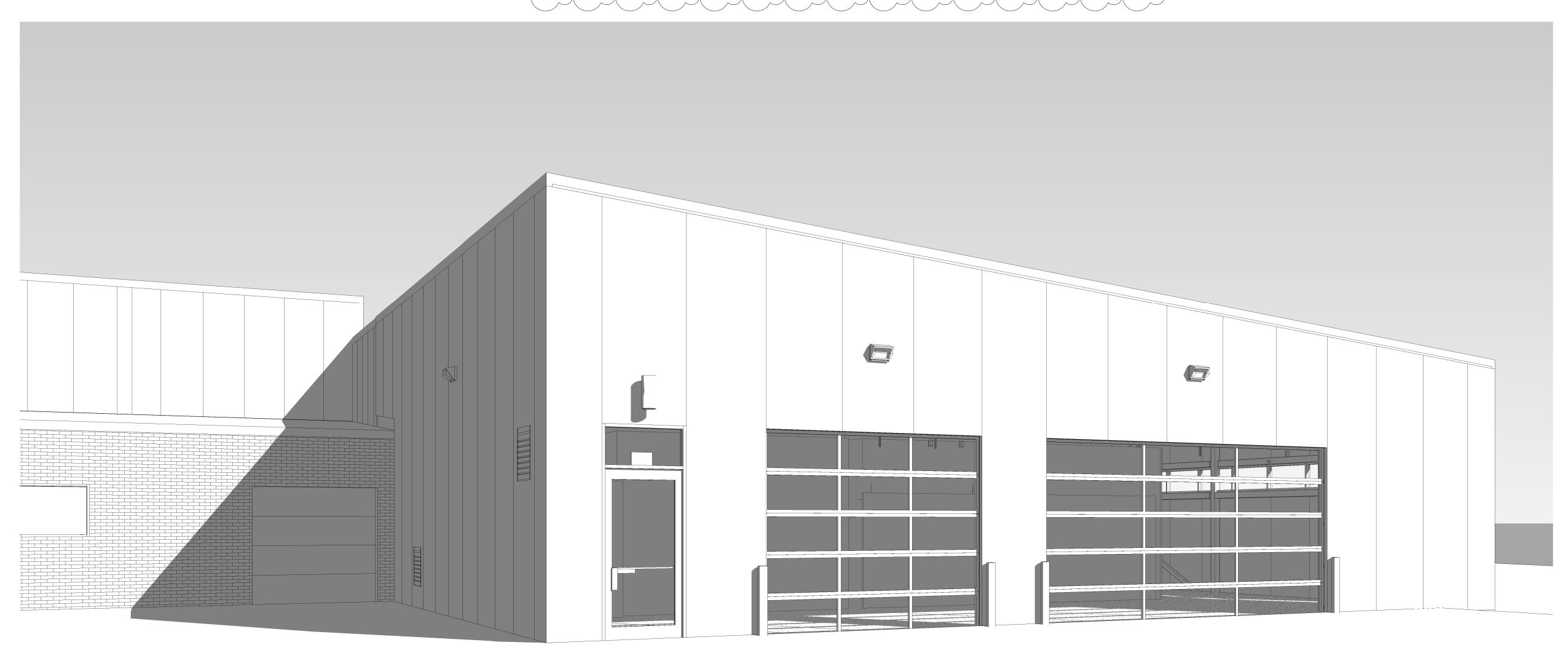
# MCC Longview HT Addition/Renovation PERMIT/BID DOCUMENTS and FINAL DEVELOPMENT PLAN





2460 East Pershing Road, Suite 100, Jackson County, Kansas City MO 64108

Certificate of Authority

1730 Walnut Street, Jackson County, Kansas City, MO 64108

MCC Longview HT
Addition/Renovation

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

PERMIT/BID DOCUMENTS

Rev. #	Description	Date Issued
1	Addendum #3	10/27/21

**COVER SHEET** 

10/25/2021 4:55:24 PM Copyright © 2021 BNIM Architects

<u>Z</u>	1. THESE GENERAL NOTES APPLY APPLIED TO ALL AREAS OF THE 2. ALL WORK SHALL COMPLY WITH TIME OF CONSTRUCTION. IN CA
<u>Y</u>	3. UPON EXAMINATION/FAMILIARIZ AMBIGUITIES AND/OR CONFLIC EXECUTION OF CONSTRUCTION  4. THE CONTRACTOR SHALL ADHE UNLESS SPECIFICALLY INSTRUC  5. ALL WORK LISTED, SHOWN OR
<u>X</u>	WHERE NOTED OTHERWISE. CO VENDORS TO ASSURE THAT ALL 6. COORDINATE THE REQUIREMEN PROVIDED WITH A FULL SET OF BE REPORTED TO THE OWNER A 7. ALL CONTRACTORS, SUBCONTF JURISDICATION IN WHICH THE N
<u>W</u>	8. DO NOT SCALE DRAWINGS. CAL DATUM POINT. WRITTEN DIMEN  9. VERIFY DIMENSIONS IN FIELD. N DRAWINGS AND PRIOR TO COM  10. UNLESS NOTED OTHERWISE, PL MASONRY, CAST-IN-PLACE CON
U	STOREFRONT AND CURTAINWAI FACE OF FINISH WALL, FURRED  11. INSTALL DOORS NOT LOCATED FOR DETAILS.  11. PRIOR TO PROCEEDING WITH W CEILINGS, AND ROOFS FOR DUC
<u>T</u>	12. VERIFY EXISTING UTILITY LOCAT LOCATIONS, CONNECTIONS, PE  12. PROVIDE ACCESS DOORS FOR O  13. COORDINATE MEP, AV/IT, SECU OTHER TRADES.  14. PROVIDE CONSTRUCTION AND O  OR DETAILED ON STRUCTURAL
<u>S</u>	15. SEAL PENETRATIONS OF NEW O MATCH RATING OF ADJACENT O 16. INSTALL JOINT SEALANT (07920 AIR INFILTRATION UNLESS NOTE 17. SEAL PERIMETER JOINTS, PENE OF EXTERIOR WALLS WITH LATE
<u>R</u>	18. PROVIDE CONCEALED BLOCKIN MAY NOT BE WHOLLY SHOWN/I OR FIRE RETARDANT TREATED (
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J	Site Key
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<u>B</u>	Location Map  NOT TO SCALE RE: /
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ARCHITECTURAL DEMOL	ITION
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STRUCTURAL	Position Eddin Metri (Former Edenoe Green)
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MECHANICAL	of Editioniono
DM100	DEMOLITION - FLOOR PLAN - LEVEL 1 & 2 - MECHANICAL
M100	PHASE 0 - FLOOR PLAN - LEVEL 1 & 2 - MECHANICAL
M200	MECHANICAL DETAILS, SCHEDULES, GENERAL NOTES, AND SYMBOLS
PLUMBING	INITOTIANIONE DETAILO, OUTEDULLO, GENERAL NOTES, AND STINDULO
P100	PHASE 0 - FLOOR PLAN - LEVEL 1 - PLUMBING
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PHASE 0 - FLOOR PLAN - LEVEL 1 - FIRE PROTECTION PHASE 0 - FLOOR PLAN - LEVEL 2 - FIRE PROTECTION

DEMOLITION - FLOOR PLAN - LEVEL 1 & 2 ELECTRICAL PHASE 0 - FLOOR PLAN - LEVEL 1 & 2 - POWER PHASE 0 - FLOOR PLAN - LEVEL 1 & 2 - LIGHTING PHASE 0 - FLOOR PLAN - LEVEL 1 & 2 - SYSTEMS

ELECTRICAL SCHEDULES, GEN NOTES & SYMBOLS

ELECTRICAL DETAILS ELECTRICAL SCHEDULES

LECTRICAL



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Associates 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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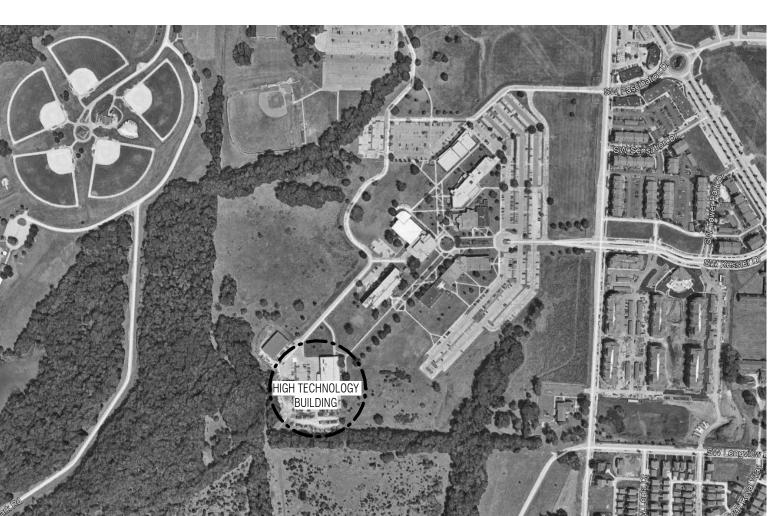
Date Issued Description 10/27/21 Addendum #3

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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EXECUTION OF CONSTRUCTION CONTRACT.

FACE OF FINISH WALL, FURRED OR NOT.

OR DETAILED ON STRUCTURAL DRAWINGS.

AIR INFILTRATION UNLESS NOTED OTHERWISE.

OR FIRE RETARDANT TREATED (FRT) WOOD.

OF EXTERIOR WALLS WITH LATEX JOINT SEALANT (079200).

UNLESS SPECIFICALLY INSTRUCTED AND APPROVED.

JURISDICATION IN WHICH THE WORK WILL BE PERFORMED.

DRAWINGS AND PRIOR TO COMMENCING WITH WORK IN QUESTION.

APPLIED TO ALL AREAS OF THE PROJECT WHERE WORK IS BEING UNDERTAKEN.

BE REPORTED TO THE OWNER AND ARCHITECT PRIOR TO THE EXECUTION OF THE WORK.

DATUM POINT. WRITTEN DIMENSIONS TAKE PRECEDENCE OVER GRAPHIC REPRESENTATION.

CEILINGS, AND ROOFS FOR DUCTS, PIPES, CONDUITS, CABINETS AND EQUIPMENT.

MATCH RATING OF ADJACENT CONSTRUCTION UNLESS NOTED OTHERWISE.

LOCATIONS, CONNECTIONS, PENETRATIONS, AND SERVICE ENTRANCES WITH FINDINGS.

**GENERAL NOTES** 

2. ALL WORK SHALL COMPLY WITH APPLICABLE LAWS, CODES, AND REGULATIONS OF ALL AUTHORITIES HAVING JURISDICTION IN FORCE AT

4. THE CONTRACTOR SHALL ADHERE TO THE CONTRACT DOCUMENTS. NO MODIFICATIONS, REVISIONS OR CHANGES SHALL BE UNDERTAKEN

5. ALL WORK LISTED, SHOWN OR IMPLIED IN THE CONTRACT DOCUMENTS SHALL BE SUPPLIED AND INSTALLED BY THE CONTRACTOR EXCEPT

6. COORDINATE THE REQUIREMENTS OF ALL DRAWINGS AND SPECIFICATIONS. EACH CONTRACTOR AND/OR SUBCONTRACTOR SHALL BE

8. DO NOT SCALE DRAWINGS. CALCULATE AND MEASURE REQUIRED DIMENSIONS. ALL DIMENSIONS ARE TO BE TAKEN FROM DESIGNATED

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

11. INSTALL DOORS NOT LOCATED BY DIMENSION SUCH THAT EDGE OF DOOR FRAME TO FACE OF ADJACENT WALL IS 0'--4". SEE < A010 >

11. PRIOR TO PROCEEDING WITH WORK, COORDINATE SIZE AND LOCATION OF ALL OPENINGS AND ROUGH-INS THROUGH SLABS, WALLS,

12. VERIFY EXISTING UTILITY LOCATIONS USING STATE ONE CALL SYSTEM BEFORE CONSTRUCTION STARTS. COORDINATE NEW UTILITY

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

14. PROVIDE CONSTRUCTION AND CONTROL JOINTS IN CONCRETE SLABS ON GRADE AND TOPPING SLABS PER ACI 224.3R-95 AND AS SHOWN

15. SEAL PENETRATIONS OF NEW OR EXISTING FIRE-RATED FLOORS AND CEILINGS WITH FIRE-RESISTIVE SYSTEMS (078413) AND (078446) TO

16. INSTALL JOINT SEALANT (079200) AT EXTERIOR SIDE OF JOINTS, SEAMS, CONNECTIONS, OR OPENINGS WHICH WOULD ALLOW WATER OR

17. SEAL PERIMETER JOINTS, PENETRATIONS, VOIDS, AND PERIMETER OF DEVICE WALL BOXES THROUGH INTERIOR GYPSUM BOARD SURFACE

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

9. VERIFY DIMENSIONS IN FIELD. NOTIFY ARCHITECT IMMEDIATELY UPON DISCOVERY OF DISCREPANCIES BETWEEN ACTUAL CONDITIONS AND

7. ALL CONTRACTORS, SUBCONTRACTORS AND THEIR AGENTS SHALL HOLD ALL APPLICABLE AND REQUIRED LICENSES FOR THE

WHERE NOTED OTHERWISE. CONTRACTORS SHALL CLOSELY COORDINATE THEIR WORK WITH THE WORK OF OTHER CONTRACTORS AND

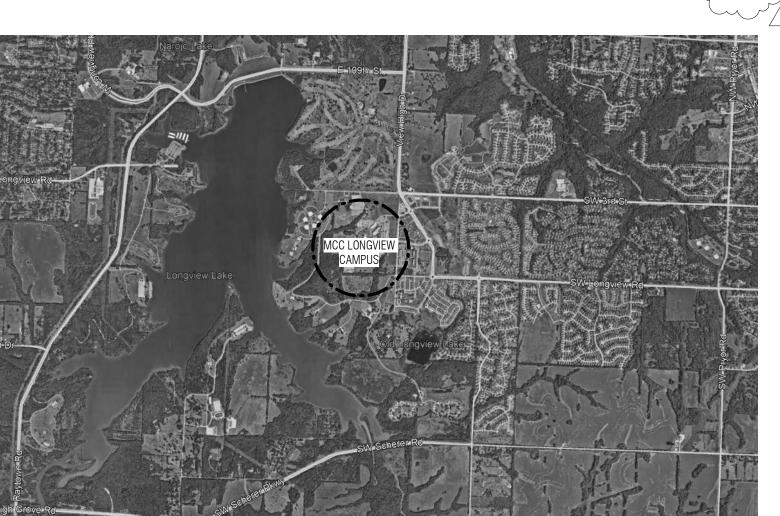
PROVIDED WITH A FULL SET OF CONSTRUCTION DOCUMENTS TO ENSURE COORDINATION OF ALL TRADES/DISCIPLINES. CONFLICTS SHALL

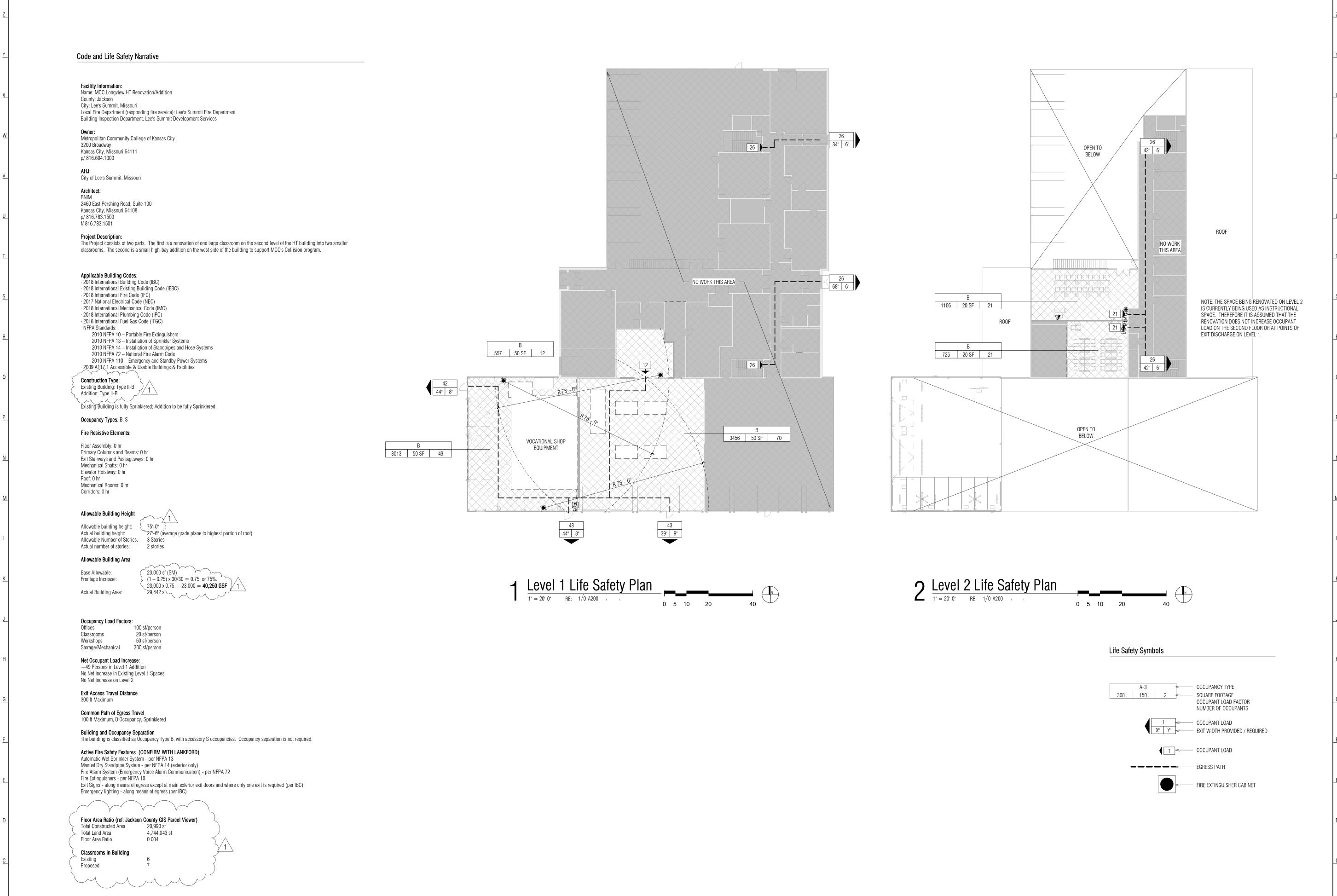
AMBIGUITIES AND/OR CONFLICTS SHALL BE REPORTED TO THE ARCHITECT IN WRITING FOR CORRECTION PRIOR TO SUBMISSION OF BID OR

1. THESE GENERAL NOTES APPLY TO ALL TRADES. THESE NOTES ARE PROVIDED FOR GENERAL PROJECT INFORMATION AND ARE TO BE

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,

VENDORS TO ASSURE THAT ALL WORK IS PERFORMED IN CONFORMANCE WITH THE CONTRACT DOCUMENTS.





1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 22 23 24 25 26 27 28 29 30 31 32 33 34 35

2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36



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Certificate of Authority

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Lee's Summit, MO 64081 Project No: 20008.00

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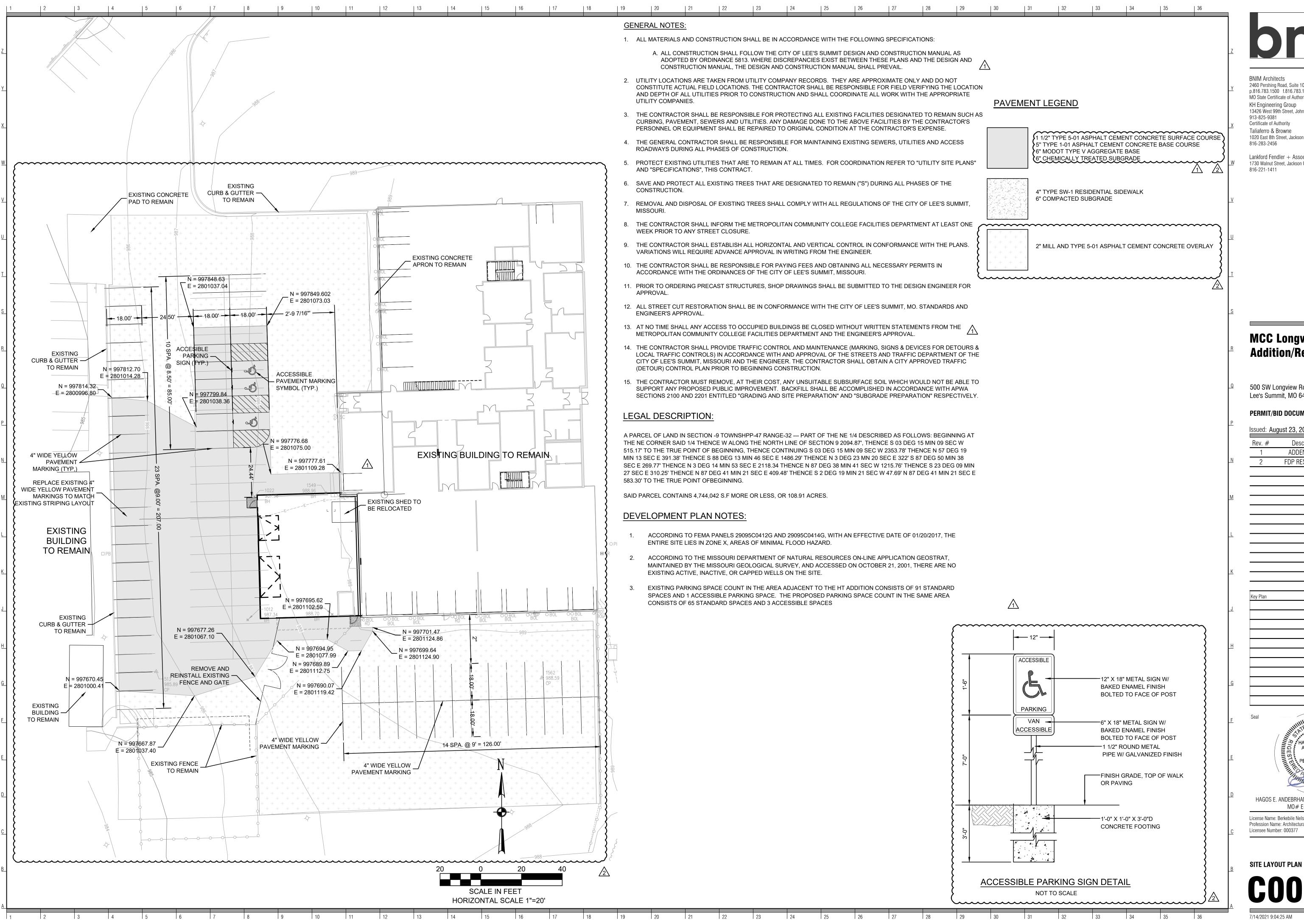
JEREMY BOYD KAHM 9 - 23 - 21 NUMBER A-201003 5449 Jeremy B Kahm - Architect MO# A-2010035449

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

CODE REVIEW DATA, LIFE SAFETY PLANS

G101

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Project No: **20008.00** 

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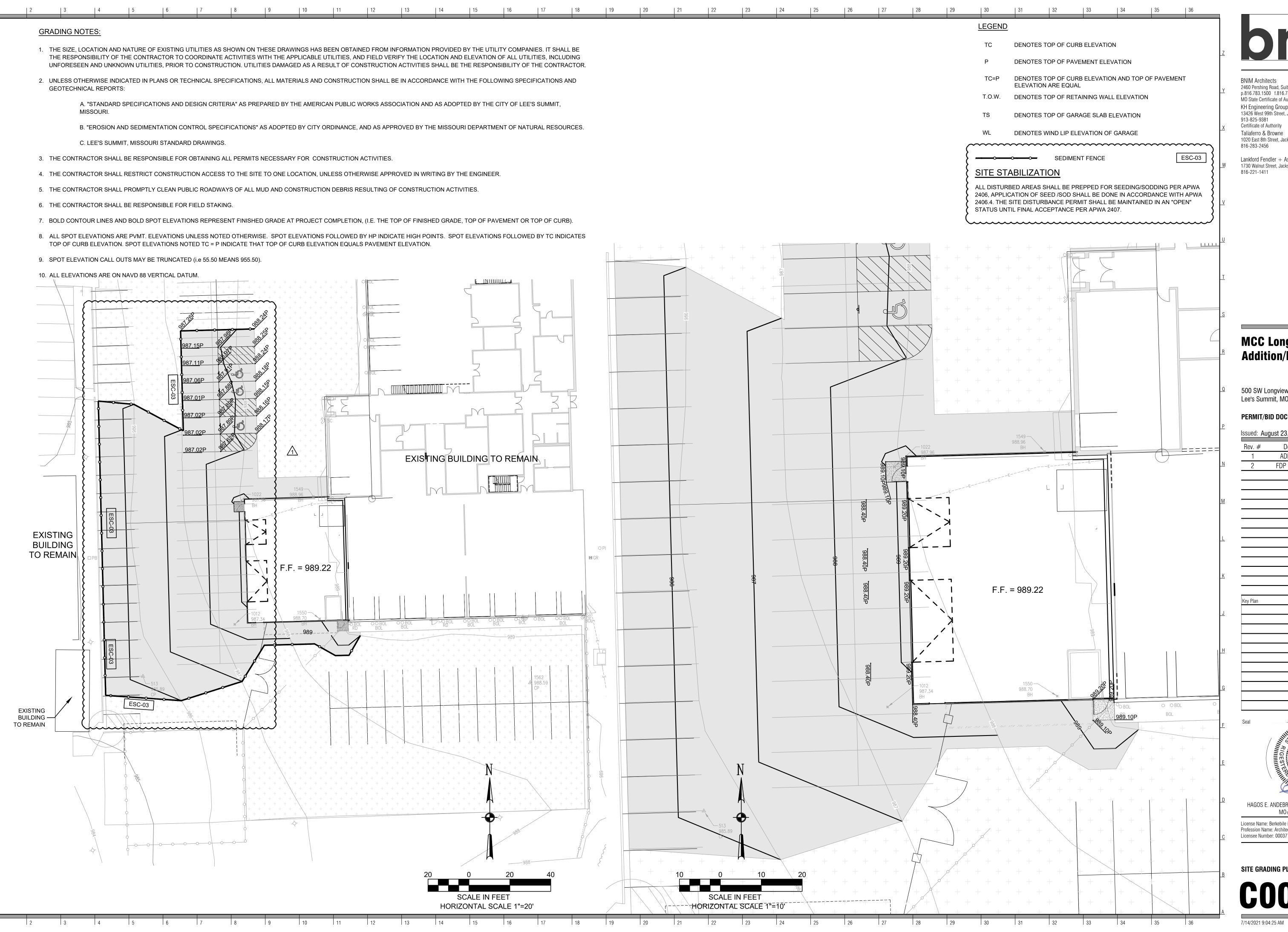
Issued: August 23, 2021

Date Issued Description ADDENDUM 3 25 OCT 2021 FDP RESPONSES 16 DEC 2021

HAGOS ERMIAS ANDEBRHAN NUMBER

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

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





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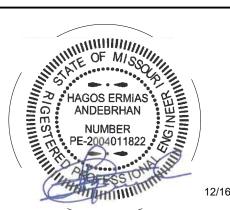
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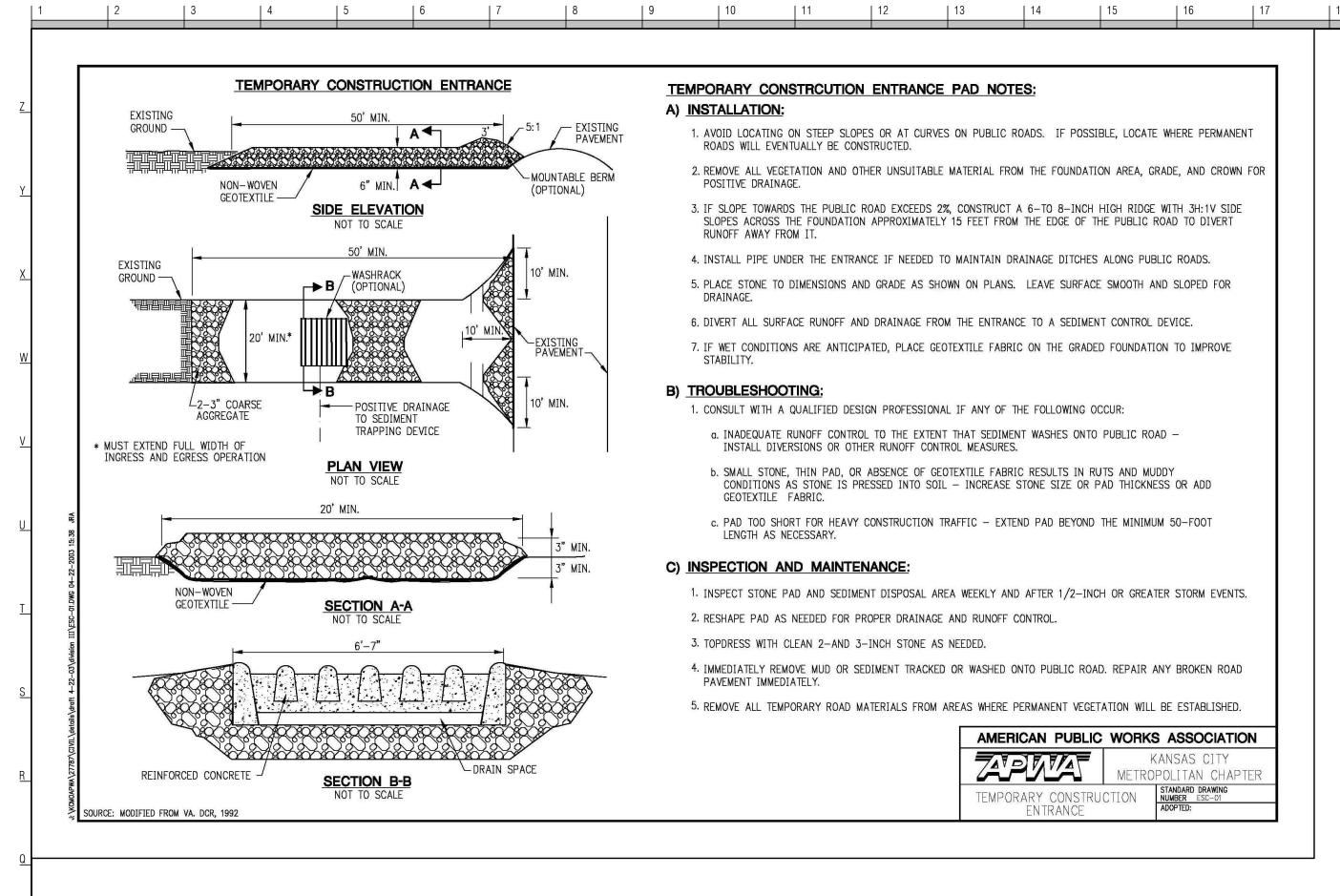
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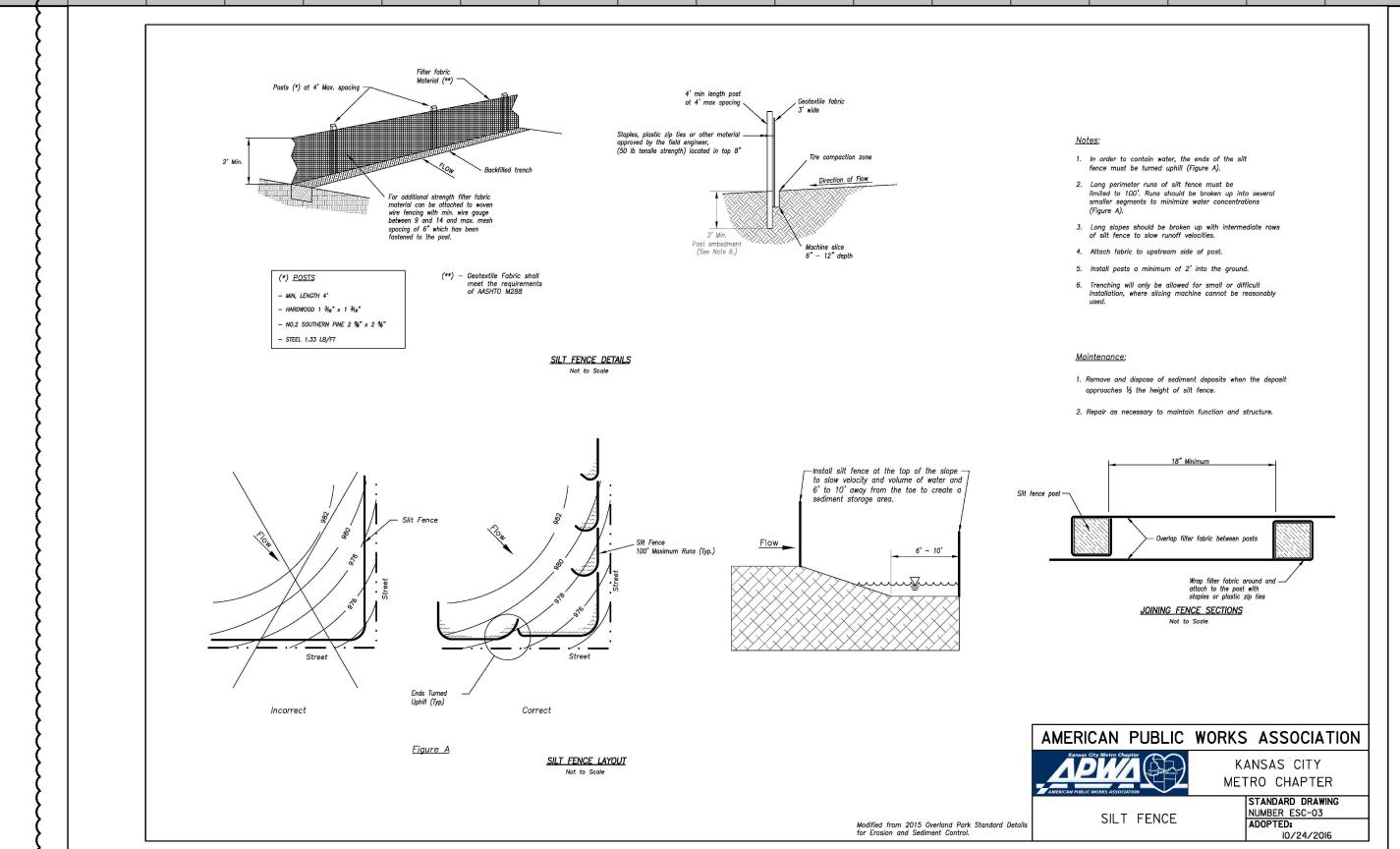


HAGOS E. ANDEBRHAN - PROFESSIONAL ENGINEER M0# E-2004011822

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

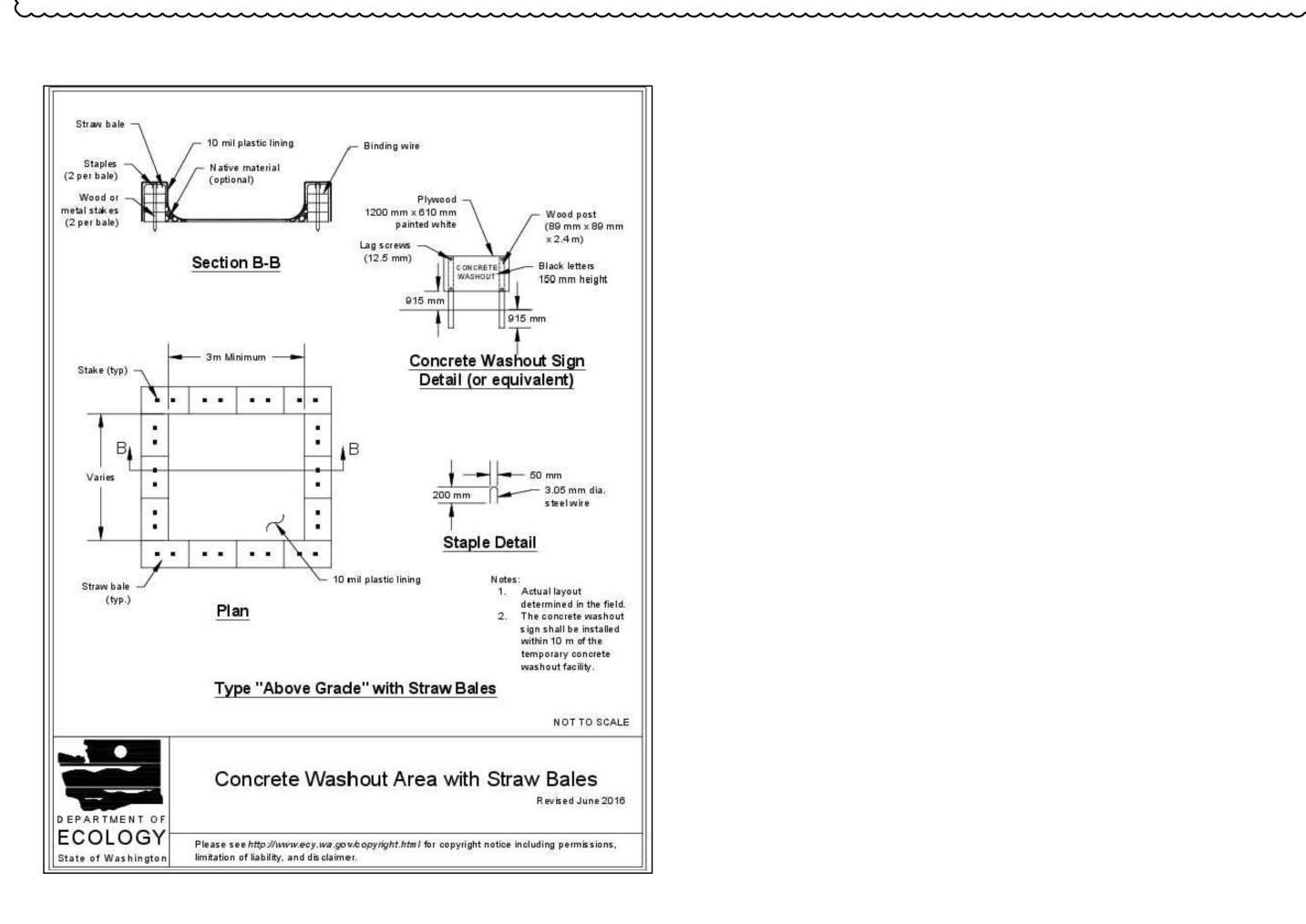
SITE GRADING PLAN





| 28







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MEPF Engineer Lankford Fendler + Associates 1730 Walnut Street, Jackson County, Kansas City, MO 64108

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**EROSION CONTROL** 

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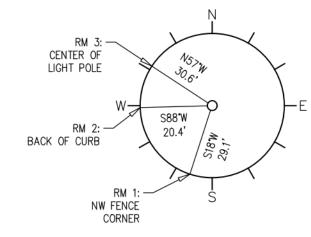


# Taliaferro & Browne, Inc. Civil / Structural Engineering

and Surveying Services 1020 E. 8th STREET KANSAS CITY, MISSOURI 64106 PH (816) 283-3456 FAX (816) 283-0810

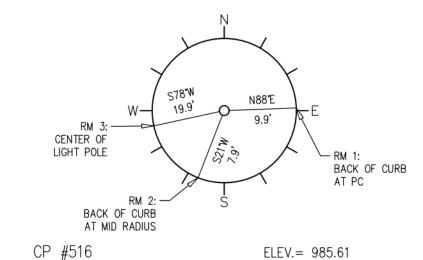
PROFESSIONAL ENGINEERING CORPORATION
MISSOURI LICENSE NO. 000466 KANSAS LICENSE NO. E-1481

11x17 1"=40'



CP #513 ELEV.= 985.89 N: 997,679.78 E: 2,801,018.65

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



N: 998,013.10 E: 2,801,013.41

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.

# 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.

 MIT, JACKS	E BUILDING SON COUNTY HIC SURVEY	, MISSOUR

DRAWN: KMS

CHECKED: DLJ

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

2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36

**LEGEND** 

BOLLARD CURB INLET

ELECTRIC METER FINISH FLOOR

GRATE INLET GAS METER GUY POLE GAS REGULATOR

GAS VALVE GUY WIRE ANCHOR MANHOLE

ROOF DRAIN

SANITARY

STORM

UNKNOWN ---e--- UNDERGROUND ELECTRIC

----FO---- FIBER OPTICS

----OHE---- OVERHEAD ELECTRIC ----OHT---- OVERHEAD TELEPHONE ---ohtv--- OVERHEAD CABLE TV ----OHU---- OVERHEAD UTILITIES ------ PROPERTY LINE ---R/W--- RIGHT-OF-WAY LINE

---s--- SANITARY SEWER ----st---- STORM SEWER

----ws---- WATER SERVICE

----w--- Water

----ugc---- UNDERGROUND COMMUNICATION

ELECTRIC MANHOLE

WATER METER TELEPHONE MANHOLE

UTILITY POLE LIGHT POLE FIRE HYDRANT WATER VALVE

----G---- GAS

RIGHT-OF-WAY

POLYVINYL CHLORIDE

REINFORCED CONC. PIPE

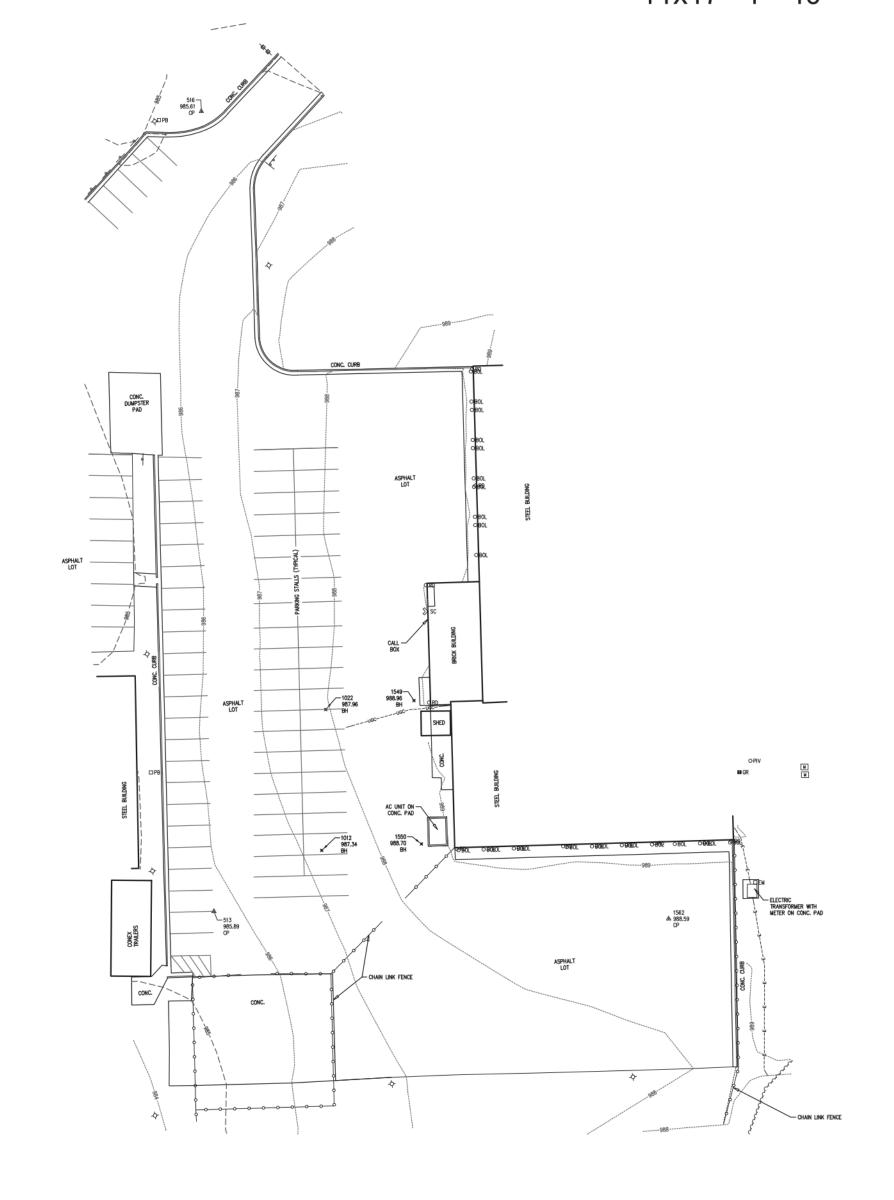
SIAMESE CONNECTION

TRUNCATED DOME MAT

TELEPHONE RISER

:\USERS\OWNER\DESKTOP DATE: 07/15/2021 02-4990-001-TS01.DWG, Survey Notes,

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35



dwg: 02-4990V-TS01



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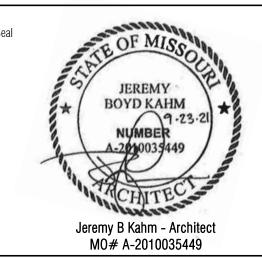
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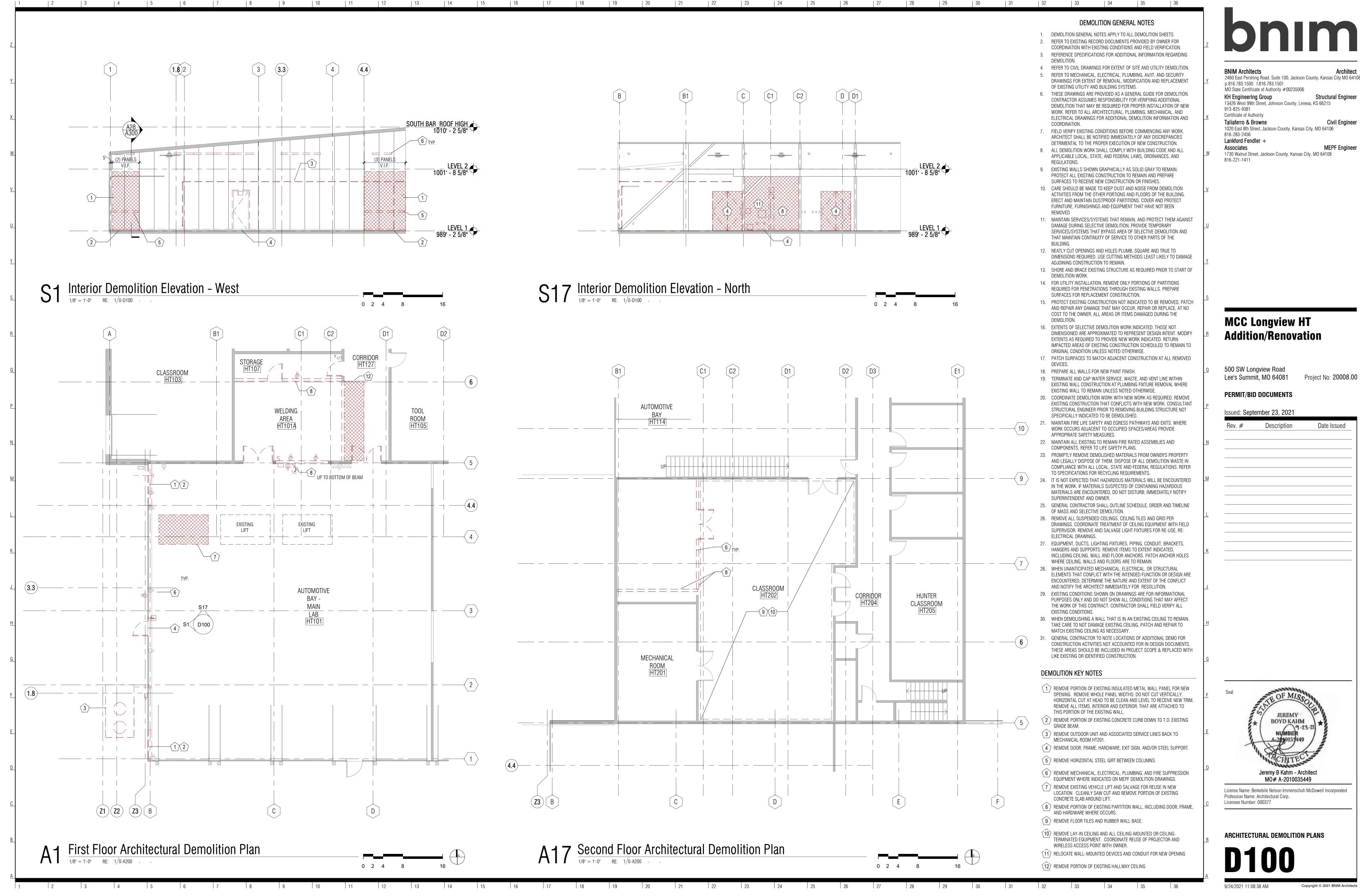
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SITE SURVEY

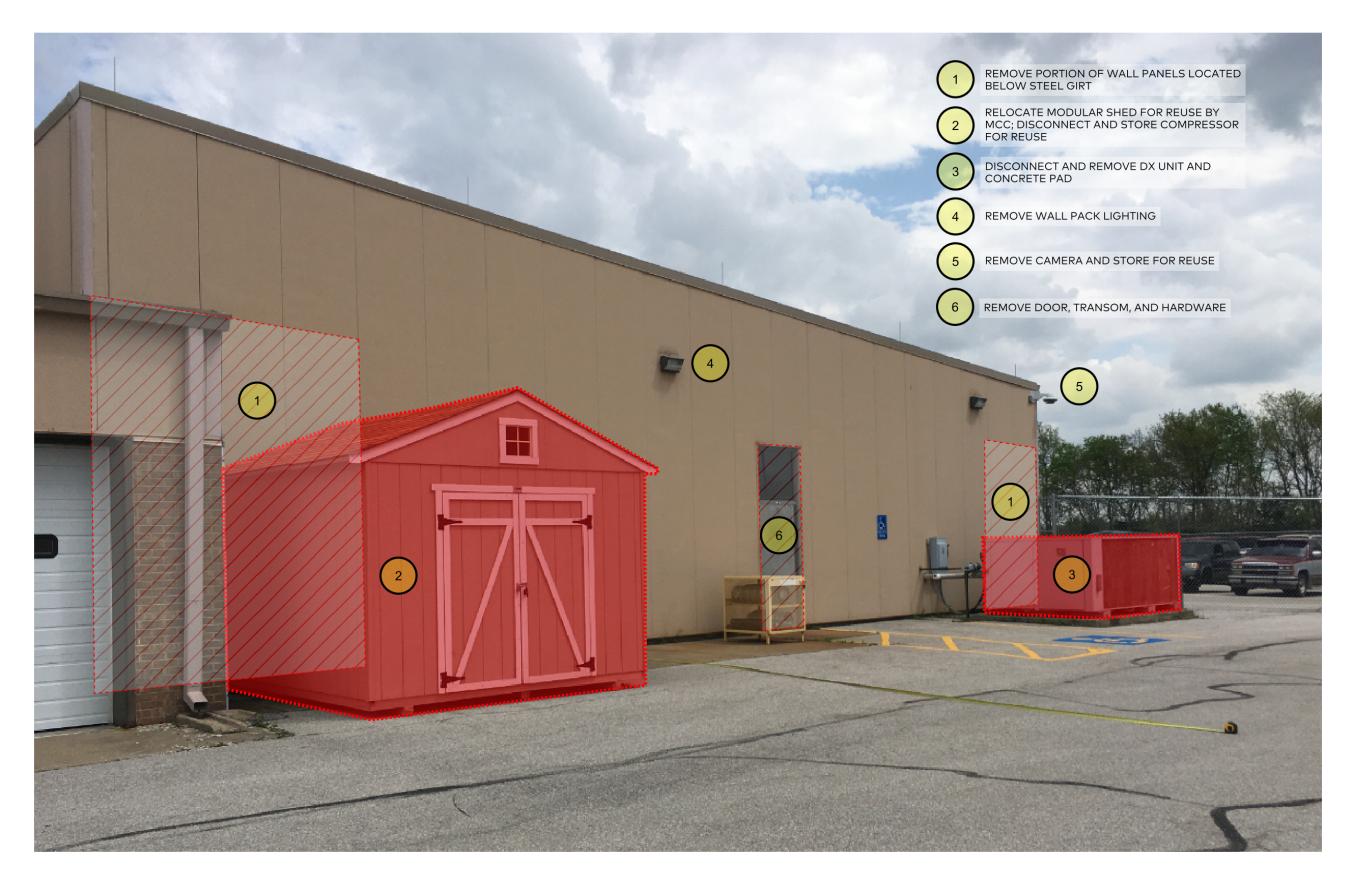
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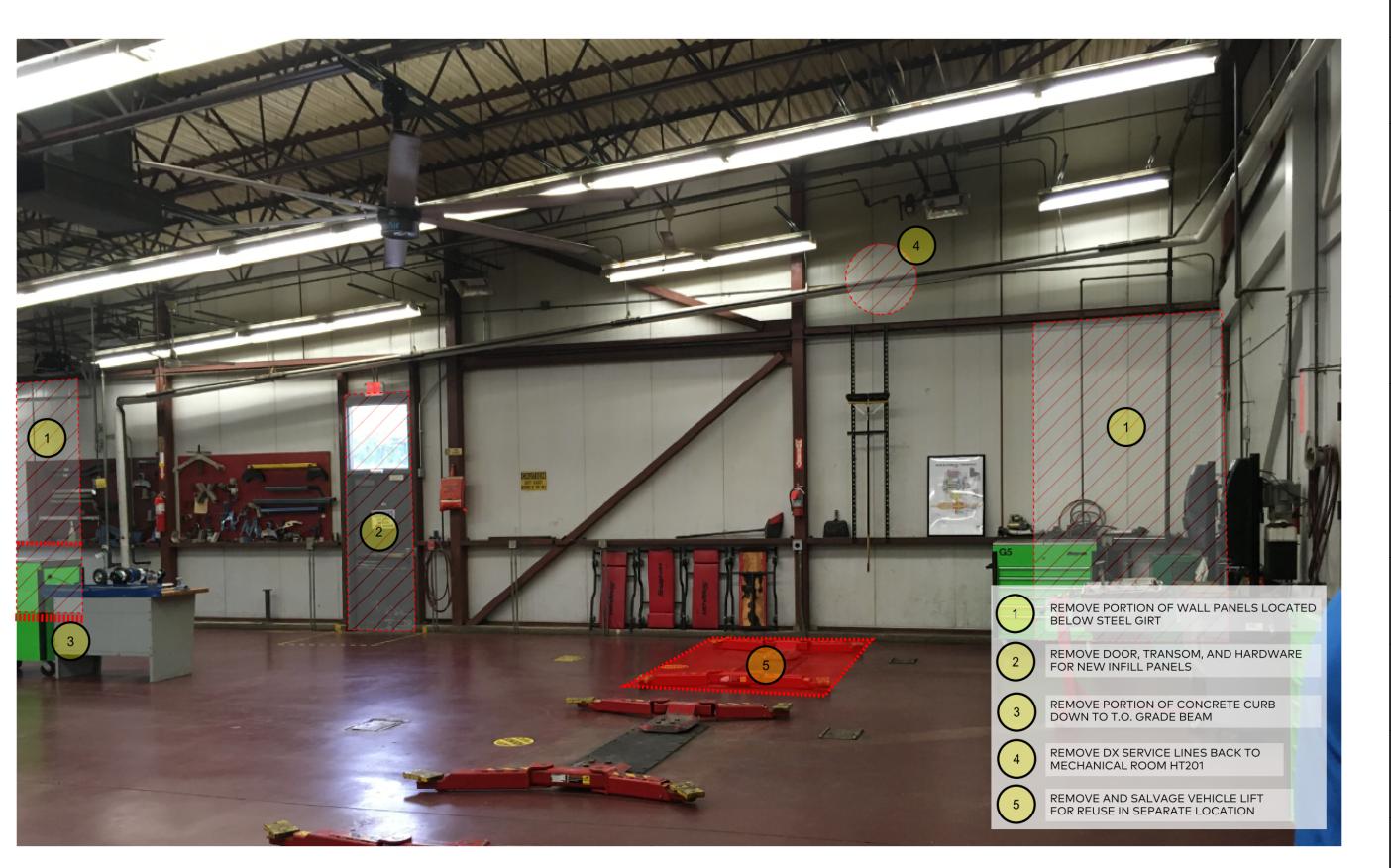
**MEPF Engineer** 



WEST HIGH BAY WALL - EXTERIOR

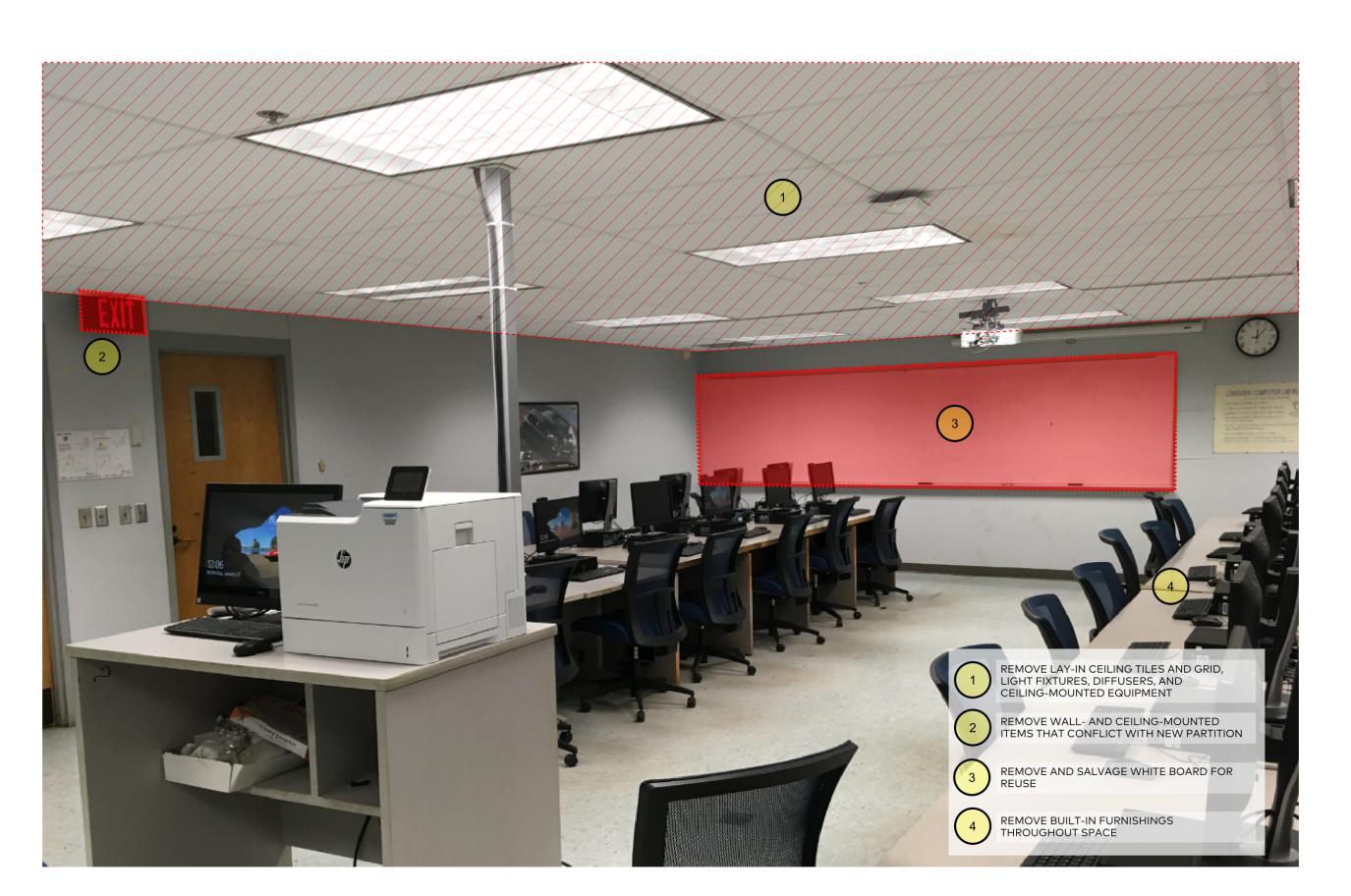


LEVEL 2 CLASSROOM - LOOKING NORTHWEST



WEST HIGH BAY WALL - INTERIOR

2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36



LEVEL 2 CLASSROOM - LOOKING SOUTHEAST

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35



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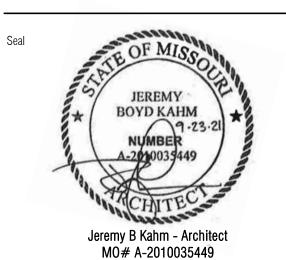
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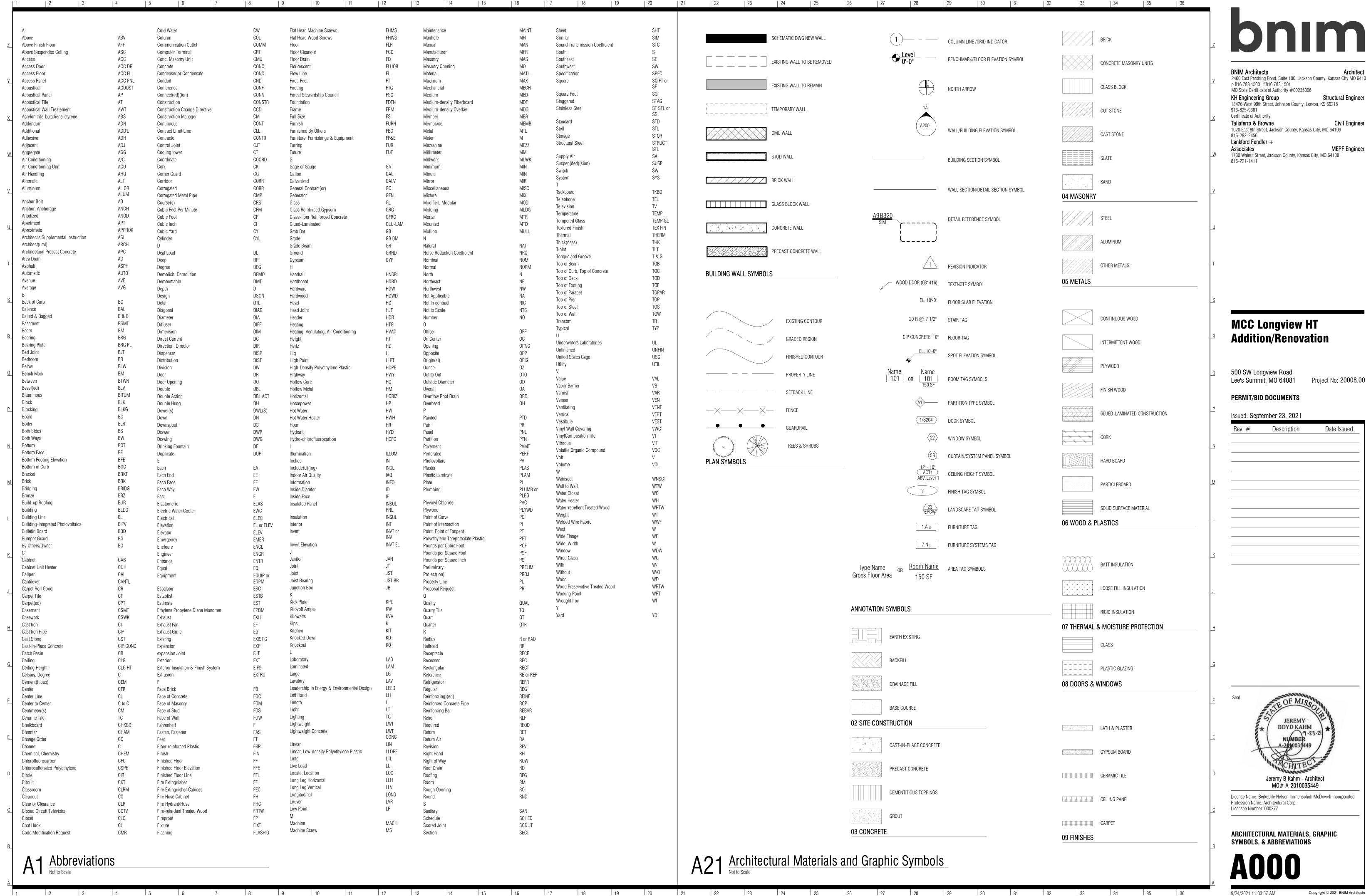


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bnim

2460 East Pershing Road, Suite 100, Jackson County, Kansas City MO 64108 Structural Engineer 13426 West 99th Street, Johnson County, Lenexa, KS 66215

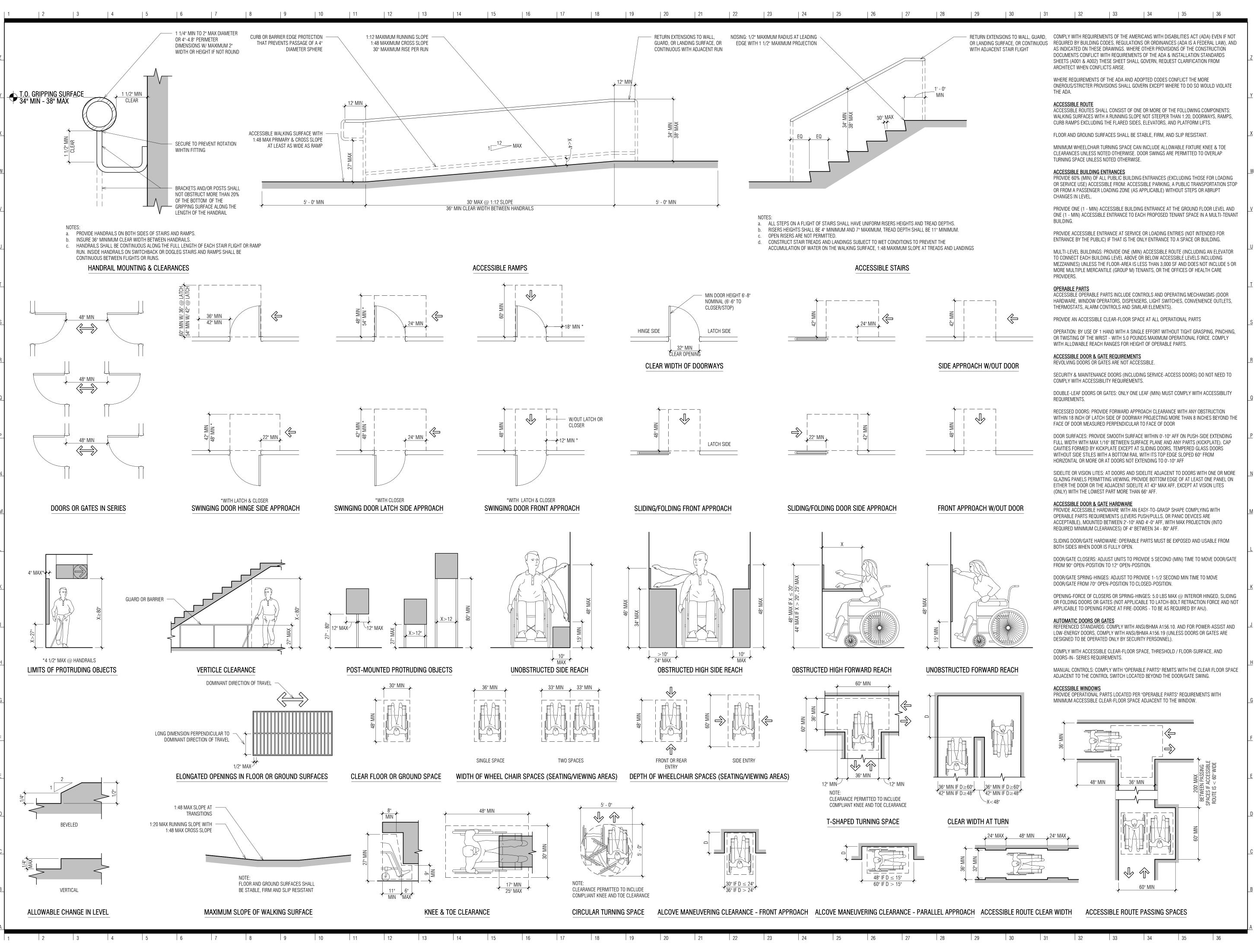
Civil Engineer 1020 East 8th Street, Jackson County, Kansas City, MO 64106

**MEPF Engineer** 1730 Walnut Street, Jackson County, Kansas City, MO 64108

Date Issued

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**ARCHITECTURAL MATERIALS, GRAPHIC** 





**BNIM Architects** 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

Structural Engineer KH Engineering Group 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

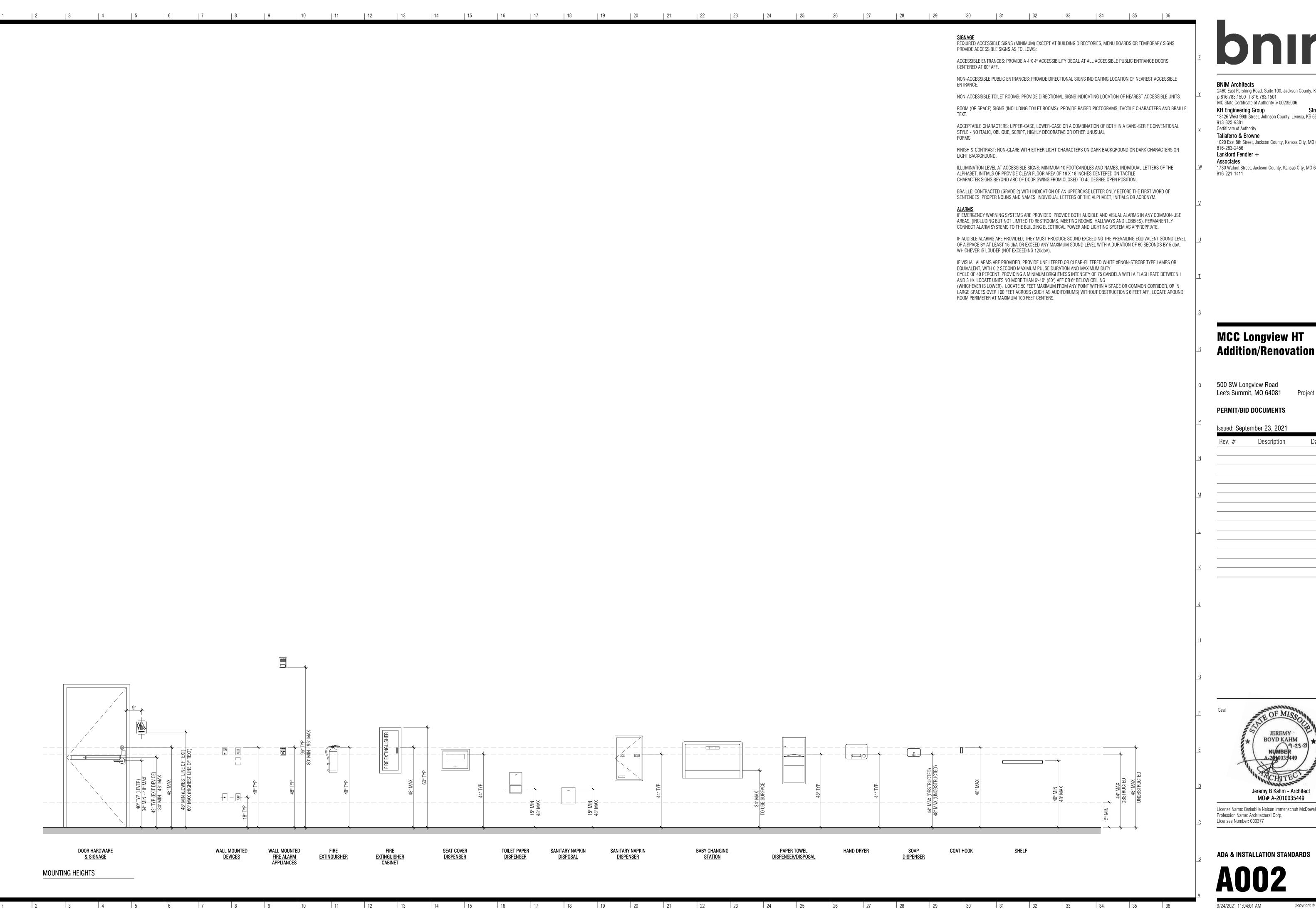
Description Date Issued

> BOYD KAHM Jeremy B Kahm - Architect MO# A-2010035449

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

**ADA & INSTALLATION STANDARDS** 

9/24/2021 11:04:00 AM





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KH Engineering Group Structural Engineer 13426 West 99th Street, Johnson County, Lenexa, KS 66215

Civil Engineer 1020 East 8th Street, Jackson County, Kansas City, MO 64106

MEPF Engineer

1730 Walnut Street, Jackson County, Kansas City, MO 64108

**MCC Longview HT** 

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

PERMIT/BID DOCUMENTS

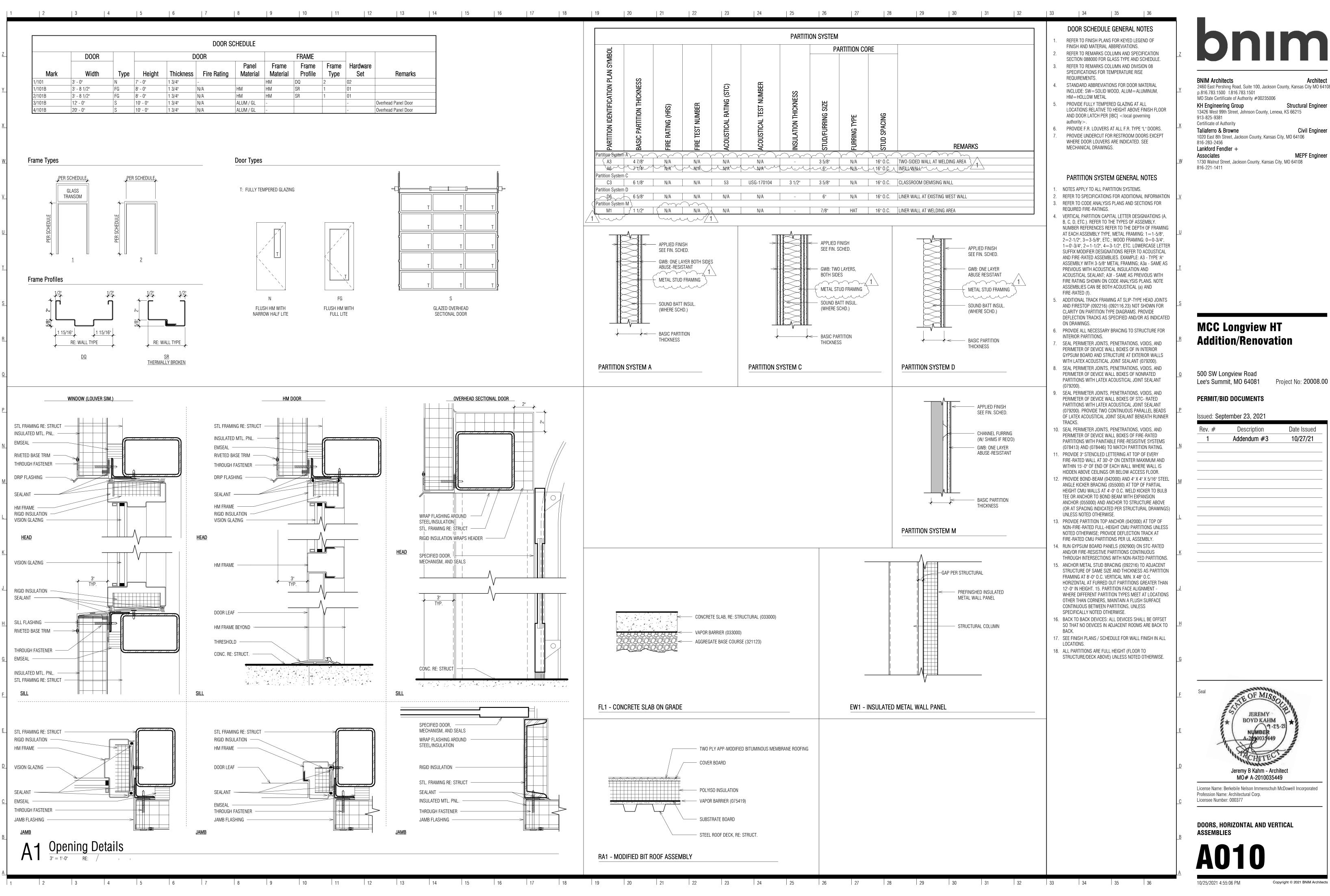
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**ADA & INSTALLATION STANDARDS** 





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MO State Certificate of Authority #00235006 Structural Engineer KH Engineering Group 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 +

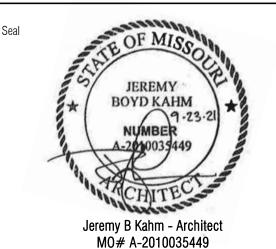
MEPF Engineer Associates 1730 Walnut Street, Jackson County, Kansas City, MO 64108

Date Issued

10/27/21

Description

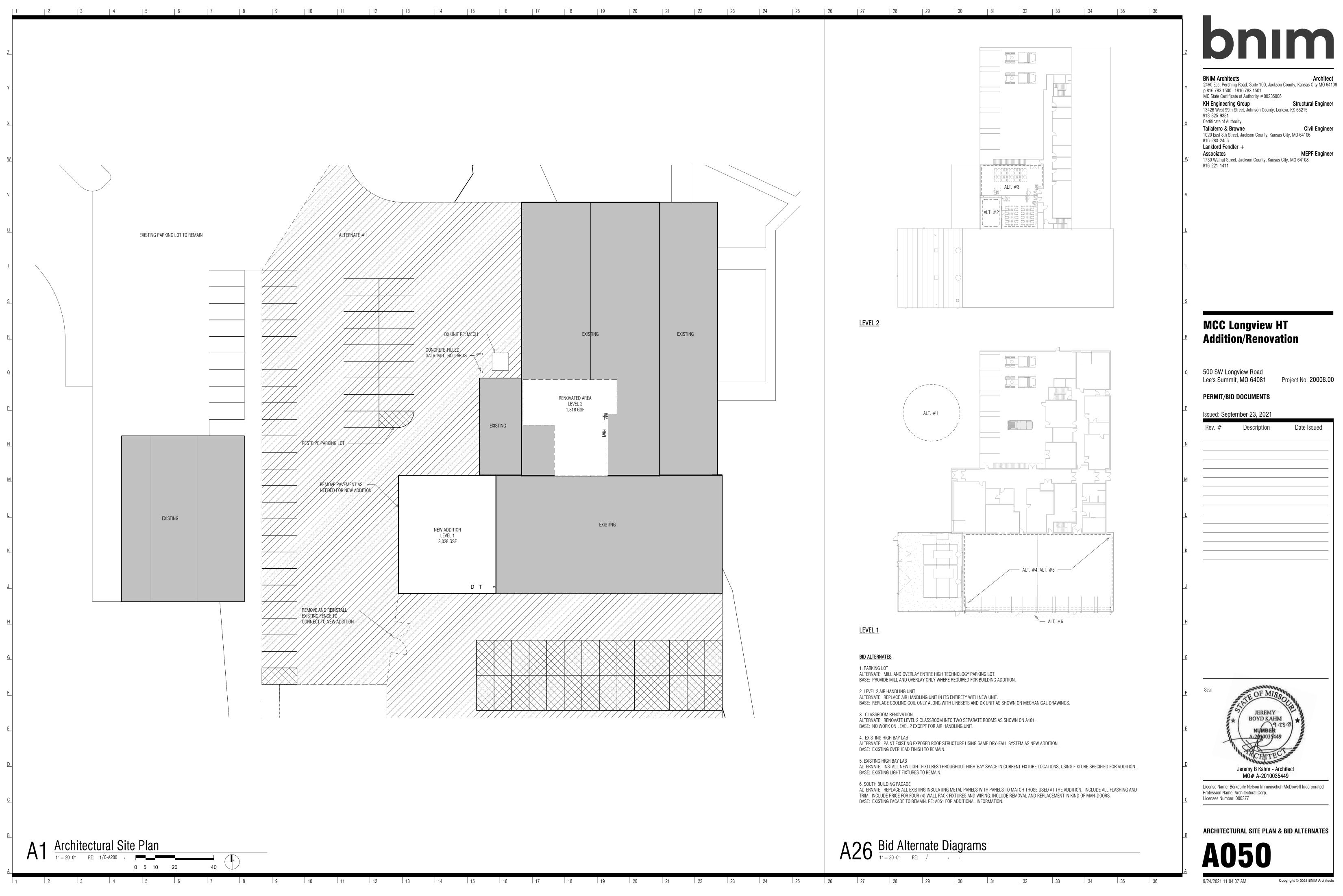
Addendum #3



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

DOORS, HORIZONTAL AND VERTICAL

**ASSEMBLIES** 





MEPF Engineer

Rev. #	Description	Date Issued

| 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 **BNIM Architects** p.816.783.1500 f.816.783.1501 MO State Certificate of Authority #00235006 KH Engineering Group 13426 West 99th Street, Johnson County, Lenexa, KS 66215 913-825-9381 Certificate of Authority Taliaferro & Browne 1020 East 8th Street, Jackson County, Kansas City, MO 64106 816-283-2456 Lankford Fendler + Associates 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 (C1) PROTECT EXIST. ROOFING SYSTEM IN PLACE OVERHEAD DOOR SCOPE (8 LOCATIONS): DOOR SCOPE (2 LOCATIONS) RETAIN EXIST. DOOR IN PLACE IF FEASIBLE REPLACE EXIST. DOOR AND HARDWARE IN KIND RETAIN EXIST. FRAME IN PLACE AND DEMOUNT AND STORE FOR REINSTALLATION IF NEEDED PREP AND PAINT TO MATCH ADDITION PREP AND PAINT STL. JAMBS TO MATCH ADDITION NORTH BAR HIGH ROOF 1016' - 8 5/8" PROVIDE NEW FLASHING AND TRIM AROUND DOOR PROVIDE NEW FLASHING AND TRIM AROUND DOOR NORTH BAR LOW ROOF 1013' - 8 5/8" BOLLARD SCOPE (16 LOCATIONS) - REPLACE EXIST. GUTTER AND (3) DOWNSPOUTS INSTALL NEW EGRESS LIGHTING AND WIRING TO MATCH RETAIN BOLLARDS IN PLACE WITH PROFILE TO MATCH EXIST., FINISH TO MATCH ADDITION SPECIFIED FIXTURE FOR ADDITION (2 LOCATIONS) PREP AND PAINT TO MATCH BOLLARDS AT ADDITION PROVIDE NEW SPLASH BLOCK AT (3) LOCATIONS SOUTH BAR ROOF HIGH 1010' - 2 5/8" REPLACE ALL INSULATED METAL PANELS ALONG THIS ELEVATION TO MATCH — EXTENTS OF ALTERNATE #6 INSTALL NEW WALL PACK LIGHTING AND WIRING TO MATCH SPECIFIED FIXTURE FOR ADDITION (UP TO 4 LOCATIONS) PRODUCT, THICKNESS, FINISH, AND DETAILS OF ADDITION LEVEL 2 1001' - 8 5/8" NEW ADDITION NOT PART OF ALTERNATE JEREMY . **BOYD KAHM** 2' - 9" 3' - 6" 2' - 9" 10' - 0" 10' - 0" 10' - 0" 10' - 0" 10' - 0" Jeremy B Kahm - Architect FIELD VERIFY ALL DIMENSIONS AND MEASUREMENTS 116' - 0" MO# A-2010035449 Profession Name: Architectural Corp. Licensee Number: 000377 ALTERNATE #6 ELEVATION A1 Alternate #6 Elevation  $\frac{\text{Alternate } \#6 \text{ Elevation}}{3/16" = 1'-0" \text{ RE: } /}$ Copyright © 2021 BNIM Architects 9/24/2021 11:04:09 AM 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35



2460 East Pershing Road, Suite 100, Jackson County, Kansas City MO 64108

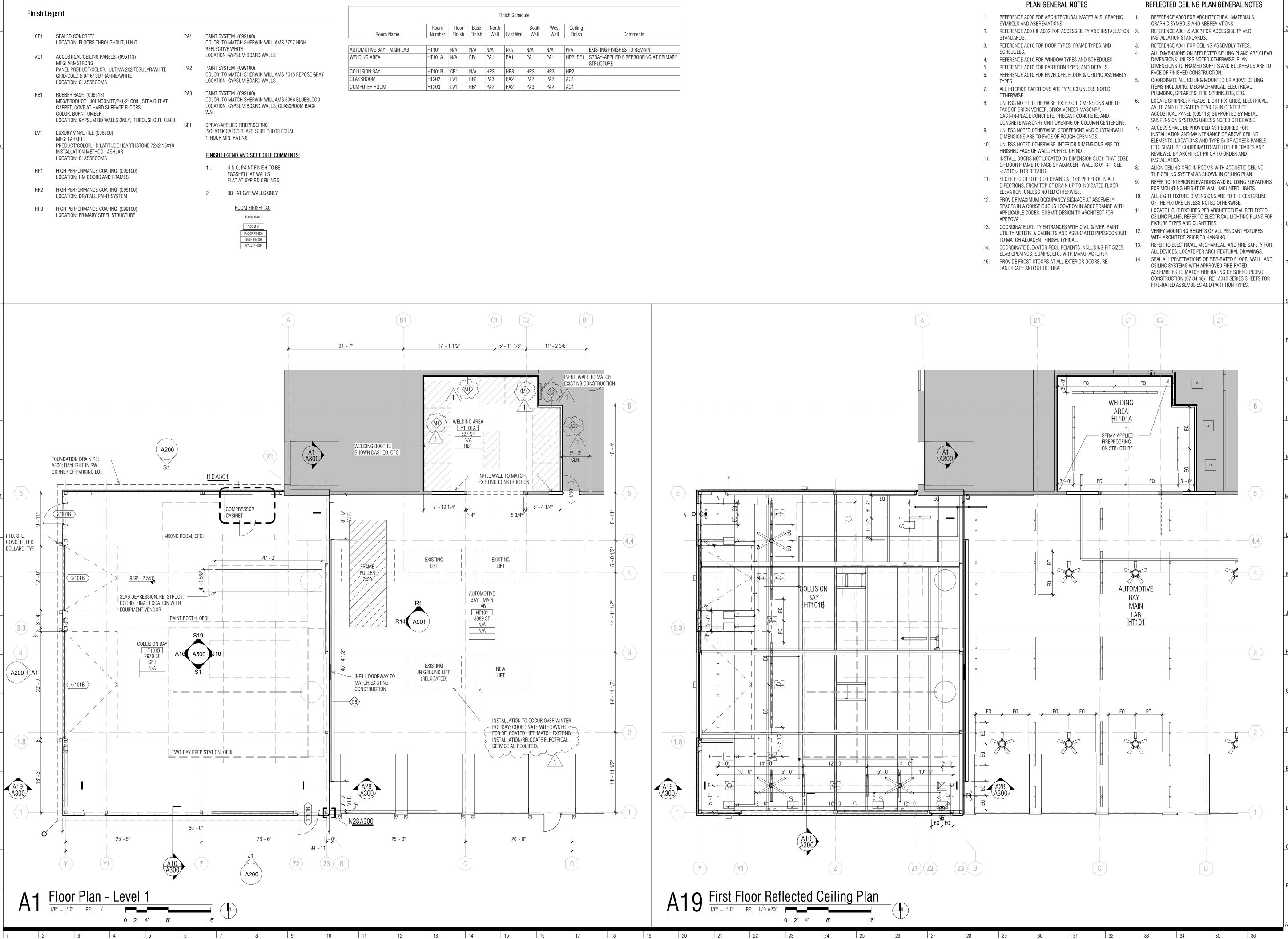
Structural Engineer

Civil Engineer

MEPF Engineer

Date Issued

License Name: Berkebile Nelson Immenschuh McDowell Incorporated



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Lankford Fendler +

**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

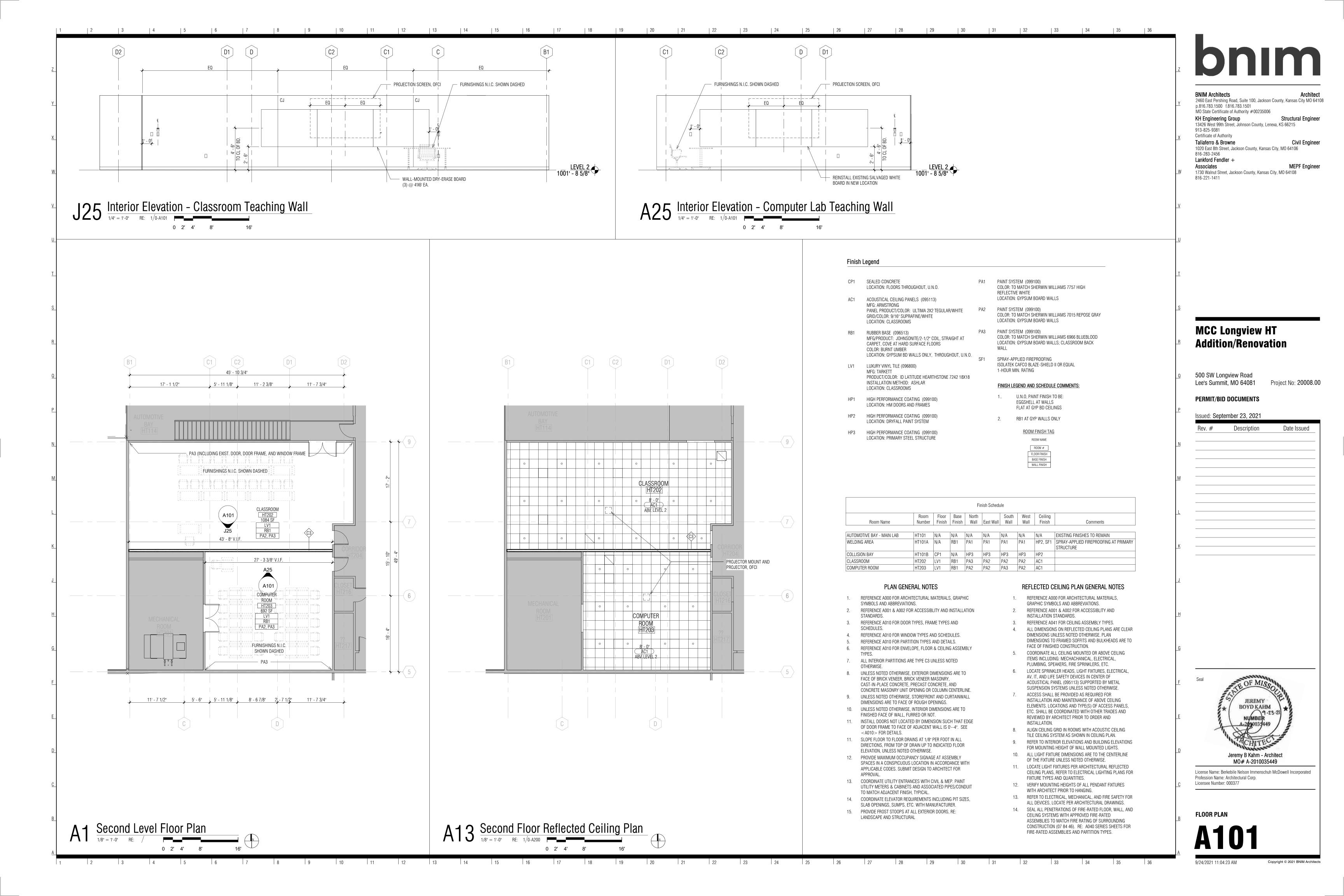
Date Issued Description 10/27/21 Addendum #3

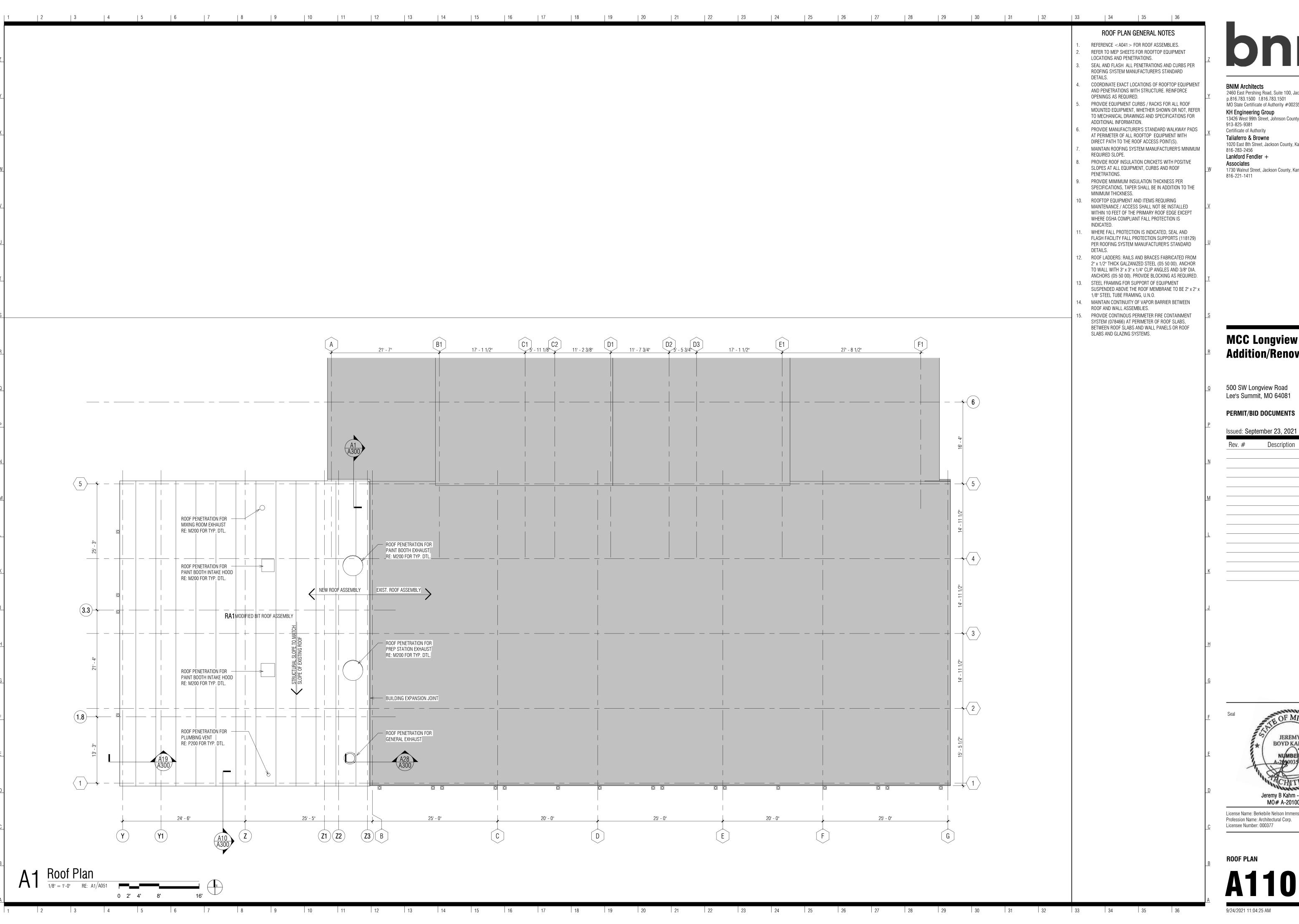
BOYD KAHM MO# A-2010035449

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**FLOOR PLAN** 

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1730 Walnut Street, Jackson County, Kansas City, MO 64108

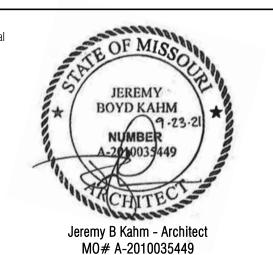
# **MCC Longview HT Addition/Renovation**

500 SW Longview Road

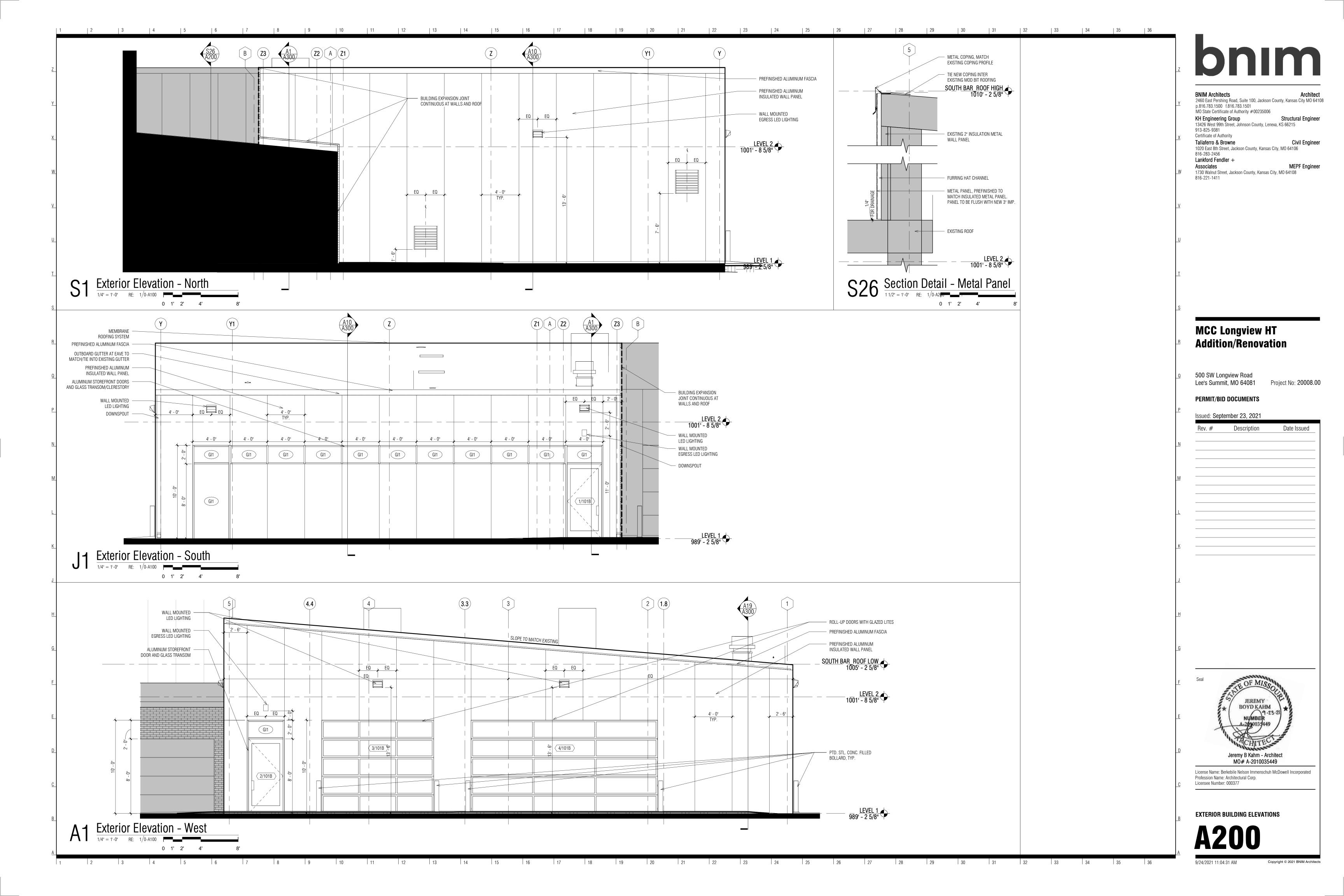
Lee's Summit, MO 64081 Project No: 20008.00

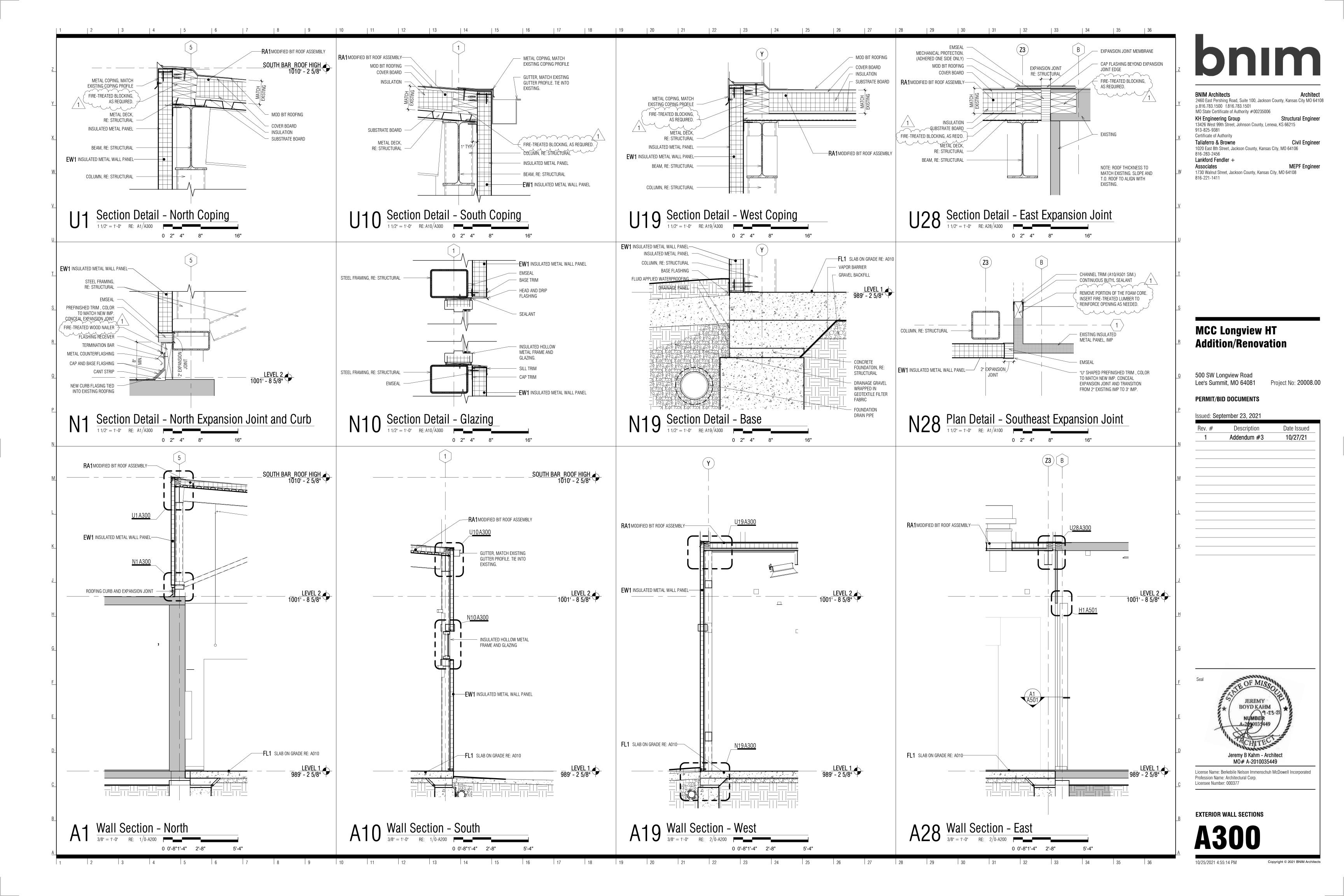
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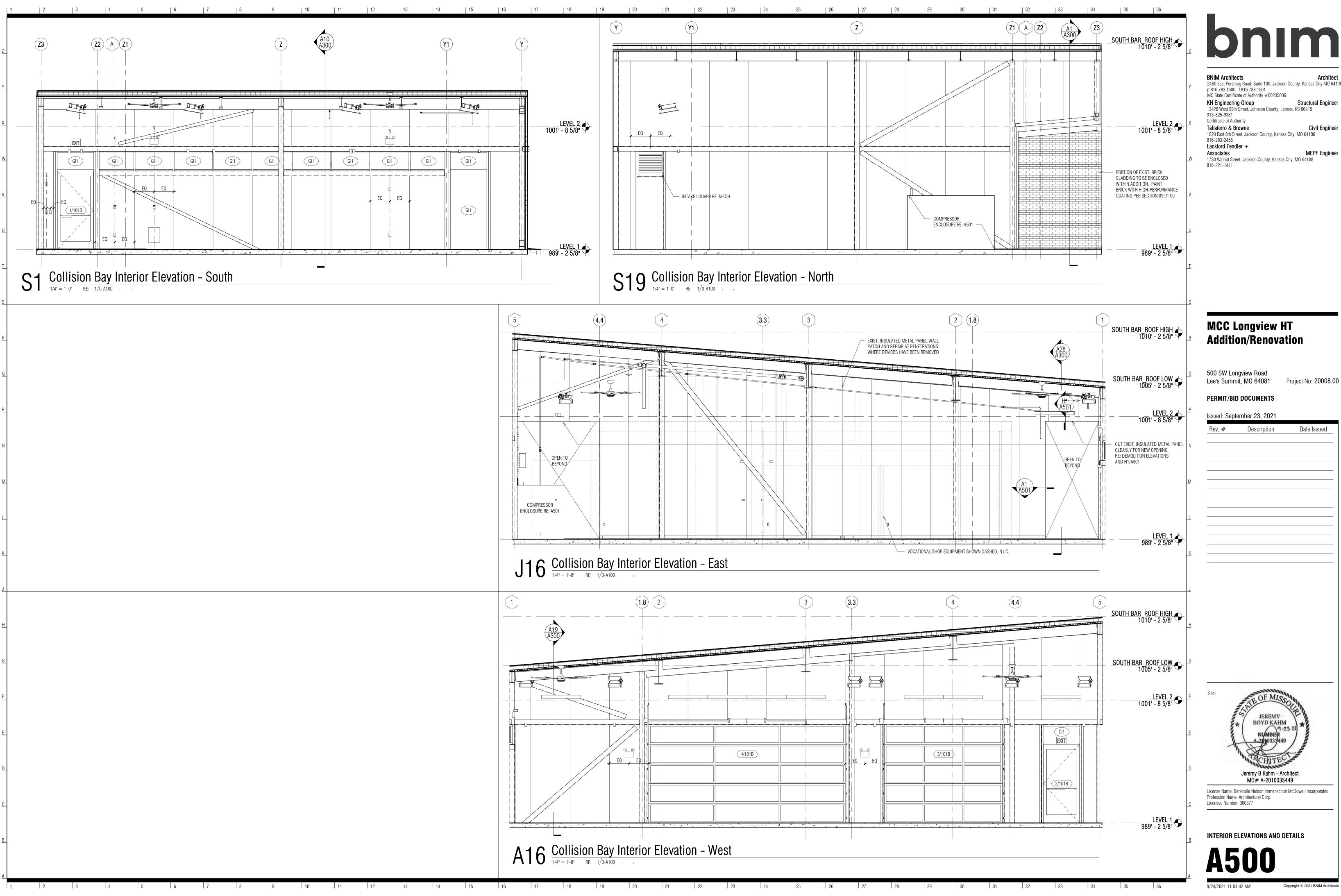
Description Date Issued



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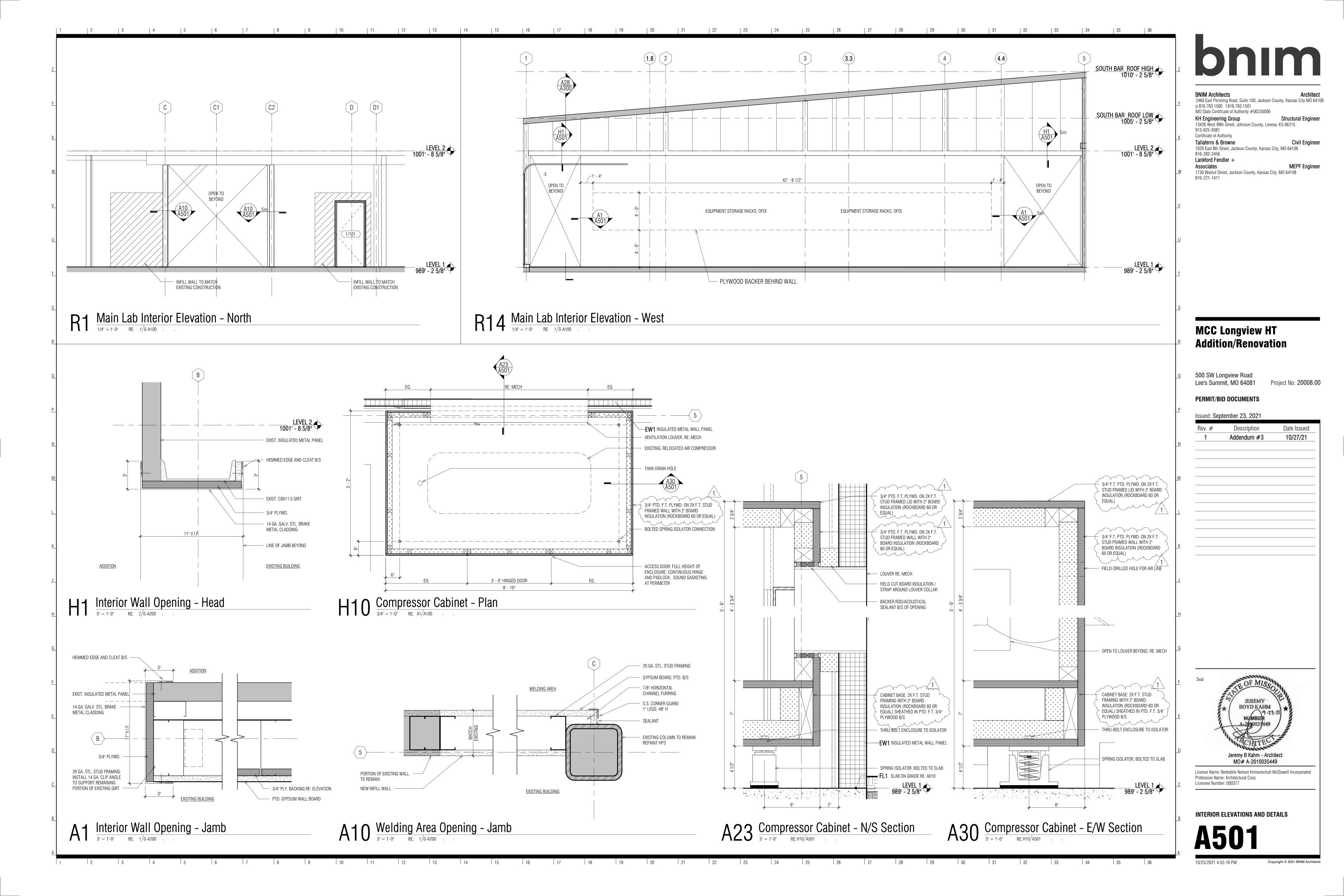


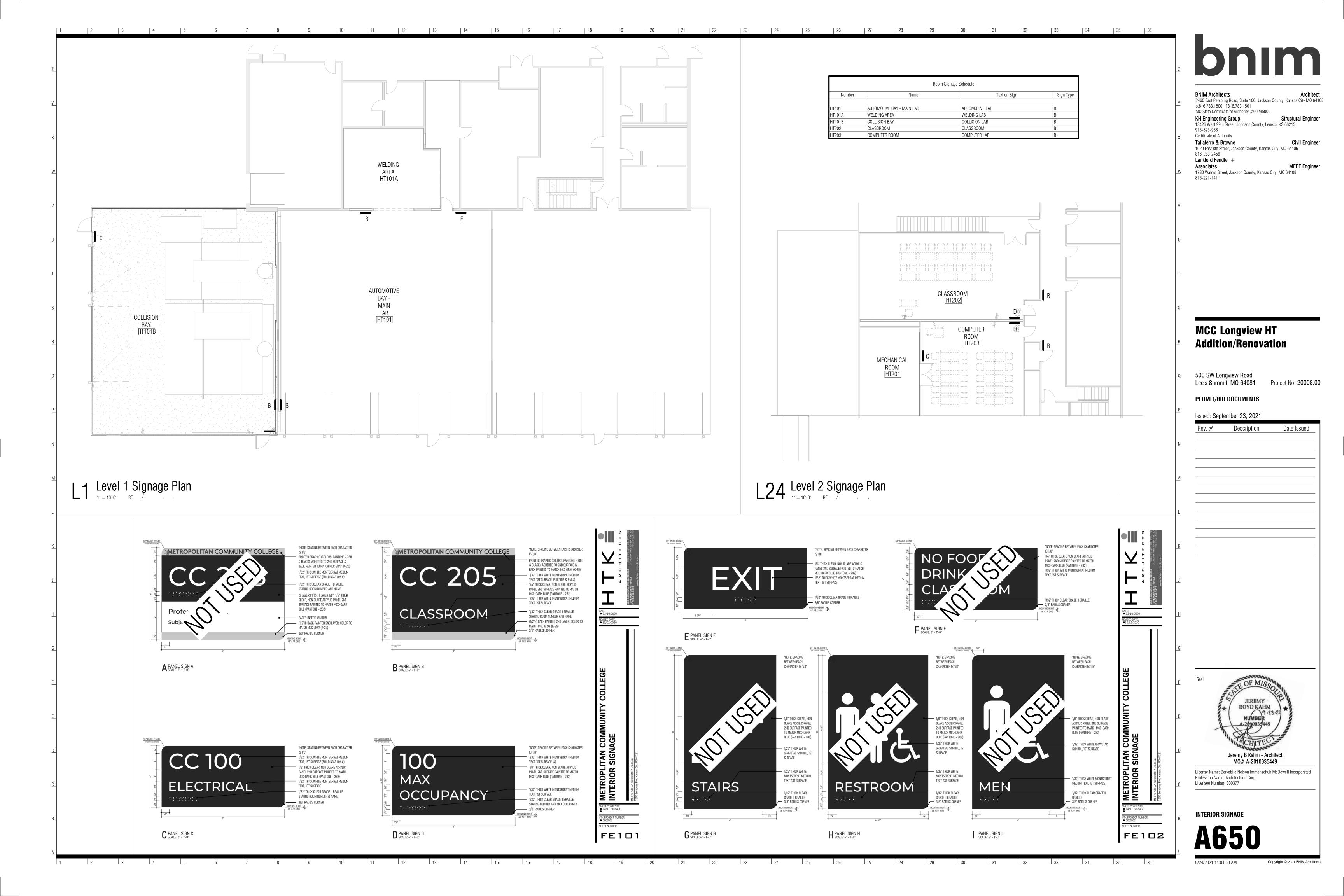


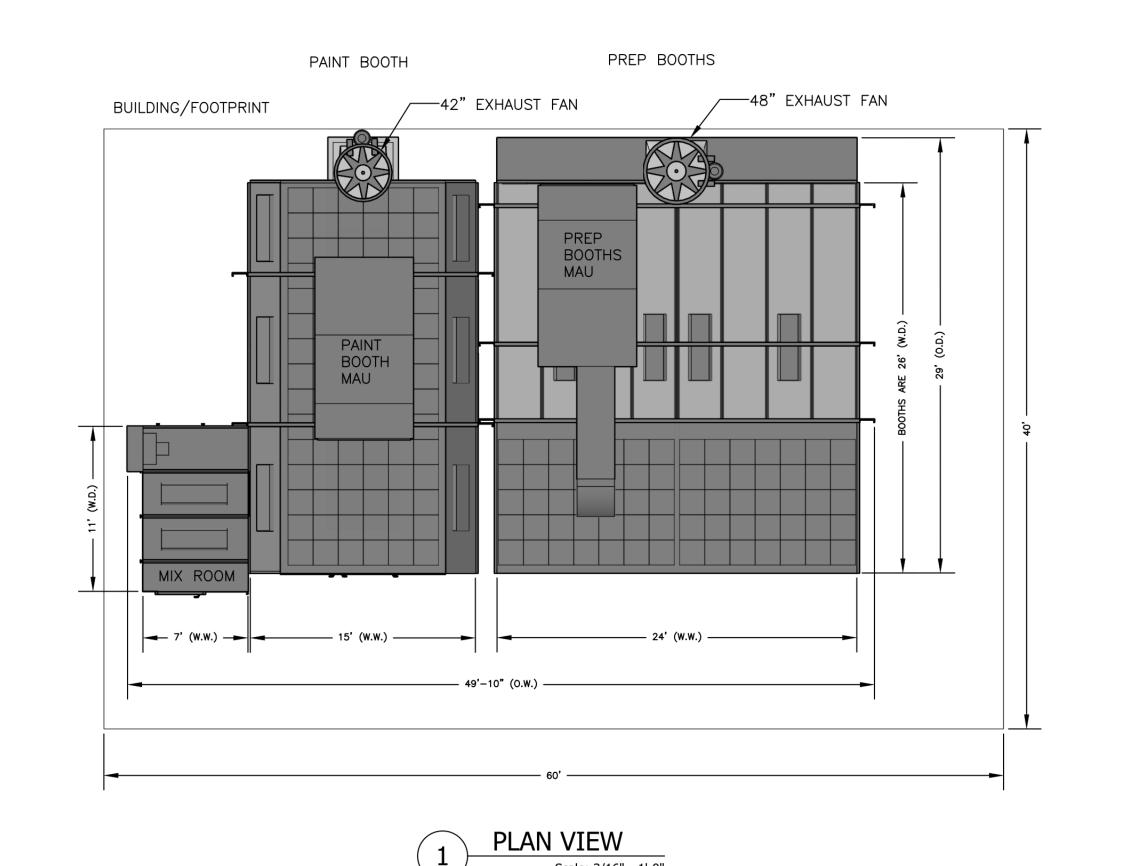


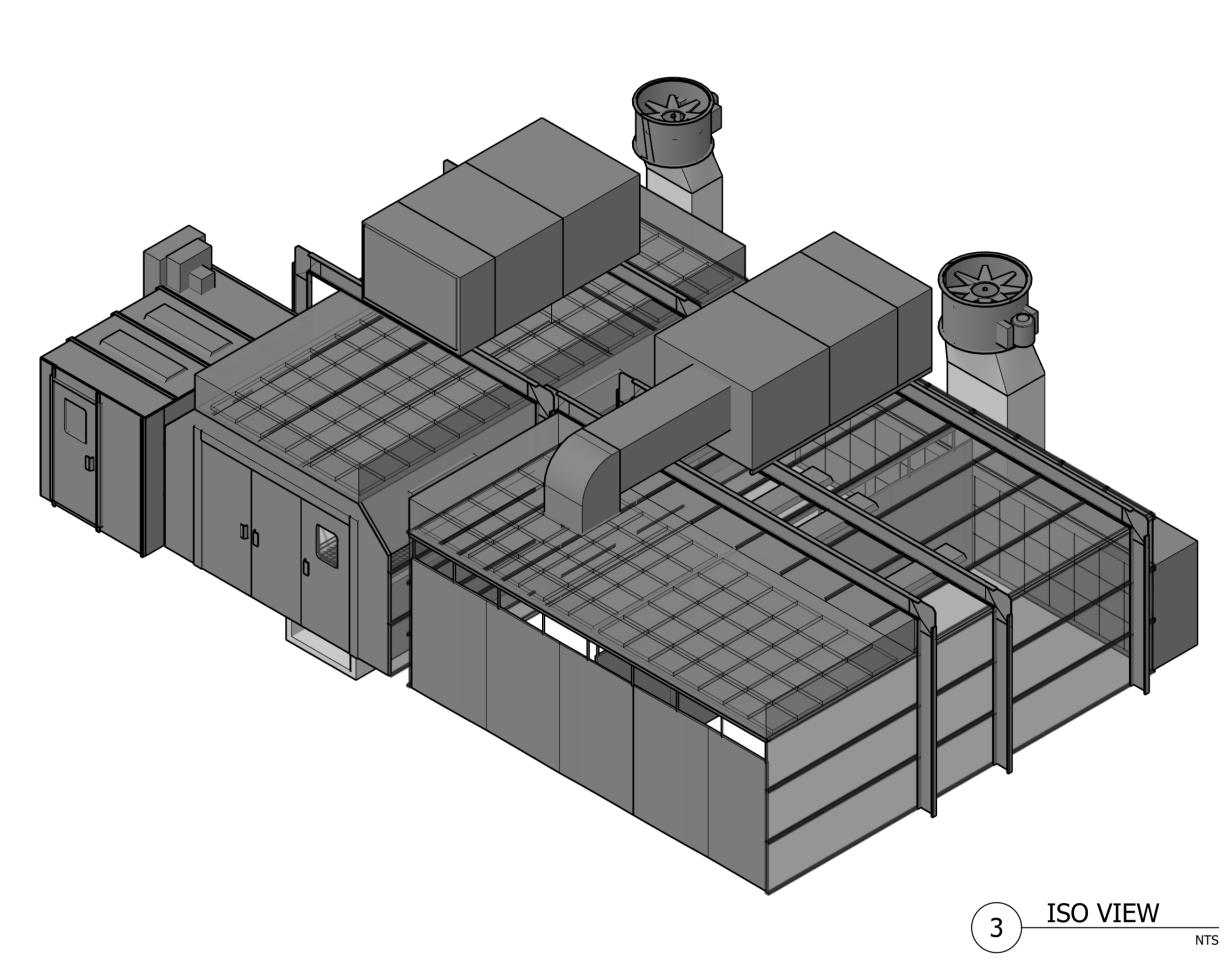


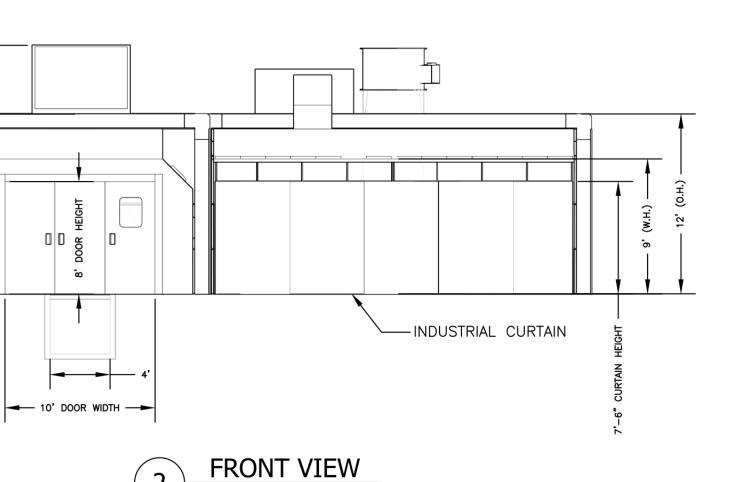
BNIM Architects Architect 2460 East Pershing Road, Suite 100, Jackson County, Kansas City MO 64108

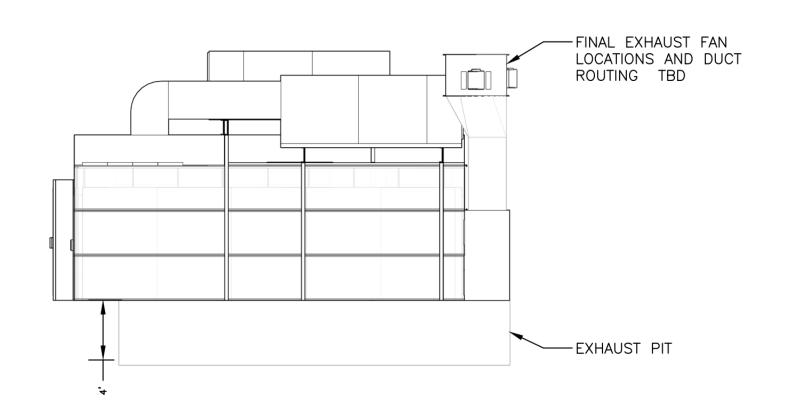














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ISSUED DATE: 8/26/21

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Issued: September 23, 2021

Rev. # Description Date Issued

JEREMY
BOYD KAHM
9 - 23 - 21
NUMBER
A-2010035449

Jeremy B Kahm - Architect
M0# A-2010035449

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

VOCATIONAL SHOP EQUIPMENT (FOR REFERENCE ONLY)

**A800** 

FOR REFERENCE ONLY

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.

<u>H</u>

<u>F</u>

(2) MAN DOORS,—

ONE FOR MIX ROOM AND ONE

CONNECTING PAINT BOOTH

AND MIX ROOM

<u>C</u>

3

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1		2   3   4	5	6	7	8	9
1.	<u>GEI</u>	IERAL REQUIREMENTS:					
	A.	BUILDING CODE: 2018 INTERN	IATIONAL BUIL	DING CODE			
<u>Z</u>	B.	FLOOR LIVE LOADS: a. PUBLIC AREAS			100 PSF	:	
<u>Y</u>	C.	ROOF LIVE LOADS: a. ORDINARY FLAT, PITCH b. CONCENTRATED LOAD			20 PSF 300 LBS	;	
X	D.	ROOF SNOW LOAD  a. GROUND SNOW LOAD, I  b. FLAT ROOF SNOW LOAI  c. SNOW EXPOSURE FACT  d. SNOW LOAD IMPORTAN  e. THERMAL FACTOR, Ct, I	D, Pf TOR, Ce ICE FACTOR, I		20 PSF 20 PSF 1.0 1.0 1.0		
W	E.	f. DRIFTING WIND LOADS			PER CC		
<u>V</u>		<ul> <li>a. BASIC WIND SPEED (3 S</li> <li>b. RISK CATEGORY</li> <li>c. WIND EXPOSURE</li> <li>d. INTERNAL PRESSURE C</li> <li>e. COMPONENTS AND CLA</li> </ul>	COEFFICIENT (		109 MPI II C +/- 0.18 PER CC		
<u>U</u>	F.	SEISMIC LOADS a. RISK CATEGORY b. SPECTRAL RESPONSE	ACCELERATIC	DN: Ss	II 0.099g		
<u>T</u>		c. SEISMIC IMPORTANCE I d. SPECTRAL RESPONSE (		S1 I	0.0999 0.068g 1.0 0.086 0.068		
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<u>R</u>		<ul> <li>h. RESPONSE MODIFICATI</li> <li>i. SEISMIC RESPONSE CO</li> <li>j. DESIGN BASE SHEAR</li> <li>k. ANALYSIS PROCEDURE</li> </ul>	DEFFICIENT,	ENT, R Cs	FOR SE 3 0.029 0.029W EQUIVA		TERAL FOF
Q	G.	DEAD LOADS a. STRUCTURE b. MISC. UNDERHUNG MEG	CHANICAL		ACTUAI 10 PSF	. WEIGH	Г
<u>P</u>	H.	CONTRACTOR SHALL REVIEW OTHER CONTRACT DOCUMEN REPORT ANY INCONSISTENC WORK.	NTS, VERIFYIN	G ALL DIMEN	NSIONS AN	D ELEVA	TIONS, AN
<u>N</u>	I.	THE BUILDING IS NOT STRUC'S HEAR WALLS, PERMANENT I COMPLETE AND HAVE ACHIEV RESPONSIBLE FOR MAINTAIN CONSTRUCTION. TEMPORAR STRUCTURAL WORK IS COMPDURING CONSTRUCTION.	BRACING AND VED THEIR DE IING STRUCTU RY BRACING SY	EXTERIOR L SIGN STREN JRAL STABIL YSTEMS ARE	LOAD BEAF NGTH. CON ITY DURING E NOT TO E	RING WAL ITRACTO S ERECT E REMO	LS ARE R IS SOLEI ION AND VED UNTIL
	J.	FURNISH ALL LABOR, MATERI WORK SHOWN OR INFERRED			CESSARY T	O COMPI	LETE THE
<u>L</u>	K.	REFERENCE THE SPECIFICAT	TION FOR ADD	ITIONAL REC	QUIREMEN'	ΓS.	
<u>K</u>	L.	THE EXISTING CONDITIONS IN MADE BY THE CONSULTANT(S AND NO CLAIM IS MADE AS TO PRIOR TO THE START OF CONVERIFY EXISTING CONDITION NOTIFY THE ARCHITECT IMMERELATION TO THE INFORMAT	S) AS WELL AS O ITS ABSOLU NSTRUCTION ( IS AND DIMENS EDIATELY OF A	S ON MATER TE COMPLE OPERATIONS SIONS PERT ANY DISCRE	IAL PROVIC TENESS AN S, THE CON AINING TO PANCIES F	DED BY T ID/OR AC ITACTOR THIS CO	HE OWNER CURACY. SHALL FIE NTRACT.
<u> </u>	M.	THE STRUCTURAL SYSTEMS OF THE FINAL, IN PLACE US, OCCUPANCY AND CODE REQUEEN CONSIDERED, THE STRUCCOMMODATE SPECIFIC CO	AGE OF THE S UIREMENTS. V RUCTURAL SYS	STRUCTURE WHILE GENE STEMS HAVE	BASED ON RAL CONS NOT BEEN	THE INT TRUCTAE I DESIGN	ENDED BILITY HAS IED TO
<u>G</u>	N.	UTILIZED BY THE CONTRACTO HANDRAILS AND GUARDS SH. 200 LBS AND A UNIFORM LOA	OR. ALL BE DESIG D OF 50 PLF, I	NED TO RES N ANY DIREC	SIST A CON CTION, AT	CENTRA <sup>-</sup> ANY POIN	TED LOAD
_ 2.	Q D E	HANDRAIL. THE CONCENTRATION CONCURRENTLY.  CIAL INSPECTIONS:	TED LOAD AND	) UNIFORM L	_OAD ARE	NOT ASS	UMED TO A
<u>F</u> 2.	A.	THE STRUCTURAL DESIGN FO SPECIAL INSPECTIONS DURIN THE 2018 INTERNATIONAL BU	NG CONSTRUC	CTION IN ACC	CORDANCE	WITH C	HAPTER 17
E	В.	QUALIFIED SPECIAL INSPECT THE FOLLOWING ITEMS REQU	ORS TO PROV	INSPECTION	QUIRED SF N. THE GEN	ECIAL IN	SPECTION ONTRACTO
<u>D</u>		SHALL PROVIDE NOTIFICATION SPECIAL INSPECTION ARE RESTREAM ITEMS REQUIRING SPECIAL IN a. PLACEMENT OF CONCRETE C. PLACEMENT OF REINFO	EADY FOR OBS NSPECTION. RETE E	SERVATION /			-•-
<u>C</u>		d. BOLTS & ANCHORS EME e. STRUCTURAL STEEL FR f. HIGH STRENGTH BOLTII g. STRUCTURAL WELDING	BEDDED IN CC RAMING NG				
<u>B</u>		h. ROOF AND FLOOR DECI i. POST INSTALLED ANCH j. VERIFICATION OF SOILS k. HELICAL PILE FOUNDAT I. SHOP FABRICATION OF	K ATTACHMEN IORS IN MASOI S, EXCAVATIOI FIONS	NRY AND CO NS, FILLING	& COMPAC		IS NOT AIS

| 15 | 16 | 17 | 18 C. THE SPECIAL INSPECTOR SHALL FURNISH SPECIAL INSPECTION REPORTS TO THE BUILDING OFFICIAL, OWNER, ARCHITECT AND STRUCTURAL ENGINEER, ETC. ERNATIONAL BUILDING CODE D. ALL DISCREPANCIES SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE CONTRACTOR FOR CORRECTION. IF LEFT UNCORRECTED THE DISCREPANCIES SHALL 100 PSF BE BROUGHT TO THE ATTENTION OF THE BUILDING OFFICIAL, OWNER, ARCHITECT AND STRUCTURAL ENGINEER. TCHED, AND CURVED ROOFS 20 PSF THE SPECIAL INSPECTOR SHALL SUBMIT A FINAL SIGNED REPORT STATING THAT THE AD ON ROOF SURFACES 300 LBS WORK REQUIRING SPECIAL INSPECTION WAS. TO THE BEST OF THE SPECIAL INSPECTOR'S KNOWLEDGE, IN CONFORMANCE WITH APPROVED PLANS AND SPECIFICATIONS. 20 PSF AD, Pg OAD, Pf 20 PSF 3. <u>FOUNDATIONS</u> ACTOR, Ce 1.0 TANCE FACTOR. 1.0 A. THE GENERAL CONTRACTOR AND FOUNDATION CONTRACTOR SHALL UNDERSTAND Ct, HEATED STRUCTURE 1.0 THE SURVEY AND GEOTECHNICAL REPORT BEFORE BIDDING THE WORK PER CODE RECOMMENDATIONS CONTAINED IN THE GEOTECHNICAL REPORT SHALL BE INCLUDED IN THE CONTRACTOR'S WORK. UNLESS SPECIFIED OR DETAILED OTHERWISE. (3 SECOND GUST) 109 MPH 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. RE COEFFICIENT (GCpi) +/- 0.18 PER CODE CONTRACTOR SHALL REMOVE EXISTING FOOTINGS AND FOUNDATIONS THAT ARE CLADDING LOCATED WITHIN THE FOOTPRINT OF THE NEW BUILDING. D. CONTRACTOR SHALL NOTIFY ENGINEER OF ANY UNUSUAL SOIL CONDITIONS THAT ARE SE ACCELERATION: IN VARIANCE WITH THE GEOTECHNICAL REPORT OR WHEN DIFFERENT BEARING MATERIAL IS EVIDENT AND THERE IS A QUESTIONS OF BEARING CAPACITY. 0.099q0.068g THE CONTRACTOR SHALL RETAIN A GEOTECHNICAL ENGINEER REGISTERED IN THE CE FACTOR. 1.0 STATE WHERE THE PROJECT IS LOCATED TO TEST AND OBSERVE ALL EARTHWORK SE COEFFICIENTS: FOUNDATION, AND SLAB SUPPORT MATERIAL TO VERIFY COMPLIANCE WITH THE SDS SD1 DESIGN REQUIREMENTS AND CONTRACT DOCUMENTS. CONCRETE SHALL NOT BE 0.068 PLACED WITHOUT GEOTECHNICAL ENGINEER'S APPROVAL. CE-RESISTING SYSTEM STEEL SYSTEM NOT FOUNDATIONS AND STRIP FOOTINGS ARE DESIGNED TO BEAR ON NON-EXPANSIVE SPECIFICALLY DETAILED SOIL CAPABLE OF SUSTAINING 2000 PSF FOR SEISMIC CATION COEFFICIENT, R CONTRACTORS SHALL BE RESPONSIBLE FOR REMOVAL AND DISPOSAL OF UNSUITABLE COEFFICIENT, 0.029 FILL MATERIAL OR ORGANIC MATERIAL TO AN APPROVED LANDFILL. EQUIVALENT LATERAL FORCE 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 **ACTUAL WEIGHT** SHOWN ON THE CONTRACT DOCUMENTS. **MECHANICAL** 10 PSF IEW AND COMPARE THE STRUCTURAL DRAWINGS WITH ALL THE SPECIALTY GEOTECHNICAL CONTRACTOR SHALL SUBMIT SHOP DRAWINGS SEALED BY A MISSOURI LICENSED PROFESSIONAL ENGINEER FOR COORDINATION MENTS, VERIFYING ALL DIMENSIONS AND ELEVATIONS, AND ENCIES TO THE ENGINEER BEFORE PROCEEDING WITH THE WITH BUILDING PLANS AND SITE UTILITIES. SHOP DRAWINGS SHALL SHOW ALL DETAILS OF THE HELICAL PIER SYSTEM AND CONNECTOIN TO THE CONCRETE FOUNDATIONS. RUCTURALLY STABLE UNTIL ALL CONNECTIONS, FRAMING. AFTER INSTALLATION, THE SPECIALTY GEOTECHNICAL CONTRACTOR'S PROFESSIONAL NT BRACING AND EXTERIOR LOAD BEARING WALLS ARE ENGINEER SHALL SUBMIT A LETTER INDICATING THAT THE HELICAL PIERS WERE HIEVED THEIR DESIGN STRENGTH. CONTRACTOR IS SOLELY INSTALLED ACCORDING TO HIS/HER DESIGN AND ARE SUTABLE TO SUPPORT THE AINING STRUCTURAL STABILITY DURING ERECTION AND FOUNDATIONS AS DESIGNED. RARY BRACING SYSTEMS ARE NOT TO BE REMOVED UNTIL OMPLETE. THE DESIGN LOADS SHALL NOT BE EXCEEDED CONCRETE: CAST-IN-PLACE CONCRETE CONSTRUCTION SHALL CONFORM TO THE LATEST ERIALS AND EQUIPMENT NECESSARY TO COMPLETE THE AMERICAN CONCRETE INSTITUTE DOCUMENTS, ACI-301, 305, 306, 315, 318 AND 347 AND CONCRETE REINFORCING STEEL INSTITUTE MANUAL OF STANDARD PRACTICE UNLESS RED BY THESE DRAWINGS. OTHERWISE NOTED IN THESE CONTRACT DOCUMENTS. ICATION FOR ADDITIONAL REQUIREMENTS. B. ALL CONCRETE SHALL BE NORMAL WEIGHT CONCRETE. IS INDICATED ON THE DRAWINGS ARE BASED ON SURVEYS C. ALL CONCRETE, UNLESS OTHERWISE NOTED, SHALL DEVELOP A MINIMUM 28 DAY NT(S) AS WELL AS ON MATERIAL PROVIDED BY THE OWNER COMPRESSIVE STRENGTH, HAVE MAXIMUM WATER/CEMENT RATIO AND ACI 318 S TO ITS ABSOLUTE COMPLETENESS AND/OR ACCURACY. CONSTRUCTION OPERATIONS, THE CONTACTOR SHALL FIELD-**EXPOSURE CLASS AS FOLLOWS:** IONS AND DIMENSIONS PERTAINING TO THIS CONTRACT. MMEDIATELY OF ANY DISCREPANCIES FOUND AT THE SITE IN CONCRETE USAGE STRENGTH (w/c) EXPOSURE MATION PROVIDED ON THE DRAWINGS. **FOOTINGS, GRADE BEAMS:** 4500 PSI (w/c<0.45) F2,C1,W1,S0 4000 PSI (w/c<0.45) F0,C0,W1,S0 INTERIOR SLAB-ON-GRADE: 5000 PSI (w/c<0.40) F0,C2,W1,S0 INTERIOR VEHICLE SLABS: MS SHOWN ON THESE DOCUMENTS HAVE BEEN DESIGNED 5000 PSI (w/c<0.40) F3,C2,W1,S0 USAGE OF THE STRUCTURE BASED ON THE INTENDED EXTERIOR SLABS: REQUIREMENTS. WHILE GENERAL CONSTRUCTABILITY HAS STRUCTURAL SYSTEMS HAVE NOT BEEN DESIGNED TO D. IT IS THE INTENT OF THESE CONCRETE SPECIFICATIONS THAT THE CONTRACTOR CONSTRUCTION MEANS AND METHODS THAT MIGHT BE PLASTIC SHRINKAGE CRACKING IN FRESHLY PLACED CONCRETE. IT IS EXPECTED THAT WORKABILITY FOR CONCRETE MIXES WILL REQUIRE THE ADDITION OF WATER-SHALL BE DESIGNED TO RESIST A CONCENTRATED LOAD OF REDUCING AND/OR SUPER-PLASTICIZING CHEMICAL ADMIXTURES. WATER SHALL NOT LOAD OF 50 PLF, IN ANY DIRECTION, AT ANY POINT ALONG THE BE ADDED TO THE CONCRETE MIX ON SITE. TRATED LOAD AND UNIFORM LOAD ARE NOT ASSUMED TO ACT REPLACEMENT. IN FOR THIS PROJECT IS BASED ON THE COMPLETION OF JRING CONSTRUCTION IN ACCORDANCE WITH CHAPTER 17 OF

| 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12

# SUPPLY CONCRETE MIXES WITH A MINIMUM AMOUNT OF WATER IN ORDER TO LIMIT

- 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
- 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.
- 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.
- CHLORIDES, IN ANY FORM, SHALL NOT BE USED IN ANY CONCRETE ADMIXTURE.
- EMBEDDED ITEMS ARE TO BE FURNISHED AND INSTALLED BY THE CONTRACTOR PRIOR TO PLACING CONCRETE.
- CHAMFER ALL EXPOSED CORNERS OF CONCRETE WALLS, BEAMS, AND COLUMNS 3/4".

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

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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.

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- 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.
- REFERENCE THE SPECIFICATONS FOR ADDITIONAL REQUIREMENTS.

#### REINFORCING STEEL

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- REINFORCING SHALL BE DETAILED, FABRICATED, PLACED, AND SUPPORTED IN ACCORDANCE WITH ACI 315, LATEST EDITION.
- 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.
- 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.
- PROVIDE CORNER BARS AT THE EXTERIOR FACE OF ALL WALL AND GRADE BEAM CORNERS AND INTERSECTIONS EQUAL TO HORIZONTAL BARS.
- PROVIDE AT LEAST TWO VERTICAL #5 BARS AT ALL STEPS IN FOUNDATION WALLS, FOOTINGS, AND GRADE BEAMS.
- 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 - #5X30'-0" 10 - #6X30'-0"

- 10 #4X30'-0" STANDARD COVERAGE OF REINFORCING, UNLESS OTHERWISE SHOWN, SHALL BE AS **FOLLOWS**
- CAST AGAINST EARTH, PERMANENTLY EXPOSED TO WEATHER... EXPOSED TO EARTH & WEATHER (FORMED). NOT EXPOSED TO EARTH OR WEATHER: SLABS, WALLS... ..3/4" BEAMS AND COLUMNS... .1-1/2"
- ALL FIELD PLACED SLAB AND BEAM REINFORCING BARS NOTED AS EPOXY-COATED SHALL BE IN ACCORDANCE WITH ASTM A775, LATEST EDITION
- 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.
- REINFORCE ALL CONCRETE NOT OTHERWISE SHOWN WITH SAME STEEL AS IN SIMILAR SECTIONS OR AREAS. CLEARANCES BETWEEN BARS SHALL MEET ACI 318 REQUIREMENTS.
- WELDED WIRE FABRIC SHALL BE LAPPED ONE FULL MESH SPACING.
- 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.
- 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.

#### 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

WELDED CONNECTIONS

| 21

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- ASTM A36 ANGLES, PLATES, CHANNELS MOMENT CONNECTION PLATES ASTM A992 RECTANGULAR HSS SHAPES ASTM A500, GRADE B ASTM A500, GRADE B ROUND HSS SHAPES ASTM A53, GRADE B PIPE **ANCHOR RODS ASTM F1554, GRADE 36** HIGH-STRENGTH BOLTS ASTM A325, TYPE 1 HEADED STUDS ASTM A108, GRADE 1015-1020
- 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.

**E70XX ELECTRODES** 

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- 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.
- 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.

24

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

23

- 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.
- 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.
- 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.
- 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.
- 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.

#### ANCHORS:

#### A. CONCRETE:

- ALL POST-INSTALLED ANCHORS SHALL MEET THE REQUIREMENTS OF ACI 318, APPENDIX D AND SHALL BE ACCEPTABLE FOR CRACKED CONCRETE.
- MECHANICAL ANCHORS FOR CRACKED CONCRETE SHALL BE HILTI KWIK HUS EZ SCREW ANCHORS PER ICC ESR-3027 UNLESS NOTED OTHERWISE
- 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.
- 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.
- 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.
- 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:

- 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.
- CONTRACTOR SHALL SUBMIT STRUCTURAL SHOP DRAWINGS FOR THE FOLLOWING:
  - CONCRETE MIX DESIGN AND MATERIALS
- CONCRETE AND MASONRY REINFORCING STEEL
- CONCRETE FORMWORK
- STRUCTURAL STEEL
- e. STEEL DECK
- 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:
  - STRUCTURAL STEEL DESIGN
  - CURTAINWALL
  - ARCHITECTURAL METALS HANDRAILS

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500 SW Longview Road Lee's Summit, MO 64081

Project No: 20008.00

PERMIT/BID DOCUMENTS

Issued: September 23, 2021

Description Date Issued Rev. #

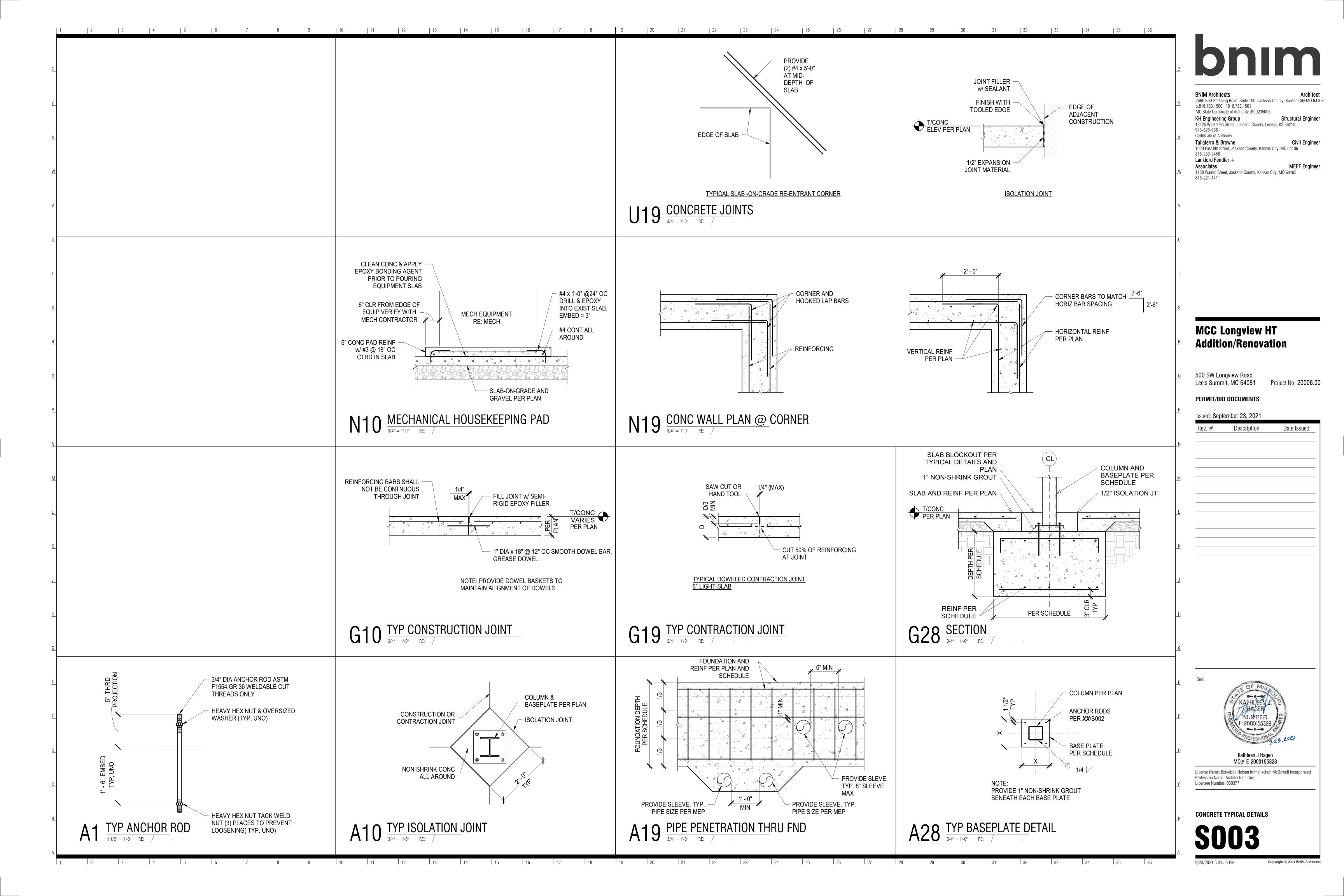
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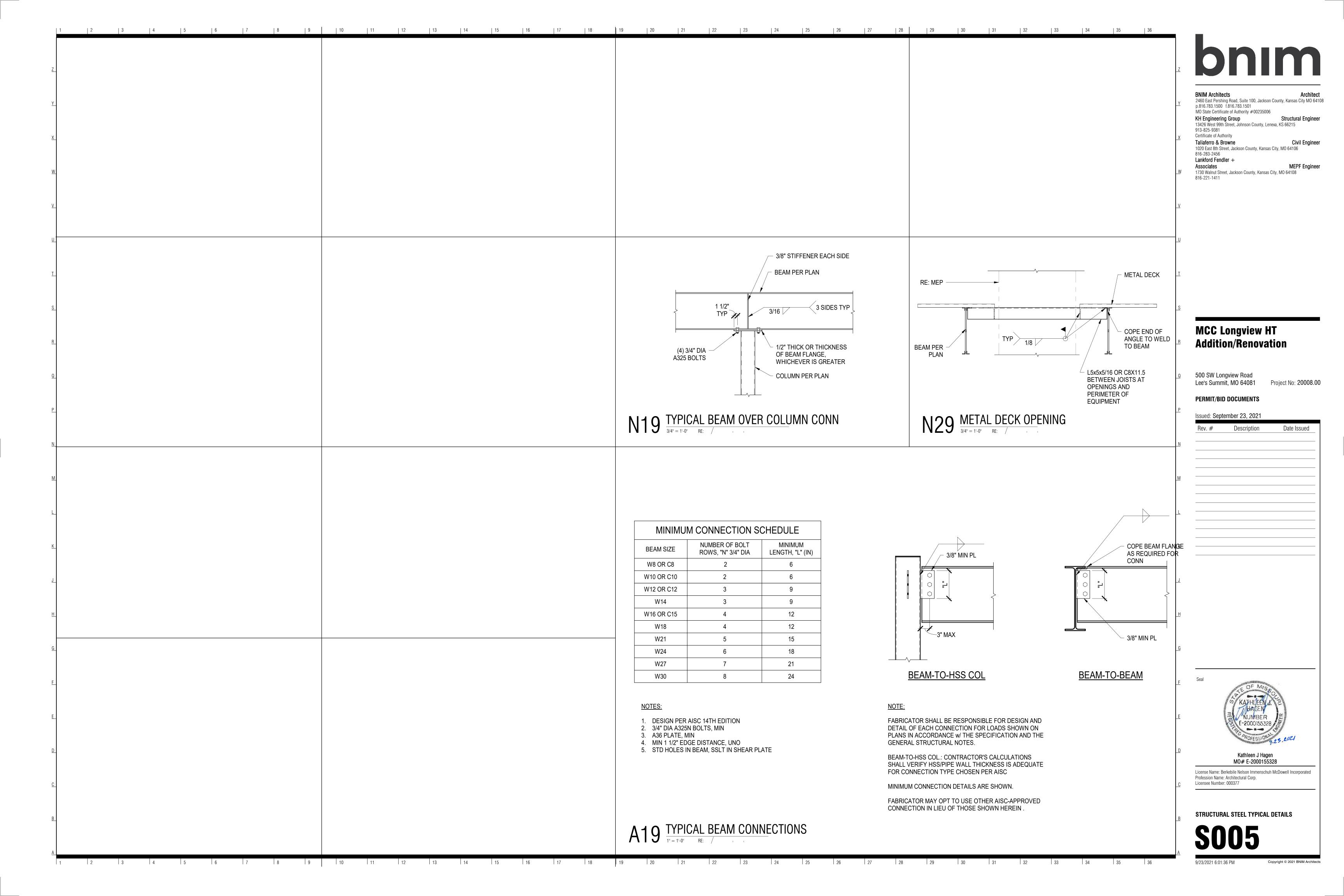
Kathleen J Hagen M0# E-2000155328 License Name: Berkebile Nelson Immenschuh McDowell Incorporated

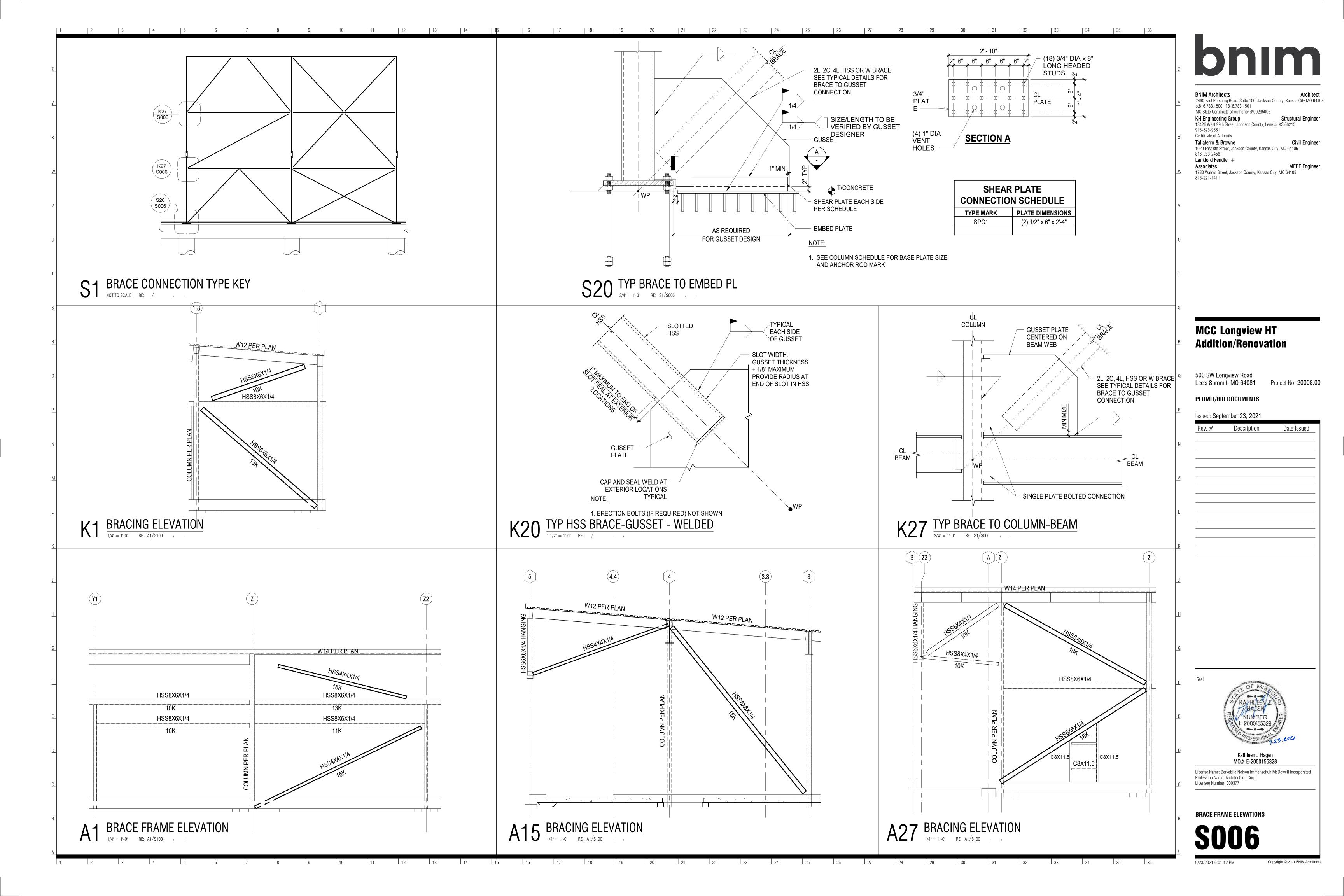
Profession Name: Architectural Corp. Licensee Number: 000377

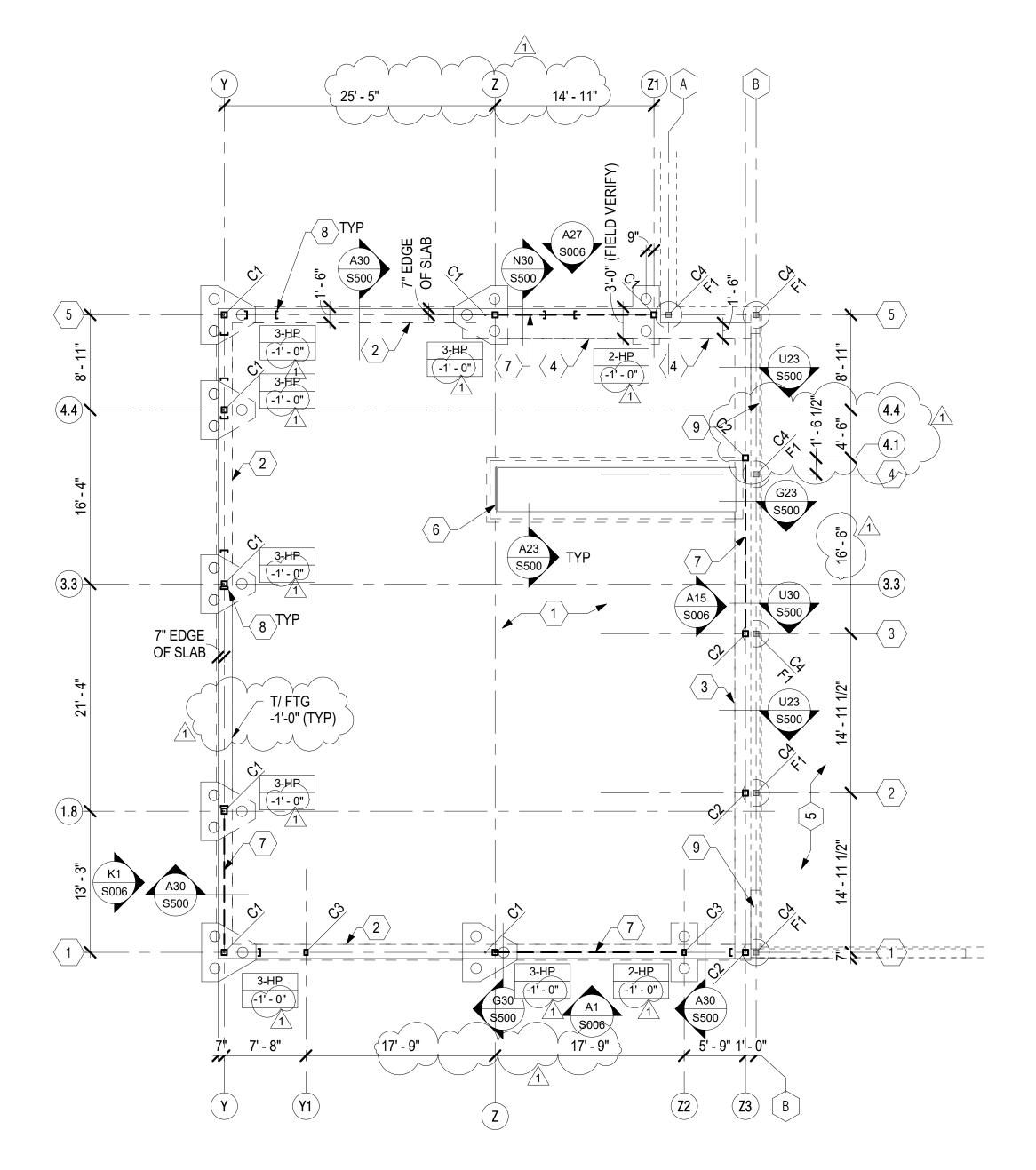
**GENERAL NOTES** 

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#### PLAN NOTES:

- 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
- 18" x 32" CONT FOOTING w/ (3) #6 T&B AND #3 TIES @ 12" OC
- 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.
- 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
- **EXISTING BUILDING**
- 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
- LATERAL BRACING PER ELEVATIONS
- FRAME ALL DOORS AND WALL OPENINGS w/ C8X11.5 CHANNELS ON ALL SIDES. SEE ARCH AND MECHANICAL DRAWINGS FOR OPENINGS REQUIRED.
- DEMO EXISTING CURB PER ARCH

### NOTES:

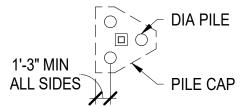
THE EXISTING CONDITIONS INDICATED ON THE DRAWINGS ARE BASED ON SURVEYS MADE BY THE CONSULTANT(S) AS WELL AS MATERIAL PROVIDED BY THE OWNER AND NO CLAIM IS MADE TO ITS ABSOLUTE COMPLETENESS AND/OR ACCURACY.

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"	2'-8"	(6) #5 EACH WAY, HOOK EACH END, T&B		
3-HP	5'-2" x 5'-6"	2'-8"	(6) #5 X 3 WAYS, HOOK EACH END, T&B		

OFFSET FROM TOP OF SLAB -





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# **MCC Longview HT Addition/Renovation**

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

#### Addendum #3

#### Issued: September 23, 2021

	Rev. #	Description	Date Issued
	1	Addendum #3	10/25/21
1			

MO# E-2000155328

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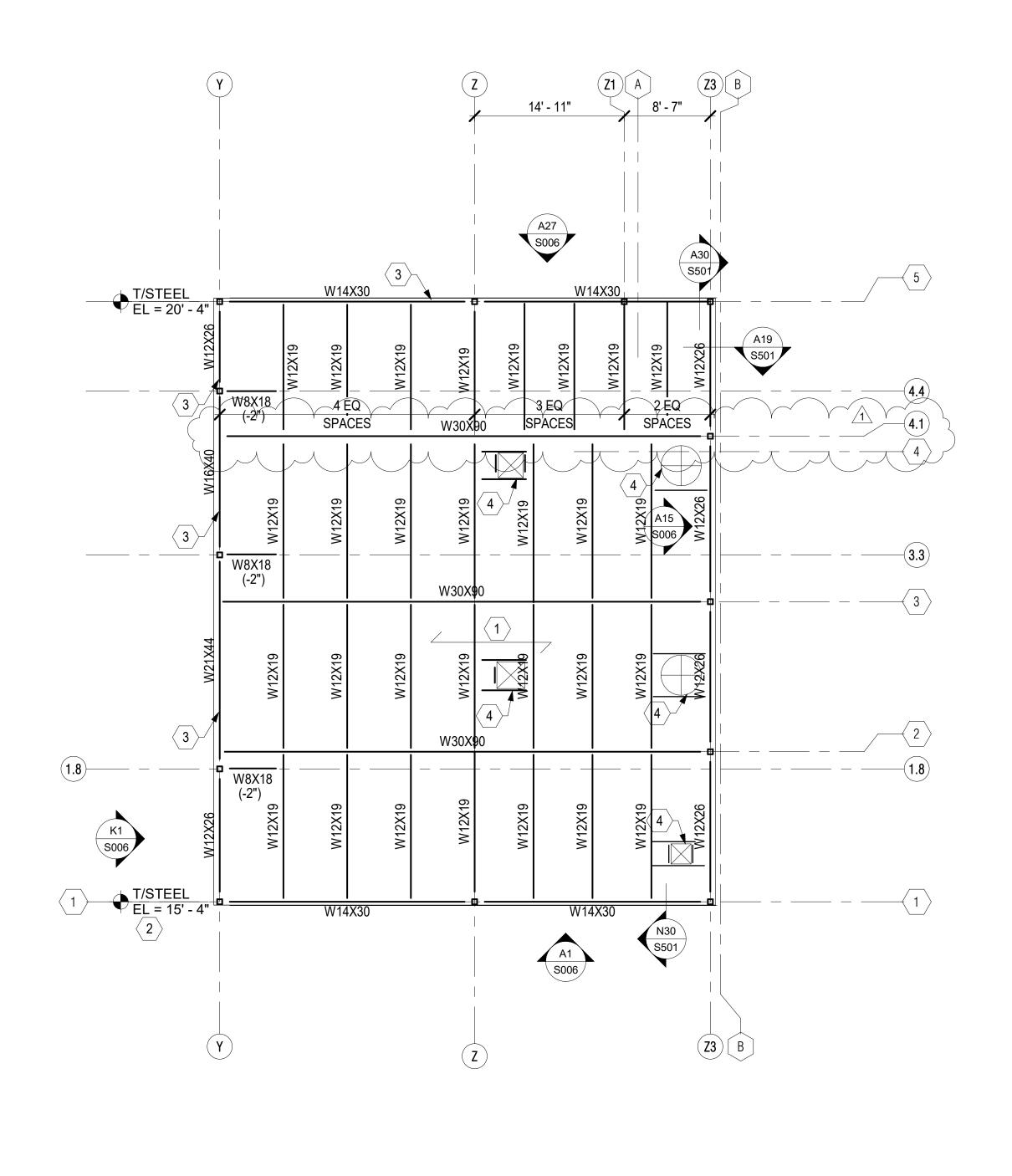
**FOUNDATION PLAN** 

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| 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36



1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21

2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36

#### PLAN NOTES:

- 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.
- GC TO VERIFY TOP OF STEEL AND ADJUST TO MATCH EXIST PER ARCH.
- HSS8X6X1/4 T/STEEL = 10' 6" (8" HORIZONTAL)
- ROOF PENETRATIONS PER ARCH & MECH. FRAME PER N29/S004

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.

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Lankford Fendler + Associates

**MEPF Engineer** 1730 Walnut Street, Jackson County, Kansas City, MO 64108

# **MCC Longview HT Addition/Renovation**

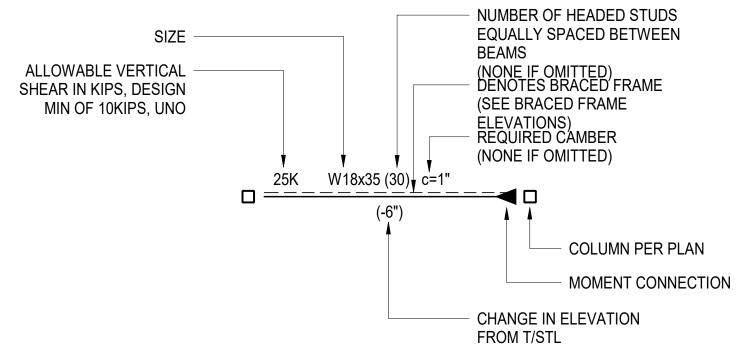
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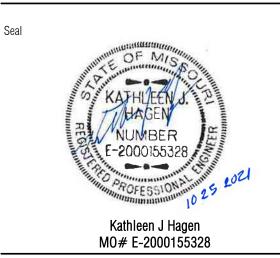
#### Addendum #3

Issued: September 23, 2021

Description Date Issued 10/25/21 Addendum #3

STEEL FRAMING LEGEND:



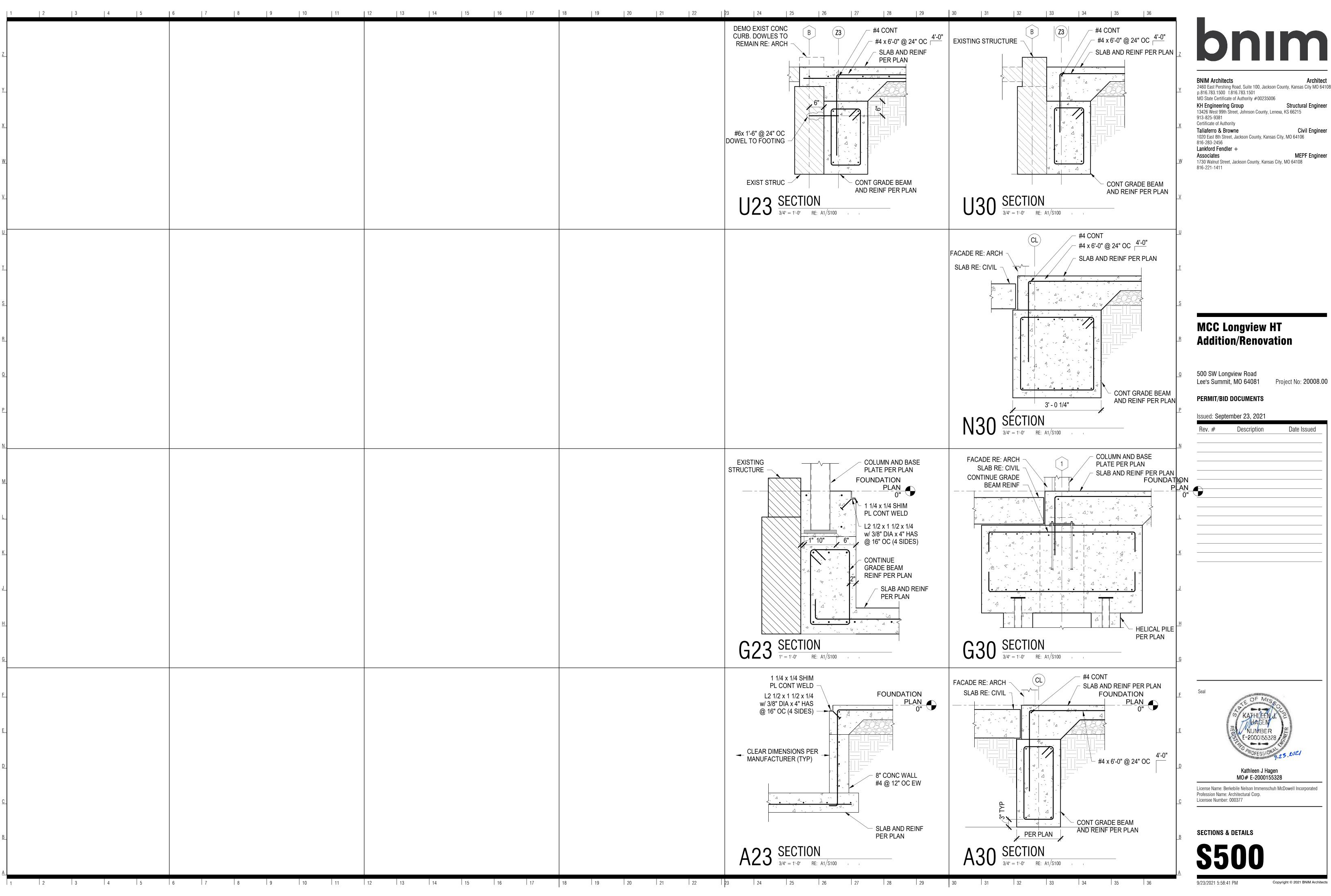


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FRAMING PLAN

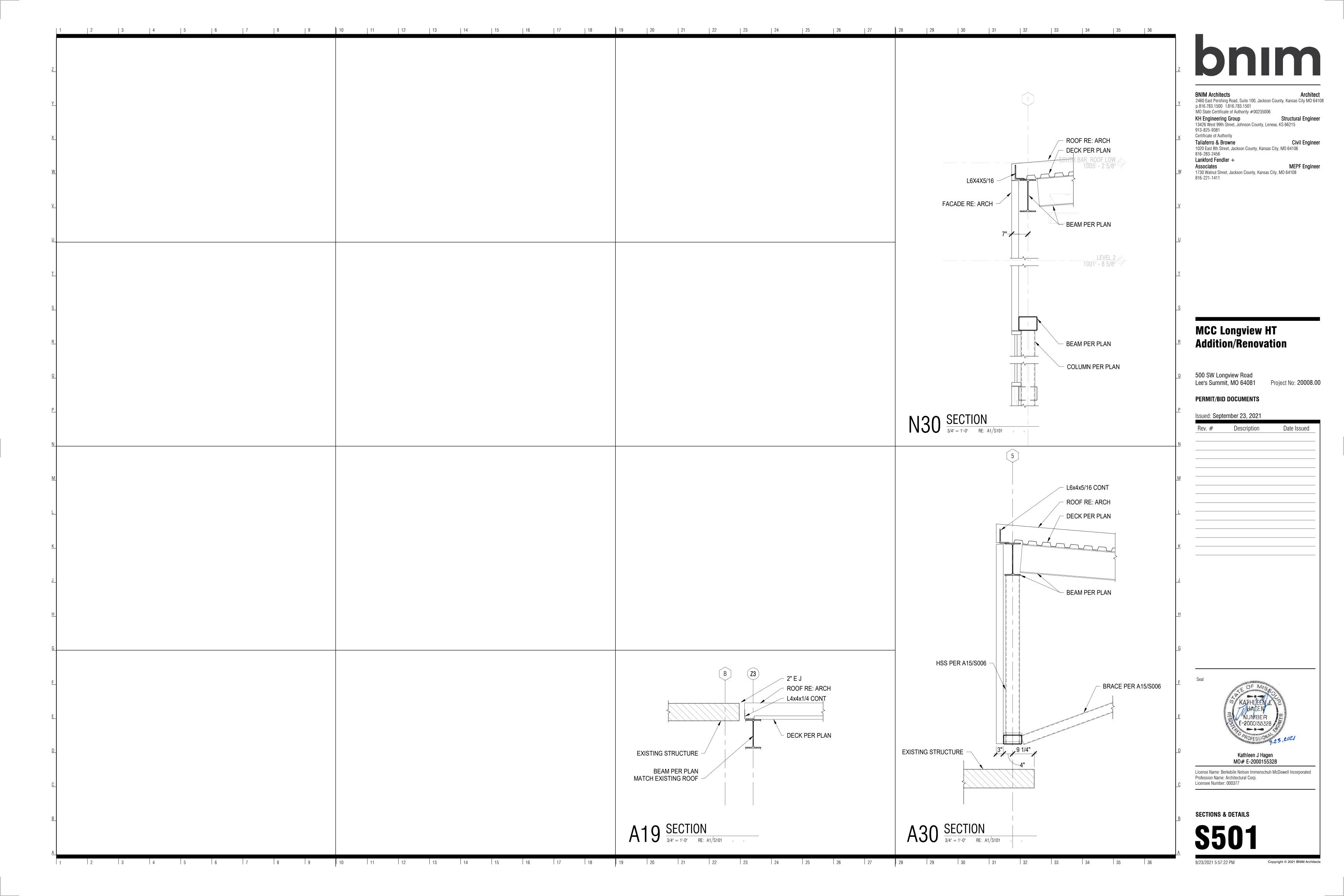
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 $A1 \frac{FRAMING PLAN}{1/8" = 1"-0"}$ 



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**MEPF Engineer** 



#### **DIVISION 21, 22, 23 AND 26**

#### **GENERAL PROVISIONS**

#### DESCRIPTION:

- A. Divisions 21, 22, 23 and 26 shall be governed by all applicable provisions of the Contract Document.
- 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.
- STANDARDS, REGULATIONS AND CODES:
- 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 12.0
- 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.
- 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.
- 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.
- 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.
- 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.
- WORKMANSHIP:
- 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.
- 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.
- 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 16.0 SLEEVES AND ESCUTCHEONS: 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.
- 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.
- 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.
- 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.

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#### 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.

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- 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.

#### 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.
- 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.
- Refer to Architectural Documents for additional shop drawing submission procedures.
- 13.0 PROJECT CLOSEOUT DOCUMENTATION
- A. Operating and Maintenance Brochure:
  - 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:
  - 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:
- 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.

- A. Penetrations thru walls and floors shall be as detailed.
- Where not otherwise shown, penetrations shall conform to the following:
  - Where pipes or conduits pass through interior partitions, galvanized steel pipe sleeves or galvanized steel sheet sleeves shall be used.
- 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.
- Sleeves through interior non-rated walls, including walls indicated as sound partitions, shall be packed with fiberglass or mineral wool and caulked.
- 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:

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

#### PIPING IN ELECTRICAL ROOMS:

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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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

Lankford Fendler + Associates MEPF Engineer

1730 Walnut Street, Jackson County, Kansas City, MO 64108 816-221-1411

**MCC Longview HT** 

500 SW Longview Road

Lee's Summit, MO 64081

PERMIT/BID DOCUMENTS

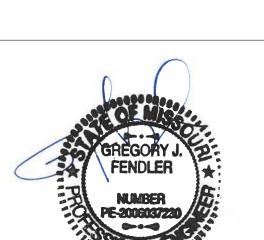
Issued: September 23, 2021

Description

**Addition/Renovation** 

Project No: 20008.00

Date Issued



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

**SPECIFICATIONS** 

+ associates

Kansas City, Missouri 64108 Fax: 816.221.1429

L|F+a Project No. 21.6807.00

816.221.1411

1730 Walnut Street

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#### HEATING, VENTILATION AND AIR CONDITIONING

#### 1.0 SCOPE:

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

#### 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

- Concealed ductwork shall be manufacturer's standard mill finished.
- 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.
- 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, 45° 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.
- Provide dampers where shown and required. Dampers shall be by Greenheck or acceptable equal by Ruskin, 7.0 FANS: 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.

  - Manual dampers shall have standoff and locking quadrant. b. Motorized control dampers shall be low leak devices and have 120V, 24V or pneumatic powered 8.0 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:
- Manual Damper Rectangular:
- Greenheck MBD-15, Galv. Steel formed blade, manual locking quadrant actuator, 4" WG, 2000
- Manual Damper Round: Greenheck MBDR-50, Galv. Steel formed blade, manual locking quadrant actuator, 1" WG, 2000
- 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.

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#### 4.0 DUCT SUPPORTS AND ROUTING

#### A. Hangers and Supports.

1. Ductwork shall be supported in accordance with all SMACNA standards including support methods,

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- All hanger and support parts shall be galvanized steel for non-corrosive environments or stainless steel for corrosive or damp environments.
- 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.
- 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.
- 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

# 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.
- 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. 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. 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.

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

#### C. Split System Units:

- 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.
- 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.
- 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.

- 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.
- MISCELLANEOUS MECHANICAL EQUIPMENT:
- 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.

- 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.
- CONTROLS AND LOW VOLTAGE SYSTEMS:
- B. All temperature controls unless otherwise noted shall be the responsibility of the Mechanical Contractor.
- 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.
- 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.
- Devices exposed to view and mounted in finished spaces shall be white in color unless otherwise noted or
- F. All occupant adjustable devices shall be mounted in accordance with ADA and ADAAG requirements.

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

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#### 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.
- 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.
- 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
- 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

#### 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
- 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.
- 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. 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.
- 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

#### 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:

### Ductwork

- 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 antimicrobial coating. Apply with mastic and pins with erosion protection on all exposed edges.

Exhaust ducts conveying environmental air within 5' of roof terminal – 1/2" liner.

Ducts in conditioned space or plenums utilized for return air –1/2" thick liner.

#### C. Piping

- 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.
- Interior 1" thick for all pipe sizes.
- b. Exterior 2" thick for all pipe sizes.

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- 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).



+ associates 1730 Walnut Street 816.221.1411 Kansas City, Missouri 64108 Fax: 816.221.1429 L|F+a Project No. 21.6807.00

bnim

2460 East Pershing Road, Suite 100, Jackson County, Kansas City MO 64108

Structural Engineer

Civil Engineer

MEPF Engineer

Project No: 20008.00

Date Issued

p.816.783.1500 f.816.783.1501

KH Engineering Group

Certificate of Authority

Lankford Fendler +

Taliaferro & Browne

913-825-9381

816-283-2456

Associates

816-221-1411

MO State Certificate of Authority #00235006

13426 West 99th Street, Johnson County, Lenexa, KS 66215

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1730 Walnut Street, Jackson County, Kansas City, MO 64108

**MCC Longview HT** 

500 SW Longview Road

Lee's Summit, MO 64081

PERMIT/BID DOCUMENTS

Issued: September 23, 2021

Rev. #

Description

**Addition/Renovation** 

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

**SPECIFICATIONS** 

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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
- 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.
- 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:
- 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
  - 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
- F. Provide test and balance service by one of the following approved test and balance agencies:
  - AccuTec Services, Inc. Chad Flynn 816.215.3567
  - Doyle Field Services: Tom Doyle 913.677.3374 National TAB: Dan Hertenstein 816.221.8575
  - Pro Balance: Duke Yocum 816.228.7800
  - Sys-Tek: Dan Krebs 816.229.9009.

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**END OF SECTION** 

#### **PLUMBING**

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#### 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.
- Extend piping systems as indicated on contract documents or to point of connection as follows:
- 1. Points of connection within the existing building.

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#### A. Natural Gas --

#### 1. Pipe above ground:

- a. 2" and smaller Schedule 40 black steel piping with threaded fittings.
- 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.
- 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.
- Flex Connectors, Metraflex GASCT 300 series stainless steel braided hose with carbon steel threaded ends.

#### B. Sanitary sewer, vent, interior --

- Pipe Standard weight cast iron hubless with no-hub shielded mechanical joints; solid wall schedule 5.0 40 PVC, ABS with solvent cement joints; vents may be galvanized malleable iron.
- Plastic piping shall not be allowed in return air plenums.
- 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.
- All gravity drainage shall be graded per code but not less than 1/4" per foot unless noted otherwise.
- 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.
- 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:

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- 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
- Outlets Terminate with 1/2" male pipe thread and furnish with air valve rated for compressed air, chrome angle stop, 3/8" compression fitting.

#### CLEANOUTS, TEST TEES, TRAPS AND TRAP SEALS:

- 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.
- 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.
- 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:

#### Hangers and Supports.

- 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
- 2. Pipe Slopes: Install hangers and supports to provide indicated or required pipe slopes to provide for drainage and venting
- Deflection: Maximum pipe deflections and stresses as allowed by ANSI B31 are not exceeded.
- 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. Space hangers and supports within maximum piping span length indicated in MSS SP-58. Install building attachments at required locations for proper piping support.
- 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.
- Provide copper plated, plastic coated or felt lined hangers where required to prevent electrolysis or abrasion on copper or plastic piping systems.
- 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.

#### Routing.

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.

#### PROTECTION OF WORK

#### Protection

- 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.

#### 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)

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

## 7.0 PLUMBING FIXTURES:

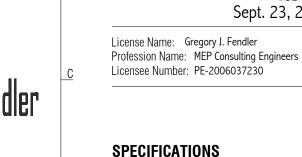
- Refer to plumbing fixture schedule for plumbing fixtures and accessories. Include all fittings and accessories as required for a complete working system.
- FIXTURE AND ACCESSORY MANUFACTURERS:
- Fixtures, equipment and accessories are specified by manufacturer's numbers as to the type and quality
- Specified manufacturers and approved equal manufacturers are as follows:

FIXTURE, ITEM OR EQUIPMENT

**Drains and Drainage Products** 

APPROVED EQUAL MANUFACTURERS

J R Smith, Wade, Watts, Zurn, Josam **END OF SECTION** 



+ associates 1730 Walnut Street 816.221.1411 Kansas City, Missouri 64108 Fax: 816.221.1429

L|F+a Project No. 21.6807.00

9/23/2021 7:24:28 AM

2460 East Pershing Road, Suite 100, Jackson County, Kansas City MO 64108

Structural Engineer

Civil Engineer

**MEPF** Engineer

Project No: 20008.00

Date Issued

p.816.783.1500 f.816.783.1501

KH Engineering Group

913-825-9381

Associates

816-221-1411

Certificate of Authority

Lankford Fendler +

Taliaferro & Browne

MO State Certificate of Authority #00235006

13426 West 99th Street, Johnson County, Lenexa, KS 66215

1020 East 8th Street, Jackson County, Kansas City, MO 64106

1730 Walnut Street, Jackson County, Kansas City, MO 64108

**MCC Longview HT** 

500 SW Longview Road

Lee's Summit, MO 64081

PERMIT/BID DOCUMENTS

Issued: September 23, 2021

Description

**Addition/Renovation** 

1.0 SCOPE:

limited to the following principal items:

b. Panel boards.

equivalent.

ductwork and piping.

2.0 RACEWAYS:

3.0 WIRES AND CABLES:

gauge.

1. Electrical system for light and power:

a. Electrical system revisions.

e. Lighting fixtures and lamps.

d. Receptacles and wiring devices.

f. Power service to the various motors.

g. Complete lighting and power systems

c. Systems of conduit, conductors, and boxes.

h. All systems, wiring and conduit as required.

4. Rough-in and final connection to equipment furnished by others.

**ELECTRICAL** 

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

2. Control wiring and electrical installation and connections for items in other contracts as may be listed

5. All cable ties for low voltage cable systems located in plenums utilized for air movement that are not

Raceway wiring systems shall be concealed in all finished parts of the building, where possible. Where

directed to facilitate an approved installation. Contractor to coordinate with mechanical trades to avoid

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

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

Conduit bushings shall be provided and installed inside all disconnects, pull boxes, panelboards,

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

Contractor shall use the following color designations and be consistent throughout the project.

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

b. Feeders: Copper for feeders smaller than No. 4 AWG; copper or aluminum for feeders No. 4 AWG

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

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

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

g. Branch Circuits Concealed in Concrete, below Slabs-on-Grade, and Underground: Type THWN-2,

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

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

and larger. Conductors shall be solid for No. 10 AWG and smaller; stranded for No. 8 AWG and

Color designation for switch legs and or travelers: Violet, Pink or Purple may be used.

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

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

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

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

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

switchboard or similar type equipment and where permitted by National Electric Code (N.E.C.).

motor not to exceed 3' in length and recessed lighting fixtures not to exceed 6' in length. Provide pull 12.0 LABELING:

shall be type XHHN or THHN. Minimum wire size shall be #12 gauge AWG. Control wiring may be #14 13.0 WIRING DEVICES:

A. All electrical conductors are to be installed in metal raceways, unless specifically specified or noted

Contractor is responsible to provide liaison with owner for low voltage cable installation.

compression type. Type MC Cable is not permitted, except to use for fixture whips.

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

• 208Y/120V, 3-phase: black, red, blue, white.

conductor inside all pullbox or similar type enclosures.

D. Conductor Material Applications:

• 480Y/277V, 3-phase: brown, orange, yellow, gray.

Green shall be used for ground wire conductor.

208Y/120V, 1-phase: black, red, white.

installed in conduit shall be 25/50 flame and smoke rated, Hellermann Tyton T50R2C2UL or

the raceways are exposed, they shall be run parallel with the building walls in a neat and workmanlike 9.0 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 10.0 DISCONNECT SWITCHES:

3. Empty conduit and boxes for future installation of telephone wiring and miscellaneous systems.

The work included under this contract consists of the furnishing of all labor, materials, tools Flush or surface mounted as indicated on drawings. Provide where shown on drawings and where

5.0 SPLICE AND TAPS:

7.0 OUTLET BOXES:

8.0 PANELBOARDS:

scheduled.

number.

circuit number.

Make splices at junction boxes, pull boxes, or outlet boxes only. 6.0 CABINETS. JUNCTION AND PULL BOXES:

outlet locations on job with Architect.

11.0 MOTOR AND CONTROL WIRING AND CONNECTIONS:

required by code. Construct of cold gauge steel for flush surface mounting.

Panelboards shall be fully rated. Series rated panels are not permitted.

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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

outlet box used. Install 3/8" fixture stud for lighting fixtures where required. Locate ceiling outlets to work

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.

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'.

This Contractor to provide all necessary conduit, boxes and supports to equipment furnished by Owner

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

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

Interior equipment self-adhesive, engraved, laminated acrylic or melamine label: adhesive backed, with

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).

white letters on a dark-gray background. Minimum letter height shall be 3/8 inch (10 mm).

and as indicated on drawings. Provide a disconnect switch and starter if required.

All circuit breakers shall be bolt-on molded case and have positive "trip" indication. Breakers used on

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:

210 100 FIRE PROTECTION

1.0 SCOPE:

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

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'

All cable ties for controls and other cable systems located in plenums utilized for air movement that are not

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

tests and testing of all electrical, controls and safety components.

Upon completion of the project, the fire protection contractor shall furnish 'Record' documentation including adjacent to the fire protection service entrance or as directed or required by NFPA.

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

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,

1. System shall be an extension of and/or modifications to the existing building system

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

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.

1-1/2" and larger – Schedule 10, black steel; roll groove mechanical joints with roll grooved end

c. Contractor to match existing building piping material standards.

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 -

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

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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.

Recessed chrome plated brass with 2-piece adjustable escutcheon in gypsum and lay-in tile ceilings.

Pendant chrome plated brass with escutcheon in gypsum and lay-in tile ceilings.

Upright brass in unfinished areas. Provide wire cage in areas subject to damage. Upright brass in finished areas with exposed structure.

Where not otherwise indicated, sprinkler type, style, appearance and coverage to match existing.

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.

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 Lankford Fendler +

MEPF Engineer Associates 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

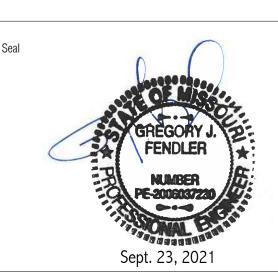
PERMIT/BID DOCUMENTS

Issued: September 23. 2021

Rev. #	Description	Date Issue

Project No: 20008.00

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

**SPECIFICATIONS** 

Wet sprinkler system -- NFPA 13. 2. Systems shall be compliant with NFPA 70, 72, FM and UL as applicable.

ferrous alloy outlet, junction boxes and fittings. Fixture or device cover shall completely conceal the size 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 installed in conduit shall be 25/50 flame and smoke rated, Hellermann Tyton T50R2C2UL or equivalent.

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

Upon completion of the project, perform all flushing and testing of the system including pressure and flow

plans, equipment data sheets for all component and testing results stored in a document cabinet, located

WET SPRINKLER SYSTEMS

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.

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

wiring, etc. Conform to the requirements of Division 16, FM and UL or IRI where required by owner.

As close as possible, match function, coverage, style and appearance of existing devices.

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.

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

Systems'.

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.

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

14.0 LIGHTING FIXTURES:

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:

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.

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

**END OF SECTION** 

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# 4.0 GROUNDING:

raceway.

single conductors in raceway.

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.

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END OF SECTION

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Alan W. Lankford - Mechanical Engineer - MO #024224 COA #2006001168

1730 Walnut Street

+ associates

Kansas City, Missouri 64108 Fax: 816.221.1429

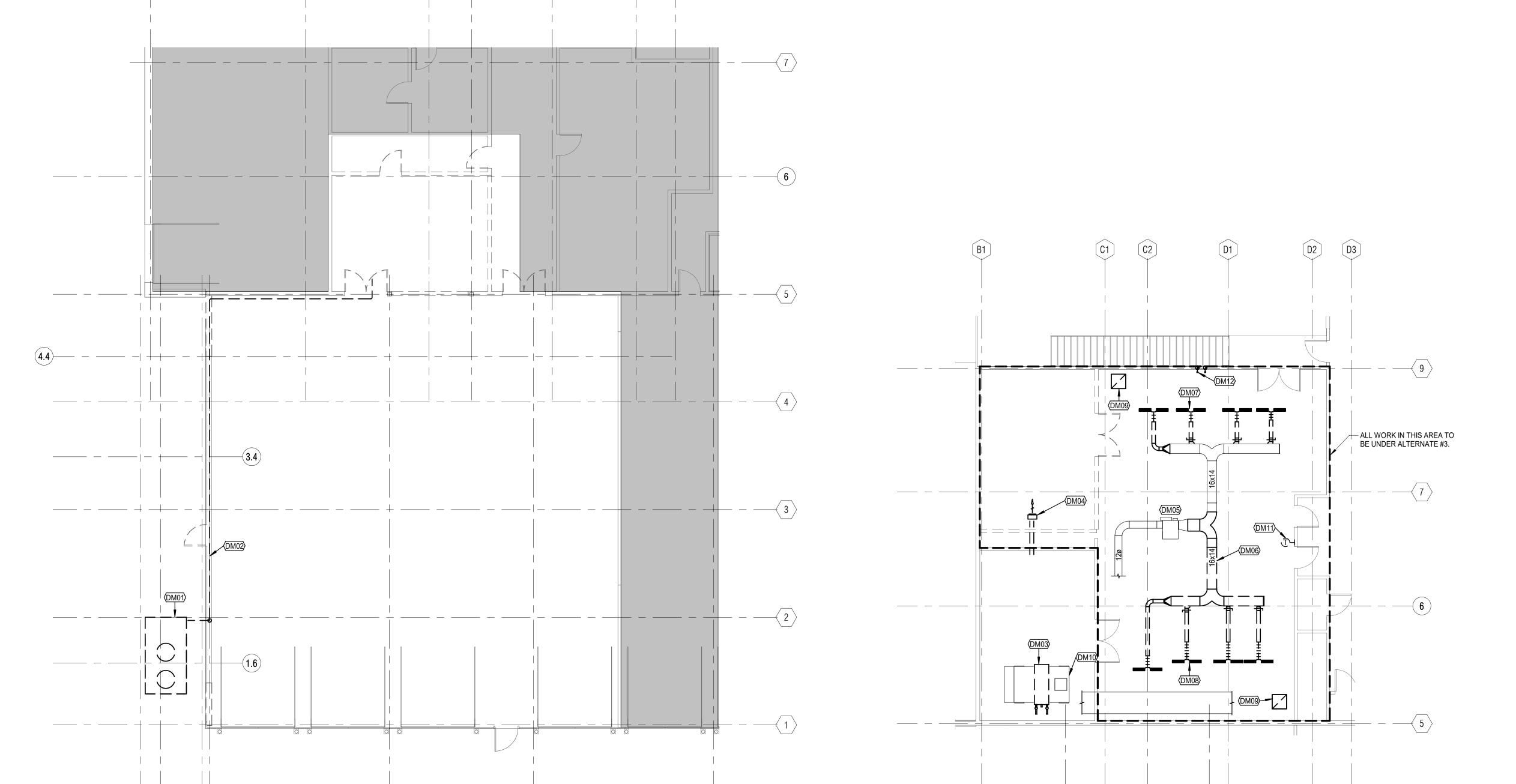
L|F+a Project No. 21.6807.00

816.221.1411

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# 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



| 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36

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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500 SW Longview Road

Lee's Summit, MO 64081 Project No: 20008.00

Description

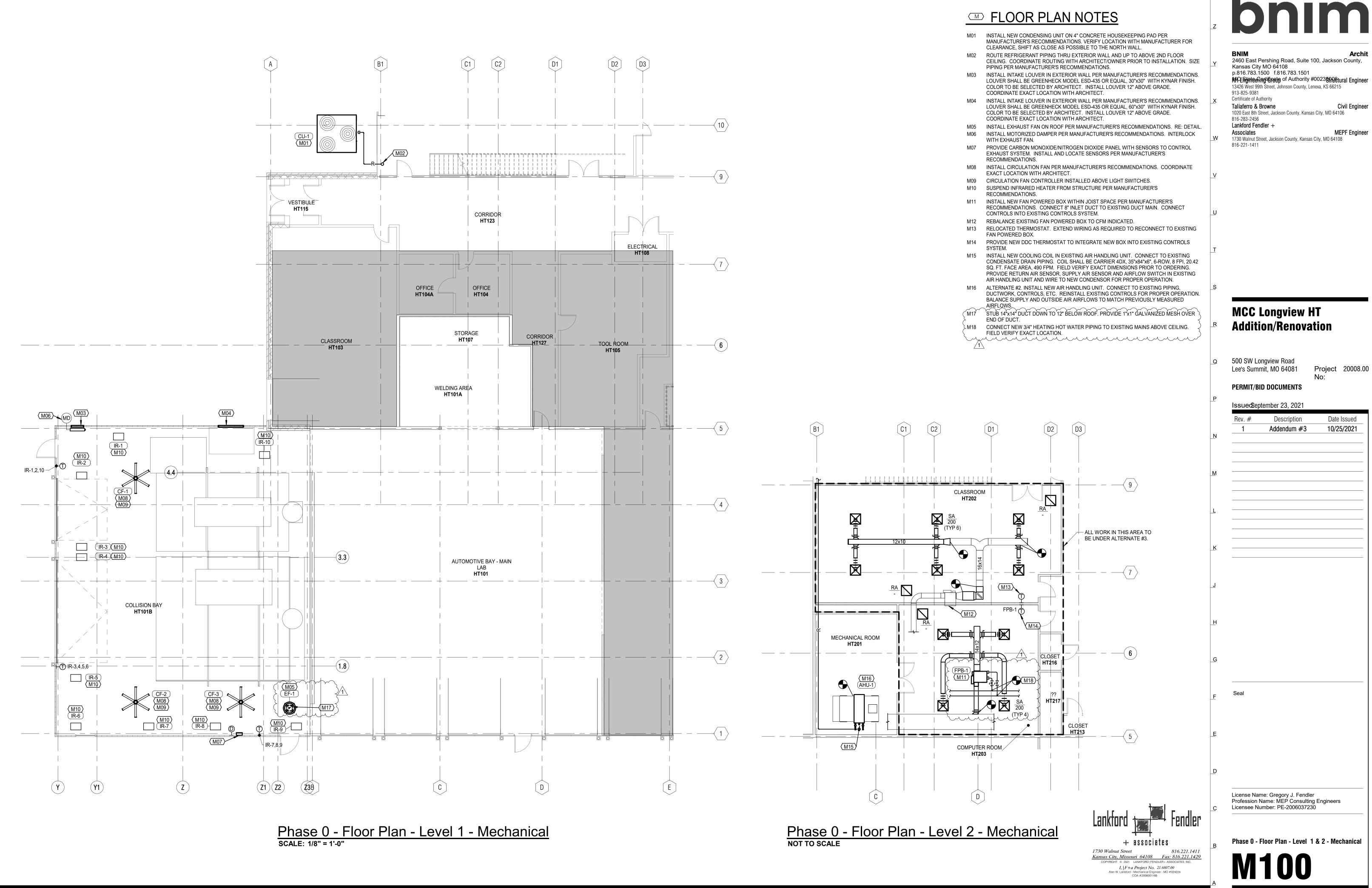
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Issued: September 23, 2021

Date Issued

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

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**MCC Longview HT** 

1	Addendum #3	10/25/2021
Rev. #	Description	Date Issued

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

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

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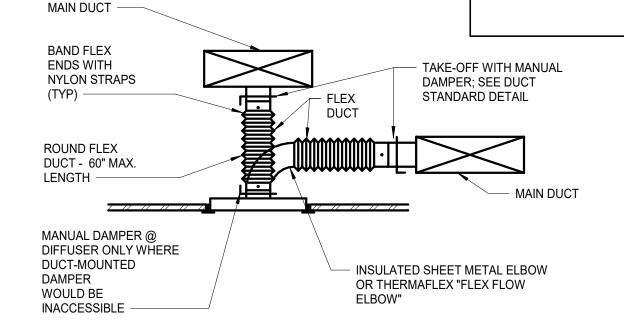
# AIR HANDLING UNIT SCHEDULE

							EXT.	TOTAL			COO	LING COIL						El	LECTRIC <i>A</i>	۸L	
MARK	MANUFACTURER	MODEL	AIRFLOW	FAN	FAN	FAN	S.P.	S.P.	E.D.B.	E.W.B.	L.D.B.	L.W.B.	TOTAL	SENS.	E.D.B.	L.D.B.	TOTAL				NOTES
NO.			CFM	TYPE	SIZE	RPM	(IN W.G.)	(IN W.G.)	(°F)	(°F)	(°F)	(°F)	MBH	MBH	(°F)	(°F)	MBH	VOLT	Ø	HZ	~~~
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	1,2,3
		-																			

NOTES: 1. PROVIDE UNDER ALTERNATE #2. PROVIDE WITH VARIABLE FREQUENCY DRIVE, BACNET INTERFACE, RETURN AIR SENSOR, SUPPLY AIR SENSOR AND AIRFLOW SWITCH.

CONTRACTOR SHALL FIELD VERIFY COIL CONNECTION HAND, ACCESS DOOR SIDE, FAN MOTOR SIDE AND FAN CONFIGURATION PRIOR TO ORDERING.

PŘOVIDĚ WITH ŠUPPLY ANĎ RĚTUŘN ĂIR SMÔKE DETECTORS. 



# FAN POWERED BOX SCHEDULE

NO.

CF-1

CF-3

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

**AIRFLOW** 

(CFM)

9959

9959

9959

(CFM)

1500

CONDENSING UNIT SCHEDULE

38APD040 448.3

TOTAL

2

2 2

AMB.

(°F)

100

MODEL

TIME-OFF CONTROL, AND HAIL GUARDS.

**AIRFOILS** 

6

6

(IN W.G.)

0.125

TYPE

FC

SUCTION

TEMP (°F)

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

6

115

115

115

DIAMETER

IN.

72

72

72

G-130 DOWNBLAST

MANUFACTURER

CARRIER

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

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.

MODEL

ES6

ES6

ES6

CURB EXTENSION, BIRD SCREEN, AND DAMPER.

FAN SCHEDULE

MANUFACTURER

**BIG ASS FANS** 

**BIG ASS FANS** 

**BIG ASS FANS** 

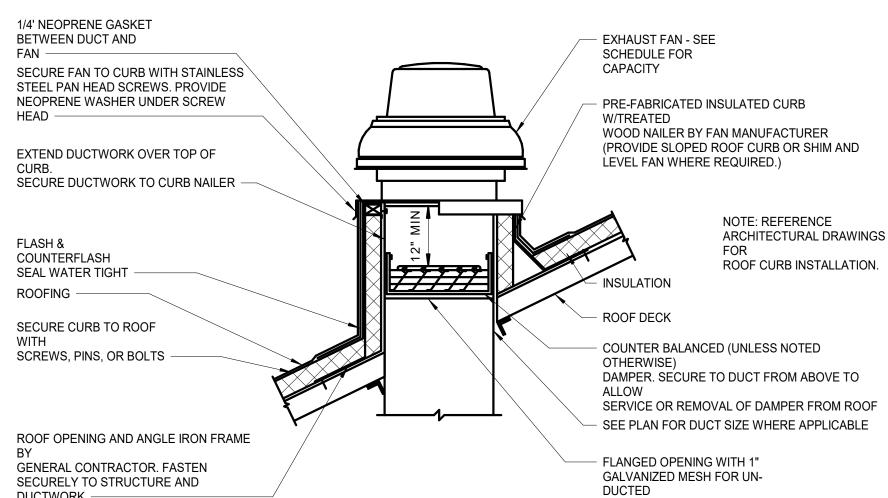
FAN SCHEDULE

**MANUFACTURER** 

CU-1

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

# DIFFUSER DETAIL

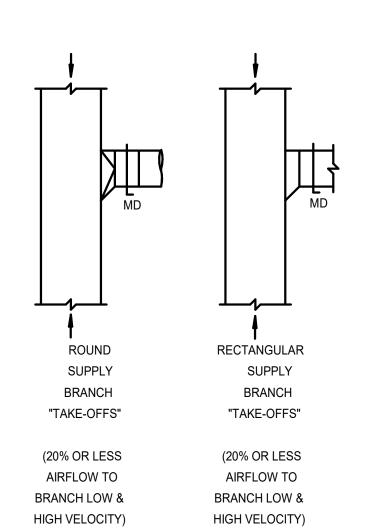


| 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 1 | 1 | 1

#### EF-1 GREENHECK NOTES: 1. PROVIDE WITH SLOPED ROOF CURB, DISCONNECT SWITCH, SPEED CONTROLLER, HINGED CURB CAP, HINGED BASE, CURB SEAL,

APPLICATIONS

# ROOF MOUNTED EXHAUST FAN DETAIL



**DUCT STANDARDS** 

**NOT TO SCALE** 

| 1

MARK	MANUFACTURER	MODEL	FACE SIZE (IN.)	NECK SIZE (IN.)	FRAME TYPE*	FINISH	NO
SA	PRICE	SPD	24x24	8"	LAY-IN	WHITE	
RA	PRICE	PDDR	24x24	-	LAY-IN	WHITE	
NOTES:				I		ı	ı

MADIZ					EL	ECTRIC/	<b>AL</b>	
MARK NO.	MANUFACTURER	MODEL	TYPE	INPUT (MBH)	VOLT	Ø	HZ	NOTES
R-1 THRU 10	SPACE RAY	RSCA3-N5	CERAMIC	26	120	1	60	1
NOTES:	1. PROVIDE WITH 24V (RE: DRAWINGS), A MOUNTING HARDW	LUMINNUM REFL						

| 2

| 2

| 2 | 2

**ELECTRICAL** 

**ELECTRICAL** 

120 1 60 1/6

VOLT Ø

10.40 480 3 60

HZ

60

60

1 60

**VOLT** 

120

120

**VOLT** 

EER

120

COLOR

WHITE

WHITE

WHITE

1140 DIRECT

STAGES

SOUND

LEVEL (DBA)

<35

<35

<35

WATTS | NOTES

NOTES

NOTES

23.7

23.7

23.7

# GENERAL NOTES (TYPICAL ALL SHEETS)

TAPS NOT REUSED WITH SAME MATERIAL AS EXISTING DUCTWORK.

OWNER'S REPRESENTATIVE IN WRITING IF PROBLEMS ARE FOUND.

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

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

<u></u>	EXISTING DUCTWORK TO BE REMOVED
	EXISTING DUCT TO REMAIN
+ +	NEW DUCTWORK
H <del>########</del> ############################	FLEX DUCT
	EXHAUST DUCT
$\boxtimes$	SUPPLY DIFFUSER
	RETURN GRILLE
$\overline{}$	MANUAL VOLUME DAMPER
Φ	THERMOSTAT
?	EQUIPMENT TYPE AND DESIGNATION
<u>SA</u> 200	TYPE MARK: (S_) SUPPLY, (R_) RETURN, (E_) EXHAUST DIFFUSER OR GRILLE TYPE MARK AND CFM

CONNECT TO EXISTING

**MCC Longview HT** 

**Addition/Renovation** 

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Project 20008.00

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IssuedSeptember 23, 2021

116V. #	Description	Date Issueu
1	Addendum #3	10/25/2021

+ associates

Kansas City, Missouri 64108 Fax: 816.221.1429 L|F+a Project No. 21.6807.00

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

MECHANICAL DETAILS, SCHEDULES, GENERAL NOTES, AND SYMBOLS

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| 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36

# FLOOR PLAN NOTES

- P01 RELOCATED AIR COMPRESSOR. ROUTE DRAIN LINE TO FLOOR DRAIN AND INDIRECT
- P02 CONNECT NEW 1-1/2" COMPRESSED AIR PIPING TO EXISTING COMPRESSED AIR PIPING.
- 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
- P04 ROUTE 3" VENT THRU ROOF. COORDINATE RISER LOCATION WITH WINDOW MULLIONS.
- 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
- 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



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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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Date Issued Rev. # Description

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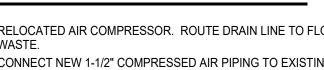
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 $L \mid F+a \ Project \ No. \ 21.6807.00$  Alan W. Lankford - Mechanical Engineer - MO #024224 COA #2006001168

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WASTE.

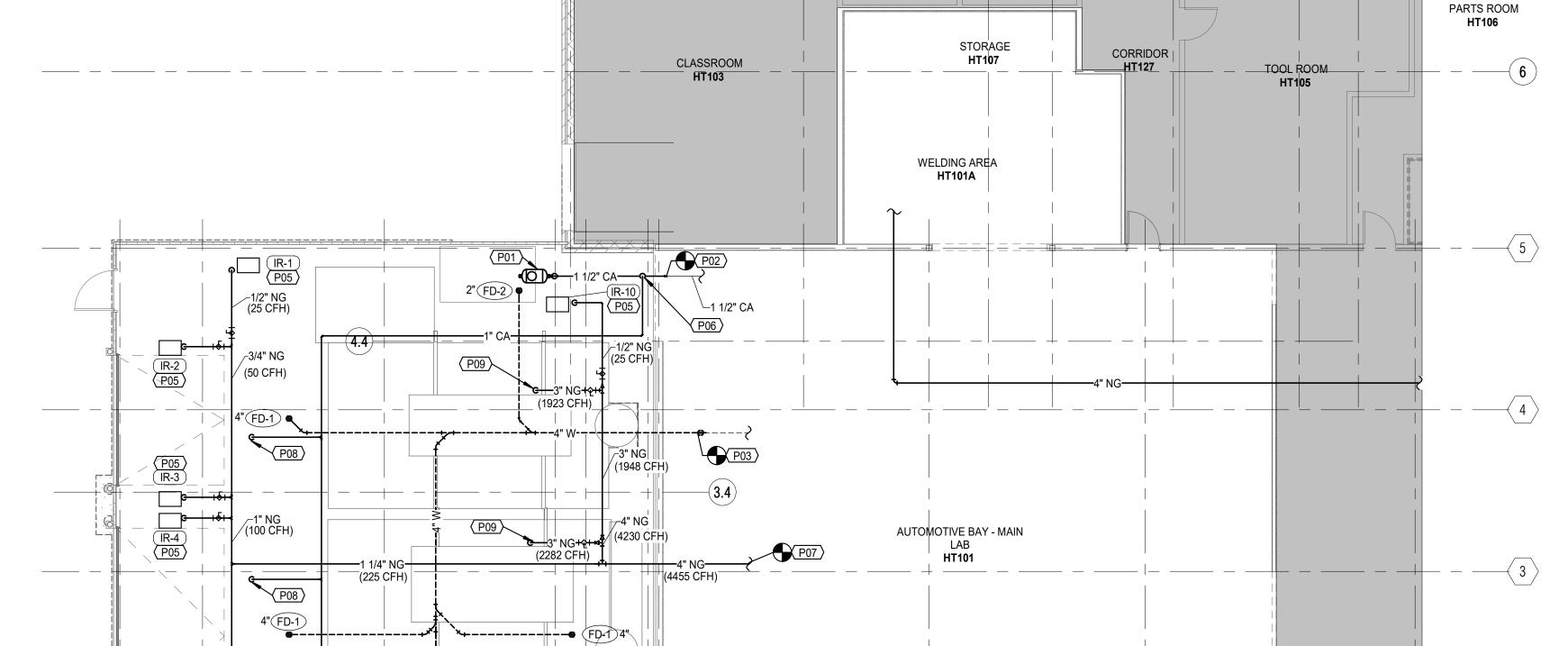
FIELD VERIFY EXACT LOCATION.

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.

NEW GAS LOAD WITH LOCAL UTILITY. P08 CONNECT 1/2" COMPRESSED AIR PIPING TO COMPRESSED AIR REEL PROVIDED BY

CORRIDOR HT123 ELECTRICAL HT108 OFFICE OFFICE HT104A HT104



(125 CFH)

100 CFH)

COLLISION BAY

**Z1 Z2** 

Phase 0 - Floor Plan - Level 1 - Plumbing SCALE: 1/8" = 1'-0"

| 15 | 16 | 17 | 18

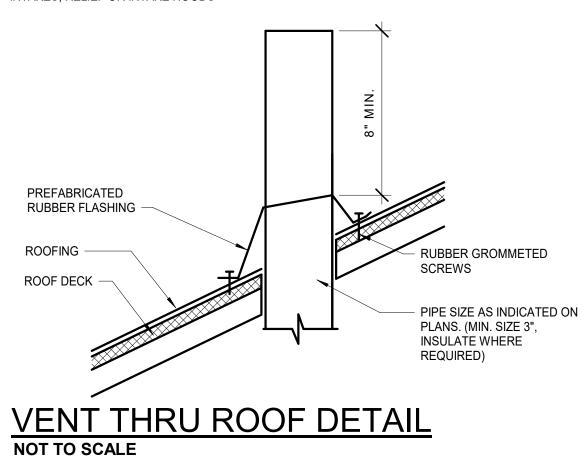
| 19 | 20

22 23 24

PLUN	PLUMBING FIXTURE SCHEDULE													
MARK NO.	FIXTURE TYPE	MANUFACTURER	MODEL NO.	DESCRIPTION	MINI	SIZE								
WARK NO.	FIXTURE TIPE	IVIANUFACTURER	WODEL NO.	DESCRIPTION	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.	-	-	2"	-						
				NOTE: PROVIDE WITH TRAP PRIMER CONNECTION WHERE REQUIRED BY LOCAL CODE OR AS INDICATED ON DRAWINGS.										
'														
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.	-	-	4"	-						
				NOTE: PROVIDE WITH TRAP PRIMER CONNECTION WHERE REQUIRED BY LOCAL CODE OR AS INDICATED ON DRAWINGS.										

| 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36

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

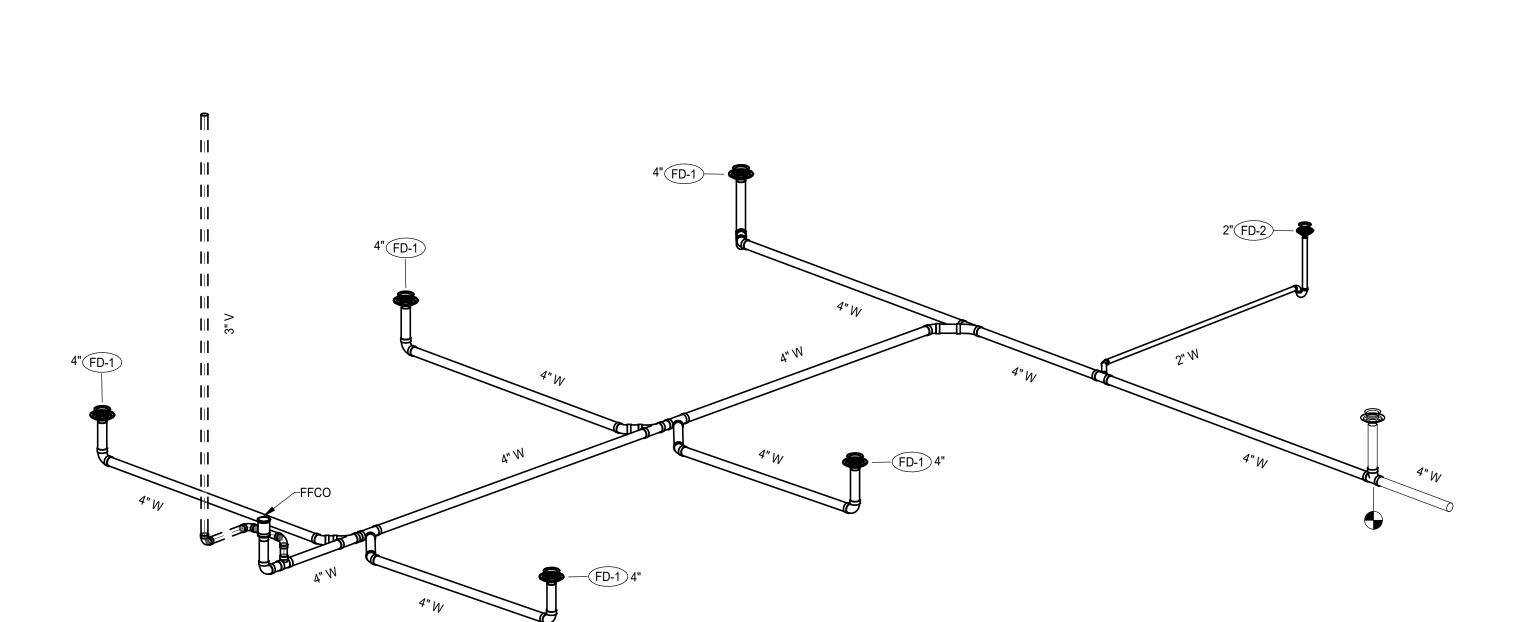


GAS EQUIPMENT CONNECTION DETAIL

# ALTERNATE LOCATION TO EQUIPMENT GAS TRAIN DIRT LEG **NOT TO SCALE**

21 22 23 24

| 25 | 26 | 27



WASTE/VENT RISER DIAGRAM NOT TO SCALE

2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20



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

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# PLUMBING SYMBOLS

VERIFY CONNECTIONS SIZES AND REQUIREMENTS.

GENERAL NOTES (TYPICAL ALL SHEETS)

A. PLUMBING CONTRACTOR IS RESPONSIBLE TO SEE THAT WORK MEETS AND IS IN

AND/OR REQUIREMENTS, INCLUDING HEALTH CODES AND BUILDING OWNER.

C. CUTTING AND PATCHING OF FLOORS, WALLS, CEILING, ETC., REQUIRED IN STRICT

LOCATIONS OF EXISTING UTILITIES, STUBOUTS AND/OR CONNECTIONS.

B. ALL EXISTING PIPING SHOWN ON DRAWINGS IS SCHEMATIC DOES NOT REFLECT EXACT

ACCORDANCE WITH ALL REQUIREMENTS OF FEDERAL, STATE, AND LOCAL LAWS AND CODES

EXISTING CONDITIONS. CONTRACTOR TO FIELD VERIFY EXACT DEPTH AND/OR LOCATIONS ON JOB SITE. CONTRACTOR SHALL REROUTE NEW WORK TO ACCOMMODATE EXACT

ACCORDANCE WITH THE RULES AND REGULATIONS OF THE ARCHITECT'S AND/OR BUILDING

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

E. PLUMBING CONTRACTOR SHALL MAKE FINAL CONNECTION TO ALL EQUIPMENT BY OTHERS.

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.

----- NEW PIPING

OWNER REQUIREMENTS.

CONFLICTS.

——CA—— COMPRESSED AIR ——NG—— NATURAL GAS

-----V----- SANITARY VENT ABOVE GRD./FLOOR ABOVE

— —V— — SANITARY VENT BELOW GROUND — — W— — SANITARY WASTE BELOW GROUND

——+5+— GAS SHUT-OFF COCK

OR FLOOR DRAIN → PIPE DROP/ PIPE RISE

—

■ BOTTOM OUTLET TEE TOP OUTLET TEE

FFCO FINISHED FLOOR CLEANOUT

**O**VTR VENT THROUGH ROOF (L-1) **EQUIPMENT TYPE AND DESIGNATION** 

ETR EXISTING TO REMAIN

CONNECT TO EXISTING

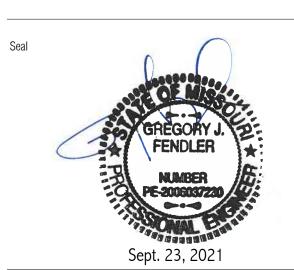
**MCC Longview HT Addition/Renovation** 

Project No: 20008.00

500 SW Longview Road Lee's Summit, MO 64081

PERMIT/BID DOCUMENTS

Issued: September 23, 2021 Description Date Issued



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

PLUMBING DETAILS, SCHEDULES, GENERAL NOTES, AND SYMBOLS

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## F FLOOR PLAN NOTES

| 21 | 22 | 23 | 24

| 25 | 26 | 27

2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34

- 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
- 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
- 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

# OFFICE OFFICE HT104A HT104 CLASSROOM TOOL ROOM HT105 AUTOMOTIVE BAY - MAIN LAB **HT101** COLLISION BAY HT101B $(\mathsf{Z1})(\mathsf{Z2})$

Phase 0 - Floor Plan - Level 1 - Fire Protection SCALE: 1/8" = 1'-0"

| 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20

# 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.

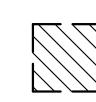
P. FIRE SPRINKLER CONTRACTOR IS RESPONSIBLE FOR COORDINATION WITH FIRE ALARM PANEL AND SUPERVISION OF NEW SPRINKLER TAMPER AND FLOW SWITCHES.

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.



 $L \mid F+a \text{ Project No. } 21.6807.00$ Alan W. Lankford - Mechanical Engineer - MO #024224 COA #2006001168

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

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Phase 0 - Floor Plan - Level 1 - Fire Protection

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Structural Engineer

Civil Engineer

MEPF Engineer

Project No: **20008.00** 

Date Issued

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KH Engineering Group

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Certificate of Authority

Lankford Fendler +

Associates

816-221-1411

Taliaferro & Browne

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1020 East 8th Street, Jackson County, Kansas City, MO 64106

1730 Walnut Street, Jackson County, Kansas City, MO 64108

**MCC Longview HT** 

500 SW Longview Road

Lee's Summit, MO 64081

PERMIT/BID DOCUMENTS

Issued: September 23, 2021

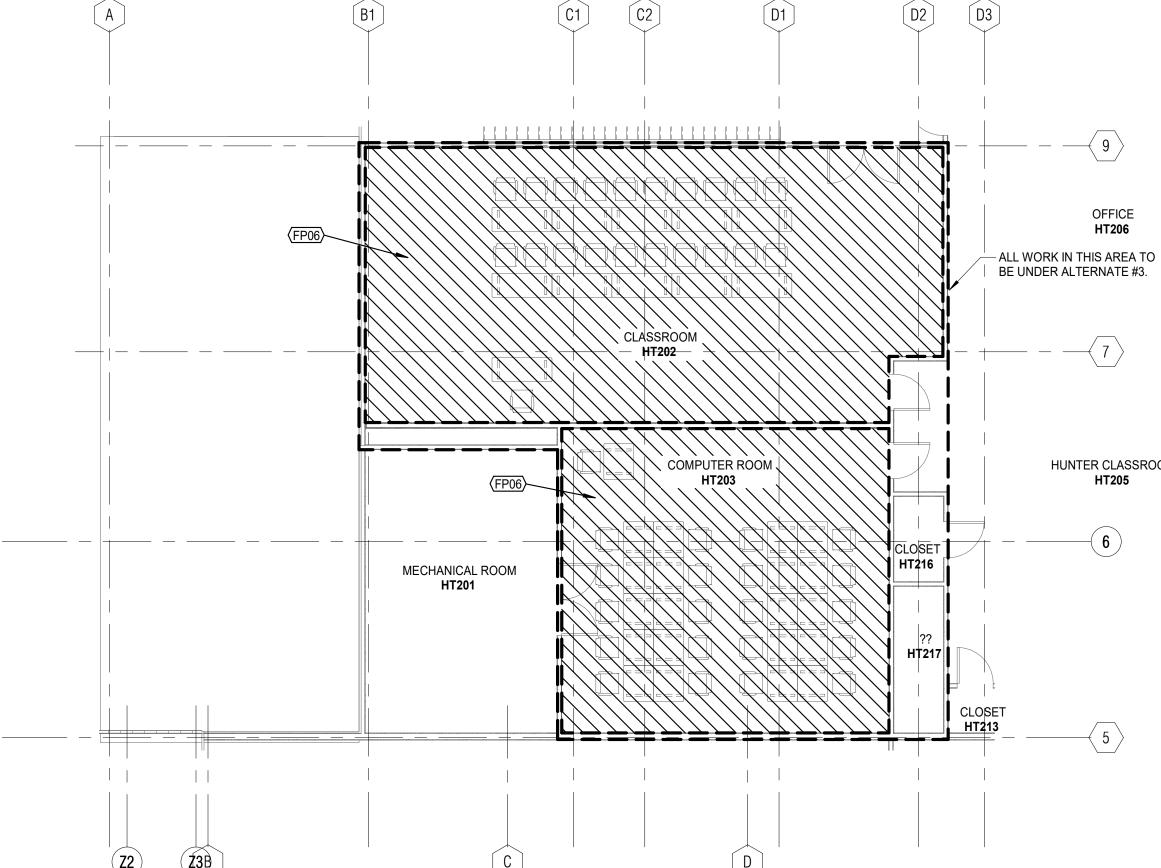
Description

**Addition/Renovation** 



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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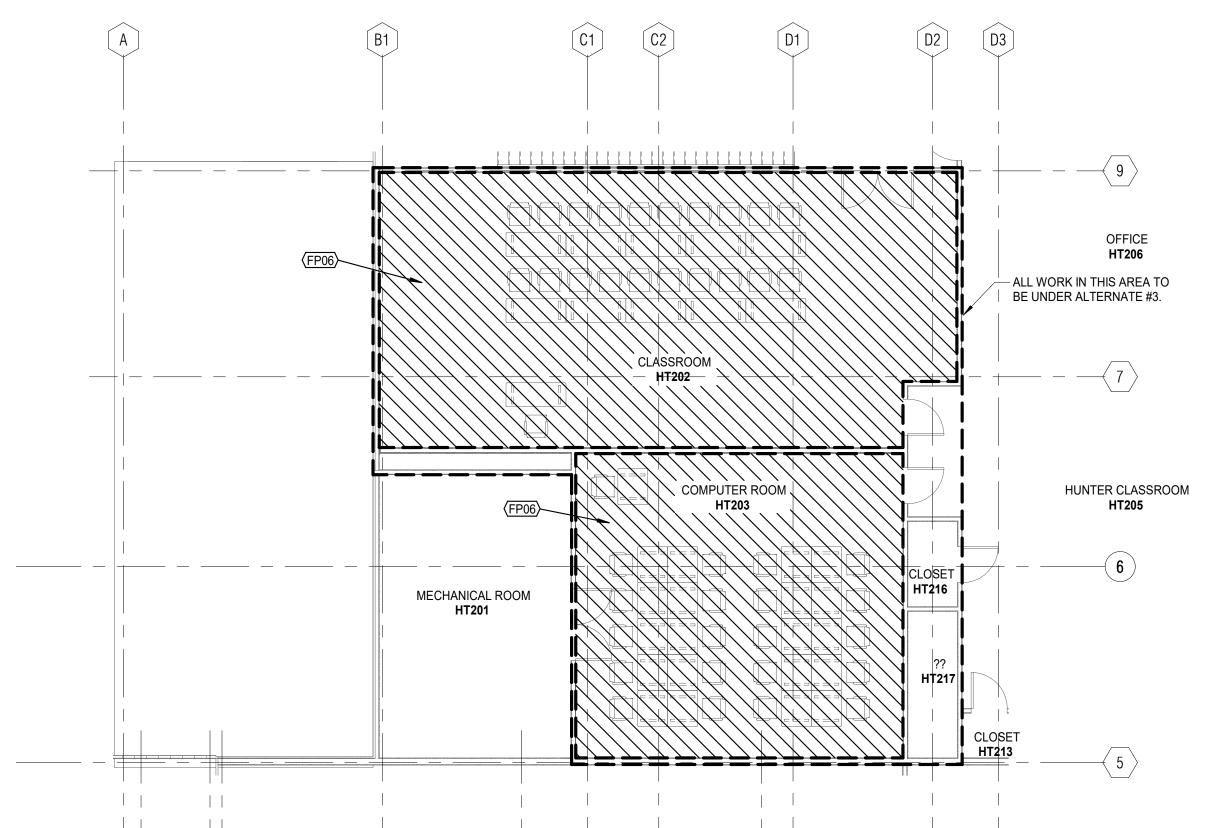
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21 | 22 | 23 | 24 | 25 | 26 | 27

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36

**MCC Longview HT** 

**Addition/Renovation** 

500 SW Longview Road

Lee's Summit, MO 64081 Project No: 20008.00

BNIM Architects Architect 2460 East Pershing Road, Suite 100, Jackson County, Kansas City MO 64108

Structural Engineer

Civil Engineer

MEPF Engineer

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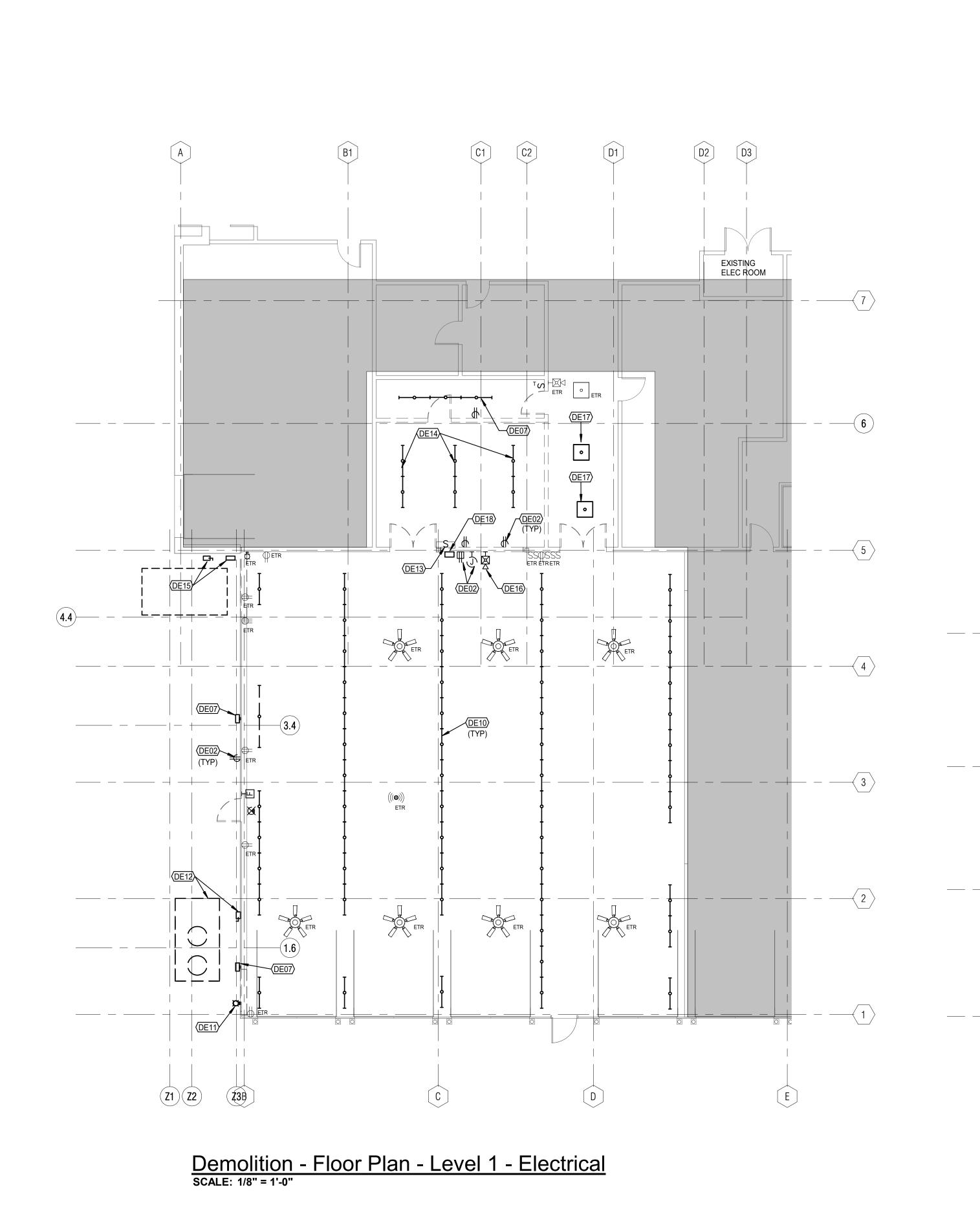
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Date Issued Rev. # Description

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Phase 0 - Floor Plan - Level 2 - Fire Protection



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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

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.

> - ALL WORK IN THIS AREA TO BE UNDER ALTERNATE #3.

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# **MCC Longview HT Addition/Renovation**

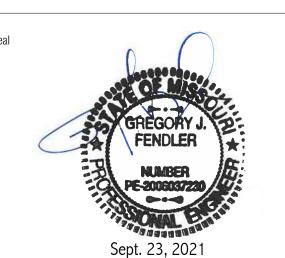
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Project No: 20008.00

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Date Issued Description



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<u>Demolition - Floor Plan - Level 2 -</u> Electrical SCALE: 1/8" = 1'-0"

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

bnim FLOOR PLAN NOTES 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 **BNIM Architects** OR EQUAL NO. S1SPFFBL OR EQUAL. CONTRACTOR TO HARDWIRE/SURFACE WIRING DEVICES BELOW DESK. NUMBER BY OUTLET INDICATES SPARE CIRCUIT MAINTAINED p.816.783.1500 f.816.783.1501 DURING DEMOLITION WORK. MO State Certificate of Authority #00235006 E07 PROVIDE CENTER OFF SCREEN SWITCH, MAKE CONNECTION TO MOTORIZED SCREEN BY Structural Engineer KH Engineering Group OTHERS. 13426 West 99th Street, Johnson County, Lenexa, KS 66215 E08 CONNECT TO SPARE CIRCUIT MAINTAINED DURING DEMOLITION WORK. 913-825-9381 E09 PROVIDE POKE-THRU DEVICE SIMILAR TO HUBBELL WIRING DEVICE KELLEM OR EQUAL NO. Certificate of Authority S1PT4X4BL OR EQUAL. Taliaferro & Browne Civil Engineer E10 COORDINATE ROUGH-IN LOCATION FOR CORD AND PLUG REEL PROVIDED BY OTHERS. 1020 East 8th Street, Jackson County, Kansas City, MO 64106 E11 COORDINATE ROUGH-IN LOCATION WITH GARAGE DOOR MANUFACTURER PROVIDED BY 816-283-2456 Lankford Fendler + Associates 1730 Walnut Street, Jackson County, Kansas City, MO 64108 816-221-1411 OFFICE OFFICE HT104 HT104A **MCC Longview HT Addition/Renovation** CORRIDOR CLASSROOM TOOL ROOM 500 SW Longview Road Lee's Summit, MO 64081 Project No: 20008.00 PERMIT/BID DOCUMENTS WELDING AREA HT101A Issued: September 23, 2021 Date Issued Rev. # Description AUTOMOTIVE BAY - MAIN LAB **HT101 COLLISION BAY** ALL WORK IN THIS AREA TO BE UNDER ALTERNATE #3. -MECHANICAL ROOM HT201 License Name: Gregory J. Fendler
Profession Name: MEP Consulting Engineers
Licensee Number: PE-2006037230 Phase 0 - Floor Plan - Level 1 - Power scale: 1/8" = 1'-0" Phase 0 - Floor Plan - Level 2 - Power + associates Phase 0 - Floor Plan - Level 1 & 2 - Power 

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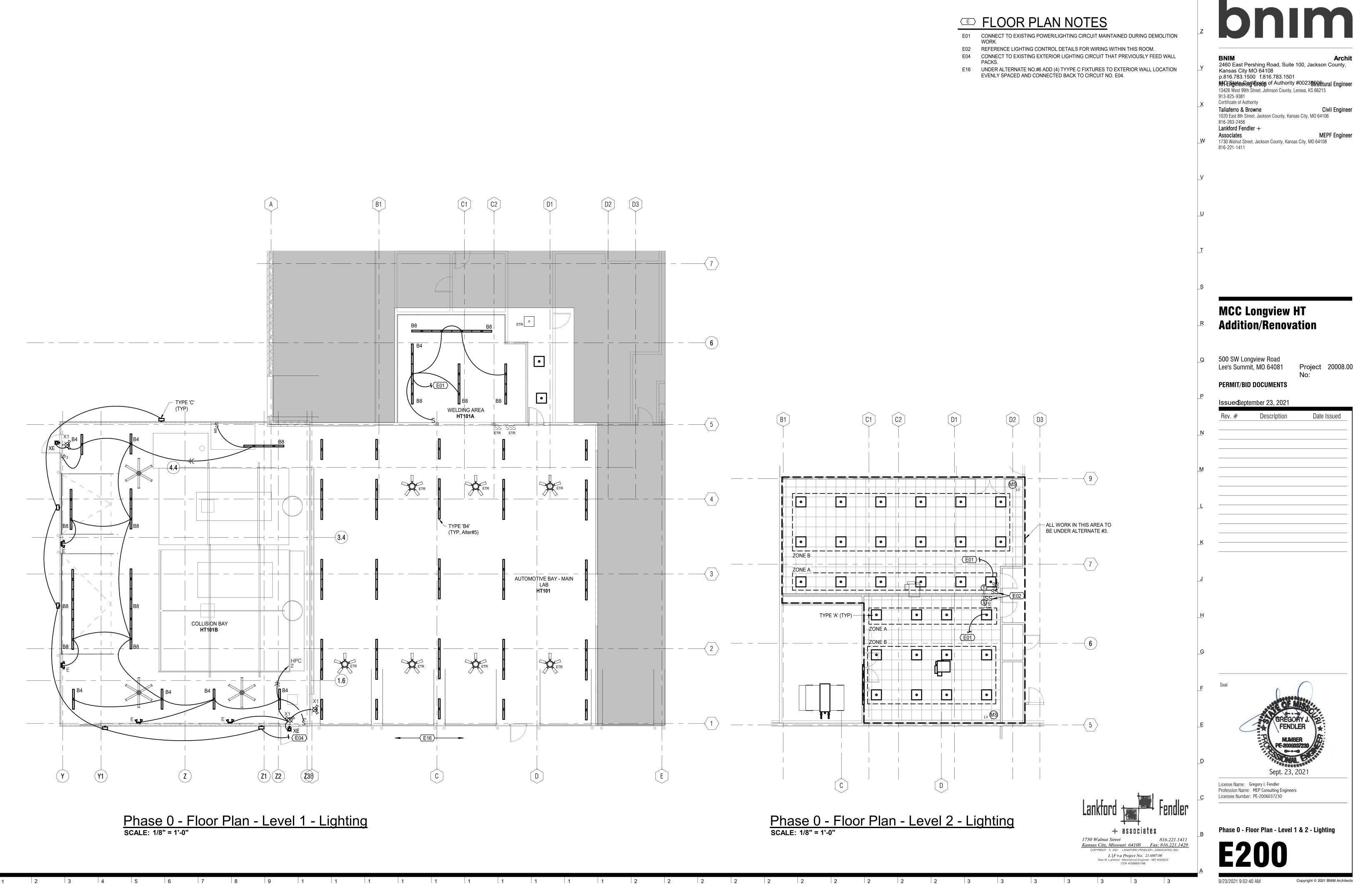
  $L \mid F+a \ Project \ No. \ 21.6807.00$  Alan W. Lankford - Mechanical Engineer - MO #024224 COA #2006001168 9/23/2021 7:24:07 AM | 18

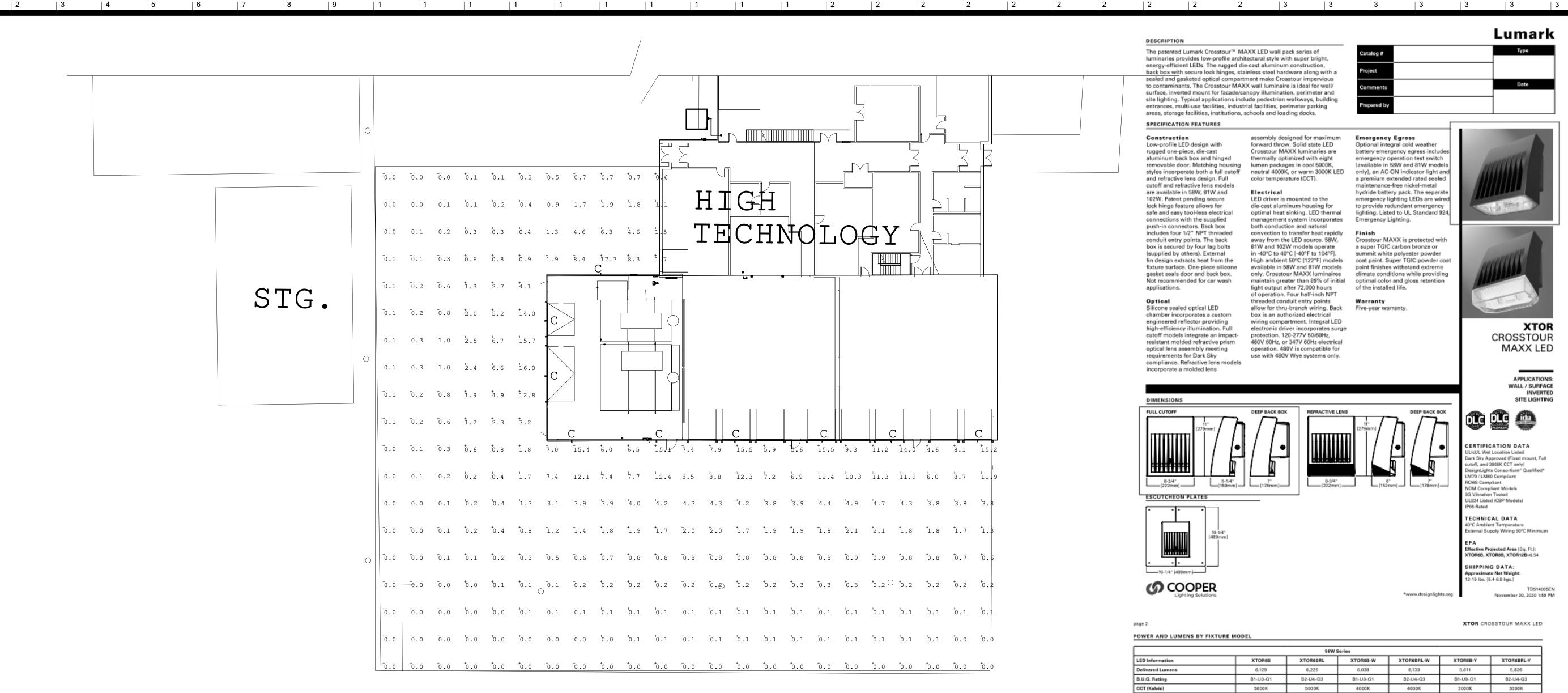
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2460 East Pershing Road, Suite 100, Jackson County, Kansas City MO 64108

MEPF Engineer





### PHOTOMETRIC PLAN-PAVED AREA SCALE: 1" = 20'-0"

Luminaire	Schedule					
Symbol	Description	Tag	LLF	Luminaire	Luminaire	Total
				Lumens	Watts	Watts
→	COOPER LIGHTING SOLUTIONS -	С	0.950	8502	81	729
<del></del>	LUMARK - XTOR8B					

| 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 1 | 1 | 1 | 1 | 1

Calculation Summary				
Label	Units	Avg	Max	Min
Paved Area	Fc	2.25	17.3	0.0
PropertyLine	Fc	0.00	0.0	0.0

#### DISCLAIMER:

These calculation have been performed according to IES standards and good practice. There may be differences between measured values and results presented herin, based on the extent in which field condition deviate from the input data. All attached drawing(s) images are for photometric reference only.

2

The patented Lumark Crosstour™ MAXX LED wall pack series of luminaries provides low-profile architectural style with super bright, energy-efficient LEDs. The rugged die-cast aluminum construction, back box with secure lock hinges, stainless steel hardware along with a sealed and gasketed optical compartment make Crosstour impervious to contaminants. The Crosstour MAXX wall luminaire is ideal for wall/ surface, inverted mount for facade/canopy illumination, perimeter and site lighting. Typical applications include pedestrian walkways, building entrances, multi-use facilities, industrial facilities, perimeter parking areas, storage facilities, institutions, schools and loading docks.

#### SPECIFICATION FEATURES

Low-profile LED design with rugged one-piece, die-cast aluminum back box and hinged removable door. Matching housing styles incorporate both a full cutoff and refractive lens design. Full cutoff and refractive lens models are available in 58W, 81W and 102W. Patent pending secure lock hinge feature allows for safe and easy tool-less electrical connections with the supplied push-in connectors. Back box includes four 1/2" NPT threaded conduit entry points. The back box is secured by four lag bolts

#### (supplied by others), External fin design extracts heat from the fixture surface. One-piece silicone gasket seals door and back box. Not recommended for car wash applications.

chamber incorporates a custom engineered reflector providing high-efficiency illumination. Full cutoff models integrate an impactresistant molded refractive prism optical lens assembly meeting requirements for Dark Sky compliance. Refractive lens models

**ESCUTCHEON PLATES** 

**O** COOPER

POWER AND LUMENS BY FIXTURE MODEL

assembly designed for maximum forward throw. Solid state LED Crosstour MAXX luminaries are thermally optimized with eight lumen packages in cool 5000K, neutral 4000K, or warm 3000K LED color temperature (CCT).

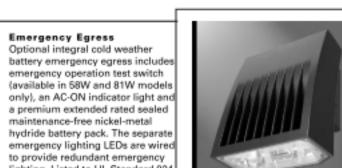
LED driver is mounted to the die-cast aluminum housing for optimal heat sinking. LED thermal management system incorporates both conduction and natural convection to transfer heat rapidly away from the LED source. 58W, 81W and 102W models operate in -40°C to 40°C [-40°F to 104°F]. High ambient 50°C [122°F] models available in 58W and 81W models only, Crosstour MAXX luminaires

Silicone sealed optical LED allow for thru-branch wiring, Back box is an authorized electrical wiring compartment, Integral LED electronic driver incorporates surge protection. 120-277V 50/60Hz, 480V 60Hz, or 347V 60Hz electrical operation, 480V is compatible for use with 480V Wye systems only.

Emergency Egress Optional integral cold weather battery emergency egress includes emergency operation test switch (available in 58W and 81W models only), an AC-ON indicator light and a premium extended rated sealed

Emergency Lighting. maintain greater than 89% of initial optimal color and gloss retention light output after 72,000 hours of operation. Four half-inch NPT threaded conduit entry points

Warranty Five-year warranty.



Lumark

Date

Crosstour MAXX is protected with a super TGIC carbon bronze or summit white polyester powder coat paint. Super TGIC powder coat paint finishes withstand extreme climate conditions while providing of the installed life.



XTOR CROSSTOUR MAXX LED

APPLICATIONS: WALL / SURFACE SITE LIGHTING

irk Sky Approved (Fixed mount, Full sutoff, and 3000K CCT only) M79 / LM80 Compliant

3G Vibration Tested UL924 Listed (CBP Models) TECHNICAL DATA

sternal Supply Wiring 90°C Minimum

Effective Projected Area (Sq. Ft.): XTOR68, XTOR68, XTOR128=0.54 SHIPPING DATA: Approximate Net Weight: 12-15 lbs. [5.4-6.8 kgs.]

XTOR CROSSTOUR MAXX LED

November 30, 2020 1:59 PM

		58W	Series						
LED Information	XTORES	XTORSBRL	XTOR68-W	XTOR6BRL-W	XTOR68-Y	XTOR6BRL-Y			
Delivered Lumens	6,129	6,225	6,038	6,133	5,611	5,826			
B.U.G. Rating	B1-U0-G1	B2-U4-G3	B1-U0-G1	B2-U4-G3	B1-U0-G1	B2-U4-G3			
CCT (Kelvin)	5000K	5000K	4000K	4000K	3000K	3000K			
CRI (Color Rendering Index)	70	70	70	70	70	70			
Power Consumption (Watts)	58W	58W	58W	58W	58W	58W			
		81W	Series						
LED Information	XTORES	XTORSBRIL	XTOR88-W	XTOR8BRL-W	XTOR88-Y	XTOR8BRL-Y			
Delivered Lumens	8,502	8,635	8,373	8,504	7,748	8,079			
B.U.G. Rating	B2-U0-G1	B2-U4-G3	B2-U0-G1	B2-U4-G3	82-U0-G1	B2-U4-G3			
CCT (Kelvin)	5000K	5000K	4000K	4000K	3000K	3000K			
CRI (Color Rendering Index)	70	70	70	70	70	70			
Power Consumption (Watts)	81W	81W	81W	81W	81W	81W			
		102W	Series						
LED Information	XTOR12B	XTOR12BRL	XTOR12B-W	XTOR128RL-W	XTOR12B-Y	XTOR128RL-Y			
Delivered Lumens	12,728	13,458	12,539	13,258	11,861	12,595			
B.U.G. Rating	B2-U0-G1	B2-U4-G3	B2-U0-G1	B2-U4-G3	82-U0-G1	B2-U4-G3			
CCT (Kelvin)	5000K	5000K	4000K	4000K	3000K	3000K			
CRI (Color Rendering Index)	70	70	70	70	70	70			
Power Consumption (Watts)	102W	102W	102W	102W	102W	102W			
EGRESS Information	XTOR68 and XTOR88 ull Cutoff CBP Egress L		XTOR68 and XTOR88 Refractive Lens CBP Egress LED						
Delivered Lumens		509			468				
B.U.G. Rating		N.A.			N.A.				
CCT (Kelvin)		4000K			4000K				

#### **LUMEN MAINTENANCE**

				100	_									
Ambient Temperature	TM-21 Lumen Maintenance (72,000 Hours)	Theoretical L70 (Hours)	Du D											
XTOR68 Mod	el		nce (Percent)											
25°C	> 90%	246,000	8	90	$\vdash$				$\vdash$		-		-	$\vdash$
40°C	> 88%	217,000	2		l						`			
50°C	> 88%	201,000	Mainte	85						_	_			
XTORES Mod	el		N ES		l						l			
25°C	> 89%	219,000	Lumen	80										
40°C	> 87%	195,000	_	-	l						l			
50°C	> 80%	181,000		75										
XTOR128 Mod	fel				0 1	0 2	0 3	0 4	0 5	0 6	0 7	0 8	0 9	0 1
25°C	> 89%	222,000			Hours	Thous	inds)							5°C –
40°C	> 87%	198,000											•	

			Model	Series			
Voltage	хтояєв			XTOR68-C8P (Fixture/Battery)	XTOR8B-CBP (Fixture/Battery)		
120V	0.51	0.71	0.94	0.60/0.25	0.92/0.25		
208V	0.25	0.39	0.52				
240V	0.25	0.35	0.45				
277V	0.22	0.31	0.39	0.36/0.21	0.50/0.21		
347V	0.19	0.25	0.33				

COOPER Production City, DA 30050 Specifications and dimensions adject to

480V 0.14 0.19 0.24

TD614005EN November 30, 2020 1:59 PM



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## **MCC Longview HT Addition/Renovation**

500 SW Longview Road Lee's Summit, MO 64081

PERMIT/BID DOCUMENTS

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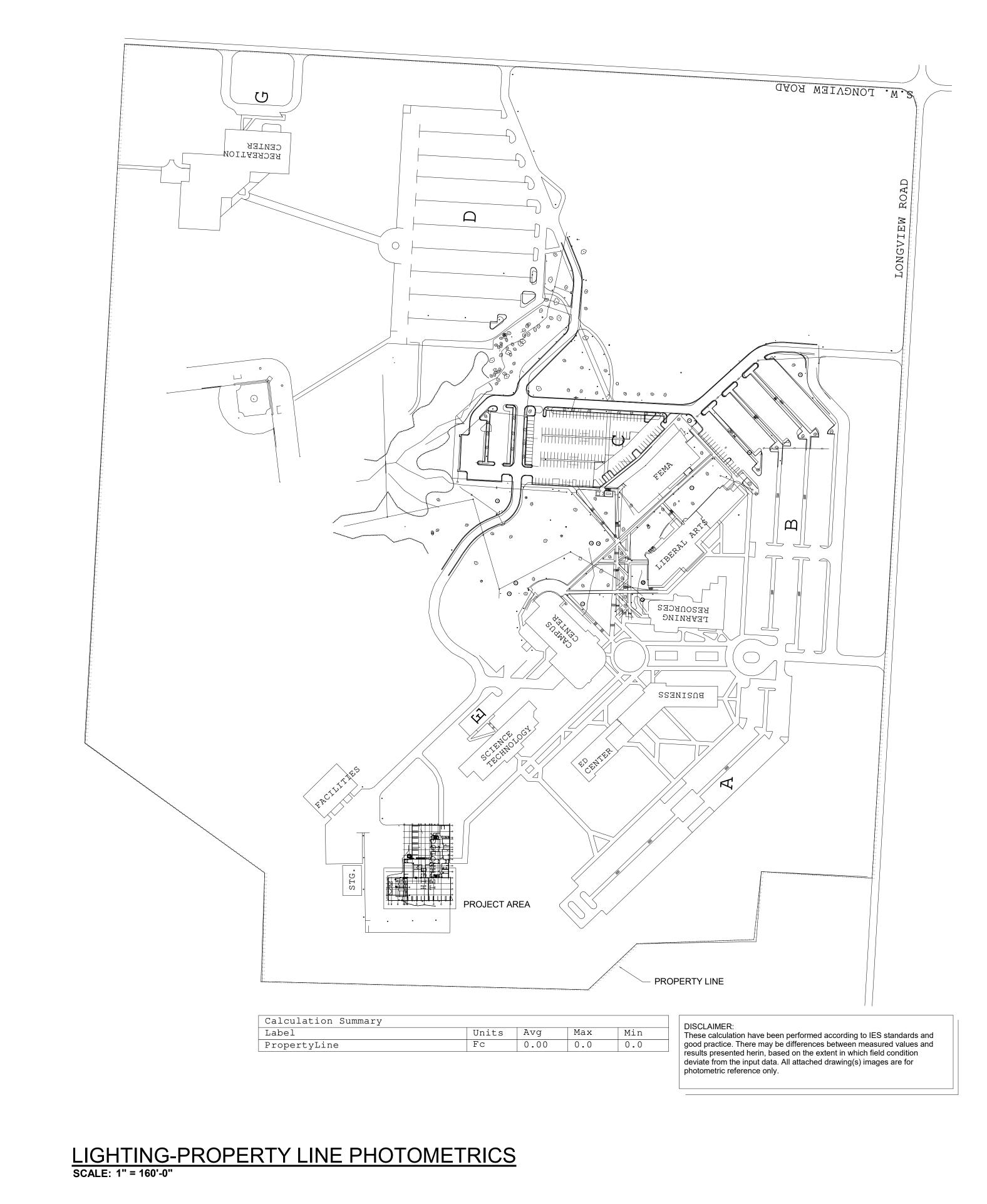
Date Issued Description 10/25/2021 Addendum #3

Project 20008.00

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

**Lighting Photometrics** 

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z bnim

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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

ee's Summit, M0 64081 Project 20008.00 No:

PERMIT/BID DOCUMENTS

Issuedeptember 23, 2021

Rev. # Description Date Issued

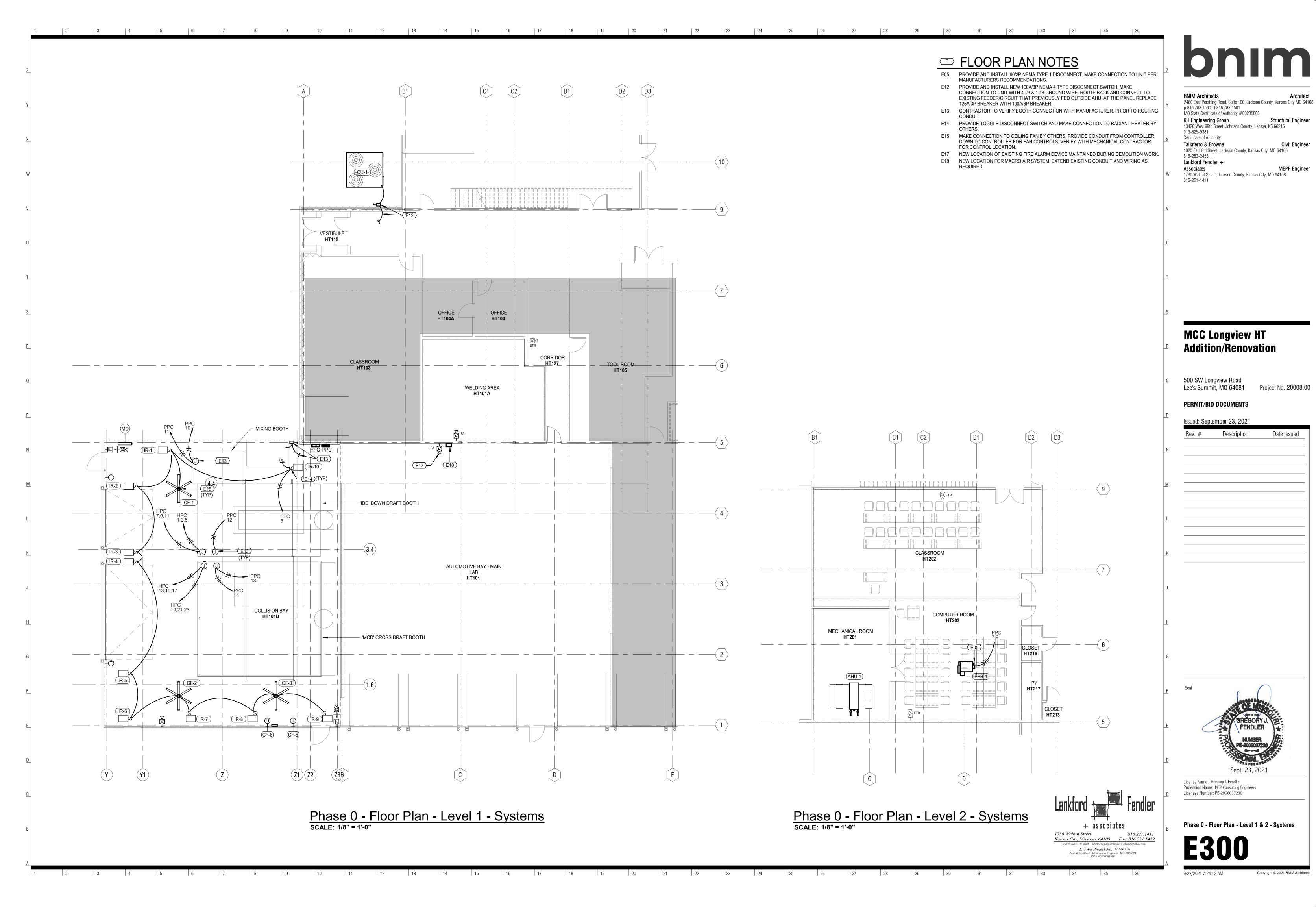
1 Addendum #3 10/25/2021

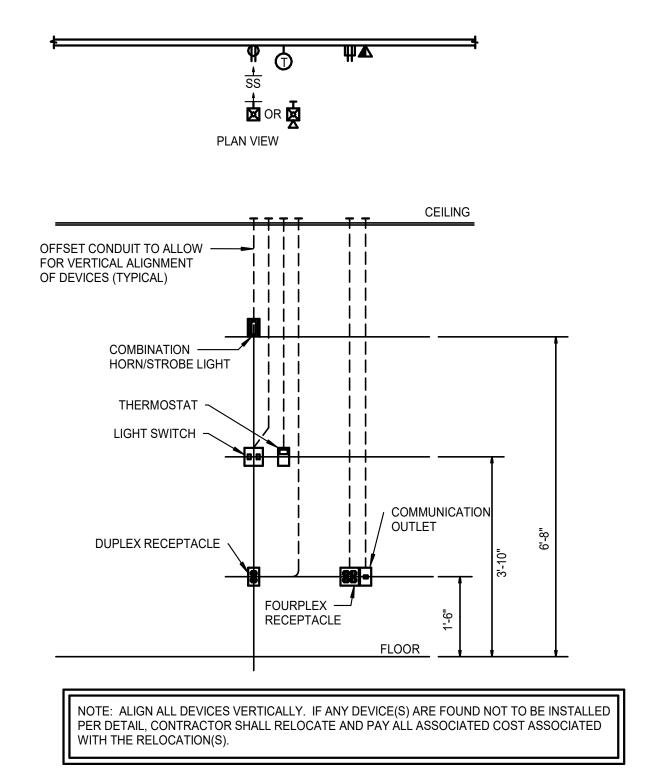
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LIGHTING PHOTOMETRIC

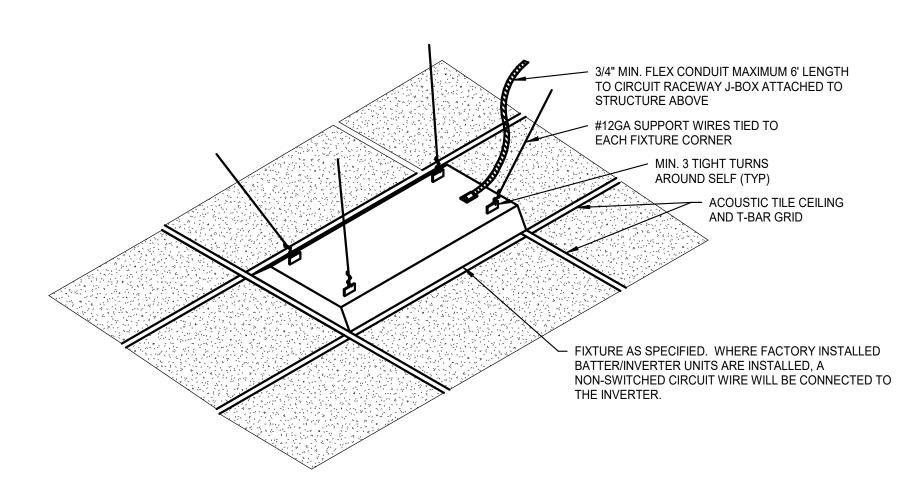
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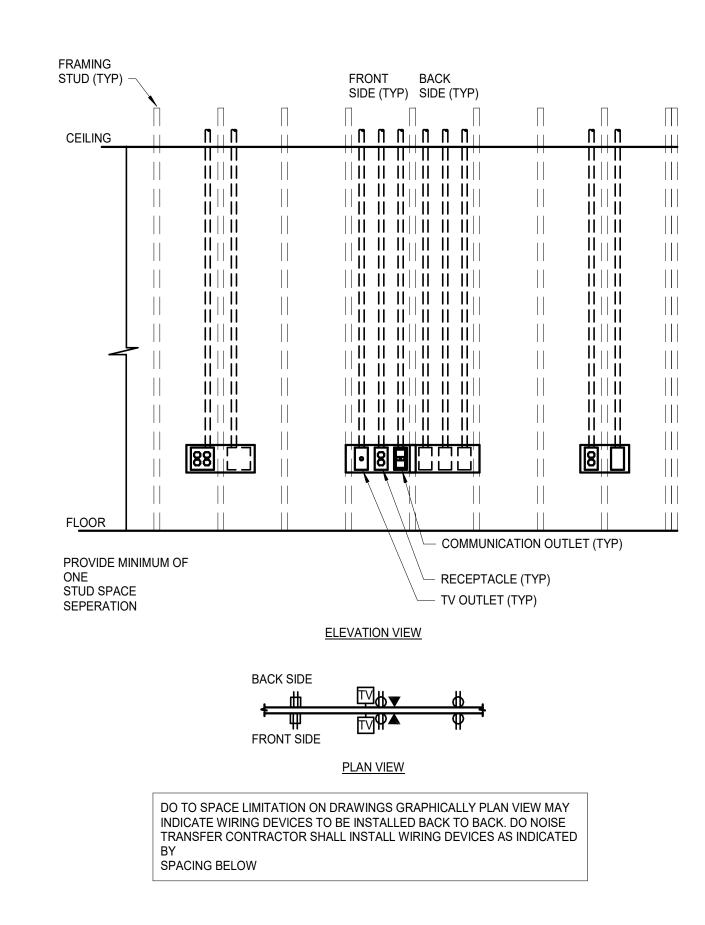


# TYPICAL WALL MOUNTING DEVICE DETAIL



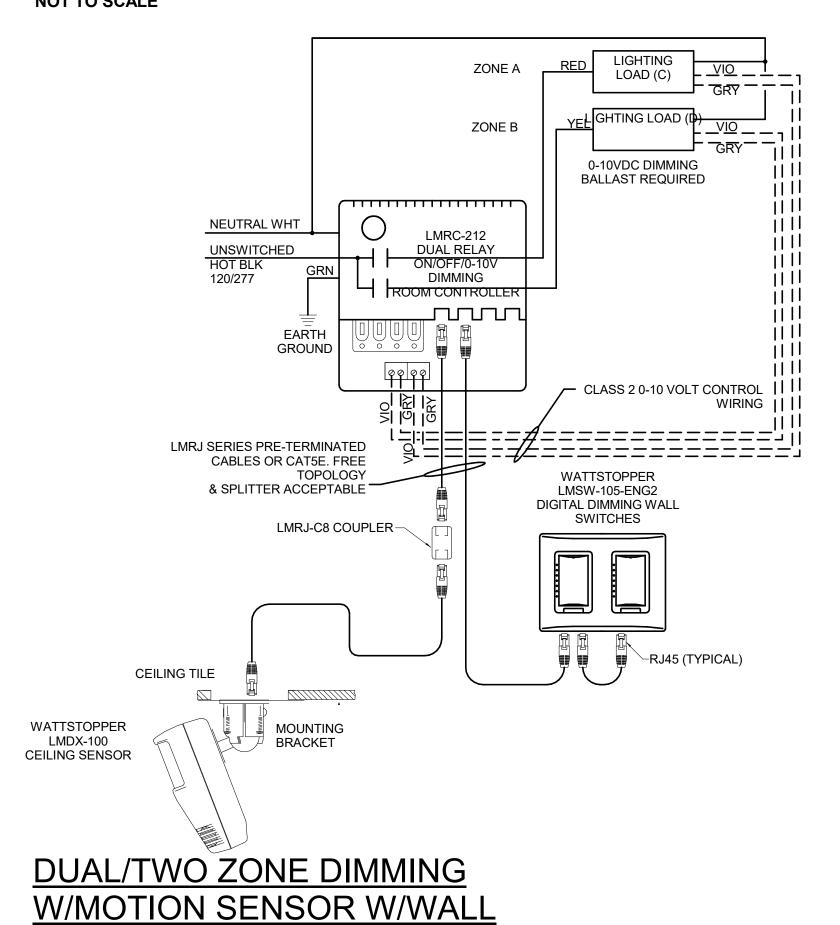
LIGHT FIXTURE MOUNTING AND BRACING DETAIL

| 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14

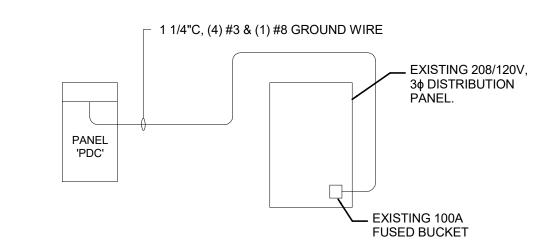


2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35

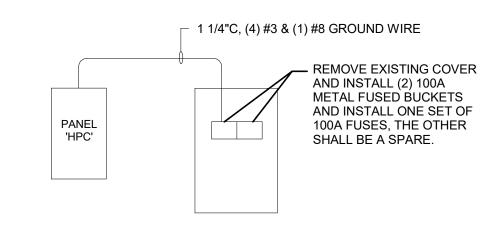
# TYPICAL WIRING DEVICE MOUNTING DETAIL



SWITCH CONTROL DETAIL



### 708/120V 3PHASE, 4-WIRE RISER NO SCALE



## 480/277V 3PHASE, 4-WIRE RISER NO SCALE

# Electrical Riser Diagram



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

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Lankford Fendler + **MEPF** Engineer Associates 1730 Walnut Street, Jackson County, Kansas City, MO 64108

816-221-1411

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<u>L</u>			



License Name: Gregory J. Fendler

Profession Name: MEP Consulting Engineers Licensee Number: PE-2006037230

**ELECTRICAL DETAILS** 

+ associates

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 $L \mid F+a \ Project \ No. \ 21.6807.00$  Alan W. Lankford - Mechanical Engineer - MO #024224 COA #2006001168 | 15 | 16 | 17 | 18 | 19 | 20 21 | 22 | 23 | 24 25

		Location: COLLISION Supply From: Mounting: Surface Enclosure: Type 1	BAY HT101B	3			Volts: Phases: Wires:		Wye				A.I.C. Rating: Mains Type: Mains Rating: 100 A		
Notes:															
Notes	СКТ	Circuit Description	Trip	Poles	A	В	С	A	В	С	Poles	Trip	Circuit Descr	ription CKT	Γ Not
1	3	IDD DOWN DRAFT BOOTH	20 A	3	2.1	2.1	2.4	0.578	0	0	1 1	20 A 20 A	SPARE	4	
1	5 7 9	IDD DOWN DRAFT BOOTH	30 A	3	5.8	5.8	2.1	0	0	0		20 A 	SPARE PROVISION PROVISION	6 8 10	
1	11 13 15	MCD CROSS DRAFT BOOTH	30 A	3	7.5	7.5	5.8	0	0	0		  	PROVISION PROVISION PROVISION	12 14 16	-
7 )	17 19				5.5		7.5	0	·	0			PROVISION PROVISION	18 20	
1)	21 23 25	MCD CROSS DRAFT BOOTH PROVISION	30 A	3	0	5.5	5.5	0	0	0			PROVISION PROVISION PROVISION	22 24 26	-
	27 29	PROVISION PROVISION				0	0		0	0			PROVISION PROVISION	28 30	-
	31 33 35	PROVISION PROVISION			0	0	0	0	0	0		 	PROVISION PROVISION PROVISION	32 34 36	-
	37 39	PROVISION PROVISION			0	0		0	0				PROVISION PROVISION	38 40	
	41	PROVISION		 tal Load: al Amps:		/8 kVA .5 A		00 kVA .5 A		0 0 kVA 5 A			PROVISION	42	
Load Cla				nected L 62700 V		De	mand Fa			nated De			Panel 1	Fotals	
Lighting Other Power				572 VA 6 VA 0 VA			125.00% 100.00% 0.00%	)		716 VA 6 VA 0 VA			Total Conn. Load: Total Conn. Current Total Demand Load	76 A 79097 VA	
													Power Factor %: 9 Total Demand Current:		
GENER		PROVIDE SHUNT-TRIP TYPE CIR 2. 3. 4. 5.							DOWN.	<u></u>					

E	BRANCH	CIRCUIT C	OPPER (	CONDUC <sup>-</sup>	TOR	
_		D CONDUI			<u> </u>	
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.

		Branch Panel: PPC	\					100/000								
		Location: COLLISION BA Supply From: Mounting: Surface Enclosure: Type 1	Y H1101B				Volts: Phases: Wires:		vvye				A.I.C. Rating: Mains Type: MLO Mains Rating: 100 A			
Notes:																
					A	В	С	A	В	С						
Notes	CKT	Circuit Description	Trip	Poles							Poles	Trip	Circuit Descr	ription	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 G		4	
	5	REC; COLLISION BAY GARAGE DOOR	20 A	1			0.5			0.9	1	20 A	REC; COLLISION BAY CO	ORD 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		20 A	1			0.4			1.32	1	20 A	IDD DOWN DRAFT BOO		12	
	13		20 A	1	1.2			1.2			1	20 A	MCD CROSS DRAFT BO	ОТН	14	
	15		20 A	1		0			0		1	20 A	SPARE		16	
	17		20 A	1			0			0	1	20 A	SPARE		18	
	19				0			0					PROVISION		20	
	21					0			0				PROVISION		22	
	23						0			0			PROVISION		24	
	25				0			0					PROVISION		26	
	27					0			0				PROVISION		28	
	29						0			0			PROVISION		30	
	31				0			0					PROVISION		32	
	33					0			0				PROVISION		34	
	35						0			0			PROVISION		36	
	37				0			0					PROVISION		38	
	39	PROVISION				0			0				PROVISION		40	
	41	PROVISION					0			0			PROVISION		42	
				al Load:		0 kVA		0 kVA		) kVA						
			Tota	al Amps:	67	.9 A	153	3.1 A	26.	0 A						
									I							
Load C				nected L		De	mand Fa			nated De			Panel	Totals		
Heating	Resis	stance		17920 VA			125.00%			22400 V						
Power				5780 VA			100.00%			5780 VA			Total Conn. Load:			
Recepta	cle			4600 VA			100.00%	)		4600 VA	١		Total Conn. Current			
													Total Demand Load			
													Power Factor %:			
													Total Demand Current:	96 A		
	NI/	OTES:														
	IN	OTES:														
		1.														
		2.														
		3.														
		4.														
		5.														
GENER	AI NI	OTES:														
GENER	ML N	OIES.														



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J	1	Addendum #3	10/25/2021
	Rev. #	Description	Date Issued

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

**ELECTRICAL SCHEDULES** 

+ associates 1730 Walnut Street 816.221.1411 Kansas City, Missouri 64108 Fax: 816.221.1429

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Alan W. Lankford - Mechanical Engineer - MO #024224

COA #2006001168

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TYPE	MANUFACTURER	LAMPS	WATTS	DIMMING	DESCRIPTION
			VOLTS	PROTOCOL	
Α	METALUX ENCOUNTER 22EN LED	LED			2X2 RECESSED LE LIGHT FIXTURE, WHITE TRIM, FROSTED LENS.
	NO.22EN-LD2-34-UNV-L840-CD-	4000K	28.5	YES	
	OR EQUAL		UNV	0-10V	
B4	METALUX SNLED	LED			4' LONG LED STRIP FIXTURE, ROUND SEMI-FROSTED LENS, PROVIDE WITH AYC OPTION.
	NO.4T37SL-LN-UNV-L840	4000K	28	NO	
	OR EQUAL		UNV	-	
B8	METALUX SNLED	LED			SIMILAR TO TYPE B4, EXCEPT 8' LONG.
	NO.8T83SL-LN-UNV-L840	4000K	61	NO	
	OR EQUAL		UNV	-	
С	LUMARK - XTOR SERIES	LED			EXTERIOR WALL MOUNTED LED LIGHT FIXTURE, BRONZE FINISH, PHOTO-CELL CONTROLLED.
	NO.XTOR8B-W-BZ-PC2-CBP	4000K	81	NO	
	OR EQUAL		UNV	-	

WALL MOUNTED LED EMERGENCY LIGHT, WHITE HOUSING.

COMBO EXIT AND EMERGENCY LIGHT, WHITE HOUSING, LED HEADS. 3 WATT REMOTE CAPACITY

REMOTED EMERGENCY LIGHTS, ALUMINUM HOUSING, POWERED FROM TYPE X1 FIXTURE.

SPECIFIC NOTES:

#### SUBSTITUTION NOTES:

E SURE-LITE

X1 SURE-LITE

NO.AP2SQLED

NO.APC-H-7-R-SQ

OR EQUAL

OR EQUAL.

SURE-LITE

NO. SRM25

OR EQUAL

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

UNV

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)

PENETRATIONS.

2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36

2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33

NOTES

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.

A. REFER TO ARCHITECTS REFLECTED CEILING PLANS FOR EXACT PLACEMENT OF

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

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

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

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 ILLESDICTION

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

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

	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
<del>-</del>	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
<del>)                                    </del>	GROUNDING CONDUCTOR, MINIMUM NO. 12 WIRE EXCEPT AS NOTED
<b>X</b> OR <b>†)X</b>	EXIT SIGN, SINGLE FACED, ARROWS AS SHOW ON PLANS, SHADED SIDE(S) INDICATES FACE SIDE(S) OF EXIT
<b>(</b> a OR <b>१४</b>	COMBINATION EXIT SIGN/EMERGENCY LIGHTING UNIT, CEILING OR WALL MOUNTED, SHADED SIDE(S) INDICATES FACE SIDE(S) OF EXIT
OR <b>4</b>	CEILING OR WALL MOUNTED EMERGENCY LIGHTING UNIT WITH INTEGRAL BATTERY AND UNIT MOUNTED HEADS
r $\square_{\!_A}$	FLUORESCENT LIGHT FIXTURE; LETTER DENOTES FIXTURE TYPE
<del></del>	FLUORESCENT STRIP FIXTURE
中中	WALL MOUNTED LIGHT FIXTURE, SIZE AND TYPE AS NOTED
O	MOTOR
=	208Y/120V OR 120/240V PANELBOARD (SURFACE), TOP MOUNTED 6'-0" AFF
ш	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
S S <sup>3</sup> S <sup>MS</sup> S <sup>LV</sup>	DISCONNECT SWITCH, SIZE AND TYPE AS NOTED, TOP MOUNTED 5'-0" AFF SINGLE POLE SWITCH, +3'-10" AFF TO CENTERLINE OF DEVICE BOX THREE-WAY SWITCH, +3'-10" AFF TO CENTERLINE OF DEVICE BOX MOTION SENSOR SWITCH, +3'-10" AFF TO CENTERLINE OF DEVICE BOX LOW VOLTAGE SWITCH +4'-0" AFF TO CENTERLINE OF DEVICE BOX.
•	PUSH BUTTON, +3'-10" AFF
Ф	DUPLEX RECEPTACLE, +1'-6" AFF OR AS NOTED
<b>#</b>	DUPLEX RECEPTACLE INSTALLED ABOVE COUNTERTOP
$\phi_{Mb}$	GFI DUPLEX RECEPTACLE WITH WEATHERPROOF PLATE, HEIGHT AS NOTED
<b>₲</b> GFI	DUPLEX RECEPTACLE W/GROUND FAULT PROTECTION,+1'-6" AFF OR AS NOTED
Ш	DOUBLE DUPLEX RECEPTACLE, +1'-6" AFF OR AS NOTED
<u> </u>	DUPLEX RECEPTACLE MOUNTED IN CEILING TILE OR CEILING.
•	ROUND POKE-THRU WITH TYPE INDICATED, SEE SPECS.

WALL OR CEILING MOUNTED JUNCTION BOX

FIRE ALARM MANUAL PULL STATION, +3'-10" AFF

FIRE ALARM STROBE LIGHT, +6'-8" AFF

TYPE AS NOTED ON DRAWING.

ABOVE FINISHED FLOOR

**EXISTING TO REMAIN** 

FIRE ALARM

PUBLIC ADDRESS

MECHANICAL EQUIPMENT CALL OUT

DATA/VOICE OUTLET WITH 3/4" CONDUIT STUBBED UP OUT OF

BOX TO ABOVE ACCESSIBLE CEILING, +1'-6" AFF OR AS NOTED

FIRE ALARM COMBINATION AUDIBLE/VISUAL WALL MOUNTED, +6'-8" AFF

HEIGHT TO CENTERLINE OF OUTLET BOX ABOVE FINISHED FLOOR

FIRE RATED THRU FLOOR COMBINATION POKE THRU FURNITURE FEED POWER/DATA,

Seal

GREGORY J.
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Structural Engineer

Civil Engineer

**MEPF** Engineer

Project No: **20008.00** 

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Profession Name: MEP Consulting Engineers

Licensee Number: PE-2006037230

ELECTRICAL SCHEDULES, GEN NOTES &

SYMBOLS

<u>EJU</u>

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