DISTRICT TECHNOLOGY REMODEL

Liberty Public Schools

1000 Kent Street
Liberty, MO 64068

Construction Documents

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SYMBOL LEGEND

BRICK (in section)
CONCRETE MASONRY UNIT - CMU (in section)
CONCRETE (in section)
GYP BD (in section)
PLYWOOD (in section)
RIGID INSUL & EIFS (in section)
BATT INSUL (in section)
ACOUSTICAL TILE (in section)
STUCCO (in section)
SOIL
SAND
CONTINUOUS LUMBER
BLOCKING/SHIM
FINISH LUMBER/ HARDWOOD
STEEL OR METAL

Classroom A101 — RM NAME / RM NUMBER
A123 — DOOR NUMBER
A — WALL TYPE
A — FRAME TYPE
1 — GLASS TYPE
A10 / A500 — SECTION CUT LINE
ELEVATION SYMBOL
ELEV NUMBER / SHEET NUMBER
A9 / A120 — ENLARGED DETAIL
Joist Bearing 100'-0" — DATUM MARKER
AREA "A"
AREA "B"
MATERIAL JOINT
BUILDING EXPANSION JOINT

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ALTERNATES

ALTERNATE 1 - MECHANICAL YARD FENCING

BASE BID: UNINSTALL, REPAIR AND REINSTALL EXISTING CHAIN LINK FENCE DURING NEW MEP EQUIPMENT INSTALLATION.

ADD ALTERNATE 1A: DEMOLISH EXISTING CHAIN LINK FENCE AND PREP SLAB TO RECEIVE NEW CHAIN LINK FENCE WITH PRIVACY SLATS.

ADD ALTERNATE 1B: DEMOLISH EXISTING CHAIN LINK FENCE AND PREP SLAB TO RECEIVE NEW WOOD COMPOSITE PRIVACY FENCE

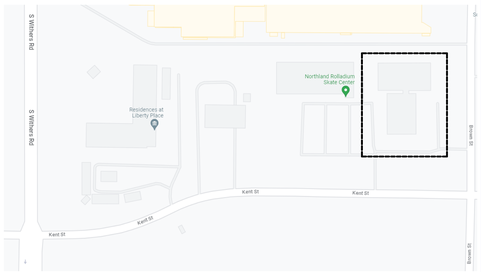
ALTERNATE 2 - FINE ARTS SUITE

BASE BID: NEW WORK AS SHOWN ON DRAWINGS
DEDUCT ALTERNATE: NO WORK IN AREAS INDICATED ON A801

ALTERNATE 3 - KID'S ZONE SUITE

BASE BID: NEW WORK AS SHOWN ON DRAWINGS
DEDUCT ALTERNATE: NO WORK IN AREAS INDICATED ON A801

VICINITY MAP



ABBREVIATIONS

A

ACT	acoustical
ADJ	adjustable/adjacent
AFF	above finish floor
ALUM	aluminum
ALT	alternate
ANOD	anodized
APPROX	approximate(ly)
ARCH	architect(ural)

B

BLDG	building
BLKG	blocking
BM	beam
BOT	bottom of
BRG	bearing
BRKT	bracket
BTM	bottom
BSMT	basement
BTWN	between

C

CAB	cabinet
CC	center to center
CEM	cement(itious)
CG	corner guard
CJ	control joint
CLG	ceiling
CLR	clear(ance)
CM	contruction manager
CMU	concrete masonry unit
COL	column
CONC	concrete
CONST	construction
CONT	continuous
CTR	center
CY	cubic yard(s)

D

DF	drinking fountain
DIA	diameter
DIM	dimension(s)
DN	down
DS	downspout
DTL	detail
DWG	drawing

E

E	east
EA	each
EF	each face
EIFS	exterior insulation finish system
EJ	expansion joint
ELEC	electrical
ELEV	elevation
EQ	equal
EQUIP	equipment
ETR	existing to remain
EW	each way
EXIST	existing
EXP	expansion
EXT	exterior

F

FA	fire alarm
FD	floor drain
FND	foundation
FE	fire extinguisher
FEC	fire extinguisher cabinet
FF	finish floor
FH	fire hose
FIN	finish(ed)
FIXT	fixture
FLR	floor
FLEX	flexible
FOM	face of masonry
FOPC	face of precast
FOS	face of stud
FT (')	foot
FTG	footing
FV	field verify

G

GA	gauge
GALV	galvanized
GC	general contractor
GEN	general
GL	glass
GR	grade
GYP	gypsum
GYP BD	gypsum board

H

HC	handicapped
HD	head
HDWD	hardwood
HDWR	hardware
HM	hollow metal
HORIZ	horizontal
HR	hour
HT	height
HVAC	heating, ventilation & air conditioning

I

ID	inside diameter
IN (")	inch(es)
INDIV	individual
INFO	information
INSUL	insulation
INT	interior

J

JST	joist
JT	joint

K

KIT	kitchen

L

LKR	locker
LT	light

M

MAS	masonry
MATL	material
MAX	maximum
MB	markerboard
MECH	mechanical
MEP	mechanical/electrical/plumbing
MFR	manufacturer
MIN	minimum
MISC	miscellaneous
MO	masonry opening
MTD	mounted
MTG HT	mounting height
MTL	metal
MULL	mullion

N

N	north
NIC	not in contract
NO (#)	number
NOM	nominal
NRC	noise reduction coefficient
NTS	not to scale

O

OC	on center
OD	outside diameter
OTS	open to structure
OPNG	opening
OPP	opposite

P

PAR	parallel
PCP	portland cement plaster
PERP	perpendicular
PL	property line
PLBG	plumbing
PLYWD	plywood
PNL	panel
PR	pair
PREFAB	prefabricated
PTD	painted
PVC	polyvinyl chloride

R

RAD	radius
RD	roof drain
RE:	refer to
REINF	reinforcing (ed)
REV	reversed
REQ'D	required
RFG	roofing

S

S	south
SCHED	schedule
SECT	section
SF	square foot
SHT	sheet
SHWR	shower
SIM	similar
SPEC	specification
SQ	square
SSTL	stainless steel
STC	sound transmission coeficient
STD	standard
STL	steel
STRUCT	structure(al)
SUSP	suspend(ed)
SY	square yard
SYM	symmetrical

T

T&B	top & bottom
T&G	tongue & groove
TO	top of
TOC	top of curb
TOM	top of masonry
TOS	top of slab/steel
TOW	top of wall
TS	tube steel
TYP	typical

U

UNO	unless noted otherwise

V

VERT	vertical
VTR	vent thru roof

W

W	west
WD	wood
WDO	window
W/	with
W/O	without

Y

YD	yard

SYMBOLS

/	per (or by)
&	and
@	at
[	channel
℄	centerline
Ø	diameter/round
±	plus/minu

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Construction Documents

District Technology Remodel
Liberty School District
1000 Kent Street
Liberty, Clay County, MO 64068

REVISIONS:

#	Description	Date

STATE OF MISSOURI
KEVIN E. NELSON
A-2019015618
ARCHITECT

August 31, 2023
Kevin E. Nelson
A-2019015618

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DATE: 08.31.2023

G000

COVER SHEET

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PROJECT INFORMATION

PROJECT NUMBER	23022
PROJECT NAME	Liberty District Technology Remodel
OWNER	Liberty Public Schools 8 Victory Lane Liberty, MO 64068
AUTHORITY HAVING JURISDICTION	City of Liberty, MO Planning + Development 101 E. Kansas Street Liberty MO, 64068
RESPONDING FIRE SERVICE	Liberty Fire Department
ANTICIPATED OCCUPANCY	July 2024
ADOPTED CODES AND ORDINANCES	2018 International Building Code 2018 International Existing Building Code 2017 National Electric Code (NFPA 70) 2018 International Mechanical Code 2018 International Plumbing Code 2012 International Energy Conservation Code 2009 ICC A117.1 Accessible and Usable Buildings and Facilities 2016 ASME A17.1 Safety Code for Elevators and Escalators 2014 ICC 500 Standard on Design and Construction of Storm Shelters Amendments

BUILDING INFORMATION

OCCUPANCY CLASSIFICATION:	Business, Group B (304.1); Storage, Moderate-hazard, Group S-1 (311.2)
CONSTRUCTION TYPE:	II-B (602.2, Non-combustible, non-protected) Renovation of existing structure
BUILDING HEIGHT:	
Allowable Height (Table 504.3):	55' above grade plane
Building Height:	22'-8"
Allowable Stories (Table 504.4):	3 stories above grade plane
Building Stories:	1
BUILDING AREA:	
Sprinkler qualifier (Table 506.2):	NS: Building not equipped with an automatic sprinkler system
Allowable Area	23,000
Building Area	17,121
OCCUPANCY SEPARATION:	No separation requirement (Table 508.4)
INCIDENTAL USE SEPARATION:	No separation requirement (509.3)
FIRE RESISTANCE RATINGS:	(Per Table 601, 602)
Primary Structural Frame:	0-Hour fire-resistance rating
Exterior Bearing Walls:	0-Hour fire-resistance rating
Interior Bearing Walls:	0-Hour fire-resistance rating
Exterior Nonbearing Walls:	0-Hour fire-resistance rating
Interior Nonbearing Walls:	0-Hour fire-resistance rating
Floor Construction / Secondary Members:	0-Hour fire-resistance rating
Roof Construction / Secondary Members:	0-Hour fire-resistance rating
Fire Walls	No fire walls
Fire Barriers	3-Hour (Section 707) 180 Minute door (Table 716.1(2)) No Windows Permitted except those meeting ASTM E119 or UL 263 (Table 716.1(3))
Fire Partitions	1-Hour rated Corridor wall (708) 20 Minute door 20 Minute Glazing (Table 716.1(2)) 45 Minute Glazing at door sidelights and transoms (Table 716.1(2)) 45 Minute Fire Windows (Table 716.1(3))
	1-Hour rated wall assembly (708) 45 Minute door, 45 Minute Glazing (Table 716.1(2)) 45 Minute Glazing at door sidelights and transoms (Table 716.1(2)) 45 Minute Fire Windows (Table 716.1(3))
Smoke Barriers	No smoke barriers
Shafts	No shaft enclosures

BUILDING AREA CALCULATIONS

506.2 . Allowable Area Determination: Equation 5-2 . .

Aa = [At + (NS x If)] x Sa where:
Aa = Allowable area (square feet, typ.)
At = Tabular allowable area factor (per sprinkler qualifier) in accordance with Table 506.2 — At = 23000
NS = Tabular allowable area factor per Table 506.2 (regardless of whether building is sprinklered) — NS = 23000
If = Area factor increase due to frontage(percent) per Section 506.3 — If = 0.75
Sa = Actual number of stories above grade plane: not to exeed 3 (4 if building is fully sprinklered). — Sa = 1

Aa = 40250 sq ft

506.3 . Frontage Increase: Per Equation 5-5: . .

If = [F/P – 0.25] W/30 where:
If = Area increase due to frontage
F = Building perimeter that fronts a public way or open space having 20 feet open minimum width — F = 809
P = Perimeter of entire building (feet) — P = 809
W = Width of public way of open space (feet) – min. 20' to be allowed, use 30' max. — W = 30

If = 0.75

EGRESS COMPONENTS

NUMBER OF EXITS:	2 per space greater than 49 occupants (Table 1006.2.1) 3 per space with load 501 to 1,000; 4 per space over 1,000
DEAD-END CORRIDORS:	20' Maximum (1020.4)
COMMON PATH OF TRAVEL:	75' (Table 1006.2.1)
TRAVEL DISTANCE TO EXIT:	200' Maximum for A, B, E, F-1, M, R, S-1 without sprinkler (Table 1017.2)
CORRIDOR CONSTRUCTION:	1-hour fire rating for A, B, E, F, M, S, U without sprinkler (1020.1)
CORRIDOR WIDTH:	44" minimum corridor width (Table 1020.2) 24" minimum for access to MEP systems or equipment (Table 1020.2)
MEANS OF EGRESS CAPACITY:	0.2" for doors / other (1005.3.2) (non-sprinklered bldg)

FIRE SAFETY FEATURES

SPRINKLER:	No automatic sprinkler system provided
FIRE ALARM SIGNALING:	Horn + Strobe Signaling with Manual Pull Stations, Battery Backup
EMERGENCY LIGHTING / POWER:	Battery Backup
SMOKE CONTROL SYSTEM:	Smoke Detectors

PLUBMING FIXTURES

Water Closets (Male):	B: 1 per 25 then 1 per 50 over 50
Water Closets (Female):	B: 1 per 25 then 1 per 50 over 50
Lavatories (Male):	B: 1 per 40 then 1 per 80 over 80
Lavatories (Female):	B: 1 per 40 then 1 per 80 over 80
Drinking Fountains:	B: 1 per 100
Service Sink:	1

Total Facility Fixture Counts

Fixture	Required			Provided			
	Male	Female	Total	Total	Male	Female	Gender Neutral
Water Closets	3	3	6	6	3	3	0
Lavatories	3	3	6	6	3	3	2
Drinking Fountains			2	2			
Service Sinks			1	2			

Urinal Substitutions

Occupancy Group	Percentage Allowed	Required Water Closets	Permitted Substitutions	Substitutions Applied
Assembly / Education	67% of required	0	0	0
All other occupancies	50% of required	3	1	1

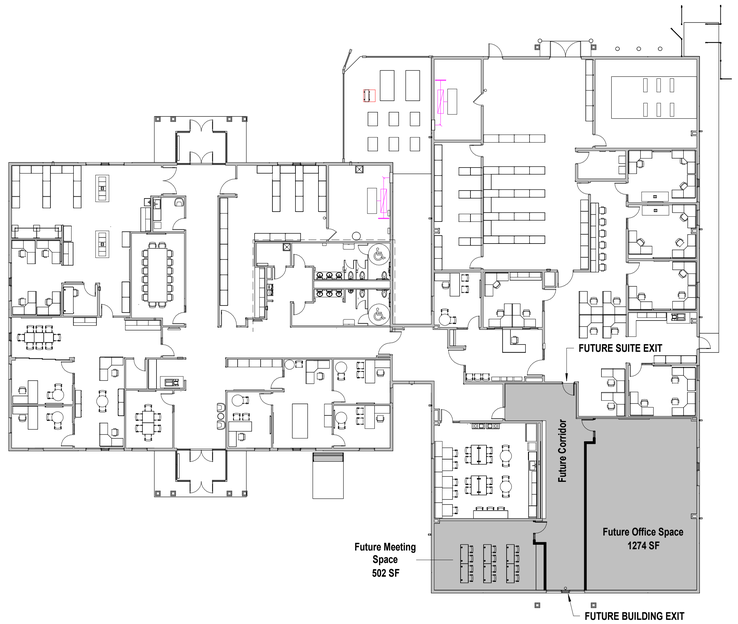
Code BLDG 1 Occupant Load Table

Rm No	Room Name	Function of Space	Area (SF)	Occupant Load Factor	Space Occupant Load
101	Collaboration	Assembly Without Fixed Seats Unconcentrated (tables & Chairs)	183 SF	15 SF	13
102	Copy	Business Areas	73 SF	150 SF	1
103	FA Open Office	Business Areas	708 SF	150 SF	5
103a	Storage	Accessory Storage Areas, Mechanical Equipment Room	42 SF	300 SF	1
104	FA Office	Business Areas	175 SF	150 SF	2
105	FA Office	Business Areas	183 SF	150 SF	2
106	FA Techs	Warehouses	410 SF	500 SF	1
106a	Editing	Warehouses	73 SF	500 SF	1
107	FA Workshop	Warehouses	824 SF	500 SF	2
109	Med. Conf	Assembly Without Fixed Seats Unconcentrated (tables & Chairs)	315 SF	15 SF	22
110	Mothers	Business Areas	73 SF	150 SF	1
111	KZ Storage	Warehouses	747 SF	500 SF	2
112	Custodial	Accessory Storage Areas, Mechanical Equipment Room	52 SF	300 SF	1
113	Mechanical	Accessory Storage Areas, Mechanical Equipment Room	317 SF	300 SF	2
117a	KZ Open Office	Business Areas	332 SF	150 SF	3
118	KZ Admin	Business Areas	169 SF	150 SF	2
119	KZ Admin	Business Areas	163 SF	150 SF	2
120	KZ Admin	Business Areas	172 SF	150 SF	2
122	Tech Reception	Business Areas	283 SF	150 SF	2
123	Tech Office	Business Areas	175 SF	150 SF	2
124	Help Desk	Business Areas	222 SF	150 SF	2
125	Secure Storage	Warehouses	404 SF	500 SF	1
126	Open Storage	Warehouses	882 SF	500 SF	2
127	Mechanical	Accessory Storage Areas, Mechanical Equipment Room	257 SF	300 SF	1
128	Ship/Rec	Warehouses	616 SF	500 SF	2
129	Data	Accessory Storage Areas, Mechanical Equipment Room	611 SF	300 SF	3
130	Technology	Accessory Storage Areas, Mechanical Equipment Room	90 SF	300 SF	1
131	Office	Business Areas	242 SF	150 SF	2
132	Office	Business Areas	248 SF	150 SF	2
133	Office	Business Areas	230 SF	150 SF	2
134	Open Office	Business Areas	926 SF	150 SF	7
135	Work Area	Business Areas	236 SF	150 SF	2
136	Office	Business Areas	238 SF	150 SF	2
138	Break Room	Assembly Without Fixed Seats Unconcentrated (tables & Chairs)	664 SF	15 SF	45
Level 1					143
Total Building Occupant Load					143

FUTURE PHASE OCCUPANT LOAD TABLE INCLUDED TO CALCULATE THE MAXIMUM NUMBER OF PLUMBING FIXTURES REQUIRED IN BUILDING. RESTROOMS BUILT IN CURRENT PHASE WILL BE SUFFICIENT TO SERVE FUTURE PROGRAMMED SPACES.

Code BLDG 1 Occupant Load Table_Future Phase

Rm No	Room Name	Function of Space	Area (SF)	Occupant Load Factor	Space Occupant Load
139	Future Meeting Space	Assembly Without Fixed Seats Unconcentrated (tables & Chairs)	502 SF	15 SF	34
140	Future Office Space	Business Areas	1274 SF	150 SF	9
Level 1					43
Total Building Occupant Load					43



A10 | Scale 1/16" = 1'-0" | Floor Plan - Level 1 - Future Phase Schematic Plan | PLAN NORTH | TRUE NORTH

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#	Description	Date

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DATE: 08.31.2023

G010

CODE INFORMATION

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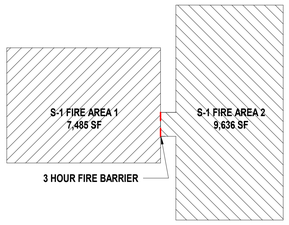
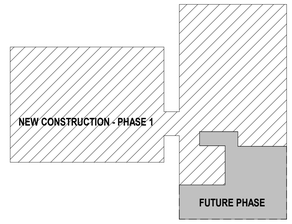
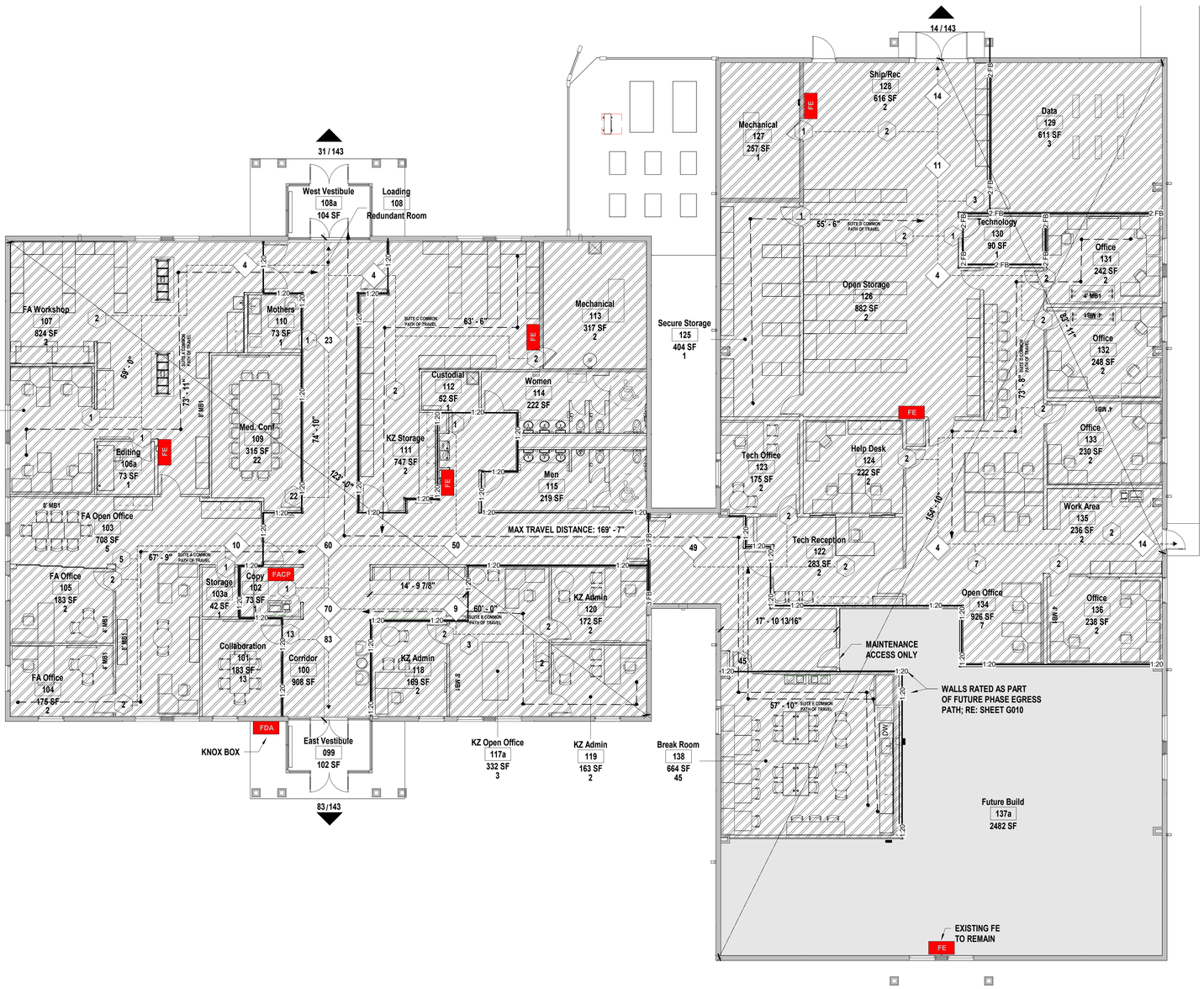


The 3-hour fire barrier is to provide two fire areas both below 12,000 sqft which allows the S-1 fire areas to qualify under the non-sprinklered threshold (satisfies requirements noted in 2018 IBC tables 903.2.9 and 707.3.10). Inclusion of this fire barrier allows for the building to remain non-sprinklered both now and in future phases.

N10 Scale 1" = 40'-0" — Fire Area Diagram



N14 Scale 1" = 40'-0" — Renovation Phase Diagram



CODE LEGEND

1:20 — 1 HOUR FIRE PARTITION W/ 20 MIN DOORS

2:FB — 2 HOUR FIRE BARRIER W/ 90 MIN DOORS
ADDITIONAL FIRE PROTECTION PROVIDED AT OWNER REQUEST

3:FB — 3 HOUR FIRE BARRIER W/ 3 HOUR DOORS

EXISTING BUILDING - SHELL SPACE FOR FUTURE WORK (NOT OCCUPIED)

EXISTING BUILDING - ALTERATION LEVEL 3
SPACE RECONFIGURATION COVERS MORE THAN 50% OF THE BUILDING AREA

FH — FIRE HYDRANT

FACP — FIRE ALARM CONTROL PANEL

FDA — FIRE DEPARTMENT ACCESS (KNOX BOX)

FE — FIRE EXTINGUISHER:
ON BRACKET: MOUNT HANDLE 48" MAX AFF
IN CABINET: BOTTOM OF CABINET 32" AFF

EXIT COMPONENT

123 / 345 — CAPACITY (# SHOWN REFLECTS CURRENT PHASE ONLY)
ACTUAL OCCUPANT LOAD

123 — OCCUPANT COUNT @ ROOM EXIT

456 — OCCUPANT SUM

131' - 6" — TRAVEL DISTANCE

A1 Scale 1/8" = 1'-0" — Code Floor Plan - Level 1

8' 4' 0' 8' — PLAN NORTH — TRUE NORTH

CODE FLOOR PLAN - LEVEL 1 BLDG 1

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25501 W. Valley Parkway, Ste 200
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913.345.0617 fax

Construction Documents

District Technology Remodel
Liberty School District
1000 Kent Street
Liberty, Clay County, MO 64068

REVISIONS:

#	Description	Date

STATE OF MISSOURI
KEVIN E. NELSON
A-2019015618
ARCHITECT
August 31, 2023
Kevin E. Nelson
A-2019015618

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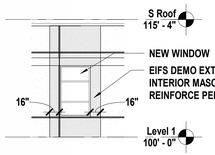


P11	Scale	EIFS Demolition Extents @ New Openings (TYP)
	1/8" = 1'-0"	

EXISTING FIBER INTERNET ENTRANCE TO BUILDING. PROTECT DURING DEMOLITION + NEW CONSTRUCTION.

MECHANICAL

ENTRY - WEST

WORK ROOM

DISCONNECT + RELOCATE EXISTING FIRE ALARM PANEL PER MEP NOTES

4' - 6"

RR

RR

MECHANICAL

WOMEN

MEN

BREAK ROOM

LIBRARY SOUTH

LIBRARY NORTH

OFFICE

OFFICE

COLLABORATION

4' - 0"

4' - 0" W, UNO

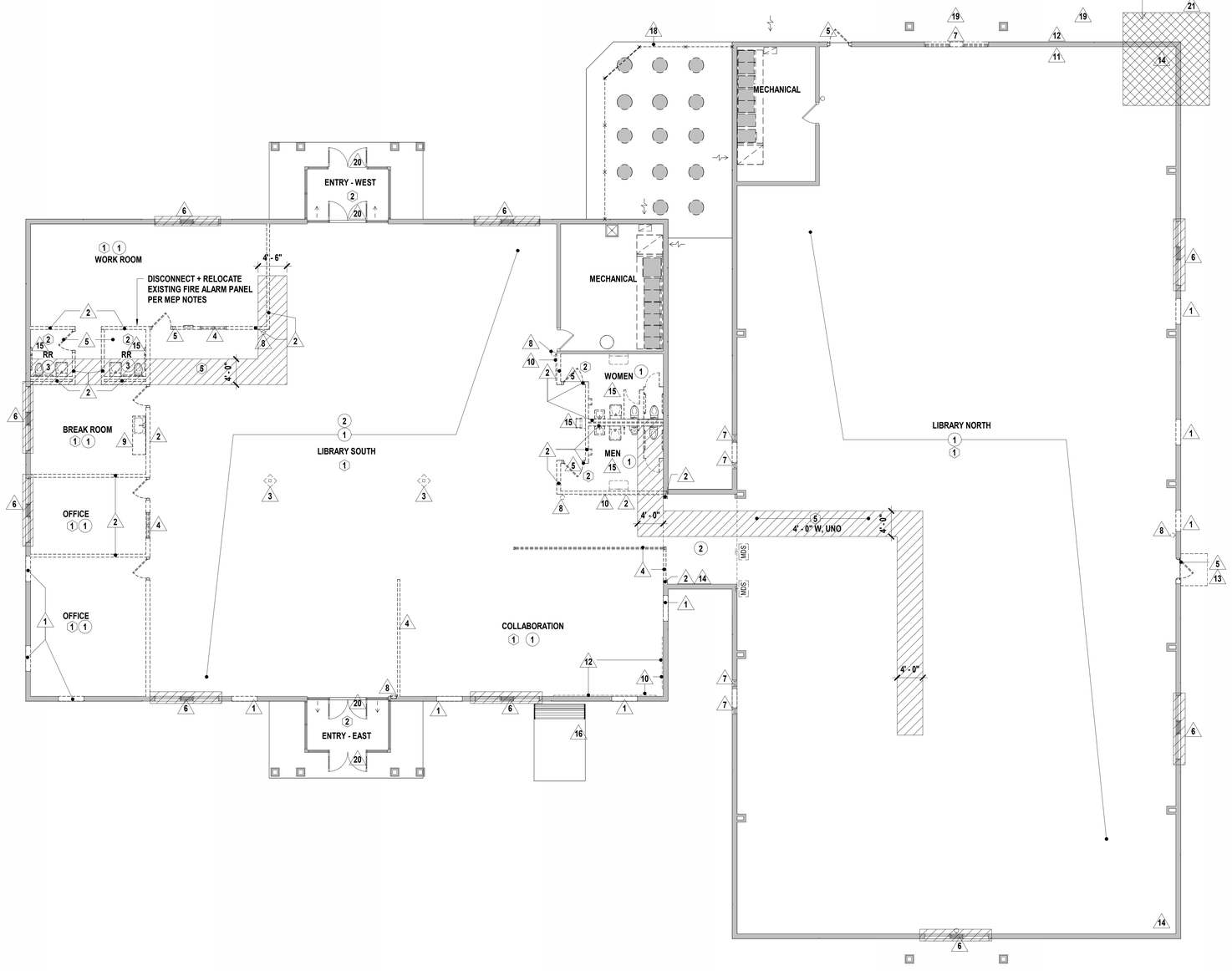
4' - 0"

4' - 0"

MDS

MDS

ENTRY - EAST



A1	Scale	Demolition Floor Plan - Level 1
	1/8" = 1'-0"	

PLAN NORTH TRUE NORTH

GENERAL DEMOLITION NOTES

1. DEMOLITION INCLUDES THE REMOVAL OF EXISTING CONSTRUCTION WHICH CONFLICTS WITH WORK TO BE BUILT/INSTALLED IN NEW CONSTRUCTION. TRANSITIONS BETWEEN DEMOLITION AND EXISTING TO REMAIN TO BE CAREFULLY COORDINATED
2. DASHED LINES INDICATE EXISTING CONSTRUCTION TO BE DEMOLISHED/REMOVED
3. HALF-TONE SHADING INDICATES EXISTING CONSTRUCTION TO REMAIN
4. EVERY DETAIL OF THE DEMOLITION WORK MAY NOT BE COVERED ON THESE DRAWINGS, BUT THE DEMOLITION CONTRACTOR SHALL COORDINATE WITH THE GC/CM TO ENSURE ALL REQUIRED ITEMS ARE REMOVED IN ORDER FOR NEW WORK TO BE COMPLETED
5. IN AREAS SCHEDULED FOR DEMOLITION, ALL ACCESSORIES ATTACHED TO THE CEILINGS, FLOOR AND WALLS ARE TO BE REMOVED, INCLUDING BRACKETS, SCREWS, SIGNAGE, SURFACE MOUNTED ELECTRICAL AND TECHNOLOGY; REMOVE ALL WINDOW COVERINGS; MINI-BLINDS, ROLLER SHADES AND ALL BRACKETS
6. THE OWNER WILL IDENTIFY ALL ITEMS TO BE SALVAGED PRIOR DEMOLITION STARTING. CONTRACTOR SHALL SALVAGE AND TURN OVER TO THE OWNER ALL EQUIPMENT IDENTIFIED. ALL REMAINING ITEMS SHALL BE REMOVED BY THE DEMOLITION CONTRACTOR
7. DO NOT DISTURB SOIL UNDER EXISTING FOOTINGS AND/OR FLOOR SLABS NOTED TO REMAIN
8. COORDINATE THE REMOVAL OF ALL/PORTIONS OF LOAD BEARING ELEMENTS WITH THE STRUCTURAL ENGINEER PRIOR TO REMOVAL. PROVIDE TEMPORARY SHORING AS REQUIRED
9. REFER TO MEP DEMOLITION SHEETS FOR EXISTING MECHANICAL, ELECTRICAL AND PLUMBING TO BE REMOVED
10. DEMOLISH EIFS AN EXTRA 16" PAST EITHER SIDE OF NEW OPENING (DEMO NOTE 1). REMOVE EIFS THE FULL HEIGHT OF WALL FOR STRUCTURAL REINFORCEMENT. REFER TO TYPICAL ELEVATION (P11 / DA101).

DEMOLITION NOTES

FLOORS & BASE

1. REMOVE EXISTING CARPET AND BASE INCLUDING ADHESIVE
2. REMOVE EXISTING QUARRY / CERAMIC TILE AND BASE, INCLUDING SETTING BED TO EXPOSE EXISTING CONCRETE SLAB
3. NOT USED
4. NOT USED
5. REMOVE EXISTING CONCRETE SLAB AS REQUIRED FOR UNDER SLAB MECHANICAL, ELECTRICAL AND PLUMBING WORK. SAW CUT CONCRETE PRIOR TO REMOVAL. DO NOT SAW CUT INTO EXISTING FOUNDATIONS OR OTHER STRUCTURAL MEMBERS. COORDINATE WITH MEP SHEETS FOR NEW WORK AND CAPPING OF ABANDONED SERVICES

WALLS

1. REMOVE ALL/PORTION OF EXISTING EIFS WALL. COORDINATE EXTENTS OF REMOVAL WITH NEW CONSTRUCTION AND REMOVAL/REROUTING OF CONDUIT, WIRING, SWITCHES AND DUCTWORK.
2. REMOVE ALL/PORTION OF EXISTING CMU WALL. COORDINATE EXTENTS OF REMOVAL WITH NEW CONSTRUCTION AND REMOVAL/REROUTING OF CONDUIT, WIRING, SWITCHES AND DUCTWORK WITH MEP DRAWINGS.
3. REMOVE ALL/PORTION OF EXISTING METAL STUD AND GYPSUM BOARD WALL. COORDINATE EXTENTS OF REMOVAL WITH NEW CONSTRUCTION AND REMOVAL/REROUTING OF CONDUIT, WIRING, SWITCHES AND DUCTWORK WITH MEP DRAWINGS.
4. REMOVE EXISTING ALUMINUM OR HOLLOW METAL FRAMED GLAZING SYSTEM.
5. REMOVE EXISTING ALUMINUM OR HOLLOW METAL FRAME, DOOR AND ALL RELATED HARDWARE.
6. REMOVE EXISTING EXTERIOR ALUMINUM FRAMED GLAZING SYSTEM. PREP OPENINGS TO RECEIVE NEW ALUMINUM GLAZING SYSTEM.
7. REMOVE EXISTING ALUMINUM FRAMED GLAZING SYSTEM AND OVERCUT EXISTING WALL AS REQUIRED FOR NEW OPENINGS.
8. REMOVE EXISTING FIRE EXTINGUISHER + CABINET, SALVAGE TO OWNER.
9. REMOVE EXISTING CASEWORK (COUNTERTOP, BASE CABINETS AND UPPER CABINETS) AND ALL PLUMBING FIXTURES. REFER TO MEP SHEETS FOR EXISTING PLUMBING AND ELECTRICAL CONDUIT TO BE CAPPED
10. REMOVE EXISTING MARKERBOARDS, CHALKBOARDS, TACKBOARDS/TACKWALL INCLUDING ADHESIVE AND BRACKETS.
11. REMOVE EXISTING PLYWOOD BOX ENCAPSULATING PLUMBING CONNECTION. REFER TO MEP SHEETS FOR EXISTING PLUMBING TO BE TERMINATED + CAPPED.
12. REMOVE EXISTING WOOD BOARD FROM EXTERIOR WALL; PATCH + REPAIR EIFS AS REQUIRED BY NEW CONSTRUCTION.
13. DEMOLISH EXISTING STOOP. REFER TO CIVIL SHEETS FOR NEW GRADE AND CONCRETE WORK.
14. REMOVE EXISTING SAFETY MIRRORS AND SALVAGE TO OWNER
15. REMOVE ALL RESTROOM FIXTURES (TOILETS, URINALS, SINKS, ACCESSORIES, HAND DRYERS). REFER TO MEP SHEETS FOR EXISTING PLUMBING + ELECTRICAL TO BE CAPPED.
16. REMOVE EXISTING PARK BENCH FROM SITE AND CAREFULLY STORE FOR REINSTALLATION. PROTECT CONCRETE PAD DURING CONSTRUCTION.
17. REMOVE EXISTING ALUMINUM FRAMED GLAZING SYSTEM AND PREP OPENINGS TO RECEIVE NEW WINDOW SYSTEM.
18. **ALTERNATE 1A + B:** REMOVE EXISTING CHAIN LINK FENCE AND PREP CONCRETE SLAB TO RECEIVE NEW FENCE
19. DEMOLISH EXISTING ASPHALT + CONCRETE SLABS AS REQUIRED FOR INSTALLATION OF NEW BOLLARDS + STOOP IN NEW CONSTRUCTION.
20. CAREFULLY REMOVE ALUMINUM STOREFRONT DOORS AND PREP OPENING FOR NEW ALUMINUM STOREFRONT DOORS (1 FOR 1 REPLACEMENT) + HARDWARE / SECURITY UPGRADES.
21. REMOVE FIRST SECTION OF EXISTING CHAIN LINK FENCE AND PREP FOR NEW MAN GATE, PER DETAILS ON AS101.

CEILINGS

1. REMOVE EXISTING LAY-IN ACOUSTICAL TILE AND SUSPENSION SYSTEM. EXISTING HANGER WIRE MAY BE REUSED FOR NEW SUSPENSION SYSTEM.
2. REMOVE EXISTING SOFFITS, LIGHTING, AND ALL EXISTING FRAMING.
3. REMOVE EXISTING GYPSUM BOARD CEILINGS AND SUSPENSION SYSTEM. EXISTING HANGER WIRE MAY BE REUSED FOR NEW SUSPENSION SYSTEM

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KEVIN E. NELSON
A-2019015618
ARCHITECT

August 31, 2023
Kevin E. Nelson
A-2019015618

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DATE: 08.31.2023

DA101

DEMOLITION FLOOR PLAN - LEVEL 1

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DEMOLITION NOTES

1. THE SCOPE OF THIS DEMOLITION REQUIRES THE REMOVAL OR PARTIAL REMOVAL OF EXISTING BUILDING CONCRETE MASONRY UNIT AND BRICK WALLS, CONCRETE SLAB ON GRADE, AND EXTERIOR STOOP.
2. DOCUMENTATION OF THE EXISTING STRUCTURE IS BASED ON EXISTING DRAWINGS, WHERE AVAILABLE, AND LIMITED FIELD OBSERVATIONS. THE CONTRACTOR SHALL VERIFY EXISTING CONDITIONS PRIOR TO THE COMMENCEMENT OF ANY DEMOLITION EFFORTS. IF ACTUAL CONDITIONS ARE FOUND TO BE OTHER THAN SHOWN, THE CONTRACTOR SHALL NOTIFY THE ARCH/ENGR OF THE DISCREPANCIES IDENTIFIED.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF EXISTING FINISHES TO REMAIN. THE CONTRACTOR SHALL PROVIDE A WRITTEN ASSESSMENT OF THE EXISTING FACILITY IDENTIFYING ANY DAMAGE TO THE EXISTING FACILITY TO REMAIN PRIOR TO COMMENCING DEMOLITION ACTIVITIES. THE ASSESSMENT SHALL OUTLINE EXISTING DAMAGE THE CONTRACTOR PRECLUDES THEMSELF FROM AND WILL NOT BE REQUIRED TO REPAIR AS PART OF THE DEMOLITION CONTRACT.
4. THESE DRAWINGS ARE ONLY TO ASSIST IN SHOWING THE SCOPE OF DEMOLITION WORK AND IS NOT INTENDED TO INDICATE ALL DEMOLITION. THE CONTRACTOR SHALL REMOVE ALL EXISTING ITEMS AS REQUIRED TO COMPLETE THE JOB.
5. NOT ALL ITEMS TO BE DEMOLISHED ARE SHOWN ON THE PLAN. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PERFORMING A WALK-THRU OF THE SITE AND FACILITY AND BECOME FAMILIAR WITH ALL EXISTING CONDITIONS FOR IDENTIFYING POSSIBLE CRITICAL ITEMS, NOT ADDRESSED OR INCORRECTLY ADDRESSED, WHICH REQUIRE REMOVAL, RELOCATION, OR MODIFICATION.
6. THE CONTRACTOR SHALL EXERCISE EXTREME CARE WHEN PENETRATING EXISTING WALLS OR FLOOR/CEILING SLABS AND ROOFS SO STRUCTURAL INTEGRITY OF SUCH ELEMENTS IS NOT DEGRADED.
7. EXECUTION OF DEMOLITION SHALL PROGRESS IN SUCH A MANNER AS NOT TO INTERFERE WITH THE SAFETY AND CONVENIENCE OF THE PUBLIC AND THOSE AROUND THE SITE.
8. ALL EXISTING FLOORS, WALLS, AND CORNERS TO REMAIN ALONG WORK ACCESS ROUTES SHALL BE PROTECTED DURING DEMOLITION. DAMAGE TO EXISTING INFRASTRUCTURE TO REMAIN SHALL BE REPAIRED BY THE CONTRACTOR AND AT THE CONTRACTORS EXPENSE. ALL REPAIRS MUST BE APPROVED AND ACCEPTED BY THE ARCH/ENGR PRIOR TO BEING CONSIDERED COMPLETE.
9. THE CONTRACTOR SHALL PROVIDE A DEMOLITION IMPLEMENTATION PLAN AND SCHEDULE. THE CONTRACTOR SHALL CAREFULLY REVIEW DEMOLITION PHASING PLANS AND ENSURE REQUIRED ACCESS TO EXISTING FUNCTIONS REMAIN.
10. ALL DEMOLITION DEBRIS SHALL BE DISPOSED OF ACCORDING TO FEDERAL, STATE, AND LOCAL REGULATIONS.
11. THE CONTRACTOR SHALL PERFORM WORK IN A MANNER THAT DOES NOT DAMAGE THE EXISTING STRUCTURE TO REMAIN. DEMOLITION SHALL NOT COMPROMISE THE STRUCTURAL INTEGRITY OF ANY WALLS, FLOORS, CEILINGS, SUPPORTS, STRUCTURE, ETC..
12. ALL DEMOLITION ACTIVITIES SHALL COMPLY WITH THE REQUIREMENTS OF OSHA SECTION 1926 SUBPART T.
13. AT LOCATIONS WHERE EXISTING WALLS ARE TO BE REMOVED NEAR EXISTING FOUNDATIONS, WALLS, SUPERSTRUCTURE, ETC. ARE TO REMAIN, PERFORM DEMOLITION WITHOUT DISTURBING EXISTING ELEMENTS TO REMAIN.
14. CONTRACTOR SHALL PROVIDE TEMPORARY GUARDS AND PROTECTION AROUND ALL EXPOSED FLOOR OPENINGS, SHAFTS, TRENCHES, ETC. PER OSHA REQUIREMENTS.
15. COLUMN GRIDS ARE NOT SHOWN FOR CLARITY.

PLAN REFERENCE NOTES

(A) REFER TO ARCHITECTURAL FOR EXTENTS AND LOCATION OF SLAB ON GRADE SAW CUT REMOVAL FOR MECHANICAL/ PLUMBING SCOPE OF WORK.

(B) REFER TO ARCHITECTURAL DRAWINGS FOR REMOVAL OF NON LOAD-BEARING MASONRY WALLS.

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CONSTRUCTION DOCUMENTS

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Liberty School District
1000 Kent Street
Liberty, Clay County, MO 64068

REVISIONS:

#	Description	Date

STATE OF MISSOURI
DAVID A. KRELL
NUMBER PE-2021014172
PROFESSIONAL ENGINEER

08/31/2023
David A. Krell - Engineer
MO# PE-2021014172

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DATE: 08.31.2023

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A1 | Scale 1/8" = 1'-0" | Demolition Plan

PLAN NORTH TRUE NORTH

OVERALL 1ST FLOOR DEMO PLAN

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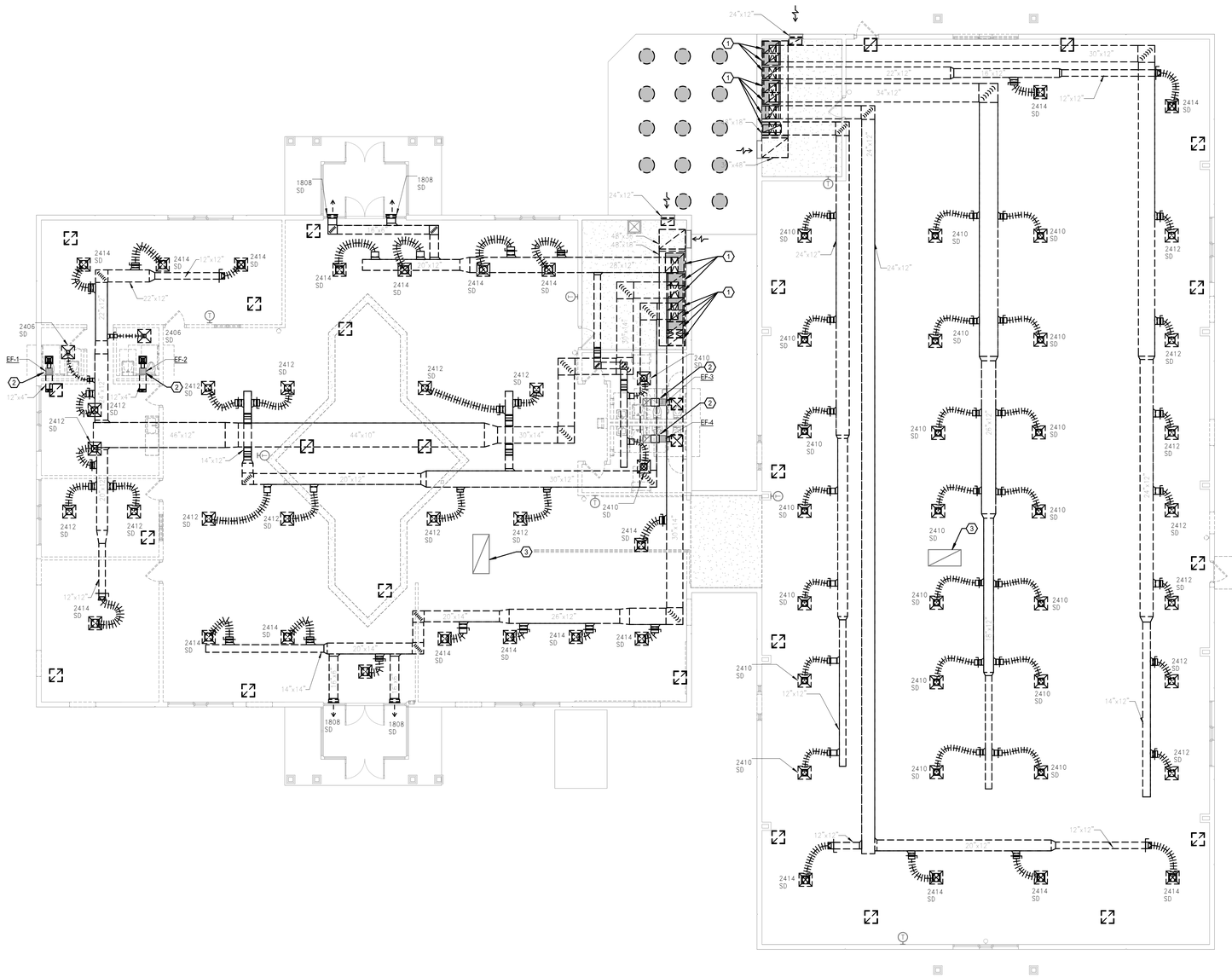

SHEET KEYNOTE LEGEND

DEMOLITION GENERAL NOTES:

1. UNLESS OTHERWISE NOTED, SERVICES AND EQUIPMENT SHOWN WITH BOLD DASHED LINES ARE TO BE DEMOLISHED. SERVICES AND EQUIPMENT SHOWN WITH SOLID HALF TONE LINE WEIGHT ARE TO REMAIN IN PLACE.

   EXISTING ————————————
   DEMO — — — — — — — — —

2. THE EXISTING CONDITIONS INDICATED ON THE DRAWINGS ARE TAKEN FROM THE BEST INFORMATION AVAILABLE AND FROM VISUAL SITE INSPECTION AND ARE NOT TO BE CONSIDERED "AS BUILT" CONDITIONS. THE INFORMATION SHOWN IS TO ESTABLISH THE EXTENT OF THE SCOPE OF WORK. VERIFY ALL ACTUAL EXISTING CONDITIONS AT THE PROJECT SITE AND PERFORM WORK AS REQUIRED TO MEET THE EXISTING CONDISTIONS AND THE EXTENT OF THE WORK INDICATED.

3. PATCH ROOFS, WALLS, CEILINGS, AND FLOORS WHERE ANY SERVICES ARE REMOVED UNLESS NOTED OTHERWISE.

4. DISCONNECT AND REMOVE ALL DUCTWORK, PIPING, WIRING, AND CONDUIT THAT BECOMES UNNECESSARY AS A RESULT OF THE REMOVAL OF EQUIPMENT INDICATED TO BE REMOVED.

5. WHERE MECHANICAL AND ELECTRICAL FIXTURES OR EQUIPMENT ARE REMOVED, CAP ALL UNUSED CONDUIT, WIRING, AND PIPING BEHIND THE FLOOR LINE OR WALL LINE TO FACILITATE THE RESTORATION OF FINISH.

6. PROVIDE FOR THE CONTINUITY OF ALL REMAINING SERVICES, SYSTEMS, AND CIRCUITS. RELOCATE AND RECONNECT ANY MECHANICAL AND ELECTRICAL FACILITIES THAT MUST BE RELOCATED IN ORDER TO ACCOMPLISH THE REMODELING SHOWN IN THE DRAWINGS OR INDICATED IN THE SPECIFICATIONS.

DEMOLITION PLAN NOTES:

1. DEMOLISH EXISTING AIR HANDLING UNIT AND ALL ASSOCIATED DUCTWORK, DIFFUSERS, GRILLES, PIPING, ETC.
2. DEMOLISH EXISTING EXHUAST FAN.
3. EXISTING RELIEF HOOD TO REMAIN.

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REVISIONS:

#	Description	Date

STATE OF MISSOURI
RYAN JEROD DIEDIKER
NUMBER PE-2010006311
REGISTERED PROFESSIONAL ENGINEER
8/31/23

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project number:2314706

DM101

A1 Scale 1/8" = 1'-0"

DEMOLITION HVAC PLAN - LEVEL 1

PLAN NORTH TRUE NORTH

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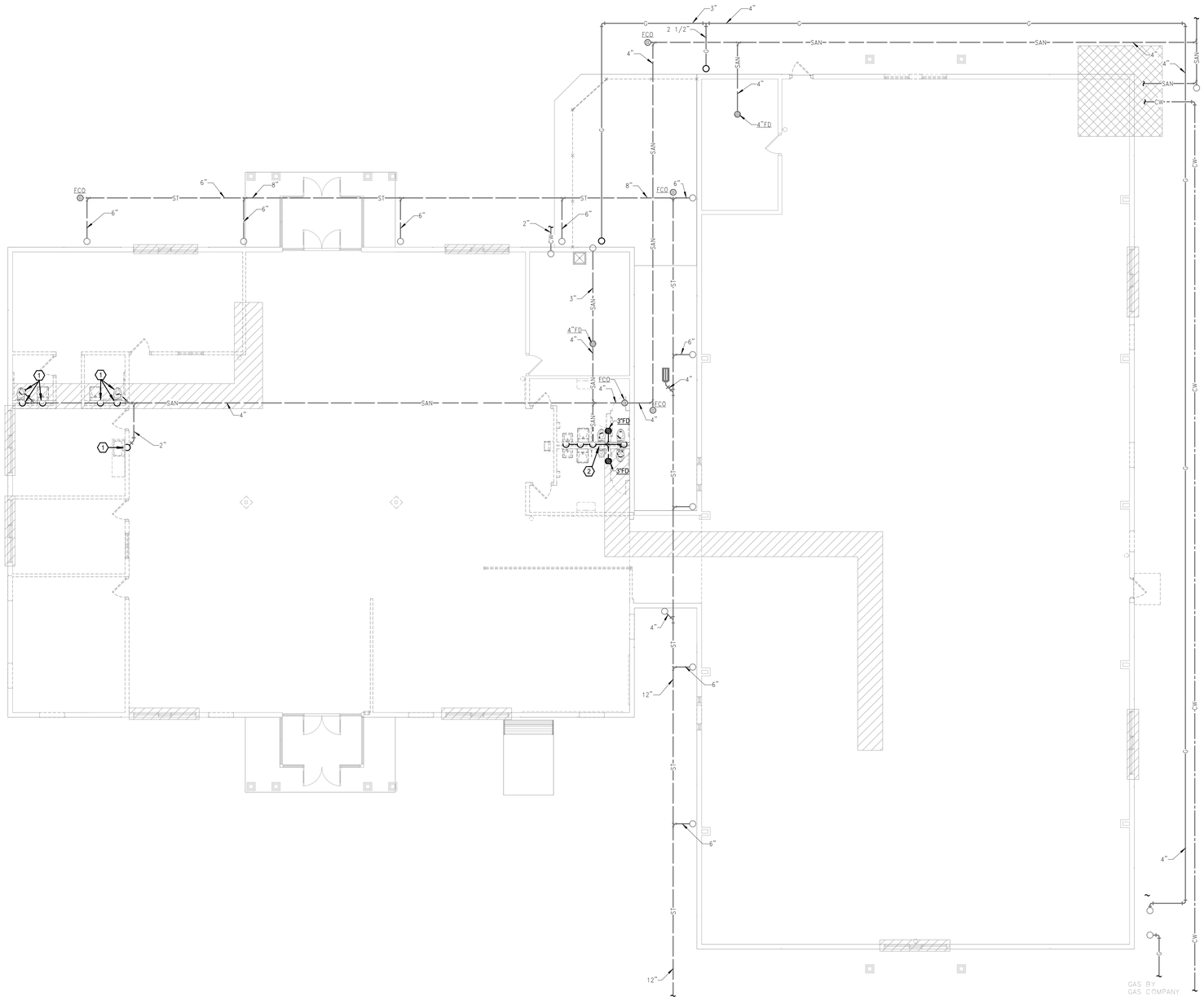

SHEET KEYNOTE LEGEND

DEMOLITION GENERAL NOTES:

1. UNLESS OTHERWISE NOTED, SERVICES AND EQUIPMENT SHOWN WITH BOLD DASHED LINES ARE TO BE DEMOLISHED. SERVICES AND EQUIPMENT SHOWN WITH SOLID HALF TONE LINE WEIGHT ARE TO REMAIN IN PLACE.

   EXISTING ————————————
   DEMO – – – – – – – – – – –

2. THE EXISTING CONDITIONS INDICATED ON THE DRAWINGS ARE TAKEN FROM THE BEST INFORMATION AVAILABLE AND FROM VISUAL SITE INSPECTION AND ARE NOT TO BE CONSIDERED "AS BUILT" CONDITIONS. THE INFORMATION SHOWN IS TO ESTABLISH THE EXTENT OF THE SCOPE OF WORK. VERIFY ALL ACTUAL EXISTING CONDITIONS AT THE PROJECT SITE AND PERFORM WORK AS REQUIRED TO MEET THE EXISTING CONDITIONS AND THE EXTENT OF THE WORK INDICATED.
3. PATCH ROOFS, WALLS, CEILINGS, AND FLOORS WHERE ANY SERVICES ARE REMOVED UNLESS NOTED OTHERWISE.
4. DISCONNECT AND REMOVE ALL DUCTWORK, PIPING, WIRING, AND CONDUIT THAT BECOMES UNNECESSARY AS A RESULT OF THE REMOVAL OF EQUIPMENT INDICATED TO BE REMOVED.
5. WHERE MECHANICAL AND ELECTRICAL FIXTURES OR EQUIPMENT ARE REMOVED, CAP ALL UNUSED CONDUIT, WIRING, AND PIPING BEHIND THE FLOOR LINE OR WALL LINE TO FACILITATE THE RESTORATION OF FINISH.
6. PROVIDE FOR THE CONTINUITY OF ALL REMAINING SERVICES, SYSTEMS, AND CIRCUITS. RELOCATE AND RECONNECT ANY MECHANICAL AND ELECTRICAL FACILITIES THAT MUST BE RELOCATED IN ORDER TO ACCOMPLISH THE REMODELING SHOWN IN THE DRAWINGS OR INDICATED IN THE SPECIFICATIONS.

DEMOLITION PLAN NOTES:

(1) DEMOLISH EXISTING SLAB PENATRATION. SAWCUT AND REPLACE THE EXISTING CONCRETE AS REQUIRED TO ENSURE THE NEW SANITARY CAP IS FLUSH WITH THE EXISTING FLOOR.

(2) DEMOLISH EXISTING SLAB PENATRATIONS AND UNDERSLAB PIPES SERVING CHASE. PROTECT EXISTING UNDERSLAB PIPES FOR CONNECTION TO NEW PIPES.

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NUMBER PE-2015006311
REGISTERED PROFESSIONAL ENGINEER
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DP100

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project number:2314706

A1 Scale 1/8" = 1'-0"

DEMOLITION UNDERSLAB PLUMBING PLAN - LEVEL 1

PLAN NORTH TRUE NORTH

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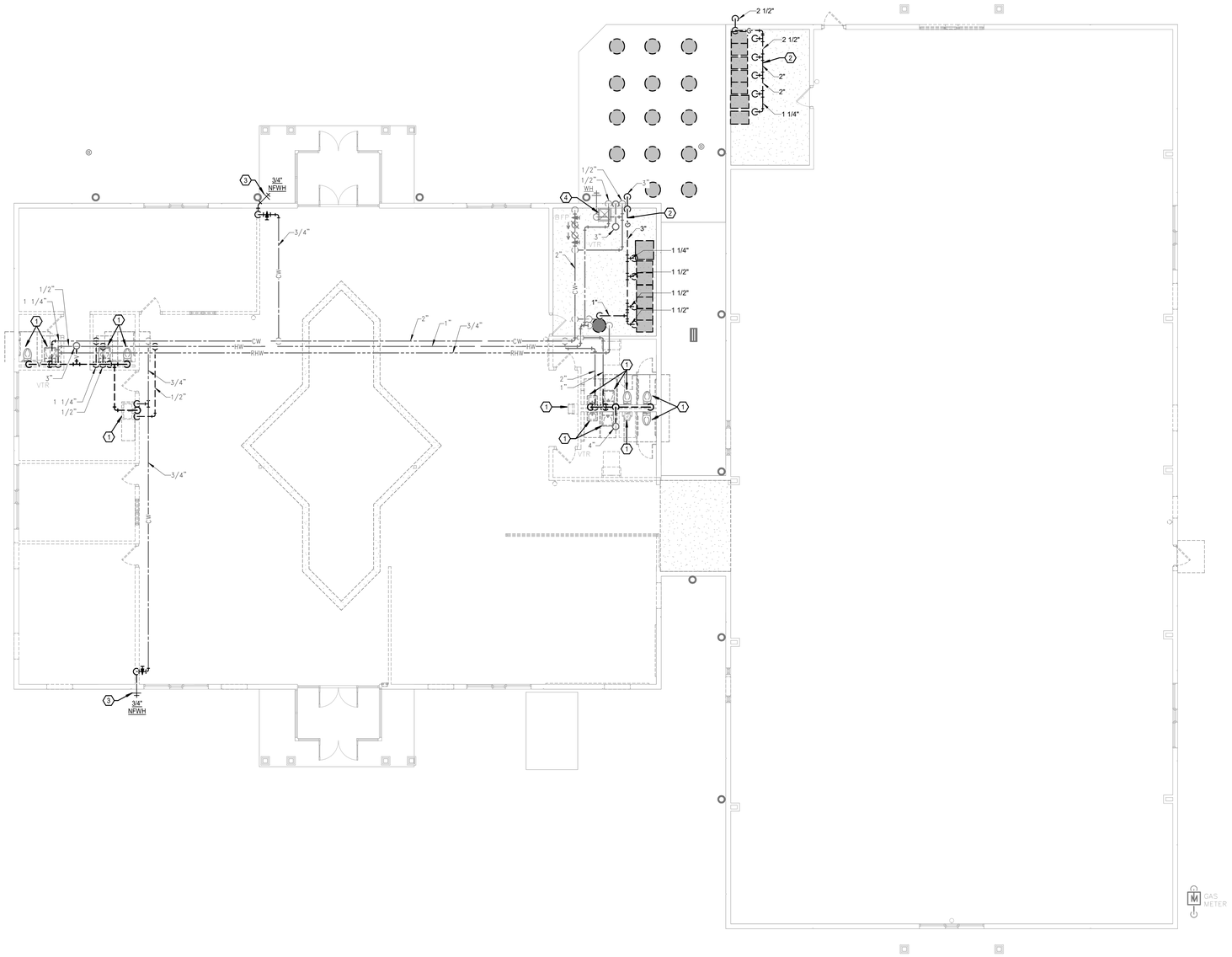

SHEET KEYNOTE LEGEND

DEMOLITION GENERAL NOTES:

1. REFER TO SHEET P100 FOR DEMOLITION GENERAL NOTES.

DEMOLITION PLAN NOTES:

1. DISCONNECT AND REMOVE EXISTING PLUMBING FIXTURE. DISCONNECT AND REMOVE EXISITNG BRANCH PIPING BACK TO MAINS. CAP SANITARY PIPE BELOW FINISHED FLOOR.
2. DISCONNECT AND REMOVE EXISTING GAS PIPING.
3. DISCONNECT AND REMOVE EXISTING WALL HYDRANT.
4. EXISTING PLUMBING FIXTURE TO REMAIN.

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913.345.0617 fax

Construction Documents

District Technology Remodel

Liberty School District

1000 Kent Street
Liberty, Clay County, MO 64068

REVISIONS:

#	Description	Date

STATE OF MISSOURI
REGISTERED PROFESSIONAL ENGINEER
RYAN JEROD DIEDIKER
NUMBER PE-2010006911
8/31/23

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JOB NO: 23022
DRAWN BY: S&B
CHECKED BY: RJD
DATE: 08.31.2023

DP101

A1 | Scale 1/8" = 1'-0" | DEMOLITION PLUMBING PLAN - LEVEL 1

PLAN NORTH | TRUE NORTH

smith & boucher engineers
25618 west 103rd St olathe, ks 66061
phone 913.345.2127 fax 913.345.0617
project number:2314706

DEMOLITION PLUMBING PLAN - LEVEL 1

8/31/2023 11:50:45 AM

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SHEET KEYNOTE LEGEND

GENERAL DEMOLITION NOTES:

1. EXCEPT WHERE NOTED OTHERWISE, DISCONNECT AND REMOVE ALL EXISTING INTERIOR LIGHT FIXTURES AND LIGHT FIXTURE CONTROLS. REMOVE ALL ASSOCIATED RACEWAYS AND WIRING.
2. ALL EXISTING POLE MOUNTED PARKING LOT LIGHT FIXTURES, THE ASSOCIATED CIRCUITING AND CONTROLS ARE TO REMAIN.
3. REMOVE ALL EXISTING FIRE ALARM DEVICES, RACEWAYS AND CIRCUITING.

PLAN DEMOLITION NOTES:

1. REMOVE THE EXISTING ELECTRICAL DEVICE. REMOVE ALL UNUSED CIRCUITING AND RACEWAYS. REFER TO THE POWER PLAN FOR LOCATIONS ON THE EXTERIOR WALLS WHERE EXISTING RECEPTACLES ARE TO BE REPLACED WITH NEW DEVICES. AT THOSE LOCATIONS, UTILIZE THE EXISTING RACEWAYS AND BOXES FOR THE NEW DEVICE AND CIRCUITING TO THE DEVICE.
2. EXISTING PANELBOARD TO REMAIN.
3. DISCONNECT AND REMOVE THE EXISTING CIRCUITING TO THE MECHANICAL EQUIPMENT.
4. REMOVE THE EXISTING PANELBOARD AND THE ASSOCIATED FEEDER. PROVIDE NEW PANEL AT THE SAME LOCATION AS SHOWN ON THE ONE-LINE DIAGRAM
5. REMOVE THE EXISTING EXTERIOR BUILDING MOUNTED LIGHT. REMOVE ALL ASSOCIATED RACEWAY, WIRING AND CONTROLS. PROVIDE NEW LIGHT AT THE SAME LOCATION AS INDICATED ON THE LIGHTING PLAN, RE-CIRCUIT AS SHOWN ON THE LIGHTING PLAN.
6. EXISTING RECESSED LIGHT FIXTURE TO REMAIN. RELAMP WITH COMPATIBLE LAMPING. DISCONNECT AND REMOVE THE EXISTING CIRCUIT CONNECTION. RE-CIRCUIT AS SHOWN ON THE LIGHTING PLAN.
7. REMOVE THE EXISTING EXTERIOR LIGHT FIXTURE AND ALL ASSOCIATED CIRCUITING. INSTALL COVERPLATE OVER THE EXISTING WALL BOX.
8. EXISTING TRANSFORMER TO REMAIN.
9. REMOVE THE EXISTING FIRE ALARM PANEL. SALVAGE THE EXISTING DIALER AND RETURN TO OWNER.

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project number:2314706

DE101

A1 | Scale 1/8" = 1'-0" | DEMOLITION ELECTRICAL PLAN - LEVEL 1

PLAN NORTH TRUE NORTH

DEMOLITION ELECTRICAL PLAN - LEVEL 1

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FESCUE SEEDING NOTES:

1. INSTALL FESCUE TURF SEED PER NOTES BELOW. ALL DISTURBED AREAS SHALL BE SEEDED.
2. SUBMITTALS SHALL INCLUDE: PRODUCT DATA: FOR EACH TYPE OF PRODUCT INDICATED, CERTIFICATION OF SEED AS KANSAS STATE FESCUE TRIAL MIX, PRODUCT CERTIFICATES: FOR SOIL AMENDMENTS AND FERTILIZERS, SIGNED BY PRODUCT MANUFACTURER, MATERIAL TEST REPORTS: FOR EXISTING SURFACE SOIL AND IMPORTED TOPSOIL, AND PLANTING SCHEDULE: INDICATING ANTICIPATED PLANTING DATES FOR SEED INSTALLATION.
3. INSTALLER QUALIFICATIONS: A QUALIFIED LANDSCAPE INSTALLER WHOSE WORK HAS RESULTED IN SUCCESSFUL LAWN ESTABLISHMENT.
4. INSTALLER'S FIELD SUPERVISION: REQUIRE INSTALLER TO MAINTAIN AN EXPERIENCED FULL-TIME SUPERVISOR ON PROJECT SITE WHEN PLANTING IS IN PROGRESS.
5. REPORT SUITABILITY OF TOPSOIL FOR LAWN GROWTH. STATE RECOMMENDED QUANTITIES OF NITROGEN, PHOSPHORUS, AND POTASH NUTRIENTS AND SOIL AMENDMENTS TO BE ADDED TO PRODUCE SATISFACTORY TOPSOIL.
6. WATER LAWN AT A MINIMUM RATE OF 1 INCH PER WEEK OR AS NECESSARY TO PROVIDE A HEALTHY GREEN APPEARANCE. A DEEP ROOT SYSTEM IS DESIRED THEREFORE DO NOT WATER LAWNS AFTER ESTABLISHMENT MORE THAN EVERY OTHER DAY.
7. TURFGRASS SPECIES: GRASS SPECIES SEED, AS FOLLOWS, WITH NOT LESS THAN 95 PERCENT GERMINATION, NOT LESS THAN 85 PERCENT PURE SEED, AND NOT MORE THAN 0.5 PERCENT WEED SEED: MOST CURRENT AVAILABLE KANSAS STATE FESCUE TRIAL MIX, RATED IN TOP 1/3 OF VARIETIES TESTED FOR VISUAL APPEARANCE AVERAGE THROUGHOUT THE YEAR OR APPROVED EQUAL.
8. TOPSOIL: ASTM D 5268, PH RANGE OF 5.5 TO 7, A MINIMUM OF 4 PERCENT ORGANIC MATERIAL CONTENT; FREE OF STONES 1 INCH OR LARGER IN ANY DIMENSION AND OTHER EXTRANEOUS MATERIALS HARMFUL TO PLANT GROWTH.
9. TOPSOIL SOURCE: REUSE SURFACE SOIL STOCKPILED ON-SITE. VERIFY SUITABILITY OF STOCKPILED SURFACE SOIL TO PRODUCE TOPSOIL. CLEAN SURFACE SOIL OF ROOTS, PLANTS, SOD, STONES, CLAY LUMPS, AND OTHER EXTRANEOUS MATERIALS HARMFUL TO PLANT GROWTH. SUPPLEMENT WITH IMPORTED OR MANUFACTURED TOPSOIL FROM OFF-SITE SOURCES WHEN QUANTITIES ARE INSUFFICIENT. OBTAIN TOPSOIL DISPLACED FROM NATURALLY WELL-DRAINED CONSTRUCTION OR MINING SITES WHERE TOPSOIL OCCURS AT LEAST 4 INCHES DEEP; DO NOT OBTAIN FROM BOGS OR MARSHES. TOPSOIL TO BE PLACED IN AN 8" LIFT IN ALL PLANTING BED AREAS.
10. AMEND SOIL AS NECESSARY TO MEET TOPSOIL REQUIREMENTS OF ASTM D 5268.
11. EXAMINE AREAS TO RECEIVE LAWNS AND GRASS FOR COMPLIANCE WITH REQUIREMENTS AND OTHER CONDITIONS AFFECTING PERFORMANCE. PROCEED WITH INSTALLATION ONLY AFTER UNSATISFACTORY CONDITIONS HAVE BEEN CORRECTED.
12. PROTECT STRUCTURES, UTILITIES, SIDEWALKS, PAVEMENTS, AND OTHER FACILITIES, TREES, SHRUBS, AND PLANTINGS FROM DAMAGE CAUSED BY PLANTING OPERATIONS. PROVIDE EROSION-CONTROL MEASURES TO PREVENT EROSION OR DISPLACEMENT OF SOILS AND DISCHARGE OF SOIL-BEARING WATER RUNOFF OR AIRBORNE DUST TO ADJACENT PROPERTIES AND WALKWAYS. ELIMINATE COMPETING GRASS VEGETATION IN ALL AREAS TO BE IMPROVED WITH "ROUNDUP" OR AN APPROVED EQUAL ACCORDING TO THE MANUFACTURER'S RECOMMENDATIONS. SEVERAL APPLICATIONS MAY BE NECESSARY.
13. LEGALLY DISPOSE OF WASTE MATERIAL, INCLUDING GRASS, VEGETATION AND TURF OFF OWNER'S PROPERTY.
14. PRIOR TO SEEDING THE CONTRACTOR SHALL DEMONSTRATE TO THE OWNER AND OWNER'S REPRESENTATIVE THAT WATER IS AVAILABLE AND IN A WORKING ORDER TO ADEQUATELY COVER ALL SEEDED AREAS. THE LANDSCAPE CONTRACTOR MUST COORDINATE WITH THE GENERAL CONTRACTOR AND OWNER, TO CONNECT TO BUILDING HOSE BIBS OR OTHER MEANS PRIOR TO SEED INSTALLATION.
15. SEEDING OF LAWNS MAY BE ACCOMPLISHED BY HYDRAULIC, BROADCAST OR SEED DRILLING METHODS. CONTRACTOR TO SUBMIT SEEDING INSTALLATION PLAN WITH SEED INSTALLATION INSTRUCTIONS TO OWNER'S REPRESENTATIVE FOR REVIEW AND APPROVE PRIOR TO INSTALLATION. SEEDING OPERATIONS SHALL INSTALL SEED AT RATES LISTED ON APPROVED SEED PRODUCT AND FOLLOWING APPROVAL BY OWNER'S REPRESENTATIVE.
16. REESTABLISH LAWNS THAT DO NOT COMPLY WITH REQUIREMENTS AND CONTINUE MAINTENANCE UNTIL LAWNS ARE SATISFACTORY. SATISFACTORY SEEDED LAWN: WITHIN 60 DAYS AND AT END OF MAINTENANCE PERIOD, A HEALTHY, UNIFORM, CLOSE STAND OF GRASS HAS BEEN ESTABLISHED, FREE OF WEEDS AND SURFACE IRREGULARITIES, WITH COVERAGE EXCEEDING (90 PERCENT OVER ANY 10 SQ. FT. AND BARE SPOTS NOT EXCEEDING 5 BY 5 INCHES).
17. PROMPTLY REMOVE SOIL AND DEBRIS CREATED BY LAWN WORK FROM PAVED AREAS. CLEAN WHEELS OF VEHICLES BEFORE LEAVING SITE TO AVOID TRACKING SOIL ONTO ROADS, WALKS, OR OTHER PAVED AREAS. ERECT BARRICADES AND WARNING SIGNS AS REQUIRED TO PROTECT NEWLY PLANTED AREAS FROM TRAFFIC. MAINTAIN BARRICADES THROUGHOUT MAINTENANCE PERIOD AND REMOVE AFTER LAWN IS ESTABLISHED. REMOVE EROSION CONTROL MEASURES AFTER GRASS ESTABLISHMENT PERIOD.

UTILITY NOTES:

1. SEE SHEET C101 FOR UTILITY DETAILS.
2. INSTALL VERTICAL BENDS AS NECESSARY ON PROPOSED WATER MAINS AT UTILITY CROSSINGS TO MAINTAIN A MINIMUM OF TWO FEET OF VERTICAL CLEARANCE BETWEEN THE WATER MAIN AND OTHER UTILITIES.
3. HDPE STORM PIPE SHALL BE CORRUGATED DUAL WALL HDPE WITH SMOOTH INTERIOR AND SOIL-TIGHT JOINTS. RCP STORM PIPE SHALL BE CLASS III, WALL B WITH GASKETED JOINTS CONFORMING TO ASTM C76. O-RING GASKETS SHALL CONFORM TO ASTM C361 AND ASTM C443.
4. ROOF DRAINS/DOWNSPOUTS SHALL BE CONNECTED TO STORM TRUNK LINE WITH PRE-MANUFACTURED WYE MATCHING PIPE MATERIAL AND JOINT TYPE. IN LIEU OF WYE, AN INSERTA-TEE CONNECTION CAN BE USED WITH HDPE PIPE.
5. ALL PROPOSED STORM PIPE SHALL HAVE MINIMUM 1.00% PIPE SLOPE AND 18" COVER OVER THE TOP OF PIPE. CONTRACTOR TO VERIFY PIPE CONNECTIONS TO EXISTING STORM PIPE OR STORM STRUCTURES PRIOR TO TRENCHING AND MANUFACTURING STRUCTURES. CONTACT ENGINEER OF RECORD IF DESIGN REQUIREMENTS NOTED ARE NOT FEASIBLE.



GENERAL NOTES:

1. THE CONTRACTOR, **PRIOR TO** ANY EXCAVATION OR NEW CONSTRUCTION, SHALL HAVE UTILITIES FIELD LOCATED BY THE APPROPRIATE UTILITY COMPANY AND/OR CITY/COUNTY DEPARTMENT.
2. EXISTING UTILITIES AND THEIR LOCATION, AS SHOWN ON THESE PLANS, REPRESENTS THE BEST INFORMATION AVAILABLE TO THE ENGINEER. LOCATION INFORMATION HAS BEEN OBTAINED FROM THE VARIOUS UTILITY COMPANIES AND IS EITHER FROM COMPANY RECORD DRAWINGS OR COMPANY PROVIDED FIELD LOCATIONS. HOWEVER, ALL UTILITIES ACTUALLY EXISTING MAY NOT BE SHOWN. THE CONTRACTOR IS RESPONSIBLE FOR FIELD LOCATING ALL UTILITIES WHETHER THESE UTILITIES ARE SHOWN ON THE PLANS, NOT SHOWN ON THE PLANS, OR SHOWN INCORRECTLY. UTILITIES DAMAGED THROUGH THE FAILURE OF THE CONTRACTOR TO OBTAIN THE LOCATION OF THOSE UTILITIES SHALL BE REPAIRED OR REPLACED BY THE CONTRACTOR AT HIS EXPENSE. THE CONTRACTOR SHALL, PRIOR TO ANY EXCAVATION OR NEW CONSTRUCTION, HAVE ALL UTILITIES FIELD LOCATED BY THE APPROPRIATE UTILITY COMPANY, CITY OR COUNTY DEPARTMENT, OR ONE-CALL SERVICE.
3. ALL MANHOLES, CATCH BASINS, UTILITY VALVES AND METER PITS SHALL BE ADJUSTED OR REBUILT TO GRADE AS REQUIRED.
4. NO CHANGES TO THE APPROVED CONSTRUCTION PLANS WILL BE PERMITTED WITHOUT PRIOR APPROVAL OF THE DESIGN ENGINEER.
5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PRESERVING PROPERTY PINS. THE CONTRACTOR WILL BE REQUIRED TO RE-ESTABLISH ANY PROPERTY PINS WHICH ARE DAMAGED OR DESTROYED BY HIS CONSTRUCTION OPERATIONS. SUCH PINS SHALL BE RE-ESTABLISHED BY A LICENSED LAND SURVEYOR IN ACCORDANCE WITH STATE LAWS.
6. CONTRACTOR TO HAVE REGISTERED LAND SURVEYOR RESET SECTION CORNER MONUMENT IF DISTURBED DURING CONSTRUCTION.
7. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL QUANTITIES, DIMENSIONS, AND PLAN SCALES AND SHALL IMMEDIATELY NOTIFY THE OWNER/ENGINEER/ARCHITECT OF ANY SUCH DISCREPANCIES. ALL QUANTITIES, DIMENSIONS, AND PLAN SCALES PROVIDED ARE FOR GENERAL INFORMATION PURPOSES ONLY. THE CONTRACTOR IS RESPONSIBLE FOR DETERMINING ALL QUANTITIES NECESSARY FOR THE COMPLETION OF THE WORK AS DESCRIBED IN THE CONSTRUCTION DOCUMENTS. THE CONTRACTOR SHALL BE RESPONSIBLE TO PROVIDE THE WORK DESCRIBED IN THE CONSTRUCTION DOCUMENTS IRRESPECTIVE OF THE QUANTITIES, DIMENSIONS, AND PLAN SCALES NOTED, NOT NOTED, OR NOTED INCORRECTLY.
8. ANY CURB, GUTTER, SIDEWALKS, AND PAVING THAT IS DAMAGED IN EXCESS OF THE CONSTRUCTION SHOWN IN THIS PLAN SET SHALL BE REPLACED AT THE CONTRACTORS EXPENSE.
9. ALL REMOVALS SHALL BE REMOVED FROM THE SITE AND DISPOSED OF PER APPLICABLE STANDARDS (UNLESS OTHERWISE NOTED).
10. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING TRAFFIC CONTROL WHEN WORKING WITHIN THE PUBLIC RIGHT-OF-WAY. ALL SUCH TRAFFIC CONTROL SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE "MANUAL ON UNIFORM TRAFFIC CONTROL" AND/OR LOCAL JURISDICTION SPECIFICATIONS. THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING ALL TRAFFIC CONTROL DEVICES. THE CONTRACTOR SHALL ENSURE ALL TRAFFIC CONTROL DEVICES ARE CLEAN, PROPERLY VISIBLE, OPERATING CORRECTLY, AND LOCATED PROPERLY. THE CONTRACTOR SHALL IMMEDIATELY REPLACE ANY DAMAGED, DEFACED, OR INOPERABLE, OR MISSING TRAFFIC CONTROL DEVICES.
11. THE CONTRACTOR IS TO PROVIDE PERMANENT SEEDING, FERTILIZING, MULCHING OR SODDING OF ALL DISTURBED AREAS. THIS WORK TO BE DONE IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.
12. ALL SITE WORK FOR THIS PROJECT IS CONSIDERED "UNCLASSIFIED." THE TERM "UNCLASSIFIED" EXCAVATION SHALL BE DEFINED AS MEANING THE SITE CONTRACTOR BEARS THE ENTIRE RISK OF THE SOIL QUANTITIES AND/OR TYPES (E.G. ROCK, CLAY, PEAT, SILT, SHALE, ETC.) ENCOUNTERED ABOVE THE BOTTOM OF REQUIRED EXCAVATIONS AND OVER-EXCAVATED / TREATED SOILS AREAS. ABOVE THE BOTTOM OF REQUIRED EXCAVATIONS, THE SITE CONTRACTOR SHALL BEAR THE ENTIRE COST OF SUCH ADDITIONAL WORK IN THE EVENT IT BECOMES NECESSARY FOR UNSUITABLE SOILS TO BE HANDLED, REMOVED FROM THE SITE, OR FOR SUITABLE FILL MATERIAL TO BE IMPORTED TO THE SITE. THIS DEFINITION OF "UNCLASSIFIED" SUPERSEDES ANY CONTRARY DEFINITIONS OR STATEMENTS WHICH MAY BE CONTAINED IN THE SPECIFICATIONS, PLANS, OR OTHER CONTRACT DOCUMENTS. THE UNCLASSIFIED SITE SHALL INCLUDE ALL WORK ABOVE THE BOTTOM OF REQUIRED EXCAVATIONS AND/OR REQUIRED SOIL REMEDIATION/REPLACEMENT.
13. REFER TO ARCHITECTURAL PLANS FOR ALL BUILDING DIMENSIONS AND LAYOUT. BUILDING SHALL NOT BE STAKED FROM CIVIL DRAWINGS.
14. REMOVE LANDSCAPING AS NECESSARY TO ACCOMMODATE UTILITY INSTALLATION.

PAVING NOTES:

1. SEE SHEET C101 FOR PAVEMENT DETAILS.
2. ALL DIMENSIONS ARE TO BACK OF CURB.
3. PORTLAND CEMENT CONCRETE SHALL CONFORM WITH THE KANSAS CITY METRO MATERIALS BOARD MINIMUM 4000 PSI GRANITE MIX (KCMMB 4K).
4. ALL SIDEWALKS SHALL BE 4" UN-REINFORCED CONCRETE.
5. COMPACTED SUBGRADE AND AGGREGATE BASE UNDER PAVEMENTS SHALL EXTEND A MINIMUM OF 2' BEYOND THE EDGE OF PAVEMENT OR BACK OF CURB, WHICHEVER IS APPLICABLE.
6. 5' WIDE SIDEWALKS SHALL HAVE A MAXIMUM OF 5' CONTRACTION JOINT SPACING. 6' WIDE SIDEWALKS SHALL HAVE A MAXIMUM CONTRACTION JOINT SPACING OF 6'. 8' WIDE SIDEWALKS SHALL HAVE A MAXIMUM 4' CONTRACTION JOINT SPACING WITH A LONGITUDINAL CONTRACTION JOINT DOWN THE MIDDLE OF THE SIDEWALK.
7. CONTRACTOR SHALL BE RESPONSIBLE FOR REQUIRED TRAFFIC CONTROL NECESSARY ON SURROUNDING STREETS FOR CONSTRUCTION. TRAFFIC CONTROL SHALL COMPLY WITH THE LATEST EDITION OF MUTCD AND CITY SPECIFICATIONS.
8. ALL PROPOSED SIDEWALK ON SITE SHALL NOT HAVE GREATER THAN 2.0% CROSS SLOPE, OR GREATER THAN 5.0% LONGITUDINAL SLOPE UNLESS NOTED OTHERWISE ON THIS SHEET.
9. BASE BID: UNINSTALL, REPAIR AND REINSTALL EXISTING CHAIN LINK FENCE DURING NEW MEP EQUIPMENT INSTALLATION.

   ADD ALTERNATE 1A: DEMOLISH EXISTING CHAIN LINK FENCE AND PREP SLAB TO RECEIVE NEW CHAIN LINK FENCE WITH PRIVACY SLATS.

   ADD ALTERNATE 1B: DEMOLISH EXISTING CHAIN LINK FENCE AND PRE SLAB TO RECEIVE NEW WOOD COMPOSITE PRIVACY FENCE.
10. REMOVE EXISTING CHAIN LINK FENCE TO FIRST POST, APPROXIMATELY 10FT OF FENCE REMOVAL. INSTALL NEW CHAIN LINK FENCE, AND CONNECT TO EXISTING FENCE POST. FENCE MATERIAL, COLOR, AND HEIGHT SHALL MATCH EXISTING CHAIN LINK FENCE.
11. PRIOR TO INSTALLING MOW STRIP AT PERIMETER OF THE BUILDING LOWER ELEVATION OF EXISTING GRADE AGAINST THE BUILDING FACADE. TOP ELEVATION OF MOW STRIP SHALL BE AT OR BELOW THE FACADE ELEVATION.

PAVING LEGEND

- 4" CONCRETE SIDEWALK
- 8" CONCRETE SECTION

N

SCALE: 1"=20'
0 20 40

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STATE OF MISSOURI
BRADEN L. TAYLOR
NUMBER PE-2021001896
8.31.23
PROFESSIONAL ENGINEER

BRADEN L. TAYLOR, P.E.
LISC. #2021001896

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DATE: 08.31.2023

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SITE PLAN

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BRADEN L. TAYLOR, P.E.
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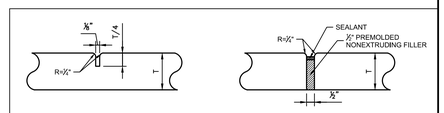
DATE: 07.28.2023

C101

DETAILS



CONTRACTION JOINT

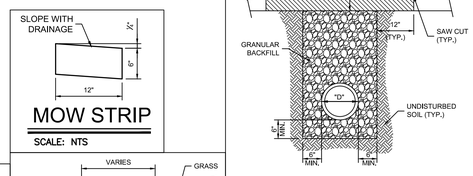
NOTES:
1. CONTRACTION JOINTS SHALL BE CONSTRUCTED WITH A GROOVING TOOL (HAND TOOLED).

ISOLATION JOINT

NOTE:
1. ISOLATION JOINTS JOINTS SHALL BE PLACED WHERE NEW CONCRETE ABUTS EXISTING CONCRETE AND IN AREAS WHERE CONCRETE ABUTS BUILDINGS.

JOINT DETAILS

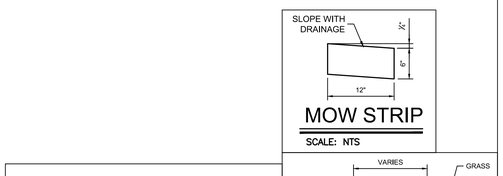
SCALE: NTS

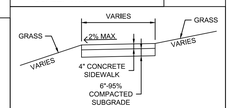


MOW STRIP

SCALE: NTS

8" CONCRETE SECTION

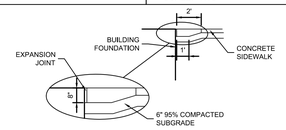




NOTES:
1. ½" PREMOLDED EXPANSION JOINT MATERIAL SHALL BE PLACED AT POINTS OF CURVATURE, CURB RETURNS, CURB INLETS, AND AT 250' CENTERS.

SIDEWALK DETAIL

SCALE: NTS

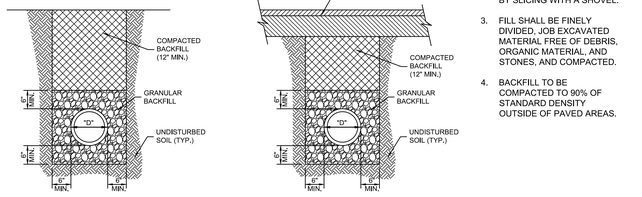


SIDEWALK ADJACENT TO FOUNDATION

SCALE: NTS

WITHIN EXISTING CONC. PAVED AREAS

WITHIN EXISTING ASPH. PAVED AREAS



OUTSIDE OF PAVED AREAS

WITHIN PROPOSED PAVED AREAS

TRENCHING DETAILS

SCALE: NTS

NOTES:
1. ALL PIPE SYSTEMS SHALL BE INSTALLED IN ACCORDANCE WITH ASTM D2321, "STANDARD PRACTICE FOR UNDERGROUND INSTALLATION OF THERMOPLASTIC PIPE FOR SEWERS AND OTHER GRAVITY FLOW APPLICATIONS", LATEST ADDITION.
2. GRANULAR FILL SHALL BE 1/2" CLEAN ROCK, PLACED IN 6" LIFTS AND COMPACTED BY SLICING WITH A SHOVEL.
3. FILL SHALL BE FINELY DIVIDED, JOB EXCAVATED MATERIAL FREE OF DEBRIS, ORGANIC MATERIAL, AND STONES, AND COMPACTED.
4. BACKFILL TO BE COMPACTED TO 90% OF STANDARD DENSITY OUTSIDE OF PAVED AREAS.

P:\PROJECTS\2023\23022010111_LIBERTY_GENERAL SERVICES\DISTRICT TECHNOLOGY CENTER\00 230111 CAD\SHTS\05 CIVIL\C05\230111-C05-S200-C0.DWG

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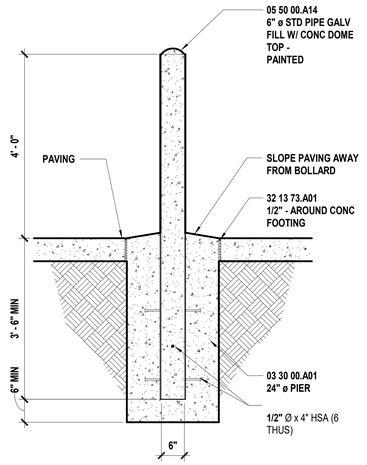
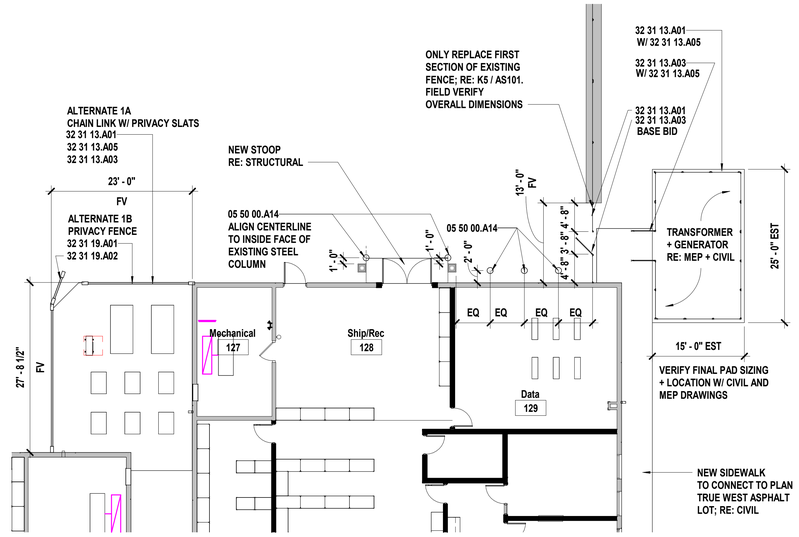


K1 | Scale 3/4" = 1'-0" | Bollard Detail



K5 | Scale NTS | Existing Chain Link Fence



K10 | Scale 1" = 10'-0" | Enlarged Site Plan - West

SHEET KEYNOTE LEGEND

03 30 00.A01	CAST-IN-PLACE CONCRETE
05 50 00.A14	BOLLARDS
32 13 73.A01	EXPANSION/ISOLATION JOINT W/SEALANT
32 31 13.A01	CHAIN LINK FENCING
32 31 13.A03	SWING GATES
32 31 13.A05	PRIVACY SLATS
32 31 19.A01	DECORATIVE METAL FENCES
32 31 19.A02	SWING GATES



A5 | Scale 1" = 30'-0" | Architectural Site Plan

PLAN NORTH | TRUE NORTH

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Structure # 2006031333

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Construction Documents

District Technology Remodel
Liberty School District

1000 Kent Street
Liberty, Clay County, MO 64068

REVISIONS:

#	Description	Date

KEVIN E. NELSON
A-2019015618
STATE OF MISSOURI
ARCHITECT

August 31, 2023

Kevin E. Nelson
A-2019015618

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JOB NO: 23022
DRAWN BY: HL
CHECKED BY: JB
DATE: 08.31.2023

AS101

ARCHITECTURAL SITE PLAN - OVERALL

8/31/2023 3:14:34 PM

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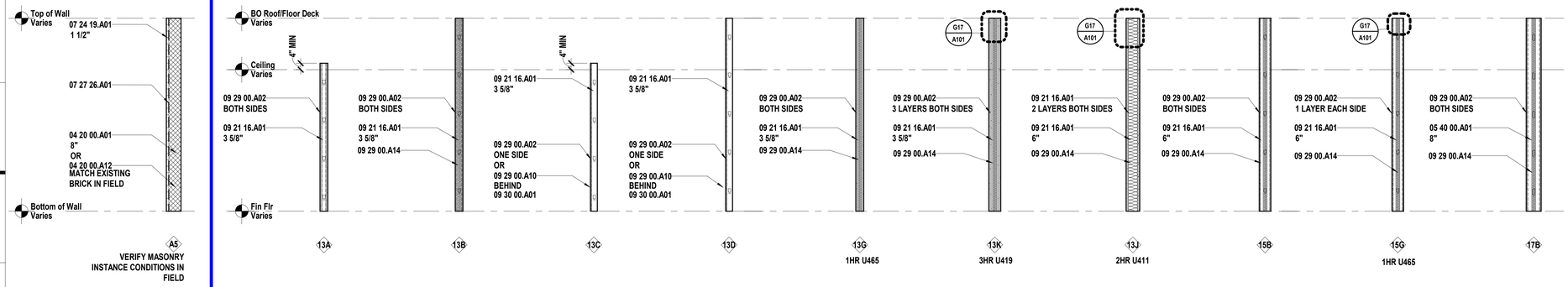
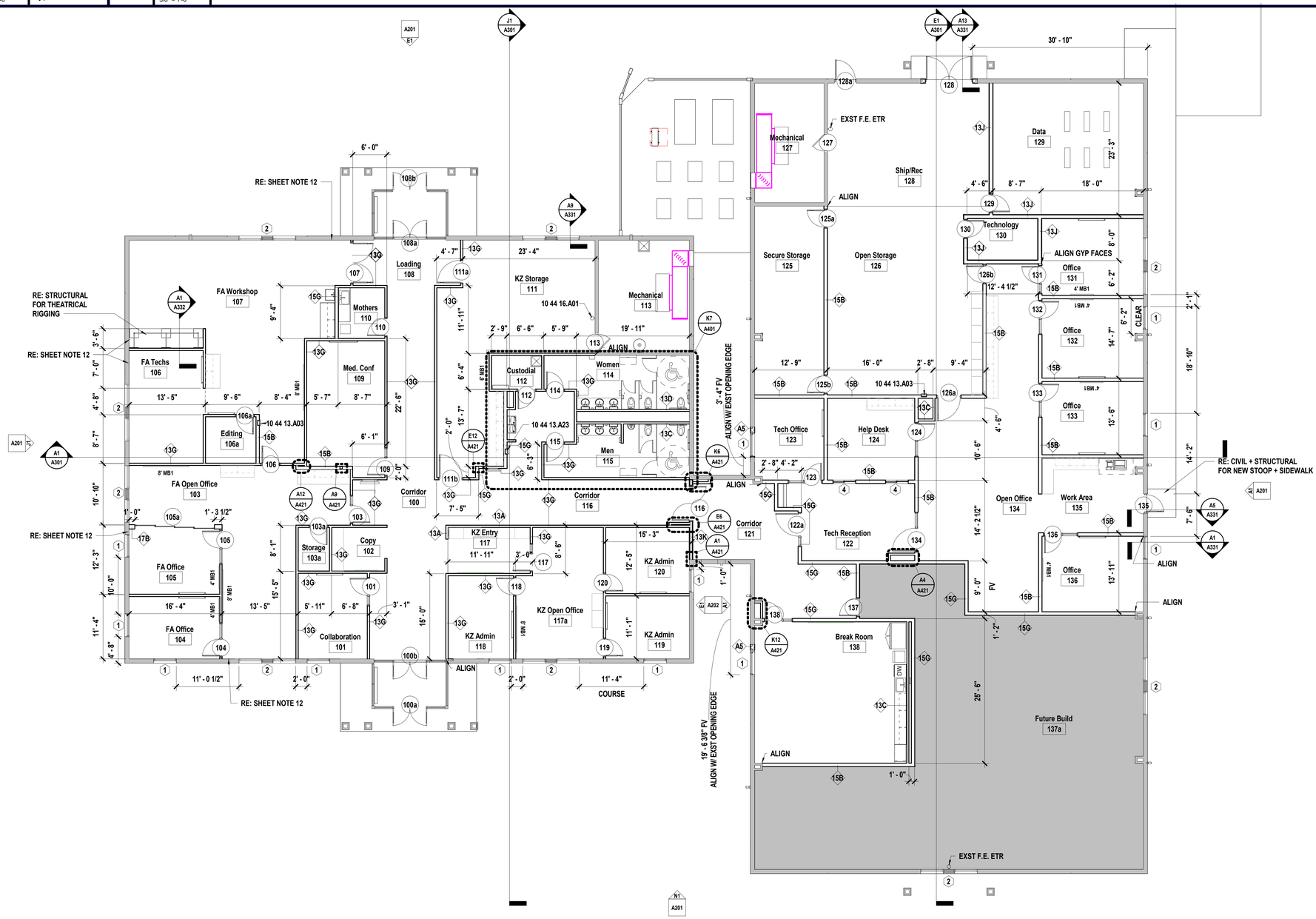


N1 Scale 3/8" = 1'-0" — Exterior Wall Types

N3 Scale 3/8" = 1'-0" — Interior Wall Types

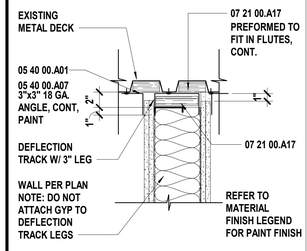


A1 Scale 1/8" = 1'-0" — Floor Plan - Level 1

PLAN NORTH / TRUE NORTH

SHEET KEYNOTE LEGEND

04 20 00.A01	CONCRETE MASONRY UNITS
04 20 00.A12	CLAY FACE BRICK
05 40 00.A01	COLD-FORMED METAL FRAMING
05 40 00.A07	MISCELLANEOUS FRAMING/FURRING
07 21 00.A17	MINERAL WOOL
07 24 19.A01	DRAINABLE EXTERIOR INSULATION AND FINISH SYSTEM
07 27 26.A01	VAPOR RETARDING FLUID-APPLIED AIR BARRIER
09 21 16.A01	NON-STRUCTURAL FRAMING
09 29 00.A02	GYPSUM BOARD - TYPE X
09 29 00.A10	CEMENTITIOUS BACKER UNITS
09 29 00.A14	SOUND ATTENUATION BLANKETS
09 30 00.A01	TILE
10 44 13.A03	SEMI-RECESSED STEEL CABINET
10 44 13.A23	SEMI-RECESSED FIRE RATE STEEL CABINET
10 44 16.A01	FIRE EXTINGUISHER



2" SPACE BETWEEN TOP OF WALL AND DECK TO ALLOW FOR 1" STRUCTURAL DEFLECTION AND COMPRESSION OF MINERAL WOOL.

WHEN WALLS ARE PERPINDICULAR TO DECK FLUTES, PREFORMED MINERAL WOOL TO BE CUT TO THE WIDTH OF THE WALL TO ALLOW ANGLE TO BE INSTALLED.

G17 Scale 1 1/2" = 1'-0" — Data Room - 2-Hour Wall @ Roof Deck

SHEET NOTES

1. REFER TO SHEET G000 FOR SHEET INDEX
2. DO NOT SCALE THIS DRAWING
3. ALL INTERIOR WALLS ARE WALL TYPE 13B UNLESS NOTED OTHERWISE.
4. ALL NEW EXTERIOR WALLS ARE WALL TYPE A5 UNLESS NOTED OTHERWISE.
5. INTERIOR DIMENSIONS ARE TO THE FOLLOWING, UNLESS NOTED OTHERWISE:
   - A. TO FACE OF STUD
   - B. TO FACE OF MASONRY UNIT
   - C. TO FACE OF DOOR AND WINDOW ROUGH OPENINGS
6. EXTERIOR DIMENSIONS ARE TO FACE OF EXISTING EIFS
7. COORDINATE LOCATIONS WHERE BACKING IS REQUIRED FOR WALL HUNG CASEWORK (BOTH IN CONTRACT AND BY OWNER), MARKERBOARDS, WALL HUNG ACCESSORIES AND TECHNOLOGY
8. COORDINATE WALL REPAIR AND INSTALLATION OF NEW DOORS AND WINDOWS WITH DEMOLITION SHEETS
9. COORDINATE FINISHES TO REMAIN WITH DEMOLITION SHEET
10. NO NEW ELECTRICAL OR DATA TO BE INSTALLED ON EXISTING EXTERIOR MASONRY
11. HALFTONE CASEWORK TO BE PROVIDED BY OWNER, SHOWN FOR REFERENCE + COORDINATION PURPOSES ONLY.
12. CUT AND GRIND EXISTING CMU FLUSH AT LOCATIONS OF INTERSECTING CMU DEMOLITION. GROUT PATCH OPEN CMU CELLS TO SMOOTH FINISH; PREP TO RECEIVE NEW PAINT PER SCHEDULE + FINISH PLANS.

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REVISIONS:

#	Description	Date

STATE OF MISSOURI — KEVIN E. NELSON — A-2019015618 — ARCHITECT

August 31, 2023

Kevin E. Nelson
A-2019015618

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DATE: 08.31.2023

A101

FLOOR PLAN - LEVEL 1

8/31/2023 3:14:35 PM

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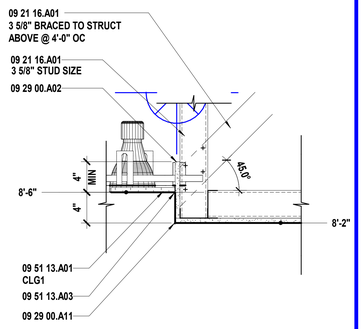
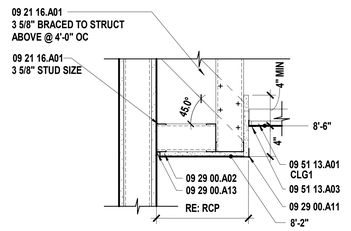
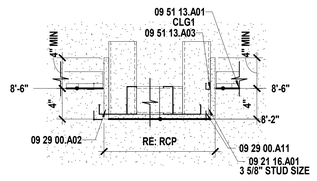


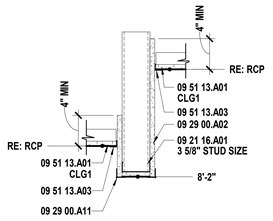
N1 | Scale 1 1/2" = 1'-0" | Ceiling Detail - Soffits at Department Entries



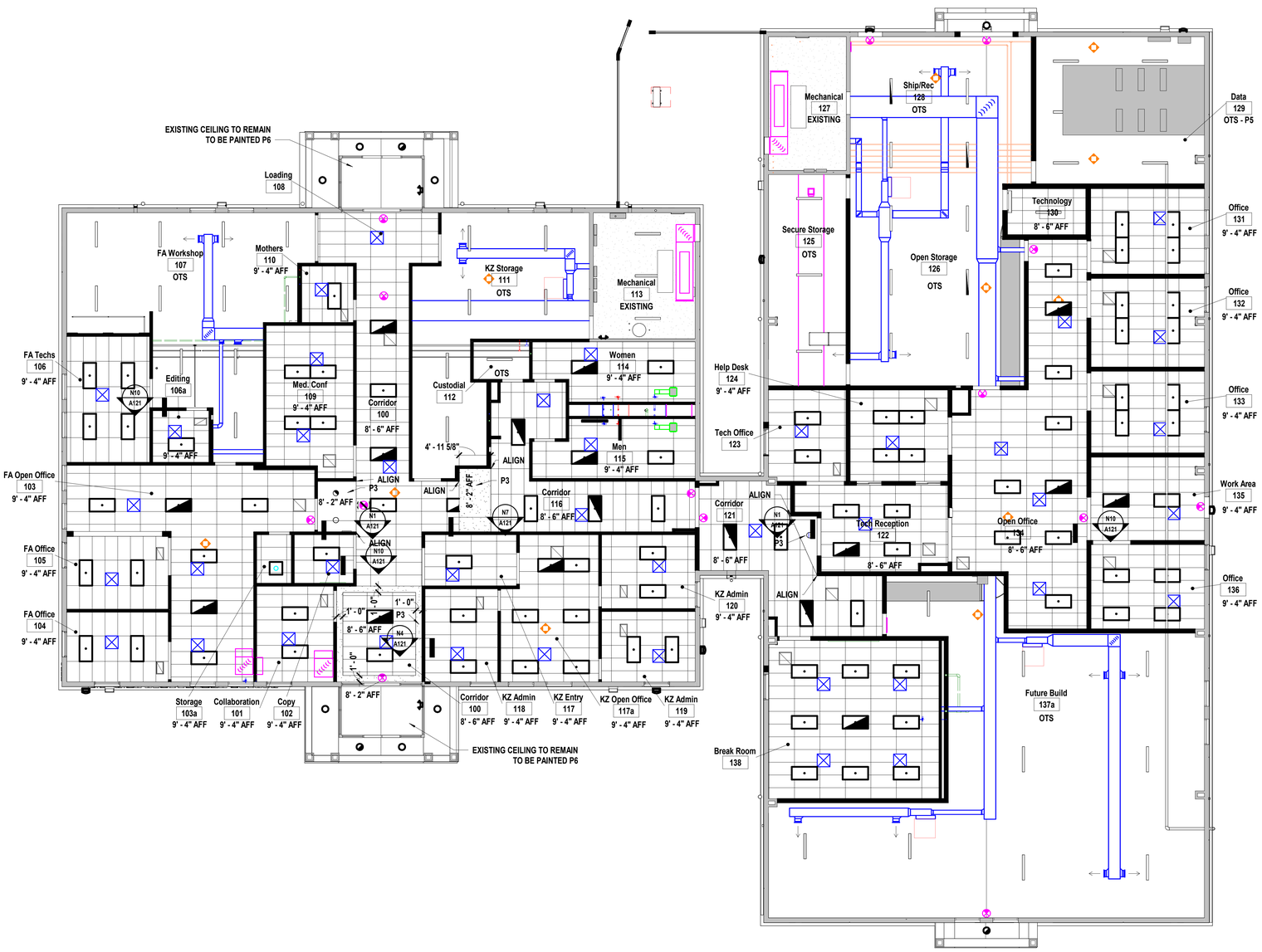
N4 | Scale 1 1/2" = 1'-0" | Ceiling Detail - Soffit at Building Entry



N7 | Scale 1 1/2" = 1'-0" | Ceiling Detail - Soffit at Corridor 116



N10 | Scale 1 1/2" = 1'-0" | Ceiling Detail - Typ. Bulkhead



A1 | Scale 1/8" = 1'-0" | Reflected Ceiling Plan - Level 1

PLAN NORTH TRUE NORTH

SHEET KEYNOTE LEGEND

09 21 16.A01	NON-STRUCTURAL FRAMING
09 29 00.A02	GYPSUM BOARD - TYPE X
09 29 00.A11	GYPSUM BOARD TRIM
09 29 00.A13	REVEAL TRIM
09 51 13.A01	ACOUSTICAL CEILING PANELS
09 51 13.A03	EDGE MOLDINGS AND TRIM

SHEET MATERIAL FINISH LEGEND

ID	MATERIAL	COLOR/FINISH
CG1	Corner Guard	Silver
CLG1	Ceiling	Tile-White; Grid-White
HP1	High Performance Coating	Natural Choice
HP2	High Performance Coating	Smoky Azurite
HP3	High Performance Coating	Salty Dpg
P1	Paint	Natural Choice
P2	Paint	Smoky Azurite
P3	Paint	Salty Dog
P4	Paint	Sleepy Hollow
P5	Paint	Tricorn Black
P6	Paint	Pure White
P7	Paint	Natural Choice
TGR1	Tile Grout	53 Twilight Blue
TR1	Metal Edge Strip	Satin Anodized Aluminum
TR2	Metal Edge Strip	Satin Anodized Aluminum

SHEET NOTES

1. REFER TO SHEET G000 FOR SHEET INDEX
2. REFER TO MEP AND TECHNOLOGY SHEETS FOR SPECIFIC CEILING MOUNTED DEVICES
3. FUTURE BUILD 137a TO REMAIN SHELL SPACE (NO NEW CEILING FINISH) DURING NEW CONSTRUCTION
4. OTS TO BE PAINTED P7

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Liberty, Clay County, MO 64068

REVISIONS:

#	Description	Date

STATE OF MISSOURI
KEVIN E. NELSON
A-2019015618
ARCHITECT
August 31, 2023
Kevin E. Nelson
A-2019015618

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A121

REFLECTED CEILING PLAN - LEVEL 1

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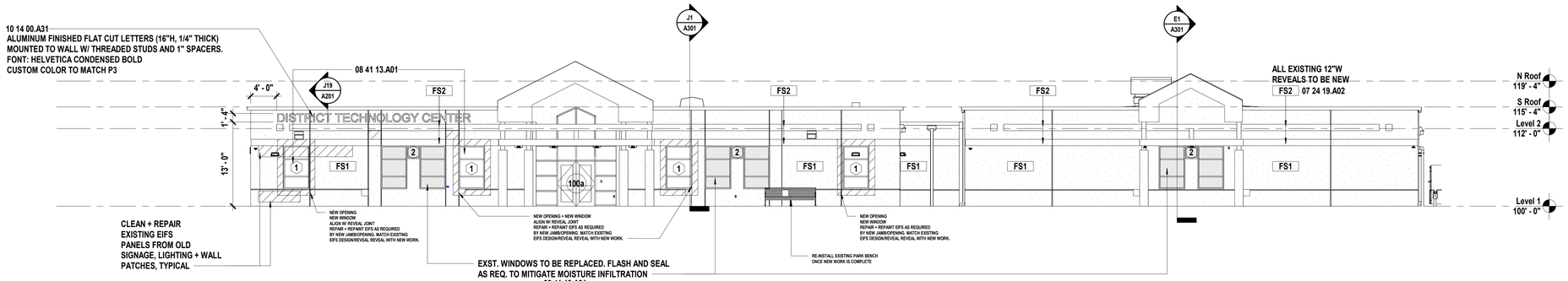
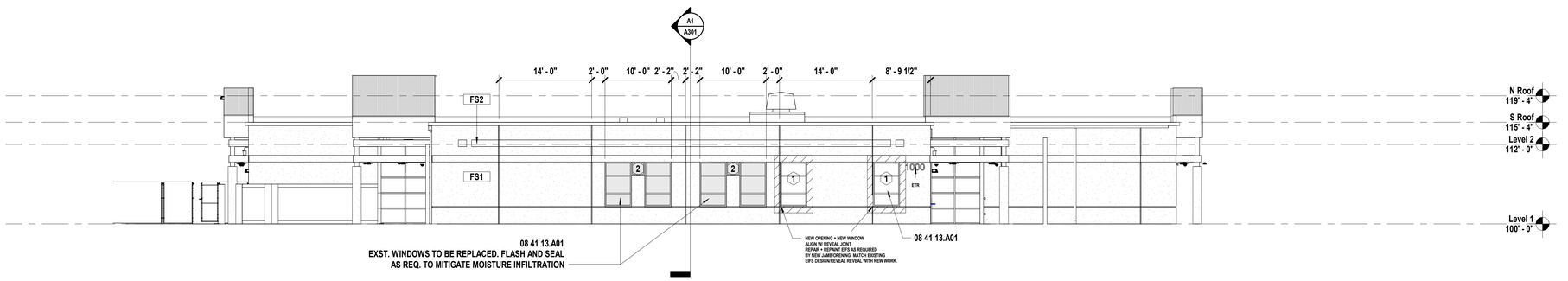
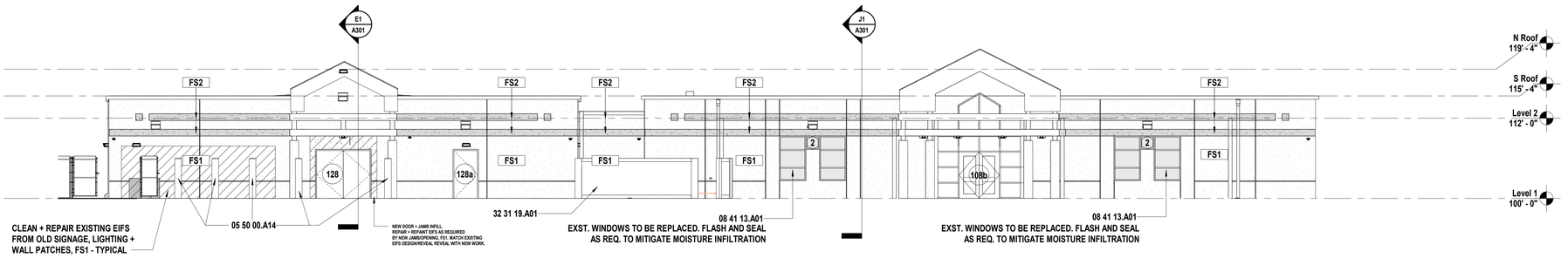


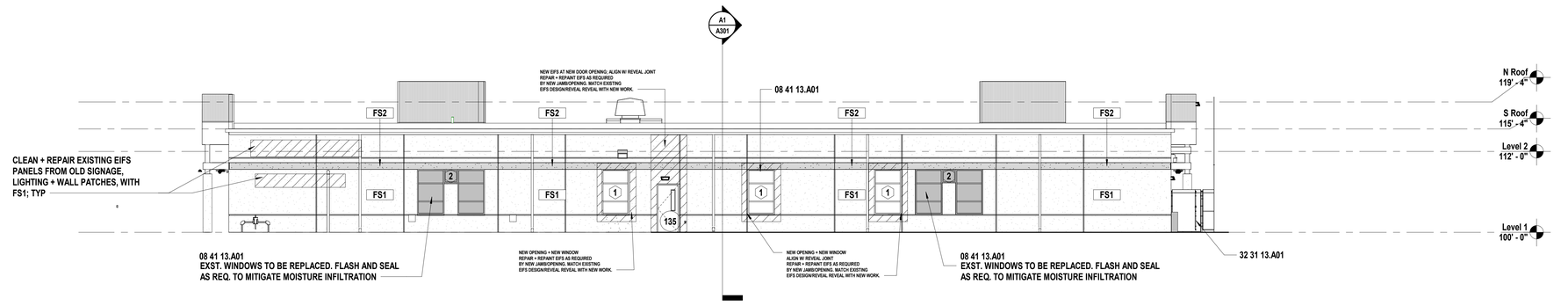
N1 Scale 1/8" = 1'-0" — Exterior Elevation - Overall East



J1 Scale 1/8" = 1'-0" — Exterior Elevation - Overall South



E1 Scale 1/8" = 1'-0" — Exterior Elevation - Overall West



A1 Scale 1/8" = 1'-0" — Exterior Elevation - Overall North

SHEET KEYNOTE LEGEND

05 50 00.A14	BOLLARDS
07 24 19.A02	DIRECT-APPLIED EXTERIOR FINISH SYSTEM
07 62 00.A13	COPING
08 41 13.A01	THERMAL BROKEN STOREFRONT FRAMING (4.5")
10 14 00.A31	CUSTOM
32 31 13.A01	CHAIN LINK FENCING
32 31 19.A01	DECORATIVE METAL FENCES

EXTERIOR MATERIAL LEGEND

FS1 = EIFS WALL SYSTEM - FIELD
07 24 19.A02 DIRECT-APPLIED EXTERIOR FINISH SYSTEM

BOD: DRYVIT
COLOR: 627A TWILIGHT GRAY OR CUSTOM SHERWIN WILLIAMS COLOR
SIZE/ PATTERN: PER ELEVS

FS2 = EIFS WALL SYSTEM - ACCENT
07 24 19.A02 DIRECT-APPLIED EXTERIOR FINISH SYSTEM

BOD: DRYVIT
COLOR: 618 ANTIQUE GRAY OR CUSTOM SHERWIN WILLIAMS COLOR
SIZE/ PATTERN: PER ELEVS

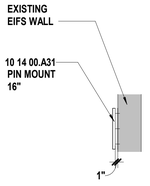
SM1 = SHEET METAL TYPE 1
07 62 00.A13 COPING

BOD: N/A
COLOR: GREY - MATCH EXISTING
SIZE/ PATTERN: PER DETAILS

REFER TO SHEET NOTES 4 + 5 FOR EIFS REPAIRING, PATCHING AND RECOATING EXTENTS

SHEET NOTES

1. REFER TO SHEET G000 FOR SHEET INDEX
2. DO NOT SCALE THIS DRAWING
3. WALL MOUNTED LIGHT FIXTURES, LAMBS TONGUES AND OTHER MEP ITEMS ARE SHOWN FOR PLACEMENT ONLY
4. BASE BID TO INCLUDE PATCHING + REPAIRING OF EXISTING EIFS ENVELOPE AS NOTED IN THE ELEVATIONS; MATCH EXISTING SYSTEM CONSTRUCTION + FINISH TEXTURE. VERIFY FINAL EXTENTS OF DESIRED REPAIRS WITH OWNER IN FIELD PRIOR TO WORK COMMENCING.
5. ENTIRE EXTERIOR ENVELOPE (ALL SIDES OF BUILDING) TO BE RECOATED / REPAINTED AS NOTED PER THE MATERAL LEGEND ON A201.



J19 Scale 1/2" = 1'-0" — Exterior Signage Attachment Detail

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A201

EXTERIOR ELEVATIONS - OVERALL

8/31/2023 3:14:44 PM

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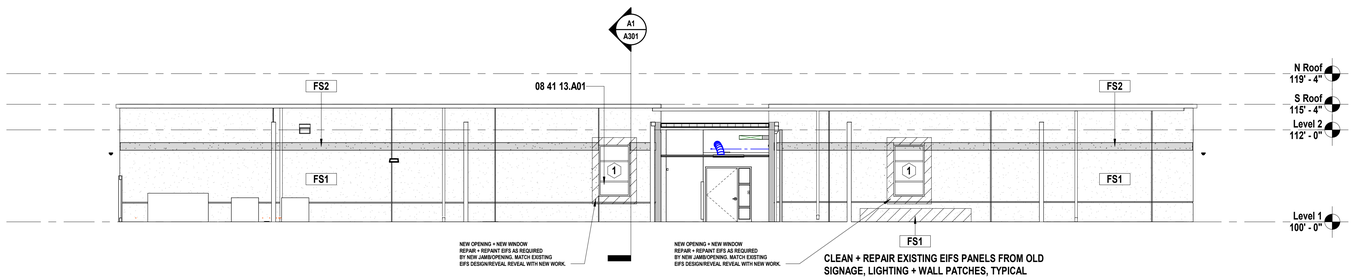
SHEET KEYNOTE LEGEND

07 24 19.A02	DIRECT-APPLIED EXTERIOR FINISH SYSTEM
07 62 00.A13	COPING
08 41 13.A01	THERMAL BROKEN STOREFRONT FRAMING (4.5")

E1 Scale 1/8" = 1'-0" — Exterior Elevation - Overall North (Alcove)



A1 Scale 1/8" = 1'-0" — Exterior Elevation - Overall South (Alcove)

EXTERIOR MATERIAL LEGEND

FS1 = EIFS WALL SYSTEM - FIELD
07 24 19.A02 DIRECT-APPLIED EXTERIOR FINISH SYSTEM

BOD: DRYVIT
COLOR: 627A TWILIGHT GRAY OR CUSTOM SHERWIN WILLIAMS COLOR
SIZE/ PATTERN: PER ELEVS

FS2 = EIFS WALL SYSTEM - ACCENT
07 24 19.A02 DIRECT-APPLIED EXTERIOR FINISH SYSTEM

BOD: DRYVIT
COLOR: 618 ANTIQUE GRAY OR CUSTOM SHERWIN WILLIAMS COLOR
SIZE/ PATTERN: PER ELEVS

SM1 = SHEET METAL TYPE 1
07 62 00.A13 COPING

BOD: N/A
COLOR: GREY - MATCH EXISTING
SIZE/ PATTERN: PER DETAILS

REFER TO SHEET NOTES 4 + 5 FOR EIFS REPAIRING, PATCHING AND RECOATING EXTENTS

SHEET NOTES

1. REFER TO SHEET G000 FOR SHEET INDEX
2. DO NOT SCALE THIS DRAWING
3. WALL MOUNTED LIGHT FIXTURES, LAMBS TONGUES AND OTHER MEP ITEMS ARE SHOWN FOR PLACEMENT ONLY
4. BASE BID TO INCLUDE PATCHING + REPAIRING OF EXISTING EIFS ENVELOPE AS NOTED IN THE ELEVATIONS; MATCH EXISTING SYSTEM CONSTRUCTION + FINISH TEXTURE. VERIFY FINAL EXTENTS OF DESIRED REPAIRS WITH OWNER IN FIELD PRIOR TO WORK COMMENCING.
5. ENTIRE EXTERIOR ENVELOPE (ALL SIDES OF BUILDING) TO BE RECOATED / REPAINTED AS NOTED PER THE MATERAL LEGEND ON A201.

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A202

EXTERIOR ELEVATIONS - OVERALL

8/31/2023 3:14:46 PM

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PHOTOS INCLUDED FOR REFERENCE ONLY. ADDITIONAL PATCHING MAY BE REQUIRED IN AREAS NOT SHOWN.

SHEET KEYNOTE LEGEND

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Architecture # 0003161
Structure # 2006031333

MKEC Engineering, Inc.
Civil Engineer
State Certificate of Authority #:
Engineering: 2001009364
Landscaping: 2006027139
Surveying: 2006027138
11827 W 112th Street, Suite 200
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913.317.9390 phone
913.317.9385 fax

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State Certificate of Authority #EGC-0001787
25501 W. Valley Parkway, Ste 200
Olathe, Johnson County, KS 66061
913.345.2127 phone
913.345.0617 fax

Construction Documents

District Technology Remodel
Liberty School District
1000 Kent Street
Liberty, Clay County, MO 64068

REVISIONS:

#	Description	Date

STATE OF MISSOURI
KEVIN E. NELSON
A-2019015618
ARCHITECT
August 31, 2023

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JOB NO: 23022
DRAWN BY: HL
CHECKED BY: JB
DATE: 08.31.2023

A203

A1 | Scale: NTS | Existing Exterior Photos - EIFS Patching

EXISTING EXTERIOR PHOTOS

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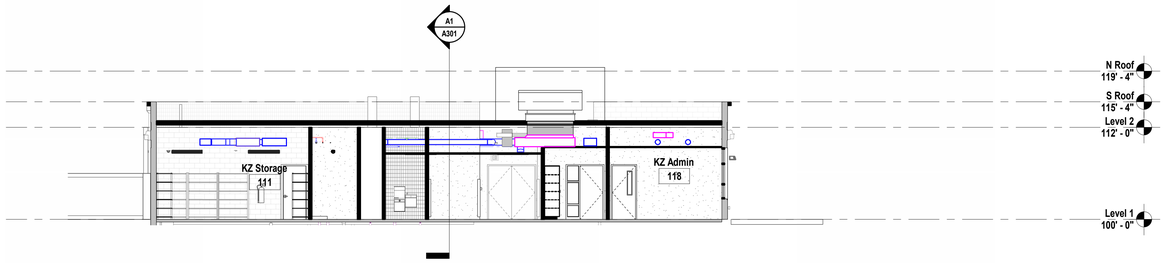
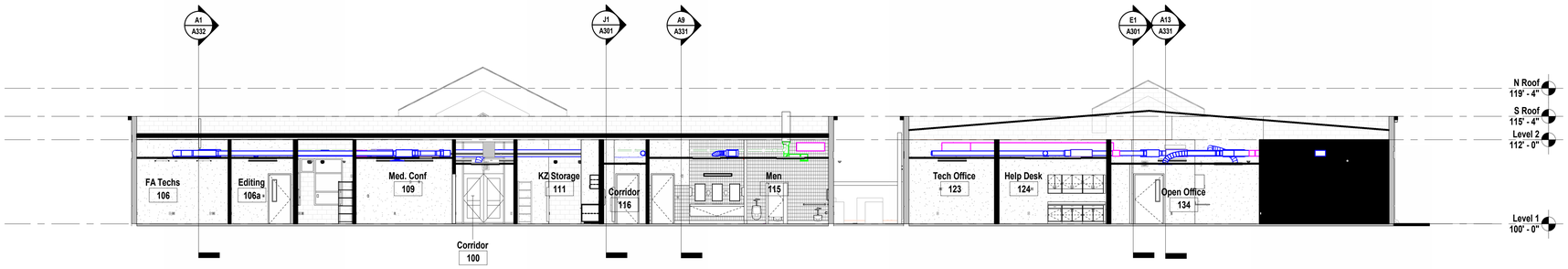
8/31/2023 3:14:47 PM



J1 | Scale 1/8" = 1'-0" | Building Section - South Wing - East/West



E1 | Scale 1/8" = 1'-0" | Building Section - North Wing - East/West



A1 | Scale 1/8" = 1'-0" | Building Section - North/South

SHEET KEYNOTE LEGEND

SHEET NOTES

1. REFER TO SHEET G000 FOR SHEET INDEX
2. DO NOT SCALE THIS DRAWING
3. REFER TO INTERIOR ELEVATIONS, FOR PLACEMENT OF ALL WALL MOUNTED ITEMS
4. WALL MOUNTED LIGHT FIXTURES, GRILLES AND OTHER MEP ITEMS ARE SHOWN FOR PLACEMENT ONLY

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August 31, 2023
Kevin E. Nelson
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JOB NO: 23022
DRAWN BY: HL
CHECKED BY: JB
DATE: 08.31.2023

A301

BUILDING SECTIONS

8/31/2023 3:14:52 PM

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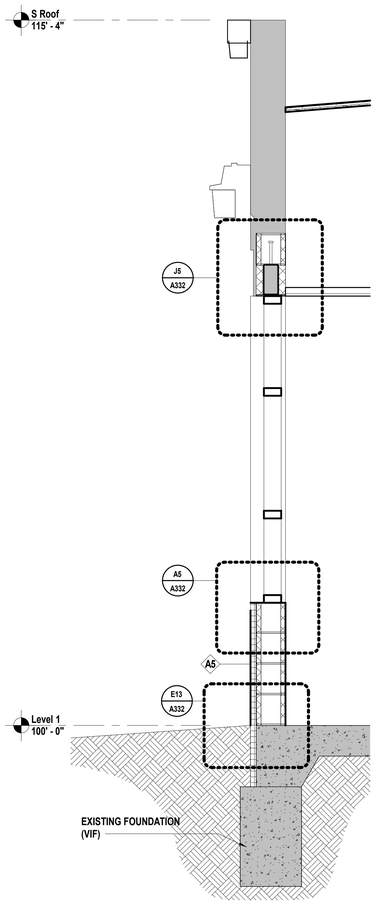
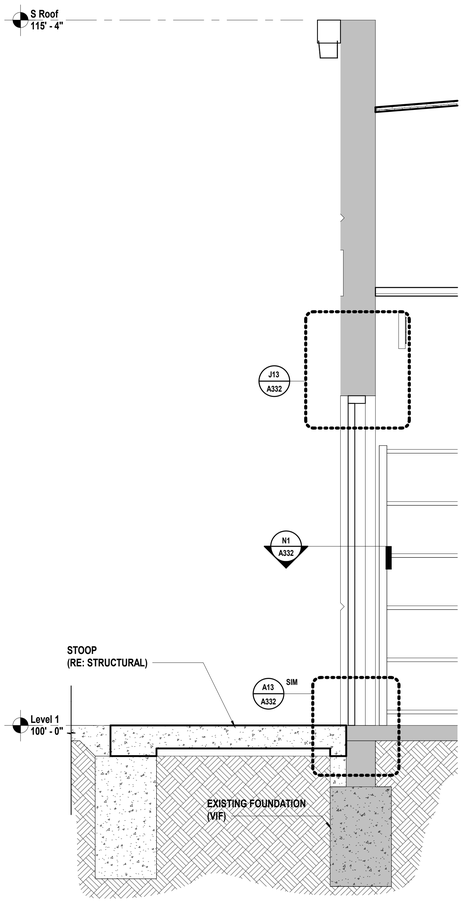
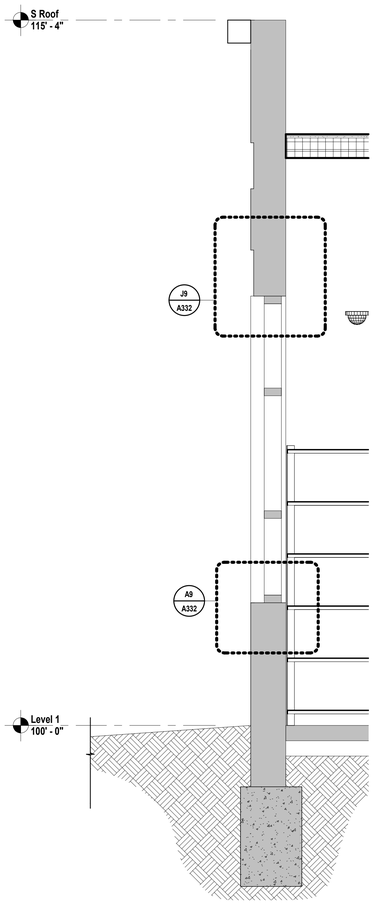


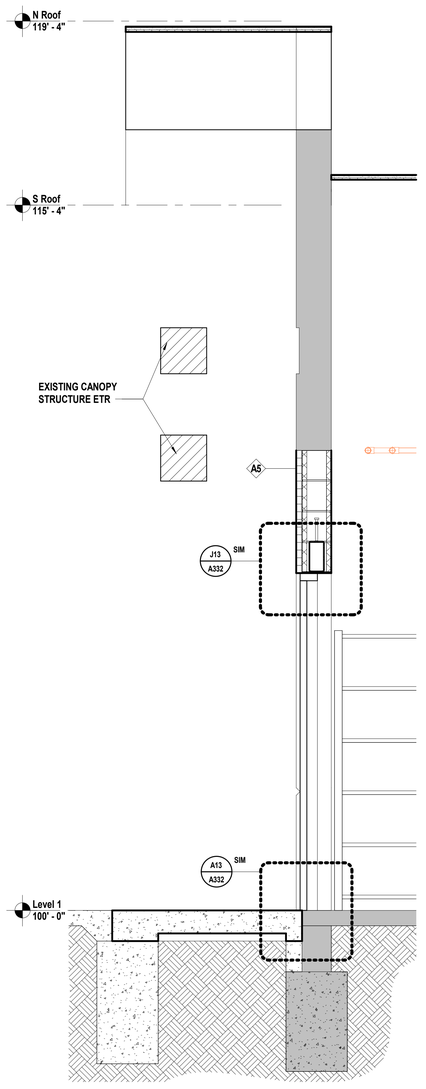
A1 Scale 3/4" = 1'-0" — Wall Section - EIFS Door Infill



A5 Scale 3/4" = 1'-0" — Wall Section - New Aluminum Door @ Existing EIFS



A9 Scale 3/4" = 1'-0" — Wall Section - South Window Replacement



A13 Scale 3/4" = 1'-0" — Wall Section - New Dock Doors @ Existing EIFS

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CHECKED BY: JB
DATE: 08.31.2023

A331

WALL SECTIONS + DETAILS

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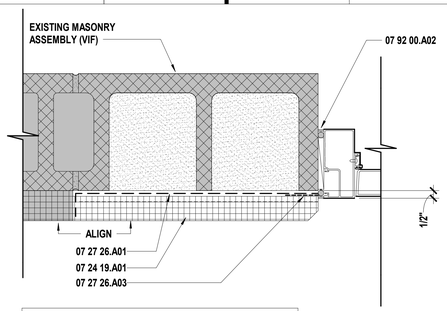
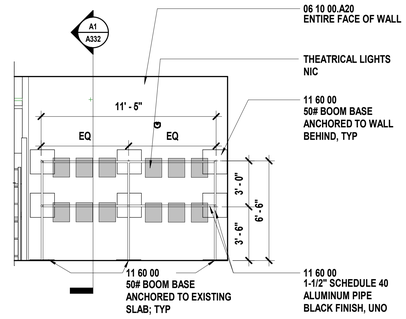
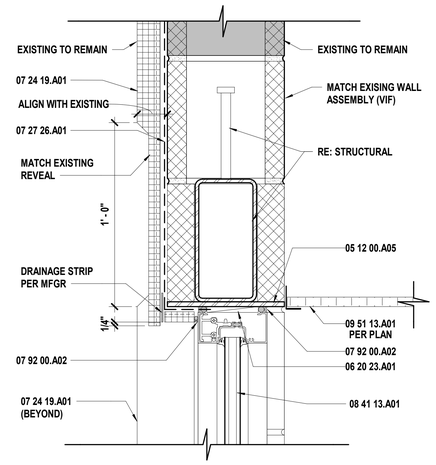


NOTES:
1. CONTINUE ANY EXISTING REVEALS THROUGH NEW EIFS
2. RE STRUCTURAL FOR JAMB REINFORCEMENT
3. RE ELEVATIONS FOR NEW EIFS EXTENTS

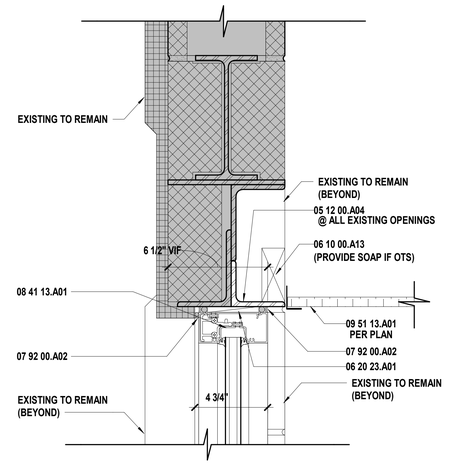
N1 Scale 3" = 1'-0" — Exterior Detail - Aluminum Door Jamb @ Existing EIFS



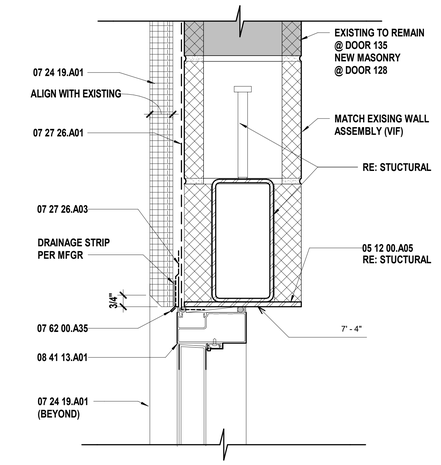
J1 Scale 1/4" = 1'-0" — Interior Elevation - Theater Light Rigging



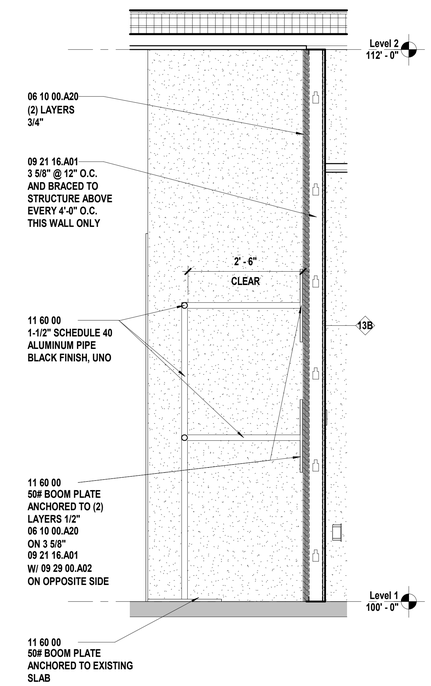
J5 Scale 3" = 1'-0" — Door/Window Detail - Aluminum Window Sill @ New EIFS1



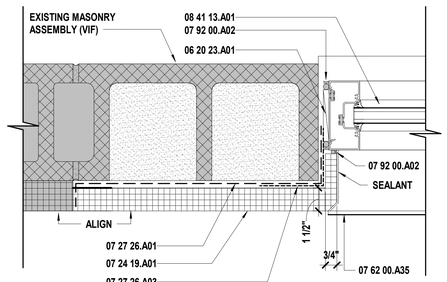
J9 Scale 3" = 1'-0" — Aluminum Window Head @ EIFS



J13 Scale 3" = 1'-0" — Door/Window Detail - Aluminum Head @ EIFS (Existing)

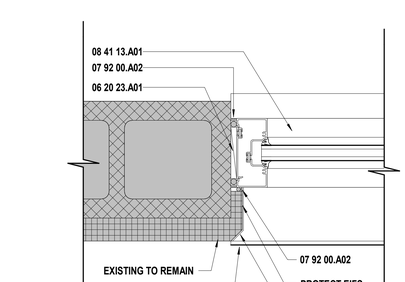


A1 Scale 3/4" = 1'-0" — Wall Section - Theater Light Rigging

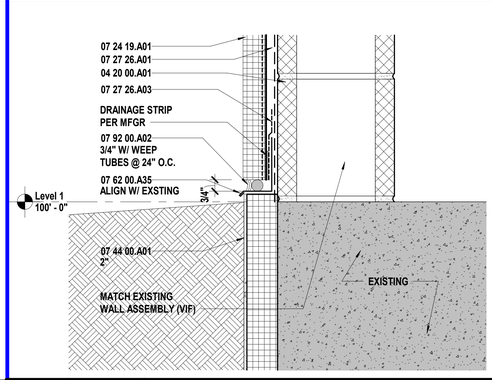


NOTES:
1. CONTINUE ANY EXISTING REVEALS THROUGH NEW EIFS
2. RE STRUCTURL FOR JAMB REINFORCEMENT
3. RE ELEVATIONS FOR NEW EIFS EXTENTS
4. RE: P11 / DA101 FOR EXTENTS OF EIFS DEMO + NEW BUILD BACK
5. NEW 8"W JAMB BLOCKS EITHER SIDE OF NEW OPENINGS (AS REQ.)

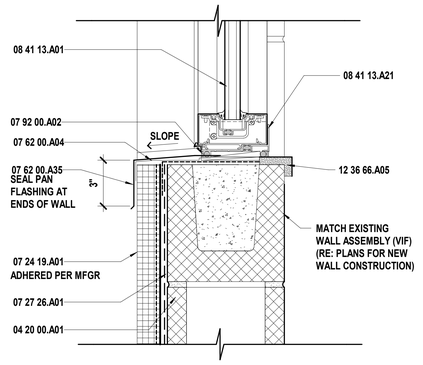
E5 Scale 3" = 1'-0" — Aluminum Window Jamb @ EIFS - New Opening



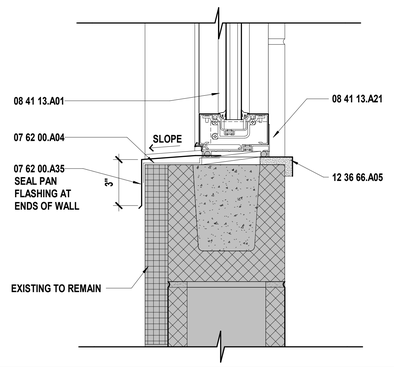
E9 Scale 3" = 1'-0" — Aluminum Window Jamb @ EIFS - Existing Opening



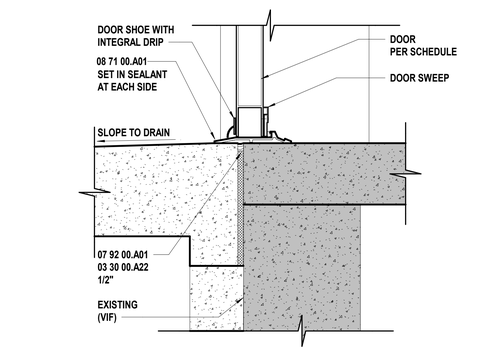
E13 Scale 3" = 1'-0" — Exterior Detail - New EIFS Infill @ Wall Base



A5 Scale 3" = 1'-0" — Door/Window Detail - Aluminum Window Sill @ New EIFS



A9 Scale 3" = 1'-0" — Aluminum Window Sill @ Existing EIFS



A13 Scale 3" = 1'-0" — Threshold @ Exterior Door

SHEET KEYNOTE LEGEND

04 20 00.A01	CONCRETE MASONRY UNITS
05 12 00.A04	ANGLE
05 12 00.A05	PLATE AND BAR
06 10 00.A13	WOOD BLOCKING/NAILERS
06 10 00.A20	FIRE-RETARDANT TREATED PLYWOOD BLOCKING AND BACKING PANELS
06 20 23.A01	TRIM - TRANSPARENT
07 24 19.A01	DRAINABLE EXTERIOR INSULATION AND FINISH SYSTEM
07 27 26.A01	VAPOR RETARDING FLUID-APPLIED AIR BARRIER
07 27 26.A03	TRANSITION MEMBRANE
07 44 00.A01	CONCRETE-FACED RIGID INSULATION
07 62 00.A04	FLEXIBLE MEMBRANE CLOSURE
07 62 00.A35	PRE-FINISHED MISC METAL FLASHING
07 92 00.A02	SEALANT W/BACKER ROD
08 41 13.A01	THERMAL BROKEN STOREFRONT FRAMING (4.5")
08 41 13.A21	ALUMINUM SUBSILL
08 71 00.A01	THRESHOLDS
09 21 16.A01	NON-STRUCTURAL FRAMING
09 29 00.A02	GYPSUM BOARD - TYPE X
09 51 13.A01	ACOUSTICAL CEILING PANELS
11 60 00	ENTERTAINMENT EQUIPMENT
12 36 66.A05	SOLID SURFACE SILL

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JOB NO: 23022
DRAWN BY: MR / HL
CHECKED BY: JB
DATE: 08.31.2023

A332

WALL SECTIONS + DETAILS

8/31/2023 3:14:57 PM

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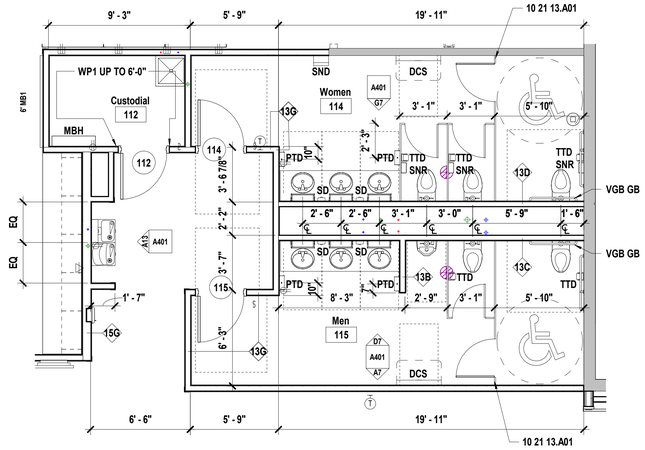
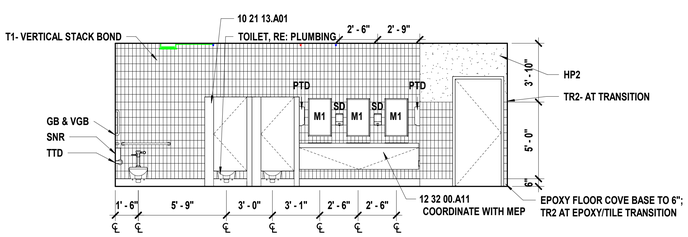
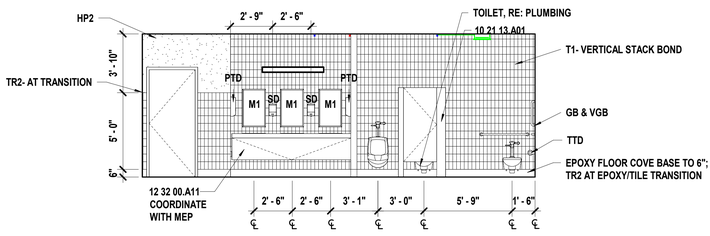


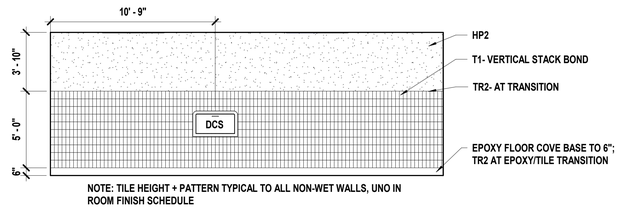
K7 | Scale 1/4" = 1'-0" | Enlarged Toilet Plan | PLAN NORTH | TRUE NORTH



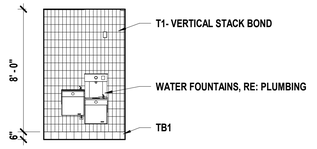
G7 | Scale 1/4" = 1'-0" | Interior Elevation - Women A114 E



D7 | Scale 1/4" = 1'-0" | Interior Elevation - Men A115 W



A7 | Scale 1/4" = 1'-0" | Interior Elevation - TYP Restroom Tile Pattern - Non-Wet Walls - 114 &115



A13 | Scale 1/4" = 1'-0" | Interior Elevation - Water Fountains

TOILET, BATH AND LAUNDRY ACCESSORY LEGEND

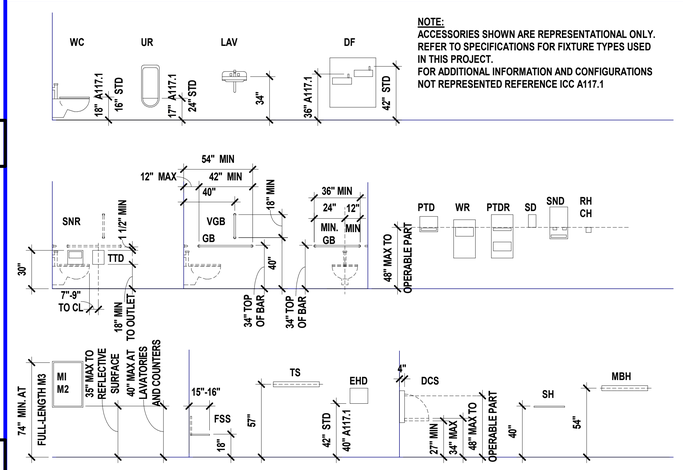
TAG	ACCESSORY	KEYNOTE	RESPONSIBILITY
TTD	TOILET TISSUE DISPENSER	10 28 00.A01	OFCI
PTD	PAPER TOWEL DISPENSER	10 28 00.A02	OFCI
WR	WASTE RECEPTACLE	10 28 00.A03	OFCI
~~PTDR~~	~~COMBINATION TOWEL DISPENSER / WA~~	~~NOT USED FAGLE~~	~~10 28 00.A04~~ ~~OFOI~~
SD	SOAP DISPENSER	10 28 00.A05	OFCI
GB	GRAB BARS	10 28 00.A06	CFCI
VGB	VERTICAL GRAB BAR	10 28 00.A06	CFCI
SND	SANITARY NAPKIN DISPENSER	10 28 00.A07	CFCI
SNR	SANITARY NAPKIN RECEPTOR	10 28 00.A08	CFCI
~~COD~~	~~SEAT COVER DISPENSER~~	~~NOT USED~~	~~10 28 00.A09~~ ~~OFOI~~
MI	MIRROR - SINGLE	10 28 00.A10	CFCI
~~M2~~	~~MIRROR - DOUBLE WIDTH~~	~~NOT USED~~	~~10 28 00.A10~~ ~~OFOI~~
~~M3~~	~~MIRROR - FULL HEIGHT~~	~~NOT USED~~	~~10 28 00.A10~~ ~~OFOI~~
~~SC~~	~~SHOWER CURTAIN~~	~~NOT USED~~	~~10 28 00.A11~~ ~~OFOI~~
~~FSC~~	~~FOLDING SHOWER SEAT~~	~~NOT USED~~	~~10 28 00.A12~~ ~~OFOI~~
~~SOD~~	~~SOAP DISH~~	~~NOT USED~~	~~10 28 00.A13~~ ~~OFOI~~
~~RH~~	~~ROBE HOOK~~	~~NOT USED~~	~~10 28 00.A14~~ ~~OFOI~~
~~CH~~	~~COAT HOOK~~	~~NOT USED~~	~~10 28 00.A15~~ ~~OFOI~~
~~TS~~	~~TOWEL STRIP~~	~~NOT USED~~	~~10 28 00.A16~~ ~~OFOI~~
~~SPT~~	~~SPECIMEN PASS THROUGH~~	~~NOT USED~~	~~10 28 00.A17~~ ~~OFOI~~
~~SUC~~	~~SEAT-PAN AND URINAL CABINET~~	~~NOT USED~~	~~10 28 00.A18~~ ~~OFOI~~
~~EHD~~	~~WARM AIR DRYER~~	~~NOT USED~~	~~10 28 00.A19~~ ~~OFOI~~
DCS	DIAPER CHANGING STATION	10 28 00.A20	CFCI
~~ULG~~	~~UNDER-LAVATORY GUARD~~	~~NOT USED~~	~~10 28 00.A21~~ ~~OFOI~~
~~SH~~	~~UTILITY SHELF~~	~~NOT USED~~	~~10 28 00.A22~~ ~~OFOI~~
MBH	MOP AND BROOM HOLDER	10 28 00.A23	CFCI

NOTES: TAGS ABOVE WITH A "C" PREFIX (IE CGB) DENOTE CHILD MOUNTING HEIGHTS
CF = CONTRACTOR FURNISH
CI = CONTRACTOR INSTALL
OF = OWNER FURNISH
OI = OWNER INSTALL

SHEET KEYNOTE LEGEND

10 21 13.A01	TOILET COMPARTMENTS
12 32 00.A11	ADA SINK BASE

FIXTURE AND ACCESSORY MOUNTING HEIGHTS



SHEET NOTES

1. REFER TO SHEET G000 FOR SHEET INDEX
2. DO NOT SCALE THIS DRAWING
3. INTERIOR DIMENSIONS ARE TO THE FOLLOWING, UNLESS NOTED OTHERWISE:
   A. TO FACE OF STUD
   B. TO FACE OF MASONRY UNIT
   C. TO FACE OF DOOR AND WINDOW ROUGH OPENINGS
4. REFER TO INTERIOR ELEVATIONS, THIS SHEET, FOR PLACEMENT OF ALL WALL MOUNTED/RECESSED ITEMS
5. COORDINATE LOCATIONS WHERE BACKING REQUIRED FOR TOILET ACCESSORIES

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Olathe, Johnson County, KS 66061
913.345.2127 phone
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Construction Documents

District Technology Remodel
Liberty School District
1000 Kent Street
Liberty, Clay County, MO 64068

REVISIONS:

#	Description	Date

STATE OF MISSOURI
KEVIN E. NELSON
A-2019015618
ARCHITECT
August 31, 2023
Kevin E. Nelson
A-2019015618

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JOB NO: 23022
DRAWN BY: KF
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DATE: 08.31.2023

A401

ENLARGED TOILET PLANS & DETAILS

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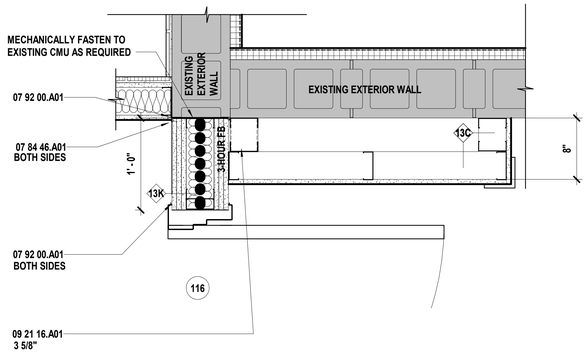
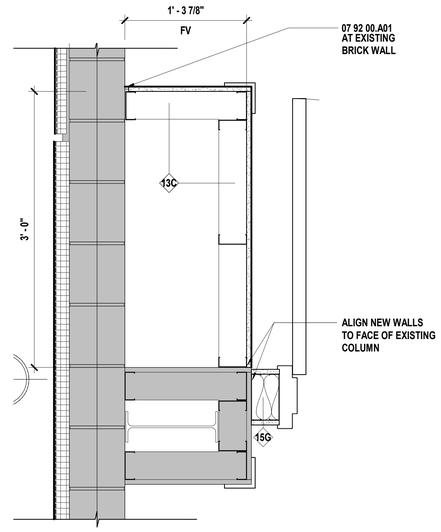


K6 | Scale: 1 1/2" = 1'-0" | Interior Detail - Corridor 116 Fire Barrier Door Pocket - Plan North



K12 | Scale: 1 1/2" = 1'-0" | Interior Detail - Break Room 138 Furr Out

E1 | Scale: 3" = 1'-0" | Door/Window Detail - Corridor 116 Fire Barrier Door Head

E6 | Scale: 1 1/2" = 1'-0" | Interior Detail - Corridor 116 Fire Barrier Door Pocket - Plan South

E12 | Scale: 3" = 1'-0" | Interior Detail - Column @ KZ Storage 111

A1 | Scale: 1 1/2" = 1'-0" | Interior Detail - 3 Hour Wall @ East

A4 | Scale: 1 1/2" = 1'-0" | Interior Detail - Tech Reception Door Wing Wall

A9 | Scale: 1 1/2" = 1'-0" | Interior Detail - Column @ Medium Conference 109

A12 | Scale: 1 1/2" = 1'-0" | Interior Detail - Fine Arts 103 Wall Bump

SHEET KEYNOTE LEGEND

06 10 00.A19	PLYWOOD BLOCKING AND BACKING PANELS
07 84 46.A01	FIRE RESISTIVE JOINT SYSTEM
07 92 00.A01	SEALANT
08 11 13.A31	HOLLOW METAL FRAME
09 21 16.A01	NON-STRUCTURAL FRAMING
09 29 00.A02	GYPSUM BOARD - TYPE X
10 26 00.A03	CORNER GUARDS

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INTERIOR PLAN DETAILS

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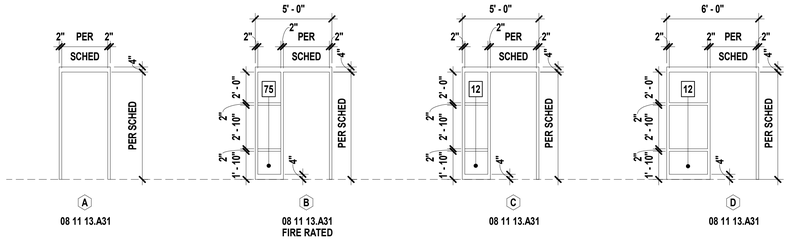
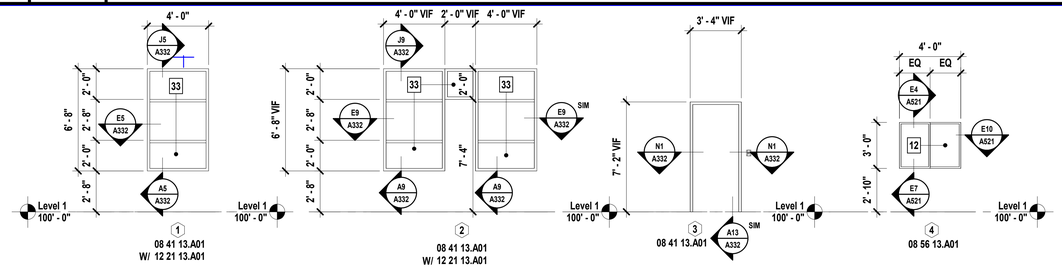
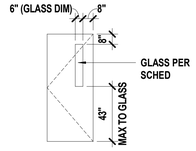


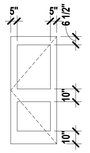
P1 Scale 1/4" = 1'-0" — Hollow Metal Frame Types

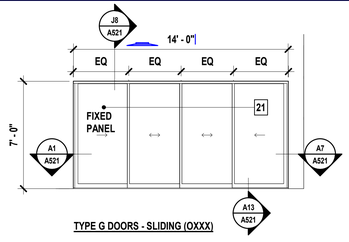


L1 Scale 1/4" = 1'-0" — Aluminum Frame Types - Exterior









TYPE A DOORS - FLUSH

A1 - SOLID CORE WOOD 08 14 16.A01

A3 - HOLLOW METAL (NON-INSULATED, HEAVY DUTY) 08 11 13.A01
A4 - HOLLOW METAL (NON-INSULATED, EXTRA HEAVY DUTY) 08 11 13.A02

A8 – FRP 08 41 13.A14

TYPE B DOORS - NARROW LITE

B1 - SOLID CORE WOOD 08 14 16.A01

B4 - HOLLOW METAL (NON-INSULATED, EXTRA HEAVY DUTY) 08 11 13.A02

B8 - FRP 08 41 13.A14

TYPE E DOORS - FULL LITE WITH MID-RAIL

E09 - ALUMINUM (STANDARD) 08 41 13.A11
E10 – ALUMINUM (HEAVY DUTY) 08 41 13. A12

TYPE G DOORS - SLIDING (OXXX)

G1 - ALUMINUM SLIDING DOOR 08 41 13.A16

G1 Scale 1/4" = 1'-0" — Door Types

DOOR SCHEDULE

DOOR Number	Size	Type	Glass	Frame Type	Frame Material	All DETAILS on A521 UNO Head	Strike	Hinge	Thresh	Fire Rating	Remarks
100a	PR 3'-0" x 7'-0" x 1 3/4" HD	E10	43	EX	ALUM	--	--	--	A13/A332	--	CARD READER (UNLOCKED DURING BUSINESS HOURS)
100b	PR 3'-0" x 7'-0" x 1 3/4"	E9	43	EX	ALUM	--	--	--	--	--	CARD READER, INTERCOM, DOOR RELEASE
101	3'-0" x 7'-0" x 1 3/4	A1	--	B	HM	N10	J10	J10		20 MIN	CARD READER
103	3'-0" x 7'-0" x 1 3/4	A1	--	B	HM	N10	J10	J10		20 MIN	
103a	3'-0" x 7'-0" x 1 3/4"	A1	--	A	HM	N10	J10	J10		--	
104	3'-0" x 7'-0" x 1 3/4	A1	--	D	HM	N10	J10	J10		--	
105	3'-0" x 7'-0" x 1 3/4	A1	--	D	HM	N10	J10	J10		--	
105a	14'x7' - 1/4" Glazing	G1	21	-	ALUM	J8	A7	A1	A13	--	
106	3'-0" x 7'-0" x 1 3/4"	B1	11	A	HM	N10	J10	J10		--	
106a	3'-0" x 7'-0" x 1 3/4"	B1	11	A	HM	N10	J10	J10		--	
107	PR 3'-6" x 7'-0" x 1 3/4"	B4	74	A	HM	N10	J10	J10		20 MIN	MAGNETIC HOLD OPENS, CART PROTECTION, REMOVABLE MULLION
108a	PR 3'-0" x 7'-0" x 1 3/4"	E9	43	EX	ALUM	--	--	--	--	--	CARD READER, INTERCOM, DOOR RELEASE
108b	PR 3'-0" x 7'-0" x 1 3/4" HD	E10	43	EX	ALUM	--	--	--	A13/A332	--	CARD READER (UNLOCKED DURING BUSINESS HOURS)
109	3'-0" x 7'-0" x 1 3/4	A1	--	B	HM	N10	J10	J10		20 MIN	
110	3'-0" x 7'-0" x 1 3/4"	A1	--	A	HM	N10	J10	J10		20 MIN	
111a	4'-0" x 7'-0" x 1 3/4"	B4	74	A	HM	N10	J10	J10		20 MIN	MAGNETIC HOLD OPENS, CART PROTECTION
111b	4'-0" x 7'-0" x 1 3/4"	B1	74	A	HM	N10	J10	J10		20 MIN	MAGNETIC HOLD OPENS, CART PROTECTION
112	3'-0" x 7'-0" x 1 3/4"	A3	--	A	HM	N10	J10	J10		20 MIN	
113	3'-0" x 7'-0" x 1 3/4"	EX-A1	--	EX-A	HM	--	--	--	--	--	PAINT EXISTING DOOR + FRAME P4
114	3'-0" x 7'-0" x 1 3/4"	A1	--	A	HM	N10	J10	J10		20 MIN	
115	3'-0" x 7'-0" x 1 3/4"	A1	--	A	HM	N10	J10	J10		20 MIN	
116	PR 3'-0" x 7'-0" x 1 3/4"	A4	--	A	HM	E1/A421	K6/A421	E6/A421	--	180 MIN	HP1, PANIC HARDWARE, FIRE HOLD, REMOVABLE MULLION
117	3'-0" x 7'-0" x 1 3/4	A1	--	B	HM	N10	J10	J10		20 MIN	CARD READER
118	3'-0" x 7'-0" x 1 3/4"	B1	11	A	HM	N10	J10	J10		--	
119	3'-0" x 7'-0" x 1 3/4"	B1	11	A	HM	N10	J10	J10		--	
120	3'-0" x 7'-0" x 1 3/4"	B1	11	A	HM	N10	J10	J10		--	
122a	4'-0" x 7'-0" x 1 3/4	A1	--	B	HM	N10	J10	J10		20 MIN	CARD READER, MAGNETIC HOLD OPENS
123	3'-0" x 7'-0" x 1 3/4	A1	--	D	HM	N10	J10	J10		--	
124	3'-0" x 7'-0" x 1 3/4	A1	--	D	HM	N10	J10	J10		--	
125a	3'-0" x 7'-0" x 1 3/4"	B4	11	A	HM	N10	J10	J10		--	CARD READER, MAGNETIC HOLD OPEN, CART PROTECTION
125b	3'-0" x 7'-0" x 1 3/4"	B4	11	A	HM	N10	J10	J10		--	CARD READER, MAGNETIC HOLD OPEN, CART PROTECTION
126a	4'-0" x 7'-0" x 1 3/4"	B4	11	A	HM	N10	J10	J10		--	MAGNETIC HOLD OPEN, 180 DEGREE OPEN, CART PROTECTION
126b	3'-0" x 7'-0" x 1 3/4"	B4	11	A	HM	N10	J10	J10		--	MAGNETIC HOLD OPEN, CART PROTECTION
127	3'-0" x 7'-0" x 1 3/4"	EX-A1	--	EX-A	HM	--	--	--	--	--	PAINT EXISTING DOOR + FRAME P4
128	PR 4'-0" x 7'-2" x 1 3/4"	A8	--	3	ALUM	J13/A332	N1/A332	N1/A332	A13/A332	--	REMOVEABLE MULLION, CARD READER, CART PROTECTION, PANIC HARDWARE, INTERCOM, PEEP HOLE, PROP OPEN
128a	3'-6" x 7'-2" x 1 3/4"	A8	--	3	ALUM	J13/A332	N1/A332	N1/A332	A13/A332	--	CARD READER, MAGNETIC HOLD OPEN
129	3'-0" x 7'-0" x 1 3/4"	A1	--	A	HM	N10	J10	J10		90 MIN	CARD READER
130	3'-0" x 7'-0" x 1 3/4"	A1	--	A	HM	N10	J10	J10		90 MIN	CARD READER
131	3'-0" x 7'-0" x 1 3/4	A1	--	C	HM	N10	J10	J10		--	CARD READER
132	3'-0" x 7'-0" x 1 3/4	A1	--	D	HM	N10	J10	J10		--	
133	3'-0" x 7'-0" x 1 3/4	A1	--	D	HM	N10	J10	J10		--	
134	4'-0" x 7'-0" x 1 3/4	A1	--	D	HM	N10	J10	J10		--	CARD READER, MAGNETIC HOLD OPEN
135	3'-0" x 7'-2" x 1 3/4"	B8	43	3	ALUM	J13/A332	N1/A332	N1/A332	A13/A332	--	EXIT ONLY, FUTURE CARD READER
136	3'-0" x 7'-0" x 1 3/4	A1	--	D	HM	N10	J10	J10		--	
137	3'-0" x 7'-0" x 1 3/4"	A1	--	A	HM	N10	J10	J10		20 MIN	CARD READER
138	3'-0" x 7'-0" x 1 3/4	A1	--	B	HM	N10	J10	J10		20 MIN	

SHEET KEYNOTE LEGEND

08 41 13.A01	THERMAL BROKEN STOREFRONT FRAMING (4.5")
08 56 13.A01	SERVICE WINDOW
12 21 13.A01	HORIZONTAL LOUVER BLINDS (MANUAL)

GLASS LEGEND

GLASS TYPE = 1

FULLY-TEMPERED MONOLITHIC FLOAT GLASS

11 08 80 00.A11 1/4" CLEAR FULLY-TEMPERED MONOLITHIC FLOAT GLASS
12 08 80 00.A12 3/8" CLEAR FULLY-TEMPERED MONOLITHIC FLOAT GLASS

LAMINATED GLASS

21 08 80 00.A21 CLEAR LAMINATED GLASS

INSULATING GLASS

33 08 80 00.A33 LOW-E TINTED INSULATED GLASS

INSULATING FULL-TEMPERED GLASS

43 08 80 00.A43 LOW-E TINTED INSULATED FULLY-TEMPERED GLASS

FIRE GLASS

74 08 80 00.A74 20 MINUTE FIRE-PROTECTIVE GLASS
75 08 80 00.A75 45 MINUTE FIRE-PROTECTIVE GLASS

DOOR TYPE NOTES

1. REFER TO DOOR SCHEDULE FOR OVERALL DOOR DIMENSIONS
2. DIMENSIONS ASSOCIATED WITH VISION LITES ARE TO THE OUTSIDE OF THE VISION LITE FRAME UNLESS NOTED OTHERWISE
3. REFER TO DOOR SCHEDULE TO DETERMINE WHICH DOORS ARE REQUIRED TO BE FIRE RATED
4. REFER TO DOOR SCHEDULE FOR GLASS TYPES IN DOORS
5. 'EX' FRAME TYPE REFERS TO EXISTING ALUMINUM STOREFRONT. STOREFRONT TO REMAIN, PROVIDE NEW DOOR AS SCHEDULED IN OLD OPENING.
6. VERIFY TYPE 2 WINDOW SIZING IN FIELD PRIOR TO SHOP DRAWING SUBMITTALS. TYPE 2 WINDOW INTENDED TO BE A 1 FOR 1 REPLACEMENT WITH NEW ALUMINUM STOREFRONT SYSTEM.

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A501

DOOR SCHEDULE + FRAME TYPES

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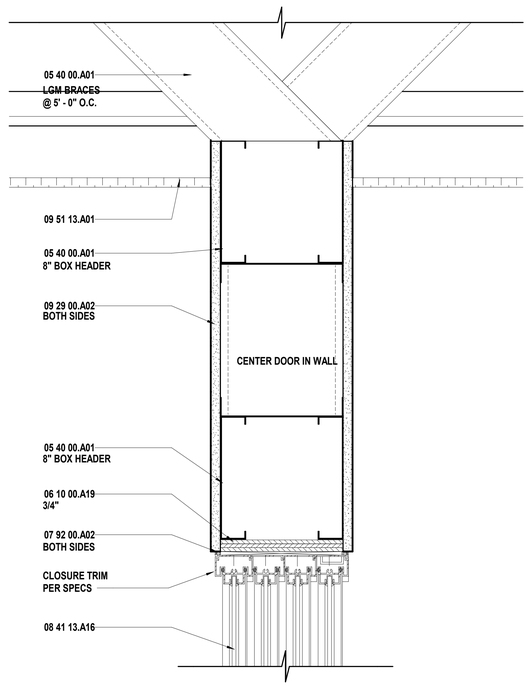
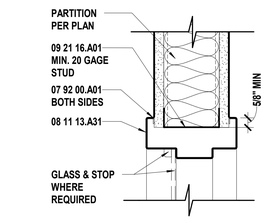
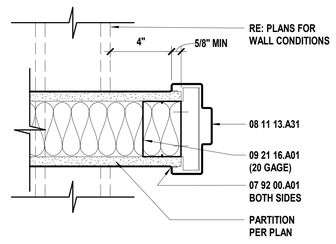


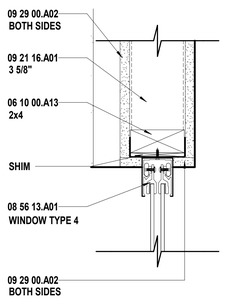
N10 Scale 3" = 1'-0" — HM Head @ Metal Stud



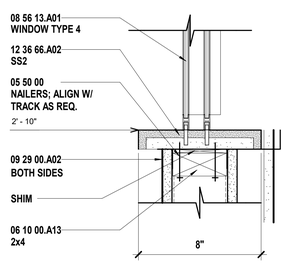
J8 Scale 3" = 1'-0" — Door/Window Detail - Mall Slider Head



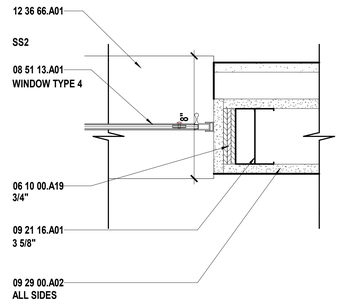
J10 Scale 3" = 1'-0" — HM Jamb @ Metal Stud



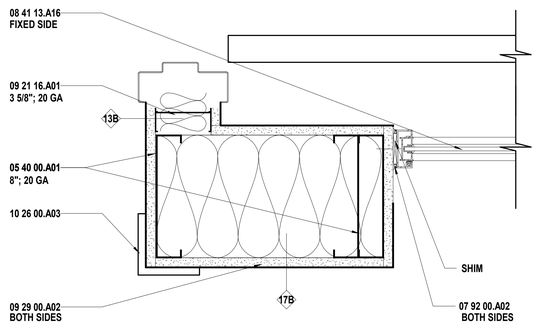
E4 Scale 3" = 1'-0" — Door/Window Detail - Reception Slider Head



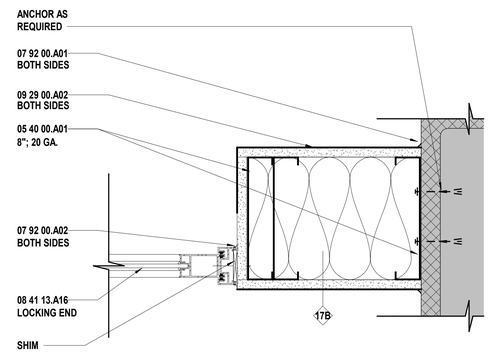
E7 Scale 3" = 1'-0" — Door/Window Detail - Reception Slider Sill



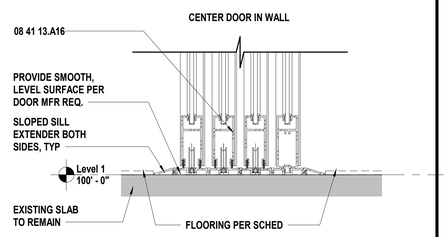
E10 Scale 3" = 1'-0" — Door/Window Detail - Reception Slider Jamb



A1 Scale 3" = 1'-0" — Door/Window Detail - Mall Slider Hinge



A7 Scale 3" = 1'-0" — Door/Window Detail - Mall Slider Strike



A13 Scale 3" = 1'-0" — Door/Window Detail - Mall Slider Threshold

SHEET KEYNOTE LEGEND

05 40 00.A01	COLD-FORMED METAL FRAMING
05 50 00	METAL FABRICATIONS
06 10 00.A13	WOOD BLOCKING/NAILERS
06 10 00.A19	PLYWOOD BLOCKING AND BACKING PANELS
07 92 00.A01	SEALANT
07 92 00.A02	SEALANT W/BACKER ROD
08 11 13.A31	HOLLOW METAL FRAME
08 41 13.A16	ALUMINUM SLIDING DOOR
08 51 13.A01	FIXED ALUMINUM WINDOW PREMANUFACTURED
08 56 13.A01	SERVICE WINDOW
09 21 16.A01	NON-STRUCTURAL FRAMING
09 29 00.A02	GYPSUM BOARD - TYPE X
09 51 13.A01	ACOUSTICAL CEILING PANELS
10 26 00.A03	CORNER GUARDS
12 36 66.A01	SOLID SURFACE COUNTERTOP
12 36 66.A02	SOLID SURFACE TRANSACTION COUNTER

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DRAWN BY: HL
CHECKED BY: JB
DATE: 08.31.2023

A521

DOOR & WINDOW DETAILS

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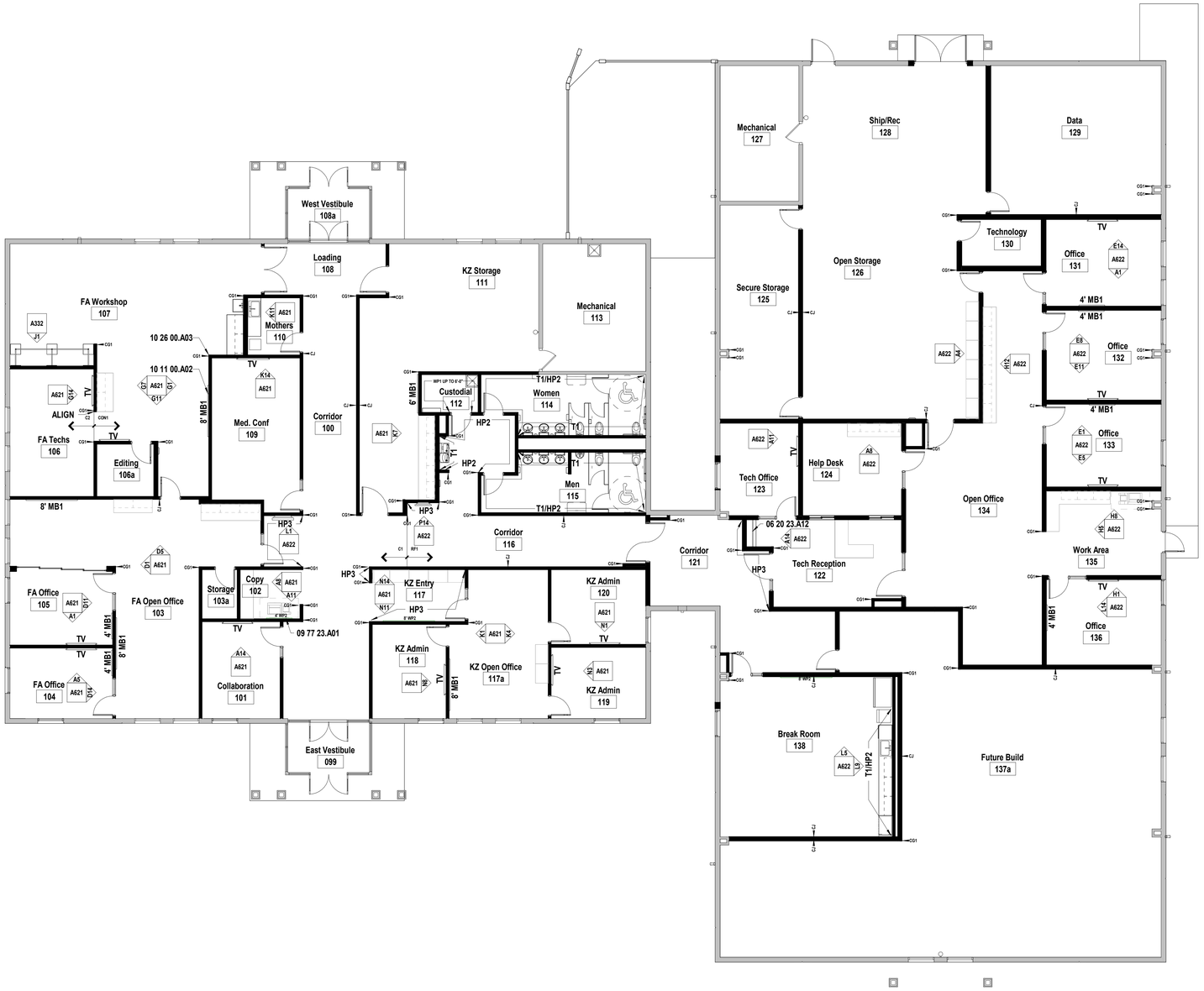

SHEET KEYNOTE LEGEND

06 20 23.A12	CLOTHES RODS
09 77 23.A01	FABRIC-WRAPPED PANELS
10 11 00.A02	MARKERBOARDS
10 26 00.A03	CORNER GUARDS

SHEET MATERIAL FINISH LEGEND

ID	MATERIAL	COLOR/FINISH
C1	Carpet	1423 Top Model; Quarter Turn Install
C2	Carpet	3530 Hydra; Ashlar Install
C3	Carpet	3530 Hydra; Herringbone Install
CG1	Corner Guard	Silver
CON1	Concrete Finish	Sealed Concrete
FT1	Floor (Poured) Topping	Seashore
HP1	High Performance Coating	Natural Choice
HP2	High Performance Coating	Smoky Azurite
HP3	High Performance Coating	Salty Dpg
P1	Paint	Natural Choice
P2	Paint	Smoky Azurite
P3	Paint	Salty Dog
P4	Paint	Sleepy Hollow
P5	Paint	Tricorn Black
P6	Paint	Pure White
P7	Paint	Natural Choice
PL1	Plastic Laminate	Continental Walnut; Timbergrain Finish
RB1	Resilient Base & Accessories	40 Black B
RF1	Resilient Flooring	Curio 1007, Drop Install
RF2	Resilient Flooring	Dark Grey 0949
SS1	Solid Surface	Frosty White
SS2	Solid Surface	Yukon Riverstone
T1	Tile	Biscuit, Semi-Gloss
TB1	Tile Base	Biscuit, Semi-Gloss
TGR1	Tile Grout	53 Twilight Blue
TR1	Metal Edge Strip	Satin Anodized Aluminum
TR2	Metal Edge Strip	Satin Anodized Aluminum
WP1/HP1	Wall Paneling	Light Grey
WP2	Wall Paneling	Color #59

SHEET NOTES

1. REFER TO SHEET G000 FOR SHEET INDEX
2. FINISH FLOOR PATTERNS TO BE CENTERED IN EACH ROOM UNO
3. CORNER GUARD LOCATIONS ARE INDICATED BY SYMBOL AND ARE TO BE FULL HEIGHT FROM TOP OF BASE
4. COORDINATE FLOORING INSTALLATION WITH CASEWORK TO ENSURE FLOORING EXTENDS UNDER CABINET TOE SPACES AND OPEN KNEE/APPLIANCE SPACES
5. ALL CLOSETS AND ALCOVES WITHOUT SEPARATE ROOM NUMBERS TO HAVE SAME FLOORING AND PATTERNS AS THE LARGER, IDENTIFIED ROOM
6. NOT ALL FLOORING MATERIALS SHOWN ON FINISH PLANS, REFER TO FINISH SCHEDULE FOR MATERIALS IN LOCATIONS NOT SHOWN
7. PATTERNS SHOWN ON THIS SHEET SHOULD REFLECT PATTERN OF MATERIAL MODULE
8. ROOMS FOLLOW TRUE NORTH ORIENTATION FOR FINISH APPLICATION

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Olathe, Johnson County, KS 66061
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Construction Documents

District Technology Remodel
Liberty School District
1000 Kent Street
Liberty, Clay County, MO 64068

REVISIONS:

#	Description	Date

STATE OF MISSOURI
KEVIN E. NELSON
A-2019015618
ARCHITECT

August 31, 2023
Kevin E. Nelson
A-2019015618

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CHECKED BY: JB
DATE: 08.31.2023

A601

1 Scale 1/8" = 1'-0" Finish Plan - Level 1

PLAN NORTH TRUE NORTH

FINISH FLOOR PLAN - LEVEL 1

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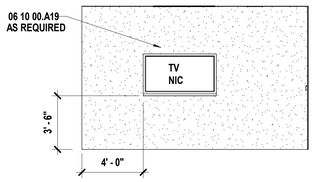
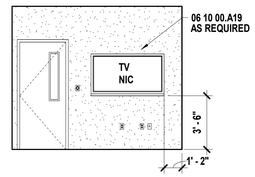
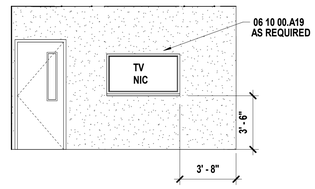


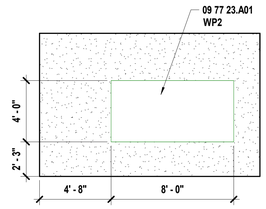
N1 Scale 1/4" = 1'-0" — Interior Elevation - KZ Admin 120 - E



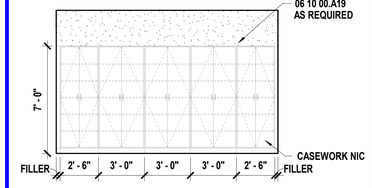
N3 Scale 1/4" = 1'-0" — Interior Elevation - KZ Admin 119 - S



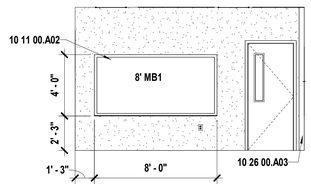
N8 Scale 1/4" = 1'-0" — Interior Elevation - KZ Admin 118 - N



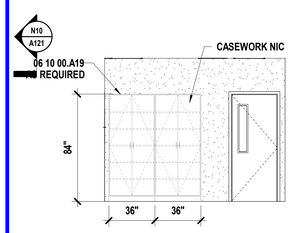
N11 Scale 1/4" = 1'-0" — Interior Elevation - KZ Entry 117 - E



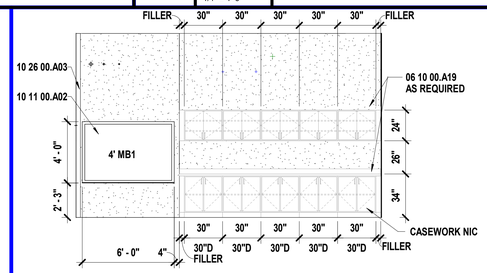
N14 Scale 1/4" = 1'-0" — Interior Elevation - KZ Entry 117 - W



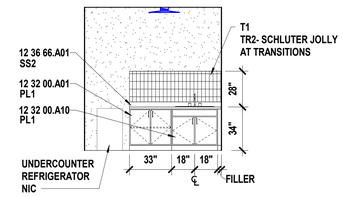
K1 Scale 1/4" = 1'-0" — Interior Elevation - KZ Open Office 117 - S



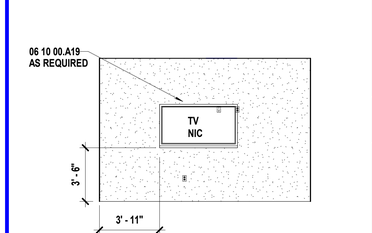
K4 Scale 1/4" = 1'-0" — Interior Elevation - KZ Open Office 117 - N



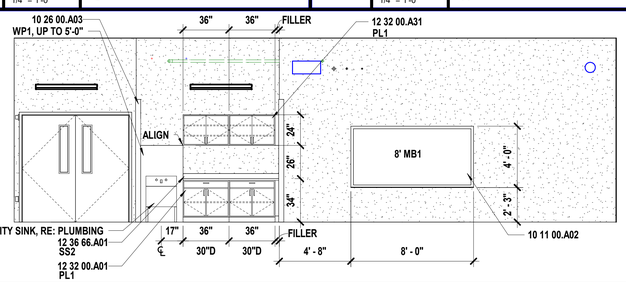
K7 Scale 1/4" = 1'-0" — Interior Elevation - KZ Storage 111 - N



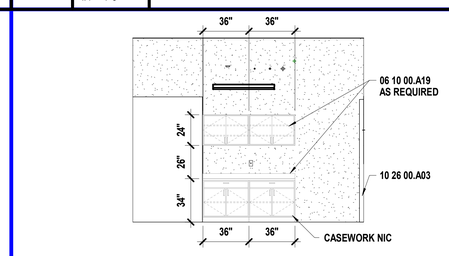
K11 Scale 1/4" = 1'-0" — Interior Elevation - Mothers 110 - S



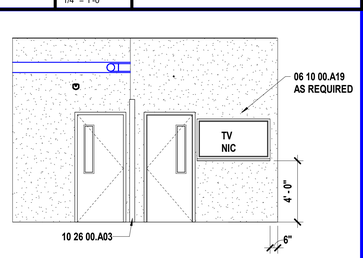
K14 Scale 1/4" = 1'-0" — Interior Elevation - Med Conference 109 - W



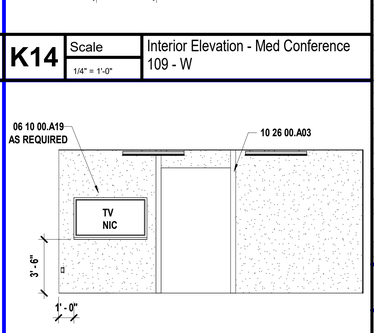
G1 Scale 1/4" = 1'-0" — Interior Elevation - FA Workshop 107 - N



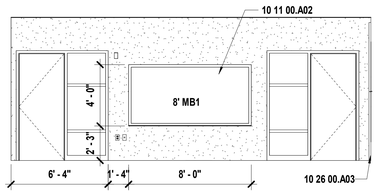
G7 Scale 1/4" = 1'-0" — Interior Elevation - FA Workshop 107 - S



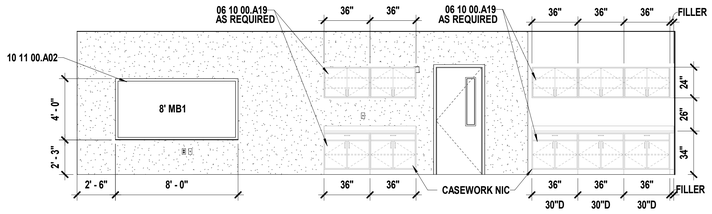
G11 Scale 1/4" = 1'-0" — Interior Elevation - FA Workshop 107 - E



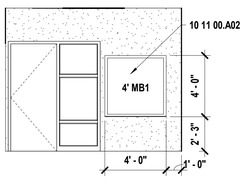
G14 Scale 1/4" = 1'-0" — Interior Elevation - FA Techs 106 - N



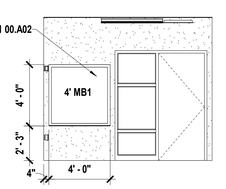
D1 Scale 1/4" = 1'-0" — Interior Elevation - FA Open Office - S



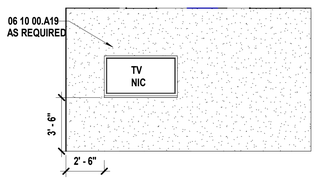
D5 Scale 1/4" = 1'-0" — Interior Elevation - FA Open Office 103 - W



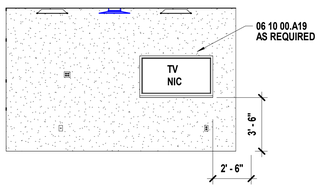
D11 Scale 1/4" = 1'-0" — Interior Elevation - FA Office 105 - N



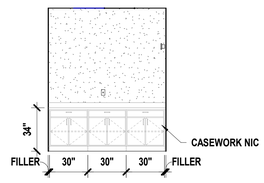
D14 Scale 1/4" = 1'-0" — Interior Elevation - FA Office 104 - N



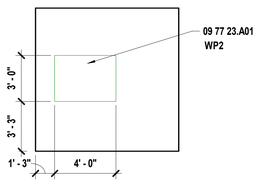
A1 Scale 1/4" = 1'-0" — Interior Elevation - FA Office 105 - E



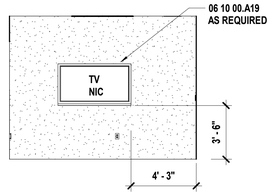
A5 Scale 1/4" = 1'-0" — Interior Elevation - FA Office 104 - W



A8 Scale 1/4" = 1'-0" — Interior Elevation - Copy 102 - S



A11 Scale 1/4" = 1'-0" — Interior Elevation - Copy 102 - E



A14 Scale 1/4" = 1'-0" — Interior Elevation - Collaboration 101 -W

SHEET KEYNOTE LEGEND

06 10 00.A19	PLYWOOD BLOCKING AND BACKING PANELS
09 77 23.A01	FABRIC-WRAPPED PANELS
10 11 00.A02	MARKERBOARDS
10 26 00.A03	CORNER GUARDS
12 32 00.A01	BASE CABINET
12 32 00.A10	SINK BASE
12 32 00.A31	WALL CABINET
12 36 66.A01	SOLID SURFACE COUNTERTOP

SHEET MATERIAL FINISH LEGEND

ID	MATERIAL	COLOR/FINISH
CG1	Corner Guard	Silver
HP1	High Performance Coating	Natural Choice
HP2	High Performance Coating	Smoky Azurite
HP3	High Performance Coating	Salty Dpg
P1	Paint	Natural Choice
P2	Paint	Smoky Azurite
P3	Paint	Salty Dog
P4	Paint	Sleepy Hollow
P5	Paint	Tricorn Black
P6	Paint	Pure White
P7	Paint	Natural Choice
PL1	Plastic Laminate	Continental Walnut; Timbergrain Finish
RB1	Resilient Base & Accessories	40 Black B
SS1	Solid Surface	Frosty White
SS2	Solid Surface	Yukon Riverstone
T1	Tile	Biscuit, Semi-Gloss
TB1	Tile Base	Biscuit, Semi-Gloss
TGR1	Tile Grout	53 Twilight Blue
TR1	Metal Edge Strip	Satin Anodized Aluminum
TR2	Metal Edge Strip	Satin Anodized Aluminum
WP1/HP1	Wall Paneling	Light Grey
WP2	Wall Paneling	Color #59

SHEET NOTES

1. REFER TO SHEET G000 FOR SHEET INDEX
2. COORDINATE LOCATIONS WHERE BACKING REQUIRED FOR WALL HUNG CASEWORK, MARKERBOARDS, AND TECHNOLOGY
3. COLOR/MATERIAL TRANSITIONS ARE NOTED WHEN THEY DO NOT OCCUR AT INSIDE CORNERS
4. REFER TO MEP SHEETS FOR LOCATION DIAGRAM OF SWITCHES, THERMOSTATS, FIRE ALARM STROBES TO BE MOUNTED ADJACENT TO ENTRY DOORS OR AT OUTSIDE CORNERS WITHIN ROOMS
5. COORDINATE WITH ELECTRICAL SHEETS FOR HEIGHT OF OUTLETS A.F.F. AND/OR ABOVE COUNTERTOPS
6. COORDINATE WITH MECHANICAL SHEETS FOR LOCATIONS OF WALL MOUNTED GRILLES AND REGISTERS
7. ALL EXPOSED SURFACES TO RECEIVE PLASTIC LAMINATE
8. ALL BACKSPLASH MATERIAL TO MATCH COUNTERTOP MATERIAL, UNO
9. PROVIDE 4" BACKSPLASH, UNO
10. PROVIDE 1" OVERHANG AT ALL COUNTERTOPS, UNO
11. PROVIDE ONE 2" DIAMETER GROMMET PER 30 INCH OF KNEE-SPACE - RECEPTION COUNTERS AND OTHER LOCATIONS – COORDINATE EXACT LOCATION WITH OWNER
12. REFER TO PLUMBING DRAWINGS FOR LOCATIONS OF SINKS AND OTHER PLUMBING FIXTURES LOCATED WITHIN CASEWORK
13. ALL BASE CABINETS ARE TO BE 24" DEEP, UNO
14. ALL UPPER CABINETS ARE TO BE 16" DEEP, UNO
15. ALL TALL STORAGE AND WARDROBE CABINETS ARE TO BE 24" DEEP, UNO
16. ALL CASEWORK TO HAVE LOCKS
17. FILE DRAWERS TO HAVE LOCKS
18. ALL WARDROBE CABINETS TO HAVE LOCKS
19. COORDINATE DOOR CONTROL BUTTON LOCATION AT RECEPTION DESK WITH OWNER
20. PROVIDE WOOD CLEAT AT BACK AND SIDE WALLS OF ALL COUNTERTOPS WITH NO BASE CABINET BELOW
21. ALL HALFTONE CASEWORK SHOWN IN ELEVATION IS TO BE SUPPLIED BY OWNER AND IS SHOWN FOR COORDINATION PURPOSES ONLY
22. TV'S SHOWN IN ELEVATION ARE OWNER FURNISHED, CONTRACTOR INSTALLED, UNO

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25501 W. Valley Parkway, Ste 200
Olathe, Johnson County, KS 66061
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District Technology Remodel
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Liberty, Clay County, MO 64068

REVISIONS:

#	Description	Date

STATE OF MISSOURI
KEVIN E. NELSON
A-2019015618
ARCHITECT

August 31, 2023
Kevin E. Nelson
A-2019015618

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CHECKED BY: JB
DATE: 08.31.2023

A621

INTERIOR ELEVATIONS

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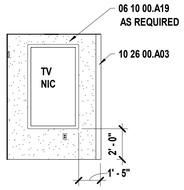
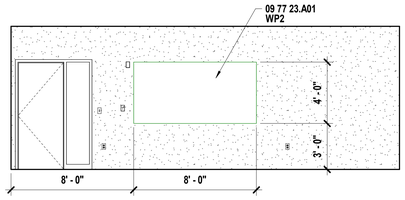
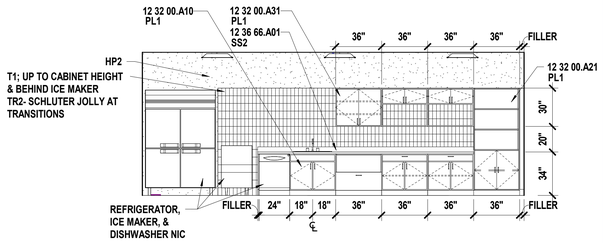


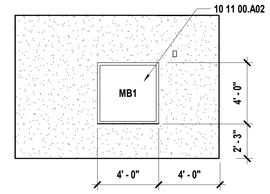
L1 Scale 1/4" = 1'-0" — Interior Elevation - Corridor 100 - W



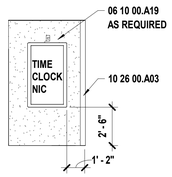
L5 Scale 1/4" = 1'-0" — Interior Elevation - Break Room 138 - W



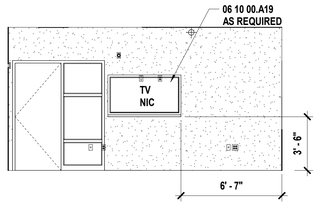
L9 Scale 1/4" = 1'-0" — Interior Elevation - Break Room 138 - N



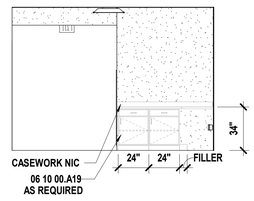
L14 Scale 1/4" = 1'-0" — Interior Elevation - Tech Office 136 - S



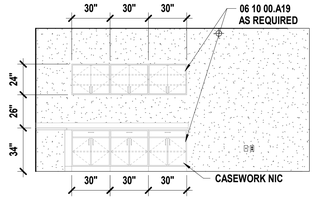
P14 Scale 1/4" = 1'-0" — Interior Elevation - Corridor 116 - W



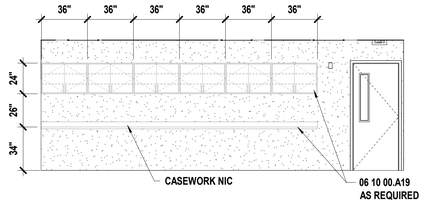
H1 Scale 1/4" = 1'-0" — Interior Elevation - Office 136 - W



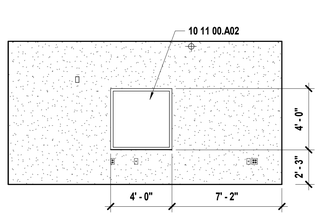
H5 Scale 1/4" = 1'-0" — Interior Elevation - Work Area 135 - S



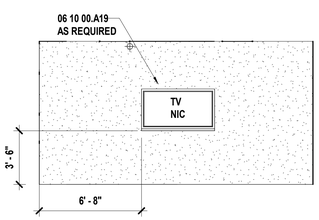
H8 Scale 1/4" = 1'-0" — Interior Elevation - Work Area 135 - W



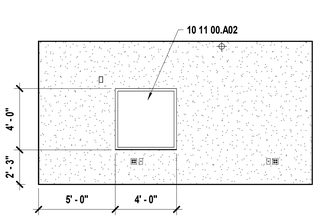
H12 Scale 1/4" = 1'-0" — Interior Elevation - Open Office 134 - S



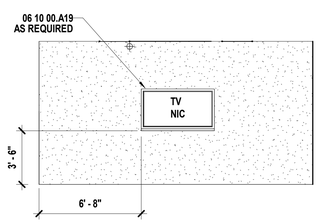
E1 Scale 1/4" = 1'-0" — Interior Elevation - Tech Office 133 - W



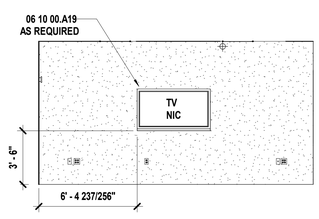
E5 Scale 1/4" = 1'-0" — Interior Elevations - Office 133 -E



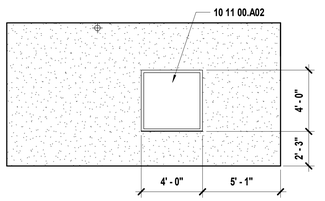
E8 Scale 1/4" = 1'-0" — Interior Elevation - Tech Office 132 - W



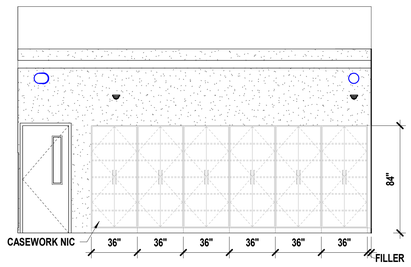
E11 Scale 1/4" = 1'-0" — Interior Elevation - Office 132 - E



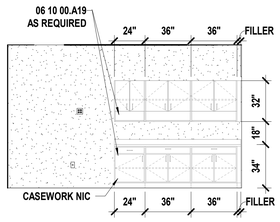
E14 Scale 1/4" = 1'-0" — Interior Elevation - Office 131 -W



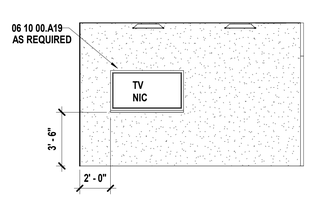
A1 Scale 1/4" = 1'-0" — Interior Elevation - Tech Office 131 - E



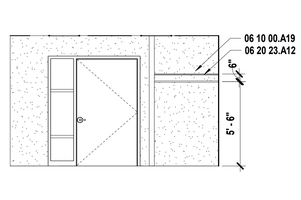
A4 Scale 1/4" = 1'-0" — Interior Elevation - Open Storage 126 - N



A8 Scale 1/4" = 1'-0" — Interior Elevation - Help Desk 124 - W



A11 Scale 1/4" = 1'-0" — Interior Elevation - Tech Office 123 - N



A14 Scale 1/4" = 1'-0" — Interior Elevation - Tech Reception 122 - S

SHEET KEYNOTE LEGEND

06 10 00.A19	PLYWOOD BLOCKING AND BACKING PANELS
06 20 23.A12	CLOTHES RODS
09 77 23.A01	FABRIC-WRAPPED PANELS
10 11 00.A02	MARKERBOARDS
10 26 00.A03	CORNER GUARDS
12 32 00.A10	SINK BASE
12 32 00.A21	TALL CABINET
12 32 00.A31	WALL CABINET
12 36 66.A01	SOLID SURFACE COUNTERTOP

SHEET MATERIAL FINISH LEGEND

ID	MATERIAL	COLOR/FINISH
CG1	Corner Guard	Silver
CLG1	Ceiling	Tile-White; Grid-White
HP1	High Performance Coating	Natural Choice
HP2	High Performance Coating	Smoky Azurite
HP3	High Performance Coating	Salty Dpg
P1	Paint	Natural Choice
P2	Paint	Smoky Azurite
P3	Paint	Salty Dog
P4	Paint	Sleepy Hollow
P5	Paint	Tricorn Black
P6	Paint	Pure White
P7	Paint	Natural Choice
TGR1	Tile Grout	53 Twilight Blue
TR1	Metal Edge Strip	Satin Anodized Aluminum
TR2	Metal Edge Strip	Satin Anodized Aluminum

SHEET NOTES

1. REFER TO SHEET G000 FOR SHEET INDEX
2. COORDINATE LOCATIONS WHERE BACKING REQUIRED FOR WALL HUNG CASEWORK, MARKERBOARDS, AND TECHNOLOGY
3. COLOR/MATERIAL TRANSITIONS ARE NOTED WHEN THEY DO NOT OCCUR AT INSIDE CORNERS
4. REFER TO MEP SHEETS FOR LOCATION DIAGRAM OF SWITCHES, THERMOSTATS, FIRE ALARM STROBES TO BE MOUNTED ADJACENT TO ENTRY DOORS OR AT OUTSIDE CORNERS WITHIN ROOMS
5. COORDINATE WITH ELECTRICAL SHEETS FOR HEIGHT OF OUTLETS A.F.F. AND/OR ABOVE COUNTERTOPS
6. COORDINATE WITH MECHANICAL SHEETS FOR LOCATIONS OF WALL MOUNTED GRILLES AND REGISTERS
7. ALL EXPOSED SURFACES TO RECEIVE PLASTIC LAMINATE
8. ALL BACKSPLASH MATERIAL TO MATCH COUNTERTOP MATERIAL, UNO
9. PROVIDE 4" BACKSPLASH, UNO
10. PROVIDE 1" OVERHANG AT ALL COUNTERTOPS, UNO
11. PROVIDE ONE 2" DIAMETER GROMMET PER 30 INCH OF KNEE-SPACE - RECEPTION COUNTERS AND OTHER LOCATIONS – COORDINATE EXACT LOCATION WITH OWNER
12. REFER TO PLUMBING DRAWINGS FOR LOCATIONS OF SINKS AND OTHER PLUMBING FIXTURES LOCATED WITHIN CASEWORK
13. ALL BASE CABINETS ARE TO BE 24" DEEP, UNO
14. ALL UPPER CABINETS ARE TO BE 16" DEEP, UNO
15. ALL TALL STORAGE AND WARDROBE CABINETS ARE TO BE 24" DEEP, UNO
16. ALL CASEWORK TO HAVE LOCKS
17. FILE DRAWERS TO HAVE LOCKS
18. ALL WARDROBE CABINETS TO HAVE LOCKS
19. COORDINATE DOOR CONTROL BUTTON LOCATION AT RECEPTION DESK WITH OWNER
20. PROVIDE WOOD CLEAT AT BACK AND SIDE WALLS OF ALL COUNTERTOPS WITH NO BASE CABINET BELOW
21. ALL HALFTONE CASEWORK SHOWN IN ELEVATION IS TO BE SUPPLIED BY OWNER AND IS SHOWN FOR COORDINATION PURPOSES ONLY
22. TV'S SHOWN IN ELEVATION ARE OWNER FURNISHED, CONTRACTOR INSTALLED, UNO

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Construction Documents

District Technology Remodel
Liberty School District
1000 Kent Street
Liberty, Clay County, MO 64068

REVISIONS:

#	Description	Date

STATE OF MISSOURI
KEVIN E. NELSON
A-2019015618
ARCHITECT

August 31, 2023
Kevin E. Nelson
A-2019015618

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CHECKED BY: JB
DATE: 08.31.2023

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INTERIOR ELEVATIONS

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ROOM FINISH SCHEDULE

ROOM		FLOOR		WALLS				CEILING	
NO	Name	Finish	Base	North	East	South	West	Finish	Finish Remarks
099	East Vestibule	C1	-	Exist	Exist	Exist	Exist	Exist	4
100	Corridor	C1	RB1	HP1	HP1	HP1	HP1	CLG1	
101	Collaboration	C3	RB1	P4	P4	P4	P4	CLG1	
102	Copy	C1	RB1	P4	P4	P4	P4	CLG1	
103	FA Open Office	C2	RB1	P1	P1	P1	P1	CLG1	
103a	Storage	C2	RB1	P1	P1	P1	P1	CLG1	
104	FA Office	C2	RB1	P1	P1	P1	P1	CLG1	
105	FA Office	C2	RB1	P1	P1	P1	P1	CLG1	
106	FA Techs	C2	RB1	P1	P1	P1	P1	CLG1	
106a	Editing	C2	RB1	P1	P1	P1	P1	CLG1	
107	FA Workshop	CON1	RB1	HP1	HP1	HP1	HP1	Open to Structure	
108	Loading	C1	RB1	P1	P1	P1	P1	CLG1	
108a	West Vestibule	C1	-	Exist	Exist	Exist	Exist	Exist	4
109	Med. Conf	C3	RB1	P4	P4	P4	P4	CLG1	
110	Mothers	C2	RB1	P4	P4	P4	P4	CLG1	
111	KZ Storage	CON1	RB1	HP1	HP1	HP1	HP1	Open to Structure	
112	Custodial	FT1	FT1	WP1/HP1	WP1/HP1	WP1/HP1	WP1/HP1	Open to Structure	3
113	Mechanical	Exist	Exist	Exist	Exist	Exist	Exist	Exist	
114	Women	FT1	FT1	T1	T1	T1/HP2	T1/HP2	CLG1	
115	Men	FT1	FT1	T1	T1/HP2	T1/HP2	T1	CLG1	
116	Corridor	RF1	RB1	HP1	HP1	HP1	HP1	CLG1	
117	KZ Entry	C1	RB1	HP1	HP1	HP1	HP1	CLG1	
117a	KZ Open Office	C3	RB1	P1	P1	P1	P1	CLG1	
117a	KZ Reception	C2	RB1	P1	P1	P1	P1	CLG1	
118	KZ Admin	C2	RB1	P1	P1	P1	P1	CLG1	
119	KZ Admin	C2	RB1	P1	P1	P1	P1	CLG1	
120	KZ Admin	C2	RB1	P1	P1	P1	P1	CLG1	
121	Corridor	RF1	RB1	HP1	HP1	HP1	HP1	CLG1	
122	Tech Reception	C3	RB1	P1	P1	P1	P4	CLG1	
123	Tech Office	C2	RB1	P1	P1	P1	P1	CLG1	
124	Help Desk	C2	RB1	P1	P1	P1	P1	CLG1	
125	Secure Storage	CON1	RB1	HP1	HP1	HP1	HP1	Open to Structure	
126	Open Storage	CON1	RB1	HP1	HP1	HP1	HP1	Open to Structure	
127	Mechanical	Exist	Exist	Exist	Exist	Exist	Exist	Exist	
128	Ship/Rec	CON1	RB1	HP1	HP1	HP1	HP1	Open to Structure	
129	Data	RF2	RB1	HP1	HP1	HP1	HP1	Open to Structure	5
130	Technology	CON1	RB1	HP1	HP1	HP1	HP1	Open to Structure	
131	Office	C2	RB1	P1	P1	P1	P1	CLG1	
132	Office	C2	RB1	P1	P1	P1	P1	CLG1	
133	Office	C2	RB1	P1	P1	P1	P1	CLG1	
134	Open Office	C3	RB1	P1	P1	P1	P1	CLG1	
135	Work Area	C3	RB1	P1	P1	P1	P1	CLG1	
136	Office	C2	RB1	P1	P1	P1	P1	CLG1	
137a	Future Build	-	-	P1	P1	P1	P1	-	2
138	Break Room	RF1	RB1	T1/HP2	HP1	HP1	HP1	CLG1	

MATERIAL FINISH LEGEND

MATERIAL	ID	KEYNOTE	MANUFACTURER	STYLE/MODEL NO	COLOR/FINISH	COMMENTS
Carpet	C1	09 68 13.A01	J+J Flooring Group	Runway II Modular 7267, Size 24" x 24"	1423 Top Model; Quarter Turn Install	Vestibule Walk Off
Carpet	C2	09 68 13.A01	J+J Flooring Group	Galaxy Modular 7719, Size 18" x 36"	3530 Hydra; Ashlar Install	Private Offices
Carpet	C3	09 68 13.A01	J+J Flooring Group	Cosmos Modular 7720, Size 18" x 36"	3530 Hydra; Herringbone Install	Open Offices
Corner Guard	CG1	10 26 00.A03	Acrovyn	CO-8	Silver	Base to ceiling
Ceiling	CLG1	09 51 13.A01	USG	Radar 2310, 2' x 4' Square Lay-in, 15/16" Grid	Tile-White; Grid-White	
Concrete Finish	CON1	03 30 00.A01		Patch / Repair Areas Only	Sealed Concrete	
Floor (Poured) Topping	FT1	09 67 23.A01	Desco	Cremona TG w/ 6" Integral Base	Seashore	Restrooms
High Performance Coating	HP1	09 96 00	Sherwin Williams	SW7011	Natural Choice	
High Performance Coating	HP2	09 96 00	Sherwin Williams	SW9148	Smoky Azurite	Restrooms
High Performance Coating	HP3	09 96 00	Sherwin Williams	SW9177	Salty Dpg	Accent Corridors
Paint	P1	09 91 23	Sherwin Williams	SW7011	Natural Choice	Field Paint
Paint	P2	09 91 23	Sherwin Williams	SW9148	Smoky Azurite	Accent
Paint	P3	09 91 23	Sherwin Williams	SW9177	Salty Dog	Accent
Paint	P4	09 91 23	Sherwin Williams	SW9145	Sleepy Hollow	Accent
Paint	P5	09 91 23	Sherwin Williams	SW6258	Tricorn Black	Door Trim
Paint	P6	09 91 23	Sherwin Williams	SW7005	Pure White	Vestibule Ceiling
Paint	P7	09 91 23.A07	Sherwin Williams	SW7011	Natural Choice	OTS Ceilings
Plastic Laminate	PL1	12 32 00	Wilsonart	Timbergrain Premium; 8232K-05	Continental Walnut; Timbergrain Finish	Casework
Resilient Base & Accessories	RB1	09 65 13.A01	Johnsonite/Tarkett	Traditional Wall Base, 4"	40 Black B	
Resilient Flooring	RF1	09 65 19.A01	J+J Flooring Group	Timeless V5011, 9" x 48"	Curio 1007, Drop Install	Corridors/Break Room
Resilient Flooring	RF2	09 65 19.A01	Tarkett	iQ Granit SD, 24" x 24"; 314007950	Dark Grey 0949	Data Room
Solid Surface	SS1	12 36 66.A05	Wilsonart	Solid Surface; 1573SL	Frosty White	Window Sills
Solid Surface	SS2	12 36 66.A01	Wilsonart	Solid Surface; 9196RS	Yukon Riverstone	Countertops
Tile	T1	09 30 00.A01	Daltile	Classic Color Wheel Collection K175, 3" x 6" Tile	Biscuit, Semi-Gloss	Restrooms
Tile Base	TB1	09 30 00.A05	Daltile	Classic Color Wheel Collection A3601, 6" x 6" Cove Base	Biscuit, Semi-Gloss	Drinking Fountains
Tile Grout	TGR1	09 30 00.A01	Laticrete	Permacolor	53 Twilight Blue	All Tile Locations
Metal Edge Strip	TR1	09 30 00.A04	Schluter	Quadec	Satin Anodized Aluminum	Outside wall corners of wall tile
Metal Edge Strip	TR2	09 30 00.A04	Schluter	Jolly	Satin Anodized Aluminum	Tile transitions to other material
Wall Paneling	WP1/HP1	06 64 00.A01	Marlite	Smooth, S 490N	Light Grey	Janitor Sinks
Wall Paneling	WP2	09 77 23.A01	Carnegie	Pulse 5332 59	Color #59	Fabric Wrapped Panels

ROOM SCHEDULE REMARKS

1. PROVIDE LEVEL 5 FINISH FOR GYPSUM BOARD SURFACE FOR ALL P3 LOCATIONS. RE: FINISH FLOOR PLANS AND INTERIOR ELEVATIONS FOR TRANSITION CLARIFICATION.
2. PAINT ONLY NEW CONSTRUCTION WALLS IN FUTURE BUILD 137a. ALL OTHER PLANES (CEILINGS, FLOORS) TO REMAIN IN UNFINISHED STATE FOR FUTURE DEVELOPMENT.
3. WP1 TO 6'-0" WITH HP1 ABOVE.
4. PAINT EXISTING VESTIBULE CEILINGS P6.
5. SEE SPECS FOR FLOOR FLATNESS REQUIREMENTS IN DATA + TECHNOLOGY ROOMS.
6. ROOMS FOLLOW TRUE NORTH ORIENTATION FOR FINISH APPLICATION.
7. ALL CARPET INSTALLS TO FOLLOW E/W ORIENTATION. SEE MATERIAL FINISH LEGEND FOR INSTALL PATTERNS.
8. LVT INSTALL TO FOLLOW N/S ORIENTATION.

GENERAL FINISH NOTES

1. REFER TO FINISH FLOOR PLANS, REFLECTED CEILING PLANS, ELEVATIONS, AND DETAILS FOR EXTENT OF MULTIPLE FINISHES.
2. DO NOT PAINT NATURAL OR MANUFACTURED STONE, BRICK, GLAZED BLOCK OR ANY OTHER PREFINISHED MATERIALS.
3. DO NOT PAINT ALUMINUM OR OTHER NON-FERROUS METALS THAT ARE PREFINISHED.
4. MATCH VERTICAL FINISH OF ALL INTERIOR GYPSUM BOARD SOFFITS TO HORIZONTAL FINISH AS NOTED ON RCP OR ROOM FINISH SCHEDULE, UNO.
5. PAINT ALL EXPOSED CEILINGS DESIGNATED AS 'OTS' AS INDICATED ON ROOM FINISH SCHEDULE. PAINTING INCLUDES, BUT IS NOT LIMITED TO: EXPOSED STRUCTURE, JOISTS, METAL DECKING, EXISTING TECTUM PANELS, DUCTWORK AND MECHANICAL EQUIPMENT.
6. PAINT ALL EXPOSED STEEL, UNO.
7. PAINT ALL INTERIOR HOLLOW METAL DOORS AND FRAMES COLOR P5, UNO.
8. PAINT OR FINISH THE FOLLOWING ITEMS TO MATCH ADJACENT PAINT OR FINISH:
   a. ELECTRICAL PANELS IN FINISHED ROOMS
   b. GRILLES, LOUVERS ETC. PRIMED OR SPECIFIED TO BE PAINTED
   c. UNFINISHED SPEAKER OUTLET GRILLES
   d. VISIBLE PORTIONS OF DUCTWORK AND MECH EQUIPMENT BEHIND VENTS, GRILLES AND DIFFUSERS
   e.
9. CLEAN, PATCH DAMAGE + PREP EXISTING INTERIOR CMU AS REQUIRED TO RECEIVE NEW PAINT.
10. PATCH AND LEVEL CONCRETE FLOORS AS REQUIRED AFTER DEMOLITION FOR A FLAT, SMOOTH FINISH IN AREAS WHERE FLOORS ARE NOTED TO BE CON1.

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Construction Documents

District Technology Remodel
Liberty School District
1000 Kent Street
Liberty, Clay County, MO 64068

REVISIONS:

#	Description	Date

STATE OF MISSOURI
KEVIN E. NELSON
A-2019015618
ARCHITECT
August 31, 2023

Kevin E. Nelson
A-2019015618

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DATE: 08.31.2023

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MATERIAL FINISH LEGEND + ROOM FINISH SCHEDULE

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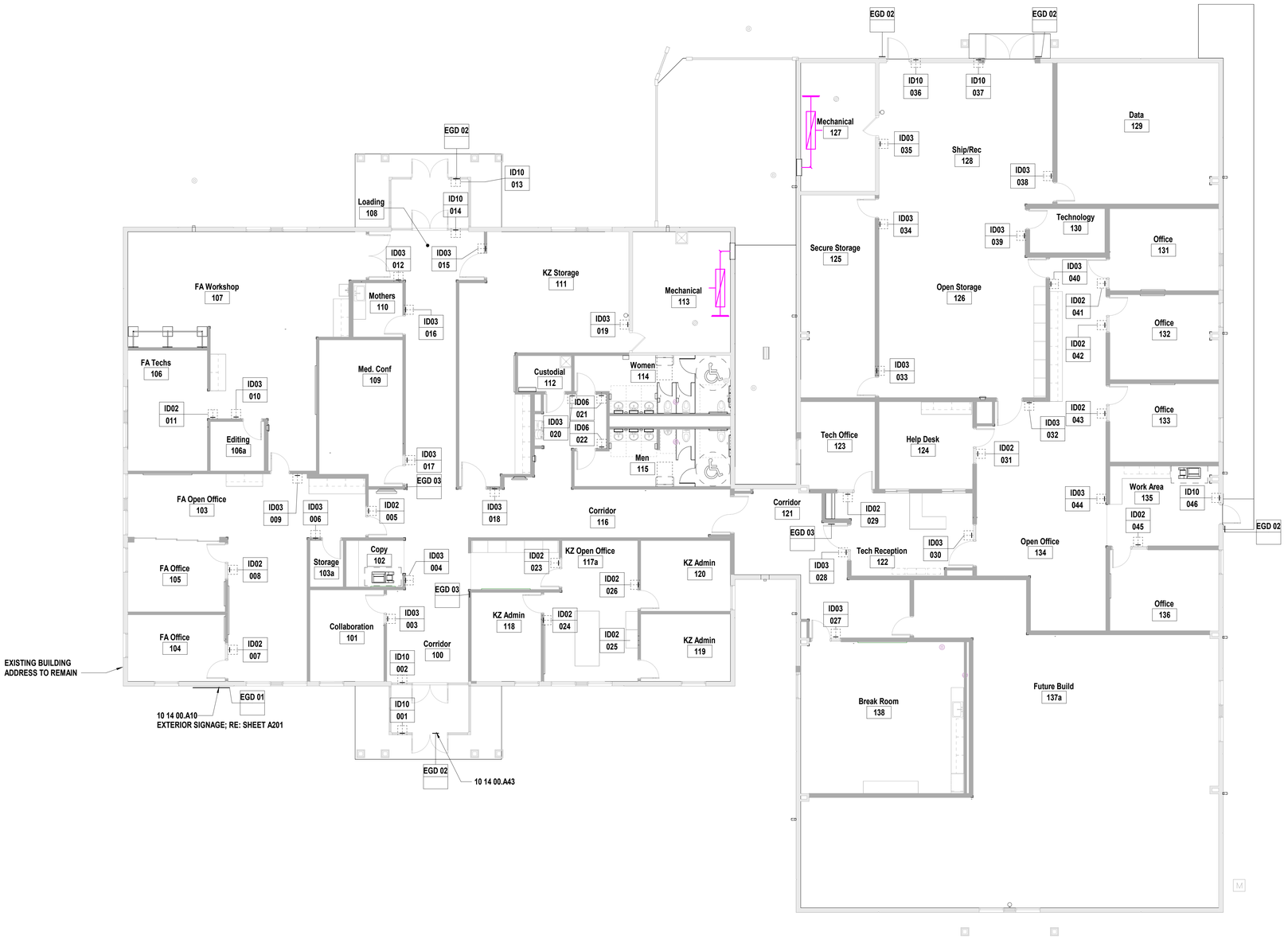

EGD GENERAL NOTES

THESE GENERAL NOTES ARE SUPPLEMENTAL TO THE PROJECT MANUAL

- CONTRACTOR TO REVIEW THE DRAWINGS (INCLUDING BUT NOT LIMITED TO ARCHITECTURAL, MECHANICAL, STRUCTURAL, SITE, AND ELECTRICAL DRAWINGS) AND FIELD VERIFY SITE CONDITIONS TO CONFIRM SIZES AND LOCATIONS OF SIGNAGE AND ANY SIGNAGE-RELATED ELEMENTS.
- ANY DISCREPANCIES AND/OR CONFLICTS SHALL BE REPORTED TO THE ARCHITECT IN WRITING BEFORE PROCEEDING WITH FABRICATION OR ORDERING OF MATERIALS.
- REFER TO FINAL ART FOR ADDITIONAL INSTRUCTIONS AND INFORMATION ON NON-PRINTING LAYERS.
- PRE-INSTALL COORDINATION MEETING IS MANDATORY.
- CONTRACTOR SHALL SUBMIT FULLY-DETAILED WORKING (SHOP) DRAWINGS OF ALL SIGNS AND GRAPHICS CONTAINED IN THIS PACKAGE TO THE ARCHITECT. DRAWINGS SHALL BE REVIEWED AND HAVE SIGNED APPROVAL PRIOR TO FABRICATION OR ORDERING OF MATERIALS. REFER TO PROJECT MANUAL.
- ALL SIGNS ARE TO BE FABRICATED FROM MATERIALS SPECIFIED UNLESS OTHERWISE APPROVED IN WRITING BY CLIENT AND ARCHITECT.
- CONTRACTOR IS RESPONSIBLE FOR DETERMINING PROPER MOUNTING, FASTENING AND ANCHORING METHODS FOR ALL SIGNS UNLESS NOTED OTHERWISE. DETERMINATION TO ACCOUNT FOR SURFACE MATERIAL SIGN IS BEING MOUNTED TO. SEE ALSO SECTION 10 14 00 OF THE SPECIFICATIONS.
- DRAWINGS CONTAINED IN THIS PACKAGE ARE FOR AESTHETIC AND FUNCTIONAL DESIGN, ONLY. NO INSTRUCTIONS FOR STRUCTURAL APPROPRIATENESS HAVE BEEN MADE. IT IS THE RESPONSIBILITY OF THE FABRICATOR TO ENSURE THAT ALL ELEMENTS ARE FABRICATED FOR A STABLE AND DURABLE INSTALLATION WHILE ADHERING TO THE AESTHETIC DETAILS INDICATED.
- ALL FASTENERS ARE TO BE CONCEALED UNLESS NOTED OTHERWISE. ANY VISIBLE FASTENERS TO BE COUNTER-SUNK AND PAINTED TO MATCH ADJACENT MATERIAL, UNLESS NOTED OTHERWISE.
- ALL TEXT SHOWN IS FOR REFERENCE ONLY, UNLESS NOTED OTHERWISE. SIGNAGE CONTRACTOR TO CONFIRM MESSAGE SCHEDULE WITH ARCHITECT FOR EXACT TEXT ON EACH SIGN.
- LAY OUT EACH SIGN MESSAGE FOR APPROVAL PER SPECIFICATION SECTION 10 14 23.
- ALL GRAPHICS SHOWN ARE PLACEHOLDER IMAGES.
- CONTRACTOR TO COORDINATE BLOCKING NEEDS WITH ARCHITECT AND CONSTRUCTION MANAGER.
- PROVIDE ACCESSIBLE PANELS TO ALL TRANSFORMERS. FINAL LOCATION OF TRANSFORMERS TO BE APPROVED BY ARCHITECT.
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1000 Kent Street
Liberty, Clay County, MO 64068

REVISIONS:

#	Description	Date

STATE OF MISSOURI
KEVIN E. NELSON
A-2019015618
ARCHITECT

August 31, 2023
Kevin E. Nelson
A-2019015618

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JOB NO: 23022
DRAWN BY: KF
CHECKED BY: JB
DATE: 08.31.2023

A701

A1 Scale 1/8" = 1'-0" — Code Signage Floor Plan

PLAN NORTH TRUE NORTH

SIGNAGE & ENVIRONMENTAL GRAPHICS FLOOR PLAN - OVERALL - LEVEL 1

8/31/2023 3:15:27 PM

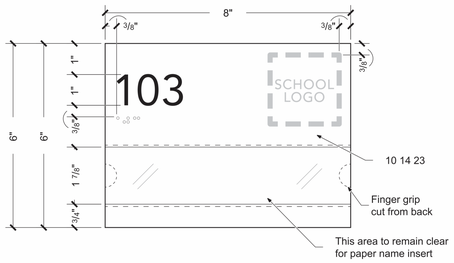
Please consider the environment before printing this.

ADA & Code Signage Schedule

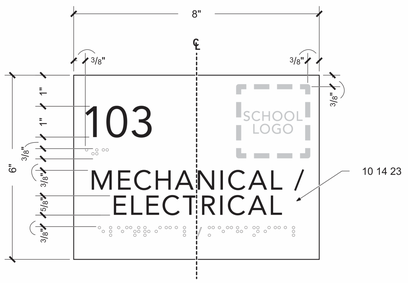
Sign #	Sign Type	# On Sign	Message On Sign	# on Drawing	Name on Drawing	Comments
001	ID10		EXIT	099	East Vestibule	GLASS BACKER
002	ID10		EXIT	099	East Vestibule	GLASS BACKER
003	ID03			101	Collaboration	GLASS BACKER
004	ID03			102	Copy	
005	ID02			103	FA Open Office	GLASS BACKER
006	ID03			103a	Storage	
007	ID02			104	FA Office	GLASS BACKER
008	ID02			105	FA Office	GLASS BACKER
009	ID03			106	FA Techs	
010	ID03			106a	Editing	
011	ID02			106	FA Techs	
012	ID03			100	Corridor	
013	ID10		EXIT	108a	West Vestibule	GLASS BACKER
014	ID10		EXIT	108a	West Vestibule	GLASS BACKER
015	ID03			111	KZ Storage	
016	ID03			110	Mothers	
017	ID03			109	Med. Conf	
018	ID03			111	KZ Storage	
019	ID03			113	Mechanical	
020	ID03			112	Custodial	
021	ID06		RESTROOM <WOMEN> <ACCESSIBLE>	114	Women	
022	ID06		RESTROOM <MEN> <ACCESSIBLE>	115	Men	
023	ID02			117a	KZ Open Office	GLASS BACKER
024	ID02			118	KZ Admin	
025	ID02			119	KZ Admin	
026	ID02			120	KZ Admin	
027	ID03			138	Break Room	GLASS BACKER
028	ID03			122	Tech Reception	GLASS BACKER
029	ID02			123	Tech Office	
030	ID03			134	Open Office	GLASS BACKER
031	ID02			124	Help Desk	GLASS BACKER
032	ID03			126	Open Storage	GLASS BACKER
033	ID03			125	Secure Storage	
034	ID03			125	Secure Storage	
035	ID03			127	Mechanical	
036	ID10		EXIT	128	Ship/Rec	
037	ID10		EXIT	128	Ship/Rec	
038	ID03			129	Data	
039	ID03			130	Technology	
040	ID03			126	Open Storage	
041	ID02			131	Office	GLASS BACKER
042	ID02			132	Office	GLASS BACKER
043	ID02			133	Office	GLASS BACKER
044	ID03			135	Work Area	
045	ID02			136	Office	
046	ID10		EXIT	135	Work Area	

Environmental Graphics Schedule

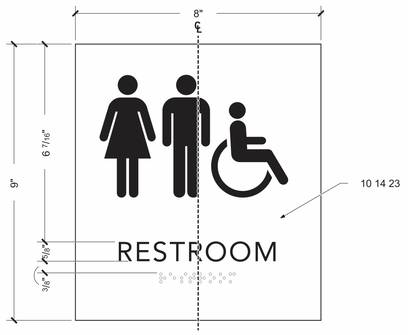
Sign #	Sign Type	Keynote	Description	Comments
	EGD 01	10 14 00.A31	DISTRICT TECHNOLOGY CENTER	NON-ILLUMINATED LETTERS
	EGD 02	10 14 00.A43	NUMBER TBD BY DISTRICT	EXTERIOR DOOR NUMBERS, INCLUDE 10 14 00.A30
	EGD 02	10 14 00.A43	NUMBER TBD BY DISTRICT	EXTERIOR DOOR NUMBERS, INCLUDE 10 14 00.A30
	EGD 02	10 14 00.A43	NUMBER TBD BY DISTRICT	EXTERIOR DOOR NUMBERS, INCLUDE 10 14 00.A30
	EGD 02	10 14 00.A43	NUMBER TBD BY DISTRICT	EXTERIOR DOOR NUMBERS, INCLUDE 10 14 00.A30
	EGD 02	10 14 00.A43	NUMBER TBD BY DISTRICT	EXTERIOR DOOR NUMBERS, INCLUDE 10 14 00.A30
	EGD 03	10 14 00.A50	KID'S ZONE	MECHANICALLY FASTEN AS INDICATED ON DRAWINGS
	EGD 03	10 14 00.A50	FINE ARTS	MECHANICALLY FASTEN AS INDICATED ON DRAWINGS
	EGD 03	10 14 00.A50	TECHNOLOGY	MECHANICALLY FASTEN AS INDICATED ON DRAWINGS



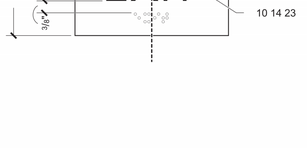
N8 | Scale 6" = 1'-0" | ID02 - Permanent Room ID - Number & Insert



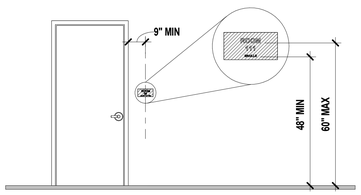
G8 | Scale 6" = 1'-0" | ID03 - Permanent Room ID - Number & Name



L13 | Scale 6" = 1'-0" | ID06 - Restroom ID

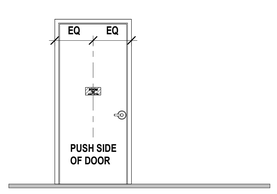


G13 | Scale 6" = 1'-0" | ID10 - Exit ID

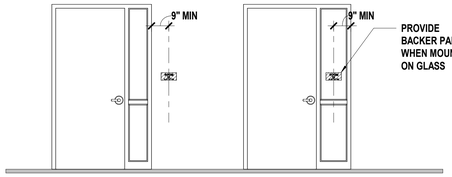


MOUNT ON LATCH SIDE OF DOOR

DIMENSIONS GO TO THE BOTTOM OF TACTILE COMMUNICATION ELEMENTS



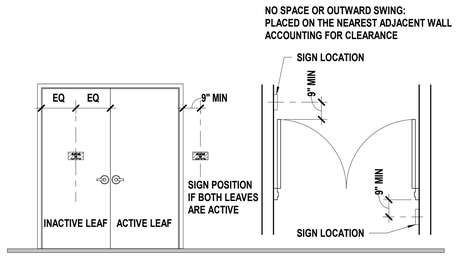
REFER TO "ELEVATION A" FOR SIGNAGE MOUNTING HEIGHTS



SIDELITE IS 12" WIDE OR LESS

SIDELITE IS 12" WIDE OR GREATER

REFER TO "ELEVATION A" FOR SIGNAGE MOUNTING HEIGHTS



REFER TO "ELEVATION A" FOR SIGNAGE MOUNTING HEIGHTS

Scale 1 : 1 | Typical ADA & Code Signage Elevations - Standard Locations

EGD GENERAL NOTES

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PROJECT PICTOGRAMS



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REVISIONS:

#	Description	Date



Kevin E. Nelson
A-2019015618

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CHECKED BY: JB
DATE: 08.31.2023

A711

SIGNAGE & ENVIRONMENTAL GRAPHICS SCHEDULES

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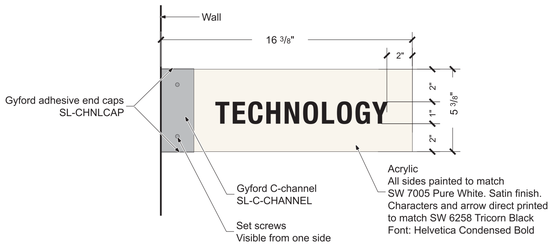
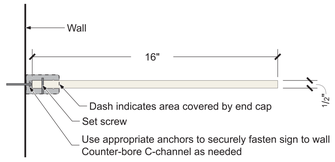


Side A



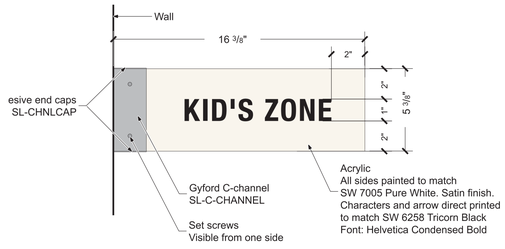
Side B



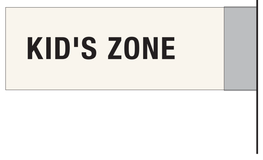
Top View

Notes:
Architect to provide artwork
Coordinate install location with Owner
Bottom of sign 80" above finish floor minimum

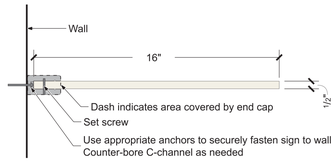
J1 | Scale 3" - 1' - 0" | EGD03 - Environmental Graphic Detail - Wayfinding Flag Sign - Technology



Side A



Side B



Top View

Notes:
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Bottom of sign 80" above finish floor minimum

J9 | Scale | EGD03 - Environmental Graphic Detail - Wayfinding Flag Sign - Kid's Zone

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A-2019015618

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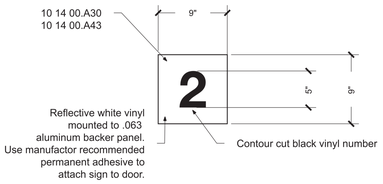
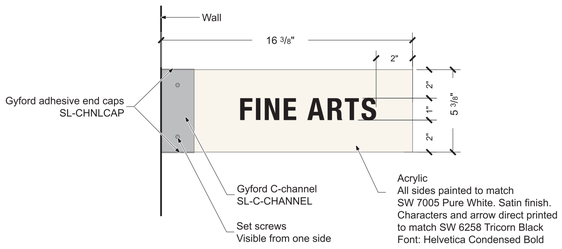
JOB NO: 23022
DRAWN BY: HL/KF/MM
CHECKED BY: JB
DATE: 08.31.2023

A712

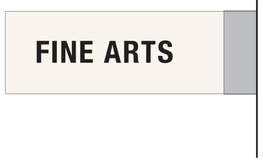


Field verify all entry conditions prior to production.
Refer to EGD schedule for door numbers

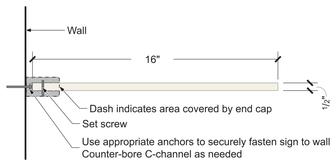
J5 | Scale 3" - 1' - 0" | EGD02 - Environmental Graphic - Exterior Door Numbers



Side A



Side B



Top View

Notes:
Architect to provide artwork
Coordinate install location with Owner
Bottom of sign 80" above finish floor minimum

A9 | Scale | EGD03 - Environmental Graphic Detail - Wayfinding Flag Sign - Fine Arts

SIGNAGE & ENVIRONMENTAL GRAPHICS DETAILS

8/31/2023 3:15:29 PM

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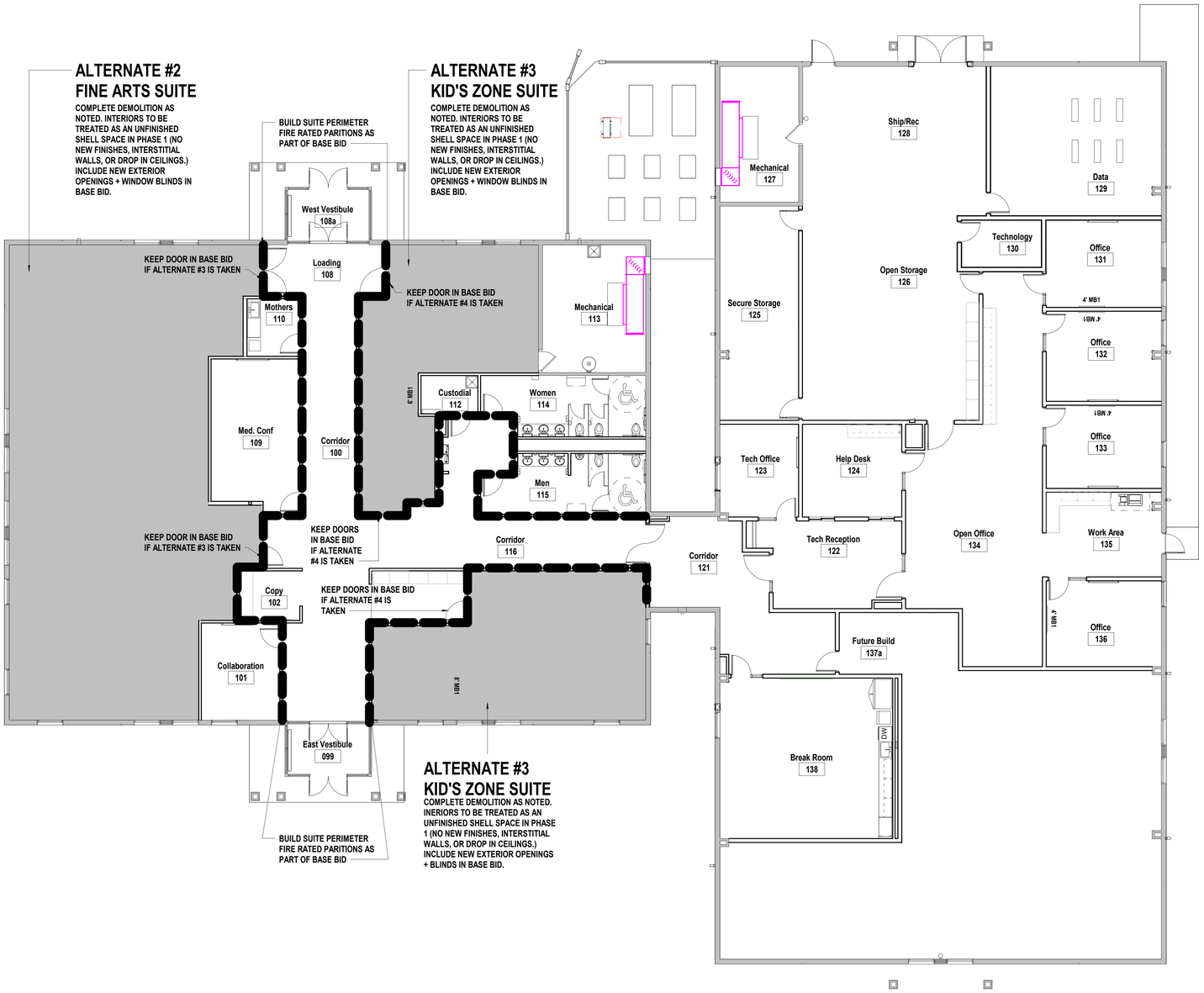
ALTERNATE #2
FINE ARTS SUITE

COMPLETE DEMOLITION AS NOTED. INTERIORS TO BE TREATED AS AN UNFINISHED SHELL SPACE IN PHASE 1 (NO NEW FINISHES, INTERSTITIAL WALLS, OR DROP IN CEILINGS.) INCLUDE NEW EXTERIOR OPENINGS + WINDOW BLINDS IN BASE BID.

BUILD SUITE PERIMETER FIRE RATED PARITIONS AS PART OF BASE BID

ALTERNATE #3
KID'S ZONE SUITE

COMPLETE DEMOLITION AS NOTED. INTERIORS TO BE TREATED AS AN UNFINISHED SHELL SPACE IN PHASE 1 (NO NEW FINISHES, INTERSTITIAL WALLS, OR DROP IN CEILINGS.) INCLUDE NEW EXTERIOR OPENINGS + WINDOW BLINDS IN BASE BID.



ALTERNATE #3
KID'S ZONE SUITE

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BUILD SUITE PERIMETER FIRE RATED PARITIONS AS PART OF BASE BID

A1 | Scale 1/8" = 1'-0" | Floor Plan - Level 1 - Alternate Scopes

SHEET KEYNOTE LEGEND

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Construction Documents

District Technology Remodel
Liberty School District
1000 Kent Street
Liberty, Clay County, MO 64068

REVISIONS:

#	Description	Date

STATE OF MISSOURI
KEVIN E. NELSON
A-2019015618
ARCHITECT

August 31, 2023
Kevin E. Nelson
A-2019015618

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DATE: 08.31.2023

A801

ALTERNATES FLOOR PLAN (#2 + #3)

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A. **Building Code**

1. The design and construction shall conform to t he 2018 International Building Code (IBC) and the 2018 International Existing Building Code (IEBC) as amended by the City of Liberty, Missouri.

B. **Design Loads**

1. This project is designed to resist the most critical loads resulting from the basic load combinations outlined in section 1605 of the code.

2. Dead Loads
   a. The roof mounted equipment weights used for design are indicated on the contract documents. The Contractor shall submit actual weights for all roof mounted equipment for review by the Engineer.
   b. Total service roof dead load: 25 psf (Includes 10 psf collateral load)
   c. Total service floor dead load: 70 psf (Includes 10 psf collateral load)

3. Live Loads
   a. Code Loads
      1. Roof 30 psf
      2. Floor 80psf
   b. Live load reduction has not been utilized.

4. Snow - The snow load is in accordance with ASCE 7 with the following criteria:
   a. Ground snow load p_g = 20 psf,
   b. Exposure Factor C_e = 1.0
   c. Importance Factor I_s = 1.10
   d. Thermal Factor C_t = 1.0
   e. Roof Slope Factor C_s = 1.0
   f. Flat Roof Snow Load p_f = 15.4 psf
   g. Minimum Snow Load p_m = 22 psf

5. Wind - The wind load is in accordance with ASCE 7 with the following criteria:
   a. Basic wind speed V = 117 mph
   b. Allowable Stress Design Wind Speed V_{asd} = 91 mph
   c. Risk Category III
   d. Exposure Catergory C
   e. Internal Pressure Coefficient ± 0.18
   f. Components & Cladding Force per code

6. Seismic - The seismic design is in accordance with the general building code with the following criteria:
   a. Importance Factor I_E = 1.25
   b. Risk Category III
   c. 0.2 sec Spectral Response Acceleration S_S = 9.5%
   d. 1.0 sec Spectral Response Acceleration S_1 = 6.9%
   e. Soil Site Class D
   f. Design 0.2sec Spectral Response Acceleration S_{DS} = 10.1%
   g. Design 1.0sec Spectral Response Acceleration S_{D1} = 11.0%
   h. Seismic Design Category B
   i. Basic Seismic Force Resisting System Steel systems not specifically detailed for seismic resistance

7. Rain - The rain load is in accordance with the general building code and ASCE 7 with the following criteria:
   a. Rainfall Intensity (15 minute) 8.49 in./hr
   b. Rainfall Intensity (60 minute) 4.08 in./hr

C. Foundations

1. Geotechnical Report
   a. A Geotechnical Engineering Report was not provided for this project.

2. Spread Footings, Trench Footing and Grade Beams
   a. All shallow foundations have been designed to bear on undisturbed soil or engineered fill for a net allowable bearing pressure of 1500 psf.

D. **Concrete**

1. All concrete and reinforcing details shall conform to ACI 318 and CRSI "Manual of Standard Practice".

2. Strength - The following areas shall have a minimum 28 day compressive strength:
   a. Exterior flatwork concrete: 4000 psi
   b. Footing and grade beams: 4000 psi

3. No water may be added to the concrete mix on the job site unless specifically withheld at the batch plant. The workability should be attained through the use of water-reducing agents and/or super-plasticizing chemical admixtures.

4. Reinforcing
   a. Grade
      1. Typical reinforcing ASTM A615, Grade 60
      2. Welded reinforcing ASTM A706
   b. Lap splices and development lengths in reinforcement shall be 48 bar diameters unless indicated elsewhere in the drawings and specifications. Lap welded wire reinforcing one full mesh space plus 2 inches.
   c. Welded Wire Reinforcing ASTM A1064
      1. All welded wire reinforcing for slab on grade shall be supported on metal chairs specifically designed for soil bearing conditions. Pulling reinforcing up during concrete placement is not allowed.
      2. All welded wire for metal deck supported slab shall be supported by metal chairs with a maximum spacing of 4'-0" OC. Pulling reinforcing up during concrete placement is not allowed.
   d. All concrete shall be reinforced unless specifically identified on the drawings as unreinforced. Reinforce sections with similar conditions located elsewhere on the project.
   e. All synthetic and steel fiber reinforcement shall be considered secondary reinforcing only.

5. Concrete cover shall be the following:
   a. Concrete cast against and exposed to earth 3"
   b. Concrete exposed to earth or weather #5 and smaller 1 ½"
   c. Concrete exposed to earth or weather #6 and larger 2"
   d. Concrete not exposed to weather or earth
      1. Slabs, wall and joist ¾"
      2. Beams and columns 1 ½"

6. All openings in slabs, walls, foundations, etc. shall have an additional (2) #5's on each side, in each corner of the opening and each face of the member. Extend reinforcing 2'-6" beyond edge of opening.

7. The Contractor shall provide an additional (5) #4 x 20'-0" and (5) #5 x 20'-0" of reinforcing to be used at the direction of the Structural engineer. The Contractor shall include all costs associated with material, field fabrication, and placing.

8. Aluminum items shall not be embedded in concrete.

9. House keeping pads and toppings slabs shall be reinforced with WWR 6x6-2.1x2.1, unless indicated elsewhere in the drawings and specifications.

E. **Masonry**

1. **General:**

   a. Engineered masonry is designed in accordance with "Building Code Requirements for Masonry Structures" (TMS 402/602, Latest Edition).

   b. Materials:
   CMU: Light weight, ASTM C90
   Minimum Average Net Area Compressive Strength = 3250 PSI
   Mortar: Type S (for reinforced masonry) / Type N (for all interior, non load-bearing reinforced masonry)
   Assembly/Prism minimum compressive strength: f'm = 2500 PSI
   Grout: ASTM C476, Minimum Compressive strength = 3000 PSI
   Reinforcing steel: ASTM A615, Grade 60

   c. All walls shall be running bond type construction UNO.

   d. All CMU cells with reinforcing or anchors shall be filled with grout.

   e. All vertical CMU wall reinforcing shall have full contact lap splices with dowels from foundation.

   f. Where structural steel members penetrate CMU walls, provide fire resistive closure as required allowing for 1 inch clearance around steel, pack with fire safing insulation and install A22 galvanized sheet metal enclosure secured to wall. Seal all around with fire-resistive sealant.

   g. Inserting dowels into fresh or partially hardened concrete or grout is prohibited. Bars shall be secured per CRSI in-place prior to concrete or grout pour.

   h. All CMU bond beams shall be knockout type. All debris shall be removed prior to grout installation.

   i. Vertical CMU reinforcement shall be continuous through lintels and shall extend the entire height of the wall.

   j. Bond beam located at first course above and below bearing elevations and at top of walls are structural bond beams and shall have reinforcement continuous through control joints.

   k. Joint reinforcing and intermediate bond beam (those not included in Note 1.j above) reinforcing shall be discontinuous at control joints.

   l. Reinforce all wall piers per CMU wall pier reinforcing on S54# series of sheets.

   m. Reinforcing lap splice lengths (UNO) per schedule on S54# series of sheets.

2. **Vertical Reinforcement:**

   a. Refer to masonry wall elevations for individual structures for vertical reinforcement, unless otherwise indicated, provide (1) #5 vertical centered in the wall at the following spacing: 48" OC.

   b. Provide an additional vertical reinforcement at each side of control joints, at intersection of exterior walls, and at each side of all masonry openings greater than 10" in width. In openings wider than 24" provide additional vertical reinforcement in two adjacent cells on each side of the opening. Added vertical reinforcement shall be continuous for the full height of wall UNO. See add bar detail on this drawing. Provide foundation dowel same size and location as vertical bars in all above. Dowel bars shall be located at each vertical wall reinforcement and shall extend a minimum of 18" into the concrete foundation wall.

   c. Extend all vertical bars from the bottom course through the top most bond beam.

   d. Provide vertical reinforcement in all cells under and one on each side if a concrete beam is supported by the masonry wall. (load bearing walls only)

3. **Horizontal Reinforcement:**

   a. Construct bond beams using (1) #5 horizontal in 6" CMU & 8" CMU & 2-#5 horizontal in 12" CMU UNO.

   b. Locate bond beams at the bottom-most course and the top-most.

   c. Provide bond beam below all masonry openings and extend a minimum of 16" beyond each side of opening.

   d. Discontinue bond beam reinforcement at all wall control joints except at elevated floor and roof levels and as indicated in note 1.k of these notes and S54# series of sheets.

   e. Provide horizontal joint reinforcement at every other course or a maximum 16" spacing. Begin joint reinforcing at the top of second block course above floor slab

4. **Control Joint:**

   a. Use premolded control joint key inserts with sash block; use corrugated metal separator at bond beam locations.

   b. Locate control joint where indicated on the floor plans; or when not indicated as listed below:
      1. Locate approximately 1/2 the wall height from wall intersections. Locate at spacing not greater than 24'-0" in interior walls; 15'-0" in exterior walls UNO.
      2. Avoid creating slip planes at door or window locations.
      3. Locate above expansion and control joints in supporting concrete floor, beams or walls.
      4. Do not provide intermediate control joints in parapet walls unless so indicated on the architectural drawings

   c. Expansion/Contraction Joints:
      1. Provide a minimum 3/4" gap between the top of the CMU wall and the bottom of the concrete structure, except at load bearing walls.
      2. Provide a minimum 3/4" gap between end of an interior CMU wall and the side of a concrete beam.
      3. Provide continuous compressible filler or fire safing insulation as required (full width and full length) of the same thickness as the joint.

5. **Lintels:**

   a. Provide masonry lintels above openings in masonry walls as required. See details on the S54# series of drawings.

6. **Grout:**

   a. Grout shall be consolidated by means of mechanical vibration unless self-consolidating grout is used.
   b. Grout solid all units below finished floor elevation.

F. **Structural Steel**

1. All steel fabrication and erection shall be in accordance with the requirements and recommendations of the American Institute of Steel Construction (AISC) Code of Standard Practice for Steel Buildings and Bridges, Latest Edition.
   a. Steel design shall be per Allowable Stress Design as outlined by AISC.

2. Grade
   a. Steel W and WT-shapes ASTM A992 or ASTM A572, Gr. 50
   b. Channels, angles and plates ASTM A36
   c. Square hollow structural shapes ASTM A500, Grade C (50 ksi)
   d. Round hollow structural shapes ASTM A500, Grade C (46 ksi)
   e. Connection material ASTM A36

3. Thermal cutting is not allowed in the field.

4. The contractor shall supply all miscellaneous steel as required by the contract documents. Miscellaneous steel shall include, but is not limited to, shelf angle, glass support, lintels, catwalks and other steel required for stabilization of architectural elements.

G. **Miscellaneous**

1. Periodic site observation by field representatives of Hollis and Miller Architects, if provided, is solely for the purpose of determining if the work of the contractor is proceeding in general accordance with the structural contract documents. This limited site observation should not be construed as exhaustive or continuous to check the quality or quantity of the work, but rather periodic in an effort to guard the owner against defects or deficiencies in the work of the contractor. Observations by the engineer shall not be considered inspections, and in no way relieves the contractor of any requirements of the contract documents.

2. The building is not structurally stable until all connections, framing, shearwalls, permanent bracing, metal decking, and exterior load bearing walls (where applicable) are complete and have achieved their design strength. Contractor is solely responsible for maintaining structural stability during erection and construction. Temporary bracing systems are not to be removed until structural work is complete.

3. The contractor shall not alter or modify work shown on the structural drawings without receiving written approval from the engineer. When conflicts occur between the drawings and specifications, the strictest interpretation shall govern.

4. The contract structural drawings and specifications represent the finished structure, and except where specifically shown, do not indicate the method or means of construction. The contractor shall supervise and direct the work and shall be solely responsible for all construction means, methods, procedures, techniques, sequence, and safety precautions and programs. The engineer will not be responsible for the acts or omission of the contractor, subcontractor, or any other persons performing any of the work, or for the failure of any of them to carry out the work in accordance with the contract documents.

5. See architectural, mechanical, electrical, and plumbing drawings for other pertinent information related to the structural work and coordinate as required. These structural drawings are intended to be utilized as a complete set of documents that represent the building's structural systems. No single sheet or series of sheets is intended to "stand alone". Typical details may or may not be cut at specific locations throughout the drawings, but are to be applied where required. These structural drawings are intended to be included in a complete set of construction documents, including but not limited to, architectural drawings, civil drawings, and mechanical/electrical/plumbing drawings. Contractor shall verify coordination of these drawings with contents of above sets specified and only proceed with bidding and construction after such has taken place.

6. All existing field and building conditions shall be verified by the Contractor before any other work shall begin. Coordinate with Engineer of Record regarding any discrepancy with existing building dimensions.

7. Submittals
   a. Submittals are to be based upon the latest submitted contract documents. This includes all addendums, Architectural Supplemental Instructions (ASIs), Structural Supplemental Drawings (SSD's), and Requests for Information (RFI's).
   b. Submittals shall be original documents. Shop drawings shall not be a duplication, in any way,of the contract documents. This includes, but is not limited to, photocopies, electronic drawing copying or electronic scanning. Any submitted shop drawing that is not original will be rejected and returned without review.
   c. Prior to submission of the submittals to the Architect, the Contractor shall review the shop drawings for conformance to the means, methods, techniques, sequences, and operations of construction. The submittal shall be coordinated with all other trades and shall include responses to all Contractor directed questions. After all aspects of the Contractor's review are complete, the Contractor's review stamp shall be affixed to the shop drawings and those shop drawings forwarded to the Architect or Structural Engineer for review. Shop drawings not bearing the Contractor's review stamp will be returned without review.
   d. Submittals - Provide the following submittals for review:
      1. Concrete Mix Design and Materials
      2. Concrete Reinforcing
      3. Embedded Items (plates, angles, etc.)
      4. Masonry Products and Materials
      5. Masonry Reinforcing
      6. Structural Steel
      7. Miscellaneous Steel including lintels, stairs, etc.
   e. Substitutions are allowed prior to bid only. Reference the specifications for timing of submission

H. **Special Inspections (based on 2018 IBC, Chapter 17)**

1. Special inspection reports shall be submitted to the Building Official, Owner, Architect, Engineer, Contractor, Sub-Contractor and any other pertinent entity in a timely manner.

2. All discrepancies found by the special inspector shall immediately be brought to the attention of the general contractor and corrected. If the contractor is unable to correct the discrepancy, the special inspector shall notify the Architect and Engineer.

3. Upon completion of the project, the special inspector shall submit a final report delineating that the work was, to the best of the inspector's knowledge, completed in conformance with the approved contract documents and applicable building code.

4. The Owner shall retain special inspection services for the items listed below. The Contractor shall provide light general labor as required to assist with special inspections.

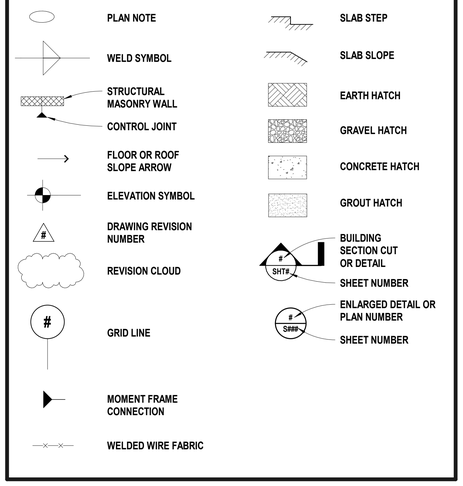
5. Foundations
   a. See Special Inspection of Soils Table on Sheet S002.

6. Concrete
   a. See Special Inspection of Concrete Construction Table on Sheet S002.

7. Masonry
   a. See Special Inspection of Masonry Construction Table on Sheet S002.
   b. Level 2 special inspection required

8. Steel (includes structural steel, joist, deck and anchor rod placement)
   a. See Special Inspection of Welding and Galvanizing Tables on Sheet S002.

SYMBOLS LEGEND



Symbols

&	And
@	At

A

A	Axial Load
ADDL	Additional
AFF	Above Finished Floor
AHU	Air Handling Unit
ALT	Alternate
ALUM	Aluminum
APPROX	Approximate
AR	Anchor Rod
ARCH	Architect/Architectural Drawings
ATS	Anchor Tie-Down System

B

BAL	Balance
BL	Brick Ledge
BLDG	Building
BLKG	Blocking
BM	Beam
BO	Bottom of
BOD	Bottom of Deck
BOS	Bottom of Steel
BOT	Bottom
BRG	Bearing
BS	Both Sides
BTWN	Between

C

C	Compression
CANT	Cantilever
CFSF	Cold-Formed Steel Framing
CIP	Cast-in-Place
CJ	Control Joint
CJP	Complete Joint Penetration
CL	Center Line
CLR	Clear
CMU	Concrete Masonry Unit
COL	Column
CONC	Concrete
CONN	Connection
CONST	Construction
CONT	Continuous/Continue
COORD	Coordinate
CSJ	Construction Joint
CTRD	Centered

D

D	Dead Load
d	Penny
DBA	Deformed Bar Anchor
DIA or Ø	Diameter
DIM	Dimension
DN	Down
DT	Precast Double Tee
DTL	Detail
DWG	Drawing
DWL	Dowel

E

E	Seismic Load
EA	Each
EF	Each Face
EJ	Expansion Joint
EL	Elevation
ELEV	Elevator
EMBED	Embedment/Embedded
ENGR	Engineer
EOD	Edge of Deck
EOR	Engineer of Record
EOS	Edge of Slab
EQ	Equal
EQUIP	Equipment
EQUIV	Equivalent
ES	Each Side
EW	Each Way
EXIST or (E)	Existing
EXT	Exterior

F

FAB	Fabricate
f'c	28-day Concrete Strength
FD	Floor Drain
FFE	Finished Floor Elevations
FIN	Finish/Finished
FLR	Floor
f'm	28-day Masonry Strength
FND	Foundation
FO	Face of
FRAM	Framing
FS	Far Side
FT	Foot/Feet
FUT OR (F)	Future
FV	Field Verify
Fy	Yield Strength

G

GA	Gauge/Gage
GALV	Galvanize/Galvanized
GEN	General
GR	Grade
H	Horizontal Shear

H

HSA	Headed Stud Anchor
HD	Headed/Hold Down
HGR	Hanger
HK	Hook
HORIZ	Horizontal
HT	Height

I

ID	Inside Diameter
IF	Inside Face
IN	Inch
INT	Interior

J

JST	Joist
JT	Joint

K

K	Kip (1000 lbs)
KSF	Kips per Square Foot
KSI	Kips per Square Inch

L

L	Live Load
LBS	Pounds
LG	Length
LLBB	Long Leg Back to Back
LLH	Long Leg Horizontal
LLV	Long Leg Vertical
LOC	Location
LONG	Longitudinal
LR	Roof Live Load
LSH	Long Side Horizontal
LSV	Long Side Vertical
LWC	Light-Weight Concrete
LWT	Light-Weight

M

MAS	Masonry
MAX	Maximum
MCJ	Masonry Control Joint
MECH	Mechanical
MEP	Mechanical/Electrical/Plumbing
MEZZ	Mezzanine
MFR	Manufacturer
MIN	Minimum
MIR	Mirror
MISC	Miscellaneous
MO	Masonry Opening
MTL	Metal
MX	Strong Axis Moment
MY	Weak Axis Moment

N

NIC	Not in Contract
NM	Non-Metallic
NO or #	Number
NS	Near Side/Non-Shrink
NTS	Not to Scale
NWC	Normal-Weight Concrete
NWT	Normal-Weight

O

OC	On Center
OD	Outside Diameter
OF	Outside Face
OH	Opposite Hand
OPNG	Opening
OPP	Opposite

P

PAF	Powder Actuated Fastener
PAR	Parallel
PC	Precast Concrete
PCF	Pounds per Cubic Foot
PERP	Perpendicular
PL	Plate
PLF	Pounds per Linear Foot
PREFAB	Prefabricated
PRELIM	Preliminary
PSF	Pounds per Square Foot
PSI	Pounds per Square Inch
PT	Point or Post-Tensioned

Q

QTY	Quantity

R

R	Radius
REF	Reference/Refer to
REINF	Reinforcing/Reinforced/Reinforcement
REQD	Required
REQT	Requirement
RET	Return
REV	Revision
RO	Rough Opening
RTU	Roof Top Unit

S

S	Snow Load
SCHED	Schedule/Scheduled
SC	Slip Critical
SDS	Self-Drilling Screw
SECT	Section
SF	Square Foot
SHT	Sheet
SIM	Similar
SLBB	Short Leg Back to Back
SOG	Slab-on-Grade
SP	Spacing
SPEC	Specification
SQ	Square
SS	Stainless Steel
STD	Standard
STIF	Stiffener
STL	Steel
STR	Structure/Structural
SW	Shear Wall
SYM	Symmetrical

T

T	Tension
T&B	Top and Bottom
THK	Thickness
THRD	Threaded Rod
TO	Top of
TOC	Top of Concrete
TOF	Top of Foundation
TOM	Top of Masonry
TOS	Top of Steel/Top of Slab
TOW	Top of Wall
TRANS	Transverse
TYP	Typical

U

UNO	Unless Noted Otherwise

V

V	Vertical Shear
VAR	Varies
VERT	Vertical

W

W	Wind Load
W/	With
W/O	Without
WF	Wide Flange
WP	Work Point/Waterproofing
WS	Waterstop
WT	Weight
WWR	Welded Wire Reinforcing

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CONSTRUCTION DOCUMENTS

District Technology Remodel
Liberty School District
1000 Kent Street
Liberty, Clay County, MO 64068

REVISIONS:

#	Description	Date

STATE OF MISSOURI
DAVID A. KRELL
NUMBER PE-2021014172
PROFESSIONAL ENGINEER
07/31/2023
David A. Krell - Engineer
MO# PE-2021014172

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CHECKED BY: HCJ
DATE: 08.31.2023

S001

GENERAL NOTES & LEGENDS

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Special Inspection Prior to Welding - Table N5.4-1

Req'd	Inspection Task	Continuous	Periodic
Yes	1. Welding procedure specifications (WPSs) available	X	
Yes	2. Manufacturer certifications for welding consumables available	X	
Yes	3. Material identification (type/grade)		X
Yes	4. Welder identification system		X
Yes	5. Fit-up of groove welds (including joint geometry)		
Yes	5.a. Joint preparation		X
Yes	5.b. Dimensions (alignment, root opening, root face, bevel)		X
Yes	5.c. Cleanliness (condition of steel surfaces)		X
Yes	5.d. Tacking (tack weld quality and location)		X
Yes	5.e. Backing type and fit (if applicable)		X
Yes	6. Configuration and finish of access holes		X
Yes	7. Fit-up of fillet welds		
Yes	7.a. Dimensions (alignment, gaps at root)		X
Yes	7.b. Cleanliness (condition of steel surfaces)		X
Yes	7.c. Tacking (tack weld quality and location)		X
Yes	8. Check welding equipment		X

Special Inspection During Welding - Table N5.4-2

Req'd	Inspection Task	Continuous	Periodic
Yes	1. Use of qualified welders		X
Yes	2. Control and handling of welding consumables		
Yes	2.a. Packaging		X
Yes	2.b. Exposure control		X
Yes	3. No welding over cracked tack welds		X
Yes	4. Environmental conditions		
Yes	4.a. Wind speed within limits		X
Yes	4.b. Precipitation and temperature		X
Yes	5. WPS followed		X
Yes	5.a. Settings on welding equipment		X
Yes	5.b. Travel speed		X
Yes	5.c. Selected welding materials		
Yes	5.d. Shielding gas type/flow rate		X
Yes	5.e. Preheat applied		X
Yes	5.f. Interpass temperature maintained (min. /max.)		X
Yes	5.g. Proper position (F, V, H, OH)		X
No	5.h. Intermix of filler metals avoided unless approved...		X
Yes	6. Welding techniques		
Yes	6.a. Interpass and final cleaning		X
Yes	6.b. Each pass within profile limitations		X
Yes	6.c. Each pass meets quality requirements		X

Special Inspection After Welding - Table N5.4-3

Req'd	Inspection Task	Continuous	Periodic
Yes	1. Welds cleaned		X
Yes	2. Size, length and location of welds	X	
Yes	3. Welds meet visual acceptance criteria		
Yes	3.a. Crack prohibition	X	
Yes	3.b. Weld/base-metal fusion	X	
Yes	3.c. Crater cross section	X	
Yes	3.d. Weld profiles	X	
Yes	3.e. Weld size	X	
Yes	3.f. Undercut	X	
Yes	3.g. Porosity	X	
Yes	4. Arc strikes	X	
Yes	5. k-area	X	
Yes	6. Backing removed and weld tabs removed (if required)	X	
Yes	7. Repair activities	X	
Yes	8. Document acceptance or rejection of welded joint or member	X	
No	9. Placement of reinforcing or contouring fillet welds (if required) (ref: AISC 341-10)	X	
No	10. Backing removed, weld tabs removed and finished, and fillet welds added (if required) (ref: AISC 341-10)	X	

Special Inspection of Galvanized Structural Steel Main Members - Section N5.7

Req'd	Inspection Task	Continuous	Periodic
Yes	Visually inspect exposed cut surfaces of galvanized structural steel main members and exposed corners of rectangular HSS for cracks subsequent to galvanizing.		X

Other Inspection Task - Section N5.8

Req'd	Inspection Task	Continuous	Periodic
Yes	1. Verify compliance of fabricated steel with the details shown on the approved shop drawings.		X
Yes	2. Verify compliance of the erected steel frame with the details shown on the approved erection drawings, including braces, stiffeners, member locations and joint details.		X
Yes	3. Anchor rods and other embedments support structural steel		
Yes	3.a. Verify the diameter, grade, type and length of the anchor rod or embedded item.		X
Yes	3.b. Verify the extent or depth of embedment into the concrete.		X
No	4. RBS requirements, if applicable (ref: AISC 341-10)		
No	4.a. Contour and finish		X
No	4.b. Dimensional tolerances		X
No	5. Protected zone—no holes and unapproved attachments made by fabricator or erector, as applicable (ref: AISC 341-10)		X
No	6. H-piles - Protected zone—no holes and unapproved attachments made by the responsible contractor, as applicable (ref: AISC 341-10)		X

Special Inspection of Concrete Construction - Table 1705.3

Req'd	Inspection Task	Continuous	Periodic
Yes	1. Inspect reinforcing steel, including prestressing tendons, and...		X
Yes	2. Inspection of reinforcing steel welding in accordance with Steel Construction section above.		X
Yes	3. Inspection of anchors cast in concrete.		X
Yes	4. Inspection of anchors post-installed in hardened concrete members.	X	
Yes	5. Verify use of approved design mix.		X
Yes	6. Prior to placement fabricate specimens for strength tests, perform slump and air content tests, and determine the temperature of the concrete.	X	
Yes	7. Inspect concrete and shotcrete placement for proper application techniques.	X	
Yes	8. Inspect for maintenance of specified curing temperature and techniques.		X
No	9. Inspection of prestressed concrete:		
No	9.a. Application of prestressing forces	X	
No	9.b. Grouting of bonded prestressing tendons in the...	X	
No	10. Erection of precast structural members		X
No	11. Verification of in-situ concrete strength, prior to...		X
Yes	12. Inspection formwork for shape, location and...		X

Special Inspection of Soils - Table 1705.6

Req'd	Inspection Task	Continuous	Periodic
Yes	1. Verify materials below shallow foundations are adequate to achieve the required bearing capacity.		X
Yes	2. Verify excavations are extended to proper depth and have reached proper material.		X
Yes	3. Perform classification and testing of compacted fill materials.		X
Yes	4. Verify use of proper materials, densities and lift thicknesses during placement and compaction of compacted fill.	X	
Yes	5. Prior to placement of controlled fill, observe subgrade and verify that site has been prepared properly.		X

Special Inspection of Masonry Construction - Table 1705.4

Req'd	Inspection Task	Continuous	Periodic
Yes	Level 2 Qualtiy Assurance		
Yes	Tests:		
Yes	1. Verify slump flow and Visual Stability Index (VSI) as delivered to the project site in accordance with TMS 602-16 Specification Article 1.5B.1.b.3 for self-consolidating grout.		X
Yes	2. Verify f'm and f'aac in accordance with TMS 602-16 Specification Article 1.4B prior to construction, except where specifically exempted.		X
	Inspection:		
Yes	1. Verify compliance with the approved submittals and project specifications.		X
No	2. At the start of masonry construction, verify:		
No	2.a. Proportions of site-prepared mortar.		
No	2.b. Construction of mortar joints.		
No	2.c. Grade and size of prestressing tendons and anchorages.		
No	2.d. Location of reinforcement, connectors, prestressing tendons and anchorages.		
No	2.e. Prestressing technique.		
No	2.f. Properties of thin-bed mortar for AAC masonry.(Continuous inspection is required for the first 5000 square feet of AAC masonry. Periodic inspection is required after the first 5000 square feet of AAC masonry.)		
Yes	3. Prior to grouting, verify:		
Yes	3.a. Grout space is clean.		X
Yes	3.b. Grade, type and size of reinforcement and anchor bolts, and prestressing tendons and anchorages.		X
Yes	3.c. Placement of reinforcing and connectors, and prestressing tendons and anchorages.		X
Yes	3.d. Proportions of site-prepared grout and prestressing grout for bonded tendons.		X
Yes	3.e. Construction of mortar joints.		X
Yes	4. During masonry construction, verify:		
Yes	4.a. Size and location of structural members.		X
Yes	4.b. Type, size and location of anchors, including other details of anchorage of masonry to structural members, frames, or other construction.		X
Yes	4.c. Welding of reinforcement.	X	
Yes	4.d. Preparation, construction, and protection of masonry during cold weather (temperature below 40°F) or hot weather (temperature above 90°F).		X
No	4.e. Application and measurement of prestressing force.		
No	4.f. Placement of grout and prestressing grout for bonded tendons is in compliance.		
No	4.g. Placement of AAC masonry units and construction of thin-bed mortar joints. (Continuous inspection is required for the first 5000 square feet of AAC masonry. Periodic inspection is required after the first 5000 square feet of AAC masonry.)		
Yes	5. Observe preparation of grout specimens, mortar specimens and/or prisms.		X

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CONSTRUCTION DOCUMENTS

District Technology Remodel

Liberty School District
1000 Kent Street
Liberty, Clay County, MO 64068

REVISIONS:

#	Description	Date

STATE OF MISSOURI
DAVID A. KRELL
NUMBER PE-2021014172
PROFESSIONAL ENGINEER

08/31/2023
David A. Krell - Engineer
MO# PE-2021014172

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SPECIAL INSPECTIONS

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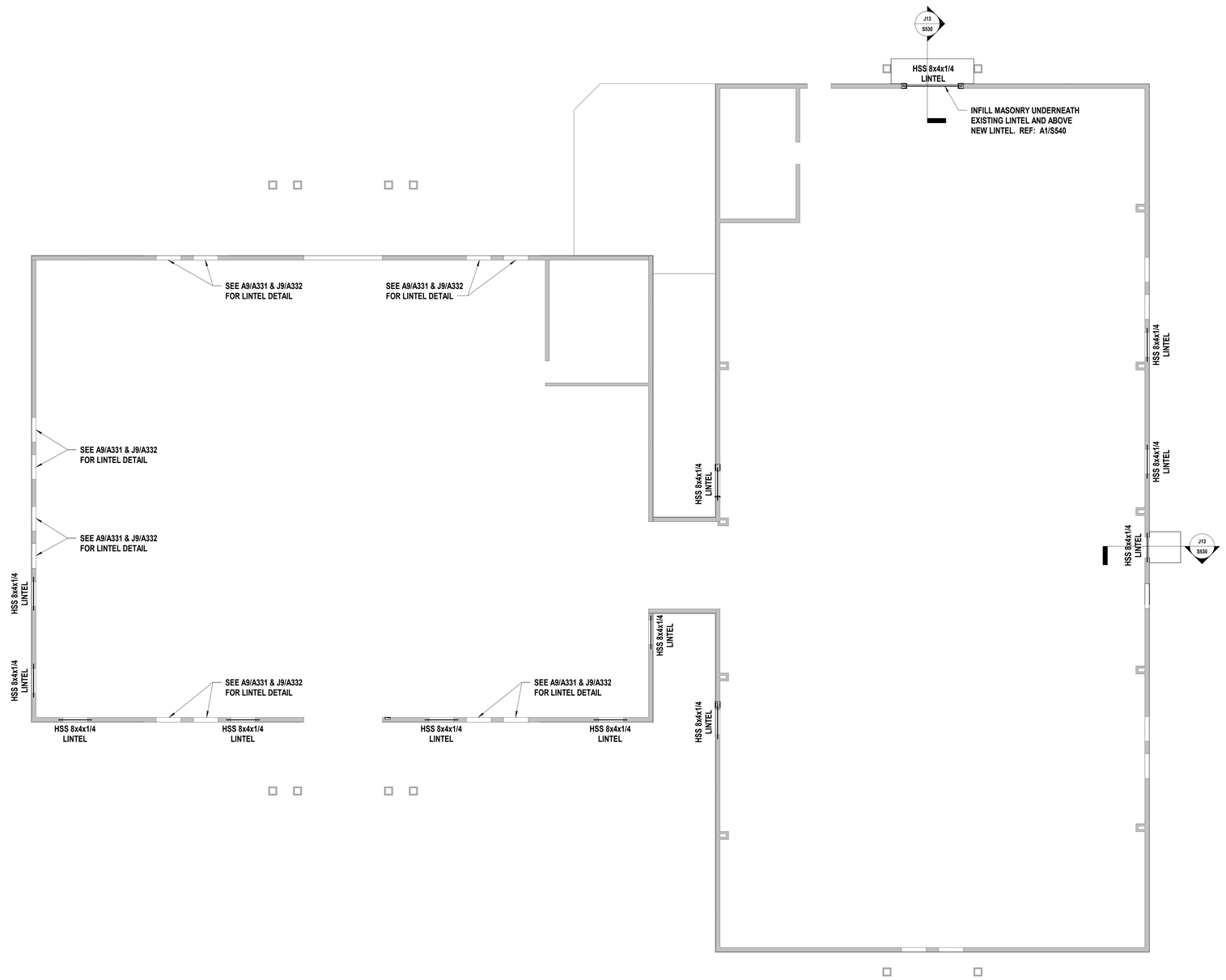

FOUNDATION NOTES

1. TOP OF FOOTING ELEVATION = 99'-4" UNO.
2. ALL LINTELS IN MASONRY WALLS NOTED ON PLANS PER S540 UNO.
3. REFER TO ARCHITECTURAL DRAWINGS FOR LOCATIONS AND ELEVATIONS OF NEW LINTELS IN EXISTING MASONRY WALLS.

A1 | Scale 1/8" = 1'-0" | Foundation Plan

PLAN NORTH | TRUE NORTH

FRAMING AND STOOP PLAN - OVERALL

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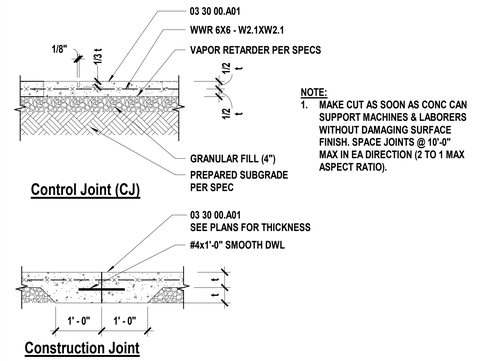
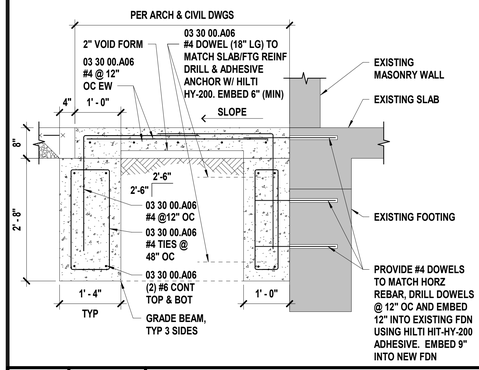
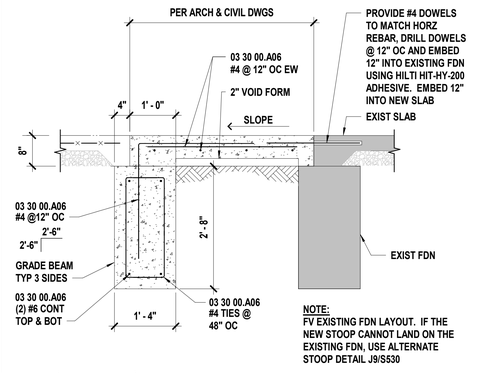


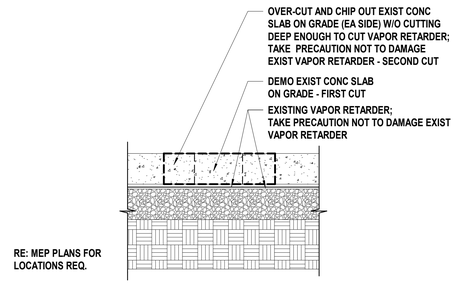
N13 Scale 3/4" = 1'-0" — Typical Slab on Grade Details



J9 Scale NTS — Alternate Concrete Stoop



J13 Scale NTS — Typical Concrete Stoop



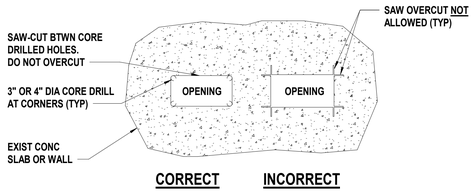
E9 Scale 1 1/2" = 1'-0" — CIP Concrete Demo

FOUNDATION TENSION DEVELOPMENT AND LAP SPLICE LENGTHS

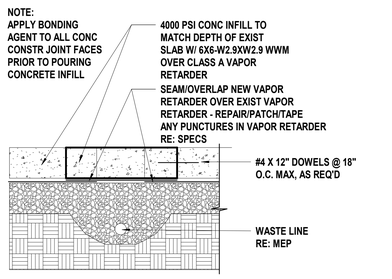
GRADE 60 REINFORCEMENT, NORMALWEIGHT CONCRETE

BAR SIZE	LAP CLASS	f'c = 3000 PSI		f'c = 4000 PSI		f'c = 5000 PSI	
		BOTTOM BARS	OTHER BARS	BOTTOM BARS	OTHER BARS	BOTTOM BARS	OTHER BARS
#3	A	12	13	12	12	12	12
	B	16	17	16	16	16	16
#4	A	17	22	15	19	13	17
	B	23	29	20	25	17	23
#5	A	25	32	21	28	19	25
	B	33	42	28	37	25	33
#6	A	33	43	29	37	26	34
	B	43	56	38	49	34	45
#7	A	53	69	46	60	42	54
	B	69	90	60	78	55	71
#8	A	66	86	57	74	51	67
	B	86	112	75	97	67	88
#9	A	80	104	69	90	62	81
	B	104	136	90	117	81	106
#10	A	96	125	83	108	75	97
	B	125	163	108	141	98	127
#11	A	113	146	98	127	87	114
	B	147	190	128	166	114	149

NOTES:
1. ALL SPLICE LENGTHS ARE IN INCHES.
2. THIS TABLE SHALL BE USED FOR SLABS ONLY. REFER TO OTHER DEVELOPMENT LENGTH TABLES FOR OTHER MEMBERS.
3. THE TENSION DEVELOPMENT LENGTH (Ld) IS EQUAL TO THE SCHEDULED "CLASS A" LAP SPLICE LENGTH.
4. A BOTTOM BAR IS DEFINED AS ANY BAR THAT DOES NOT HAVE MORE THAN 12" OF FRESH CONCRETE BELOW THE BAR.
5. OTHER BARS INCLUDE TOP BARS AND ALL OTHER BARS THAT HAVE MORE THAN 12" OF FRESH CONCRETE BELOW THE BAR. FOR TOP REINFORCEMENT IN SLABS THAT ARE 12" THICK OR LESS, TABULATED SPLICE LENGTHS FOR BOTTOM BARS SHALL BE USED.
6. FOR EPOXY-COATED BARS, MULTIPLY THE TABULATED SPLICE LENGTHS OF BOTTOM BARS BY 1.5 AND THE TABULATED SPLICE LENGTHS OF OTHER BARS BY 1.3.
7. WHEN LAP SPLICING BARS OF DIFFERENT SIZES, THE LAP LENGTH IS DETERMINED BY THE SMALLER BAR BUT MAY NOT BE LESS THAN THE "CLASS A" SPLICE LENGTH OF THE LARGER BAR.
8. FOR CONCRETE STRENGTHS IN BETWEEN THOSE TABULATED HERE, USE DEVELOPMENT AND LAP SPLICE LENGTHS OF LOWER CONCRETE STRENGTH.



A5 Scale 1/4" = 1'-0" — Typical Concrete Slab & Wall Sawcut Detail



A9 Scale 1 1/2" = 1'-0" — CIP Concrete Infill

A13 Scale 12" = 1'-0" — Typical Reinforcing Splice Length Table

SHEET KEYNOTE LEGEND

03 30 00.A01	CAST-IN-PLACE CONCRETE
03 30 00.A06	REINFORCING BARS

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#	Description	Date

STATE OF MISSOURI — DAVID A. KRELL — NUMBER PE-2021014172 — PROFESSIONAL ENGINEER

08/31/2023
David A. Krell - Engineer
MO# PE-2021014172

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TYPICAL CONCRETE DETAILS

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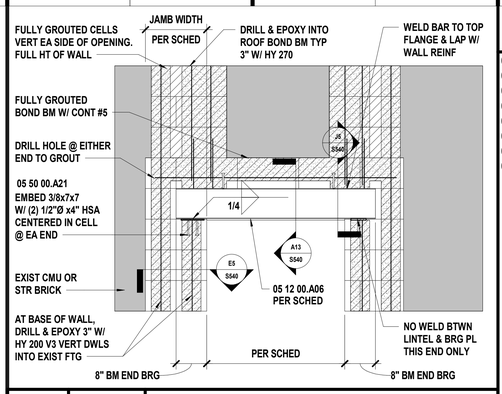
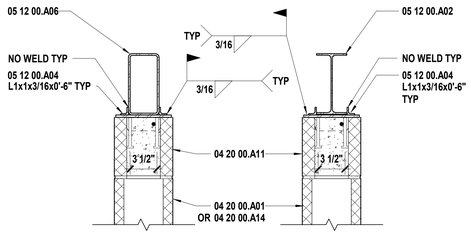


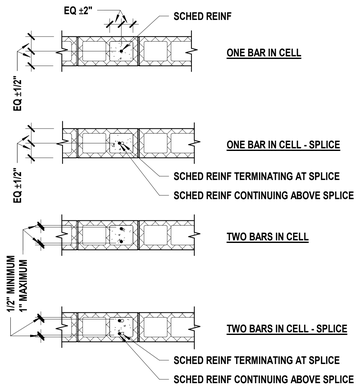
N12 | Scale 3/4" = 1'-0" | New Steel Lintel in Existing CMU or Structural Brick

SHEET KEYNOTE LEGEND

04 20 00.A01	CONCRETE MASONRY UNITS
04 20 00.A11	MASONRY BOND BEAM
04 20 00.A14	STRUCTURAL CLAY MASONRY UNITS
05 12 00.A02	W SHAPE
05 12 00.A04	ANGLE
05 12 00.A05	PLATE AND BAR
05 12 00.A06	HSS SHAPE
05 50 00.A21	LOOSE BEARING/LEVELING PLATES



J5 | Scale 1 1/2" = 1'-0" | Typical Steel Lintel Bearing



NOTES:
1. REINFORCEMENT MUST BE PLACED USING REINFORCING BAR POSITIONERS THAT LOCATE THE BAR AS SPECIFIED AND PREVENT MOVEMENT OF THE BAR DURING CONSTRUCTION.
2. SPLICED REINFORCEMENT MUST BE A CONTACT LAP SPLICE WITH SPICED BARS ALIGNED PARALLEL TO THE WALL AS SHOWN.
3. THE ENGINEER MUST BE NOTIFIED PRIOR TO PLACEMENT OF REINFORCEMENT THAT IS REQUIRED TO BE PLACED OUTSIDE OF THE TOLERANCES OF THIS DETAIL SUCH AS TO AVOID INTERFERENCE WITH OTHER REINFORCEMENT, CONDUITS, OR EMBEDDED ITEMS.

E9 | Scale NTS | Typical CMU or Structural Brick Vertical Reinforcing Bar Placement Detail

CMU WALL, PILASTER, AND COLUMN VERTICAL BAR TENSION DEVELOPMENT AND LAP SPLICE LENGTHS

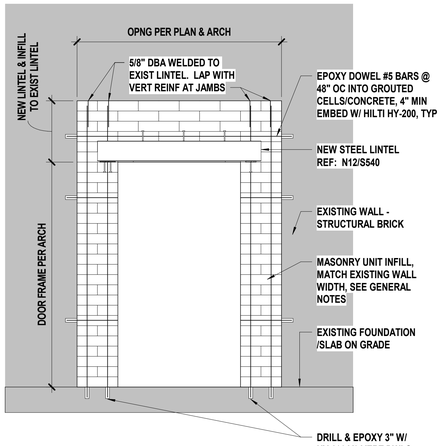
GRADE 60 REINFORCEMENT, STANDARD BLOCK (fm = 2500 PSI)

BAR SIZE	4" CMU	6" CMU		8" CMU		10" CMU		12" CMU	
	1 BAR /CELL	1 BAR /CELL	2 BARS /CELL	1 BAR /CELL	2 BARS /CELL	1 BAR /CELL	2 BARS /CELL	1 BAR /CELL	2 BARS /CELL
#3	14	12	NP	12	12	12	12	12	12
#4	25	16	NP	12	22	12	16	12	17
#5	NP	25	NP	18	35	14	25	12	27
#6	NP	47	NP	34	NP	26	47	21	51
#7	NP	NP	NP	47	NP	36	NP	29	NP
#8	NP	NP	NP	NP	NP	NP	NP	45	NP
#9	NP	NP	NP	NP	NP	NP	NP	NP	NP
#10	NP	NP	NP	NP	NP	NP	NP	NP	NP
#11	NP	NP	NP	NP	NP	NP	NP	NP	NP

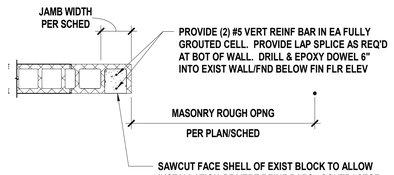
NP - NOT PERMITTED

NOTES:
1. ALL DEVELOPMENT AND LAP SPLICE LENGTHS ARE IN INCHES.
2. THIS TABLE SHALL BE USED FOR ALL REINFORCED CMU WALLS, PILASTERS, AND COLUMNS UNLESS NOTED OTHERWISE IN DETAILS.
3. INCREASE TABULATED VALUES BY 50% FOR EPOXY COATED REINFORCEMENT.
4. WITH APPROVAL BY THE ENGINEER, WELDED SPLICES AND MECHANICAL SPLICES DEVELOPING AT LEAST 125% OF THE YIELD STRENGTH, Fy OF THE BAR MAY BE SUBSTITUTED IN SOME LOCATIONS.
5. WHEN LAP SPLICING BARS OF DIFFERENT SIZES, THE LAP LENGTH IS DETERMINED BY THE SMALLER BAR.
6. REFER TO DETAIL A1 ON THIS SHEET FOR BAR POSITIONING IN CELLS.

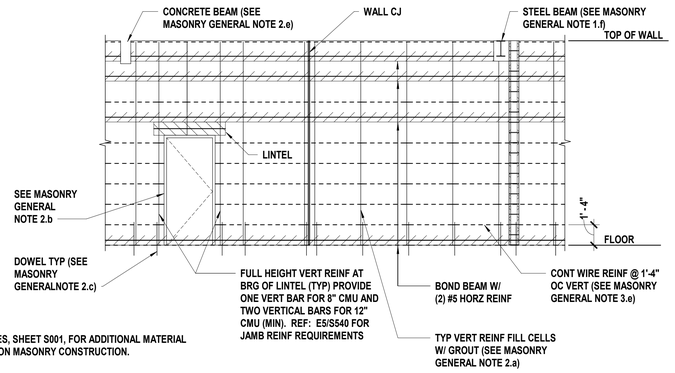
E13 | Scale NTS | Typical CMU or Structural Brick Vertical Reinforcing Splice Length Table



A1 | Scale 1/2" = 1'-0" | Elevation at Masonry Infill

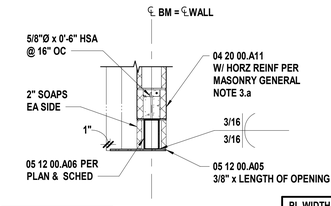


E5 | Scale 3/4" = 1'-0" | Typical CMU or Structural Brick Jamb @ Opening



NOTES:
1. SEE GENERAL NOTES, SHEET S001, FOR ADDITIONAL MATERIAL AND INFORMATION ON MASONRY CONSTRUCTION.

A5 | Scale NTS | Typical CMU or Structural Brick Wall Elevation



CLEAR OPENING	8" MAS
5'-0"	HSS6x4x1/4
8'-4"	HSS6x4x1/4

PL WIDTH	8" CMU
W/O BRICK	7"

NOTES:
1. ALL EXTERIOR LINTELS SHALL BE HOT DIPPED GALV WHERE UNSUPPORTED WALL HEIGHT DOES NOT EXCEED 15'-0".
2. APPLIES TO ALL NON-LOAD BEARING WALL LINTELS.
3. APPLIES TO LOAD BEARING WALL LINTELS AS INDICATED ON PLANS.

A13 | Scale 3/4" = 1'-0" | Typical Steel Beam Lintel Section Exterior

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TYPICAL MASONRY DETAILS

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CONDUIT AND WIRE

- ARROWS INDICATE CONDUIT AND WIRE HOME RUN(S) TO PANEL WITH 2–#12 AWG CONDUCTORS UNLESS NOTED OR OTHERWISE REQUIRED.
- CONDUIT RUN CONCEALED IN WALL OR ABOVE CEILING.
- CONDUIT RUN UNDERGROUND OR CONCEALED IN FLOOR SLAB.
- T — TELEPHONE CONDUIT
- LV — LOW VOLTAGE CONDUIT AND WIRING

LIGHTING

- BATTERY OPERATED EMERGENCY LIGHT (WALL MOUNTED)
- BATTERY OPERATED EMERGENCY LIGHT (CEILING MOUNTED)
- SURFACE/RECESSED LIGHT FIXTURE
- FLUORESCENT LIGHT FIXTURE
- FLUORESCENT STRIP FIXTURE
- SHADING DENOTES EMERGENCY FIXTURE
- POLE MOUNTED LIGHT FIXTURE
- EXIT LIGHT – DOUBLE FACE – ARROWS AS SHOWN
- EXIT LIGHT – SINGLE FACE – ARROWS AS SHOWN
- LIGHTING SWITCHES–SINGLE POLE, 3–WAY, 4–WAY, KEY, LOW VOLTAGE, PILOT LIGHT
- $D DIMMER WITH SINGLE POLE SWITCH
- $D3 DIMMER WITH THREE WAY SWITCH (WATTAGE NOTED)
- $M WALL MOUNTED MOTION SENSOR
- (A) CEILING MOUNTED MOTION SENSOR (LETTER DENOTES TYPE)
- SWITCH AND DUPLEX RECEPTACLE
- DENOTES A WALL MOUNTED FIXTURE

WIRING DEVICES

- DUPLEX RECEPTACLE.
- LINE THRU DEVICE INDICATES ABOVE COUNTER
- IG — DUPLEX RECEPTACLE WITH ISOLATED GROUND (SINGLE AND FOURPLEX SIMILAR)
- S — DUPLEX RECEPTACLE – TOP HALF SWITCHED – BOTTOM HALF TO HAVE POWER AT ALL TIMES
- EM — DUPLEX RECEPTACLE ON EMERGENCY POWER (SINGLE AND FOURPLEX SIMILAR)
- FOURPLEX RECEPTACLE
- SINGLE RECEPTACLE
- CEILING MOUNTED RECEPTACLE
- MULTI–SERVICE FLOOR BOX
- DIVIDED POWER POLE
- FLOOR BOX W/DUPLEX RECEPTACLE
- SPECIAL RECEPTACLE W/NEMA CONFIGURATION AS NOTED
- CLOCK RECEPTACLE
- MULTI–OUTLET ASSEMBLY

COMMUNICATIONS

- TELEPHONE OUTLET
- LINE THRU DEVICE INDICATES ABOVE COUNTER
- DATA OUTLET
- TELEPHONE/DATA OUTLET
- FLOOR BOX WITH COMMUNICATIONS OUTLET
- TV — TELEVISION ANTENNA OUTLET
- TELEPHONE CABINET OR PLYWOOD BOARD
- WAP — WIRELESS ACCESS POINT DATA OUTLET, MOUNT ABOVE THE CEILING

SECURITY

- CLOSED CIRCUIT TV CAMERA
- CR — CARD READER
- DL — DOOR LOCK
- M — SECURITY MONITOR
- WT — WATCH TOUR
- EDL — ELECTRIC DOOR LOCK
- S — MOTION SENSOR – SECURITY
- S — MOTION SENSOR (WALL MOUNTED) – SECURITY

PUBLIC ADDRESS

- M — MICROPHONE OUTLET
- H — SPEAKER. ('H' DENOTES HORN TYPE)
- V — SPEAKER VOLUME CONTROL
- SPEAKER CONDUIT AND WIRING
- PA — PUBLIC ADDRESS AMPLIFIER AND CABINET
- BUZZER
- B — BELL
- INTERCOM OUTLET
- M — INTERCOM OUTLET – MASTER
- D — CLOCK SYSTEM RECEPTACLE WITH SINGLE FACE ('D' DENOTES DOUBLE FACE)

POWER DEVICE AND CONTROLS

- T — THERMOSTAT
- DISCONNECT SWITCH. 30A–3P, NON–FUSED EXCEPT AS NOTED
- MANUAL MOTOR STARTER
- MAGNETIC MOTOR STARTER
- COMBINATION MOTOR STARTER AND DISCONNECT SWITCH
- MOTOR
- PANELBOARD (SEE ONE–LINE)
- DISTRIBUTION PANELBOARD
- CONTACTOR
- AUTOMATIC TRANSFER SWITCH
- PC — PHOTOCELL
- J — JUNCTION BOX
- PUSHBUTTON
- T — TRANSFORMER

FIRE ALARM

- F — MANUAL PULL STATION
- PE D — PHOTOELECTRIC DETECTOR ('D' DENOTES IN DUCT) ('B' DENOTES BEAM–TYPE) ('R' DENOTES IN RETURN AIR PLENUM)
- ION D — IONIZATION DETECTOR ('D' DENOTES IN DUCT) ('P' DENOTES PLENUM–TYPE)
- INF D — INFRARED DETECTOR ('D' DENOTES IN DUCT)
- 190 D — THERMODETECTOR ('D' DENOTES IN DUCT) FIXED TEMPERATURE AS NOTED
- DH — DOOR HOLDER
- C — CHIME
- BELL
- FL — FIRE ALARM STROBE LIGHT
- FIRE ALARM SPEAKER – ARROWS DENOTE PROJECTORS IF ANY. ('L' DENOTES COMBINATION SPEAKER AND VISUAL FIRE LIGHT)
- FIRE HORN. ('L' DENOTES COMBINATION HORN AND VISUAL FIRE LIGHT)
- RL — REMOTE ALARM LAMP
- PI — POST INDICATOR SWITCH
- FS — FLOW SWITCH
- GS — GATE SWITCH
- F — FIREMAN'S PHONE JACK

FIRE PROTECTION

- FP — FIRE PROTECTION PIPING
- FHC — FIRE HOSE CABINET
- FDV — FIRE DEPARTMENT VALVE
- UPRIGHT SPRINKLER HEAD
- PENDENT SPRINKLER
- RECESSED SPRINKLER
- RECESSED SPRINKLER WITH CLOSURE PLATE
- SIDEWALL SPRINKLER.
- DOUBLE CHECK DETECTOR BACKFLOW PREVENTER
- FIRE PROTECTION SIAMESE CONNECTION
- FIRE PROTECTION SIDEWALK SIAMESE CONNECTION
- POST INDICATOR VALVE

MEDICAL GAS

- VAC — MEDICAL VACUUM
- OX — OXYGEN
- NO — NITROUS OXIDE
- MA — MEDICAL COMPRESSED AIR
- N — NITROGEN
- OXYGEN OUTLET
- VACUUM OUTLET
- MEDICAL AIR OUTLET
- NITROUS OXIDE OUTLET
- NITROGEN OUTLET

HVAC

- CWS — CHILLED WATER SUPPLY
- CWR — CHILLED WATER RETURN
- CHWS — CHILLED/HOT WATER SUPPLY
- CHWR — CHILLED/HOT WATER RETURN
- HWS — HEATING HOT WATER SUPPLY
- HWR — HEATING HOT WATER RETURN
- CTS — COOLING TOWER SUPPLY
- CTR — COOLING TOWER RETURN
- STM — LOW PRESSURE STEAM
- RTN — LOW PRESSURE CONDENSATE RETURN
- STM–50 — HIGH PRESSURE STEAM – NO'S GIVE GAUGE PRESSURE IN P.S.I.
- RTN–50 — HIGH PRESSURE RETURN – NO'S GIVE GAUGE PRESSURE IN P.S.I.
- RD — REFRIGERANT DISCHARGE
- RL — REFRIGERANT LIQUID
- RS — REFRIGERANT SUCTION
- FOS — FUEL OIL SUPPLY
- FOR — FUEL OIL RETURN
- A — COMPRESSED AIR
- D — DRAIN (CONDENSATE)
- T S — THERMOSTAT – ('S' DENOTES SENSOR)
- H S — HUMIDISTAT – ('S' DENOTES SENSOR)
- H — THERMOSTAT/HUMIDITY SENSOR
- CO2 — CARBON DIOXIDE SENSOR
- THC — THERMOSTAT/HUMIDITY SENSOR/CO2 SENSOR
- HUMIDIFIER
- SUPPLY AIR FLOW INDICATOR
- RETURN AND EXHAUST AIR FLOW INDICATOR
- SUPPLY DIFFUSER
- SUPPLY STRIP DIFFUSER
- RETURN GRILLE OR EXHAUST REGISTER

HOSPITAL

- N — NURSE CALL CONDUIT AND WIRING
- M — MONITOR CONDUIT AND WIRING
- NMS — NURSE CALL MASTER STATION
- N — NURSE CALL BEDSIDE STATION – SINGLE PATIENT
- N 2 — NURSE CALL BEDSIDE STATION – DOUBLE PATIENT
- E P — EMERGENCY PUSHBUTTON STATION ('P' DENOTES PULL CORD)
- DS — DUTY STATION
- SS — STAFF STATION
- B — DOME LIGHT – CEILING MOUNTED ('B' DENOTES WITH BUZZER)
- B — DOME LIGHT – WALL MOUNTED ('B' DENOTES WITH BUZZER)
- Z — ZONE DOME LIGHT
- B — CODE BLUE PUSHBUTTON

PLUMBING

- DOMESTIC COLD WATER
- DOMESTIC HOT WATER
- RECIRCULATING DOMESTIC HOT WATER
- TW — DOMESTIC TEMPERED WATER
- \+ — SOFT DOMESTIC COLD WATER
- ++ — SOFT DOMESTIC HOT WATER
- +++ — SOFT RECIRCULATING HOT WATER
- SAN — SOIL OR WASTE ABOVE GRADE OR FLOOR
- SAN — SOIL OR WASTE BELOW GRADE OR FLOOR
- ST — STORM ABOVE GRADE OR FLOOR
- ST — STORM BELOW GRADE OR FLOOR
- ST/O — STORM OVERFLOW ABOVE GRADE OR FLOOR
- ST/O — STORM OVERFLOW BELOW GRADE OR FLOOR
- V — PLUMBING VENT
- G — GAS (NATURAL)
- LP — LIQUIFIED PETROLEUM
- PD — PUMP DISCHARGE
- HB — HOSE BIBB
- WH — WALL HYDRANT
- WCO — WALL CLEAN OUT
- CO — CLEAN OUT
- FCO — FLOOR CLEAN OUT
- FLOOR DRAIN, AREA DRAIN, FLOOR SINK
- RD ORD — ROOF DRAIN, OVERFLOW ROOF DRAIN
- SHOWER HEAD.
- REDUCED PRESSURE BACKFLOW PREVENTER
- P # — PLUMBING VENT RISER CALL–OUT NUMBER

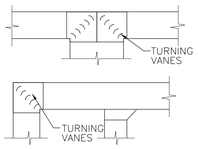
GENERAL

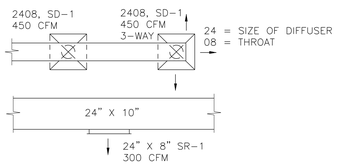
- 1 — MECHANICAL NOTE REFERENCE
- 2 — ELECTRICAL NOTE REFERENCE
- 3 — DEMOLITION NOTE REFERENCE
- 4 — REVISION NOTE REFERENCE
- CONNECT TO EXISTING WORK
- I MI — DETAIL REFERENCE – NO./SHEET NO.
- A MT — SECTION CUT – SECTION/SHEET NO.

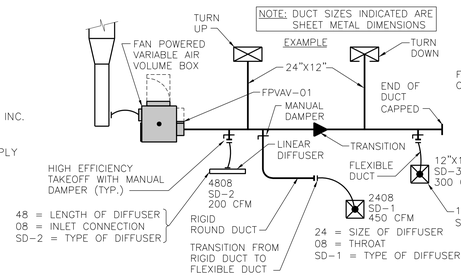
PIPING

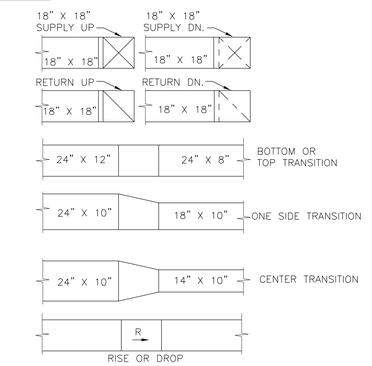
- ELBOW DOWN
- ELBOW UP
- TEE UP
- TEE DOWN
- CAP
- UNION
- REDUCER (OR INCREASER)
- PIPE FLEX
- STRAINER
- R — RISE IN PIPING
- D — DROP IN PIPING
- GUIDE
- ANCHOR
- PRESSURE GAUGE WITH GAUGE COCK
- T — TEMPERATURE GAUGE
- FLOW INDICATOR
- THERMOMETER.
- SITE GLASS
- EXPANSION JOINT
- FD — FILTER–DRIER
- DRIP ASSEMBLY
- BASKET STRAINER
- SHUTOFF VALVE
- SHUTOFF VALVE IN RISER
- BALANCING VALVE
- CALIBRATED BALANCING VALVE
- RELIEF VALVE
- TEST PLUG
- TRIPLE DUTY VALVE
- CHECK VALVE.
- AUTOMATIC CONTROL VALVE (2–WAY)
- AUTOMATIC CONTROL VALVE (3–WAY)
- AUTO FLOW CONTROL VALVE
- S — SOLENOID VALVE
- P — PRESSURE REDUCING VALVE

DUCTWORK









A	AMPS, AIR (COMPRESSED)	DX	DIRECT EXPANSION	HTG	HEATING	MUAF	MAKE UP AIR FAN
A/C	AIR CONDITIONING	EA	EXHAUST AIR	HTR	HEATER	MV	MIXING VALVE
AD	AREA DRAIN, ACCESS DOOR	EAT	ENTERING AIR TEMPERATURE	HVU	HEATING AND VENTILATING UNIT	N	NITROGEN
AFC	ABOVE FINISH CEILING	EC	ELECTRICAL CONTRACTOR, EMPTY CONDUIT	HW	DOMESTIC HOT WATER	N/A	NOT APPLICABLE
AFG	ABOVE FINISH GRADE	EF	EXHAUST FAN	HWR	HOT WATER RETURN	N/C	NORMALLY CLOSED
AHU	AIR HANDLING UNIT	EM	INDICATES EMERGENCY CIRCUIT	HWS	HOT WATER SUPPLY	N/O	NORMALLY OPEN
AFF	ABOVE FINISHED FLOOR	EPO	EMERGENCY POWER OFF	IE	INVERT ELEVATION	NF	INDICATES NON–FUSED DEVICE
BD	BACKDRAFT DAMPER, BLOWDOWN	ER	EXHAUST REGISTER	IG	ISOLATED GROUND	NIC	NOT IN CONTRACT
BFP	BACKFLOW PREVENTER	ETR	EXISTING TO REMAIN	KCMIL	1000 CIRCULAR MILS	NL	NIGHT LIGHT
BKR	BREAKER	EWB	ENTERING WET BULB	KV	KILOVOLT	NO	NITROUS OXIDE
BOD	BOTTOM OF DUCT	EWC	ELECTRIC WATER COOLER	KVA	KILOVOLT AMPS	OA	OUTSIDE AIR
BOP	BOTTOM OF PIPE	EWH	ELECTRIC WATER HEATER, ELEC. WALL HTR.	KW	KILOWATT	ORD	OVERFLOW ROOF DRAIN
BOS	BOTTOM OF STRUCTURE	EXH	EXHAUST	KWH	KILOWATT HOUR	OX	OXYGEN
BTU	BRITISH THERMAL UNIT	F/S	COMBINATION FIRE AND SMOKE DAMPER	LAT	LEAVING AIR TEMPERATURE	PD	PUMP DISCHARGE
C	CONDUIT	FACP	FIRE ALARM CONTROL PANEL	LDB	LEAVING DRY BULB	PH	PHASE
CATV	CABLE TELEVISION SYSTEM	FAACP	FIRE ALARM ANNUNCIATOR CONTROL PANEL	LP	LIQUIFIED PETROLEUM	PIV	POST INDICATOR VALVE
CB	CIRCUIT BREAKER	FCO	FLOOR CLEANOUT	LRA	LOCKED ROTOR AMPS	PNL	PANEL
CCTV	CLOSED CIRCUIT TELEVISION	FCU	FAN COIL UNIT	LV	LOW VOLTAGE	PRV	PRESSURE REDUCING VALVE
CFM	CUBIC FEET PER MINUTE	FD	FIRE DAMPER, FLOOR DRAIN	LWB	LEAVING WET BULB	QTY	QUANTITY
CHWR	CHILLED/HOT WATER RETURN	FLA	FULL LOAD AMPS	LWT	LEAVING WATER TEMPERATURE	RA	RETURN AIR
CHWS	CHILLED/HOT WATER SUPPLY	FLR	FLOOR	MA	MEDICAL AIR	RD	ROOF DRAIN
CKT	CIRCUIT	FOR	FUEL OIL RETURN	MAU	MAKE UP AIR UNIT	REV	REVISION
CO	CLEANOUT, CARBON MONOXIDE	FOS	FUEL OIL SUPPLY	MBH	1000 BTU PER HOUR	RG	RETURN GRILLE
CO2	CARBON DIOXIDE	FP	FIRE PROTECTION	MC	MECHANICAL CONTRACTOR	RH	RELATIVE HUMIDITY
CTR	COOLING TOWER RETURN	FPB	FAN POWERED TERMINAL UNIT	MCA	MINIMUM CIRCUIT AMPACITY	RHW	DOMESTIC RECIRCULATION HOT WATER
CTS	COOLING TOWER SUPPLY	FPVAV	FAN POWERED TERMINAL UNIT	MCC	MOTOR CONTROL CENTER	RL	REFRIGERANT LIQUID
CU	COPPER, CONDENSING UNIT	FS	FLOOR SINK	MD	MOTORIZED DAMPER	RLA	RUNNING LOAD AMPS
CUH	CABINET UNIT HEATER	G	GAS (NATURAL), GROUND	MDP	MAIN DISTRIBUTION PANEL	RPM	REVOLUTIONS PER MINUTE
CW	DOMESTIC COLD WATER	GCO	GRADE CLEANOUT	MFR	MANUFACTURER	RS	REFRIGERANT SUCTION
CWR	CHILLED WATER RETURN	GFI/GFCI	GROUND FAULT CIRCUIT INTERRUPTER	MH	MANHOLE	RTN	LOW PRESSURE CONDENSATE RETURN
CWS	CHILLED WATER SUPPLY	GND	GROUND	MLO	MAIN LUGS ONLY	RTU	ROOF TOP UNIT
DDC	DIRECT DIGITAL CONTROL	GPM	GALLONS PER MINUTE	MTD	MOUNTED	SA	SUPPLY AIR
DD	DECK DRAIN	HB	HOSE BIBB	MU	MAKE UP	SAN	SANITARY
DN	DOWN	HOA	HAND OFF AUTOMATIC				

SD	SUPPLY DIFFUSER, SMOKE DAMPER
SDCW	SOFT DOMESTIC COLD WATER
SDHW	SOFT DOMESTIC HOT WATER
SDRHW	SOFT DOMESTIC RECIRCULATION HOT WATER
SF	SQUARE FEET
SP	STATIC PRESSURE
SR	SUPPLY REGISTER
ST	STORM
ST/O	STORM OVERFLOW
STM	LOW PRESSURE STEAM
SWBD	SWITCHBOARD
TSTAT	THERMOSTAT
TU	TERMINAL UNIT
TW	TEMPERED WATER
UH	UNIT HEATER
UL	UNDERWRITERS LABORATORIES INC.
UNO	UNLESS NOTED OTHERWISE
UPS	UNINTERRUPTIBLE POWER SUPPLY
V	VENT PIPE
VAC	MEDICAL VACUUM
VAV	VARIABLE AIR VOLUME
VD	VOLUME DAMPER
VTR	VENT THROUGH ROOF
W	WIRE, WATT(S)
W/	WITH
W/O	WITHOUT
WB	WET BULB
WCO	WALL CLEANOUT
WH	WALL HYDRANT
WP	WEATHERPROOF
XFMR	TRANSFORMER
XP	EXPLOSION PROOF

MECHANICAL AND ELECTRICAL SYMBOLS AND ABBREVIATIONS

"SOME SYMBOLS AND ABBREVIATIONS ON THIS LEGEND MAY NOT BE USED. REFER TO FLOOR PLANS FOR ALL SYMBOLS AND ABBREVIATIONS."

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913.345.0617 fax

District Technology Remodel
Liberty School District
1000 Kent Street
Liberty, Clay County, MO 64068

Construction Documents

REVISIONS:

#	Description	Date

STATE OF MISSOURI
RYAN JEROD DIEDIKER
NUMBER PE–2015006314
REGISTERED PROFESSIONAL ENGINEER
8/31/23

The Professional Architects seal affixed to this sheet applies only to the material and items shown on this sheet. All drawings, instruments or other documents not exhibiting this seal shall not be considered prepared by this architect, and this architect expressly disclaims any and all responsibility for such plan, drawings, or documents not exhibiting this seal.

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DATE: 08.31.2023

ME101

smith & boucher engineers
25618 west 103rd St olathe, ks 66061
phone 913.345.2127 fax 913.345.0617
project number 2314706

2314706 Utech 09 2023 District Technology Remodel
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PLUMBING FIXTURE SCHEDULE

MARK	MANUFACTURER/ MODEL	DESCRIPTION	MANUFACTURER/ MODEL	FITTINGS DESCRIPTION	PIPING CONNECTIONS				
					NOTES	CW	HW	SAN	VENT
WC-1	KOHLER KINGSTON K-4325 WADE	ADA WATER CLOSET: WHITE, SIPHON JET, LOW FLOW 1.28GPF, WALL HUNG, WHITE VITREOUS CHINA, FULLY GLAZED TRAPWAY, ELONGATED BOWL, TOP SPUD. INCLUDE WITH OPEN FRONT SEAT. CARRIER: PROVIDE CARRIER AS REQUIRED TO SUIT APPLICATION.	SLOAN G2 8111	ADA FLUSH VALVE: POLISHED CHROME FINISH, TOP SPUD, BATTERY POWERED SENSOR WITH MANUAL BUTTON, DIAPHROM OPERATED FLUSH VALVE. 1.28 GPF.	5	1-1/4"	---	4"	2"
WC-2	KOHLER KINGSTON K-4325 WADE	WATER CLOSET: WHITE, SIPHON JET, LOW FLOW 1.28GPF, WALL HUNG, WHITE VITREOUS CHINA, FULLY GLAZED TRAPWAY, ELONGATED BOWL, TOP SPUD. INCLUDE WITH OPEN FRONT SEAT. CARRIER: PROVIDE CARRIER AS REQUIRED TO SUIT APPLICATION.	SLOAN G2 8111	FLUSH VALVE: POLISHED CHROME FINISH, TOP SPUD, BATTERY POWERED SENSOR WITH MANUAL BUTTON, DIAPHROM OPERATED FLUSH VALVE. 1.28 GPF.	5	1-1/4"	---	4"	2"
UR-1	KOHLER BARDON K-4991 WADE	ADA URINAL: WHITE VITREOUS CHINA WALL HUNG URINAL WITH 0.125 GALLON FLUSH ACTION. REFER TO ARCHITECTURAL PLANS FOR MOUNTING HEIGHT. PROVIDE CARRIER AS REQUIRED TO SUIT APPLICATION FOR MOUNTING IN CHASE.	SLOAN G2 8186	BATTERY POWERED SENSOR ACTIVATED, EXPOSED URINAL FLUSH VALVE, 0.125 GPF, CHROME PLATED, FLUSH OVERRIDE BUTTON, VACUUM BREAKER FLUSH CONNECTION AND SPUD COUPLING FOR 3/4" TOP SPUD.	5	3/4"	---	2"	1-1/2"
LV-1	KOHLER K-2214-0	UNDERCOUNTER MOUNT, CHINA LAVATORY, 20-7/8" x 14-3/8" x 8-1/8" BOWL SIZE. ADA COMPLIANT. REFER TO ARCHITECTURAL FOR MOUNTING DETAILS	CHICAGO FAUCETS 802-V317E66ABCP	ADA COMPLIANT DOUBLE HANDLE WRIST BLADE LAVATORY FAUCET. POLISHED CHROME FINISH. METAL GRID DRAIN ASSEMBLY. 4" CENTERS. 0.5GPM FLOW RATE.	1,2,3,4,6	1/2"	1/2"	2"	2"
SK-1	JUST MANUFACTURING NSFB124-J	WORKSHOP SINK: 14 GAUGE, TYPE 304 STAINLESS STEEL, FLOOR MOUNTED SERVICE SINK WITH BACKSPLA NOMINAL BOWL DIMENSIONS: 24"x24"x14". CARRIER: PROVIDE CARRIER AS REQUIRED TO SUIT APPLICATION.	CHICAGO FAUCETS 897-RCF STRIEM SIDEKICK	WALL MOUNTED 8" BODY, ADJUSTABLE ARMS 7-5/8" - 8-3/8" HOT AND COLD WATER SINK FAUCET. VACUUM BREAKER SPOUT WITH WALL BRACE AND CHECK STOPS. FRONT ACCESS, SOLIDS INTERCEPTOR INSTALLED BELOW SINK.	1,2,3,4,6	1/2"	1/2"	2"	1-1/2"
SK-2	JUST MANUFACTURING US-ADA-1824-A	SINK: ADA COMPLIANT, UNDERMOUNT, TYPE 304 STAINLESS STEEL, FULLY COATED SOUND INSULATION, SINGLE BOWL, INTERNAL BOWL DIMENSIONS 16"x22"x5-1/2", CENTER DRAIN.	MOEN CIA 7622	ADA COMPLIANT FAUCET: DUAL WRIST BLADE HANDLES, HIGH ARC KITCHEN FAUCET WITH PULLDOWN SPRAYER WITH CHROME FINISH. FURNISH AND INSTALL WITH AERATOR SET TO 1.5GPM.	1,2,3,4,6	1/2"	1/2"	2"	1-1/2"
DF-1	ELKAY LZSTL8WSLK	ELECTRIC DRINKING FOUNTAIN: ADA COMPLIANT, BI-LEVEL BARRIER FREE ELECTRIC WATER COOLER. SENSOR OPERATED BOTTLE FILLER ABOVE ADA FOUNTAIN. FRONT PUSHBUTTON, NON-CORROSIVE STAINLESS STEEL BASIN.	---	---		1/2"	---	2"	1-1/2"
JS-1	STERN WILLIAMS SBC-1700	JANITOR'S SINK: FLOOR MOUNTED, 24" X 24" TERRAZZO RECEPTOR, CAST BRASS GRID DRAIN AND P-TRAP.	CHICAGO FAUCETS 897-RCF	WALL MOUNTED 8" BODY, ADJUSTABLE ARMS 7-5/8" - 8-3/8" HOT AND COLD WATER SINK FAUCET. VACUUM BREAKER SPOUT WITH WALL BRACE AND CHECK STOPS.	5	3/4"	3/4"	3"	1-1/2"

NOTES:
1. PROVIDE CHROME PLATED BRASS TAILPIECE AND GRID DRAIN.
2. PROVIDE CHROME PLATED BRASS P-TRAP.
3. PROVIDE LOOSE KEY STOPS AND FLEXIBLE RISERS.
4. IF EXPOSED, INSULATE TAILPIECE, P-TRAP, AND WATER RISERS PER ADA REQUIREMENTS. REFER TO SPECIFICATIONS FOR INSULATION METHODS.
5. PROVIDE CAULK AROUND FIXTURE CONNECTION TO FLOOR/WALL. COLOR BY ARCHITECT.
6. QUANTITY OF FAUCET HOLES SHALL MATCH FAUCET TYPE.

DRAIN SCHEDULE

MARK	MANUFACTURER/ MODEL	DESCRIPTION
FD-1	WADE W-1100-STD-6	CAST IRON DRAIN WITH ADJUSTABLE TOP AND 6" NICKEL BRASS STRAINER WITH VANDAL RESISTANT SCREWS. PROVIDE WITH PROSET TRAP GUARD BY PROVENT SYSTEMS INC.

NOTES:
1: REFER TO PLANS FOR OUTLET SIZES

PIPE INSULATION SCHEDULE - PLUMBING

SERVICE	PIPE SIZE	INSULATION
DOMESTIC COLD WATER	1/2" - 2"	1/2" FIBERGLASS, FACTORY APPLIED ASJ
	2-1/2" AND LARGER	1" FIBERGLASS, FACTORY APPLIED ASJ
DOMESTIC HOT WATER RECIRCULATING HOT WATER TEMPERED WATER	ALL	1" FIBERGLASS, FACTORY APPLIED ASJ
EXPOSED FIXTURE WASTETRAPS AND DOMESTIC HOT AND COLD WATER AT HANDICAPPED ACCESSIBLE SINKS AND LAVATORIES	ALL	TRUBRO LAV AGUARD MOLDED PROTECTIVE PIPE COVER OVER 1/2" FIBERGLASS INSULATION

NOTES:
1: FOR ALL PIPING 2-1/2" AND LARGER, PROVIDE RIGID FOAM INSERTS AT ALL HANGERS AND SUPPORT LOCATIONS.
2: FOR ALL EXPOSED PIPING PROVIDE PAINTABLE PVC JACKET.
3: PEX PIPING REQUIRES INSULATION

DOMESTIC WATER HEATER - ELECTRIC

DESIGNATION		
UNIT DATA	MANUFACTURER	LOCHINVAR
	MODEL	LDT-30TK
	CAPACITY (GALLONS)	40
	RECOVERY @ 100°F RISE (GPH)	18
	OUTLET TEMP. (°F)	110
	NO. OF ELEMENTS	2 (NON-SIMULTANEOUS)
	TOTAL INPUT (KW)	4.5
	VOLTS/PHASE	208/3
ELEC./CONTROL	PANEL & CIRCUIT	R5-1,3,5
	WIRE & CONDUIT	(3)#12,#12G,3/4"C
	OVERCURRENT DEVICE	20A/3P CB
	DISCONNECT	30A/3P NF
REFERENCE DRAWING/DETAIL		P101
REMARKS		---

DOMESTIC WATER HEATER - INSTANTANEOUS

DESIGNATION		
UNIT DATA	MANUFACTURER	EEMAX
	MODEL	SP8208
	INPUT (KW)	8.3
	SERVICE	SINK
	WATER FLOW (GPM)	1.0
	TEMPERATURE RISE (°F)	57
	OUTLET TEMP. (°F)	110
	VOLTS/PHASE	208/1
	PANEL & CIRCUIT	R4-20,22
	WIRE & CONDUIT	(2)#6,#10G,1"C
	OVERCURRENT DEVICE	50A/2P
	DISCONNECT	NOTE 1
REFERENCE DRAWING/DETAIL		P101
REMARKS		---

NOTE 1: BRANCH CIRCUIT BREAKER TO BE FURNISHED WITH A HANDLE LOCK OFF TO SERVE AS THE APPLICANCE DISCONNECTING MEANS.

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Architecture # 0000161
Structure # 2006031333

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Civil Engineer
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Engineering: 2001009364
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Mech/Elec/Plumb Engineer
State Certificate of Authority #EGC-0001787
25618 W 103rd Street
Olathe, Johnson County, KS 66061
913.345.2127 phone
913.345.0617 fax

Construction Documents

District Technology Remodel
Liberty School District
1000 Kent Street
Liberty, Clay County, MO 64068

REVISIONS:

#	Description	Date

STATE OF MISSOURI
RYAN JEROD DIEDIKER
NUMBER PE-2010069411
REGISTERED PROFESSIONAL ENGINEER
8/31/23

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JOB NO: 23022
DRAWN BY: S&B
CHECKED BY: RJD
DATE: 08.31.2023

ME301

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project number 2314706

MECHANICAL AND ELECTRICAL - SCHEDULES

Please consider the environment before printing this.

PROJECT NAME: 2314706 Liberty SD 2023 District Technology Remodel
AUTOCAD FILE LOCATION \ NAME: X:_23_2314?_2314706\Drawings\01_2314706_ME301.dwg
LAST CORRECTION BY ◆ DATE ◆ TIME: Jlongenfeld Thursday, August 31, 2023 10:32:56 AM
PLOTTED BY ◆ DATE ◆ TIME: Bcody Charles Thursday, August 31, 2023 11:45:35 AM

VARIABLE AIR VOLUME TERMINAL SCHEDULE

DESIGNATION		VAV1-01	VAV1-02	VAV1-03	VAV1-04	VAV1-05	VAV1-06	VAV1-07	VAV1-08	VAV1-09	VAV1-10	VAV1-11	VAV1-12	VAV2-01	VAV2-02	VAV2-03	VAV2-04	VAV2-05	VAV2-06	VAV2-07	VAV2-08	VAV2-09
ASSOCIATED AIR HANDLING UNIT		AHU-1	AHU-1	AHU-1	AHU-1	AHU-1	AHU-1	AHU-1	AHU-1	AHU-1	AHU-1	AHU-1	AHU-1	AHU-2	AHU-2	AHU-2	AHU-2	AHU-2	AHU-2	AHU-2	AHU-2	AHU-2
UNIT	MANUFACTURER	PRICE	PRICE	PRICE	PRICE	PRICE	PRICE	PRICE	PRICE	PRICE	PRICE	PRICE	PRICE	PRICE	PRICE	PRICE	PRICE	PRICE	PRICE	PRICE	PRICE	PRICE
	MODEL NO.	SDV	SDV	SDV	SDV	SDV	SDV	SDV	SDV	SDV	SDV	SDV	SDV	SDV	SDV	SDV	SDV	SDV	SDV	SDV	SDV	SDV
	INLET SIZE	7	4	8	7	5	9	6	5	8	8	7	6	8	4	10	7	8	8	9	7	10
	DESIGN AIRFLOW (CFM)	550	200	625	425	300	850	325	300	625	725	550	325	600	200	1100	450	650	700	950	525	1100
	MIN. AIRFLOW (CFM)	275	100	250	85	90	425	65	210	125	220	220	100	300	40	220	135	195	350	570	265	440
	HEAT AIRFLOW (CFM)	275	175	525	400	300	650	150	210	550	450	450	275	350	175	825	350	550	350	600	375	625
ELEC. HT. COIL	COIL EAT (DEG. F)	55	55	55	55	55	55	55	55	55	55	55	55	55	55	55	55	55	55	55	55	55
	UNIT LAT (DEG. F)	80	90	90	90	90	90	80	80	95	90	90	95	90	90	95	95	95	85	90	90	95
	HEATING KW	2.5	2.0	6.0	4.5	3.5	7.5	1.5	2.0	7.0	5.0	5.0	3.5	4.0	2.0	10.5	4.5	7.0	3.5	7.0	4.5	8.0
	CONTROL STEPS	SCR	SCR	SCR	SCR	SCR	SCR	SCR	SCR	SCR	SCR	SCR	SCR	SCR	SCR	SCR	SCR	SCR	SCR	SCR	SCR	SCR
ELECTRICAL/CONT.	VOLTS/PHASE	277/1	277/1	277/1	277/1	277/1	480/3	277/1	277/1	480/3	277/1	277/1	277/1	277/1	277/1	480/3	277/1	480/3	277/1	480/3	277/1	480/3
	PANEL & CIRCUIT	H1-8	H1-10	H1-12	H1-13	H1-14	H1-1,3,5	H1-15	H1-16	H1-2,4,6	H1-17	H1-18	H1-21	H2-14	H2-16	H2-1,3,5	H2-18	H2-2,4,6	H2-19	H2-7,9,11	H2-22	H2-8,10,12
	WIRE & CONDUIT	(2)#12,#12G,1/2"C	(2)#12,#12G,1/2"C	(2)#10,#10G,1/2"C	(2)#10,#10G,1/2"C	(2)#12,#12G,1/2"C	(4)#12,#12G,1/2"C	(2)#12,#12G,1/2"C	(2)#12,#12G,1/2"C	(4)#12,#12G,1/2"C	(2)#10,#10G,1/2"C	(2)#10,#10G,1/2"C	(2)#12,#12G,1/2"C	(2)#12,#12G,1/2"C	(2)#12,#12G,1/2"C	(4)#12,#12G,1/2"C	(2)#10,#10G,1/2"C	(4)#12,#12G,1/2"C	(2)#12,#12G,1/2"C	(4)#12,#12G,1/2"C	(2)#10,#10G,1/2"C	(4)#12,#12G,1/2"C
	OVERCURRENT DEVICE	20A/1P CB	20A/1P CB	30A/1P CB	25A/1P CB	20A/1P CB	20A/3P CB	20A/1P CB	20A/1P CB	20A/3P CB	25A/1P CB	25A/1P CB	20A/1P CB	20A/1P CB	20A/1P CB	20A/3P CB	25A/1P CB	20A/3P CB	20A/1P CB	20A/3P CB	25A/1P CB	20A/3P CB
	DISCONNECT	INTEGRAL	INTEGRAL	INTEGRAL	INTEGRAL	INTEGRAL	INTEGRAL	INTEGRAL	INTEGRAL	INTEGRAL	INTEGRAL	INTEGRAL	INTEGRAL	INTEGRAL	INTEGRAL	INTEGRAL	INTEGRAL	INTEGRAL	INTEGRAL	INTEGRAL	INTEGRAL	INTEGRAL
	CONTROL SEQUENCE	RE: DWGS	RE: DWGS	RE: DWGS	RE: DWGS	RE: DWGS	RE: DWGS	RE: DWGS	RE: DWGS	RE: DWGS	RE: DWGS	RE: DWGS	RE: DWGS	RE: DWGS	RE: DWGS	RE: DWGS	RE: DWGS	RE: DWGS	RE: DWGS	RE: DWGS	RE: DWGS	RE: DWGS
REFERENCE DRAWING/DETAIL		M101	M101	M101	M101	M101	M101	M101	M101	M101	M101	M101	M101	M101	M101	M101	M101	M101	M101	M101	M101	M101
REMARKS		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

AIR COOLED CONDENSING UNIT SCHEDULE

DESIGNATION		ACCU-1	ACCU-2
MANUFACTURER		TRANE	TRANE
MODEL NO.		TTA180	TTA180
NOMINAL TONNAGE		15	15
SYSTEM		AHU-1	AHU-1
UNIT DATA	TOTAL COOLING @ 105°F AMBIENT (MBH)	185.4	185.4
	MIN EER @ AHRI	11.2	11.2
	COMPRESSORS QTY./ TYPE	2 / SCROLL	2 / SCROLL
	CIRCUITS	2	2
	REFRIGERANT	R410A	R410A
	WEIGHT (LBS)	705	705
	SIZE (H X W X L) (IN)	45-1/8"x46"x95-7/16"	45-1/8"x46"x95-7/16"
ELECTRICAL DATA	VOLTAGE/PHASE	480/3	480/3
	MCA	31	31
	MOCP	40	40
	PANEL & CIRCUIT	H1-20,22,24	H2-21,23,25
	WIRE & CONDUIT	(3)#8,#10G	(3)#8,#10G
	OVERCURRENT DEVICE	40A/3P CB	40A/3P CB
	DISCONNECT	60A/3P/NF	60A/3P/NF
CONTROL		RE: DWGS	RE: DWGS
REFERENCE DRAWING/DETAIL		M101	M101
REMARKS		1, 2, 3, 4,5	1, 2, 3, 4,5

NOTES:

1: CAPACITY WHEN MATCHED WITH ASSOCATED AIR HANDLING UNIT.

2: FURNISH UNIT WITH HOT GAS BYPASS OPERATION.

3: FURNISH UNIT WITH UNPOWERED GFCI CONVENIENCE RECEPTACLE.

4: FURNISH WITH VAV CAPABILITY. CONTROL IS BY BMS CONTRACTOR, SAFETIES ARE BY MANUFACTURER.

5: MANUFACTURER TO PROVIDE REFRIGERANT SPECIALTIES.

FAN SCHEDULE

DESIGNATION		EF-1	EF-2
FAN TYPE		CEILING	CEILING
SERVICE		RESTROOM	RESTROOM
MANUFACTURER		GREENHECK	GREENHECK
MODEL		SP-A390-VG	SP-A390-VG
UNIT DATA	CFM	225	225
	STATIC PRESSURE	0.3	0.3
	FAN RPM	1076	1076
	BRAKE HORSEPOWER	0.04	0.04
	MOTOR HORSEPOWER	1/15	1/15
	VOLTAGE/PHASE	120/1	120/1
	DRIVE	VARIGREEN	VARIGREEN
ELECT. DATA	PANEL & CIRCUIT	R5-7	R5-7
	WIRE & CONDUIT	(2)#12,#12G,1/2"C	(2)#12,#12G,1/2"C
	OVERCURRENT DEVICE	20A/1P CB	20A/1P CB
	DISCONNECT	20A/120V	20A/120V
	CONTROL	NOTE 1	NOTE 1
REFERENCE DRAWING/DETAIL		M101	M101
NOTES		---	---

NOTES:

1: EXHAUST FAN TO OPERATE DURING OCCUPIED HOURS OF ASSOCIATED AIR HANDLING UNIT. PROVIDE RELAYS ON FAN ELECTRICAL CIRCUITS TO ALLOW FOR CONTROL BY THE BMS.

COMPUTER ROOM AIR CONDITIONING UNIT SCHEDULE

INDOOR UNIT

DESIGNATION		CRAC-01	CRAC-02	CRAC-03	CRAC-04	CRAC-05	CRAC-06
INDOOR UNIT	MANUFACTURER	SCHNEIDER	SCHNEIDER	SCHNEIDER	SCHNEIDER	SCHNEIDER	SCHNEIDER
	MODEL	ACRD100	ACRD100	ACRD100	ACRD100	ACRD100	ACRD100
	SERVICE	DATA CENTER	DATA CENTER	DATA CENTER	DATA CENTER	DATA CENTER	DATA CENTER
	CFM	2290	2290	2290	2290	2290	2290
	TOTAL CAPACITY (MBH)	325	325	325	325	325	325
	REFRIGERANT	R410A	R410A	R410A	R410A	R410A	R410A
	FILTER	MERV 8	MERV 8	MERV 8	MERV 8	MERV 8	MERV 8
	WEIGHT (LBS)	404	404	404	404	404	404
ELEC. DATA	VOLTAGE/PHASE	208/1	208/1	208/1	208/1	208/1	208/1
	MCA	25	25	25	25	25	25
	MOCP	40	40	40	40	40	40
	PANEL & CIRCUIT	MDP2-1,3	MDP2-2,4	MDP2-5,7	MDP2-6,8	MDP2-9,11	MDP2-10,12
	WIRE & CONDUIT	(2)#8,#10G,3/4"C	(2)#8,#10G,3/4"C	(2)#8,#10G,3/4"C	(2)#8,#10G,3/4"C	(2)#8,#10G,3/4"C	(2)#8,#10G,3/4"C
	OVERCURRENT DEVICE	40A/2P CB	40A/2P CB	40A/2P CB	40A/2P CB	40A/2P CB	40A/2P CB
	DISCONNECT	30A/2P/NF	30A/2P/NF	30A/2P/NF	30A/2P/NF	30A/2P/NF	30A/2P/NF
	CONTROL	T-STAT	T-STAT	T-STAT	T-STAT	T-STAT	T-STAT
REFERENCE DRAWING/DETAIL		M101	M101	M101	M101	M101	M101
REMARKS		1	1	1	1	1	1

OUTDOOR UNIT

DESIGNATION		ACCU-01	ACCU-02	ACCU-03	ACCU-04	ACCU-05	ACCU-06
UNIT DATA	MANUFACTURER	SCHNEIDER	SCHNEIDER	SCHNEIDER	SCHNEIDER	SCHNEIDER	SCHNEIDER
	MODEL NO.	ACCED75214	ACCED75214	ACCED75214	ACCED75214	ACCED75214	ACCED75214
	AMBIENT TEMPERATURE	95°	95°	95°	95°	95°	95°
	WEIGHT (LBS)	180	180	180	180	180	180
ELEC DATA	VOLTAGE/PHASE	208/1	208/1	208/1	208/1	208/1	208/1
	MCA	15	15	15	15	15	15
	MOCP	15	15	15	15	15	15
	PANEL AND CIRCUIT	MDP2-13,15	MDP2-14,16	MDP2-17,19	MDP2-18,20	MDP2-21,23	MDP2-22,24
	WIRE AND CONDUIT	(2)#12,#12G,1/2"C	(2)#12,#12G,1/2"C	(2)#12,#12G,1/2"C	(2)#12,#12G,1/2"C	(2)#12,#12G,1/2"C	(2)#12,#12G,1/2"C
	OVERCURRENT DEVICE	15A/2P CB	15A/2P CB	15A/2P CB	15A/2P CB	15A/2P CB	15A/2P CB
	DISCONNECT	30A/2P/NF	30A/2P/NF	30A/2P/NF	30A/2P/NF	30A/2P/NF	30A/2P/NF
REFERENCE DRAWING/DETAIL		M101	M101	M101	M101	M101	M101
REMARKS		1	1	1	1	1	1

NOTE 1: UNIT PROVIDED BY OTHERS AND INSTALLED BY CONTRACTOR.

SPLIT SYSTEM A/C UNIT SCHEDULE

INDOOR UNIT

DESIGNATION		ITAC-1
UNIT DATA	MANUFACTURER	TRANE
	MODEL	TPKA0A0241KA70A
	SERVICE	IT
	TYPE	WALL MOUNTED
	CFM	775
	TOTAL COOLING CAP (MBH)	24
	TOTAL HEATING CAP (MBH)	---
ELEC. DATA	VOLTAGE/PHASE	208/1
	PANEL AND CIRCUIT	NOTE 1
	WIRE AND CONDUIT	(2)#12,#12G,1/2"C
	OVERCURRENT DEVICE	NOTE 1
	DISCONNECT	NOTE 1
	CONTROLS	THERMOSTAT

OUTDOOR UNIT

DESIGNATION		ITCU-1
UNIT DATA	MANUFACTURER	TRANE
	MODEL NO.	TRUYA0241HA70NA
	TOTAL COOLING CAP (MBH)	24
	TOTAL HEATING CAP (MBH) @ 17°F	---
	SEER	21.4
	HSPF	---
	AMBIENT AIR TEMP (°F.)	95.0
ELEC DATA	VOLTAGE/PHASE	208/1
	PANEL AND CIRCUIT	R5-17,19
	WIRE AND CONDUIT	(2)#10, #10G., 1/2"C.
	MCA	19
	MOCP	25
	OVERCURRENT DEVICE	25A/2P CB
	DISCONNECT	30A/NF NEMA 3R
REMARKS		1,2,3,4

NOTES:

1: INDOOR UNIT CIRCUITED THROUGH OUTDOOR UNIT. PROVIDE MOTOR RATED TOGGLE SWITCH DISCONNECT ADJACENT TO INDOOR UNIT.

2: PROVIDE UNIT WITH DIGITAL WALL THERMOSTAT

3: PROVIDE UNIT WITH CONDENSATE PUMP AND DRAIN PAN LEVEL SENSOR.

4: PROVIDE UNIT WITH LOW AMBIENT WIND BAFFLES.

AIR HANDLING UNIT SCHEDULE

DESIGNATION		AHU-1	AHU-2
UNIT	MANUFACTURER	TRANE	TRANE
	MODEL NO.	TWE180	TWE180
	SYSTEM	SOUTH	NORTH
SUPPLY FAN	CFM	5600	5300
	OUTSIDE AIR - CFM	890	1100
	TOTAL STATIC PRESSURE (IN. W.C.)	1.5	1.5
	FAN RPM	1100	1100
	BRAKE HORSEPOWER	4.1	4.1
	MOTOR HORSEPOWER	5	5
	VOLTAGE/ PHASE	480/3	480/3
	FAN SIZE/ TYPE	2 15x15 CENTR.	2 15x15 CENTR.
DX COOLING COIL	FACE AREA (SQ. FT.)(MIN.)	16.3	16.3
	ENT. AIR (DB/WB)	78.3/67.0	78.3/67.0
	LVG. AIR (DB/WB)	55/54	55/54
	FINS/ MIN. ROWS	4/14	4/14
	TOTAL COOLING CAPACITY (MBH) (NOTE 1)	185.4	185.4
	SENSIBLE COOLING CAPACITY (MBH) (NOTE 1)	141.6	141.6
HEATING COIL	ENT. AIR (DB)	57	54.2
	LVG. AIR (DB)	60	60
	TOTAL HEATING CAPACITY (KW)	10	10
	STAGES OF HEATING	1	1
	VOLTAGE/ PHASE	480/3	480/3
FILTER	TYPE	MERV 13	MERV 13
	SIZE	15"x20"x2"	15"x20"x2"
ELEC. HTG COIL/ CONTROL DATA	PANEL & CIRCUIT	H1-7,9,11	H2-13,15,17
	WIRE & CONDUIT	(3)#10,#10G,3/4"C	(3)#10,#10G,3/4"C
	OVERCURRENT DEVICE	25A/3P CB	25A/3P CB
	DISCONNECT	30A/3P/NF	30A/3P/NF
	CONTROL SEQUENCE	RE: DWGS	RE: DWGS
REFERENCE DRAWING/DETAIL		M101	M101
REMARKS		1,2	1,2

NOTES:

1: CAPACITY WHEN PAIRED WITH ASSOCIATED OUTDOOR CONDENSING UNIT. REFER TO AIR COOLED CONDENSING UNIT SCHEDULE.

2: PROVIDE WITH MIXING BOX FOR AIR SIDE ECONOMIZER CONTROL.

UNIT HEATER SCHEDULE - ELECTRIC

DESIGNATION		EUH-01	EUH-02
HEATER TYPE		BASEBOARD	BASEBOARD
LOCATION		VESTIBULE	VESTIBULE
MOUNTING		FLOOR	FLOOR
MANUFACTURER		INDEECO	INDEECO
MODEL		BCSI 01750C	BCSI 01750C
UNIT DATA	CFM	---	---
	LENGTH	76.9 IN	76.9 IN
	HEATER KW	1.75	1.75
	VOLTAGE/PHASE	208/1	208/1
ELEC./CTRL. DATA	PANEL & CIRCUIT	R5-2,4	R5-6,8
	WIRE & CONDUIT	(2)#12, #12G., 1/2" C.	(2)#12, #12G., 1/2" C.
	OVERCURRENT DEVICE	15A/2P CB	15A/2P CB
	DISCONNECT	INTEGRAL	INTEGRAL
	CONTROL	INTEGRAL TSTAT	INTEGRAL TSTAT
REFERENCE DWG/DETAIL		M101	M101
REMARKS		1	1

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Architecture # 0000161
Structure # 2006031333

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Construction Documents

District Technology Remodel
Liberty School District

1000 Kent Street
Liberty, Clay County, MO 64068

REVISIONS:

#	Description	Date

RYAN JEROD DIEDIKER — NUMBER PE-2010006511 — REGISTERED PROFESSIONAL ENGINEER — STATE OF MISSOURI
8/31/23

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JOB NO: 23022
DRAWN BY: S&B
CHECKED BY: RJD
DATE: 08.31.2023

ME302

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project number 2314706

MECHANICAL AND ELECTRICAL - SCHEDULES

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PROJECT NAME
AUTOCAD FILE LOCATION \ NAME:
LAST CORRECTION BY ◆ DATE ◆ TIME:
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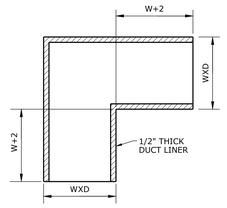
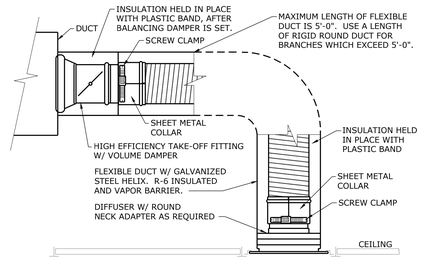
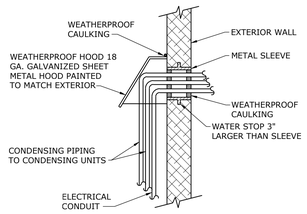


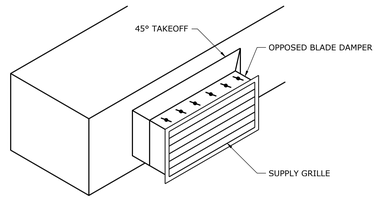
AIR TRANSFER BOOT DETAIL
NOT TO SCALE



FLEXIBLE BRANCH DUCT DETAIL
NOT TO SCALE

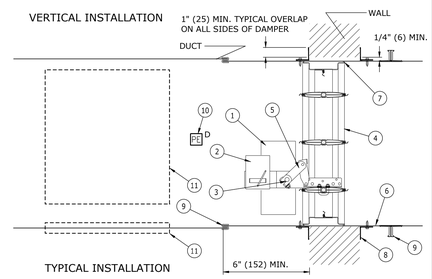


CONDENSING UNIT PIPING ENTRANCE DETAIL
NOT TO SCALE

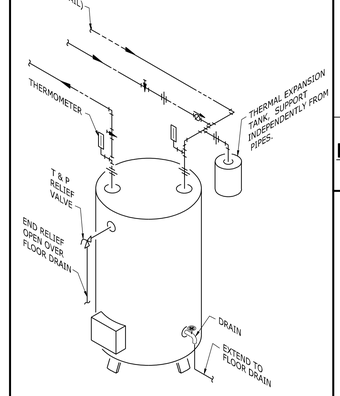


SIDEWALL SUPPLY REGISTER INSTALLATION DETAIL
NOT TO SCALE

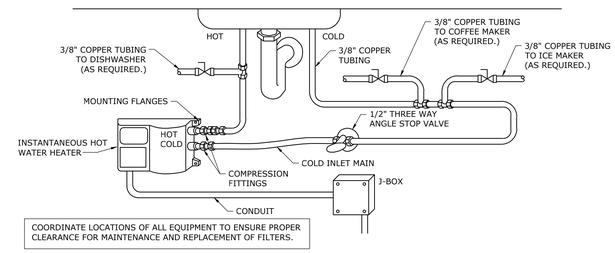
ITEM.	DESCRIPTION
1.	ACTUATOR (LOCATION MAY VARY). DAMPER MAY BE SUPPLIED WITHOUT ACTUATOR INSTALLED. RUSKIN'S UL LISTED FIRE DAMPER ACTUATORS MAY BE FIELD INSTALLED IF PROPERLY LABELED. SEE ACTUATOR INSTALLATION INSTRUCTIONS FOR FIELD MOUNTING OF DAMPER ACTUATORS.
2.	OPTIONAL FIRESTAT OR SP100 (FOR COMBINATION DAMPER).
3.	AUXILLARY OPERATING JACK SHAFT.
4.	DAMPER.
5.	OVER CENTER LOCK.
6.	SLEEVE.
7.	CAULKING MATERIAL (MAY BE ON EITHER SIDE OF DAMPER FRAME).
8.	PFMA OR CONVENTIONAL MOUNTING ANGLES.
9.	S-JOINT/DUCT MATE, SLEEVE TO DUCT
10.	DUCT SMOKE DETECTOR MOUNTED WITHIN NFPA REQUIRED DISTANCE.
11.	PROVIDE ACCESS PANEL ON SIDE OR BOTTOM OF DUCT. PER SPECIFICATIONS.



SMOKE AND COMBINATION FIRE/SMOKE DAMPER DETAIL
NOT TO SCALE

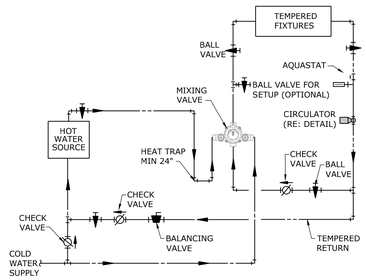


ELECTRIC WATER HEATER DETAIL
NOT TO SCALE



COORDINATE LOCATIONS OF ALL EQUIPMENT TO ENSURE PROPER CLEARANCE FOR MAINTENANCE AND REPLACEMENT OF FILTERS.

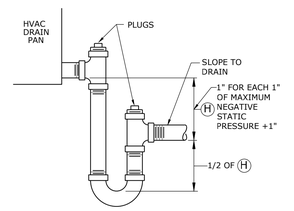
BELOW SINK INSTANTANEOUS WATER HEATER PLUMBING DETAIL
NOT TO SCALE



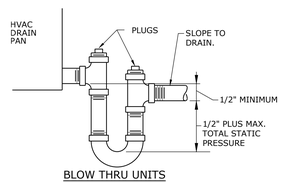
REFER TO PLANS FOR PIPE SIZES. REFER TO SCHEDULE FOR PLUMBING EQUIPMENT.

PIPING ARRANGEMENT SHOWN IS SCHEMATIC. ADJUST AS REQUIRED TO SUIT ACTUAL INSTALLATION CONDITIONS. INSTALL WITH MANUFACTURER'S REQUIRED CLEARANCES.

MASTER MIXING VALVE ASSEMBLY
NOT TO SCALE



DRAW THRU UNITS



BLOW THRU UNITS

CONDENSATE TRAP DRAIN DETAIL
NOT TO SCALE

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Structure # 2006031333

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Construction Documents

District Technology Remodel
Liberty School District

1000 Kent Street
Liberty, Clay County, MO 64068

REVISIONS:

#	Description	Date

RYAN JEROD DIEDIKER — NUMBER PE-2010005131 — REGISTERED PROFESSIONAL ENGINEER — STATE OF MISSOURI
8/31/23

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project number 2314706

ME401

MECHANICAL AND ELECTRICAL - DETAILS

PROJECT NAME:
AUTOCAD FILE LOCATION \ NAME:
LAST CORRECTION BY ◆ DATE ◆ TIME:
PLOTTED BY ◆ DATE ◆ TIME:

2314706 Liberty SD 2023 District Technology Remodel
X:\23\23147\23147706\Drawings\01 - 2314706_ME401.dwg
Jlongenfeld Thursday, August 31, 2023 10:47:31 AM
Body Charles Thursday, August 31, 2023 11:46:01 AM

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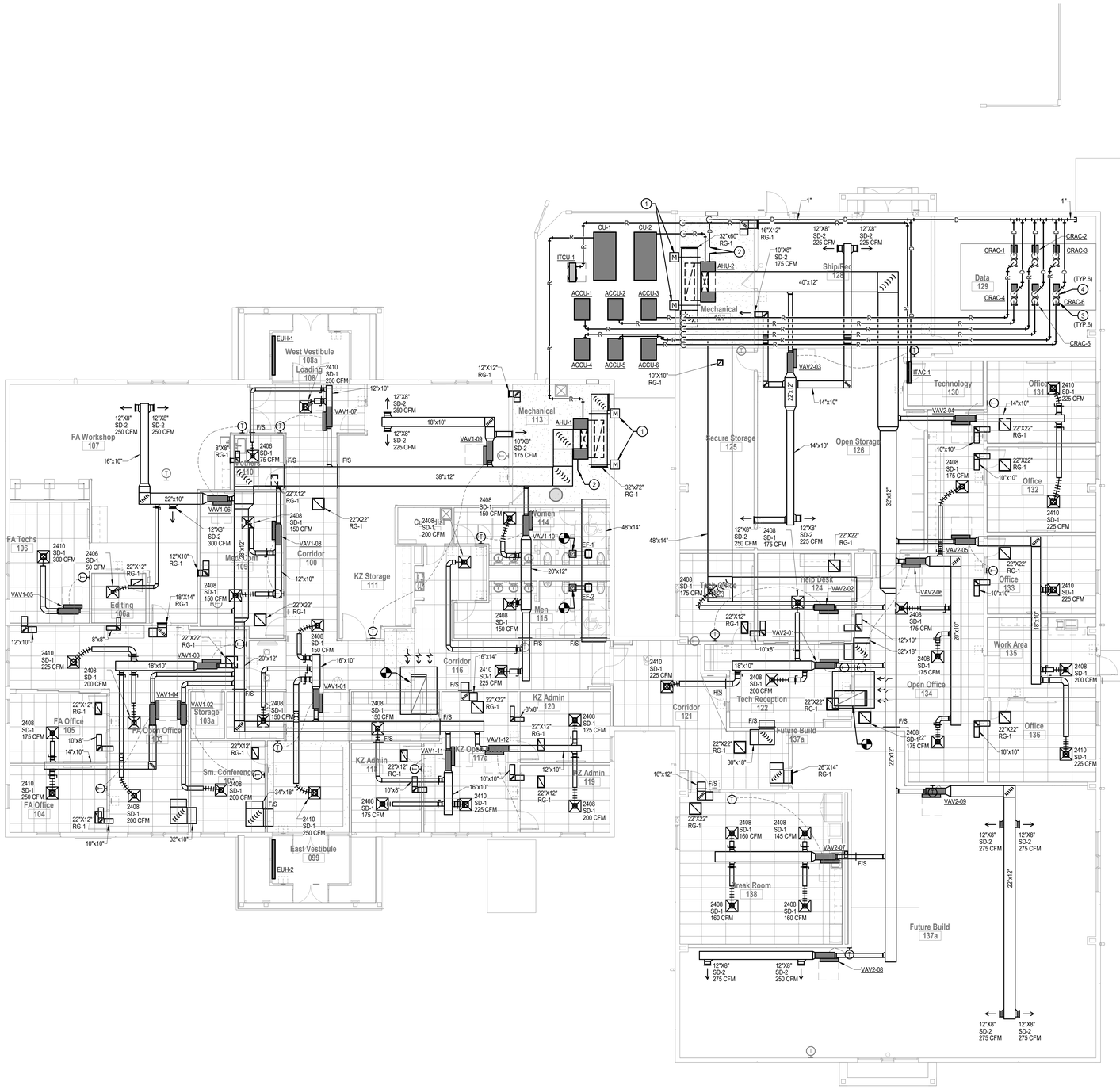

SHEET KEYNOTE LEGEND

PLAN NOTES:

1. MOTORIZED CONTROL DAMPERS FOR AIR-SIDE ECONOMIZER CONTROL.
2. TERMINATE CONDENSATE DRAIN OVER FLOOR DRAIN.
3. REFRIGERANT PIPING TO CRAC UNIT. INSTALL AND SIZE PER MANUFACTURERS INSTRUCTIONS.
4. CONDENSATE DRAIN TUBING DOWN TO CRAC UNIT.

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M101

HVAC PLAN - LEVEL 1

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phone 913.345.2127 fax 913.345.0617
project number:2314706

A1 | Scale 1/8" = 1'-0" | HVAC PLAN - LEVEL 1

PLAN NORTH TRUE NORTH

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BUILDING MANAGEMENT SYSTEM

PROVIDE BMS SYSTEM TO INTEGRATE ALL AIR HANDLING UNITS, EXHAUST FANS, TERMINAL UNITS, AND DUCTLESS SPLIT SYSTEMS INTO THE BMS CONTROLS SYSTEM THROUGH BACNET INTERFACE.

THE BMS SHALL SCHEDULE ALL CONTROLLED SYSTEMS. SCHEDULES INCLUDE BUT MAY NOT BE LIMITED TO: OCCUPIED MODE AND UNOCCUPIED MODE, BOTH GLOBALLY AND FOR INDIVIDUAL ZONES.

A MORNING WARM-UP AND MORNING COOL DOWN. PROGRAM SHALL BE INITIATED 1 HOURS (ADJ) PRIOR TO OCCUPANCY BY THE BMS. REFER TO SEQUENCES FOR ADDITIONAL BMS REQUIREMENTS.

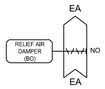
REFER TO SEQUENCES FOR ADDITIONAL BMS REQUIREMENTS.

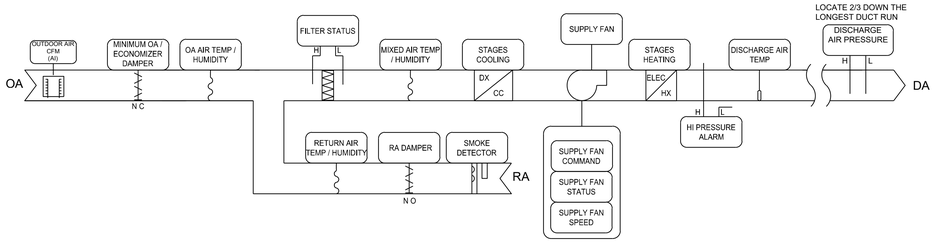
REFER TO PLANS FOR THERMOSTAT LOCATIONS. PROVIDE ALL THERMOSTATS WITH DIGITALS DISPLAY.

ALL THERMOSTATS SHALL ALLOW A ±3°F SET-POINT ADJUSTMENT (ADJ) THROUGH THERMOSTAT CONTROLS.

COORDINATE TIME OF OCCUPANCY SCHEDULE WITH OWNER.

BMS CONTROL SYSTEM
NO SCALE





VAV AIR HANDLING UNIT SEQUENCE

THE AIR HANDLING UNITS SHALL BE FURNISHED WITH OEM CONTROLS AND A COMMUNICATION INTERFACE TO CONNECT TO THE BMS SYSTEM.

THE BMS SHALL PICK UP AVAILABLE UNIT MONITORING AND ADJUSTABLE POINTS AND PROVIDE THEM ON THE GRAPHIC DISPLAY. THESE INCLUDE BUT ARE NOT LIMITED TO DISCHARGE AIR TEMPERATURE, OUTSIDE AIR TEMPERATURE, RETURN AIR TEMPERATURE, MIXED AIR TEMPERATURE, FILTER DIFFERENTIAL PRESSURE, AND HIGH DUCT STATIC PRESSURE.

SUPPLY FAN:

THE SUPPLY FAN SHALL BE STARTED ACCORDING TO THE BUILDING OCCUPANCY SCHEDULE. IF THE SUPPLY FAN STATUS DOES NOT MATCH THE COMMANDED VALUE, AN ALARM SHALL BE GENERATED. WHEN THE SUPPLY FAN STATUS INDICATES THE FAN STARTED, THE CONTROL SEQUENCE SHALL BE ENABLED. THE SUPPLY FAN SHALL MODULATE TO MAINTAIN THE DISCHARGE STATIC PRESSURE AT SET POINT (ADJ.)

STATIC PRESSURE SET POINT OPTIMIZATION:

THE BUILDING AUTOMATION SYSTEM SHALL CONTINUOUSLY MONITOR THE DAMPER POSITION OF ALL TERMINAL UNITS. WHEN ANY DAMPER IS MORE THAN 95% (ADJ.) OPEN, THE STATIC PRESSURE SET POINT SHALL BE RESET UPWARD BY 5% (ADJ.) OF THE MAXIMUM SYSTEM PRESSURE SET POINT AT A FREQUENCY OF 10 MINUTES (ADJ.) UNTIL NO DAMPER IS MORE THAN 95% OPEN OR THE PRESSURE SET POINT HAS RESET UPWARD TO THE SYSTEM MAXIMUM SETTING OR VARIABLE FREQUENCY DRIVE IS AT MAXIMUM SETTING. WHEN ALL DAMPERS ARE LESS THAN 85% (ADJ.) OPEN, THE STATIC PRESSURE SET POINT SHALL BE RESET DOWNWARD BY 5% (ADJ.) OF THE MAXIMUM SYSTEM PRESSURE SET POINT AT A FREQUENCY OF 10 MINUTES (ADJ.) UNTIL AT LEAST ONE DAMPER IS MORE THAN 85% OPEN OR THE PRESSURE SET POINT HAS RESET DOWNWARD TO THE SYSTEM MINIMUM SETTING OR VARIABLE FREQUENCY DRIVE IS AT MINIMUM SETTING. THE CONTROL BANDS, SET POINT INCREMENT VALUES, SET POINT DECREMENT VALUES AND ADJUSTMENT FREQUENCIES SHALL BE ADJUSTED TO MAINTAIN MAXIMUM PRESSURE OPTIMIZATION WITH STABLE SYSTEM CONTROL AND MAXIMUM COMFORT CONTROL.

DISCHARGE AIR CONTROL:

THE UNIT DISCHARGE AIR TEMPERATURE SET POINT SHALL BE 55°F (ADJ.). THE DISCHARGE AIR TEMPERATURE SHALL BE RESET UPWARDS BASED UPON THE MOST CRITICAL ZONE TO A MAXIMUM OF 60°F (ADJ.). WHEN ALL ZONES ARE CALLING FOR HEATING, THE DISCHARGE AIR TEMPERATURE SET POINT SHALL BE RESET TO 70°F (ADJ.). ON A CALL FOR COOLING, THE DX COOLING SHALL STAGE ON AS NEEDED TO MAINTAIN THE DISCHARGE AIR TEMPERATURE AT COOLING SET POINT. ON A CALL FOR HEATING, THE ELECTRIC HEATING COIL SHALL STAGE AS NEEDED TO MAINTAIN DISCHARGE AIR TEMPERATURE AT HEATING SET POINT.

ELECTRIC HEATING COIL:

THE ELECTRIC HEATING COIL WILL STAGE TO MAINTAIN THE DISCHARGE TEMPERATURE SET POINT. WHEN THE UNIT IS SHUTDOWN, THE ELECTRIC HEATING COIL WILL BE OFF.

COOLING COIL:

THE DX COOLING COIL WILL BE STAGED IN SEQUENCE TO MAINTAIN THE DISCHARGE TEMPERATURE SET POINT. THE COOLING COIL WILL BE LOCKED OUT ON A DROP IN OUTDOOR AIR TEMPERATURE BELOW THE LOCKOUT SET POINT.

HUMIDITY CONTROL:

THE SPACE MAXIMUM RETURN AIR HUMIDITY SET POINT SHALL BE 55% RH (ADJ.) DURING COOLING MODE, THE BMS SHALL RESET THE SUPPLY AIR TEMPERATURE LOWER AS NECESSARY TO MAINTAIN THE MAXIMUM HUMIDITY SET POINT. ONCE HUMIDITY IS SATISFIED, THE NORMAL DISCHARGE AIR CONTROL SEQUENCE SHALL HAVE PRIORITY.

ECONOMIZER MODE:

WHEN THE OUTSIDE AIR ENTHALPY IS LOWER THAN THE RETURN AIR ENTHALPY THE UNIT SHALL BE IN ECONOMIZER MODE. THE ECONOMIZER SHALL ACT AS THE INITIAL STAGE OF COOLING, WORKING IN SEQUENCE WITH THE COOLING COIL. ONCE ACTIVE COOLING IS NO LONGER NEEDED, MODULATE THE RETURN AIR AND OUTSIDE AIR DAMPERS TO PROVIDE THE SUPPLY AIR DISCHARGE TEMPERATURE SET POINT. WHEN THE OUTSIDE AIR DRY BULB TEMPERATURE FALLS BELOW 55°F, ECONOMIZER SHALL BE DISABLED.

BUILDING PRESSURIZATION CONTROL:

THE RELIEF HOOD MOTORIZED DAMPER SHALL OPEN WHEN IN ECONOMIZER MODE.

UNOCCUPIED MODE:

WHEN THE UNIT IS IN UNOCCUPIED MODE ACCORDING TO THE SCHEDULE, THE OUTSIDE AIR DAMPER IS CLOSED, THE RELIEF AIR DAMPER IS CLOSED, THE RETURN AIR DAMPER IS OPEN AND THE UNIT IS OFF. UPON A REQUEST FOR COOLING BY A MINIMUM OF FIVE ZONES NEEDING TO MAINTAIN THEIR UNOCCUPIED COOLING TEMPERATURE SET POINT, ACTIVATE THE UNIT SUPPLY FAN, THE OUTSIDE AIR AND RELIEF AIR DAMPERS SHALL REMAIN CLOSED.

FILTER STATUS:

THE DIFFERENTIAL PRESSURE ACROSS THE FILTERS SHALL BE MONITORED AND AN ALARM GENERATED IF THE DIFFERENTIAL PRESSURE RISES ABOVE SET POINT.

SMOKE DETECTOR ALARM:

NOTIFY BMS AND SHUTDOWN UNIT IN THE EVENT THE SMOKE DETECTOR GOES INTO ALARM.

SAFETIES:

IF A FIRE ALARM SHUTDOWN CONTACT IS MADE, THE SUPPLY FAN AND RETURN FAN SHALL BE SHUTDOWN WHEN TRIGGERED.

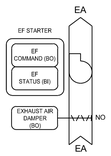
IF A HIGH STATIC PRESSURE SWITCH LOCATED AFTER THE SUPPLY FAN SENSES A DISCHARGE PRESSURE THAT IS GREATER THAN SET POINT, THE SUPPLY FAN AND RETURN FAN SHALL BE SHUTDOWN.

AIR HANDLING UNIT CONTROL DIAGRAM (AHU-1 & 2)
NTS

UNITS WILL BE PROVIDED WITH FACTORY CONTROL PACKAGE THROUGH THE SPLIT SYSTEM.

BMS TO PROVIDE SPACE TEMPERATURE SENSOR AND GENERATE ALARM IN THE EVENT THE SPACE DEVIATES MORE THAN 5°F (ADJ.) FROM SET POINT (75°F ADJ.)

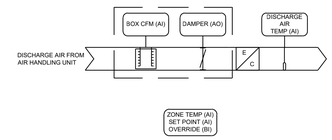
DUCTLESS SPLIT SYSTEM
NO SCALE



DURING OCCUPIED HOURS, THE EXHAUST AIR DAMPER SHALL OPEN AND THE EXHAUST FANS SHALL OPERATE CONTINUOUSLY WHENEVER THE ASSOCIATED AIR HANDLER OPERATES. SHOULD THE EF FAIL TO RUN, THE BMS WILL ANNUNCIATE AN ALARM AT THE OPERATOR WORKSTATION.

EF-1 & EF-2 IS ASSOCIATED WITH RTU-1.

EXHAUST FANS
NO SCALE



VAV TERMINAL UNIT SEQUENCE

OCCUPIED MODE:

ON A RISE IN ZONE TEMPERATURE ABOVE THE SET POINT (75°F, ADJ.), THE PRIMARY AIR DAMPER SHALL INCREASE THE CFM AND THE ELECTRIC HEATING COIL REMAINS DEENERGIZED. ON A DROP IN ZONE TEMPERATURE BELOW THE HEATING SET POINT (72°F, ADJ.), THE PRIMARY DAMPER SHALL DECREASE TO THE MINIMUM CFM. ONCE HEATING IS NEEDED, THE PRIMARY AIR DAMPER SHALL INCREASE TO THE HEATING CFM AND THE ELECTRIC HEATING COIL SHALL ENERGIZE.

NIGHT SETBACK MODE:

DURING NIGHT SETBACK, TERMINAL BOX CONTROLLERS ARE INDEXED TO UNOCCUPIED MODE. WHEN THE ZONE TEMPERATURE IS BETWEEN THE UNOCCUPIED HEATING (65°F, ADJ.) AND COOLING (85°F, ADJ.) SET POINTS, THE PRIMARY AIR DAMPER SHALL BE CLOSED AND THE ELECTRIC HEATING COIL REMAINS DEENERGIZED. ON A RISE IN ZONE TEMPERATURE ABOVE THE UNOCCUPIED COOLING SET POINT, A REQUEST FOR COOLING SHALL BE SENT TO THE BMS. ONCE FIVE UNITS HAVE REQUESTED FOR COOLING, THE AIR HANDLING UNIT SHALL START, THE PRIMARY AIR DAMPER SHALL INCREASE THE CFM, AND THE ELECTRIC HEATING COIL REMAINS DEENERGIZED. ON A DROP IN ZONE TEMPERATURE BELOW THE UNOCCUPIED HEATING SET POINT, A REQUEST FOR HEATING SHALL BE SENT TO THE BMS. ONCE FIVE UNITS HAVE REQUESTED FOR HEATING, THE AIR HANDLING UNIT SHALL START, THE PRIMARY AIR DAMPER SHALL INCREASE THE CFM, AND THE ELECTRIC HEATING COIL SHALL ENERGIZE.

MORNING WARM UP/COOL DOWN:
WHEN THE SPACE TEMPERATURE IS BELOW SET POINT MORNING WARM UP SHALL BE PROVIDED. WHEN THE SPACE TEMPERATURE IS ABOVE SET POINT, MORNING COOL SHALL BE PROVIDED. DURING MORNING WARM UP, THE PRIMARY AIR DAMPER IS OPEN AND THE ELECTRIC HEATING COIL ENERGIZES. DURING MORNING COOL DOWN THE ELECTRIC HEATING COIL IS DEENERGIZED AND THE PRIMARY AIR DAMPER MODULATES TO MAINTAIN SET POINT. ONCE THE SPACE IS WITHIN 2°F (ADJ) OF SET POINT, SIGNAL THE BMS AND TRANSITION TO THE OCCUPIED SEQUENCE OF CONTROL

SET POINT LIMIT RANGE:

LIMIT SET POINT ADJUSTMENTS FROM THE SPACE THERMOSTAT TO +/- 2°F (ADJ.).

OCCUPANCY OVERRIDE:

ALL SPACE TEMPERATURE SENSORS WILL HAVE OCCUPANCY OVERRIDE BUTTONS AS PART OF THIS CONTRACT.

VAV TERMINAL SCHEMATIC
NO SCALE

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project number 2314706

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Construction Documents

District Technology Remodel
Liberty School District
1000 Kent Street
Liberty, Clay County, MO 64068

REVISIONS:

#	Description	Date

STATE OF MISSOURI
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8/31/23

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HVAC CONTROL DIAGRAMS

PROJECT NAME:
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PLOTTED BY ◆ DATE ◆ TIME:
2314706 Liberty SD 2023 District Technology Remodel
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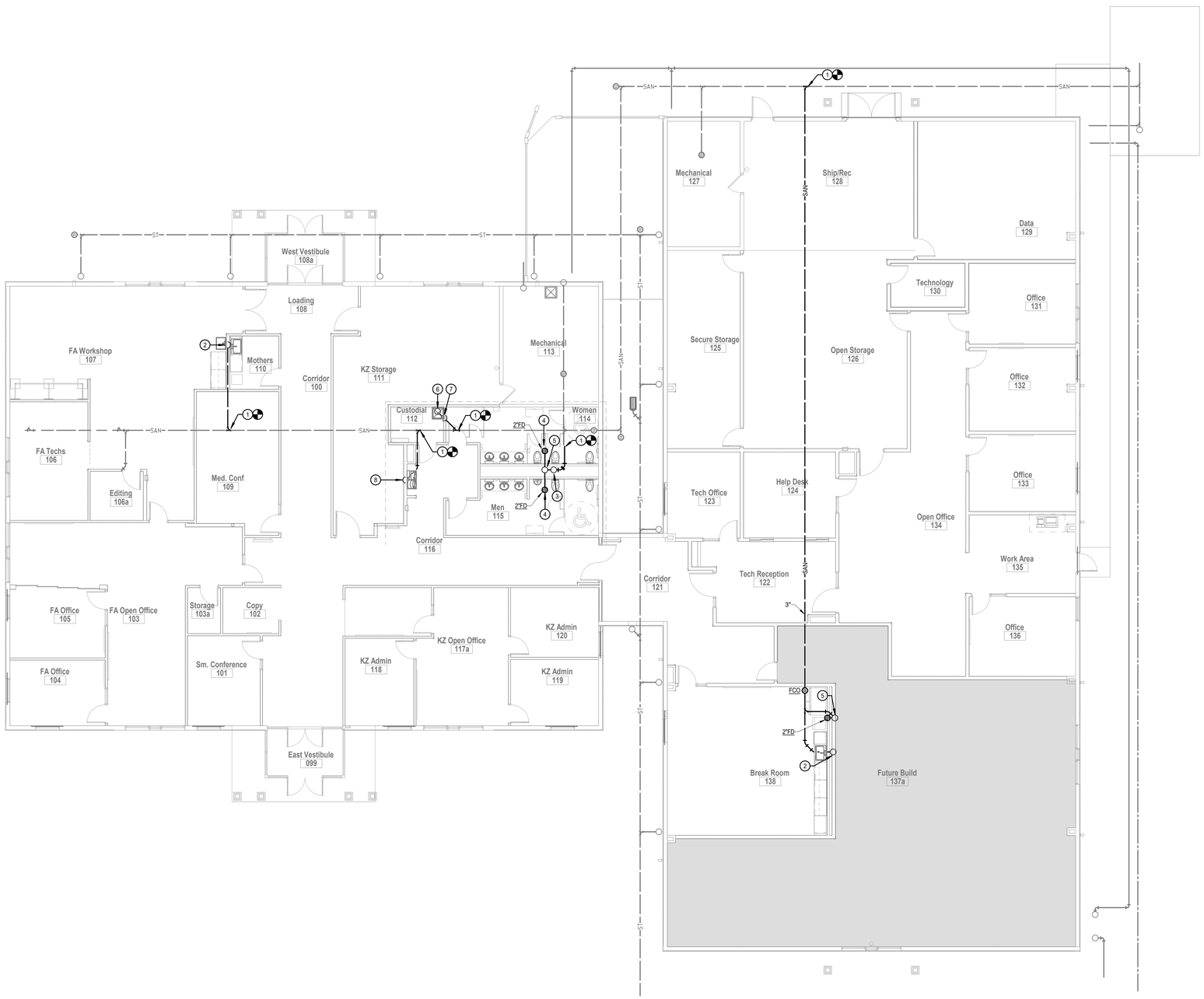

SHEET KEYNOTE LEGEND

GENERAL NOTES:

1. INFORMATION SHOWN ON THE DRAWINGS IS INTENDED TO CONVEY SCOPE AND IS ARRANGED FOR DRAWING CLARITY. IT IS NOT TO BE TAKEN AS AN AS-BUILT CONDITION. THE SYSTEM INSTALLATION SHALL BE COORDINATED WITH STRUCTURE, CEILINGS, WALLS, AND ALL OTHER TRADES TO PROVIDE FOR A COMPLETE AND WORKING SYSTEM.
2. CAREFULLY COORDINATE PIPE ROUTING WITH STRUCTURE AS WELL AS ALL OTHER TRADES TO MAINTAIN EQUIPMENT CLEARANCES AND DESIRED CEILING HEIGHTS.
3. COORDINATE ALL PIPING PENETRATIONS WITH STRUCTURAL PRIOR TO CORE DRILLING.
4. PROVIDE SHUT OFF VALVES ABOVE ACCESSIBLE CEILING OR OTHER ACCESSIBLE LOCATION FOR ALL BRANCH PIPING AND INDIVIDUAL CONNECTIONS TO PLUMBING FIXTURES. WHERE STOPS ARE PROVIDED FOR INDIVIDUAL FIXTURES SHUT OFF VALVES ARE ALSO REQUIRED AT THE BRANCH CONNECTION. PLUMBING STOPS ARE NOT CONSIDERED A SUBSTITUE FOR SHUT OFF VALVES.
5. AVOID ROUTING ANY PIPING THROUGH IT ROOMS OR ELECTRIC ROOMS. IN THE EVENT IT IS ABSOLUTELY NECESSARY, COORDINATE THE EXACT LOCATION SUCH THAT IT IS NOT DIRECTLY ABOVE ANY PANELS OR EQUIPMENT.
6. PROVIDE FIRESTOPPING AT PENETRATIONS OF ALL RATED WALLS. REFER TO CODE PLANS FOR LOCATIONS OF RATED WALLS.
7. ALL HOT WATER RECIRC BALANCE DEVICES SHALL BE 1 GPM CIRCUIT SETTERS UNLESS OTHERWISE NOTED.
8. PRIOR TO THE START OF WORK, THE PLUMBING CONTRACTOR IS REQUIRED TO SCOPE EXISTING

PLAN NOTES:

1. CONNECT NEW UNDERSLAB SANITARY TO EXISTING UNDERSLAB PIPING. SAWCUT EXISTING SLAB AND BACK FILL AS REQUIRED TO MATCH EXISTING FLOORING.
2. 2" SAN UP IN WALL TO LAV/SINK.
3. 4" SAN UP IN CHASE TO SERVE PLUMBING FIXTURES.
4. 2" SAN UP TO FLOOR DRAIN.
5. 2" SAN UP TO 1-1/2" VENT.
6. 3" SAN UP TO SERVICE SINK.
7. 3" SAN UP TO 2" VENT.
8. 2" SAN UP TO DRINKING FOUNTAIN.

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project number:2314706

A1 Scale 1/8" = 1'-0"

UNDERSLAB PLUMBING PLAN - LEVEL 1

PLAN NORTH TRUE NORTH

8/31/2023 11:51:10 AM

Please consider the environment before printing this.



SHEET KEYNOTE LEGEND

GENERAL NOTES:

1. REFER TO SHEET P100 FOR PLUMBING GENERAL NOTES.

PLAN NOTES:

1. 1-1/2" VENT, 3/4" COLD WATER, AND 3/4" HOT WATER DOWN IN WALL. EXTEND TAPS TO EACH SINK AND SIZE PER PLUMBING FIXTURE SCHEDULE.
2. 1-1/2" VENT, 1" COLD WATER, AND 1" HOT WATER DOWN IN CHASE. EXTEND INDIVIDUAL TAPS TO EACH LAVATORY AND SIZE PER PLUMBING FIXTURE SCHEDULE.
3. 3" VENT AND 2" COLD WATER DOWN IN CHASE. EXTEND INDIVIDUAL TAPS TO EACH FIXTURE AND SIZE PER PLUMBING FIXTURE SCHEDULE.
4. CONNECT NEW VENT PIPE TO EXISTING VENT THROUGH ROOF.
5. 1-1/2" VENT AND 3/4" COLD WATER DOWN IN WALL. CONNECT 1/2" COLD WATER TO INSTANTANEOUS WATER HEATER AND CONNECT 1/2" HOT WATER FROM INSTANTANEOUS WATER HEATER TO SINK.
6. FURNISH AND INSTALL DRY CHEMICAL FIRE SUPPRESSION SYSTEM.

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State Certificate of Authority #:
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Landscaping: 2006027139
Surveying: 2006027138
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Construction Documents

District Technology Remodel
Liberty School District
1000 Kent Street
Liberty, Clay County, MO 64068

REVISIONS:

#	Description	Date

STATE OF MISSOURI
RYAN JEROD DIEDIKER
NUMBER PE-2010063110
REGISTERED PROFESSIONAL ENGINEER
8/31/23

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DATE: 08.31.2023

P101

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A1 | Scale 1/8" = 1'-0" | PLUMBING PLAN - LEVEL 1

PLAN NORTH | TRUE NORTH

PLUMBING PLAN - LEVEL 1

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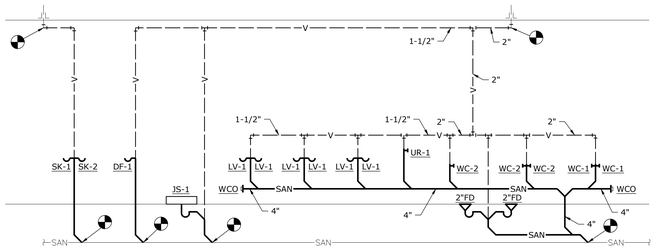
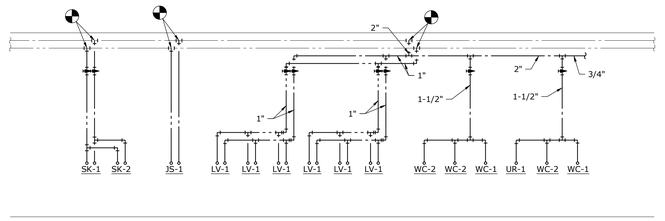


WASTE & VENT RISER DIAGRAM
SCALE: NO SCALE



DOMESTIC WATER RISER DIAGRAM
SCALE: NO SCALE

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P201

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PLUMBING RISER DIAGRAMS

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PROJECT NAME:
AUTOCAD FILE LOCATION \ NAME:
LAST CORRECTION BY ◆ DATE ◆ TIME:
PLOTTED BY ◆ DATE ◆ TIME:

2314706 Liberty SD 2023 District Technology Remodel
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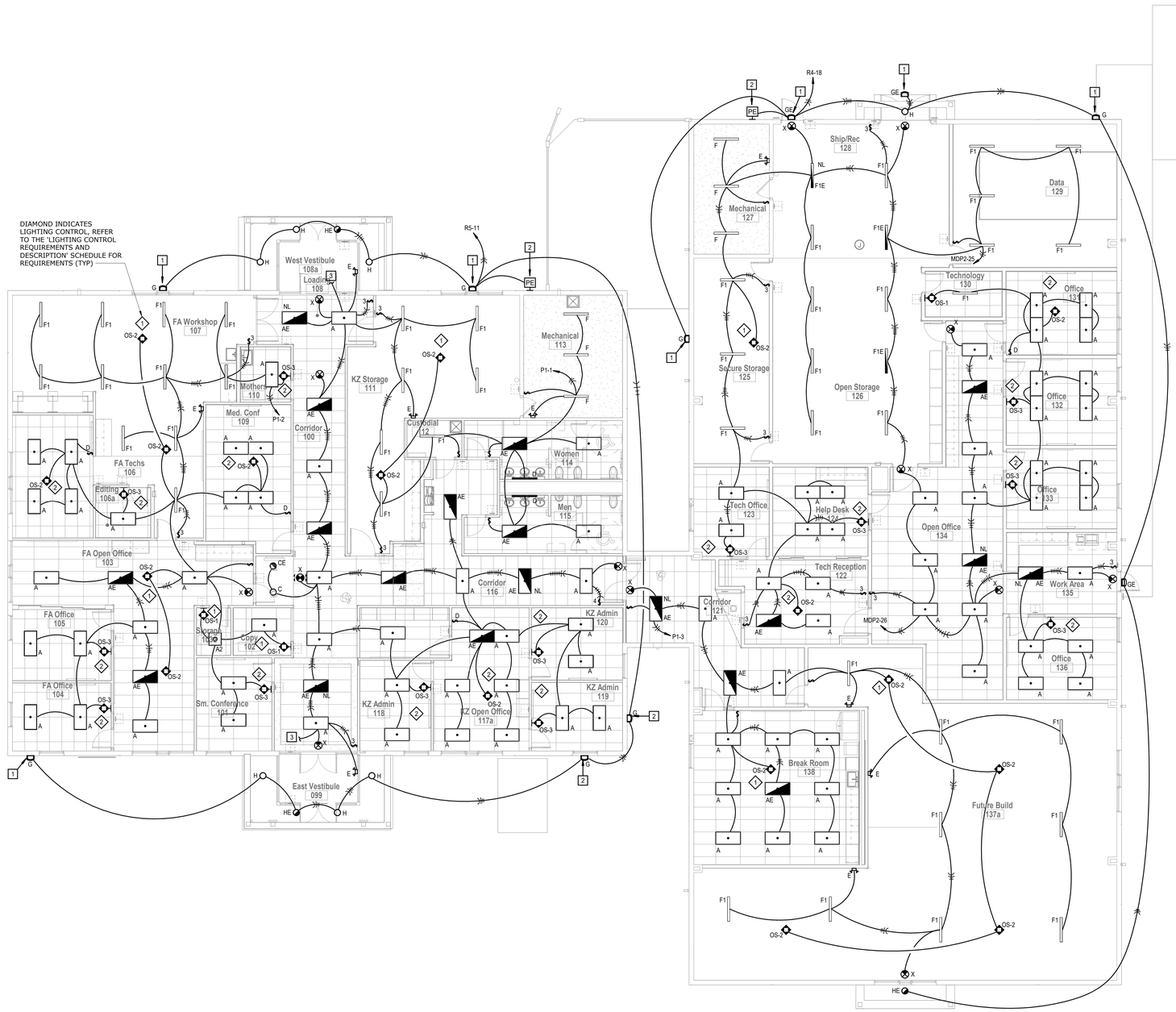
Thursday, August 31, 2023 11:30:40 AM
JJongenfeld
Thursday, August 31, 2023 11:46:22 AM
Brady Charles



SHEET KEYNOTE LEGEND

PLAN NOTES:

1. INSTALL IN THE EXISTING BACKBOX FROM THE REMOVED LIGHT FIXURE AT THIS LOCATION. RE-CIRCUIT AS SHOWN.
2. MOUNT AT 10'-0" +/- AFF. CONNECT TO THE EXTERIOR LIGHT FIXTURES FOR CONTROL, PROVIDE AN UNSWITCHED CONDUCTOR FOR CONTROL OF EMERGENCY FIXTURES.
3. EXTEND AND CONNECT TO THE EXISTING VESTIBULE LIGHTS, MAINTAIN EXISTING CONTROLS.
4. PROVIDE CONNECTION TO THE NEW MONUMENT AND PHOTOCELL FOR CONTROL. REFER TO THE CIVIL SITE PLAN FOR SIGN LOCATION. COORDINATE ALL CONNECTION REQUIREMENTS WITH THE SIGN INSTALLER.

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Construction Documents

District Technology Remodel
Liberty School District
1000 Kent Street
Liberty, Clay County, MO 64068

REVISIONS:

#	Description	Date

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E101

A1 | Scale 1/8" = 1'-0" | LIGHTING PLAN - LEVEL 1

PLAN NORTH | TRUE NORTH

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LIGHTING PLAN - LEVEL 1

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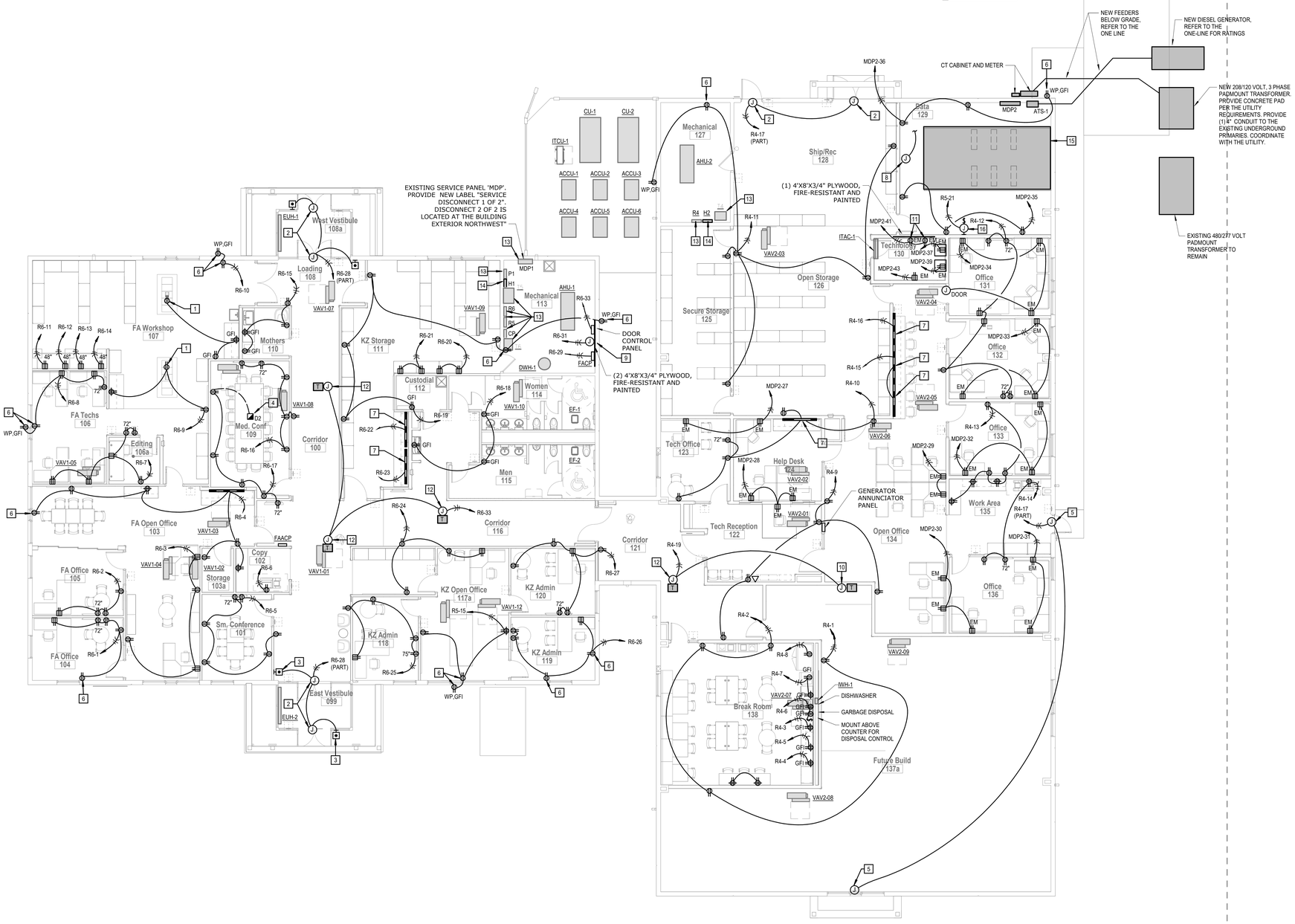

SHEET KEYNOTE LEGEND

GENERAL NOTES:

1. REFER THE EQUIPMENT SCHEDULES ON THE 'ME' SHEETS FOR CIRCUITING REQUIREMENTS TO MECHANICAL EQUIPMENT.
2. REFER TO THE FIRE ALARM PLAN FOR 120 VOLT CIRCUITING TO DOOR HOLDERS.

PLAN NOTES:

1. PROVIDE CORD REEL MOUNTED AT THE CEILING. FURNISH WITH (2) 20 AMP DUPLEX RECEPTACLES AND 25' #12/3 CORD, HUBBELL #HBL125123R220M1 OR SIMILAR.
2. CONNECT TO THE DOOR CONTROLLER/DOOR OPERATOR.
3. PROVIDE ROUGH IN AT 48" AFF FOR DOOR OPERATOR. EXTEND (1) 1/2" CONDUIT WITH PULL STRING TO EACH DOOR OPERATOR CONTROLLER.
4. PROVIDE WIREMOLD #RFB4-CI OR EQUAL CAST IRON, 4-GANG, MULTISERVICE FLOOR BOX SUITABLE FOR ON-GRADE INSTALLATION. FURNISH WITH GRAY COVER SUITABLE FOR FLOORING INSTALLED, 2 DUPLEX RECEPTACLES AND 2 DATA OUTLETS. EXTEND (1) 1" EMPTY CONDUIT WITH PULL STRING FROM BOX, BELOW FLOOR, AND UP THE WALL TO ABOVE THE CEILING FOR COMMUNICATIONS CABLING.
5. CONNECTION FOR FUTURE DOOR OPERATOR CONTROLLER. PROVIDE JUNCTION BOX ABOVE CEILING OR A MINIMUM OF 10' AFF.
6. REMOVE THE EXISTING DEVICE AT THIS LOCATION, PROVIDE NEW DEVICE AND PLATE. RE-CIRCUIT AS SHOWN.
7. PLUGMOLD MOUNTED 6" ABOVE COUNTER. PROVIDE WIREMOLD 2000 SERIES OR SIMILAR STEEL MULTIOUTLET SYSTEM WITH RECEPTACLES 12" ON CENTER, SINGLE CIRCUIT, WHITE FINISH. FURNISH IN THE LENGTH SHOWN.
8. PROVIDE GROUND CONNECTION TO THE ESD STATIC CONTROL FLOORING SYSTEM. EXTEND (1) #10 COPPER GROUND FROM THE GROUND BUS AT PANEL MDP2 TO THE COPPER STRIPPING AT THE FLOORING. COORDINATE CONNECTION LOCATION AND CONNECTION REQUIREMENTS WITH THE FLOORING MANUFACTURER'S INSTALLATION INSTRUCTIONS.
9. PROVIDE POWER TO DDC SYSTEM, COORDINATE LOCATION WITH THE HVAC CONTRACTOR.
10. PROVIDE POWER CONNECTION TO THE FIRE/SMOKE DAMPER. DAMPER TO BE CONTROLLED BY THE SMOKE DETECTOR.
11. PROVIDE CONNECTION TO THE DOOR CONTROL PANEL AND SECURITY PANEL. COORDINATE EXACT HEIGHT, LOCATION AND CONNECTION REQUIREMENTS WITH SECURITY CONTRACTOR.
12. PROVIDE POWER FOR FIRE/SMOKE DAMPERS AT THE COORIDOR RATED WALL PENETRATIONS. EXTEND CIRCUIT TO EACH DAMPER, REFER TO SHEET M101 FOR DAMPER LOCATIONS AND QUANTITIES. COORDINATE VOLTAGE WITH THE HVAC CONTRACTOR, PROVIDE TRANSFORMER AS REQUIRED. DAMPERS TO BE CONTROLLED BY THE CORRIDOR CEILING MOUNTED SMOKE DETECTORS.
13. EXISTING PANELBOARD/TRANSFORMER TO REMAIN.
14. REMOVE THE EXISTING PANELBOARD AT THIS LOCATION AND THE ASSOCIATED PANEL FEEDER. PROVIDE NEW PANEL AS SHOWN.
15. PROVIDE CONNECTION TO THE DATA CENTER POD POWER DISTRIBUTION UNIT (PDU). REFER TO THE ONE LINE FOR FEEDER SIZE. FIELD VERIFY THE EXACT PDU LOCATION WITH THE POD.
16. PROVIDE POWER TO THE DATA CENTER DRY CHEMICAL FIRE SUPPRESSION SYSTEM CONTROL PANEL/PUMP. COORDINATE CONNECTION REQUIREMENTS AND LOCATION WITH SYSTEM INSTALLER.

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Liberty School District
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REVISIONS:

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DATE: 08.31.2023

E201

POWER PLAN - LEVEL 1

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project number:2314706

A1 | Scale 1/8" = 1'-0" | POWER PLAN - LEVEL 1

PLAN NORTH TRUE NORTH

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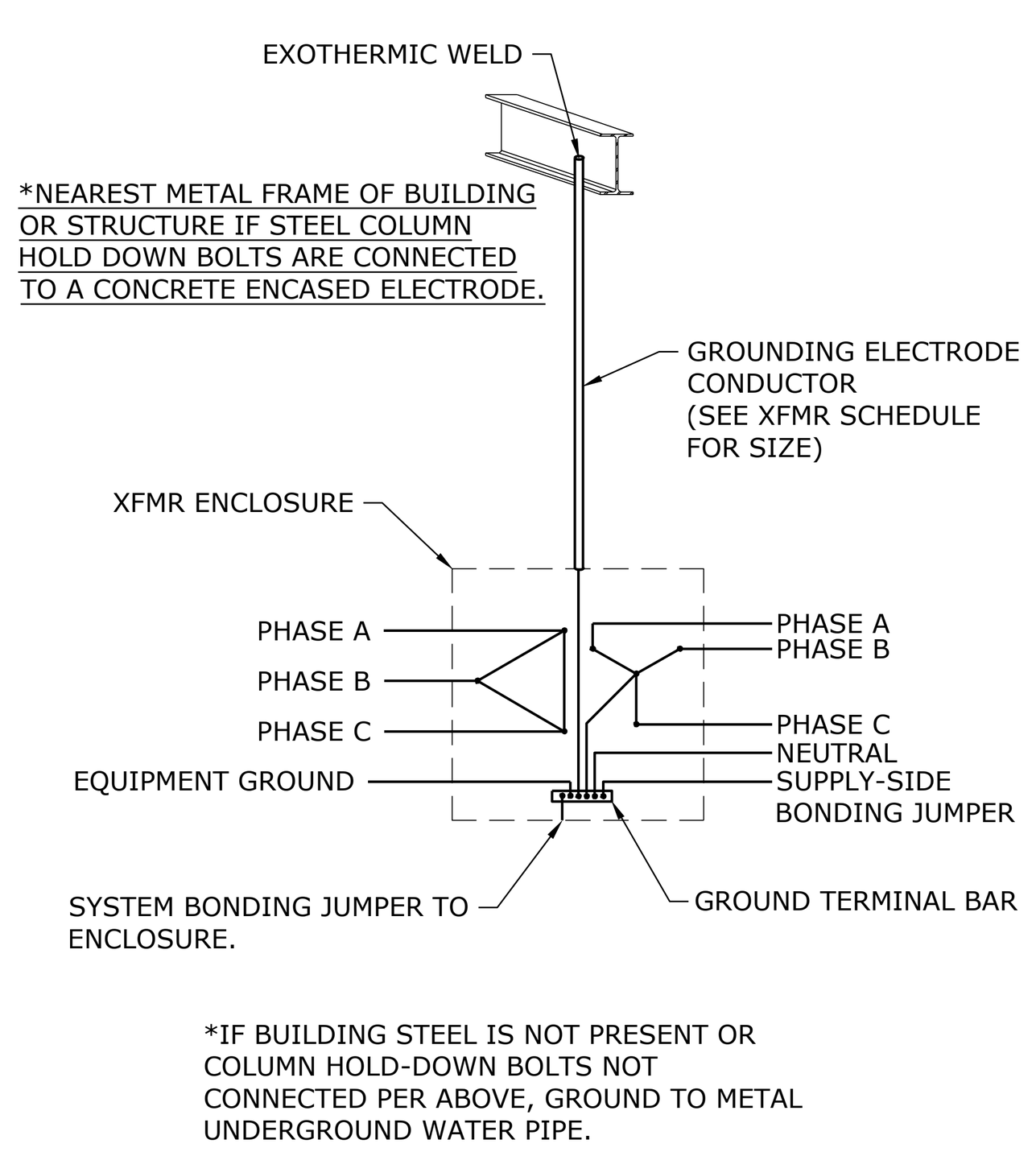
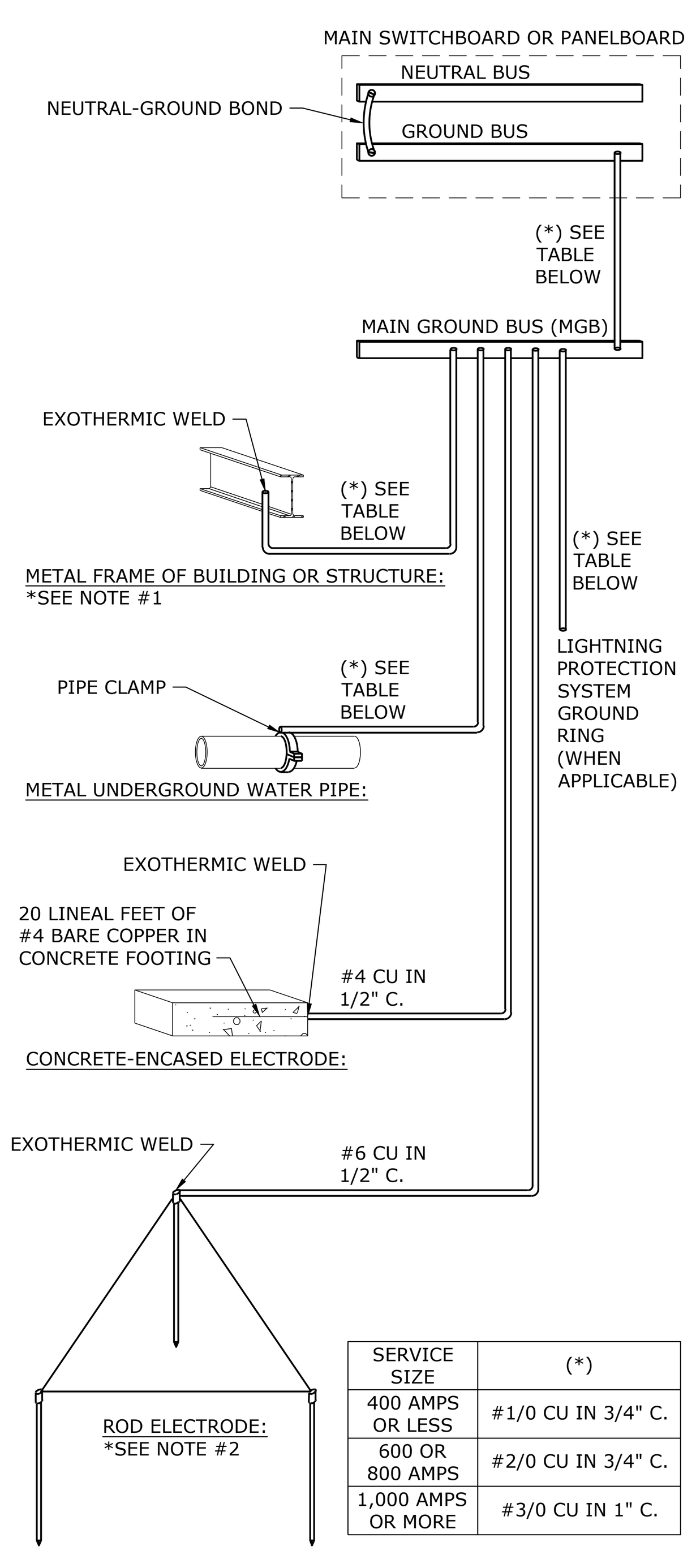


*IF BUILDING STEEL IS NOT PRESENT OR COLUMN HOLD-DOWN BOLTS NOT CONNECTED PER ABOVE, GROUND TO METAL UNDERGROUND WATER PIPE.

TRANSFORMER GROUNDING
NOT TO SCALE



SERVICE SIZE	(*)
400 AMPS OR LESS	#1/0 CU IN 3/4" C.
600 OR 800 AMPS	#2/0 CU IN 3/4" C.
1,000 AMPS OR MORE	#3/0 CU IN 1" C.

GENERAL NOTES

- ALL GROUNDING ELECTRODES PRESENT AT EACH BUILDING OR STRUCTURE SERVED SHALL BE BONDED TOGETHER TO FORM THE GROUNDING ELECTRODE SYSTEM.

NOTES:

1. BUILDING STEEL HOLD-DOWN BOLTS SECURING STEEL COLUMNS SHALL BE CONNECTED TO A CONCRETE-ENCASED ELECTRODE IN ORDER TO BE USED FOR SEPARATELY DERIVED SYSTEM GROUNDING (I.E. TRANSFORMERS). VERIFY WITH STRUCTURAL ENGINEER PLANS PRIOR TO WORK BEGINNING.
2. SPACE GROUND RODS MINIMUM ONE ROD LENGTH AWAY FROM EACH OTHER OR TWO ROD LENGTHS WHERE SPACE IS AVAILABLE.

SERVICE GROUNDING DIAGRAM
NOT TO SCALE

FEEDER SCHEDULE - COPPER CONDUCTORS
THREE PHASE FEEDERS ONLY

CIRCUIT RATING	CONDUIT SIZE (INCHES), MULTIPLE CONDUITS = MULTIPLE CONDUCTOR SETS							CONDUCTOR SIZE		
	G	N	NG	NGI	NG-T	NGI-T	NNG-T	PHASE/ NEUTRAL	GND/ IG	XFMR GND/IG
15	0.5	0.5	0.5	0.5	–	–	–	#12	#12	–
20	0.5	0.5	0.5	0.5	–	–	–	#12	#12	–
30	0.75	0.75	0.75	0.75	–	–	–	#10	#10	–
40	0.75	0.75	0.75	1	–	–	–	#8	#10	–
50	0.75	1	1	1.25	1	1.25	1.25	#6	#10	#8
60	1	1.25	1.25	1.5	–	–	–	#4	#10	–
70	1	1.25	1.25	1.5	–	–	–	#4	#8	–
80	1	1.25	1.25	2	–	–	–	#3	#8	–
90	1.25	1.25	1.25	2	–	–	–	#2	#8	–
100	1.25	1.5	1.5	2	1.5	2	2	#1	#8	#6
110	1.25	1.5	1.5	2	–	–	–	#1	#6	–
125	1.25	1.5	1.5	2	–	–	–	#1	#6	–
150	1.5	1.5	1.5	2	1.5	2	2	#1/0	#6	#6
175	1.5	2	2	2.5	–	–	–	#2/0	#6	–
200	2	2	2	2.5	–	–	–	#3/0	#6	–
225	2	2.5	2.5	3	–	–	–	#4/0	#4	–
250	2	2.5	2.5	3	2.5	3	3	#250	#4	#2
300	2.5	3	3	3.5	–	–	–	#350	#4	–
350	3	3.5	3.5	4	3.5	4	4	#500	#3	#1/0
400	3	3.5	3.5	4	–	–	–	#500	#3	–
450	(2) 2	(2) 2.5	(2) 2.5	(2) 3	–	–	–	#4/0	#2	–
500	(2) 2	(2) 2.5	(2) 2.5	(2) 3	(2) 2.5	(2) 3	(2) 3	#250	#2	#1/0
600	(2) 2.5	(2) 3	(2) 3	(2) 3.5	–	–	–	#350	#1	–
700	(2) 3	(2) 3.5	(2) 3.5	(2) 4	(2) 3.5	(2) 4	(2) 4	#500	#1/0	#2/0
800	(2) 3	(2) 3.5	(2) 3.5	(2) 4	–	–	–	#500	#1/0	–
1000	(3) 3	(3) 3	(3) 3	(3) 4	(3) 3	(3) 4	(3) 4	#400	#2/0	#3/0
1200	(4) 2.5	(4) 3	(4) 3	(4) 3.5	–	–	–	#350	#3/0	–
1600	(5) 3	(5) 3	(5) 3	(5) 4	(5) 3	(5) 4	(5) 4	#400	#4/0	#3/0
2000	(6) 3	(6) 3	(6) 3	(6) 4	–	–	–	#400	#250	–
2500	(7) 3	(7) 3.5	(7) 3.5	(7) 4	–	–	–	#500	#350	–
3000	(8) 3	(8) 3.5	(8) 3.5	(8) 4	–	–	–	#500	#400	–
4000	(11) 3	(11) 3.5	(11) 3.5	(11) 4	–	–	–	#500	#500	–

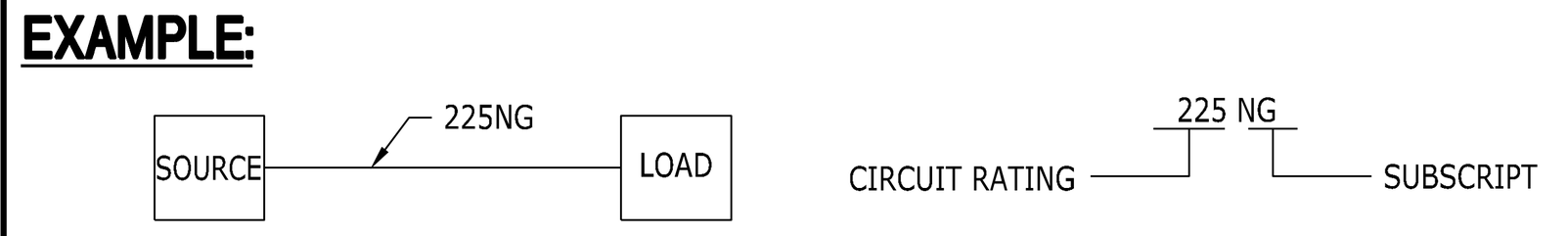
FEEDER SCHEDULE - AA-8000 ALUMINUM ALLOY CONDUCTORS
AA-8000 ALUMINUM ALLOY ALLOWED AS A SUBSTITUTE FOR COPPER ON ALL FEEDERS 100 AMPS AND ABOVE
THREE PHASE FEEDERS ONLY (ALUMINUM NOT ALLOWED FOR ANY BRANCH CIRCUITS)

CIRCUIT RATING	CONDUIT SIZE (INCHES), MULTIPLE CONDUITS = MULTIPLE CONDUCTOR SETS							CONDUCTOR SIZE		
	G	N	NG	NGI	NG-T	NGI-T	NNG-T	PHASE/ NEUTRAL	GND/ IG	XFMR GND/IG
100	1.5	1.5	1.5	2	1.5	2	2	#1/0	#6	#4
110	1.5	2	2	2	–	–	–	#1/0	#4	–
125	1.5	2	2	2	–	–	–	#2/0	#4	–
150	2	2	2	2.5	2	2.5	2.5	#3/0	#4	#4
175	2	2.5	2.5	3	–	–	–	#4/0	#4	–
200	2	2.5	2.5	3	–	–	–	#250	#4	–
225	2.5	3	3	3.5	–	–	–	#300	#2	–
250	2.5	3	3	3.5	3	3.5	3.5	#350	#2	#1/0
300	3	3.5	3.5	3.5	–	–	–	#500	#2	–
350	(2) 2	(2) 2.5	(2) 2.5	(2) 3	(2) 2.5	(2) 3	(2) 3	#4/0	#1	#3/0
400	(2) 2.5	(2) 2.5	(2) 2.5	(2) 3	–	–	–	#250	#1	–
450	(2) 2.5	(2) 3	(2) 3	(2) 3	–	–	–	#300	#1/0	–
500	(2) 2.5	(2) 3	(2) 3	(2) 3.5	(2) 3	(2) 3.5	(2) 3.5	#350	#1/0	#3/0
600	(2) 3	(2) 3.5	(2) 3.5	(2) 3.5	–	–	–	#500	#2/0	–
700	(3) 2.5	(3) 3	(3) 3	(3) 3.5	(3) 3	(3) 3.5	(3) 3.5	#350	#3/0	#4/0
800	(3) 3	(3) 3	(3) 3	(3) 3.5	–	–	–	#400	#3/0	–
1000	(3) 3.5	(3) 3.5	(3) 3.5	(3) 4	(3) 3.5	(3) 4	(3) 4	#600	#4/0	#250
1200	(4) 3	(4) 3.5	(4) 3.5	(4) 4	–	–	–	#500	#250	–
1600	(5) 3.5	(5) 4	(5) 4	(5) 4	(5) 4	(5) 4	(5) 4	#600	#350	#250
2000	(6) 3.5	(6) 4	(6) 4	(6) 4	–	–	–	#600	#400	–
2500	(8) 3.5	(8) 4	(8) 4	(8) 5	–	–	–	#600	#600	–
3000	(9) 3.5	(9) 4	(9) 4	(9) 5	–	–	–	#600	#600	–
4000	(11) 4	(11) 5	(11) 5	(11) 5	–	–	–	#750	#750	–

SUBSCRIPT KEY

SUBSCRIPT	CONDUCTORS PER CONDUIT (ALL CONTAIN 3-PHASE CONDUCTORS)
G	1 GROUNDING CONDUCTOR
N	1 NEUTRAL CONDUCTOR
NG	1 NEUTRAL CONDUCTOR, 1 GROUNDING CONDUCTOR
NGI	1 NEUTRAL CONDUCTOR, 1 GROUNDING CONDUCTOR, 1 ISOLATED GROUNDING CONDUCTOR
NG-T	1 NEUTRAL CONDUCTOR, 1 TRANSFORMER GROUNDING CONDUCTOR
NGI-T	1 NEUTRAL CONDUCTOR, 1 TRANSFORMER GROUNDING CONDUCTOR, 1 ISOLATED TRANSFORMER GROUNDING CONDUCTOR
NNG-T	2 NEUTRAL CONDUCTOR, 1 TRANSFORMER GROUNDING CONDUCTOR

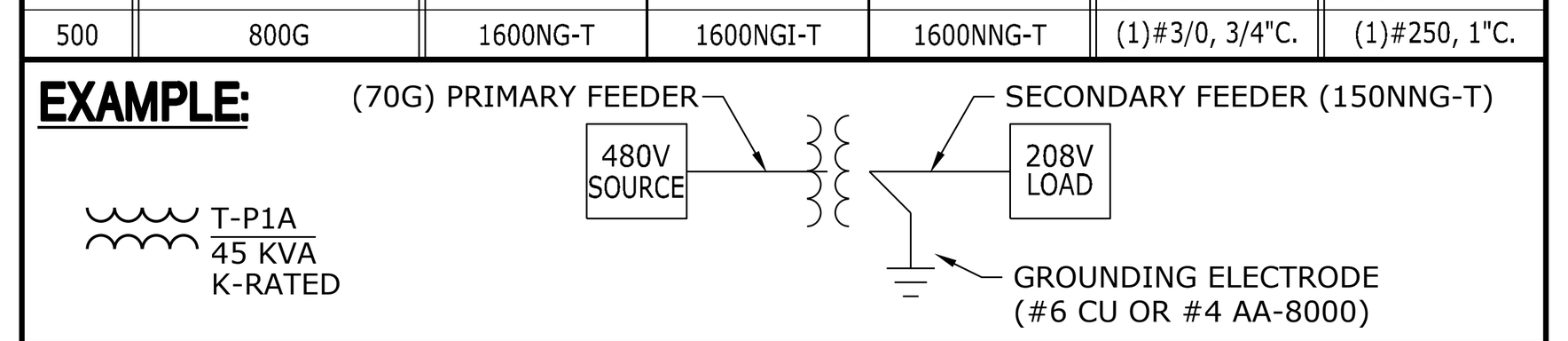
EXAMPLE:



TRANSFORMER SCHEDULE

KVA	FEEDER SIZES - PRIMARY AND SECONDARY				GROUNDING ELECTRODE CONDUCTOR (COPPER)	GROUNDING ELECTRODE CONDUCTOR (AA-8000)
	PRIMARY FEEDER 277/480V - 3PH/3W	SECONDARY FEEDER - 120/208V - 3PH/4W				
		STANDARD	ISOLATED GND	K-RATED		
15	30G	50NG-T	50NGI-T	50NNG-T	(1)#8, 1/2"C.	N/A
30	50G	100NG-T	100NGI-T	100NNG-T	(1)#6, 1/2"C.	(1)#4, 1/2"C.
45	70G	150NG-T	150NGI-T	150NNG-T	(1)#6, 1/2"C.	(1)#4, 1/2"C.
75	125G	250NG-T	250NGI-T	250NNG-T	(1)#2, 1/2"C.	(1)#1/0, 3/4"C.
112 1/2	175G	350NG-T	350NGI-T	350NNG-T	(1)#1/0, 3/4"C.	(1)#3/0, 3/4"C.
150	225G	500NG-T	500NGI-T	500NNG-T	(1)#1/0, 3/4"C.	(1)#3/0, 3/4"C.
225	350G	700NG-T	700NGI-T	700NNG-T	(1)#2/0, 3/4"C.	(1)#4/0, 3/4"C.
300	450G	1000NG-T	1000NGI-T	1000NNG-T	(1)#3/0, 3/4"C.	(1)#250, 1"C.
500	800G	1600NG-T	1600NGI-T	1600NNG-T	(1)#3/0, 3/4"C.	(1)#250, 1"C.

EXAMPLE:



LARGE EQUIPMENT SIZES:

BASED ON VARYING SIZES OF EQUIPMENT AVAILABLE FROM DIFFERENT MANUFACTURERS OR SWITCHBOARD/GEAR, PANELS, TRANSFORMERS, UPS, GENERATORS, AND ATS'S: CONTRACTOR TO VERIFY IN BID THAT PRICING IS BASED UPON EQUIPMENT THAT HAS BEEN VERIFIED TO FIT WITHIN THE CORRESPONDING ELECTRIC ROOMS.

ARC FLASH ANALYSIS:

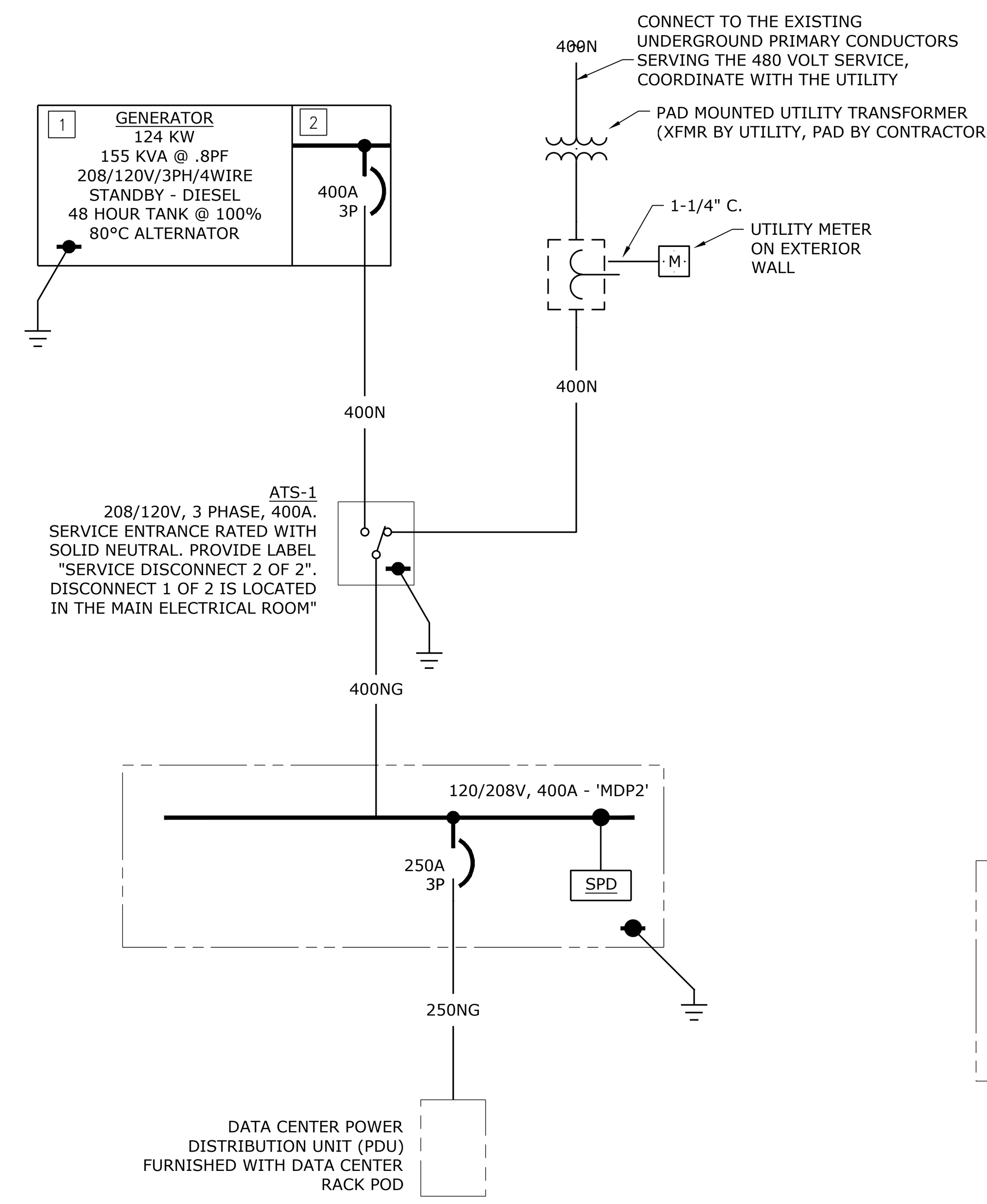
CONTRACTOR TO PROVIDE THE ARC FLASH ANALYSIS WITH THE PANELBOARD SUBMITTAL.

EQUIPMENT IDENTIFICATION:

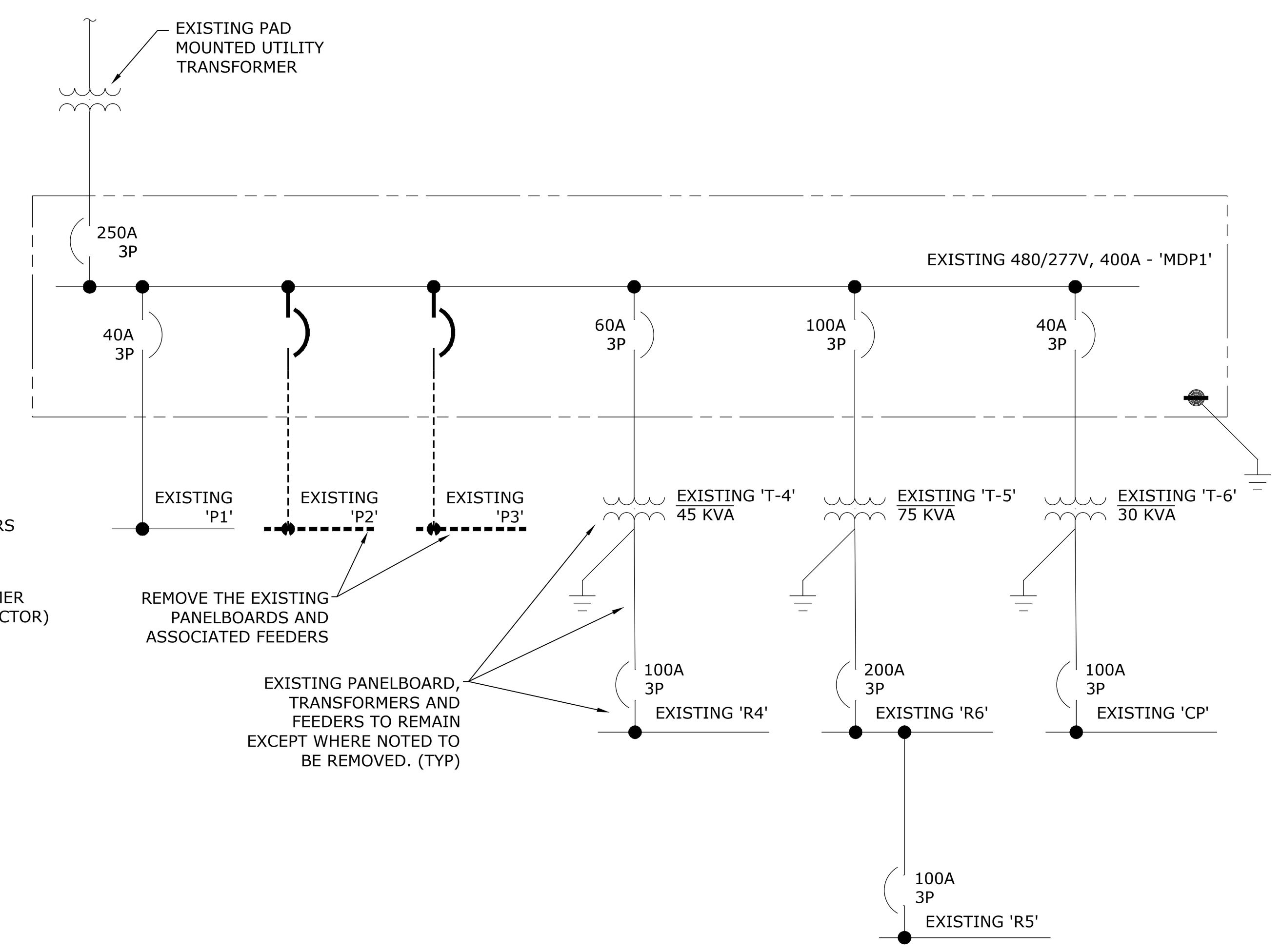
1. LABEL AS BUILT AVAILABLE FAULT CURRENT ON ELECTRIC SERVICE EQUIPMENT.

ONE LINE NOTES:

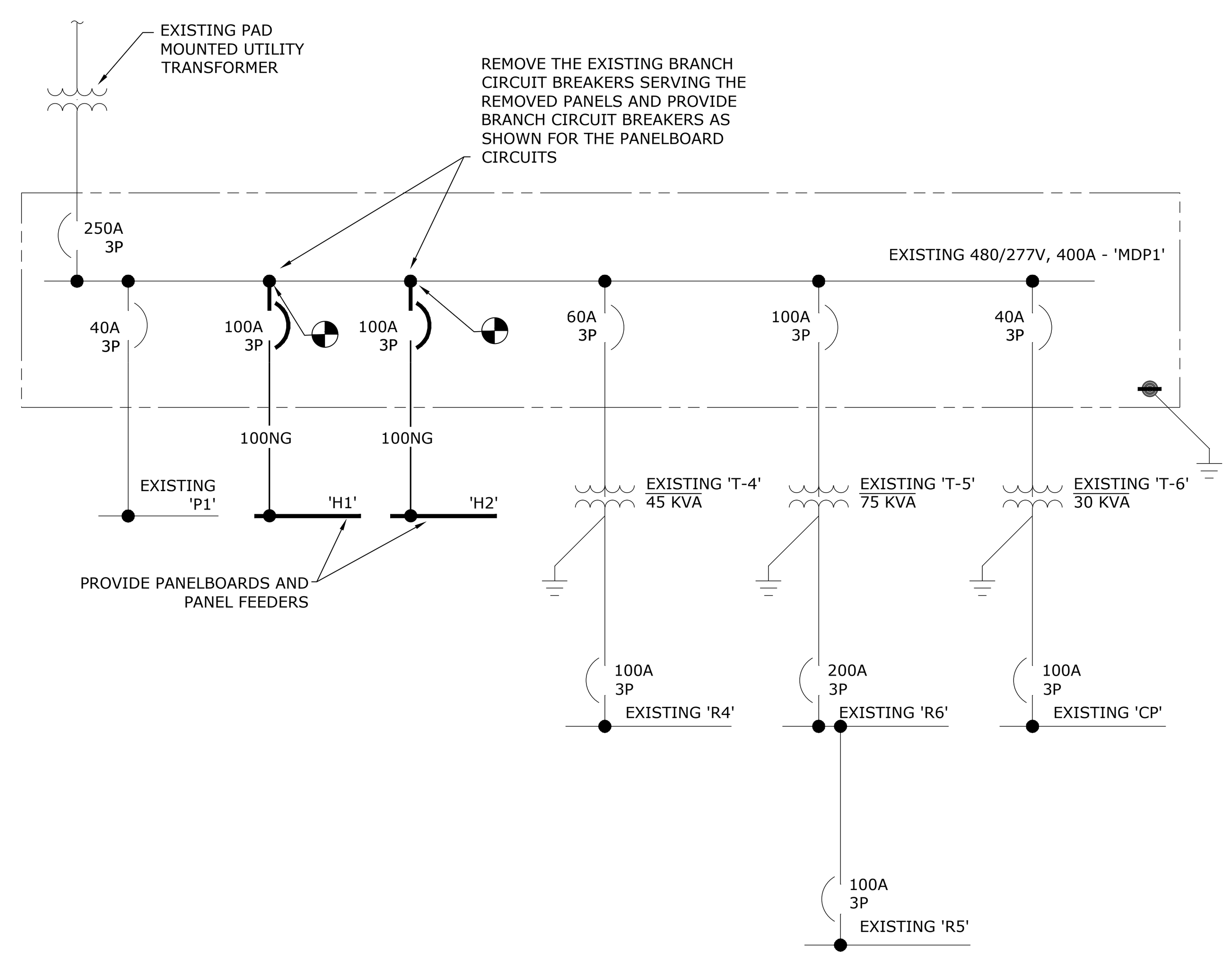
1. GENERATORS MUST BE INSTALLED WITH AN ADDITIONAL METHOD TO SHUT DOWN THE PRIME MOVER OUTSIDE OF THE GENERATOR ASSEMBLY. THIS ADDITIONAL SHUT DOWN MEANS SHALL BE LOCATED OUTSIDE OF THE GENERATOR ENCLOSURE, AND SHALL SATISFY ALL REQUIREMENTS OF NEC SECTION 445.
2. FURNISH GENERATOR WITH INTEGRAL CIRCUIT BREAKER, SIZE AS INDICATED.



ELECTRICAL ONE-LINE DIAGRAM (208 VOLT SERVICE)
NOT TO SCALE



ELECTRICAL ONE-LINE DIAGRAM (480 VOLT SERVICE) DEMOLTION
NOT TO SCALE



ELECTRICAL ONE-LINE DIAGRAM (480 VOLT SERVICE)
NOT TO SCALE

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Construction Documents

District Technology Remodel
Liberty School District
1000 Kent Street
Liberty, Clay County, MO 64068

REVISIONS:

#	Description	Date

STATE OF MISSOURI
RYAN JEROD DIEDIKER
NUMBER PE-2015006511
REGISTERED PROFESSIONAL ENGINEER
8/31/23

The Professional Architects seal affixed to this sheet applies only to the material and items shown on this sheet. All drawings, instruments or other documents not exhibiting this seal shall not be considered prepared by this architect, and this architect expressly disclaims any and all responsibility for such plan, drawings, or documents not exhibiting this seal.

JOB NO: 23022
DRAWN BY: S&B
CHECKED BY: RJD
DATE: 08.31.2023

smith & boucher engineers
25618 west 103rd St olathe, ks 66061
phone 913.345.2127 fax 913.345.0617
project number 2314706

E301

ELECTRICAL - ONE LINE DIAGRAMS

PROJECT NAME: 2314706 Liberty SD 2023 District Technology Remodel
AUTOCAD FILE LOCATION \ NAME: X:\23\23147\2314706\Drawings\06-2314706_E301.dwg
LAST CORRECTION BY ◆ DATE ◆ TIME: Srosario Thursday, August 31, 2023 8:39:20 AM
PLOTTED BY ◆ DATE ◆ TIME: Booty Charles Thursday, August 31, 2023 11:55:40 AM

Please consider the environment before printing this.

PANEL MDP1 (EXISTING)

MAIN BUS AMPS: 400 A | **AIC:** 25,000 A
MAIN BREAKER: 250 A | **SECTIONS:** 1 - 18 SPACE | EQUIPMENT GROUND BUS
VOLTAGE: 480Y/277 V | **MOUNTING:** SURFACE
PHASES/WIRES: 3 PH / 4 W | **ENCLOSURE TYPE:** NEMA 1 | SERVICE ENTRANCE

CIRCUIT DESCRIPTION	POLES	AMPS	LOAD	CKT NO	CKT NO	LOAD	AMPS	POLES	CIRCUIT DESCRIPTION
PANEL P1 (EXISTING)	3	40	4,413	1	2	28,574	100	3	PANEL H1 (NEW)
			1,158	3	4	27,074			
				5	6	34,074			
PANEL H2 (NEW)	3	100	31,573	7	8		40	3	PANEL CP via Transformer (EXIST)
			30,573	9	10				
			28,573	11	12				
PANEL R4 via Transformer (EXIST)	3	60	9,090	13	14	17,041	100	3	PANEL R5/R6 via Transformer (EXIST)
			11,170	15	16	13,845			
			4,980	17	18	14,731			
	-	-	121,529	-	-	135,338	-	-	**SUBTOTAL**

NOTE: PANEL IS EXISTING, PROVIDE NEW BRANCH CIRCUIT BREAKERS FOR PANEL FEEDERS.

MOTORS	(CONNECTED)= 1,025	(DEMAND)= 1,156 VA	(FACTORS)=	1.25 MAX	1.00 ALL OTHERS
RECEPTACLES	(CONNECTED)= 43,960	(DEMAND)= 26,980 VA	(FACTORS)=	1.00 0-10KVA	0.50 >10 KVA
LIGHTING	(CONNECTED)= 8,391	(DEMAND)= 10,489 VA	(FACTORS)=	1.25	
HEATING	(CONNECTED)= 132,417	(DEMAND)= 132,417 VA	(FACTORS)=	1.00	
COOLING	(CONNECTED)= 55,474	(DEMAND)= VA	(FACTORS)=		
KITCHEN	(CONNECTED)=	(DEMAND)= VA	(FACTORS)=	0.65	
OTHER	(CONNECTED)= 15,600	(DEMAND)= 15,600 VA	(FACTORS)=	1.00	
TOTAL	(CONNECTED)= 256,867	(DEMAND)= 186,642 VA	**243.7** AMPS	TOTAL MAXIMUM DEMAND	

PANEL P1 (EXISTING))

MAIN BUS AMPS: 100 A | **AIC:** 25,000 A
MAIN BREAKER: N/A | **SECTIONS:** 1 - 12 SPACE | MAIN LUGS ONLY
VOLTAGE: 480Y/277 V | **MOUNTING:** SURFACE | EQUIPMENT GROUND BUS
PHASES/WIRES: 3 PH / 4 W | **ENCLOSURE TYPE:** NEMA 1

CIRCUIT DESCRIPTION	POLES	AMPS	LOAD	CKT NO	CKT NO	LOAD	AMPS	POLES	CIRCUIT DESCRIPTION
LIGHTING	1	20	2,521	1	2	1,892	20	1	LIGHTING
LIGHTING	1	20	1,158	3	4			1	SPACE
SPACE	1			5	6			1	SPACE
SPACE	1			7	8			1	SPACE
SPACE	1			9	10			1	SPACE
SPACE	1			11	12			1	SPACE
SUBTOTAL	-	-	3,679	-	-	1,892	-	-	**SUBTOTAL**

NOTE: PANEL IS EXISTING, PROVIDE NEW BRANCH CIRCUIT BREAKERS FOR NEW CIRCUITS AS REQUIRED.

MOTORS	(CONNECTED)=	(DEMAND)= VA	(FACTORS)=	1.25 MAX	1.00 ALL OTHERS
RECEPTACLES	(CONNECTED)=	(DEMAND)= VA	(FACTORS)=	1.00 0-10KVA	0.50 >10 KVA
LIGHTING	(CONNECTED)= 5,571	(DEMAND)= 6,964 VA	(FACTORS)=	1.25	
HEATING	(CONNECTED)=	(DEMAND)= VA	(FACTORS)=	1.00	
COOLING	(CONNECTED)=	(DEMAND)= VA	(FACTORS)=	1.00	
KITCHEN	(CONNECTED)=	(DEMAND)= VA	(FACTORS)=	0.65	
OTHER	(CONNECTED)=	(DEMAND)= VA	(FACTORS)=	1.00	
TOTAL	(CONNECTED)= 5,571	(DEMAND)= 6,964 VA	**19.9** AMPS	TOTAL MAXIMUM DEMAND	

PANEL MDP2 (NEW)

MAIN BUS AMPS: 400 A | **AIC:** 35,000 A
MAIN BREAKER: N/A | **SECTIONS:** 1 - 54 SPACE | MAIN LUGS ONLY
VOLTAGE: 208Y/120 V | **MOUNTING:** SURFACE | EQUIPMENT GROUND BUS
PHASES/WIRES: 3 PH / 4 W | **ENCLOSURE TYPE:** NEMA 1 | SERVICE ENTRANCE

CIRCUIT DESCRIPTION	POLES	AMPS	LOAD	CKT NO	CKT NO	LOAD	AMPS	POLES	CIRCUIT DESCRIPTION
CRAC-01	2	40	2,600	1	2	2,600	40	2	CRAC-02
			2,600	3	4	2,600			
CRAC-03	2	40	2,600	5	6	2,600	40	2	CRAC-04
			2,600	7	8	2,600			
CRAC-05	2	40	2,600	9	10	2,600	40	2	CRAC-06
			2,600	11	12	2,600			
ACCU-01	2	15	499	13	14	499	15	2	ACCU-02
			499	15	16	499			
ACCU-03	2	15	499	17	18	499	15	2	ACCU-04
			499	19	20	499			
ACCU-05	2	15	499	21	22	499	15	2	ACCU-06
			499	23	24	499			
LIGHTING	1	20	1,202	25	26	1,342	20	1	LIGHTING
OFFICE/HELP DESK RECEPTS	1	20	720	27	28	1,080	20	1	HELP DESK/RECEPTION RECEPTS
OPEN OFF RECEPTS	1	20	720	29	30	1,080	20	1	NE OFFICE/OPEN OFF REC
NE OFFICE RECEPTS	1	20	720	31	32	1,080	20	1	NE OFFICE RECEPTS
NW OFFICE RECEPTS	1	20	1,080	33	34	1,080	20	1	NW OFFICE RECEPTS
DATA CENTER RECEPTS	1	20	540	35	36	540	20	1	DATA CENTER RECEPTS
TECH ROOM RECEPT	1	20	360	37	38	20,000	250	3	DATA PDU
TECH ROOM RECEPT	1	20	360	39	40	20,000			
DOOR CONT/SEC PANELS	1	20	500	41	42	20,000			
TECH ROOM RECEPT	1	20	360	43	44		20	1	SPARE
SPARE	1	20		45	46		20	1	SPARE
SPARE	1	20		47	48		20	1	SPARE
SPARE	1	20		49	50		20	1	SPARE
SPARE	1	20		51	52		20	1	SPARE
SPARE	1	20		53	54		20	1	SPARE
	-	-	25,157	-	-	84,797	-	-	**SUBTOTAL**

MOTORS	(CONNECTED)=	(DEMAND)= VA	(FACTORS)=	1.00 MAX	1.00 ALL OTHERS
RECEPTACLES	(CONNECTED)= 10,220	(DEMAND)= 10,110 VA	(FACTORS)=	1.00 0-10KVA	0.50 >10 KVA
LIGHTING	(CONNECTED)= 2,544	(DEMAND)= 3,180 VA	(FACTORS)=	1.25	
HEATING	(CONNECTED)=	(DEMAND)= VA	(FACTORS)=		
COOLING	(CONNECTED)= 37,190	(DEMAND)= 46,488 VA	(FACTORS)=	1.25	
KITCHEN	(CONNECTED)=	(DEMAND)= VA	(FACTORS)=	0.65	
OTHER	(CONNECTED)= 60,000	(DEMAND)= 60,000 VA	(FACTORS)=	1.00	
TOTAL	(CONNECTED)= 109,954	(DEMAND)= 119,778 VA	**346.4** AMPS	TOTAL MAXIMUM DEMAND	

PANEL H1 (NEW)

MAIN BUS AMPS: 100 A | **AIC:** 42,000 A
MAIN BREAKER: N/A | **SECTIONS:** 1 - 30 SPACE | MAIN LUGS ONLY
VOLTAGE: 480Y/277 V | **MOUNTING:** SURFACE | EQUIPMENT GROUND BUS
PHASES/WIRES: 3 PH / 4 W | **ENCLOSURE TYPE:** NEMA 1

CIRCUIT DESCRIPTION	POLES	AMPS	LOAD	CKT NO	CKT NO	LOAD	AMPS	POLES	CIRCUIT DESCRIPTION
VAV1-06	3	20	2,500	1	2	2,333	20	3	VAV1-09
			2,500	3	4	2,333			
			2,500	5	6	2,333			
AHU-1	3	25	4,654	7	8	2,500	20	1	VAV1-01
			4,654	9	10	2,000	20	1	VAV1-02
			4,654	11	12	6,000	30	1	VAV1-03
VAV1-04	1	25	4,500	13	14	3,500	20	1	VAV1-05
VAV1-07	1	20	1,500	15	16	2,000	20	1	VAV1-08
VAV1-10	1	25	5,000	17	18	5,000	25	1	VAV1-11
SPACE	1			19	20	8,587	40	3	ACCU-1
VAV1-12	1	20	3,500	21	22	8,587			
SPACE	1			23	24	8,587			
SPACE	1			25	26			1	SPACE
SPACE	1			27	28			1	SPACE
SPACE	1			29	30			1	SPACE
SUBTOTAL	-	-	35,961	-	-	53,760	-	-	**SUBTOTAL**

MOTORS	(CONNECTED)=	(DEMAND)= VA	(FACTORS)=	1.25 MAX	1.00 ALL OTHERS
RECEPTACLES	(CONNECTED)=	(DEMAND)= VA	(FACTORS)=	1.00 0-10KVA	0.50 >10 KVA
LIGHTING	(CONNECTED)=	(DEMAND)= VA	(FACTORS)=	1.25	
HEATING	(CONNECTED)= 63,960	(DEMAND)= 63,960 VA	(FACTORS)=	1.00	
COOLING	(CONNECTED)= 25,761	(DEMAND)= 25,761 VA	(FACTORS)=	1.00	
KITCHEN	(CONNECTED)=	(DEMAND)= VA	(FACTORS)=	0.65	
OTHER	(CONNECTED)=	(DEMAND)= VA	(FACTORS)=	1.00	
TOTAL	(CONNECTED)= 89,721	(DEMAND)= 89,721 VA	**123.0** AMPS	TOTAL MAXIMUM DEMAND	

PANEL R4 (EXISTING)

MAIN BUS AMPS: 100 A | **AIC:** 18,000 A
MAIN BREAKER: 100 A | **SECTIONS:** 1 - 24 SPACE | MAIN LUGS ONLY
VOLTAGE: 208Y/120 V | **MOUNTING:** SURFACE | EQUIPMENT GROUND BUS
PHASES/WIRES: 3 PH / 4 W | **ENCLOSURE TYPE:** NEMA 1

CIRCUIT DESCRIPTION	POLES	AMPS	LOAD	CKT NO	CKT NO	LOAD	AMPS	POLES	CIRCUIT DESCRIPTION
FUTURE SPACE RECEPTS	1	20	360	1	2	720	20	1	BREAK ROOM RECEPTS
BREAK RM COUNTER REC	1	20	1,200	3	4	1,200	20	1	BREAK RM COUNTER REC
BREAK RM COUNTER REC	1	20	1,200	5	6	1,800	20	1	DISHWASHER/GARB DISP
ICE MAKER	1	20	1,250	7	8	500	20	1	REFRIGERATOR
TECH RECEPTION/OPEN OFFICE	1	20	900	9	10	1,470	20	1	TECH OFFICE/HELP DESK PLUGMOLD
OPEN/SECURE STORAGE RECEPTS	1	20	900	11	12	900	20	1	TECH OFFICE RECEPTS
TECH OFFICE/WORK AREA REC	1	20	900	13	14	1,110	20	1	COPIER/TECH OFFICE TV
TECH COUNTER PLUGMOLD	1	20	1,500	15	16	750	20	1	TECH COUNTER PLUGMOLD
DOOR OPERATORS	1	20	80	17	18	100	20	1	EXT BUILDING LIGHTS
FIRE/SMOKE DAMPERS - LCK	1	20	100	19	20	4,150	50-LCK	2	WATER HEATER IWH-1
SPACE	1			21	22	4,150			
SPACE	1			23	24			1	SPACE
SUBTOTAL	-	-	8,390	-	-	16,850	-	-	**SUBTOTAL**

LCK - LOCKABLE TAB

NOTE: PANEL IS EXISTING, PROVIDE NEW BRANCH CIRCUIT BREAKERS FOR NEW CIRCUITS AS REQUIRED.

MOTORS	(CONNECTED)=	(DEMAND)= VA	(FACTORS)=	1.25 MAX	1.00 ALL OTHERS
RECEPTACLES	(CONNECTED)= 16,860	(DEMAND)= 13,430 VA	(FACTORS)=	1.00 0-10KVA	0.50 >10 KVA
LIGHTING	(CONNECTED)=	(DEMAND)= VA	(FACTORS)=	1.25	
HEATING	(CONNECTED)=	(DEMAND)= VA	(FACTORS)=	1.00	
COOLING	(CONNECTED)=	(DEMAND)= VA	(FACTORS)=	1.00	
KITCHEN	(CONNECTED)=	(DEMAND)= VA	(FACTORS)=	0.65	
OTHER	(CONNECTED)= 8,380	(DEMAND)= 8,380 VA	(FACTORS)=	1.00	
TOTAL	(CONNECTED)= 25,240	(DEMAND)= 21,810 VA	**77.7** AMPS	TOTAL MAXIMUM DEMAND	

PANEL H2 (NEW)

MAIN BUS AMPS: 100 A | **AIC:** 42,000 A
MAIN BREAKER: N/A | **SECTIONS:** 1 - 30 SPACE | MAIN LUGS ONLY
VOLTAGE: 480Y/277 V | **MOUNTING:** SURFACE | EQUIPMENT GROUND BUS
PHASES/WIRES: 3 PH / 4 W | **ENCLOSURE TYPE:** NEMA 1

CIRCUIT DESCRIPTION	POLES	AMPS	LOAD	CKT NO	CKT NO	LOAD	AMPS	POLES	CIRCUIT DESCRIPTION
VAV2-03	3	20	3,500	1	2	2,333	20	3	VAV2-05
			3,500	3	4	2,333			
			3,500	5	6	2,333			
VAV2-07	3	20	2,333	7	8	2,666	20	3	VAV2-09
			2,333	9	10	2,666			
			2,333	11	12	2,666			
AHU-2	3	25	4,654	13	14	4,000	20	1	VAV2-01
			4,654	15	16	2,000	20	1	VAV2-02
			4,654	17	18	4,500	25	1	VAV2-04
VAV2-06	1	20	3,500	19	20			1	SPACE
ACCU-2	3	40	8,587	21	22	4,500	25	1	VAV2-08
			8,587	23	24			1	SPACE
			8,587	25	26			1	SPACE
SPACE	1			27	28			1	SPACE
SPACE	1			29	30			1	SPACE
SUBTOTAL	-	-	60,721	-	-	29,997	-	-	**SUBTOTAL**

MOTORS	(CONNECTED)=	(DEMAND)= VA	(FACTORS)=	1.25 MAX	1.00 ALL OTHERS
RECEPTACLES	(CONNECTED)=	(DEMAND)= VA	(FACTORS)=	1.00 0-10KVA	0.50 >10 KVA
LIGHTING	(CONNECTED)=	(DEMAND)= VA	(FACTORS)=	1.25	
HEATING	(CONNECTED)= 64,957	(DEMAND)= 64,957 VA	(FACTORS)=	1.00	
COOLING	(CONNECTED)= 25,761	(DEMAND)= 25,761 VA	(FACTORS)=	1.00	
KITCHEN	(CONNECTED)=	(DEMAND)= VA	(FACTORS)=	0.65	
OTHER	(CONNECTED)=	(DEMAND)= VA	(FACTORS)=	1.00	
TOTAL	(CONNECTED)= 90,718	(DEMAND)= 90,718 VA	**113.9** AMPS	TOTAL MAXIMUM DEMAND	

PANEL R5 (EXISTING)

MAIN BUS AMPS: 100 A | **AIC:** 18,000 A
MAIN BREAKER: 100 A | **SECTIONS:** 1 - 42 SPACE | EQUIPMENT GROUND BUS
VOLTAGE: 208Y/120 V | **MOUNTING:** SURFACE
PHASES/WIRES: 3 PH / 4 W | **ENCLOSURE TYPE:** NEMA 1

CIRCUIT DESCRIPTION	POLES	AMPS	LOAD	CKT NO	CKT NO	LOAD	AMPS	POLES	CIRCUIT DESCRIPTION
WATER HEATER DWH-1	3	20	1,500	1	2	875	15	2	EUH-01
			1,500	3	4	875			
			1,500	5	6	875	15	2	EUH-02
EF-1/EF-2	1	20	525	7	8	875			
FIRE/SMOKE DAMPERS	1	20	50	9	10			1	SPACE
EXT BUILDING LIGHTS	1	20	170	11	12			1	SPACE
MONUMENT SIGN	1	20	250	13	14			1	SPACE
KZ OPEN OFFICE RECEPTS	1	20	480	15	16			1	SPACE
ITCU-1/ITAC-1	2	25	1,976	17	18			1	SPACE
			1,976	19	20			1	SPACE
DATA CENTER CHEMICAL SYSTEM	1	20	500	21	22			1	SPACE
SPARE (EXISTING)	1	20		23	24			1	SPACE
SPARE (EXISTING)	1	20		25	26			1	SPACE
SPARE (EXISTING)	1	20		27	28			1	SPACE
SPARE (EXISTING)	1	20		29	30			1	SPACE
SPARE (EXISTING)	1	20		31	32	1,200	20	2	PARKING LOT LIGHTS (EXIST)
SPARE (EXISTING)	1	20		33	34	1,200			
PARKING PHOTOCELL (EXIST)	1	20		35	36			1	SPACE
SPACE	1			37	38			1	SPACE
SPACE	1			39	40			1	SPACE
SPACE	1			41	42			1	SPACE
SUBTOTAL	-	-	10,427	-	-	5,900	-	-	**SUBTOTAL**

NOTE: PANEL IS EXISTING, PROVIDE NEW BRANCH CIRCUIT BREAKERS FOR NEW CIRCUITS AS REQUIRED.

MOTORS	(CONNECTED)= 1,025	(DEMAND)= 1,156 VA	(FACTORS)=	1.25 MAX	1.00 ALL OTHERS
RECEPTACLES	(CONNECTED)= 480	(DEMAND)= 480 VA	(FACTORS)=	1.00 0-10KVA	0.50 >10 KVA
LIGHTING	(CONNECTED)= 2,820	(DEMAND)= 3,525 VA	(FACTORS)=	1.25	
HEATING	(CONNECTED)= 3,500	(DEMAND)= 3,500 VA	(FACTORS)=	1.00	
COOLING	(CONNECTED)= 3,952	(DEMAND)= 3,952 VA	(FACTORS)=	1.00	
KITCHEN	(CONNECTED)=	(DEMAND)= VA	(FACTORS)=	0.65	
OTHER	(CONNECTED)= 4,550	(DEMAND)= 4,550 VA	(FACTORS)=	1.00	
TOTAL	(CONNECTED)= 16,327	(DEMAND)= 17,163 VA	**64.1** AMPS	TOTAL MAXIMUM DEMAND	

PANEL R6 (EXISTING)

MAIN BUS AMPS: 225 A | **AIC:** 18,000 A
MAIN BREAKER: N/A | **SECTIONS:** 1 - 36 SPACE | MAIN LUGS ONLY
VOLTAGE: 208Y/120 V | **MOUNTING:** SURFACE | EQUIPMENT GROUND BUS
PHASES/WIRES: 3 PH / 4 W | **ENCLOSURE TYPE:** NEMA 1

CIRCUIT DESCRIPTION	POLES	AMPS	LOAD	CKT NO	CKT NO	LOAD	AMPS	POLES	CIRCUIT DESCRIPTION
FA OFFICE RECEPTS	1	20	720	1	2	720	20	1	FA OFFICE RECEPTS
FA OPEN OFF RECEPTS	1	20	1,080	3	4	1,830	20	1	FA OPEN OFF/COPY REC
SMALL CONF RECEPTS	1	20	1,620	5	6	750	20	1	COPIER
FA TECH OFFICE RECEPTS	1	20	1,440	7	8	900	20	1	FA TECH OFFICE RECEPTS
FA WORKSHOP RECEPTS	1	20	540	9	10	900	20	1	FA WORKSHOP RECEPTS
FA WORKSHOP RECEPT	1	20	1,000	11	12	1,000	20	1	FA WORKSHOP RECEPT
FA WORKSHOP RECEPT	1	20	1,000	13	14	1,000	20	1	FA WORKSHOP RECEPT
MOTHERS RM RECEPTS	1	20	720	15	16	1,080	20	1	MED CONF RECEPTS
MED CONF RECEPTS	1	20	2,160	17	18	840	20-GFI	1	RESTROOM RECEPTS
KZ STORAGE RECEPTS	1	20	1,260	19	20	750	T	1	KZ STORAGE PLUGMOLD
KZ STORAGE PLUGMOLD	1	20	750	21	22	750	20	1	KZ STORAGE PLUGMOLD
KZ STORAGE PLUGMOLD	1	20	750	23	24	1,080	20	1	KZ OFFICE/OPEN OFF REC
KZ OFFICE RECEPTS	1	20	1,080	25	26	720	20	1	KZ OFFICE RECEPTS
KZ OFFICE RECEPTS	1	20	1,260	27	28	80	20	1	DOOR OPENERS
FIRE ALARM PANEL - LCK	1	20	1,000	29	30	10	20	1	FIRE DOOR HOLD/ FIRE/SMOKE DAMP
DDC PANEL	1	20	250	31	32	7,201	100	3	PANEL R5 (EXIST)
DOOR CONTROL PANEL	1	20	250	33	34	4,605			
SPACE	1			35	36	4,521			
SUBTOTAL	-	-	16,880	-	-	28,737	-	-	**SUBTOTAL**

GFI - GROUND FAULT BREAKER

NOTE: PANEL IS EXISTING, PROVIDE NEW BRANCH CIRCUIT BREAKERS FOR NEW CIRCUITS AS REQUIRED.

MOTORS	(CONNECTED)= 1,025	(DEMAND)= 1,156 VA	(FACTORS)=	1.25 MAX	1.00 ALL OTHERS
RECEPTACLES	(CONNECTED)= 27,100	(DEMAND)= 18,550 VA	(FACTORS)=	1.00 0-10KVA	0.50 >10 KVA
LIGHTING	(CONNECTED)= 2,820	(DEMAND)= 3,525 VA	(FACTORS)=	1.25	
HEATING	(CONNECTED)= 3,500	(DEMAND)= 3,500 VA	(FACTORS)=	1.00	
COOLING	(CONNECTED)= 3,952	(DEMAND)= 3,952 VA	(FACTORS)=	1.00	
KITCHEN	(CONNECTED)=	(DEMAND)= VA	(FACTORS)=	0.65	
OTHER	(CONNECTED)= 7,220	(DEMAND)= 7,220 VA	(FACTORS)=	1.00	
TOTAL	(CONNECTED)= 45,617	(DEMAND)= 37,903 VA	**120.0** AMPS	TOTAL MAXIMUM DEMAND	

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Structure # 2006031333

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State Certificate of Authority #
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Construction Documents

District Technology Remodel
Liberty School District
1000 Kent Street
Liberty, Clay County, MO 64068

REVISIONS:

#	Description	Date

STATE OF MISSOURI
RYAN JEROD DIEDIKER
NUMBER PE-2010006911
REGISTERED PROFESSIONAL ENGINEER
8/31/23

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JOB NO: 23022
DRAWN BY: S&B
CHECKED BY: RJD
DATE: 08.31.2023

E302

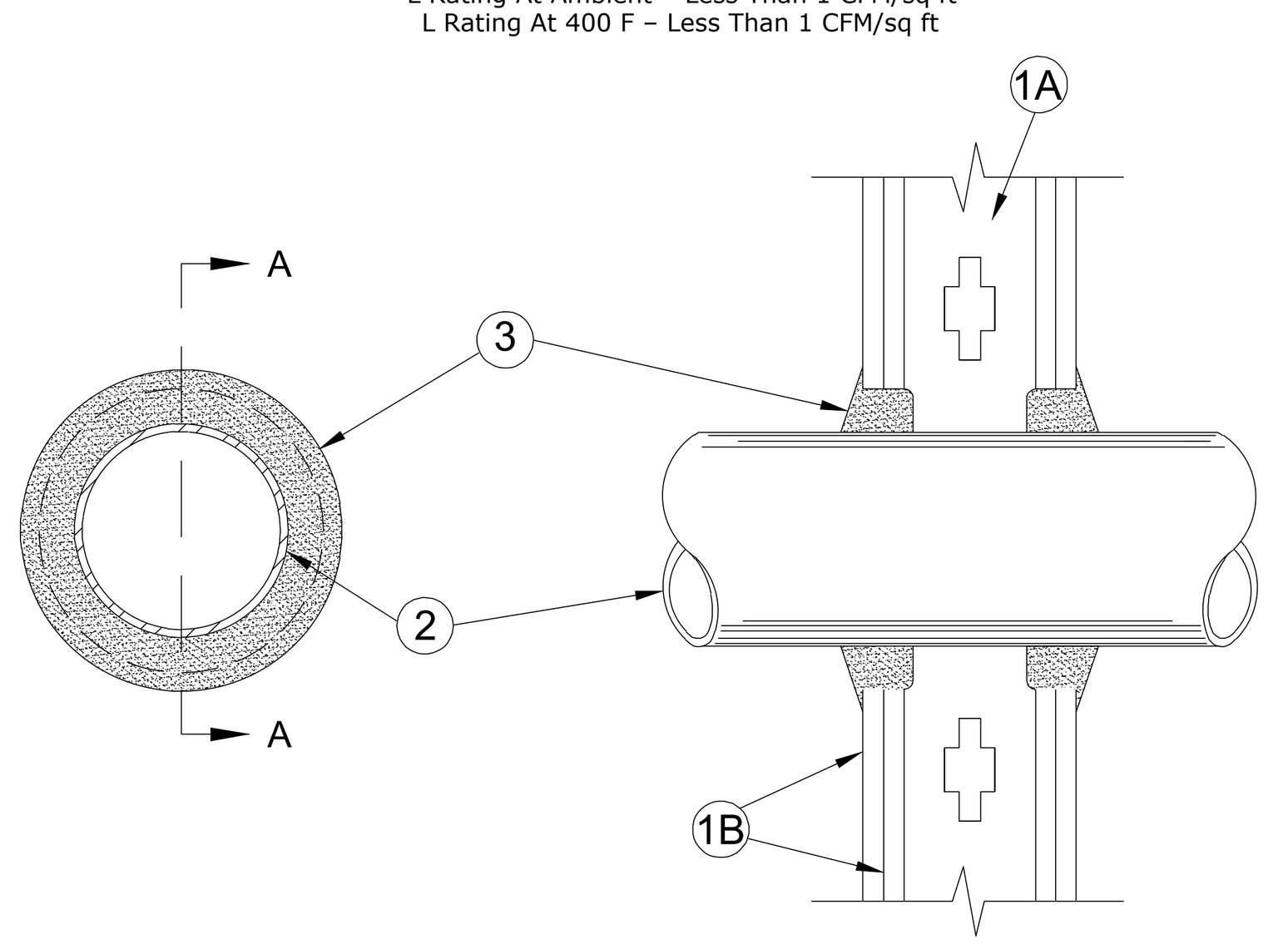
smith & boucher engineers
25618 west 103rd St olathe, ks 66061
phone 913.345.2127 fax 913.345.0617
project number 2314706

PROJECT NAME:
AUTOCAD FILE LOCATION: \\, NAME:
LAST CORRECTION BY: ◆ DATE: ◆ TIME:
PLOTTED BY: ◆ DATE: ◆ TIME:
2314706 Liberty SD 2023 District Technology Remodel
X:\2314706\Drawings\08-2314706_E302.dwg
Thursday, August 31, 2023 8:57:40 AM
Thursday, August 31, 2023 11:46:54 AM
Kmcvey
Bcoty Chorles

ELECTRICAL - SCHEDULES AND DETAILS

Please consider the environment before printing this.

System No. W-L-1010
May 09, 2013
F Rating – 2 Hr
T Rating – 0 Hr
L Rating At Ambient – Less Than 1 CFM/sq ft
L Rating At 400 F – Less Than 1 CFM/sq ft



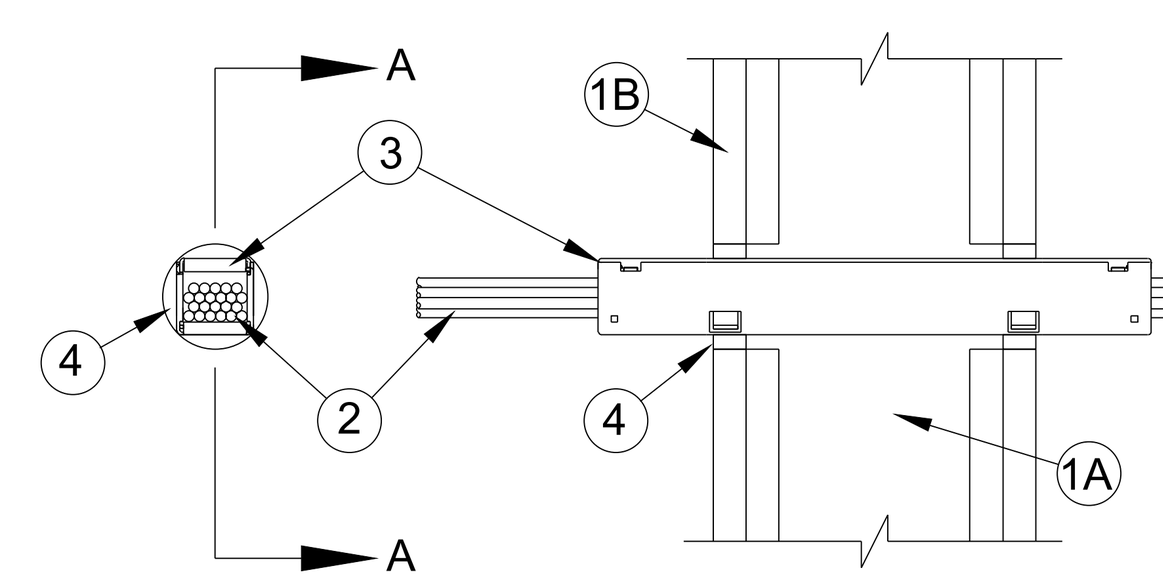
SECTION A-A

1. Wall Assembly – The fire rated gypsum wallboard/stud wall assembly shall be constructed of the materials and in the manner specified in the individual U300 or U400 Series Wall and Partition Designs in the UL Fire Resistance Directory and shall include the following construction features:
   - A. Studs – Wall framing may consist of either wood studs or steel channel studs. Wood studs to consist of nom 2 by 4 in. (51 by 102 mm) lumber spaced 16 in. (406 mm) OC. Steel studs to be min 2-1/2 in. (64 mm) wide and spaced max 24 in. (610 mm) OC. When steel studs are used and the diam of opening exceeds the width of stud cavity, the opening shall be framed on all sides using lengths of steel stud installed between the vertical studs and screw-attached to the steel studs at each end. The framed opening in the wall shall be 4 to 6 in. (102 to 152 mm) wider and 4 to 6 in. (102 to 152 mm) higher than the diam of the penetrating item such that, when the penetrating item is centered in the opening, a 2 to 3 in. (51 to 76 mm) clearance is present between the penetrating item and the framing in all four sides.
   - B. Gypsum Board* – Two layers of nom 5/8 in. (16 mm) thick gypsum wallboard, as specified in the individual Wall and Partition Design. Max diam of opening is 14-1/2 in. (368 mm) for wood stud walls and 25-1/2 in. (648 mm) for steel stud walls.
2. Through Penetrants – One metallic pipe, conduit of tubing to be centered within the firestop system. Pipe, conduit or tubing to be rigidly supported on both sides of wall assembly. The following types and sizes of metallic pipes, conduits or tubing may be used:
   - A. Steel Pipe – Nom 24 in. (610 mm) diam (or smaller) Schedule 10 (or heavier) steel pipe. A nom annular space of 3/4 in. (19 mm) is required within the firestop system.
   - B. Steel Pipe – Nom 4 in. (102 mm) diam (or smaller) Schedule 5 (or heavier) steel pipe. A nom annular space of 3/4 in. (19 mm) is required within the firestop system.
   - C. Conduit – Nom 4 in. (102 mm) diam (or smaller) steel electrical metallic tubing or steel conduit. A nom annular space of 3/4 in. (19 mm) is required within the firestop system.
   - D. Copper Tubing – Nom 6 in. (152 mm) diam (or smaller) Type L (or heavier) copper tubing. A nom annular space of 3/4 in. (19 mm) is required within the firestop system.
3. Fill, Void or Cavity Material* – Sealant – Min 1-1/4 in. (32 mm) thickness of fill material applied within the annulus on both surfaces of wall. Additional fill material to be installed such that a min 1/4 in. (6 mm) crown is formed around the penetrating item.

   3M COMPANY – Types FB-1000 NS, FB-2000, FB-2000+.

*Bearing the UL Classification Mark

System No. W-L-3256
F Ratings - 1 and 2 Hr (See Item 1)
T Ratings - 1, 1-1/4 and 1-3/4 Hr (See Item 2)
L Rating At Ambient - Less Than 1 or 1.4 CFM
(See Item 3)
L Rating At 400 F - Less Than 1 or 1.4 CFM
(See Item 3)



Section A-A

1. Wall Assembly - The 1 or 2 hr fire-rated gypsum board/stud wall assembly shall be constructed of the materials and in the manner described within the individual U300, U400 or V400 Series Wall or Partition Designs in the UL Fire Resistance Directory and shall incorporate the following construction features:
   - A. Studs - Wall framing shall consist of either wood studs or steel channel studs. Wood studs to consist of nom 2 by 4 in. (51 by 102 mm) lumber spaced max 16 in. (406 mm) OC. Steel studs to be min 3-1/2 in. (89 mm) wide and spaced max 24 in. (610 mm) OC.
   - B. Gypsum Board* - Thickness, type, number of layers and fasteners as specified in the individual Wall and Partition Design. Opening in gypsum board to accommodate firestop device to be max 3 in. (76 mm) wide by max 2-1/2 in. (64 mm) high. or nom 2 in. (51 mm) diameter. The hourly F Rating of the firestop system is dependent upon the hourly rating of the wall in which it is installed.
2. Cables - Within the loading area for each firestop device module, the cables may represent a 0 to 100 percent visual fill. Cable fill to be distributed at a uniform height across the width of the firestop device module. Cables to be rigidly supported on both sides of the wall assembly. Any combination of the following types of cables may be used:
   - A. Max four pair No. 22 AWG (or smaller) copper conductor data cable with polyvinyl chloride (PVC) or plenum rated jacketing and insulation.
   - B. Max RG/U coaxial cable with fluorinated ethylene insulation and jacketing.
   - C. Fiber optic cable with polyvinyl chloride (PVC) or polyethylene (PE) jacket and insulation having a max diam of 1/4 in. (6 mm).

   The T Rating is 1 hr and 1-3/4 hr in 1 hr and 2 hr rated walls, respectively, when no cables are installed in firestop device. The T Rating is 1 hr and 1-1/4 hr in 1 hr and 2 hr rated walls, respectively, when cables are installed in firestop device.

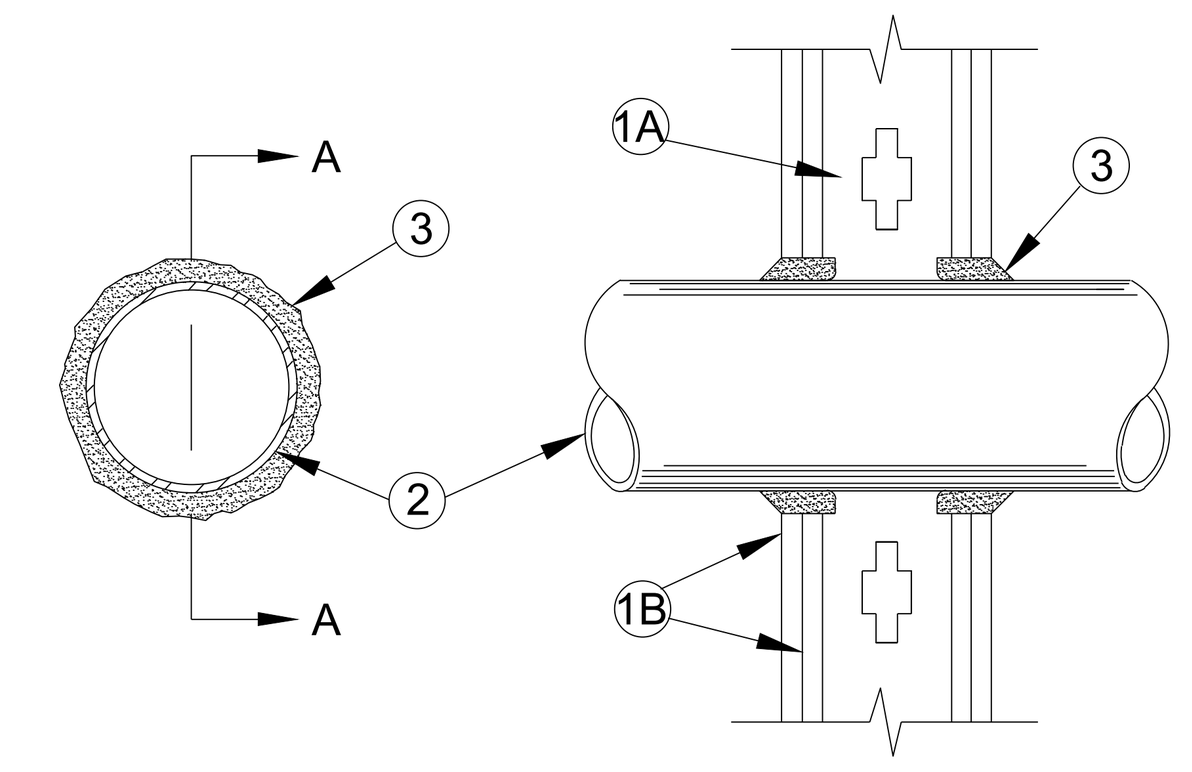
   The L Rating for the empty firestop device is less than 1.4 cfm at ambient and at 400F. When Item 3A is used, the L Rating with 100 percent visual fill of cable is less than 1 CFM at ambient and at 400F.
3. Firestop Device* - Firestop device consists of a 1.4 by 1.4 by 10-1/2 in. (36 by 36 by 267 mm) long galv steel tube with an intumescent material lining. Firestop device to be installed in accordance with the accompanying installation instructions. Prior to installation within wall, lid removed from device to capture grouped cables. After wall such that lid is on top and ends project an equal distance from the `approximate' centerline of the wall assembly. The space between the device and the periphery of the opening shall be min 0 in. (0 mm, point contact) to max 1/2 in. (13 mm).

   SPECIFIED TECHNOLOGIES INC - EZ PATH Series 22 Fire Rated Pathway
4. Fill, Void or Cavity Material* - Sealant - Min 5/8 in. (16 mm) thickness of sealant to be applied in annular space between firestop device and periphery of opening on each side of wall assembly. Nom 3/8 in. (10 mm) diam bead of fill material applied at the point contact location between the firestop device and gypsum board wall on both sides of the wall assembly.

   SPECIFIED TECHNOLOGIES INC - SpecSeal 100, 101, 102, 105, 120 or 129 Sealant, SpecSeal LCI Sealant, SpecSeal LC150 Sealant, Pensil 300 Sealant or SpecSeal Series SIL300 Sealant

   *Bearing the UL Classification Mark

System No.W-L-1001
September 07, 2004
(Formerly System No. 147)
F Ratings - 1, 2, 3 and 4 Hr (See Items 2 and 3)
T Ratings - 0, 1, 2, 3, and 4 Hr (See Item 3)
L Rating At Ambient - less than 1 CFM/sq ft
L Rating At 400 F - less than 1 CFM/sq ft



SECTION A-A

1. Wall Assembly - The 1, 2, 3 or 4 hr fire-rated gypsum wallboard/stud wall assembly shall be constructed of the materials and in the manner described in the individual U300 or U400 Series Wall or Partition Designs in the UL Fire Resistance Directory and shall include the following construction features:

- A. **Studs** - Wall framing may consist of either wood studs (max 2 h fire rated assemblies) or steel channel studs. Wood studs to consist of nom 2 by 4 in. lumber spaced 16 in. OC with nom 2 by 4 in. lumber end plates and cross braces. Steel studs to be min 3-5/8 in. wide by 1-3/8 in. deep channels spaced max 24 in. OC.
- B. **Gypsum Board*** - Nom 1/2 or 5/8 in. thick, 4 ft. wide with square or tapered edges. The gypsum wallboard type, thickness, number of layers, fastener type and sheet orientation shall be as specified in the individual U300 or U400 Series Design in the UL Fire Resistance Directory. Max diam of opening is 26 in.

2. Through Penetrant - One metallic pipe, conduit or tubing installed either concentrically or eccentrically within the firestop system. The annular space between pipe, conduit or tubing and periphery of opening shall be min of 0 in. (point contact) to max 2 in. Pipe, conduit or tubing to be rigidly supported on both sides of wall assembly. The following types and sizes of metallic pipes, conduits or tubing may be used:

- A. **Steel Pipe** - Nom 24 in. diam (or smaller) Schedule 10 (or heavier) steel pipe.
- B. **Iron Pipe** - Nom 24 in. diam (or smaller) service weight (or heavier) cast iron soil pipe, nom 12 in diam (or smaller) or Class 50 (or heavier) ductile iron pressure pipe.
- C. **Conduit** - Nom 6 in. diam (or smaller) steel conduit or nom 4 in diam (or smaller) steel electrical metallic tubing
- D. **Copper Tubing** - Nom 6 in. diam (or smaller) Type L (or heavier) copper tubing
- E. **Copper Pipe** - Nom 6 in. diam (or smaller) Regular (or heavier) copper pipe.
- F. **Through Penetrating Product* - Flexible Metal Piping** - The following types of steel flexible metal gas piping may be used:

  1. Nom 2 in. diam (or smaller) steel flexible metal gas piping. Plastic covering on piping may or may not be removed on both sides of floor or wall assembly.
     OMEGA FLEX INC
  2. Nom 1 in. diam (or smaller) steel flexible metal gas piping. Plastic covering on piping may or may not be removed on both sides of floor or wall assembly.
     TITEFLEX CORP,
     A BUNDY CO
  3. Nom 1 in. diam (or smaller) steel flexible metal gas piping. Plastic covering on piping may or may not be removed on both sides of floor or wall assembly.
     WARD MFG INC

3. Fill,Void or Cavity Material* - Caulk or Sealant - Min 5/8. 1-1/4,1-7/8 and 2-1/2 in. thickness of caulk or sealant for 1, 2, 3 and 4 hr rated assemblies, respectively, applied within annulus, flush with both surfaces of wall. Min 1/4 in. diam bead of caulk or sealant applied to gypsum board/penetrant interface at point contact location on both sides of wall. The hourly F Rating of the firestop system is dependent upon the hourly fire rating of the wall assembly in which it is installed, as shown in the following table. The hourly T Rating of the firestop system is dependent upon the type or size of the pipe or conduit and the hourly fire rating of the wall assembly in which it is installed, as tabulated below:

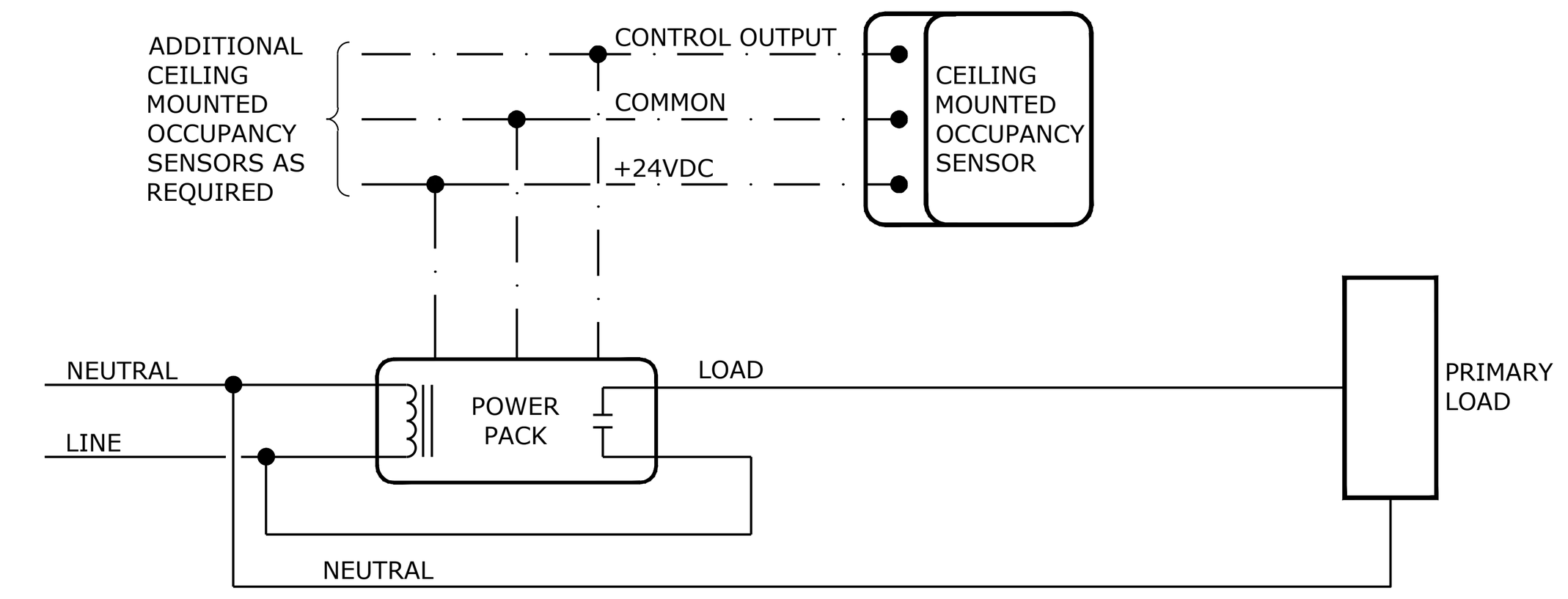
Max Pipe or Conduit Diam in.	F Rating Hr	T Rating Hr
1	1 or 2	0+, 1 or 2
1	3 or 4	3 or 4
4	1 or 2	0
6	3 or 4	0
12	1 or 2	0

+When copper pipe is used, T Rating is 0 hr.

3M COMPANY - CP 25WB+ caulk or FB-3000 WT sealant,

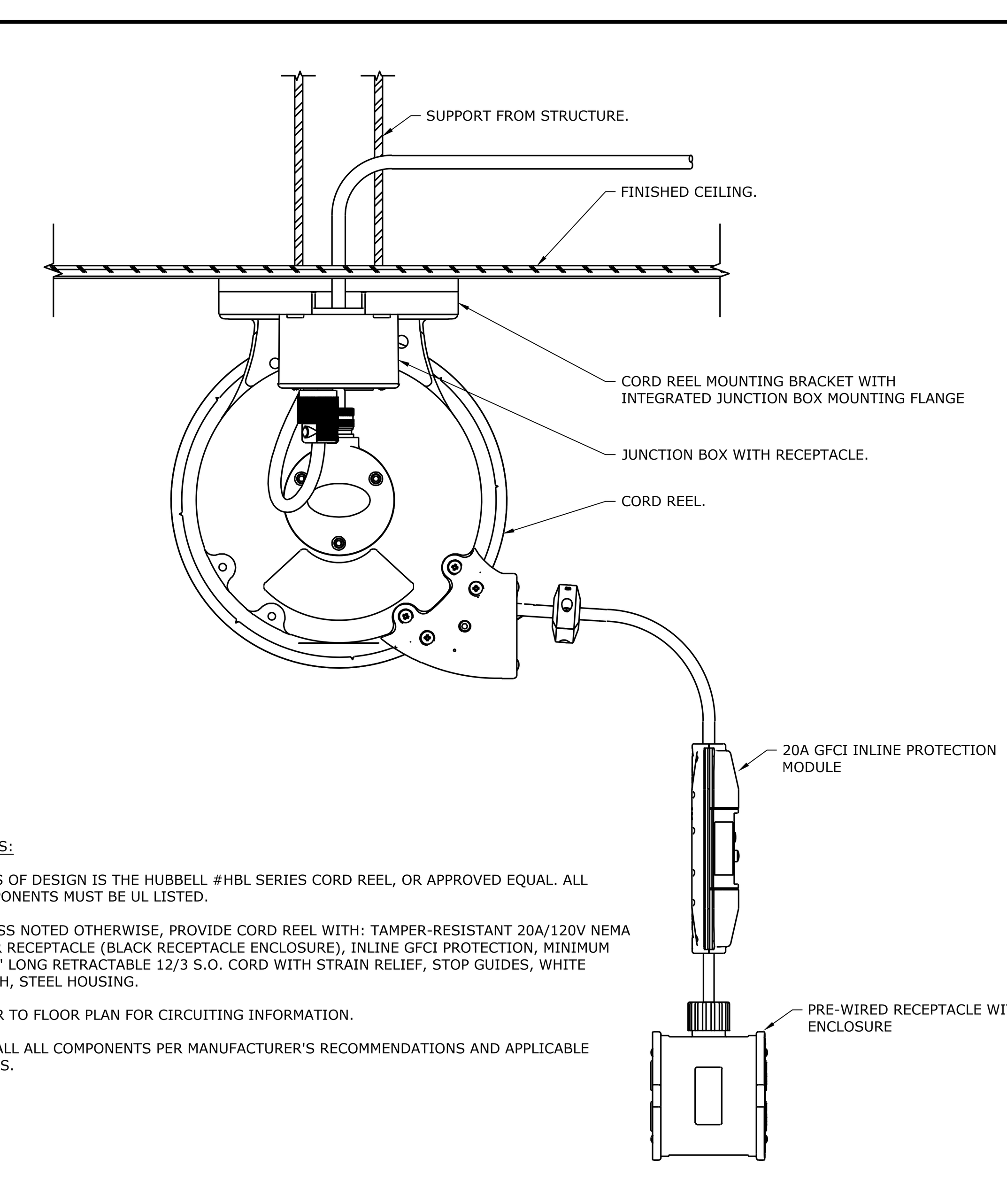
*Bearing the UL Classification Marking

This material was extracted by 3M Fire Protection Products from the 2004 edition of the UL Fire Resistance Directory



LOW VOLTAGE OCCUPANCY SENSOR WIRING DIAGRAM WITH AUTOMATIC ON OPERATION

NOT TO SCALE



NOTES:

1. BASIS OF DESIGN IS THE HUBBELL #HBL SERIES CORD REEL, OR APPROVED EQUAL. ALL COMPONENTS MUST BE UL LISTED.
2. UNLESS NOTED OTHERWISE, PROVIDE CORD REEL WITH: TAMPER-RESISTANT 20A/120V NEMA 5-20R RECEPTACLE (BLACK RECEPTACLE ENCLOSURE), INLINE GFCI PROTECTION, MINIMUM 45'-0" LONG RETRACTABLE 12/3 S.O. CORD WITH STRAIN RELIEF, STOP GUIDES, WHITE FINISH, STEEL HOUSING.
3. REFER TO FLOOR PLAN FOR CIRCUITING INFORMATION.
4. INSTALL ALL COMPONENTS PER MANUFACTURER'S RECOMMENDATIONS AND APPLICABLE CODES.

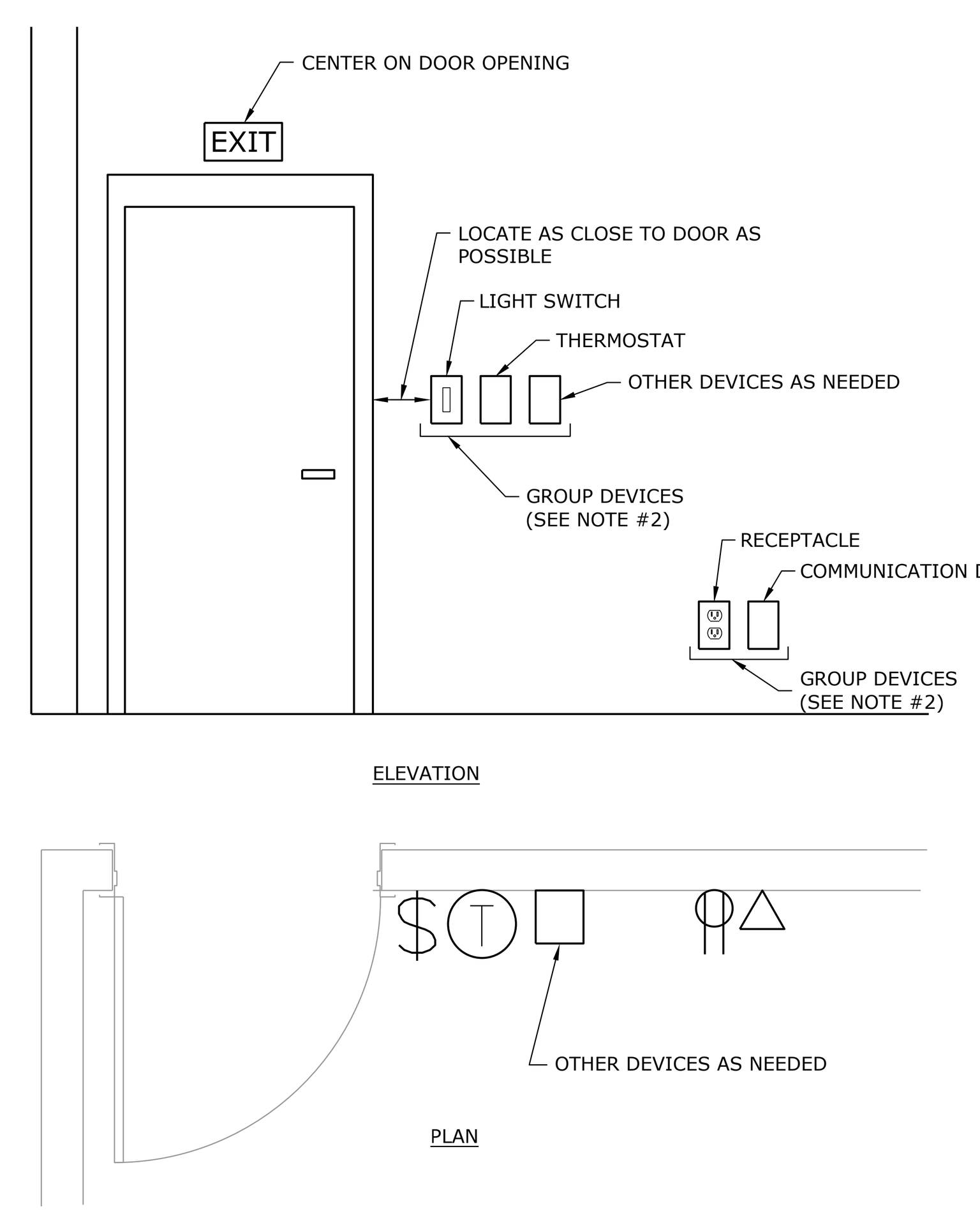
CEILING MOUNTED CORD REEL

NOT TO SCALE

LIGHTING CONTROL REQUIREMENTS & DESCRIPTIONS - PER SPACE TYPE	
TYPE	**LIGHTING CONTROL REQUIREMENTS FOR SPACE**
1	CONTROL METHOD: MANUAL ON - OCCUPANCY OFF - MANUAL ON/OFF CONTROLS: POWER PACKS/CONTROLLERS: -LOCAL DEVICES IN ACCESSIBLE LOCATIONS AS REQUIRED TO ACHIEVE CONTROL METHOD INDICATED. OCCUPANCY SENSOR(S): -TYPE, LOCATION(S), AND MINIMUM QUANTITY NOTED ON PLANS. MODELS/SETTINGS AS NEEDED TO PROVIDE SMALL MOTION COVERAGE IN ENTIRE ROOM. -SET TIME DELAYS FOR SHUT-OFF AT 30 MINUTES. ON/OFF ZONE SWITCHES: -LOCATION(S) AND QUANTITIES SHOWN ON FLOOR PLANS. -ZONE QUANTITIES FOR EACH SWITCH LOCATION DENOTED ON FLOOR PLANS. -ZONE DESIGNATIONS ARE DENOTED FOR EACH SWITCH WHEN DIFFERENT ZONES ARE CONTROLLED FROM DIFFERENT SWITCHES WITHIN THE SAME ROOM. -ZONES ARE DENOTED ON EACH ASSOCIATED LIGHT FIXTURE WHEN MULTIPLE ZONES ARE PRESENT WITHIN ROOM, USING LOWER CASE LETTERS AS FOLLOWS: "a", "b", ETC. -ON AND OFF CONTROL FOR EACH ZONE, WITH EITHER SEPARATE BUTTONS OR SINGLE BUTTON ROCKER STYLE. NOT TOGGLE STYLE.
2	CONTROL METHOD: MANUAL ON - OCCUPANCY OFF - MANUAL DIMMING CONTROLS: POWER PACKS/CONTROLLERS: -LOCAL DEVICES IN ACCESSIBLE LOCATIONS AS REQUIRED TO ACHIEVE CONTROL METHOD INDICATED. OCCUPANCY SENSOR(S): -TYPE, LOCATION, AND MINIMUM QUANTITY NOTED ON PLANS. MODELS/SETTINGS AS NEEDED TO PROVIDE SMALL MOTION COVERAGE IN ENTIRE ROOM. -SET TIME DELAYS FOR SHUT-OFF AT 30 MINUTES. DIMMABLE ZONE SWITCHES: -LOCATION(S) AND QUANTITIES SHOWN ON FLOOR PLANS. -ZONE QUANTITIES FOR EACH SWITCH LOCATION DENOTED ON FLOOR PLANS. -ZONE DESIGNATIONS ARE DENOTED FOR EACH DIMMER LOCATION WHEN DIFFERENT ZONES ARE CONTROLLED FROM DIFFERENT DIMMERS WITHIN THE SAME ROOM. -ZONES ARE DENOTED ON EACH ASSOCIATED LIGHT FIXTURE WHEN MULTIPLE ZONES ARE PRESENT WITHIN ROOM, USING LOWER CASE LETTERS AS FOLLOWS: "a", "b", ETC. -ON AND OFF CONTROL FOR EACH ZONE, WITH EITHER SEPARATE BUTTONS OR SINGLE BUTTON ROCKER STYLE. NOT TOGGLE STYLE. -RAISE AND LOWER CONTROL FOR EACH ZONE, WITH EITHER SEPARATE BUTTONS OR SINGLE BUTTON ROCKER STYLE. NOT SLIDER STYLE. AUTOMATIC DAYLIGHT HARVESTING PHOTOCELL(S), WHEN SHOWN ON PLANS: -AUTOMATICALLY RAISE/LOWER LIGHTING OUTPUT OF EACH LIGHTING ZONE, EITHER FULLY ARE PARTIALLY, WITHIN EACH DAYLIGHT ZONE(S) NOTED ON FLOOR PLANS. -DEDICATED CLOSED LOOP PHOTOCELL FOR EACH ROOM WITH DAYLIGHT ZONE(S).

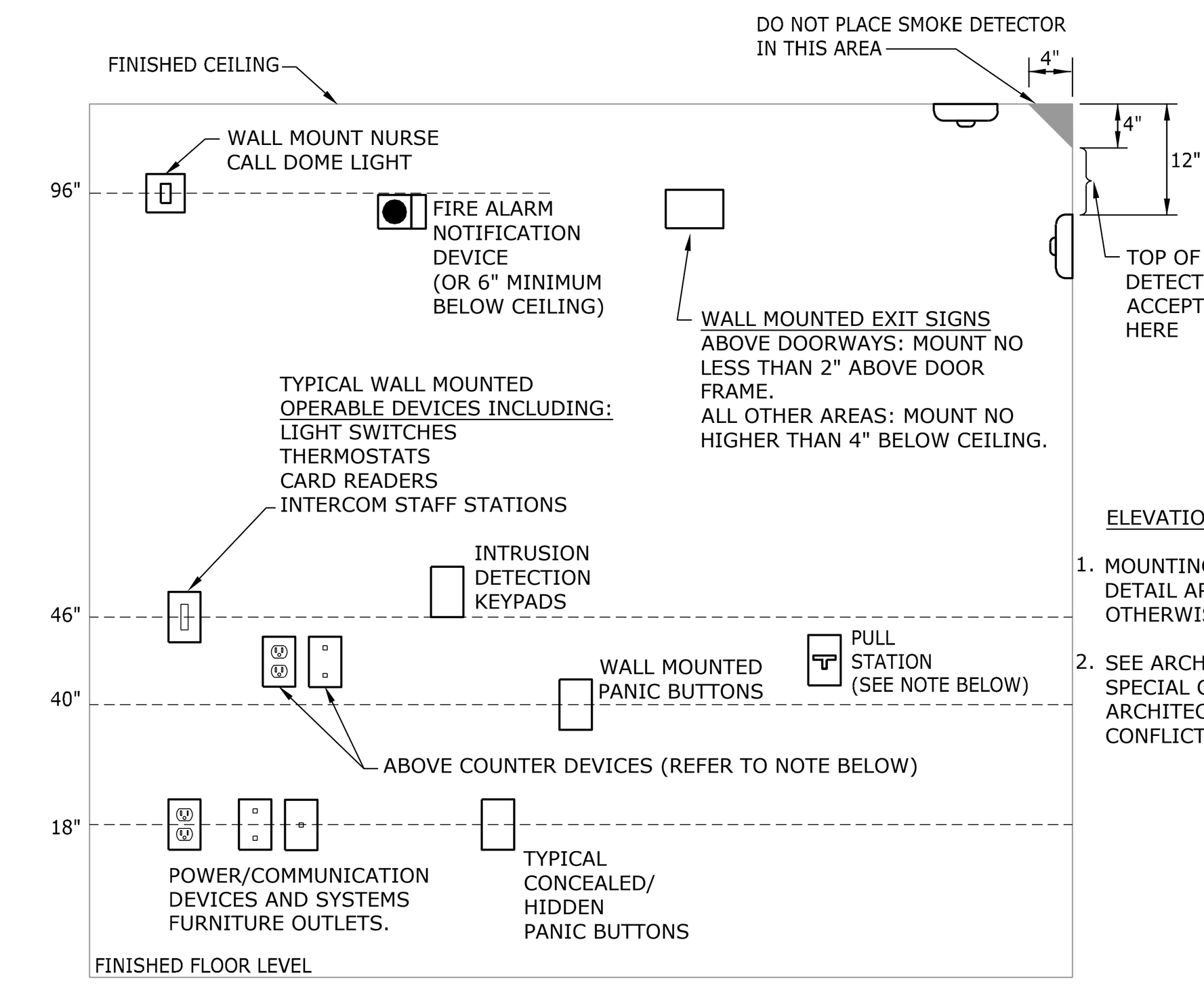
GENERAL NOTES:

NOTE 1: WHERE NOTED ABOVE, SCHEDULED BUILDING HOURS OF OPERATION ARE AS FOLLOWS: 6:30 AM TO 6:30 PM.
NOTE 2: CONTRACTOR MUST INCLUDE SHOP DRAWINGS WITH LIGHTING CONTROLS SUBMITTAL SHOWING WIRING SCHEMATICS/DIAGRAMS OVERLAYED ON FLOOR PLANS FOR EACH ROOM.
NOTE 3: ALL WALL MOUNTED LIGHTING CONTROLS MUST HAVE MATCHING FINISHES TO THOSE LISTED IN SPECIFICATION SECTION 262726 - WIRING DEVICES.
NOTE 4: PROVIDE A DIGITAL LIGHTING CONTROL SYSTEM FROM A MANUFACTURER LISTED IN SPECIFICATION SECTION 260923 - LIGHTING CONTROL DEVICES. WIRELESS SYSTEMS ARE NOT PERMITTED.
NOTE 5: CONTRACTOR TO MODIFY OCCUPANCY SENSOR LOCATIONS, AND/OR INCREASE QUANTITIES, AS REQUIRED BASED ON COVERAGE CAPABILITIES OF SUBMITTED PRODUCTS.
NOTE 6: CONTRACTOR MUST COORDINATE WITH LIGHT FIXTURE SCHEDULE, AND MOST IMPORTANTLY THE LIGHT FIXTURE SUBMITTAL, TO VERIFY DIMMING TYPE NEEDED FOR EACH RELAY/CONTROLLER.
NOTE 7: CONTRACTOR TO MODIFY PHOTOCELL LOCATIONS AS REQUIRED BASED ON SUBMITTED PRODUCTS.



NOTES

1. FOR GENERAL MOUNTING REFERENCE ONLY, REFER TO PLANS FOR ALL DEVICE LOCATIONS AND QUANTITIES.
2. UNLESS NOTED OTHERWISE, DEVICE LOCATIONS SHOWN NEXT TO ONE ANOTHER ON PLAN (OR SAME LOCATION ON DIFFERENT SHEETS) TO BE MOUNTED SUCH THAT THE FINISHED FACE PLATES ARE 2" APART. PROVIDE SPANNER BRACKET BETWEEN WALL STUDS FOR BACK BOX MOUNTING AS NEEDED.



ELEVATION GENERAL NOTES:

1. MOUNTING HEIGHTS SHOWN IN THIS DETAIL ARE TYPICAL UNLESS SHOWN OTHERWISE ON THE PLANS.
2. SEE ARCHITECTURAL ELEVATIONS FOR SPECIAL CONDITIONS. NOTIFY ARCHITECT IMMEDIATELY OF ANY CONFLICTS.

FIRE ALARM NOTIFICATION DEVICES

- MOUNT SO THAT ENTIRE LENS OF DEVICE IS NOT LESS THAN 80" AFF.

PULL STATIONS (FIRE ALARM ACTIVATION DEVICE)

- HIGHEST OPERABLE PART SHALL NOT BE MORE THAN 48" ABOVE THE FLOOR (FRONT APPROACH) ADA 2010. OPERABLE PART (T-HANDLE) SHALL BE NOT LESS THAN 42" AFF (NFPA).

WALL MOUNTED OPERABLE DEVICES

- WALL MOUNTED OPERABLE DEVICES INCLUDE, BUT ARE NOT LIMITED TO THE FOLLOWING:
  - THERMOSTATS.
  - LIGHTING SWITCHES/DIMMERS/CONTROLS
  - INTERCOM-STAFF STATIONS (MASTER STATIONS @ 18"AFF)
  - PUSH BUTTONS
  - OTHER CONTROL OR "CALL" DEVICES

ABOVE COUNTER DEVICES

- ABOVE COUNTER DEVICES SHALL BE LOCATED 2" ABOVE THE BACKSPLASH OF COUNTER TO THE BOTTOM OF DEVICES (PLAN DESIGNATION). VERIFY W/ ARCHITECTURAL DETAILS PRIOR TO WORK BEGINNING.

LIGHT FIXTURES

- REFER TO LIGHT FIXTURE SCHEDULE AND ARCHITECTURAL ELEVATIONS FOR MOUNTING HEIGHTS.

WALL MOUNTED DEVICES: MOUNTING HEIGHTS

NO SCALE

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Missouri State Certificate of Authority
Architecture # 0000161
Structure # 2006031333

MKEC Engineering, Inc.
Civil Engineer
State Certificate of Authority #
Engineering: 2001009364
Landscaping: 2006027139
Surveying: 2006027138
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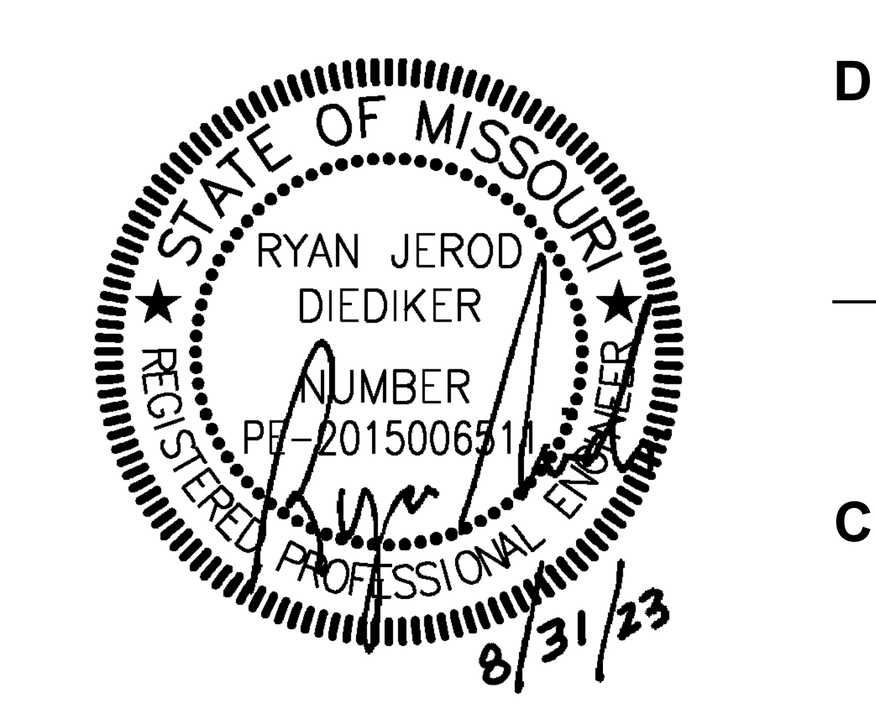
Construction Documents

District Technology Remodel
Liberty School District
1000 Kent Street
Liberty, Clay County, MO 64068

REVISIONS:

#	Description	Date



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JOB NO: 23022
DRAWN BY: S&B
CHECKED BY: RJD
DATE: 08.31.2023

E303

ELECTRICAL - SCHEDULES AND DETAILS

PROJECT NAME: 2314706 Liberty SD 2023 District Technology Remodel
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LAST CORRECTION BY ◆ DATE ◆ TIME: Srosario Thursday, August 31, 2023 10:05:19 AM
PLOTTED BY ◆ DATE ◆ TIME: Booty Charles Thursday, August 31, 2023 11:47:06 AM

Please consider the environment before printing this.

COMcheck Software Version 4.1.5.5

Interior Lighting Compliance Certificate

Project Information

Energy Code: 2018 IECC
Project Title:
Project Type: Alteration

Construction Site: Owner/Agent: Designer/Contractor:

Allowed Interior Lighting Power

A Area Category	B Floor Area (ft2)	C Allowed Watts / ft2	D Allowed Watts (B X C)
1-break (Common Space Types:Lounge/Breakroom)	3220	0.62	1996
2-conf (Common Space Types:Conference/Meeting/Multipurpose)	507	1.07	542
3-corridor (Common Space Types:Corridor/Transition <8 ft wide)	1842	0.66	1216
4-data/mech (Common Space Types:Electrical/Mechanical)	1375	0.43	591
5-office (Common Space Types:Office - Enclosed)	2827	0.93	2629
6-open office (Common Space Types:Office - Open Plan)	2630	0.81	2130
7-restroom (Common Space Types:Restrooms)	508	0.85	432
8-storage (Common Space Types:Storage >=50 - <=1000 sq.ft.)	2820	0.46	1297
9-FA workroom (Common Space Types:Workshop)	998	1.14	1138
10-copy (Common Space Types:Copy/Print Room)	79	0.56	44
		Total Allowed Watts =	12016

Proposed Interior Lighting Power

A Fixture ID : Description / Lamp / Wattage Per Lamp / Ballast	B Lamps/ Fixture	C # of Fixtures	D Fixture Watt.	E (C X D)
break (Common Space Types:Lounge/Breakroom 3220 sq.ft.)				
LED 1: A/AE: LED PANEL 2X4: LED Panel 44W:	1	9	50	450
conf (Common Space Types:Conference/Meeting/Multipurpose 507 sq.ft.)				
LED 1: A/AE: LED PANEL 2X4: LED Panel 44W:	1	6	50	300
corridor (Common Space Types:Corridor/Transition <8 ft wide 1842 sq.ft.)				
LED 3: C/CE: LED DL: LED PAR 11W:	1	2	11	22
LED 1: A/AE: LED PANEL 2X4: LED Panel 44W:	1	18	50	900
data/mech (Common Space Types:Electrical/Mechanical 1375 sq.ft.)				
LED 5: F/FE/F1/F1E: LED STRIP: LED Linear 33W:	1	12	56	672
LED 1: A/AE: LED PANEL 2X4: LED Panel 44W:	1	1	50	50
office (Common Space Types:Office - Enclosed 2827 sq.ft.)				
LED 1: A/AE: LED PANEL 2X4: LED Panel 44W:	1	38	50	1900
open office (Common Space Types:Office - Open Plan 2630 sq.ft.)				
LED 1: A/AE: LED PANEL 2X4: LED Panel 44W:	1	29	50	1450
restroom (Common Space Types:Restrooms 508 sq.ft.)				
LED 4: D: LED WALLMOUNT: LED Linear 33W:	1	2	28	56

A Fixture ID : Description / Lamp / Wattage Per Lamp / Ballast	B Lamps/ Fixture	C # of Fixtures	D Fixture Watt.	E (C X D)
LED 1: A/AE: LED PANEL 2X4: LED Panel 44W:	1	4	50	200
storage (Common Space Types:Storage >=50 - <=1000 sq.ft. 2820 sq.ft.)				
LED 5: F/FE/F1/F1E: LED STRIP: LED Linear 33W:	1	28	56	1568
LED 2: A2: LED PANEL 2X2: LED Panel 38W:	1	1	39	39
FA workroom (Common Space Types:Workshop 998 sq.ft.)				
LED 5: F/FE/F1/F1E: LED STRIP: LED Linear 33W:	1	11	56	616
copy (Common Space Types:Copy/Print Room 79 sq.ft.)				
LED 1: A/AE: LED PANEL 2X4: LED Panel 44W:	1	1	50	50
			Total Proposed Watts =	8273

Interior Lighting PASSES

Interior Lighting Compliance Statement

Compliance Statement: The proposed interior lighting alteration project represented in this document is consistent with the building plans, specifications, and other calculations submitted with this permit application. The proposed interior lighting systems have been designed to meet the 2018 IECC requirements in COMcheck Version 4.1.5.5 and to comply with any applicable mandatory requirements listed in the Inspection Checklist.

Cory Mitchell - designer — Signature — 8/30/23
Name - Title — Date

LIGHT FIXTURE SCHEDULE

TYPE	DESCRIPTION	MOUNTING	LAMP	VOLTS	MANUFACTURER	V-A
A	2'x4' RECESSED TOP LIT FLAT PANEL. INTEGRAL 0-10V DIMMING DRIVER.	RECESSED GRID	LED 4900 LUMENS (DELIVERED) 3500K 80 CRI	UNV	WILLIAMS SERIES LP DAY-BRITE FLUXPANEL COLUMBIA LCAT LITHONIA CPX OR PRE-BID APPROVED EQUAL	50
AE	2'x4' RECESSED TOP LIT FLAT PANEL. INTEGRAL 0-10V DIMMING DRIVER. FURNISH WITH 1200 LUMEN EMERGENCY BATTERY BACKUP.	RECESSED GRID	LED 4900 LUMENS (DELIVERED) 3500K 80 CRI	UNV	WILLIAMS SERIES LP DAY-BRITE FLUXPANEL COLUMBIA LCAT LITHONIA CPX OR PRE-BID APPROVED EQUAL	50
A2	2'x2' RECESSED TOP LIT FLAT PANEL. INTEGRAL 0-10V DIMMING DRIVER.	RECESSED GRID	LED 4000 LUMENS 3500K 80 CRI	UNV	WILLIAMS SERIES LP DAY-BRITE FLUXPANEL COLUMBIA LCAT LITHONIA CPX OR PRE-BID APPROVED EQUAL	39
C	4" OPEN APERTURE LED DOWNLIGHT WITH SEMI-SPECULAR LOW IRIDESCENT REFLECTOR, PAINTED WHITE FLANGE, 0-10V DIMMING DRIVER.	RECESSED	LED 1,000 LUMENS (DELIVERED) 3500K 80 CRI	UNV	PATHWAY LIGHTING SERIES 4LB79V W LITHONIA LDN4 LIGHTOLIER SERIES LYTEPROFILE WILLIAMS 4DR INTENSE SD4DR	11
CE	4" OPEN APERTURE LED DOWNLIGHT WITH SEMI-SPECULAR LOW IRIDESCENT REFLECTOR, PAINTED WHITE FLANGE, 0-10V DIMMING DRIVER. FURNISH WITH INTEGRAL 6 WATT EMERGENCY BATTERY BACKUP.	RECESSED	LED 1,000 LUMENS (DELIVERED) 3500K 80 CRI	UNV	PATHWAY LIGHTING SERIES 4LB79V W LITHONIA LDN4 LIGHTOLIER SERIES LYTEPROFILE WILLIAMS 4DR INTENSE SD4DR	11
D	48" WALL MOUNTED LED LINEAR PENDANT. DIRECT/INDIRECT LIGHT DISTRIBUTION WITH TOP GLOW TOP LENS AND FLUSH BOTTOM LENS, FLAT ENDCAP, EXTRUDED ALUMINUM HOUSING WITH WHITE FINISH.	SURFACE WALL	LED 1560 LUMEN UP 1280 LUMEN DOWN 3500K 80 CRI	UNV	FINELITE#HP2-WM-ID OR PRE-BID APPROVED EQUAL	28
E	SURFACE MOUNTED SELF-CONTAINED EMERGENCY LED LIGHTING FIXTURE FOR WALL INSTALLATION. NI-CAD BATTERY, UV-STABLE PLASTIC HOUSING WITH WHITE FINISH. LED LAMPS, PUSH TO TEST SWITCH, LED INDICATOR LIGHTS FOR AC SUPPLY, BATTERY CHARGE STATUS, 90 MINUTES OF BATTERY OPERATION, DAMP LOCATION LISTED.	SURFACE	(2)LED 1.2W	UNV	LITHONIA#ELM2L DUAL LITE#EZ-2 OR PRE-BID APPROVED EQUAL	2
F	4'-0" LED STRIP LIGHT WITH WIRE GUARD. ROUND LENS. INTEGRAL DRIVER. WHITE FINISH. 0-10V DIMMING DRIVER.	SURFACE	LED 6,000 LUMENS 3500K	UNV	WILLIAMS 7S SERIES LITHONIA Z SERIES DAY-BRITE FLUX STREAM STRIP COLUMBIA CSL OR PRE-BID APPROVED EQUAL	56
F1	4'-0" LED STRIP LIGHT WITH WIRE GUARD. ROUND LENS. INTEGRAL DRIVER. WHITE FINISH. 0-10V DIMMING DRIVER.	CHAIN HANG TO 8'-0" AFF UNLESS NOTED	LED 6,000 LUMENS 3500K	UNV	WILLIAMS 7S SERIES LITHONIA Z SERIES DAY-BRITE FLUX STREAM STRIP COLUMBIA CSL OR PRE-BID APPROVED EQUAL	56
F1E	4'-0" LED EMERGENCY STRIP LIGHT WITH WIRE GUARD. ROUND LENS. INTEGRAL DRIVER. WHITE FINISH. 0-10V DIMMING DRIVER. INTEGRAL 10W EMERGENCY BATTERY PACK.	CHAIN HANG TO 8'-0" AFF UNLESS NOTED	LED 6,000 LUMENS 3500K	UNV	WILLIAMS 7S SERIES LITHONIA Z SERIES DAY-BRITE FLUX STREAM STRIP COLUMBIA CSL OR PRE-BID APPROVED EQUAL	56
G	LED EXTERIOR WEDGE TYPE WALL PACK, TYPE 3 DISTRIBUTION. COORDINATE FINISH WITH ARCHITECT.	WALL	LED 3,200 LUMEN (DELIVERED) 4000K 70 CRI	120	LITHONIA WEDGE2 GARDCO GWS OR PRE-BID APPROVED EQUAL	32
GE	EMERGENCY LED EXTERIOR WEDGE TYPE WALL PACK, TYPE 3 DISTRIBUTION. INTEGRAL 10 WATT EMERGENCY BACKUP. COORDINATE FINISH WITH ARCHITECT.	WALL	LED 3,200 LUMEN (DELIVERED) 4000K 70 CRI	120	LITHONIA WEDGE2 GARDCO GWS OR PRE-BID APPROVED EQUAL	32
H	EXISTING RECESSED INCANDESCENT FIXTURE TO REMAIN. RELAMP WITH COMPATIBLE TYPE BR LED LAMP, 1500 LUMEN MINIMUM.	RECESSED	BR LED 1,500 LUMEND 4000K	120	EXISTING	16
HE	EXISTING RECESSED INCANDESCENT FIXTURE TO REMAIN. RELAMP WITH COMPATIBLE TYPE BR LED LAMP, 1500 LUMEN MINIMUM. PROVIDE COMPATIBLE 5W REMOTE EMERGENCY BATTERY PACK INSTALL OVER THE NEAREST ACCESSIBLE CEILING.	RECESSED	BR LED 1,500 LUMEND 4000K	120	EXISTING	16
X	EDGE LIT EXIT SIGN RED LETTERING. ALUMINUM TRIM. PROVIDE ARROWS AS NOTED ON DRAWINGS, AND SINGLE OR DOUBLE SIDED AS NEEDED AND SHOWN ON DRAWINGS. PROVIDE TOP, BACK, OR SIDE MOUNT HARDWARE AS REQUIRED BY ARCHITECTURAL CONDITIONS. BATTERY CAPABLE OF 90 MINUTES OF EMERGENCY OPERATION.	SURFACE	LED	UNV	DUAL LITE LES SERIES LITHONIA EDGE LIT EXIT EVENLITE TEX EMERGI-LITE TOTAL EDGE OR PRE-BID APPROVED EQUAL	5

OCCUPANCY SENSOR SCHEDULE

TYPE	DESCRIPTION	MOUNTING	TIME DELAY	MANUFACTURER
OS-1	PASSIVE INFRARED WALL MOUNTED OCCUPANCY SENSOR WITH MANUAL ON/AUTO OFF.	WALL	15 MIN	LEVITON#ODS15-ID SENSOR SWITCH#WSX OR PRE-BID APPROVED EQUAL
OS-2	CEILING MOUNTED DUAL TECHNOLOGY OCCUPANCY SENSOR WITH 1000 SF COVERAGE. FURNISH WITH POWER PACK(S).	CEILING	15 MIN	LEVITON#OSC10-RM SENSOR SWITCH#OM OR PRE-BID APPROVED EQUAL
OS-3	PASSIVE INFRARED WALL MOUNTED OCCUPANCY SENSOR WITH 0-10V DIMMING AND MANUAL ON/AUTO OFF.	WALL	15 MIN	DUAL LITE LES SERIES OR PRE-BID APPROVED EQUAL

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Structure # 2006031333

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Construction Documents

District Technology Remodel
Liberty School District
1000 Kent Street
Liberty, Clay County, MO 64068

REVISIONS:

#	Description	Date

STATE OF MISSOURI — RYAN JEROD DIEDIKER — NUMBER PE-2015006211 — REGISTERED PROFESSIONAL ENGINEER — 8/31/23

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CHECKED BY: RJD
DATE: 08.31.2023

E304

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project number 2314706

ELECTRICAL - SCHEDULES AND DETAILS

PROJECT NAME:
AUTOCAD FILE LOCATION \ NAME:
LAST CORRECTION BY ◆ DATE ◆ TIME:
PLOTTED BY ◆ DATE ◆ TIME:
2314706 Liberty SD 2023 District Technology Remodel
X:\23\2314\2314706\Drawings\06 - 2314706_E304.dwg
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Bcoty Charles Thursday, August 31, 2023 11:47:19 AM

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SHEET KEYNOTE LEGEND

PLAN NOTES:

1. PROVIDE 2"X4" BOX AT 48" AFF FOR FUTURE CARD READER. PROVIDE COMMUNICATIONS CABLING NOTED.
2. HELP DESK AND I.T. INTERCOM CALL STATION.
3. KID ZONE AND FINE ARTS INTERCOM CALL STATION.
4. CONNECT TO THE STAND ALONE DOOR CONTROLLER AT THE OFFICE 131 TEST BENCH, COORDINATE REQUIREMENTS WITH OWNER.
5. MOUNT DEVICE ON MULLION, ROUTE CABLING CONCEALED THROUGH MULLION.

NETWORK CABLING NOTES:

DX' AT EACH DEVICE INDICATES THE NUMBER AND LOCATION OF COMMUNICATIONS CABLES AS FOLLOWS. EXTEND ALL CABLING TO TECHNOLOGY 130 AND TERMINATE AT THE PATCH PANELS.

D1 = 1x CAT6
D2 = 2x CAT6
D3 = 3x CAT6
D4 = 4x CAT6
D2/2 = 2x CAT6 + 2x CAT6A
D1A = 1x CAT6 ABOVE CEILING
D2A = 2x CAT6 ABOVE CEILING
D3A = 3x CAT6 ABOVE CEILING
D4A = 4x CAT6 ABOVE CEILING
D2/2A = 2x CAT6 + 2x CAT6A ABOVE CEILING
D1/1A = 1x CAT6 + 1x CAT6A ABOVE CEILING
DAC = 1x ACCESS CONTROL WIRE

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Structure # 2006031333

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A1 | Scale 1/8" = 1'-0" | ELECTRONIC SECURITY PLAN - LEVEL 1

PLAN NORTH | TRUE NORTH

ELECTRONIC SECURITY PLAN - LEVEL 1

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SHEET KEYNOTE LEGEND

PLAN DEMOLITION NOTES:

1. MOUNT IN THE RETURN DUCT OF THE AIR HANDLING UNIT, CONNECT TO THE AHU FOR SHUTDOWN AND TO THE FIRE ALARM SYSTEM FOR MONITORING.
2. INTEGRATE THE CORRIDOR SMOKE DETECTORS WITH THE DUCT MOUNTED FIRE/SMOKE DAMPERS FOR CONTROL. SMOKE DETECTORS TO CONTROL ALL FIRE/SMOKE DAMPERS AT THE ASSOCIATED CORRIDOR. CONNECT SMOKE DETECTORS TO THE FIRE ALARM CONTROL PANEL FOR MONITORING.
3. PROVIDE DUCT MOUNTED SMOKE DETECTOR FOR CONTROL OF THE FIRE/SMOKE DAMPER AT THIS LOCATION. CONNECT TO THE DAMPER FOR CONTROL AND TO THE FIRE ALARM CONTROL PANEL FOR MONITORING.
4. CONNECT SMOKE DETECTOR TO DOOR HOLDERS FOR CONTROL, CONNECT TO THE FIRE ALARM SYSTEM FOR MONITORING.
5. MOUNT SMOKE AND HEAT DETECTOR AT THE CEILING OF THE ROOM. PROVIDE A NORMALLY CLOSED DRY CONTACT CONNECTION FROM THE BUILDING FIRE ALARM PANEL TO THE DROP-AWAY CEILING SYSTEM CONTROLLER AT THE DATA CENTER POD. THE DRY CONTACT SHALL OPEN UPON ACTIVATION OF THE ROOM SMOKE OR HEAT DETECTOR.
6. HORN/STROBE TO ALARM UPON ACTIVATION OF THE DRY CHEMICAL FIRE SUPPRESSION SMOKE DETECTOR OR HEAT DETECTOR. PROVIDE LABEL "DRY CHEMICAL FIRE SUPPRESSION".
7. HORN/STROBE CONNECTED TO THE BUILDING FIRE ALARM SYSTEM.
8. SMOKE DETECTOR AND HEAT DETECTOR TO CONTROL THE DRY CHEMICAL FIRE SUPPRESSION SYSTEM. CONNECT TO THE DRY CHEMICAL CONTROL PANEL FOR ACTIVATION. DRY CHEMICAL SYSTEM SHALL ONLY BE ACTIVATED ONLY WHEN BOTH THE SMOKE AND HEAT DETECTOR ARE ACTIVATED. ACTIVATION OF EITHER THE SMOKE OR HEAT DETECTOR SHALL ALARM THE DRY CHEMICAL FIRE SUPPRESSION SYSTEM HORN/STROBE IN THE ROOM ONLY. COORDINATE ALL REQUIREMENTS WITH THE FIRE SUPPRESSION SYSTEM INSTALLER.
9. PROVIDE MUSHROOM TYPE EMERGENCY SHUTOFF BUTTON TO SHUT OFF THE DRY CHEMICAL FIRE SUPPRESSION SYSTEM. COORDINATE ALL REQUIREMENTS WITH THE FIRE SUPPRESSION SYSTEM INSTALLER.

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A1 | Scale 1/8" = 1'-0" | FIRE ALARM PLAN - LEVEL 1

PLAN NORTH | TRUE NORTH

FIRE ALARM PLAN - LEVEL 1

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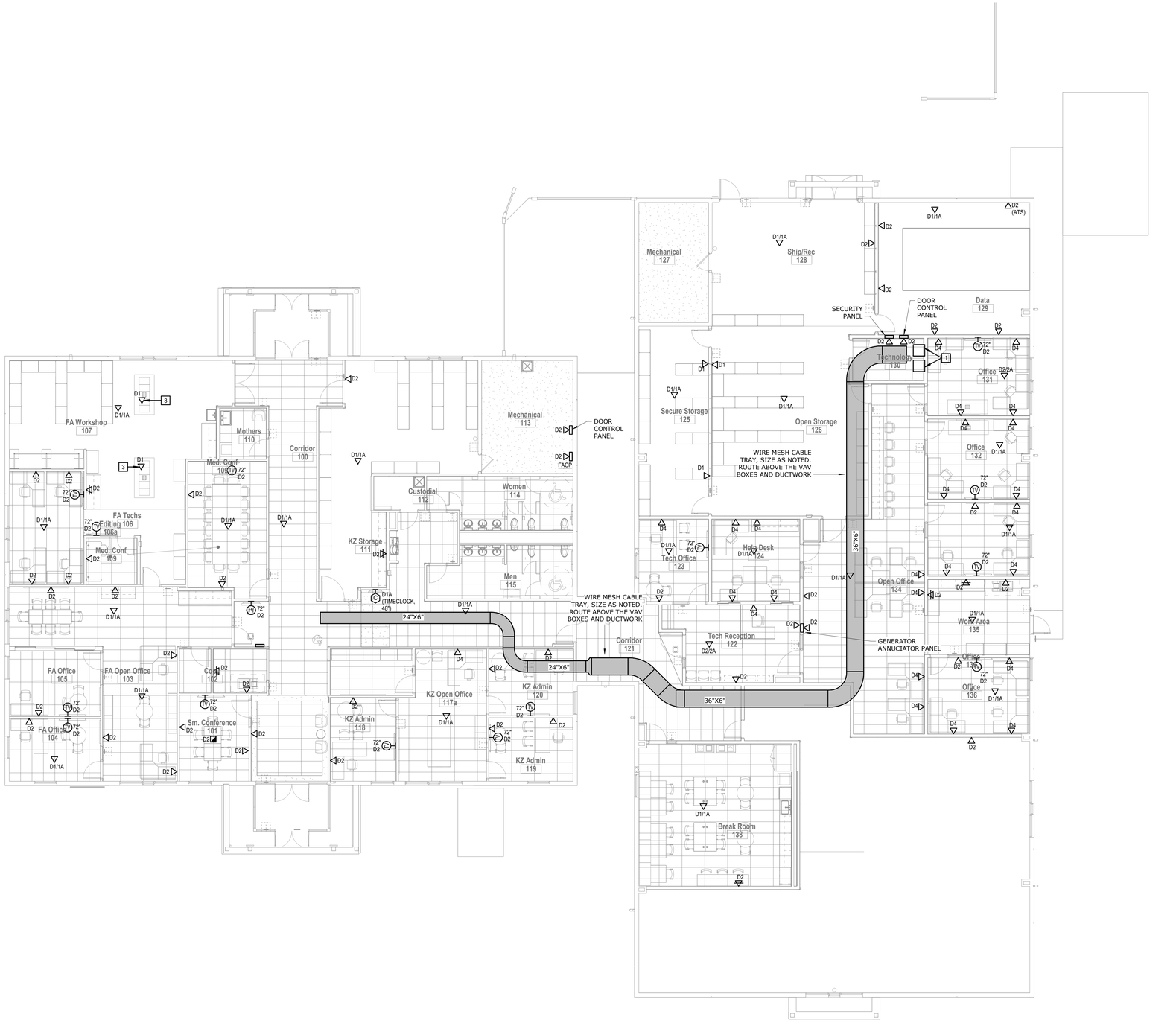

SHEET KEYNOTE LEGEND

GENERAL NOTES:

1. REFER TO THE SECURITY PLAN FOR ADDITIONAL NETWORK CABLING REQUIREMENTS FOR SECURITY DEVICES.
2. REFER TO DETAIL SHEET LV301 FOR ADDITIONAL REQUIREMENTS.

PLAN NOTES:

1. FLOOR MOUNTED 3-POST RACK. SIZE TO ACCOMMODATE THE DEVICES SHOWN PLUS 25%.
2. REFER TO THE POWER PLAN FOR NETWORK CABLING REQUIREMENTS TO THE FLOOR BOX IN THIS ROOM.
3. PROVIDE CAT6 CORD REEL MOUNTED AT THE CEILING, HUBBELL #ACA-CAT6 OR SIMILAR.

NETWORK CABLING NOTES:

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D2 = 2x CAT6
D3 = 3x CAT6
D4 = 4x CAT6
D2/2 = 2x CAT6 + 2x CAT6A
D1A = 1x CAT6 ABOVE CEILING
D2A = 2x CAT6 ABOVE CEILING
D3A = 3x CAT6 ABOVE CEILING
D4A = 4x CAT6 ABOVE CEILING
D2/2A = 2x CAT6 + 2x CAT6A ABOVE CEILING
D1/1A = 1x CAT6 + 1x CAT6A ABOVE CEILING

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A1 | Scale 1/8" = 1'-0" | TELECOMMUNICATIONS PLAN - LEVEL 1

PLAN NORTH | TRUE NORTH

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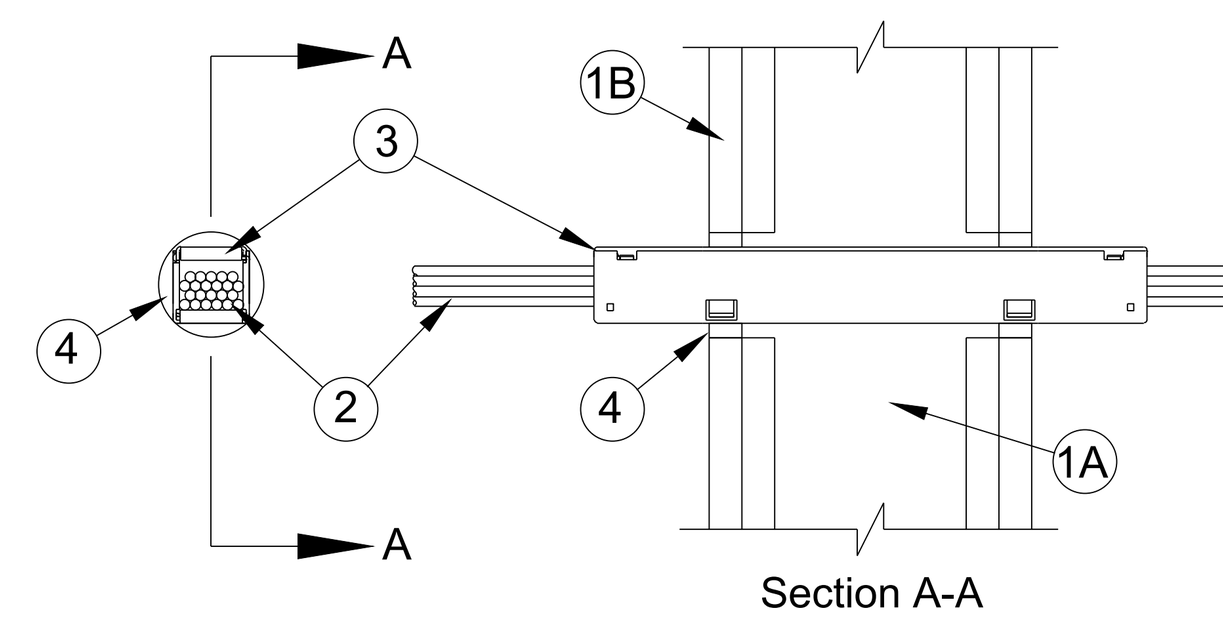
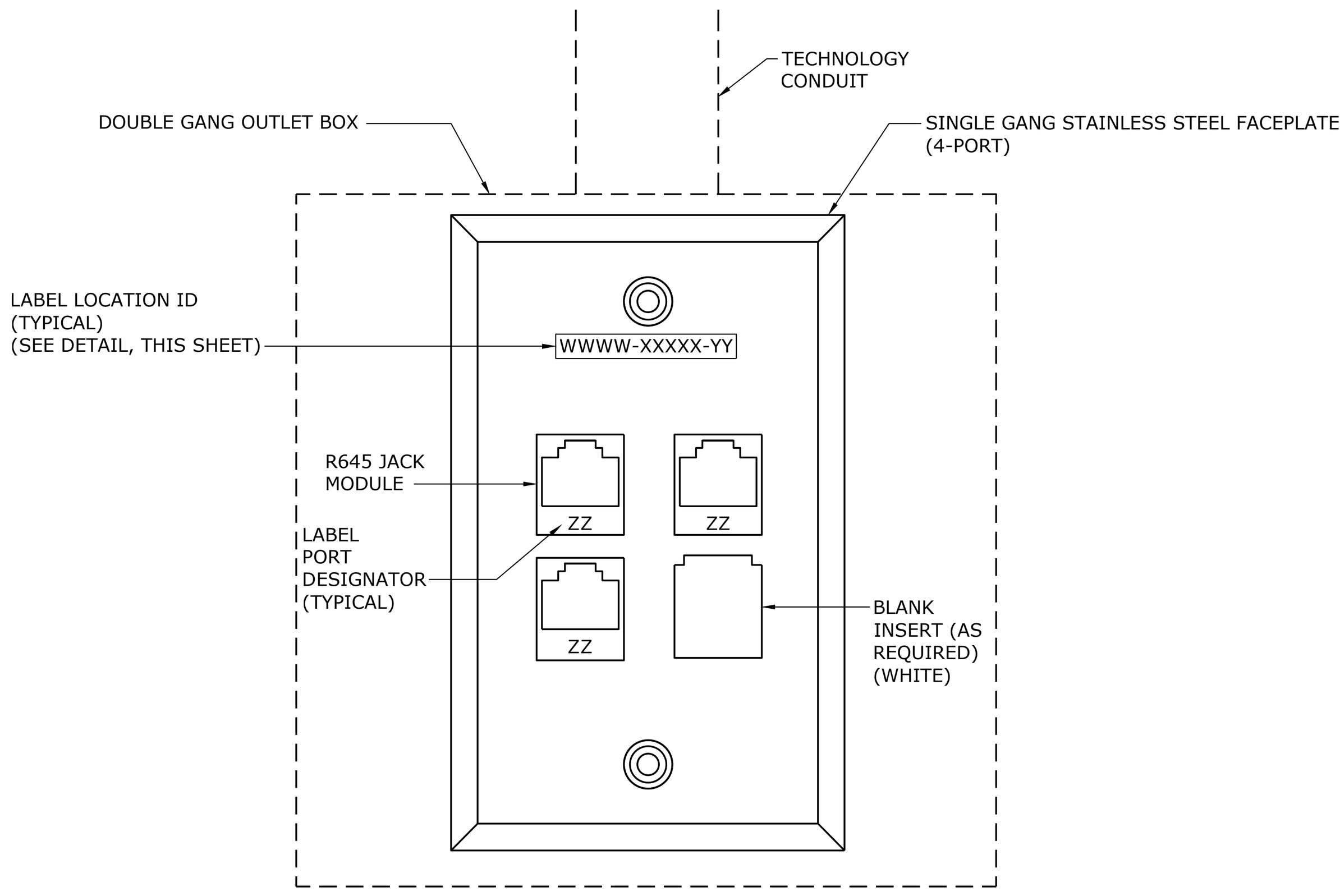
TELECOMMUNICATIONS PLAN - LEVEL 1

System No. W-L-3256
F Ratings - 1 and 2 Hr (See Item 1)
T Ratings - 1, 1-1/4 and 1-3/4 Hr (See Item 2)
L Rating At Ambient - Less Than 1 or 1.4 CFM
(See Item 3)
L Rating At 400 F - Less Than 1 or 1.4 CFM
(See Item 3)



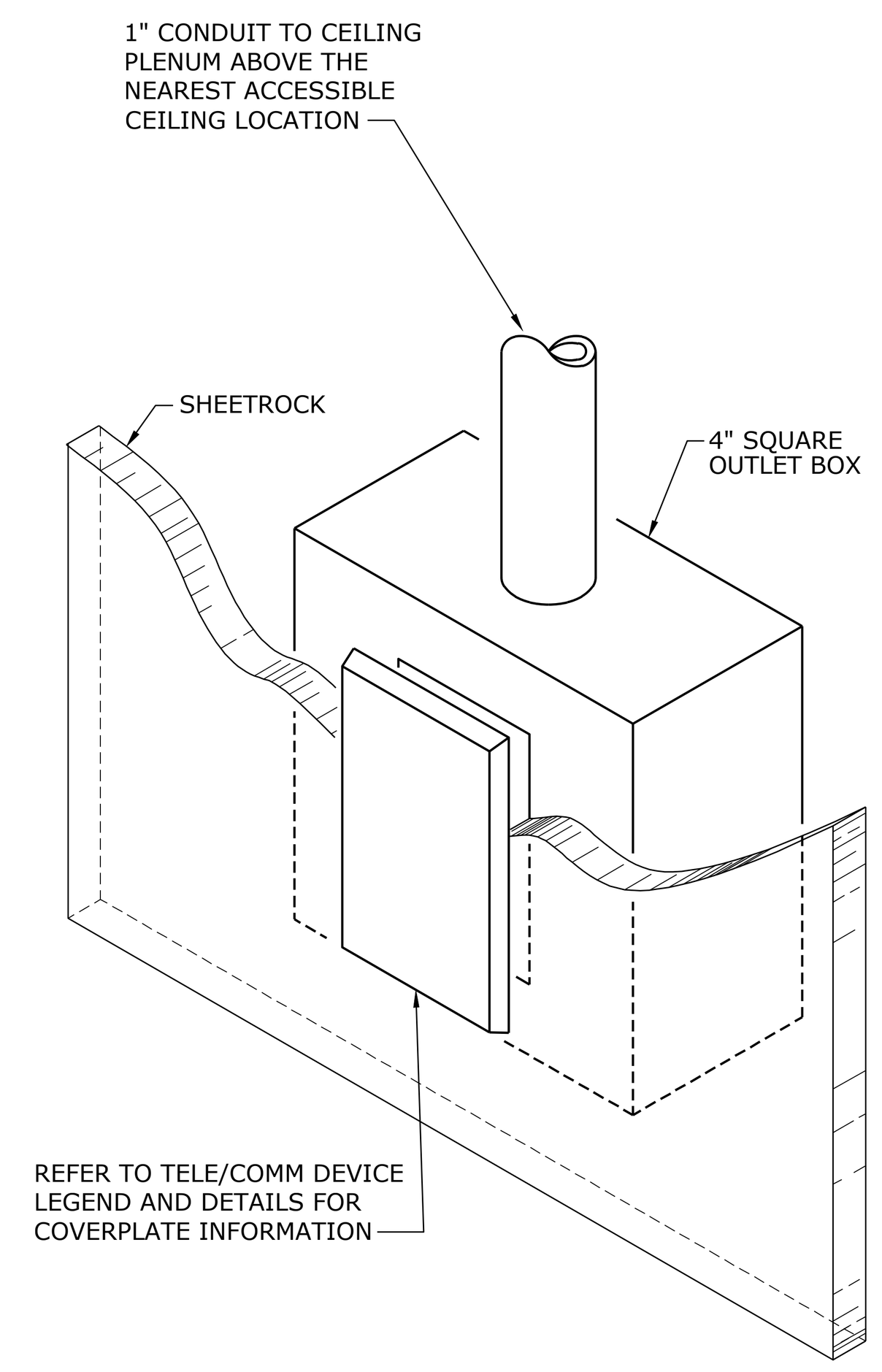
1. Wall Assembly - The 1 or 2 hr fire-rated gypsum board/stud wall assembly shall be constructed of the materials and in the manner described within the individual U300, U400 or V400 Series Wall or Partition Designs in the UL Fire Resistance Directory and shall incorporate the following construction features:
   A. Studs - Wall framing shall consist of either wood studs or steel channel studs. Wood studs to consist of nom 2 by 4 in. (51 by 102 mm) lumber spaced max 16 in. (406 mm) OC. Steel studs to be min 3-1/2 in. (89 mm) wide and spaced max 24 in. (610 mm) OC.
   B. Gypsum Board* - Thickness, type, number of layers and fasteners as specified in the individual Wall and Partition Design. Opening in gypsum board to accommodate firestop device to be max 3 in. (76 mm) wide by max 2-1/2 in. (64 mm) high. or nom 2 in. (51 mm) diameter. The hourly F Rating of the firestop system is dependent upon the hourly rating of the wall in which it is installed.
2. Cables - Within the loading area for each firestop device module, the cables may represent a 0 to 100 percent visual fill. Cable fill to be distributed at a uniform height across the width of the firestop device module. Cables to be rigidly supported on both sides of the wall assembly. Any combination of the following types of cables may be used:
   A. Max four pair No. 22 AWG (or smaller) copper conductor data cable with polyvinyl chloride (PVC) or plenum rated jacketing and insulation.
   B. Max RG/U coaxial cable with fluorinated ethylene insulation and jacketing.
   C. Fiber optic cable with polyvinyl chloride (PVC) or polyethylene (PE) jacket and insulation having a max diam of 1/4 in. (6 mm).
   The T Rating is 1 hr and 1-3/4 hr in 1 hr and 2 hr rated walls, respectively, when no cables are installed in firestop device. The T Rating is 1 hr and 1-1/4 hr in 1 hr and 2 hr rated walls, respectively, when cables are installed in firestop device.
   The L Rating for the empty firestop device is less than 1.4 cfm at ambient and at 400F. When Item 3A is used, the L Rating with 100 percent visual fill of cable is less than 1 CFM at ambient and at 400F.
3. Firestop Device* - Firestop device consists of a 1.4 by 1.4 by 10-1/2 in. (36 by 36 by 267 mm) long galv steel tube with an intumescent material lining. Firestop device to be installed in accordance with the accompanying installation instructions. Prior to installation within wall, lid removed from device to capture grouped cables. After wall such that lid is on top and ends project an equal distance from the `approximate' centerline of the wall assembly. The space between the device and the periphery of the opening shall be min 0 in. (0 mm, point contact) to max 1/2 in. (13 mm).
   SPECIFIED TECHNOLOGIES INC - EZ PATH Series 22 Fire Rated Pathway
4. Fill, Void or Cavity Material* - Sealant - Min 5/8 in. (16 mm) thickness of sealant to be applied in annular space between firestop device and periphery of opening on each side of wall assembly. Nom 3/8 in. (10 mm) diam bead of fill material applied at the point contact location between the firestop device and gypsum board wall on both sides of the wall assembly.
   SPECIFIED TECHNOLOGIES INC - SpecSeal 100, 101, 102, 105, 120 or 129 Sealant, SpecSeal LCI Sealant, SpecSeal LC150 Sealant, Pensil 300 Sealant or SpecSeal Series SIL300 Sealant
   *Bearing the UL Classification Mark

TELECOMMUNICATIONS CABLING AT FIRE WALL PENETRATIONS
NOT TO SCALE

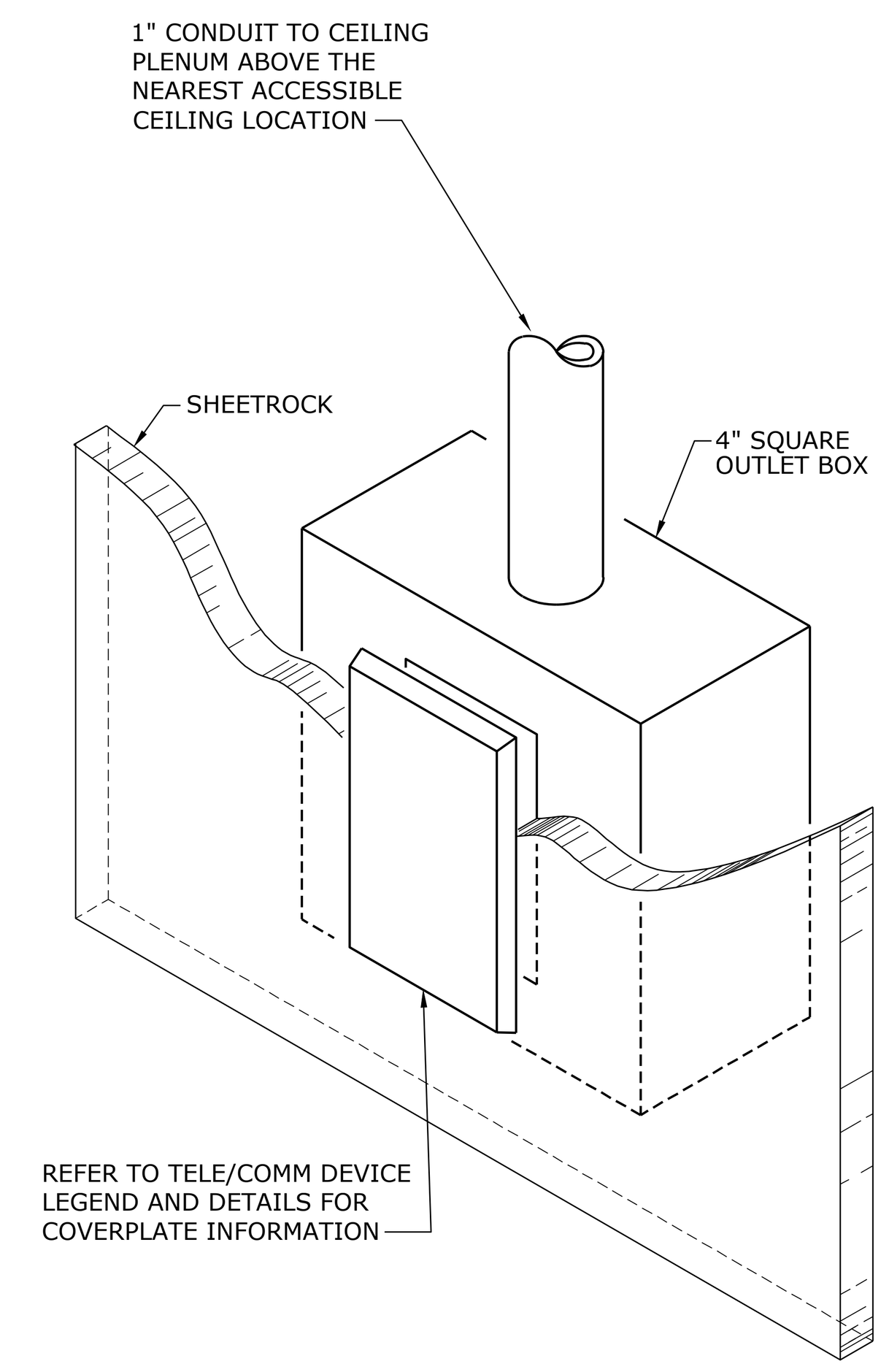


*FILL FACEPLATE WITH OUTLET CONNECTORS STARTING AT THE TOP LEFT POSITION THEN LEFT-TO-RIGHT, TOP-TO-BOTTOM. REMAINING OPENINGS SHALL BE FITTED WITH BLANK INSERTS.

WALL MOUNTED PHONE/DATA OUTLET
NO SCALE



TV OUTLET DETAIL
NOT TO SCALE



TELE/DATA OUTLET ROUGH-IN DETAIL
NOT TO SCALE

NOTES:

PROVIDE GROUND BUS IN DATA 129 AND TECHNOLOGY 130, REFER TO THE COMMUNICATIONS GROUNDING RISER DIAGRAM FOR CONNECTIONS.

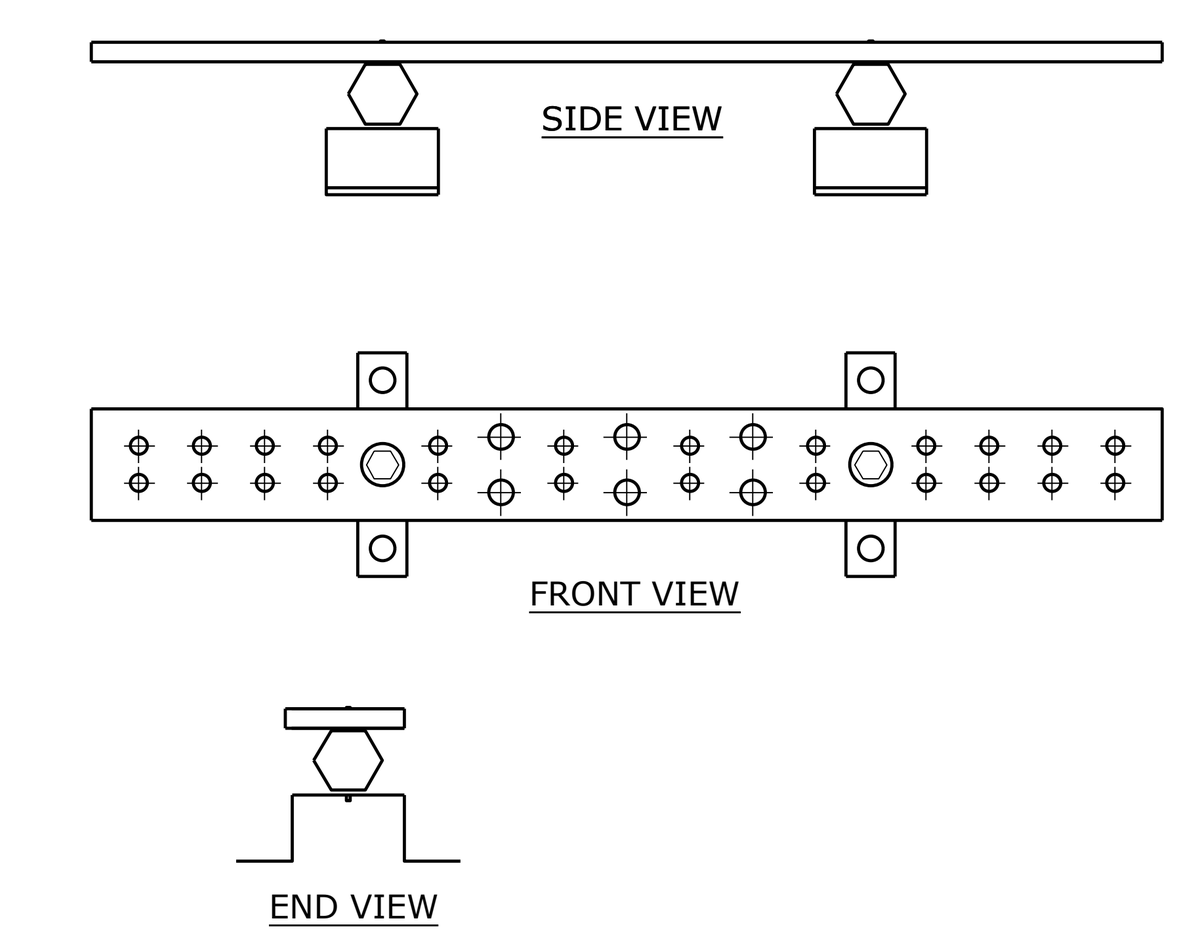
GROUND BUS ASSEMBLY:

1/4" X 2" X 20" COPPER GROUND BAR WITH (12) 5/16" PAIRS AND (3) 7/16" PAIRS ON 1-1/8" CENTERS.

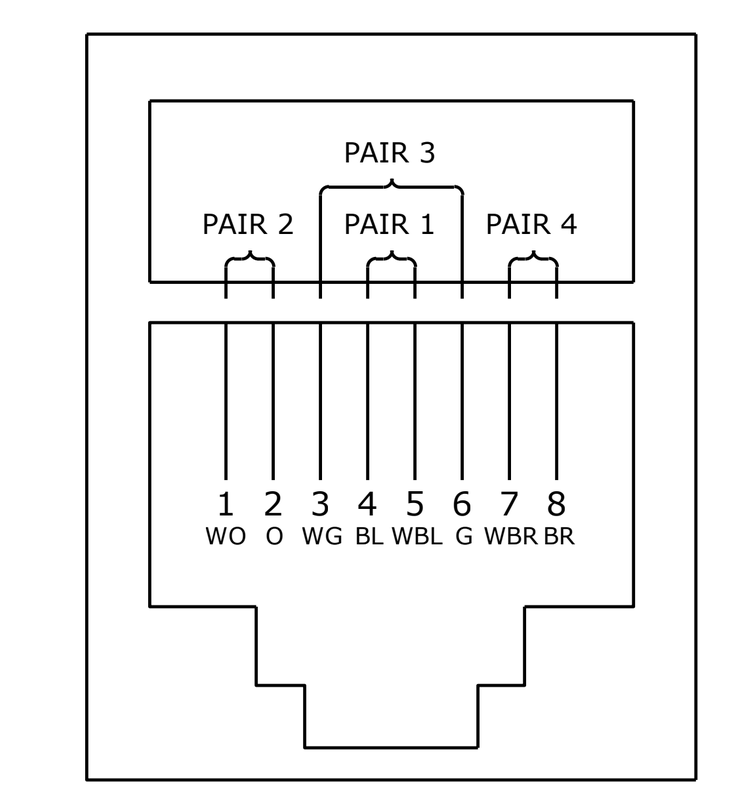
1-3/8" STAND-OFF INSULATORS WITH 3/8: 16 HARDWARE.

GALVANIZED MOUNTING BRACKETS, 14 GAUGE.

GROUND BUS ASSEMBLY AS MANUFACTURED BY EMI OR EQUAL.



GROUND BUS - DATA ROOMS
NOT TO SCALE



EIGHT POSITION JACK PIN/PAIR ASSIGNMENTS ANSI/TIA/EIA T568B
NOT TO SCALE

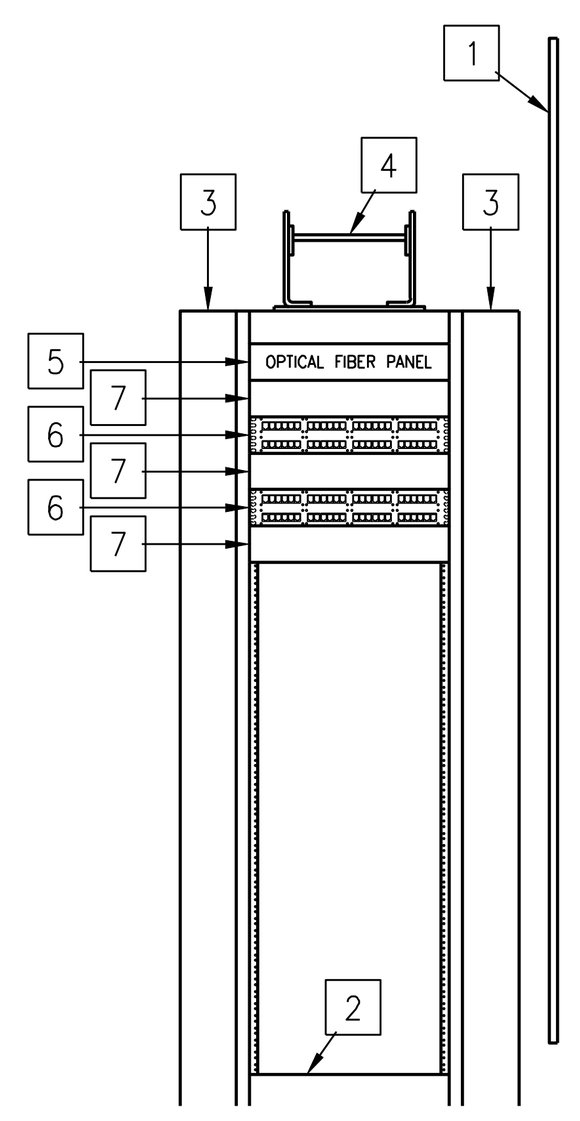
TELECOMMUNCATION DEVICE SCHEDULE

SYMBOL	DESCRIPTION (NOTE 1)
▽	(1) DATA JACK (3) SPARE FACEPLATE POSITIONS
▼	(1) TELEPHONE JACK (3) SPARE FACEPLATE POSITIONS
▼	(1) TELEPHONE JACK (1) DATA JACK (2) SPARE FACEPLATE POSITIONS
WAP 2D	(1) DATA DROPS ABOVE CEILING, NO JACKS WHERE NOTED WITH '2D' PROVIDE (2) DATA DROPS ABOVE CEILING, NO JACKS
TV	(2) DATA JACK (2) SPARE FACEPLATE POSITIONS
▼ ▼ ▽ #D #P EDC TV	SYMBOLS ABOVE ARE TYPICAL, ALL TAGGED LOCATIONS ARE A-TYPICAL (#) DATA JACKS AS NOTED ON PLANS (#) PHONE JACKS AS NOTED ON PLANS (#) SPARE FACEPLATES REQUIRED TO FILL (4) PORT PLATE

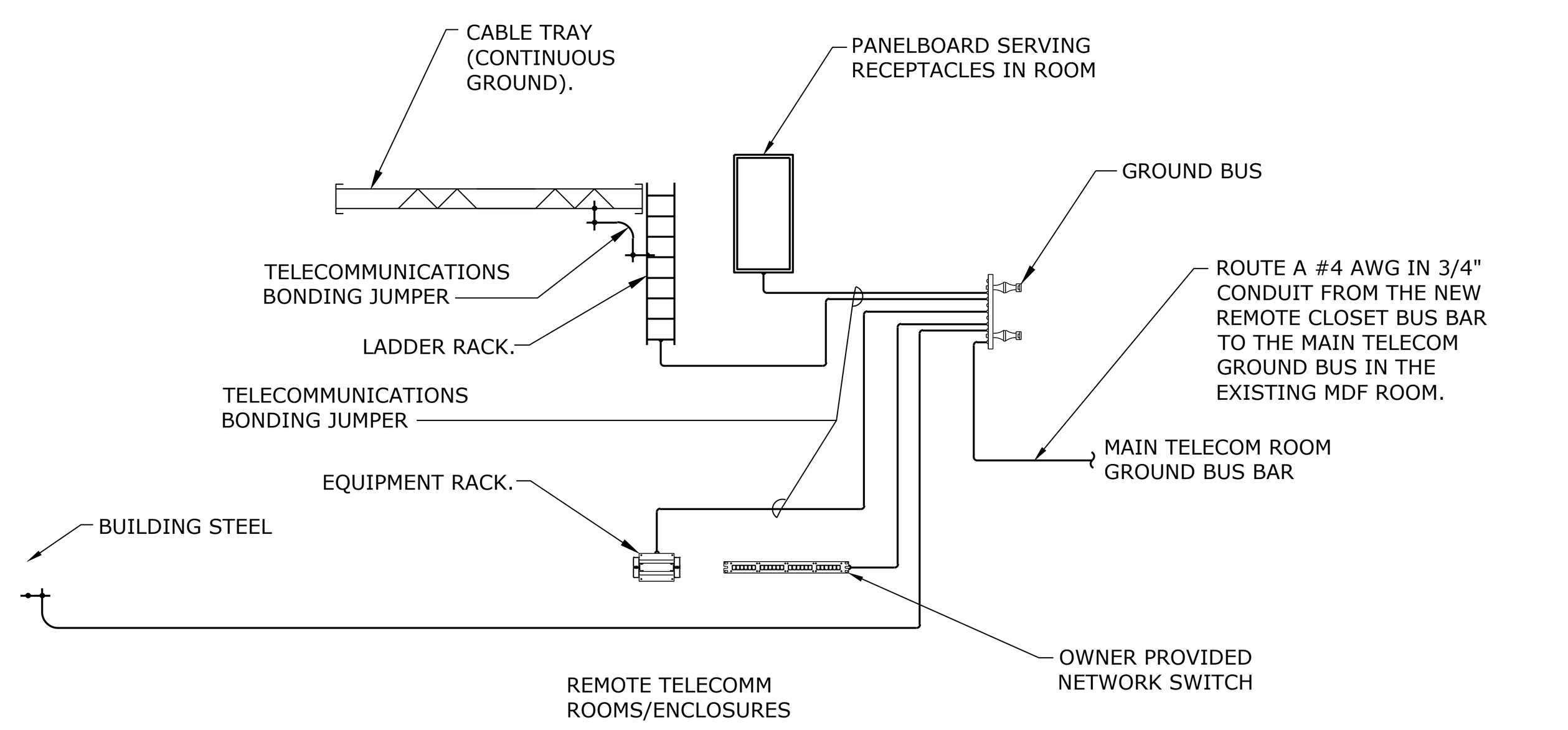
NOTES:
1. ALL CABLING ROUTED DIRECTLY TO TELECOMMUNICATIONS ROOM UNLESS SPECIFICALLY NOTED OTHERWISE. REFER TO FLOOR PLANS FOR ADDITIONAL INFORMATION.

ENLARGED PLAN NOTES:

1. TELECOMMUNICATIONS BACKBOARD.
2. TELECOMMUNICATIONS TWO-POST RACK.
3. VERTICAL CABLE MANAGER.
4. LADDER RACK. INSTALL LADDER RACK FROM RACK TO ADJACENT WALL, ORIENTED AS SHOWN IN DETAIL.
5. OPTICAL FIBER PATCH PANEL.
6. 48-PORT CATEGORY 6 PATCH PANEL, QUANTITY AS REQUIRED.
7. HORIZONTAL CABLE MANAGER (TYP.) QUANTITY AS REQUIRED..



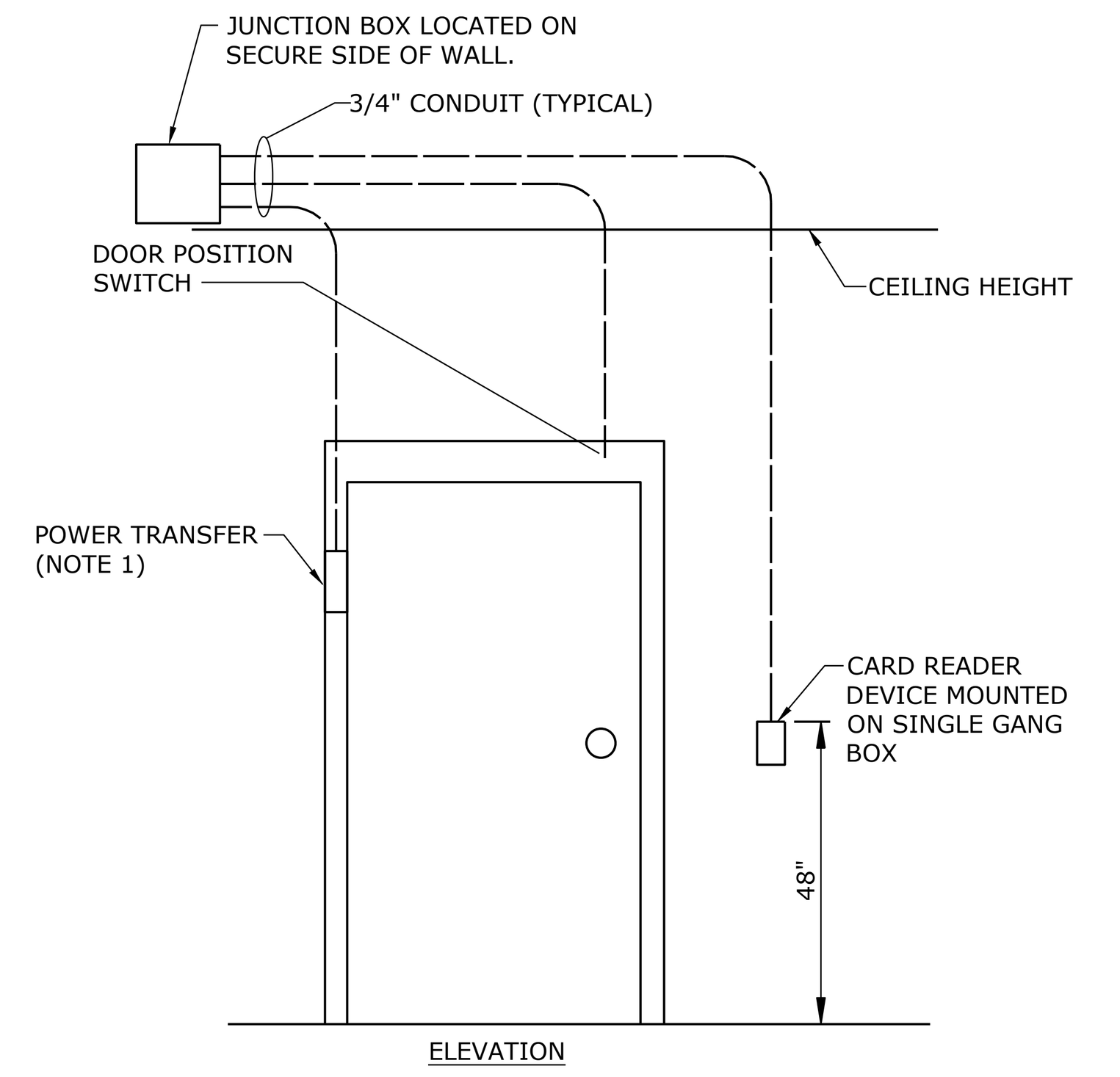
CABLING RACK ELEVATION
NO SCALE



NOTE:

1. ALL CONDUCTORS IN THIS GROUNDING RISER SHALL BE #6 AWG COPPER CONDUCTORS (GREEN) UNLESS NOTED OTHERWISE.

COMMUNICATIONS GROUNDING RISER DIAGRAM
NO SCALE



NOTE 1: APPROXIMATE LOCATION SHOWN IS FOR SECURE DOORS UTILIZING ELECTRIFIED HARDWARE. FOR SECURE DOORS UTILIZING ELECTRIC STRIKES OR MAGNETIC LOCKS, THIS CONDUIT SHOULD RUN TO THE LATCH SIDE OF THE DOOR. COORDINATE DOOR LOCK TYPE WITH ARCHITECTURAL DOOR HARDWARE SPEC.

NOTE 2: ALL SECURITY CABLING AND CENTRAL SECURITY EQUIPMENT PROVIDED BY TENANT.

PERIMETER SECURITY ROUGH-IN DETAIL
NOT TO SCALE

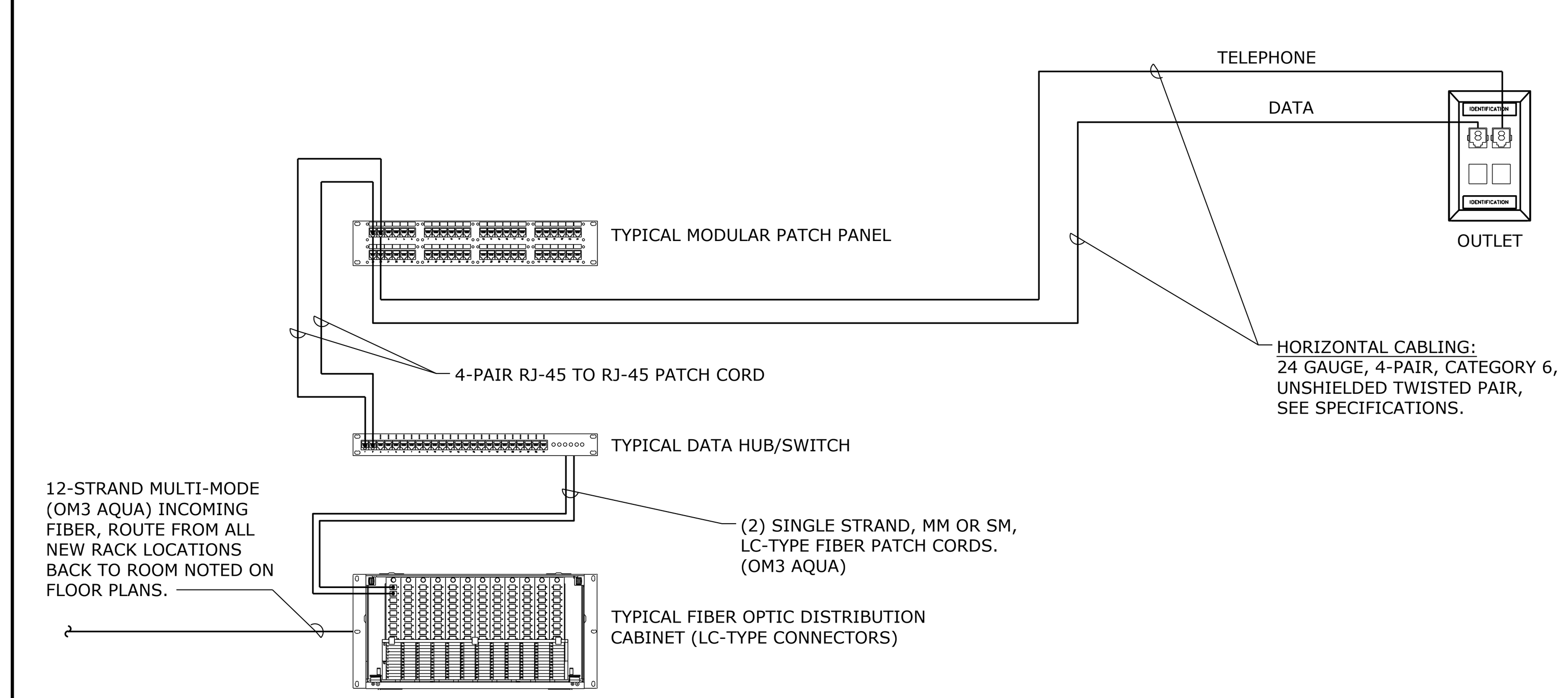
TYPICAL LABELING SCHEME (FOR HORIZONTAL COMPONENTS)

W-XXX -YY - ZZ

COMMUNICATIONS ROOM DESIGNATION (SINGLE LETTER), PROVIDED BY SCHOOL DISTRICT
ROOM #
OUTLET# (01, 02, 03, ETC.)
2-DIGIT PORT # (01, 02, 03, ETC.)

W - IDENTIFIES THE DATA ROOM LETTER FROM WHICH THE OUTLET IS SERVED FROM
XXX - IDENTIFIES THE ROOM IN WHICH THE OUTLET IS LOCATED
YY - IDENTIFIES THE OUTLET LOCATION. BEGIN LABELING WITH 01 IN EACH ROOM AT THE NORTHWEST CORNER INCREMENTING BY 05 EVERY OUTLET IN A CLOCKWISE MANNER
ZZ- - IDENTIFIES THE INDIVIDUAL OUTLET AND CABLE. BEGIN LABELING WITH 01 IN THE TOP LEFT CORNER OF FACE PLATE AT THE WORK AREA AND INCREMENT BY ONE FOR EVERY PORT OPENING FROM LEFT TO RIGHT AND TOP TO BOTTOM.

TYPICAL "CLOSET TO WORK AREA" RISER DIAGRAM / COLOR MATRIX



DESCRIPTION:	SYMBOL	HORIZONTAL CABLE	JACK TYPE	JACK COLOR
DATA	▽	BLUE	RJ-45 (8P8C - UNKEYED)	BLUE
VOICE	▼	BLUE	RJ-45 (8P8C - UNKEYED)	BLUE

TELECOMMUNICATIONS INSTALLATION NOTES:

1. THE COMPLETE INSTALLATION SHALL BE IN ACCORDANCE WITH THE A.D.A.A.G. (AMERICANS WITH DISABILITIES ACT ACCESSIBILITY GUIDELINES)
2. CONCEAL ALL CONDUIT IN WALLS, PARTITIONS, ABOVE CEILING, AND IN FLOOR SLAB, ETC. UNLESS OTHERWISE INDICATED ON THE PLANS OR IN THE SPECIFICATIONS. CONDUIT IN MECHANICAL ROOMS, AND STORAGE ROOMS WITHOUT CEILINGS MAY BE EXPOSED ON BUILDING STRUCTURE.
3. BOXES LOCATED ON OPPOSITE SIDES OF NON-RATED WALLS SHALL BE OFFSET A MINIMUM OF 6" HORIZONTALLY. BOXES ON OPPOSITE SIDES OF FIRE RATED WALLS SHALL BE OFFSET A MINIMUM OF 24" HORIZONTALLY. "THRU-THE-WALL" BOXES SHALL NOT BE ALLOWED WITHOUT PRIOR WRITTEN APPROVAL OF THE ARCHITECT/ENGINEER.
4. FLUSH MOUNT ALL TELECOMMUNICATION OUTLETS TO MATCH RECEPTACLE HEIGHTS. EXCEPT WHERE OTHERWISE NOTED. OUTLETS MAY BE SURFACE MOUNTED WHEN CONDUIT IS SPECIFIED EXPOSED.
5. CONTRACTOR SHALL VERIFY ALL FURNITURE, MODULAR FURNITURE AND EQUIPMENT LOCATIONS WITH ARCHITECTURAL PLANS, ELEVATIONS AND REVIEWED SHOP DRAWINGS. PRIOR TO MAKING THE ACTUAL TELECOMMUNICATIONS INSTALLATION THIS CONTRACTOR SHALL ADJUST OUTLETS OR CONNECTION LOCATIONS TO ACCOMMODATE FURNITURE AND/OR EQUIPMENT.
6. TELECOMMUNICATIONS EQUIPMENT SHALL BE MOUNTED TO ALLOW ACCESS TO ELECTRICAL AND MECHANICAL EQUIPMENT. ALL MOUNTING OF TELECOMMUNICATION DEVICES ON EQUIPMENT SUPPLIED BY ANOTHER CONTRACTOR SHALL BE APPROVED IN ADVANCE BY THE OTHER CONTRACTOR.
7. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL OPENINGS REQUIRED IN WALLS. ALL OPENINGS SHALL BE REPAIRED TO MATCH EXISTING BY A QUALIFIED CONTRACTOR AT THE EXPENSE OF THIS CONTRACTOR. ALL CONDUITS THROUGH WALLS SHALL BE GROUTED OR SEALED INTO OPENINGS.
8. ALL MATERIALS USED TO SEAL PENETRATIONS OF FIRE RATED WALLS AND FLOORS SHALL BE TESTED AND CERTIFIED AS A SYSTEM PER ASTM E814 STANDARDS FOR FIRE TESTS OF THROUGH-PENETRATION FIRESTOPS.

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Construction Documents

District Technology Remodel
Liberty School District

1000 Kent Street
Liberty, Clay County, MO 64068

REVIEWS:

#	Description	Date

STATE OF MISSOURI
RYAN JEROD DIEDIKER
NUMBER PE-2015006511
REGISTERED PROFESSIONAL ENGINEER
8/31/23

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JOB NO: 23022
DRAWN BY: S&B
CHECKED BY: RJD
DATE: 08.31.2023

LV201

LOW VOLTAGE SCHEDULES AND DETAILS

PROJECT NAME: 2314706 Liberty SD 2023 District Technology Remodel
AUTOCAD FILE LOCATION \ NAME: X:\23\23147\2314706\Drawings\06-2314706_LV201.dwg
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