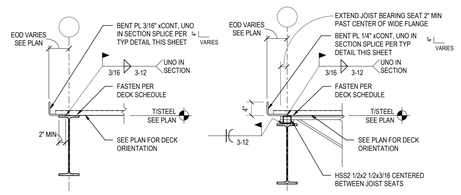
TYPICAL SUPPORT OF CONCENTRATED
LOADS NOT AT JOIST PANEL POINTS
NTS



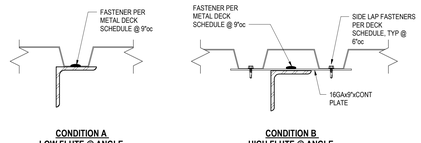
TYPICAL LARGE ROOF DECK OPENING DETAIL
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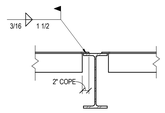
TYPICAL DECK ANGLE SPLICE DETAIL
NTS



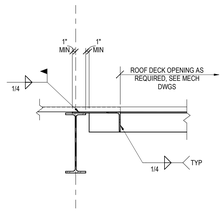
TYPICAL EDGE OF ROOF DECK DETAIL
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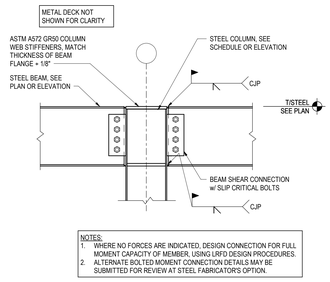
SECTION 1 / S301
NTS



TYPICAL ANGLE TO BEAM CONNECTION
NTS

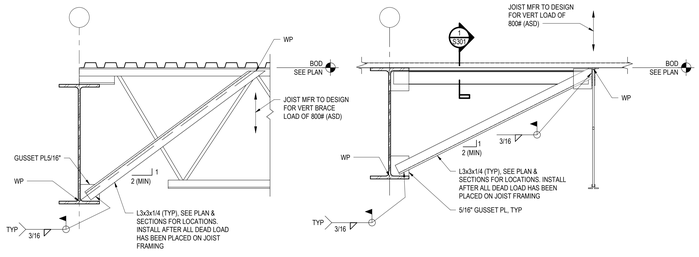


SECTION 2 / S301
NTS



NOTES:
1. WHERE NO FORCES ARE INDICATED, DESIGN CONNECTION FOR FULL MOMENT CAPACITY OF MEMBER, USING LRFD DESIGN PROCEDURES.
2. ALTERNATE BOLTED MOMENT CONNECTION DETAILS MAY BE SUBMITTED FOR REVIEW AT STEEL FABRICATORS OPTION.

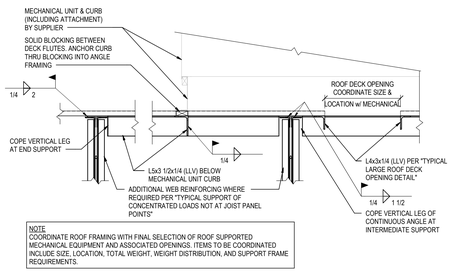
TYPICAL BEAM TO COLUMN MOMENT
CONNECTION (WELDED)
3/4" = 1'-0"



JOISTS PERPENDICULAR TO BEAM

JOISTS PARALLEL TO BEAM

TYPICAL BEAM BOTTOM FLANGE BRACING
DETAIL AT ROOF
3/4" = 1'-0"



NOTE
COORDINATE ROOF FRAMING WITH FINAL SELECTION OF ROOF SUPPORTED MECHANICAL EQUIPMENT AND ASSOCIATED OPENINGS. ITEMS TO BE COORDINATED INCLUDE SIZE, LOCATION, TOTAL WEIGHT, WEIGHT DISTRIBUTION, AND SUPPORT FRAME REQUIREMENTS.

TYPICAL ROOF MECHANICAL UNIT SUPPORT -
CURB ON DECK
3/4" = 1'-0"

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CONSULTANT

CLIENT

PROJECT TITLE

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LEE'S SUMMIT, MO
OLDHAM VILLAGE

PROJECT NUMBER
62910099

PROJECT MANAGER	DRAWN BY	CHECKED BY
DDA	GJB	

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TYPICAL FRAMING
DETAILS & SECTIONS

SHEET NUMBER

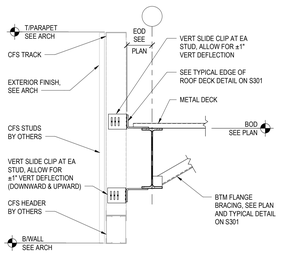
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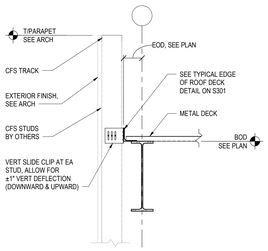
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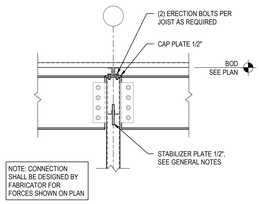
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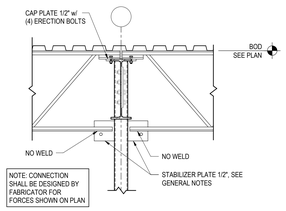
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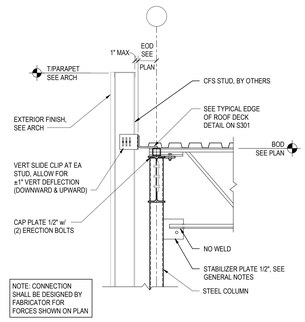
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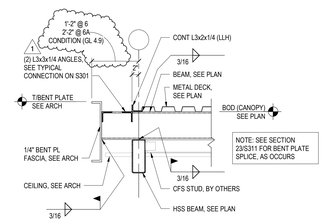
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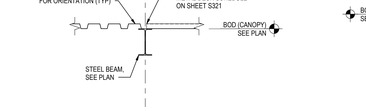
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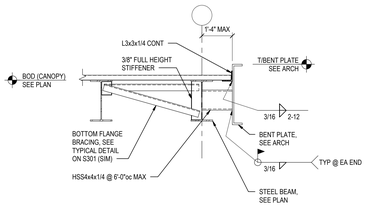
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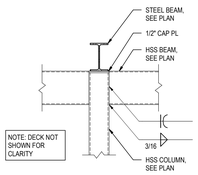
SECTION 6 6A / 3/4" = 1'-0" / S311 S311



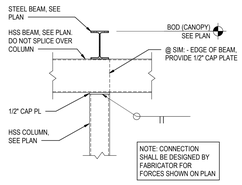
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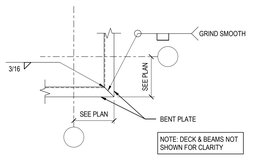
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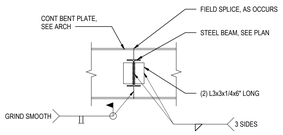
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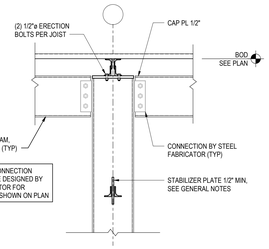
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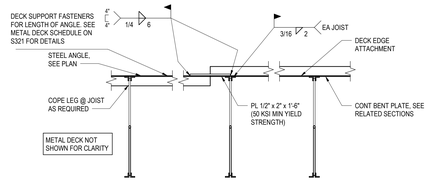
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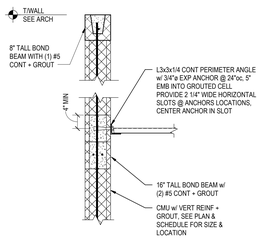
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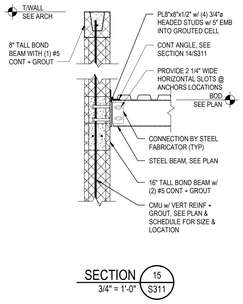
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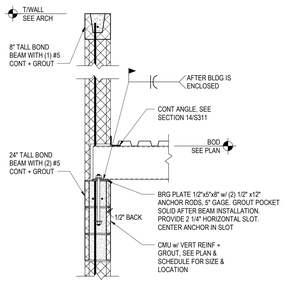
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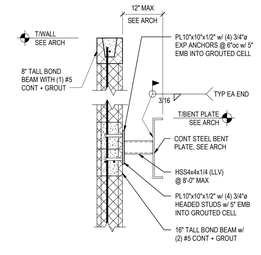
SECTION 14 / 3/4" = 1'-0" / S311



SECTION 15 / 3/4" = 1'-0" / S311



SECTION 16 / 3/4" = 1'-0" / S311



SECTION 17 / 3/4" = 1'-0" / S311

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SECTION 9 / 3/4" = 1'-0" / S311

1

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CONSULTANT

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LEE'S SUMMIT, MO
OLDHAM VILLAGE

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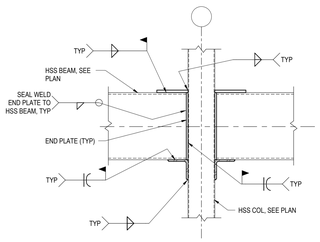
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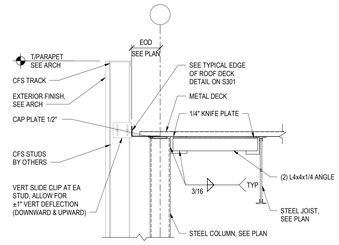
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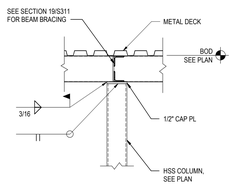
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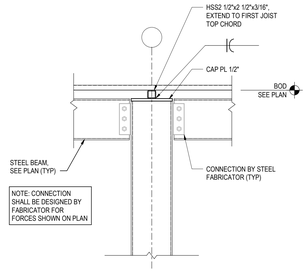
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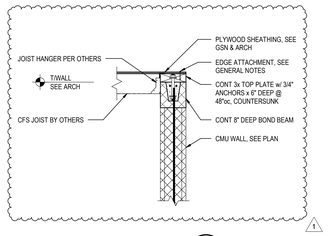
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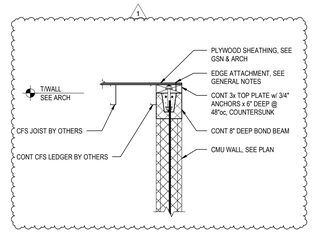
SECTION 3 / S312
3/4" = 1'-0"



SECTION 4 / S312
3/4" = 1'-0"



SECTION 5 / S312
3/4" = 1'-0"



SECTION 6 / S312
3/4" = 1'-0"

SECTION 7 / S312
3/4" = 1'-0"

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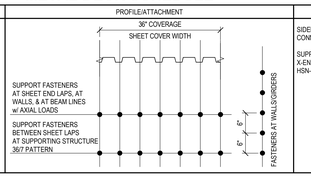
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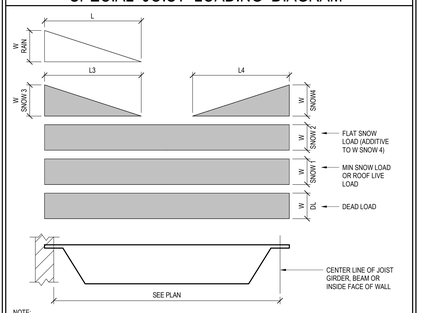
Schaefer Project Number: 24-1921

METAL DECK SCHEDULE

MARK	SIZE/PROPERTIES	PROFILE/ATTACHMENT	FASTENERS
D-1	TYPE : 1 1/2" WIDE RIB ROOF DECK GA: 22 GA F_y (MIN): 50 KSI FINISH: GALVANIZED		SIDELAP: MIN (4) #10 SDS CONNECTIONS PER SPAN SUPPORT FASTENERS: HILTI X-ENP-19 PAF OR HILTI X-HSN-24, SEE NOTE BELOW

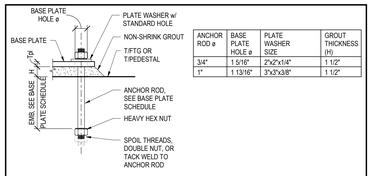
NOTE: GC TO COORDINATE DECK SUPPORT FASTENERS BASED ON SUPPORT MEMBER THICKNESS:
SUPPORT MEMBER THICKNESS 1/8" TO 3/8" THICK: HILTI X-HSN-24
SUPPORT MEMBER THICKNESS ≥ 1/4" THICK: HILTI X-ENP-19

SPECIAL JOIST LOADING DIAGRAM



NOTE:
1. JOISTS SHALL BE DESIGNED IN ACCORDANCE WITH THE APPROPRIATE LOAD COMBINATIONS PER THE REFERENCED BUILDING CODE. SEE NET UPLIFT PLAN THIS SHEET FOR DESIGN NET UPLIFT DUE TO WIND.
2. SNOW 1 DOES NOT ACT SIMULTANEOUSLY WITH SNOW 2 OR SNOW 3. SNOW 2 AND SNOW 3 OCCUR SIMULTANEOUSLY.
3. SNOW AND RAIN LOADS DO NOT ACT SIMULTANEOUSLY.
4. JOISTS WITH RAIN LOADS HAVE BEEN DESIGNED FOR 7?" OF PONDED WATER RUNNING PARALLEL TO THE JOIST SPANS AND LOCATED ALONG THE INSIDE FACE OF PERIMETER WALLS, ABOVE THE ROOF MEMBRANE.
5. SEE GENERAL NOTES, FRAMING PLANS, AND/OR FRAMING SECTIONS FOR MINIMUM ROLLOVER AND TOP CHORD AXIAL DEMANDS.
6. IF THE SNOW DRIFT WIDTH (L3) OR RAIN LOAD WIDTH (W RAIN) EXCEEDS THE LENGTH OF THE JOIST, THEN THERE SHALL BE A TRUNCATED SNOW DRIFT LOAD APPLIED TO THE END OF THE JOIST.

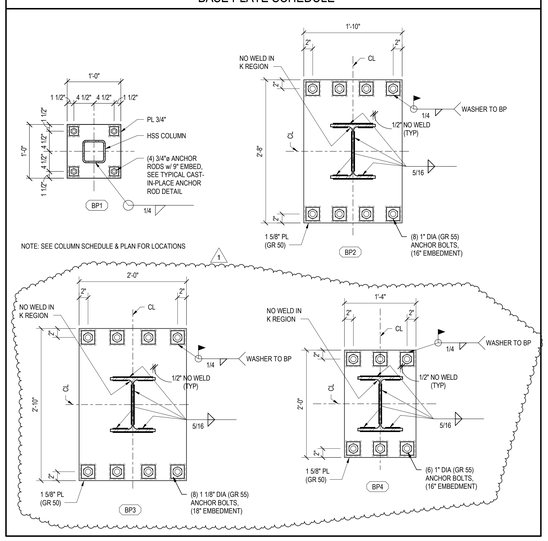
JOIST MARK	W DL (PLF)	W SNOW 1 (PLF)	W SNOW 2 (PLF)	W SNOW 3 (PLF)	SNOW L3 (FT)	W SNOW 4 (PLF)	SNOW L4 (FT)	W RAIN (PLF)	RAIN L (FT)	Imin (in^4)
28KSP1	86	96	114	181	8'-6"	98	5'-0"	-	-	-
28KSP2	123	138	96	242	8'-6"	-	-	-	-	-
28KSP3	86	114	68	172	8'-6"	-	-	-	-	-
30KSP1	100	110	77	195	8'-6"	148	6'-0"			
30KSP2	89	99	69	174	8'-6"	-	-	-	-	-
30KSP3	95	186	74	44	2'-0"	-	-	-	-	-
30KSP4	112	124	87	218	8'-6"	-	-	-	-	-
30KSP5	100	110	77	195	8'-6"	-	-	-	-	-



ANCHOR ROD ø	BASE PLATE HOLE ø	PLATE WASHER SIZE	GROUT THICKNESS (H)
3/4"	1 5/16"	2"x2"x1/4"	1 1/2"
1"	1 13/16"	3"x3"x3/8"	1 1/2"

TYPICAL CAST-IN-PLACE ANCHOR ROD DETAIL

BASE PLATE SCHEDULE



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Schaefer Project Number: 24-1921

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CONSULTANT

CLIENT

PROJECT TITLE

Q39 (SHELL)
LEE'S SUMMIT, MO
OLDHAM VILLAGE

PROJECT NUMBER
62910099

PROJECT MANAGER	DRAWN BY	CHECKED BY
DDA	GJB	

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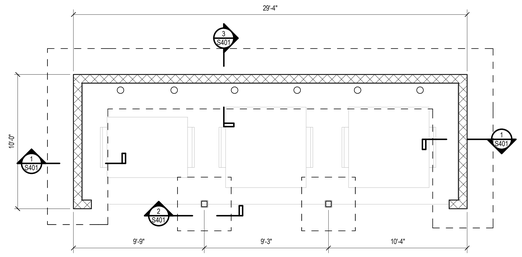
NUMBER	DATE	DESCRIPTION
0	05/01/25	ORIGINAL ISSUE
1	06/20/25	ADDENDUM 1

SHEET NAME

STEEL SCHEDULES

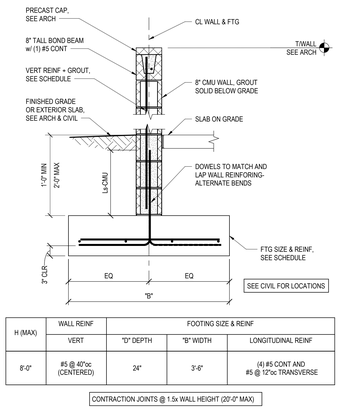
SHEET NUMBER

S321



TRASH ENCLOSURE
1/4" = 1'-0"

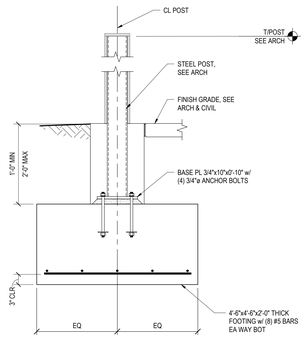
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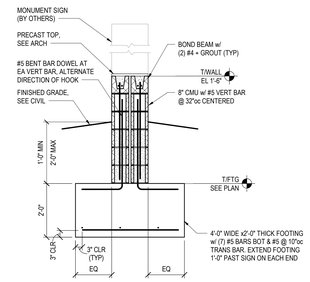
H (MAX)	WALL REINF	FOOTING SIZE & REINF		
	VERT	"D" DEPTH	"B" WIDTH	LONGITUDINAL REINF
8'-0"	#5 @ 40"oc (CENTERED)	24"	3'-6"	(4) #5 CONT AND #5 @ 12"oc TRANSVERSE

CONTRACTION JOINTS @ 1.5x WALL HEIGHT (20'-0" MAX)

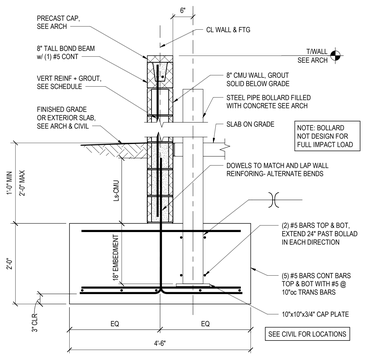
TYPICAL FREE-STANDING MASONRY WALL DETAIL
3/4" = 1'-0"
1 / S401



SECTION
3/4" = 1'-0"
2 / S401



MONUMENT SIGN DETAIL
NTS



SECTION
3/4" = 1'-0"
3 / S401

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NUMBER	DATE	DESCRIPTION
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SITE DETAILS

SHEET NUMBER

S401

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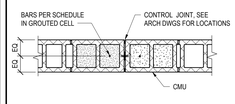
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TYPICAL CMU REINFORCING PLAN DETAILS

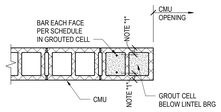


TYPICAL VERTICAL BAR CENTERED
DETAIL A/S-x

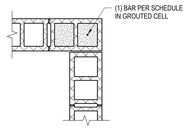
TYPICAL VERTICAL BAR EACH FACE
DETAIL B/S-x



TYPICAL VERTICAL BARS @
CONTROL JOINTS (MIN, UNO)



TYPICAL VERTICAL BARS ON EACH
SIDE OF OPENINGS (MIN, UNO)



TYPICAL VERTICAL BARS
@ CORNERS (MIN, UNO)

NOTES:
1. 8" CMU : 2 3/8" MAX (BUT MAINTAIN MIN 1/2" CLEAR BETWEEN BAR & FACE SHELL).
   12" CMU : 2 5/8" MAX (BUT MAINTAIN MIN 1/2" CLEAR BETWEEN BAR & FACE SHELL).

CMU WALL REINFORCING SCHEDULE

Wx	CMU SIZE	TYPICAL VERTICAL REINFORCING
W1	8	(1) #5 @ 48"oc w/ 8" DEEP HORIZ BOND BEAMS @ 48" (PROVIDE (1) #5 HORIZ BAR)
W2	8	(1) #5 @ 8"oc

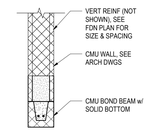
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NOTES:
1. "Wx" - INDICATES VERTICAL WALL REINFORCING.
2. SOLID GROUT ALL CELLS CONTAINING REINFORCING.
3. REINFORCING TO BE PLACED IN CENTER OF GROUTED CELL UNLESS NOTED OTHERWISE.
4. EXTEND REINFORCING FROM PLAN LEVEL SHOWN DOWN TO LEVEL BELOW AND LAP PER SCHEDULE IN MASONRY SECTION OF GENERAL STRUCTURAL NOTES. EXTEND DOWEL OR BENT BAR OUT OF CONCRETE WALL OR FOOTING TO PROVIDE LAP WITH EACH CMU VERTICAL REINFORCING BAR
5. ALL WALLS NOT NOTED WITH "Wx" ON PLAN, USE WALL REINFORCEMENT MARK W1.

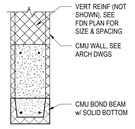
CMU LINTEL SCHEDULE

Lx	DETAIL	DESCRIPTION	REMARKS
L1	B/S501	24" DEEP BOND BEAM w/ (2) #5 BARS TOP & BOT	
L2	A/S501	16" DEEP BOND BEAM w/ (2) #5	

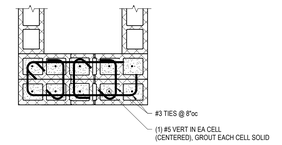
NOTES:
1. PROVIDE 24" BEARING EACH END OF LINTEL, UNO.
2. CENTER LINTEL UNDER CMU, UNO IN PLAN OR SECTION.



DETAIL A S501
NTS

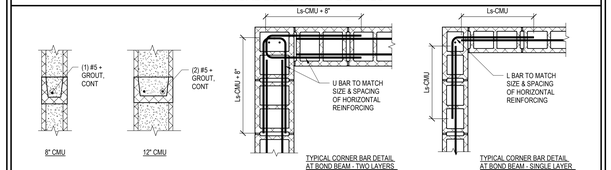


DETAIL B S501
NTS



END PIER REINFORCING 1 S501
3/4" = 1'-0"

TYPICAL BOND BEAM DETAILS



CMU WALL KEYNOTES:
1. SEE LINTEL SCHEDULE FOR LINTELS ABOVE OPENINGS. SEE PLAN FOR LINTEL MARKS.
2. PROVIDE (1) #5 SILL REINFORCING AT OPENINGS.
3. FOR JAMB REINFORCING AT OPENINGS, SEE DETAIL CALLED OUT ON PLAN OR "TYPICAL VERTICAL BARS ON EACH SIDE OF OPENINGS" ON THIS DRAWING.
4. SEE RELATING WALL SECTIONS AND ELEVATIONS FOR BOND BEAM LOCATIONS AND REINFORCING.
5. SEE CMU WALL REINFORCING SCHEDULE FOR LAP SPLICE LENGTH.
6. EXTEND HORIZONTAL REINFORCING THE GREATER OF 24 INCHES OR 40 BAR DIAMETERS BEYOND FACE OF OPENING.
   A. WHERE BARS ARE UNABLE TO EXTEND FULL LENGTH, TERMINATE BARS WITH STANDARD HOOK.
7. AT OPENINGS IN EXTERIOR WALLS, EXTEND VERTCAL REINFORCING TO TOP OF WALL. AT OPENINGS IN INTERIOR WALLS, EXTEND VERTICAL REINFORCING BEYOND FLOOR ABOVE EQUAL TO VERTICAL SPLICE LENGTH OR TO TOP OF WALL.
8. TYPICAL WALL REINFORCING ABOVE OPENINGS HAVE CORNER BARS (30 Db EA LEG) LAPPED AND TIED WITH HORIZONTAL LINTEL REINFORCING.
9. SEE FOUNDATION PLANS FOR CONTROL JOINT LOCATIONS AND "TYPICAL VERTICAL BARS @ CONTROL JOINTS" DETAIL ON THIS DRAWING.

TYPICAL WALL NOTES:
- TYPICAL WALL REINFORCING NOT SHOWN FOR CLARITY. SEE PLAN FOR MARKS AND SCHEDULE FOR TYPICAL GROUT, REINFORCING SIZE AND SPACING.

TYPICAL MASONRY ELEVATION
NTS

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OLDHAM VILLAGE

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PROJECT MANAGER	DRAWN BY	CHECKED BY
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STATE OF MISSOURI
JOHN DAY ASHBAUGH
NUMBER
PE-2007016054
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1	06/20/25	ADDENDUM 1

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MASONRY SCHEDULES AND DETAILS

SHEET NUMBER
S501

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FLOOR PLAN NOTES

(M)

M03 PROVIDE TEMPORARY THERMOSTAT FOR UNIT STARTUP. HANG THERMOSTAT IN SPACE AT 48" ABOVE FINISHED FLOOR. PROVIDE WITH 100' LONG COIL OF CONTROL WIRE FOR FUTURE PERMANENT THERMOSTAT INSTALLATION.

M04 PROVIDE UNIT HEATER. MOUNT TO WALL AT 8'-0" ABOVE FINISHED FLOOR.

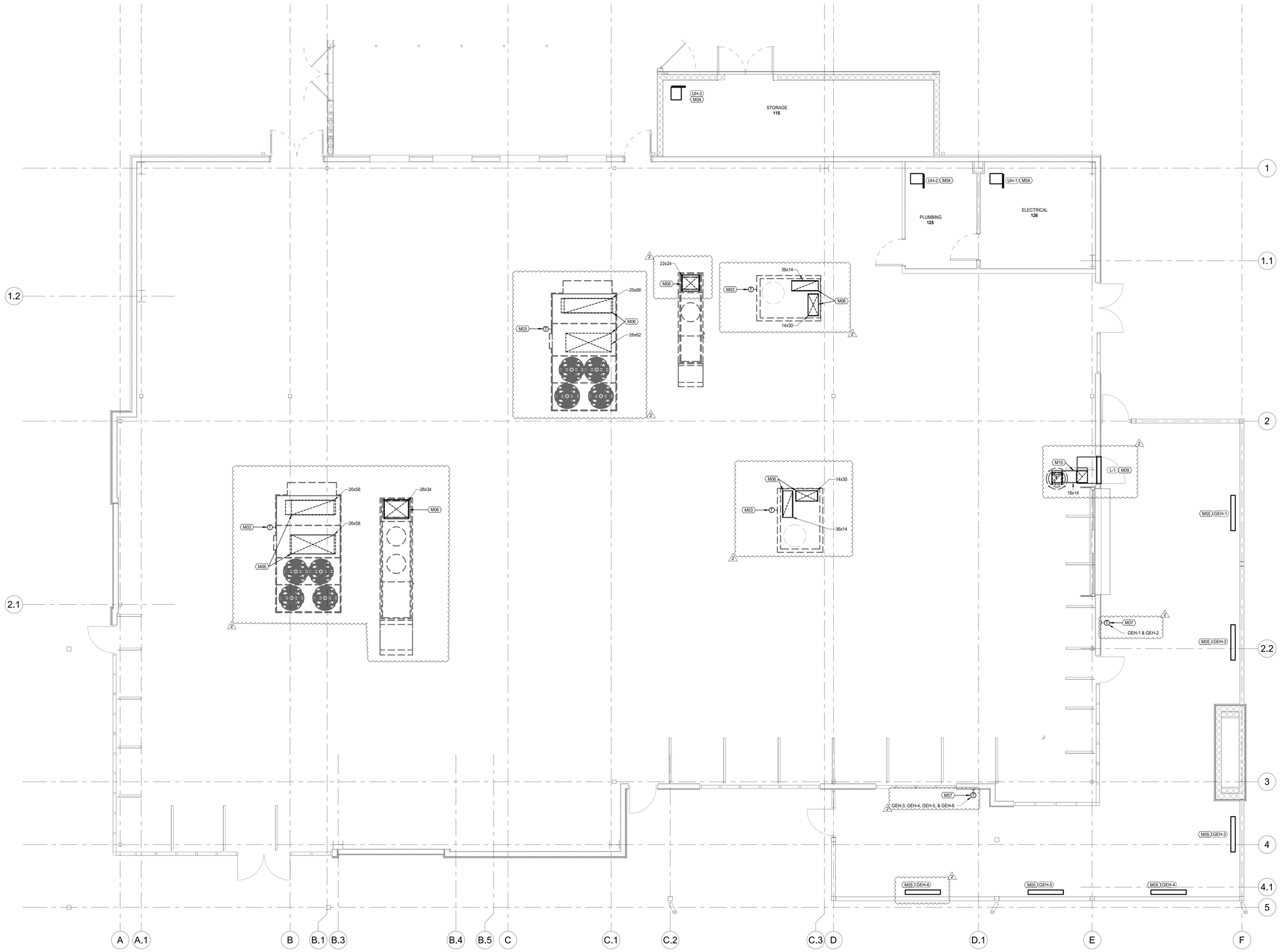
M05 PROVIDE GAS FIRED RADIANT HEATER. SUSPEND FROM CEILING ABOVE USING BRACKETS FURNISHED WITH HEATER. MOUNT WITH HEAT SHIELD 18" BELOW CEILING. MAINTAIN MANUFACTURER'S RECOMMENDED CLEARANCES TO COMBUSTIBLES.

M06 TRANSITION FROM ROOFTOP UNIT CONNECTION TO DUCT SIZE SHOWN AND EXTEND DOWN 18" BELOW ROOF DECK AND TERMINATE OPEN.

M07 INSTALL THERMOSTAT FURNISHED WITH RADIANT HEATERS. MOUNT THERMOSTAT AT 48" ABOVE FINISHED FLOOR. COORDINATE EXACT LOCATION WITH OWNER. PROVIDE CLEAR ACRYLIC LOCKABLE COVER OVER THERMOSTAT. HEATER OPERATION SHALL BE ENABLED/SCHEDULED VIA ELECTRICAL RELAY PANEL. REFER TO ELECTRICAL DRAWINGS FOR ADDITIONAL INFORMATION.

2 M09 PROVIDE LOUVER IN EXTERIOR WALL. MOUNT IN PLACE OF TRANSOM PANEL ABOVE DOOR. COORDINATE WITH ARCHITECTURAL ELEVATIONS. BLANK OFF BOTTOM 6 INCHES OF THE LOUVER INSIDE THE SPACE WITH SHEET METAL DUCT WITH RIGID INSULATION ON OUTSIDE THE DUCT.

M10 ROUTE DUCT AS HIGH AS POSSIBLE AND TAP INTO LOUVER DUCT FROM THE TOP.



TRUE

FLOOR PLAN - MECHANICAL

SCALE: 1/4" = 1'-0"

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L|F+a Project No. 25.7674.00

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OLDHAM VILLAGE

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0	05/01/25	ORIGINAL ISSUE
1	06/20/25	ADDENDUM 1
2	10/15/25	ADDENDUM 2

SHEET NAME

FLOOR PLAN - MECHANICAL

SHEET NUMBER

M100

FLOOR PLAN NOTES

M

M01 PROVIDE ROOFTOP UNIT AND ROOF CURB. INSTALL UNIT ON CURB PER THE MANUFACTURER'S REQUIREMENTS. PROVIDE FLEXIBLE DUCT CONNECTIONS AND CONDENSATE TRAP PER DETAIL.

M02 PROVIDE MAKE-UP AIR UNIT AND ROOF CURB. INSTALL UNIT ON CURB PER THE MANUFACTURER'S REQUIREMENTS. PROVIDE FLEXIBLE DUCT CONNECTIONS AND CONDENSATE TRAP PER DETAIL.

2 M08 PROVIDE ROOF MOUNTED EXHAUST FAN AND CURB. FAN OPERATION SHALL BE CONTROLLED/SCHEDULED VIA ELECTRICAL RELAY PANEL TO OPERATE WHEN RADIANT HEATERS ARE ENABLED. REFER TO ELECTRICAL DRAWINGS FOR ADDITIONAL INFORMATION.



ROOF PLAN - MECHANICAL

SCALE: 1/4" = 1'-0"

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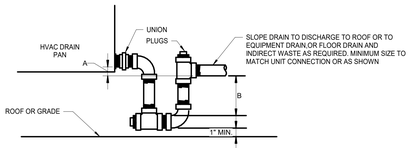
SHEET NAME

ROOF PLAN - MECHANICAL

SHEET NUMBER

M200

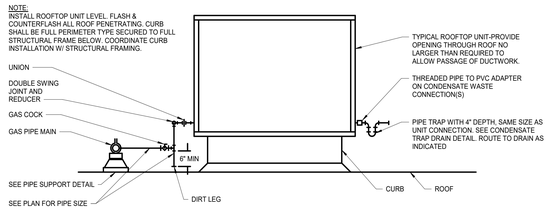
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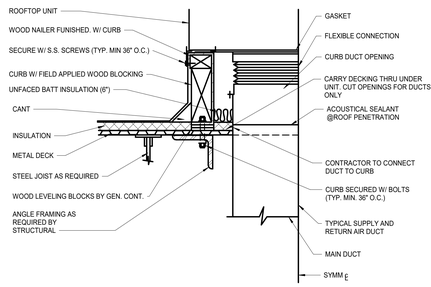
	DIM. "A"	DIM. "B"
BLOW THRU COIL	1"	FAN DISCHARGE STATIC PRESSURE + 1"
DRAW THRU COIL	FAN SUCTION STATIC PRESSURE + 1"	2 1/2"

NOTE: MINIMUM "A" OR "B" DIMENSION SHALL BE NOT LESS THAN 1".

DRAINABLE HVAC CONDENSATE TRAP DETAIL
NOT TO SCALE



ROOFTOP UNIT CONNECTIONS DETAIL
NOT TO SCALE



ROOF TOP UNIT CURB AND DUCT DETAIL
NOT TO SCALE

GENERAL NOTES (TYPICAL ALL SHEETS)

A. MECHANICAL CONTRACTOR IS RESPONSIBLE TO SEE THAT WORK MEETS AND IS IN ACCORDANCE WITH ALL REQUIREMENTS OF FEDERAL, STATE, AND LOCAL LAWS AND CODES AND/OR REQUIREMENTS, INCLUDING HEALTH CODES AND BUILDING OWNER.

B. CUTTING AND PATCHING OF FLOORS, WALLS, CEILING, ETC., REQUIRED IN STRICT ACCORDANCE WITH THE RULES AND REGULATIONS OF THE ARCHITECT'S AND/OR BUILDING OWNER REQUIREMENTS.

C. COORDINATE ALL WORK WITH OTHER TRADES PRIOR TO INSTALLATION TO AVOID ROUTING CONFLICTS.

D. MECHANICAL CONTRACTOR SHALL PROVIDE NEW FILTERS ON ALL AIR HANDLING EQUIPMENT PRIOR TO BALANCING. PROVIDE TEMPORARY FILTERS ON RETURN AIR OPENINGS DURING CONSTRUCTION.

E. INSTALL ELASTOMERIC JOINT SEALER AROUND ALL DUCTS, PIPES, ETC. PASSING THRU INTERIOR NON-RATED CONCRETE AND MASONRY WALLS, GYPSUM-BOARD PARTITIONS, AND CONCRETE FLOOR/ROOF SLABS. FOR FIRE RATED INTERIOR CONCRETE AND MASONRY WALLS, GYPSUM-BOARD PARTITIONS, AND CONCRETE FLOOR/ROOF SLABS SEAL ALL DUCTS, PIPES, ETC. INSTALL FIRESTOP MATERIALS IN ALL GAPS PRIOR TO SEALANT APPLICATION. INSTALL SEALER ACCORDING TO MANUFACTURER'S WRITTEN INSTRUCTIONS.

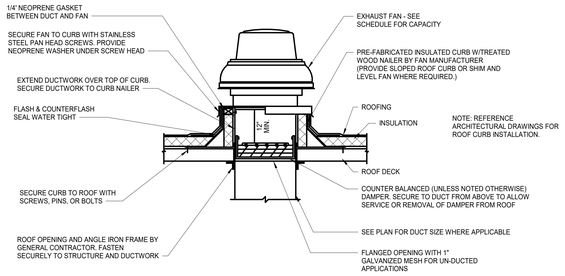
F. UPON REQUEST FOR ELECTRONIC FILES, CONTRACTOR SHALL FILL OUT, SIGN AND RETURN ELECTRONIC MEDIA RELEASE FORM FROM ENGINEER AND PROVIDE PAYMENT FOR FEES STIPULATED ON ELECTRONIC MEDIA RELEASE FORM. UPON RECEIPT OF COMPLETED RELEASE FORM AND PAYMENT, ELECTRONIC FILES WILL BE RELEASED.

G. ALL CABLE TIES FOR LOW VOLTAGE SYSTEMS LOCATED IN PLENUMS UTILIZED FOR AIR MOVEMENT THAT ARE NOT INSTALLED IN CONDUIT SHALL BE 25/50 FLAME AND SMOKE RATED, HELLERMANN TYTON TSORC2UL OR EQUIVALENT.

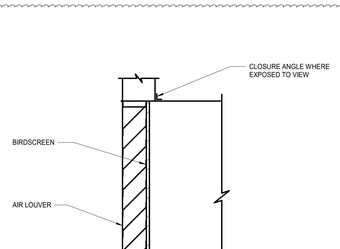
H. THERMOSTAT COVERS SHALL BE WHITE IN COLOR UNLESS OTHERWISE NOTED. THERMOSTATS/SENSORS SHALL BE INSTALLED AND CALIBRATED PRIOR TO TEST AND BALANCE.

FIRE STOPPING REQUIREMENTS

CONTRACTOR TO PROVIDE FIRESTOPPING AT ALL FIRE RATED ASSEMBLIES MEETING THE MANUFACTURER'S FIRESTOPPING U.L. LISTED DETAILS AND INSTRUCTIONS PER LOCAL CODES AND JURISDICTIONS. CONTRACTOR IS RESPONSIBLE FOR COORDINATING LOCATIONS WITH ARCHITECTURAL FIRE RATINGS ON PLANS OR AS REQUIRED.



ROOF MOUNTED EXHAUST FAN DETAIL
NOT TO SCALE



LOUVER DETAIL
NOT TO SCALE

MECHANICAL SYMBOLS

- NEW DUCTWORK
- SUPPLY DUCT
- RETURN DUCT
- EXHAUST DUCT
- SUPPLY DIFFUSER
- RETURN GRILLE
- SUPPLY DUCT DOWN
- SUPPLY DUCT UP
- RETURN DUCT DOWN
- RETURN DUCT UP
- EXHAUST DUCT DOWN
- EXHAUST DUCT UP
- THERMOSTAT
- EQUIPMENT TYPE AND DESIGNATION
- TYPE MARK: (S_) SUPPLY, (R_) RETURN, (E_) EXHAUST DIFFUSER OR GRILLE TYPE MARK AND CFM
- CFM
- CONNECT TO EXISTING

LOUVER SCHEDULE

MARK NO.	MANUFACTURER	MODEL	AIRFLOW (CFM)	WIDTH (IN.)	HEIGHT (IN.)	FREE AREA (FT.)	MAXIMUM S.P. DROP	COLOR	NOTES
L-1	GREENHECK	ESD-635	1225	36	27	3.37	0.05	NOTE 3	1,2,3

NOTES:
1. PROVIDE WITH BIRDSCREEN.
2. COORDINATE LOUVER SIZE AND JAMB WITH ARCHITECT. CONTRACTOR TO VERIFY SIZE OF OPENINGS AND FIELD MEASURE PRIOR TO ORDERING LOUVERS.
3. COLOR AND FINISH TO BE SELECTED BY ARCHITECT.

RELEASED FOR CONSTRUCTION
As Noted on Plans Review
Development Services Department
Lee's Summit, Missouri
10/23/2025

ARCHITECT OF RECORD

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SUITE 300
OVERLAND PARK, KS 66204
WWW.BRRARCH.COM
TEL: 913-262-9096
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CONSULTANT

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L/F Project No. 25.7636.00

CLIENT

PROJECT TITLE

Q39 (SHELL)
LEE'S SUMMIT, MO
OLDHAM VILLAGE

PROJECT NUMBER
62910099

PROJECT MANAGER	DRAWN BY	CHECKED BY
AVM	EDG	

PROFESSIONAL SEAL



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ISSUES AND REVISIONS

NUMBER	DATE	DESCRIPTION
0	05/01/25	ORIGINAL ISSUE
2	10/15/25	ADDENDUM 2

SHEET NAME

MECHANICAL DETAILS, GEN. NOTES, & SYMBOLS

SHEET NUMBER

M300

10/15/2025 12:58:23 PM

DIVISION 21, 22, 23 AND 26

GENERAL PROVISIONS

1.0 DESCRIPTION:

A. Divisions 21, 22, 23 and 26 shall be governed by all applicable provisions of the Contract Document.

B. The Contractor shall furnish, install and connect all materials, equipment, apparatuses, and incidentals required for a complete and working installation. For all systems shown and required, the Contractor shall supply all necessary labor, equipment, tools, insurance, and tax services, and shall assume full responsibility for all obligations associated with completion of work as provided by the Contract Documents.

2.0 STANDARDS, REGULATIONS AND CODES:

A. Work shall comply with the edition of the applicable standards, regulations and codes currently in force of all Federal, State and local authorities having jurisdiction. Where quantities, sizes, or other requirements indicated on the drawings or herein specified are in excess of the standard or code requirements, the specifications and/or drawings shall govern. In the absence of other applicable local codes, acceptable to the Architect/Engineer, the International Set of Codes and the National Electrical Code shall apply to this work.

B. The Contractor shall comply with rules and regulations of public utilities and municipal departments affected by connections of services. The Contractor shall pay all fees associated there with.

C. The Contractor shall be licensed to perform associated work in the municipality in which the project is located.

D. All products and types of construction shall meet or exceed the latest edition of applicable standards of manufacturer, testing, performance and installation.

E. Where indicated or required, comply with all provisions of the ADA and/or the ABA Accessibility Guidelines.

F. Where indicated or required, comply with all applicable provisions of energy and ventilation codes in force at the local jurisdiction.

3.0 GRAPHIC REPRESENTATION AND JOB CONDITIONS:

A. The Contract Documents shall serve as working drawings for the general layout of the various items of equipment; are diagrammatic unless specifically dimensioned, and do not necessarily indicate every required item. The contractor shall include all necessary components and accessories as required for a complete working system whether so specifically indicated or not.

B. Architectural and Structural drawings take precedence over all other drawings in the representation of the general construction work; any conflicts shall be resolved prior to commencing work. Failure to do so shall not be considered a basis for the granting of additional compensation.

C. Arrange work in a neat, well organized manner. Coordinate work with other trades involved, prior to commencing work. Sub-contractors shall work together to resolve any conflicts of space or routing.

4.0 GUARANTEES/WARRANTY:

A. The Contractor shall guarantee/warranty all work performed, including labor, materials and equipment furnished under this contract, against defects in materials and workmanship for a minimum period of one year from the date of the Owner's Representative Final Acceptance of the work. Provide extended warranties as noted in each section or specified for specific products.

5.0 WORKMANSHIP:

A. All work performed under this Contract shall provide a neat and "workmanlike" appearance when completed, to the satisfaction of the Owner's Representative. The complete installation shall function as designed and intended with respect to efficiency, capacity, and noise level, etc.

6.0 LOCAL CONDITIONS:

A. The Contractor shall carefully examine and become thoroughly familiar with local conditions, existing installations and all other conditions which may affect associated work. The Contractor shall locate all existing utilities and protect them during the execution of the work.

B. The Contractor shall carefully examine all contract documents including project drawings and specifications to become familiar with the type of construction, materials, and equipment to be used for all work and how it will affect the installation of this contract.

C. By the act of submitting a bid, the Contractor will be deemed to have made such examination, to have accepted such conditions, to have made allowance therefore, and included all costs in his proposal. Failure to determine existing conditions will not be considered a basis for the granting of additional compensation.

7.0 OPERATION DURING CONSTRUCTION:

A. The Contractor is responsible for the installation and operation, service and maintenance of all new equipment during construction and prior to acceptance by the Owner of the completed project. Warranty periods shall not commence until final acceptance by the Owner or Owner Representative.

B. The Contractor shall provide, at his own expense, all temporary utilities required to provide for and protect the work and as necessary to maintain an adequate work force.

C. The Contractor shall arrange for and provide, at his own expense, temporary heating and cooling as necessary for prosecution of the work. Permanent air handling, heating and cooling equipment shall not be used for temporary heating and cooling unless pre-approved by the owner or his representative.

8.0 SAFETY REGULATIONS:

A. All work shall be performed in compliance with all applicable governing safety regulations, including OSHA regulations. Provide safety lights, guards and signs required.

9.0 HOUSEKEEPING:

A. The Contractor shall be responsible for keeping stocks of material and equipment stored on the premises in a neat and orderly manner.

B. The Contactor shall clean and maintain their specific portions of the work on a daily basis or as specified in the General Conditions.

C. The Contractor shall remove from the premises all waste material present as a result of his work.

10.0 SUBSTITUTIONS:

A. Materials, products and equipment described in the Bidding Documents established a standard of quality to be met by any proposed substitution.

B. Contractor's bids shall be based on the material identified or specified in the contract documents. Any proposals for substitution shall be made in writing to the Architect/Engineer with all supporting documentation, allowing adequate time for appropriate action. The products of other manufacturers may be accepted, if in the opinion of the Architect/Engineer, the substitute material is of quality as good or better than the material specified, and will serve with equal efficiency and dependability the purpose for which the items specified were intended. The burden of proof of equality is entirely upon the proposer.

C. Refer to Division 1 requirements for additional substitution procedures.

D. Wherever substitutions alter the design or space requirements, the Contractor shall be responsible for confirming all substituted equipment and materials fit within the allocated space while maintaining code required access and clearance. He shall include all associated cost items of the revised design and of construction work required by his or other trades affected by the proposed substitution.

11.0 SHOP DRAWINGS AND PRODUCT DATA:

A. The checking of shop drawings is a gratuitous assistance and in no way relieves the Contractor of responsibility for deviations from the Contract Documents. The Contractor shall submit project shop drawings electronically in PDF format, unless indicated otherwise.

B. Shop drawings and catalog data on all major items of equipment and apparatus, and such other illustrative materials as may be considered necessary by the Owner's Representative shall be submitted by the Contractor in adequate time to prevent delay and changes during construction.

C. Refer to Architectural Documents for additional shop drawing submission procedures.

12.0 PROJECT CLOSEOUT DOCUMENTATION

A. Operating and Maintenance Brochure:

1. On completion of the project, the Contractor shall provide project manuals electronically (PDF format unless otherwise instructed) containing complete product information for all installed or provided equipment and components including cut sheets, parts lists, wiring and installation diagrams, operating, service and lubrication instructions. Provide manufacturer guarantee and warranty certificates.

B. Record Drawings:

1. On completion of the project, the Contractor shall provide record drawings with all field changes clearly and neatly noted. The original routing and layout shall be clearly marked out. References to other documents, drawings, addenda, RFI's or revise for additional information shall not be accepted.

2. The Contractor shall submit record drawings electronically in PDF format (unless otherwise instructed).

3. Refer to Architectural Documents for additional record drawing submission procedures.

13.0 SITE WORK AND CONDITIONS:

A. The Contractor shall do all necessary excavating and backfilling for the installation of associated work. After the piping or conduit has been installed, tested and approved, the trenches shall be backfilled to grade with compacted sand, gravel or AB-3 material or other material as required by local authorities. Compact to 85% density for unpaved areas, 95% density for paved area or under slabs.

B. All water bearing piping shall be 48" minimum below grade, all gas piping shall be 24" minimum below grade, unless instructed otherwise.

C. Roads, alleys, street, sidewalks and utilities damaged during this work shall be restored to the satisfaction of Owner's Representative and authorities having jurisdiction.

D. Where subsidence is measurable or observable at excavation during general project warranty period, remove surface, add backfill material, compact, and replace surface treatment. Restore appearance of surface to match adjacent work.

14.0 FOUNDATIONS AND SUPPORTS:

A. The Contractor shall provide concrete bases, hangers and foundations for all machinery and equipment specified or shown in this contract, including fans, air conditioning units, water heaters, pumps, motors, electrical gear, etc., unless specifically noted otherwise.

B. All hangers, brackets, clamps, etc., shall be of standard weight steel. Perforated strap hangers shall not be used in any work. When two (2) or more pipes or conduits are run parallel, or where ducts interfere with the proper location of hangers, they may be supported on trapeze hangers. Other hangers shall be hinged ring malleable iron, by Grinnell or Fee and Mason or approved equal with rods and hanger adjusters for adequate size to carry the loads imposed. All piping, ductwork and conduit systems shall each be independently supported from other systems and from equipment so that no weight is born by equipment.

C. The Contractor shall take all precautions against excessive noise or vibration by isolating the various items of equipment from the building structure. Provide flexible connectors where indicated and at all rotating equipment and for equipment mounted on vibration isolators.

15.0 CUTTING AND PATCHING:

A. All necessary cutting, drilling and patching shall be provided by this Contractor. Structural members shall not be disturbed without prior approval of the Structural Engineer and/or the Owner's Representative. All areas and surfaces disturbed by work performed under this Contract shall be neatly repaired and refinished to the condition of adjoining surfaces in a manner suitable to the Owner's Representative.

16.0 SLEEVES AND ESCUTCHEONS:

A. Penetrations thru walls and floors shall be as detailed.

B. Where not otherwise shown, penetrations shall conform to the following:

1. Where pipes or conduits pass through interior partitions, galvanized steel pipe sleeves or galvanized steel sheet sleeves shall be used.
2. Where pipes or conduits pass thru concrete floors and walls, walls below grade or exterior walls and slabs on grade, cast iron or steel pipe sleeves shall be used.

C. Sleeves through interior non-rated walls, including walls indicated as sound partitions, shall be packed with fiberglass or mineral wool and caulked.

D. Sleeves below grade, in exterior walls or thru slabs on grade shall have mechanical link seals, Thunder line or acceptable equivalent.

E. Penetrations of fire rated construction shall be made with a UL listed fire penetration assembly suitable for the rating at each location. Where required, sleeves through fire rated structure shall be fire barrier caulked with putty strip or sheet by 3M, Hilti or acceptable equal.

F. Provide steel (dry locations) or brass (damp locations) escutcheons to completely cover pipe penetration holes in floors, walls, or ceilings. Provide pipe escutcheons with nickel or chrome finish for occupied areas, prime paint finish for unoccupied areas, brass for exterior.

17.0 MOTORS, CONTROLS AND FIRE ALARM INTERFACE:

A. All motors furnished under this specification shall be recognized manufacturer and of adequate capacity for the loads involved. All motors shall conform to the standards of manufacturer and performance of the National Electrical Manufacturers Association as shown in their latest publications.

B. All motors 3/4 hp and above shall be high efficiency. Provide ECM motors where indicated. Any motor indicated for use with Variable Frequency Drives (VFD) shall be specifically designed for compatibility.

C. Disconnects and motor starters for equipment shall be by the Electrical Contractor unless furnished integral with the equipment or as otherwise indicated. Installation shall be by the Electrical Contractor except for devices factory installed and shipped with equipment. Provide manual or magnetic starters with necessary auxiliary contacts to accomplish the specified or required sequence of operation.

D. All temperature controls unless noted otherwise shall be the responsibility of the Mechanical Contractor.

E. If no sequence of operation is included, submit a proposed sequence to the Engineer for approval.

F. All fire alarm devices including duct smoke detector and shut down/interlock wiring shall be the responsibility of the Electrical or Fire Alarm Contractor otherwise noted.

18.0 PIPING IN ELECTRICAL ROOMS:

A. No piping except specifically noted otherwise will be permitted in Electrical Rooms or Data Rooms including Server Rooms and IT Closets. In rooms where piping is indicated over or near electrical equipment, a suitable galvanized sheet metal pan or gutter piped to the drainage system shall be provided.

END OF SECTION

HEATING, VENTILATION AND AIR CONDITIONING

1.0 SCOPE:

A. The work included under this contract consists of providing all labor, materials, tools, transportation, services, etc., necessary to complete the installation of the heating, ventilating, and air conditioning systems and other items herein listed and as described in these specifications, as illustrated in the accompanying drawings or as directed by the Architect/Engineer.

2.0 SHEET METAL:

A. Ductwork shall be new prime grade galvanized steel sheets constructed per ASHRAE and SMACNA Standards. Duct system(s) installed shall be in accordance with SMACNA Duct Construction Standards Manual and industry standards. Provide round or rectangular duct as indicated.

1. Provide Duct System(s), including all necessary components such as dampers, turning vanes, offsets and takeoffs, etc. required by the project (whether shown or not), which shall be fabricated and installed for maximum efficiency and to minimize pressure drops and objectionable sound and to provide for complete system balancing.
2. All duct sizes shown are free area size and do not include liner.

B. Fabricate for the pressure and SMACNA seal class required by the application.

Leakage class minimum requirements are:

1. Up thru 2" WG pressure – rectangular – Class 24, round - Class 12.

Seal class minimum requirements are:

1. Up thru 2" WG pressure - class A for all duct joints.

C. Duct Sealants

1. Duct sealant shall have 25/50 flame and smoke rating with a static pressure class of 10" WG, mold and mildew resistant. Sealant shall be installed per manufacturer instructions.
2. Sealant for concealed ductwork shall be an externally applied solvent or water based joint and seam sealant with or without tape.
3. Ductwork exposed to view shall be sealed with clear silicone or have gasketed joints. Exposed rectangular flanged duct joints shall have gasketed joints. Exposed round ducts shall have joints with EPDM seals in groove, O-ring seals or flanged with neoprene gaskets. Where sealant beads are used, they shall be minimized or concealed, smooth and uniform with any excess sealant trimmed flush with duct and removed.
4. Spiral lock seams and gasketed duct joints are exempted from other sealant requirements.

D. Duct Finishes

1. Concealed ductwork shall be manufacturer's standard mill finished.
2. Ductwork that is indicated or required to be field painted shall have paint grip finish.
3. Ductwork that will remain exposed to view shall be furnished without marks, markers, shipping, identification or other tags located on exterior duct surfaces, no exceptions. Any ductwork so installed shall be removed at contractor expense. Protect exposed ductwork from dents, scratches or other damage during construction. Wipe down and thoroughly clean all exposed duct, fittings and accessories.

E. Round or oval duct shall be factory built of galvanized steel, suitable for pressure class required or indicated. Snap lock duct and fittings shall be used for low pressure/velocity applications only. Fittings shall have 1.5 times diameter centerline radius. Spiral duct may be used for any pressure/velocity class. Spiral duct shall be Semco or acceptable equal by McGill Airflow or Lindab.

1. Single wall, 2.0" WG minimum.
2. Round or oval duct joints shall be Ductmate quick sleeve, slip joint, welded or flanged.

3.0 DUCTWORK ACCESSORIES:

A. Duct splits, elbows and reducing fittings shall be fabricated per SMACNA standards. "Ductmate" or acceptable equal flanged and gasketed joint systems are approved.

4.0 DUCT SUPPORTS AND ROUTING

A. Hangers and Supports.

1. Ductwork shall be supported in accordance with all SMACNA standards including support methods, sizes and spacing.
2. All hanger and support parts shall be galvanized steel for non-corrosive environments or stainless steel for corrosive or damp environments.
3. Provide sheetmetal straps, adjustable hangers, clamps, channels, rods, flexible connectors, supplementary steel, etc. as required for proper support of all ductwork. Trapeze may be used for support of single or multiple ducts. Provide accompanying attachments including bolts and nuts, sheetmetal screws or rivets compatible with duct materials.
4. Upper attachments shall be manufactured items specific to the applicable structure. Include concrete inserts, wedge type drilled in inserts, steel beam and joist clamps, plates, rods, clips, straps and brackets as required by the application.

B. Routing.

1. Ductwork shall be routed as shown on drawings, parallel to building lines unless otherwise shown, coordinated with building structure and other trades. Adjust ductwork routing and elevations with necessary offsets to accommodate beams and other obstructions.

5.0 HEATING AND AIR CONDITIONING UNITS:

A. Air conditioning units shall be as scheduled or by acceptable equal. Units shall be standard catalogued products with the appropriate approval or certification by AGA, ARI and UL. Efficiencies shall conform to ASHRAE 90 standards.

B. Should an alternate manufacturer's equipment be provided that differs in size, weight or configuration from the manufacturer listed as the basis of design, the contractor shall reimburse the architect and engineer for all costs associated with modifying the construction documents to accommodate the alternate manufacturer's equipment. The contractor also shall be responsible for all costs associated with modification to electrical, plumbing, mechanical and structural systems from the original construction documents to accommodate alternate equipment.

C. Packaged Units:

1. Packaged outdoor units shall be roof or ground mounted, vertical or horizontal discharge, with cooling and/or heating components of characteristics and capacities scheduled. Unit shall have direct or belt drive, forward curve or airfoil supply fan, cooling coil with copper tubes and aluminum fins, insulated coil drain pan. Compressors shall be manufacturer's standard with crankcase heaters and vibration isolators and five (5) year warranty, electric coil or gas fired burner and heat exchanger with 10 year warranty as indicated. Accessories shall include suction line accumulators, service valves, sight glass and strainer-dryer, as required for a complete operating system. Provide with filters, enthalpy economizers, relief or power exhaust, controls, hinged access doors, condenser coil hail guards, condenser coil cottonwood filters, mounting curb and duct flex connectors and other accessories as indicated or required. Furnish 10 year heat exchanger for gas fired units.
2. Packaged units shall be Lennox or acceptable equal by Carrier, York, Trane, Daikin.

D. Provide units with manufacturer's standard control package. Controls to include factory wired terminals with overload devices and transformers as required. Unit safety control to include high-low pressure switches, fan relays, short cycle safety and internal pressure relief, gas controls with hi limit and anti- cycle protection.

E. Provide unit accessories as noted on drawings and as required for a complete operating system.

F. Mount units to provide the required service, access and airflow space.

6.0 MAKE-UP AIR UNIT

A. Provide tempered make-up air unit including direct gas-fired heater with all accessories as scheduled including intake hood, filters, curb as scheduled. Units shall be Greenheck, Accurex, or owner acceptable equal.

7.0 MISCELLANEOUS MECHANICAL EQUIPMENT:

A. Provide miscellaneous heating equipment with controls and all accessories as scheduled. Heating equipment includes:

1. Unit Heaters: electric.

a. Electric units shall be Markel, Q'Mark, Trane, Vulcan or acceptable equal.

8.0 FILTERS:

A. Provide filters in air intake to each units A/C system with size and number of filters standard with air unit manufacturer. Provide 1" and/or 2" thick to suit equipment requirements, hi-velocity, throw-a-way MERV 8 filters, Camfil 30/30 or acceptable equal by American Air Filter, Airguard, Air Filters, Inc., Purolator. Filters shall be new and clean at time of Owner's acceptance. Supply extra set of filters for each unit.

9.0 CONTROLS AND LOW VOLTAGE SYSTEMS:

A. All temperature controls unless otherwise noted shall be the responsibility of the Mechanical Contractor.

B. Controls system shall be electric/electronic with stand-alone programmable digital thermostats.

C. Provide control installation to accomplish the indicated or required sequence of operation including thermostats/ sensors, controllers, actuators, wiring, piping and tubing, software, graphics and other components as required for a complete operating system. Where no sequence is indicated, contractor shall submit a proposed sequence for approval.

D. Devices exposed to view and mounted in finished spaces shall be white in color unless otherwise noted or directed.

E. All occupant adjustable devices shall be mounted in accordance with ADA and ADAAG requirements.

10.0 PIPE AND FITTINGS:

A. Condensate drain piping:

1. PVC Pipe – Schedule 40 with solvent cement joints. PVC not permitted in plenums used for supply or return air.
2. Provide with plugged tee cleanouts unless otherwise accessible for cleaning. Trap all air unit condensate drains with deep traps.
3. Condensate drain piping:
   a. Outdoor units shall discharge indirectly to grade or to primary roof drains or gutters or as otherwise indicated on drawings and shall be in accordance with local codes. Condensate shall not drain to overflow roof drains.
4. Condensate pipe sizing:

   a. Minimum condensate pipe size shall be 3/4".
   b. Piping for individual units shall be as specified by manufacturer or a minimum of the unit connection size.
   c. Install manufacturer supplied condensate lift pumps and pipe discharge adaptors where indicated or required.
   d. Common or manifold condensate system shall be minimum size as follows:

Equipment Capacity, Tons	Min. Pipe Size, In
Up to 3	3/4"
3-1/2 to 20	1"
21-90	1-1/4"
91-125	1-1/2"
126-250	2"

11.0 PIPE SUPPORTS AND ROUTING:

A. Hangers and Supports.

1. Piping shall be supported in accordance with industry standards including support methods, sizes and spacing. All supports shall conform to MSS SP58 and Fed Spec WW-H-171E and A-A-1192A.
2. Pipe Slopes: Install hangers and supports to provide indicated or required pipe slopes to provide for drainage and venting.
3. Deflection: Maximum pipe deflections and stresses as allowed by ANSI B31 are not exceeded.
4. Each piping system shall be independently supported with no piping bearing on another and installed such that no weight of piping is borne by the equipment.
5. Space hangers and supports within maximum piping span length indicated in MSS SP-58. Install building attachments at required locations for proper piping support.
6. Provide adjustable hangers, inserts, brackets, rolls, clamps, channels, rods, guides, anchors, flexible connectors, supplementary steel, etc., as required for proper support of all pipe lines. Trapeze may be used for support of multiple pipes. Provide accompanying attachments including bolts and nuts, sheetmetal screws or rivets suitable for application.
7. Provide copper plated, plastic coated or felt lined hangers where required to prevent electrolysis or abrasion on copper or plastic piping systems.
8. Upper attachments shall be manufactured items specific to the applicable structure. Include concrete inserts, wedge type drilled in inserts, steel beam and joist clamps, plates, rods, clips, straps and brackets as required by the application.
9. Hangers shall be designed to allow for expansion and contraction of pipe lines and shall be of adequate size to permit covering when required. Provide protective saddles and blocking where supporting insulated piping to prevent crushing insulation.
10. All hanger and support parts shall be galvanized steel for non-corrosive environments or stainless steel for corrosive or damp environments.

B. Routing.

1. Piping shall be routed as shown on drawings, parallel to building lines unless otherwise shown, coordinated with building structure and other trades. Adjust pipe routing and drop locations with necessary pipe offsets or changes in elevation to accommodate beams and other obstructions.

12.0 INSULATION:

A. Ductwork

1. Duct Liner

   a. Line low velocity rectangular sheetmetal supply ductwork and return ducts, with mat faced 3 lb. density fiberglass or textile liner with anti-microbial coating. Apply with mastic and pins with erosion protection on all exposed edges.

      a. Rectangular supply and return air ducts – 1" thick liner.
      b. Outside Air ducts in any location – No liner permitted in any circumstance.
      c. Under no circumstance shall ductwork conveying kitchen hood makeup air or exhaust be lined.

13.0 FOUNDATIONS AND VIBRATION ISOLATION:

A. Foundations: Provide fabricated supports for all equipment. Mount on 4" concrete housekeeping pads where indicated.

B. Provide flexible connections at all motor driven equipment, where shown and where required to hold transmitted noise and vibration to an acceptable minimum at piping and duct connections.

C. Duct flexible connection shall be Durodyne non-combustible, 22 ounce (minimum) polymer coated woven fabric or acceptable equal.

D. Equipment Vibration Isolation: All motor driven equipment shall be furnished with isolating mountings. Motors shall be mounted on resilient bases, spring or rubber supports as recommended by the manufacturer. Isolators shall be Amber Booth or acceptable equal by Kinetics, Mason Industries, Vibration Eliminator Co.

14.0 SLEEVES AND SEALS, FLASHINGS, ROOF PIPE SUPPORTS AND UV PROTECTION:

A. Flash all pipes and vents extending through roof. Flashing details shall be in accordance with roof manufacturer's requirements.

B. Roof pipe supports shall be prefabricated with UV resistant rubber base, unistrut channel and pipe clamp, length and height for consistent pipe elevation to suit application. M-Fab C6 series or acceptable equal.

C. Plastic piping without UV inhibiters which is exposed to UV radiation from sunlight shall be protected by coating with a UV resistant paint.

15.0 EQUIPMENT LABELS:

A. Equipment labels shall be provided for all mechanical equipment and shall be self adhesive engraved plastic, blue with white lettering, sized, minimum 1-1/2" high, and located for viewing from ground or floor level. Label shall indicate drawing designation or unique equipment number.

16.0 CLEANING:

A. New Work

1. Clean air system by operating at least three hours prior to final acceptance with temporary filters. Remove all filters and replace with clean.

END OF SECTION

PLUMBING

1.0 SCOPE:

A. The work included under this contract consists of providing all labor, materials, tools, transportation, services, etc., necessary to complete the installation and to provide complete working systems of the Plumbing Systems, including hot and cold water, waste and vent, storm drainage, fixtures, equipment and other items described in these specifications, as illustrated in the accompanying drawings or as directed by the Architect/Engineer.

B. Extend piping systems as indicated on contract documents or to point of connection as follows:

1. 5'-0" from exterior building wall lines.

2.0 DOMESTIC WATER SYSTEMS AND SYSTEMS.

A. Contractor shall verify water service availability, including size and available pressure to service the building.

1. The pressure provided to fixtures within the building shall not exceed that allowed by local code or shall not exceed 80 PSIG. Provide pressure regulator(s) as required to limit the maximum pressure.

3.0 PIPING, FITTINGS AND VALVES:

A. Provide hot and cold–water supply to each and every fixture, piece of equipment and to systems where makeup water is required.

B. Provide service valves at each main riser and as required by code.

C. Provide service valves for each item of equipment, at branch piping, fixture groups, individual fixtures and elsewhere as indicated or required. Provide balance valves, strainers, check valves and other valves as indicated or required by the application.

D. Provide a union or flanged connection between each item of equipment and its service valve. Copper to ferrous pipe connections shall have isolation coupling, flange or union.

E. Domestic cold water underground –

1. Pipes, copper – type "K", soft temper, wrought copper fittings, silver solder joints, 1/2" through 3".

   a. Under slab water piping shall be installed in sand fill and shall be jointless where possible or joints minimized. Required joints shall be made with lead free silver solder.

2. Water piping installed exterior to the building shall be a minimum of 48" below grade.

F. Domestic water, interior, above ground –

1. Pipe, copper tube –

   a. 2-1/2" and Smaller – Type "L" hard temper copper, wrought or cast copper fittings, Lead free 95/5 or Eagle Hard Silvabrite or "CB" solder joints, or roll grooved mechanical joints or pressure seal joint fittings with EPDM O-ring seals.

2. Provide valves where indicated on the drawings, where required by code, or required for service.

   a. 1/4 turn Service –

      1) 1/2" thru 2" – Nibco 585-66-LF bronze lead free, 600 PSIG, full port, stainless steel ball and stem.
      2) 2" thru 12", Nibco LD-2110 lead free, 200 PSIG, lug style, EPDM seals, ductile iron butterfly with nickel plated ductile disk.
      3) Provide isolation valves where indicated on drawing, including at branches, terminations, each piece of equipment and elsewhere as required by code.

   b. Check, Strainers and Miscellaneous –

      1) Check – 1/2" thru 2" – Nibco 480-Y-LF lead free, 200 PSIG, PTFE seats, spring loaded, resilient disc, spring loaded inline non-slam check valve, in pump discharge.

3. Water service back flow preventers shall be reduced pressure type, lead free unless otherwise indicated.

   a. Up thru 2" - Watts LF-009, lead free bronze body with ball valves, ASSE 1013/AWWA C511 and USC compliant.

4. Securely anchor and support piping, valves and fittings, with adequate provisions for expansion and contraction. Grade lines, free of traps, to low point at cut-off and drain valve.

G. Natural Gas –

1. Pipe above ground:

   a. 2" and smaller – Schedule 40 black steel piping with threaded fittings.
   b. 2-1/2" and larger – Schedule 40 black steel piping with welded fittings.
   c. 4" and smaller – Schedule 40 black steel pipe with pressure seal steel fittings. Viega Megapress XL, Apollo PowerPress or equal.

2. Pipe below ground:

   a. Schedule 40 black steel with a 3 layer factory coating of epoxy, adhesive and polyethylene, threaded or welded fittings. Joints shall have a cover kit of epoxy paint, adhesive and heat shrink PE Sleeves.
   b. All underground steel piping and/or fittings shall be cathodically protected.
   c. Natural gas piping installed exterior to the building shall be a minimum of 36" below grade and shall be installed with a tracer wire above the pipe, terminated in an accessible location or shall be installed in a steel pipe casing.
   d. Natural gas piping shall not be permitted to be installed interior under slab.
   e. Underground gas piping shall rise above grade before entering any enclosed structure.

3. Valves & Connectors:

   a. Shutoff Service –
      1) 1/2" thru 1" – Nibco GB-1A, brass body, chrome plated brass ball, PTFE seats, screwed ends, 5 PSIG per CGA, lever handle.
      2) 1/2" thru 2" – Nordstrom 142, iron lubricated tapered plug valve, 200 PSIG, threaded ends.
      3) 2" thru 5" – Nordstrum 143, iron lubricated tapered plug valve, 200 PSIG, flanged ends.
   b. Connections to each piece of equipment or appliances shall be made with gas cock, dirt leg and union. Appliance connections may be made with UL listed appliance connectors with union ends.
   c. Regulator, 3/4" thru 1-1/2" – Fisher type S, spring loaded diaphragm, 1.5" WC to 2.5 PSIG discharged pressure, threaded, vented to atmosphere.
   d. Regulator, 1/2" thru 2" – Maxitrol 230L, spring loaded diaphragm, 2 PSIG Maximum inlet, 7" to 11" WC outlet, threaded, vent, limited.
   e. Flex Connectors, Metraflex GASCT 300 series stainless steel braided hose with carbon steel threaded ends.

4. Natural gas piping in return air plenum, where permitted shall be either installed in vented fabricated enclosure; sleeved; semi-vented; or welded or one piece.

5. Paint exterior natural gas piping with corrosion inhibiting paint, color to be selected.

H. Sanitary sewer, vent, interior –

1. Pipe – Standard weight cast iron hubless with no-hub shielded mechanical joints; solid wall schedule 40 PVC, ABS with solvent cement joints; vents may be galvanized malleable iron.
2. Plastic piping shall not be allowed in return air plenums.
3. Floor or equipment drains shall be provided at all locations where equipment is indirect wasted. Floor drains shall be provided outside all ADA showers for roll-in applications or where there is no threshold.
4. All gravity drainage shall be graded per code but not less than 1/8" per foot unless noted otherwise, except that piping sizes up thru 2-1/2" shall be sloped at 1/4" per foot. Piping sizes up thru 4" to be sloped at 1/4" per foot where possible and where required by local codes.
5. Vents shall be sloped upward in direction of flow.

I. Sanitary sewer, vent, below grade –

1. Pipe – Standard weight cast iron hubless with no-hub heavy duty mechanical joint fittings; solid wall schedule 40 PVC, ABS with solvent cement joints.
2. All gravity drainage shall be graded per code but not less than 1/8" per foot unless noted otherwise, except that piping sizes up thru 2-1/2" shall be sloped at 1/4" per foot. Piping sizes up thru 4" to be sloped at 1/4" per foot where possible and where required by local codes.
3. Vents below grade shall be 2" minimum size and shall be sloped up in direction of flow.

J. Sanitary sewer, exterior –

1. Pipe – Cast or ductile iron service weight, with compression gaskets; ABS, PVC with solvent cement joints.

4.0 CLEANOUTS, TEST TEES, TRAPS AND TRAP SEALS:

A. Provide cleanout at the base of each stack or riser, at ends of runs greater than 100', each 135° aggregate change of direction in horizontal piping, where indicated on the drawings or as required by code. Plugs, extra heavy cast brass, screwed. Scoriated tops in unfinished areas, carpet markets in carpet floors, tile top in tile floors, stainless steel cover in finished walls. Cleanouts shall be the same size as pipe up to 4" diameter, 4" cleanouts for larger pipe unless otherwise noted. Cleanouts outside the building extend to grade and terminate with extra heavy soil pipe cleanout set in 12" square 6" thick concrete pad.

B. Provide test tees at base of risers and elsewhere as required by code.

C. All traps shall be deep seal type with liquid seal not less than specified by code.

D. Where trap primers are not specified provide all floor and hub drains with trap seal with EPDM or silicone diaphragm, conforming to requirements of ASSE 1072 or 1017.2. Provent Proset Series SG22 or TG22, Sioux Chief series 835, Rectorseal SS series or acceptable equal.

5.0 SLEEVES AND SEALS, FLASHINGS, ROOF PIPE SUPPORTS AND UV PROTECTION:

A. Flash all pipes and vents extending through roof. Flashing details shall be in accordance with roof manufacturer's requirements.

B. Continuous roof piping penetrations shall be made weather tight, conform to roof manufacturer warranty. Penetrations shall be as detailed on drawings.

C. Roof pipe supports shall be prefabricated with UV resistant rubber base, unistrut channel and pipe clamp, length and height for consistent pipe elevation to suit application. M-Fab C6 series or acceptable equal.

D. Provide sleeves where piping penetrations are required thru partitions, concrete floors, concrete slabs on or below grade or foundation walls. Where penetrations are through fire rated assemblies, sleeves shall be fire stopped in accordance with UL listing requirements. Sleeves shall be galvanized steel pipe, sheet steel or cast iron. Penetrations of below grade structures and slabs on grade shall be water proofed with mechanical link seal system, Thunder Line or acceptable equivalent.

E. Plastic piping without UV inhibiters which is exposed to UV radiation from sunlight shall be protected by coating with a UV resistant paint.

6.0 CROSS- CONNECTIONS AND INTERCONNECTIONS:

A. No plumbing device or piping shall be installed which will provide cross-connection or interconnection between a distributing supply or waste so as to make possible the backflow or back-siphonage of polluted water into the potable water supply system. Where the possibility of back-siphonage exists, water supply to the fixture shall be introduced through a suitable backflow preventer device suitable for the hazard protected. Installed backflow preventers must be approved through the University of Southern California Foundation for Cross-Connection Control and Hydraulic Research.

1. They may be an air gap, anti-syphon valve, atmospheric vacuum breaker, pressure vacuum breaker, double check, reduced pressure backflow preventer or as otherwise required by the authority having jurisdiction.

7.0 INTERCEPTORS

A. Interceptors shall include the following applications:

1. Grease

B. Provide interceptors according to manufacturer listing and requirements.

C. Interceptors and accessories shall be installed and inspected per manufacturer and local jurisdiction requirements.

D. Provide engineered hydromechanical interceptors as scheduled, sized for the connected load per code or per manufacturers sizing requirements to meet their listings. Interceptors shall be engineered polymer and shall be complete with all required accessories including integral flow control devices, access risers and gas tight access cover, manway risers, hold down straps, support structures, inspection port. Interceptor to be vented in accordance with code. Install in accordance with manufacturer requirements. Schier or acceptable equal.

E. Engineered hydromechanical polymer interceptors shall be installed and tested in accordance with manufacturer requirements. Provide vacuum testing of installed units. Meet all preparation and vacuum testing requirements of manufacturer, performed in accordance with all local jurisdiction requirements.

F. Provide interceptors with all required accessories including but not limited to:

1. Inlets, outlets, vents, flow control devices, riser tubes, manhole covers, hold down devices, inspection and pump out ports.

RELEASED FOR CONSTRUCTION
As Noted on Plans Review
Development Services Department
Lee's Summit, Missouri
10/23/2025

ARCHITECT OF RECORD

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LF File # Project No. 25.74.06

CLIENT

Q39 (SHELL)
LEE'S SUMMIT, MO
OLDHAM VILLAGE

PROJECT TITLE

PROJECT NUMBER
62910099

PROJECT MANAGER	DRAWN BY	CHECKED BY
AVM	EDG	

PROFESSIONAL SEAL



05.01.2025

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ISSUES AND REVISIONS

NUMBER	DATE	DESCRIPTION
0	09/01/25	ORIGINAL ISSUE

SHEET NAME

SPECIFICATIONS

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210 100

FIRE PROTECTION

8.0 INSULATION:

A. Pipe insulation shall conform to the International Energy Conservation Code.

B. Insulate all cold water, Owens Corning or acceptable equal.

1. Cold water piping insulation: 1" fiber glass sectional pipe covering with universal vapor barrier jacket.

C. At Contractor's option, Armacell AP Armaflex unicellular insulation or acceptable equal with 25/50 flame and smoke rating with equal thermal performance may be substituted for fiberglass products.

D. Seal all joints on cold water insulation to maintain vapor barrier.

E. Insulation shall run continuously thru hangers and supports without interruption.

9.0 PIPE SUPPORTS AND ROUTING:

A. Hangers and Supports

1. Piping shall be supported in accordance with industry standards including support methods, sizes and spacing. All supports and installation shall conform to MSS SP58 and 69 and Fed Spec WW-H-171E and A-A-1192A.
2. Pipe Slopes: Install hangers and supports to provide indicated or required pipe slopes to provide for drainage and venting.
3. Deflection: Maximum pipe deflections and stresses as allowed by ANSI B31 are not exceeded.
4. Support piping system shall be independently supported with no piping bearing on another and installed such that no weight of piping is borne by the equipment.
5. Provide adjustable hangers, inserts, brackets, rolls, clamps, channels, rods, guides, anchors, flexible connectors, supplementary steel, etc., as required for proper support of all pipe lines. Trapeze may be used for support of multiple pipes. Provide accompanying attachments including bolts and nuts, sheetmetal screws or rivets suitable for application.
6. Upper attachments shall be manufactured items specific to the applicable structure. Include concrete inserts, wedge type drilled in inserts, steel beam and joist clamps, plates, rods, clips, straps and brackets as required by the application.
7. Hangers shall be designed to allow for expansion and contraction of pipe lines and shall be of adequate size to permit covering when required. Provide protective saddles and blocking where supporting insulated piping to prevent crushing insulation.

B. Routing

1. Piping shall be routed as shown on drawings, parallel to building lines unless otherwise shown, coordinated with building structure and other trades. Adjust pipe routing and drop locations with necessary pipe offsets or changes in elevation to accommodate beams and other obstructions.

10.0 EQUIPMENT AND PIPE LABELS:

A. Equipment labels shall be provided for all plumbing equipment and shall be self-adhesive engraved plastic, blue with white lettering, sized, minimum 1-1/2" high, and located for viewing from ground or floor level. Label shall indicate drawing designation or unique equipment number.

B. Pipe labels for domestic water, waste, vent and gas piping shall be preprinted, color-coded, with 1-1/2" lettering indicating service, and showing flow direction, locate pipe labels where piping is exposed or above accessible ceilings in finished spaces; machine rooms; accessible maintenance spaces such as shafts, tunnels, and plenums; and locations as follows:

1. Near each valve and control device.
2. Near penetrations through walls, floors, ceilings, and inaccessible enclosures.
3. Near major equipment items and other points of origination and termination.

C. Warning labels shall be self-adhesive engraved plastic or preprinted plastic as required by application with white lettering on red background provided at locations as required by code or where hazards to personnel exist.

11.0 MISCELLANEOUS

A. Indirect wastes shall discharge full size thru an air gap to a floor, equipment drain, sanitary floor sink or hub drain. The floor or equipment drain grate shall be fitted with a funnel, the sanitary floor sink shall have a partial grate or the grate shall be omitted. Drains shall be located so they are accessible and not a tripping hazard.

B. Provide escutcheons at all penetrations of exposed walls and ceilings. Escutcheons shall be chrome plated brass in occupied areas, prime paint finish for unoccupied areas unless otherwise noted. Escutcheons for exterior or moist areas shall be brass.

12.0 PROTECTION OF WORK

A. Protection

1. Protect and cover piping and fixture waste and water openings to prevent entry of dirt and debris.
2. Cover and protect fixtures and plumbing equipment to prevent damage.

13.0 TEST, ADJUSTMENTS AND CLEANING:

A. Soil, waste and vent piping testing:

1. Initial Piping Water Test: Fill with water to the top of the highest point of the system extending through roof. Systems may be tested in whole or part. The system shall remain leak free under test for a minimum period of Fifteen (15) minutes.
   a. Gravity Drain Test: Either 10' water column or at a pressure not less than 10% above that the piping will be subjected to during nominal operation
2. Final Piping Test: The completed system(s) shall be visually inspected to determine compliance with all codes and standards. Where required by the building official, the completed system shall be smoke tested with all traps water filled and system pressured to 1" WC for a minimum period of fifteen (15) minutes.

B. Water and gas line testing:

1. Water piping shall be purged and tested with compressed air or water at 50 PSIG above the operating pressure but not to exceed the pressure rating of piping system materials for a period of 2 hours with no measurable pressure drop.
2. Natural gas lines shall be inspected and blown out with dry compressed air or nitrogen to purge of debris and tested at 1-1/2 times the operating pressure or a minimum of 25 PSIG pressure with no measurable pressure drop. All test procedures including duration of test shall be in accordance with NFPA 54 and the International Fuel Gas Code.

C. After successful testing, sterilize water system with an approved solution in accordance with local health officials.

D. Contractor to submit all test data and other documentation for record.

14.0 FIXTURE BRANCH PIPING:

A. Fixture branch and connection sizes shall be as shown in the plumbing fixture schedule on the drawings and not less than required by code.
B. Minimum waste or vent size below slab on grade shall be 2".

15.0 PLUMBING FIXTURES:

A. Refer to plumbing fixture schedule for plumbing fixtures and accessories. Include all fittings and accessories as required for a complete working system.

B. Where required for ADA compliance, provide lavatory and sink offset drain and tailpiece assembly.

16.0 FIXTURE AND ACCESSORY MANUFACTURERS:

A. Fixtures, equipment and accessories are specified by manufacturer's numbers as to the type and quality required.

B. Specified manufacturers and approved equal manufacturers are as follows:

FIXTURE, ITEM OR EQUIPMENT	APPROVED EQUAL MANUFACTURERS
Waste Fittings	Dearborn Brass, McGuire, ProFlo, Jones Stephens, Watts
Drains and Drainage Products	J R Smith, Sioux Chief, Wade, Watts, Zurn, Josam
Hydrants	Woodford, J R Smith, Josam, Zum, Prier Brass

END OF SECTION

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FIRE PROTECTION

1.0 SCOPE:

A. Fire protection shall be governed by all applicable provisions of the Contract Document.

B. Provide a complete and operational fire protection system as required by NFPA, systems shall include:

1. Wet sprinkler system – NFPA 13.
2. Dry or pre-action sprinkler system – NFPA 13.
3. Private Fire Service Mains – NFPA 24.
4. Wet chemical fire suppression system – NFPA 17A.
5. Systems shall be compliant with NFPA 70, 72, FM and UL as applicable.

C. All fire protection components shall be UL and FM approved devices where applicable as required by NFPA.

D. Upon completion of the work, system acceptance testing shall be performed by the sprinkler contractor in accordance with requirements of NFPA. Perform all flushing and testing of the system including pressure and flow tests. Witnessing of all electrical, controls and safety components.

E. Provide permanent identification of all valves, piping, electrical components and equipment in accordance with NFPA 13.

F. Contractor shall provide spare sprinklers in cabinet as required by NFPA.

G. Upon completion of the project, the fire protection contractor shall furnish 'Record' documentation including plans, equipment data sheets for all component and testing results as required by NFPA.

2.0 WET AND DRY SPRINKLER AND STANDPIPE SYSTEMS

A. Systems shall be in accordance with NFPA 13 and complete in every respect to provide complete coverage of all areas in the building, or throughout the area of work as indicated. Sprinkler system shall be hydraulically designed per appropriate hazard class.

B. Sprinkler system shall be a delegated design, and contractor shall be responsible for layout and design of the fire sprinkler system. Submit all necessary documentation (plans, calculations, cut sheet literature and flow tests) and obtain necessary permits for approval and installation of the system. Provide PE or NICET stamp, as required by the Authority Having Jurisdiction, on submittal drawings.

C. As required by application, system shall include but not be limited to pipe and hangers, sprinklers, valves, inspector tests, fire department connection, audible and visible alarms, pressure, flow and tamper switches, gauges, deluge valves, control panels, wiring, hose valves, etc.
1. System shall extend from point of connection 5' from building wall lines.
2. Service entrance piping shall be in accordance with NFPA 24 including installation, testing and flushing.

D. Sprinkler system service entrance.

1. Underground fire main – Provide new 6" minimum fire protection main outside the building and extended to the fire protection water service in the sprinkler riser room.
2. Backflow preventer – provide new Double Detector Check Valve Assembly.
3. Provide new fire sprinkler riser(s) system control valve with tamper switches and manifolded riser with isolation valves for each wet and dry sprinkler system. All valves shall be provided with tamper switches.

E. Provide new sprinkler piping and sprinklers throughout area of work.

F. Where required to prevent freezing of the system, provide dry sidewall or pendant sprinklers, an approved dry sprinkler system with air compressor and nitrogen generation system, or a UL-listed anti-freeze system with fill station. Include all necessary components including isolation and control valves, alarm devices and related items for a complete working system.

3.0 PIPING, FITTING AND VALVES:

A. Fire protection underground -

1. Pipe – Class 50 molded ductile iron pipe, cement mortar lined, with ductile fittings and mechanical compression joints, 3" and larger.
2. PE pipe and fittings with minimum thickness equivalent to Class 150 and Molded PE Fittings: PE butt-fusion type, made to match PE pipe dimensions and class.
3. PVC pipe and fittings - AWWA C900 or UL 1285, Class 150 and Class 200, with bell end with gasket, and with spigot end with PVC Fittings with bell-and-spigot or double-bell ends. Include elastomeric gasket in each bell.

B. Fire protection piping and components above ground -

1. Pipe –
   a. 2" and smaller – Schedule 40, black steel, malleable iron threaded, flanged or welded fittings; roll or cut groove mechanical joints with wrought or forged steel fittings or roll grooved end couplings.
   b. 1-1/2" and larger – Schedule 10, black steel; roll groove mechanical joints with roll grooved end couplings.
   c. Contractor to match existing building piping material standards.
2. Sprinkler piping shall be independently supported from all other systems, no other system or component may bear on any sprinkler pipe or support. In accordance with NFPA 25 or where required by local authority, sprinkler piping shall not be subjected to external loads by materials either hung from or resting on sprinkler piping.
3. Valves –
   a. Shutoff –
      1) 1/2" thru 2"
         a) Nibco T-104-0 Bronze, UL and FM approved OS&Y Gate, 175 PSIG.
      2) 2-1/2" thru 12"
         a) Nibco F607-OTS Cast Iron, UL and FM approved OS&Y Gate, 175 PSIG.
   b. Check –
      1) 2-1/2" thru 12"
         a) Nibco F-908W, Cast Iron Horizontal Swing, Bolted Bonnet, UL and FM approved, 175 PSIG.
   c. Double Check Detector Assembly –
      1) 3" thru 10"
         a) Watts 757DCDA-OSY, stainless steel double check assembly with OS&Y shutoff valves, detector meter, UL and FM approved.
   d. Sectional Zone Valves –
      1) 1/2" thru 2"
         a) Nibco T-104-0 Bronze, UL and FM approved OS&Y Gate, 175 PSIG. Provide with tamper and flow switches.
4. Sprinklers may be supplied by UL 2443 listed 1" minimum 304 stainless steel (braided or unbraided corrugated) 175 PSIG rated flexible hoses with all associated UL listed fittings, threaded ends, brackets and other attachments, 6' maximum length. Victaulic Vic-Flex or acceptable equivalent.
5. Auxiliary Drains shall be provided in accordance with NFPA 13 at all system low points for complete system drainage. Provide signage indicating all drain locations.

4.0 SPRINKLERS

A. Provide quick response sprinklers including replacement sprinklers, standard response, extended coverage or dry sprinklers as required by application.

B. Replace existing non-compliant sprinklers as required by application. Sprinklers older than 50 years shall be removed and replaced with new, or a representative sample from each area shall be tested per NFPA 25.

C. Sprinklers shall be of the following styles, subject to application.

1. Recessed chrome plated brass with 2-piece adjustable escutcheon in gypsum and lay-in tile ceilings.
2. Pendant chrome plated brass with escutcheon in gypsum and lay-in tile ceilings.
3. Concealed brass with painted flat concealer plates in gypsum and lay-in tile ceiling.
4. Upright brass in unfinished areas. Provide wire cage in areas subject to damage.
5. Upright chrome plated brass in finished areas with exposed structure.
6. Where not otherwise indicated, sprinkler type, style, appearance and coverage to match existing.
7. Any sprinklers removed shall be replaced with new sprinklers.

D. Locate sprinklers at center of 2 x 2 lay-in tiles or 2 x 2 portion of 2 x 4 lay-in tiles. Align sprinklers in a row when in gypsum board ceilings. All location tolerances shall be +/- 1/2".

E. Refer to reflected ceiling plans for coordination with lights, diffusers, exit signs, etc.

F. Install sprinklers above combustible ceilings in concealed combustible space per NFPA 13-8.15. Install sprinklers above and below all-cloud ceilings in accordance with NFPA 13 8.15.24. Install sprinklers above ceilings where spaces have ceilings that are lower than the rest of the area, the space above the lower ceiling shall be sprinklered unless it complies with the rules of 8.15.1.2 for allowable unsprinklered concealed spaces. The sprinkler system shall extend beyond the lower ceiling as required by NFPA 13 and be designed in accordance with 8.15.23.3.

END OF SECTION

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ELECTRICAL

1.0 SCOPE:

A. The work included under this contract consists of the furnishing of all labor, materials, tools, transportation, services, etc., necessary to complete the installation of the electrical systems and other items herein listed, all as directed by the Architect or Engineer, which work is comprised of, but not limited to the following principal items:

1. Electrical system for light and power:
   a. Electrical service and distribution system revisions.
   b. Switches and panel boards.
   c. Systems of conduit, conductors, and boxes.
   d. Receptacles and wiring devices.
   e. Lighting fixtures and lamps.
   f. Power service to the various motors.
   g. Complete lighting and power systems.
   h. All systems, wiring and conduit as required.
2. Control wiring and electrical installation and connections for items in other contracts as may be listed in the drawings.
3. Empty conduit and boxes for future installation of telephone wiring and miscellaneous systems.
4. Rough-in and final connection to equipment furnished by others.
5. All cable ties for low voltage cable systems located in plenums utilized for air movement that are not installed in conduit shall be 25/50 flame and smoke rated, Hellermann Tyton T50RC/C2UL or equivalent.

B. Raceway wiring systems shall be concealed in all finished parts of the building, where possible. Where the raceways are exposed, they shall be run parallel with the building walls in a neat and workmanlike manner. Should it appear necessary to expose any conduit or wiring in finished spaces, it shall be brought to the Architect's attention immediately and this Contractor shall rearrange associated work as directed to facilitate an approved installation. Contractor to coordinate with mechanical trades to avoid ductwork and piping.

C. Contractor is responsible to provide liaison with electrical and communication companies. The Contractor shall provide and install all required equipment and connect as required to complete an operating service to the building.

2.0 RACEWAYS:

A. All electrical conductors are to be installed in metal raceways, unless specifically specified or noted otherwise. Galvanized steel or intermediate steel conduit as permitted by code. No conduit smaller than 3/4" to be used. Use set screw Provide flexible conduit connection for final connection to each motor not to exceed 3' in length and recessed lighting fixtures not to exceed 6' in length. Provide pull wires in all empty conduit systems. Identify terminus of each pull wire. All exposed raceways shall be installed with runs parallel and/or perpendicular with building walls. Fasten all rigid/non-flexible conduit every 8' and 2' from each box. Conduit shall be EMT where not subject to mechanical damage as permitted by National Electric Code (N.E.C.). EMT connectors and couplings 4" and smaller shall be compression type. Type MC Cable with ground wire is allowed in concealed spaces only, behind walls and above ceiling. Fasten all MC and or FMC every 4.5' feet and within 12" inches of conduit termination, excluding final connections to motors and lighting fixtures.

B. Conduit bushings shall be provided and installed inside all disconnects, pull boxes, panelboards, switchboard or similar type equipment and where permitted by National Electric Code (N.E.C.).

C. Schedule 40 PVC conduit may be used for underground installation and where permitted by National Electric Code (N.E.C.).

3.0 WIRES AND CABLES:

A. Electrical conductors, soft annealed copper with conductivity 98% of that of pure, stranded copper, 90 degree - 600V insulation and equal to General Cable Company. Wire and cable for all feeders, subfeeders, motor circuits and high ambient location type shall be THWN. All other branch circuit wiring shall be type XHHN or THHN. Minimum wire size shall be #12 gauge AWG. Control wiring may be #14 gauge.

B. For conductors #4 or small use the following color-code:

- 208Y/120V, 1-phase: black, red, white.
- 208Y/120V, 3-phase: black, red, blue, white.
- 480Y/277V, 3-phase: brown, orange, yellow, gray.
- Green shall be used for ground wire conductor.
- Contractor shall use the following color designations and be consistent throughout the project. Color designation for switch legs and or travelers: Violet, Pink or Purple may be used.

C. For conductors larger than #4, Field-Applied, Color-Coding Conductor Tape can be applied in half-lapped turns for a minimum distance of 6 inches from terminal points and in boxes where splices or taps are made. Apply last two turns of tape with no tension to prevent possible unwinding. Locate bands to avoid obscuring factory cable markings. When using black insulated conductors, contractor shall color-code conductor inside all pullbox or similar type enclosures.

D. Conductor Material Applications:

a. Feeders: Copper; solid for No. 10 AWG and smaller; stranded for No. 8 AWG and larger.

b. Feeders: Copper for feeders smaller than No. 4 AWG; copper or aluminum for feeders No. 4 AWG and larger. Conductors shall be solid for No. 10 AWG and smaller; stranded for No. 8 AWG and larger.

c. Branch Circuits: Copper. Solid for No. 12 AWG and smaller; stranded for No. 10 AWG and larger.

d. Power-Limited Fire Alarm and Control: Solid for No. 12 AWG and smaller.

E. Conductor insulation and multi-conductor cable application and wiring methods:

a. Service Entrance: Type THWN-2, single conductors in raceway.

b. Exposed Feeders: Type THWN, single conductors in raceway.

c. Feeders Concealed in Ceilings, Walls, Partitions, and Crawlspaces: Type THHN, single conductors in raceway.

d. Feeders Concealed below Slabs-on-Grade, and Underground: Type THWN-2, single conductors in raceway.

e. Feeders Concealed in Concrete: Type THHN, single conductors in raceway.

f. Exposed Branch Circuits, Including in Crawlspaces: Type THHN, single conductors in raceway.

g. Branch Circuits Concealed in Ceilings, Walls, and Partitions: Type THHN, single conductors in raceway.

h. Branch Circuits Concealed in Concrete, below Slabs-on-Grade, and Underground: Type THWN-2, single conductors in raceway.

4.0 GROUNDING:

A. Ground all electrical apparatus in accordance with N.E.C. and as specified herein. Provide a separate grounding conductor for all lighting, receptacle and equipment circuits. All cabinets, switchboards, equipment cases, motor frames, interior metal cold water piping systems, and system neutral conductors shall be effectively grounded. Use solderless pressure type connectors, no perforated strap connectors will be allowed. Ensure continuous bond where flexible conduit is used. Provide bonding jumper inside all flexible conduit. Grounding per N.E.C. 250, and any local requirements.

5.0 SPLICE AND TAPS:

A. Make splices at junction boxes, pull boxes, or outlet boxes only.

6.0 CABINETS, JUNCTION AND PULL BOXES:

A. Flush or surface mounted as indicated on drawings. Provide where shown on drawings and where required by code. Construct of cold gauge steel for flush surface mounting.

7.0 OUTLET BOXES:

A. General Electric, Appleton, Steel City or Raco hot dipped galvanized steel boxes, or equal. Install at terminal of each conduit run, each outlet, or device. Provide size, type and design to suit structural conditions. Adequate to accommodate size and number of raceways, conductors, device or fixture served. Provide plaster rings or covers on boxes where required on exposed work, use approved cast ferrous alloy outlet, junction boxes and fittings. Fixture or device cover shall completely conceal the size outlet box used. Install 3/8" fixture stud for lighting fixtures where required. Locate ceiling outlets to work with architectural features as directed. Switches installed 48" above floor on strike side of door as finally hung. Receptacles and telephone outlets, 18" above finished floor unless otherwise noted. Verify all outlet locations on job with Architect.

8.0 PANELBOARDS:

A. Panel boards are as indicated on the drawings. Main lugs only unless noted or specified otherwise. Provide typewritten schedule of circuits in index cardholder. Provide with hinged door and hinged cover. All circuit breakers shall be bolt-on molded case and have positive "trip" indication. Breakers used on existing panels shall match existing units and shall be labeled to have positive "trip" indication. Breakers shall be labeled to indicate suite number and use. Panelboards shall be ABB(General Electric), Square D, Siemens or Eaton/Cutler Hammer. All single pole circuit breakers shall be 'switch duty rated'. Panelboards shall be fully rated. Series rated panels are not permitted.

9.0 DISCONNECT SWITCHES:

A. Heavy duty NEMA type 'HD' - same manufacturer as panelboards. Plastic nameplate properly engraved with name of equipment served, secured to switch cover. Fuses shall be Bussmann of sizes and types scheduled.

10.0 MOTOR AND CONTROL WIRING AND CONNECTIONS:

A. This Contractor to provide all necessary conduit, boxes and supports to equipment furnished by Owner and as indicated on drawings. Provide a disconnect switch and starter if required.

11.0 LABELING:

A. Contractor shall label each and every j-box above ceiling with a permanent marker with panel and circuit number.

B. Outlets, adhesive film label, machine printed clear background with black letters, by thermal transfer or equivalent process. Minimum letter height shall be 1/4 inch. Face plate shall be labeled with panel and circuit number.

C. Interior equipment self-adhesive, engraved, laminated acrylic or melamine label: adhesive backed, with white letters on a dark-gray background. Minimum letter height shall be 3/8 inch (10 mm).

D. Exterior equipment: Stenciled or engraved, laminated acrylic or melamine label: punched or drilled for screw mounting. White letters on a black background. Minimum letter height shall be 1 inch (25 mm).

12.0 TRANSFORMERS:

A. Comply with NEMA ST 20, and list and label as complying with UL 1561.

B. Cores: One leg per phase.

C. Coil Material: Aluminum.

D. Enclosure: Ventilated, NEMA 250, type,

1. Core and coil shall be encapsulated within resin compound, sealing out moisture and air.
2. Finish: Comply with NEMA 250 for indoor corrosion protection.
3. Finish Color: Gray.

E. Taps for transformers 25 KVA and larger: Two 2.5 percent taps above and two 2.5 percent taps below normal full capacity.

F. Manufacturers: Square-D, Siemens, ABB/GE or Eaton/Cutler Hammer.

13.0 WIRING DEVICES:

A. Duplex receptacles shall be Hubbell #5352-X grounding type, 20A., 125V.; G.F.C.I. shall be Hubbell GF-5352-X, 20A., 125V.; duplex, G.F.C.I. TYPE. Isolated ground receptacles shall be orange in color, Hubbell IG-5352, 20A, 125V, duplex. Isolated ground receptacles shall be equipped with a Hubbell IGP-8 plate, orange in color inscribed "Isolated Ground". Wall toggle switches shall be Hubbell Number 1221-X and Number 1223-X for single pole and three way types respectively. Other switch, receptacle, and outlet device variations shall be by Hubbell of "Spec. Grade" quality. Equivalent devices of P & S or Leviton will be acceptable in lieu of the above listed devices. Contractor to verify color of devices with Architect before purchase. Provide brushed stainless steel cover plates to mate and match device for each outlet.

14.0 LIGHTING FIXTURES:

A. This Contractor shall furnish and install complete, unless otherwise specified, a lighting fixture on each and every lighting outlet shown on the drawings of each type scheduled by letter and description. All fixtures shall be equipped with lamps as scheduled or specified herein. All fixtures installed in suspended ceilings must be securely fastened to framing members per NEC 410-36b and local seismic code requirements.

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ELECTRICAL

15.0 FIRE ALARM SYSTEM:

A. Fire alarm system shall be a delegated design, contractor shall be responsible for layout and design of the fire alarm system. Submit all necessary documentation including stamped and signed drawings to the authority having jurisdiction and obtain necessary permits for approval and installation of the system prior to submitting shop drawings.

B. Engineer's drawings showing fire alarm devices are schematic, and only provide code intent, coordination, and all devices may not be indicated. Final layout shall be provided by the Fire Alarm contractor. Fire alarm contractor shall become the Designer of Record as such, the contractor shall be responsible to verify device layouts comply with all applicable codes and shall include in bid all cost associated with additional devices should they be required. Final layout shall be coordinated with the architect and plans.

C. Contractor shall include in bid all cost associated with Fire alarm modifications.

D. Contractor shall provide a complete fire alarm system with intelligent addressable devices. Systems shall be non-coded fire alarm protective type system. Fire alarm audible and visual devices shall be placed throughout the facility. Manual pull stations shall be located at each exterior exit and stairwell per code requirements. Heat/smoke detectors for mechanical equipment shall be interlocked and connected to alarm system in accordance with NFPA 90A and 96. Water flow devices, tamper devices and elevator capture shall be per NFPA and local code requirements.

E. All detection devices shall be addressable, non-coded fire alarm protective type matching base building type and style. Overall system shall utilize the following:

1. Fire alarm speakers and strobes shall be located throughout the facility per code requirements.
2. Manual pull stations shall be located at each exterior exit and stairwell and be per code requirements.
3. System signal wire shall be type THHN in conduit or shall be UL listed plenum cable.

F. All new equipment shall be ADA compliant, be by one manufacturer, and warranted for a minimum of one year.

END OF SECTION

SECTION 260573

OVERCURRENT PROTECTIVE DEVICE COORDINATION STUDY

PART 1 - GENERAL

1.0 SUMMARY

A. Section includes a computer-based, fault-current study to determine the minimum interrupting capacity of circuit protective devices.

B. The AIC ratings indicated on the Drawings are preliminary and will be finalized based on the results of the fault current study. Equipment AIC ratings for furnished equipment shall be as required by the results of the fault current study at no additional cost.

C. Section includes computer-based, overcurrent protective device coordination studies to determine overcurrent protective devices and to determine overcurrent protective device settings for selective tripping.

D. Section includes a computer-based, arc-flash study to determine the arc-flash hazard distance and the incident energy to which personnel could be exposed during work on or near electrical equipment.

E. The study shall be performed by a professional engineer employed by the manufacturer of the switchboards and panelboards furnished for the project. The report shall be submitted with the manufacturers name, logo and standard letterhead. A study performed by a third-party engineer that is not employed by the manufacturer will not be accepted.

F. Overcurrent protective device coordination study must be completed and accepted prior to ordering associated equipment so that device ratings can be coordinated and modified as required. Product data submittals for switchboards, panelboards and overcurrent protection devices received prior to receiving the overcurrent protective device study will be rejected and returned. Product data submittals for switchboards, panelboards and overcurrent protection devices will not be returned until the coordination study has been reviewed and accepted by the Engineer.

1.1 SCOPE

A. The study shall originate at the utility service entrance and include the distribution system that serves the equipment included in the project scope. The study shall include the equipment indicated in the Riser / One Line Diagrams included in the Construction Documents.

1.2 DEFINITIONS

A. Existing to Remain: Existing items of construction that are not to be removed and that are not otherwise indicated to be removed and salvaged, or removed and reinstalled. Existing to remain items shall remain functional throughout the construction period.

B. Field Adjusting Agency: An independent electrical testing agency with full-time employees and the capability to adjust devices and conduct testing indicated and that is a member company of NETA.

C. OCPD: Overcurrent Protective Device

D. One-Line Diagram: A diagram that shows, by means of single lines and graphic symbols, the course of an electric circuit or system of circuits and the component devices or parts used therein. Sometimes also referred as "Single Line Diagram" or "Electrical Riser Diagram".

E. Power System Analysis Software Developer: An entity that commercially develops, maintains, and distributes computer software used for power system studies.

F. Power Systems Analysis Specialist: Professional engineer in charge of performing the study and documenting recommendations, licensed in the state where Project is located.

G. Protective Device: A device that senses when an abnormal current flow exists and then removes the affected portion of the circuit from the system.

H. SCCR: Short-circuit current rating.

I. Service: The conductors and equipment for delivering electric energy from the serving utility to the wiring system of the premises served.

1.3 SUBMITTALS

A. Product Data: For computer software program to be used for studies;

B. Qualification Data: For coordination-study specialist; For Field Adjusting Agency.

C. Study Report Submittal: Study input data, including completed computer program input data sheets; Short-circuit analysis study and equipment evaluation report; Coordination-study analysis along with recommended OCPD settings report; Arc flash hazard analysis study; Study output data, tables, and related information; Study recommendations; Include the short-circuit study, overcurrent protective device coordination study, and arc flash study into a complete combined report.

1.4 CLOSEOUT SUBMITTALS

A. Operation and Maintenance Data: For overcurrent protective devices to include in emergency, operation, and maintenance manuals; Final report after any noted corrections; Provide maintenance procedures in equipment manuals according to requirements in NFPA 70E.

1.5 QUALITY ASSURANCE

A. Study shall be performed using commercially developed and distributed software designed specifically for power system analysis.

B. Software algorithms shall comply with requirements of standards and guides specified in this Section.

C. Manual calculations are unacceptable.

D. Coordination Study Specialist Qualifications: An organization experienced in the application of computer software used for studies, having performed successful studies of similar magnitude on electrical distribution systems using similar devices. Professional engineer, licensed in the state where Project is located, shall be responsible for the study. All elements of the study shall be performed under the direct supervision and control of this professional engineer. The professional engineer shall be employed by the manufacturer of the switchboards and panelboards furnished for the project. The report shall be submitted with the manufacturers name, logo and standard letterhead. A study performed by a third-party engineer that is not employed by the manufacturer will not be accepted.

E. Comply with IEEE 399 for general study procedures.

F. Comply with IEEE 242 for short-circuit currents and coordination time intervals.

G. Comply with IEEE 1584 and NFPA 70E for arc-flash hazard calculations.

PART 2 - PRODUCTS

2.1 SHORT-CIRCUIT STUDY REPORT CONTENTS

A. Executive summary of study findings.

B. Study descriptions, purpose, basis, and scope. Include case descriptions, definition of terms, and guide for interpretation of results.

C. One-line diagram of modeled power system.

D. Comments and recommendations for system improvements or revisions in a written document, separate from one-line diagram.

E. Evaluate equipment and protective devices and compare to available short-circuit currents. Verify that equipment withstand ratings exceed available short-circuit current at equipment installation locations.

F. Tabulations of circuit breaker, fuse, and other protective device ratings versus calculated short-circuit duties.

G. Short-Circuit Study Input Data: One-line diagram of system being studied; Power sources available; Manufacturer, model, and interrupting rating of protective devices; Conductors; Transformer data.

H. Short-Circuit Study Output Reports: Low-Voltage Fault Report; Momentary Duty Report; Interrupting Duty Report.

2.2 COORDINATION STUDY REPORT CONTENTS

A. Executive summary of study findings.

B. Study descriptions, purpose, basis, and scope. Include case descriptions, definition of terms, and guide for interpretation of results.

C. One-line diagram of modeled power system.

D. Protective Device Coordination Study: Report recommended settings of protective devices, ready to be applied in the field. Use manufacturer's data sheets for recording the recommended setting of overcurrent protective devices when available.

E. Time-Current Coordination Curves: Determine settings of overcurrent protective devices to achieve selective coordination. Graphically illustrate that adequate time separation exists between devices installed in series, including power utility company's upstream devices. Prepare separate sets of curves for the switching schemes and for emergency periods where the power source is local generation.

2.3 ARC-FLASH STUDY REPORT CONTENT

A. Executive summary of study findings.

B. Study descriptions, purpose, basis, and scope. Include case descriptions, definition of terms, and guide for interpretation of results.

C. One-line diagram, showing the following: OCPD, conductors, transformers, motor and generators, switchgear, switchboard, motor-control center, panelboard designations, and ratings.

D. Arc-Flash Study Output Reports: Interrupting Duty Report

E. Incident Energy and Flash Protection Boundary Calculations:

F. Fault study input data, case descriptions, and fault-current calculations including a definition of terms and guide for interpretation of computer printout.

2.4 ARC-FLASH WARNING LABELS

A. Label shall have an orange header with the wording, "WARNING, ARC-FLASH HAZARD," and shall include the following information taken directly from the arc-flash hazard analysis: Location designation; Nominal voltage; Protection boundaries; Arc flash PPE category; Required minimum arc rating of PPE in Calcim squared; Available incident energy; Working distance; Engineering report number, revision number, and issue date.

B. Labels shall be machine printed, with no field-applied markings.

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Lee's Summit, Missouri
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CLIENT

PROJECT TITLE

Q39 (SHELL)
LEE'S SUMMIT, MO
OLDHAM VILLAGE

PROJECT NUMBER
62910099

PROJECT MANAGER	DRAWN BY	CHECKED BY
AVM	EDG	

PROFESSIONAL SEAL

REGISTERED ARCHITECT
ANTHONY V. MOSER
NUMBER
PE-2009035119
PROFESSIONAL ENGINEER
05.01.2025

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ISSUES AND REVISIONS

NUMBER	DATE	DESCRIPTION
0	05/01/25	ORIGINAL ISSUE

SHEET NAME

SPECIFICATIONS

SHEET NUMBER

MEP101

PART 3 - EXECUTION

3.1 POWER SYSTEM DATA

A. Obtain all data necessary for conduct of the study.

B. Gather and tabulate the required input data to support the study. Record data on a Record Document copy of one-line diagram. Comply with recommendations in IEEE 551 as to the amount of detail that is required to be acquired in the field. Field data gathering shall be under direct supervision and control of the engineer in charge of performing the study, and shall be by the engineer or its representative who holds NETA ETT-Certified Technician Level III or NICET Electrical Power Testing Level III certification.

3.2 SHORT-CIRCUIT STUDY

A. Perform study following the general study procedures contained in IEEE 399.

B. Calculate short-circuit currents according to IEEE 551.

C. Base study on device characteristics supplied by device manufacturer.

D. Extent of electrical power system to be studied is indicated on Drawings.

E. Begin short-circuit current analysis at the service, extending down to system overcurrent protective devices to where fault current is 10 kA or less.

F. Study electrical distribution system from normal and alternate power sources throughout electrical distribution system for Project. Study all cases of system-switching configurations and alternate operations that could result in maximum fault conditions.

G. Include the ac fault-current decay from induction motors, synchronous motors, and asynchronous generators and apply to low- and medium-voltage, three-phase ac systems. Also account for the fault-current dc decrement to address asymmetrical requirements of interrupting equipment.

H. Calculate short-circuit momentary and interrupting duties for a three-phase bolted fault and a single line-to-ground fault at each equipment indicated on one-line diagram.

I. Include in the report identification of any protective device applied outside its capacity.

3.3 COORDINATION STUDY

A. Comply with IEEE 242 for calculating short-circuit currents and determining coordination time intervals.

B. Comply with IEEE 399 for general study procedures.

C. Base study on device characteristics supplied by device manufacturer.

D. Extent of electrical power system to be studied is indicated on Drawings.

E. Begin analysis at the service, extending down to system overcurrent protective devices where fault current is 10 kA or less.

F. Study electrical distribution system from normal and alternate power sources throughout electrical distribution system for Project. Study all cases of system-switching configurations and alternate operations that could result in maximum fault conditions.

G. Transformer Primary Overcurrent Protective Devices:

H. Motor Protection: Select protection for low-voltage motors according to IEEE 242 and NFPA 70.

I. Conductor Protection: Protect cables against damage from fault currents according to ICEA P-32-382, ICEA P-45-482, and protection recommendations in IEEE 242. Demonstrate that equipment withstands the maximum short-circuit current for a time equivalent to the tripping time of the primary relay protection or total clearing time of the fuse. To determine temperatures that damage insulation, use curves from cable manufacturers or from listed standards indicating conductor size and short-circuit current.

J. Generator Protection: Select protection according to manufacturer's written instructions and to IEEE 242.

K. Include the ac fault-current decay from induction motors, synchronous motors, and asynchronous generators and apply to low- and medium-voltage, three-phase ac systems. Also account for fault-current dc decrement, to address asymmetrical requirements of interrupting equipment.

L. Calculate short-circuit momentary and interrupting duties for a three-phase bolted fault and a single line-to-ground fault at each equipment indicated on one-line diagram.

M. Protective Device Evaluation: Evaluate equipment and protective devices and compare to short-circuit ratings; Adequacy of equipment bus bars to withstand short-circuit stresses; Any application of series-rated devices shall be recertified, complying with requirements in NFPA 70; Include in the report identification of any protective device applied outside its capacity.

3.4 ARC-FLASH HAZARD ANALYSIS

A. Comply with NFPA 70E and its Annex D for hazard analysis study.

B. Preparatory Studies: Perform the Short-Circuit and Protective Device Coordination studies prior to starting the Arc-Flash Hazard Analysis.

C. Calculate maximum and minimum contributions of fault-current size.

D. Calculate the arc-flash protection boundary and incident energy at locations in electrical distribution system where personnel could perform work on energized parts.

E. Calculate the limited, restricted, and prohibited approach boundaries for each location.

F. Incident energy calculations shall consider the accumulation of energy over time when performing arc-flash calculations on buses with multiple sources. Iterative calculations shall take into account the changing current contributions, as the sources are interrupted or decremented with time.

G. Arc-flash energy shall generally be reported for the maximum of line or load side of a circuit breaker.

H. Base arc-flash calculations on actual overcurrent protective device clearing time. Cap maximum clearing time at two seconds based on IEEE 1584, Section B.1.2.

3.5 FIELD ADJUSTING

A. Adjust relay and protective device settings according to recommended settings provided by the coordination study.

B. Make minor modifications to equipment as required to accomplish compliance with short-circuit and protective device coordination studies.

C. Testing and adjusting shall be by a full-time employee of the Field Adjusting Agency, who holds NETA ETT-Certified Technician Level III or NICET Electrical Power Testing Level III certification. Perform each visual and mechanical inspection and electrical test stated in NETA ATS. Certify compliance with test parameters. Perform NETA tests and inspections for all adjustable overcurrent protective devices.

3.6 ARC FLASH LABELING

A. Apply arc-flash label on the front cover and on side or rear covers with accessible live parts and hinged doors or removable plates for each equipment included in the study. Base arc-flash label data on highest values calculated at each location.

B. Each piece of equipment listed below shall have an arc-flash label applied to it: Motor-control center; Low-voltage switchboard; Switchgear; Low voltage transformers; Panelboards; Safety switches; Control panel; Automatic Transfer Switch; Generator.

C. Note on record Drawings the location of equipment where the personnel could be exposed to arc-flash hazard during their work. Indicate arc-flash energy. Indicate protection level required.

3.7 APPLICATION OF WARNING LABELS

A. Install arc-flash warning labels under the direct supervision and control of Power System Analysis Specialist.

3.8 DEMONSTRATION

A. Engage Power Systems Analysis Specialist to train Owner's maintenance personnel.

B. Acquaint personnel in fundamentals of operating the power system in normal and emergency modes.

C. Hand-out and explain the coordination study objectives, study descriptions, purpose, basis, and scope. Include case descriptions, definition of terms, and guide for interpreting time-current coordination curves.

D. For Owner's maintenance staff certified as NETA ETT-Certified Technicians Level III or NICET Electrical Power Testing Level III Technicians, teach how to adjust, operate, and maintain overcurrent protective device settings.

E. Inform of the potential arc-flash hazards associated with working on energized equipment and the significance of arc-flash warning labels.

END OF SECTION

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Lee's Summit, Missouri
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PROJECT TITLE

Q39 (SHELL)
LEE'S SUMMIT, MO
OLDHAM VILLAGE

PROJECT NUMBER
62910099

PROJECT MANAGER	DRAWN BY	CHECKED BY
AVM	EDG	

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REGISTERED ARCHITECT
NUMBER
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ISSUES AND REVISIONS

NUMBER	DATE	DESCRIPTION
0	05/01/25	ORIGINAL ISSUE

SHEET NAME

SPECIFICATIONS

SHEET NUMBER

MEP102

ROOFTOP UNIT SCHEDULE

MARK NO.	MANUFACTURER	MODEL	AIRFLOW CFM	MIN O.A. CFM	EXT. S.P. (IN W.G.)	FAN HP	FAN DRIVE TYPE	RPM	COOLING								HEATING-GAS			NOTES	ELECTRICAL									
									AMB. (°F)	EDB (°F)	EWB (°F)	LDB (°F)	LWB (°F)	TOTAL MBH	SENS. MBH	STAGES	EER	INPUT MBH	OUTPUT MBH	STAGES		VOLT	PHASE	HZ	FLA	MCA	MOCP	DISCONNECT	CIRCUIT TO PANEL	BRANCH CIRCUIT TAG / SIZE	NOTES
RTU-1	YORK	KV15N3	6000	1800	0.8	3	BELT	862	95	80	67	58.9	57.4	182	136.5	4	10.9	400	324	2	1-8	480	3	60	36	40.2	50	INTEGRAL	HDP	1" C. (4) #6, (1) #10 G.	A
RTU-2	YORK	KLG14F4	5000	1500	0.8	5	BELT	1090	95	80	67	59.2	57.3	154	112.5	3	11	250	203	2	1-8	480	3	60	31.5	34.3	40	INTEGRAL	HDP	3/4" C. (4) #8, (1) #10 G.	A
RTU-3	YORK	KLG14F4	5000	1500	0.8	5	BELT	1090	95	80	67	59.2	57.3	154	112.5	3	11	250	203	2	1-8	480	3	60	31.5	34.3	40	INTEGRAL	HDP	3/4" C. (4) #8, (1) #10 G.	A
RTU-4	YORK	KV25N3	8800	2400	0.8	7.5	BELT	1069	95	80	67	58.3	56	303.6	206.4	4	10	400	324	2	1-8	480	3	60	62.3	67.1	80	INTEGRAL	HDP	1-1/4" C. (4) #3, (1) #8 G.	A

NOTES:
1. PROVIDE WITH WALL MOUNTED 24/7 PROGRAMMABLE THERMOSTAT WITH HUMIDITY CONTROL AND REMOTE TEMPERATURE/HUMIDITY SENSOR, COTTONWOOD FILTERS SUCH AS AIR SOLUTION COMPANY MEDIUM DUTY COMMERCIAL GRADE FILTERS, HINGED ACCESS PANELS, DISCONNECT SWITCH, CONDENSATE DRAIN TRAP, AND DRAIN PAN OVERFLOW SWITCH TO SHUT DOWN UNIT IF DRAIN BECOMES CLOGGED.
2. PROVIDE WITH HOT GAS REHEAT.
3. PROVIDE WITH ECONOMIZER WITH DIFFERENTIAL ENTHALPY CONTROL. INCLUDE WITH BAROMETRIC RELIEF DAMPER UNLESS NOT REQUIRED FOR UNITS EQUIPPED WITH POWERED EXHAUST.
4. PROVIDE WITH POWERED EXHAUST.
5. PROVIDE WITH MULTI-SPEED SUPPLY FAN TO VARY FAN SPEED WITH COMPRESSOR STAGING ON UNITS WITH 2 STAGES OF COOLING. ADJUST OUTSIDE AIR DAMPER MINIMUM POSITION FOR HIGH AND LOW FAN SPEEDS.
6. PROVIDE WITH UNIT MOUNTED GFCI OUTLET WITH WEATHERPROOF COVER. OUTLET TO BE FIELD POWERED/WIRED FROM BUILDING POWER
7. PROVIDE WITH ROOF CURB OF HEIGHT REQUIRED TO HAVE THE TOP OF THE CURB A MINIMUM OF 8" ABOVE THE TOP OF THE ROOF SURFACE, OR MINIMUM CURB HEIGHT OF 18", WHICHEVER IS GREATER.
8. UNIT TO BE CONFIGURED FOR DOWNFLOW DISCHARGE.

NOTES: A. ELECTRICAL CONTRACTOR SHALL COORDINATE WITH MECHANICAL CONTRACTOR TO PROVIDE CONNECTION TO MANUFACTURER PROVIDED EQUIPMENT.

MAKE-UP AIR SUPPLY PACKAGE SCHEDULE

MARK NO.	MANUFACTURER	MODEL	AIRFLOW CFM	EXT. S.P. (IN W.G.)	FAN HP	RPM	COOLING						HEATING-GAS			NOTES	ELECTRICAL								
							AMB. (°F)	EDB (°F)	EWB (°F)	TOTAL MBH	SENS. MBH	STAGES	INPUT MBH	OUTPUT MBH	STAGES		VOLT	PHASE	HZ	FLA	MCA	MOCP	DISCONNECT	CIRCUIT TO PANEL	BRANCH CIRCUIT TAG / SIZE	NOTES
MAU-1	ACCUREX	XDGX-P122-H22-D1-16	8935	0.5	7.5	1800	100	97	80	200.1	191.3	1	800	736	VARIABLE	1,2	480	3	60	30.6	38.2	50	INTEGRAL	HDP	1" C. (4) #6, (1) #10 G.	A
MAU-2	ACCUREX	XDGX-P118-H12-D1-8	5000	0.5	5	1800	100	97	80	108.7	103.9	1	400	368	VARIABLE	1,2	480	3	60	19.1	23.8	35	INTEGRAL	HDP	3/4" C. (4) #8, (1) #10 G.	A

NOTES:
1. PROVIDE WITH DISCONNECT SWITCH.
2. PROVIDE WITH ROOF CURB OF HEIGHT REQUIRED TO HAVE THE TOP OF THE CURB A MINIMUM OF 8" ABOVE THE TOP OF THE ROOF SURFACE, OR MINIMUM CURB HEIGHT OF 18", WHICHEVER IS GREATER.

NOTES: A. ELECTRICAL CONTRACTOR SHALL COORDINATE WITH MECHANICAL CONTRACTOR TO PROVIDE CONNECTION TO MANUFACTURER PROVIDED EQUIPMENT.

RADIANT HEATER SCHEDULE

MARK	MANUFACTURER	MODEL	HEATING (NATURAL GAS)	CLEARANCE TO COMBUSTIBLES			NOTES	ELECTRICAL									
			INPUT (MBH)	ENDS (IN.)	ABOVE (IN.)	BELOW (IN.)		VOLT	PHASE	HZ	FLA	MCA	MOCP	DISCONNECT	CIRCUIT TO PANEL	BRANCH CIRCUIT TAG / SIZE	NOTES
GEH-1	SUNSTAR	SGL50-N7	50	14	17	48	1,2,3	120	1	60	0.4	1	15	15A/1P TOGGLE	P1	2 #12, #12G, 3/4"C	A,B
GEH-2	SUNSTAR	SGL50-N7	50	14	17	48	1,2,3	120	1	60	0.4	1	15	15A/1P TOGGLE	P1	2 #12, #12G, 3/4"C	A,B
GEH-3	SUNSTAR	SGL50-N7	50	14	17	48	1,2,3	120	1	60	0.4	1	15	15A/1P TOGGLE	P1	2 #12, #12G, 3/4"C	A,B
GEH-4	SUNSTAR	SGL50-N7	50	14	17	48	1,2,3	120	1	60	0.4	1	15	15A/1P TOGGLE	P1	2 #12, #12G, 3/4"C	A,B
GEH-5	SUNSTAR	SGL50-N7	50	14	17	48	1,2,3	120	1	60	0.4	1	15	15A/1P TOGGLE	P1	2 #12, #12G, 3/4"C	A,B
GEH-6	SUNSTAR	SGL50-N7	50	14	17	48	1,2,3	120	1	60	0.4	1	15	15A/1P TOGGLE	P1	2 #12, #12G, 3/4"C	A,B

NOTES:
1. PROVIDE WITH MANUFACTURER'S 2-STAGE DIGITAL THERMOSTAT. REFER TO PLAN FOR T-STAT QUANTITY. PROVIDE RELAY KITS AS REQUIRED TO CONNECT MULTIPLE HEATERS TO T-STAT.
2. PROVIDE WITH HEAT SHIELD FOR REDUCED CLEARANCE REQUIREMENTS.
3. PROVIDE WALL / CEILING TELESCOPIC ADJUSTABLE MOUNTING BRACKET KIT.

NOTES:
A. ELECTRICAL CONTRACTOR SHALL PROVIDE DISCONNECT AND COORDINATE LOCATION WITH MECHANICAL CONTRACTOR PRIOR TO INSTALL.
B. CIRCUIT THROUGH RELAY PANEL. COORDINATE ON/OFF SCHEDULE WITH OWNER.

UNIT HEATER SCHEDULE

MARK NO.	MANUFACTURER	MODEL	TYPE	AIRFLOW (CFM)	HEATING (ELEC.)		NOTES	ELECTRICAL									
					OUTPUT (MBH)	INPUT (KW*)		VOLT	PHASE	HZ	FLA	MCA	MOCP	DISCONNECT	CIRCUIT TO PANEL	BRANCH CIRCUIT TAG / SIZE	NOTES
UH-1	BERKO	HUHAA527	HORIZONTAL	350	17	5	1,2,3	277	1	60	18.0	22.6	25	INTEGRAL	L	3/4" C. (4) #10, (1) #10 G.	A
UH-2	BERKO	HUHAA527	HORIZONTAL	350	17	5	1,2,3	277	1	60	18.0	22.6	25	INTEGRAL	L	3/4" C. (4) #10, (1) #10 G.	A
UH-3	BERKO	HUHAA527	HORIZONTAL	350	17	5	1,2,3	277	1	60	18.0	22.6	25	INTEGRAL	L	3/4" C. (4) #10, (1) #10 G.	A

NOTES:
1. PROVIDE WITH DISCONNECT SWITCH.
2. PROVIDE WITH INTEGRAL THERMOSTAT.
3. PROVIDE WITH WALL HANGING KIT.

*HEATING KW IS NET CAPACITY AT VOLTAGE AND PHASE INDICATED.

NOTES: A. ELECTRICAL CONTRACTOR SHALL COORDINATE WITH MECHANICAL CONTRACTOR TO PROVIDE CONNECTION TO MANUFACTURER PROVIDED EQUIPMENT.

FAN SCHEDULE

MARK NO.	MANUFACTURER	MODEL	TYPE	AIRFLOW (CFM)	S.P. (IN W.G.)	FAN TYPE	SONES	RPM	DRIVE	HP	NOTES	ELECTRICAL									
												VOLT	PHASE	HZ	FLA	MCA	MOCP	DISCONNECT	CIRCUIT TO PANEL	BRANCH CIRCUIT TAG / SIZE	NOTES
EF-1	GREENHECK	G-140-VG	ROOF MOUNTED	1225	0.5	BI	7.6	1044	DIRECT	1/2	1	115	1	60.00	6.4	8	15	15A/1P TOGGLE	P1	2 #12, #12G, 3/4"C	A,B

NOTES:
1. PROVIDE WITH ROOF CURB, DISCONNECT SWITCH, EC MOTOR, SPEED CONTROLLER, BIRD SCREEN, AND BACKDRAFT DAMPER.

NOTES:
A. ELECTRICAL CONTRACTOR SHALL COORDINATE WITH MECHANICAL CONTRACTOR TO PROVIDE CONNECTION TO MANUFACTURER PROVIDED EQUIPMENT.
B. CIRCUIT THROUGH RELAY PANEL AND SCHEDULE WITH RADIANT HEATERS.

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Lee's Summit, Missouri
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L|F+a Project No. 25.7474.00

CLIENT

PROJECT TITLE

Q39 (SHELL)
LEE'S SUMMIT, MO
OLDHAM VILLAGE

PROJECT NUMBER
62910099

PROJECT MANAGER	DRAWN BY	CHECKED BY
AVM	EDG	

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1	06/20/25	ADDENDUM 1
2	10/15/25	ADDENDUM 2

SHEET NAME

MEP SCHEDULES

SHEET NUMBER

MEP103

10/15/2025 12:59:14 PM

FLOOR PLAN NOTES

P

P01 PROVIDE NEW 2" RPZ BACKFLOW PREVENTER, WATTS LF009 OR EQUAL. ROUTE WASTE FROM AIR-GAP FITTING TO FLOOR DRAIN AND INDIRECT WASTE.

P02 PROVIDE NEW 1" DOUBLE CHECK BFP, WATTS LF007 OR EQUAL. VALVE AND CAP FOR FUTURE CONNECTION TO IRRIGATION SYSTEM.

P03 VALVE AND CAP 2" COLD WATER FOR FUTURE CONNECTION.

P06 NEW GAS METER BY UTILITY. PROVIDE ALL FITTINGS AND ACCESSORIES REQUIRED FOR COMPLETE INSTALLATION/CONNECTION PER UTILITY STANDARDS. COORDINATE FINAL GAS LOAD WITH UTILITY PRIOR TO CONSTRUCTION.

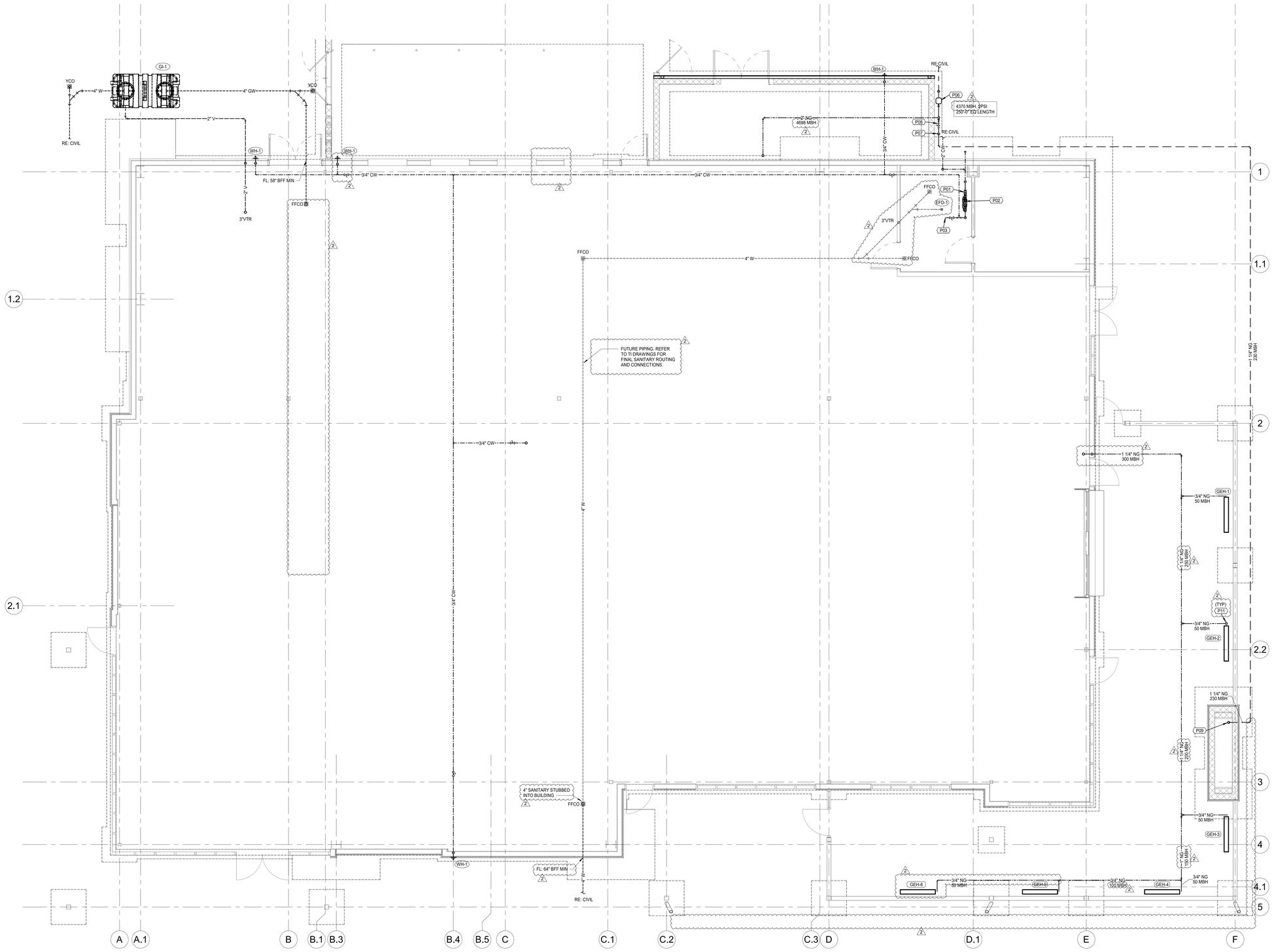
P07 ROUTE GAS PIPING DOWN BELOW GRADE.

P08 PROVIDE INLINE PRESSURE REGULATOR - INLET: 2PSI, OUTLET: 8"WC.

P09 CONNECT TO FIREPLACE WITH GAS COCK, DIRT LEG, AND UNION AND/OR APPLIANCE CONNECTOR IN ACCESSIBLE LOCATION. PROVIDE ELECTRONIC SOLENOID VALVE INTERLOCKED WITH EMERGENCY STOP BUTTON. RE: ELECTRICAL SHEETS FOR LOCATION.

2 P10 NOT USED.

P11 CONNECT TO UNIT HEATER WITH GAS COCK, DIRT LEG, AND UNION.



TRUE

FLOOR PLAN - PLUMBING

SCALE: 1/4" = 1'-0"

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SHEET NAME

FLOOR PLAN - PLUMBING

SHEET NUMBER

P100

FLOOR PLAN NOTES

P

P04 CONNECT TO MECHANICAL EQUIPMENT WITH GAS COCK, DIRT LEG, AND UNION. PROVIDE PRESSURE REGULATOR (INLET: 2PSI, OUTLET: 14" WC) WITHIN 10'-0" OF UNIT CONNECTION.

P05 VALVE AND CAP NATURAL GAS PIPING ON ROOF FOR FUTURE CONNECTION TO EQUIPMENT.



ROOF PLAN - PLUMBING

SCALE: 1/4" = 1'-0"

TRUE

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ROOF PLAN - PLUMBING

SHEET NUMBER

P200

PLUMBING FIXTURE SCHEDULE

MARK NO.	FIXTURE TYPE	MANUFACTURER	MODEL NO.	DESCRIPTION	MINIMUM CONNECTION SIZE			
					CW	HW	WASTE	VENT
EFD-1	EQUIPMENT FLOOR DRAIN	J.R. SMITH	2210Y	MEDIUM CAPACITY, MEDIUM DUTY DUCO CAST IRON BODY, SEDIMENT BUCKET AND GRATE, NO HUB OUTLET. PROVIDE WITH 6" X 4" OVAL FUNNEL WHERE DRAIN RECEIVES INDIRECT WASTE.[AND TRAP PRIMER CONNECTION].	-	-	4"	2"
WH-1	WALL HYDRANT	WOODFORD	67	EXPOSED, FREEZELESS WALL HYDRANT, CHROME PLATED BRASS, 3/4" INLET AND HOSE CONNECTION, INTEGRAL ASSE DOUBLE CHECK BACKFLOW PREVENTER, LOOSE KEY, STEM LENGTH AS REQUIRED.	3/4"	-	-	-
RH-1	ROOF HYDRANT	WOODFORD	SRH-MS	DRAINABLE, FREEZELESS BRASS ROOF HYDRANT, 3/4" INLET AND 3/4" HOSE CONNECTION, ASSE DOUBLE CHECK BACKFLOW PREVENTER, DIVERTER, AUTOMATIC DRAINING, PAL HOOK, LEVER ACTUATOR WITH GALVANIZED STEEL ROD AND ONE PIECE PLUNGER, CAST IRON MOUNTING SUPPORT AND UNDER DECK FLANGE WITH WEATHER PROOF BOOT ASSEMBLY.	3/4"	-	-	-

GREASE INTERCEPTOR SCHEDULE

MARK NO.	MANUFACTURER	MODEL NO.	MATERIAL	INSTALLATION	LIQUID CAPACITY (GAL)	GREASE CAPACITY (LBS)	FLOW RATE (GPM)	INLET/ OUTLET SIZE	COVER TYPE	MAX OPERATING TEMP (°F)	NOTES
GI-1	SCHIER	GB-500	ENGINEERED POLYETHYLENE	BELOW GRADE	510	3,048	100	4"	GAS/WATER TIGHT	140	1,2,3

NOTES:
1. PROVIDE WITH EXTENSION OR RISERS AS REQUIRED TO MEET GRADE/SLAB.
2. PROVIDE HIGH-WATER ANCHOR KIT WHERE INTERCEPTOR IS INSTALLED IN AREA SUSCEPTIBLE TO HIGH WATER TABLE.
3. VENT INTERCEPTOR PER AHJ REQUIREMENTS AND MANUFACTURER'S RECOMMENDATIONS.

NATURAL GAS SCHEDULE

TAG	FIXTURE	CONNECTED LOAD (MBH)	
	MECHANICAL EQUIPMENT		
RTU-1	ROOF TOP UNIT	400	
RTU-2	ROOF TOP UNIT	250	
RTU-3	ROOF TOP UNIT	250	
RTU-4	ROOF TOP UNIT	400	
MAU-1	MAKEUP AIR UNIT	800	2
MAU-2	MAKEUP AIR UNIT	400	
GEH-1	RADIANT HEATER	50	
GEH-2	RADIANT HEATER	50	
GEH-3	RADIANT HEATER	50	
GEH-4	RADIANT HEATER	50	
GEH-5	RADIANT HEATER	50	
GEH-6	RADIANT HEATER	50	
	MECHANICAL EQUIPMENT TOTAL:	**2800**	2
	PLUMBING EQUIPMENT		
-	(FUTURE) WATER HEATER	199	
-	(FUTURE) WATER HEATER	199	
	PLUMBING EQUIPMENT TOTAL:	**398**	
	KITCHEN EQUIPMENT		
-	FUTURE (ESTIMATED)	1500	
	KITCHEN EQUIPMENT TOTAL:	**1500**	
	MISC EQUIPMENT		
	FIRE TABLE - NOT USED	-	
	FIREPLACE	230	2
	MISC EQUIPMENT TOTAL:	**230**	
	TOTAL GAS LOAD	4928	

NOTES:

INTERIOR GAS PIPING SIZED PER TABLE 402.4(5) WITH A TOTAL DEVELOPED LENGTH OF 250'-0" AND A SERVICE PRESSURE OF 2 PSI.

SET PRESSURE REGULATORS TO 8" W.C. OR AS REQUIRED BY EQMT MANUFACTURER.

GENERAL NOTES (TYPICAL ALL SHEETS)

A. PLUMBING CONTRACTOR IS RESPONSIBLE TO SEE THAT WORK MEETS AND IS IN ACCORDANCE WITH ALL REQUIREMENTS OF FEDERAL, STATE, AND LOCAL LAWS AND CODES AND/OR REQUIREMENTS, INCLUDING HEALTH CODES AND BUILDING OWNER.

B. COORDINATE ALL WORK WITH OTHER TRADES PRIOR TO INSTALLATION TO AVOID ROUTING CONFLICTS.

C. INSTALL ELASTOMERIC JOINT SEALER AROUND ALL PIPES PASSING THRU INTERIOR NON- RATED CONCRETE AND MASONRY WALLS, GYPSUM-BOARD PARTITIONS, AND CONCRETE FLOOR/ROOF SLABS. FOR FIRE RATED INTERIOR CONCRETE AND MASONRY WALLS, GYPSUM-BOARD PARTITIONS, AND CONCRETE FLOOR/ROOF SLABS SEAL ALL PIPES. INSTALL FIRESTOP MATERIALS IN ALL GAPS PRIOR TO SEALANT APPLICATION. INSTALL SEALER ACCORDING TO MANUFACTURER'S WRITTEN INSTRUCTIONS.

D. PLUMBING CONTRACTOR SHALL MAKE FINAL CONNECTION TO ALL EQUIPMENT BY OTHERS. VERIFY CONNECTIONS SIZES AND REQUIREMENTS.

E. PLUMBING CONTRACTOR SHALL PROVIDE PRO-SET SYSTEMS 'TRAP GUARD' IN ALL FLOOR DRAIN TRAPS WITHIN PROJECT SCOPE OF WORK.

F. PLUMBING CONTRACTOR SHALL VERIFY WALL THICKNESS WITH ARCHITECT PRIOR TO ORDERING FREEZE PROOF WALL HYDRANTS.

G. UPON REQUEST FOR ELECTRONIC FILES, CONTRACTOR SHALL FILL OUT, SIGN AND RETURN ELECTRONIC MEDIA RELEASE FORM FROM ENGINEER AND PROVIDE PAYMENT FOR FEES STIPULATED ON ELECTRONIC MEDIA RELEASE FORM. UPON RECEIPT OF COMPLETED RELEASE FORM AND PAYMENT, ELECTRONIC FILES WILL BE RELEASED.

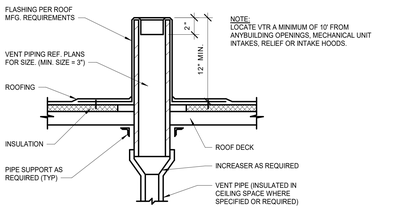
H. ALL CABLE TIES FOR LOW VOLTAGE SYSTEMS LOCATED IN PLENUMS UTILIZED FOR AIR MOVEMENT THAT ARE NOT INSTALLED IN CONDUIT SHALL BE 25/50 FLAME AND SMOKE RATED, HELLERMANN TYTON T50 R2C2UL OR EQUIVALENT.

FIRE STOPPING REQUIREMENTS

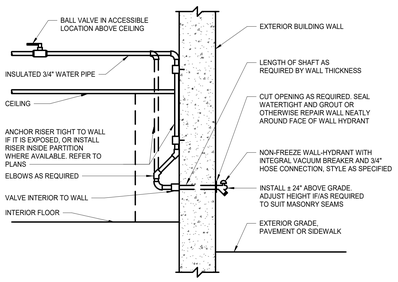
CONTRACTOR TO PROVIDE FIRESTOPPING AT ALL FIRE RATED ASSEMBLIES MEETING THE MANUFACTURER'S FIRESTOPPING U.L. LISTED DETAILS AND INSTRUCTIONS PER LOCAL CODES AND JURISDICTIONS. CONTRACTOR IS RESPONSIBLE FOR COORDINATING LOCATIONS WITH ARCHITECTURAL FIRE RATINGS ON PLANS OR AS REQUIRED.

PLUMBING SYMBOLS

- EXISTING TO REMAIN
- NEW PIPING
- CW - COLD WATER
- NG - NATURAL GAS
- V - SANITARY VENT ABOVE GRD./FLOOR ABOVE
- V - SANITARY VENT BELOW GROUND
- W - SANITARY WASTE BELOW GROUND
- GW - GREASE WASTE ABOVE GRD./FLOOR ABOVE
- GW - GREASE WASTE BELOW GROUND
- GAS SHUT-OFF COCK
- SHUT-OFF VALVE
- PRESSURE REGULATOR
- FLOOR DRAIN OR
- PIPE DROP/ PIPE RISE
- BOTTOM OUTLET TEE
- TOP OUTLET TEE
- WH — WALL HYDRANT
- WALL CLEANOUT
- FFCO — FINISHED FLOOR CLEANOUT
- VTR — VENT THROUGH ROOF
- (DWH-1) EQUIPMENT TYPE AND DESIGNATION
- (L-1) PLUMBING FIXTURE TYPE AND DESIGNATION

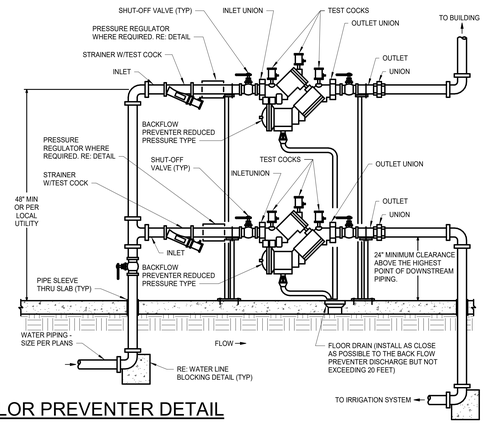


VENT THRU ROOF DETAIL
NOT TO SCALE



NON-FREEZE WALL HYDRANT DETAIL
NOT TO SCALE

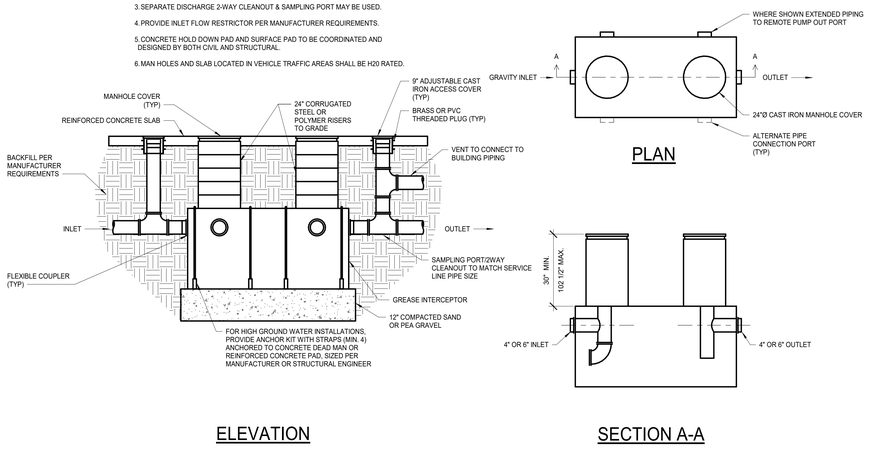
NOTES:
1. PROVIDE PRESSURE REGULATOR. SET TO 75 PSI WHERE SOURCE PRESSURE EXCEEDS 80 PSI. INSTALL DOWNSTREAM OF BACKFLOW PREVENTER OUTLET. RE: DETAIL
2. ARRANGEMENT SHOWN IS SCHEMATIC. MODIFY TO SUIT CONDITIONS. INSTALL SO BFP CAN BE SERVICED AND TESTED IN ACCORDANCE W/ ALL RULES & REGULATIONS OF LOCAL AUTHORITIES.
3. ROUTE DRAIN AS INDICATED ON PLANS.
4. SUPPORT AS REQUIRED FROM SLAB.



INTERIOR BACKFLOR PREVENTER DETAIL
NOT TO SCALE

GENERAL NOTES:

1. INSTALLATION SHALL BE IN ACCORDANCE WITH ALL REQUIREMENTS OF AUTHORITY HAVING JURISDICTION AND MANUFACTURER.
2. PROVIDE INTERCEPTOR COMPLETE WITH ALL ACCESSORIES AS SPECIFIED & AS NECESSARY FOR A COMPLETE WORKING SYSTEM.
3. SEPARATE DISCHARGE 2-WAY CLEANOUT & SAMPLING PORT MAY BE USED.
4. PROVIDE INLET FLOW RESTRICTOR PER MANUFACTURER REQUIREMENTS.
5. CONCRETE HOLD DOWN PAD AND SURFACE PAD TO BE COORDINATED AND DESIGNED BY BOTH CIVIL AND STRUCTURAL.
6. MAN HOLES AND SLAB LOCATED IN VEHICLE TRAFFIC AREAS SHALL BE H20 RATED.



ELEVATION

PLAN

SECTION A-A

POLYETHYLENE UNDERGROUND GREASE INTERCEPTOR DETAIL
NOT TO SCALE

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Approver	Author	

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STATE OF MISSOURI — KYLE M. SMITH — NUMBER PE-2009022261 — PROFESSIONAL ENGINEER
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1	09/29/25	ADDENDUM 1
2	10/15/25	ADDENDUM 2

SHEET NAME

PLUMBING SCHEDULES, GEN. NOTES, & SYMBOLS

SHEET NUMBER

P300

10/16/2025 11:55:08 AM



TRUE

SITE PLAN-ELECTRICAL

SCALE: 1" = 20'-0"

E.00 SITE PLAN NOTES

1. REFERENCE RISER DIAGRAM FOR ADDITIONAL INFORMATION.
2. REFERENCE MANUFACTURER SPECIFICATIONS PRIOR TO INSTALLATION OF POLE MOUNTED LIGHT FIXTURE. REFERENCE LIGHT POLE BASE ON SHEET E003. CONFIRM FINISH COLOR WITH OWNER PRIOR TO ORDERING.
3. LIGHT FIXTURES SHALL BE INSTALLED IN GENERAL LOCATION SHOWN. COORDINATE WITH OTHER TRADES PRIOR TO INSTALL.
4. REFERENCE SHEET E200 FOR CIRCUITING OF BUILDING MOUNTED FIXTURES.
5. REFERENCE LIGHT FIXTURE SCHEDULE FOR ADDITIONAL INFORMATION.
6. ROUTE HOMERUN THROUGH LIGHTING CONTROL RELAY PANEL AS INDICATED. REFER TO SCHEDULES FOR ADDITIONAL INFORMATION.
7. PROVIDE NEMA 3R TOGGLE DISCONNECT SWITCH FOR MONUMENT SIGN. VERIFY EXACT LOCATION AND POWER REQUIREMENTS WITH SIGNAGE VENDOR PRIOR TO INSTALL.
8. VERIFY MONUMENT SIGN POWER REQUIREMENTS WITH OWNER PRIOR TO ROUGH-IN. CALCULATE PROPER CONDUCTOR SIZE REQUIRED TAKING VOLTAGE DROP INTO CONSIDERATION.
9. PROVIDE POWER CONNECTION TO FIRE PIT. PROVIDE EPO AND CONTROL WIRING AS REQUIRED.

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CLIENT

PROJECT TITLE

Q39 (SHELL)
LEE'S SUMMIT, MO
OLDHAM VILLAGE

PROJECT NUMBER
62910099

PROJECT MANAGER	DRAWN BY	CHECKED BY
Approver	Author	

PROFESSIONAL SEAL

REGISTERED MISSOURI ARCHITECT
BRIAN R. ROSEN
NUMBER
PE-2009020128
PROFESSIONAL ENGINEER
10.15.2025

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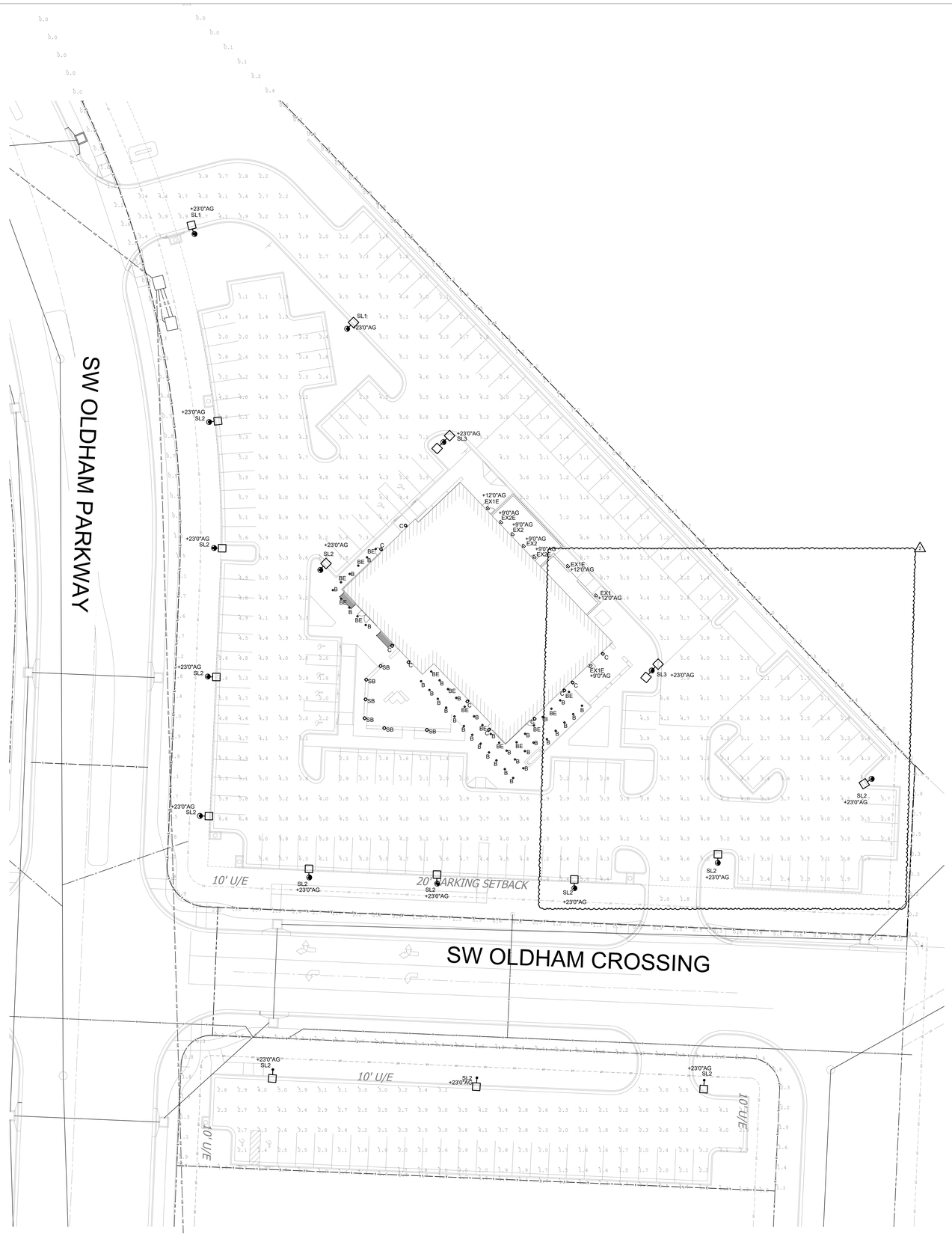
SHEET NAME

SITE PLAN - ELECTRICAL

SHEET NUMBER

E001

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SITE PLAN NOTES

1. PHOTOMETRICS ARE CALCULATED REFERENCING IES FILES FROM SPECIFIED LIGHT FIXTURES. LIGHT FIXTURE ALTERNATES OR CHANGES TO MOUNTING HEIGHTS MAY DIFFER IN PHOTOMETRIC SUMMARY AND SHALL BE CALCULATED AS REQUIRED.

CALCULATION SUMMARY

	CALC TYPE	UNITS	AVG	MAX	MIN	AVG/MIN	MAX/MIN
MAIN PARKING LOT	ILLUMINANCE	FOOTCANDLES	3.89	8.7	1.0	3.90	8.70
SOUTH PARKING LOT	ILLUMINANCE	FOOTCANDLES	2.67	5.0	1.4	1.91	3.57
PROPERTY LINE - MAIN PROPERTY	ILLUMINANCE	FOOTCANDLES	0.84	3.1	0.0	---	---
PROPERTY LINE - SOUTH PARKING	ILLUMINANCE	FOOTCANDLES	1.13	2.3	0.1	11.30	23.00

TRUE

SITE PLAN-PHOTOMETRIC

SCALE: 1" = 20'-0"

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CLIENT

PROJECT TITLE

Q39 (SHELL)
LEE'S SUMMIT, MO
OLDHAM VILLAGE

PROJECT NUMBER
62910099

PROJECT MANAGER	DRAWN BY	CHECKED BY
Approver	Author	

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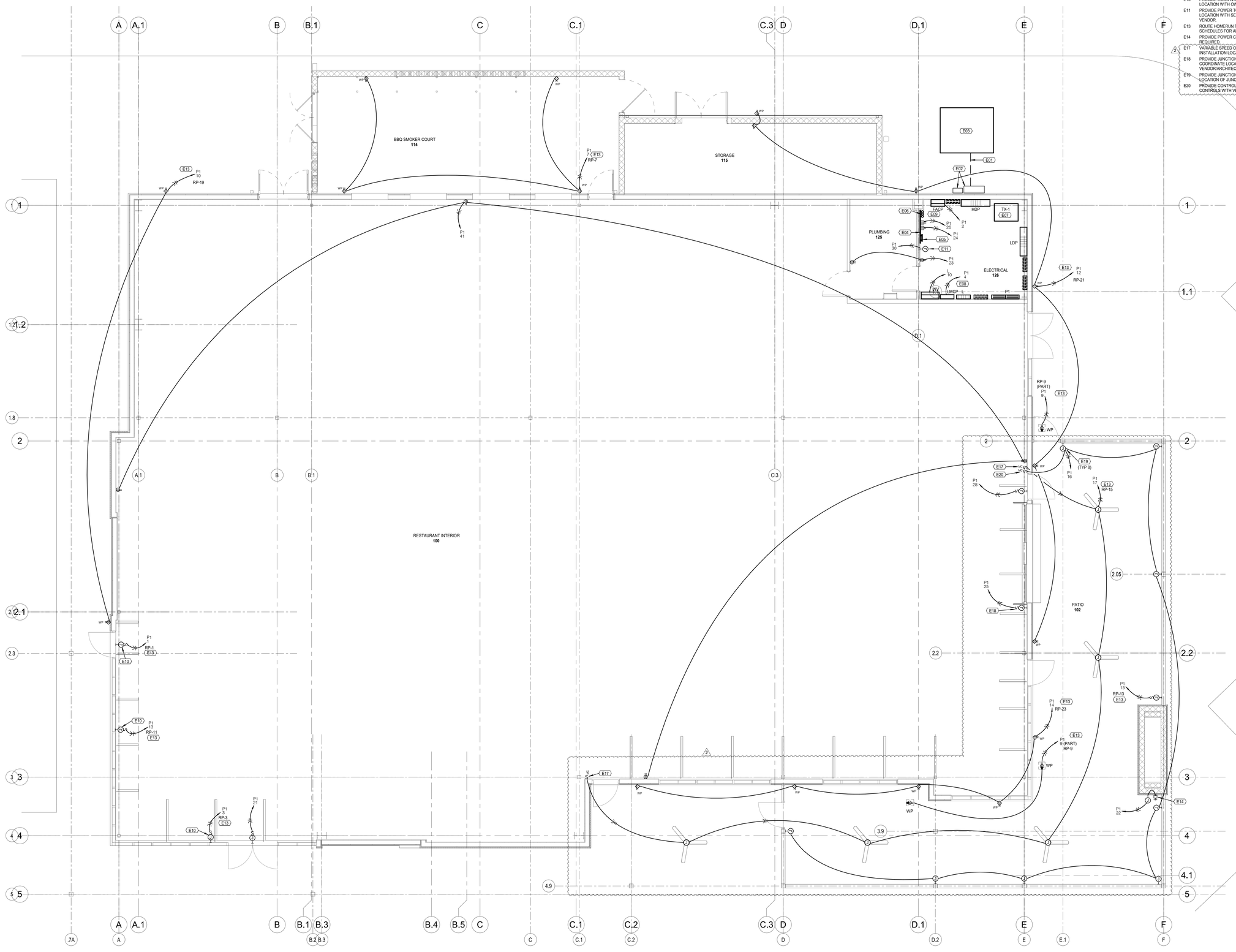
SHEET NAME

SITE PLAN - PHOTOMETRIC

SHEET NUMBER

E002

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FLOOR PLAN NOTES

E

E01 PROVIDE TRANSFORMER SECONDARY FEEDERS.REFER TO RISER DIAGRAM AND FEEDER SCHEDULE FOR MOR INFORMATION.

E02 PROVIDE UTILITY METER BASE AND CT CABINET PER UTILITY STANDARDS. PROVIDE GROUND PER UTILITY STANDARDS. ROUTE CONDUIT TO ELECTRICAL SERVICE ENTRANCE EQUIPMENT.

E03 UTILITY TRANSFORMER PROVIDED BY THE UTILITY COMPANY. PROVIDE CONCRETE PAD PER UTILITY COMPANY STANDARDS. COORDINATE EXACT LOCATION OF PAD WITH ARCHITECTURAL AND CIVIL PLANS. ENSURE THAT UTILITY REQUIRED CLEARANCES ARE MAINTAINED.

E04 PROVIDE 4' X 8' X 3/4" FIRE TREATED PLYWOOD BACKBOARD(S), PAINTED ON ALL SIDES WITH TWO COATS OF WHITE FIRE RETARDANT PAINT.

E05 PROVIDE MAIN TELECOMMUNICATIONS GROUND BAR. PROVIDE WITH STAND-OFF ISOLATORS AND GROUND WIRE BACK TO BUILDING MAIN GROUNDING ELECTRODE SYSTEM.

E06 PROVIDE (3) 3" CONDUITS WITH PULL STRING TO PROPERTY LINE FOR CONNECTION TO SERVICE PROVIDERS. COORDINATE LOCATION AND TERMINATION WITH SERVICE PROVIDERS. STUB UP TO 12" AFF WITHIN DEMARC ROOM.

E07 FLOOR-MOUNT TRANSFORMER ON CONCRETE HOUSEKEEPING PAD. SIZE PAD TO BE 4" WIDER ON ALL SIDES.RE: RISER DIAGRAM FOR ADDITIONAL REQUIREMENTS.

E08 PROVIDE WATTSTOPPER LMCP8-10V LIGHTING CONTROL PANEL WITH EMERGENCY RELAY CAPABILITY OR APPROVED EQUAL.

E09 PROVIDE SILENT KNIGHT FIRE ALARM CONTROL PANEL OR APPROVED EQUAL.

E10 PROVIDE J-BOX WITH TOGGLE SWITCH DISCONNECT FOR SIGNAGE. COORDINATE LOCATION WITH OWNER PRIOR TO INSTALL.

E11 PROVIDE POWER TO SECURITY ACCESS CONTROL PANEL. VERIFY EXACT ROUGH-IN LOCATION WITH SECURITY VENDOR.

E13 ROUTE HOMERUN THROUGH LIGHTING CONTROL RELAY PANEL AS INDICATED. REFER TO SCHEDULES FOR ADDITIONAL INFORMATION.

E14 PROVIDE POWER CONNECTION TO FIREPLACE. PROVIDE EPO AND CONTROL WIRING AS REQUIRED.

2 E17 VARIABLE SPEED ON/OFF WALL CONTROL SWITCH FOR OUTDOOR FANS. COORDINATE INSTALLATION LOCATION WITH ARCHITECT.

E18 PROVIDE JUNCTION BOX WITH TOGGLE DISCONNECT SWITCH FOR ROLL UP DOOR MOTOR. COORDINATE LOCATION OF JUNCTION BOX FOR MOTOR AND MOTOR CONTROLS WITH VENDOR/ARCHITECT PRIOR TO INSTALL.

E19 PROVIDE JUNCTION BOX FOR CONNECTION TO PATIO SCREEN MOTOR. COORDINATE LOCATION OF JUNCTION BOX FOR MOTOR WITH VENDOR/ARCHITECT PRIOR TO INSTALL.

E20 PROVIDE CONTROLS FOR PATIO SCREEN MOTORS. COORDINATE LOCATION OF MOTOR CONTROLS WITH VENDOR/ARCHITECT PRIOR TO INSTALL.

TRUE

FLOOR PLAN - POWER

SCALE: 1/4" = 1'-0"

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CLIENT

PROJECT TITLE

Q39 (SHELL)
LEE'S SUMMIT, MO
OLDHAM VILLAGE

PROJECT NUMBER
62910099

PROJECT MANAGER	DRAWN BY	CHECKED BY
Approver	Author	

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FLOOR PLAN - POWER

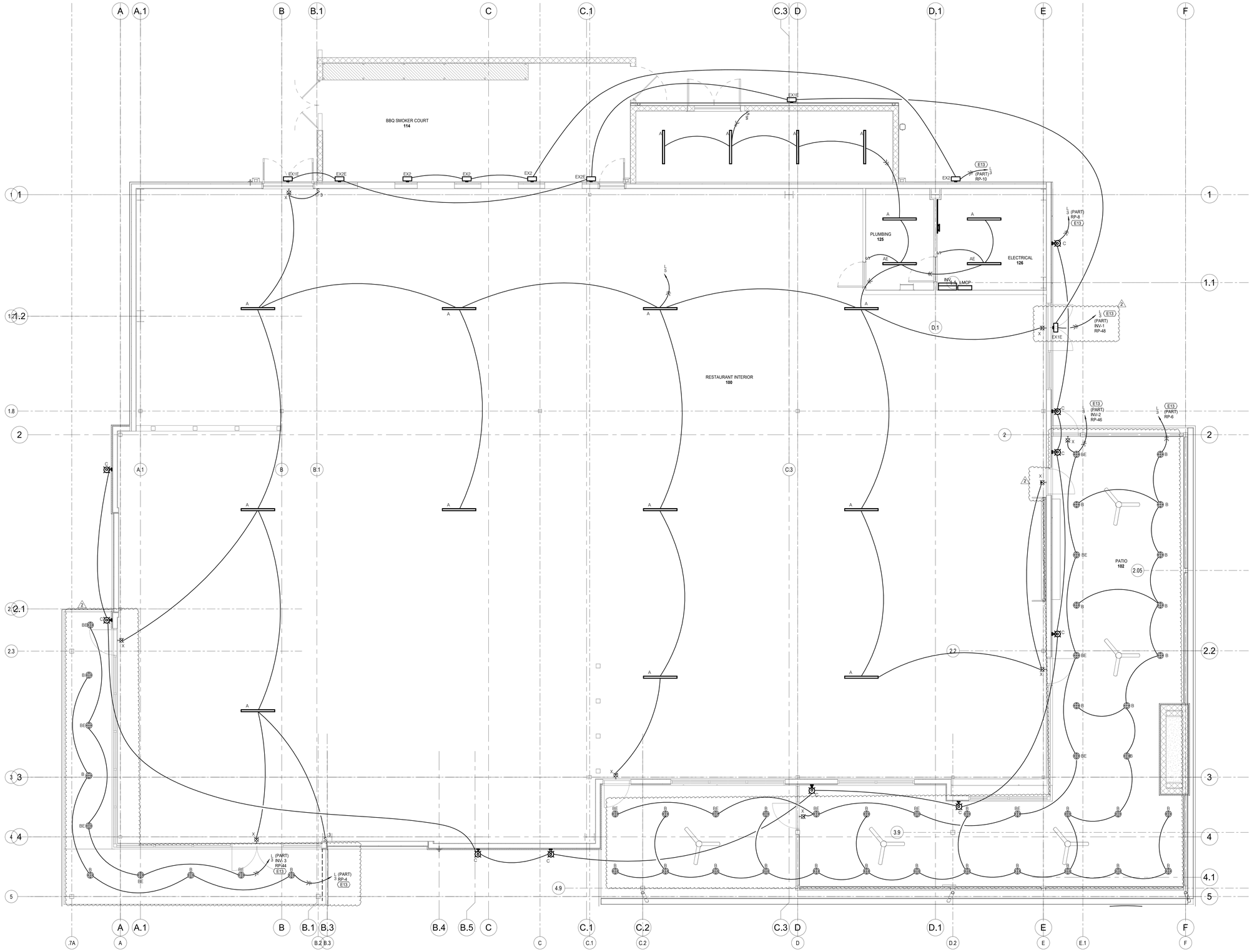
SHEET NUMBER

E100

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FLOOR PLAN NOTES

E13 ROUTE HOMERUN THROUGH LIGHTING CONTROL RELAY PANEL AS INDICATED. REFER TO SCHEDULES FOR ADDITIONAL INFORMATION.



TRUE

FLOOR PLAN - LIGHTING

SCALE: 1/4" = 1'-0"

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OLDHAM VILLAGE

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NUMBER PE-2009002239
PROFESSIONAL ENGINEER
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SHEET NAME

FLOOR PLAN - LIGHTING

SHEET NUMBER

E200

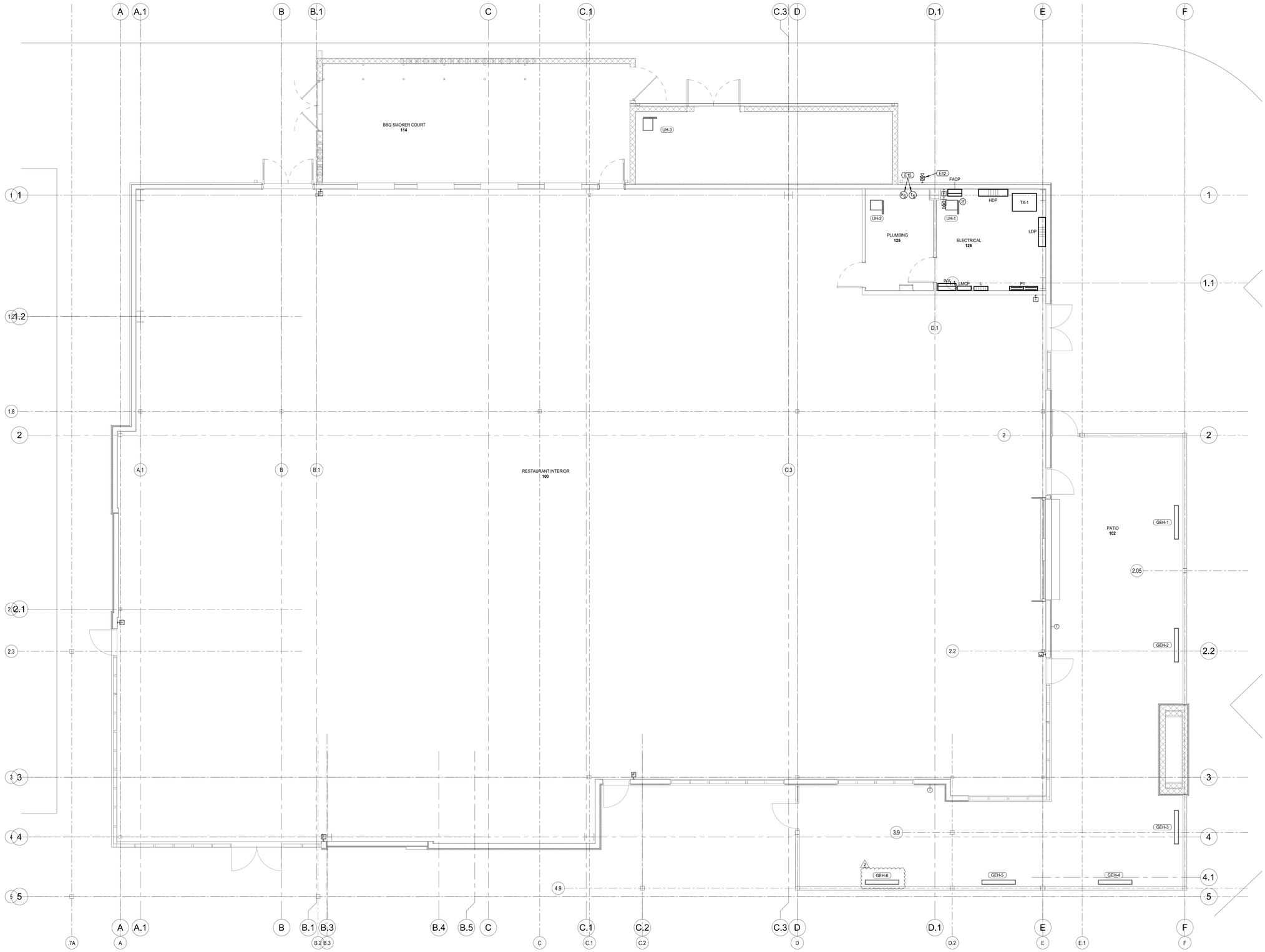
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FLOOR PLAN NOTES

E

E12 PROVIDE WEATHERPROOF HORN/STROBE DEVICE ABOVE SIAMESE FIRE DEPARTMENT CONNECTION.

E15 PROVIDE FIRE ALARM RELAY AND CONNECTIONS TO FIRE SPRINKLER FLOW AND TAMPER SWITCHES AS REQUIRED. COORDAINTE QUANTITY AND LOCATIONS WITH FIRE SPRINKLER CONTRACTOR.



TRUE

FLOOR PLAN - SYSTEMS
SCALE: 1/4" = 1'-0"

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OLDHAM VILLAGE

PROJECT NUMBER
62910099

PROJECT MANAGER	DRAWN BY	CHECKED BY
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STATE OF MISSOURI
STEVEN M. MEYER
NUMBER PE-2009022
PROFESSIONAL ENGINEER
10.15.2025

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FLOOR PLAN - SYSTEMS

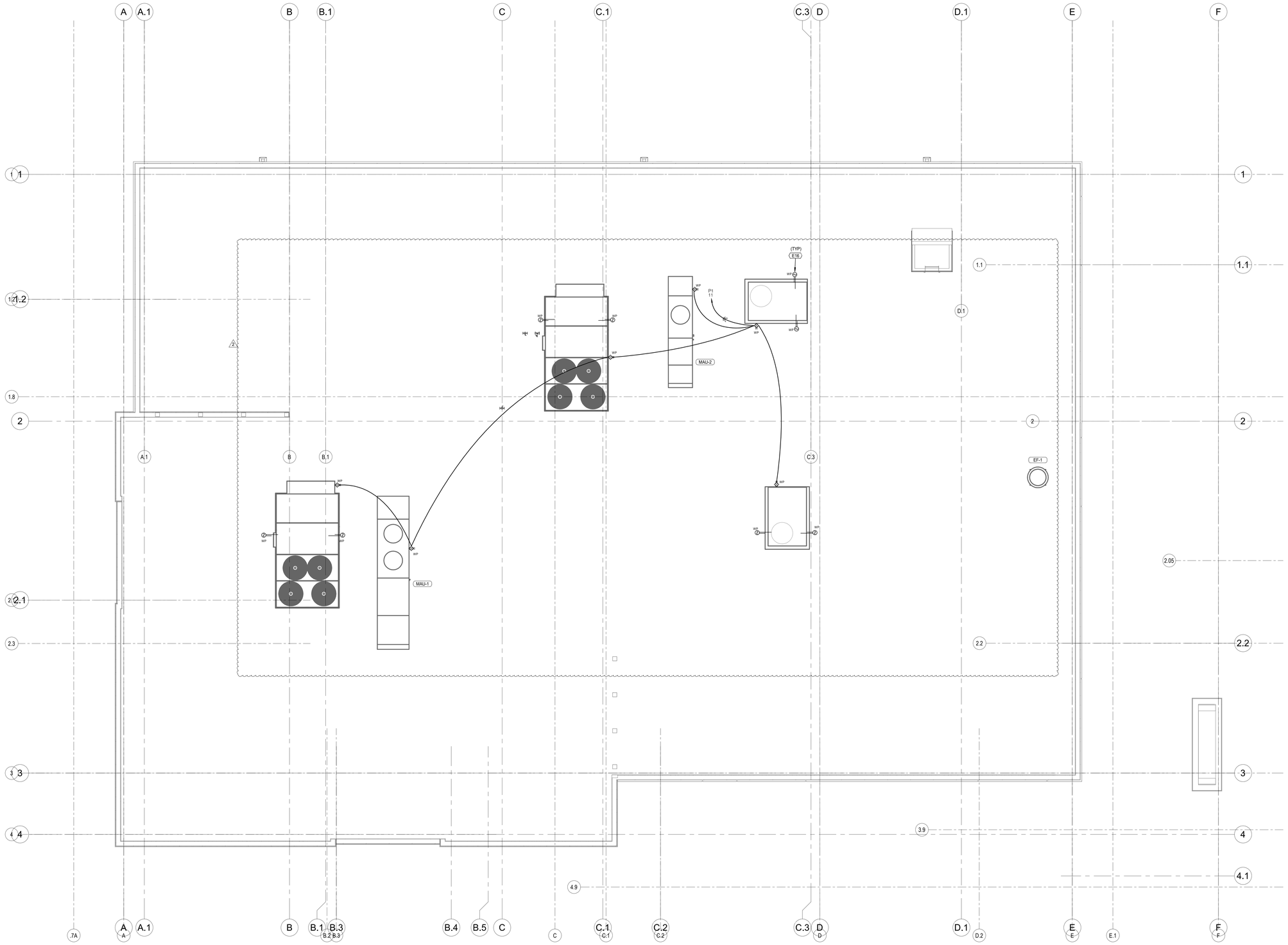
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E300

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FLOOR PLAN NOTES

E16 PROVIDE DUCT DETECTORS IN SUPPLY AND RETURN DUCTS OF ROOFTOP HVAC EQUIPMENT. CONNECT TO FIRE ALARM SYSTEM AND PROVIDE CONTROL WIRING AS REQUIRED FOR EQUIPMENT SHUTDOWN.



TRUE

ROOF PLAN - ELECTRICAL

SCALE: 1/4" = 1'-0"

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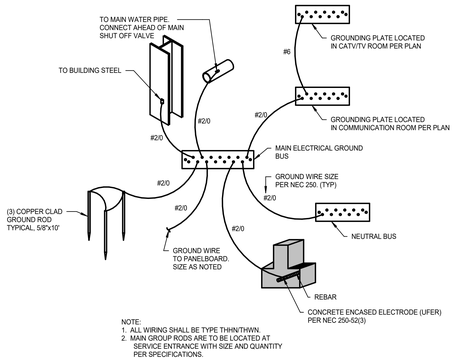
ROOF PLAN - ELECTRICAL

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E400

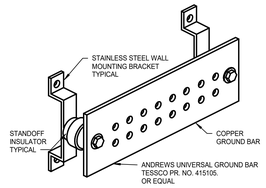
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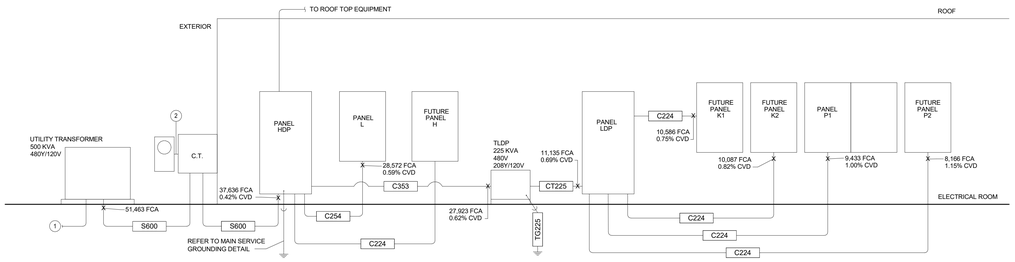


NOTE:
1. ALL WIRING SHALL BE TYPE THHN/THWN.
2. MAIN GROUP RODS ARE TO BE LOCATED AT SERVICE ENTRANCE WITH SIZE AND QUANTITY PER SPECIFICATIONS.

MAIN SERVICE ENTRANCE GROUNDING DETAIL
NOT TO SCALE



MAIN TELECOMMUNICATIONS GROUND BAR DETAIL
NOT TO SCALE



ELECTRICAL RISER DIAGRAM
NOT TO SCALE

FEEDER SCHEDULE - COPPER												
	3-WIRE W/ GROUND						4-WIRE W/ GROUND					
CIRCUIT AMPS	TAG NAME	NUMBER SETS	PHASE / NEUTRAL CONDUCTORS	EQUIPMENT GROUND	CONDUIT SIZE	NEC SIZE EMT/PVC/RGS	TAG NAME	NUMBER SETS	PHASE / NEUTRAL CONDUCTORS	EQUIPMENT GROUND	CONDUIT SIZE	NEC SIZE EMT/PVC/RGS
225	C223	1	3 #4/0	#4	2"	2"/2"/2"	C224	1	4 #4/0	#4	2.5"	2.5"/2.5"/2.5"
250	C253	1	3 #250	#4	2.5"	2"/2"/2"	C254	1	4 #250	#4	2.5"	2.5"/2.5"/2.5"
350	C353	1	3 #500	#3	3.5"	2.5"/3"/3"	C354	1	4 #500	#3	3.5"	3"/3.5"/3"
	TRANSFORMER SECONDARY FEEDERS											
700	CT225	3	4 #250	#2/0	3"	2.5"/2.5"/2.5"						
	SERVICE ENTRANCE CONDUCTORS											
600	S600	2	4 #350	-	4"	2.5"/3"/3"						
	MISC FEEDER DESCRIPTIONS											
	TG225	1	N/A	#2/0	0.75"	0.75"/0.75"/0.75"	TRANSFORMER GROUND					

NOTES:
1. SIZE BRANCH FEEDER AND CIRCUITS ACCORDING TO THE CIRCUIT BREAKER / FUSE SIZE AND THIS SCHEDULE. TAG NAME MAY BE USED AS AN ADDITIONAL REFERENCE.
2. REFER TO THE SPECIFICATIONS AND GENERAL NOTES FOR MINIMUM CONDUIT SIZE REQUIREMENTS. MINIMUM SIZE REQUIRED MAY BE LARGER THAN SHOWN IN THIS SCHEDULE.
3. CONDUCTOR SIZES ARE BASED UPON TYPE THHN/THWN CONDUCTORS WITH EMT OR SCHEDULE 40 PVC CONDUIT. VERIFY AND ADJUST CONDUIT SIZE AS REQUIRED FOR OTHER TYPES OF CONDUIT.
4. CONDUCTOR SIZES ARE BASED UPON 100 FEET OR LESS IN LENGTH. IF ONE WAY CIRCUIT IS OVER 100 FEET, INCREASE FEEDER SIZES AS REQUIRED FOR VOLTAGE DROP.
5. APPLY AMBIENT TEMPERATURE CORRECTION FACTORS AS REQUIRED BY THE NEC AND MODIFY FEEDER SIZES ACCORDINGLY.
6. APPLY DERATING FACTORS FOR MORE THAN 3 CURRENT CARRYING CONDUCTORS IN A RACEWAY AS REQUIRED BY THE NEC AND MODIFY FEEDER SIZES ACCORDINGLY.

ELECTRICAL RISER DIAGRAM NOTE:

UTILITY TRANSFORMER DESIGN CRITERIA: 500 KVA, PAD MOUNT
UTILITY TRANSFORMER SECONDARY VOLTAGE: 480Y/277V, 3-PHASE, 4-WIRE
UTILITY TRANSFORMER IMPEDANCE: 1.30% Z.

MAXIMUM AVAILABLE FAULT CURRENT AT UTILITY TRANSFORMER SECONDARY IS 51,463 AMPS. FAULT CURRENT WAS OBTAINED BASED ON THE MAXIMUM LET THROUGH CURRENT OF A TRANSFORMER WITH THE ABOVE CRITERIA.

ⓧ RISER NOTES

1. PROVIDE 4" CONDUIT(S) FOR UTILITY PRIMARY AS REQUIRED BY THE UTILITY COMPANY. PRIMARY CONDUCTORS PROVIDED BY UTILITY. COORDINATE EXACT ROUTING WITH CIVIL AND UTILITY COMPANY.
2. 1-1/4" CONDUIT.

RELEASED FOR CONSTRUCTION
As Noted on Plans Review
Development Services Department
Lee's Summit, Missouri
10/23/2025

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L/F Project No. 25.7674.00

CLIENT

PROJECT TITLE
Q39 (SHELL)
LEE'S SUMMIT, MO
OLDHAM VILLAGE

PROJECT NUMBER
62910099

PROJECT MANAGER	DRAWN BY	CHECKED BY
Approver	Author	

PROFESSIONAL SEAL
STATE OF MISSOURI
KUMSTA
PE-2009019129
PROFESSIONAL ENGINEER
05.01.2025

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ISSUES AND REVISIONS

NUMBER	DATE	DESCRIPTION
0	05/01/25	ORIGINAL ISSUE

SHEET NAME
ELECTRICAL DETAILS

SHEET NUMBER
E500

PANELBOARD HDP

BUS AMPS: 600A — SCCR: 65k A — FULLY RATED — TYPE: DISTRIBUTION PANELBOARD
MAIN SIZE / TYPE: 600A MCB — NEMA TYPE: 1 — MANUFACTURER: SQUARE D
VOLTS/PHASE: 480Y/277V, 3PH, 4W — MOUNTING: SURFACE — MFG MODEL: I-LINE
SECTION: 1 — LOCATION: ELEC ROOM — OPTIONS: SER,SPD

CKT #	CIRCUIT DECRIPTION	CB AMPS	P	LOAD VA	A VA	B VA	C VA	LOAD VA	P	CB AMPS	CIRCUIT DECRIPTION	CKT #	
1				7,020	16,997			9,977				2	
3	PANEL LDP	350	3	7,136		17,113		9,977	3	50	RTU-1	4	HACR
5	VIA 225KVA TRANSFORMER TX-1			6,648			16,625	9,977				6	
7				7,072	15,802			8,730				8	
9	PANEL L	200	3	8,239		16,969		8,730	3	40	RTU-2	10	HACR
11				6,011			14,741	8,730				12	
13		0			8,730			8,730				14	
15	SPACE ONLY	400	3	0		8,730		8,730	3	40	RTU-3	16	HACR
17		0					8,730	8,730				18	
19		0		17,265				17,265				20	
21	SPACE ONLY	250	3	0		17,265		17,265	3	80	RTU-4	22	HACR
23		0					17,265	17,265				24	
25		0		8,480				8,480				26	
27	SPACE ONLY	250	3	0		8,480		8,480	3	50	MAU-1	28	HACR
29		0					8,480	8,480				30	
31		0		5,293				5,293				32	
33	SPACE ONLY	250	3	0		5,293		5,293	3	35	MAU-2	34	HACR
35		0			5,293			5,293				36	
37		0		0				0				38	
39	SPACE ONLY	250	3	0		0		0	3	60	SPD	40	
41		0			0		0	0				42	

PER PHASE CONNECTED - VA	72,567	73,850	71,134	TOTAL CONNECTED - VA	217,551
PER PHASE CONNECTED - AMPS	262	267	257	TOTAL CONNECTED - AMPS	262
				TOTAL DEMAND - VA	224,759
				NEC TOTAL DEMAND - AMPS	270

NOTES:
SER = SERVICE ENTRANCE RATED
HACR = HACR RATED
SPD = SURGE PROTECTIVE DEVICE

*REFER TO THE BRANCH CIRCUIT COPPER CONDUCTOR AND CONDUIT SIZING CHART FOR SIZING BRANCH CIRCUITS OF 100A OR LESS

PANELBOARD LDP

BUS AMPS: 800A — SCCR: 22k A — FULLY RATED — TYPE: BRANCH CIRCUIT PANELBOARD
MAIN SIZE / TYPE: 700A MCB — NEMA TYPE: 1 — MANUFACTURER: SQUARE D
VOLTS/PHASE: 208Y/120V, 3PH, 4W — MOUNTING: SURFACE — MFG MODEL: I-LINE
SECTION: 1 — LOCATION: ELECTRICAL — OPTIONS:

CKT #	CIRCUIT DECRIPTION	CB AMPS	P	LOAD VA	A VA	B VA	C VA	LOAD VA	P	CB AMPS	CIRCUIT DECRIPTION	CKT #
1				7,020	7,020			0				2
3	PANEL P1	200	3	7,136		7,136		0	3	200	PANEL K1	4
5				6,648			6,648	0				6
7		0			0			0				8
9	PANEL P2	200	3	0		0		0	3	200	PANEL K2	10
11		0			0		0	0				12
13				0	0			0				14
15	SPACE ONLY	225	3	0		0		0	3	225	SPACE ONLY	16
17				0			0	0				18
19		0			0			0				20
21	SPACE ONLY	225	3	0		0		0	3	225	SPACE ONLY	22
23		0					0	0				24
25		0		0				0				26
27	SPACE ONLY	225	3	0		0		0	3	225	SPACE ONLY	28
29		0			0		0	0				30
31		0		0				0				32
33	SPACE ONLY	225	3	0		0		0	3	225	SPACE ONLY	34
35		0			0		0	0				36
37		0		0				0				38
39	SPACE ONLY	225	3	0		0		0	3	225	SPACE ONLY	40
41		0			0		0	0				42

PER PHASE CONNECTED - VA	7,020	7,136	6,648	TOTAL CONNECTED - VA	20,804
PER PHASE CONNECTED - AMPS	59	59	55	TOTAL CONNECTED - AMPS	58
				TOTAL DEMAND - VA	22,919
				NEC TOTAL DEMAND - AMPS	64

NOTES:

*REFER TO THE BRANCH CIRCUIT COPPER CONDUCTOR AND CONDUIT SIZING CHART FOR SIZING BRANCH CIRCUITS OF 100A OR LESS

PANELBOARD L

BUS AMPS: 250A — SCCR: 42k A — FULLY RATED — TYPE: BRANCH CIRCUIT PANELBOARD
MAIN SIZE / TYPE: MLO — NEMA TYPE: 1 — MANUFACTURER: SQUARE D
VOLTS/PHASE: 480Y/277V, 3PH, 4W — MOUNTING: SURFACE — MFG MODEL: NF
SECTION: 1 — LOCATION: ELEC ROOM — OPTIONS: SPD

	CKT #	CIRCUIT DECRIPTION	CB AMPS	P	LOAD VA	A VA	B VA	C VA	LOAD VA	P	CB AMPS	CIRCUIT DECRIPTION	CKT #	
RP	1	LTG - SITE POLES	20	1	688	1,376			688	1	20	LTG - SITE POLES	2	RP
RP	3	LTG - SMKRS / CANOPY / SCNCES	20	1	1,429		2,289		860	1	20	LTG - SITE POLES	4	RP
	5	LTG - RR / BOH / TEMP	20	1	495			1,011	516	1	20	LTG - SITE POLES	6	RP
RP	7	LTG - SITE POLES	20	1	516	696			180	1	20	LTG - SITE BOLLARDS	8	RP
	9	RELAY PANEL *RP*	20	1	200		950		750	1	20	LTG - INVERTER	10	
	11	PWR - UH-1	25	1	5,000			5,000	0			SPACE ONLY	12	
	13	PWR - UH-2	25	1	5,000	5,000			0			SPACE ONLY	14	
	15	PWR - UH-3	25	1	5,000		5,000		0			SPACE ONLY	16	
	17	SPARE	20	1	0			0	0			SPACE ONLY	18	
	19	SPARE	20	1	0	0			0			SPACE ONLY	20	
	21	SPARE	20	1	0		0		0			SPACE ONLY	22	
	23	SPARE	20	1	0			0	0			SPACE ONLY	24	
	25	SPACE ONLY			0	0			0			SPACE ONLY	26	
	27	SPACE ONLY			0		0		0			SPACE ONLY	28	
	29	SPACE ONLY			0			0	0			SPACE ONLY	30	
	31	SPACE ONLY			0	0			0			SPACE ONLY	32	
	33	SPACE ONLY			0		0		0			SPACE ONLY	34	
	35	SPACE ONLY			0			0	0			SPACE ONLY	36	
	37	SPACE ONLY			0	0			0			SPACE ONLY	38	
	39	SPACE ONLY			0		0		0			SPACE ONLY	40	
	41	SPACE ONLY			0			0	0			SPACE ONLY	42	

PER PHASE CONNECTED - VA	7,072	8,239	6,011	TOTAL CONNECTED - VA	21,322
PER PHASE CONNECTED - AMPS	26	30	22	TOTAL CONNECTED - AMPS	26
				TOTAL DEMAND - VA	26,415
				NEC TOTAL DEMAND - AMPS	32

NOTES:
RPM = CONTROL LIGHTING CIRCUIT WITH RELAY PANEL AS INDICATED
SPD = SURGE PROTECTIVE DEVICE

*REFER TO THE BRANCH CIRCUIT COPPER CONDUCTOR AND CONDUIT SIZING CHART FOR SIZING BRANCH CIRCUITS OF 100A OR LESS

PANELBOARD P1

BUS AMPS: 225A — SCCR: 22k A — FULLY RATED — TYPE: BRANCH CIRCUIT PANELBOARD
MAIN SIZE / TYPE: MLO — NEMA TYPE: 1 — MANUFACTURER: SQUARE D
VOLTS/PHASE: 208Y/120V, 3PH, 4W — MOUNTING: SURFACE — MFG MODEL: NQ
SECTION: 1 — LOCATION: ELEC ROOM — OPTIONS: SPD

	CKT #	CIRCUIT DECRIPTION	CB AMPS	P	LOAD VA	A VA	B VA	C VA	LOAD VA	P	CB AMPS	CIRCUIT DECRIPTION	CKT #	
RP	1	PWR - WEST DOOR SIGN	20	1	1,200	1,200			0	1	20	PWR - FACP	2	HL
RP	3	PWR - S. MAIN ENTRANCE SIGN	20	1	1,200		1,200		0	1	20	PWR - LMCP	4	
RP	5	PWR - MONUMENT SIGN SOUTH	20	1	1,200			1,700	500	1	20	PWR - FIRE PS	6	
RP	7	RCPT - SMOKER CONV.	20	1	720	1,020			300	1	15	GEH-1,2,3,4,5,6	8	RP
RP	9	RCPT - EXTERIOR CAFE LIGHTS	20	1	540		1,260		720	1	20	RCPT - FRONT BUILDING CONV.	10	
GF	11	RCPT - ROOF TOP	20	1	900			1,800	900	1	20	RCPT - NE BLDG CONV.	12	
RP	13	PWR - WEST WALL SIGN	20	1	1,200	1,920			720	1	20	RCPT - PATIO CONV. 1	14	
RP	15	PWR - FIRE PLACE SIGN	20	1	1,200		2,100		900	1	20	RCPT - PATIO CONV. 2	16	
RP	17	RCPT - PATIO FANS	20	1	200			740	540	1	20	RCPT - PATIO CONV. 3	18	
RP	19	PWR - MONUMENT SIGN NORTH	20	1	1,200	1,920			720	1	20	RCPT - PATIO CONV. 4	20	
	21	PWR - AUTO DOOR	20	1	1,000		800		200	1	20	PWR - FIRE PLACE	22	
	23	RCPT - ELECMECH CONV.	20	1	360			720	360	1	20	RCPT - PHONEBOARD 1	24	
	25	PWR - GARAGE DOOR	20	2	600	960			360	1	20	RCPT - PHONEBOARD 2	26	
2 RP	27	PWR - EF-1	15	1	1,776		1,776		1,176	2	20	PWR - PATIO SCREENS	28	2
2 RP	29	PWR - EF-1	15	1	768			968	200	1	20	PWR - SECURITY	30	
	31	SPARE	20	1	0	0			0	1	20	SPARE	32	
	33	SPARE	20	1	0		0		0	1	20	SPARE	34	
	35	SPARE	20	1	0			0	0	1	20	SPARE	36	
	37	SPARE	20	1	0	0			0	1	20	SPARE	38	
	39	SPARE	20	1	0		0		0	1	20	SPARE	40	
	41	RCPT - TEMP	20	1	720			720	0	1	20	SPARE	42	
SECTION 2														
	43	SPARE	20	1	0	0			0	1	20	SPARE	44	
	45	SPARE	20	1	0		0		0	1	20	SPARE	46	
	47	SPARE	20	1	0			0	0	1	20	SPARE	48	
	49	SPARE	20	1	0	0			0	1	20	SPARE	50	
	51	SPARE	20	1	0		0		0	1	20	SPARE	52	
	53	SPARE	20	1	0			0	0	1	20	SPARE	54	
	55	SPARE	20	1	0	0			0	1	20	SPARE	56	
	57	SPARE	20	1	0		0		0	1	20	SPARE	58	
	59	SPARE	20	1	0			0	0	1	20	SPARE	60	
	61	SPARE	20	1	0	0			0	1	20	SPARE	62	
	63	SPARE	20	1	0		0		0	1	20	SPARE	64	
	65	SPARE	20	1	0			0	0	1	20	SPARE	66	
	67	SPARE	20	1	0	0			0	1	20	SPARE	68	
	69	SPARE	20	1	0		0		0	1	20	SPARE	70	
	71	SPARE	20	1	0			0	0	1	20	SPARE	72	
	73	SPARE	20	1	0	0			0	1	20	SPARE	74	
	75	SPARE	20	1	0		0		0	1	20	SPARE	76	
	77	SPARE	20	1	0			0	0	1	20	SPARE	78	
	79	SPARE	20	1	0	0			0	1	20	SPARE	80	
	81	SPARE	20	1	0		0		0	1	20	SPARE	82	
	83	SPARE	20	1	0			0	0	1	20	SPARE	84	

PER PHASE CONNECTED - VA	7,020	7,136	6,648	TOTAL CONNECTED - VA	20,804
PER PHASE CONNECTED - AMPS	59	59	55	TOTAL CONNECTED - AMPS	58
				TOTAL DEMAND - VA	22,919
				NEC TOTAL DEMAND - AMPS	64

NOTES:
RPM = CONTROL LIGHTING CIRCUIT WITH RELAY PANEL AS INDICATED
HL = HANDLE LOCK ON/OFF
SPD = SURGE PROTECTIVE DEVICE
GF = GROUND FAULT CIRCUIT INTERRUPTER

*REFER TO THE BRANCH CIRCUIT COPPER CONDUCTOR AND CONDUIT SIZING CHART FOR SIZING BRANCH CIRCUITS OF 100A OR LESS

BRANCH CIRCUIT COPPER CONDUCTOR AND CONDUIT SIZING CHART

OVERCURRENT PROTECTION DEVICE RATING (AMPS)	REQUIRED CONDUCTOR SIZE	EQUIPMENT GROUNDING CONDUCTOR SIZE	SINGLE PHASE 2 WIRE + GND. CONDUIT SIZE	SINGLE PHASE 3 WIRE + GND. CONDUIT SIZE	THREE PHASE 3 WIRE + GND. CONDUIT SIZE	THREE PHASE 4 WIRE + GND. CONDUIT SIZE
15	12 AWG	12 AWG	3/4"	3/4"	3/4"	3/4"
20	12 AWG	12 AWG	3/4"	3/4"	3/4"	3/4"
25	10 AWG	10 AWG	3/4"	3/4"	3/4"	3/4"
30	10 AWG	10 AWG	3/4"	3/4"	3/4"	3/4"
35	8 AWG	10 AWG	3/4"	3/4"	3/4"	3/4"
40	8 AWG	10 AWG	3/4"	3/4"	3/4"	3/4"
45	6 AWG	10 AWG	3/4"	3/4"	3/4"	1"
50	6 AWG	10 AWG	3/4"	3/4"	3/4"	1"
60	4 AWG	10 AWG	1"	1"	1"	1-1/4"
70	4 AWG	8 AWG	1"	1"	1"	1-1/4"
80	3 AWG	8 AWG	1"	1-1/4"	1-1/4"	1-1/4"
90	2 AWG	8 AWG	1"	1-1/4"	1-1/4"	1-1/4"
100	1 AWG	8 AWG	1-1/4"	1-1/2"	1-1/2"	1-1/2"

* = UNLESS OTHERWISE NOTED ON THE DRAWINGS.

* = UNLESS OTHERWISE NOTED ON THE DRAWINGS, ALL BRANCH CIRCUITS AND FEEDERS TO BE PROVIDED WITH A NEUTRAL WIRE.

* = ALL CONDUCTORS SIZED ON THE POWER RISER DIAGRAM OR IN BRANCH CIRCUIT CONDUCTOR TABLE ARE BASED ON 3 CURRENT CARRYING CONDUCTORS IN A RACEWAY OR CABLE. CONDUCTORS SHALL BE DERATED IN ACCORDANCE WITH THE NEC IF 4 OR MORE CONDUCTORS ARE PLACED IN A RACEWAY OR CABLE.

INVERTER: INV

POWER RATING (VAW): 750
INPUT VOLTAGE (V): 277
OUTPUT VOLTAGE (V): 277

MANUFACTURER / MODEL: MULE - CEPS-M
APPROVED EQUIVALENT MYERS - ILLUMINATOR LV

LOCATION: ELECTRICAL ROOM
NORMAL POWER SOURCE: L-20

CKT #	LOAD DESCRIPTION	LOAD TYPE	CB AMPS	P	LOAD VA	NOTES
1	LTG - WALL PACKS	NORMALLY ON	10	1	224	
2	LTG - PATIO CANOPY	NORMALLY ON	10	1	200	
3	LTG - FRONT CANOPY	NORMALLY ON	10	1	100	
4	SPARE	NORMALLY ON	10	1		
5	SPARE	NORMALLY ON	10	1		
6	SPARE	NORMALLY ON	10	1		

TOTAL CONNECTED LOAD	524	VA
SPARE CAPACITY	226	VA
SPARE %	30	%

GENERAL:
UL 924 LISTED.
INPUT FUSE AND BATTERY FUSE PROTECTION
FIELD SELECTABLE VOLTAGE
90 MINUTE RUNTIME
STANDARD WARRANTY 3 YEARS
SELF TEST AND DIAGNOSTICS.
WALL MOUNTED CABINET
MANUFACTURER STARTUP AND TRAINING
OUTPUT CIRCUIT BREAKERS

NOTES:

*REFER TO THE BRANCH CIRCUIT COPPER CONDUCTOR AND CONDUIT SIZING CHART FOR SIZING BRANCH CIRCUITS

GENERAL NOTES (TYPICAL ALL SHEETS)

A. REFER TO ARCHITECTURAL DETAILS AND ELEVATIONS FOR COORDINATION OF LOCATION OF ALL WIRING DEVICES BEFORE ROUGH-IN OF J-BOXES.

B. REFER TO ARCHITECTURAL PLANS FOR DETAIL OF ALL CONDUIT THRU ROOF PENETRATIONS.

C. PROVIDE UPDATED, TYPEWRITTEN PANELBOARD DIRECTORY FOR EACH PANELBOARD WHICH CIRCUITS HAVE BEEN ADDED TO OR MODIFIED.

D. CONTRACTOR TO REFERENCE BRANCH CIRCUIT COPPER CONDUCTOR AND CONDUIT SIZING CHART FOR SIZING OF BRANCH CIRCUITS AND OR FEEDERS AT OR BELOW 100AMPS.

E. SUPPORT ALL LIGHT FIXTURES WITH A MINIMUM OF (4) 12 GA. HANGER WIRES TO STRUCTURE ABOVE.

F. CONNECT EXIT AND EMERGENCY LIGHTS TO HOT LEG, NOT SWITCH LEG.

G. DISCONNECTS FOR MECHANICAL EQUIPMENT ARE PROVIDED BY OTHERS. UNLESS NOTED OTHERWISE.

H. THE FOLLOWING FACTORS SHALL BE USED TO DETERMINE PANELBOARD CAPACITY: 100% LIGHTING, 100% MOTOR LOADS, 100% OF FIRST 10,000 & 50% THERE AFTER FOR ALL OTHER LOADS.

I. LIGHTING INDICATED ABOVE EXIT DISCHARGE DOOR IS FOR MEANS OF EGRESS ILLUMINATION PER IBC 1006.1.

J. CONDUIT SHALL BE USED FOR CONDUCTORS WHERE REQUIRED BY N.E.C.

K. OUTLETS INSTALLED IN FIRE RATED ASSEMBLES SHALL BE SEPARATED BY A HORIZONTAL DISTANCE OF NOT LESS THAN 24".

L. CONTRACTOR SHALL PROVIDE FIRE RATED ENCLOSURES AROUND ALL ROUGH-IN BOXES, PANELS ETC. THAT ARE LOCATED IN FIRE RATED WALLS AND SHALL FIRE CAULK ALL OPENING IN RATED ASSEMBLES PER MANUFACTURERS RECOMMENDATIONS PER FIRE RATED ASSEMBLES.

M. PROVIDE HOUSE KEEPING PAD FOR ALL FLOOR MOUNTED EQUIPMENT.

N. INSTALL FIRE ALARM DEVICES THAT COMPLY WITH APPLICABLE CODES. INCLUDING BUT NOT LIMITED TO THE NFPA, UL, ADA, IBC OR ANY OTHER AUTHORITIES HAVING JURISDICTION.

O. CONTRACTOR MAY WIRE SO FIRST GFI OUTLET PROTECTS ALL DOWN STREAM OUTLETS.

P. WHERE THE DRAWINGS INDICATE DEDICATED CIRCUITRY WITH NO SHARED NEUTRALS, THE CONTRACTOR SHALL NOT INSTALL MULTI-WIRE BRANCH CIRCUITS WITH A COMMON NEUTRAL.

Q. CONTRACTOR TO COORDINATE WITH UTILITY COMPANY FOR REQUIREMENTS AND LOCATIONS. ELECTRICAL SYSTEMS SHALL BE DESIGNED TO TAKE ADVANTAGE OF UTILITY COMPANY'S REBATE PROGRAM.

FIRE STOPPING REQUIREMENTS

CONTRACTOR TO PROVIDE FIRESTOPPING AT ALL FIRE RATED ASSEMBLIES MEETING THE MANUFACTURER'S FIRESTOPPING U.L. LISTED DETAILS AND INSTRUCTIONS PER LOCAL CODES AND JURISDICTIONS. CONTRACTOR IS RESPONSIBLE FOR COORDINATING LOCATIONS WITH ARCHITECTURAL FIRE RATINGS ON PLANS OR AS REQUIRED.

ELECTRICAL SYMBOLS

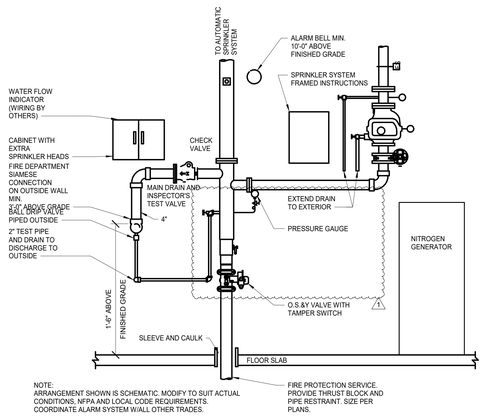
- BRANCH CIRCUIT CONCEALED IN CEILING OR WALL, ARROWS INDICATED HOMERUNS TO PANEL, ALL CONDUCTORS ARE NOTED IN PANEL SCHEDULE
- PHASE CONDUCTORS
- NEUTRAL CONDUCTORS
- GROUND CONDUCTORS
- LP1-10 — PANEL - BREAKER NUMBER (IDENTIFICATION)
- 1,3 OR 1,3,5 — INDICATES X,X+ 2-POLE C.B. OR X,X,X+ 3-POLE C.B.
- 5 3 1 — HOMERUN INDICATED LIKE THIS INDICATES THREE SEPARATE CIRCUITS
- CONDUIT CONCEALED IN CEILING OR WALL WITH THREE CONDUCTORS: 1-PHASE, 1-NEUTRAL, 1-GROUND WIRE. MINIMUM NO.12 WIRE UNLESS OTHERWISE SPECIFIED ON PLANS
- CONDUIT RUN UNDERGROUND OR CONCEALED IN FLOOR SLAB
- GROUNDING CONDUCTOR, MINIMUM NO. 12 WIRE EXCEPT AS NOTED
- EXIT SIGN, SINGLE FACED, ARROWS AS SHOW ON PLANS, SHADED SIDE(S) INDICATES FACE SIDE(S) OF EXIT
- EXIT SIGN, DOUBLE FACED, ARROWS AS SHOW ON DRAWING, SHADED SIDE(S) INDICATES FACE SIDE(S) OF EXIT
- CEILING OR WALL MOUNTED EMERGENCY LIGHTING UNIT WITH INTEGRAL BATTERY AND UNIT MOUNTED HEADS
- LED STRIP FIXTURE
- RECESSED CEILING LIGHT FIXTURE
- WALL MOUNTED LIGHT FIXTURE, SIZE AND TYPE AS NOTED
- POLE MOUNTED LIGHT FIXTURE, SIZE AND TYPE AS NOTED
- MOTOR
- 208Y/120V OR 120/240V PANELBOARD (SURFACE), TOP MOUNTED 6'-0" AFF
- 480/277V PANELBOARD (SURFACE), TOP MOUNTED 6'-0" AFF
- DISTRIBUTION PANEL (SURFACE OR FLOOR MOUNTED)
- SURFACE MOUNTED EQUIPMENT, TYPE AS INDICATED ON PLANS
- GROUND
- DISCONNECT SWITCH, SIZE AND TYPE AS NOTED, TOP MOUNTED 5'-0" AFF
- S — SINGLE POLE SWITCH, +3'-10" AFF TO CENTERLINE OF DEVICE BOX
- S3 — THREE-WAY SWITCH, +3'-10" AFF TO CENTERLINE OF DEVICE BOX
- PHOTO CELL, SIZE AND TYPE AS NOTED
- a,b,c,d — SWITCH DESIGNATION
- INDICATES RECEPTACLE ABOVE COUTERTOP, RE: PLANS
- DUPLEX RECEPTACLE, +1'-6" AFF OR AS NOTED
- DUPLEX RECEPTACLE W/GROUND FAULT PROTECTION,+ 1'-6" AFF OR AS NOTED
- WP — GFI DUPLEX RECEPTACLE WITH WEATHERPROOF PLATE, HEIGHT AS NOTED
- DOUBLE DUPLEX RECEPTACLE, +1'-6" AFF OR AS NOTED
- CEILING MOUNTED RECEPTACLE
- WALL OR CEILING MOUNTED JUNCTION BOX
- FA — FIRE ALARM MANUAL PULL STATION, +3'-10" AFF
- SPRINKLER ALARM SYSTEM FLOW SWITCH
- SPRINKLER ALARM SYSTEM TAMPER SWITCH
- FIRE ALARM EXTERIOR/INTERIOR BELL, SIZE AND TYPE AS NOTED
- FSD — FIRE AND SMOKE DAMPER; 120V, 1PH
- T — THERMOSTAT OUTLET BOX WITH 3/4"C STUBBED UP OUT OF BOX TO ABOVE ACCESSIBLE CEILING, THERMOSTAT AND WIRING BY OTHERS, +4'-0" AFF OR AS NOTED
- INDICATES WIRING DEVICE ABOVE, RE: DRAWING
- AHU-1 — MECHANICAL EQUIPMENT CALL OUT
- XX-X — ELECTRICAL EQUIPMENT PROVIDED AND INSTALLED BY ELECTRICAL CONTRACTOR
- +3'-10" — HEIGHT TO CENTERLINE OF OUTLET BOX ABOVE FINISHED FLOOR
- RTU-1 — ROOFTOP UNIT DESIGNATION
- EF-1 — EXHAUST FAN DESIGNATION
- P-1 — PUMP DESIGNATION
- AFF — ABOVE FINISHED FLOOR
- FA — FIRE ALARM
- AG — ABOVE GRADE

RELAY PANEL: RP

LOCATION: ELEC — MANUFACTURER: WATTSTOPPER
CONTROL POWER SOURCE: L-9 — MODEL: LMCP

#	SOURCE PANEL - CKT	LOAD DESCRIPTION	CONTROL SCHEDULE	LOAD TYPE	DIMMING	VOLTAGE	P	P	VOLTAGE	DIMMING	LOAD TYPE	CONTROL SCHEDULE	LOAD DESCRIPTION	SOURCE PANEL - CKT	#
1	P1-1	PWR - WEST DOOR SIGN	a	NORMAL	NO	120	1	1	277	0-10V	NORMAL	b	LTG - SITE POLES	L-1	2
3	P1-3	PWR - S. MAIN ENTRANCE SIGN	a	NORMAL	NO	120	1	1	277	0-10V	NORMAL	f	LTG - CANOPY ENTRANCE	L-3	4
5	P1-5	PWR - MONUMENT SIGN SOUTH	a	NORMAL	NO	120	1	1	277	0-10V	NORMAL	g	LTG - CANOPY PATIO	L-3	6
7	P1-7	RCPT - SMOKER CONV.	e	NORMAL	NO	120	1	1	277	0-10V	NORMAL	h	LTG - SCONCES	L-3	8
9	P1-9	RCPT - EXTERIOR CAFE LIGHTS	c	NORMAL	NO	120	1	1	277	0-10V	NORMAL	j	LTG - WALL PACKS	L-3	10
11	P1-13	PWR - WEST WALL SIGN	a	NORMAL	NO	120	1	1	277	0-10V	NORMAL	b	LTG - SITE POLES	L-2	12
13	P1-15	PWR - FIRE PLACE SIGN	a	NORMAL	NO	120	1	1	277	0-10V	NORMAL	b	LTG - SITE POLES	L-4	14
15	P1-17	PWR - PATIO FANS	d	NORMAL	NO	120	1	1	277	0-10V	NORMAL	b	LTG - SCONCES	L-6	16
17	P1-19	PWR - MONUMENT SIGN NORTH	a	NORMAL	NO	120	1	1	277	0-10V	NORMAL	b	LTG - SITE POLES	L-7	18
19	P1-10	RCPT - FRONT BUILDING CONV.	e	NORMAL	NO	120	1	1	277	NO	NORMAL	b	LTG - SITE BOLLARDS	L-8	20
21	P1-12	RCPT - NE BLDG CONV.	e	NORMAL	NO	120	1	1	277	NO	NORMAL		SPACE ONLY		22
23	P1-14	RCPT - PATIO CONV. 1	e	NORMAL	NO	120	1	1	277	NO	NORMAL		SPACE ONLY		24
25	P1-16	RCPT - PATIO CONV. 2	e	NORMAL	NO	120	1	1	277	NO	NORMAL		SPACE ONLY		26
27	P1-18	RCPT - PATIO CONV. 3	e	NORMAL	NO	120	1	1	277	NO	NORMAL		SPACE ONLY		28
29	P1-20	RCPT - PATIO CONV. 4	e	NORMAL	NO	120	1	1	277	NO	NORMAL		SPACE ONLY		30
31	P1-8	PWR - GEH-1,2,3,4,5,6	k	NORMAL	NO	120	1	1	277	NO	NORMAL		SPACE ONLY		32
33	P1-29	PWR - EF-1	m	NORMAL	NO	120	1	1	277	NO	NORMAL		SPACE ONLY		34
35		SPACE ONLY		NORMAL	NO	120	1	1	277	NO	NORMAL		SPACE ONLY		36
37		SPACE ONLY		NORMAL	NO	120	1	1	277	NO	NORMAL		SPACE ONLY		38
39		SPACE ONLY		NORMAL	NO	120	1	1	277	NO	NORMAL		SPACE ONLY		40
41		SPACE ONLY		NORMAL	NO	120	1	1	277	NO	NORMAL		SPACE ONLY		42
43		SPACE ONLY		NORMAL	NO	120	1	1	277	0-10V	EMERGENCY	f	LTG - CANOPY ENTRANCE	L-3	44
45		SPACE ONLY		NORMAL	NO	120	1	1	277	0-10V	EMERGENCY	g	LTG - CANOPY PATIO	L-3	46
47		SPACE ONLY		NORMAL	NO	120	1	1	277	0-10V	EMERGENCY	j	LTG - WALL PACKS	L-3	48

GENERAL: GRAPHIC DISPLAY WITH LED BACKLIGHT, BUTTON INTERFACE, USB INTERFACE, TIME OF DAY CLOCK AND ASTRONOMICAL CLOCK, BUILT-IN NETWORK INTERFACE.
PROGRAMMABLE SCHEDULE PER RELAY OR CUSTOMIZABLE GRO



FIRE PROTECTION SERVICE DETAIL

NOT TO SCALE

FIRE PROTECTION DESIGN CRITERIA

A. PROVIDED A WET TYPE SPRINKLER SYSTEM THROUGHOUT BUILDING IN COMPLIANCE WITH THE RULES AND REGULATIONS OF APPLICABLE FEDERAL, STATE AND LOCAL LAWS, CODES AND ORDINANCES. THE OWNER'S INSURANCE COMPANY AND NFPA 13.

B. FURNISH ALL MATERIALS, LABOR, TOOLS, TRANSPORTATION, INCIDENTALS AND APPURTENANCES TO COMPLETE IN EVERY DETAIL AND LEAVE IN WORKING ORDER ALL ITEMS OF WORK REQUIRED FOR STRICT COMPLIANCE WITH CODES AND STANDARDS.

C. PROVIDE SCHEDULE 40 FOR 2" AND SMALLER WITH THREADED ENDS AND SCHEDULE 10 FOR 1-1/2" AND LARGER WITH ROLL-GROOVED ENDS AND GROOVED JOINTS. ALL PIPING IN AREAS WITH CEILINGS SHALL BE RUN CONCEALED WITH NO EXCEPTIONS UNLESS COORDINATED WITH ARCHITECT AND ENGINEER. PIPE SIZES SHOWN ON PLANS FOR INFORMATION ONLY. VERIFY BY HYDRAULIC CALCULATIONS.

D. ALL SPRINKLERS IN LAY-IN CEILINGS ARE TO BE CENTERED ±1/2" IN 2'x2' PORTION OF TILE. ALL SPRINKLERS IN GYP-BOARD CEILINGS ARE TO BE CENTERED ±1/2" WITH LIGHT FIXTURES AND ALIGNED WITH ALL OTHER DEVICES IN CEILING IN BOTH DIRECTIONS. COORDINATE WITH ARCHITECT.

E. FIRE PROTECTION CONTRACTOR SHALL PREPARE DETAILED AND COORDINATED SHOP DRAWINGS SO AS TO AVOID CONFLICTS IN THE FIELD. CONTRACTOR SHALL COORDINATE WITH REFLECTED CEILING PLAN, DUCTWORK LAYOUT AND LIGHTING LAYOUT. ALL COORDINATION SHALL TAKE PLACE PRIOR TO INSTALLATION.

F. CONTRACTOR SHALL FILE ALL DRAWINGS, PAY ALL FEES AND OBTAIN PERMITS AND CERTIFICATES OF INSPECTIONS RELATIVE TO THIS WORK.

G. CONTRACTOR SHALL OBTAIN CURRENT FIRE HYDRANT FLOW TEST DATA AND USE FOR SYSTEM HYDRAULIC CALCULATIONS. USE DATA TO DESIGN SYSTEMS ACCORDINGLY BASED ON AVERAGE NUMBERS PLUS 10% SAFETY.

H. PREPARE AND SUBMIT SHOP DRAWINGS, PRODUCT DATA AND HYDRAULIC CALCULATIONS AS REQUIRED. ALL INFORMATION SHOWN ON FIRE PROTECTION DRAWINGS SHALL BE INCLUDED ON THE SHOP DRAWINGS.

I. CONTRACTOR TO BE RESPONSIBLE FOR MAKING FINAL COORDINATION WITH STRUCTURE AND ALL OTHER TRADES PRIOR TO SUBMITTING SHOP DRAWINGS. ALL ELEVATIONS OF PIPE MUST BE SHOWN ON SHOP DRAWINGS.

J. ALL SPRINKLERS AND PIPING SHALL BE PROTECTED FROM FREEZING. USE DRY SIDEWALL SPRINKLERS OR DRY PIPE SYSTEM FOR VESTIBULES, ALCOVES, TRASH ENCLOSURES, CANOPIES, AND PORCHES.

K. NFPA 13 - 2016 ED - 7.1.5 A SINGLE AIR VENT WITH A CONNECTION SHALL BE PROVIDED ON EACH WET PIPE SYSTEM. THE AIR VENT SHALL BE LOCATED NEAR A HIGH POINT IN THE SYSTEM TO ALLOW AIR TO BE REMOVED FROM THAT PORTION OF THE SYSTEM BY ONE OF THE FOLLOWING METHODS: MANUAL VALVE, MINIMUM 1/2 (15MM) SIZE; OR AUTOMATIC AIR VENT.

L. PROVIDE AUXILIARY DRAINS AS REQUIRED BY NFPA 13. COORDINATE LOCATIONS WITH OWNER. AUXILIARY DRAINS MUST BE SHOWN ON SHOP DRAWINGS.

M. PROVIDE AUXILIARY DRAINS AS REQUIRED BY NFPA 13. COORDINATE LOCATIONS WITH OWNER. AUXILIARY DRAINS MUST BE SHOWN ON SHOP DRAWINGS.

N. SPRINKLER SYSTEM SHALL BE TESTED AND DRAINED PER NFPA STANDARDS AND LOCAL AND STATE AUTHORITY HAVING JURISDICTION COMPLETED CONTRACTOR MATERIAL TEST CERTIFICATES SHALL BE FORWARDED TO OWNER.

O. FIRE SPRINKLER CONTRACTOR IS RESPONSIBLE FOR COORDINATION WITH FIRE ALARM PANEL AND SUPERVISION OF NEW SPRINKLER TAMPER AND FLOW SWITCHES.

P. REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION.

Q. SPRINKLER HEAD PLACEMENT SHALL BE OUT OF THE SWING AREA OF DOORS TO AVOID CONFLICT WITH TALL DOORS.

FIRE PROTECTION LEGEND

PROVIDE PROPER COVERAGE PER FPA 13 AND LOCAL AUTHORITIES. REFER TO REFLECTED CEILING PLANS FOR COORDINATION WITH LIGHTS, DIFFUSERS, EXIT SIGNS, ETC.

LIGHT HAZARD - PROVIDE PROPER COVERAGE PER NFPA 13 (0.1 GPM PER 1500 SF) PLUS 100 GPM HOSE STREAM ALLOWANCE.

ORDINARY HAZARD GROUP 1 - PROVIDE PROPER COVERAGE PER NFPA 13 (0.15 GPM PER 1500 SF) PLUS 250 GPM HOSE STREAM ALLOWANCE.

ORDINARY HAZARD GROUP 2 - PROVIDE PROPER COVERAGE PER NFPA 13 (0.2 GPM PER 1500 SF) PLUS 250 GPM HOSE STREAM ALLOWANCE.

ORDINARY HAZARD GROUP 2 - PROVIDE DRY PENDENT SPRINKLERS FOR ALL WALK-IN COOLERS AND FREEZERS.

1 LIGHT HAZARD - PROVIDE PROPER COVERAGE PER NFPA 13 (0.1 GPM PER 1950 SF) PLUS 100 GPM HOSE STREAM ALLOWANCE. PROVIDE DRY PENDENT CONCEALER-TYPE SPRINKLERS FROM DRY PIPE SYSTEM WITH NITROGEN GENERATOR.

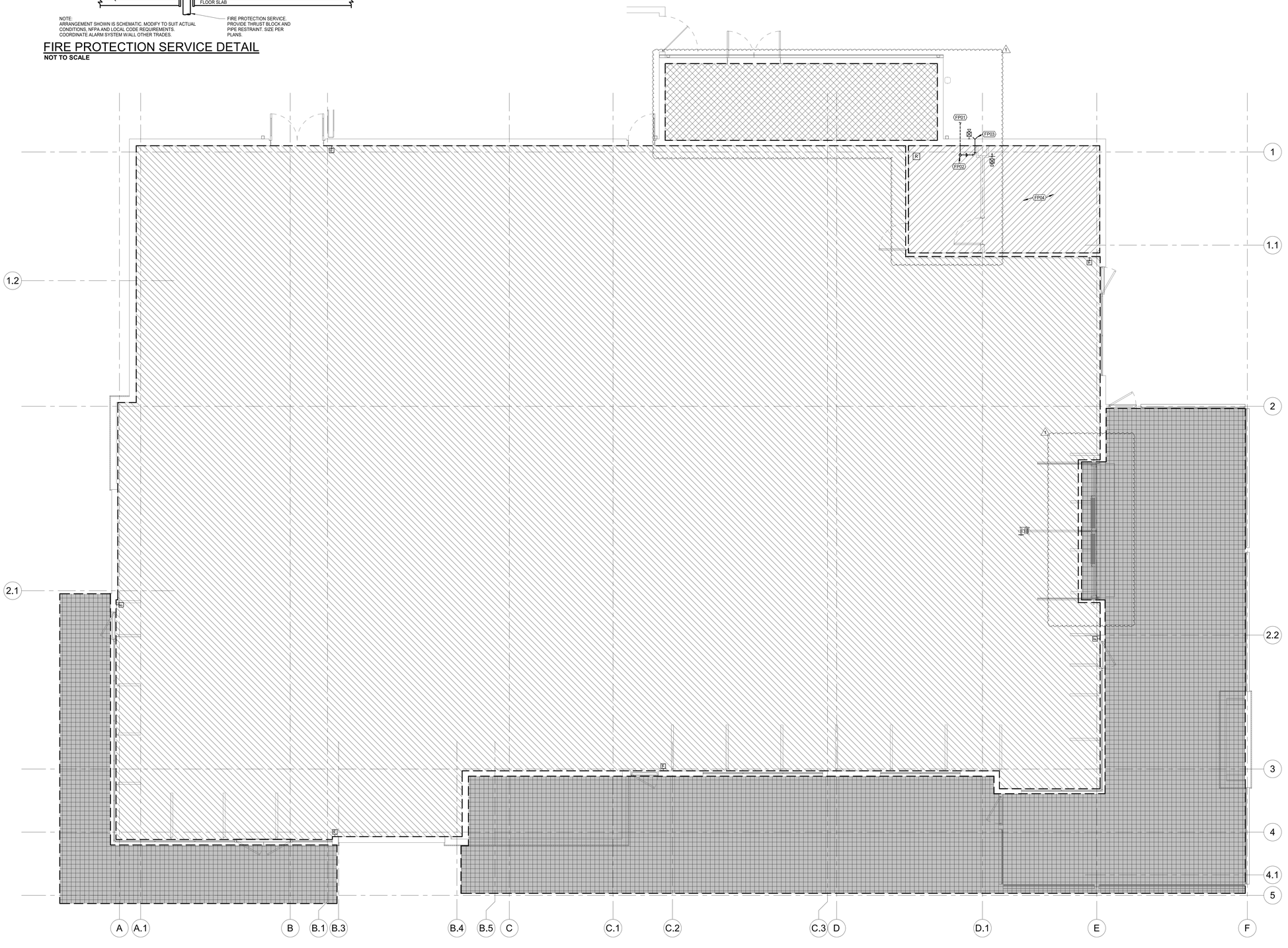
FP FLOOR PLAN NOTES

FP01 6" UNDERGROUND FIRE LINE TO BUILDING. CONNECT FIVE FEET FROM BUILDING EXTERIOR WALL. SLEEVE EXTERIOR WALL AND PROVIDE THRUST PROTECTION PER NFPA 13.

1 FP02 6 INCH SPRINKLER RISER, FLOW AND TAMPER SWITCHES, 2 INCH MAIN DRAIN EXTENDED TO OUTSIDE.

FP03 SIAMESE FIRE DEPARTMENT CONNECTION. PROVIDE HORN/STROBE ABOVE.

FP04 DO NOT RUN SPRINKLER PIPING OVER ELECTRICAL EQUIPMENT. MAINTAIN 3' CLEARANCE IN FRONT OF PANELS.



TRUE

FLOOR PLAN - FIRE PROTECTION

SCALE: 1/4" = 1'-0"

6/20/2025 12:11:26 PM

RELEASED FOR CONSTRUCTION
As Noted on Plans Review
Development Services Department
Lee's Summit, Missouri
10/23/2025

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L/F Project No. 25.7636.00

CLIENT

PROJECT TITLE

Q39 (SHELL)
LEE'S SUMMIT, MO
OLDHAM VILLAGE

PROJECT NUMBER
6291009

PROJECT MANAGER	DRAWN BY	CHECKED BY
Approver	Author	

PROFESSIONAL SEAL



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ISSUES AND REVISIONS

NUMBER	DATE	DESCRIPTION
0	05/01/25	ORIGINAL ISSUE
1	06/20/25	ADDENDUM 1

SHEET NAME

FLOOR PLAN - FIRE PROTECTION

SHEET NUMBER

FP100

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