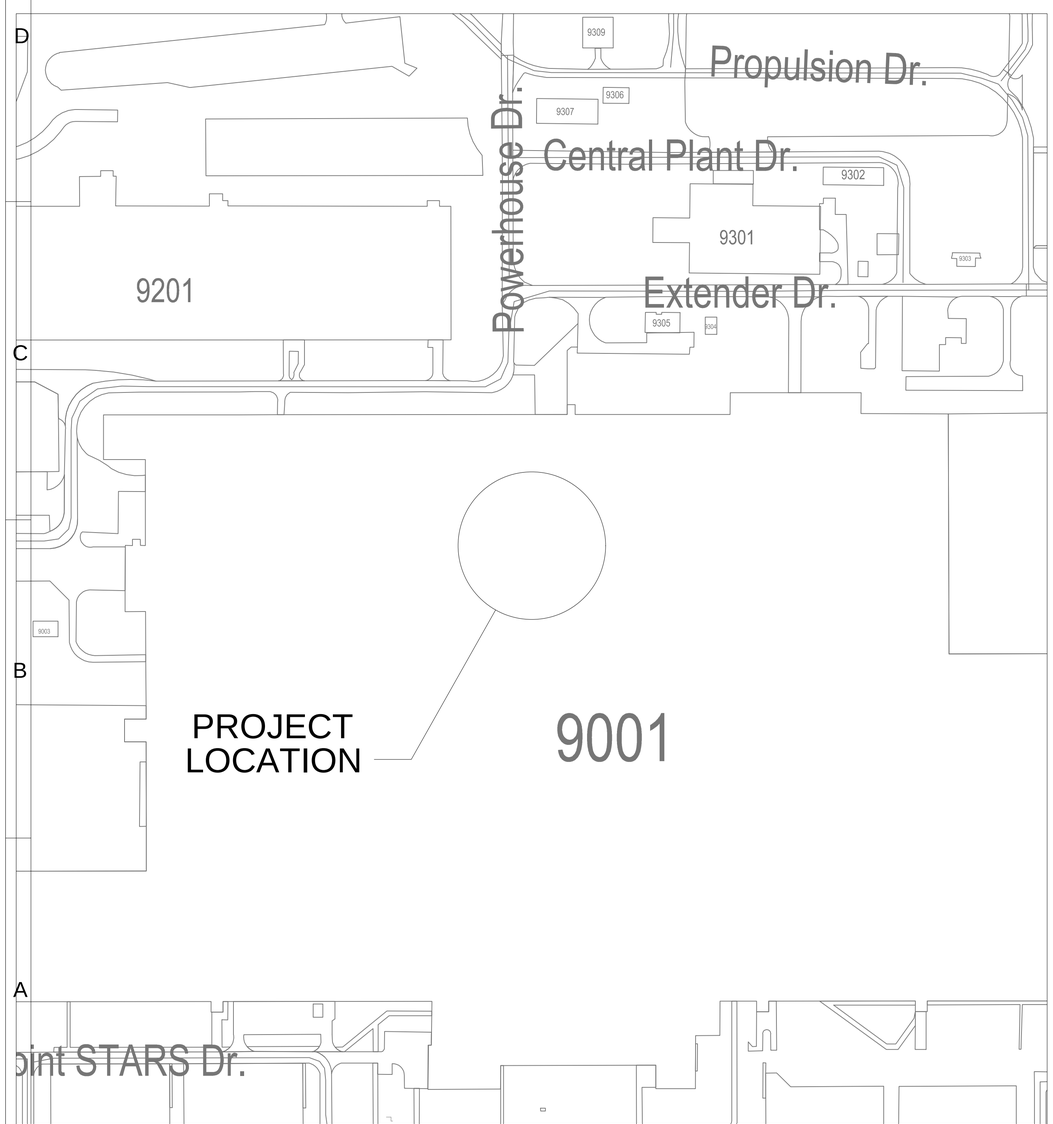
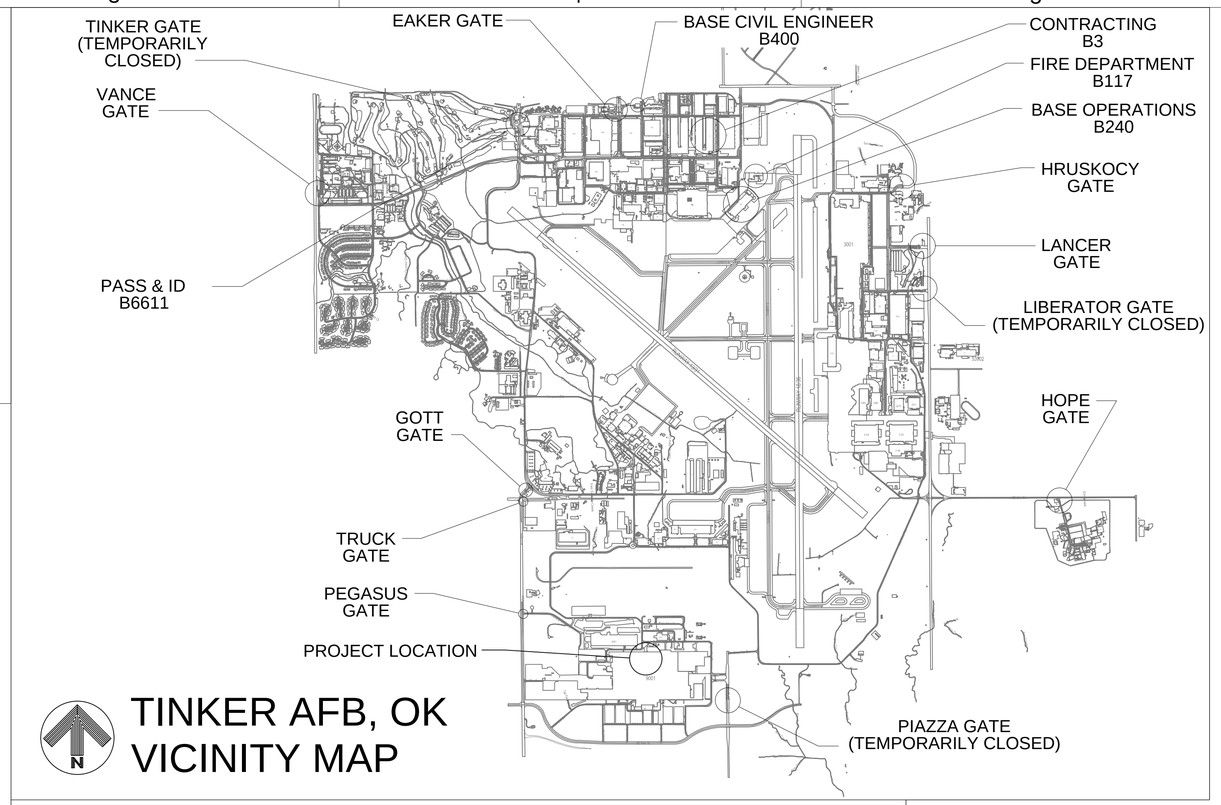
WWYK150083
REPAIR TRANSFORMER
VAULT 6, B9001





TINKER AFB, OK VICINITY MAP

PROJECT DRAWING INDEX

SHT.	SHEET TITLE
G-001	SHEET INDEX, VICINITY MAP AND BUILDING KEY PLAN
	ARCHITECTURAL
A-101	ARCHITECTURAL FLOOR AND ROOF PLANS, ELEVATIONS IMAGES
	STRUCTURAL
S-001	STRUCTURAL GENERAL NOTES
S-101	STRUCTURAL PLAN - NEW WORK
	ELECTRICAL
E-001	ELECTRICAL LEGEND, SYMBOLS AND ABBREVIATIONS
ED101	ELECTRICAL PLAN - DEMOLITION
ED601	ELECTRICAL ONE-LINE DIAGRAM - DEMOLITION
E-101	ELECTRICAL PLAN - NEW WORK
E-501	ELECTRICAL DETAILS
E-601	ELECTRICAL ONE-LINE DIAGRAM - NEW WORK
E-602	ELECTRICAL SCHEDULES
	FIRE PROTECTION
F-101	FIRE ALARM - DEMOLITION AND NEW WORK PLAN

SIGNATURES

CORROSION ENGINEER: (CECE)	DATE:
CE OPERATIONS: (CECO)	DATE:
ZONE MANAGER:	DATE:
CONSTRUCTION MANAGEMENT: (CECE)	DATE:
FIRE DEPARTMENT: (CEFT)	DATE:
SAFETY:	DATE:
INDUSTRIAL HYGIENE:	DATE:
ENVIRONMENTAL:	DATE:
ASBESTOS EVALUATION:	DATE:
COMMUNICATIONS: (COMM)	DATE:
USING AGENCY:	DATE:
REVIEWED BY:	DATE:
REVIEWED BY:	DATE:
DESIGN MANAGER: (CECE)	DATE:
CHIEF DESIGN BRANCH: (CECE)	DATE:
CHIEF ENGINEER DIR: (CECE)	DATE:
BASE CIVIL ENGINEER: (CE)	DATE:

AIR FORCE MATERIEL COMMAND
72 ABW CIVIL ENGINEER DIRECTORATE
TINKER AFB, OK

PROJECT INFORMATION
WWYK150083
REPAIR TRANSFORMER
VAULT 6, B9001
TINKER AIR FORCE BASE, OKLAHOMA

REVISIONS

MARK	DATE	DESCRIPTION

MANAGEMENT INFORMATION

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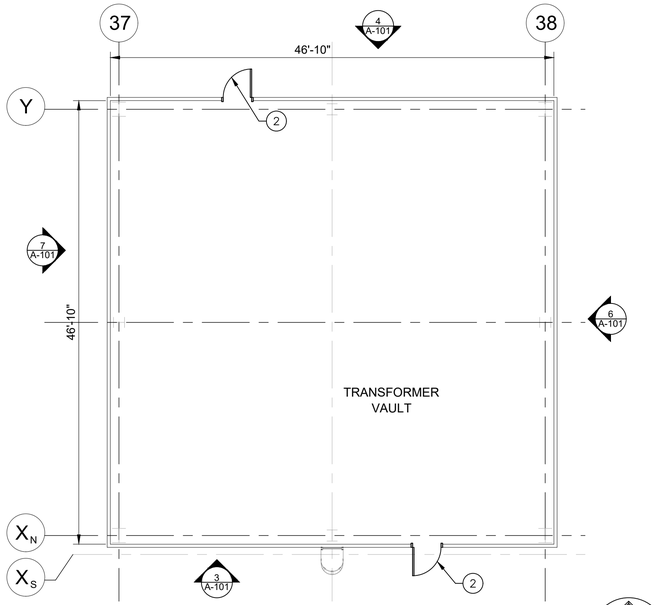
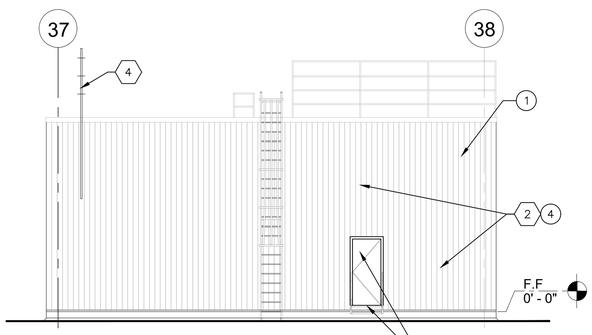
SHEET TITLE
GENERAL
SHEET INDEX
VICINITY MAP AND
BUILDING KEY PLAN

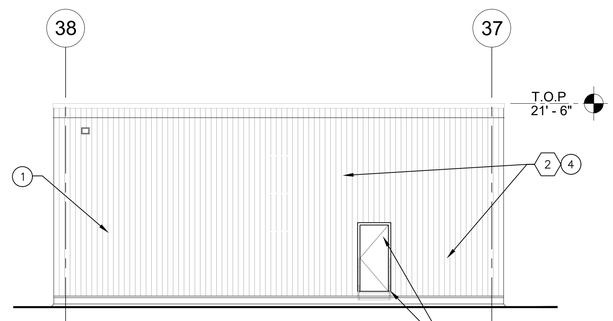
SHEET NUMBER
G-001



1 A-101 ARCHITECTURAL FLOOR PLAN
SCALE: 1/8" = 1'-0"

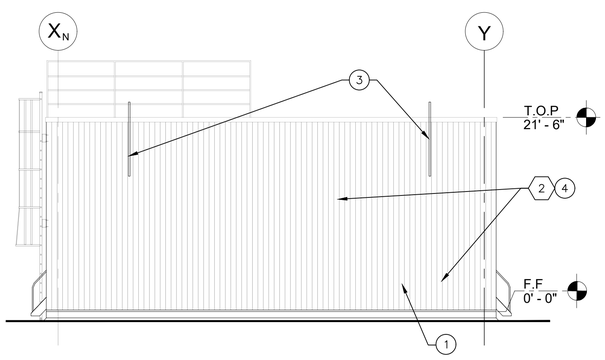


3 A-101 SOUTH ELEVATION
SCALE: 1/8" = 1'-0"

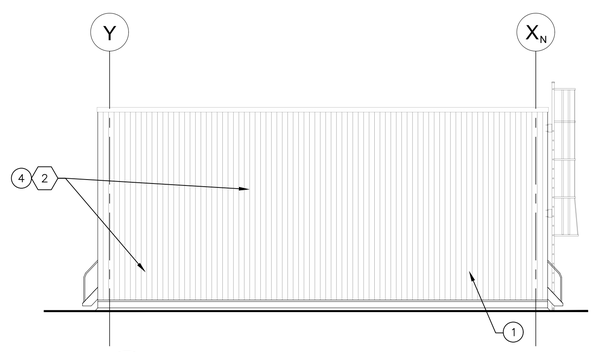


4 A-101 NORTH ELEVATION
SCALE: 1/8" = 1'-0"

5 A-101 IMAGE
SCALE: 1/8" = 1'-0"

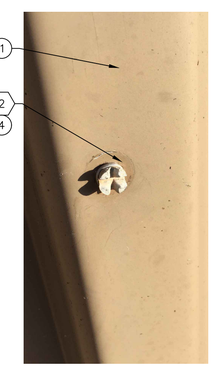


6 A-101 EAST ELEVATION
SCALE: 1/8" = 1'-0"



7 A-101 WEST ELEVATION
SCALE: 1/8" = 1'-0"

8 A-101 IMAGE
SCALE: 1/8" = 1'-0"



9 A-101 IMAGE
SCALE: 1/8" = 1'-0"

GENERAL NOTES:

1. DRAWINGS & SPECIFICATIONS ARE COMPONENTS OF THE CONTRACT DOCUMENTS. REVIEW ALL DRAWINGS & SPECIFICATIONS FOR THE COMPLETE SCOPE OF WORK. NOTIFY CONSTRUCTION INSPECTOR IMMEDIATELY FOR CLARIFICATION IF INCONSISTENCIES, CONTRADICTIONS, OR OMISSIONS ARE DISCOVERED.
2. DO NOT SCALE DRAWINGS. IF DIMENSIONAL INFORMATION IS REQUIRED & NOT FOUND, NOTIFY CONSTRUCTION INSPECTOR IMMEDIATELY FOR CLARIFICATION.
3. ALL DIMENSIONS ARE TO COLUMN CENTERLINES, FACE OF FINISHED WALLS, OR SURFACES, UNLESS NOTED OTHERWISE.
4. REFER TO OTHER DISCIPLINE DRAWINGS FOR ITEMS NOT SHOWN.
5. EXISTING SAFETY TIE OFF ANCHORAGES, TO BE USED FOR ATTACHMENT OF PERSONAL FALL ARREST EQUIPMENT, SHALL BE RE-CERTIFIED BY A QUALIFIED PERSON FOR FALL PROTECTION IN ACCORDANCE WITH ANSI Z359.1.

DEMO KEY NOTES:

1. REMOVE EXISTNG THRESHOLDS AND WEATHER SEALS FROM PERSONNEL DOORS
2. REMOVE ALL EXTERIOR METAL WALL PANEL FASTENERS.
3. REMOVE ALL EXISTING SEALANT AT WALL PANELS, FLASHING PENETRATIONS AND ASSEMBLY INTERFACES.
4. REMOVE EXISTING ANTENNA AND SAVE FOR RE-INSTALLATION. COORDINATE WITH GOVERNMENT FOR REINSTALLATION.

NEW WORK KEY NOTES:

1. SEAL HOLES AND PENETRATIONS WITH NEW METAL SIDING PATCH AND/OR SEALANT. ASSUME 30 PENETRATIONS TO BE REPAIRED WITH METAL PATCH. ANY HOLE IN THE EXISTING METAL SIDING LARGER THAN 1/4" IN DIAMETER IS TO USE A 24 GAUGE SHEET METAL PATCH THAT IS AT LEAST 6 INCHES SQUARE OR PROVIDES AT LEAST 3 INCHES OF COVERAGE AROUND THE HOLE - WHICHEVER IS LARGER. SHEET METAL PATCH IS TO BE ADDED IN A CONTINUOUS SILICONE SEALANT BEAD AROUND THE EXISTING OPENING IN THE METAL PANEL. SECURE SHEET METAL PATCH PANEL WITH AT LEAST EIGHT (8) APPROPRIATELY SIZED SFS INTEC ZAC IMPAX FASTENERS (FOR A MINIMUM 6" X 6" SHEET METAL PATCH PANEL). PROVIDE SHEET METAL PATCH PANEL IN BRONZE COLOR TO APPROXIMATE EXISTING FINISH COLOR. SEALANT COLOR TO MATCH EXISTING BRONZE-COLORED FINISH.
2. NEW DOOR THRESHOLD AND WEATHER SEAL KIT AT EXISTING HOLLOW METAL DOORS. BASIS OF DESIGN: PEMKO 177 SADDLE TYPE THRESHOLD WITH SEAL AND PEMKO CLOSED CELL SPONGE NEOPRENE TAPE WEATHERSTRIPPING.
3. ELECTRICAL CONDUIT. SEAL PENETRATIONS IN METAL WALL PANELS.
4. NEW UPSIZED ZINC ALLOY TYPE METAL WALL FASTENERS. BASIS-OF-DESIGN FASTENER: SFS INTEC ZAC IMPAX FASTENERS.

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TINKER AFB, OK

STATE OF OKLAHOMA
ROBERT ANDREW MATJASKO
A7250
LICENSED ARCHITECT
12/10/2025

PROJECT INFORMATION
WWYK150083
REPAIR TRANSFORMER VAULT 6, B9001
TINKER AIR FORCE BASE, OKLAHOMA

REVISIONS

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ARCHITECTURAL FLOOR AND ROOF PLANS, ELEVATIONS IMAGES

SHEET NUMBER
A-101

GENERAL STRUCTURAL NOTES (GSN)

GENERAL

G1. SCOPE
THE NOTES ON THIS SHEET AND THE STANDARD STRUCTURAL DETAILS ARE GENERAL AND APPLY TO THE ENTIRE PROJECT WHETHER SPECIFICALLY CALLED OUT OR NOT, EXCEPT WHERE THERE ARE SPECIFIC INDICATIONS TO THE CONTRARY ON STRUCTURAL SHEETS. IF THERE ARE QUESTIONS, THEY SHALL BE SUBMITTED TO THE STRUCTURAL ENGINEER AND ANSWERED IN WRITING PRIOR TO CONSTRUCTION.

G2. APPLICABLE SPECIFICATIONS AND CODES
A. UFC 1-200-01 WITH CHANGE 4, DATED 17 DECEMBER 2024
B. UFC 3-301-01 WITH CHANGE 4, DATED 3 JUNE 2025
C. INTERNATIONAL BUILDING CODE, IBC 2024 WITH APPLICABLE EDITIONS OF THE CODE REFERENCED STANDARDS.
D. TINKER AIR FORCE BASE FACILITY STANDARDS
E. ACI 318-19
F. ASCE 7-22
G. INTERNATIONAL EXISTING BUILDING CODE, IEBC 2024

G3. EXISTING DRAWINGS
THE CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS AND ELEVATIONS OF EXISTING CONSTRUCTION AS REQUIRED TO COORDINATE NEW CONSTRUCTION. SUBMIT REQUIRED CHANGES FOR APPROVAL. THE PLANS AND DETAILS FOR THE EXISTING STRUCTURES PRESENTED IN THE DRAWINGS ARE FOR REFERENCE ONLY BASED ON THE FOLLOWING AS-BUILT DRAWINGS:
1. NEW MANUFACTURING PLANT FOR OKLAHOMA INDUSTRIES AUTHORITY TENANCY BY GM ASSEMBLY DIVISION DATED NOVEMBER 1977.

G4. DESIGN CRITERIA
1. APPLIES TO ALL STRUCTURES (UNO)
A. DEAD LOAD:
1. ACTUAL TRIBUTARY STRUCTURE WEIGHT
2. ELECTRICAL EQUIPMENT SELF-WEIGHT
B. LIVE LOAD:
1. VAULT: 100 PSF
2. ROOF: 20 PSF (NON-REDUCIBLE)
C. WIND:
1. RISK CATEGORY: III
2. ULTIMATE WIND SPEED; V_{ULT}: 115 MPH
3. ALLOWABLE STRESS WIND SPEED; V_{ASD}: 89 MPH
4. EXPOSURE: C
5. DESIGN WIND PRESSURE: 28 PSF
6. TORNADO WIND SPEED (V_T) = 80 MPH
7. TORNADO WIND PRESSURE = 16 PSF
D. SEISMIC:
1. RISK CATEGORY: III
2. IMPORTANCE FACTOR: 1.25
3. SPECTRAL RESPONSE ACCELERATION, S_S = 0.32g
4. SPECTRAL RESPONSE ACCELERATION, S_1 = 0.08g
5. SITE CLASS: D
6. SEISMIC DESIGN CATEGORY: B
7. SPECTRAL RESPONSE ACCELERATION, S_{DS} = 0.23g
8. SPECTRAL RESPONSE ACCELERATION, S_{D1} = 0.11g
9. BASIC SEISMIC FORCE RESISTING SYSTEM: SYSTEMS NOT SPECIFICALLY DETAILED FOR SEISMIC RESISTANCE
10. ANALYSIS PROCEDURE: ASCE CHAPTER 13 - NON-STRUCTURAL COMPONENTS
11. SEISMIC DESIGN FORCE (MAX): $1.6*S_{DS}*I_P*$WEIGHT
12. BUILDING RESPONSE MODIFICATION FACTOR, Rp= 3.5
13. COMPONENT IMPORTANCE FACTOR, Ip = 1.0
14. STRUCTURE DUCTILITY REDUCTION FACTOR (Ru): 1.3
15. COMPONENT RESONANCE DUCTILITY FACTOR (C_{AR}): 1.0
16. COMPONENT STRENGTH FACTOR (Rpo): 1.5

E. SNOW LOAD:
1. GROUND SNOW LOAD; P/g: 20 PSF
2. FROST DEPTH: 18 INCHES

F. ICE LOADS:
1. ICE THICKNESS: 1.74 INCHES
2. ICE THICKNESS HEIGHT FACTOR: 1.002
3. DESIGN ICE THICKNESS: 1.74 INCHES
4. DESIGN WEIGHT OF ICE: 8.14 PSF

G. ROOF RAIN LOAD:
1. 15-MINUTE PRECIPITATION INTENSITY: 8.66 IN/HR
2. 60-MINUTE PRECIPITATION INTENSITY: 4.41 IN/HR

G5. SAFETY
SAFETY AND STRUCTURE STABILITY DURING CONSTRUCTION ARE THE SOLE RESPONSIBILITY OF THE CONTRACTOR. STRUCTURES HAVE BEEN DESIGNED TO RESIST THE DESIGN LIVE LOADS ONLY AS A COMPLETED STRUCTURE.

G6. OPENINGS
OPENINGS FOR PIPES, DUCTS, CONDUITS, ETC. ARE NOT ALL SHOWN ON THE STRUCTURAL DRAWINGS. COORDINATE AND PROVIDE OPENINGS AS REQUIRED TO ACCOMMODATE ALL WORK SHOWN OR SPECIFIED IN THE CONTRACT DOCUMENTS AND OTHERWISE REQUIRED FOR THE FURNISHING OF A FUNCTIONALLY COMPLETE PROJECT. REINFORCE AROUND OPENINGS PER STANDARD STRUCTURAL DETAILS UNLESS OTHERWISE SHOWN.

G7. SPECIAL INSPECTIONS
THE CONTRACTOR MUST EMPLOY ONE OR MORE APPROVED AGENCIES TO PERFORM INSPECTIONS DURING CONSTRUCTION ON THE TYPES OF WORK LISTED UNDER SECTION 1705 OF THE IBC REQUIRING VERIFICATION AND INSPECTION. THESE INSPECTIONS ARE IN ADDITION TO THE INSPECTIONS DEFINED IN SECTION 110. THE INSPECTING AGENCY MUST PROVIDE REPORTS OF THE SPECIAL INSPECTIONS DIRECTLY TO THE CONTRACTING OFFICER.

G8. STANDARD DETAILS
THE STANDARD DETAILS DEPICT TYPICAL DETAILING TO BE USED ON THIS PROJECT. IF CONDITIONS ARE NOT EXPLICITLY SHOWN ON THE DRAWINGS THEY SHALL BE MADE SIMILAR TO THE STANDARD DETAILS. OBTAIN APPROVAL OF ENGINEER IN WRITING FOR SIMILAR CONDITIONS PRIOR TO CONSTRUCTION.

G9. THE CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS AND ELEVATIONS OF EXISTING CONSTRUCTION AS REQUIRED TO COORDINATE NEW CONSTRUCTION. SUBMIT REQUIRED CHANGES FOR APPROVAL.

G10. CONTRACTOR TO SUBMIT FOR REVIEW ALL EQUIPMENT SIZES, OPERATING WEIGHTS, VIBRATION FORCES, SUPPORT LOCATIONS, ALONG WITH ANY FLOOR OPENINGS, NOTCHES, AND RECESSES REQUIRED BY SUCH EQUIPMENT. CONCRETE SUPPORT PADS AND/OR FRAMING REQUIRED TO SUPPORT SAID EQUIPMENT SHALL NOT BE FABRICATED AND PLACED UNTIL THE CONCRETE SUPPORT PADS AND/OR FRAMING IS APPROVED TO SUPPORT THE EQUIPMENT.

POST INSTALLED ANCHORS

P1. POST-INSTALLED ANCHORS SHALL INCLUDE ADHESIVE ANCHORS (THREADED RODS, BOLTS OR REINFORCING BARS), EXPANSION ANCHORS, AND UNDERCUT ANCHORS INSTALLED INTO HARDENED CONCRETE.

P2. POST-INSTALLED ANCHORS SHALL ONLY BE USED WHERE INDICATED ON THE DRAWINGS. CONTRACTOR SHALL OBTAIN APPROVAL FROM ENGINEER PRIOR TO USING POST-INSTALLED ANCHORS FROM MISSING OR MISPLACED CAST-IN-PLACE ANCHORS.

P3. CARE SHOULD BE TAKEN TO AVOID CONFLICTS WITH EXISTING REINFORCING STEEL AND OTHER EMBEDDED ITEMS WHEN DRILLING HOLES. REINFORCING BARS SHALL NOT BE DAMAGED DURING DRILLING OR ANCHOR INSTALLATION. HOLES SHALL BE DRILLED AND CLEANED PER THE PRODUCT MANUFACTURER'S INSTRUCTIONS. ANCHORS SHALL BE INSTALLED PER THE PRODUCT MANUFACTURER'S INSTRUCTIONS AT NOT LESS THAN MINIMUM EDGE DISTANCES AND/OR SPACING INDICATED IN THE MANUFACTURER'S LITERATURE.

P4. SUBSTITUTION REQUESTS FOR PRODUCTS OTHER THAN THOSE INDICATED ON THE DRAWINGS SHALL BE SUBMITTED TO ENGINEER FOR REVIEW AND APPROVAL. CURRENT PRODUCT ICC-ESR EVALUATION REPORTS SHALL BE INCLUDED WITH THE SUBMITTAL PACKAGE. IF METHODS AND PROCEDURES REQUIRED BY THE BUILDING CODE MAY BE REQUIRED AS PART OF THE SUBMITTAL PACKAGE.

P5. UNLESS NOTES OTHERWISE, THE MINIMUM EMBEDMENT PROVIDED FOR ADHESIVE ANCHORED REINFORCING BARS SHALL DEVELOP THE FULL TENSILE STRENGTH OF THE BARS.

P6. SPECIAL INSPECTION WILL BE PROVIDED FOR ALL POST-INSTALLED ANCHORS AS INDICATED IN SPECIAL INSPECTION REQUIREMENTS PER SPECIFICATION SECTION 05 05 20.

STEEL

S1. DESIGN STRENGTHS:
ALL OTHER PLATES AND SHAPES: Fy=36 KSI

S2. DIMENSIONS:
TO CENTERLINES OF COLUMNS AND BEAMS, TOP SURFACES OF BEAMS AND TUBES AND BACKS OF CHANNELS AND ANGLES UNO.

S3. ELEVATIONS:
TOP OF STEEL REFERS TO TOP SURFACE OF MEMBER OR FLANGE UNO.

S4. WHEN FILLET WELD SIZE IS NOT INDICATED, PROVIDE MAXIMUM WELD SIZE BASED ON MATERIAL THICKNESS IN ACCORDANCE WITH AISC SPECIFICATIONS.

S5. ALL BOLTED STRUCTURAL CONNECTIONS ARE BEARING TYPE CONNECTIONS UNLESS OTHERWISE SPECIFIED TO BE SLIP-CRITICAL. PROVIDE LOAD INDICATING WASHERS AT SLIP-CRITICAL CONNECTIONS.

S6. CONFORM TO AISC 360, STEEL CONSTRUCTION MANUAL AND AISC 341, SEISMIC DESIGN MANUAL.

MODIFICATIONS TO EXISTING CONCRETE:

EC1. DRILLED HOLE FOR DOWEL SHALL BE THOROUGHLY CLEANED BY WIRE BRUSHING AND AIR PRESSURE OR VACUUM TO REMOVE ALL DRILLING DUST. THE HOLE SHALL THEN BE PARTIALLY FILLED WITH EPOXY AND THE UNCOATED BAR INSERTED, TWISTED AND LEFT IN PLACE.

EC2. AT LOCATIONS WHERE NEW PENETRATIONS FOR CONDUITS ARE REQUIRED CONTRACTOR SHALL NON-DESTRUCTIVELY LOCATED EXISTING REINFORCING PRIOR TO DRILLING HOLES. LOCATE CONDUITS TO NOT DAMAGE REINFORCING.

EC3. NEW OPENINGS IN EXISTING CONCRETE SHALL BE CUT 1 INCH OVERSIZE, COATED WITH EPOXY BONDING COMPOUND, AND MORTAR FINISHED TO THE REQUIRED FINISH SIZE.

EC4. STRUCTURAL DIMENSIONS RELATED TO OR CONTROLLED BY EXISTING STRUCTURES SHALL BE VERIFIED IN FIELD BY THE CONTRACTOR PRIOR TO CONCRETE WORK.

DEFERRED SUBMITTALS:

1. DEFINITION:

DELEGATE DESIGN SUBMITTALS ARE ITEMS FOR WHICH THE FINAL DESIGN OF A SPECIFIC ELEMENT OF THE PERMANENT CONSTRUCTION WORK EXPRESSLY DELEGATED TO A PROPERLY LICENSED AND REGISTERED DESIGN PROFESSIONAL LICENSED IN THE STATE OF OKLAHOMA RETAINED OR EMPLOYED BY THE CONTRACTOR, SUBCONTRACTOR, SUPPLIER OF ANY TIER. "DELEGATED DESIGN" APPLIES ONLY TO PERMANENT WORK THAT WILL BE PART OF THE COMPLETED PROJECT AS A FUNCTIONING WHOLE.

2. DELEGATED DESIGN LIST:

THE FOLLOWING IS A LIST OF DELEGATED SUBMITTALS THAT ARE EXPECTED TO CONTAIN STAMPED STRUCTURAL CALCULATIONS OF SAFETY-RELATED SYSTEM INFORMATION FOR REVIEW. THESE SUBMITTALS APPLY TO DELEGATED DESIGN SYSTEMS PRIOR TO INSTALLATION OF THE INDICATED STRUCTURAL ELEMENT, EQUIPMENT, DISTRIBUTION SYSTEM, COMPONENT OR ITS ANCHORAGE. THE CONTRACTOR SHALL SUBMIT THE REQUIRED ENGINEER CERTIFICATION, SUPPORTING DATA, AND DRAWINGS FOR REVIEW AND ACCEPTANCE BY THE CONTRACTING OFFICER.

DEFERRED SUBMITTALS

SPEC SECTIONS	ITEM
VARIOUS	ANY EQUIPMENT OR COMPONENT IN WHICH A TECHNICAL SPECIFICATION REQUIRES SUBMITTAL OF EQUIPMENT OR ANCHORAGE SYSTEM CALCULATIONS

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TINKER AFB, OK

LICENSED PROFESSIONAL ENGINEER
COLIN J MULDERICK
34849
OKLAHOMA
12/10/2025

PROJECT INFORMATION
WWYK150083
REPAIR TRANSFORMER VAULT 6, B9001
TINKER AIR FORCE BASE, OKLAHOMA

REVISIONS

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STRUCTURAL GENERAL NOTES

SHEET NUMBER
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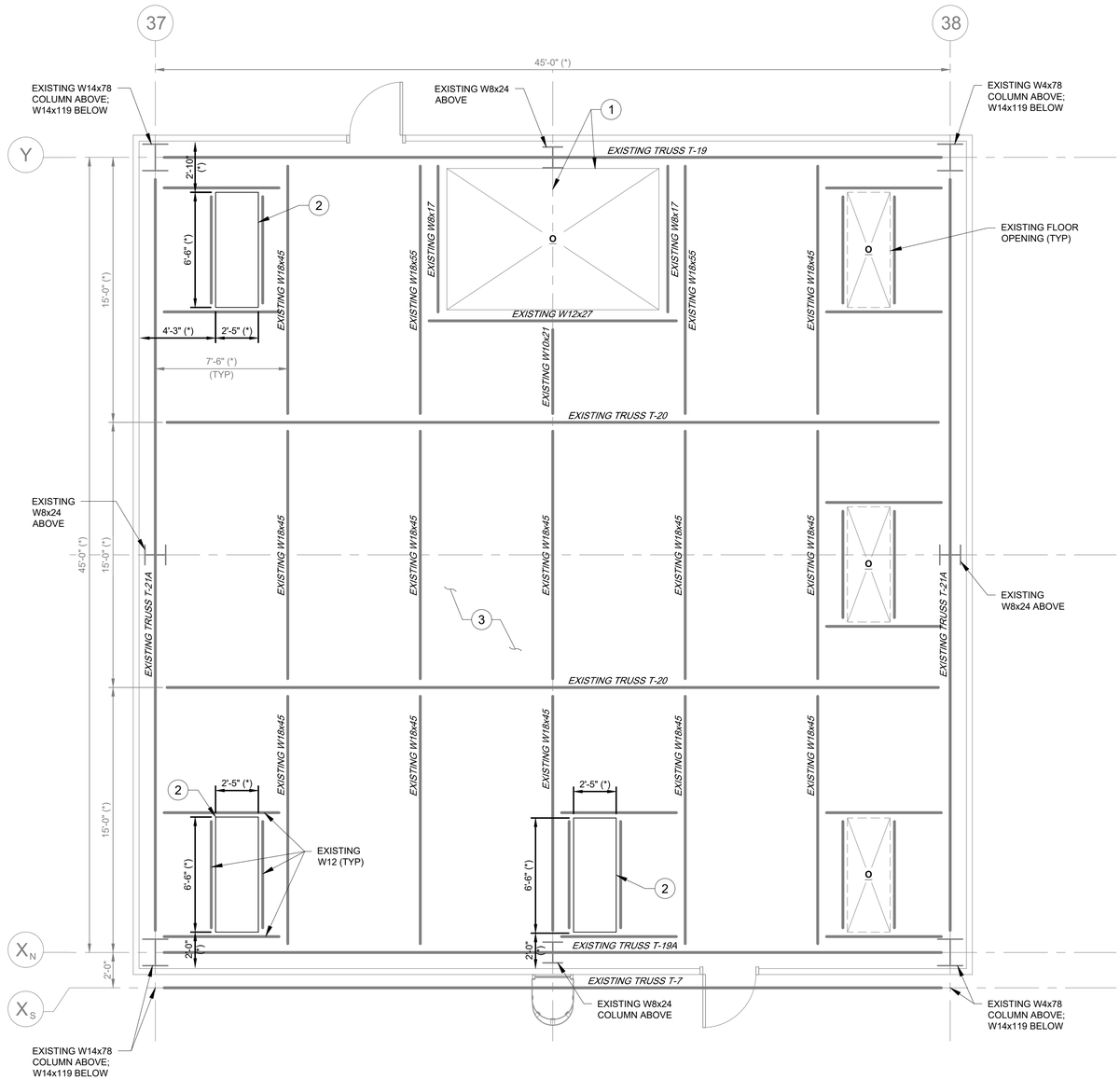


1 S-101 STRUCTURAL FLOOR FRAMING PLAN - NEW WORK

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

N

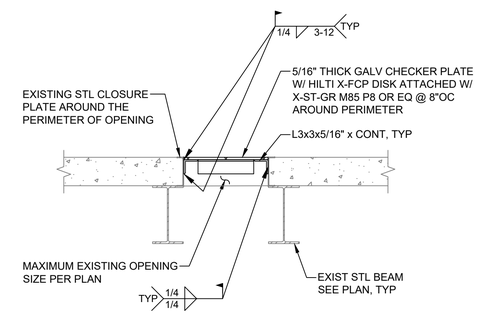
0 2' 4' 8'

GENERAL NOTES:

1. SEE STANDARD DRAWINGS FOR GENERAL STRUCTURAL NOTES AND STANDARD DETAILS.
2. (*) INDICATES EXISTING DIMENSION TO BE FIELD VERIFIED BY CONTRACTOR.
3. EXISTING BUILDING INFORMATION IS AS INDICATED ON THE AS-BUILT DRAWINGS. THE CONTRACTOR SHALL NOTIFY THE CONTRACTING OFFICER OF ANY DISCREPANCIES.
4. CONTRACTOR SHALL REVIEW AS-BUILT DRAWING NEW MANUFACTURING PLANT FOR OKLAHOMA INDUSTRIES AUTHORITY TENANCY BY GM ASSEMBLY DIVISION DATED NOVEMBER 1977.
5. O - INDICATES EXISTING FLOOR OPENING.

KEY NOTES:

1. EXISTING HOIST IS NOT IN CONTRACT. CONTRACTOR SHALL NOT USE THE EXISTING HOIST FOR THE REMOVAL OR INSTALLATION OF THE NEW EQUIPMENT IN THE VAULT.
2. EXISTING FLOOR OPENING TO BE COVERED. SEE DETAIL 2 ON THIS SHEET.
3. EXISTING CONCRETE ON METAL DECK ROOF SYSTEM.



NOTE:
1. IF STEEL CLOSURE PLATE IS NOT PRESENT, PROVIDE 5/8" HILTI KWIK HUS EZ ANCHORS IN VERTICAL LEG OF ANGLE OR EQUAL WITH 5 1/2" EMBED SPACED AT 10" OC AND 3" MAX FROM ENDS.
2. REFERENCE ELECTRICAL DEMO PLANS FOR LOCATIONS OF EXISTING BUSDUCT TERMINATIONS TO BE PATCHED.

2 S-101 DETAIL

SCALE: 3/4" = 1'-0"

AFMC
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TINKER AFB, OK

LICENSED PROFESSIONAL ENGINEER
COLIN J MULDERICK
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OKLAHOMA
12/10/2025

PROJECT INFORMATION
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REPAIR TRANSFORMER VAULT 6, B9001
TINKER AIR FORCE BASE, OKLAHOMA

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STRUCTURAL PLAN - NEW WORK

SHEET NUMBER
S-101

ELECTRICAL LEGEND, SYMBOLS AND ABBREVIATIONS

GENERAL NOTES:

(APPLICABLE TO ALL ELECTRICAL SHEETS)

1. ALL WORKS SHALL BE PROVIDED AND INSTALLED IN ACCORDANCE WITH TINKER AFB ELECTRICAL STANDARDS (JAN 2019)
2. EQUIPMENT INTERRUPTING CAPACITIES SPECIFIED IN THE CONTRACT DOCUMENTS ARE BASED UPON EQUIPMENT CHARACTERISTICS AND IMPEDANCES SHOWN ON THE DRAWINGS. IF ACTUAL INSTALLED EQUIPMENT DEVIATES FROM THESE CHARACTERISTICS OR HAS LOWER IMPEDANCES. THE CONTRACTOR SHALL INCREASE THE INTERRUPTING CAPACITIES OF ALL ITEMS ON THE LOAD SIDE OF THE DEVIANT EQUIPMENT IN DIRECT PROPORTION TO THE CHANGED CHARACTERISTICS. INTERRUPTING CAPACITIES SHALL NOT BE REDUCED TO VALUES LESS THAN THOSE REQUIRED BY THE CONTRACT DOCUMENTS.
3. FIRE STOP SHALL BE PROVIDED AT ALL LOCATIONS WHERE ELECTRICAL EQUIPMENT OR SYSTEMS PENETRATE FIRE RATED WALLS. SEE ARCHITECTURAL PLANS FOR RATED WALL LOCATIONS.
4. CONTROL WIRING P&ID'S FOR MECHANICAL EQUIPMENT ARE NOT SHOWN ON THESE SHEETS.
5. RISER AND ONE-LINE DIAGRAMS ARE MEANT TO SHOW ELECTRICAL RELATIONSHIPS FOR EQUIPMENT, AND THEREFORE MAY NOT INCLUDE ALL REQUIRED EQUIPMENT DEVICES, AND ACCESSORIES.

POWER SYMBOLS LEGEND

SYMBOL	DESCRIPTION
	RECEPTACLE, DUPLEX, 20A, 120V, GROUNDING 2W+G, NEMA 5-20R
C	RECEPTACLE, DUPLEX, SERVING COMPUTER LOAD. 20A, 120V, GROUNDING 2W+G RECEPTACLE, NEMA 5-20R
F	RECEPTACLE, DUPLEX, FLOOR MOUNTED, FLUSH, 20A, 120V, GROUNDING 2W+G NEMA 5-20R.
	RECEPTACLE, DUPLEX, CEILING MOUNTED, 20A, 120V, GROUNDING 2W+G, NEMA 5-20R
IG	ISOLATED GROUND RECEPTACLE, DUPLEX, ORANGE TYPE. 20A, 120V, GROUNDING 2W+2G RECEPTACLE, NEMA 5-20R
	240 VOLT 20 AMP RECEPTACLE
	RECEPTACLE, DUPLEX, SPECIAL PURPOSE
	RECEPTACLE, QUADRAPLEX
	RECEPTACLE/EQUIPMENT CONNECTION, SPECIAL PURPOSE
C	RECEPTACLE, CLOCK
J	JUNCTION BOX, ABOVE CEILING
C J	JUNCTION BOX, WALL MOUNTED, SERVING COMPUTER LOAD.
	HORIZONTAL WIREMOLD
	VERTICAL WIREMOLD
S	SWITCH, TOGGLE, WALL MOUNTED, 20A., 120/277V RATED (AC ONLY), SINGLE-POLE, MOUNT 54" AFF
S_2	SWITCH, TOGGLE, WALL MOUNTED, 20A., 120/277V RATED (AC ONLY), DOUBLE-POLE, MOUNT 54" AFF
S_3	SWITCH, TOGGLE, WALL MOUNTED, 20A., 120/277V RATED (AC ONLY), THREE-WAY, SPDT. MOUNT 54" AFF
S_4	SWITCH, TOGGLE, WALL MOUNTED, 20A., 120/277V RATED (AC ONLY), FOUR-WAY, SPDT. MOUNT 54" AFF
S_{DM}	SWITCH, DIMMER, 120V, 1500 WATT. MOUNT 54" AFF
S_M	SWITCH, MOTOR
S_{OS}	SWITCH, OCCUPANCY SENSOR, 120V, 1500 WATT. MOUNT 54" AFF
OS	OCCUPANCY SENSOR, CEILING MOUNTED. MANUAL ON/INTEGRAL MANUAL DIMMING
	BRANCH CIRCUIT HOME RUN WITH NEUTRAL, PHASE AND EQUIPMENT GROUND RESPECTIVELY
T	TRANSFORMER, DRY TYPE
	SWITCH, DISCONNECT
	COMBINATION STARTER/DISCONNECT WITH HOA SWITCH-COORDINATE WITH MECH. CONTRACTOR.

POWER SYMBOLS LEGEND (CONTINUED)

SYMBOL	DESCRIPTION
	PANELBOARD, SURFACE MOUNTED
	PANELBOARD, RECESSED
	RACEWAY, ABOVE FLOOR
	RACEWAY, RISER UP
	RACEWAY, RISER DOWN
M	MOTOR
T	THERMOSTAT BY MECHANICAL CONTRACTOR
	CEILING FAN
	TELEPHONE RECEPTACLE, WALL MOUNTED
	DATA RECEPTACLE, WALL MOUNTED
	TELEPHONE/DATA RECEPTACLE, WALL MOUNTED
	BELL
S	SPEAKER, CEILING MOUNTED
M	MICROPHONE, CEILING MOUNTED
	SPEAKER CONTROL
	SOUND CABINET
	AUDIO/VISUAL PROJECTOR
TV	CABLE TV OUTLET
VFD	VARIABLE FREQUENCY DRIVER
	CCTV SECURITY CAMERA

LIGHTING SYMBOLS LEGEND

SYMBOL	DESCRIPTION
	LED, PENDANT, CEILING MOUNTED
	LED, WALL MOUNTED
	LED PENDANT WITH INTEGRAL EMERGENCY BATTERY
	CFL/HID/LED FIXTURE, SURFACE OR PENDANT
	CFL/HID/LED FIXTURE, RECESSED CEILING MOUNTED
	CFL/HID/LED FIXTURE, WALL MOUNTED
	CFL/HID/LED FIXTURE, AREA LIGHT POLE
	EXIT SIGN, LIGHTED, SURFACE OR PENDANT, CEILING MOUNTED W/LIGHTED FACE AND DIRECTIONAL ARROW.
	EXIT SIGN, LIGHTED, WALL MOUNTED.
	EMERGENCY LIGHT, 2 LAMPS, BATTERY POWERED
	BRANCH CIRCUIT HOME RUN
	LIGHTING SWITCHLEG

ONE-LINE & CONTROL SCHEMATIC LEGEND

SYMBOL	DESCRIPTION
	SCHEMATIC, CIRCUIT CONNECTIONS
	SCHEMATIC CIRCUIT
	ELECTRICAL BUSS
	SEPARABLE (PLUG-IN) CONNECTOR OR CONNECTION FOR DRAWOUT ASSEMBLIES
	CABLE OR WIRE
	SWITCH, DISCONNECT, FUSED, LOAD BREAK, FUSE AMPERE RATING [A] AND FUSE TYPE SHOWN NEXT TO SYMBOL
	TRANSFORMER, POWER, KVA RATING, WINDING VOLTAGES AND CONNECTIONS ARE SHOWN NEXT TO SYMBOL
	TRANSFORMER, CURRENT, TURNS RATIO, SHOWN NEXT TO SYMBOL
	GROUNDING CONNECTION. WHEN USED WITH TRANSFORMER WINDING SYMBOL IT INDICATES A NEUTRAL GROUNDING CONNECTION (ON SECONDARY SIDE ONLY)
D	DELTA CONNECTED
Y	WYE CONNECTED
	GROUNDED WYE WINDING CONNECTION
	RELAY OR CONTACTOR CONTACTS
	CIRCUIT BREAKER, MOLDED CASE, TRIP CURRENT [A] AND QUANTITY OF POLES [P] SHOWN NEXT TO SYMBOL
1200A 3P	SWITCH, DISCONNECT, NON-FUSED, LOAD BREAK, CONTINUOUS CURRENT RATING [A] AND QUANTITY OF POLES [P] SHOWN NEXT TO SYMBOL
	FUSE, AMPERE RATING [A] AND FUSE TYPE SHOWN NEXT TO SYMBOL
	MOTOR THERMAL OVERLOAD PROTECTOR
	INTEGRAL PHOTOELECTRIC CELL AND RELAY (PHOTOCONTROL)
M	WATTHOUR METER
K	KIRK KEY
	SURGE ARRESTER, VALVE TYPE ARRESTER KV RATING SHOWN NEXT TO SYMBOL
	EQUIPMENT ENCLOSURE
SPD	SURGE PROTECTION DEVICE
DPM	DIGITAL POWER METER

SITE UTILITIES LEGEND

SYMBOL	DESCRIPTION
—E—E—	DUCT BANK, OVERHEAD PRIMARY
—ES—ES—	DUCT BANK, OVERHEAD SECONDARY
–E– – –E–	DUCT BANK, UNDERGROUND PRIMARY
–ES– – –ES–	DUCT BANK, UNDERGROUND SECONDARY
E	MANHOLE, ELECTRIC
E	HANDHOLE, ELECTRIC
	POWER POLE, ELECTRIC

GROUNDING LEGEND

SYMBOL	DESCRIPTION
—B—	CONDUCTOR, BARE, UON
	GROUNDING CONNECTION, COUNTERPOISE TO GROUND ROD.

SYMBOL MODIFIERS

SYMBOL	DESCRIPTION
AC	DEVICE MOUNTED ABOVE COUNTER TOP
AV	AUDIBLE AND VISUAL
C	RECEPTACLE SERVING COMPUTER LOAD.
E	EXISTING
F	FIXED TEMPERATURE
GFI	GROUND FAULT CIRCUIT INTERRUPTER
N	NEW
NL	NIGHT LIGHT
R	ITEM OR DEVICE RECESSED INTO MOUNTING SURFACE
RF	RADIO FREQUENCY
WP	WEATHERPROOF

ABBREVIATIONS

A	AMPERES OR TRIP AMPERES
AC	ALTERNATING CURRENT
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AIC	SYMMETRICAL AMPS INTERRUPTING CAPACITY
AWG	AMERICAN WIRE GAUGE
A/R	AS REQUIRED
ARR.	ARRESTOR
BLDG	BUILDING
BRKT	BRACKET
C	CONDUIT
CB	CIRCUIT BREAKER
CKT	CIRCUIT
CL	CURRENT LIMITING
CO	CONDUIT ONLY
CTL	CONTROL
DC	DIRECT CURRENT
D.T.C.	DATA TERMINAL CABINET
EMCS	ENERGY MONITORING AND CONTROL SYSTEM
FACP	FIRE ALARM CONTROL PANEL
FT	FOOT, FEET
GFCI	GROUND FAULT CIRCUIT INTERRUPTER, 5MA PERSONNEL PROTECTION UNLESS OTHERWISE NOTED.
GRD	GROUND
HZ	HERTZ
IAW	IN ACCORDANCE WITH
IG	ISOLATED GROUND
IN	INCH, INCHES
IR	INFRARED
KV	KILOVOLTS
KVA	KILOVOLT AMPERES
KVAR	KILOVOLT AMPS REACTIVE
KWH	KILOWATT HOURS
L-L	LINE TO LINE
L-N	LINE TO NEUTRAL
MFR	MANUFACTURER
MH	MANHOLE
MIN	MINIMUM
MTD	MOUNTED
MTG	MOUNTING
N.C.	NORMALLY CLOSED
NEC	NATIONAL ELECTRICAL CODE
NEMA	NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION
NEUT	NEUTRAL
N.O.	NORMALLY OPEN
NLT	NOT LESS THAN
NMT	NOT MORE THAN
OH	OVERHEAD
PAS	PUBLIC ADDRESS SYSTEM
PE	PHOTOELECTRIC
PH	PHASE
PLCS	PLACES
PNL	PANELBOARD
PVC	POLYVINYL CHLORIDE ELECTRICAL RACEWAY USED ONLY U.G., CARLON OR EQUIVALENT
RC	RIGID STEEL CONDUIT
REF	REFERENCE
REQ'D	REQUIRED
RGC	RIGID GALVANIZED STEEL CONDUIT
RM	ROOM
RMC	RIGID METALIC CONDUIT
SHT	SHEET
SOB	STANDOFF BRACKET
SPACE	SPACE(S) ONLY (NO BREAKER DEVICE)
SPARE	SPARE BREAKER OR DEVICE
SPDT	SINGLE-POLE, DOUBLE-THROW
SPECS	CONTRACT SPECIFICATIONS
SPST	SINGLE-POLE, SINGLE-THROW
S/N	SOLID NEUTRAL
TB	TELEPHONE BACKBOARD
TYP	TYPICAL
UG	UNDERGROUND
UL	LISTED BY UNDERWRITER'S LABORATORIES
UON	UNLESS OTHERWISE NOTED
V	VOLTS
VA	VOLT AMPERES
W	WATT
WAP	WIRELESS ACCESS POINT
WH	WEATHERHEAD
W/	WITH
Ø	PHASE
2W+G	CIRCUIT TYPE
3W+G	CIRCUIT TYPE
4W+G	CIRCUIT TYPE

SYMBOL NOTES

1. THESE SYMBOLS APPLY TO THE ENTIRE SET OF CONTRACT DRAWINGS.
2. ALL SYMBOLS ARE NOT NECESSARILY USED IN THE DRAWINGS FOR THIS PROJECT. LISTING OF SYMBOLS DOES NOT IMPLY THAT ALL SYMBOLS ARE USED IN THE CONTRACT DRAWINGS.
3. COLORS FOR ALL OUTLETS AND SWITCHES SHALL BE AS SHOWN ON ARCHITECTURAL PLANS.
4. ALL MOUNTING HEIGHTS SHOWN IN SYMBOL LEGEND SHALL BE AS PER TAS/ADA REQUIREMENTS UNLESS OTHERWISE NOTED ON THE ARCHITECTURAL DRAWINGS.
5. BRANCH CIRCUIT NUMBERS MAY BE SHOWN NEXT TO SYMBOLS IN MULTIWIRE CIRCUITS.
6. EQUIPMENT IDENTIFIERS, MATCHING EQUIPMENT SCHEDULES, ARE DISPLAYED ATTACHED TO SYMBOLS BY LEADER ARROWS, UON.
7. SYMBOL ORIENTATION DOES NOT IMPLY DEVICE OR EQUIPMENT ORIENTATION, UNLESS NOTED AS SUCH. SEE REFLECTED CEILING PLANS FOR LIGHT FIXTURE POSITIONS AND ORIENTATIONS.
8. SYMBOL SIZE DOES NOT IMPLY EQUIPMENT SIZE, UON.
9. LOWER CASE LETTER IN POSITION "X" INDICATES FIXTURES CONTROLLED BY SAME LETTER.
10. PLAN SYMBOLS USE THE FOLLOWING LINE TYPE CONVENTION AND ARE REPRESENTED AS FOLLOWS:
    - LINETYPE, DENOTES EXISTING TO REMAIN
    - LINETYPE, DENOTES EXISTING TO BE DEMOLISHED
    - LINETYPE, DENOTES NEW U.G. OR CONCEALED CONSTRUCTION
    - LINETYPE, DENOTES NEW CONSTRUCTION

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12/10/2025

PROJECT INFORMATION
WWYK150083
REPAIR TRANSFORMER VAULT 6, B9001
TINKER AIR FORCE BASE, OKLAHOMA

REVISIONS

MARK	DATE	DESCRIPTION

MANAGEMENT INFORMATION
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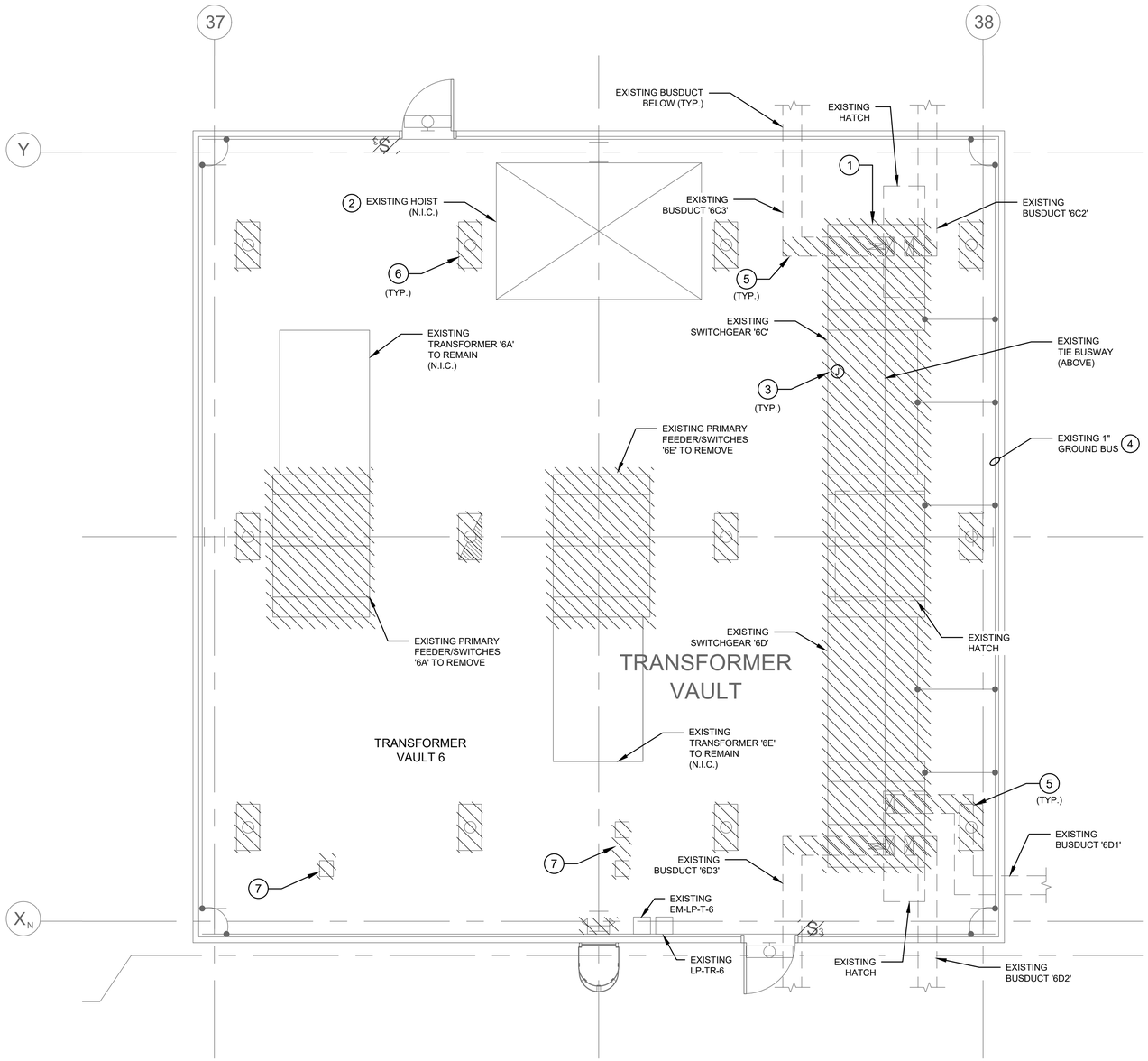
ELECTRICAL LEGEND, SYMBOLS & ABBREVIATIONS

SHEET NUMBER
E-001



1 ED101 ELECTRICAL PLAN - DEMOLITION

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

GENERAL NOTES:

1. THIS DRAWING WAS PREPARED FROM EXISTING AS-BUILTS AND LIMITED ACCESS FOR FIELD OBSERVATIONS AND VERIFICATIONS. CONTRACTOR SHALL FIELD VERIFY EXISTING CONDITIONS AND UPDATE AS-BUILT DRAWINGS FOR RECORD.
2. REFER TO ONE-LINE DIAGRAM ON SHEET ED601 FOR ADDITIONAL INFORMATION.
3. ALL DEMO WORK SHALL BE PLANNED IN PHASES TO MINIMIZE IMPACT TO PRODUCTION. COORDINATE ALL WORK WITH THE FACILITY USER GROUP.

KEY NOTES:

1. REMOVE SWITCHGEAR '6C' AND '6D' INCLUDING 2000KVA STEP-DOWN TRANSFORMERS, PRIMARY LOAD BREAK SWITCHES, MAIN/TIE/DISTRIBUTION SECTIONS, AND TIE BUSWAY. RETAIN PRIMARY 13.8KV CIRCUITS AND SECONDARY 480V BUSDUCTS FOR RECONNECTION IN NEW WORK.
2. EXISTING HOIST IS NOT IN CONTRACT. CONTRACTOR SHALL NOT USE THE EXISTING HOIST FOR THE REMOVAL OR INSTALLATION OF THE NEW EQUIPMENT IN THE VAULT.
3. DISCONNECT EXISTING EMCS TRANSMITTERS AND ANTENNAS. REMOVE EXISTING CONDUIT/CONDUCTORS.
4. DISCONNECT EXISTING GROUND BUS FROM SWITCHGEAR TO BE REMOVED. RETAIN FOR RECONNECTION TO NEW SWITCHGEAR.
5. DISCONNECT AND REMOVE A PORTION OF EXISTING BUSDUCT CONNECTING TO EXISTING SWITCHGEAR AS INDICATED. REFER TO DEMOLITION ONE-LINE DIAGRAM FOR ADDITIONAL INFORMATION.
6. DISCONNECT AND REMOVE ALL INTERIOR LIGHT FIXTURES AND CONTROLS. REMOVE CONDUCTORS AND CONDUITS BACK TO SWITCH JUNCTION BOXES. EXISTING HOMERUN CIRCUITS TO REMAIN AND BE REUSED FOR NEW WORK.
7. REMOVE ABANDONED BUSWAY THROUGH FLOOR SLAB AND PROVIDE AN ENDCAP TO MAKE SAFE IN THE CEILING BELOW.

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TINKER AIR FORCE BASE, OKLAHOMA

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MANAGEMENT INFORMATION

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DRAWN BY: AS
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SHEET TITLE
ELECTRICAL PLAN - DEMOLITION

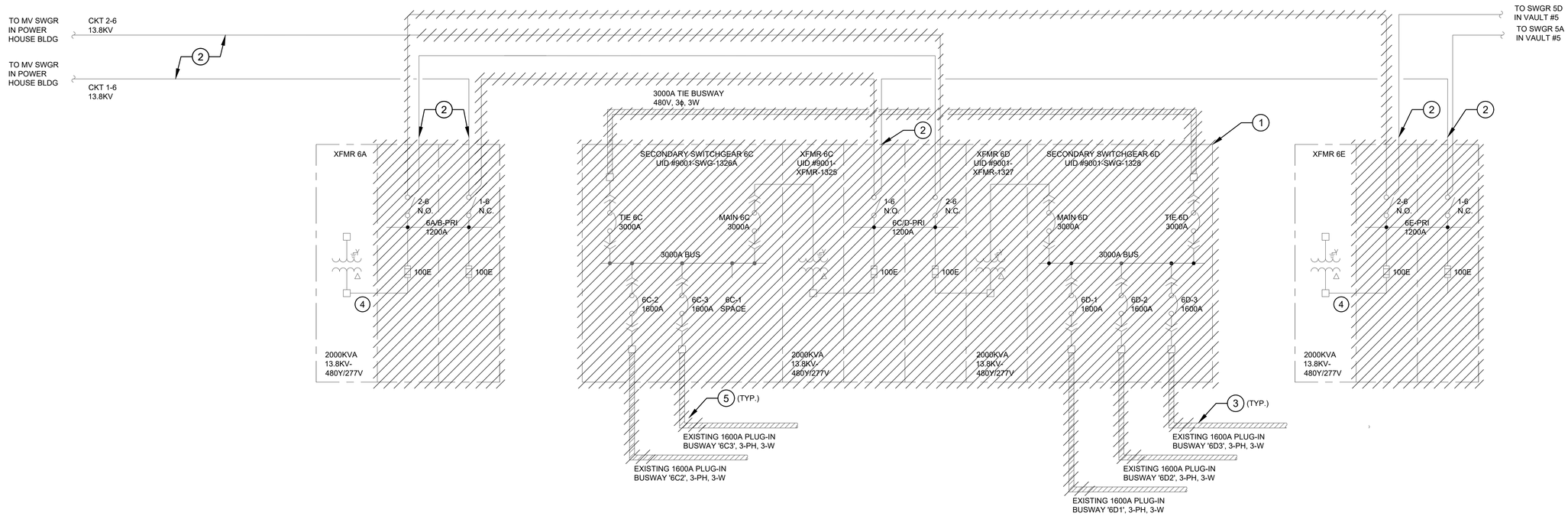
SHEET NUMBER
ED101

GENERAL NOTES:

1. THIS DRAWING WAS PREPARED FROM EXISTING AS-BUILTS AND LIMITED ACCESS FOR FIELD OBSERVATIONS AND VERIFICATIONS. CONTRACTOR SHALL FIELD VERIFY EXISTING CONDITIONS AND UPDATE AS-BUILT DRAWINGS FOR RECORD.
2. UNLESS NOTED OTHERWISE, ALL EXISTING EQUIPMENT TO REMAIN. EXISTING CIRCUIT BREAKERS AS INDICATED ARE 3-POLE.
3. ALL DEMO WORK SHALL BE PLANNED IN PHASES TO MINIMIZE IMPACT TO PRODUCTION. COORDINATE ALL WORK WITH THE FACILITY USER GROUP.

KEY NOTES:

1. REMOVE EXISTING SWITCHGEAR, TRANSFORMERS, MAIN/TIE/DISTRIBUTION SECTIONS AND TIE BUSWAY.
2. RETAIN PRIMARY FEEDERS FOR RECONNECTION TO NEW SWITCHGEAR.
3. RETAIN 480V BUSDUCTS FOR RECONNECTION TO NEW SWITCHGEAR DISTRIBUTION SECTIONS.
4. DISCONNECT EXISTING TRANSFORMER FROM PRIMARY SWITCHES. REMOVE ALL WIRES AND ABANDON EQUIPMENT IN PLACE FOR FUTURE REMOVAL.
5. DISCONNECT AND REMOVE A PORTION OF EXISTING BUSDUCT CONNECTING TO EXISTING SWITCHGEAR AS INDICATED. REFER TO NEW WORK FOR ADDITIONAL INFORMATION.



1 ED601 ELECTRICAL ONE-LINE DIAGRAM - DEMOLITION

SCALE: NTS

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ELECTRICAL ONE-LINE DIAGRAM - DEMOLITION

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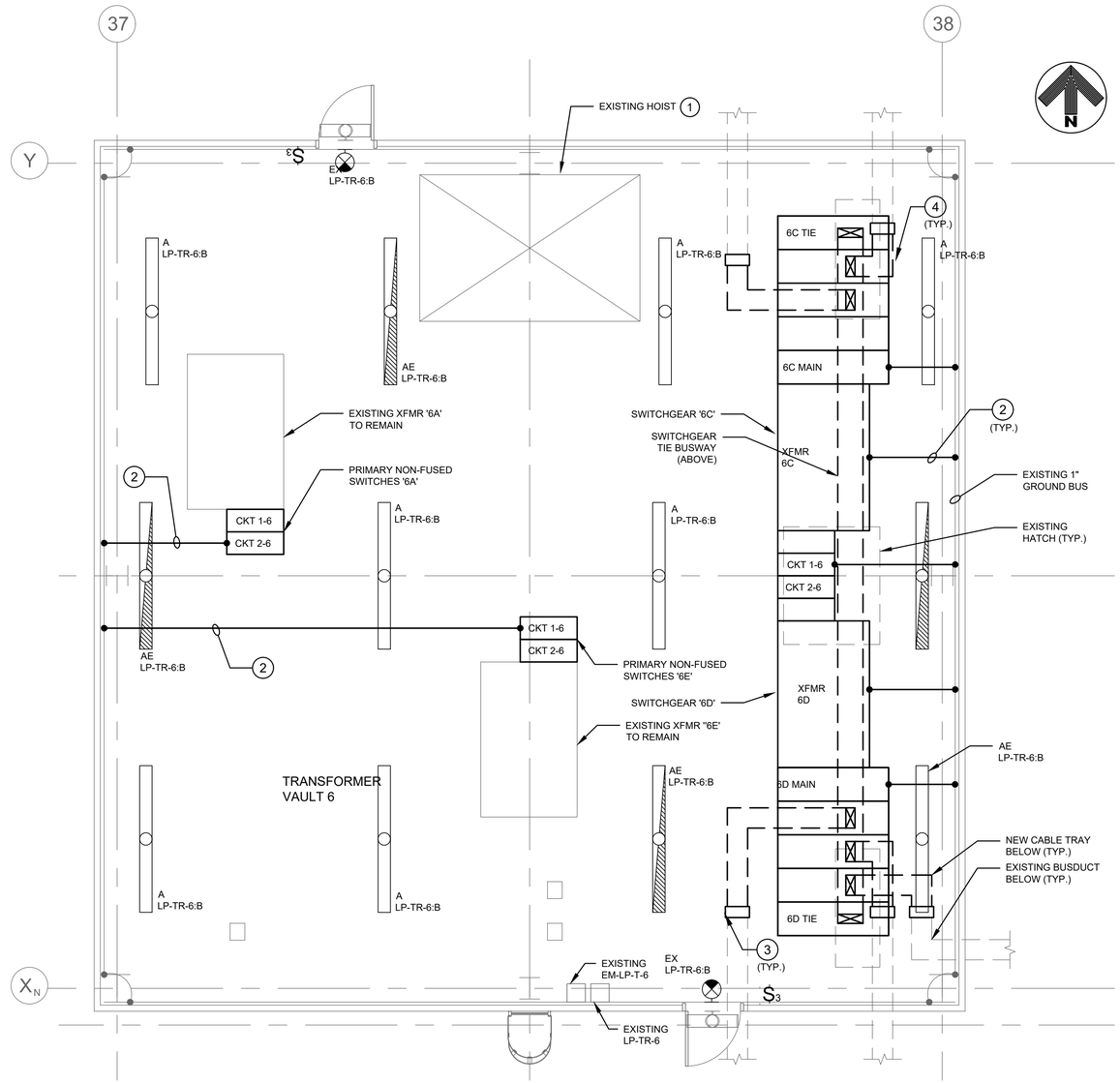

1 E-101 ELECTRICAL PLAN - NEW WORK

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

GENERAL NOTES:

1. THIS DRAWING WAS PREPARED FROM EXISTING AS-BUILTS AND LIMITED ACCESS FOR FIELD OBSERVATIONS AND VERIFICATIONS. CONTRACTOR SHALL FIELD VERIFY EXISTING CONDITIONS AND UPDATE AS-BUILT DRAWINGS FOR RECORD.
2. COORDINATE PLACEMENT OF ELECTRICAL EQUIPMENT WITH OTHER TRADES PRIOR TO ROUGH-IN.
3. REFER TO ONE-LINE DIAGRAM ON SHEET E-601 FOR ADDITIONAL INFORMATION.
4. PROVIDE TEMPORARY POWER TRANSFER AS REQUIRED DURING SWITCHGEAR REPLACEMENT. COORDINATE CONSTRUCTION PHASING PLAN PRIOR TO COMMENCING WORK.
5. CONTRACTOR SHALL PROVIDE FIELD LABEL AND AFFIX TO PANELBOARD ENCLOSURE THE AVAILABLE FAULT CURRENT / DATE OF THE CALCULATION IN ACCORDANCE WITH NEC 2020, ARTICLE 408. REFER TO SPECIFICATIONS AND TINKER AFB ELECTRICAL STANDARDS FOR FIELD LABELING REQUIREMENTS.

KEY NOTES:

1. EXISTING HOIST IS NOT IN CONTRACT. CONTRACTOR SHALL NOT USE THE EXISTING HOIST FOR THE REMOVAL OR INSTALLATION OF THE NEW EQUIPMENT IN THE VAULT.
2. PROVIDE 1" GROUNDING STRAPS TO BOND AND GROUND SWITCHGEAR TO EXISTING GROUND BUS. NEW GROUNDING STRAPS SHALL MATCH EXISTING.
3. 1600A CABLE TAPBOX. REFER TO ONE-LINE, E-601, FOR ADDITIONAL INFORMATION.
4. PROVIDE 18" CABLE TRAY, 9-500KCMIL, 1-#4/0EGC. REFER TO SHEET E-501 FOR ADDITIONAL INFORMATION.

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SHEET TITLE
ELECTRICAL
PLAN
- NEW WORK

SHEET NUMBER
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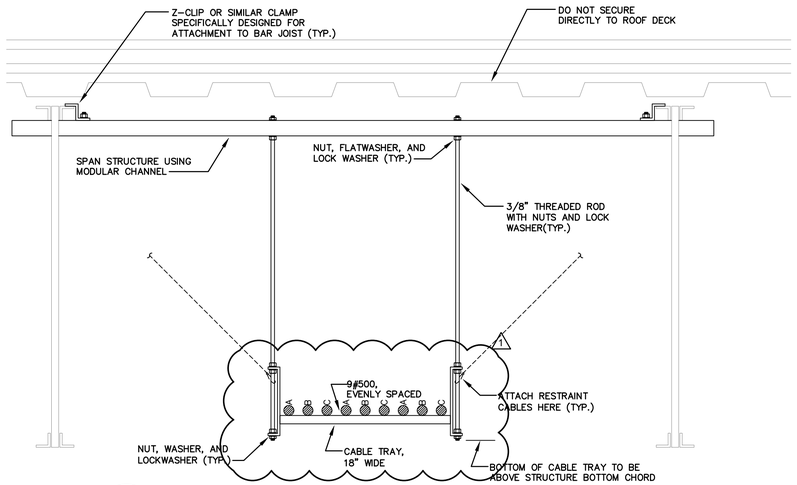
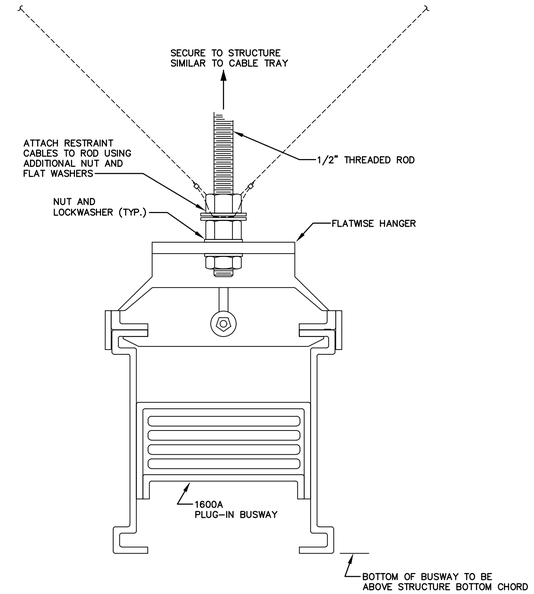


1 / - TYPICAL DETAIL - 1600A FEEDER CONSTRUCTION

SCALE: NTS

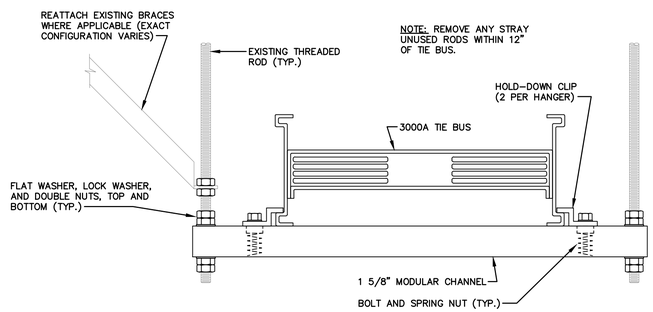


2 / - TYPICAL DETAIL - 1600A BUSWAY SUPPORT

SCALE: NTS

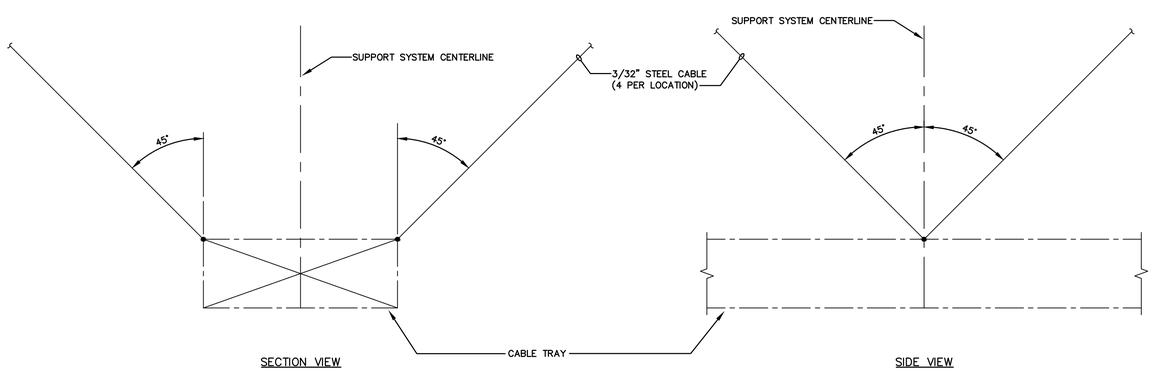
GENERAL NOTES:

1. COORDINATE PLACEMENT OF ELECTRICAL EQUIPMENT WITH OTHER TRADES PRIOR TO ROUGH-IN.
2. REFER TO ONE-LINE DIAGRAM ON SHEET E-601 FOR ADDITIONAL INFORMATION.



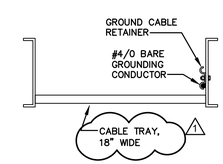
3 / - TYPICAL DETAIL - 3000A TIE BUS SUPPORT

SCALE: NTS



4 / - TYPICAL DETAIL - SEISMIC RESTRAINT

SCALE: NTS



5 / - TYPICAL DETAIL - CABLE TRAY GROUND

SCALE: NTS

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WWYK150083
REPAIR TRANSFORMER VAULT 6, B9001
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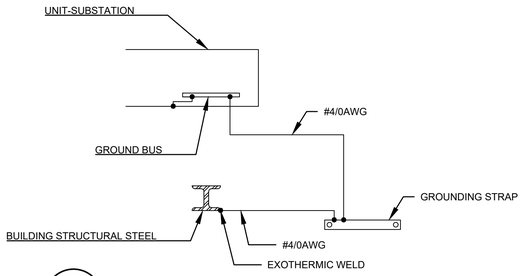
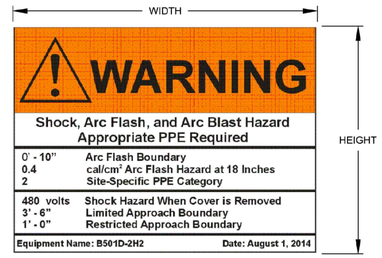
SHEET TITLE
ELECTRICAL DETAILS

SHEET NUMBER
E-501



2 E-601 GROUNDING RISER DETAIL
SCALE: NTS



NOTES:
1. PROVIDE SELF-ADHESIVE VINYL LABEL TO AFFIX TO ELECTRICAL EQUIPMENT TO WARN OF ARC FLASH HAZARDS.

2. THE LABEL FORMAT AND TEXT CAN BE MODIFIED PROVIDED THAT THE INFORMATION REQUIRED BY UFC 3-501-01 IS INCLUDED.

3. THE LABEL SHALL BE LOCATED ON THE EQUIPMENT TO BE CLEARLY VISIBLE TO QUALIFIED PERSONS BEFORE EXAMINATION, ADJUSTMENT, SERVICING, OR MAINTENANCE OF THE EQUIPMENT.

4. THE SIZE OF THE LABEL SHALL BE MINIMUM:

EQUIPMENT TYPE	HEIGHT	WIDTH
INDOOR	2"	3"
OUTDOOR	3"	4.5"

5. A DOWNLOADABLE WINDOWS METAFILE IS AVAILABLE ON THE WHOLE BUILDING DESIGN GUIDE WEBSITE (WWW.WDBG.ORG) FOR USE IN A LABEL MAKING MACHINE.

A. THE FILE IS LOCATED ON THE "NAVFAC CADD DETAILS" PAGE. TO NAVIGATE TO THIS LOCATION, FOLLOW: HOME > DOCUMENTS & REFERENCES > CCB > CADD LIBRARY > NAVFAC CADD RESOURCES > NAVFAC CADD DETAILS.

B. ALTERNATIVELY, TYPE IN THE FOLLOWING ADDRESS IN INTERNET EXPLORER: HTTP://WWW.WBDG.ORG/CCB/BROWSE/CAT.PHP?C=232

6. THE CONTRACTOR SHALL UNDERTAKE FAULT CURRENT CALCULATIONS (PREPARED BY A QUALIFIED PROFESSIONAL ENGINEER) AND ARC FLASH ANALYSIS PERFORMED USING "EASY POWER" SOFTWARE AND THE ANALYSIS SHALL BE SUBMITTED FOR REVIEW AND APPROVAL PRIOR TO EQUIPMENT SELECTION. SUBMIT TO 72ABW/CENMP.

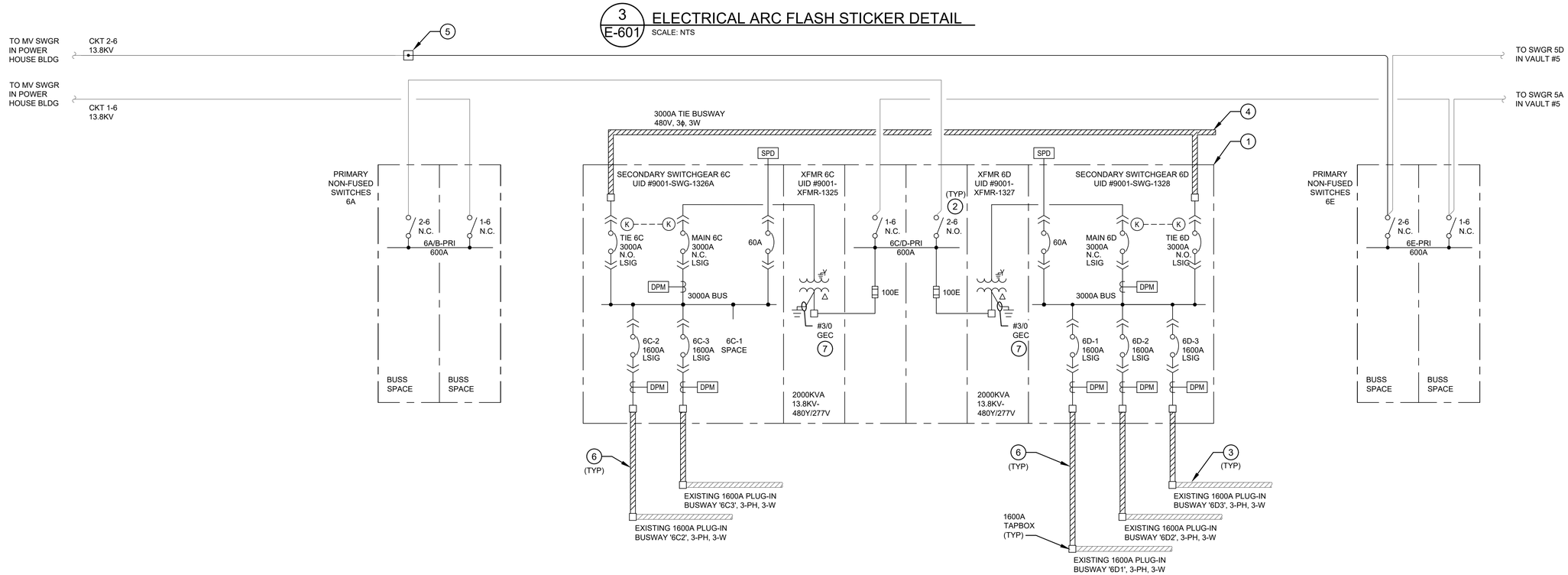
3 E-601 ELECTRICAL ARC FLASH STICKER DETAIL
SCALE: NTS

GENERAL NOTES:

1. THIS DRAWING WAS PREPARED FROM EXISTING AS-BUILTS AND LIMITED ACCESS FOR FIELD OBSERVATIONS AND VERIFICATIONS. CONTRACTOR SHALL FIELD VERIFY EXISTING CONDITIONS AND UPDATE AS-BUILT DRAWINGS FOR RECORD.
2. UNLESS NOTED OTHERWISE, ALL EXISTING EQUIPMENT TO REMAIN. EXISTING CIRCUIT BREAKERS AS INDICATED ARE 3-POLE.
3. CONTRACTOR SHALL VERIFY ALL UPSTREAM OVERCURRENT PROTECTION AND SETTINGS FOR SHORT FAULT CURRENT CALCULATION AND ARC FLASH LABELING. PROVIDE APPROPRIATE ARC-FLASH LABELING PER ANALYSIS.
4. PROVIDE TEMPORARY POWER TRANSFER AS REQUIRED DURING SWITCHGEAR REPLACEMENT. COORDINATE CONSTRUCTION PHASING PLAN PRIOR TO COMMENCING WORK.
5. CONTRACTOR SHALL PROVIDE FIELD LABEL AND AFFIX TO PANELBOARD ENCLOSURE THE AVAILABLE FAULT CURRENT / DATE OF THE CALCULATION IN ACCORDANCE WITH NEC 2020, ARTICLE 408. REFER TO SPECIFICATIONS AND TINKER AFB ELECTRICAL STANDARDS FOR FIELD LABELING REQUIREMENTS.

KEY NOTES:

1. PROVIDE SQUARE D POWER ZONE SWITCHGEAR WITH REMOTE RACKING, KIRK-KEY SWITCHING INTERLOCK, FORCED FAN COOLING, TEMPERATURE MONITORING WITH LOCAL ALARM, AND REMOTE ALARM CAPABILITIES. ALL INTERNAL WIRING TO BE DERIVED FROM INTEGRAL CPTs SO NO EXTERNAL CIRCUITS ARE REQUIRED FOR OPERATION.
2. CONNECT EXISTING MV FEEDERS TO NEW SWITCHGEAR PRIMARY SECTIONS.
3. CONNECT EXISTING 480V BUSDUCT TO CABLE TAP BOX AND EXTEND AS NEEDED. BUSDUCT EXTENSION SHALL BE SQUARE D AND COMPATIBLE WITH EXISTING.
4. PROVIDE T-FITTING BUSDUCT AS INDICATED FOR FUTURE EXPANSION/CONNECTIONS.
5. PROVIDE MEDIUM VOLTAGE RATED CABLE TO MATCH WITH EXISTING. PROVIDE PULL BOX AS REQUIRED FOR RECONNECTION TO EXISTING ONE.
6. PROVIDE 480V, 3PH, 3W, 1600A BUSDUCT TAPPED TO EXISTING BUSDUCT AND TERMINATE IN SWITCHGEAR. REFER TO DETAILS ON SHEET E-501 FOR ADDITIONAL INFORMATION.
7. IDENTIFY SWITCHGEAR GEC TEST POINT PER SECTION 3.1.4 C 1 OF THE TAFB ELECTRICAL STANDARDS IAW AFI 32-1065.



1 E-601 ELECTRICAL ONE-LINE DIAGRAM - NEW WORK
SCALE: NTS

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LICENSED PROFESSIONAL ENGINEER
BRIAN H JOHNSON
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12/10/2025

PROJECT INFORMATION
WWYK150083
REPAIR TRANSFORMER VAULT 6, B9001
TINKER AIR FORCE BASE, OKLAHOMA

REVISIONS

MARK	DATE	DESCRIPTION

MANAGEMENT INFORMATION
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DESIGN GROUP: HDR
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DRAWN BY: AS
CHECKED BY: KL
DESIGN FILE LOCATION:

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ELECTRICAL ONE-LINE DIAGRAM - NEW WORK

SHEET NUMBER
E-601

LIGHTING FIXTURE SCHEDULE

MARK	MANUFACTURER & CATALOG NUMBER	MOUNTING	HEIGHT	LAMPS						GENERIC DESCRIPTION	PHOTO
				VA	LUMENS	TYPE	TEMP	CRI	VOLTS		
A	LITHONIA TZL1D L96 SMR 10000LM FST MVOLT 40K 80CRI	SUSPENDED CEILING	NOTE 3	81	10,000	LED	4000K	80	MVOLT	LINEAR SUSPENDED LUMINAIRE, COLD-ROLLED STEEL HOUSING, ACRYLIC DIFFUSE LENS, HIGH-OUTPUT LEDS.	
AE	LITHONIA TZL1D L96 SMR 10000LM FST MVOLT 40K 80CRI E10W	SUSPENDED CEILING	NOTE 3	81	10,000	LED	4000K	80	MVOLT	LINEAR SUSPENDED LUMINAIRE, COLD-ROLLED STEEL HOUSING, ACRYLIC DIFFUSE LENS, HIGH-OUTPUT LEDS, INTEGRAL EMERGENCY BATTERY.	
EX	LITHONIA LQM S W RG MVOLT M6	WALL-MOUNTED	1 FT. ABOVE DOOR FRAME	1	-	LED	-	-	MVOLT	THERMOPLASTIC CASING, RED/GREEN SIGNAGE WITH BATTERY BACKUP, INTEGRAL MOUNTING PLATE FOR SURFACE MOUNTING	

GENERAL NOTES:
1) LUMINAIRE SELECTION WAS USED AS A BASIS OF DESIGN. ALTERNATE LUMINAIRE SELECTIONS WITHIN THE INDICATED CRITERIA ARE ACCEPTABLE.
2) REFER TO DRAWINGS FOR NUMBER OF FIXTURES.
3) BOTTOME OF FIXTURE ABOVE FINISHED FLOOR TO MATCH EXISTING.
4) PROVIDE ALL ACCESSORIES NECESSARY FOR COMPLETE INSTALLATION AND OPERATION.

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ELECTRICAL SCHEDULES

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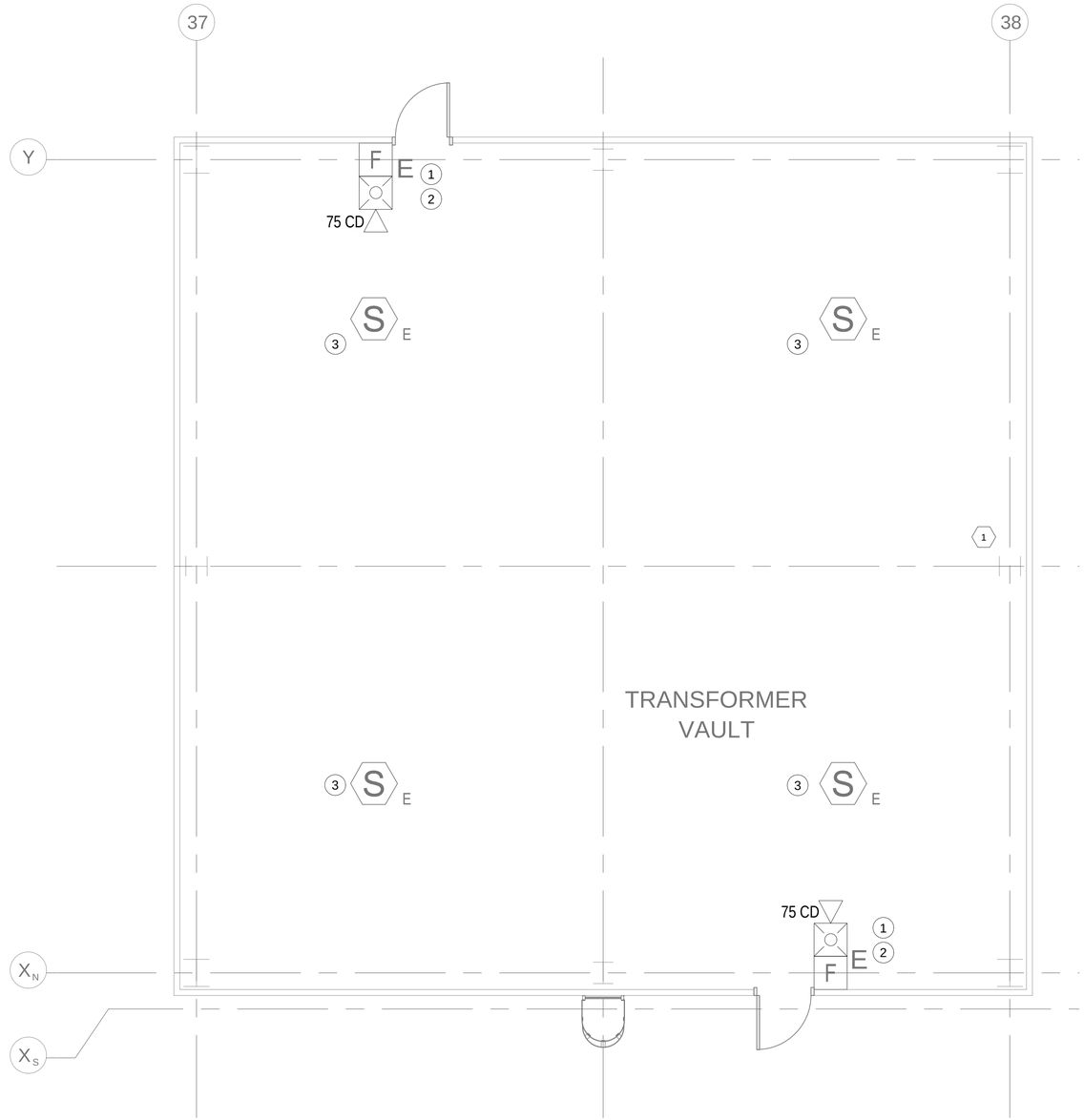
E602



1 F-101 FIRE ALARM - DEMOLITION AND NEW WORK PLAN

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

FIRE ALARM SYMBOLS LEGEND

F	MANUAL STATION, FIRE ALARM
S	SMOKE DETECTOR
	FIRE ALARM AUDIBLE/VISBLE COMBO WALL, CLEAR LENS, SELECTABLE CD
E	SUBSCRIPT DENOTES EXISTING DEVICE TO REMAIN.

FIRE ALARM DEMOLITION NOTES:

1. CONTRACT DOCUMENTS WERE PREPARED FROM FIELD SURVEYS. THEY ARE NOT INTENDED TO DEPICT UNFORESEEN CONDITIONS THAT MAY ADVERSELY AFFECT DEMOLITION OR INSTALLATION. CONTRACTOR SHALL FIELD VERIFY EXISTING CONDITIONS PRIOR TO STARTING ANY WORK.
2. COORDINATE DEMOLITION WITH NEW WORK. IF UNDOCUMENTED CONDITIONS EXIST, CONTACT THE CONTRACTING OFFICER BEFORE PROCEEDING.

DEMOLITION KEY NOTES:

1. REMOVE THE EXISTING WALL MOUNTED FIRE ALARM NOTIFICATION DEVICES TO ACCOMMODATE CONSTRUCTION. DEMO EXISTING RACEWAY SERVING THE NOTIFICATION DEVICES. WHERE EXISTING RACEWAY IS INSTALLED WITHIN THE ELECTRICAL WORKING SPACES, AS DEFINED BY NEC 110.26 AND 110.30, CONDUIT AND CABLE SHALL ALSO BE REMOVED.

KEY NOTES:

1. INSTALL NEW FIRE ALARM AUDIBLE/VISIBLE DEVICE AND TIE INTO THE EXISTING FIRE ALARM SYSTEM NOTIFICATION CIRCUIT(S).
2. FIRE ALARM RACEWAY SHALL NOT BE ALLOWED TO REMAIN OR BE INSTALLED WITHIN ELECTRICAL WORKING SPACES, AS DEFINED BY NEC 110.26 AND 110.30. RE-USE AND RECONFIGURE EXISTING FIRE ALARM RACEWAY AS NECESSARY TO REMOVE FROM ELECTRICAL WORKING SPACES.
3. REMOVE AND SAFEGUARD SMOKE DETECTORS AS NECESSARY TO ACCOMMODATE WORK WITHIN THE VAULT. RE-INSTALL SMOKE DETECTORS UPON COMPLETION OF THE WORK.

FIRE ALARM GENERAL NOTES:

1. WORK SHALL BE PERFORMED IN ACCORDANCE WITH NFPA 70, NFPA 72, APPLICABLE ETL'S, TINKER ELECTRICAL STANDARDS AND UFC 3-600-01. THE DRAWINGS ARE DIAGRAMMATIC IN NATURE AND INDICATE GENERAL ARRANGEMENTS OF SYSTEMS AND WORK, BUT DO NOT INCLUDE ALL INTERCONNECTIONS BETWEEN OTHER SYSTEMS. PROVIDE CONDUIT, J-BOXES, BACK BOXES, AND CABLE AS REQUIRED.
2. COORDINATE WORK WITH OTHER TRADES. FAILURE TO PROVIDE SUCH COORDINATION PRIOR TO WORK BEING INSTALLED SHALL NOT BE CAUSE FOR ADDITIONAL COMPENSATION TO THE CONTRACTOR, AND MAY RESULT IN REJECTION OF THE WORK.
3. THE BUILDING'S FIRE ALARM SYSTEM SHALL REMAIN OPERATIONAL AT ALL TIMES. SUPERVISE ALL FIRE PROTECTION IMPAIRMENTS IN ACCORDANCE WITH UFC 3-601-02.
4. PROVIDE MATERIALS, BEARING LABELS OR MARKING INDICATING THIRD PARTY TESTING AND APPROVAL, SUITABLE FOR THE APPLICATION INTENDED.
5. SUPPORT CONDUIT AND BACK BOXES BY MEANS OF ANCHORS, RODS, HANGERS, ETC., TO MAINTAIN ALIGNMENT AND PREVENT MOVEMENT.
6. IDENTIFY CONDUCTORS AT EACH JUNCTION BOX, OUTLET BOX, CABINET, PULL BOX, ETC., WITH VINYL HEAT SHRINK TAGS INDICATING PANEL AND CIRCUIT NUMBER, CONTROL WIRE IDENTIFICATION NUMBER, OR OTHER APPROPRIATE INFORMATION.
7. PERFORM WORK ON DE-ENERGIZED SYSTEMS ONLY TO PREVENT PERSONNEL INJURY AND POTENTIAL SYSTEM FAILURE.
8. ALL NEW FIRE ALARM SYSTEM CONDUIT SHALL BE FACTORY PAINTED RED.

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