MCC Longview HT Addition/Renovation

PERMIT/BID DOCUMENTS

bnim

BNIM Architects — Architect
2460 East Pershing Road, Suite 100, Jackson County, Kansas City MO 64108
p.816.783.1500 f.816.783.1501
MO State Certificate of Authority #00235006

KH Engineering Group — Structural Engineer
13426 West 99th Street, Johnson County, Lenexa, KS 66215
913-825-9381
Certificate of Authority

Taliaferro & Browne — Civil Engineer
1020 East 8th Street, Jackson County, Kansas City, MO 64106
816-283-2456

Lankford Fendler + Associates — MEPF Engineer
1730 Walnut Street, Jackson County, Kansas City, MO 64108
816-221-1411

MCC Longview HT Addition/Renovation

500 SW Longview Road
Lee's Summit, MO 64081

Project No: 20008.00

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Issued: September 23, 2021

Rev. #	Description	Date Issued

COVER SHEET

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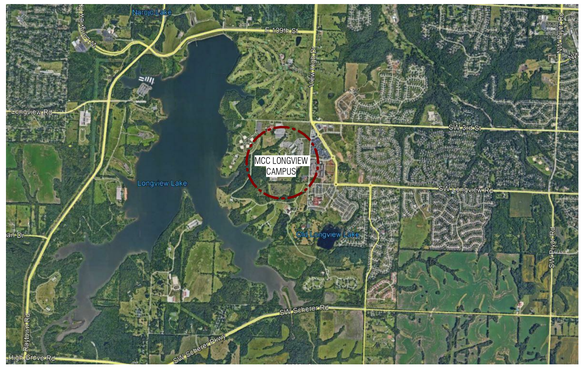
GENERAL NOTES

1. THESE GENERAL NOTES APPLY TO ALL TRADES. THESE NOTES ARE PROVIDED FOR GENERAL PROJECT INFORMATION AND ARE TO BE APPLIED TO ALL AREAS OF THE PROJECT WHERE WORK IS BEING UNDERTAKEN.
2. ALL WORK SHALL COMPLY WITH APPLICABLE LAWS, CODES, AND REGULATIONS OF ALL AUTHORITIES HAVING JURISDICTION IN FORCE AT TIME OF CONSTRUCTION. IN CASE OF CONFLICT BETWEEN REQUIREMENTS, THE MOST RESTRICTIVE SHALL APPLY.
3. UPON EXAMINATION/FAMILIARIZATION WITH THE CONTRACT DOCUMENTS AND JOB SITE VISIT, ANY DISCREPANCIES, OMISSIONS, AMBIGUITIES AND/OR CONFLICTS SHALL BE REPORTED TO THE ARCHITECT IN WRITING FOR CORRECTION PRIOR TO SUBMISSION OF BID OR EXECUTION OF CONSTRUCTION CONTRACT.
4. THE CONTRACTOR SHALL ADHERE TO THE CONTRACT DOCUMENTS. NO MODIFICATIONS, REVISIONS OR CHANGES SHALL BE UNDERTAKEN UNLESS SPECIFICALLY INSTRUCTED AND APPROVED.
5. ALL WORK LISTED, SHOWN OR IMPLIED IN THE CONTRACT DOCUMENTS SHALL BE SUPPLIED AND INSTALLED BY THE CONTRACTOR EXCEPT WHERE NOTED OTHERWISE. CONTRACTORS SHALL CLOSELY COORDINATE THEIR WORK WITH THE WORK OF OTHER CONTRACTORS AND VENDORS TO ASSURE THAT ALL WORK IS PERFORMED IN CONFORMANCE WITH THE CONTRACT DOCUMENTS.
6. COORDINATE THE REQUIREMENTS OF ALL DRAWINGS AND SPECIFICATIONS. EACH CONTRACTOR AND/OR SUBCONTRACTOR SHALL BE PROVIDED WITH A FULL SET OF CONSTRUCTION DOCUMENTS TO ENSURE COORDINATION OF ALL TRADES/DISCIPLINES. CONFLICTS SHALL BE REPORTED TO THE OWNER AND ARCHITECT PRIOR TO THE EXECUTION OF THE WORK.
7. ALL CONTRACTORS, SUBCONTRACTORS AND THEIR AGENTS SHALL HOLD ALL APPLICABLE AND REQUIRED LICENSES FOR THE JURISDICATION IN WHICH THE WORK WILL BE PERFORMED.
8. DO NOT SCALE DRAWINGS. CALCULATE AND MEASURE REQUIRED DIMENSIONS. ALL DIMENSIONS ARE TO BE TAKEN FROM DESIGNATED DATUM POINT. WRITTEN DIMENSIONS TAKE PRECEDENCE OVER GRAPHIC REPRESENTATION.
9. VERIFY DIMENSIONS IN FIELD. NOTIFY ARCHITECT IMMEDIATELY UPON DISCOVERY OF DISCREPANCIES BETWEEN ACTUAL CONDITIONS AND DRAWINGS AND PRIOR TO COMMENCING WITH WORK IN QUESTION.
10. UNLESS NOTED OTHERWISE, PLAN DIMENSIONS ARE AS FOLLOWS: EXTERIOR DIMENSIONS TO FACE OF BRICK VENEER, BRICK VENEER MASONRY, CAST-IN-PLACE CONCRETE, PRECAST CONCRETE, AND CONCRETE MASONRY UNIT OPENING OR COLUMN CENTERLINE. STOREFRONT AND CURTAINWALL DIMENSIONS TO FACE OF ROUGH OPENINGS INCLUDING PERIMETER JOINT. INTERIOR DIMENSIONS TO FACE OF FINISH WALL, FURRED OR NOT.
11. INSTALL DOORS NOT LOCATED BY DIMENSION SUCH THAT EDGE OF DOOR FRAME TO FACE OF ADJACENT WALL IS 0'--4". SEE <.A010> FOR DETAILS.
11. PRIOR TO PROCEEDING WITH WORK, COORDINATE SIZE AND LOCATION OF ALL OPENINGS AND ROUGH-INS THROUGH SLABS, WALLS, CEILINGS, AND ROOFS FOR DUCTS, PIPES, CONDUITS, CABINETS AND EQUIPMENT.
12. VERIFY EXISTING UTILITY LOCATIONS USING STATE ONE CALL SYSTEM BEFORE CONSTRUCTION STARTS. COORDINATE NEW UTILITY LOCATIONS, CONNECTIONS, PENETRATIONS, AND SERVICE ENTRANCES WITH FINDINGS.
12. PROVIDE ACCESS DOORS FOR CONCEALED VALVES, DAMPER CONTROLS, FIRE DAMPER LINKAGE, AND ELECTRICAL JUNCTION BOXES.
13. COORDINATE MEP, AV/IT, SECURITY, AND LIFE SAFETY DEVICE/FIXTURE LOCATIONS TO AVOID CONFLICTS WITH CASEWORK, DOORS, AND OTHER TRADES.
14. PROVIDE CONSTRUCTION AND CONTROL JOINTS IN CONCRETE SLABS ON GRADE AND TOPPING SLABS PER ACI 224.3R-95 AND AS SHOWN OR DETAILED ON STRUCTURAL DRAWINGS.
15. SEAL PENETRATIONS OF NEW OR EXISTING FIRE-RATED FLOORS AND CEILINGS WITH FIRE-RESISTIVE SYSTEMS (078413) AND (078446) TO MATCH RATING OF ADJACENT CONSTRUCTION UNLESS NOTED OTHERWISE.
16. INSTALL JOINT SEALANT (079200) AT EXTERIOR SIDE OF JOINTS, SEAMS, CONNECTIONS, OR OPENINGS WHICH WOULD ALLOW WATER OR AIR INFILTRATION UNLESS NOTED OTHERWISE.
17. SEAL PERIMETER JOINTS, PENETRATIONS, VOIDS, AND PERIMETER OF DEVICE WALL BOXES THROUGH INTERIOR GYPSUM BOARD SURFACE OF EXTERIOR WALLS WITH LATEX JOINT SEALANT (079200).
18. PROVIDE CONCEALED BLOCKING FOR ALL WALL MOUNTED ITEMS (EQUIPMENT, HANDRAILS, MILLWORK, ACCESSORIES, ETC...). BLOCKING MAY NOT BE WHOLLY SHOWN/INDICATED ON DRAWINGS. WHERE CONSTRUCTION IS OF A NONCOMBUSTIBLE TYPE PROVIDE SHEET METAL OR FIRE RETARDANT TREATED (FRT) WOOD.

Site Key

NOT TO SCALE RE: / , ,



Location Map

NOT TO SCALE RE: / , ,

SHEET INDEX

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Jeremy B Kahm - Architect
MO# A-2010035449

License Name: Berkebile Nelson Immenschuh McDowell Incorporated
Profession Name: Architectural Corp.
Licensee Number: 000377

SHEET INDEX, PROJECT INFORMATION & GENERAL NOTES

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Code and Life Safety Narrative

Facility Information:
Name: MCC Longview HT Renovation/Addition
County: Jackson
City: Lee's Summit, Missouri
Local Fire Department (responding fire service): Lee's Summit Fire Department
Building Inspection Department: Lee's Summit Development Services

Owner:
Metropolitan Community College of Kansas City
3200 Broadway
Kansas City, Missouri 64111
p/ 816.604.1000

AHJ:
City of Lee's Summit, Missouri

Architect:
BNIM
2460 East Pershing Road, Suite 100
Kansas City, Missouri 64108
p/ 816.783.1500
f/ 816.783.1501

Project Description:
The Project consists of two parts. The first is a renovation of one large classroom on the second level of the HT building into two smaller classrooms. The second is a small high-bay addition on the west side of the building to support MCC's Collision program.

Applicable Building Codes:
- 2018 International Building Code (IBC)
- 20XX International Existing Building Code (IEBC)
- 2018 International Fire Code (IFC)
- 2017 National Electrical Code (NEC)
- 2018 International Mechanical Code (IMC)
- 2018 International Plumbing Code (IPC)
- 2018 International Fuel Gas Code (IFGC)
- NFPA Standards:
  - 2010 NFPA 10 – Portable Fire Extinguishers
  - 2010 NFPA 13 – Installation of Sprinkler Systems
  - 2010 NFPA 14 – Installation of Standpipes and Hose Systems
  - 2010 NFPA 72 – National Fire Alarm Code
  - 2010 NFPA 110 – Emergency and Standby Power Systems
- 2009 A117.1 Accessible & Usable Buildings & Facilities

Construction Type:
Existing Building: Type V-B
Addition: Type V-B

Existing Building is fully Sprinklered; Addition to be fully Sprinklered.

Occupancy Types: B, S

Fire Resistive Elements:

Floor Assembly: 0 hr
Primary Columns and Beams: 0 hr
Exit Stairways and Passageways: 0 hr
Mechanical Shafts: 0 hr
Elevator Hoistway: 0 hr
Roof: 0 hr
Mechanical Rooms: 0 hr
Corridors: 0 hr

Allowable Building Height

Allowable building height:	60'-0"
Actual building height:	27'-6" (average grade plane to highest portion of roof)
Allowable Number of Stories:	3 Stories
Actual number of stories:	2 stories

Allowable Building Area

Base Allowable:	27,000 sf (SM)
Frontage Increase:	(1 – 0.25) x 30/30 = 0.75, or 75%. 27,000 x 0.75 + 27,000 = **47,250 GSF**
Actual Building Area:	29,442 sf

Occupancy Load Factors:

Offices	100 sf/person
Classrooms	20 sf/person
Workshops	50 sf/person
Storage/Mechanical	300 sf/person

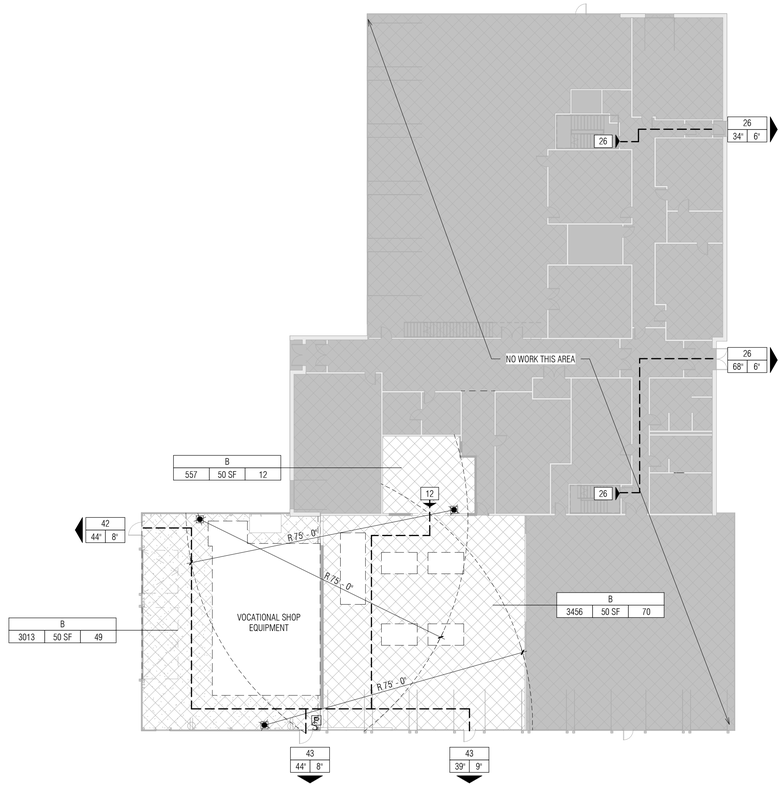
Net Occupant Load Increase:
+49 Persons in Level 1 Addition
No Net Increase in Existing Level 1 Spaces
No Net Increase on Level 2

Exit Access Travel Distance
300 ft Maximum

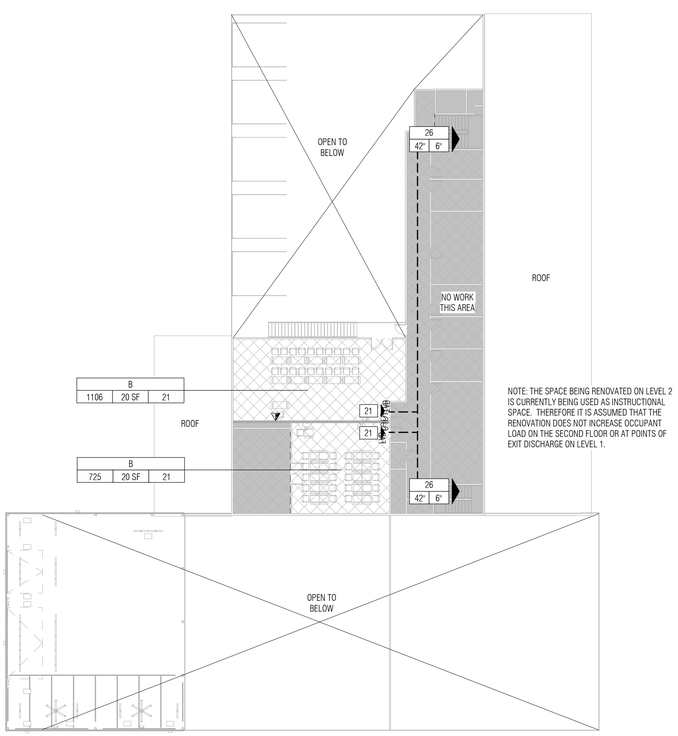
Common Path of Egress Travel
100 ft Maximum, B Occupancy, Sprinklered

Building and Occupancy Separation
The building is classified as Occupancy Type B, with accessory S occupancies. Occupancy separation is not required.

Active Fire Safety Features (CONFIRM WITH LANKFORD)
Automatic Wet Sprinkler System - per NFPA 13
Manual Dry Standpipe System - per NFPA 14 (exterior only)
Fire Alarm System (Emergency Voice Alarm Communication) - per NFPA 72
Fire Extinguishers - per NFPA 10
Exit Signs - along means of egress except at main exterior exit doors and where only one exit is required (per IBC)
Emergency lighting - along means of egress (per IBC)



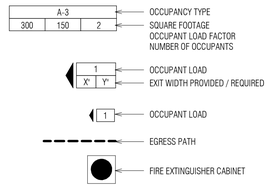
1 Level 1 Life Safety Plan
1" = 20'-0" RE: 1/0-A200
0 5 10 20 40



NOTE: THE SPACE BEING RENOVATED ON LEVEL 2 IS CURRENTLY BEING USED AS INSTRUCTIONAL SPACE. THEREFORE IT IS ASSUMED THAT THE RENOVATION DOES NOT INCREASE OCCUPANT LOAD ON THE SECOND FLOOR OR AT POINTS OF EXIT DISCHARGE ON LEVEL 1.

2 Level 2 Life Safety Plan
1" = 20'-0" RE: 1/0-A200
0 5 10 20 40

Life Safety Symbols



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Jeremy B Kahm - Architect
MO# A-2010035449

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Profession Name: Architectural Corp.
Licensee Number: 000377

CODE REVIEW DATA, LIFE SAFETY PLANS

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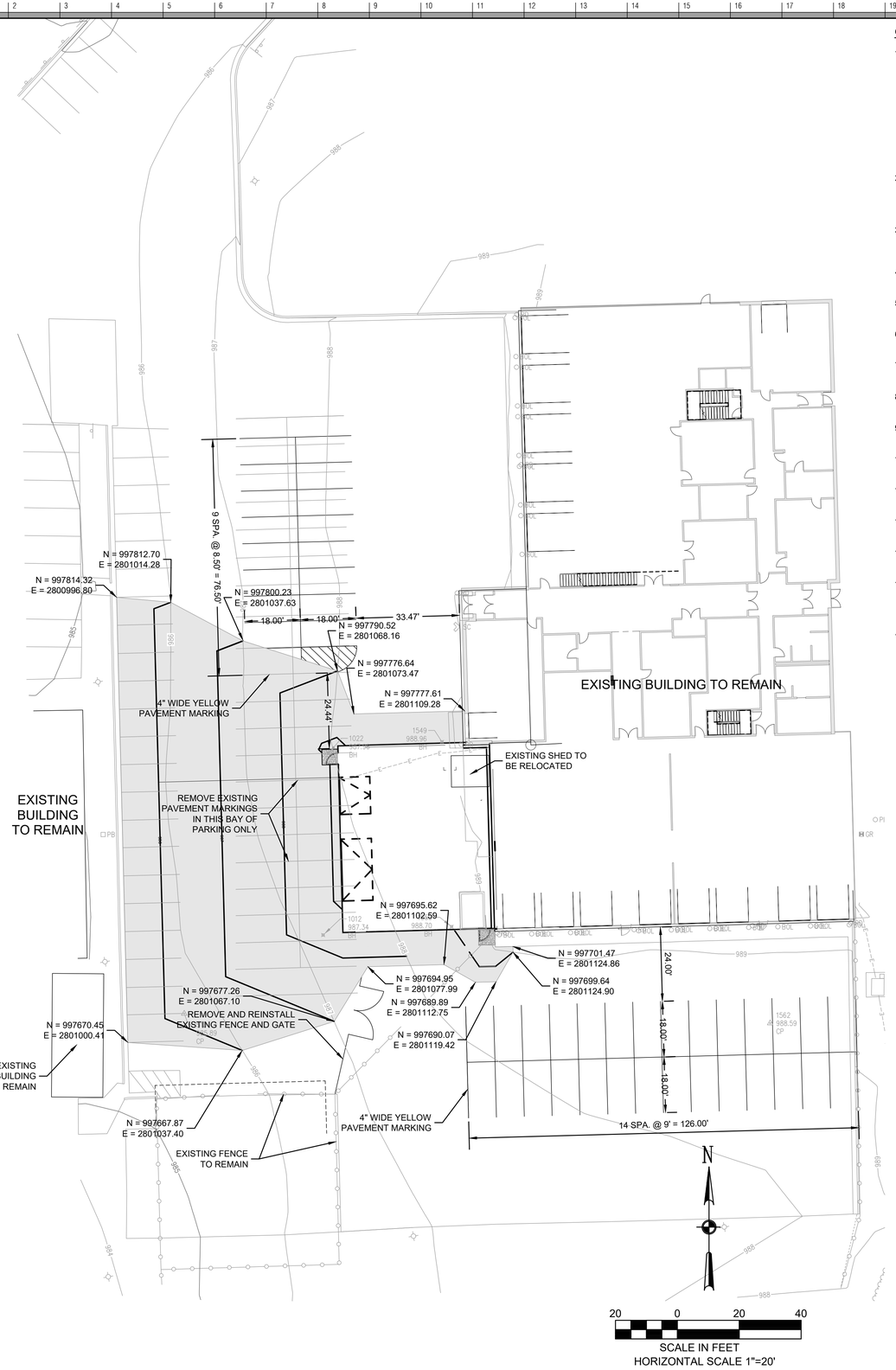

GENERAL NOTES:

1. ALL MATERIALS AND CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE FOLLOWING SPECIFICATIONS:
   A. "STANDARD SPECIFICATIONS AND DESIGN CRITERIA" AS PREPARED BY THE AMERICAN PUBLIC WORKS ASSOCIATION AND AS ADOPTED BY THE CITY OF LEE'S SUMMIT, MISSOURI.
   B. EROSION AND SEDIMENTATION CONTROL SPECIFICATIONS AS ADOPTED BY CITY ORDINANCE, AND AS APPROVED BY THE MISSOURI DEPARTMENT OF NATURAL RESOURCES.
   C. LEE'S SUMMIT, MISSOURI STANDARD DRAWINGS
2. UTILITY LOCATIONS ARE TAKEN FROM UTILITY COMPANY RECORDS. THEY ARE APPROXIMATE ONLY AND DO NOT CONSTITUTE ACTUAL FIELD LOCATIONS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR FIELD VERIFYING THE LOCATION AND DEPTH OF ALL UTILITIES PRIOR TO CONSTRUCTION AND SHALL COORDINATE ALL WORK WITH THE APPROPRIATE UTILITY COMPANIES.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING ALL EXISTING FACILITIES DESIGNATED TO REMAIN SUCH AS CURBING, PAVEMENT, SEWERS AND UTILITIES. ANY DAMAGE DONE TO THE ABOVE FACILITIES BY THE CONTRACTOR'S PERSONNEL OR EQUIPMENT SHALL BE REPAIRED TO ORIGINAL CONDITION AT THE CONTRACTOR'S EXPENSE.
4. THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING EXISTING SEWERS, UTILITIES AND ACCESS ROADWAYS DURING ALL PHASES OF CONSTRUCTION.
5. PROTECT EXISTING UTILITIES THAT ARE TO REMAIN AT ALL TIMES. FOR COORDINATION REFER TO "UTILITY SITE PLANS" AND "SPECIFICATIONS", THIS CONTRACT.
6. SAVE AND PROTECT ALL EXISTING TREES THAT ARE DESIGNATED TO REMAIN ("S") DURING ALL PHASES OF THE CONSTRUCTION.
7. REMOVAL AND DISPOSAL OF EXISTING TREES SHALL COMPLY WITH ALL REGULATIONS OF THE CITY OF LEE'S SUMMIT, MISSOURI.
8. THE CONTRACTOR SHALL INFORM THE METROPOLITAN COMMUNITY COLLEGE FACILITIES DEPARTMENT AT LEAST ONE WEEK PRIOR TO ANY STREET CLOSURE.
9. THE CONTRACTOR SHALL ESTABLISH ALL HORIZONTAL AND VERTICAL CONTROL IN CONFORMANCE WITH THE PLANS. VARIATIONS WILL REQUIRE ADVANCE APPROVAL IN WRITING FROM THE ENGINEER.
10. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PAYING FEES AND OBTAINING ALL NECESSARY PERMITS IN ACCORDANCE WITH THE ORDINANCES OF THE CITY OF LEE'S SUMMIT, MISSOURI.
11. PRIOR TO ORDERING PRECAST STRUCTURES, SHOP DRAWINGS SHALL BE SUBMITTED TO THE DESIGN ENGINEER FOR APPROVAL.
12. ALL STREET CUT RESTORATION SHALL BE IN CONFORMANCE WITH THE CITY OF LEE'S SUMMIT, MO. STANDARDS AND ENGINEER'S APPROVAL.
13. AT NO TIME SHALL ANY ACCESS TO OCCUPIED BUILDINGS BE CLOSED WITHOUT WRITTEN STATEMENTS FROM HE METROPOLITAN COMMUNITY COLLEGE FACILITIES DEPARTMENT AND THE ENGINEER'S APPROVAL.
14. THE CONTRACTOR SHALL PROVIDE TRAFFIC CONTROL AND MAINTENANCE (MARKING, SIGNS & DEVICES FOR DETOURS & LOCAL TRAFFIC CONTROLS) IN ACCORDANCE WITH AND APPROVAL OF THE STREETS AND TRAFFIC DEPARTMENT OF THE CITY OF LEE'S SUMMIT, MISSOURI AND THE ENGINEER. THE CONTRACTOR SHALL OBTAIN A CITY APPROVED TRAFFIC (DETOUR) CONTROL PLAN PRIOR TO BEGINNING CONSTRUCTION.
15. THE CONTRACTOR MUST REMOVE, AT THEIR COST, ANY UNSUITABLE SUBSURFACE SOIL WHICH WOULD NOT BE ABLE TO SUPPORT ANY PROPOSED PUBLIC IMPROVEMENT. BACKFILL SHALL BE ACCOMPLISHED IN ACCORDANCE WITH APWA SECTIONS 2100 AND 2201 ENTITLED "GRADING AND SITE PREPARATION" AND "SUBGRADE PREPARATION" RESPECTIVELY.

PAVEMENT LEGEND

2" TYPE 5-01 ASPHALT CEMENT CONCRETE SURFACE COURSE
3" TYPE 1-01 ASPHALT CEMENT CONCRETE BASE COURSE
6" MODOT TYPE V AGGREGATE BASE
6" COMPACTED SUBGRADE

4" TYPE SW-1 RESIDENTIAL SIDEWALK
6" COMPACTED SUBGRADE

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Key Plan

Seal

STATE OF MISSOURI
HAGOS ERMIAS ANDEBRHAN
NUMBER PE-2004011822
REGISTERED PROFESSIONAL ENGINEER

09-22-2021

HAGOS E. ANDEBRHAN - PROFESSIONAL ENGINEER
MO# E-2004011822

License Name: Berkebile Nelson Immenschuh McDowell Incorporated
Profession Name: Architectural Corp.
Licensee Number: 000377

SITE LAYOUT PLAN

C001

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GRADING NOTES:

1. THE SIZE, LOCATION AND NATURE OF EXISTING UTILITIES AS SHOWN ON THESE DRAWINGS HAS BEEN OBTAINED FROM INFORMATION PROVIDED BY THE UTILITY COMPANIES. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO COORDINATE ACTIVITIES WITH THE APPLICABLE UTILITIES, AND FIELD VERIFY THE LOCATION AND ELEVATION OF ALL UTILITIES, INCLUDING UNFORESEEN AND UNKNOWN UTILITIES, PRIOR TO CONSTRUCTION. UTILITIES DAMAGED AS A RESULT OF CONSTRUCTION ACTIVITIES SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.

2. UNLESS OTHERWISE INDICATED IN PLANS OR TECHNICAL SPECIFICATIONS, ALL MATERIALS AND CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE FOLLOWING SPECIFICATIONS AND GEOTECHNICAL REPORTS:

   A. "STANDARD SPECIFICATIONS AND DESIGN CRITERIA" AS PREPARED BY THE AMERICAN PUBLIC WORKS ASSOCIATION AND AS ADOPTED BY THE CITY OF LEE'S SUMMIT, MISSOURI.

   B. "EROSION AND SEDIMENTATION CONTROL SPECIFICATIONS" AS ADOPTED BY CITY ORDINANCE, AND AS APPROVED BY THE MISSOURI DEPARTMENT OF NATURAL RESOURCES.

   C. LEE'S SUMMIT, MISSOURI STANDARD DRAWINGS.

3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL PERMITS NECESSARY FOR CONSTRUCTION ACTIVITIES.

4. THE CONTRACTOR SHALL RESTRICT CONSTRUCTION ACCESS TO THE SITE TO ONE LOCATION, UNLESS OTHERWISE APPROVED IN WRITING BY THE ENGINEER.

5. THE CONTRACTOR SHALL PROMPTLY CLEAN PUBLIC ROADWAYS OF ALL MUD AND CONSTRUCTION DEBRIS RESULTING OF CONSTRUCTION ACTIVITIES.

6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR FIELD STAKING.

7. BOLD CONTOUR LINES AND BOLD SPOT ELEVATIONS REPRESENT FINISHED GRADE AT PROJECT COMPLETION, (I.E. THE TOP OF FINISHED GRADE, TOP OF PAVEMENT OR TOP OF CURB).

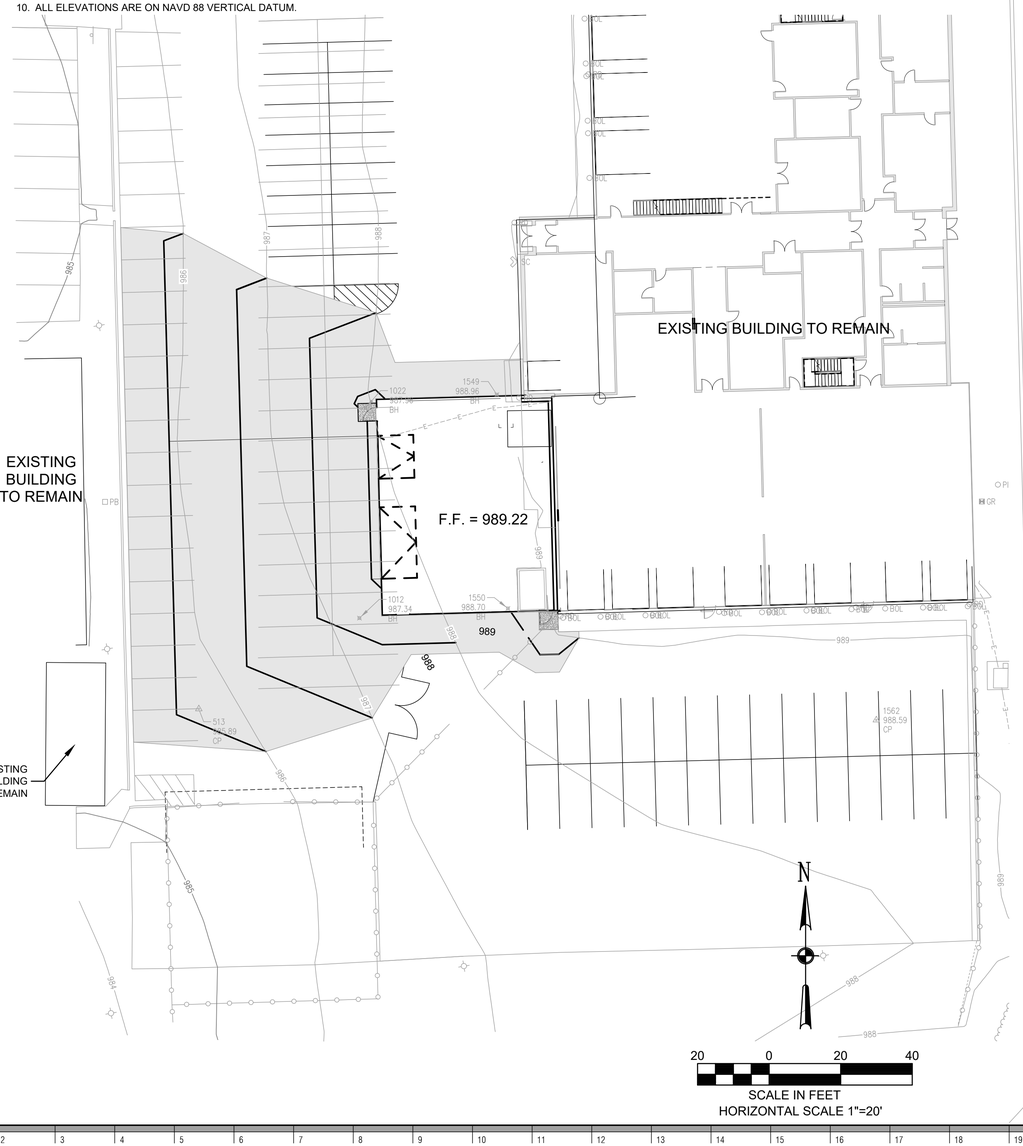
8. ALL SPOT ELEVATIONS ARE PVMT. ELEVATIONS UNLESS NOTED OTHERWISE. SPOT ELEVATIONS FOLLOWED BY HP INDICATE HIGH POINTS. SPOT ELEVATIONS FOLLOWED BY TC INDICATES TOP OF CURB ELEVATION. SPOT ELEVATIONS NOTED TC = P INDICATE THAT TOP OF CURB ELEVATION EQUALS PAVEMENT ELEVATION.

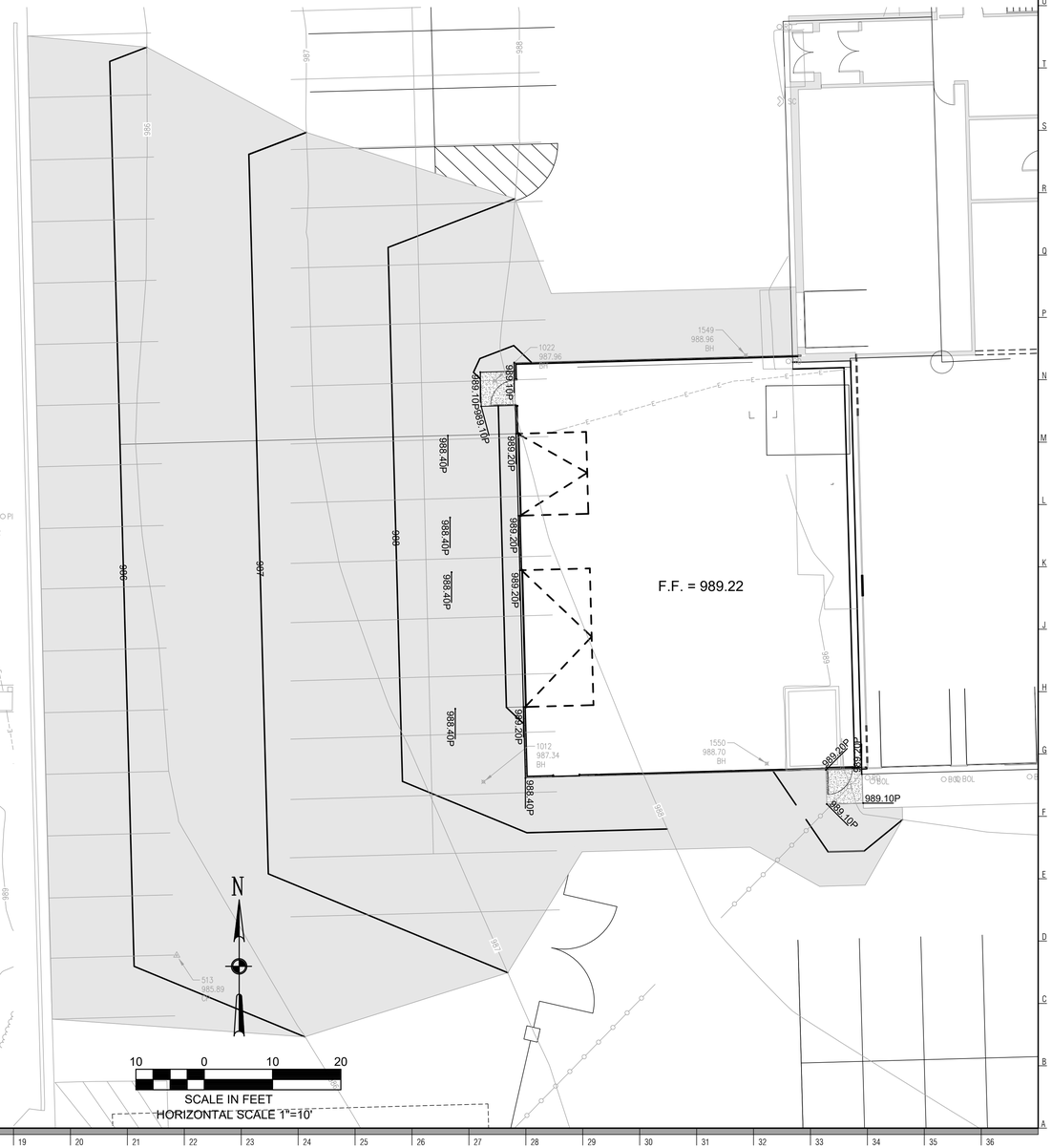
9. SPOT ELEVATION CALL OUTS MAY BE TRUNCATED (i.e 55.50 MEANS 955.50).

10. ALL ELEVATIONS ARE ON NAVD 88 VERTICAL DATUM.

LEGEND

TC	DENOTES TOP OF CURB ELEVATION
P	DENOTES TOP OF PAVEMENT ELEVATION
TC=P	DENOTES TOP OF CURB ELEVATION AND TOP OF PAVEMENT ELEVATION ARE EQUAL
T.O.W.	DENOTES TOP OF RETAINING WALL ELEVATION
TS	DENOTES TOP OF GARAGE SLAB ELEVATION
WL	DENOTES WIND LIP ELEVATION OF GARAGE





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SITE GRADING PLAN

C002

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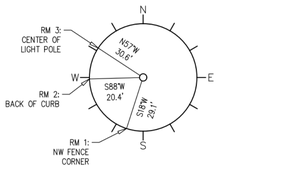
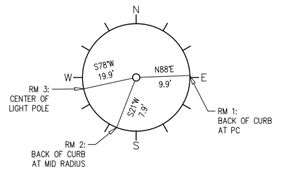


SET MAG NAIL IN ASPHALT IN SW QUAD OF CAMPUS PARKING LOT "F", ± 27' NORTH OF FENCED AREA.



SET 1/2" I.B. W/T&B CONTROL CAP ON THE WEST SIDE OF LONG ROAD, AT THE NW QUAD OF DRIVE ENTRANCE TO THE "HT", HIGH TECHNOLOGY FACILITY AT LOT "F", ± 110' NNE OF THE NE CORNER OF THE CONCRETE DUMPSTER PAD.

LEGEND

BOL	BOLLARD
CI	CURB INLET
EM	ELECTRIC METER
FF	FINISH FLOOR
GI	GRATE INLET
GM	GAS METER
GP	GUY POLE
GR	GAS REGULATOR
GV	GAS VALVE
GW	GUY WIRE ANCHOR
MH	MANHOLE
PVC	POLYVINYL CHLORIDE
RCP	REINFORCED CONC. PIPE
RD	ROOF DRAIN
R/W	RIGHT-OF-WAY
SAN.	SANITARY
SC	SIAMESE CONNECTION
STM.	STORM
TDM	TRUNCATED DOME MAT
TR	TELEPHONE RISER
UNK	UNKNOWN
----E----	UNDERGROUND ELECTRIC
----FO----	FIBER OPTICS
----G----	GAS
----OHE----	OVERHEAD ELECTRIC
----OHT----	OVERHEAD TELEPHONE
----OHTV----	OVERHEAD CABLE TV
----OHU----	OVERHEAD UTILITIES
----P----	PROPERTY LINE
----R/W----	RIGHT-OF-WAY LINE
----S----	SANITARY SEWER
----ST----	STORM SEWER
----UGC----	UNDERGROUND COMMUNICATION
----W----	WATER
----WS----	WATER SERVICE
	ELECTRIC MANHOLE
M	WATER METER
	TELEPHONE MANHOLE
	UTILITY POLE
	LIGHT POLE
	FIRE HYDRANT
	WATER VALVE

PROJECT BENCHMARK

KCMO BENCHMARK NO. 4374 (JA-96)
ALUMINUM CAP IN CONCRETE STAMPED "KANSAS CITY METRO CONTROL PROJECT JA-96" 204' ± S. OF CENTERLINE LONGVIEW ROAD AND 173'± E. OF CENTERLINE RAYTOWN ROAD.

ELEV.= 963.52'

UNDERGROUND UTILITIES:
THE INFORMATION CONCERNING THE LOCATION OF UNDERGROUND UTILITIES SHOWN HEREON, WHICH ARE NOT VISIBLE FROM THE SURFACE, HAVE BEEN TAKEN FROM THE RECORDS OF THE VARIOUS UTILITY COMPANIES AND FROM FIELD LOCATIONS AS MARKED BY LOCATORS REPRESENTING SAID UTILITY COMPANIES. THESE LOCATIONS ARE NOT TO BE CONSTRUED AS ACCURATE OR EXACT. WHERE MEASUREMENTS WERE NOT AVAILABLE, THE LOCATION OF THESE UNDERGROUND LINES HAVE BEEN SCALED FROM RECORD DRAWINGS. UTILITY LOCATIONS SHOULD BE VERIFIED IN THE FIELD PRIOR TO ANY CONSTRUCTION.

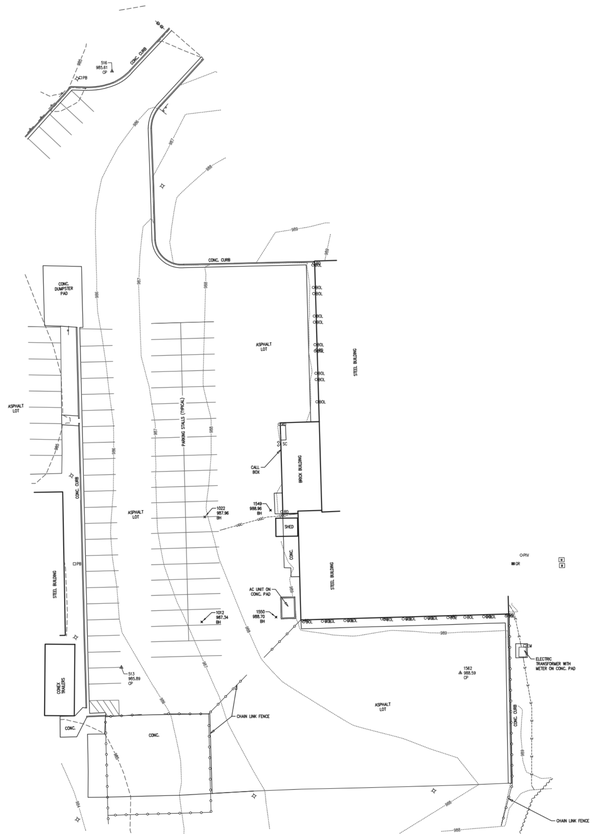
MISSOURI ONE CALL WAS NOTIFIED 06/08/21, TICKET NO. 211790836. THE FOLLOWING COMPANIES WERE NOTIFIED: ATT DISTRIBUTION, EVERGY, SPIRE MO WEST, CITY OF LEES SUMMIT WATER, CITY OF LEES SUMMIT SEWER, CITY OF LEES SUMMIT STORM SEWER AND LONGVIEW COMMUNITY COLLEGE.

MCC HT AUTOMOTIVE BUILDING ADDITION
LEE'S SUMMIT, JACKSON COUNTY, MISSOURI
TOPOGRAPHIC SURVEY

DRAWN: KMS
CHECKED: DLJ
DATE: 07/15/2021

TALIAFERRO & BROWNE, INC.
CONSULTING ENGINEERS-SURVEYORS
1020 EAST 8TH ST., KANSAS CITY, MO, 64106
PH: (816) 283-3456 FAX: (816) 283-0841

C:\USERS\OWNER\DESKTOP
02-4990-001-TS01.DWG, Survey Notes,



Taliaferro & Browne, Inc.
Civil / Structural Engineering
and Surveying Services
1020 E. 8th STREET
KANSAS CITY, MISSOURI 64106
PH (816) 283-3456 FAX (816) 283-0810
PROFESSIONAL ENGINEERING CORPORATION
MISSOURI LICENSE NO. 000466 KANSAS LICENSE NO. E-1481

11x17 1"=40'

dwg: 02-4990V-TS01

bnim

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MCC Longview HT Addition/Renovation

500 SW Longview Road
Lee's Summit, MO 64081 Project No: 20008.00

PERMIT/BID DOCUMENTS

Issued: September 23, 2021

Rev. #	Description	Date Issued

Seal

Jeremy B Kahm - Architect
MO# A-2010035449

License Name: Berkebile Nelson Immenschuh McDowell Incorporated
Profession Name: Architectural Corp.
Licensee Number: 000377

SITE SURVEY

TS001

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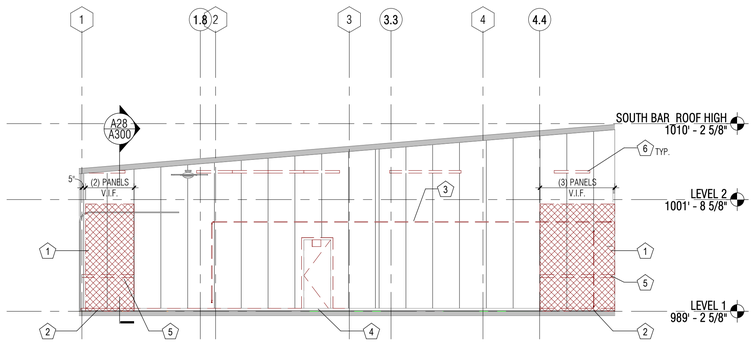
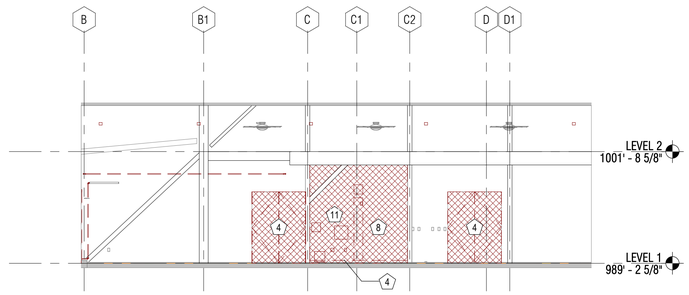


S1 Interior Demolition Elevation - West

1/8" = 1'-0" RE: 1/0-D100 , ,

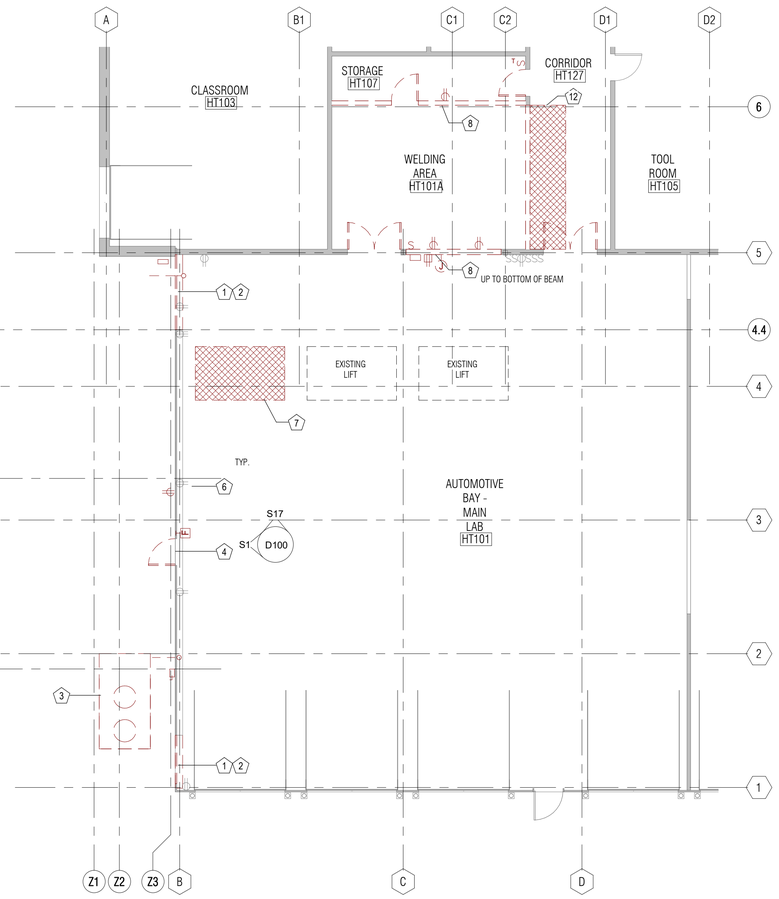
0 2 4 8 16



S17 Interior Demolition Elevation - North

1/8" = 1'-0" RE: 1/0-D100 , ,

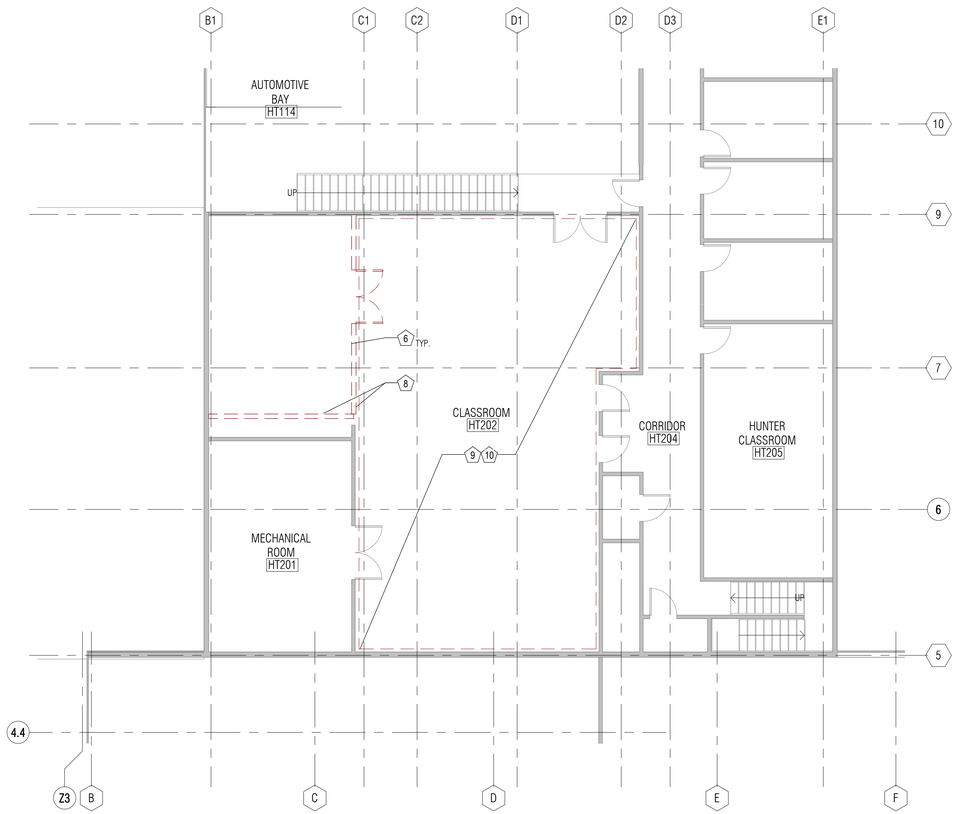
0 2 4 8 16



A1 First Floor Architectural Demolition Plan

1/8" = 1'-0" RE: 1/0-A200 , ,

0 2 4 8 16



A17 Second Floor Architectural Demolition Plan

1/8" = 1'-0" RE: 1/0-A200 , ,

0 2 4 8 16

DEMOLITION GENERAL NOTES

1. DEMOLITION GENERAL NOTES APPLY TO ALL DEMOLITION SHEETS.
2. REFER TO EXISTING RECORD DOCUMENTS PROVIDED BY OWNER FOR COORDINATION WITH EXISTING CONDITIONS AND FIELD VERIFICATION.
3. REFERENCE SPECIFICATIONS FOR ADDITIONAL INFORMATION REGARDING DEMOLITION.
4. REFER TO CIVIL DRAWINGS FOR EXTENT OF SITE AND UTILITY DEMOLITION.
5. REFER TO MECHANICAL, ELECTRICAL, PLUMBING, AV/IT, AND SECURITY DRAWINGS FOR EXTENT OF REMOVAL, MODIFICATION AND REPLACEMENT OF EXISTING UTILITY AND BUILDING SYSTEMS.
6. THESE DRAWINGS ARE PROVIDED AS A GENERAL GUIDE FOR DEMOLITION. CONTRACTOR ASSUMES RESPONSIBILITY FOR VERIFYING ADDITIONAL DEMOLITION THAT MAY BE REQUIRED FOR PROPER INSTALLATION OF NEW WORK. REFER TO ALL ARCHITECTURAL, PLUMBING, MECHANICAL, AND ELECTRICAL DRAWINGS FOR ADDITIONAL DEMOLITION INFORMATION AND COORDINATION.
7. FIELD VERIFY EXISTING CONDITIONS BEFORE COMMENCING ANY WORK. ARCHITECT SHALL BE NOTIFIED IMMEDIATELY OF ANY DISCREPANCIES DETRIMENTAL TO THE PROPER EXECUTION OF NEW CONSTRUCTION.
8. ALL DEMOLITION WORK SHALL COMPLY WITH BUILDING CODE AND ALL APPLICABLE LOCAL, STATE, AND FEDERAL LAWS, ORDINANCES, AND REGULATIONS.
9. EXISTING WALLS SHOWN GRAPHICALLY AS SOLID GRAY TO REMAIN. PROTECT ALL EXISTING CONSTRUCTION TO REMAIN AND PREPARE SURFACES TO RECEIVE NEW CONSTRUCTION OR FINISHES.
10. CARE SHOULD BE MADE TO KEEP DUST AND NOISE FROM DEMOLITION ACTIVITIES FROM THE OTHER PORTIONS AND FLOORS OF THE BUILDING. ERECT AND MAINTAIN DUSTPROOF PARTITIONS. COVER AND PROTECT FURNITURE, FURNISHINGS AND EQUIPMENT THAT HAVE NOT BEEN REMOVED
11. MAINTAIN SERVICES/SYSTEMS THAT REMAIN, AND PROTECT THEM AGAINST DAMAGE DURING SELECTIVE DEMOLITION. PROVIDE TEMPORARY SERVICES/SYSTEMS THAT BYPASS AREA OF SELECTIVE DEMOLITION AND THAT MAINTAIN CONTINUITY OF SERVICE TO OTHER PARTS OF THE BUILDING.
12. NEATLY CUT OPENINGS AND HOLES PLUMB, SQUARE AND TRUE TO DIMENSIONS REQUIRED. USE CUTTING METHODS LEAST LIKELY TO DAMAGE ADJOINING CONSTRUCTION TO REMAIN.
13. SHORE AND BRACE EXISTING STRUCTURE AS REQUIRED PRIOR TO START OF DEMOLITION WORK.
14. FOR UTILITY INSTALLATION, REMOVE ONLY PORTIONS OF PARTITIONS REQUIRED FOR PENETRATIONS THROUGH EXISTING WALLS. PREPARE SURFACES FOR REPLACEMENT CONSTRUCTION.
15. PROTECT EXISTING CONSTRUCTION NOT INDICATED TO BE REMOVED, PATCH AND REPAIR ANY DAMAGE THAT MAY OCCUR. REPAIR OR REPLACE, AT NO COST TO THE OWNER, ALL AREAS OR ITEMS DAMAGED DURING THE DEMOLITION.
16. EXTENTS OF SELECTIVE DEMOLITION WORK INDICATED. THOSE NOT DIMENSIONED ARE APPROXIMATED TO REPRESENT DESIGN INTENT. MODIFY EXTENTS AS REQUIRED TO PROVIDE NEW WORK INDICATED. RETURN IMPACTED AREAS OF EXISTING CONSTRUCTION SCHEDULED TO REMAIN TO ORIGINAL CONDITION UNLESS NOTED OTHERWISE.
17. PATCH SURFACES TO MATCH ADJACENT CONSTRUCTION AT ALL REMOVED DEVICES.
18. PREPARE ALL WALLS FOR NEW PAINT FINISH.
19. TERMINATE AND CAP WATER SERVICE, WASTE, AND VENT LINE WITHIN EXISTING WALL CONSTRUCTION AT PLUMBING FIXTURE REMOVAL WHERE EXISTING WALL TO REMAIN UNLESS NOTED OTHERWISE.
20. COORDINATE DEMOLITION WORK WITH NEW WORK AS REQUIRED. REMOVE EXISTING CONSTRUCTION THAT CONFLICTS WITH NEW WORK. CONSULTANT STRUCTURAL ENGINEER PRIOR TO REMOVING BUILDING STRUCTURE NOT SPECIFICALLY INDICATED TO BE DEMOLISHED.
21. MAINTAIN FIRE LIFE SAFETY AND EGRESS PATHWAYS AND EXITS. WHERE WORK OCCURS ADJACENT TO OCCUPIED SPACES/AREAS PROVIDE APPROPRIATE SAFETY MEASURES.
22. MAINTAIN ALL EXISTING TO REMAIN FIRE RATED ASSEMBLIES AND COMPONENTS. REFER TO LIFE SAFETY PLANS.
23. PROMPTLY REMOVE DEMOLISHED MATERIALS FROM OWNER'S PROPERTY AND LEGALLY DISPOSE OF THEM. DISPOSE OF ALL DEMOLITION WASTE IN COMPLIANCE WITH ALL LOCAL, STATE AND FEDERAL REGULATIONS. REFER TO SPECIFICATIONS FOR RECYCLING REQUIREMENTS.
24. IT IS NOT EXPECTED THAT HAZARDOUS MATERIALS WILL BE ENCOUNTERED IN THE WORK. IF MATERIALS SUSPECTED OF CONTAINING HAZARDOUS MATERIALS ARE ENCOUNTERED, DO NOT DISTURB; IMMEDIATELY NOTIFY SUPERINTENDENT AND OWNER.
25. GENERAL CONTRACTOR SHALL OUTLINE SCHEDULE, ORDER AND TIMELINE OF MASS AND SELECTIVE DEMOLITION.
26. REMOVE ALL SUSPENDED CEILINGS, CEILING TILES AND GRID PER DRAWINGS. COORDINATE TREATMENT OF CEILING EQUIPMENT WITH FIELD SUPERVISOR. REMOVE AND SALVAGE LIGHT FIXTURES FOR RE-USE, RE: ELECTRICAL DRAWINGS.
27. EQUIPMENT, DUCTS, LIGHTING FIXTURES, PIPING, CONDUIT, BRACKETS, HANGERS AND SUPPORTS: REMOVE ITEMS TO EXTENT INDICATED, INCLUDING CEILING, WALL AND FLOOR ANCHORS. PATCH ANCHOR HOLES WHERE CEILING, WALLS AND FLOORS ARE TO REMAIN
28. WHEN UNANTICIPATED MECHANICAL, ELECTRICAL, OR STRUCTURAL ELEMENTS THAT CONFLICT WITH THE INTENDED FUNCTION OR DESIGN ARE ENCOUNTERED, DETERMINE THE NATURE AND EXTENT OF THE CONFLICT AND NOTIFY THE ARCHITECT IMMEDIATELY FOR RESOLUTION.
29. EXISTING CONDITIONS SHOWN ON DRAWINGS ARE FOR INFORMATIONAL PURPOSES ONLY AND DO NOT SHOW ALL CONDITIONS THAT MAY AFFECT THE WORK OF THIS CONTRACT. CONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONDITIONS.
30. WHEN DEMOLISHING A WALL THAT IS IN AN EXISTING CEILING TO REMAIN. TAKE CARE TO NOT DAMAGE EXISTING CEILING. PATCH AND REPAIR TO MATCH EXISTING CEILING AS NECESSARY.
31. GENERAL CONTRACTOR TO NOTE LOCATIONS OF ADDITIONAL DEMO FOR CONSTRUCTION ACTIVITIES NOT ACCOUNTED FOR IN DESIGN DOCUMENTS. THESE AREAS SHOULD BE INCLUDED IN PROJECT SCOPE & REPLACED WITH LIKE EXISTING OR IDENTIFIED CONSTRUCTION.

DEMOLITION KEY NOTES

1. REMOVE PORTION OF EXISTING INSULATED METAL WALL PANEL FOR NEW OPENING. REMOVE WHOLE PANEL WIDTHS; DO NOT CUT VERTICALLY. HORIZONTAL CUT AT HEAD TO BE CLEAN AND LEVEL TO RECEIVE NEW TRIM. REMOVE ALL ITEMS, INTERIOR AND EXTERIOR, THAT ARE ATTACHED TO THIS PORTION OF THE EXISTING WALL.
2. REMOVE PORTION OF EXISTING CONCRETE CURB DOWN TO T.O. EXISTING GRADE BEAM.
3. REMOVE OUTDOOR UNIT AND ASSOCIATED SERVICE LINES BACK TO MECHANICAL ROOM HT201.
4. REMOVE DOOR, FRAME, HARDWARE, EXIT SIGN, AND/OR STEEL SUPPORT.
5. REMOVE HORIZONTAL STEEL GIRT BETWEEN COLUMNS.
6. REMOVE MECHANICAL, ELECTRICAL, PLUMBING, AND FIRE SUPPRESSION EQUIPMENT WHERE INDICATED ON MEPF DEMOLITION DRAWINGS.
7. REMOVE EXISTING VEHICLE LIFT AND SALVAGE FOR REUSE IN NEW LOCATION. CLEANLY SAW CUT AND REMOVE PORTION OF EXISTING CONCRETE SLAB AROUND LIFT.
8. REMOVE PORTION OF EXISTING PARTITION WALL, INCLUDING DOOR, FRAME, AND HARDWARE WHERE OCCURS.
9. REMOVE FLOOR TILES AND RUBBER WALL BASE.
10. REMOVE LAY-IN CEILING AND ALL CEILING-MOUNTED OR CEILING-TERMINATED EQUIPMENT. COORDINATE REUSE OF PROJECTOR AND WIRELESS ACCESS POINT WITH OWNER.
11. RELOCATE WALL-MOUNTED DEVICES AND CONDUIT FOR NEW OPENING
12. REMOVE PORTION OF EXISTING HALLWAY CEILING

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MO# A-2010035449

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Profession Name: Architectural Corp.
Licensee Number: 000377

ARCHITECTURAL DEMOLITION PLANS

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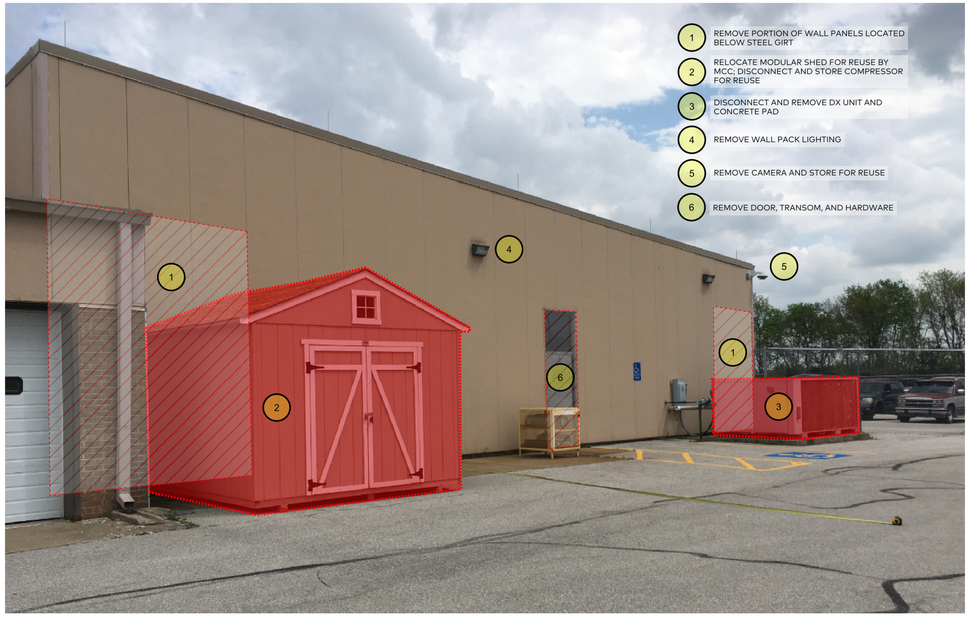
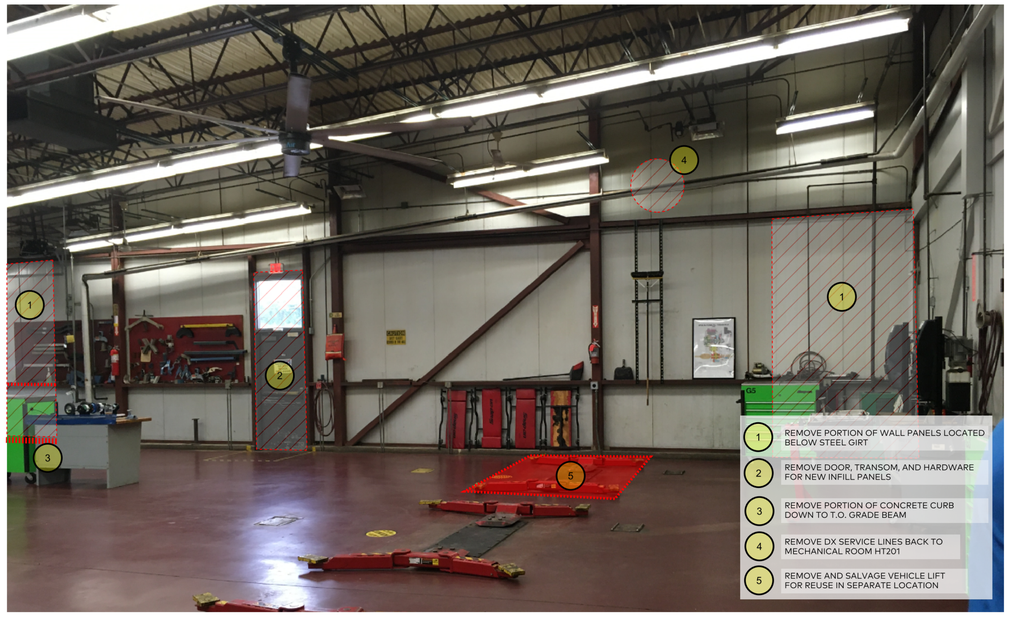
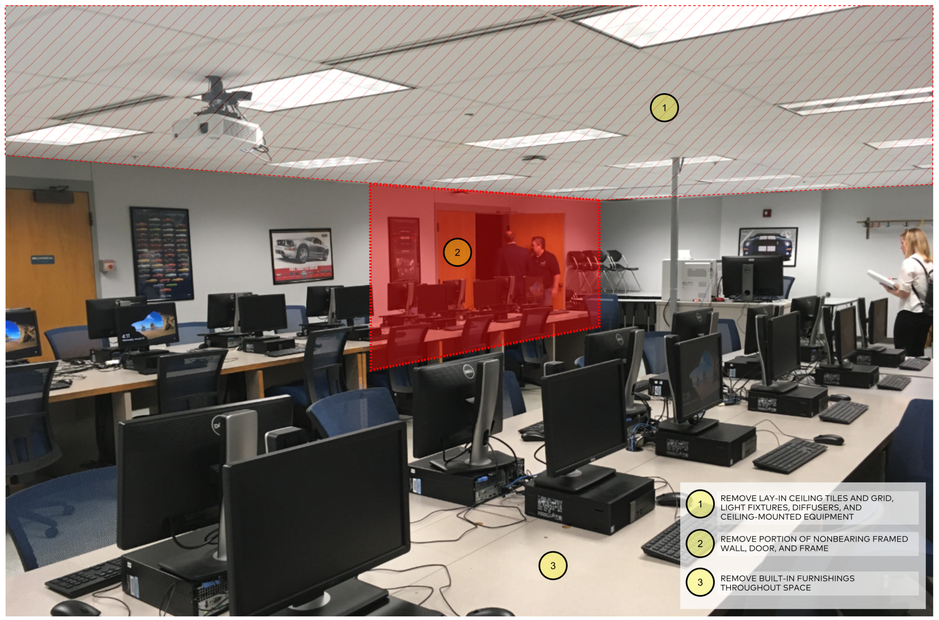


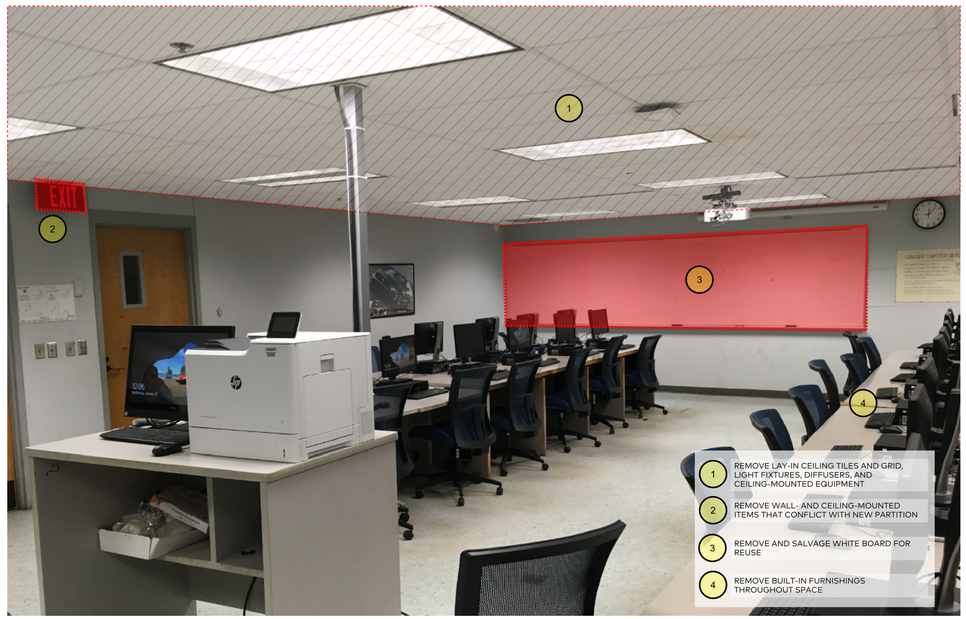
WEST HIGH BAY WALL - EXTERIOR



WEST HIGH BAY WALL - INTERIOR



LEVEL 2 CLASSROOM - LOOKING NORTHWEST



LEVEL 2 CLASSROOM - LOOKING SOUTHEAST

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DEMOLITION PHOTOGRAPHS

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A	
Above	ABV
Above Finish Floor	AFF
Above Suspended Ceiling	ASC
Access	ACC
Access Door	ACC DR
Access Floor	ACC FL
Access Panel	ACC PNL
Acoustical	ACOUST
Acoustical Panel	AP
Acoustical Tile	AT
Acoustical Wall Treatement	AWT
Acrylonitrile-butadiene-styrene	ABS
Addendum	ADN
Additional	ADD'L
Adhesive	ADH
Adjacent	ADJ
Aggregate	AGG
Air Conditioning	A/C
Air Conditioning Unit	ACU
Air Handling	AHU
Alternate	ALT
Aluminum	AL OR ALUM
Anchor Bolt	AB
Anchor, Anchorage	ANCH
Anodized	ANOD
Apartment	APT
Aproximate	APPROX
Architect's Supplemental Instruction	ASI
Architect(ural)	ARCH
Architectural Precast Concrete	APC
Area Drain	AD
Asphalt	ASPH
Automatic	AUTO
Avenue	AVE
Average	AVG
B	
Back of Curb	BC
Balance	BAL
Balled & Bagged	B & B
Basement	BSMT
Beam	BM
Bearing	BRG
Bearing Plate	BRG PL
Bed Joint	BJT
Bedroom	BR
Below	BLW
Bench Mark	BM
Between	BTWN
Bevel(ed)	BLV
Bituminous	BITUM
Block	BLK
Blocking	BLKG
Board	BD
Boiler	BLR
Both Sides	BS
Both Ways	BW
Bottom	BOT
Bottom Face	BF
Bottom Footing Elevation	BFE
Bottom of Curb	BOC
Bracket	BRKT
Brick	BRK
Bridging	BRIDG
Bronze	BRZ
Build-up Roofing	BUR
Building	BLDG
Building Line	BL
Building-Integrated Photovoltaics	BIPV
Bulletin Board	BBD
Bumper Guard	BG
By Others/Owner	BO
C	
Cabinet	CAB
Cabinet Unit Heater	CUH
Caliper	CAL
Cantilever	CANTL
Carpet Roll Good	CR
Carpet Tile	CT
Carpet(ed)	CPT
Casement	CSMT
Casework	CSWK
Cast Iron	CI
Cast Iron Pipe	CIP
Cast Stone	CST
Cast-In-Place Concrete	CIP CONC
Catch Basin	CB
Ceiling	CLG
Ceiling Height	CLG HT
Celsius, Degree	C
Cement(itious)	CEM
Center	CTR
Center Line	CL
Center to Center	C to C
Centimeter(s)	CM
Ceramic Tile	TC
Chalkboard	CHKBD
Chamfer	CHAM
Change Order	CO
Channel	C
Chemical, Chemistry	CHEM
Chlorofluorocarbon	CFC
Chlorosulfonated Polyethylene	CSPE
Circle	CIR
Circuit	CKT
Classroom	CLRM
Cleanout	CO
Clear or Clearance	CLR
Closed Circuit Television	CCTV
Closet	CLO
Coat Hook	CH
Code Modification Request	CMR
Cold Water	CW
Column	COL
Communication Outlet	COMM
Computer Terminal	CRT
Conc. Masonry Unit	CMU
Concrete	CONC
Condenser or Condensate	COND
Conduit	CND
Conference	CONF
Connect(ed)(ion)	CONN
Construction	CONSTR
Construction Change Directive	CCD
Construction Manager	CM
Continuous	CONT
Contract Limit Line	CLL
Contractor	CONTR
Control Joint	CJT
Cooling tower	CT
Coordinate	COORD
Cork	CK
Corner Guard	CG
Corridor	CORR
Corrugated	CORR
Corrugated Metal Pipe	CMP
Course(s)	CRS
Cubic Feet Per Minute	CFM
Cubic Foot	CF
Cubic Inch	CI
Cubic Yard	CY
Cylinder	CYL
D	
Deal Load	DL
Deep	DP
Degree	DEG
Demolish, Demolition	DEMO
Demountable	DMT
Depth	D
Design	DSGN
Detail	DTL
Diagonal	DIAG
Diameter	DIA
Diffuser	DIFF
Dimension	DIM
Direct Current	DC
Direction, Director	DIR
Dispenser	DISP
Distribution	DIST
Division	DIV
Door	DR
Door Opening	DO
Double	DBL
Double Acting	DBL ACT
Double Hung	DH
Dowel(s)	DWL(S)
Down	DN
Downspout	DS
Drawer	DWR
Drawing	DWG
Drinking Fountain	DF
Duplicate	DUP
E	
Each	EA
Each End	EE
Each Face	EF
Each Way	EW
East	E
Elastomeric	ELAS
Electric Water Cooler	EWC
Electrical	ELEC
Elevation	EL or ELEV
Elevator	ELEV
Emergency	EMER
Enclosure	ENCL
Engineer	ENGR
Entrance	ENTR
Equal	EQ
Equipment	EQUIP or EQPM
Escalator	ESC
Establish	ESTB
Estimate	EST
Ethylene Propylene Diene Monomer	EPDM
Exhaust	EXH
Exhaust Fan	EF
Exhaust Grille	EG
Existing	EXISTG
Expansion	EXP
expansion Joint	EJT
Exterior	EXT
Exterior Insulation & Finish System	EIFS
Extrusion	EXTRU
F	
Face Brick	FB
Face of Concrete	FOC
Face of Masonry	FOM
Face of Stud	FOS
Face of Wall	FOW
Fahrenheit	F
Fasten, Fastener	FAS
Feet	FT
Fiber-reinforced Plastic	FRP
Finish	FIN
Finished Floor	FF
Finished Floor Elevation	FFE
Finished Floor Line	FFL
Fire Extinguisher	FE
Fire Extinguisher Cabinet	FEC
Fire Hose Cabinet	FH
Fire Hydrant/Hose	FHC
Fire-retardant Treated Wood	FRTW
Fireproof	FP
Fixture	FIXT
Flashing	FLASHG
Flat Head Machine Screws	FHMS
Flat Head Wood Screws	FHWS
Floor	FLR
Floor Cleanout	FCO
Floor Drain	FD
Flourescent	FLUOR
Flow Line	FL
Foot, Feet	FT
Footing	FTG
Forest Stewardship Council	FSC
Foundation	FDTN
Frame	FRM
Full Size	FS
Furnish	FURN
Furnished By Others	FBO
Furniture, Furnishings & Equipment	FF&E
Furring	FUR
Future	FUT
G	
Gage or Gauge	GA
Gallon	GAL
Galvanized	GALV
General Contract(or)	GC
Generator	GEN
Glass	GL
Glass Reinforced Gypsum	GRG
Glass-fiber Reinforced Concrete	GFRC
Glued-Laminated	GLU-LAM
Grab Bar	GB
Grade	GR BM
Grade Beam	GR
Ground	GRND
Gypsum	GYP
H	
Handrail	HNDRL
Hardboard	HDBD
Hardware	HDW
Hardwood	HDWD
Head	HD
Head Joint	HJT
Header	HDR
Heating	HTG
Heating, Ventilating, Air Conditioning	HVAC
Height	HT
Hertz	HZ
Hig	H
High Point	H PT
High-Density Polyethylene Plastic	HDPE
Highway	HWY
Hollow Core	HC
Hollow Metal	HM
Horizontal	HORIZ
Horsepower	HP
Hot Water	HW
Hot Water Heater	HWH
Hour	HR
Hydrant	HYD
Hydro-chlorofluorocarbon	HCFC
I	
Illumination	ILLUM
Inches	IN
Include(d)(ing)	INCL
Indoor Air Quality	IAQ
Information	INFO
Inside Diamter	ID
Inside Face	IF
Insulated Panel	INSUL
Insulation	INSUL
Interior	INT
Invert	INVT or INV
Invert Elevation	INVT EL
J	
Janitor	JAN
Joint	JT
Joist	JST
Joist Bearing	JST BR
Junction Box	JB
K	
Kick Plate	KPL
Kilovolt Amps	KW
Kilowatts	KVA
Kips	K
Kitchen	KIT
Knocked Down	KD
Knockout	KO
L	
Laboratory	LAB
Laminated	LAM
Large	LG
Lavatory	LAV
Leadership in Energy & Environmental Design	LEED
Left Hand	LH
Length	L
Light	LT
Lighting	TG
Lightweight	LWT
Lightweight Concrete	LWT CONC
Linear	LIN
Linear, Low-density Polyethylene Plastic	LLDPE
Lintel	LTL
Live Load	LL
Locate, Location	LOC
Long Leg Horizontal	LLH
Long Leg Vertical	LLV
Longitudinal	LONG
Louver	LVR
Low Point	LP
M	
Machine	MACH
Machine Screw	MS
Maintenance	MAINT
Manhole	MH
Manual	MAN
Manufacturer	MFR
Masonry	MAS
Masonry Opening	MO
Material	MATL
Maximum	MAX
Mechancial	MECH
Medium	MED
Medium-density Fiberboard	MDF
Medium-density Overlay	MDO
Member	MBR
Membrane	MEMB
Metal	MTL
Meter	M
Mezzanine	MEZZ
Millimeter	MM
Millwork	MLWK
Minimum	MIN
Minute	MIN
Mirror	MIR
Miscellaneous	MISC
Mixture	MIX
Modified, Modular	MOD
Molding	MLDG
Mortar	MTR
Mounted	MTD
Mullion	MULL
N	
Natural	NAT
Noise Reduction Coefficient	NRC
Nominal	NOM
Normal	NORM
North	N
Northeast	NE
Northwest	NW
Not Applicable	NA
Not In contract	NIC
Not to Scale	NTS
Number	NO
O	
Office	OFF
On Center	OC
Opening	OPNG
Opposite	OPP
Origin(al)	ORIG
Ounce	OZ
Out to Out	OTO
Outside Diameter	OD
Overall	OA
Overflow Roof Drain	ORD
Overhead	OH
P	
Painted	PTD
Pair	PR
Panel	PNL
Partition	PTN
Pavement	PVMT
Perforated	PERF
Photovoltaic	PV
Plaster	PLAS
Plastic Laminate	PLAM
Plate	PL
Plumbing	PLUMB or PLBG
Plyvinyl Chloride	PVC
Plywood	PLYWD
Point of Curve	PC
Point of Intersection	PI
Point, Point of Tangent	PT
Polyethylene Terephthalate Plastic	PET
Pounds per Cubic Foot	PCF
Pounds per Square Foot	PSF
Pounds per Square Inch	PSI
Preliminary	PRELIM
Project(ion)	PROJ
Property Line	PL
Proposal Request	PR
Q	
Quality	QUAL
Quarry Tile	TQ
Quart	QT
Quarter	QTR
R	
Radius	R or RAD
Railroad	RR
Receptacle	RECP
Recessed	REC
Rectangular	RECT
Reference	RE or REF
Refrigerator	REFR
Regular	REG
Reinforc(ing)(ed)	REINF
Reinforced Concrete Pipe	RCP
Reinforcing Bar	REBAR
Relief	RLF
Required	REQD
Return	RET
Return Air	RA
Revision	REV
Right Hand	RH
Right of Way	ROW
Roof Drain	RD
Roofing	RFG
Room	RM
Rough Opening	RO
Round	RND
S	
Sanitary	SAN
Schedule	SCHED
Scored Joint	SCD JT
Section	SECT
Sheet	SHT
Similar	SIM
Sound Transmission Coefficient	STC
South	S
Southeast	SE
Southwest	SW
Specification	SPEC
Square	SQ FT or SF
Square Foot	SQ
Staggered	STAG
Stainless Steel	ST STL or SS
Standard	STD
Stell	STL
Storage	STOR
Structural Steel	STRUCT STL
Supply Air	SA
Suspen(ded)(sion)	SUSP
Switch	SW
System	SYS
T	
Tackboard	TKBD
Telephone	TEL
Television	TV
Temperature	TEMP
Tempered Glass	TEMP GL
Textured Finish	TEX FIN
Thermal	THERM
Thick(ness)	THK
Tiolet	TLT
Tongue and Groove	T & G
Top of Beam	TOB
Top of Curb, Top of Concrete	TOC
Top of Deck	TOD
Top of Footing	TOF
Top of Parapet	TOPAR
Top of Pier	TOP
Top of Steel	TOS
Top of Wall	TOW
Transom	TR
Typical	TYP
U	
Underwriters Laboratories	UL
Unfinished	UNFIN
United States Gage	USG
Utility	UTIL
V	
Value	VAL
Vapor Barrier	VB
Varnish	VAR
Veneer	VEN
Ventilating	VENT
Vertical	VERT
Vestibule	VEST
Vinyl Wall Covering	VWC
VinylComposition Tile	VT
Vitreous	VIT
Volatile Organic Compound	VOC
Volt	V
Volume	VOL
W	
Wainscot	WNSCT
Wall to Wall	WTW
Water Closet	WC
Water Heater	WH
Water-repellent Treated Wood	WRTW
Weight	WT
Welded Wire Fabric	WWF
West	W
Wide Flange	WF
Wide, Width	W
Window	WDW
Wired Glass	WG
With	W/
Without	W/O
Wood	WD
Wood Preservative Treated Wood	WPTW
Working Point	WPT
Wrought Iron	WI
Y	
Yard	YD

A1 Abbreviations

Not to Scale

BUILDING WALL SYMBOLS

- SCHEMATIC DWG NEW WALL
- EXISTING WALL TO BE REMOVED
- EXISTING WALL TO REMAIN
- TEMPORARY WALL
- CMU WALL
- STUD WALL
- BRICK WALL
- GLASS BLOCK WALL
- CONCRETE WALL
- PRECAST CONCRETE WALL

PLAN SYMBOLS

- EXISTING CONTOUR
- GRADED REGION
- FINISHED CONTOUR
- PROPERTY LINE
- SETBACK LINE
- FENCE
- GUARDRAIL
- TREES & SHRUBS

- COLUMN LINE /GRID INDICATOR
- BENCHMARK/FLOOR ELEVATION SYMBOL
- NORTH ARROW
- WALL/BUILDING ELEVATION SYMBOL
- BUILDING SECTION SYMBOL
- WALL SECTION/DETAIL SECTION SYMBOL
- DETAIL REFERENCE SYMBOL
- REVISION INDICATOR
- TEXTNOTE SYMBOL
- FLOOR SLAB ELEVATION
- STAIR TAG
- FLOOR TAG
- SPOT ELEVATION SYMBOL
- ROOM TAG SYMBOLS
- PARTITION TYPE SYMBOL
- DOOR SYMBOL
- WINDOW SYMBOL
- CURTAIN/SYSTEM PANEL SYMBOL
- CEILING HEIGHT SYMBOL
- FINISH TAG SYMBOL
- LANDSCAPE TAG SYMBOL
- FURNITURE TAG
- FURNITURE SYSTEMS TAG
- AREA TAG SYMBOLS

ANNOTATION SYMBOLS

- EARTH EXISTING
- BACKFILL
- DRAINAGE FILL
- BASE COURSE

02 SITE CONSTRUCTION

- CAST-IN-PLACE CONCRETE
- PRECAST CONCRETE
- CEMENTITIOUS TOPPINGS
- GROUT

03 CONCRETE

- BRICK
- CONCRETE MASONRY UNITS
- GLASS BLOCK
- CUT STONE
- CAST STONE
- SLATE
- SAND

04 MASONRY

- STEEL
- ALUMINUM
- OTHER METALS

05 METALS

- CONTINUOUS WOOD
- INTERMITTENT WOOD
- PLYWOOD
- FINISH WOOD
- GLUED-LAMINATED CONSTRUCTION
- CORK
- HARD BOARD
- PARTICLEBOARD
- SOLID SURFACE MATERIAL

06 WOOD & PLASTICS

- BATT INSULATION
- LOOSE FILL INSULATION
- RIGID INSULATION

07 THERMAL & MOISTURE PROTECTION

- GLASS
- PLASTIC GLAZING

08 DOORS & WINDOWS

- LATH & PLASTER
- GYPSUM BOARD
- CERAMIC TILE
- CEILING PANEL
- CARPET

09 FINISHES

A21 Architectural Materials and Graphic Symbols

Not to Scale

BNIM Architects — Architect
2460 East Pershing Road, Suite 100, Jackson County, Kansas City MO 64108
p.816.783.1500 f.816.783.1501
MO State Certificate of Authority #00235006

KH Engineering Group — Structural Engineer
13426 West 99th Street, Johnson County, Lenexa, KS 66215
913-825-9381
Certificate of Authority

Taliaferro & Browne — Civil Engineer
1020 East 8th Street, Jackson County, Kansas City, MO 64106
816-283-2456

Lankford Fendler + Associates — MEPF Engineer
1730 Walnut Street, Jackson County, Kansas City, MO 64108
816-221-1411

MCC Longview HT Addition/Renovation

500 SW Longview Road
Lee's Summit, MO 64081

Project No: 20008.00

PERMIT/BID DOCUMENTS

Issued: September 23, 2021

Rev. #	Description	Date Issued

Seal

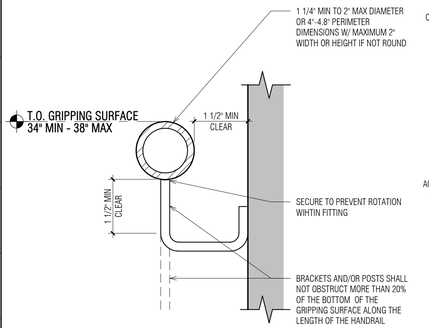
Jeremy B Kahm - Architect
MO# A-2010035449

License Name: Berkebile Nelson Immenschuh McDowell Incorporated
Profession Name: Architectural Corp.
Licensee Number: 000377

ARCHITECTURAL MATERIALS, GRAPHIC SYMBOLS, & ABBREVIATIONS

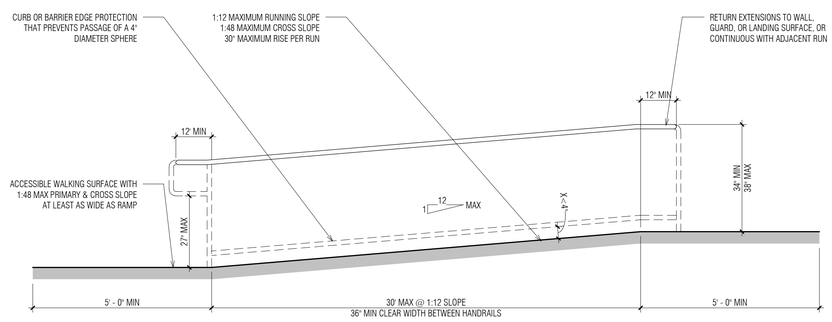
A000

9/24/2021 11:03:57 AM

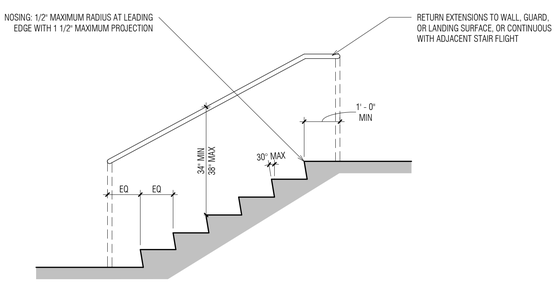


NOTES:
a. PROVIDE HANDRAILS ON BOTH SIDES OF STAIRS AND RAMPS.
b. INSURE 36" MINIMUM CLEAR WIDTH BETWEEN HANDRAILS.
c. HANDRAILS SHALL BE CONTINUOUS ALONG THE FULL LENGTH OF EACH STAIR FLIGHT OR RAMP RUN. INSIDE HANDRAILS ON SWITCHBACK OR DOGLEG STAIRS AND RAMPS SHALL BE CONTINUOUS BETWEEN FLIGHTS OR RUNS.

HANDRAIL MOUNTING & CLEARANCES

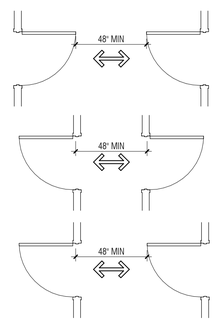


ACCESSIBLE RAMPS

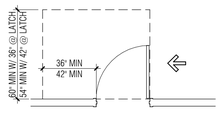


NOTES:
a. ALL STEPS ON A FLIGHT OF STAIRS SHALL HAVE UNIFORM RISERS HEIGHTS AND TREAD DEPTHS.
b. RISERS HEIGHTS SHALL BE 4" MINIMUM AND 7" MAXIMUM. TREAD DEPTH SHALL BE 11" MINIMUM.
c. OPEN RISERS ARE NOT PERMITTED.
d. CONSTRUCT STAIR TREADS AND LANDINGS SUBJECT TO WET CONDITIONS TO PREVENT THE ACCUMULATION OF WATER ON THE WALKING SURFACE, 1:48 MAXIMUM SLOPE AT TREADS AND LANDINGS

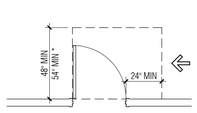
ACCESSIBLE STAIRS



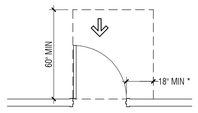
DOORS OR GATES IN SERIES



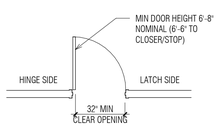
*WITH LATCH & CLOSER SWINGING DOOR HINGE SIDE APPROACH



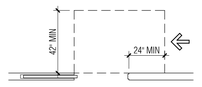
*WITH CLOSER SWINGING DOOR LATCH SIDE APPROACH



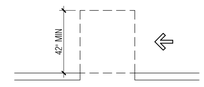
*WITH LATCH & CLOSER SWINGING DOOR FRONT APPROACH



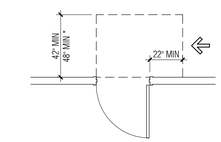
CLEAR WIDTH OF DOORWAYS



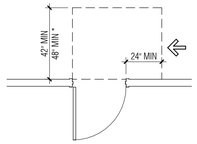
SIDE APPROACH W/OUT DOOR



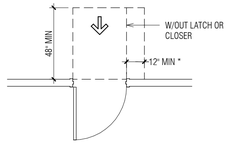
FRONT APPROACH W/OUT DOOR



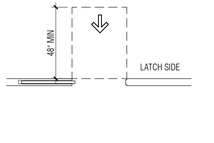
*WITH LATCH & CLOSER SWINGING DOOR HINGE SIDE APPROACH



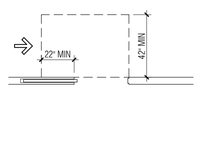
*WITH CLOSER SWINGING DOOR LATCH SIDE APPROACH



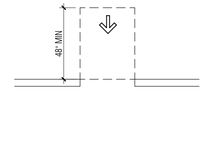
*WITH LATCH & CLOSER SWINGING DOOR FRONT APPROACH



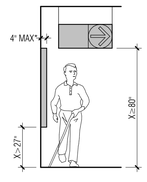
SLIDING/FOLDING FRONT APPROACH



SLIDING/FOLDING DOOR SIDE APPROACH

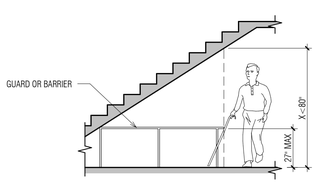


FRONT APPROACH W/OUT DOOR

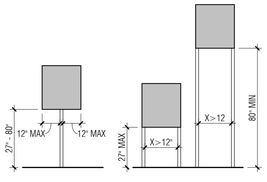


*4 1/2" MAX @ HANDRAILS

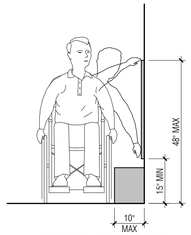
LIMITS OF PROTRUDING OBJECTS



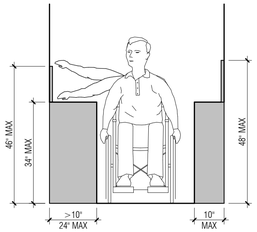
VERTICLE CLEARANCE



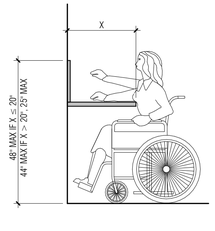
POST-MOUNTED PROTRUDING OBJECTS



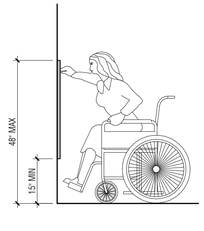
UNOBSTRUCTED SIDE REACH



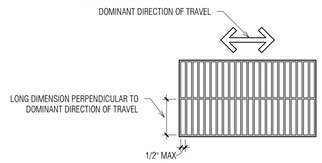
OBSTRUCTED HIGH SIDE REACH



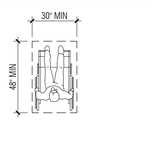
OBSTRUCTED HIGH FORWARD REACH



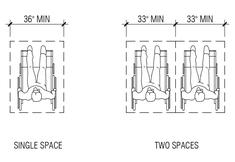
UNOBSTRUCTED FORWARD REACH



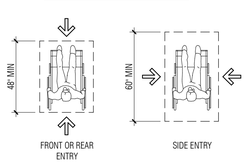
ELONGATED OPENINGS IN FLOOR OR GROUND SURFACES



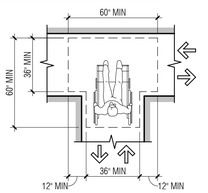
CLEAR FLOOR OR GROUND SPACE



WIDTH OF WHEEL CHAIR SPACES (SEATING/VIEWING AREAS)

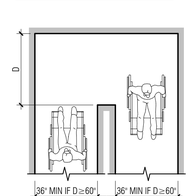


DEPTH OF WHEELCHAIR SPACES (SEATING/VIEWING AREAS)

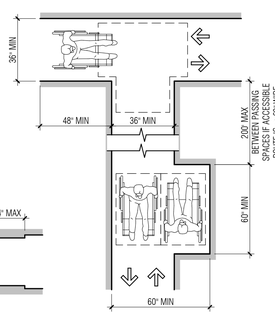


NOTE:
CLEARANCE PERMITTED TO INCLUDE COMPLIANT KNEE AND TOE CLEARANCE

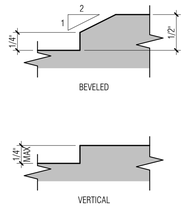
T-SHAPED TURNING SPACE



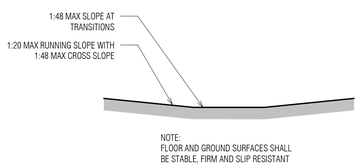
CLEAR WIDTH AT TURN



ACCESSIBLE ROUTE PASSING SPACES

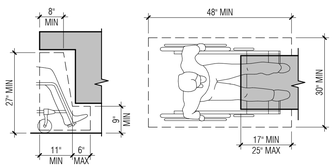


ALLOWABLE CHANGE IN LEVEL

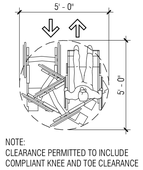


NOTE:
FLOOR AND GROUND SURFACES SHALL BE STABLE, FIRM AND SLIP RESISTANT

MAXIMUM SLOPE OF WALKING SURFACE

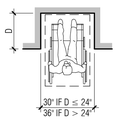


KNEE & TOE CLEARANCE

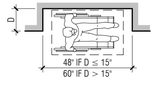


NOTE:
CLEARANCE PERMITTED TO INCLUDE COMPLIANT KNEE AND TOE CLEARANCE

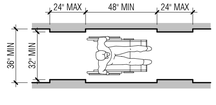
CIRCULAR TURNING SPACE



ALCOVE MANEUVERING CLEARANCE - FRONT APPROACH



ALCOVE MANEUVERING CLEARANCE - PARALLEL APPROACH



ACCESSIBLE ROUTE CLEAR WIDTH

COMPLY WITH REQUIREMENTS OF THE AMERICANS WITH DISABILITIES ACT (ADA) EVEN IF NOT REQUIRED BY BUILDING CODES, REGULATIONS OR ORDINANCES (ADA IS A FEDERAL LAW), AND AS INDICATED ON THESE DRAWINGS. WHERE OTHER PROVISIONS OF THE CONSTRUCTION DOCUMENTS CONFLICT WITH REQUIREMENTS OF THE ADA & INSTALLATION STANDARDS SHEETS (A001 & A002) THESE SHEET SHALL GOVERN, REQUEST CLARIFICATION FROM ARCHITECT WHEN CONFLICTS ARISE.

WHERE REQUIREMENTS OF THE ADA AND ADOPTED CODES CONFLICT THE MORE ONEROUS/STRICTER PROVISIONS SHALL GOVERN EXCEPT WHERE TO DO SO WOULD VIOLATE THE ADA.

ACCESSIBLE ROUTE
ACCESSIBLE ROUTES SHALL CONSIST OF ONE OR MORE OF THE FOLLOWING COMPONENTS: WALKING SURFACES WITH A RUNNING SLOPE NOT STEEPER THAN 1:20, DOORWAYS, RAMPS, CURB RAMPS EXCLUDING THE FLARED SIDES, ELEVATORS, AND PLATFORM LIFTS.

FLOOR AND GROUND SURFACES SHALL BE STABLE, FIRM, AND SLIP RESISTANT.

MINIMUM WHEELCHAIR TURNING SPACE CAN INCLUDE ALLOWABLE FIXTURE KNEE & TOE CLEARANCES UNLESS NOTED OTHERWISE. DOOR SWINGS ARE PERMITTED TO OVERLAP TURNING SPACE UNLESS NOTED OTHERWISE.

ACCESSIBLE BUILDING ENTRANCES
PROVIDE 60% (MIN) OF ALL PUBLIC BUILDING ENTRANCES (EXCLUDING THOSE FOR LOADING OR SERVICE USE) ACCESSIBLE FROM: ACCESSIBLE PARKING, A PUBLIC TRANSPORTATION STOP OR FROM A PASSENGER LOADING ZONE (AS APPLICABLE) WITHOUT STEPS OR ABRUPT CHANGES IN LEVEL.

PROVIDE ONE (1 - MIN) ACCESSIBLE BUILDING ENTRANCE AT THE GROUND FLOOR LEVEL AND ONE (1 - MIN) ACCESSIBLE ENTRANCE TO EACH PROPOSED TENANT SPACE IN A MULTI-TENANT BUILDING.

PROVIDE ACCESSIBLE ENTRANCE AT SERVICE OR LOADING ENTRIES (NOT INTENDED FOR ENTRANCE BY THE PUBLIC) IF THAT IS THE ONLY ENTRANCE TO A SPACE OR BUILDING.

MULTI-LEVEL BUILDINGS: PROVIDE ONE (MIN) ACCESSIBLE ROUTE (INCLUDING AN ELEVATOR TO CONNECT EACH BUILDING LEVEL ABOVE OR BELOW ACCESSIBLE LEVELS INCLUDING MEZZANINES) UNLESS THE FLOOR-AREA IS LESS THAN 3,000 SF AND DOES NOT INCLUDE 5 OR MORE MULTIPLE MERCANTILE (GROUP M) TENANTS, OR THE OFFICES OF HEALTH CARE PROVIDERS.

OPERABLE PARTS
ACCESSIBLE OPERABLE PARTS INCLUDE CONTROLS AND OPERATING MECHANISMS (DOOR HARDWARE, WINDOW OPERATORS, DISPENSERS, LIGHT SWITCHES, CONVENIENCE OUTLETS, THERMOSTATS, ALARM CONTROLS AND SIMILAR ELEMENTS).

PROVIDE AN ACCESSIBLE CLEAR-FLOOR SPACE AT ALL OPERATIONAL PARTS

OPERATION: BY USE OF 1 HAND WITH A SINGLE EFFORT WITHOUT TIGHT GRASPING, PINCHING, OR TWISTING OF THE WRIST - WITH 5.0 POUNDS MAXIMUM OPERATIONAL FORCE. COMPLY WITH ALLOWABLE REACH RANGES FOR HEIGHT OF OPERABLE PARTS.

ACCESSIBLE DOOR & GATE REQUIREMENTS
REVOLVING DOORS OR GATES ARE NOT ACCESSIBLE.

SECURITY & MAINTENANCE DOORS (INCLUDING SERVICE-ACCESS DOORS) DO NOT NEED TO COMPLY WITH ACCESSIBILITY REQUIREMENTS.

DOUBLE-LEAF DOORS OR GATES: ONLY ONE LEAF (MIN) MUST COMPLY WITH ACCESSIBILITY REQUIREMENTS.

RECESSED DOORS: PROVIDE FORWARD APPROACH CLEARANCE WITH ANY OBSTRUCTION WITHIN 18 INCH OF LATCH SIDE OF DOORWAY PROJECTING MORE THAN 8 INCHES BEYOND THE FACE OF DOOR MEASURED PERPENDICULAR TO FACE OF DOOR

DOOR SURFACES: PROVIDE SMOOTH SURFACE WITHIN 0'-10" AFF ON PUSH-SIDE EXTENDING FULL WIDTH WITH MAX 1/16" BETWEEN SURFACE PLANE AND ANY PARTS (KICKPLATE). CAP CAVITIES FORMED BY KICKPLATE EXCEPT AT SLIDING DOORS, TEMPERED GLASS DOORS WITHOUT SIDE STILES WITH A BOTTOM RAIL WITH ITS TOP EDGE SLOPED 60° FROM HORIZONTAL OR MORE OR AT DOORS NOT EXTENDING TO 0'-10" AFF

SIDELITE OR VISION LITES: AT DOORS AND SIDELITE ADJACENT TO DOORS WITH ONE OR MORE GLAZING PANELS PERMITTING VIEWING, PROVIDE BOTTOM EDGE OF AT LEAST ONE PANEL ON EITHER THE DOOR OR THE ADJACENT SIDELITE AT 43" MAX AFF, EXCEPT AT VISION LITES (ONLY) WITH THE LOWEST PART MORE THAN 66" AFF.

ACCESSIBLE DOOR & GATE HARDWARE
PROVIDE ACCESSIBLE HARDWARE WITH AN EASY-TO-GRASP SHAPE COMPLYING WITH OPERABLE PARTS REQUIREMENTS (LEVERS PUSH/PULLS, OR PANIC DEVICES ARE ACCEPTABLE), MOUNTED BETWEEN 2'-10" AND 4'-0" AFF, WITH MAX PROJECTION (INTO REQUIRED MINIMUM CLEARANCES) OF 4" BETWEEN 34 - 80" AFF.

SLIDING DOOR/GATE HARDWARE: OPERABLE PARTS MUST BE EXPOSED AND USABLE FROM BOTH SIDES WHEN DOOR IS FULLY OPEN.

DOOR/GATE CLOSERS: ADJUST UNITS TO PROVIDE 5 SECOND (MIN) TIME TO MOVE DOOR/GATE FROM 90° OPEN-POSITION TO 12° OPEN-POSITION.

DOOR/GATE SPRING-HINGES: ADJUST TO PROVIDE 1-1/2 SECOND MIN TIME TO MOVE DOOR/GATE FROM 70° OPEN-POSITION TO CLOSED-POSITION.

OPENING-FORCE OF CLOSERS OR SPRING-HINGES: 5.0 LBS MAX @ INTERIOR HINGED, SLIDING OR FOLDING DOORS OR GATES (NOT APPLICABLE TO LATCH-BOLT RETRACTION FORCE AND NOT APPLICABLE TO OPENING FORCE AT FIRE-DOORS - TO BE AS REQUIRED BY AHJ).

AUTOMATIC DOORS OR GATES
REFERENCED STANDARDS: COMPLY WITH ANSI/BHMA A156.10. AND FOR POWER-ASSIST AND LOW-ENERGY DOORS, COMPLY WITH ANSI/BHMA A156.19 (UNLESS DOORS OR GATES ARE DESIGNED TO BE OPERATED ONLY BY SECURITY PERSONNEL).

COMPLY WITH ACCESSIBLE CLEAR-FLOOR SPACE, THRESHOLD / FLOOR-SURFACE, AND DOORS-IN- SERIES REQUIREMENTS.

MANUAL CONTROLS: COMPLY WITH "OPERABLE PARTS" REMITS WITH THE CLEAR FLOOR SPACE ADJACENT TO THE CONTROL SWITCH LOCATED BEYOND THE DOOR/GATE SWING.

ACCESSIBLE WINDOWS
PROVIDE OPERATIONAL PARTS LOCATED PER "OPERABLE PARTS" REQUIREMENTS WITH MINIMUM ACCESSIBLE CLEAR-FLOOR SPACE ADJACENT TO THE WINDOW.

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MO# A-2010035449

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Profession Name: Architectural Corp.
Licensee Number: 000377

ADA & INSTALLATION STANDARDS

A001

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SIGNAGE
REQUIRED ACCESSIBLE SIGNS (MINIMUM) EXCEPT AT BUILDING DIRECTORIES, MENU BOARDS OR TEMPORARY SIGNS PROVIDE ACCESSIBLE SIGNS AS FOLLOWS:

ACCESSIBLE ENTRANCES: PROVIDE A 4 X 4" ACCESSIBILITY DECAL AT ALL ACCESSIBLE PUBLIC ENTRANCE DOORS CENTERED AT 60" AFF.

NON-ACCESSIBLE PUBLIC ENTRANCES: PROVIDE DIRECTIONAL SIGNS INDICATING LOCATION OF NEAREST ACCESSIBLE ENTRANCE.

NON-ACCESSIBLE TOILET ROOMS: PROVIDE DIRECTIONAL SIGNS INDICATING LOCATION OF NEAREST ACCESSIBLE UNITS.

ROOM (OR SPACE) SIGNS (INCLUDING TOILET ROOMS): PROVIDE RAISED PICTOGRAMS, TACTILE CHARACTERS AND BRAILLE TEXT.

ACCEPTABLE CHARACTERS: UPPER-CASE, LOWER-CASE OR A COMBINATION OF BOTH IN A SANS-SERIF CONVENTIONAL STYLE - NO ITALIC, OBLIQUE, SCRIPT, HIGHLY DECORATIVE OR OTHER UNUSUAL FORMS.

FINISH & CONTRAST: NON-GLARE WITH EITHER LIGHT CHARACTERS ON DARK BACKGROUND OR DARK CHARACTERS ON LIGHT BACKGROUND.

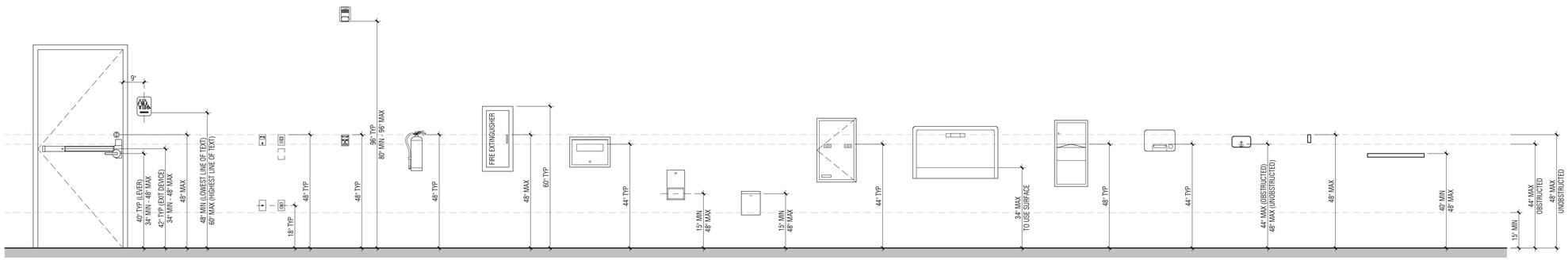
ILLUMINATION LEVEL AT ACCESSIBLE SIGNS: MINIMUM 10 FOOTCANDLES AND NAMES, INDIVIDUAL LETTERS OF THE ALPHABET, INITIALS OR PROVIDE CLEAR FLOOR AREA OF 18 X 18 INCHES CENTERED ON TACTILE CHARACTER SIGNS BEYOND ARC OF DOOR SWING FROM CLOSED TO 45 DEGREE OPEN POSITION.

BRAILLE: CONTRACTED (GRADE 2) WITH INDICATION OF AN UPPERCASE LETTER ONLY BEFORE THE FIRST WORD OF SENTENCES, PROPER NOUNS AND NAMES, INDIVIDUAL LETTERS OF THE ALPHABET, INITIALS OR ACRONYM.

ALARMS
IF EMERGENCY WARNING SYSTEMS ARE PROVIDED, PROVIDE BOTH AUDIBLE AND VISUAL ALARMS IN ANY COMMON-USE AREAS, (INCLUDING BUT NOT LIMITED TO RESTROOMS, MEETING ROOMS, HALLWAYS AND LOBBIES). PERMANENTLY CONNECT ALARM SYSTEMS TO THE BUILDING ELECTRICAL POWER AND LIGHTING SYSTEM AS APPROPRIATE.

IF AUDIBLE ALARMS ARE PROVIDED, THEY MUST PRODUCE SOUND EXCEEDING THE PREVAILING EQUIVALENT SOUND LEVEL OF A SPACE BY AT LEAST 15 dbA OR EXCEED ANY MAXIMUM SOUND LEVEL WITH A DURATION OF 60 SECONDS BY 5 dbA, WHICHEVER IS LOUDER (NOT EXCEEDING 120dbA).

IF VISUAL ALARMS ARE PROVIDED, PROVIDE UNFILTERED OR CLEAR-FILTERED WHITE XENON-STROBE TYPE LAMPS OR EQUIVALENT, WITH 0.2 SECOND MAXIMUM PULSE DURATION AND MAXIMUM DUTY CYCLE OF 40 PERCENT, PROVIDING A MINIMUM BRIGHTNESS INTENSITY OF 75 CANDELA WITH A FLASH RATE BETWEEN 1 AND 3 Hz. LOCATE UNITS NO MORE THAN 6'-10" (80") AFF OR 6" BELOW CEILING (WHICHEVER IS LOWER). LOCATE 50 FEET MAXIMUM FROM ANY POINT WITHIN A SPACE OR COMMON CORRIDOR, OR IN LARGE SPACES OVER 100 FEET ACROSS (SUCH AS AUDITORIUMS) WITHOUT OBSTRUCTIONS 6 FEET AFF, LOCATE AROUND ROOM PERIMETER AT MAXIMUM 100 FEET CENTERS.



DOOR HARDWARE & SIGNAGE | WALL MOUNTED DEVICES | WALL MOUNTED FIRE ALARM APPLIANCES | FIRE EXTINGUISHER | FIRE EXTINGUISHER CABINET | SEAT COVER DISPENSER | TOILET PAPER DISPENSER | SANITARY NAPKIN DISPOSAL | SANITARY NAPKIN DISPENSER | BABY CHANGING STATION | PAPER TOWEL DISPENSER/DISPOSAL | HAND DRYER | SOAP DISPENSER | COAT HOOK | SHELF

MOUNTING HEIGHTS

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ADA & INSTALLATION STANDARDS

A002

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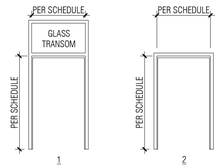
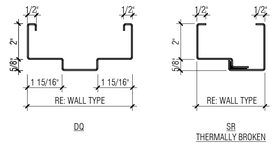
DOOR SCHEDULE

Mark	DOOR Width	Type	DOOR Height	Thickness	Fire Rating	Panel Material	FRAME Material	Frame Profile	Frame Type	Hardware Set	Remarks
1/101	3' - 0"	N	7' - 0"	1 3/4"	-		HM	DQ	2	02	
1/101B	3' - 8 1/2"	FG	8' - 0"	1 3/4"	N/A	HM	HM	SR	1	01	
2/101B	3' - 8 1/2"	FG	8' - 0"	1 3/4"	N/A	HM	HM	SR	1	01	
3/101B	12' - 0"	S	10' - 0"	1 3/4"	N/A	ALUM / GL	-			-	Overhead Panel Door
4/101B	20' - 0"	S	10' - 0"	1 3/4"	N/A	ALUM / GL	-			-	Overhead Panel Door

Frame Types

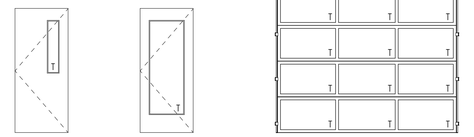


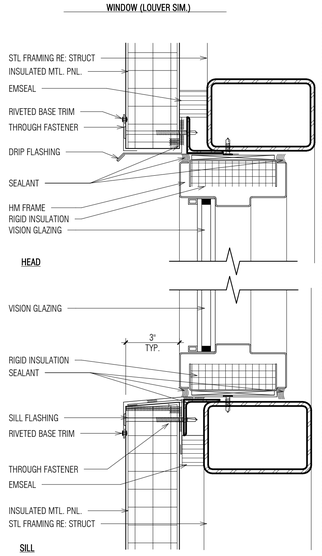
Frame Profiles

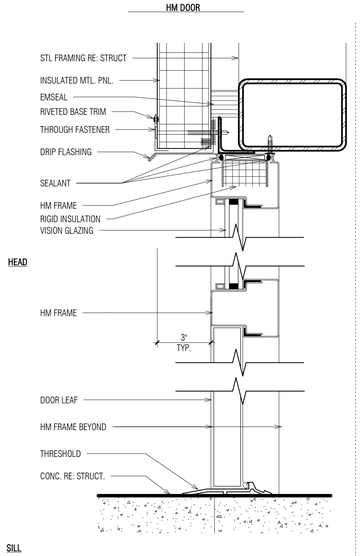


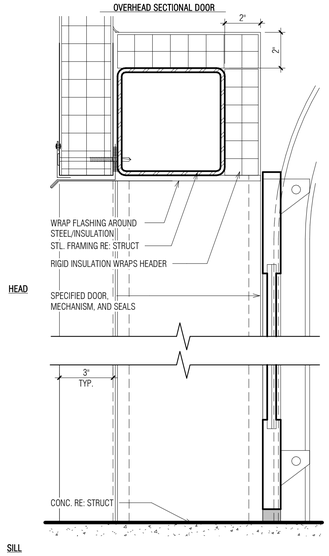
Door Types

T: FULLY TEMPERED GLAZING







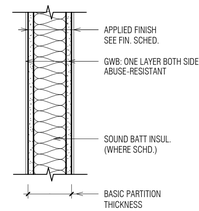


A1 Opening Details

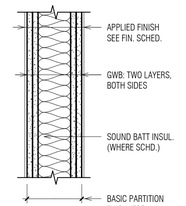
3" = 1'-0" RE: / , ,

PARTITION SYSTEM

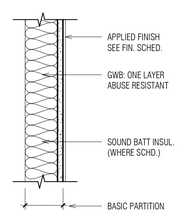
PARTITION IDENTIFICATION PLAN SYMBOL	BASIC PARTITION THICKNESS	FIRE RATING (HRS)	FIRE TEST NUMBER	ACOUSTICAL RATING (STC)	ACOUSTICAL TEST NUMBER	INSULATION THICKNESS	PARTITION CORE: STUD/FURRING SIZE	PARTITION CORE: FURRING TYPE	PARTITION CORE: STUD SPACING	REMARKS
Partition System A										
A6	7 1/4"	N/A	N/A	N/A	N/A	-	6"	N/A	16" O.C.	INFILL WALL
Partition System C										
C3	6 1/8"	N/A	N/A	53	USG-170104	3 1/2"	3 5/8"	N/A	16" O.C.	CLASSROOM DEMISING WALL
Partition System D										
D6	6 5/8"	N/A	N/A	N/A	N/A	-	6"	N/A	16" O.C.	LINER WALL AT EXISTING WEST WALL
Partition System M										
M1I	1 1/2"	1 HR	UL-BXUV	N/A	N/A	-	7/8"	HAT	16" O.C.	LINER WALL AT WELDING AREA



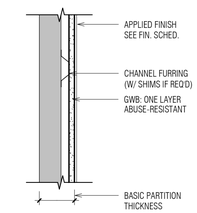
PARTITION SYSTEM A



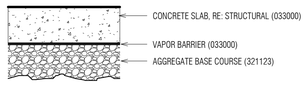
PARTITION SYSTEM C



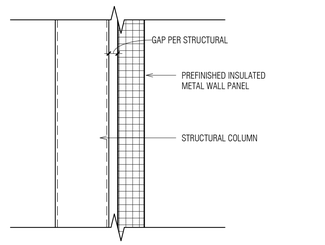
PARTITION SYSTEM D



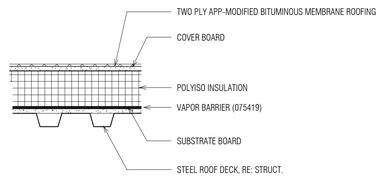
PARTITION SYSTEM M



FL1 - CONCRETE SLAB ON GRADE



EW1 - INSULATED METAL WALL PANEL



RA1 - MODIFIED BIT ROOF ASSEMBLY

DOOR SCHEDULE GENERAL NOTES

1. REFER TO FINISH PLANS FOR KEYED LEGEND OF FINISH AND MATERIAL ABBREVIATIONS.
2. REFER TO REMARKS COLUMN AND SPECIFICATION SECTION 088000 FOR GLASS TYPE AND SCHEDULE.
3. REFER TO REMARKS COLUMN AND DIVISION 08 SPECIFICATIONS FOR TEMPERATURE RISE REQUIREMENTS.
4. STANDARD ABBREVIATIONS FOR DOOR MATERIAL INCLUDE: SW=SOLID WOOD, ALUM=ALUMINUM, HM=HOLLOW METAL
5. PROVIDE FULLY TEMPERED GLAZING AT ALL LOCATIONS RELATIVE TO HEIGHT ABOVE FINISH FLOOR AND DOOR LATCH PER [IBC] <local governing authority>.
6. PROVIDE F.R. LOUVERS AT ALL F.R. TYPE "L" DOORS.
7. PROVIDE UNDERCUT FOR RESTROOM DOORS EXCEPT WHERE DOOR LOUVERS ARE INDICATED. SEE MECHANICAL DRAWINGS.

PARTITION SYSTEM GENERAL NOTES

1. NOTES APPLY TO ALL PARTITION SYSTEMS.
2. REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION
3. REFER TO CODE ANALYSIS PLANS AND SECTIONS FOR REQUIRED FIRE-RATINGS.
4. VERTICAL PARTITION CAPITAL LETTER DESIGNIATIONS (A, B, C, D, ETC.). REFER TO THE TYPES OF ASSEMBLY. NUMBER REFERENCES REFER TO THE DEPTH OF FRAMING AT EACH ASSEMBLY TYPE. METAL FRAMING: 1=1-5/8", 2=2-1/2", 3=3-5/8", ETC.; WOOD FRAMING: 0=0-3/4", 1=0-3/4", 2=1-1/2", 4=3-1/2", ETC. LOWERCASE LETTER SUFFIX MODIFIER DESIGNATIONS REFER TO ACOUSTICAL AND FIRE-RATED ASSEMBLIES. EXAMPLE: A3 - TYPE 'A' ASSEMBLY WITH 3-5/8" METAL FRAMING; A3a - SAME AS PREVIOUS WITH ACOUSTICAL INSULATION AND ACOUSTICAL SEALANT; A3I - SAME AS PREVIOUS WITH FIRE RATING SHOWN ON CODE ANALYSIS PLANS. NOTE ASSEMBLIES CAN BE BOTH ACOUSTICAL (a) AND FIRE-RATED (I).
5. ADDITIONAL TRACK FRAMING AT SLIP-TYPE HEAD JOINTS AND FIRESTOP (092216) (092116.23) NOT SHOWN FOR CLARITY ON PARTITION TYPE DIAGRAMS. PROVIDE DEFLECTION TRACKS AS SPECIFIED AND/OR AS INDICATED ON DRAWINGS.
6. PROVIDE ALL NECESSARY BRACING TO STRUCTURE FOR INTERIOR PARTITIONS.
7. SEAL PERIMETER JOINTS, PENETRATIONS, VOIDS, AND PERIMETER OF DEVICE WALL BOXES OF IN INTERIOR GYPSUM BOARD AND STRUCTURE AT EXTERIOR WALLS WITH LATEX ACOUSTICAL JOINT SEALANT (079200).
8. SEAL PERIMETER JOINTS, PENETRATIONS, VOIDS, AND PERIMETER OF DEVICE WALL BOXES OF NONRATED PARTITIONS WITH LATEX ACOUSTICAL JOINT SEALANT (079200).
9. SEAL PERIMETER JOINTS, PENETRATIONS, VOIDS, AND PERIMETER OF DEVICE WALL BOXES OF STC- RATED PARTITIONS WITH LATEX ACOUSTICAL JOINT SEALANT (079200). PROVIDE TWO CONTINUOUS PARALLEL BEADS OF LATEX ACOUSTICAL JOINT SEALANT BENEATH RUNNER TRACKS.
10. SEAL PERIMETER JOINTS, PENETRATIONS, VOIDS, AND PERIMETER OF DEVICE WALL BOXES OF FIRE-RATED PARTITIONS WITH PAINTABLE FIRE-RESISITIVE SYSTEMS (078413) AND (078446) TO MATCH PARTITION RATING.
11. PROVIDE 3" STENCILED LETTERING AT TOP OF EVERY FIRE-RATED WALL AT 30'-0" ON CENTER MAXIMUM AND WITHIN 15'-0" OF END OF EACH WALL WHERE WALL IS HIDDEN ABOVE CEILINGS OR BELOW ACCESS FLOOR.
12. PROVIDE BOND BEAM (042000) AND 4" X 4" X 5/16" STEEL ANGLE KICKER BRACING (055000) AT TOP OF PARTIAL HEIGHT CMU WALLS AT 4'-0" O.C. WELD KICKER TO BULB TEE OR ANCHOR TO BOND BEAM WITH EXPANSION ANCHOR (055000) AND ANCHOR TO STRUCTURE ABOVE (OR AT SPACING INDICATED PER STRUCTURAL DRAWINGS) UNLESS NOTED OTHERWISE.
13. PROVIDE PARTITION TOP ANCHOR (042000) AT TOP OF NON-FIRE-RATED FULL-HEIGHT CMU PARTITIONS UNLESS NOTED OTHERWISE; PROVIDE DEFLECTION TRACK AT FIRE-RATED CMU PARTITIONS PER UL ASSEMBLY.
14. RUN GYPSUM BOARD PANELS (092900) ON STC-RATED AND/OR FIRE-RESISTIVE PARTITIONS CONTINUOUS THROUGH INTERSECTIONS WITH NON-RATED PARTITIONS.
15. ANCHOR METAL STUD BRACING (092216) TO ADJACENT STRUCTURE OF SAME SIZE AND THICKNESS AS PARTITION FRAMING AT 8'-0" O.C. VERTICAL MIN. X 48" O.C. HORIZONTAL AT FURRED OUT PARTITIONS GREATER THAN 12'-0" IN HEIGHT. 15. PARTITION FACE ALIGNMENT - WHERE DIFFERENT PARTITION TYPES MEET AT LOCATIONS OTHER THAN CORNERS, MAINTAIN A FLUSH SURFACE CONTINUOUS BETWEEN PARTITIONS, UNLESS SPECIFICALLY NOTED OTHERWISE.
16. BACK TO BACK DEVICES: ALL DEVICES SHALL BE OFFSET SO THAT NO DEVICES IN ADJACENT ROOMS ARE BACK TO BACK.
17. SEE FINISH PLANS / SCHEDULE FOR WALL FINISH IN ALL LOCATIONS.
18. ALL PARTITIONS ARE FULL HEIGHT (FLOOR TO STRUCTURE/DECK ABOVE) UNLESS NOTED OTHERWISE.

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DOORS, HORIZONTAL AND VERTICAL ASSEMBLIES

A010

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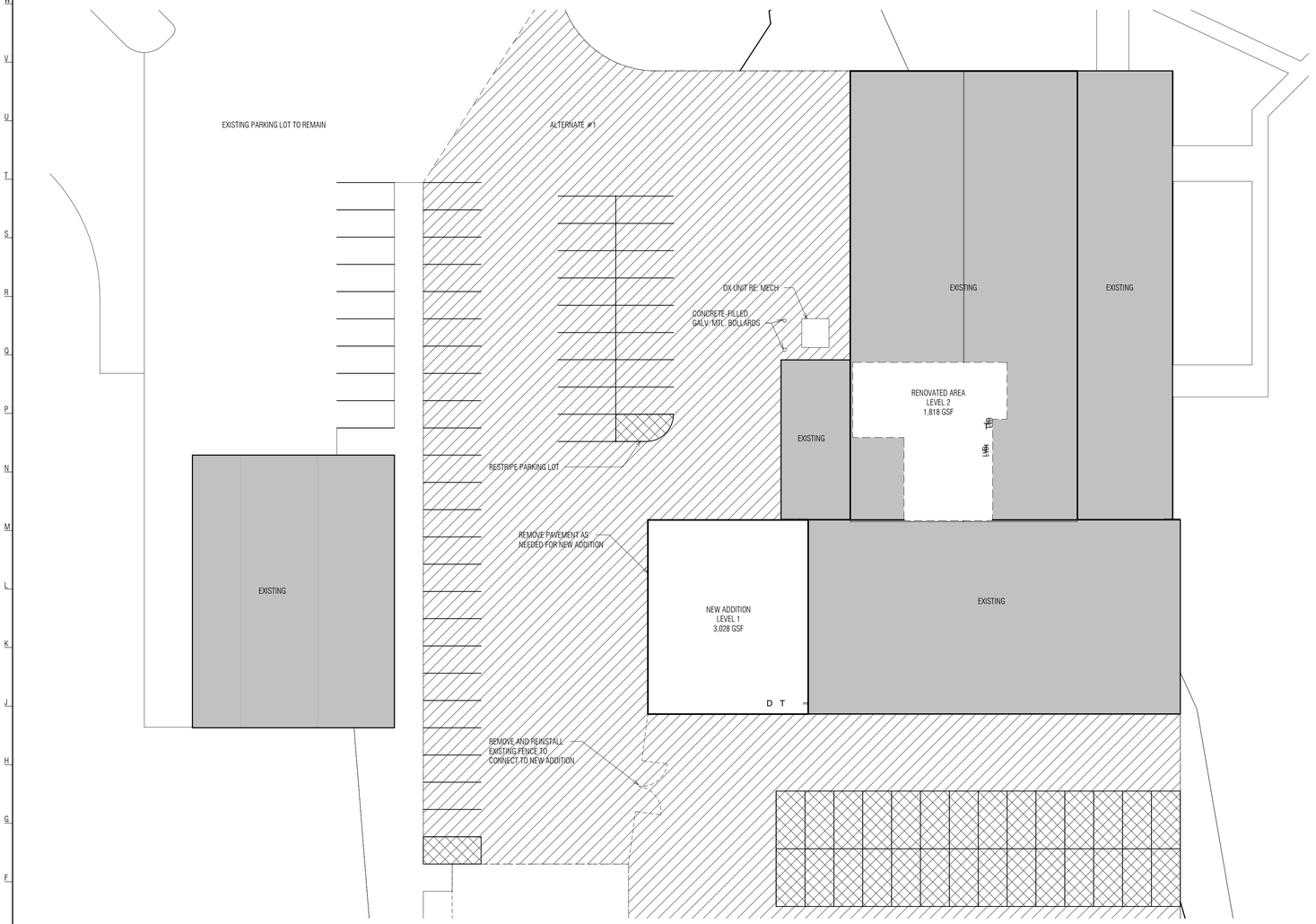
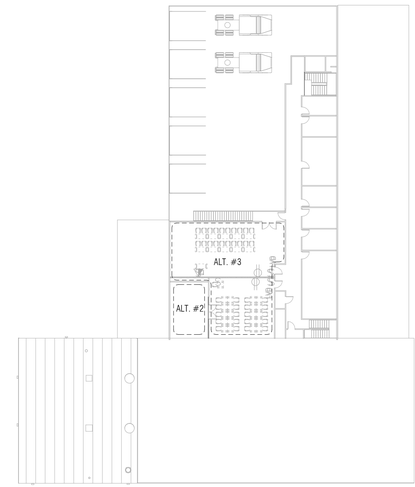


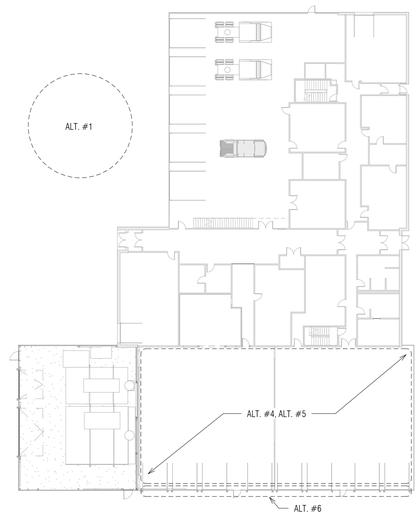
A1 Architectural Site Plan

1" = 20'-0" RE: 1/0-A200

0 5 10 20 40



LEVEL 2



LEVEL 1

BID ALTERNATES

1. PARKING LOT
ALTERNATE: MILL AND OVERLAY ENTIRE HIGH TECHNOLOGY PARKING LOT.
BASE: PROVIDE MILL AND OVERLAY ONLY WHERE REQUIRED FOR BUILDING ADDITION.

2. LEVEL 2 AIR HANDLING UNIT
ALTERNATE: REPLACE AIR HANDLING UNIT IN ITS ENTIRETY WITH NEW UNIT.
BASE: REPLACE COOLING COIL ONLY ALONG WITH LINESETS AND DX UNIT AS SHOWN ON MECHANICAL DRAWINGS.

3. CLASSROOM RENOVATION
ALTERNATE: RENOVATE LEVEL 2 CLASSROOM INTO TWO SEPARATE ROOMS AS SHOWN ON A101.
BASE: NO WORK ON LEVEL 2 EXCEPT FOR AIR HANDLING UNIT.

4. EXISTING HIGH BAY LAB
ALTERNATE: PAINT EXISTING EXPOSED ROOF STRUCTURE USING SAME DRY-FALL SYSTEM AS NEW ADDITION.
BASE: EXISTING OVERHEAD FINISH TO REMAIN.

5. EXISTING HIGH BAY LAB
ALTERNATE: INSTALL NEW LIGHT FIXTURES THROUGHOUT HIGH-BAY SPACE IN CURRENT FIXTURE LOCATIONS, USING FIXTURE SPECIFIED FOR ADDITION.
BASE: EXISTING LIGHT FIXTURES TO REMAIN.

6. SOUTH BUILDING FACADE
ALTERNATE: REPLACE ALL EXISTING INSULATING METAL PANELS WITH PANELS TO MATCH THOSE USED AT THE ADDITION. INCLUDE ALL FLASHING AND TRIM. INCLUDE PRICE FOR FOUR (4) WALL PACK FIXTURES AND WIRING. INCLUDE REMOVAL AND REPLACEMENT IN KIND OF MAN-DOORS.
BASE: EXISTING FACADE TO REMAIN. RE: A051 FOR ADDITIONAL INFORMATION.

A26 Bid Alternate Diagrams

1" = 30'-0" RE:

bnim

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2460 East Pershing Road, Suite 100, Jackson County, Kansas City MO 64108
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MO State Certificate of Authority #00235006

KH Engineering Group — **Structural Engineer**
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Lankford Fendler + Associates — **MEPF Engineer**
1730 Walnut Street, Jackson County, Kansas City, MO 64108
816-221-1411

MCC Longview HT Addition/Renovation

500 SW Longview Road
Lee's Summit, MO 64081 Project No: 20008.00

PERMIT/BID DOCUMENTS

Issued: September 23, 2021

Rev. #	Description	Date Issued

Seal

Jeremy B Kahm - Architect
MO# A-2010035449

License Name: Berkebile Nelson Immenschuh McDowell Incorporated
Profession Name: Architectural Corp.
Licensee Number: 000377

ARCHITECTURAL SITE PLAN & BID ALTERNATES

A050

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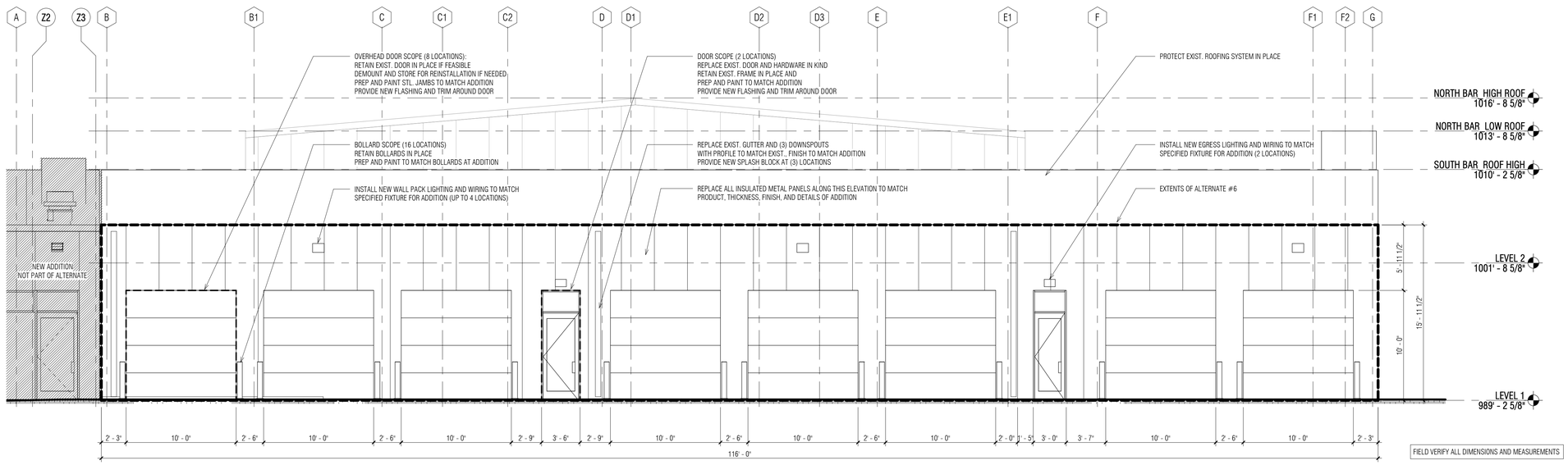

A1 Alternate #6 Elevation

3/16" = 1'-0" RE: / , ,

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STATE OF MISSOURI
JEREMY BOYD KAHM
NUMBER A-2010035449
9-23-21
ARCHITECT

Jeremy B Kahm - Architect
MO# A-2010035449

License Name: Berkebile Nelson Immenschuh McDowell Incorporated
Profession Name: Architectural Corp.
Licensee Number: 000377

ALTERNATE #6 ELEVATION

A051

9/24/2021 11:04:09 AM

Finish Legend

CP1 SEALED CONCRETE
LOCATION: FLOORS THROUGHOUT, U.N.O.

AC1 ACOUSTICAL CEILING PANELS (095113)
MFG: ARMSTRONG
PANEL PRODUCT/COLOR: ULTIMA 2X2 TEGULAR/WHITE
GRID/COLOR: 9/16" SUPRAFINE/WHITE
LOCATION: CLASSROOMS

RB1 RUBBER BASE (096513)
MFG/PRODUCT: JOHNSONITE/2-1/2" COIL, STRAIGHT AT CARPET, COVE AT HARD SURFACE FLOORS
COLOR: BURNT UMBER
LOCATION: GYPSUM BD WALLS ONLY, THROUGHOUT, U.N.O.

LV1 LUXURY VINYL TILE (096800)
MFG: TARKETT
PRODUCT/COLOR: ID LATITUDE HEARTHSTONE 7242 18X18
INSTALLATION METHOD: ASHLAR
LOCATION: CLASSROOMS

HP1 HIGH PERFORMANCE COATING (099100)
LOCATION: HM DOORS AND FRAMES

HP2 HIGH PERFORMANCE COATING (099100)
LOCATION: DRYFALL PAINT SYSTEM

HP3 HIGH PERFORMANCE COATING (099100)
LOCATION: PRIMARY STEEL STRUCTURE

PA1 PAINT SYSTEM (099100)
COLOR: TO MATCH SHERWIN WILLIAMS 7757 HIGH REFLECTIVE WHITE
LOCATION: GYPSUM BOARD WALLS

PA2 PAINT SYSTEM (099100)
COLOR: TO MATCH SHERWIN WILLIAMS 7015 REPOSE GRAY
LOCATION: GYPSUM BOARD WALLS

PA3 PAINT SYSTEM (099100)
COLOR: TO MATCH SHERWIN WILLIAMS 6966 BLUEBLOOD
LOCATION: GYPSUM BOARD WALLS; CLASSROOM BACK WALL

SF1 SPRAY-APPLIED FIREPROOFING
ISOLATEK CAFCO BLAZE-SHIELD II OR EQUAL
1-HOUR MIN. RATING

FINISH LEGEND AND SCHEDULE COMMENTS:

1.. U.N.O. PAINT FINISH TO BE:
EGGSHELL AT WALLS
FLAT AT GYP BD CEILINGS

2. RB1 AT GYP WALLS ONLY

ROOM FINISH TAG

Finish Schedule

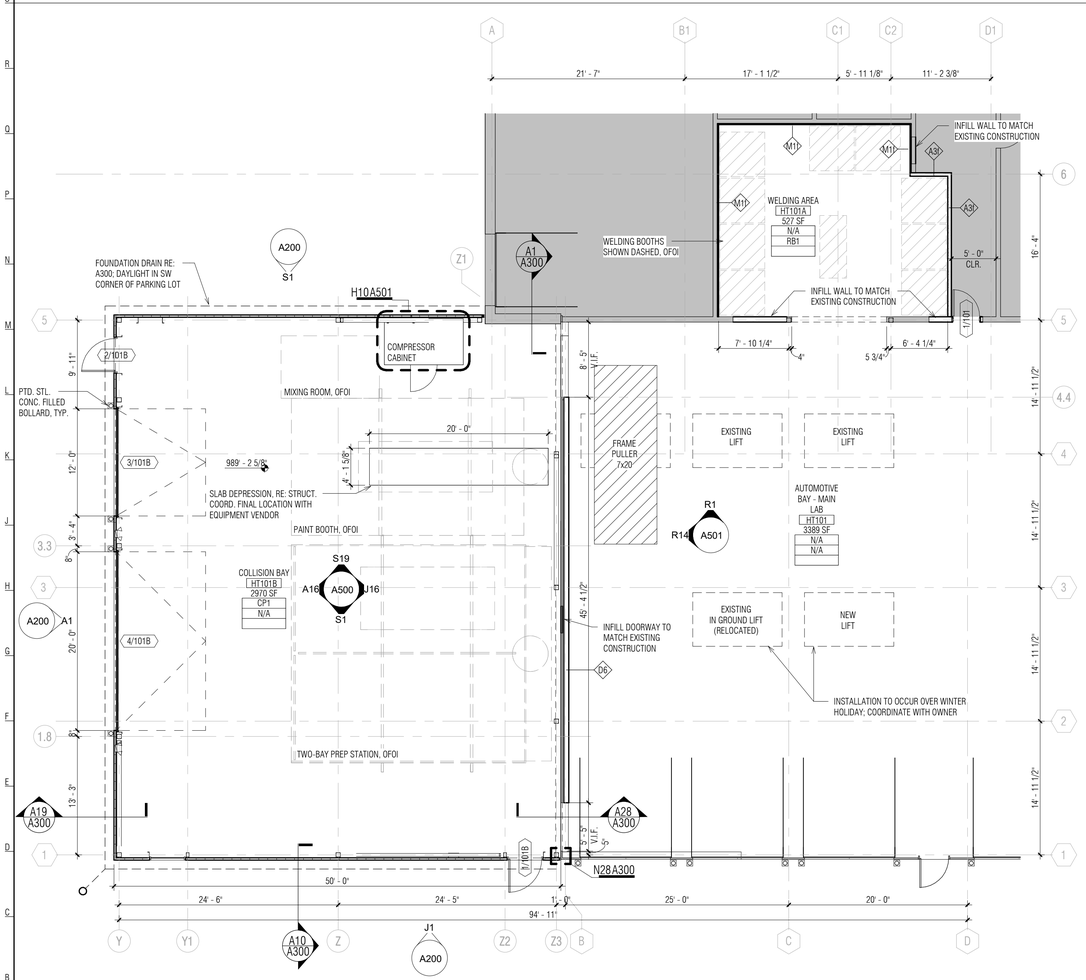
Room Name	Room Number	Floor Finish	Base Finish	North Wall	East Wall	South Wall	West Wall	Ceiling Finish	Comments
AUTOMOTIVE BAY - MAIN LAB	HT101	N/A	N/A	N/A	N/A	N/A	N/A	N/A	EXISTING FINISHES TO REMAIN
WELDING AREA	HT101A	N/A	RB1	PA1	PA1	PA1	PA1	HP2, SF1	SPRAY-APPLIED FIREPROOFING AT PRIMARY STRUCTURE
COLLISION BAY	HT101B	CP1	N/A	HP3	HP3	HP3	HP3	HP2	
CLASSROOM	HT202	LV1	RB1	PA3	PA2	PA2	PA2	AC1	
COMPUTER ROOM	HT203	LV1	RB1	PA2	PA2	PA3	PA2	AC1	

PLAN GENERAL NOTES

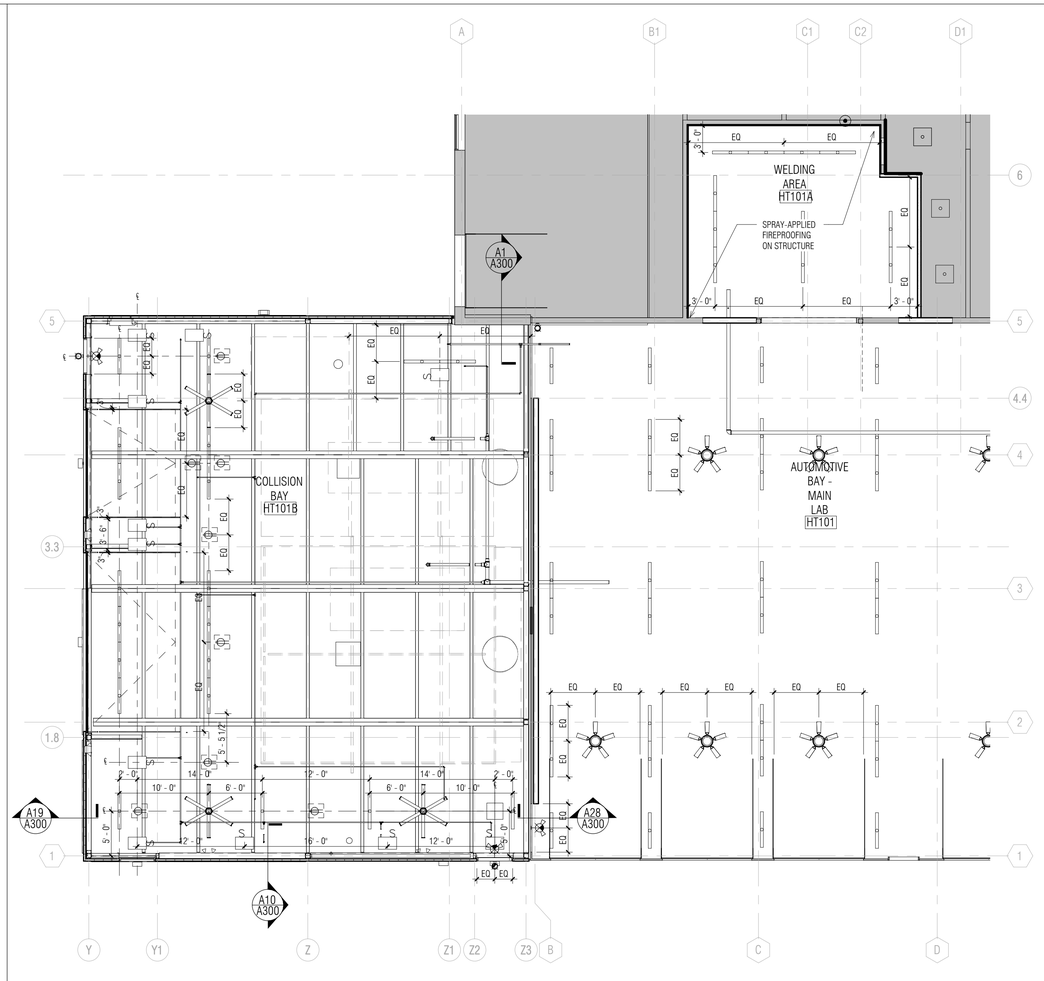
1. REFERENCE A000 FOR ARCHITECTURAL MATERIALS, GRAPHIC SYMBOLS AND ABBREVIATIONS.
2. REFERENCE A001 & A002 FOR ACCESSIBLITY AND INSTALLATION STANDARDS.
3. REFERENCE A010 FOR DOOR TYPES, FRAME TYPES AND SCHEDULES.
4. REFERENCE A010 FOR WINDOW TYPES AND SCHEDULES.
5. REFERENCE A010 FOR PARTITION TYPES AND DETAILS.
6. REFERENCE A010 FOR ENVELOPE, FLOOR & CEILING ASSEMBLY TYPES.
7. ALL INTERIOR PARTITIONS ARE TYPE C3 UNLESS NOTED OTHERWISE.
8. UNLESS NOTED OTHERWISE, EXTERIOR DIMENSIONS ARE TO FACE OF BRICK VENEER, BRICK VENEER MASONRY, CAST-IN-PLACE CONCRETE, PRECAST CONCRETE, AND CONCRETE MASONRY UNIT OPENING OR COLUMN CENTERLINE.
9. UNLESS NOTED OTHERWISE, STOREFRONT AND CURTAINWALL DIMENSIONS ARE TO FACE OF ROUGH OPENINGS.
10. UNLESS NOTED OTHERWISE, INTERIOR DIMENSIONS ARE TO FINISHED FACE OF WALL, FURRED OR NOT.
11. INSTALL DOORS NOT LOCATED BY DIMENSION SUCH THAT EDGE OF DOOR FRAME TO FACE OF ADJACENT WALL IS 0'-4". SEE <.A010> FOR DETAILS.
11. SLOPE FLOOR TO FLOOR DRAINS AT 1/8" PER FOOT IN ALL DIRECTIONS, FROM TOP OF DRAIN UP TO INDICATED FLOOR ELEVATION, UNLESS NOTED OTHERWISE.
12. PROVIDE MAXIMUM OCCUPANCY SIGNAGE AT ASSEMBLY SPACES IN A CONSPICUOUS LOCATION IN ACCORDANCE WITH APPLICABLE CODES. SUBMIT DESIGN TO ARCHITECT FOR APPROVAL.
13. COORDINATE UTILITY ENTRANCES WITH CIVIL & MEP. PAINT UTILITY METERS & CABINETS AND ASSOCIATED PIPES/CONDUIT TO MATCH ADJACENT FINISH, TYPICAL.
14. COORDINATE ELEVATOR REQUIREMENTS INCLUDING PIT SIZES, SLAB OPENINGS, SUMPS, ETC. WITH MANUFACTURER.
15. PROVIDE FROST STOOPS AT ALL EXTERIOR DOORS, RE: LANDSCAPE AND STRUCTURAL

REFLECTED CEILING PLAN GENERAL NOTES

1. REFERENCE A000 FOR ARCHITECTURAL MATERIALS, GRAPHIC SYMBOLS AND ABBREVIATIONS.
2. REFERENCE A001 & A002 FOR ACCESSIBLITY AND INSTALLATION STANDARDS.
3. REFERENCE A041 FOR CEILING ASSEMBLY TYPES.
4. ALL DIMENSIONS ON REFLECTED CEILING PLANS ARE CLEAR DIMENSIONS UNLESS NOTED OTHERWISE. PLAN DIMENSIONS TO FRAMED SOFFITS AND BULKHEADS ARE TO FACE OF FINISHED CONSTRUCTION.
5. COORDINATE ALL CEILING MOUNTED OR ABOVE CEILING ITEMS INCLUDING: MECHACHANICAL, ELECTRICAL, PLUMBING, SPEAKERS, FIRE SPRINKLERS, ETC.
6. LOCATE SPRINKLER HEADS, LIGHT FIXTURES, ELECTRICAL, AV, IT, AND LIFE SAFETY DEVICES IN CENTER OF ACOUSTICAL PANEL (095113) SUPPORTED BY METAL SUSPENSION SYSTEMS UNLESS NOTED OTHERWISE.
7. ACCESS SHALL BE PROVIDED AS REQUIRED FOR INSTALLATION AND MAINTENANCE OF ABOVE CEILING ELEMENTS. LOCATIONS AND TYPE(S) OF ACCESS PANELS, ETC. SHALL BE COORDINATED WITH OTHER TRADES AND REVIEWED BY ARCHITECT PRIOR TO ORDER AND INSTALLATION.
8. ALIGN CEILING GRID IN ROOMS WITH ACOUSTIC CEILING TILE CEILING SYSTEM AS SHOWN IN CEILING PLAN.
9. REFER TO INTERIOR ELEVATIONS AND BUILDING ELEVATIONS FOR MOUNTING HEIGHT OF WALL MOUNTED LIGHTS.
10. ALL LIGHT FIXTURE DIMENSIONS ARE TO THE CENTERLINE OF THE FIXTURE UNLESS NOTED OTHERWISE.
11. LOCATE LIGHT FIXTURES PER ARCHITECTURAL REFLECTED CEILING PLANS; REFER TO ELECTRICAL LIGHTING PLANS FOR FIXTURE TYPES AND QUANTITIES.
12. VERIFY MOUNTING HEIGHTS OF ALL PENDANT FIXTURES WITH ARCHITECT PRIOR TO HANGING.
13. REFER TO ELECTRICAL, MECHANICAL, AND FIRE SAFETY FOR ALL DEVICES, LOCATE PER ARCHITECTURAL DRAWINGS.
14. SEAL ALL PENETRATIONS OF FIRE-RATED FLOOR, WALL, AND CEILING SYSTEMS WITH APPROVED FIRE-RATED ASSEMBLIES TO MATCH FIRE RATING OF SURROUNDING CONSTRUCTION (07 84 46). RE: A040 SERIES SHEETS FOR FIRE-RATED ASSEMBLIES AND PARTITION TYPES.



A1 Floor Plan - Level 1
1/8" = 1'-0" RE: / 0 2' 4' 8' 16'



A19 First Floor Reflected Ceiling Plan
1/8" = 1'-0" RE: 1/0-A200 0 2' 4' 8' 16'

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PERMIT/BID DOCUMENTS

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Seal

Jeremy B Kahm - Architect
MO# A-2010035449

License Name: Berkebile Nelson Immenschuh McDowell Incorporated
Profession Name: Architectural Corp.
Licensee Number: 000377

FLOOR PLAN

A100

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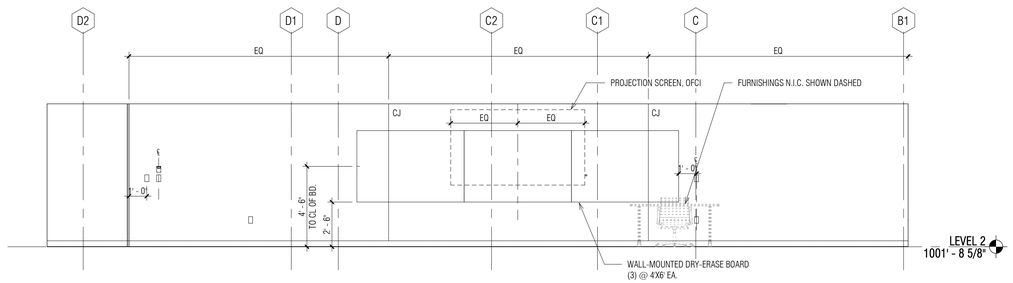
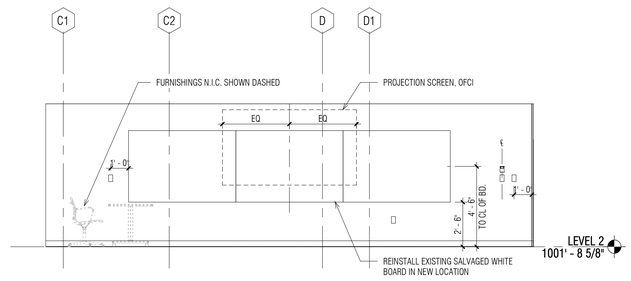


J25 Interior Elevation - Classroom Teaching Wall

1/4" = 1'-0" RE: 1/0-A101

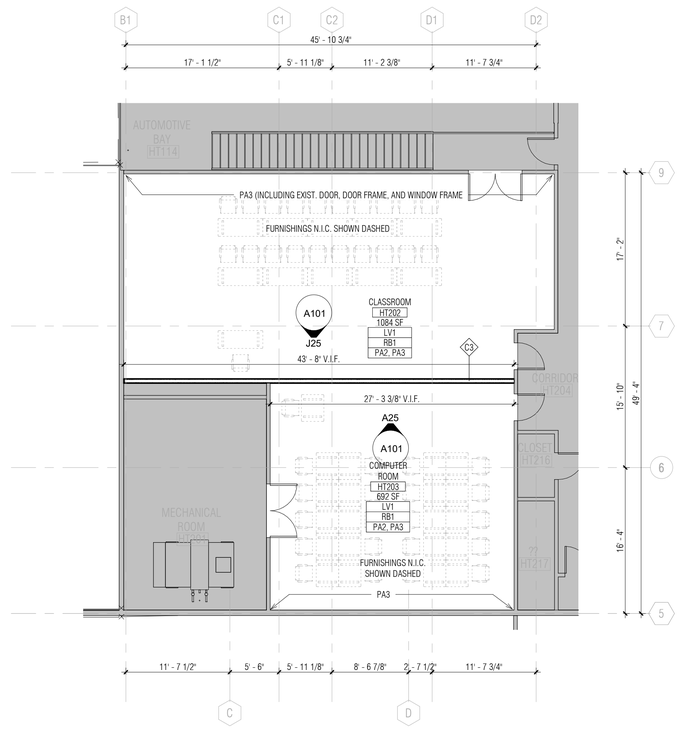
0 2' 4' 8' 16'



A25 Interior Elevation - Computer Lab Teaching Wall

1/4" = 1'-0" RE: 1/0-A101

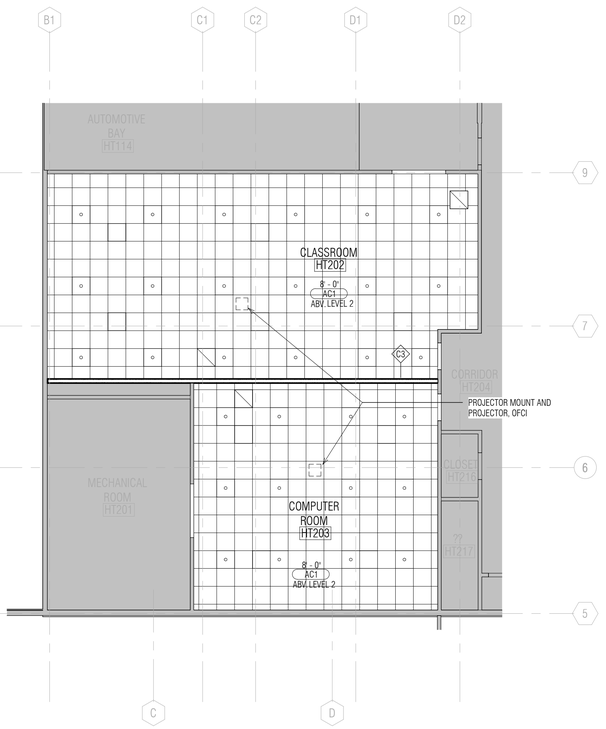
0 2' 4' 8' 16'



A1 Second Level Floor Plan

1/8" = 1'-0" RE:

0 2' 4' 8' 16'



A13 Second Floor Reflected Ceiling Plan

1/8" = 1'-0" RE: 1/0-A200

0 2' 4' 8' 16'

Finish Legend

CP1 SEALED CONCRETE
LOCATION: FLOORS THROUGHOUT, U.N.O.

AC1 ACOUSTICAL CEILING PANELS (095113)
MFG: ARMSTRONG
PANEL PRODUCT/COLOR: ULTIMA 2X2 TEGULAR/WHITE
GRID/COLOR: 9/16" SUPRAFINE/WHITE
LOCATION: CLASSROOMS

RB1 RUBBER BASE (096513)
MFG/PRODUCT: JOHNSONITE/2-1/2" COIL, STRAIGHT AT CARPET, COVE AT HARD SURFACE FLOORS
COLOR: BURNT UMBER
LOCATION: GYPSUM BD WALLS ONLY, THROUGHOUT, U.N.O.

LV1 LUXURY VINYL TILE (096800)
MFG: TARKETT
PRODUCT/COLOR: ID LATITUDE HEARTHSTONE 7242 18X18
INSTALLATION METHOD: ASHLAR
LOCATION: CLASSROOMS

HP1 HIGH PERFORMANCE COATING (099100)
LOCATION: HM DOORS AND FRAMES

HP2 HIGH PERFORMANCE COATING (099100)
LOCATION: DRYFALL PAINT SYSTEM

HP3 HIGH PERFORMANCE COATING (099100)
LOCATION: PRIMARY STEEL STRUCTURE

PA1 PAINT SYSTEM (099100)
COLOR: TO MATCH SHERWIN WILLIAMS 7757 HIGH REFLECTIVE WHITE
LOCATION: GYPSUM BOARD WALLS

PA2 PAINT SYSTEM (099100)
COLOR: TO MATCH SHERWIN WILLIAMS 7015 REPOSE GRAY
LOCATION: GYPSUM BOARD WALLS

PA3 PAINT SYSTEM (099100)
COLOR: TO MATCH SHERWIN WILLIAMS 6966 BLUEBLOOD
LOCATION: GYPSUM BOARD WALLS, CLASSROOM BACK WALL

SF1 SPRAY-APPLIED FIREPROOFING
ISOLATEK CAFCO BLAZE-SHIELD II OR EQUAL
1-HOUR MIN. RATING

FINISH LEGEND AND SCHEDULE COMMENTS:

1.. U.N.O, PAINT FINISH TO BE:
EGGSHELL AT WALLS
FLAT AT GYP BD CEILINGS

2. RB1 AT GYP WALLS ONLY

ROOM FINISH TAG

ROOM NAME
ROOM #
FLOOR FINISH
BASE FINISH
WALL FINISH

Finish Schedule

Room Name	Room Number	Floor Finish	Base Finish	North Wall	East Wall	South Wall	West Wall	Ceiling Finish	Comments
AUTOMOTIVE BAY - MAIN LAB	HT101	N/A	N/A	N/A	N/A	N/A	N/A	N/A	EXISTING FINISHES TO REMAIN
WELDING AREA	HT101A	N/A	RB1	PA1	PA1	PA1	PA1	HP2, SF1	SPRAY-APPLIED FIREPROOFING AT PRIMARY STRUCTURE
COLLISION BAY	HT101B	CP1	N/A	HP3	HP3	HP3	HP3	HP2	
CLASSROOM	HT202	LV1	RB1	PA3	PA2	PA2	PA2	AC1	
COMPUTER ROOM	HT203	LV1	RB1	PA2	PA2	PA3	PA2	AC1	

PLAN GENERAL NOTES

1. REFERENCE A000 FOR ARCHITECTURAL MATERIALS, GRAPHIC SYMBOLS AND ABBREVIATIONS.
2. REFERENCE A001 & A002 FOR ACCESSIBLITY AND INSTALLATION STANDARDS.
3. REFERENCE A010 FOR DOOR TYPES, FRAME TYPES AND SCHEDULES.
4. REFERENCE A010 FOR WINDOW TYPES AND SCHEDULES.
5. REFERENCE A010 FOR PARTITION TYPES AND DETAILS.
6. REFERENCE A010 FOR ENVELOPE, FLOOR & CEILING ASSEMBLY TYPES.
7. ALL INTERIOR PARTITIONS ARE TYPE C3 UNLESS NOTED OTHERWISE.
8. UNLESS NOTED OTHERWISE, EXTERIOR DIMENSIONS ARE TO FACE OF BRICK VENEER, BRICK VENEER MASONRY, CAST-IN-PLACE CONCRETE, PRECAST CONCRETE, AND CONCRETE MASONRY UNIT OPENING OR COLUMN CENTERLINE.
9. UNLESS NOTED OTHERWISE, STOREFRONT AND CURTAINWALL DIMENSIONS ARE TO FACE OF ROUGH OPENINGS.
10. UNLESS NOTED OTHERWISE, INTERIOR DIMENSIONS ARE TO FINISHED FACE OF WALL, FURRED OR NOT.
11. INSTALL DOORS NOT LOCATED BY DIMENSION SUCH THAT EDGE OF DOOR FRAME TO FACE OF ADJACENT WALL IS 0'--4". SEE <A010> FOR DETAILS.
11. SLOPE FLOOR TO FLOOR DRAINS AT 1/8" PER FOOT IN ALL DIRECTIONS, FROM TOP OF DRAIN UP TO INDICATED FLOOR ELEVATION, UNLESS NOTED OTHERWISE.
12. PROVIDE MAXIMUM OCCUPANCY SIGNAGE AT ASSEMBLY SPACES IN A CONSPICUOUS LOCATION IN ACCORDANCE WITH APPLICABLE CODES. SUBMIT DESIGN TO ARCHITECT FOR APPROVAL.
13. COORDINATE UTILITY ENTRANCES WITH CIVIL & MEP. PAINT UTILITY METERS & CABINETS AND ASSOCIATED PIPES/CONDUIT TO MATCH ADJACENT FINISH, TYPICAL.
14. COORDINATE ELEVATOR REQUIREMENTS INCLUDING PIT SIZES, SLAB OPENINGS, SUMPS, ETC. WITH MANUFACTURER.
15. PROVIDE FROST STOOPS AT ALL EXTERIOR DOORS, RE: LANDSCAPE AND STRUCTURAL

REFLECTED CEILING PLAN GENERAL NOTES

1. REFERENCE A000 FOR ARCHITECTURAL MATERIALS, GRAPHIC SYMBOLS AND ABBREVIATIONS.
2. REFERENCE A001 & A002 FOR ACCESSIBLITY AND INSTALLATION STANDARDS.
3. REFERENCE A041 FOR CEILING ASSEMBLY TYPES.
4. ALL DIMENSIONS ON REFLECTED CEILING PLANS ARE CLEAR DIMENSIONS UNLESS NOTED OTHERWISE. PLAN DIMENSIONS TO FRAMED SOFFITS AND BULKHEADS ARE TO FACE OF FINISHED CONSTRUCTION.
5. COORDINATE ALL CEILING MOUNTED OR ABOVE CEILING ITEMS INCLUDING: MECHACHANICAL, ELECTRICAL, PLUMBING, SPEAKERS, FIRE SPRINKLERS, ETC.
6. LOCATE SPRINKLER HEADS, LIGHT FIXTURES, ELECTRICAL, AV, IT, AND LIFE SAFETY DEVICES IN CENTER OF ACOUSTICAL PANEL (095113) SUPPORTED BY METAL SUSPENSION SYSTEMS UNLESS NOTED OTHERWISE.
7. ACCESS SHALL BE PROVIDED AS REQUIRED FOR INSTALLATION AND MAINTENANCE OF ABOVE CEILING ELEMENTS. LOCATIONS AND TYPE(S) OF ACCESS PANELS, ETC. SHALL BE COORDINATED WITH OTHER TRADES AND REVIEWED BY ARCHITECT PRIOR TO ORDER AND INSTALLATION.
8. ALIGN CEILING GRID IN ROOMS WITH ACOUSTIC CEILING TILE CEILING SYSTEM AS SHOWN IN CEILING PLAN.
9. REFER TO INTERIOR ELEVATIONS AND BUILDING ELEVATIONS FOR MOUNTING HEIGHT OF WALL MOUNTED LIGHTS.
10. ALL LIGHT FIXTURE DIMENSIONS ARE TO THE CENTERLINE OF THE FIXTURE UNLESS NOTED OTHERWISE.
11. LOCATE LIGHT FIXTURES PER ARCHITECTURAL REFLECTED CEILING PLANS, REFER TO ELECTRICAL LIGHTING PLANS FOR FIXTURE TYPES AND QUANTITIES.
12. VERIFY MOUNTING HEIGHTS OF ALL PENDANT FIXTURES WITH ARCHITECT PRIOR TO HANGING.
13. REFER TO ELECTRICAL, MECHANICAL, AND FIRE SAFETY FOR ALL DEVICES. LOCATE PER ARCHITECTURAL DRAWINGS.
14. SEAL ALL PENETRATIONS OF FIRE-RATED FLOOR, WALL, AND CEILING SYSTEMS WITH APPROVED FIRE-RATED ASSEMBLIES TO MATCH FIRE RATING OF SURROUNDING CONSTRUCTION (07 84 46). RE: A040 SERIES SHEETS FOR FIRE-RATED ASSEMBLIES AND PARTITION TYPES.

bnim

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Jeremy B Kahm - Architect
MO# A-2010035449

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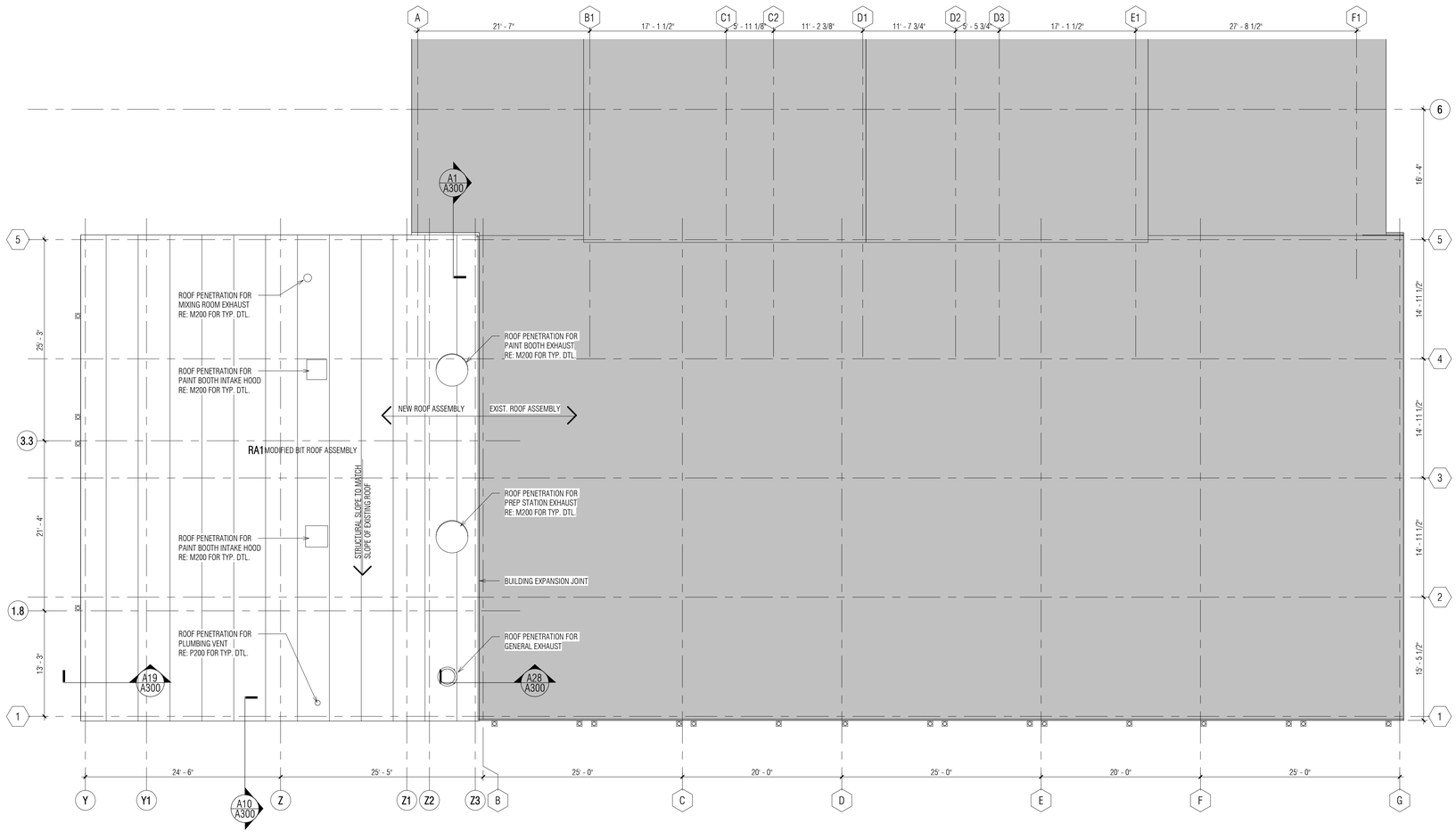
Profession Name: Architectural Corp.
Licensee Number: 000377

FLOOR PLAN

A101

9/24/2021 11:04:23 AM



A1 Roof Plan

1/8" = 1'-0" RE: A1/A051

0 2' 4' 8' 16'

ROOF PLAN GENERAL NOTES

1. REFERENCE <A041> FOR ROOF ASSEMBLIES.
2. REFER TO MEP SHEETS FOR ROOFTOP EQUIPMENT LOCATIONS AND PENETRATIONS.
3. SEAL AND FLASH ALL PENETRATIONS AND CURBS PER ROOFING SYSTEM MANUFACTURER'S STANDARD DETAILS.
4. COORDINATE EXACT LOCATIONS OF ROOFTOP EQUIPMENT AND PENETRATIONS WITH STRUCTURE. REINFORCE OPENINGS AS REQUIRED.
5. PROVIDE EQUIPMENT CURBS / RACKS FOR ALL ROOF MOUNTED EQUIPMENT, WHETHER SHOWN OR NOT. REFER TO MECHANICAL DRAWINGS AND SPECIFICATIONS FOR ADDITIONAL INFORMATION.
6. PROVIDE MANUFACTURER'S STANDARD WALKWAY PADS AT PERIMETER OF ALL ROOFTOP EQUIPMENT WITH DIRECT PATH TO THE ROOF ACCESS POINT(S).
7. MAINTAIN ROOFING SYSTEM MANUFACTURER'S MINIMUM REQUIRED SLOPE.
8. PROVIDE ROOF INSULATION CRICKETS WITH POSITIVE SLOPES AT ALL EQUIPMENT, CURBS AND ROOF PENETRATIONS.
9. PROVIDE MIMIMUM INSULATION THICKNESS PER SPECIFICATIONS, TAPER SHALL BE IN ADDITION TO THE MINIMUM THICKNESS.
10. ROOFTOP EQUIPMENT AND ITEMS REQUIRING MAINTENANCE / ACCESS SHALL NOT BE INSTALLED WITHIN 10 FEET OF THE PRIMARY ROOF EDGE EXCEPT WHERE OSHA COMPLIANT FALL PROTECTION IS INDICATED.
11. WHERE FALL PROTECTION IS INDICATED, SEAL AND FLASH FACILITY FALL PROTECTION SUPPORTS (118129) PER ROOFING SYSTEM MANUFACTURER'S STANDARD DETAILS.
12. ROOF LADDERS: RAILS AND BRACES FABRICATED FROM 2" x 1/2" THICK GALZANIZED STEEL (05 50 00). ANCHOR TO WALL WITH 3" x 3" x 1/4" CLIP ANGLES AND 3/8" DIA. ANCHORS (05 50 00). PROVIDE BLOCKING AS REQUIRED.
13. STEEL FRAMING FOR SUPPORT OF EQUIPMENT SUSPENDED ABOVE THE ROOF MEMBRANE TO BE 2" x 2" x 1/8" STEEL TUBE FRAMING, U.N.O.
14. MAINTAIN CONTINUITY OF VAPOR BARRIER BETWEEN ROOF AND WALL ASSEMBLIES.
15. PROVIDE CONTINOUS PERIMETER FIRE CONTAINMENT SYSTEM (078466) AT PERIMETER OF ROOF SLABS, BETWEEN ROOF SLABS AND WALL PANELS OR ROOF SLABS AND GLAZING SYSTEMS.

bnim

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MCC Longview HT Addition/Renovation

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Lee's Summit, MO 64081

Project No: 20008.00

PERMIT/BID DOCUMENTS

Issued: September 23, 2021

Rev. #	Description	Date Issued

Seal

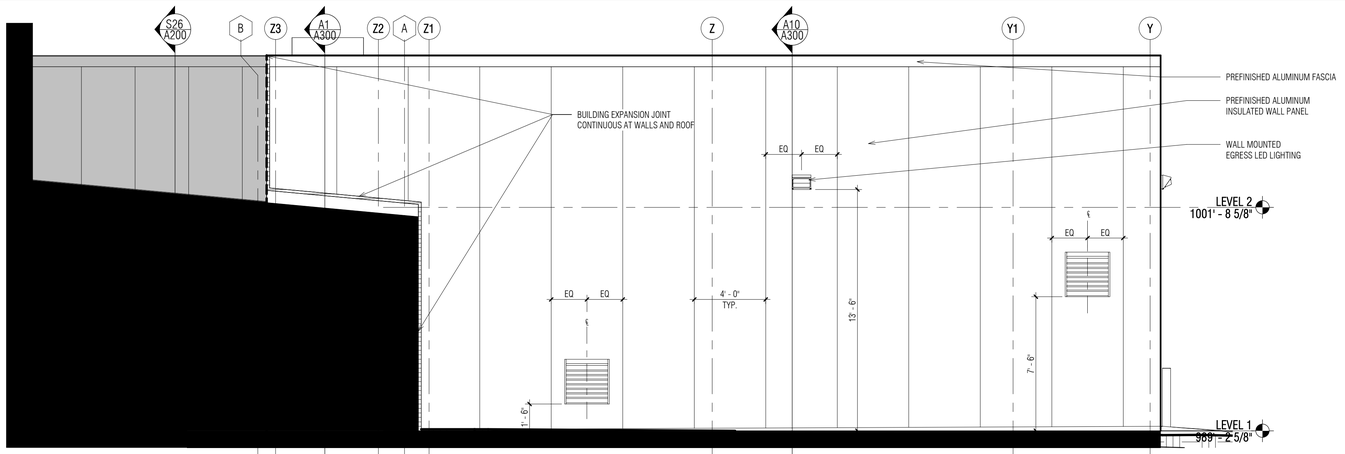
Jeremy B Kahm - Architect
MO# A-2010035449

License Name: Berkebile Nelson Immenschuh McDowell Incorporated
Profession Name: Architectural Corp.
Licensee Number: 000377

ROOF PLAN

A110

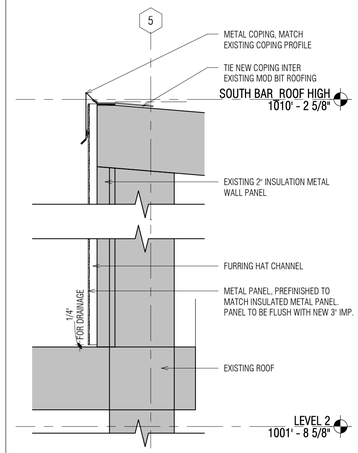
9/24/2021 11:04:25 AM



S1 Exterior Elevation - North

1/4" = 1'-0" RE: 1/0-A100

0 1' 2' 4' 8'



S26 Section Detail - Metal Panel

1 1/2" = 1'-0" RE: 1/0-A200

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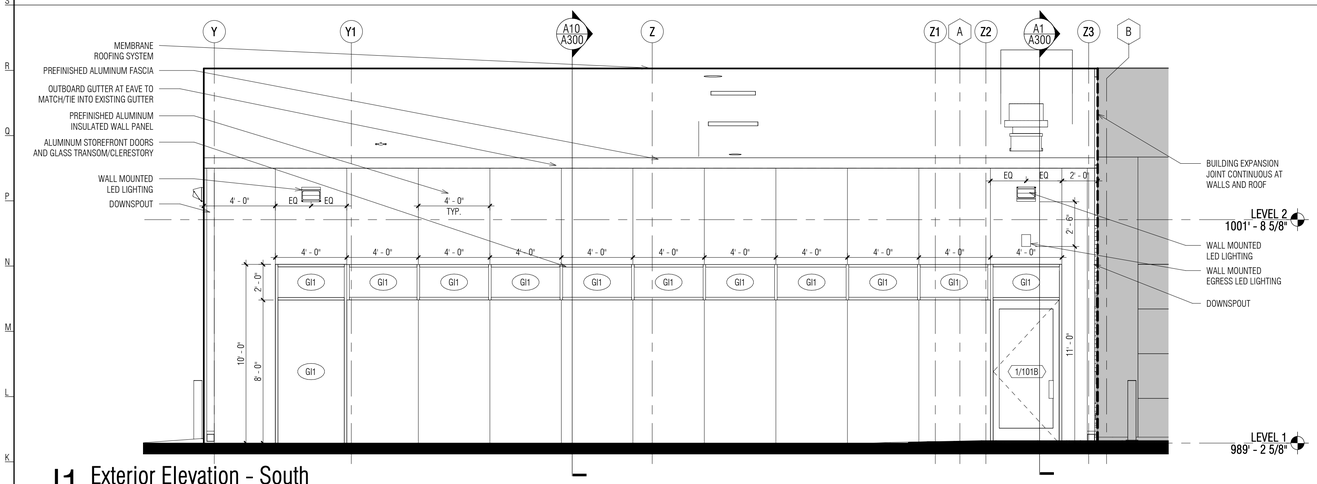
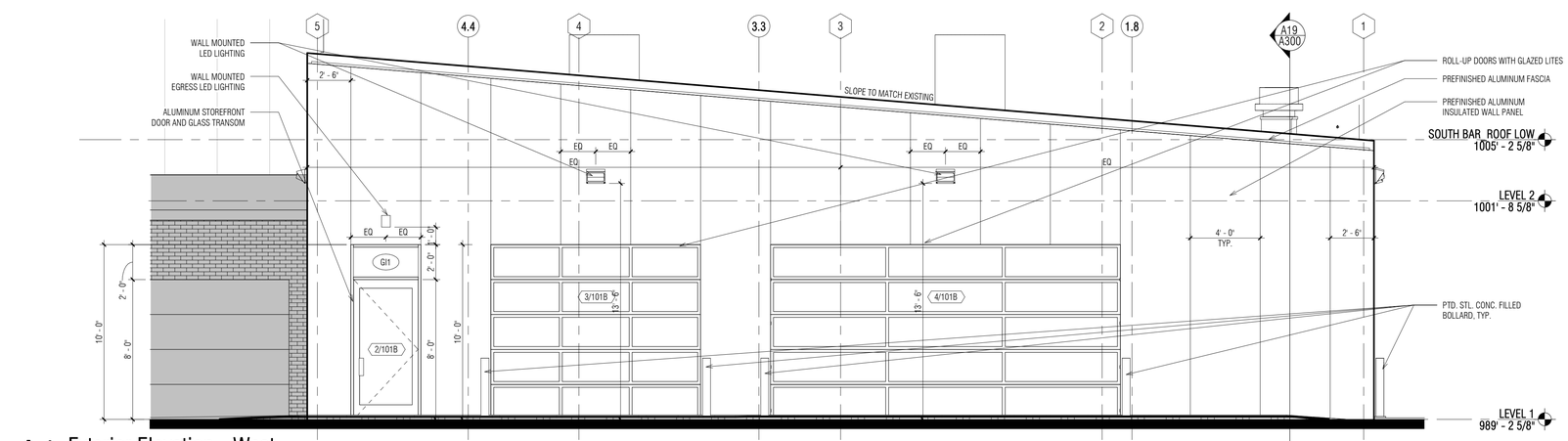


J1 Exterior Elevation - South

1/4" = 1'-0" RE: 1/0-A100

0 1' 2' 4' 8'



A1 Exterior Elevation - West

1/4" = 1'-0" RE: 1/0-A100

0 1' 2' 4' 8'

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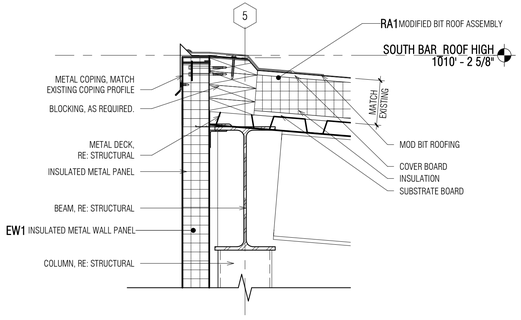
MO# A-2010035449

License Name: Berkebile Nelson Immenschuh McDowell Incorporated
Profession Name: Architectural Corp.
Licensee Number: 000377

EXTERIOR BUILDING ELEVATIONS

A200

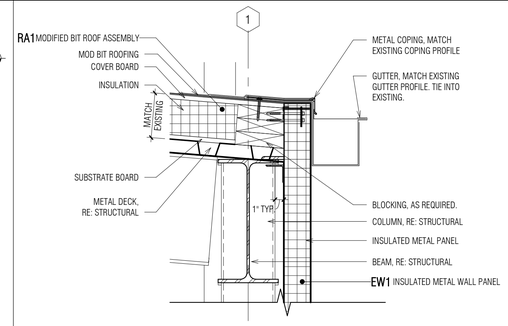
9/24/2021 11:04:31 AM



U1 Section Detail - North Coping

1 1/2" = 1'-0" RE: A1/A300

0 2" 4" 8" 16"



U10 Section Detail - South Coping

1 1/2" = 1'-0" RE: A10/A300

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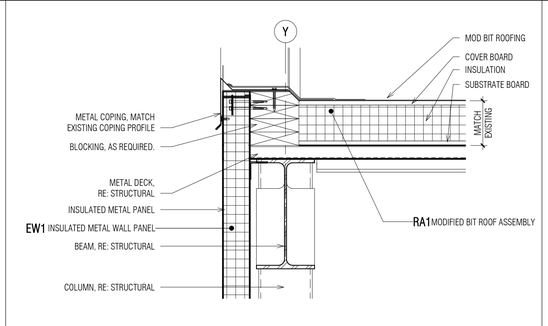
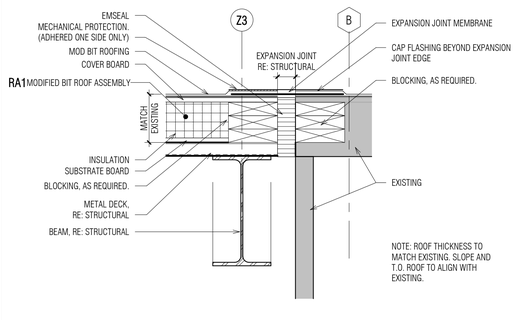


U19 Section Detail - West Coping

1 1/2" = 1'-0" RE: A19/A300

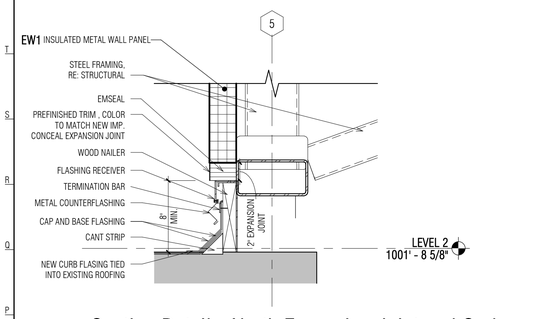
0 2" 4" 8" 16"



U28 Section Detail - East Expansion Joint

1 1/2" = 1'-0" RE: A28/A300

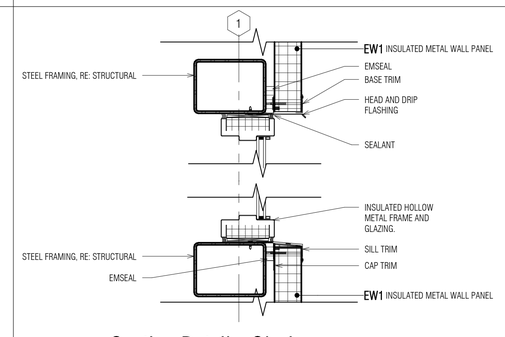
0 2" 4" 8" 16"



N1 Section Detail - North Expansion Joint and Curb

1 1/2" = 1'-0" RE: A1/A300

0 2" 4" 8" 16"



N10 Section Detail - Glazing

1 1/2" = 1'-0" RE: A10/A300

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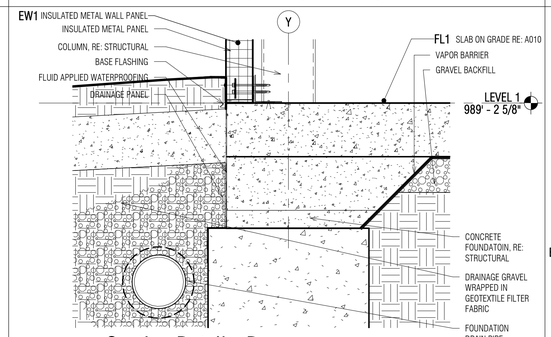
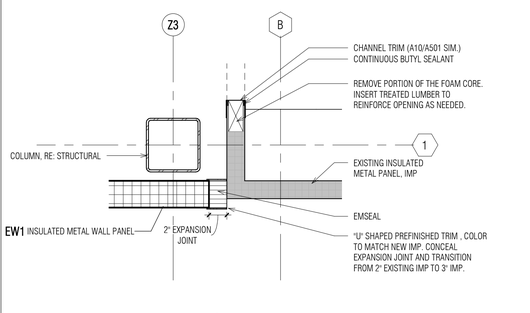


N19 Section Detail - Base

1 1/2" = 1'-0" RE: A19/A300

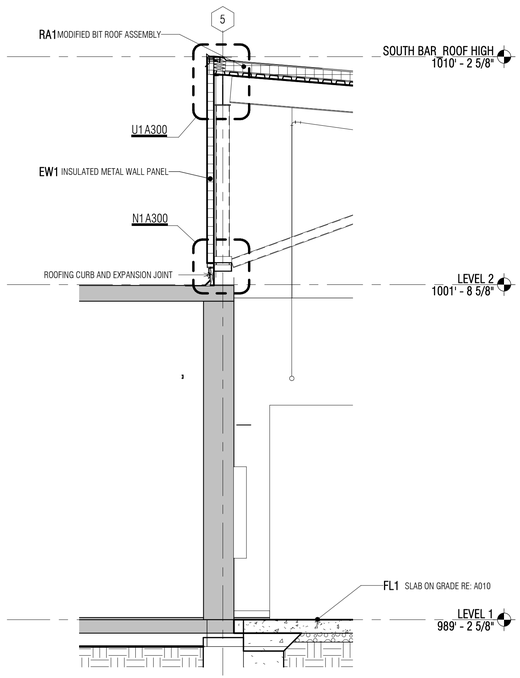
0 2" 4" 8" 16"



N28 Plan Detail - Southeast Expansion Joint

1 1/2" = 1'-0" RE: A1/A100

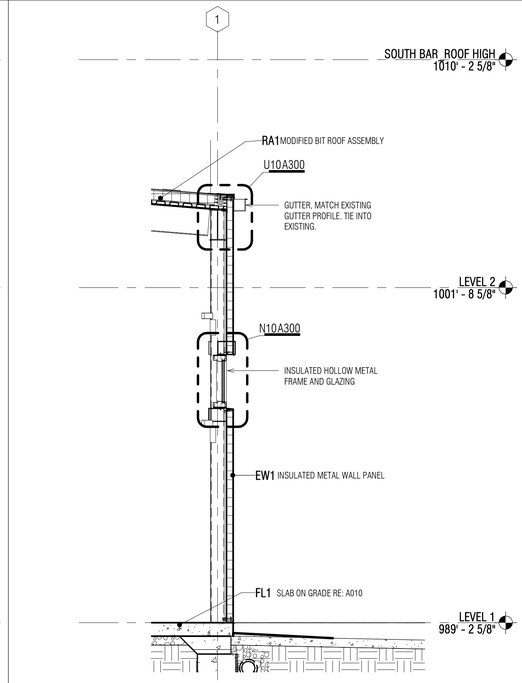
0 2" 4" 8" 16"



A1 Wall Section - North

3/8" = 1'-0" RE: 1/0-A200

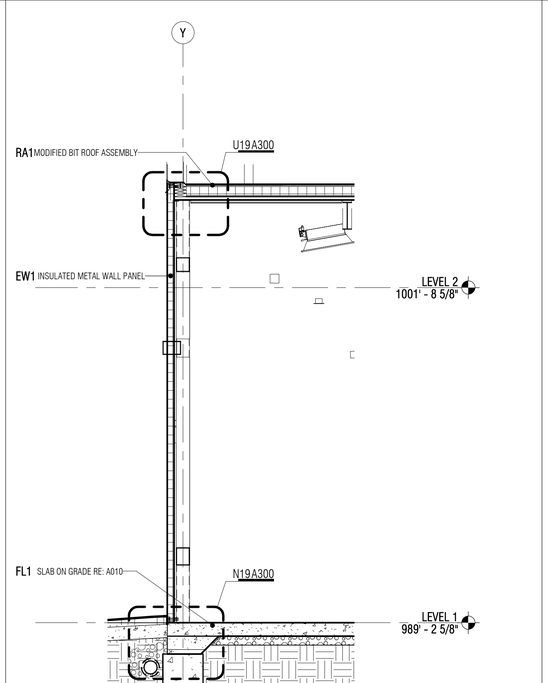
0 0'-8"1'-4" 2'-8" 5'-4"



A10 Wall Section - South

3/8" = 1'-0" RE: 1/0-A200

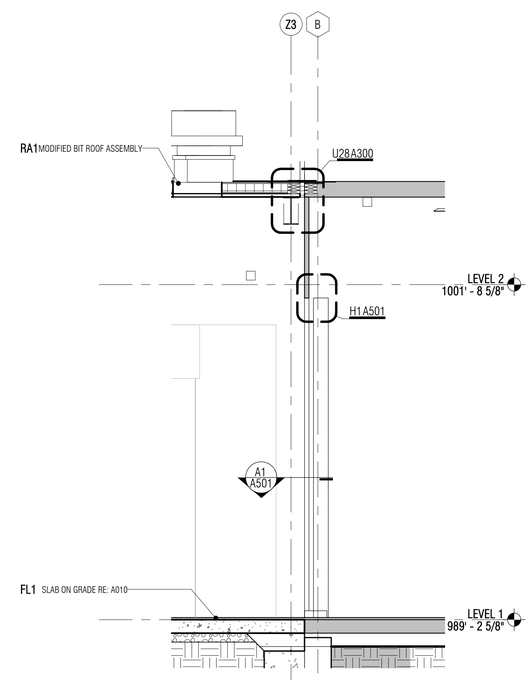
0 0'-8"1'-4" 2'-8" 5'-4"



A19 Wall Section - West

3/8" = 1'-0" RE: 2/0-A200

0 0'-8"1'-4" 2'-8" 5'-4"



A28 Wall Section - East

3/8" = 1'-0" RE: 2/0-A200

0 0'-8"1'-4" 2'-8" 5'-4"

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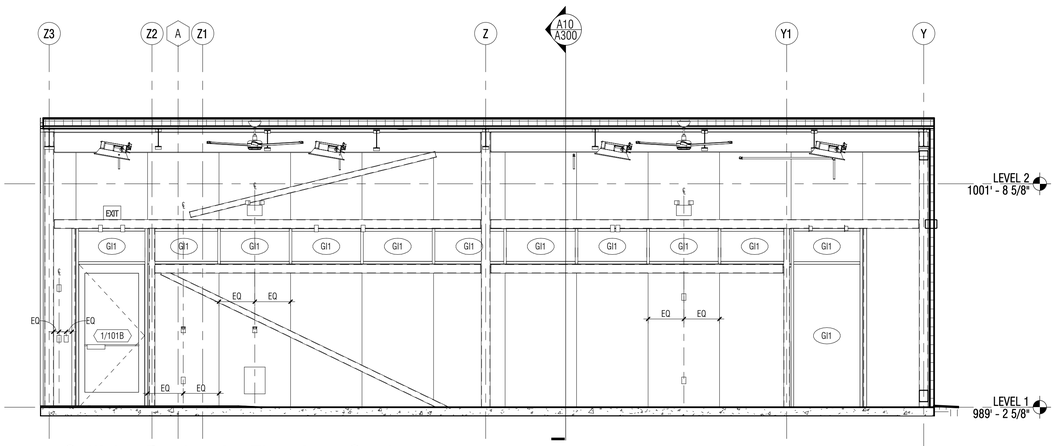
Profession Name: Architectural Corp.
Licensee Number: 000377

EXTERIOR WALL SECTIONS

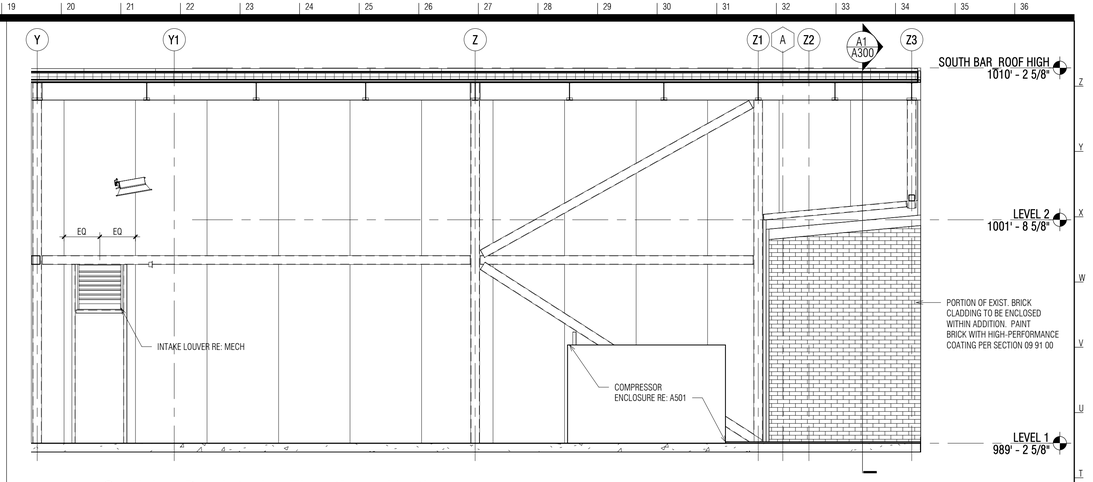
A300

9/24/2021 11:04:37 AM



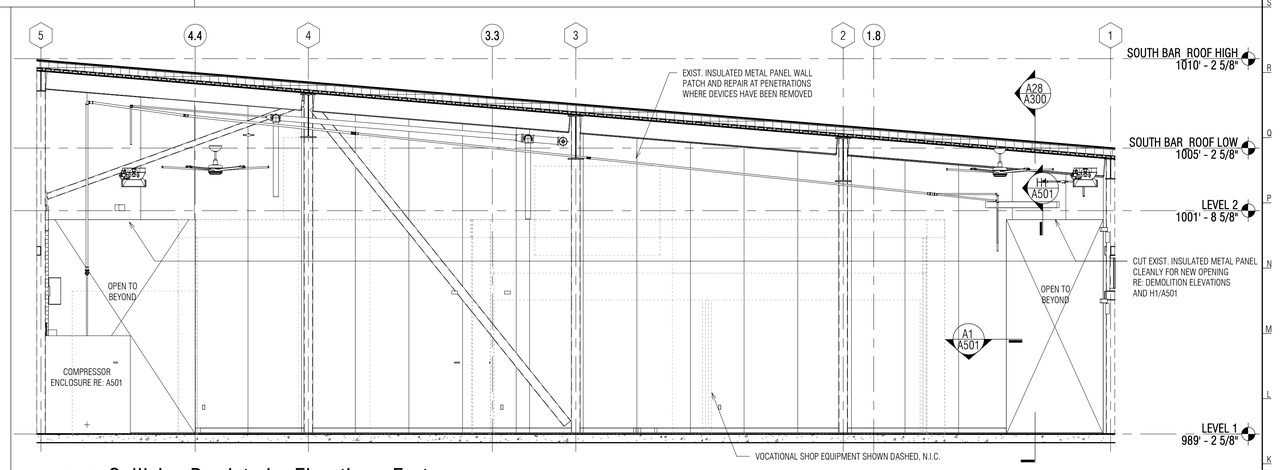
S1 Collision Bay Interior Elevation - South

1/4" = 1'-0" RE: 1/0-A100 , ,



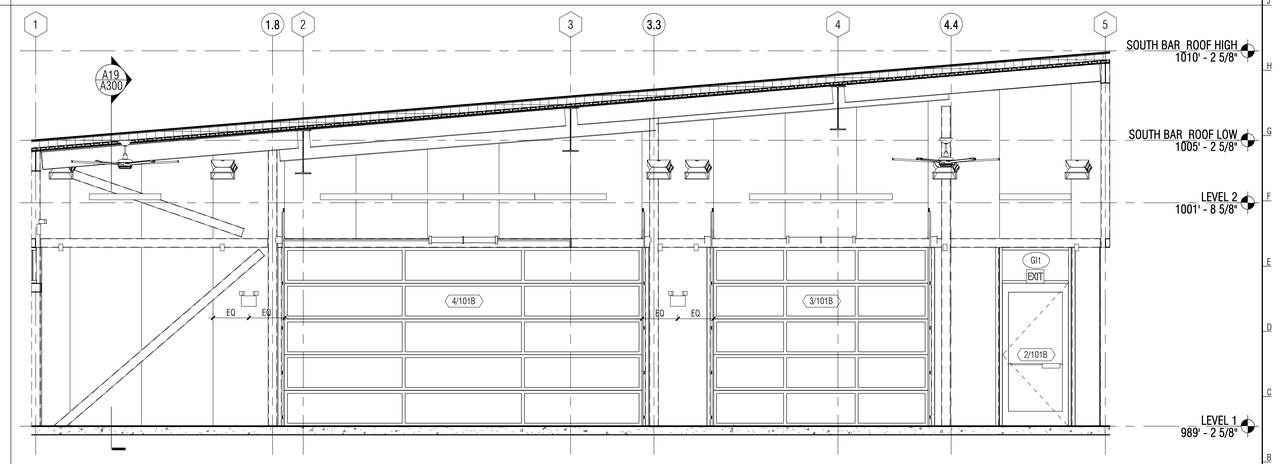
S19 Collision Bay Interior Elevation - North

1/4" = 1'-0" RE: 1/0-A100 , ,



J16 Collision Bay Interior Elevation - East

1/4" = 1'-0" RE: 1/0-A100 , ,



A16 Collision Bay Interior Elevation - West

1/4" = 1'-0" RE: 1/0-A100 , ,

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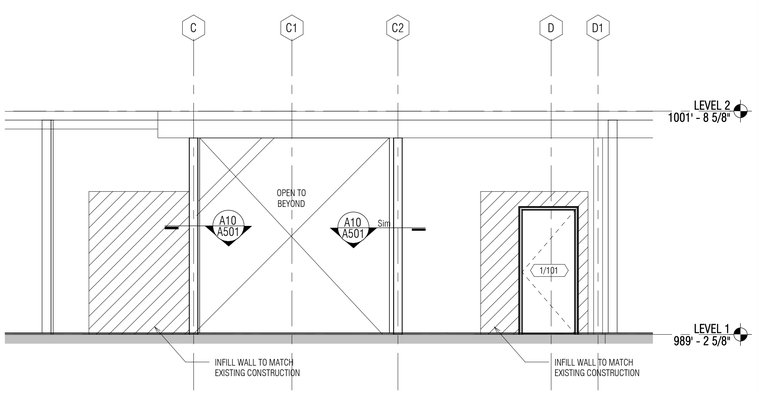
Licensee Number: 000377

INTERIOR ELEVATIONS AND DETAILS

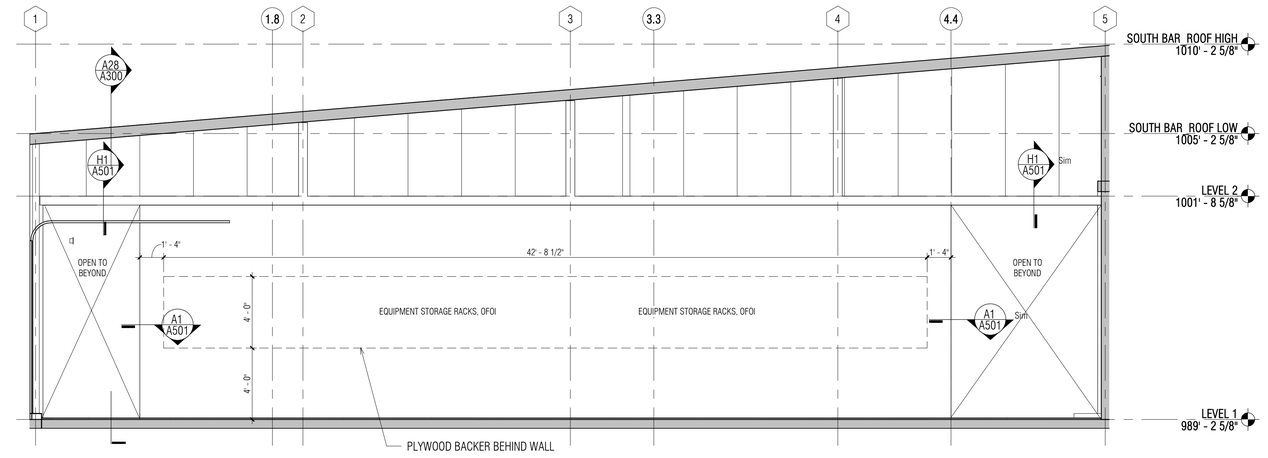
A500

9/24/2021 11:04:43 AM



R1 Main Lab Interior Elevation - North

1/4" = 1'-0" RE: 1/0-A100



R14 Main Lab Interior Elevation - West

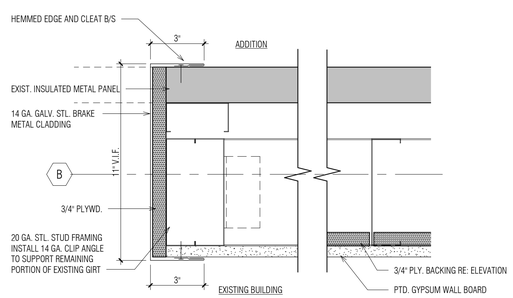
1/4" = 1'-0" RE: 1/0-A100

H1 Interior Wall Opening - Head

3" = 1'-0" RE: 2/0-A200

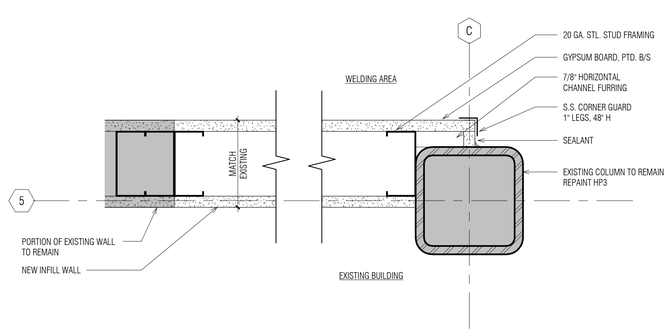
H10 Compressor Cabinet - Plan

3/4" = 1'-0" RE: A1/A100



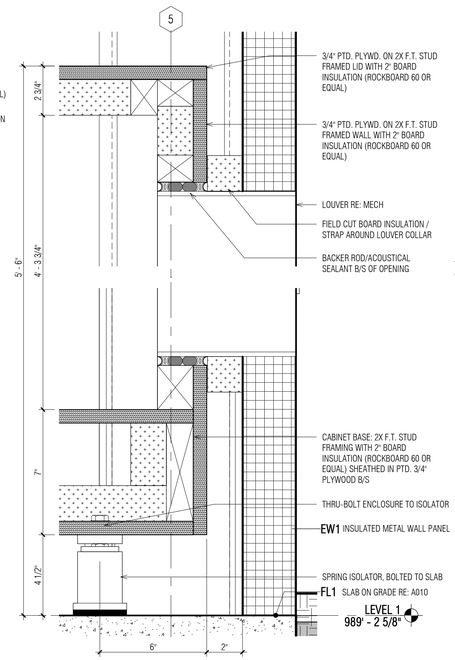
A1 Interior Wall Opening - Jamb

3" = 1'-0" RE: 1/0-A200



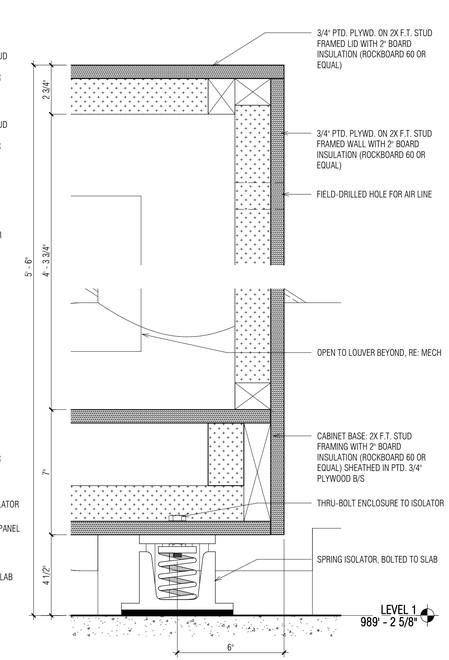
A10 Welding Area Opening - Jamb

3" = 1'-0" RE: 1/0-A200



A23 Compressor Cabinet - N/S Section

3" = 1'-0" RE: H10/A501



A30 Compressor Cabinet - E/W Section

3" = 1'-0" RE: H10/A501

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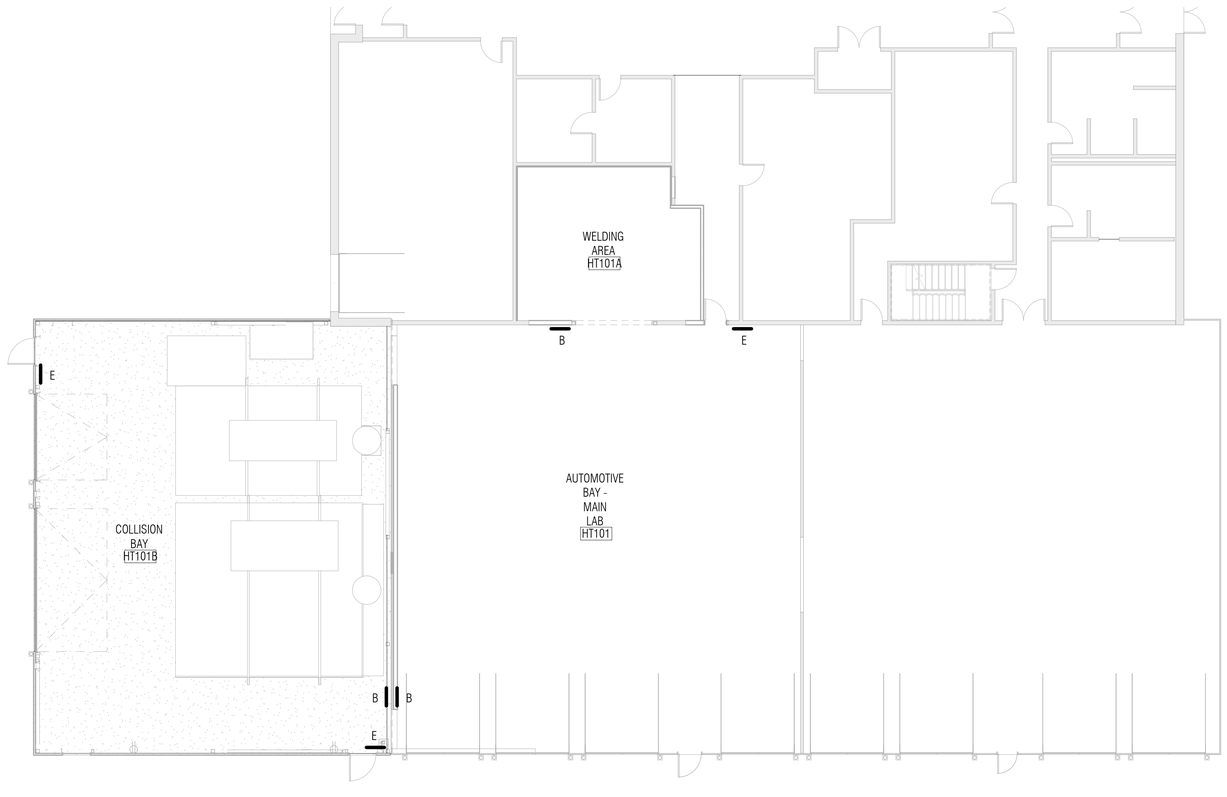
INTERIOR ELEVATIONS AND DETAILS

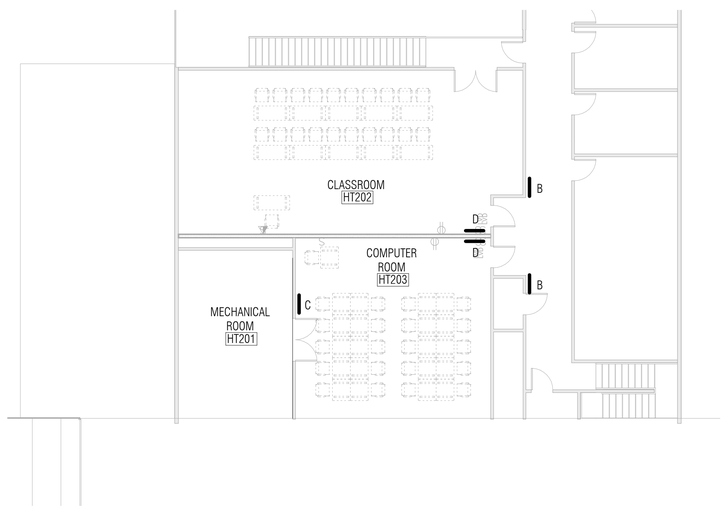
A501

9/24/2021 11:04:47 AM



L1 Level 1 Signage Plan

1" = 10'-0" RE: / , ,

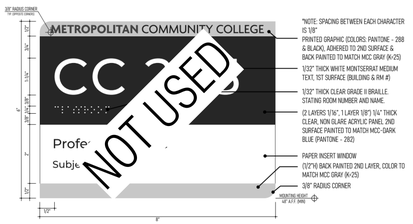


Room Signage Schedule

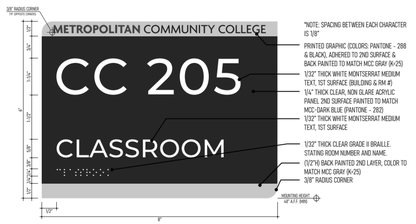
Number	Name	Text on Sign	Sign Type
HT101	AUTOMOTIVE BAY - MAIN LAB	AUTOMOTIVE LAB	B
HT101A	WELDING AREA	WELDING LAB	B
HT101B	COLLISION BAY	COLLISION LAB	B
HT202	CLASSROOM	CLASSROOM	B
HT203	COMPUTER ROOM	COMPUTER LAB	B

L24 Level 2 Signage Plan

1" = 10'-0" RE: / , ,



A PANEL SIGN A
SCALE: 6" = 1'-0"



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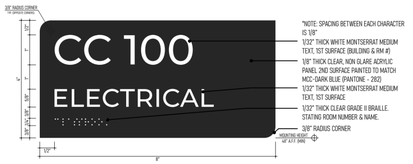
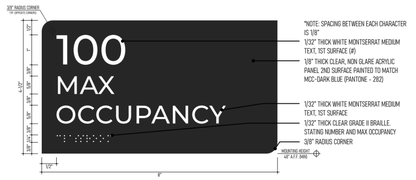
SCALE: 6" = 1'-0"

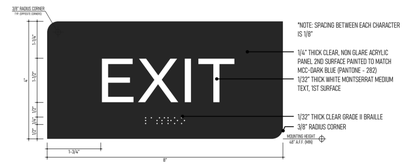


C PANEL SIGN C
SCALE: 6" = 1'-0"



D PANEL SIGN D
SCALE: 6" = 1'-0"

HTK ARCHITECTS
DATE: ● 03/10/2020
REVISED DATE: ● 10/02/2020
METROPOLITAN COMMUNITY COLLEGE
INTERIOR SIGNAGE
METROPOLITAN COMMUNITY COLLEGE
2320 Broadway Blvd, Kansas City, MO 64111
SHEET CONTENTS: ● PANEL SIGNAGE
HTK PROJECT NUMBER: ● 2003.02
SHEET NUMBER:
FE101



E PANEL SIGN E
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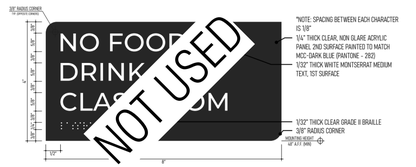

F PANEL SIGN F
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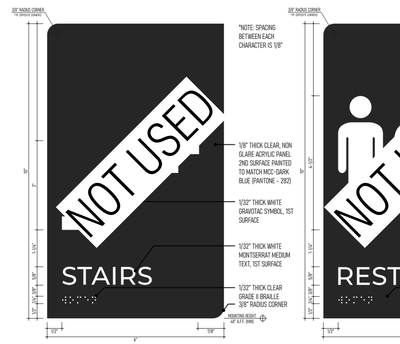
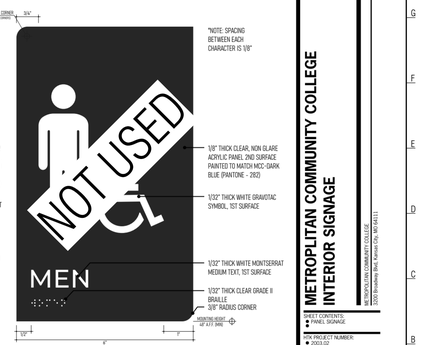


G PANEL SIGN G
SCALE: 6" = 1'-0"

H PANEL SIGN H
SCALE: 6" = 1'-0"



I PANEL SIGN I
SCALE: 6" = 1'-0"

HTK ARCHITECTS
DATE: ● 03/10/2020
REVISED DATE: ● 10/02/2020
METROPOLITAN COMMUNITY COLLEGE
INTERIOR SIGNAGE
METROPOLITAN COMMUNITY COLLEGE
2320 Broadway Blvd, Kansas City, MO 64111
SHEET CONTENTS: ● PANEL SIGNAGE
HTK PROJECT NUMBER: ● 2003.02
SHEET NUMBER:
FE102

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MCC Longview HT Addition/Renovation

500 SW Longview Road
Lee's Summit, MO 64081 Project No: 20008.00

PERMIT/BID DOCUMENTS

Issued: September 23, 2021

Rev. #	Description	Date Issued

Seal

Jeremy B Kahm - Architect
MO# A-2010035449

License Name: Berkebile Nelson Immenschuh McDowell Incorporated
Profession Name: Architectural Corp.
Licensee Number: 000377

INTERIOR SIGNAGE

A650

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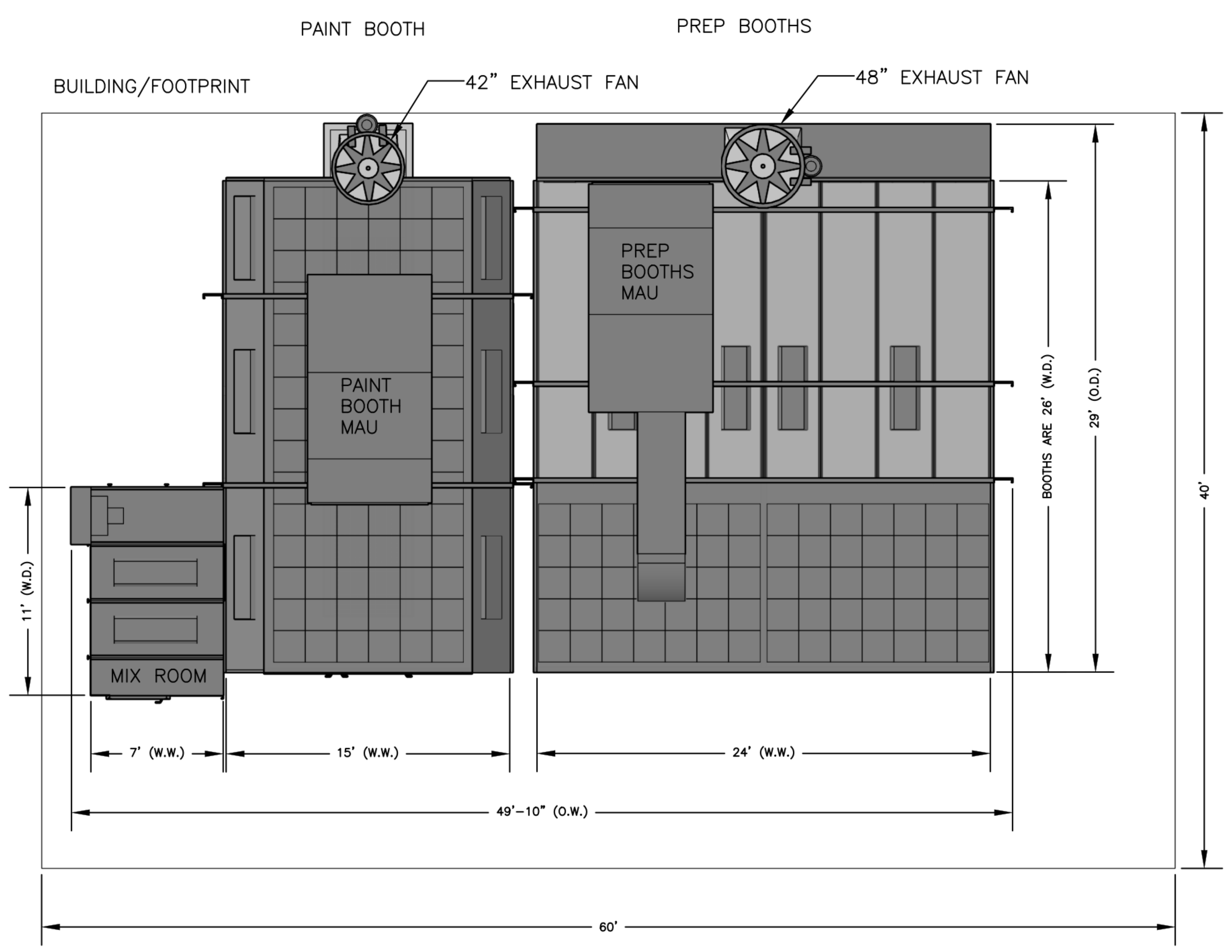

1 PLAN VIEW
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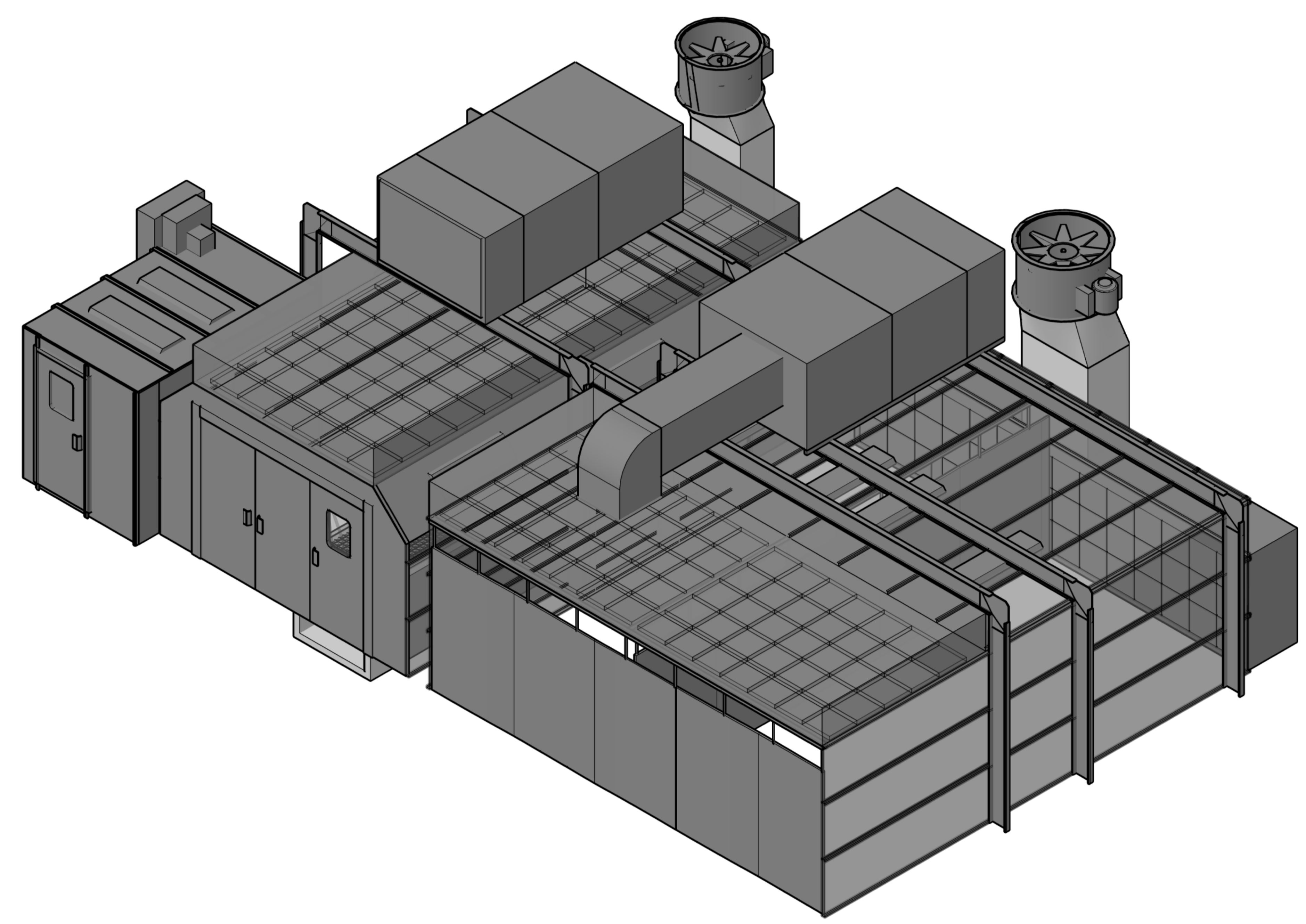
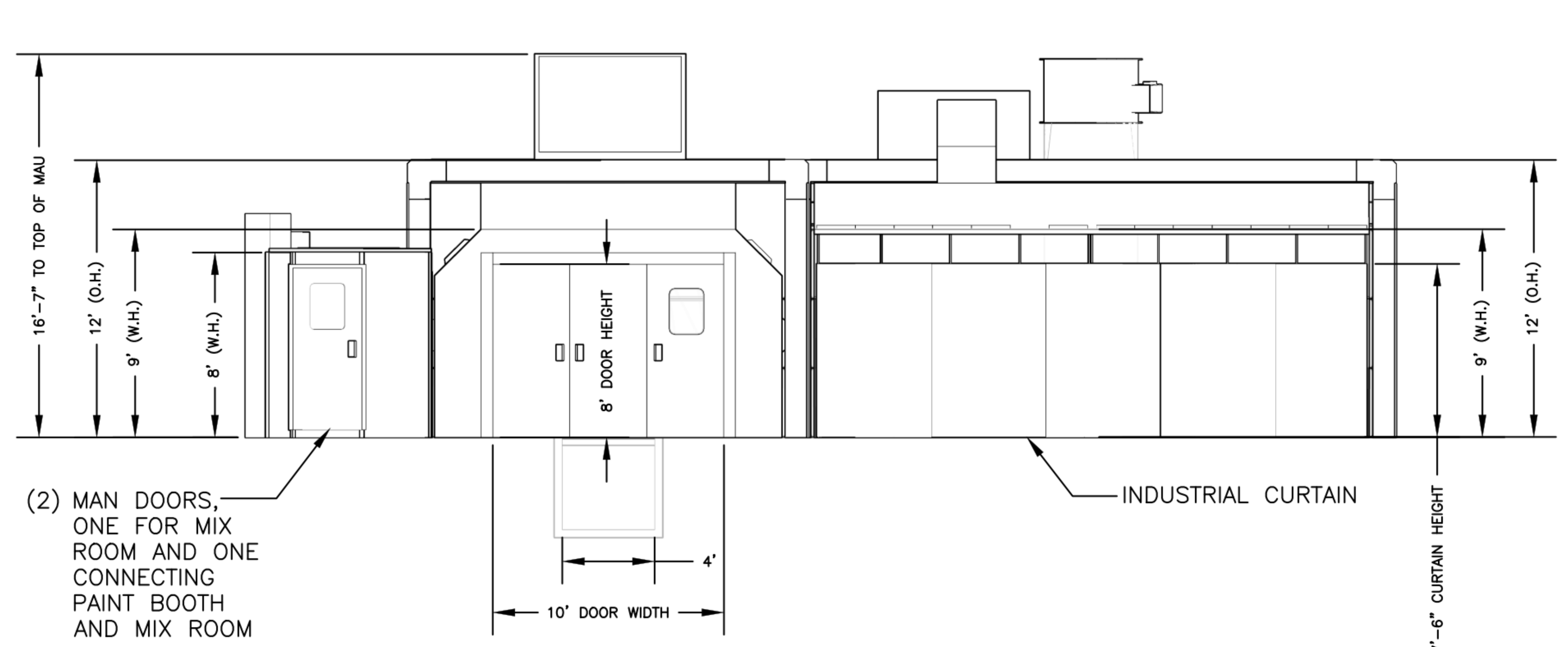


3 ISO VIEW
NTS



2 FRONT VIEW
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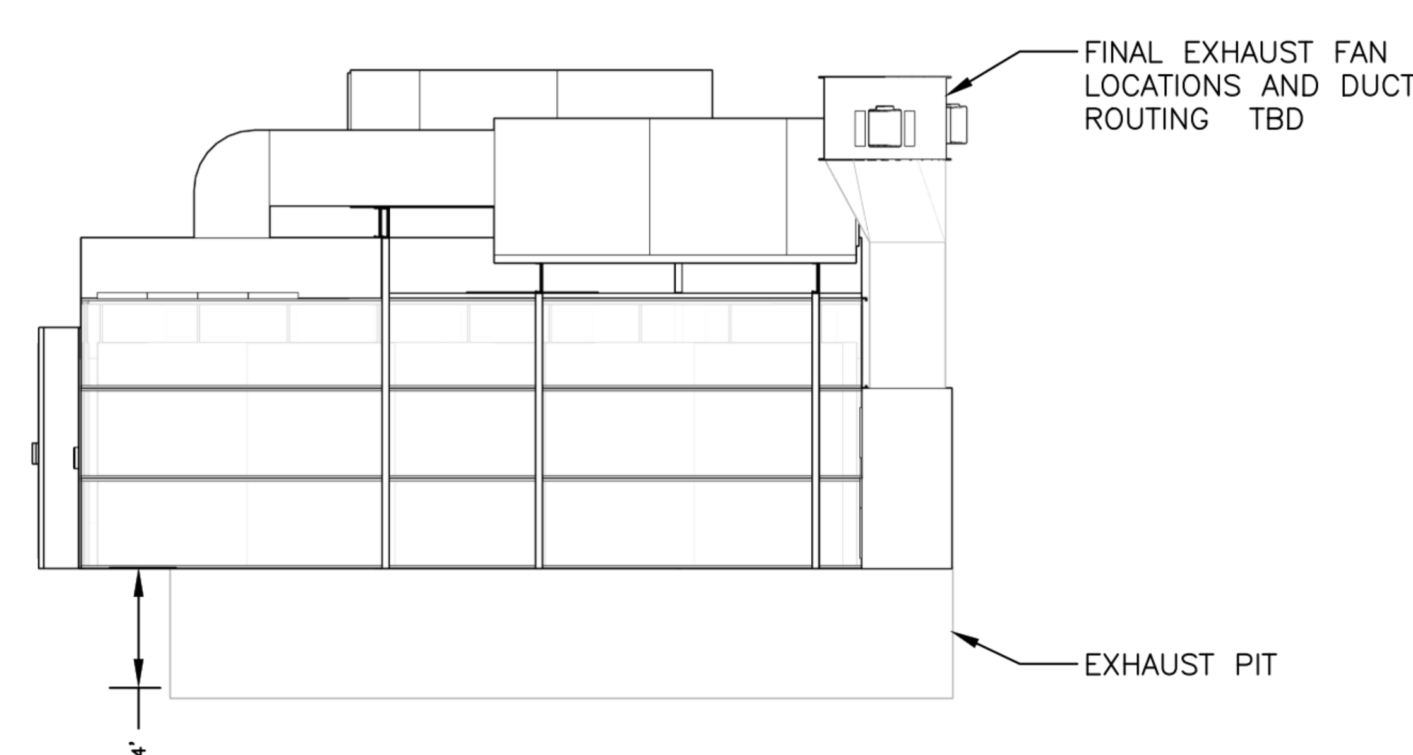

4 SIDE VIEW
Scale: 3/16"= 1'-0"

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ISSUED DATE: 8/26/21

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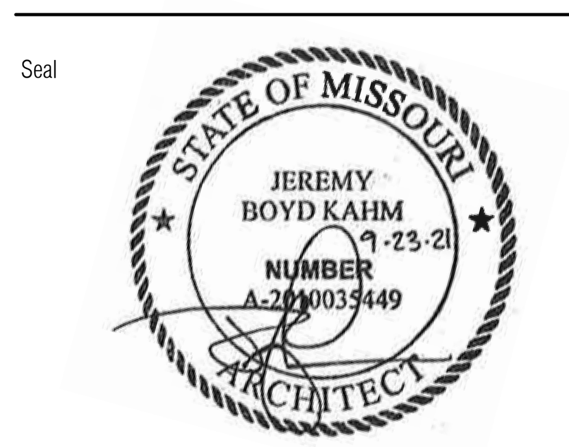

Jeremy B Kahm - Architect
MO# A-2010035449

License Name: Berkebile Nelson Immenschuh McDowell Incorporated
Profession Name: Architectural Corp.
Licensee Number: 000377

VOCATIONAL SHOP EQUIPMENT (FOR REFERENCE ONLY)

A800

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1. GENERAL REQUIREMENTS:

A. BUILDING CODE: 2018 INTERNATIONAL BUILDING CODE

B. FLOOR LIVE LOADS:

a.	PUBLIC AREAS	100 PSF

C. ROOF LIVE LOADS:

a.	ORDINARY FLAT, PITCHED, AND CURVED ROOFS	20 PSF
b.	CONCENTRATED LOAD ON ROOF SURFACES	300 LBS

D. ROOF SNOW LOAD

a.	GROUND SNOW LOAD, Pg	20 PSF
b.	FLAT ROOF SNOW LOAD, Pf	20 PSF
c.	SNOW EXPOSURE FACTOR, Ce	1.0
d.	SNOW LOAD IMPORTANCE FACTOR, I	1.0
e.	THERMAL FACTOR, Ct, HEATED STRUCTURE	1.0
f.	DRIFTING	PER CODE

E. WIND LOADS

a.	BASIC WIND SPEED (3 SECOND GUST)	109 MPH
b.	RISK CATEGORY	II
c.	WIND EXPOSURE	C
d.	INTERNAL PRESSURE COEFFICIENT (GCpi)	+/- 0.18
e.	COMPONENTS AND CLADDING	PER CODE

F. SEISMIC LOADS

a.	RISK CATEGORY		II
b.	SPECTRAL RESPONSE ACCELERATION:		
		Ss	0.099g
		S1	0.068g
c.	SEISMIC IMPORTANCE FACTOR,	I	1.0
d.	SPECTRAL RESPONSE COEFFICIENTS:		
		SDS	0.086
		SD1	0.068
e.	SITE CLASS		C
f.	SEISMIC DESIGN CATEGORY		B
g.	BASIC SEISMIC-FORCE-RESISTING SYSTEM		STEEL SYSTEM NOT SPECIFICALLY DETAILED FOR SEISMIC
h.	RESPONSE MODIFICATION COEFFICIENT, R		3
i.	SEISMIC RESPONSE COEFFICIENT,	Cs	0.029
j.	DESIGN BASE SHEAR		0.029W
k.	ANALYSIS PROCEDURE		EQUIVALENT LATERAL FORCE

G. DEAD LOADS

a.	STRUCTURE	ACTUAL WEIGHT
b.	MISC. UNDERHUNG MECHANICAL	10 PSF

H. CONTRACTOR SHALL REVIEW AND COMPARE THE STRUCTURAL DRAWINGS WITH ALL OTHER CONTRACT DOCUMENTS, VERIFYING ALL DIMENSIONS AND ELEVATIONS, AND REPORT ANY INCONSISTENCIES TO THE ENGINEER BEFORE PROCEEDING WITH THE WORK.

I. THE BUILDING IS NOT STRUCTURALLY STABLE UNTIL ALL CONNECTIONS, FRAMING, SHEAR WALLS, PERMANENT BRACING AND EXTERIOR LOAD BEARING WALLS ARE COMPLETE AND HAVE ACHIEVED THEIR DESIGN STRENGTH. CONTRACTOR IS SOLELY RESPONSIBLE FOR MAINTAINING STRUCTURAL STABILITY DURING ERECTION AND CONSTRUCTION. TEMPORARY BRACING SYSTEMS ARE NOT TO BE REMOVED UNTIL STRUCTURAL WORK IS COMPLETE. THE DESIGN LOADS SHALL NOT BE EXCEEDED DURING CONSTRUCTION.

J. FURNISH ALL LABOR, MATERIALS AND EQUIPMENT NECESSARY TO COMPLETE THE WORK SHOWN OR INFERRED BY THESE DRAWINGS.

K. REFERENCE THE SPECIFICATION FOR ADDITIONAL REQUIREMENTS.

L. THE EXISTING CONDITIONS INDICATED ON THE DRAWINGS ARE BASED ON SURVEYS MADE BY THE CONSULTANT(S) AS WELL AS ON MATERIAL PROVIDED BY THE OWNER AND NO CLAIM IS MADE AS TO ITS ABSOLUTE COMPLETENESS AND/OR ACCURACY. PRIOR TO THE START OF CONSTRUCTION OPERATIONS, THE CONTACTOR SHALL FIELD-VERIFY EXISTING CONDITIONS AND DIMENSIONS PERTAINING TO THIS CONTRACT. NOTIFY THE ARCHITECT IMMEDIATELY OF ANY DISCREPANCIES FOUND AT THE SITE IN RELATION TO THE INFORMATION PROVIDED ON THE DRAWINGS.

M. THE STRUCTURAL SYSTEMS SHOWN ON THESE DOCUMENTS HAVE BEEN DESIGNED FOR THE FINAL, IN PLACE USAGE OF THE STRUCTURE BASED ON THE INTENDED OCCUPANCY AND CODE REQUIREMENTS. WHILE GENERAL CONSTRUCTABILITY HAS BEEN CONSIDERED, THE STRUCTURAL SYSTEMS HAVE NOT BEEN DESIGNED TO ACCOMMODATE SPECIFIC CONSTRUCTION MEANS AND METHODS THAT MIGHT BE UTILIZED BY THE CONTRACTOR.

N. HANDRAILS AND GUARDS SHALL BE DESIGNED TO RESIST A CONCENTRATED LOAD OF 200 LBS AND A UNIFORM LOAD OF 50 PLF, IN ANY DIRECTION, AT ANY POINT ALONG THE HANDRAIL. THE CONCENTRATED LOAD AND UNIFORM LOAD ARE NOT ASSUMED TO ACT CONCURRENTLY.

2. SPECIAL INSPECTIONS:

A. THE STRUCTURAL DESIGN FOR THIS PROJECT IS BASED ON THE COMPLETION OF SPECIAL INSPECTIONS DURING CONSTRUCTION IN ACCORDANCE WITH CHAPTER 17 OF THE 2018 INTERNATIONAL BUILDING CODE. THE OWNER SHALL EMPLOY ONE OR MORE QUALIFIED SPECIAL INSPECTORS TO PROVIDE THE REQUIRED SPECIAL INSPECTIONS.

B. THE FOLLOWING ITEMS REQUIRE SPECIAL INSPECTION. THE GENERAL CONTRACTOR SHALL PROVIDE NOTIFICATION TO THE SPECIAL INSPECTOR WHEN ITEMS REQUIRING SPECIAL INSPECTION ARE READY FOR OBSERVATION AND PROVIDE ACCESS TO THE ITEMS REQUIRING SPECIAL INSPECTION.

a. PLACEMENT OF CONCRETE
b. TESTING OF CONCRETE
c. PLACEMENT OF REINFORCING STEEL
d. BOLTS & ANCHORS EMBEDDED IN CONCRETE
e. STRUCTURAL STEEL FRAMING
f. HIGH STRENGTH BOLTING
g. STRUCTURAL WELDING
h. ROOF AND FLOOR DECK ATTACHMENT
i. POST INSTALLED ANCHORS IN MASONRY AND CONCRETE
j. VERIFICATION OF SOILS, EXCAVATIONS, FILLING & COMPACTION
k. HELICAL PILE FOUNDATIONS
l. SHOP FABRICATION OF STRUCTURAL STEEL (IF STEEL FABRICATOR IS NOT AISC CERTIFIED)

C. THE SPECIAL INSPECTOR SHALL FURNISH SPECIAL INSPECTION REPORTS TO THE BUILDING OFFICIAL, OWNER, ARCHITECT AND STRUCTURAL ENGINEER, ETC.

D. ALL DISCREPANCIES SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE CONTRACTOR FOR CORRECTION. IF LEFT UNCORRECTED THE DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE BUILDING OFFICIAL, OWNER, ARCHITECT AND STRUCTURAL ENGINEER.

E. THE SPECIAL INSPECTOR SHALL SUBMIT A FINAL SIGNED REPORT STATING THAT THE WORK REQUIRING SPECIAL INSPECTION WAS, TO THE BEST OF THE SPECIAL INSPECTOR'S KNOWLEDGE, IN CONFORMANCE WITH APPROVED PLANS AND SPECIFICATIONS.

3. FOUNDATIONS:

A. THE GENERAL CONTRACTOR AND FOUNDATION CONTRACTOR SHALL UNDERSTAND THE SURVEY AND GEOTECHNICAL REPORT BEFORE BIDDING THE WORK. RECOMMENDATIONS CONTAINED IN THE GEOTECHNICAL REPORT SHALL BE INCLUDED IN THE CONTRACTOR'S WORK, UNLESS SPECIFIED OR DETAILED OTHERWISE.

B. COMPLY WITH ALL ASPECTS OF SOILS REPORT NO. J039128.01 DATED JULY 19, 2021, PREPARED BY GEOTECHNOLOGY, 5055 ANTIOCH ROAD, OVERLAND PARK, KANSAS 913-438-1900.

C. CONTRACTOR SHALL REMOVE EXISTING FOOTINGS AND FOUNDATIONS THAT ARE LOCATED WITHIN THE FOOTPRINT OF THE NEW BUILDING.

D. CONTRACTOR SHALL NOTIFY ENGINEER OF ANY UNUSUAL SOIL CONDITIONS THAT ARE IN VARIANCE WITH THE GEOTECHNICAL REPORT OR WHEN DIFFERENT BEARING MATERIAL IS EVIDENT AND THERE IS A QUESTIONS OF BEARING CAPACITY.

E. THE CONTRACTOR SHALL RETAIN A GEOTECHNICAL ENGINEER REGISTERED IN THE STATE WHERE THE PROJECT IS LOCATED TO TEST AND OBSERVE ALL EARTHWORK, FOUNDATION, AND SLAB SUPPORT MATERIAL TO VERIFY COMPLIANCE WITH THE DESIGN REQUIREMENTS AND CONTRACT DOCUMENTS. CONCRETE SHALL NOT BE PLACED WITHOUT GEOTECHNICAL ENGINEER'S APPROVAL.

F. FOUNDATIONS AND STRIP FOOTINGS ARE DESIGNED TO BEAR ON NON-EXPANSIVE SOIL CAPABLE OF SUSTAINING 2000 PSF.

G. CONTRACTORS SHALL BE RESPONSIBLE FOR REMOVAL AND DISPOSAL OF UNSUITABLE FILL MATERIAL OR ORGANIC MATERIAL TO AN APPROVED LANDFILL.

4. HELICAL PIER FOUNDATIONS:

A. HELICAL PIERS SHALL BE PROVIDED AND DESIGNED BY A SPECIALTY GEOTECHNICAL CONTRACTOR AND MISSOURI PROFESSIONAL ENGINEER TO SUPPORT THE LOADS SHOWN ON THE CONTRACT DOCUMENTS.

B. THE SPECIALTY GEOTECHNICAL CONTRACTOR SHALL SUBMIT SHOP DRAWINGS SEALED BY A MISSOURI LICENSED PROFESSIONAL ENGINEER FOR COORDINATION WITH BUILDING PLANS AND SITE UTILITIES. SHOP DRAWINGS SHALL SHOW ALL DETAILS OF THE HELICAL PIER SYSTEM AND CONNECTOIN TO THE CONCRETE FOUNDATIONS.

C. AFTER INSTALLATION, THE SPECIALTY GEOTECHNICAL CONTRACTOR'S PROFESSIONAL ENGINEER SHALL SUBMIT A LETTER INDICATING THAT THE HELICAL PIERS WERE INSTALLED ACCORDING TO HIS/HER DESIGN AND ARE SUTABLE TO SUPPORT THE FOUNDATIONS AS DESIGNED.

5. CONCRETE:

A. CAST-IN-PLACE CONCRETE CONSTRUCTION SHALL CONFORM TO THE LATEST AMERICAN CONCRETE INSTITUTE DOCUMENTS, ACI-301, 305, 306, 315, 318 AND 347 AND CONCRETE REINFORCING STEEL INSTITUTE MANUAL OF STANDARD PRACTICE UNLESS OTHERWISE NOTED IN THESE CONTRACT DOCUMENTS.

B. ALL CONCRETE SHALL BE NORMAL WEIGHT CONCRETE.

C. ALL CONCRETE, UNLESS OTHERWISE NOTED, SHALL DEVELOP A MINIMUM 28 DAY COMPRESSIVE STRENGTH, HAVE MAXIMUM WATER/CEMENT RATIO AND ACI 318 EXPOSURE CLASS AS FOLLOWS:

CLASS	CONCRETE USAGE	STRENGTH	(w/c)	EXPOSURE
A	FOOTINGS, GRADE BEAMS:	4500 PSI	(w/c≤0.45)	F2,C1,W1,S0
C	INTERIOR SLAB-ON-GRADE:	4000 PSI	(w/c≤0.45)	F0,C0,W1,S0
D	INTERIOR VEHICLE SLABS:	5000 PSI	(w/c≤0.40)	F0,C2,W1,S0
X	EXTERIOR SLABS:	5000 PSI	(w/c≤0.40)	F3,C2,W1,S0

D. IT IS THE INTENT OF THESE CONCRETE SPECIFICATIONS THAT THE CONTRACTOR SUPPLY CONCRETE MIXES WITH A MINIMUM AMOUNT OF WATER IN ORDER TO LIMIT PLASTIC SHRINKAGE CRACKING IN FRESHLY PLACED CONCRETE. IT IS EXPECTED THAT WORKABILITY FOR CONCRETE MIXES WILL REQUIRE THE ADDITION OF WATER-REDUCING AND/OR SUPER-PLASTICIZING CHEMICAL ADMIXTURES. WATER SHALL NOT BE ADDED TO THE CONCRETE MIX ON SITE.

E. FLY ASH, SLAG, SILICA FUME (MICROSILICA) AND OTHER SPECIALTY POZZOLANS MAY BE USED AT RATES INDICATED IN THE SPECIFICATIONS TO ACHIEVE 25%-40% CEMENT REPLACEMENT.

F. CONCRETE SLUMP SHALL BE A MAXIMUM OF 4" +/- 1" (ASTM C-143) AS DELIVERED IN THE FIELD. CONTRACTOR MAY USE CHEMICAL ADMIXTURES TO ATTAIN A MAXIMUM SLUMP OF 8" FOR WORKABILITY.

G. ALL EXTERIOR CONCRETE SLAB-ON-GRADE, SUSPENDED SLABS, WALLS, COLUMNS AND PEDESTALS SHALL BE AIR ENTRAINED AND CONTAIN 6% (+/- 1 1/2%) ENTRAINED AIR BY VOLUME FOR 3/4" AGGREGATE.

H. A CALCIUM NITRATE CORROSION INHIBITOR SHALL BE INCLUDED IN ALL CONCRETE MIXES.

I. CHLORIDES, IN ANY FORM, SHALL NOT BE USED IN ANY CONCRETE ADMIXTURE.

J. EMBEDDED ITEMS ARE TO BE FURNISHED AND INSTALLED BY THE CONTRACTOR PRIOR TO PLACING CONCRETE.

K. CHAMFER ALL EXPOSED CORNERS OF CONCRETE WALLS, BEAMS, AND COLUMNS 3/4".

L. ANCHOR RODS SHALL BE HELD IN PLACE WITH A RIGID TEMPLATE.

M. ALL CONTRACTION JOINTS IN CONCRETE SLABS-ON-GRADE SHALL BE CUT TO 1/3 THE DEPTH. CUT JOINTS AS SOON AS POSSIBLE AFTER CONCRETE HAS BEEN PLACED WITHOUT DISLODGING AGGREGATE, OR USE KEYED COLD JOINT. CONTRACTION JOINTS IN SLAB-ON-GRADE SHALL BE AS SHOWN ON PLANS, WHERE NOT SHOWN, LIMIT CONTROLLED AREAS TO NOT MORE THAN 144 SQUARE FEET NOR GREATER THAN 15 FEET ON ANY SIDE. CONSTRUCTION JOINTS MAY BE SUBSTITUTED FOR CONTRACTION JOINTS AT CONTRACTOR'S OPTION.

N. PRIOR TO PLACING CONCRETE IN ANY LOCATION, IT IS THE RESPONSIBILITY OF THE GENERAL CONTRACTOR TO HAVE THOROUGHLY CHECKED AND COORDINATED ALL DIMENSIONS, ELEVATIONS, OPENINGS, RECESSES, AND BLOCKOUTS SHOWN ON THE ARCHITECTURAL, STRUCTURAL, ELECTRICAL AND MECHANICAL DRAWINGS. IN THE EVENT ERRORS, CONFLICTS, OR OMISSIONS EXIST, IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO CONTACT THE ARCHITECT OR ENGINEER FOR NECESSARY CORRECTIVE ACTION.

O. NO ALUMINUM ITEMS SHALL BE EMBEDDED IN CONCRETE.

P. REFERENCE THE SPECIFICATONS FOR ADDITIONAL REQUIREMENTS.

6. REINFORCING STEEL

A. REINFORCING SHALL BE DETAILED, FABRICATED, PLACED, AND SUPPORTED IN ACCORDANCE WITH ACI 315, LATEST EDITION.

B. ALL REINFORCING STEEL SHALL BE ASTM A615 GRADE 60, EXCEPT WELDED REINFORCING WHICH SHALL BE ASTM A706 GRADE 60.

C. ALL WELDED WIRE FABRIC SHALL BE ASTM A185. ALL COLD DRAWN WIRE SHALL BE ASTM A82.

D. ALL ACCESSORIES FOR SUPPORTING REINFORCING SHALL BE GALVANIZED OR HAVE PLASTIC-COATED FEET. WHERE CONCRETE IS SAND BLASTED OR BUSH HAMMERED PROVIDE ACCESSORIES OF STAINLESS STEEL.

E. PROVIDE CORNER BARS AT THE EXTERIOR FACE OF ALL WALL AND GRADE BEAM CORNERS AND INTERSECTIONS EQUAL TO HORIZONTAL BARS.

F. PROVIDE AT LEAST TWO VERTICAL #5 BARS AT ALL STEPS IN FOUNDATION WALLS, FOOTINGS, AND GRADE BEAMS.

G. THE FOLLOWING ADDITIONAL REINFORCING STEEL SHALL BE PROVIDED IN STOCK LENGTHS FOR GENERAL JOB USE AS DIRECTED BY THE ENGINEER. ALL COSTS FOR MATERIALS, FIELD FABRICATION AND PLACEMENT NECESSARY TO COMPLETE THE WORK SHALL BE INCLUDED.

10 - #4X30'-0" 10 - #5X30'-0" 10 - #6X30'-0"

H. STANDARD COVERAGE OF REINFORCING, UNLESS OTHERWISE SHOWN, SHALL BE AS FOLLOWS:

CAST AGAINST EARTH, PERMANENTLY EXPOSED TO WEATHER.....3"
EXPOSED TO EARTH & WEATHER (FORMED).....2"
NOT EXPOSED TO EARTH OR WEATHER: SLABS, WALLS.....3/4"
BEAMS AND COLUMNS.....1-1/2"

I. ALL FIELD PLACED SLAB AND BEAM REINFORCING BARS NOTED AS EPOXY-COATED SHALL BE IN ACCORDANCE WITH ASTM A775, LATEST EDITION.

J. ALL EPOXY COATED REINFORCING, INCLUDING, REPAIR OF DAMAGED EPOXY, SUPPORT SYSTEMS, TIE WIRES, FIELD WELD SPLICES, FIELD MECHANICAL SPLICES, FIELD BENDING AND EPOXY REPAIR, FIELD CUT BARS, AND GENERAL COATING DAMAGE SHALL BE AS PER CRSI ENGINEERING DATA REPORT NO. 24.

K. REINFORCE ALL CONCRETE NOT OTHERWISE SHOWN WITH SAME STEEL AS IN SIMILAR SECTIONS OR AREAS. CLEARANCES BETWEEN BARS SHALL MEET ACI 318 REQUIREMENTS.

L. WELDED WIRE FABRIC SHALL BE LAPPED ONE FULL MESH SPACING.

M. AT ALL OPENINGS IN CONCRETE WALLS AND SLABS, ADD (2) #5 (OPENING DIMENSION PLUS 5'-0") AT EACH OF THE FOUR SIDES AND ADD (2) #5 x 5'-0" DIAGONALLY AT EACH OF FOUR CORNERS.

N. ALL SPLICES SHALL BE CLASS "B" TENSION LAP SPLICE, UNLESS NOTED.

O. LAP TOP BARS AT MID-SPAN AND BOTTOM BARS AT SUPPORTS, UNO. STAGGER LAP LOCATIONS.

7. STRUCTURAL STEEL:

A. ALL STRUCTURAL STEEL SHALL BE DETAILED, FABRICATED, AND ERECTED IN ACCORDANCE WITH AISC, "SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS" AND AISC, "CODE OF STANDARD PRACTICE FOR STEEL BUILDINGS AND BRIDGES".

B. STEEL MATERIALS, UNLESS NOTED OTHERWISE ON THE PLANS:

a.	WIDE FLANGE SHAPES AND WT SECTIONS	ASTM A992
b.	ANGLES, PLATES, CHANNELS	ASTM A36
c.	MOMENT CONNECTION PLATES	ASTM A992
d.	RECTANGULAR HSS SHAPES	ASTM A500, GRADE B
e.	ROUND HSS SHAPES	ASTM A500, GRADE B
f.	PIPE	ASTM A53, GRADE B
g.	ANCHOR RODS	ASTM F1554, GRADE 36
h.	HIGH-STRENGTH BOLTS	ASTM A325, TYPE 1
i.	HEADED STUDS	ASTM A108, GRADE 1015-1020
j.	WELDED CONNECTIONS	E70XX ELECTRODES

C. ALL BOLTS SHALL BE 3/4" DIAMETER BOLTS WITH HEAVY HEX HEADS, UNLESS NOTED OTHERWISE ON DRAWINGS. ALL CONNECTIONS SHALL HAVE A MINIMUM OF TWO 3/4" DIAMETER BOLTS, SNUG-TIGHTENED TYPE CONNECTIONS UNLESS NOTED OTHERWISE IN THE DOCUMENTS.

D. BEAM CONNECTIONS, NOT OTHERWISE INDICATED, SHALL BE DETAILED TO SUPPORT ONE-HALF THE TOTAL ALLOWABLE UNIFORM LOAD CAPACITY FOR THE GIVEN BEAM, SPAN AND GRADE OF STEEL.

E. ALL STRUCTURAL STEEL WELDS IN THE SHOP OR THE FIELD SHALL BE PERFORMED BY A CERTIFIED WELDER AND SHALL CONFORM TO THE CURRENT REQUIREMENTS OF A.W.S.

F. SHOP WELDED AND FIELD BOLTED CONNECTIONS ARE PREFERRED, UNLESS OTHERWISE SHOWN.

F. FILLET WELDS NOT SPECIFICALLY SIZED IN THESE DOCUMENTS SHALL BE THE MINIMUM SIZE IN ACCORDANCE WITH AWS D1.1 LATEST EDITION, DEPENDENT ON THE THINNER PART JOINED, BUT NO LESS THAN 3/16".

G. ALL STRUCTURAL STEEL SHALL HAVE ONE COAT OF RUST INHIBITOR PRIMER PAINT CONFORMING TO THE PROJECT MANUAL. FIELD TOUCHUP ALL UNPAINTED AREAS AND WELDED AREAS.

H. PROVIDE GALVANIZED BOLTS AND ANCHORS AT ALL EXTERIOR EXPOSED LOCATIONS AND AT ALL LOCATIONS WHERE ANCHORS COME INTO CONTACT WITH MASONRY OR CONCRETE. CLEAN AREAS WHERE GALVANIZING IS DAMAGED OR MISSING AND REPAIR.

I. ALL OPENINGS IN ROOF OVER 8" IN ANY DIRECTION, ROOF DRAINS AND ROOF OVERFLOW DRAINS SHALL HAVE A L3x3x1/4 ANGLE FRAME (4 SIDES) BETWEEN JOISTS, UNLESS OTHERWISE NOTED ON DRAWINGS.

J. THE CONTRACTOR SHALL PROVIDE SHELF ANGLES, GLASS SUPPORTS, AND OTHER MISCELLANEOUS STEEL, AS SHOWN ON THE DRAWINGS AND AS REQUIRED TO PROVIDE SUPPORT (STABILIZATION) AROUND AND THROUGHOUT THE BUILDING. NOT EVERY DETAIL IS SHOWN. SEE ARCHITECTURAL DRAWINGS FOR ADDITIONAL MISCELLANEOUS METAL DETAILS.

K. THE STEEL FABRICATOR SHALL PARTICIPATE IN THE AISC QUALITY CERTIFICATION PROGRAM AND BE DESIGNATED AS AN AISC-CERTIFIED PLANT.

8. STEEL DECK:

A. ALL STRUCTURAL STEEL DECK SHALL BE DETAILED, FABRICATED, AND ERECTED IN ACCORDANCE WITH THE LATEST SPECIFICATION OF THE STEEL DECK INSTITUTE DESIGN MANUAL FOR COMPOSITE DECKS, FORM DECKS AND CELLULAR METAL FLOOR DECK WITH ELECTRICAL DISTRIBUTION.

B. STEEL ROOF DECK SHALL BE 1-1/2", WIDE RIB, 22 GAGE, WELDED IN A 36/7 PATTERN TO RESIST WIND UPLIFT PER CODE AND 350 LB/FOOT DIAPHRAGM SHEAR, IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS. DECK WEIGHT MAY BE USED TO REDUCE UPLIFT LOADS.

C. DECK SHALL BE CONTINUED OVER THREE OR MORE SPANS.

9. ANCHORS:

A. CONCRETE:

a. ALL POST-INSTALLED ANCHORS SHALL MEET THE REQUIREMENTS OF ACI 318, APPENDIX D AND SHALL BE ACCEPTABLE FOR CRACKED CONCRETE.

b. MECHANICAL ANCHORS FOR CRACKED CONCRETE SHALL BE HILTI KWIK HUS EZ SCREW ANCHORS PER ICC ESR-3027 UNLESS NOTED OTHERWISE.

c. ADHESIVE ANCHORS FOR CRACKED CONCRETE SHALL BE HILTI HIT-HY 200 SAFE SET SYSTEM W/ HILTI HAS-E THREADED ROD OR CONTINUOUSLY DEFORMED STEEL REINFORCING PER ICC ESR-3187, UNLESS NOTED OTHERWISE.

B. EMBEDMENT DEPTH SHALL BE DEFINED AS THE DISTANCE FROM THE SURFACE OF THE LOAD BEARING BASE MATERIAL TO THE DEEPEST PART OF THE ANCHOR AFTER THE ANCHOR HAS BEEN DRIVEN INTO THE HOLE BUT NOT YET EXPANDED.

C. EQUIVALENT ANCHORS MAY BE SUBSTITUTED WITH THE ENGINEERS APPROVAL. SUBMITTAL IS THE CONTRACTOR'S RESPONSIBILITY AND MUST INCLUDE EVALUATION REPORTS FROM THE INTERNATIONAL CONFERENCE OF BUILDING OFFICIALS.

D. INSTALL ANCHORS TO MEET THE REQUIREMENTS INDICATED IN THE CONTRACT DOCUMENTS, THE MANUFACTURER'S RECOMMENDATIONS AND ICC CODE REPORTS.

E. ANCHOR CAPACITY IS DEPENDANT UPON THE SPACING BETWEEN ADJACENT ANCHORS AND PROXIMITY OF ANCHORS TO EDGE OF CONCRETE OR MASONRY. INSTALL ANCHORS IN ACCORDANCE WITH SPACING AND EDGE CLEARANCES INDICATED ON THE DRAWINGS.

F. STAINLESS STEEL ANCHORS ARE REQUIRED AT EXPOSED WEATHER CONDITIONS.

G. EXISTING REINFORCING BARS IN THE CONCRETE STRUCTURE SHALL NOT BE CUT DURING ANCHOR INSTALLATION UNLESS NOTED OTHERWISE. LOCATE THE POSITION OF THE EXISTING REINFORCING BARS AT THE LOCATIONS OF THE CONCRETE ANCHORS BY FERROSCAN, GPR, X-RAY OR OTHER APPROVED MEANS.

10. SUBMITTALS:

A. ALL SHOP DRAWINGS AND SUBMITTALS MUST BE REVIEWED AND APPROVED BY THE CONTRACTOR PRIOR TO SUBMITTAL. ENGINEER'S REVIEW OF SHOP DRAWINGS IS LIMITED TO CHECKING FOR GENERAL CONFORMANCE WITH DESIGN DRAWINGS AND STRENGTH OF COMPONENTS AND MATERIALS. CONTRACTOR IS RESPONSIBLE FOR ANY CHANGES FROM THE DESIGN DRAWINGS, QUANTITIES, DIMENSIONAL ERRORS OR OMISSIONS ON THE SHOP DRAWINGS.

B. ALL SHOP DRAWINGS MUST BE ORIGINAL DOCUMENTS AND SHALL NOT BE REPRODUCTIONS OF THESE CONTRACT DOCUMENTS.

C. SUBMIT SHOP DRAWINGS DETAILING FABRICATION OF EACH MEMBER AND ITS CONNECTIONS. DETAIL DRAWINGS ARE TO BE PREPARED UNDER THE SUPERVISION OF A LICENSED PROFESSIONAL ENGINEER.

D. CONTRACTOR SHALL SUBMIT STRUCTURAL SHOP DRAWINGS FOR THE FOLLOWING:

a. CONCRETE MIX DESIGN AND MATERIALS
b. CONCRETE AND MASONRY REINFORCING STEEL
c. CONCRETE FORMWORK
d. STRUCTURAL STEEL
e. STEEL DECK

E. DELEGATED DESIGN SUBMITTAL: CONTRACTOR SHALL SUBMIT SIGNED AND SEALED DESIGN ANALYSIS DATA BY A QUALIFIED PROFESSIONAL ENGINEER FOR THE FOLLOWING AND WHERE NOTED IN THE PROJECT SPECIFICATIONS:

a. STRUCTURAL STEEL DESIGN
b. CURTAINWALL
c. ARCHITECTURAL METALS
d. HANDRAILS

bnim

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MCC Longview HT Addition/Renovation

500 SW Longview Road
Lee's Summit, MO 64081 Project No: 20008.00

PERMIT/BID DOCUMENTS

Issued: September 23, 2021

Rev. #	Description	Date Issued

Seal

STATE OF MISSOURI
KATHLEEN J. HAGEN
NUMBER E-2000155328
REGISTERED PROFESSIONAL ENGINEER
9.23.2021

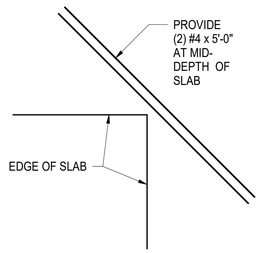
Kathleen J Hagen
MO# E-2000155328

License Name: Berkebile Nelson Immenschuh McDowell Incorporated
Profession Name: Architectural Corp.
Licensee Number: 000377

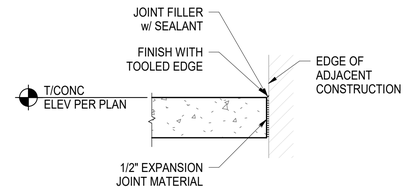
GENERAL NOTES

S001

9/23/2021 6:02:20 PM



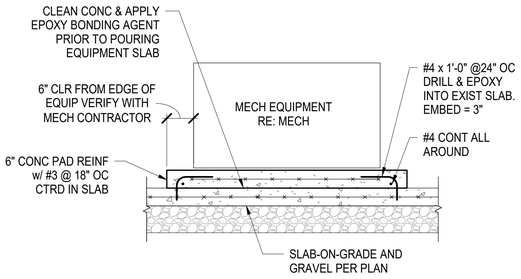
TYPICAL SLAB -ON-GRADE RE-ENTRANT CORNER



ISOLATION JOINT

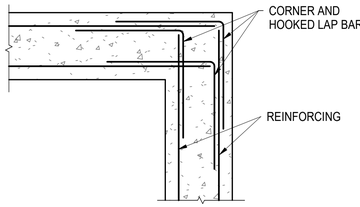
U19 CONCRETE JOINTS

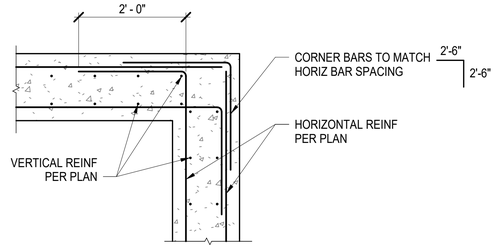
3/4" = 1'-0" RE: / , ,



N10 MECHANICAL HOUSEKEEPING PAD

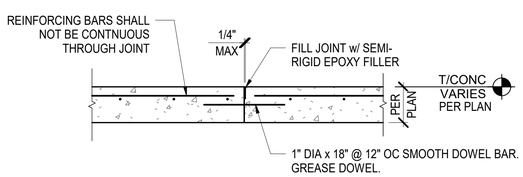
3/4" = 1'-0" RE: / , ,





N19 CONC WALL PLAN @ CORNER

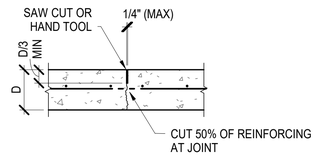
3/4" = 1'-0" RE: / , ,



NOTE: PROVIDE DOWEL BASKETS TO MAINTAIN ALIGNMENT OF DOWELS

G10 TYP CONSTRUCTION JOINT

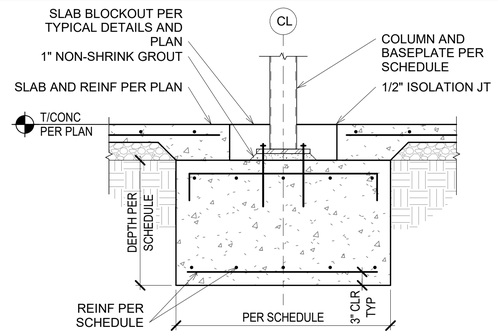
3/4" = 1'-0" RE: / , ,



TYPICAL DOWELED CONTRACTION JOINT
6" LIGHT-SLAB

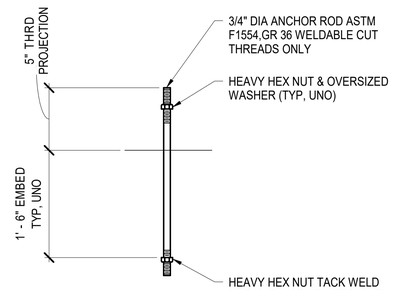
G19 TYP CONTRACTION JOINT

3/4" = 1'-0" RE: / , ,



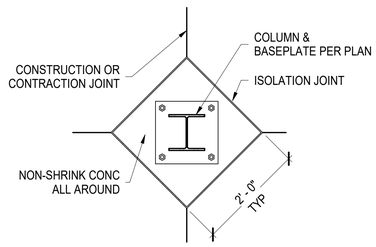
G28 SECTION

3/4" = 1'-0" RE: / , ,



A1 TYP ANCHOR ROD

1 1/2" = 1'-0" RE: / , ,



A10 TYP ISOLATION JOINT

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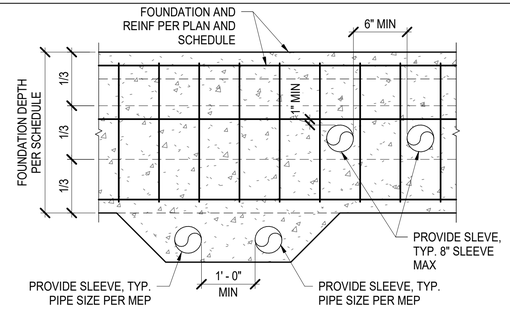
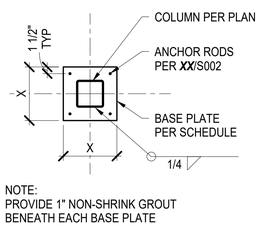


A19 PIPE PENETRATION THRU FND

3/4" = 1'-0" RE: / , ,



NOTE:
PROVIDE 1" NON-SHRINK GROUT
BENEATH EACH BASE PLATE

A28 TYP BASEPLATE DETAIL

3/4" = 1'-0" RE: / , ,

BNIM Architects — Architect
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Profession Name: Architectural Corp.
Licensee Number: 000377

CONCRETE TYPICAL DETAILS

S003

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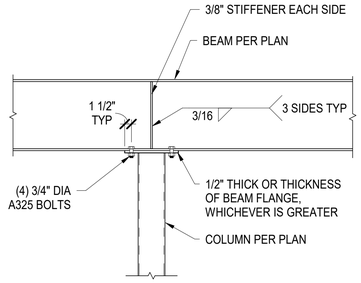
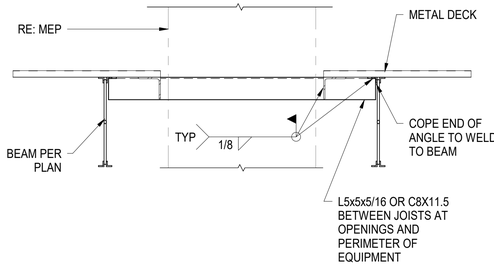


N19 TYPICAL BEAM OVER COLUMN CONN

3/4" = 1'-0" RE: / , ,



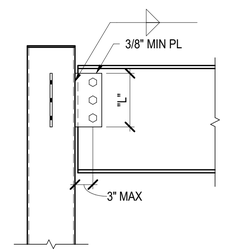
N29 METAL DECK OPENING

3/4" = 1'-0" RE: / , ,

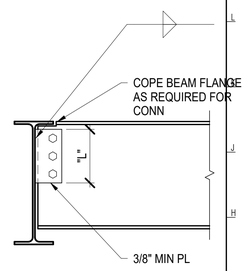
MINIMUM CONNECTION SCHEDULE		
BEAM SIZE	NUMBER OF BOLT ROWS, "N" 3/4" DIA	MINIMUM LENGTH, "L" (IN)
W8 OR C8	2	6
W10 OR C10	2	6
W12 OR C12	3	9
W14	3	9
W16 OR C15	4	12
W18	4	12
W21	5	15
W24	6	18
W27	7	21
W30	8	24

NOTES:

1. DESIGN PER AISC 14TH EDITION
2. 3/4" DIA A325N BOLTS, MIN
3. A36 PLATE, MIN
4. MIN 1 1/2" EDGE DISTANCE, UNO
5. STD HOLES IN BEAM, SSLT IN SHEAR PLATE



BEAM-TO-HSS COL



BEAM-TO-BEAM

NOTE:

FABRICATOR SHALL BE RESPONSIBLE FOR DESIGN AND DETAIL OF EACH CONNECTION FOR LOADS SHOWN ON PLANS IN ACCORDANCE w/ THE SPECIFICATION AND THE GENERAL STRUCTURAL NOTES.

BEAM-TO-HSS COL.: CONTRACTOR'S CALCULATIONS SHALL VERIFY HSS/PIPE WALL THICKNESS IS ADEQUATE FOR CONNECTION TYPE CHOSEN PER AISC

MINIMUM CONNECTION DETAILS ARE SHOWN.

FABRICATOR MAY OPT TO USE OTHER AISC-APPROVED CONNECTION IN LIEU OF THOSE SHOWN HEREIN .

A19 TYPICAL BEAM CONNECTIONS

1" = 1'-0" RE: / , ,

BNIM Architects — Architect
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Licensee Number: 000377

STRUCTURAL STEEL TYPICAL DETAILS

S005

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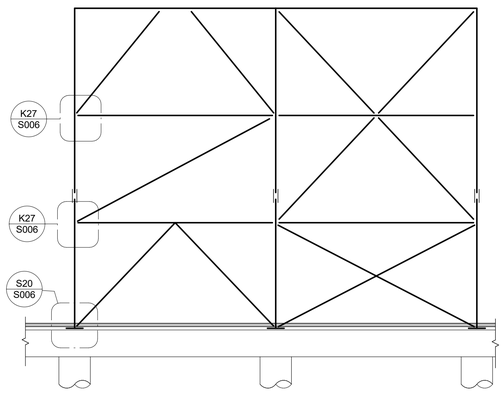
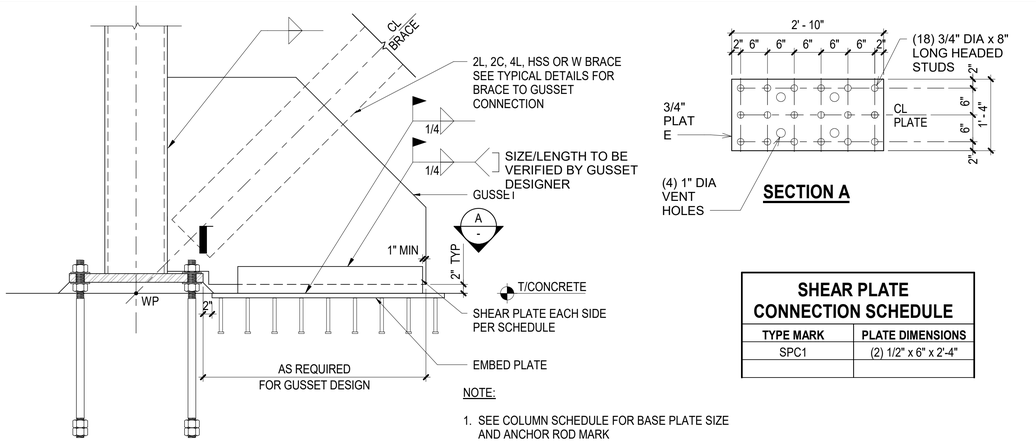


S1 BRACE CONNECTION TYPE KEY

NOT TO SCALE RE: / , ,



NOTE:

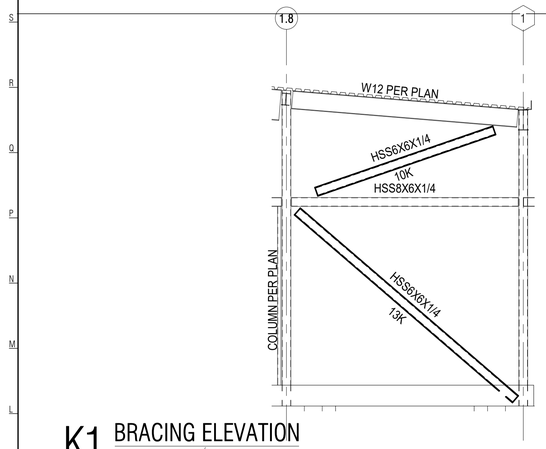
1. SEE COLUMN SCHEDULE FOR BASE PLATE SIZE AND ANCHOR ROD MARK

SHEAR PLATE CONNECTION SCHEDULE

TYPE MARK	PLATE DIMENSIONS
SPC1	(2) 1/2" x 6" x 2'-4"

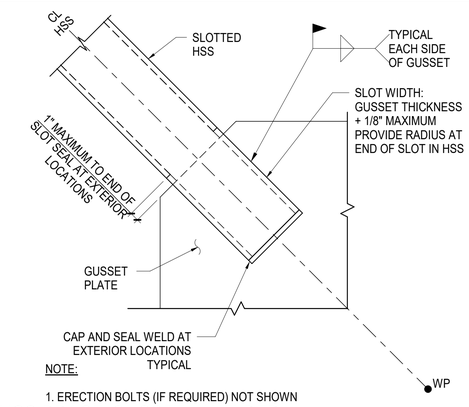
S20 TYP BRACE TO EMBED PL

3/4" = 1'-0" RE: S1/S006 , ,



K1 BRACING ELEVATION

1/4" = 1'-0" RE: A1/S100 , ,

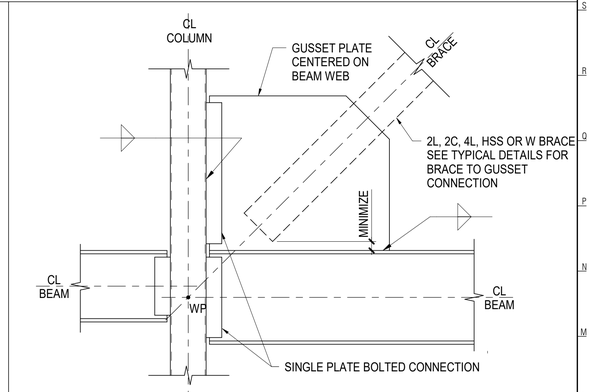


NOTE:

1. ERECTION BOLTS (IF REQUIRED) NOT SHOWN

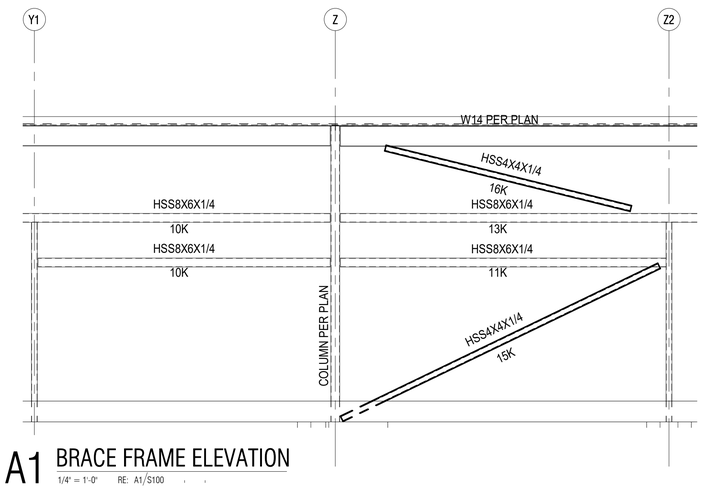
K20 TYP HSS BRACE-GUSSET - WELDED

1 1/2" = 1'-0" RE: / , ,



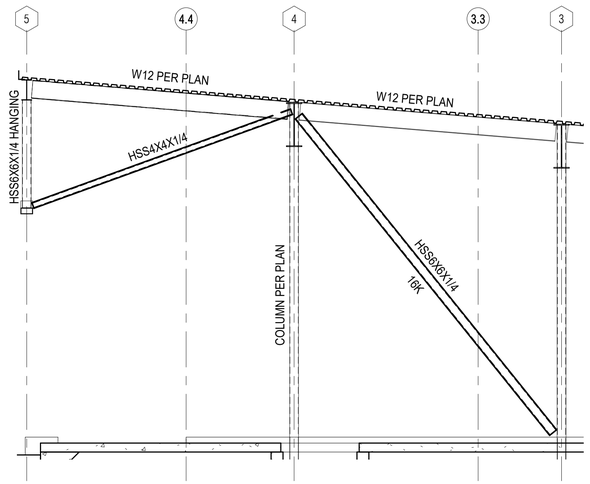
K27 TYP BRACE TO COLUMN-BEAM

3/4" = 1'-0" RE: S1/S006 , ,



A1 BRACE FRAME ELEVATION

1/4" = 1'-0" RE: A1/S100 , ,



A15 BRACING ELEVATION

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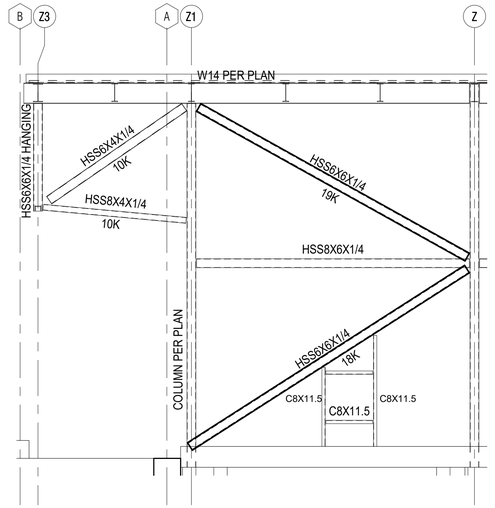

A27 BRACING ELEVATION

1/4" = 1'-0" RE: A1/S100 , ,

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Profession Name: Architectural Corp.
Licensee Number: 000377

BRACE FRAME ELEVATIONS

S006

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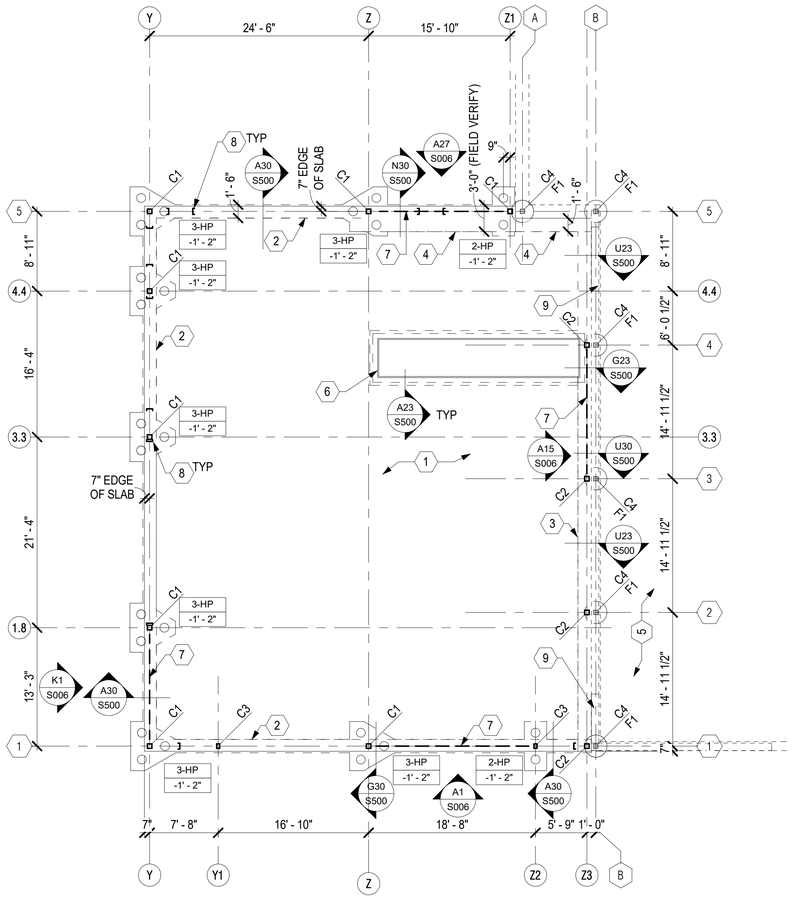


A1 FOUNDATION PLAN

1/8" = 1'-0" RE: A23/S500 , ,

PLAN NOTES:

1. 6" CONCRETE SLAB-ON-GRADE w/ #4 @ 12" OC EW CTRD IN SLAB ON 15 MIL VAPOR BARRIER ON 6" CLEAN GRAVEL FILL ON PROPERLY COMPACTED SUB-GRADE. T/CONC = 989'-2 5/8" +/- MATCH EXISTING, SLOPE PER ARCH
2. 18" x 36" CONT FOOTING w/ (3) #6 T&B AND #3 TIES @ 12" OC
3. 18" x 32" (MATCH EXISTING DEPTH) CONT FOOTING w/ (3) #6 T&B AND #3 TIES @ 12" OC. CONTINUE FOOTING OVER EXISTING PIERS AND PROVIDE (2) #6 x 3'-0" DOWELS AT EACH PIER. EPOXY GROUT 8" INTO EXISTING PIER.
4. WIDEN FOOTING TO 36" +/- AT GRID Z AND EXTEND TO EXISTING BUILDING, CONTINUING APPROXIMATELY 18" WIDE FOOTING TO GRID B. REINFORCE WIDENED FOOTING w/ (3) ADDITIONAL #6 T&B AND CONTINUE #3 TIES @ 12" OC
5. EXISTING BUILDING
6. PAINT BOOTH PIT PER MANUFACTURER. PROVIDE CONTINUOUS LEDGE ANGLE AND SHIM PLATE PER DETAILS AS REQUIRED PER MANUFACTURER. PROVIDE 8" THICK BASE SLAB w/ #6 @ 12" OC EW
7. LATERAL BRACING PER ELEVATIONS
8. FRAME ALL DOORS AND WALL OPENINGS w/ C8X11.5 CHANNELS ON ALL SIDES. SEE ARCH AND MECHANICAL DRAWINGS FOR OPENINGS REQUIRED.
9. DEMO EXISTING CURB PER ARCH

NOTES:

THE EXISTING CONDITIONS INDICATED ON THE DRAWINGS ARE BASED ON SURVEYS MADE BY THE CONSULTANT(S) AS WELL AS MATERIAL PROVIDED BY THE OWNER AND NO CLAIM IS MADE TO ITS ABSOLUTE COMPLETENESS AND/OR ACCURACY.

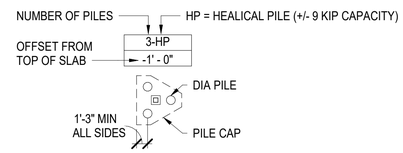
CONTRACTOR SHALL FIELD VERIFY ALL EXISTING DIMENSIONS AND SITE CONDITIONS PRIOR TO FABRICATION/CONSTRUCTION. CONTRACTOR SHALL REPORT AN INCONSISTENCIES TO THE ENGINEER BEFORE PROCEEDING WITH THE WORK.

STRUCTURAL COLUMN SCHEDULE

MARK	COLUMN SIZE	BASE PLATE	ANCHOR BOLTS
C1	HSS6x6x1/4	3/4" x 12" x 1'-0"	(4) 3/4" DIA x 1'-6" EMBED
C2	HSS6x6x1/4	3/4" x 10" x 1'-0"	(4) 3/4" DIA x 1'-6" EMBED
C3	HSS6x4x1/4	3/4" x 10" x 1'-0"	(4) 3/4" DIA x 1'-6" EMBED
C4	EXISTING COLUMN		

STRUCTURAL FOUNDATION SCHEDULE

MARK	FOOTING SIZE	DEPTH	REINFORCEMENT
F1	EXISTING PIER	FIELD VERIFY	
2-HP	2'-6" x 5'-6"	3'-0"	(6) #5 EACH WAY, HOOK EACH END, T&B
3-HP	5'-2" x 5'-6"	3'-0"	(6) #5 X 3 WAYS, HOOK EACH END, T&B



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FOUNDATION PLAN

S100

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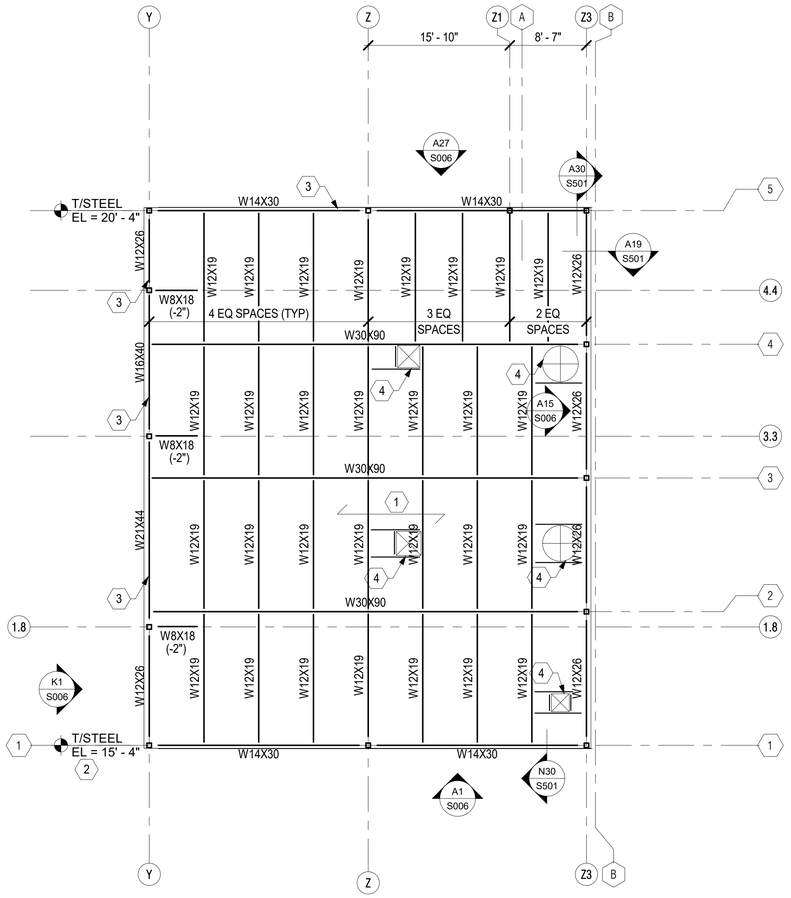

PLAN NOTES:

1. 1 1/2", 22 GAUGE WIDE RIB GALVANIZED ROOF DECK ATTACHED IN A 36/7 PATTERN w/ #12 TEK SCREWS AND (8) #10 TEK SCREWS FOR SIDE LAP FASTENERS. T/STEEL = SLOPE TO MATCH ARCH.
2. GC TO VERIFY TOP OF STEEL AND ADJUST TO MATCH EXIST PER ARCH.
3. HSS8X6X1/4 T/STEEL = 10' - 6" (8" HORIZONTAL)
4. ROOF PENETRATIONS PER ARCH & MECH. FRAME PER N29/S004

NOTES:

THE EXISTING CONDITIONS INDICATED ON THE DRAWINGS ARE BASED ON SURVEYS MADE BY THE CONSULTANT(S) AS WELL AS MATERIAL PROVIDED BY THE OWNER AND NO CLAIM IS MADE TO ITS ABSOLUTE COMPLETENESS AND/OR ACCURACY.

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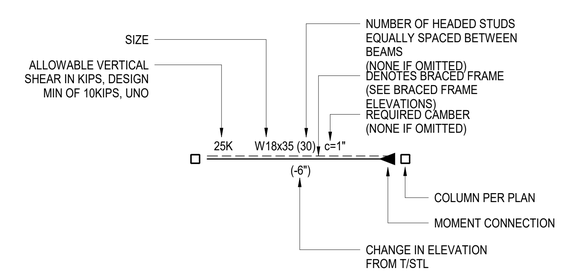
STEEL FRAMING LEGEND:



A1 FRAMING PLAN

1/8" = 1'-0" RE: / , ,

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Lankford Fendler + Associates — MEPF Engineer
1730 Walnut Street, Jackson County, Kansas City, MO 64108
816-221-1411

MCC Longview HT Addition/Renovation

500 SW Longview Road
Lee's Summit, MO 64081 Project No: 20008.00

PERMIT/BID DOCUMENTS

Issued: September 23, 2021

Rev. #	Description	Date Issued

Seal

Kathleen J Hagen
MO# E-2000155328

License Name: Berkebile Nelson Immenschuh McDowell Incorporated
Profession Name: Architectural Corp.
Licensee Number: 000377

FRAMING PLAN

S101

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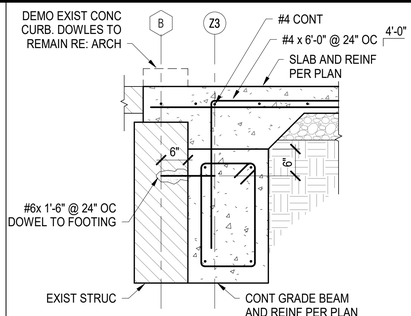

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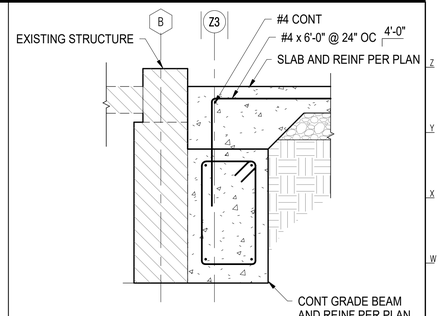

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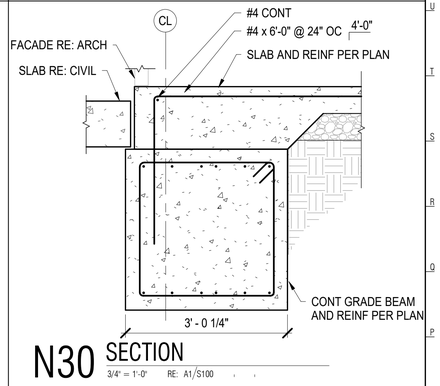

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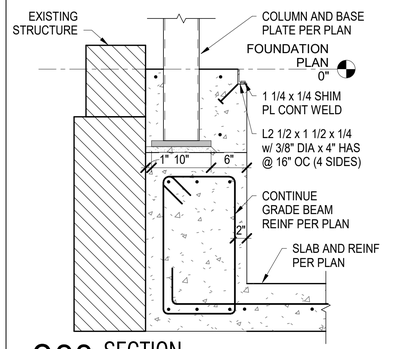

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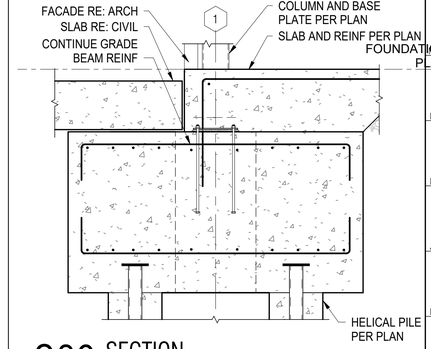

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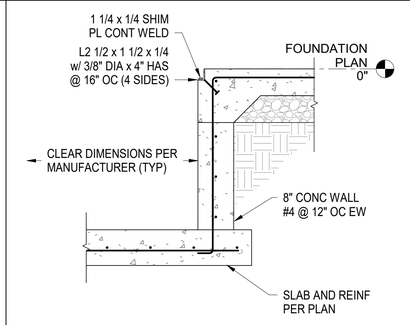

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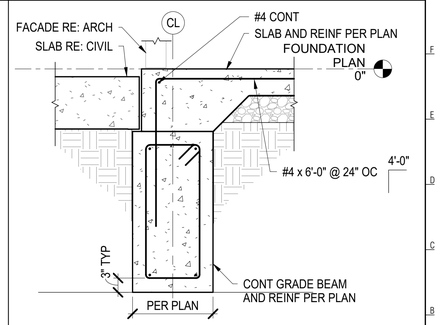

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SECTIONS & DETAILS

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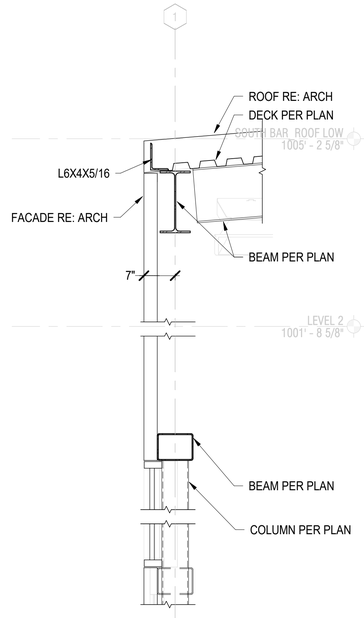

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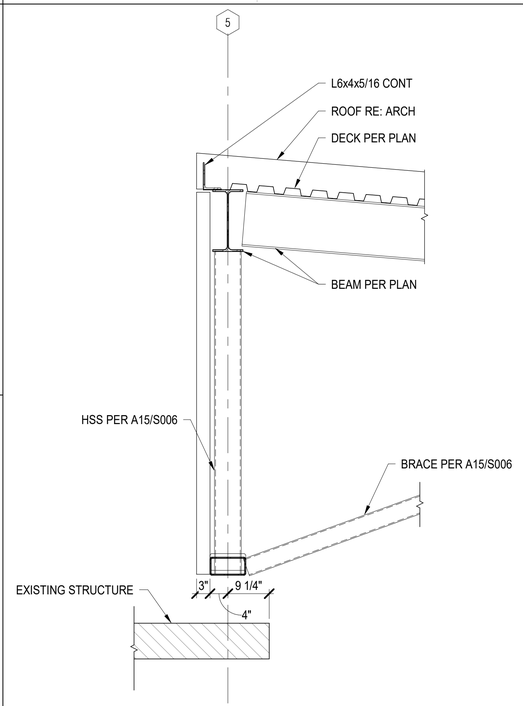

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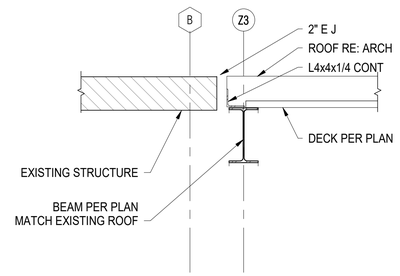

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SECTIONS & DETAILS

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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 unless use of existing facilities is specifically permitted.

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 CONNECTION AND ALTERATION TO EXISTING SYSTEMS:

A. Connection to the existing building systems must be accomplished under this contract. System "downtime" due to connection shall be kept to an absolute minimum. The Owner's Representative shall judge if at what time, and for what length of time a shut-down can be tolerated.

B. Provide all temporary piping and wiring systems required during construction in order to keep all existing systems functioning.

C. Demolition, cutting and patching to restore surfaces to original condition as necessitated for access to work performed by the Contractor or his subcontractors shall be the responsibility of the Contractor.

11.0 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.

12.0 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.

13.0 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 otherwise for additional information shall not be accepted.

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

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 in exterior walls or thru slabs on grade shall have lead and oakum or 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. 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

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Kansas City, Missouri 64108 Fax: 816.221.1429

L|F+a Project No. 21.6807.00
Alan W. Lankford - Mechanical Engineer - MO #024024
COA #2006001168

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Seal

STATE OF MISSOURI
GREGORY J. FENDLER
NUMBER PE-2006037230
PROFESSIONAL ENGINEER

Sept. 23, 2021

License Name: Gregory J. Fendler
Profession Name: MEP Consulting Engineers
Licensee Number: PE-2006037230

SPECIFICATIONS

MEP100

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HEADING, 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) installation 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.
2. Greater than 2", less than 4" WG pressure - class 12 - rectangular, class 6 - round.

Seal class minimum requirements are:

1. Up thru 2" WG pressure - class A for all duct joints.
2. Greater than 2", less than 4" 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 gaskets 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.

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.

F. Flexible air duct and accessories shall be UL-181 class 1 compliant, 25/50 smoke and flame plenum rated. Maximum length shall be 5' - 0". Flexible duct shall have ends banded and insulation ends sealed. Attach with worm gear driven stainless steel bands. Provide Thermaflex or equivalent flex tie supports. Supply air and return air flexible ducts and boots shall be insulated.

1. Flexible ducts shall be Thermaflex or acceptable equal by ATCO or Flexmaster.

3.0 DUCTWORK ACCESSORIES:

A. Provide single thickness turning vanes in all supply duct turns.

B. Branch take-offs to air terminal units shall be high efficiency type.

C. All take-offs to diffusers and grilles shall be made with high efficiency take-offs, 45º take-offs or conical fittings unless specifically indicated otherwise on drawings. Provide locking quadrant volume damper at take-offs in accessible ceilings, unless shown otherwise. Extractors and scoops are not permitted

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

E. Provide dampers where shown and required. Dampers shall be by Greenheck or acceptable equal by Ruskin, American Warming & Ventilating, Air Balance, Inc., Carnes, Krueger, Nailor, United Enertech.
1. Balance and control dampers shall be rated in accordance with AMCA 500D. They shall be opposed blade except air mixing dampers shall be parallel blade.
   a. Manual dampers shall have standoff and locking quadrant.
   b. Motorized control dampers shall be low leak devices and have 120V, 24V or pneumatic powered actuators as indicated on drawings. Interface with the building control system to accomplish the indicated or required sequence of operation.
2. Backdraft dampers shall be tested and rated in accordance with AMCA 500D. They shall have extruded aluminum frames and blades with adjustable counter balance weights. Provide with vinyl blade seals.]
3. Damper Schedule:
   a. Manual Damper Rectangular:
      Greenheck MBD-15, Galv. Steel formed blade, manual locking quadrant actuator, 4" WG, 2000 fpm.
   b. Manual Damper Round:
      Greenheck MBDR-50, Galv. Steel formed blade, manual locking quadrant actuator, 1" WG, 2000 fpm.
   c. Manual Damper Round:
      Greenheck VCDR-53, Galv. Steel single formed blade, blade seals, 4" WG, 3000 fpm, 4 CFM/SF leakage at 1" WG.
   d. Motorized Control Damper Rectangular:
      Greenheck VCD-43, aluminum, airfoil blades, jamb and blade seals, 6" WG, 6000 fpm, 3 CFM/SF leakage at 1" WG.

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.
5. Cable systems may be used at contractor option. They shall be a complete assembly including cables, adjustable locking fasteners or clips and all upper and lower attachments by Gripple or acceptable equal.

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 GRILLES, REGISTERS, INLETS AND OUTLETS:

A. All supply, return and exhaust grilles, registers and diffusers shall be as scheduled on the drawings. Commercial quality – E.H. Price or acceptable equal by Titus, Carnes, Krueger or Nailor.

1. All air distribution devices shall be selected for throw and low noise (25 NC or less) performance characteristics unless otherwise indicated.
2. Unless otherwise indicated, louvered supply grilles shall be double deflection devices with front blades parallel to the long dimension.
3. A balancing damper shall be provided for each and every diffuser, register and grille where airflow control is required. Unless otherwise indicated, provide integral volume damper where a duct mounted damper would not be accessible.
4. Ceiling supply diffuser connection shall be made with hard elbow or flex duct with Thermaflex flex flow elbow support.

B. Louvers shall be Greenheck ESD-435, 4" deep AMCA certified extruded aluminum drainable blade with bird screen, finish as noted on drawings or acceptable equal by Ruskin, Carnes, American Warming and Ventilating, Louvers and Dampers, Nailor.

6.0 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.
1.

C. Split System Units:

1. Split system outdoor unit shall be of characteristics and capacities as scheduled, and shall have manufacturer's standard compressors with crankcase heaters, vibration isolators and five (5) year compressor warranty. Accessories shall include suction line accumulators, service valves, sight glass and strainer-dryer, heat pump reversing valve and controls, refrigerant line set, condenser coil hail guards, condenser coil cottonwood filters as required for a complete operating system.
2. Split system indoor units shall be horizontal configuration, with cooling and/or heating components of characteristics and capacities scheduled. Units shall have direct or belt drive, forward curve or airfoil supply fan, cooling coil with copper tubes and aluminum fins, insulated coil drain pan, hot water heating coil, Provide with filters, controls, mounting hardware and duct flex connectors.
3. Split system units shall be Carrier or acceptable equal by Trane, York, Lennox, 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.

7.0 FANS:

A. Fans shall be as scheduled with all required accessories including vibration isolators, hangers, rate of rise thermostats, etc. Commercial quality fans shall be AMCA rated by Greenheck or acceptable equal by Cook, Acme, Carnes, Penn Barry. Circulation fans shall be by Big Ass Fan, Kelley or acceptable equal.

8.0 MISCELLANEOUS MECHANICAL EQUIPMENT:

A. Provide constant, variable volume fan powered boxes and accessories as scheduled.

1. E.H. Price, Titus, Carnes, Enviro-Tec, Krueger, Nailor, Trane or acceptable equal.

9.0 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, Farr 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.

10.0 CONTROLS AND LOW VOLTAGE SYSTEMS:

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

C. Controls system shall be pneumatic and direct digital (DDC) by Automated Logic. Controls shall be interfaced and compatible with the existing building energy management control system.

D. Provide control installation to accomplish the existing sequence of operation including thermostats/ sensors, controllers, actuators, wiring, piping and tubing, software, graphics and other components as required for a complete operating system.

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

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

G. Integrate new digital devices including temperature sensors, humidistats and other sensors and controllers into the existing energy management system.

11.0 PIPE, FITTINGS AND VALVES:

A. Provide service valves for each item of equipment, at branch piping and elsewhere as indicated or required. Provide control valves, balance valves, strainers, check valves and other valves as indicated or required by the application.

B. 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.

C. Refrigerant:

1. Piping – ASTM B280 type ACR pre-charged copper tube, wrought copper or brass fittings, flared compression or brazed joints. Piping and fittings shall be rated for 700 PSIG at 170F.
2. Brazing material shall be hi silver content AWS A5.8 BAg-35 alloy or acceptable equal.
3. Valves -- Shutoff, check, filters/dryers, sight glasses, expansion and solenoid valves rated for refrigerant service.
4. All refrigerant piping work and accessories shall be in strict accordance with manufacturer's requirements, including but not limited to compliance with piping slopes, traps and risers, maximum permitted lengths and cleaning and purging.
5. All refrigerant piping systems shall be eddy current tested, nitrogen purged during brazing and ends capped. They shall be cleaned and triple evacuated in accordance with manufacturer and industry standards.
6. All systems shall be leak tested prior to insulation installation and prior to refrigerant charging and shall be certified leak free with report provided to the engineer. Contractor is responsible for repair of any system leaks including system evacuation and recharging.

D. Heating Hot Water:

1. Piping –
   a. All sizes – Schedule 40 black steel, malleable iron fittings with threaded or flanged joints for piping.
2. Valves.
   a. Service –
      1) 2" – 2", Nibco 585-70 full port ball, bronze with chrome plated ball'.
   b. Balance- Bell & Gossett circuit setter "RF".
3. Provide dielectric fittings at joints of dissimilar metals.
4. Provide valve with stem extensions on all insulated piping systems to accommodate insulation thickness.

12.0 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.
11. Cable systems may be used at contractor option. They shall be a complete assembly including cables, adjustable locking fasteners or clips and all upper and lower attachments by Gripple or acceptable equal.

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.

13.0 INSULATION:

B. Ductwork

1. Duct Liner
   a. Line low velocity rectangular sheetmetal supply ductwork including ducts downstream of Fan Powered boxes, and exhaust 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.
      1) Ducts in conditioned space or plenums utilized for return air –1/2" thick liner.
      2) Exhaust ducts conveying environmental air within 5' of roof terminal – 1/2" liner.

C. Piping

1. Pipe insulation shall conform to the International Energy Conservation Code.
2. Pipe insulation shall run continuously thru hangers and supports with all joints sealed and vapor barriers preserved.
3. Refrigerant suction and hot gas: Insulate with Aerocel AC flexible elastomeric EPDM insulation with 25/50 flame and smoke rating. Do not split. Adhere butt joints with appropriate adhesive. Insulation shall run continuously thru hangers or supports.
   a. Interior - 1" thick for all pipe sizes.
   b. Exterior – 2" thick for all pipe sizes.
4. Heating hot water piping (up to 200F): Insulate with fiberglass with all service paper jacket with reinforced scrim (ASJ). Install PVC fitting covers on all fittings.
   a. Interior – 1-1/2" (pipe sizes up thru 1-1/4"), 2" (pipe sizes 1-1/2" and above).

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MCC Longview HT Addition/Renovation

500 SW Longview Road
Lee's Summit, MO 64081 Project No: 20008.00

PERMIT/BID DOCUMENTS

Issued: September 23, 2021

Rev. #	Description	Date Issued

Seal

Sept. 23, 2021

License Name: Gregory J. Fendler
Profession Name: MEP Consulting Engineers
Licensee Number: PE-2006037230

SPECIFICATIONS

MEP101

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14.0 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.

15.0 SLEEVES AND SEALS, FLASHINGS, AND UV PROTECTION:

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

B. Provide sleeves where piping penetrations are required thru partitions or concrete floors. 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. Sleeves are not required for core drilled penetrations of existing concrete slabs above grade. Penetrations of below grade structures and slabs on grade shall be water proofed with mechanical link seal system, Thunder Line or acceptable equivalent.

C. 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.

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

16.0 EQUIPMENT AND PIPE 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.

17.0 MISCELLANEOUS

A. Provide escutcheons at all piping penetrations of finished wall, floor or ceiling construction. 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.

18.0 CLEANING:

A. Renovation and Existing Systems

1. Clean existing duct systems by vacuuming inside ducts where accessible at each diffuser or grille or air unit location. Remove and replace devices as required for best access.

B. All cleaning shall be completed prior to test and balance work.

19.0 TESTING AND ADJUSTING:

A. Contractor shall obtain the services of an independent test and balance agency and shall operate and test the air conditioning and ventilation systems and instruct the Owner in its operation. Perform a series of general capacity and operating tests. The tests shall demonstrate the specified capacities of various pieces of equipment.

B. The entire temperature controls systems shall be adjusted and balanced and put in operating condition to cause the equipment to maintain the temperatures in accordance with the intent of these specifications. Operate and test equipment during summer and winter seasonal startup under this contract.

C. The test and balance contractor shall perform an initial test and balance noting any mechanical system deficiencies. The mechanical contractor shall review the preliminary report prior to final issue of the test and balance report and work with the test and balance contractor and the engineer as needed to make all system repairs and modifications necessary to achieve the design performance established by the contract document prior to the final reporting. The final test and balance report shall incorporate results of all mechanical system modifications.

D. Test pressure piping system to 1-1/2 times the operating pressure but not less than 50 PSIG for a period of 2 hours with no observable pressure drop.

E. Submit the complete test and balance report for review to the Architect/Engineer in triplicate. Test procedure and report shall conform to NEBB or AABC standards. The report shall be signed by the responsible individual.

F. Provide test and balance service by one of the following approved test and balance agencies:

1. AccuTec Services, Inc. Chad Flynn 816.215.3567
2. Doyle Field Services: Tom Doyle 913.677.3374
3. National TAB: Dan Hertenstein 816.221.8575
4. Pro Balance: Duke Yocum 816.228.7800
5. Sys-Tek: Dan Krebs 816.229.9009.

END OF SECTION

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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. Points of connection within the existing building.

A. 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.

2. 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. Flex Connectors, Metraflex GASCT 300 series stainless steel braided hose with carbon steel threaded ends.

B. 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 1/4" per foot unless noted otherwise.
5. Vents shall be sloped upward in direction of flow.

C. Sanitary sewer, vent, below grade --

1. Pipe – Standard weight cast iron hubless with no-hub 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 1/4" per foot unless noted otherwise.
3. Vents below grade shall be 2" minimum size and shall be sloped up in direction of flow.

D. Specialty Systems

1. Compressed Air –

a. Pipe above ground:

1) Schedule 40 black steel with threaded or welded fittings.
2) Valves, service – 1/2" – 2" Nibco T 585-70, 1/4 turn, 600 PSIG, full port, stainless steel ball and stem.
3) Outlets – Terminate with 1/2" male pipe thread and furnish with air valve rated for compressed air, chrome angle stop, 3/8" compression fitting.

2.0 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 degree 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. Cleanouts same size as pipe up to 4" diameter, 4" cleanouts for larger pipe unless otherwise noted.

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

3.0 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. Provide sleeves where piping penetrations are required thru partitions, concrete floors, or concrete slabs.

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

4.0 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. 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.
11. Cable systems may be used at contractor option. They shall be a complete assembly including cables, adjustable locking fasteners or clips and all upper and lower attachments by Gripple or acceptable equal.

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.

5.0 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.

6.0 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
b. Pressure Piping Test: Either 25 PSIG or at a pressure not less than 10% above that the piping will be subjected to during nominal operation.
c. Where applicable, isolate new portions of the system(s) piping with test tee and Oatey Clean Seal inflatable plug prior to testing.

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. Gas and compressed air line testing:

1. 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.
2. Compressed air lines shall be 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 150 PSIG air pressure for a period of 2 hours with no measurable pressure drop.
3. Where applicable, isolate new portions of pressure piping from existing piping with valves prior to testing.
4. For renovation projects, isolate and protect fixtures, valves and equipment from over pressurization during testing.

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

7.0 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.

8.0 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
Drains and Drainage Products	J R Smith, Wade, Watts, Zurn, Josam

END OF SECTION

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MCC Longview HT Addition/Renovation

500 SW Longview Road
Lee's Summit, MO 64081 Project No: 20008.00

PERMIT/BID DOCUMENTS

Issued: September 23, 2021

Rev. #	Description	Date Issued

Seal

Sept. 23, 2021

License Name: Gregory J. Fendler
Profession Name: MEP Consulting Engineers
Licensee Number: PE-2006037230

SPECIFICATIONS

MEP102

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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 system revisions.
b. 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 T50R2C2UL 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 owner for low voltage cable installation.

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. compression type fittings. 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 is not permitted, except to use for fixture whips.

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.).

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 THHN. 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. Exposed Feeders: Type THHN, single conductors in raceway.

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

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

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

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

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

g. 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

10.0 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.

11.0 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.

12.0 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).

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. 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.

B. Motion sensor: contactor shall verify with owner for proper time delay settings.

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.

15.0 FIRE ALARM SYSTEM:

A. 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.

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

END OF SECTION

210 100

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. 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 with a completed copy of 'Contractor's Material and Test Certificate' provided.

E. All cable ties for controls and other 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 T50R2C2UL or equivalent.

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

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

H. Upon completion of the project, perform all flushing and testing of the system including pressure and flow tests and testing of all electrical, controls and safety components.

I. Upon completion of the project, the fire protection contractor shall furnish 'Record' documentation including plans, equipment data sheets for all component and testing results stored in a document cabinet, located adjacent to the fire protection service entrance or as directed or required by NFPA.

2.0 WET SPRINKLER SYSTEMS

A. Systems shall be in accordance with NFPA 13 complete in every respect to provide complete coverage of all areas in the entire 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, 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 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, flow and tamper switches, gages, wiring, etc. Conform to the requirements of Division 16, FM and UL or IRI where required by owner.

1. System shall be an extension of and/or modifications to the existing building system.
2. As close as possible, match function, coverage, style and appearance of existing devices.

D. Provide new sprinkler piping and sprinklers throughout area of work. Reconfigure existing building sprinkler piping and/or sprinklers within the scope of work area in order to provide proper coverage per NFPA and Local Authorities.

E. Provide fire pump if necessary to meet system demands. Margin of safety shall be 10% or 10 PSIG, whichever is less.

F. Upon final acceptance, the owner shall be responsible for proper maintenance as established by the latest edition of NFPA 25 'Standard for the inspection, Testing and Maintenance of Water Based Fire Protection Systems'.

3.0 PIPING, FITTING AND VALVES:

A. Fire protection above ground -

1. Pipe –

a. All sizes – 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. 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. At contractor option, 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.

4.0 SPRINKLERS

A. Provide quick response sprinklers including replacement sprinklers, standard response, extended coverage or dry sprinklers as required by application. Replace existing non-compliant sprinklers as required by application.

B. 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. Upright brass in unfinished areas. Provide wire cage in areas subject to damage.
4. Upright brass in finished areas with exposed structure.
5. Where not otherwise indicated, sprinkler type, style, appearance and coverage to match existing.
6. Any sprinklers removed shall be replaced with new sprinklers.

C. 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".

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

END OF SECTION

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MCC Longview HT Addition/Renovation

500 SW Longview Road
Lee's Summit, MO 64081 Project No: 20008.00

PERMIT/BID DOCUMENTS

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Rev. #	Description	Date Issued

Seal

Sept. 23, 2021

License Name: Gregory J. Fendler
Profession Name: MEP Consulting Engineers
Licensee Number: PE-2006037230

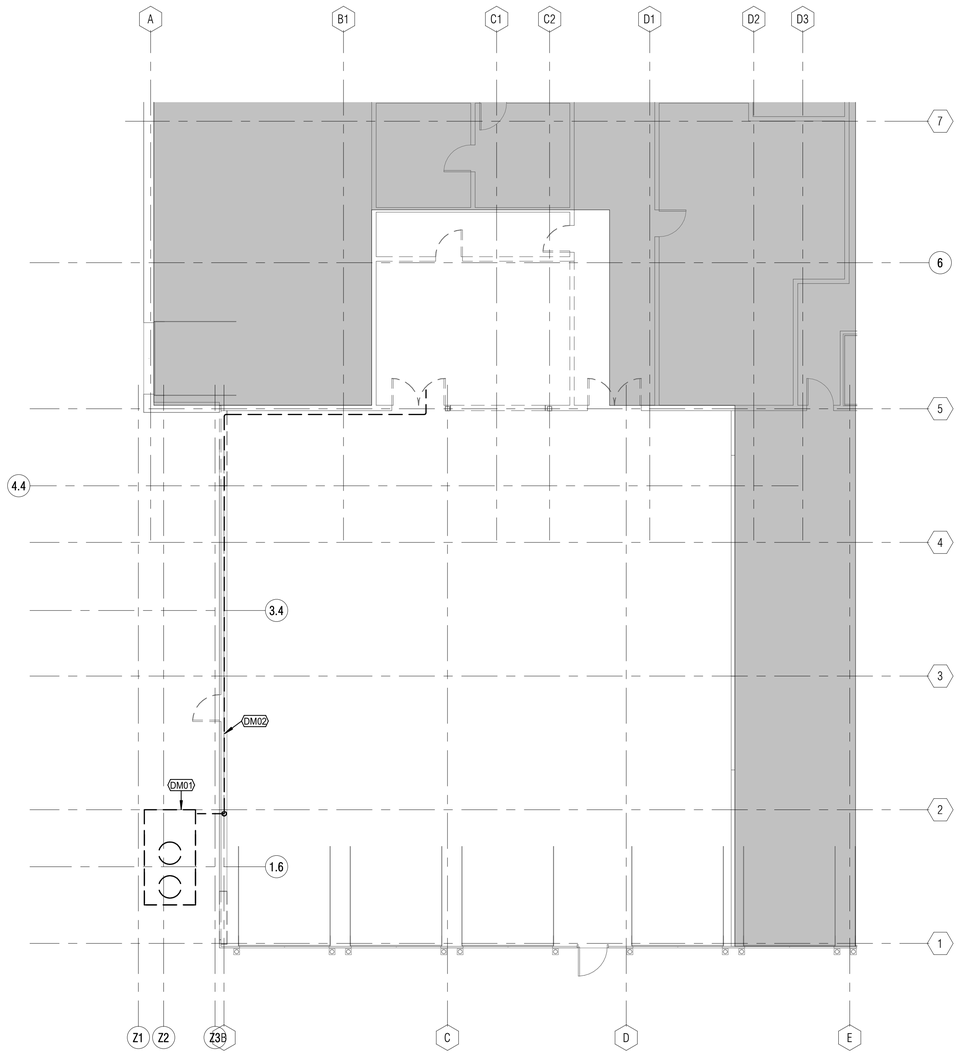
SPECIFICATIONS

MEP103

9/23/2021 7:24:30 AM

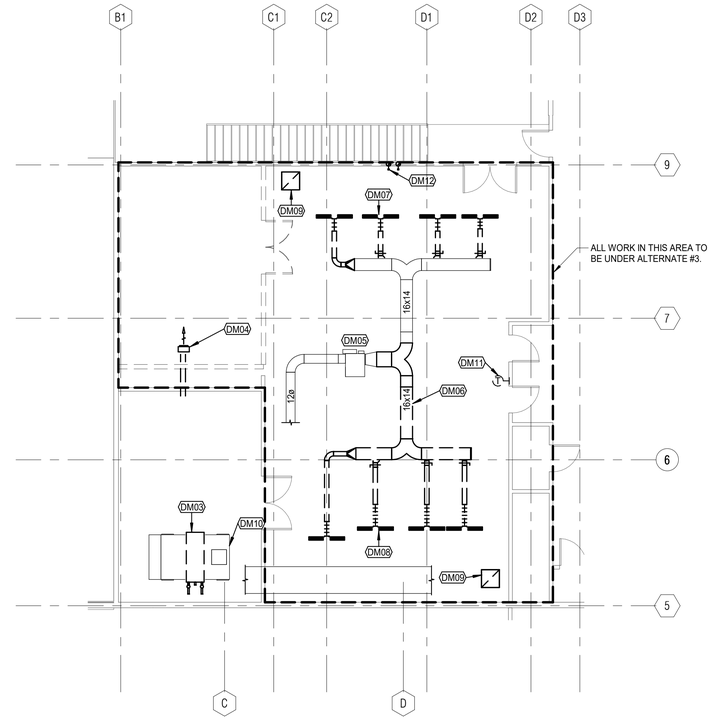
FLOOR PLAN NOTES

DM01 REMOVE EXISTING CONDENSING UNIT AND ALL ASSOCIATED APPURTANCES, PIPING, ETC.
DM02 REMOVE EXISTING REFRIGERANT PIPING BACK TO ASSOCIATED AIR HANDLING UNIT ON SECOND FLOOR. REMOVE ALL ASSOCIATED HANGERS, ETC. AND PATCH PENETRATIONS TO MATCH EXISTING.
DM03 REMOVE EXISTING COOLING COIL. RETAIN PIPING FOR RECONNECTION TO NEW COIL. RE: NEW WORK PLAN.
DM04 REMOVE EXISTING HOT WATER UNIT HEATER AND CAP HEATING HOT WATER PIPING.
DM05 EXISTING FAN POWERED BOX TO REMAIN.
DM06 REMOVE PORTION OF EXISTING DUCTWORK AS INDICATED. RE: NEW WORK PLAN FOR RECONNECTION.
DM07 REMOVE EXISTING DIFFUSER AND ASSOCIATED BRANCH DUCTWORK AND TAKE-OFF AS INDICATED. PATCH/INSULATE EXISTING DUCTWORK TO MATCH EXISTING.
DM08 REMOVE EXISTING DIFFUSER AND ASSOCIATED BRANCH DUCTWORK AS INDICATED.
DM09 REMOVE EXISTING RETURN GRILLE.
DM10 ALTERNATE #2. REMOVE AND REPLACE EXISTING AIR HANDLING UNIT IN ITS ENTIRETY. MEASURE EXISTING SUPPLY AIR AND OUTSIDE AIR AIRFLOW PRIOR TO REMOVAL. REMOVE ALL CONTROLS AND RETAIN FOR REINSTALLATION ON NEW UNIT. RETAIN ALL PIPING AND DUCTWORK FOR RECONNECTION. RE: NEW WORK PLAN.
DM11 REMOVE AND RELOCATE EXISTING THERMOSTAT. RE: NEW WORK PLAN.
DM12 REMOVE EXISTING PLUMBING STUBOUTS BACK INTO WALL AND CAP. PATCH/PAINT WALL TO MATCH EXISTING.



Demolition - Floor Plan - Level 1 - Mechanical

SCALE: 1/8" = 1'-0"



Demolition - Floor Plan - Level 2 - Mechanical

SCALE: 1/8" = 1'-0"

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Licensee Number: PE-2006037230

Demolition - Floor PlanFloor Plan - Level 1 & 2 - Mechanical

DM100

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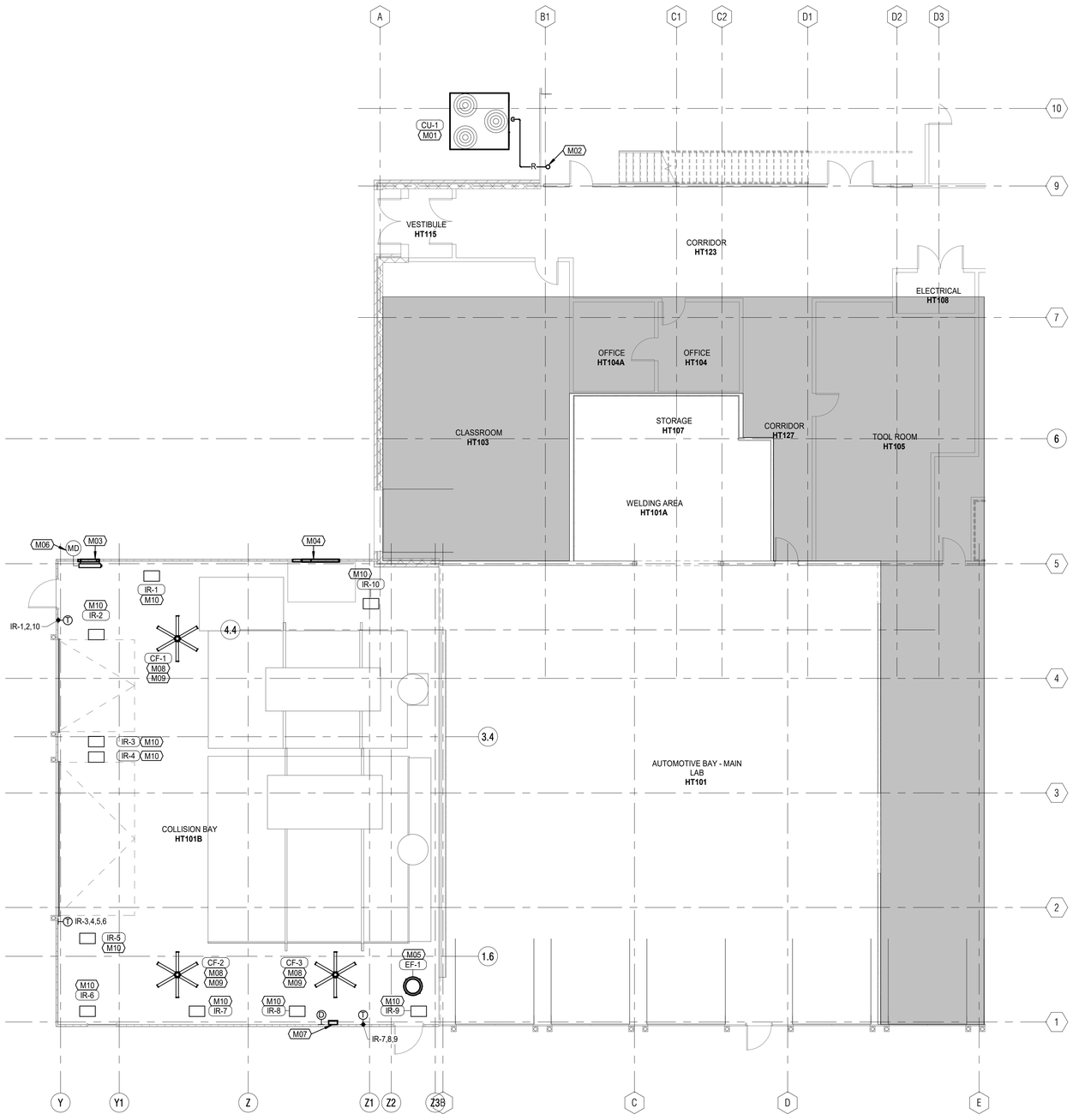
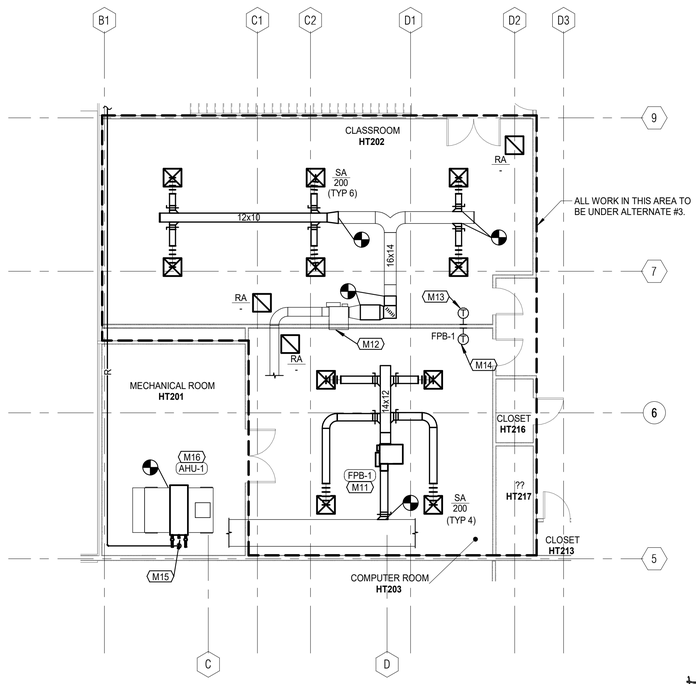


Phase 0 - Floor Plan - Level 1 - Mechanical

SCALE: 1/8" = 1'-0"



Phase 0 - Floor Plan - Level 2 - Mechanical

NOT TO SCALE

M FLOOR PLAN NOTES

M01 INSTALL NEW CONDENSING UNIT ON 4" CONCRETE HOUSEKEEPING PAD PER MANUFACTURER'S RECOMMENDATIONS. VERIFY LOCATION WITH MANUFACTURER FOR CLEARANCE, SHIFT AS CLOSE AS POSSIBLE TO THE NORTH WALL.

M02 ROUTE REFRIGERANT PIPING THRU EXTERIOR WALL AND UP TO ABOVE 2ND FLOOR CEILING. COORDINATE ROUTING WITH ARCHITECT/OWNER PRIOR TO INSTALLATION. SIZE PIPING PER MANUFACTURER'S RECOMMENDATIONS.

M03 INSTALL INTAKE LOUVER IN EXTERIOR WALL PER MANUFACTURER'S RECOMMENDATIONS. LOUVER SHALL BE GREENHECK MODEL ESD-435 OR EQUAL, 30"x30" WITH KYNAR FINISH. COLOR TO BE SELECTED BY ARCHITECT. INSTALL LOUVER 12" ABOVE GRADE. COORDINATE EXACT LOCATION WITH ARCHITECT.

M04 INSTALL INTAKE LOUVER IN EXTERIOR WALL PER MANUFACTURER'S RECOMMENDATIONS. LOUVER SHALL BE GREENHECK MODEL ESD-435 OR EQUAL, 60"x30" WITH KYNAR FINISH. COLOR TO BE SELECTED BY ARCHITECT. INSTALL LOUVER 12" ABOVE GRADE. COORDINATE EXACT LOCATION WITH ARCHITECT.

M05 INSTALL EXHAUST FAN ON ROOF PER MANUFACTURER'S RECOMMENDATIONS. RE: DETAIL.

M06 INSTALL MOTORIZED DAMPER PER MANUFACTURER'S RECOMMENDATIONS. INTERLOCK WITH EXHAUST FAN.

M07 PROVIDE CARBON MONOXIDE/NITROGEN DIOXIDE PANEL WITH SENSORS TO CONTROL EXHAUST SYSTEM. INSTALL AND LOCATE SENSORS PER MANUFACTURER'S RECOMMENDATIONS.

M08 INSTALL CIRCULATION FAN PER MANUFACTURER'S RECOMMENDATIONS. COORDINATE EXACT LOCATION WITH ARCHITECT.

M09 CIRCULATION FAN CONTROLLER INSTALLED ABOVE LIGHT SWITCHES.

M10 SUSPEND INFRARED HEATER FROM STRUCTURE PER MANUFACTURER'S RECOMMENDATIONS.

M11 INSTALL NEW FAN POWERED BOX WITHIN JOIST SPACE PER MANUFACTURER'S RECOMMENDATIONS. CONNECT 8" INLET DUCT TO EXISTING DUCT MAIN. CONNECT CONTROLS INTO EXISTING CONTROLS SYSTEM.

M12 REBALANCE EXISTING FAN POWERED BOX TO CFM INDICATED.

M13 RELOCATED THERMOSTAT. EXTEND WIRING AS REQUIRED TO RECONNECT TO EXISTING FAN POWERED BOX.

M14 PROVIDE NEW DDC THERMOSTAT TO INTEGRATE NEW BOX INTO EXISTING CONTROLS SYSTEM.

M15 INSTALL NEW COOLING COIL IN EXISTING AIR HANDLING UNIT. CONNECT TO EXISTING CONDENSATE DRAIN PIPING. COIL SHALL BE CARRIER 4DX, 35"x94"x6", 6-ROW, 8 FPI, 20.42 SQ. FT. FACE AREA, 490 FPM. FIELD VERIFY EXACT DIMENSIONS PRIOR TO ORDERING. PROVIDE RETURN AIR SENSOR, SUPPLY AIR SENSOR AND AIRFLOW SWITCH IN EXISTING AIR HANDLING UNIT AND WIRE TO NEW CONDENSOR FOR PROPER OPERATION.

M16 ALTERNATE #2. INSTALL NEW AIR HANDLING UNIT. CONNECT TO EXISTING PIPING, DUCTWORK, CONTROLS, ETC. REINSTALL EXISTING CONTROLS FOR PROPER OPERATION. BALANCE SUPPLY AND OUTSIDE AIR AIRFLOWS TO MATCH PREVIOUSLY MEASURED AIRFLOWS.

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Phase 0 - Floor Plan - Level 1 & 2 - Mechanical

M100

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AIR HANDLING UNIT SCHEDULE

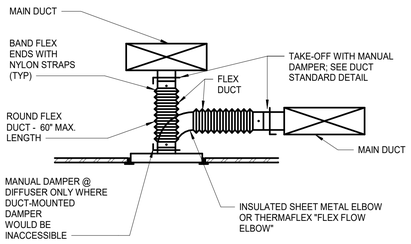
MARK NO.	MANUFACTURER	MODEL	AIRFLOW CFM	FAN TYPE	FAN SIZE	FAN RPM	EXT. S.P. (IN W.G.)	TOTAL S.P. (IN W.G.)	COOLING COIL E.D.B. (°F)	COOLING COIL E.W.B. (°F)	COOLING COIL L.D.B. (°F)	COOLING COIL L.W.B. (°F)	COOLING COIL TOTAL MBH	COOLING COIL SENS. MBH	HEATING COIL E.D.B. (°F)	HEATING COIL L.D.B. (°F)	HEATING COIL TOTAL MBH	ELECTRICAL VOLT	ELECTRICAL ø	ELECTRICAL HZ	NOTES
AHU-1	CARRIER	39MN	9000	AIRFOIL	17W	2534.0	2	3.95	80	67.0	53.1	52.3	400.8	264.3	60	91.6	316	480	3	60	1

NOTES: 1. PROVIDE UNDER ALTERNATE #2. PROVIDE WITH VARIABLE FREQUENCY DRIVE, BACNET INTERFACE, RETURN AIR SENSOR, SUPPLY AIR SENSOR AND AIRFLOW SWITCH.
2. CONTRACTOR SHALL FIELD VERIFY COIL CONNECTION HAND, ACCESS DOOR SIDE, FAN MOTOR SIDE AND FAN CONFIGURATION PRIOR TO ORDERING.

FAN POWERED BOX SCHEDULE

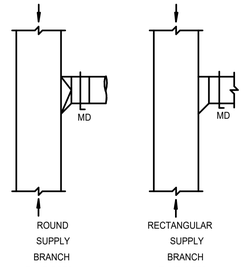
MARK NO.	MANUFACTURER	MODEL	FAN SIZE	INLET SIZE	MAX. AIR VALVE COOLING CFM	MIN. AIR VALVE COOLING CFM	MAX. AIR VALVE HEATING CFM	MAX. NC @1"WC	150°F EWT /150°F LWT FLOW (GPM)	150°F EWT /150°F LWT WPD (FT)	150°F EWT /150°F LWT CAPACITY (MBH)	ELECTRICAL VOLT	ELECTRICAL ø	ELECTRICAL HZ	NOTES
FPB-1	PRICE	FDV-5000	20	8"	800	75	525	40	3.0	0.5	19.8	120	1	60	1

NOTES: 1. PROVIDE WITH DISCONNECT SWITCH, BACNET CONTROLLER, HOT WATER COIL, 3-WAY CONTROL VALVE, AIR PROOF SWITCH, SPRING HANGER BRACKETS, DISPOSABLE PLEATED RETURN AIR FILTER, SINGLE POINT POWER CONNECTION AND 24V TRANSFORMER FOR TEMPERATURE CONTROLS.



NOTE:
1. BRANCH DUCT RUNOUT TO DIFFUSER SHALL BE THE SAME SIZE AS THE DIFFUSER NECK UNLESS OTHERWISE INDICATED ON PLAN.
2. IN LOCATIONS WHERE TAKEOFFS ARE INSTALLED ABOVE HARD OR NON-ACCESSIBLE CEILINGS CONTRACTOR TO PROVIDE SCREWS TO PREVENT BRANCH DUCT FROM SLIDING OFF FITTING. INSPECT PRIOR TO CEILING INSTALLATION.

DIFFUSER DETAIL
NOT TO SCALE



ROUND SUPPLY BRANCH "TAKE-OFFS" (20% OR LESS AIRFLOW TO BRANCH LOW & HIGH VELOCITY)

RECTANGULAR SUPPLY BRANCH "TAKE-OFFS" (20% OR LESS AIRFLOW TO BRANCH LOW & HIGH VELOCITY)

DUCT STANDARDS
NOT TO SCALE

FAN SCHEDULE

MARK NO.	MANUFACTURER	MODEL	DIAMETER IN.	AIRFLOW (CFM)	# OF AIRFOILS	RPM	SOUND LEVEL (DBA)	COLOR	ELECTRICAL VOLT	ELECTRICAL ø	ELECTRICAL HZ	WATTS	NOTES
CF-1	BIG ASS FANS	ES6	72	9959	6	115	<35	WHITE	120	1	60	23.7	1
CF-2	BIG ASS FANS	ES6	72	9959	6	115	<35	WHITE	120	1	60	23.7	1
CF-3	BIG ASS FANS	ES6	72	9959	6	115	<35	WHITE	120	1	60	23.7	1

NOTES: 1. PROVIDE WITH FIXED WALL MOUNT CONTROLLER, UNIVERSAL MOUNT AND 42" DOWNROD.

FAN SCHEDULE

MARK NO.	MANUFACTURER	MODEL	TYPE	AIRFLOW (CFM)	S.P. (IN W.G.)	FAN TYPE	RPM	DRIVE	ELECTRICAL VOLT	ELECTRICAL ø	ELECTRICAL HZ	HP	NOTES
EF-1	GREENHECK	G-130	DOWNBLAST	1500	0.125	FC	1140	DIRECT	120	1	60	1/6	1

NOTES: 1. PROVIDE WITH SLOPED ROOF CURB, DISCONNECT SWITCH, SPEED CONTROLLER, HINGED CURB CAP, HINGED BASE, CURB SEAL, CURB EXTENSION, BIRD SCREEN, AND DAMPER.

CONDENSING UNIT SCHEDULE

MARK NO.	MANUFACTURER	MODEL	TOTAL (MBH)	AMB. (°F)	SAT. SUCTION TEMP (°F)	STAGES	EER	ELECTRICAL VOLT	ELECTRICAL ø	ELECTRICAL HZ	NOTES
CU-1	CARRIER	38APD040	448.3	100	45	2	10.40	480	3	60	1

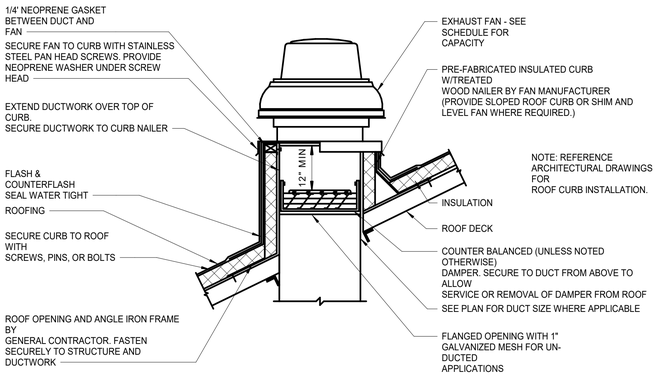
NOTES: 1. PROVIDE WITH DISCONNECT SWITCH, DIGITAL COMPRESSOR, LOW SOUND FAN AND COMPRESSOR, ALUMINUM FIN/COPPER TUBE CONDENSER COILS, BACNET INTERFACE, COMPRESSOR CRANKCASE HEATER, LOW AMBIENT KIT, COMPRESSOR TIME-OFF CONTROL, AND HAIL GUARDS.

DIFFUSER SCHEDULE

MARK	MANUFACTURER	MODEL	FACE SIZE (IN.)	NECK SIZE (IN.)	FRAME TYPE*	FINISH	NOTES
SA	PRICE	SPD	24x24	8"	LAY-IN	WHITE	
RA	PRICE	PDDR	24x24	-	LAY-IN	WHITE	

NOTES:

*CONTRACTOR SHALL VERIFY CEILING TYPE PRIOR TO ORDERING DIFFUSERS.



ROOF MOUNTED EXHAUST FAN 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. ALL EXISTING DUCTWORK SHOWN ON DRAWINGS IS SCHEMATIC AND DOES NOT REFLECT EXACT EXISTING CONDITIONS. CONTRACTOR TO FIELD VERIFY EXACT DEPTH AND/OR LOCATIONS ON JOB SITE. CONTRACTOR SHALL REROUTE NEW WORK TO ACCOMMODATE EXACT LOCATIONS OF EXISTING UTILITIES, STUBOUTS AND/OR CONNECTIONS.

C. 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.

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

E. ANY MATERIAL REMOVED THAT OWNER DOES NOT WISH TO RETAIN SHALL BE REMOVED FROM PROJECT SITE AND DISPOSED OF BY CONTRACTOR.

F. MECHANICAL CONTRACTOR SHALL REMOVE, PATCH AIR TIGHT AND REINSULATE ALL DUCTWORK TAPS NOT REUSED WITH SAME MATERIAL AS EXISTING DUCTWORK.

G. ALL REMOVED DEVICES THAT ARE BEING REUSED FOR NEW CONSTRUCTION SHALL BE CLEANED OF ALL DIRT AND STORED ON SITE.

H. MECHANICAL CONTRACTOR SHALL AIR BALANCE ALL GRILLES TO CFM'S SHOWN ON PLANS.

I. ALL THERMOSTATS SHALL BE MOUNTED TO MATCH BUILDING STANDARDS UNLESS OTHERWISE NOTED.

J. MECHANICAL CONTRACTOR SHALL PROVIDE NEW 1" FARR TYPE PLEATED FILTERS ON ALL TERMINAL BOXES WHICH ARE IN PROJECT SCOPE OF WORK PRIOR TO BALANCING. PROVIDE TEMPORARY FILTERS ON RETURN AIR OPENINGS DURING CONSTRUCTION.

K. MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVING AND RETAINING ALL TEMPERATURE CONTROLS FROM EXISTING UNITS, FOR REINSTALLATION UNDER NEW WORK. UPON REINSTALLATION, CONTRACTOR SHALL VERIFY PROPER OPERATION AND NOTIFY THE OWNER'S REPRESENTATIVE IN WRITING IF PROBLEMS ARE FOUND.

L. ALL DUCTWORK, DIFFUSERS, TERMINAL UNITS, ETC. ARE EXISTING TO REMAIN, UNLESS NOTED OTHERWISE.

M. 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.

N. MECHANICAL CONTRACTOR SHALL COORDINATE ALL TEMPERATURE CONTROL WORK WITH BUILDING OWNER. BUILDING SYSTEM SHALL REMAIN OPERATIONAL AT ALL TIMES.

O. 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.

P. 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 T50R2C2UL OR EQUIVALENT.

MECHANICAL SYMBOLS

- EXISTING DUCTWORK TO BE REMOVED
- EXISTING DUCT TO REMAIN
- NEW DUCTWORK
- FLEX DUCT
- EXHAUST DUCT
- SUPPLY DIFFUSER
- RETURN GRILLE
- MANUAL VOLUME DAMPER
- THERMOSTAT
- EQUIPMENT TYPE AND DESIGNATION
- SA / 200 — TYPE MARK: (S_) SUPPLY, (R_) RETURN, (E_) EXHAUST DIFFUSER OR GRILLE TYPE MARK AND CFM
- CONNECT TO EXISTING

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Lee's Summit, MO 64081 — Project No: 20008.00

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MECHANICAL DETAILS, SCHEDULES, GENERAL NOTES, AND SYMBOLS

M200

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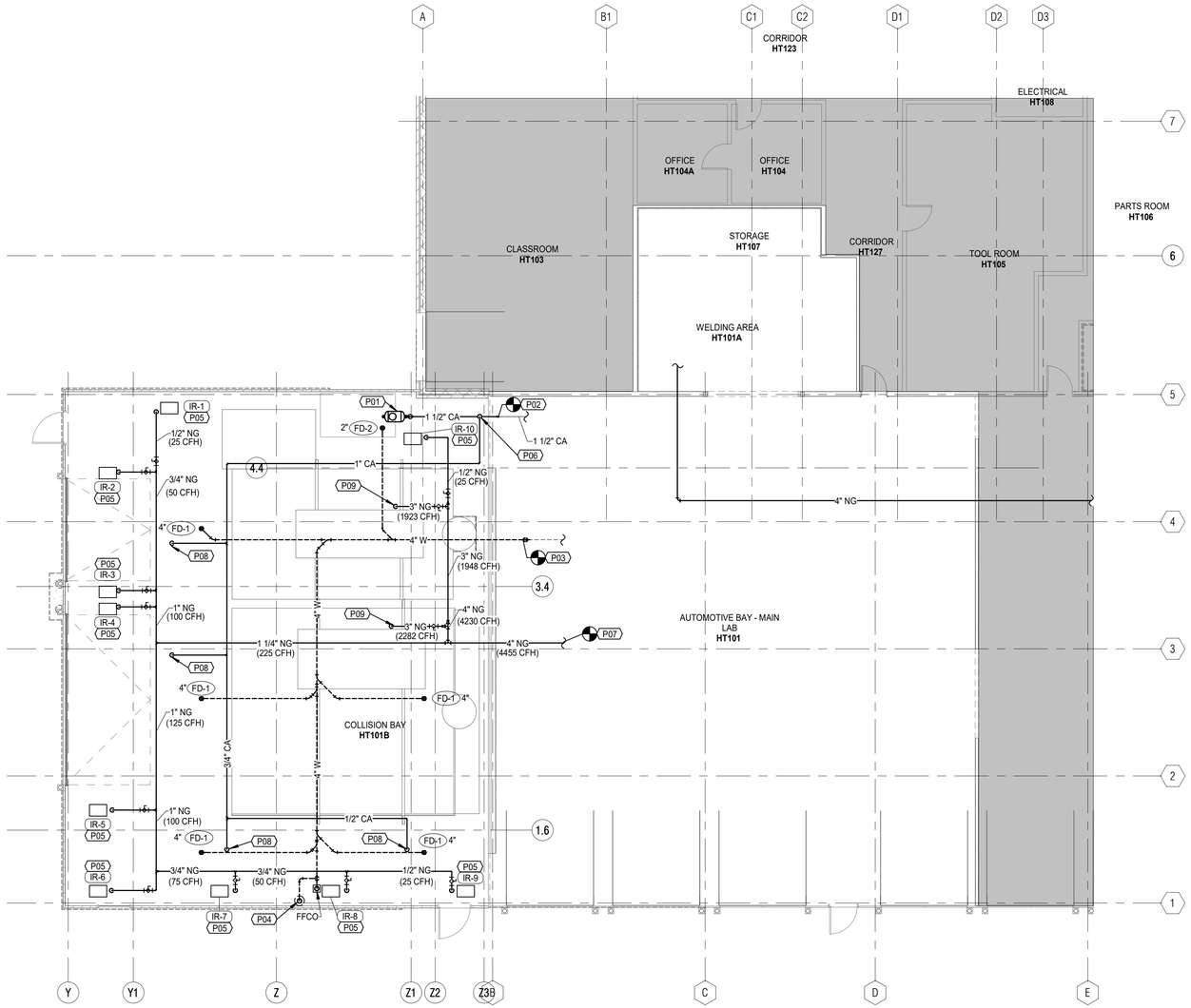

Phase 0 - Floor Plan - Level 1 - Plumbing

SCALE: 1/8" = 1'-0"

P FLOOR PLAN NOTES

P01 RELOCATED AIR COMPRESSOR. ROUTE DRAIN LINE TO FLOOR DRAIN AND INDIRECT WASTE.

P02 CONNECT NEW 1-1/2" COMPRESSED AIR PIPING TO EXISTING COMPRESSED AIR PIPING. FIELD VERIFY EXACT LOCATION.

P03 CONNECT NEW 4" WASTE PIPING TO EXISTING PIPING BELOW SLAB. (EXISTING PIPING DISCHARGES TO EXISTING SAND/OIL INTERCEPTOR). SAWCUT FLOOR AS REQUIRED AND PATCH TO MATCH EXISTING. FIELD VERIFY EXACT LOCATION/DEPTH PRIOR TO SAWCUTTING.

P04 ROUTE 3" VENT THRU ROOF. COORDINATE RISER LOCATION WITH WINDOW MULLIONS.

P05 CONNECT GAS PIPING TO INFRARED HEATER WITH GAS COCK, UNION AND DIRT LEG.

P06 ROUTE 1" COMPRESSED AIR PIPING UP WALL TIGHT TO STRUCTURE ABOVE. ANCHOR PIPING SECURELY TO WALL.

P07 ROUTE NEW GAS PIPING THRU EXISTING SHOP AREA AND CONNECT TO EXISTING 4" PIPING AT EAST END (APPROXIMATELY 100' AWAY). FIELD VERIFY EXACT ROUTING. COORDINATE NEW GAS LOAD WITH LOCAL UTILITY.

P08 CONNECT 1/2" COMPRESSED AIR PIPING TO COMPRESSED AIR REEL PROVIDED BY OTHERS.

P09 CONNECT NEW 3" GAS PIPING TO MAKE-UP AIR UNIT PROVIDED BY OTHERS. CONNECT GAS PIPING WITH GAS COCK, UNION AND DIRT LEG. COORDINATE EXACT LOCATION WITH EQUIPMENT SUPPLIER.

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Phase 0 - Floor Plan - Level 1 - Plumbing

P100

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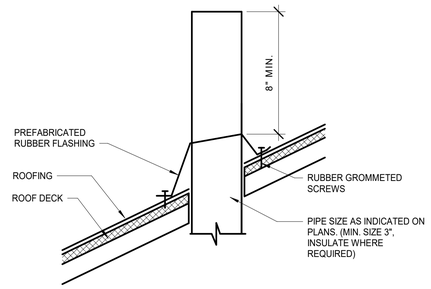
PLUMBING FIXTURE SCHEDULE

MARK NO.	FIXTURE TYPE	MANUFACTURER	MODEL NO.	DESCRIPTION	MINIMUM CONNECTION SIZE			
					CW	HW	WASTE	VENT
FD-1	FLOOR DRAIN	J.R. SMITH	2005YA-NB	GENERAL PURPOSE, DUCO CAST IRON BODY WITH FLASHING COLLAR, ADJUSTABLE STRAINER HEAD, ROUND NICKEL BRONZE STRAINER, AND SEEPAGE OPENINGS. OUTLET SIZE PER PLANS. NOTE: PROVIDE WITH TRAP PRIMER CONNECTION WHERE REQUIRED BY LOCAL CODE OR AS INDICATED ON DRAWINGS.	-	-	2"	-
FD-2	FLOOR DRAIN	J.R. SMITH	2495T	HEAVY DUTY, DUCO CAST IRON BODY WITH CORROSION RESISTANT COATING, FLANGE AND FLASHING COLLAR, ROUND TRACTOR GRATE. OUTLET SIZE PER PLANS. NOTE: PROVIDE WITH TRAP PRIMER CONNECTION WHERE REQUIRED BY LOCAL CODE OR AS INDICATED ON DRAWINGS.	-	-	4"	-

NOTE:
LOCATE VTR A MINIMUM OF 10' FROM ANY BUILDING OPENINGS, MECHANICAL UNIT INTAKES, RELIEF OR INTAKE HOODS



VENT THRU ROOF DETAIL
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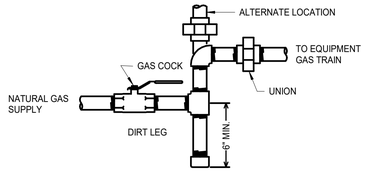

GAS EQUIPMENT CONNECTION DETAIL
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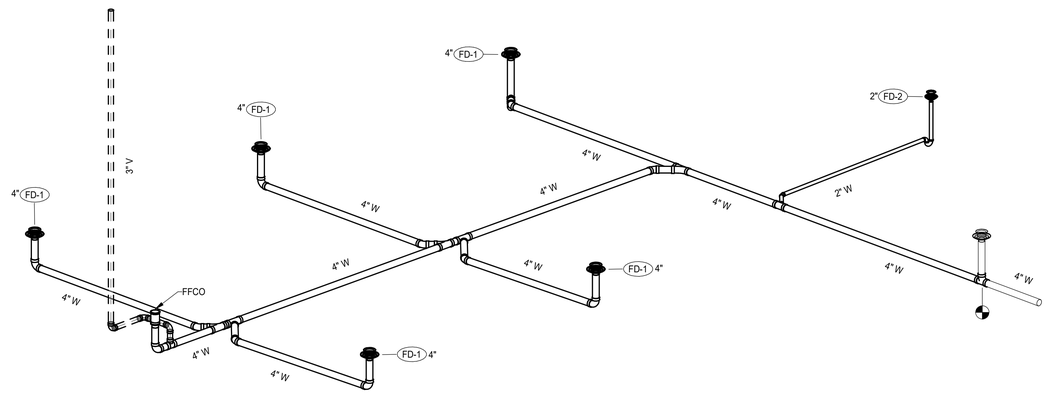

WASTE/VENT RISER DIAGRAM
NOT TO SCALE

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. ALL EXISTING PIPING SHOWN ON DRAWINGS IS SCHEMATIC DOES NOT REFLECT EXACT EXISTING CONDITIONS. CONTRACTOR TO FIELD VERIFY EXACT DEPTH AND/OR LOCATIONS ON JOB SITE. CONTRACTOR SHALL REROUTE NEW WORK TO ACCOMMODATE EXACT LOCATIONS OF EXISTING UTILITIES, STUBOUTS AND/OR CONNECTIONS.

C. 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.

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

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

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.

PLUMBING SYMBOLS

———	NEW PIPING
—CA—	COMPRESSED AIR
—NG—	NATURAL GAS
—V—	SANITARY VENT ABOVE GRD./FLOOR ABOVE
— —V— —	SANITARY VENT BELOW GROUND
— —W— —	SANITARY WASTE BELOW GROUND
—⊣S⊢—	GAS SHUT-OFF COCK
OR	FLOOR DRAIN
—○—	PIPE DROP/ PIPE RISE
—⊂—	BOTTOM OUTLET TEE
—○—	TOP OUTLET TEE
FFCO	FINISHED FLOOR CLEANOUT
VTR	VENT THROUGH ROOF
L-1	EQUIPMENT TYPE AND DESIGNATION
ETR	EXISTING TO REMAIN
	CONNECT TO EXISTING

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PLUMBING DETAILS, SCHEDULES, GENERAL NOTES, AND SYMBOLS

P200

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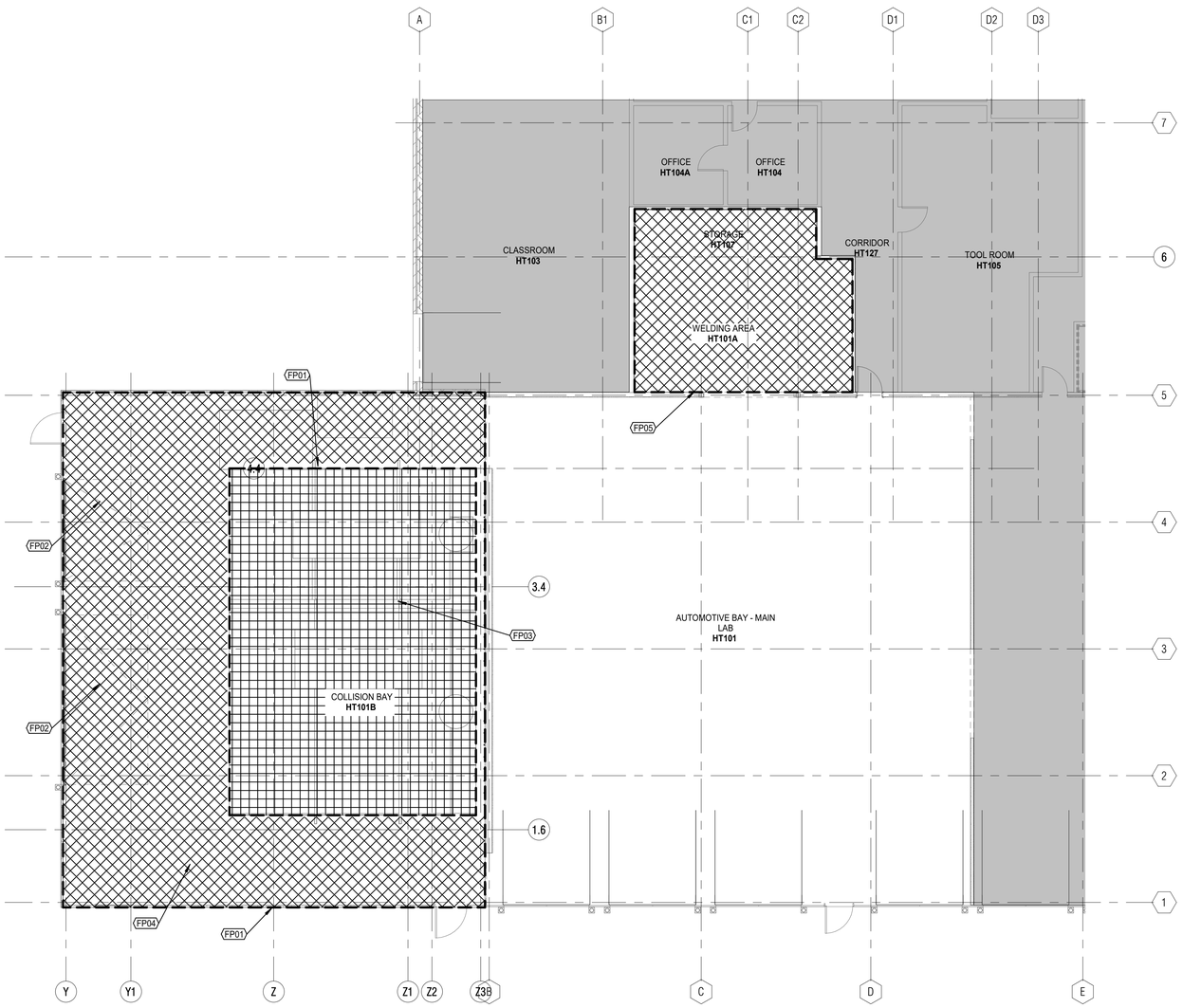

Phase 0 - Floor Plan - Level 1 - Fire Protection

SCALE: 1/8" = 1'-0"

FP FLOOR PLAN NOTES

FP01 EXTEND EXISTING FIRE SPRINKLER SYSTEM INTO NEW BUILDING ADDITION OF APPROXIMATELY 3,028 SF. PROVIDE SEPARATE CONTROL VALVE AND FEED MAIN FROM EXISTING FIRE SPRINKLER RISER TO SERVE NEW ADDITION WITH TAMPER & FLOW SWITCHES.

FP02 PROTECT BENEATH OVERHEAD DOORS IN ACCORDANCE WITH NFPA 13.

FP03 PROTECT PAINT BOOTHS PER NFPA 13, SECTION 22.4 PROTECT SPRINKLERS IN BOOTHS WITH CELLOPHANE BAGS IN ACCORDANCE WITH NFPA 13 6.2.4.

FP04 COORDINATE LOCATIONS OF FIRE SPRINKLERS WITH HVLS FANS IN ACCORDANCE WITH NFPA 13, 12.1.4.

FP05 MODIFY EXISTING SPRINKLER IN THIS AREA FOR NEW WELDING AREA. WELDING BOOTHS USE CO2 AND NOT OXYGEN-FUEL OR ANY FLAMMABLE GASES. PROTECT PER NFPA 13 FOR OH2 - METAL WORKING.

FIRE PROTECTION DESIGN CRITERIA

A. ENTIRE BUILDING AS SHOWN ON DRAWINGS IS CURRENTLY PROVIDED WITH A WET TYPE SPRINKLER SYSTEM. MODIFY SYSTEM AS NECESSARY FOR NEW WALL LAYOUTS AND 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.

C. NEW FIRE PROTECTION PIPING AND FITTINGS SHALL MATCH EXISTING, OR 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. NEW FIRE SPRINKLERS SHALL MATCH EXISTING IN TYPE, STYLE AND APPEARANCE. ANY REMOVED/RELOCATED FIRE SPRINKLERS MUST BE REPLACED WITH NEW PER NFPA 13. CONTRACTOR RESPONSIBLE FOR FIELD VERIFICATION OF ALL INFORMATION.

E. 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.

F. 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.

G. CONTRACTOR SHALL FILE ALL DRAWINGS, PAY ALL FEES AND OBTAIN PERMITS AND CERTIFICATES OF INSPECTIONS RELATIVE TO THIS WORK.

H. 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.

I. 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.

J. 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.

K. 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.

L. 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.

M. 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.

N. PROVIDE AUXILIARY DRAINS AS REQUIRED BY NFPA 13. COORDINATE LOCATIONS WITH OWNER. AUXILIARY DRAINS MUST BE SHOWN ON SHOP DRAWINGS.

O. 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.

P. FIRE SPRINKLER CONTRACTOR IS RESPONSIBLE FOR COORDINATION WITH FIRE ALARM PANEL AND SUPERVISION OF NEW SPRINKLER TAMPER AND FLOW SWITCHES.

Q. REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION.

R. SPRINKLER HEAD PLACEMENT SHALL BE OUT OF THE SWING AREA OF DOORS TO AVOID CONFLICT WITH TALL DOORS.

FIRE PROTECTION LEGEND

RECONFIGURE EXISTING BASE BUILDING FIRE SPRINKLER LAYOUT WITHIN THIS AREA IN ORDER TO PROVIDE PROPER COVERAGE PER NFPA 13 AND LOCAL AUTHORITIES. ALL REMOVED / RELOCATED FIRE SPRINKLERS MUST BE REPLACED WITH NEW PER NFPA 13. NEW SPRINKLERS TO MATCH EXISTING. 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.

PROTECT PAINT BOOTHS WITH AUTOMATIC SPRINKLER SYSTEM DESIGNED IN ACCORDANCE WITH NFPA 13 - 22.4 FOR EXTRA HAZARD (GROUP 2) OCCUPANCIES (0.40/2500 SF) OR AREA OF PAINT BOOTH. PROVIDE SEPARATE CONTROL VALVE FOR FIRE SPRINKLERS THAT IS OPERABLE FROM THE FLOOR LEVEL.

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Phase 0 - Floor Plan - Level 1 - Fire Protection

FP100

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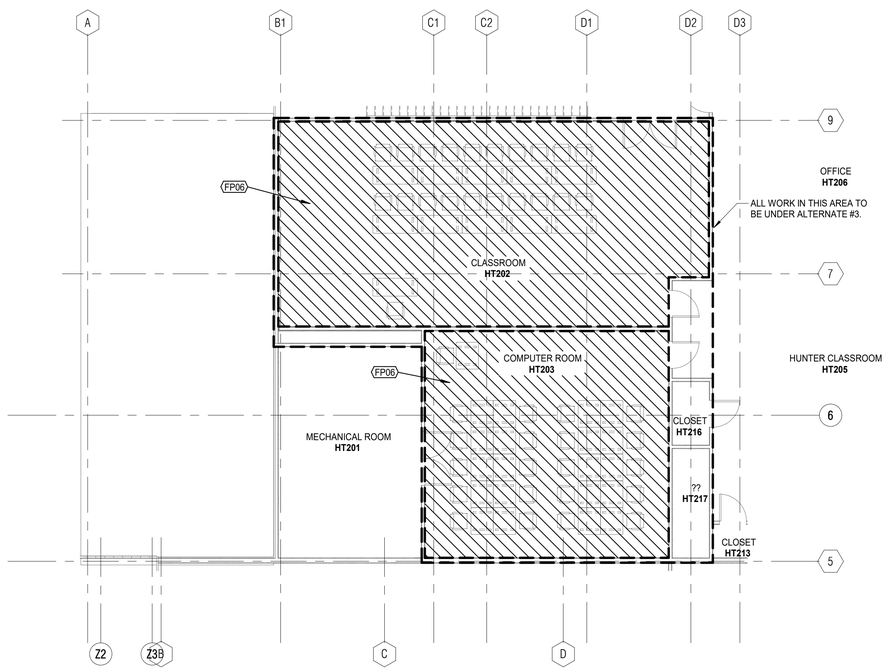
FP FLOOR PLAN NOTES

FP06 RECONFIGURE SPRINKLERS IN AREA FOR NEW CEILING LOCATIONS.



Phase 0 - Floor Plan - Level 2 - Fire Protection

SCALE: 1/8" = 1'-0"

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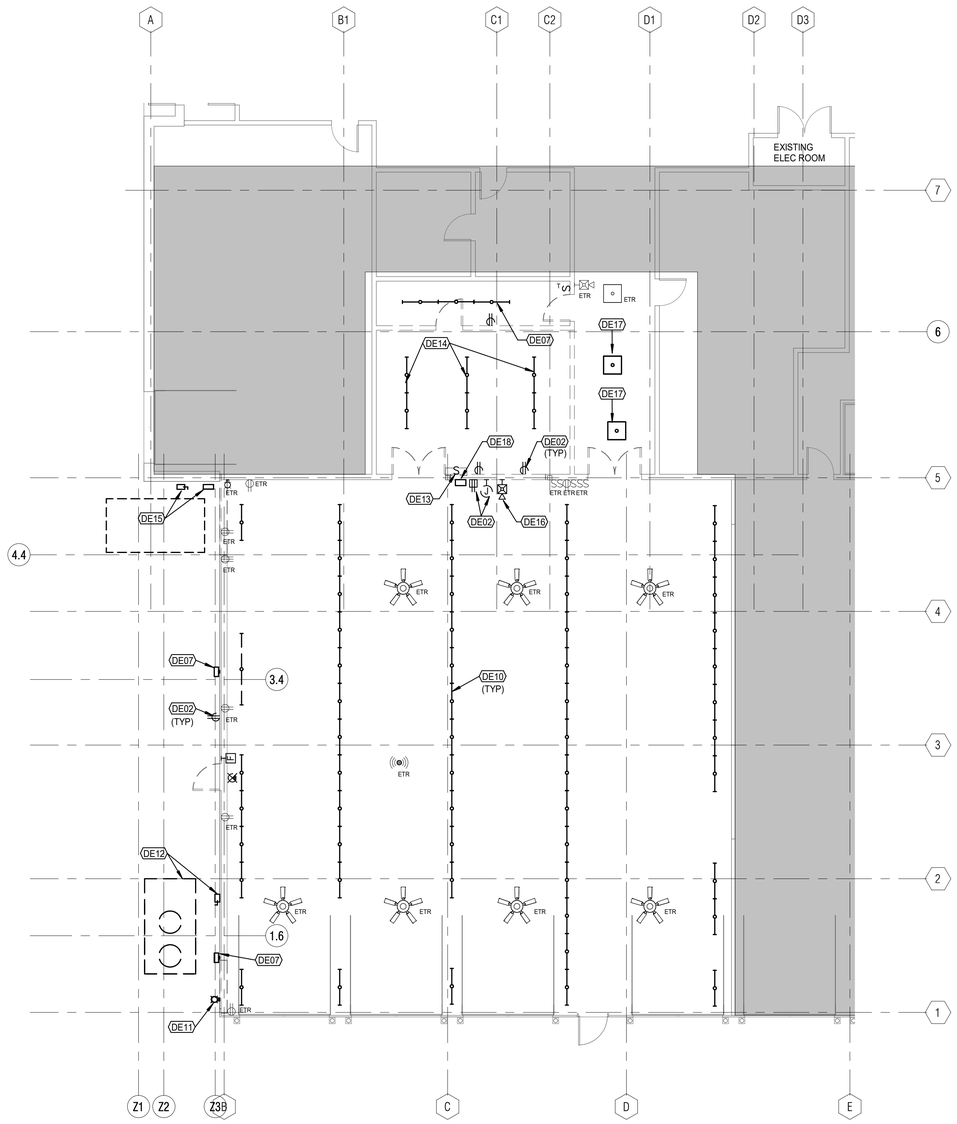
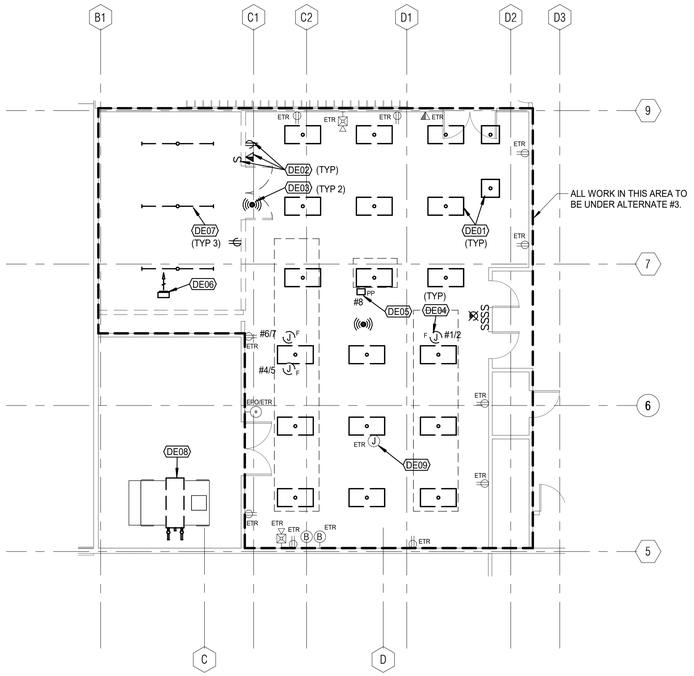


Demolition - Floor Plan - Level 1 - Electrical

SCALE: 1/8" = 1'-0"



Demolition - Floor Plan - Level 2 - Electrical

SCALE: 1/8" = 1'-0"

DE FLOOR PLAN NOTES

DE01	DISCONNECT EXISTING LIGHT FIXTURES, REMOVE CONDUIT AND WIRING BACK TO LAST USED SOURCE. MAINTAIN CIRCUITRY FOR REUSE.
DE02	DISCONNECT AND REMOVE EXISTING WIRING DEVICES, REMOVE CONDUIT AND WIRING BACK TO LAST USED SOURCE.
DE03	COORDINATE WITH OWNER FOR DISCONNECT AND REMOVAL OF EXISTING WIFI EQUIPMENT.
DE04	DISCONNECT EXISTING FURNITURE. REMOVE EXISTING FLOOR MOUNTED-J-BOX. MAINTAIN CIRCUITRY FOR REUSE. REFERENCE POWER/SYSTEM PLAN FOR ADDITIONAL INFORMATION.
DE05	DISCONNECT EXISTING POWER POLE, MAINTAIN CIRCUIT FOR REUSE.
DE06	DISCONNECT AND REMOVE POWER FROM EXISTING UNIT HEATER. REMOVE CONDUIT AND WIRING BACK TO LAST USED SOURCE.
DE07	DISCONNECT EXISTING LIGHT FIXTURES, REMOVE CONDUIT AND WIRING BACK TO LAST USED SOURCE.
DE08	ALTERNATE #2. DISCONNECT EXISTING AHU, AFTER UNIT HAS BEEN REPLACED. RECONNECT FEEDER TO NEW EQUIPMENT PER MANUFACTURERS RECOMMENDATION.
DE09	MAINTAIN POWER TO EXISTING PROJECTOR LOCATION.
DE10	ALTERNATE #5. WITHIN EXISTING BAY GARAGE AREA. DISCONNECT AND REMOVE EXISTING LIGHT FIXTURES AND PROVIDE NEW FIXTURES AS INDICATED ON NEW WORK LIGHTING PLAN. PROVIDE ALL MODIFICATION, CONDUIT AND WIRING AS REQUIRED TO COMPLETE INSTALLATION.
DE11	COORDIANTE WITH OWNER FOR REMOVALL OF SECURITY CAMERA.
DE12	DISCONNECT EXISTING AHU, REMOVE DSICONNECT, CONDUIT AND WIRING. MAINTAIN FEEDER AND CONDUIT FOR RECONNECTION TO NEW AHU.
DE13	CONTRACTOR TO COORDINATE WITH OWNER FOR WALL MOUNTED DEVICES ABOVE DOOR TO BE RELOCATED.
DE14	DISCONNECT EXISTING LIGHT FIXTURES IN THIS ROOM AND REMOVE CONDUIT AND WIRING BACK TO LAST USED SOURCE.
DE15	DISCONNECT AND REMOVE J-BOXES, DISCONNECT ETC.. FROM EXISTING AIR COMPRESSOR SHED. MAINTAIN FEEDER AND CONDUIT WITHIN BUILDING FOR RECONNECTION. MAINTAIN DISCONNECT WITHIN THE SHED FOR REUSE.
DE16	DISCONNECT AND RELOCATED FIRE ALARM DEVICE DOWN THE WALL.
DE17	CONTRACTOR TO SHIFT LIGHTS OVER TO ACCOMMODATE NEW WALL. PROVIDE LONGER FIXTURES WHIPS IF REQUIRED.
DE18	DISCONNECT EXISTING MACRO AIR SYSTEM. MAINTAIN CIRCUITRY AS REQUIRED FOR RELOCATION. REFERENCE SYSTEM PLANS.

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L|F+a Project No. 21.6807.00
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COA #2006001168

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MCC Longview HT Addition/Renovation

500 SW Longview Road
Lee's Summit, MO 64081

Project No: 20008.00

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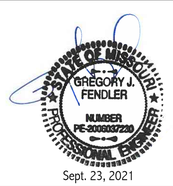


Sept. 23, 2021

License Name: Gregory J. Fendler
Profession Name: MEP Consulting Engineers
Licensee Number: PE-2006037230

Demolition - Floor Plan - Level 1 & 2 - Electrical

DE100

9/23/2021 7:24:03 AM

FLOOR PLAN NOTES

E

E01 CONNECT TO EXISTING POWER/LIGHTING CIRCUIT MAINTAINED DURING DEMOLITION WORK.

E03 CONNECT TO EXISTING PROJECTOR POWER CIRCUITRY.

E06 PROVIDE COMBINATION POKE-THRU DEVICE SIMILAR TO HUBBELL WIRING DEVICE KELLEM OR EQUAL NO. S1SPFFBL OR EQUAL. CONTRACTOR TO HARDWIRE/SURFACE WIRING DEVICES BELOW DESK. NUMBER BY OUTLET INDICATES SPARE CIRCUIT MAINTAINED DURING DEMOLITION WORK.

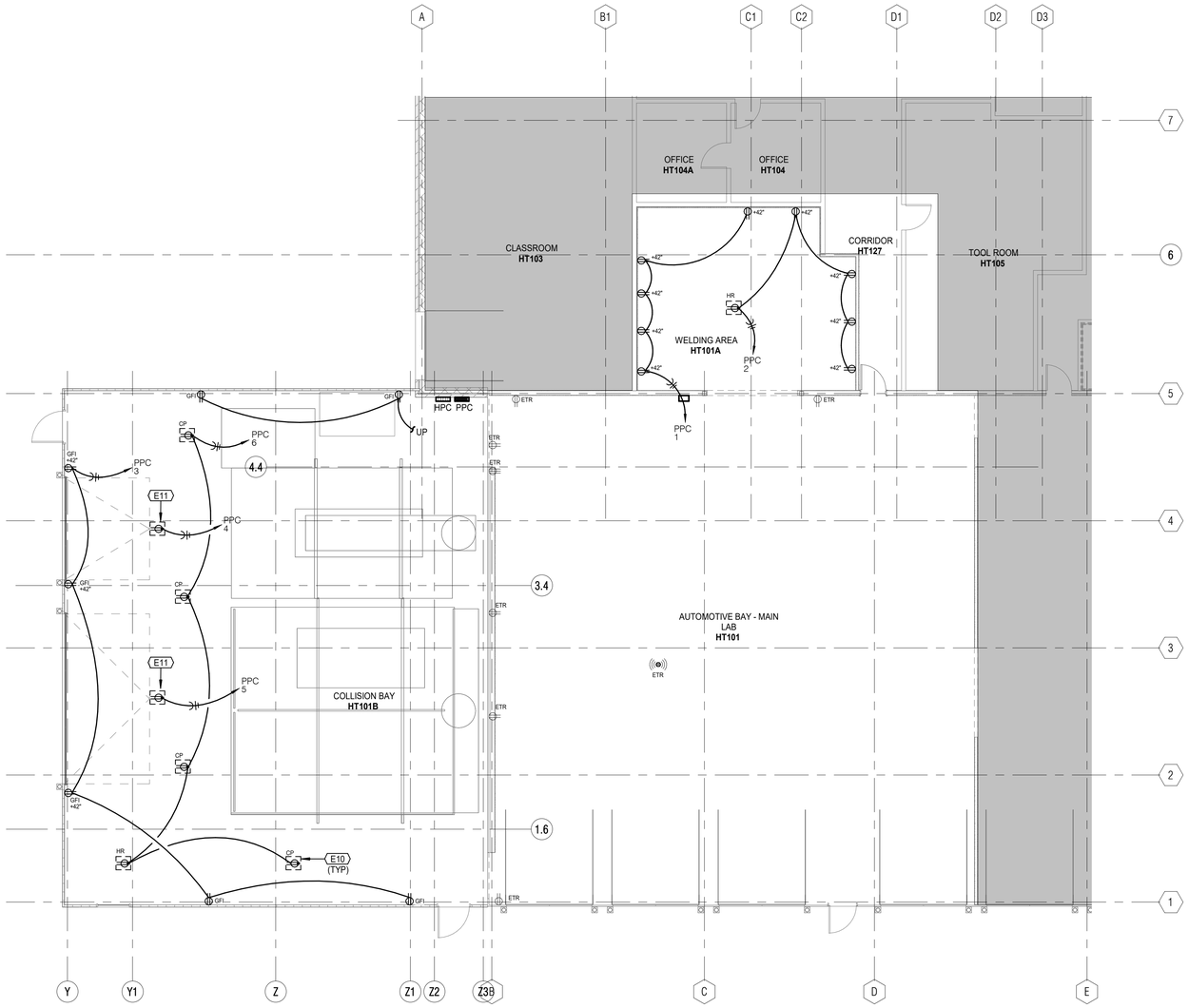
E07 PROVIDE CENTER OFF SCREEN SWITCH, MAKE CONNECTION TO MOTORIZED SCREEN BY OTHERS.

E08 CONNECT TO SPARE CIRCUIT MAINTAINED DURING DEMOLITION WORK.

E09 PROVIDE POKE-THRU DEVICE SIMILAR TO HUBBELL WIRING DEVICE KELLEM OR EQUAL NO. S1PT4X4BL OR EQUAL.

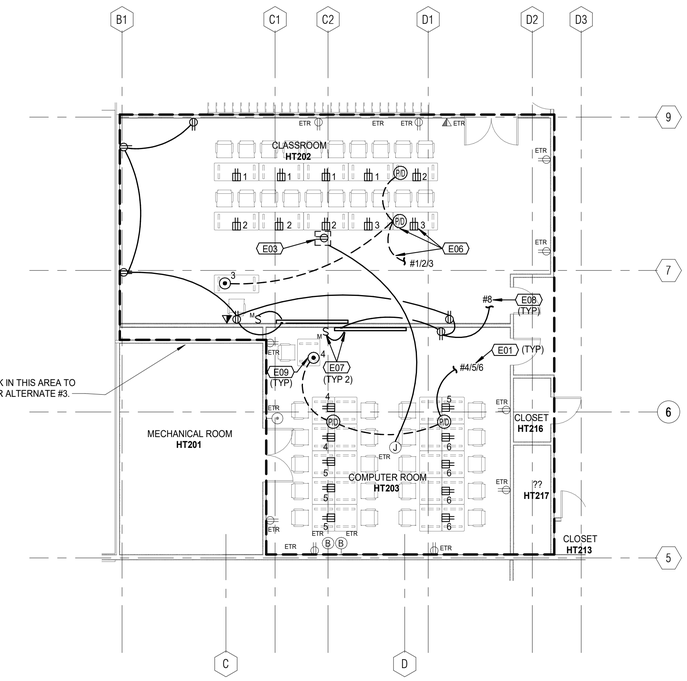
E10 COORDINATE ROUGH-IN LOCATION FOR CORD AND PLUG REEL PROVIDED BY OTHERS.

E11 COORDINATE ROUGH-IN LOCATION WITH GARAGE DOOR MANUFACTURER PROVIDED BY OTHERS.



Phase 0 - Floor Plan - Level 1 - Power

SCALE: 1/8" = 1'-0"



Phase 0 - Floor Plan - Level 2 - Power

SCALE: 1/8" = 1'-0"

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MCC Longview HT Addition/Renovation

500 SW Longview Road
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Project No: 20008.00

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L|F+a Project No. 21.6807.00
Alan W. Lankford - Mechanical Engineer - MO #-024024
COA #2006001188

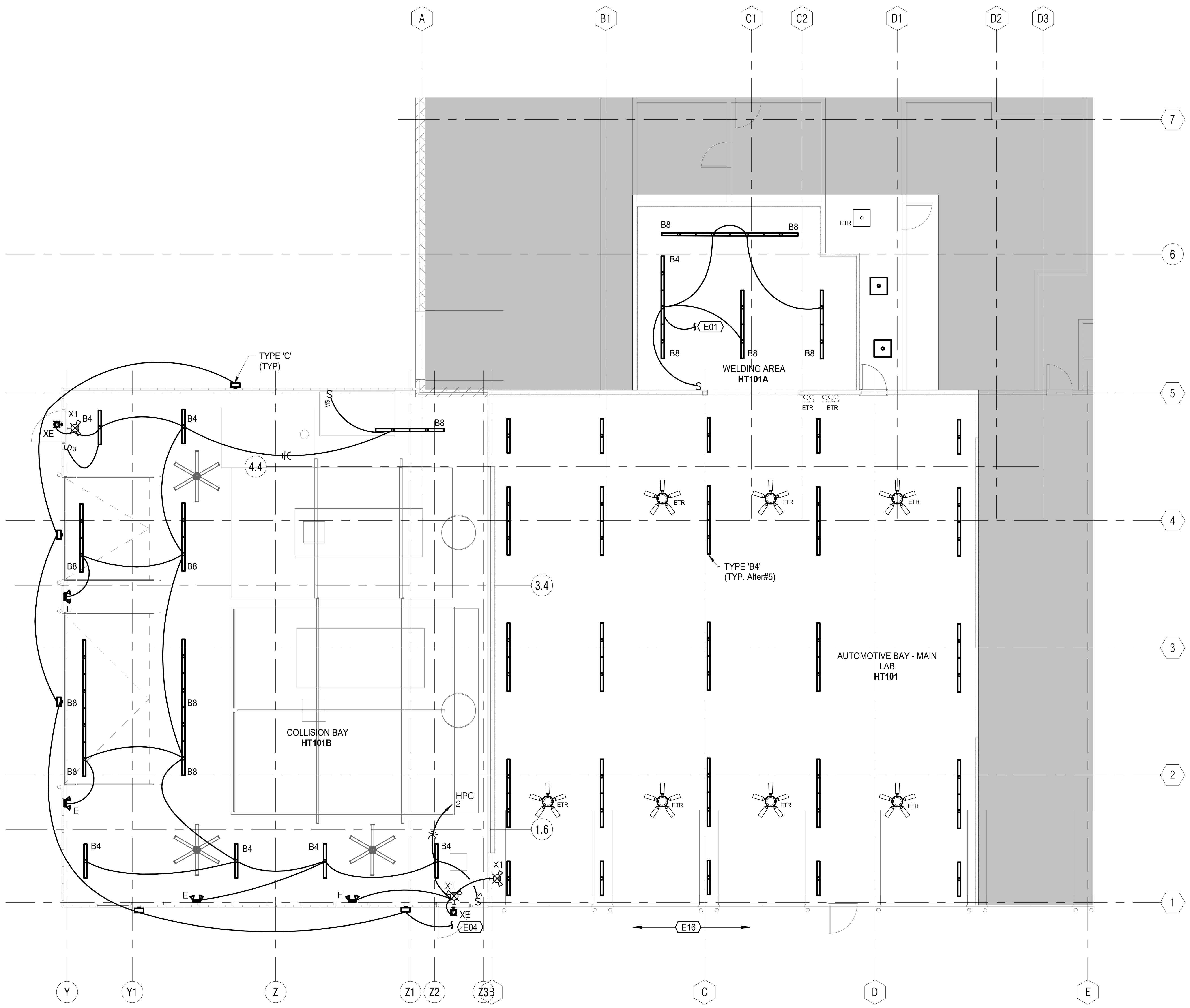
Phase 0 - Floor Plan - Level 1 & 2 - Power

E100

9/23/2021 7:24:07 AM

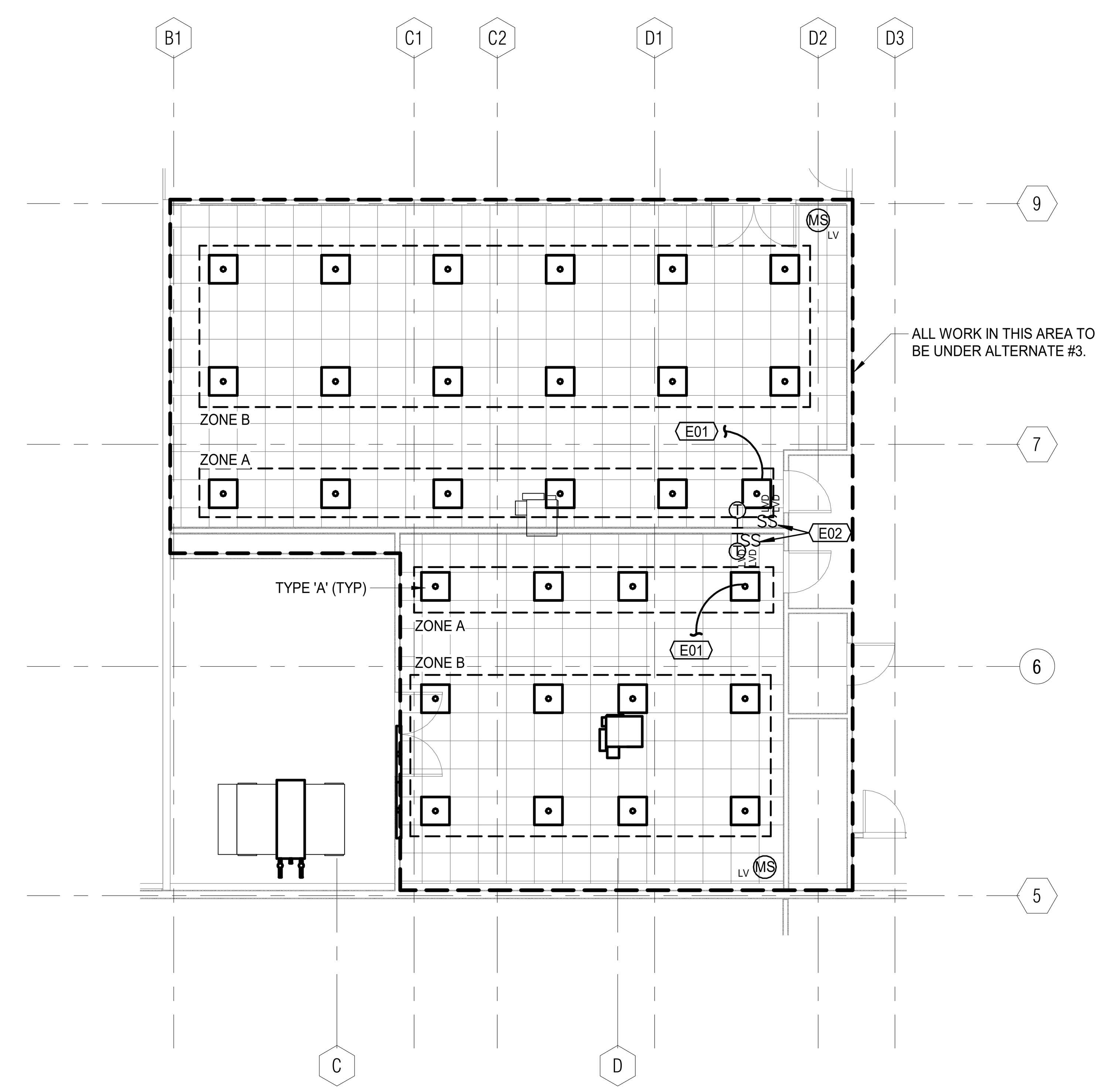
FLOOR PLAN NOTES

E01	CONNECT TO EXISTING POWER/LIGHTING CIRCUIT MAINTAINED DURING DEMOLITION WORK.
E02	REFERENCE LIGHTING CONTROL DETAILS FOR WIRING WITHIN THIS ROOM.
E04	CONNECT TO EXISTING EXTERIOR LIGHTING CIRCUIT THAT PREVIOUSLY FEED WALL PACKS.
E16	UNDER ALTERNATE NO.#6 ADD (4) TYYPE C FIXTURES TO EXTERIOR WALL LOCATION EVENLY SPACED AND CONNECTED BACK TO CIRCUIT NO. E04.



Phase 0 - Floor Plan - Level 1 - Lighting

SCALE: 1/8" = 1'-0"



Phase 0 - Floor Plan - Level 2 - Lighting

SCALE: 1/8" = 1'-0"

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L|F+a Project No. 21.6807.00
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COA #2006001168

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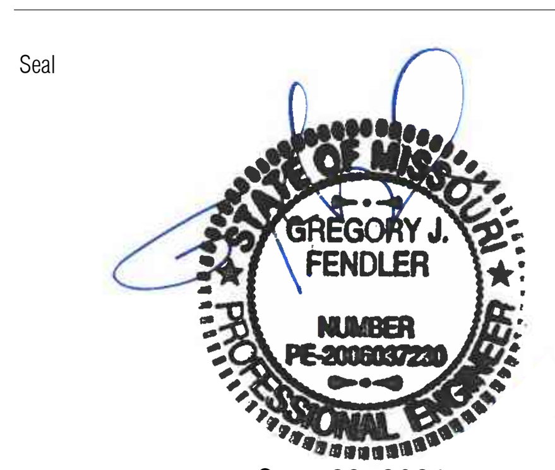


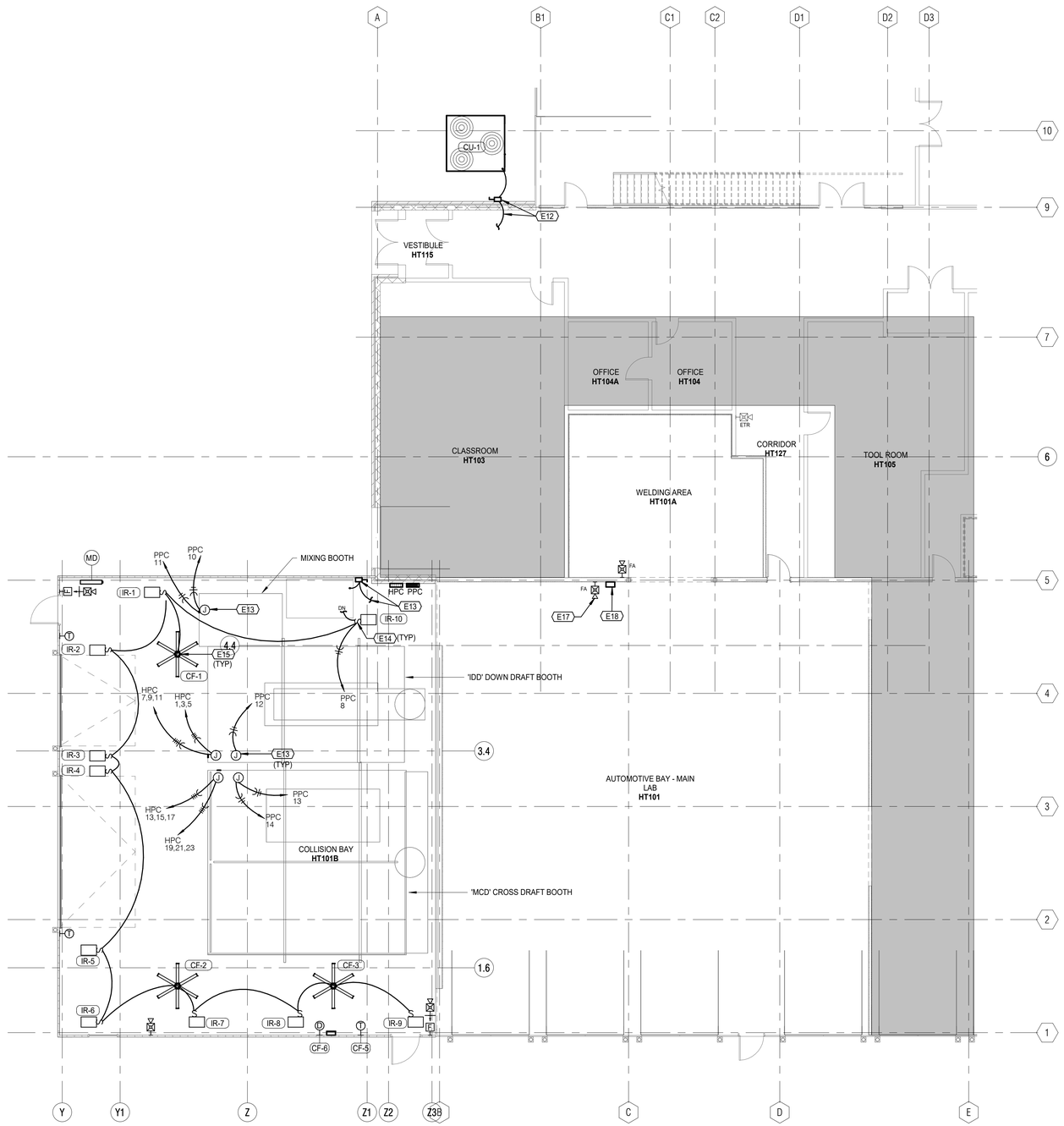
Sept. 23, 2021

License Name: Gregory J. Fendler
Profession Name: MEP Consulting Engineers
Licensee Number: PE-2006037230

Phase 0 - Floor Plan - Level 1 & 2 - Lighting

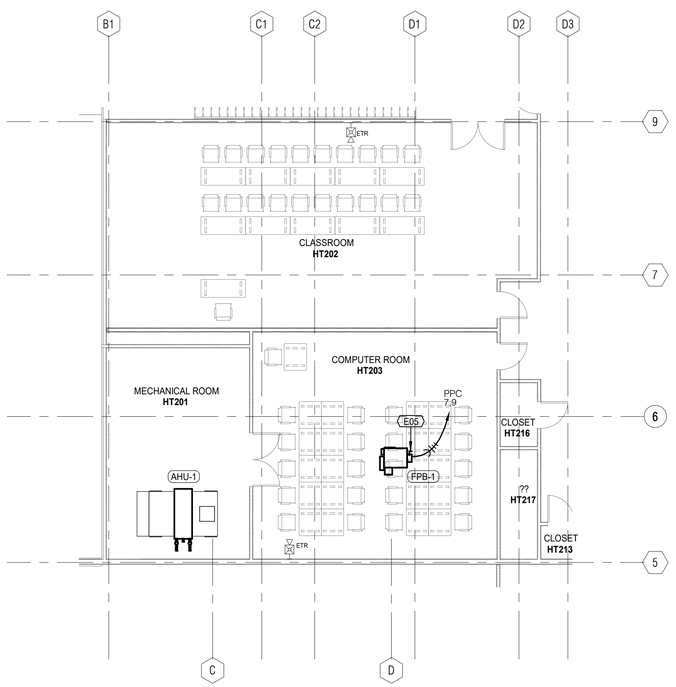
E200

9/23/2021 9:02:40 AM



Phase 0 - Floor Plan - Level 1 - Systems

SCALE: 1/8" = 1'-0"



Phase 0 - Floor Plan - Level 2 - Systems

SCALE: 1/8" = 1'-0"

FLOOR PLAN NOTES

E

- E05 PROVIDE AND INSTALL 60/3P NEMA TYPE 1 DISCONNECT. MAKE CONNECTION TO UNIT PER MANUFACTURERS RECOMMENDATIONS.
- E12 PROVIDE AND INSTALL NEW 100A/3P NEMA 4 TYPE DISCONNECT SWITCH. MAKE CONNECTION TO UNIT WITH 4-#3 & 1-#8 GROUND WIRE. ROUTE BACK AND CONNECT TO EXISTING FEEDER/CIRCUIT THAT PREVIOUSLY FED OUTSIDE AHU. AT THE PANEL REPLACE 125A/3P BREAKER WITH 100A/3P BREAKER.
- E13 CONTRACTOR TO VERIFY BOOTH CONNECTION WITH MANUFACTURER. PRIOR TO ROUTING CONDUIT.
- E14 PROVIDE TOGGLE DISCONNECT SWITCH AND MAKE CONNECTION TO RADIANT HEATER BY OTHERS.
- E15 MAKE CONNECTION TO CEILING FAN BY OTHERS, PROVIDE CONDUIT FROM CONTROLLER DOWN TO CONTROLLER FOR FAN CONTROLS. VERIFY WITH MECHANICAL CONTRACTOR FOR CONTROL LOCATION.
- E17 NEW LOCATION OF EXISTING FIRE ALARM DEVICE MAINTAINED DURING DEMOLITION WORK.
- E18 NEW LOCATION FOR MACRO AIR SYSTEM, EXTEND EXISTING CONDUIT AND WIRING AS REQUIRED.

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STATE OF MISSOURI — GREGORY J. FENDLER — NUMBER PE-2006037230 — PROFESSIONAL ENGINEER

Sept. 23, 2021

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License Number: PE-2006037230

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L|F+a Project No. 21.6807.00
Alan W. Lankford - Mechanical Engineer - MO #024224
COA #2006001168

Phase 0 - Floor Plan - Level 1 & 2 - Systems

E300

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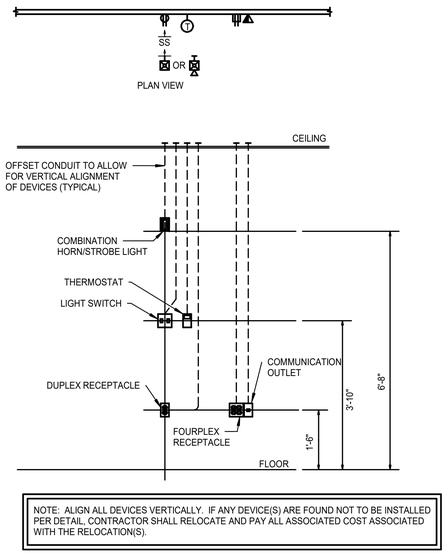
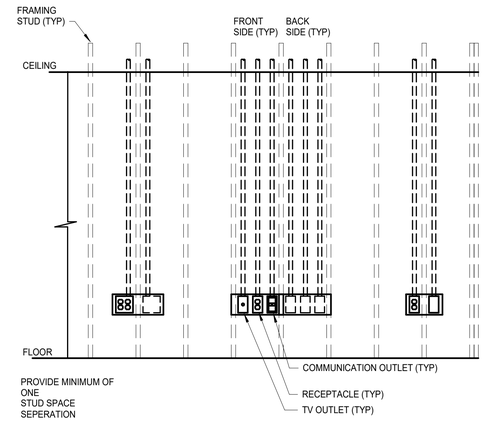


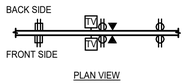
NOTE: ALIGN ALL DEVICES VERTICALLY. IF ANY DEVICE(S) ARE FOUND NOT TO BE INSTALLED PER DETAIL, CONTRACTOR SHALL RELOCATE AND PAY ALL ASSOCIATED COST ASSOCIATED WITH THE RELOCATION(S).

TYPICAL WALL MOUNTING DEVICE DETAIL

NOT TO SCALE



ELEVATION VIEW

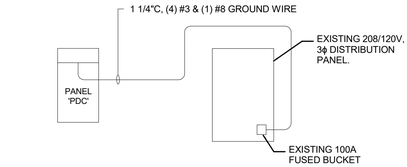


PLAN VIEW

DO TO SPACE LIMITATION ON DRAWINGS GRAPHICALLY PLAN VIEW MAY INDICATE WIRING DEVICES TO BE INSTALLED BACK TO BACK. DO NOISE TRANSFER CONTRACTOR SHALL INSTALL WIRING DEVICES AS INDICATED BY
SPACING BELOW

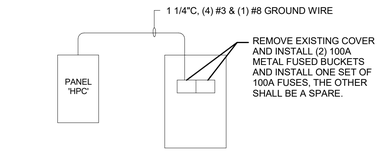
TYPICAL WIRING DEVICE MOUNTING DETAIL

NOT TO SCALE



708/120V 3PHASE, 4-WIRE RISER

NO SCALE

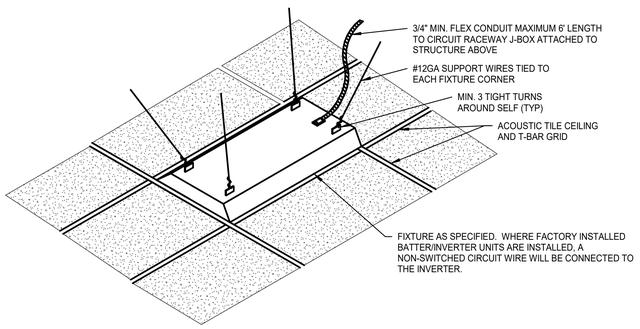


480/277V 3PHASE, 4-WIRE RISER

NO SCALE

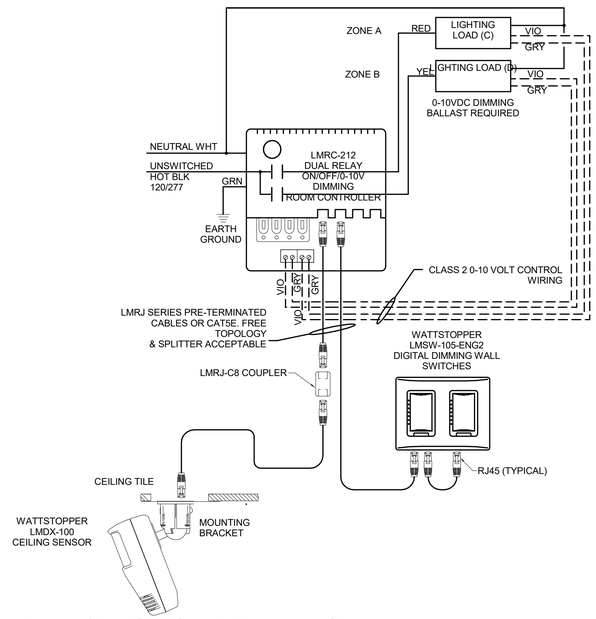
Electrical Riser Diagram

NOT TO SCALE



LIGHT FIXTURE MOUNTING AND BRACING DETAIL

NOT TO SCALE



DUAL/TWO ZONE DIMMING W/MOTION SENSOR W/WALL SWITCH CONTROL DETAIL

NOT TO SCALE

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PERMIT/BID DOCUMENTS

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L|F+a Project No. 21.6807.00
Alan W. Lankford - Mechanical Engineer - MO #0240424
COA #2006001188

ELECTRICAL DETAILS

E400

9/23/2021 7:24:13 AM

Branch Panel: HPC

Location: COLLISION BAY HT101B
Supply From:
Mounting: Surface
Enclosure: Type 1

Volts: 277/480 Wye
Phases: 3
Wires: 4

A.I.C. Rating:
Mains Type:
Mains Rating: 100 A

Notes:

Notes	CKT	Circuit Description	Trip	Poles	A	B	C	A	B	C	Poles	Trip	Circuit Description	CKT	Notes
	1				2.1			0.578			1	20 A	LTG; COLLISION BAY	2	
	3	IDD DOWN DRAFT BOOTH	20 A	3		2.1			0		1	20 A	SPARE	4	--
	5						2.1			0	1	20 A	SPARE	6	--
	7				5.8		0				--	--	PROVISION	8	--
	9	IDD DOWN DRAFT BOOTH	30 A	3		5.8			0		--	--	PROVISION	10	--
	11						5.8			0	--	--	PROVISION	12	--
	13				7.5		0				--	--	PROVISION	14	--
	15	MCD CROSS DRAFT BOOTH	30 A	3		7.5			0		--	--	PROVISION	16	--
	17						7.5			0	--	--	PROVISION	18	--
	19				5.5		0				--	--	PROVISION	20	--
	21	MCD CROSS DRAFT BOOTH	30 A	3		5.5			0		--	--	PROVISION	22	--
	23						5.5			0	--	--	PROVISION	24	--
--	25	PROVISION	--	--	0		0				--	--	PROVISION	26	--
--	27	PROVISION	--	--		0			0		--	--	PROVISION	28	--
--	29	PROVISION	--	--			0			0	--	--	PROVISION	30	--
--	31	PROVISION	--	--	0			0			--	--	PROVISION	32	--
--	33	PROVISION	--	--		0			0		--	--	PROVISION	34	--
--	35	PROVISION	--	--			0			0	--	--	PROVISION	36	--
--	37	PROVISION	--	--	0		0				--	--	PROVISION	38	--
--	39	PROVISION	--	--		0			0		--	--	PROVISION	40	--
--	41	PROVISION	--	--			0			0	--	--	PROVISION	42	--
				Total Load:	21.478 kVA		20.900 kVA			20.900 kVA					
				Total Amps:	77.5 A		75.5 A			75.5 A					

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
Heating Resistance	62700 VA	125.00%	78375 VA		
Lighting	572 VA	125.00%	716 VA	**Total Conn. Load:**	63278 VA
Other	6 VA	100.00%	6 VA	**Total Conn. Current**	76 A
Power	0 VA	0.00%	0 VA	**Total Demand Load**	79097 VA
				Power Factor %:	95
				Total Demand Current:	100 A

NOTES:
1.
2.
3.
4.
5.

GENERAL NOTES:

Branch Panel: PPC

Location: COLLISION BAY HT101B
Supply From:
Mounting: Surface
Enclosure: Type 1

Volts: 120/208 Wye
Phases: 3
Wires: 4

A.I.C. Rating:
Mains Type: MLO
Mains Rating: 100 A

Notes:

Notes	CKT	Circuit Description	Trip	Poles	A	B	C	A	B	C	Poles	Trip	Circuit Description	CKT	Notes
	1	REC; WELDING AREA	20 A	1	0.9			0.9			1	20 A	REC; WELDING AREA	2	
	3	REC; COLLISION BAY GENERAL...	20 A	1		0.9			0.5		1	20 A	REC; COLLISION BAY GARAGE DOOR	4	
	5	REC; COLLISION BAY GARAGE DOOR	20 A	1			0.5			0.9	1	20 A	REC; COLLISION BAY CORD AND PLUG...	6	
	7	FPB-1	20 A	2	2.5			0.78			1	20 A	IR-1 - IR-10	8	
	9					2.5			13.8		1	20 A	MIXING BOOTH	10	
	11	MIXING BOOTH	20 A	1			0.4			1.32	1	20 A	IDD DOWN DRAFT BOOTH	12	
	13	MCD CROSS DRAFT BOOTH	20 A	1	1.2			1.2			1	20 A	MCD CROSS DRAFT BOOTH	14	
--	15	SPARE	20 A	1		0			0		1	20 A	SPARE	16	--
--	17	SPARE	20 A	1			0			0	1	20 A	SPARE	18	--
--	19	PROVISION	--	--	0			0			--	--	PROVISION	20	--
--	21	PROVISION	--	--		0			0		--	--	PROVISION	22	--
--	23	PROVISION	--	--			0			0	--	--	PROVISION	24	--
--	25	PROVISION	--	--	0			0			--	--	PROVISION	26	--
--	27	PROVISION	--	--		0			0		--	--	PROVISION	28	--
--	29	PROVISION	--	--			0			0	--	--	PROVISION	30	--
--	31	PROVISION	--	--	0			0			--	--	PROVISION	32	--
--	33	PROVISION	--	--		0			0		--	--	PROVISION	34	--
--	35	PROVISION	--	--			0			0	--	--	PROVISION	36	--
--	37	PROVISION	--	--	0			0			--	--	PROVISION	38	--
--	39	PROVISION	--	--		0			0		--	--	PROVISION	40	--
--	41	PROVISION	--	--			0			0	--	--	PROVISION	42	--
				Total Load:	7.480 kVA		17.700 kVA			3.120 kVA					
				Total Amps:	67.9 A		153.1 A			26.0 A					

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
Heating Resistance	17920 VA	125.00%	22400 VA		
Power	5780 VA	100.00%	5780 VA	**Total Conn. Load:**	28300 VA
Receptacle	4600 VA	100.00%	4600 VA	**Total Conn. Current**	79 A
				Total Demand Load	32780 VA
				Power Factor %:	95
				Total Demand Current:	96 A

NOTES:
1.
2.
3.
4.
5.

GENERAL NOTES:

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.

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PERMIT/BID DOCUMENTS

Issued: September 23, 2021

Rev. #	Description	Date Issued

Seal

STATE OF MISSOURI
GREGORY J. FENDLER
NUMBER PE-2006037230
PROFESSIONAL ENGINEER

Sept. 23, 2021

License Name: Gregory J. Fendler
Profession Name: MEP Consulting Engineers
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ELECTRICAL SCHEDULES

E500

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LIGHT FIXTURE SCHEDULE

TYPE	MANUFACTURER	LAMPS	WATTS / VOLTS	DIMMING / PROTOCOL	DESCRIPTION	NOTES
A	METALUX ENCOUNTER 22EN LED NO.22EN-L02-34-UNV-L840-CD- OR EQUAL	LED 4000K	28.5 UNV	YES 0-10V	2X2 RECESSED LE LIGHT FIXTURE, WHITE TRIM, FROSTED LENS.	
B4	METALUX SNLED NO.4T3TSL-LN-UNV-L840 OR EQUAL	LED 4000K	28 UNV	NO -	4' LONG LED STRIP FIXTURE, ROUND SEMI-FROSTED LENS, PROVIDE WITH AYC OPTION.	
B8	METALUX SNLED NO.8T8SSL-LN-UNV-L840 OR EQUAL	LED 4000K	61 UNV	NO -	SIMILAR TO TYPE B4, EXCEPT 8' LONG.	
C	LUMARK - XTOR SERIES NO.XTOR8B-W-BZ-PC2-CBP OR EQUAL	LED 4000K	81 UNV	NO -	EXTERIOR WALL MOUNTED LED LIGHT FIXTURE, BRONZE FINISH, PHOTO-CELL CONTROLLED.	
E	SURE-LITE NO.AP2SQLED OR EQUAL	LED	3 UNV	NO -	WALL MOUNTED LED EMERGENCY LIGHT, WHITE HOUSING.	
X1	SURE-LITE NO.APC-H-7-R-SQ OR EQUAL.	LED	3.8 UNV	NO -	COMBO EXIT AND EMERGENCY LIGHT, WHITE HOUSING, LED HEADS. 3 WATT REMOTE CAPACITY	
XE	SURE-LITE NO. SRM25 OR EQUAL	LED	2.5 -	NO -	REMOTED EMERGENCY LIGHTS, ALUMINUM HOUSING, POWERED FROM TYPE X1 FIXTURE.	

SPECIFIC NOTES:
1

SUBSTITUTION NOTES:
THE LIGHTING DESIGN FOR THIS PROJECT IS BASED UPON THE MANUFACTURERS SPECIFIED. IF AN ADDITIONAL SUBSTITUTION IS DESIRED BY THE CONTRACTOR, A SUBSTITUTION REQUEST SUBMITTAL MUST BE PROVIDED AS FOLLOWS:

S1. SUBSTITUTION REQUEST MUST BE RECEIVED BY THE ENGINEER IN WRITING 10 DAYS PRIOR TO BID. FAILURE TO SUBMIT CONSTITUTES A GUARANTEE TO SUPPLY THE SPECIFIED FIXTURES.

S2. INFORMATION IS TO BE SUPPLIED COMPARING PHOTOMETRY, (WITH FLOOR PLANS INDICATING POINT BY POINT CALCULATIONS) DIMENSIONS, MATERIAL COMPOSITION, FINISH, VISUAL APPEARANCE AS WELL AS THE "CONTRACTOR NET" PRICING. SAMPLES ARE TO BE PROVIDED UPON REQUEST.

S3. GREAT CARE, TIME AND EXPENSE HAVE BEEN USED TO PROVIDE OUR CLIENT WITH THE LIGHTING AND CONTROLS SYSTEM. THEREFORE, FOR EACH AND EVERY TYPE OF FIXTURE OFFERED AS AN UNSOLICITED ALTERNATE, A $500.00 FEE WILL BE CHARGED TO THE CONTRACTOR FOR REVIEW OF THE ALTERNATE FIXTURE. THIS CHARGE IS IN NO WAY A GUARANTEE OF APPROVAL, BUT IS SOLELY TO COMPENSATE THE ENGINEER FOR TIME SPENT VALIDATING EQUALITY AND COMPATIBILITY WITH THE PROJECT REQUIREMENTS. THIS REIMBURSEMENT MUST BE RECEIVED BY THE ENGINEER PRIOR TO ANY REVIEW COMMENCING.

S4. PACKAGING OF LIGHT FIXTURES WILL NOT BE CONSIDERED OR APPROVED.

S5. MANUFACTURER'S REPRESENTATIVE AGENTS SHALL BE ALLOWED TO OFFER MINI-LOT PRICING FOR SPECIFIED LIGHTING FIXTURES.

S6. LIGHTING CONTROLS PRICING SHALL BE COMPLETELY SEPARATE OF ANY LIGHT FIXTURE PRICING. ANY LIGHTING CONTROLS PRICING THAT IS SUBMITTED WITH LIGHT FIXTURE PRICING (UNIT OR MINI-LOT) WILL BE IMMEDIATELY REJECTED IN ITS ENTIRETY.

GENERAL NOTE:

G1. ELECTRICAL CONTRACTOR SHALL VERIFY CEILING TYPE PRIOR TO ORDERING ANY LIGHT FIXTURES.

G2. ELECTRICAL CONTRACTOR SHALL COORDINATE DIMMING DRIVERS/BALLASTS WITH DIMMING SWITCHES/SYSTEMS AND SHALL INCLUDE ALL REQUIRED CONTROL WIRING.

GENERAL NOTES (TYPICAL ALL SHEETS)

A. REFER TO ARCHITECTS REFLECTED CEILING PLANS FOR EXACT PLACEMENT OF LIGHT FIXTURES, SPEAKER AND F.A. DEVICES IN THE CEILING SYSTEM.

B. REFER TO ARCHITECTURAL DETAILS AND ELEVATIONS FOR COORDINATION OF LOCATION OF ALL WIRING DEVICES BEFORE ROUGH-IN OF J-BOXES.

C. REFER TO ARCHITECTURAL PLANS FOR DETAIL OF ALL CONDUIT THRU ROOF PENETRATIONS.

D. ALL JUNCTION BOXES FOR RECEPTACLES SHALL BE EVENLY SPACED ALONG WALL.

E. CONTRACTOR SHALL CONNECT EXISTING 120V LIGHTS AND RECEPTACLES TO SPARE 20A/1P CIRCUIT BREAKER(S) IN NEW PANELBOARD. LABEL CIRCUIT BREAKER WITH CORRECT IDENTIFICATION.

F. INSTALL BLANK COVERPLATE ON ALL OPEN OR ABANDONED DEVICE BOXES. VERIFY COLOR WITH ARCHITECT.

G. WIRING TO BE REMOVED BACK TO THE NEAREST DEVICE TO REMAIN. WIRING SHALL NOT BE TAKEN PAST THE FIRST JUNCTION BOX BEFORE THE PANELBOARD.

H. ANY MATERIAL REMOVED THAT OWNER DOES NOT WISH TO RETAIN SHALL BE REMOVED FROM PROJECT SITE AND DISPOSED OF BY THE CONTRACTOR.

I. NEW CIRCUITRY SHOWN FOR NEW/EXISTING POWER AND LIGHTING IS DIAGRAMMATIC AND IS INTENDED TO SHOW WHICH DEVICES ARE TO BE GROUPED ON INDIVIDUAL CIRCUITS. EXISTING WIRING THAT CONFORMS TO THE INTENT OF THE DRAWINGS MAY BE USED.

J. PROVIDE UPDATED, TYPEWRITTEN PANELBOARD DIRECTORY FOR EACH PANELBOARD WHICH CIRCUITS HAVE BEEN ADDED TO OR MODIFIED.

K. CONTRACTOR TO REFERENCE BRANCH CIRCUIT COPPER CONDUCTOR AND CONDUIT SIZING CHART FOR SIZING OF BRANCH CIRCUITS AND OR FEEDERS AT OR BELOW 100AMPS.

L. SUPPORT ALL LIGHT FIXTURES WITH A MINIMUM OF (2) 12 GA. HANGER WIRES TO STRUCTURE ABOVE.

M. CONNECT EXIT AND EMERGENCY LIGHTS TO HOT LEG, NOT SWITCH LEG.

N. LOCATE ALL IN SLAB REBAR PRIOR TO CORE DRILLING AND SHALL ADJUST CORE LOCATIONS AS TO AVOID REBAR. PROVIDE MINIMUM SPACING BETWEEN CORE DRILL LOCATIONS AS REQUIRED BY POKE THROUGH DEVICE UL LISTING. ALL CORE DRILLING AND WORK DONE BELOW FLOOR SHALL BE DONE AFTER HOURS.

O. COORDINATE INSTALLATION REQUIREMENTS AND SCHEDULING OF ALL SYSTEM FURNITURE WITH FURNITURE INSTALLER.

P. LIGHTING INDICATED ABOVE EXIT DISCHARGE DOOR IS FOR MEANS OF EGRESS ILLUMINATION PER IBC 1006.1.

Q. CONTRACTOR SHALL CALCULATE VOLTAGE DROP AND SIZE WIRE ACCORDINGLY. PER N.E.C.

R. PROVIDE 3'-0" CLEARANCE IN FRONT OF DISCONNECTS TO CONDENSING UNITS.

S. 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.

T. INSTALL FIRE ALARM DEVICES THAT COMPLY WITH APPLICABLE CODES. INCLUDING BUT NOT LIMITED TO, NFPA, UL, ADA, IBC OR ANY OTHER AUTHORITIES HAVING JURISDICTION.

U. WHERE MORE THAN ONE SWITCH IS INDICATED ON DRAWINGS SIDE BY SIDE, CONTRACTOR SHALL INSTALL SWITCHES UNDER ONE COMMON FACE PLATE.

V. CONTRACTOR MAY NOT WIRE SO FIRST GFI OUTLET PROTECTS ALL DOWN STREAM OUTLETS.

W. ELECTRICAL CONTRACTOR SHALL SCAN FLOOR UTILIZING GROUND PENETRATING RADAR PRIOR TO ANY CORE DRILLING OR SAW CUTTING OF SLAB AND SHALL VERIFY PLACEMENT WITH BUILDING OWNER'S REPRESENTATIVE PRIOR TO DRILLING.

X. CONTRACTOR SHALL BE RESPONSIBLE FOR THE RECONNECTION OF ALL EXISTING ELECTRICAL LOADS, WHICH ARE TO REMAIN, TO NEW ELECTRICAL DISTRIBUTION SYSTEM.

Y. WHERE THE DRAWINGS INDICATE DEDICATED CIRCUITRY WITH NO SHARED NEUTRALS, THE CONTRACTOR SHALL NOT INSTALL MULTI-WIRE BRANCH CIRCUITS WITH A COMMON NEUTRAL.

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
OR	EXIT SIGN, SINGLE FACED, ARROWS AS SHOW ON PLANS, SHADED SIDE(S) INDICATES FACE SIDE(S) OF EXIT
OR	COMBINATION EXIT SIGN/EMERGENCY LIGHTING UNIT, CEILING OR WALL MOUNTED, SHADED SIDE(S) INDICATES FACE SIDE(S) OF EXIT
OR	CEILING OR WALL MOUNTED EMERGENCY LIGHTING UNIT WITH INTEGRAL BATTERY AND UNIT MOUNTED HEADS
OR A A	FLUORESCENT LIGHT FIXTURE; LETTER DENOTES FIXTURE TYPE
	FLUORESCENT STRIP FIXTURE
	WALL 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
	POWER CONNECTION POINT
	DISCONNECT SWITCH, SIZE AND TYPE AS NOTED, TOP MOUNTED 5'-0" AFF
S	SINGLE POLE SWITCH, +3'-10" AFF TO CENTERLINE OF DEVICE BOX
S^3	THREE-WAY SWITCH, +3'-10" AFF TO CENTERLINE OF DEVICE BOX
S^{MS}	MOTION SENSOR SWITCH, +3'-10" AFF TO CENTERLINE OF DEVICE BOX
S^{LV}	LOW VOLTAGE SWITCH +4'-0" AFF TO CENTERLINE OF DEVICE BOX.
	PUSH BUTTON, +3'-10" AFF
	DUPLEX RECEPTACLE, +1'-6" AFF OR AS NOTED
	DUPLEX RECEPTACLE INSTALLED ABOVE COUNTERTOP
WP	GFI DUPLEX RECEPTACLE WITH WEATHERPROOF PLATE, HEIGHT AS NOTED
GFI	DUPLEX RECEPTACLE W/GROUND FAULT PROTECTION,+1'-6" AFF OR AS NOTED
	DOUBLE DUPLEX RECEPTACLE, +1'-6" AFF OR AS NOTED
	DUPLEX RECEPTACLE MOUNTED IN CEILING TILE OR CEILING.
	ROUND POKE-THRU WITH TYPE INDICATED, SEE SPECS.
MS	CEILING MOUNTED MOTION DETECTOR TYPE AS INDICATED.
	POWER POLE
J OR J	WALL OR CEILING MOUNTED JUNCTION BOX
	DATA/VOICE OUTLET WITH 3/4" CONDUIT STUBBED UP OUT OF BOX TO ABOVE ACCESSIBLE CEILING, +1'-6" AFF OR AS NOTED
	FIRE ALARM STROBE LIGHT, +6'-8" AFF
	FIRE ALARM COMBINATION AUDIBLE/VISUAL WALL MOUNTED, +6'-8" AFF
F	FIRE ALARM MANUAL PULL STATION, +3'-10" AFF
FTF	FIRE RATED THRU FLOOR COMBINATION POKE THRU FURNITURE FEED POWER/DATA, TYPE AS NOTED ON DRAWING.
X	MECHANICAL EQUIPMENT CALL OUT
+4'-0"	HEIGHT TO CENTERLINE OF OUTLET BOX ABOVE FINISHED FLOOR
AFF	ABOVE FINISHED FLOOR
ETR	EXISTING TO REMAIN
FA	FIRE ALARM
PA	PUBLIC ADDRESS

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MCC Longview HT Addition/Renovation

500 SW Longview Road
Lee's Summit, MO 64081 Project No: 20008.00

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ELECTRICAL SCHEDULES, GEN NOTES & SYMBOLS

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