KANSAS CITY AREA TRANSPORTATION AUTHORITY
KANSAS CITY, MISSOURI

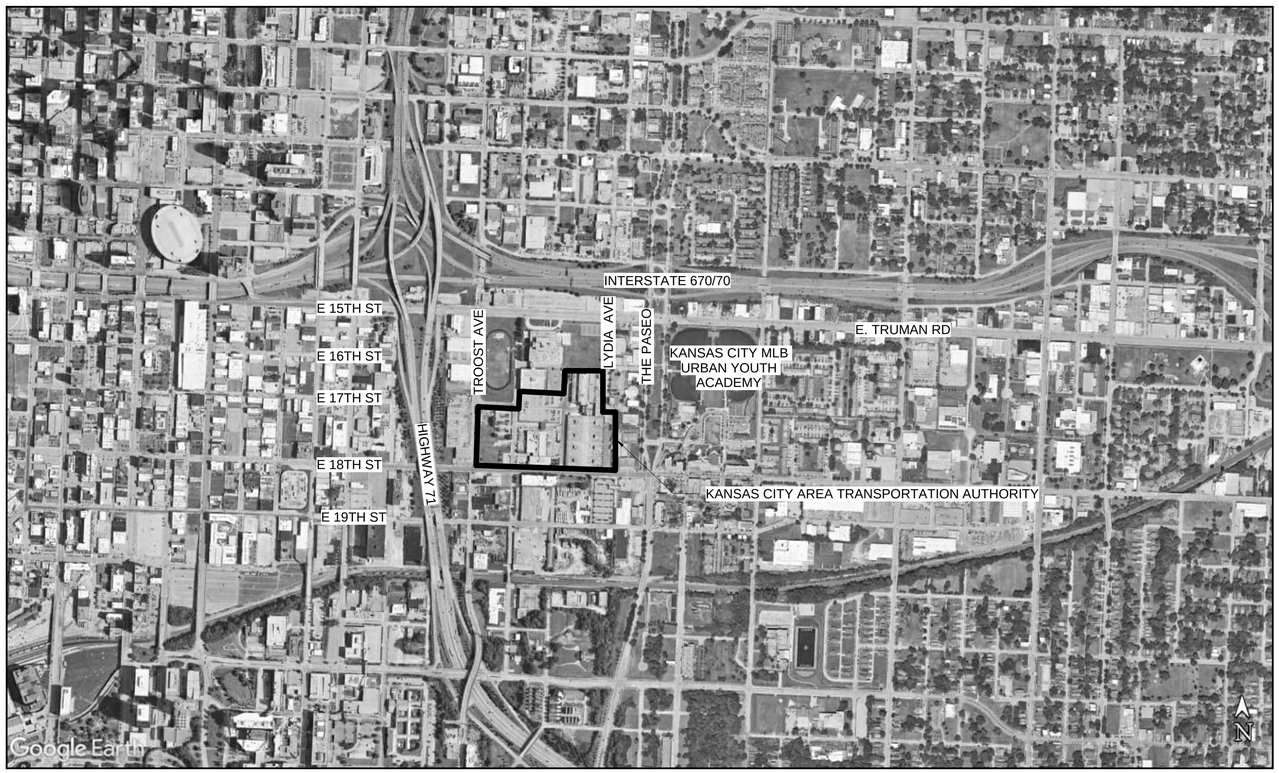
2021 LOW NO GRANT CHARGERS AND DISPENSERS PROJECT

RECORD DRAWINGS

FEBRUARY 16, 2026

BID NUMBER F-23-5012-26A

1350 E 17th St. Bldg. 2, Kansas City, MO 64108



NOT TO SCALE

LOCATION MAP

KCATA

OWNER/DEVELOPER

OWNER: KCATA
1200 EAST 18th STREET
KANSAS CITY, MO 64108

CONTACT: BILL YORD
KCATA
1200 EAST 18th STREET
KANSAS CITY, MO 64108
(816) 810-9020

DESIGNER

DESIGNER: AECOM
800 S LASALLE AVENUE, SUITE 1100
MINNEAPOLIS, MN 55402

CONTACT: GAVIN POINDEXTER
800 S LASALLE AVENUE, SUITE 1100
MINNEAPOLIS, MN 55402
(621) 618-5514

PREPARED BY:

AECOM TECHNICAL SERVICES

APPROVED:

BILL YORD, P.E., ENV SP SENIOR PM
KANSAS CITY AREA TRANSPORTATION AUTHORITY

DRAWING INDEX

DRAWING NO.	DRAWING NAME
ARCHITECTURE	
A-000	COVER SHEET
A-001	DRAWING INDEX, ABBREVIATIONS, AND SYMBOLS
A-002	GENERAL NOTES
AS101	CAMPUS PLAN
A-101	FIRST FLOOR PLAN OVERALL
A-101A	ENLARGED FLOOR PLAN - BAY A
A-101B	ENLARGED FLOOR PLAN - BAY B
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ELECTRICAL	
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E-002	ELECTRICAL - SYMBOLS AND ABBREVIATIONS
E-101	FIRST FLOOR POWER PLAN OVERALL
E-101A	ENLARGED POWER PLAN – BAY A
E-101B	ENLARGED POWER PLAN – BAY B
E-401	SINGLE-LINE DIAGRAM

TOTAL: 19

ABBREVIATIONS

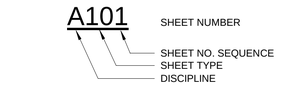
NUMERIC	
3D	THREE DIMENSIONAL
A	
AC	ALTERNATING CURRENT
AFF	ABOVE FINISHED FLOOR
B	
BEB	BATTERY ELECTRIC BUS
B.O.	BOTTOM OF
C	
CLR	CLEAR
D	
DC	DIRECT CURRENT
E	
EL	ELEVATION
G	
GYP	GYPSUM
N	
NO.	NUMBER
NTS	NOT TO SCALE
O	
OFCI	OWNER FURNISHED, CONTRACTOR INSTALLED
R	
REF	REFERENCE
S	
SIM	SIMILAR
T	
T.O.	TOP OF
TYP	TYPICAL
V	
VIF	VERIFY IN FIELD

PROJECT INFORMATION

1. CLIENT: KANSAS CITY AREA TRANSPORTATION AUTHORITY
2. PROJECT LOCATION
   - A. ADDRESS: 1200 E 18TH ST, KANSAS CITY, MO 64108.
   - B. PARCEL NUMBER: 12252
3. EXISTING BUILDING: 165.277 SQUARE FEET
4. APPROXIMATE AREA OF WORK: 11,707 SQUARE FEET
5. APPLICABLE CODES
   - A. 2017 NFPA 70: NATIONAL ELECTRICAL CODE (NEC).
   - B. NFPA 70E: STANDARD FOR ELECTRICAL SAFETY IN THE WORKPLACE.
   - C. ASCE/SEI 7-10 MINIMUM DESIGN LOADS FOR BUILDINGS AND OTHER STRUCTURES.
   - D. 2018 KANSAS CITY BUILDING CODE

SYMBOLS LEGEND

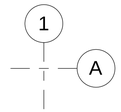
SEE SHEETS FOR SPECIFIC SYMBOLS



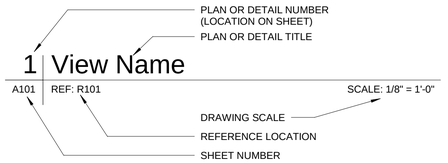
SHEET NUMBER



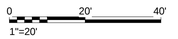
NORTH ARROW



GRID BUBBLES

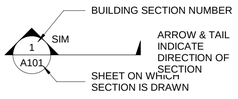


PLAN OR DETAIL TITLE

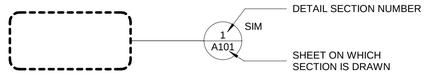


GRAPHIC SCALE

EXTERIOR ELEVATION REFERENCE **INTERIOR ELEVATION REFERENCE**



BUILDING SECTION REFERENCE



DETAIL CALLOUT REFERENCE

Room Name — **ROOM NAME**

Room Name
0-0000 — **WITH/ ROOM NUMBER**



SPOT ELEVATIONS



LEVEL HEADS

AECOM

PROJECT

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KCATA

1200 East 18th Street
Kansas City, MO 64108

ARCHITECT

AECOM

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REGISTRATION

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STATE OF MISSOURI
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NUMBER A-2010025862
ARCHITECT

ISSUE

MARK	DATE	DESCRIPTION
	2/16/2026	RECORD DRAWINGS

KEY PLAN

PROJECT

CHARGE NUMBER

SHEET TITLE

DRAWING INDEX, ABBREVIATIONS, AND SYMBOLS

SHEET NUMBER

A-001

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GENERAL NOTES

1. THE TERM CONTRACTOR IS USED IN THESE NOTES TO IDENTIFY THE PARTY WHO IS CONTRACTED TO THE OWNER AND WHO CAUSES THE WORK OF THE CONTRACT TO BE PERFORMED EITHER BY THEIR OWN FORCES OR BY OTHER CONTRACTORS RETAINED BY THEM.

2. THE CONTRACTOR SHALL DO THIS WORK IN ACCORDANCE WITH LOCAL LAWS AND ORDINANCES HAVING JURISDICTION. OTHER THAN THE BUILDING PERMIT, THE CONTRACTOR SHALL OBTAIN ALL OTHER PERMITS AND APPROVALS AS REQUIRED BY LAW FOR THE COMPLETION OF THE WORK.

3. THE SUBMISSION OF A PROPOSAL BY THE CONTRACTOR WILL BE CONSTRUED AS EVIDENCE THAT A CAREFUL AND THOROUGH EXAMINATION OF THE SITE HAS BEEN MADE AND LATER CLAIMS FOR LABOR, MATERIALS OR EQUIPMENT REQUIRED OR FOR DIFFICULTIES ENCOUNTERED, WHICH COULD HAVE BEEN FORESEEN HAD SUCH AN EXAMINATION BEEN MADE, WILL NOT BE RECOGNIZED. IT SHALL ALSO CONSTITUTE A REPRESENTATION THAT THE CONTRACTOR HAS CHECKED AND VERIFIED ALL QUANTITIES, WORK AND MATERIALS INVOLVED AND THAT THEY SHALL TAKE RESPONSIBILITY FOR ANY DEFICIENCIES THEREIN.

4. BEFORE ORDERING ANY MATERIAL OR DOING ANY WORK, EACH TRADE SHALL VERIFY ALL MEASUREMENTS IN THE FIELD AND SHALL BE RESPONSIBLE FOR THE CORRECTNESS OF SAME. NO EXTRA CHARGE OR COMPENSATION WILL BE ALLOWED ON ACCOUNT OF DIFFERENCE BETWEEN ACTUAL DIMENSIONS AND THE MEASUREMENTS INDICATED ON THE DRAWINGS; ANY DISCREPANCIES BETWEEN THE DRAWINGS AND FIELD CONDITIONS WHICH MAY BE FOUND SHALL BE SUBMITTED TO THE ARCHITECT FOR CONSIDERATION AND CLARIFICATION BEFORE PROCEEDING WITH THE WORK.

5. ALL OF THE CONTRACT BID DRAWINGS AND CONSTRUCTION NOTES ARE COMPLIMENTARY AND WHAT IS CALLED FOR BY EITHER WILL BE BINDING AS IF CALLED FOR BY ALL: ANY WORK SHOWN OR REFERRED TO ON ANY ONE DRAWING SHALL BE PROVIDED AS THOUGH SHOWN ON ALL DRAWINGS. WHENEVER AN ITEM IS SPECIFIED AND/OR SHOWN ON THE DRAWINGS BY DETAIL OR REFERENCE IT SHALL BE CONSIDERED TYPICAL FOR OTHER ITEMS WHICH ARE OBVIOUSLY INTENDED TO BE THE SAME EVEN THOUGH NOT SO DESIGNATED OR SPECIFICALLY NAMED BUT DO SERVE THE SAME FUNCTION.

6. THE WORK TO BE PERFORMED CONSISTS OF FURNISHING ALL LABOR, EQUIPMENT, TOOLS, TRANSPORTATION, SUPPLIES, FEES, MATERIALS, AND SERVICES IN ACCORDANCE WITH THESE NOTES AND DRAWINGS AND PERFORMING ALL OPERATIONS NECESSARY TO CONSTRUCT AND INSTALL COMPLETE AND IN SATISFACTORY CONDITION THE VARIOUS MATERIALS AND EQUIPMENT AT THE LOCATIONS SHOWN. IT IS INTENDED THAT THE DRAWINGS INCLUDE EVERYTHING REQUISITE AND NECESSARY TO FINISH THE ENTIRE WORK PROPERLY, NOTWITHSTANDING THE FACT THAT EVERY ITEM NECESSARILY INVOLVED MAY NOT BE SPECIFICALLY MENTIONED OR SHOWN. ANY ITEM WHICH MAY BE REASONABLY CONSTRUED AS INCIDENTAL TO THE PROPER AND SATISFACTORY COMPLETION OF THE WORK IN ACCORDANCE WITH THE INTENT OF THESE NOTES AND DRAWINGS IS HEREBY INCLUDED.

7. THE CONTRACTOR SHALL ABIDE BY AND COMPLY WITH THE TRUE INTENT AND MEANING OF THE DRAWINGS AND NOTES TAKEN AS A WHOLE AND SHALL NOT AVAIL HIMSELF OF ANY OBVIOUS ERRORS OR OMISSIONS, SHOULD ANY EXIST. SHOULD ANY ERROR OR DISCREPANCY APPEAR OR ANY DOUBT ARISE AS TO THE TRUE MEANING OF THE DRAWINGS OR NOTES, THE CONTRACTOR SHALL BRING SUCH ITEMS TO THE ATTENTION OF THE ARCHITECT BEFORE SUBMISSION OF PROPOSAL FOR EXPLANATION OR CORRECTION OF SAME. AFTER THE SUBMISSION OF PROPOSAL, THE CONTRACTOR WILL BE HELD RESPONSIBLE FOR ALL SUCH ITEMS.

8. FULL SIZE OR LARGE SCALE DETAILS OR DRAWINGS SHALL GOVERN SMALL SCALE DRAWINGS WHICH THEY ARE INTENDED TO AMPLIFY. DETAILS OR CONDITIONS INDICATED FOR A PORTION OF THE WORK BUT NOT CARRIED OUT FULLY FOR OTHER PORTIONS SHALL APPLY THROUGHOUT TO ALL SIMILAR PORTIONS EXCEPT AS OTHERWISE SPECIFICALLY NOTED. IN EVERY CASE THE GREATER QUANTITY, OR A MORE EXPENSIVE ITEM OR METHOD SHALL BE ASSUMED OVER A LESSER QUANTITY OR A LESS EXPENSIVE ONE AND DIMENSIONS SHALL BE FIGURED RATHER THAN DETERMINED BY RULE OR SCALE.

9. THE STANDARD SPECIFICATIONS OF THE MANUFACTURERS APPROVED FOR USE IN THE PROJECT ARE HEREBY MADE A PART OF THESE NOTES WITH THE SAME FORCE AND EFFECT AS THOUGH HEREIN WRITTEN OUT IN FULL, EXCEPT THAT WHEREVER THE DRAWINGS REQUIRE HEAVIER MEMBERS, BETTER QUALITY MATERIALS OR ARE OTHERWISE MORE STRINGENT, THESE STRINGENT REQUIREMENTS SHALL GOVERN.

10. THE CONTRACTOR SHALL NOTIFY THE DESIGNER IMMEDIATELY IF THEY CANNOT FOR ANY REASON COMPLY WITH ALL THE REQUIREMENTS OF THESE NOTES AND DRAWINGS.

11. THE CONTRACTOR SHALL COORDINATE AND SUPERVISE THE WORK OF ALL SUB CONTRACTORS. THEY SHALL BE RESPONSIBLE FOR GIVING ALL TRADES SUCH INFORMATION, PLANS OR DETAILS AS MAY BE REQUIRED FOR THE PROPER INSTALLATION AND COMPLETION OF THEIR WORK.

12. FOR THE EXECUTION OF THE WORK TO BE PERFORMED UNDER THIS CONTRACT AND FOR THE MANUFACTURE OR TRANSPORTATION OF ANY OF THE MATERIALS OR EQUIPMENT TO BE USED OR INSTALLED, THE CONTRACTOR SHALL EMPLOY ONLY SUCH LABOR THROUGHOUT AS WILL NOT INTERFERE WITH THE SPEEDY AND UNINTERRUPTED COMPLETION OF THE PROJECT. ALL WORK SHALL BE DONE BY MECHANICS SKILLED IN THEIR TRADE AND SHALL BE INSTALLED IN A NEAT AND WORKMANLIKE MANNER IN ACCORDANCE WITH THE BEST TRADE PRACTICES.

13. ANY MATERIALS DELIVERED OR WORK PERFORMED, CONTRARY TO THE DRAWINGS AND SPECIFICATIONS AND APPROVED SHOP DRAWINGS, SHALL BE REMOVED BY THE CONTRACTOR AT THIS OWN EXPENSE, AND THE SAME SHALL BE REPLACED WITH OTHER MATERIALS OR WORK SATISFACTORY TO THE ARCHITECT. THE CONTRACTOR SHALL ALSO ASSUME THE COST OF REPLACING THE WORK WHICH MAY BE DISTURBED.

14. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROPERLY AND ACCURATELY LAYING OUT THE WORK AND FOR THE LINES AND MEASUREMENTS HEREIN. CONTRACTOR SHALL ESTABLISH NECESSARY REFERENCE LINES AND PERMANENT BENCH MARKS FROM WHICH BUILDING LINES AND ELEVATIONS SHALL BE TAKEN. ELEVATION HEIGHTS OF ALL WORK SHALL BE TRUE AND LEVEL WITHIN A MAXIMUM TOLERANCE OF 1/8" OVERALL THE ENTIRE PROJECT.

15. CONTRACTOR SHALL PROTECT OWNER'S PROPERTY, EQUIPMENT AND EMPLOYEES FROM INJURY AND DAMAGE.

16. A SET OF THE INSTRUCTION MANUALS AND INSTALLATION INSTRUCTIONS OF ALL EQUIPMENT AND ACCESSORIES INSTALLED IN THIS JOB SHALL BE KEPT BY THE CONTRACTOR AND TURNED OVER TO THE OWNER AT THE COMPLETION OF THE JOB.

17. PROVIDE ADEQUATE BACKUP AND BLOCKING FOR ALL WALL OR CEILING MOUNTED EQUIPMENT OR OTHER MISCELLANEOUS ITEMS AS SHOWN ON DRAWINGS TO ASSURE A SECURE INSTALLATION.

18. THE PREMISES AND THE JOB SITE SHALL BE MAINTAINED IN A REASONABLY NEAT AND ORDERLY CONDITION AND KEPT FREE FROM ACCUMULATIONS OF WASTE MATERIALS AND RUBBISH DURING THE ENTIRE CONSTRUCTION PERIOD.

A. REMOVE CRATES, CARTONS AND OTHER FLAMMABLE WASTE MATERIALS OR TRASH FROM THE WORK AREAS AT THE END OF EACH WORKING DAY.

B. CARE SHALL BE TAKEN BY WORKFORCE NOT TO MARK, SOIL, OR OTHERWISE DEFACE FINISHED SURFACES. IN THE EVENT THAT FINISHED SURFACES BECOME DEFACED, CLEAN AND RESTORE SUCH SURFACES TO THEIR ORIGINAL CONDITION. IF THIS IS NOT POSSIBLE, DAMAGED SURFACES SHALL BE REPLACED.

C. CLEAN UP IMMEDIATELY UPON COMPLETION OF EACH TRADE'S WORK.

D. CLEAN AREAS OF THE BUILDING IN WHICH PAINTING AND FINISHING WORK IS TO BE PERFORMED JUST PRIOR TO THE START OF THIS WORK, AND MAINTAIN THESE AREAS IN SATISFACTORY CONDITION FOR PAINTING AND FINISHING.

E. THIS CLEANING INCLUDES THE REMOVAL OF TRASH AND RUBBISH FROM THESE AREAS, BROOM CLEANING OF FLOORS, THE REMOVAL OF ANY DUST AND OTHER EXTRANEOUS MATERIALS FROM FINISH SURFACES, INCLUDING BUT NOT LIMITED TO, MISCELLANEOUS METAL, WOODWORK, AND ELECTRICAL EQUIPMENT, PIPING, CONDUIT, AND SURFACES VISIBLE AFTER GRILLES, REGISTERS AND OTHER SUCH FIXTURES OR DEVICES ARE IN PLACE.

F. IN ADDITION TO THE CLEANING SPECIFIED ABOVE AND THE MORE SPECIFIC CLEANING WHICH MAY BE REQUIRED IN VARIOUS SECTIONS OF THE SPECIFICATIONS, THE PREMISES SHALL BE PREPARED FOR OCCUPANCY BY:

i. A THOROUGH CLEANING THROUGHOUT INCLUDING WASHING OR CLEANING BY OTHER APPROVED METHODS OF ALL FLOORS AND SURFACES ON WHICH DIRT OR DUST HAS COLLECTED AND BY WASHING GLASS, REMOVING ALL PAINT, PUTTY AND STAINS THEREFROM.

ii. PROVIDING AND MAINTAINING ADEQUATE RUNNER STRIPS OF NON-STAINING REINFORCED KRAFT BUILDING PAPER ON FINISHED FLOORS AS REQUIRED FOR PROTECTION.

iii. LEAVING ALL FIXTURES AND EQUIPMENT IN AN UNDAMAGED, BRIGHT, CLEAN, POLISHED CONDITION.

iv. CLEAN AND POLISH ALL HARDWARE.

v. ALL OTHER CLEANING AS REQUIRED TO TURN THE BUILDING AND PREMISES OVER TO THE OWNER IN A SPOTLESS AND ORDERLY CONDITION.

19. PROJECT IS LOCATED IN AN ACTIVE KCATA BUS GARAGE AND MAINTENANCE FACILITY. BEFORE STARTING WORK IN EACH AREA, CONTRACTOR MUST RECEIVE APPROVAL OF WORK HOURS AND LOCATIONS OF WORK WITH KCATA FLEET AND MAINTENANCE GROUPS TO AVOID IMPACTING KCATA OPERATIONS.

20. BEFORE STARTING WORK IN EACH AREA, CONTRACTOR SHALL RECEIVE APPROVAL OF CONSTRUCTION LAYDOWN LOCATION AND SIZE WITH KCATA FLEET AND MAINTENANCE GROUPS.

AECOM

PROJECT

2021 Low No Grant Chargers & Dispensers

CLIENT

Kansas City Area Transportation Authority

KCATA

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STEVEN E. LOOMIS
NUMBER A-2010025862
ARCHITECT

ISSUE

MARK	DATE	DESCRIPTION
	2/16/2026	RECORD DRAWINGS

KEY PLAN

PROJECT

CHARGE NUMBER

SHEET TITLE

GENERAL NOTES

SHEET NUMBER

A-002

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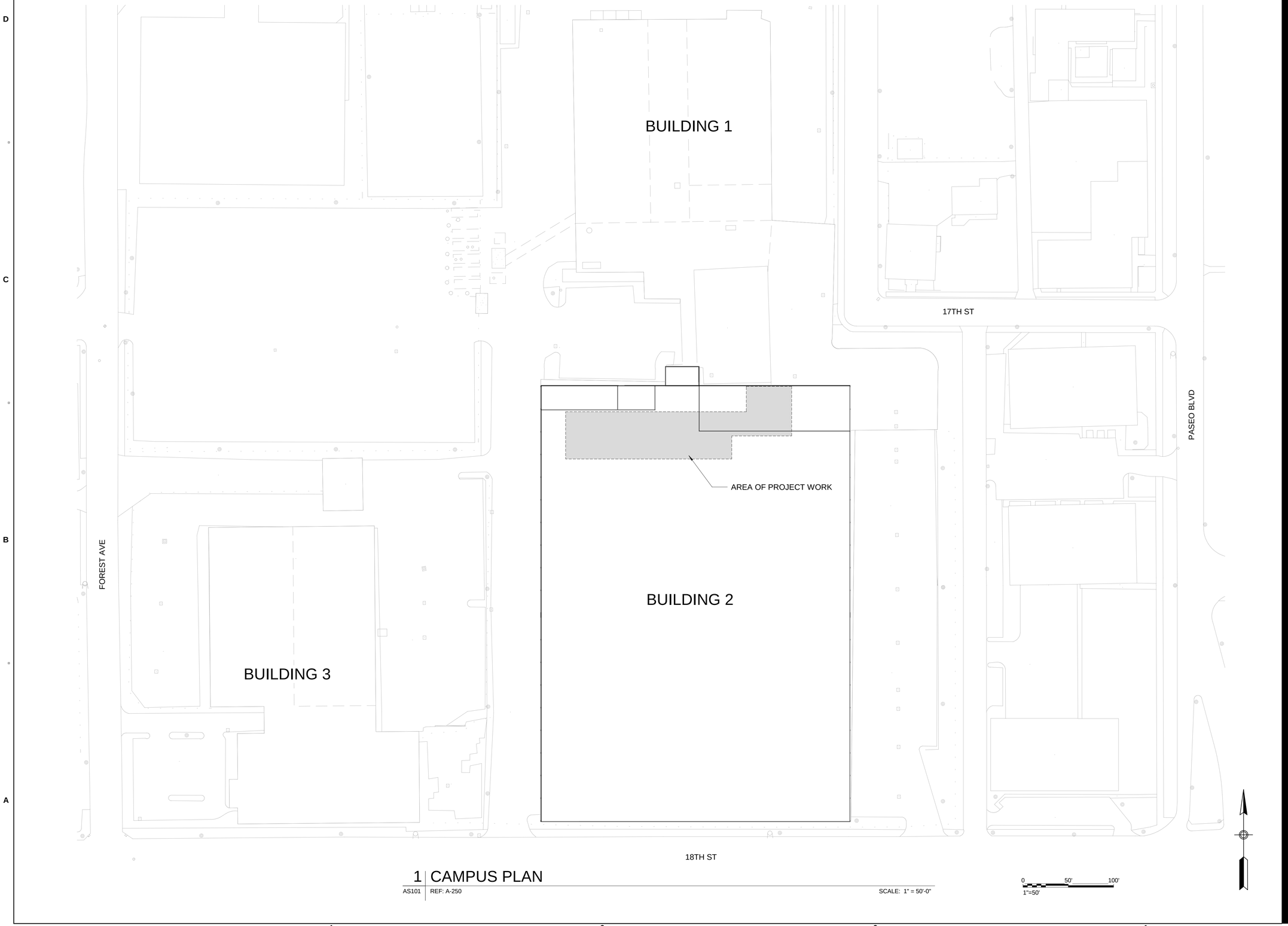

1 | CAMPUS PLAN

AS101 | REF: A-250 | SCALE: 1" = 50'-0"

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CAMPUS PLAN

SHEET NUMBER

AS101

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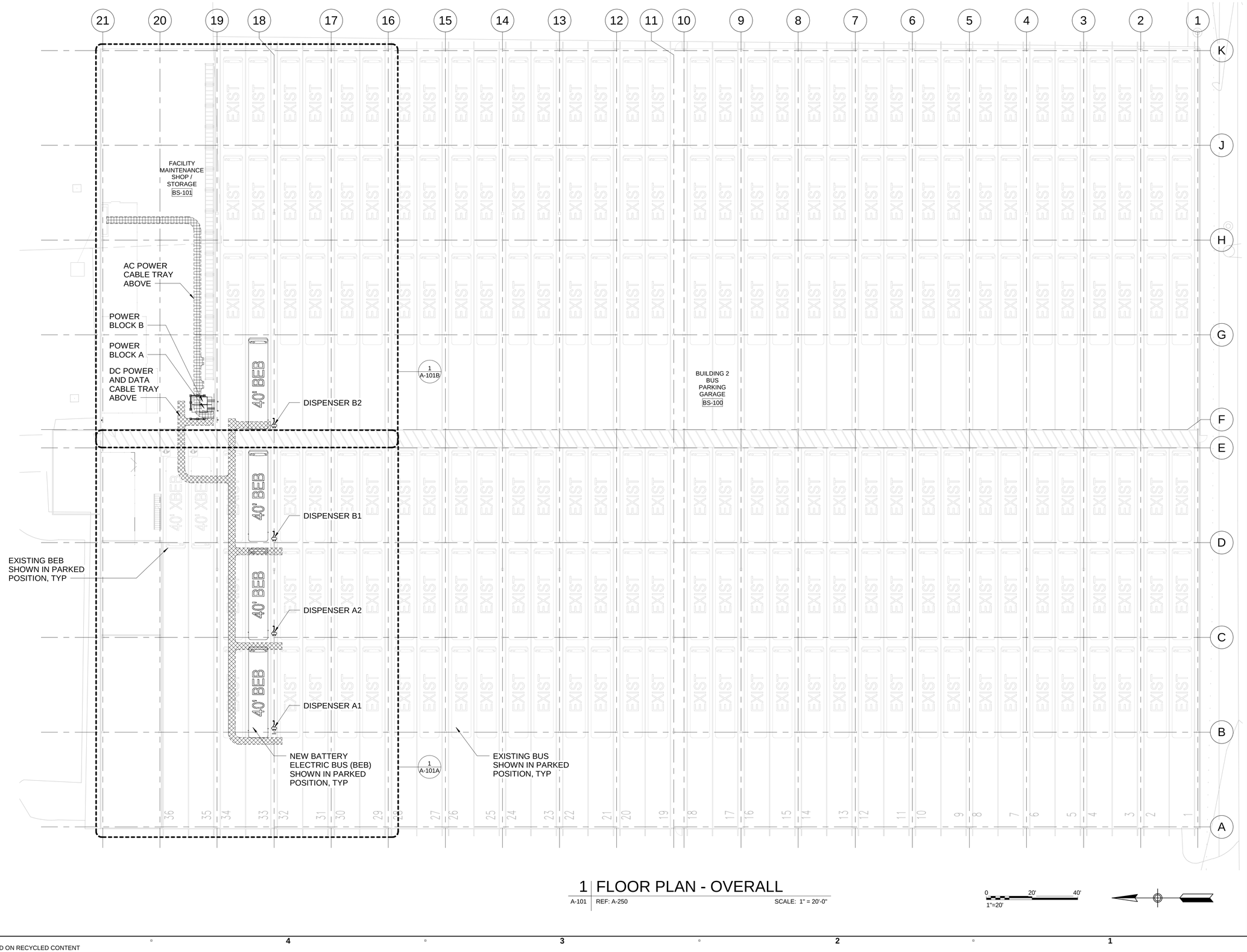

1 FLOOR PLAN - OVERALL

A-101 | REF: A-250 | SCALE: 1" = 20'-0"

0 20' 40'
1"=20'

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FIRST FLOOR PLAN OVERALL

SHEET NUMBER

A-101

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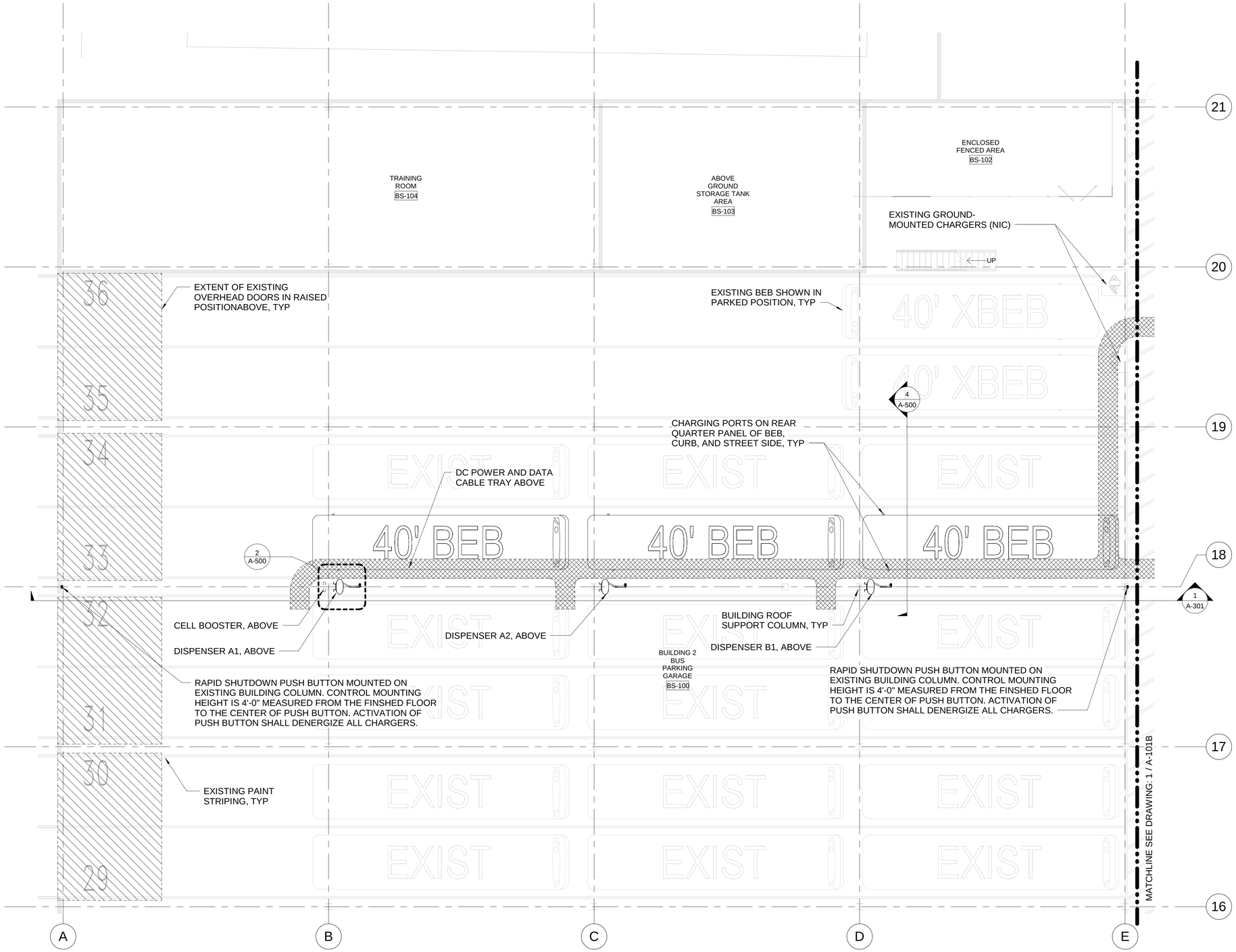

1 ENLARGED PLAN - BAY A

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

0 2 4 6 11 16
1/8"=1'-0"

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ENLARGED FLOOR PLAN - BAY A

SHEET NUMBER

A-101A

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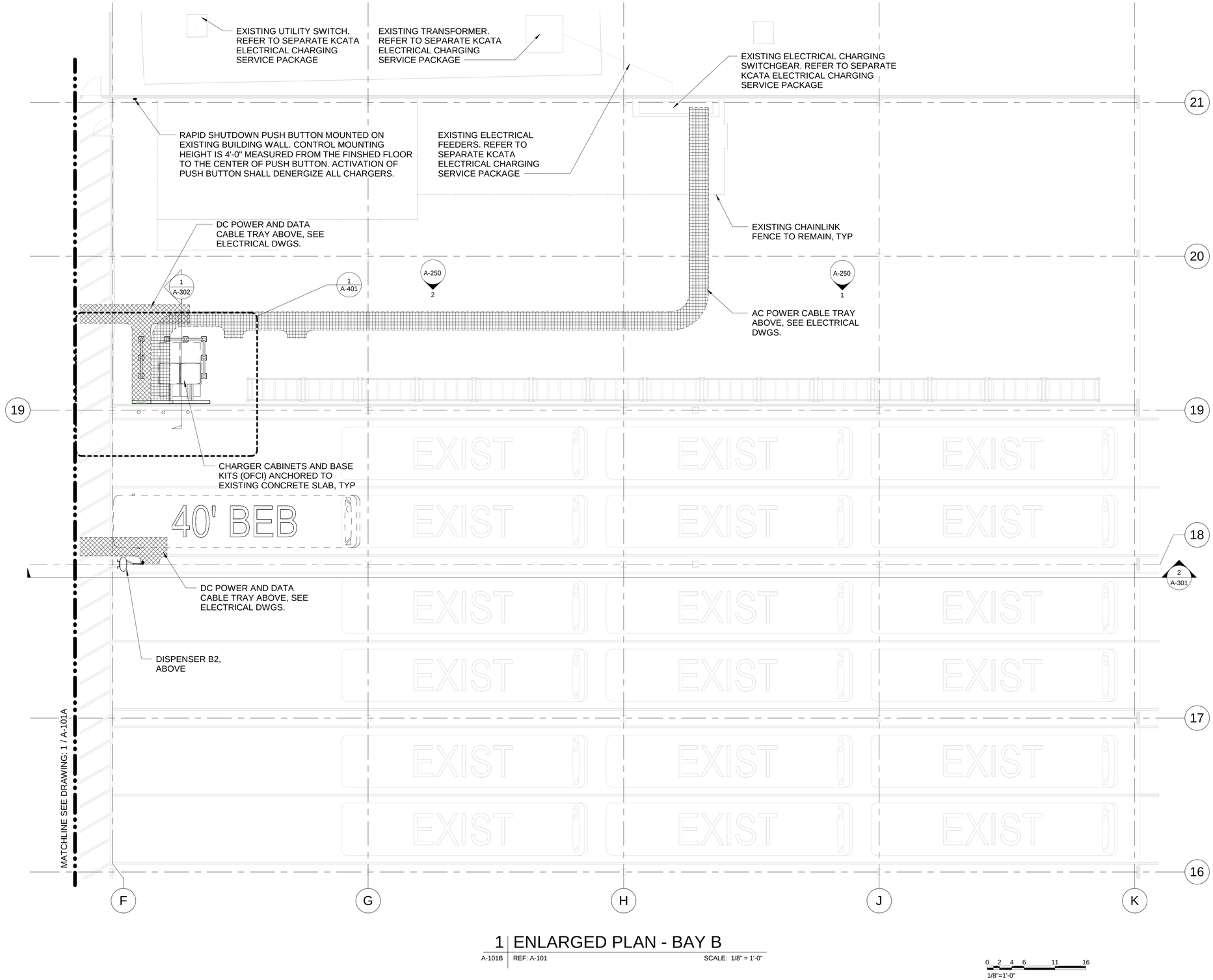

1 ENLARGED PLAN - BAY B

A-101B | REF: A-101 | SCALE: 1/8" = 1'-0"

0 2 4 6 11 16
1/8"=1'-0"

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ENLARGED FLOOR PLAN - BAY B

SHEET NUMBER

A-101B

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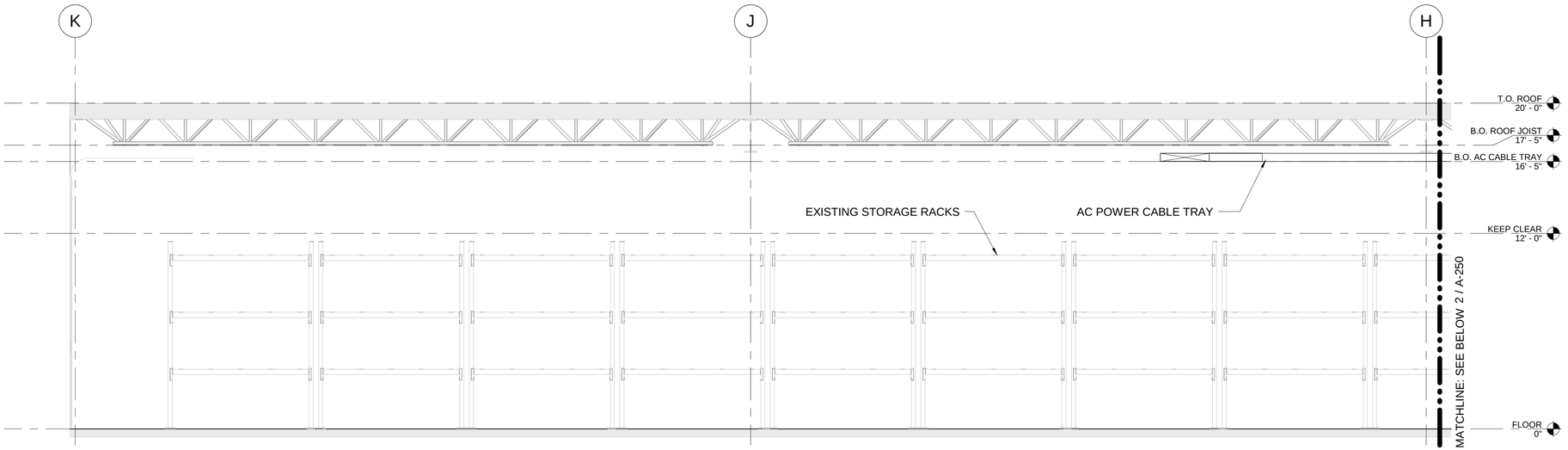
NOTES:

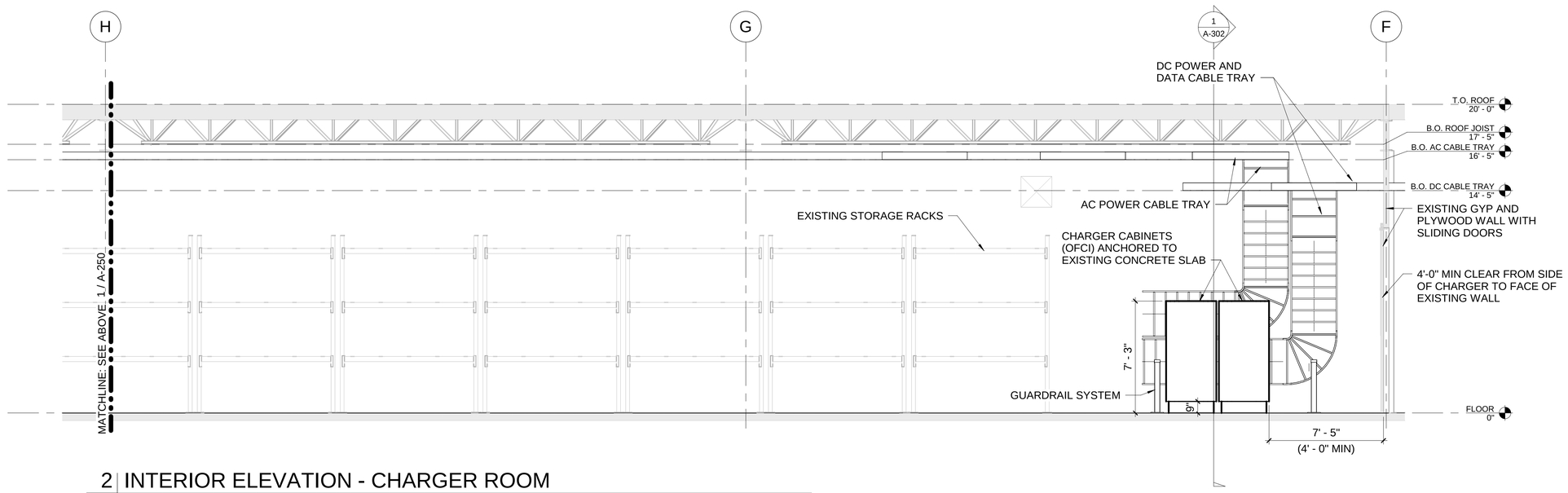
1. KEEP ALL PORTIONS OF CONDUITS, CABLE TRAYS AND WIRES / CONDUCTORS BELOW THE 18" BELOW ROOF DECK EXPLOSION ZONE.
2. SEE ELECTRICAL DRAWINGS FOR CONDUCTOR AND CONDUIT REQUIREMENTS.
3. ALL CABLE TRAYS ARE 36" WIDE X 5" TALL.



1 | INTERIOR ELEVATION - CHARGER ROOM

A-250 | REF: A-101B

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



2 | INTERIOR ELEVATION - CHARGER ROOM

A-250 | REF: A-101B

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

0 1 2 4 8
1/4"=1'-0"

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REGISTRATION

STEVEN LOOMIS, Architect

STATE OF MISSOURI
STEVEN E. LOOMIS
NUMBER A-2010025862
ARCHITECT

ISSUE

MARK	DATE	DESCRIPTION
	2/16/2026	RECORD DRAWINGS

KEY PLAN

PROJECT

CHARGE NUMBER

SHEET TITLE

INTERIOR ELEVATIONS - CHARGER ROOM

SHEET NUMBER

A-250

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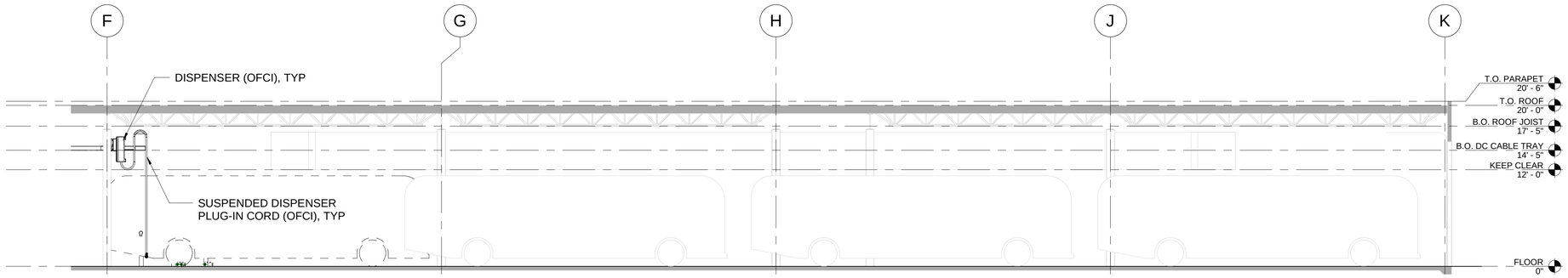
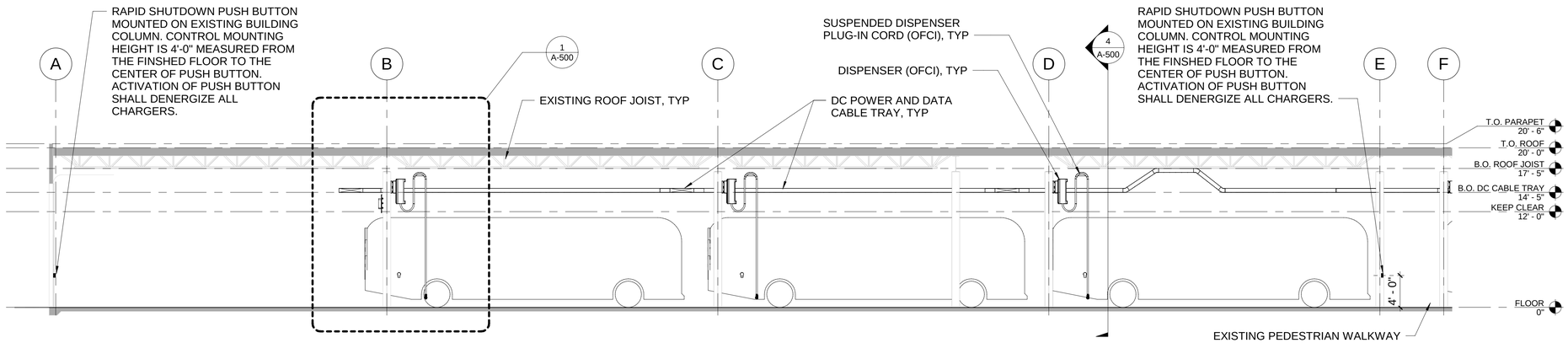
NOTES:

1. KEEP ALL PORTIONS OF CONDUITS, CABLE TRAYS AND WIRES / CONDUCTORS BELOW THE 18" BELOW ROOF DECK EXPLOSION ZONE.
2. SEE ELECTRICAL DRAWINGS FOR CONDUCTOR AND CONDUIT REQUIREMENTS.
3. ALL CABLE TRAYS ARE 36" WIDE X 5" TALL.



2 CROSS SECTION - COLUMN 18 - BAY B

A-301 | REF: A-101B | SCALE: 1/8" = 1'-0"



1 CROSS SECTION - COLUMN 18 - BAY A

A-301 | REF: A-101A | SCALE: 1/8" = 1'-0"

0 2 4 6 11 16
1/8"=1'-0"

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PROJECT

2021 Low No Grant Chargers & Dispensers

CLIENT

Kansas City Area Transportation Authority

KCATA

1200 East 18th Street
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SHEET TITLE

BUILDING SECTION

SHEET NUMBER

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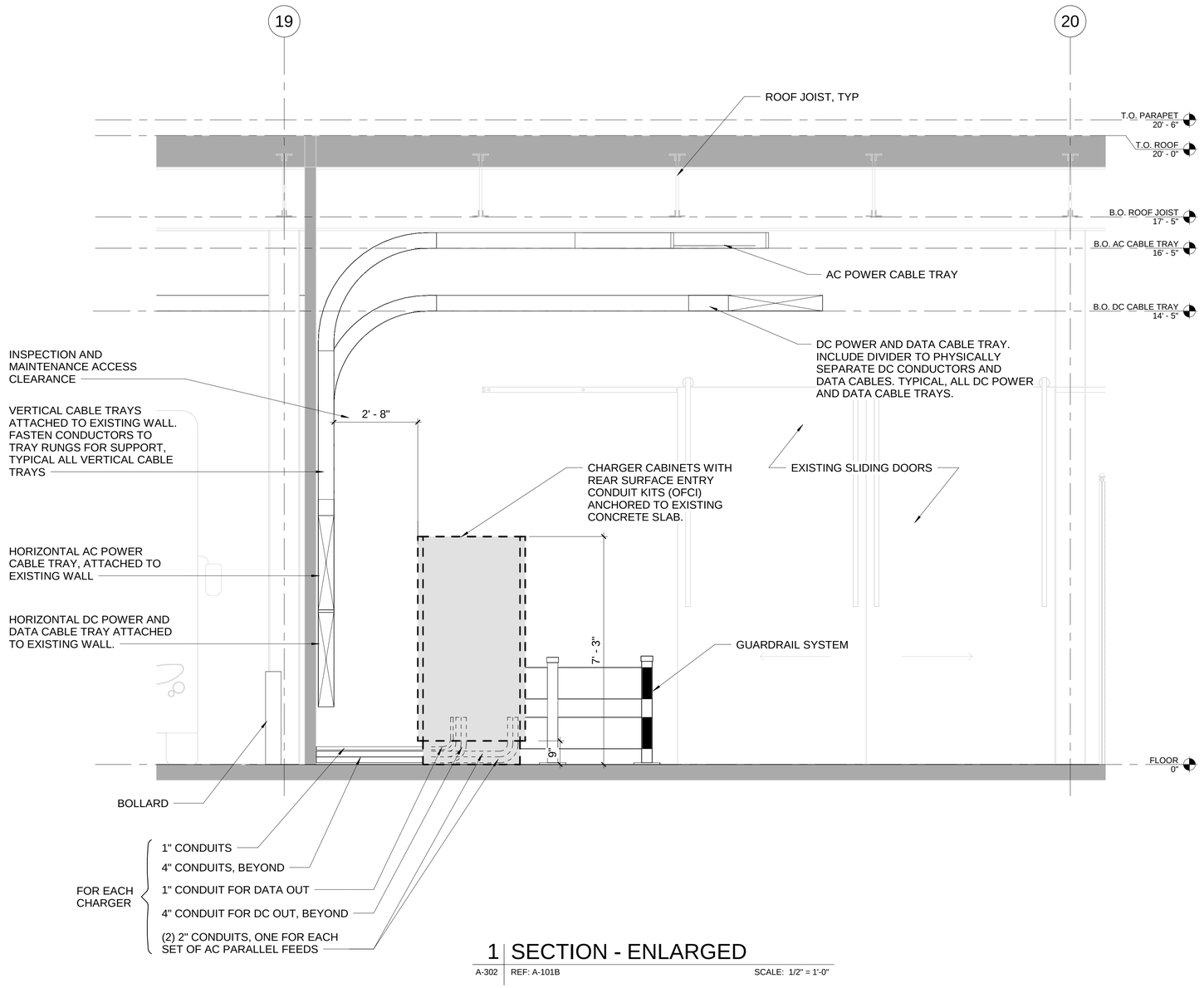

1 SECTION - ENLARGED

A-302 | REF: A-101B | SCALE: 1/2" = 1'-0"

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1/2"=1'-0"

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MARK	DATE	DESCRIPTION
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KEY PLAN

PROJECT

CHARGE NUMBER

SHEET TITLE

ENLARGED SECTION

SHEET NUMBER

A-302

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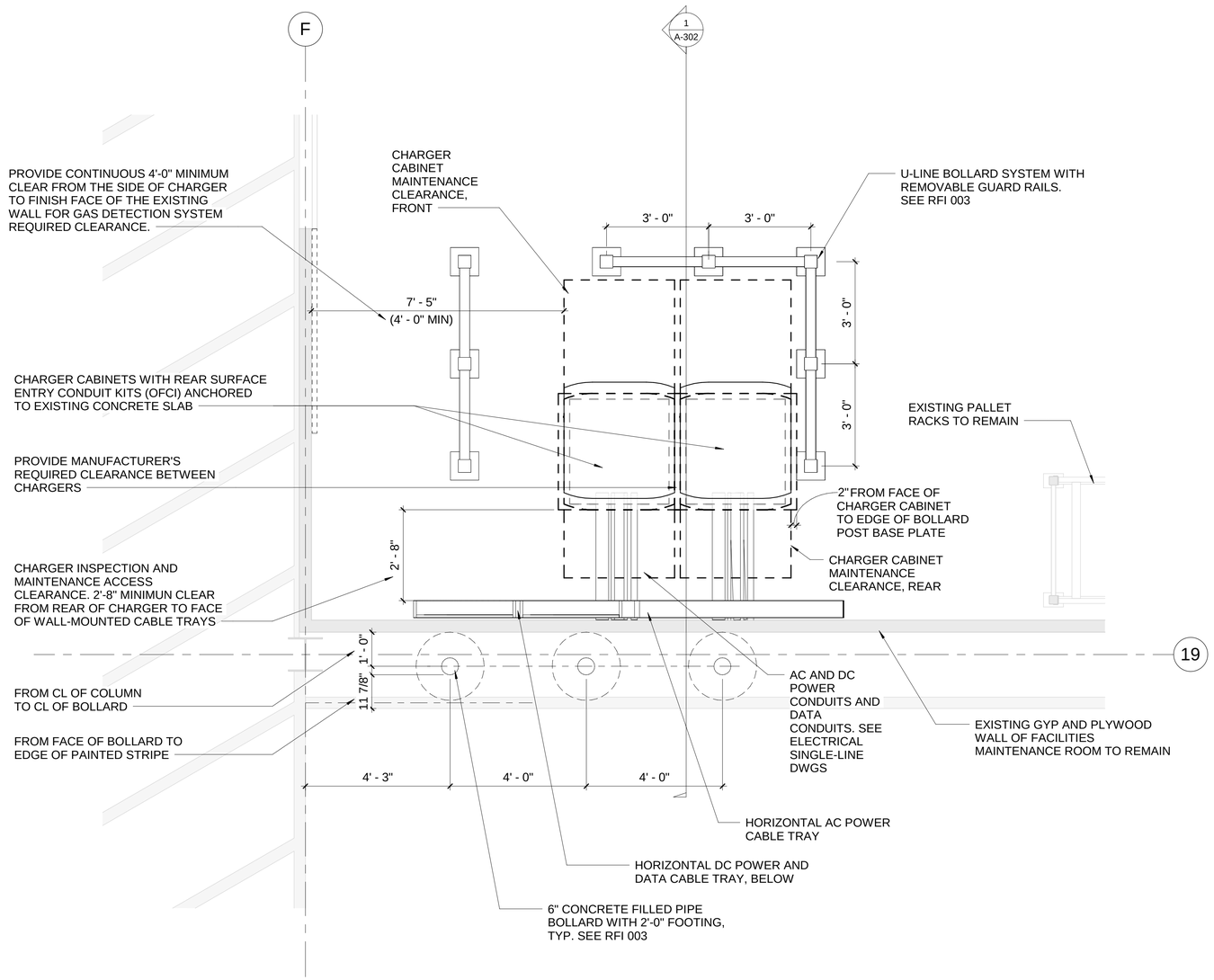
NOTE:

1. SEE ELECTRICAL DRAWINGS FOR CONDUCTOR AND CONDUIT REQUIREMENTS.
2. ALL CABLE TRAYS ARE 36" WIDE X 5" TALL.



1 ENLARGED PLAN - BAY B

A-401 | REF: A-101B | SCALE: 1/2" = 1'-0"

0 1 2 4 8
1/4"=1'-0"

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CLIENT

Kansas City Area Transportation Authority

KCATA

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KEY PLAN

PROJECT

CHARGE NUMBER

SHEET TITLE

ENLARGED PLAN - BAY B

SHEET NUMBER

A-401

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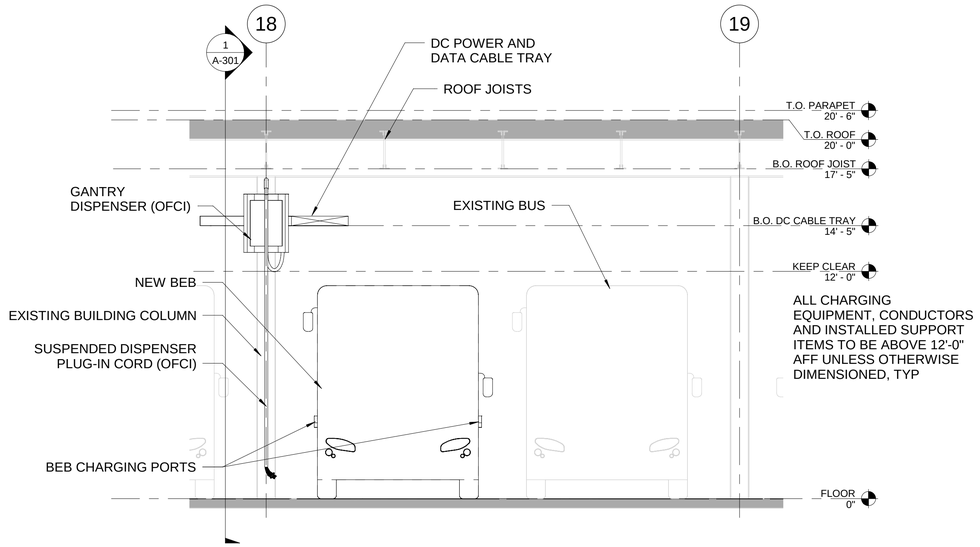
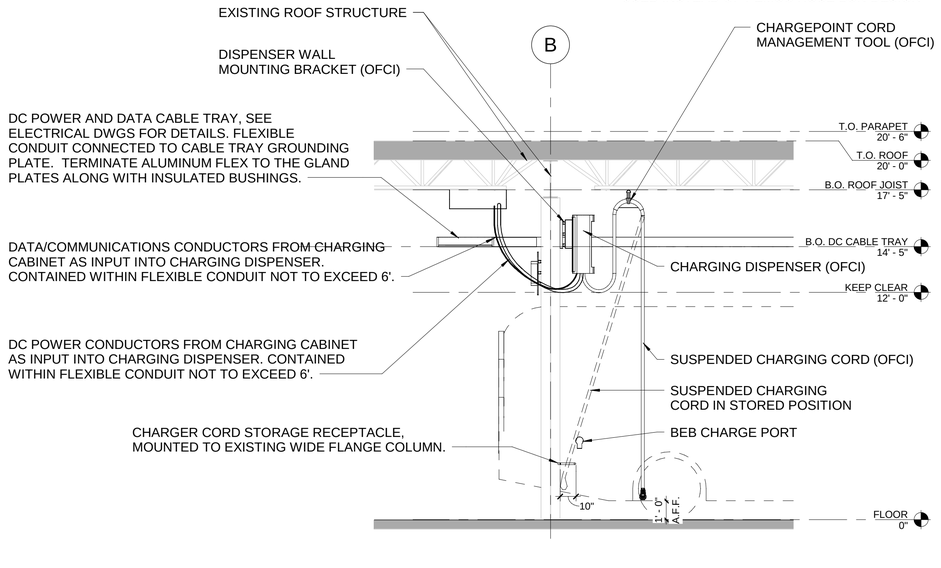


4 ELEVATION - CHARGING DISPENSER - 2

A-500 | REF: A-101A | SCALE: 1/4" = 1'-0"

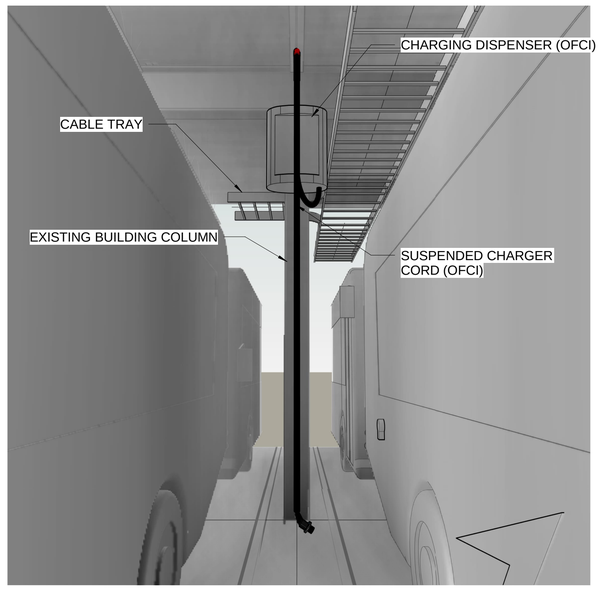
NOTES:

1. KEEP ALL PORTIONS OF CONDUITS, CABLE TRAYS AND WIRES / CONDUCTORS BELOW THE 18" BELOW ROOF DECK EXPLOSION ZONE.
2. PAINT ALL UNISTRUT, STEEL HOOK, AND FASTENERS SAFETY YELLOW.
3. SEE ELECTRICAL DRAWINGS FOR CONDUCTOR AND CONDUIT REQUIREMENTS.
4. ALL CABLE TRAYS ARE 36" WIDE X 5" TALL.
5. CHARGE POINT CABLE MANAGEMENT SYSTEM MAY BE USED INSTEAD OF PEMCO HOSE BUN DESIGN



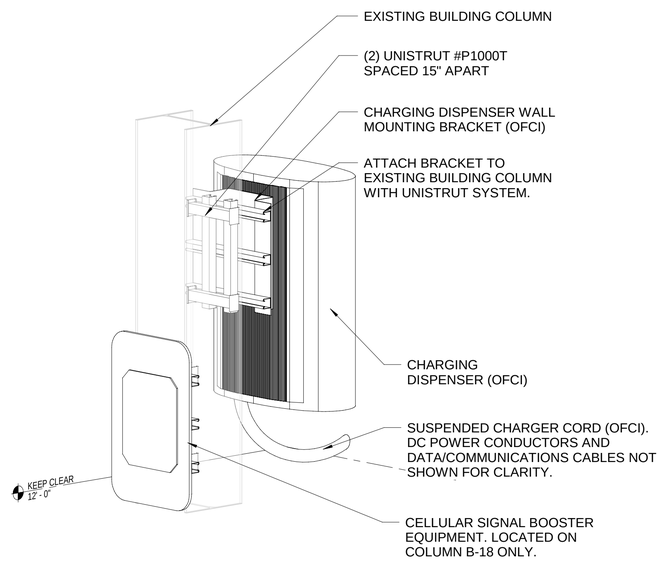
1 ELEVATION - CHARGING DISPENSER - 1

A-500 | REF: A-301 | SCALE: 1/4" = 1'-0"



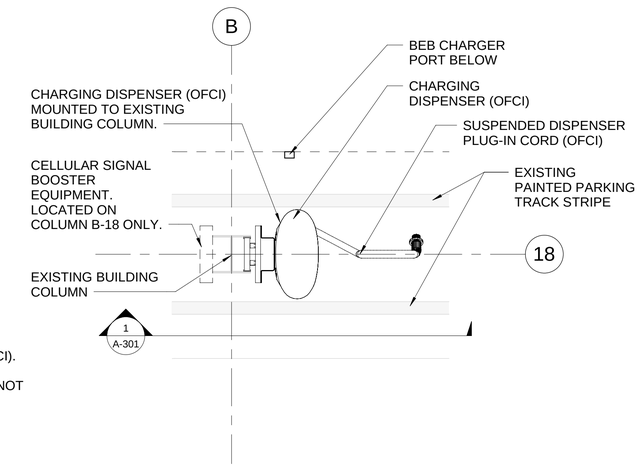
5 3D - CHARGING DISPENSER

A-500 | SCALE:



3 3D VIEW - DISPENSER BRACKET ATTACHMENT

A-500 | SCALE:



2 ENLARGED PLAN - CHARGING DISPENSER

A-500 | REF: A-101A | SCALE: 1/2" = 1'-0"

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KEY PLAN

PROJECT

CHARGE NUMBER

SHEET TITLE

DISPENSER DETAILS

SHEET NUMBER

A-500

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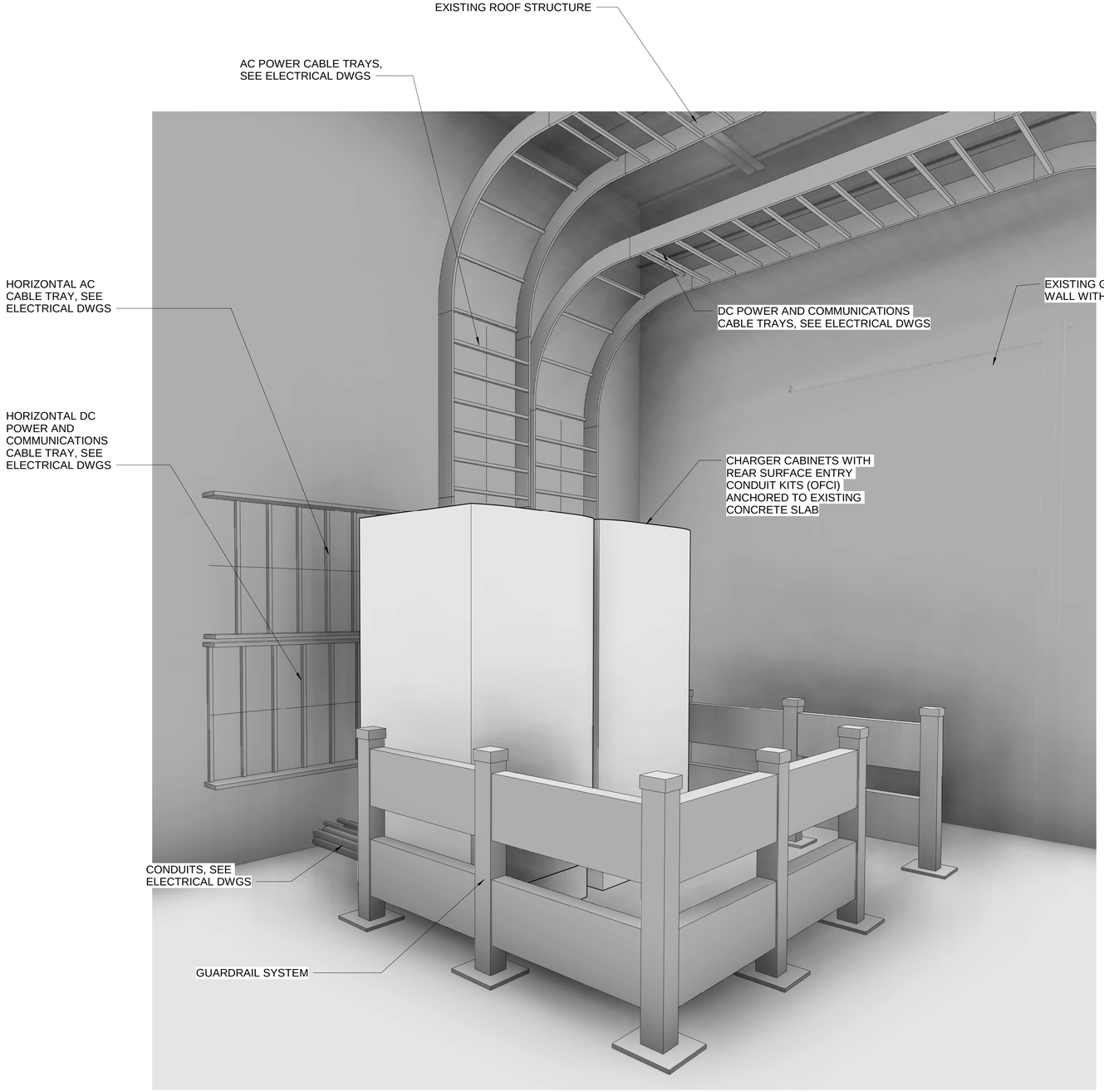

1 | 3D - CHARGERS

A-901 | SCALE: N.T.S.

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KEY PLAN

PROJECT

CHARGE NUMBER

SHEET TITLE

3D VIEWS

SHEET NUMBER

A-901

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WIRING DIAGRAM SYMBOL LIST

SYMBOL	DESCRIPTION
	NORMALLY OPEN CONTACT
	NORMALLY CLOSED CONTACT
OL	OVERLOAD RELAY CONTACT
X-X-0	NORMALLY OPEN (SHOWN) OR NORMALLY CLOSED RESET CONTACT, "X-X-O" DENOTES TIMER SEQUENCE FOR TIMING-TIMED OUT-RESET PERIODS. X - CONTACT CLOSED, O - CONTACT OPEN
C	OPERATING COIL (AR-AUXILIARY RELAY, C-CONTACTOR, CR-CONTROL RELAY, F-FORWARD, LOR-LOCKOUT RELAY, M-MOTOR STARTER, R-REVERSE, TR-TIME DELAY RELAY)
	NORMALLY OPEN CONTACT WITH TIME DELAY CLOSING (ON DELAY)
	NORMALLY CLOSED CONTACT WITH TIME DELAY CLOSING (OFF DELAY)
	NORMALLY OPEN CONTACT WITH TIME DELAY OPENING (OFF DELAY)
	NORMALLY CLOSED CONTACT WITH TIME DELAY OPENING (ON DELAY)
	FLOAT SWITCH - NORMALLY OPEN
	FLOAT SWITCH - NORMALLY CLOSED
	FLOW SWITCH - NORMALLY OPEN
	FLOW SWITCH - NORMALLY CLOSED
	LIMIT SWITCH - NORMALLY OPEN
	LIMIT SWITCH - NORMALLY CLOSED
	LIMIT SWITCH - NORMALLY OPEN, HELD CLOSED
	LIMIT SWITCH - NORMALLY CLOSED, HELD OPEN
	PRESSURE OR VACUUM SWITCH - NORMALLY OPEN
	PRESSURE OR VACUUM SWITCH - NORMALLY CLOSED
	TEMPERATURE SWITCH - NORMALLY OPEN
	TEMPERATURE SWITCH - NORMALLY CLOSED
	TORQUE SWITCH - NORMALLY OPEN
	TORQUE SWITCH - NORMALLY CLOSED
	ON-OFF SWITCH
OFF RUN	SELECTOR SWITCH - 2 POSITION
H O A	SELECTOR SWITCH, 3 POSITION x INDICATES POSITION WHEN CONTACT IS CLOSED
	NORMALLY OPEN PUSHBUTTON
	NORMALLY CLOSED PUSHBUTTON
L O S	PUSHBUTTON - LOCK OUT STOP
A	INDICATING LIGHT (A-AMBER, B-BLUE, G-GREEN, R-RED, W-WHITE, Y-YELLOW)
R	PUSH TO TEST INDICATING LIGHT
	THERMAL OVERLOAD ELEMENT
	BATTERY
RES	RESISTOR

SUBSCRIPT SHOWN ADJACENT TO CONTROL DEVICE SYMBOL:
- ▫ - DEVICE LOCATED REMOTE
- △ - DEVICE LOCATED IN CONTROL PANEL
- ○ - DEVICE LOCATED AT MOTOR
- ◦ - DEVICE LOCATED AT MOTOR STARTER

SINGLE LINE DIAGRAM SYMBOL LIST

SYMBOL	DESCRIPTION
?52XXT YYYAF ZZZAT	MOLDED CASE CIRCUIT BREAKER ? = VOLTAGE 1 = 480/277V, 2 = 208/120V, 3 = 240/120V 52 = CIRCUIT BREAKER XX = SEQUENCE NO. M= MAIN, N= NORMAL, G= GENERATOR, T= TIE, F= FEEDER YYYAF = AMPERE FRAME SIZE ZZZAT = AMPERE TRIP RATING
?52XXT YYYAF ZZZAT	DRAWOUT POWER CIRCUIT BREAKER ? = VOLTAGE 1 = 480/277V, 2 = 208/120V 52 = CIRCUIT BREAKER M= MAIN, N= NORMAL, G= GENERATOR, T= TIE, F= FEEDER XX = SEQUENCE NO. YYYAF = AMPERE FRAME SIZE ZZZAT = AMPERE TRIP RATING
?52XXT YYYAF ZZZAT	DRAWOUT POWER CIRCUIT BREAKER WITH CURRENT LIMITING FUSE ? = VOLTAGE 1 = 480/277V, 2 = 208/120V 52 = CIRCUIT BREAKER M= MAIN, N= NORMAL, G= GENERATOR, T= TIE, F= FEEDER XX = SEQUENCE NO. YYYAF = AMPERE FRAME SIZE ZZZAT = AMPERE TRIP RATING
YYYAF ZZZAT (1) FVNR	MOTOR CONTROL CENTER CIRCUIT BREAKER TYPE STARTER YYYAF = AMPERE FRAME SIZE ZZZAT = AMPERE TRIP RATING (1) DENOTES NEMA SIZE 1 FVNR DENOTES MOTOR STARTER TYPE AS LISTED: FVNR - FULL VOLTAGE NON - REVERSING FVR - FULL VOLTAGE REVERSING TS1W - TWO SPEED - SINGLE WINDING MOTOR TS2W - TWO SPEED - TWO WINDING MOTOR YDO - WYE-DELTA STARTER - OPEN TRANSITION YDC - WYE-DELTA STARTER - CLOSED TRANSITION RDPR - REDUCED VOLTAGE STARTER - PRIMARY RESISTOR RDAT - REDUCED VOLTAGE STARTER - AUTOTRANSFORMER
YYYAF ZZZAT	LOCAL CIRCUIT BREAKER YYYAF = AMPERE FRAME SIZE ZZZAT = AMPERE TRIP RATING
XXA	LOCAL CONTACTOR XXA = AMPERE RATING
YYYAF ZZZAT (1) FVNR	LOCAL MOTOR STARTER CIRCUIT BREAKER TYPE YYYAF = AMPERE FRAME SIZE ZZZAT = AMPERE TRIP RATING (1) DENOTES NEMA SIZE 1 FVNR DENOTES MOTOR STARTER TYPE AS LISTED: FVNR - FULL VOLTAGE NON - REVERSING FVR - FULL VOLTAGE REVERSING TS1W - TWO SPEED - SINGLE WINDING MOTOR TS2W - TWO SPEED - TWO WINDING MOTOR YDO - WYE-DELTA STARTER - OPEN TRANSITION YDC - WYE-DELTA STARTER - CLOSED TRANSITION RDPR - REDUCED VOLTAGE STARTER - PRIMARY RESISTOR RDAT - REDUCED VOLTAGE STARTER - AUTOTRANSFORMER
(1) FVNR	LOCAL MOTOR STARTER (CONTACTOR ONLY) (1) DENOTES NEMA SIZE 1 FVNR DENOTES MOTOR STARTER TYPE AS LISTED: FVNR - FULL VOLTAGE NON - REVERSING FVR - FULL VOLTAGE REVERSING TS1W - TWO SPEED - SINGLE WINDING MOTOR TS2W - TWO SPEED - TWO WINDING MOTOR YDO - WYE-DELTA STARTER - OPEN TRANSITION YDC - WYE-DELTA STARTER - CLOSED TRANSITION RDPR - REDUCED VOLTAGE STARTER - PRIMARY RESISTOR RDAT - REDUCED VOLTAGE STARTER - AUTOTRANSFORMER
	EQUIPMENT ENCLOSURE SURROUNDING MULTIPLE ITEMS

SINGLE LINE DIAGRAM SYMBOL LIST

SYMBOL	DESCRIPTION
XXAS YYAF (1) FVNR	MOTOR CONTROL CENTER FUSED SWITCH TYPE STARTER XXAS = AMPERE RATING OF SWITCH YYAF = AMPERE RATING OF FUSE (1) DENOTES NEMA SIZE 1 FVNR DENOTES MOTOR STARTER TYPE AS LISTED: FVNR - FULL VOLTAGE NON - REVERSING FVR - FULL VOLTAGE REVERSING TS1W - TWO SPEED - SINGLE WINDING MOTOR TS2W - TWO SPEED - TWO WINDING MOTOR YDO - WYE-DELTA STARTER - OPEN TRANSITION YDC - WYE-DELTA STARTER - CLOSED TRANSITION RDPR - REDUCED VOLTAGE STARTER - PRIMARY RESISTOR RDAT - REDUCED VOLTAGE STARTER - AUTOTRANSFORMER
XXAS YYAF (1) FVNR	LOCAL MOTOR STARTER FUSED SWITCH TYPE XXAS = AMPERE RATING OF SWITCH YYAF = AMPERE RATING OF FUSE (1) DENOTES NEMA SIZE 1 FVNR DENOTES MOTOR STARTER TYPE AS LISTED: FVNR - FULL VOLTAGE NON - REVERSING FVR - FULL VOLTAGE REVERSING TS1W - TWO SPEED - SINGLE WINDING MOTOR TS2W - TWO SPEED - TWO WINDING MOTOR YDO - WYE-DELTA STARTER - OPEN TRANSITION YDC - WYE-DELTA STARTER - CLOSED TRANSITION RDPR - REDUCED VOLTAGE STARTER - PRIMARY RESISTOR RDAT - REDUCED VOLTAGE STARTER - AUTOTRANSFORMER
MCP-15 (1) FVNR	MOTOR CONTROL CENTER MOTOR CIRCUIT PROTECTOR TYPE STARTER 15 DENOTES 15 AMPERE CONTINUOUS RATING (1) DENOTES NEMA SIZE 1 FVNR DENOTES MOTOR STARTER TYPE AS LISTED: FVNR - FULL VOLTAGE NON - REVERSING FVR - FULL VOLTAGE REVERSING TS1W - TWO SPEED - SINGLE WINDING MOTOR TS2W - TWO SPEED - TWO WINDING MOTOR YDO - WYE-DELTA STARTER - OPEN TRANSITION YDC - WYE-DELTA STARTER - CLOSED TRANSITION RDPR - REDUCED VOLTAGE STARTER - PRIMARY RESISTOR RDAT - REDUCED VOLTAGE STARTER - AUTOTRANSFORMER
MCP-15 (1) FVNR	LOCAL MOTOR STARTER MOTOR CIRCUIT PROTECTOR TYPE 15 DENOTES 15 AMPERE CONTINUOUS RATING (1) DENOTES NEMA SIZE 1 FVNR DENOTES MOTOR STARTER TYPE AS LISTED: FVNR - FULL VOLTAGE NON - REVERSING FVR - FULL VOLTAGE REVERSING TS1W - TWO SPEED - SINGLE WINDING MOTOR TS2W - TWO SPEED - TWO WINDING MOTOR YDO - WYE-DELTA STARTER - OPEN TRANSITION YDC - WYE-DELTA STARTER - CLOSED TRANSITION RDPR - REDUCED VOLTAGE STARTER - PRIMARY RESISTOR RDAT - REDUCED VOLTAGE STARTER - AUTOTRANSFORMER
600A 200E	MEDIUM VOLTAGE FUSED SWITCH "600A" DENOTES 600 AMPERE RATING "200E" DENOTES FUSE 200 AMPERE RATING AND CLASS E
600A	MEDIUM VOLTAGE NON-FUSED SWITCH "600A" DENOTES 600 AMPERE RATING
15	FUSE "15" DENOTES 15 AMPERE RATING
200E	DRAWOUT MEDIUM VOLTAGE FUSE AND CONTACTOR WITH DISCONNECT "200E" DENOTES FUSE 200 AMPERE RATING AND CLASS E

SINGLE LINE DIAGRAM SYMBOL LIST

SYMBOL	DESCRIPTION
XXA	LOCAL DISCONNECT SWITCH "XX" DENOTES SWITCH RATING IN AMPERES
E	SWITCH AS SPECIFIED E = DENOTES ELECTRIC OPERATOR
E	CIRCUIT BREAKER AS SPECIFIED E = DENOTES SHUNT TRIP
XXAS YYAF	FUSED SWITCH XXAS = AMPERE RATING OF SWITCH YYAF = AMPERE RATING OF FUSE
	SEPARABLE CONNECTORS
	SEPARABLE CONNECTOR, PANEL SPACE
52 ?XXTM	DRAWOUT MEDIUM VOLTAGE CIRCUIT BREAKER "52" DENOTES CIRCUIT BREAKER "?" DENOTES VOLTAGE NONE = 4160V, 15 = 15KV, 27 = 27KV, 38 = 38KV "XX" DENOTES SEQUENCE NO. "T" DENOTES CLASSIFICATION M= MAIN, N= NORMAL, G= GENERATOR, T= TIE, F= FEEDER
T-00 500 XXX-YYY 3PH, 4W AA/FA	TRANSFORMER, UNGROUNDED "T-00" DENOTES TRANSFORMER IDENTIFICATION NUMBER "500" DENOTES AMBIENT AIR KVA RATING "750" DENOTES FORCED AIR KVA RATING "XXX" DENOTES PRIMARY VOLTAGE "YYY" DENOTES SECONDARY VOLTAGE "3 PH, 4 W" DENOTES PHASE AND WIRE "AA/FA" DENOTES COOLING RATINGS AA - AIR COOLED FA - FORCED AIR COOLED
T-00 500 XXX-YYY 3PH, 4W AA/FA	TRANSFORMER, GROUNDED "T-00" DENOTES TRANSFORMER IDENTIFICATION NUMBER "500" DENOTES AMBIENT AIR KVA RATING "750" DENOTES FORCED AIR KVA RATING "XXX" DENOTES PRIMARY VOLTAGE "YYY" DENOTES SECONDARY VOLTAGE "3 PH, 4 W" DENOTES PHASE AND WIRE "AA/FA" DENOTES COOLING RATINGS AA - AIR COOLED FA - FORCED AIR COOLED
480/120	POTENTIAL TRANSFORMER "480/120" DENOTES RATIO
XXX-YYY	POTENTIAL TRANSFORMER "XXX" DENOTES PRIMARY VOLTAGE "YYY" DENOTES SECONDARY VOLTAGE

NOTES:

1. THIS IS AN OFFICE STANDARD SYMBOL AND ABBREVIATION LIST. ALL SYMBOLS AND ABBREVIATIONS DO NOT NECESSARILY APPEAR ON THIS PROJECT.

AECOM

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CLIENT

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KCATA

1200 E. 18th Street
Kansas City, MO 64108

ENGINEER

AECOM

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REGISTRATION

STATE OF MISSOURI
ROBERT J. SMOLINSKI
NUMBER PE-2018003142
REGISTERED PROFESSIONAL ENGINEER

ISSUE

MARK	DATE	DESCRIPTION
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KEY PLAN

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CHARGE NUMBER

SHEET TITLE

ELECTRICAL - SYMBOLS AND ABBREVIATIONS

SHEET NUMBER

E-001

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POWER PLAN SYMBOL LIST

SYMBOL	DESCRIPTION
1	MOTOR "1" DENOTES 1 HORSEPOWER
G	GENERATOR
J	jUNCTION BOX
XXA FYYA	DISCONNECT SWITCH "XX" DENOTES SWITCH RATING IN AMPERES "F" DENOTES FUSED "YY" DENOTES FUSE SIZE
(1)	FULL VOLTAGE NON-REVERSING MOTOR STARTER (1) DENOTES NEMA 1 SIZE
(1)	FULL VOLTAGE NON-REVERSING MOTOR STARTER WITH CIRCUIT BREAKER OR FUSED SWITCH, AS SPECIFIED (1) DENOTES NEMA 1 SIZE
(1)	FULL VOLTAGE REVERSING MOTOR STARTER (1) DENOTES NEMA 1 SIZE
(1)	FULL VOLTAGE REVERSING MOTOR STARTER WITH CIRCUIT BREAKER OR FUSED SWITCH, AS SPECIFIED (1) DENOTES NEMA 1 SIZE
YY-XXX1	POWER OR DISTRIBUTION PANELBOARD - 480 VOLT "YY-XX1" DENOTES EQUIPMENT IDENTIFICATION NUMBER
YY-XXX1	DISTRIBUTION PANELBOARD - 208 VOLT OR 240 VOLT "YY-XX1" DENOTES EQUIPMENT IDENTIFICATION NUMBER
YY-XXX1	LIGHTING AND RECEPTACLE PANELBOARD "YY-XX1" DENOTES EQUIPMENT IDENTIFICATION NUMBER
YY-XXX1	EMERGENCY PANELBOARD "YY-XX1" DENOTES EQUIPMENT IDENTIFICATION NUMBER
YY-XXX1	MISCELLANEOUS PANELS AND CABINETS "YY-XX1" DENOTES EQUIPMENT IDENTIFICATION NUMBER
	EQUIPMENT CABINET AS IDENTIFIED
	REMOTE TELEMETRY SYSTEM CABINET
CP	CONTROL PANEL OR TERMINAL BOX ON AN ITEM OF EQUIPMENT REQUIRING ELECTRICAL CONNECTION
YY-XX1	EQUIPMENT ENCLOSURE, "YY-XX" DENOTES EQUIPMENT IDENTIFICATION NUMBER
T-XX1	TRANSFORMER "T-XX1" DENOTES TRANSFORMER IDENTIFICATION NUMBER
VFD-XX1	VARIABLE FREQUENCY DRIVE "VFD-XX1" DENOTES VFD IDENTIFICATION NUMBER
WH-XX1 WH	WATER HEATER "WH-XX1" DENOTES WATER HEATER IDENTIFICATION NUMBER

POWER PLAN SYMBOL LIST

SYMBOL	DESCRIPTION
EUH-XX1 1	ELECTRIC UNIT HEATER "EUH-XX1" DENOTES UNIT HEATER IDENTIFICATION NUMBER "1" INDICATES 1 KW RATING
7 UH-XX1 EUH-XX1	UNIT HEATER "UH-XX1" DENOTES UNIT HEATER IDENTIFICATION NUMBER "EUH-XX1" DENOTES ELECTRIC UNIT HEATER IDENTIFICATION NUMBER ARROW INDICATES DIRECTION OF AIR-FLOW "7" INDICATES 7KW RATING WHEN ELECTRIC UNIT HEATER
2 X	SINGLE RECEPTACLE 20A-2P-3W-120V, NEMA 5-20R, 1'-6" AFF OR AS NOTED "2" DENOTES CIRCUIT NUMBER 2 "X" DENOTES SUBSCRIPT LETTER, SEE BELOW
2 X	DUPLEX RECEPTACLE 20A-2P-3W-120V, NEMA 5-20R, 1'-6" AFF OR AS NOTED "2" DENOTES CIRCUIT NUMBER 2 "X" DENOTES SUBSCRIPT LETTER, SEE BELOW
2 X	DOUBLE DUPLEX RECEPTACLE 20A-2P-3W-120V, NEMA 5-20R, 1'-6" AFF OR AS NOTED "2" DENOTES CIRCUIT NUMBER 2 "X" DENOTES SUBSCRIPT LETTER, SEE BELOW
2	DUPLEX RECEPTACLE INSTALLED AS PART OF CABINETRY OR FURNITURE CONNECT AS REQUIRED BY MANUFACTURER "2" DENOTES CIRCUIT NUMBER 2
2	FLOOR OUTLET BOX WITH DUPLEX RECEPTACLE 20A-2P-3W-120V, OR AS NOTED "2" DENOTES CIRCUIT NUMBER 2
2 XX-XX	SPECIAL RECEPTACLE OUTLET 1'-6" AFF OR AS NOTED "XX-XX" DENOTES NEMA RECEPTACLE CONFIGURATION "2" DENOTES CIRCUIT NUMBER 2
2	SPECIAL RECEPTACLE OUTLET AS IDENTIFIED 1'-6" AFF OR AS NOTED "2" DENOTES CIRCUIT NUMBER 2
600A	GENERATOR PLUG-IN RECEPTACLE WEATHERPROOF INCLUDING = CONNECTOR, RECEPTACLE, BOX, PLUG, INLET, CAP, ETC. U.L. LISTED WATERTIGHT 600A DENOTES 600 AMPERE RATING
ELEC	UNDERGROUND DUCTBANK ELECTRICAL
H	ELECTRICAL HANDHOLE

SUBSCRIPT:

LETTER "X" SHOWN ADJACENT TO RECEPTACLE SYMBOLS DENOTES:

C - ABOVE COUNTER

EXPL - EXPLOSION PROOF (NEMA 7, GFI & WP)

EWC - ELECTRIC WATER COOLER

GFI - GROUND FAULT CIRCUIT INTERRUPTER

IG - ISOLATED GROUND

SM - SURFACE MOUNTED

UPS - UNINTERRUPTIBLE POWER SYSTEM CIRCUIT

WP - WEATHERPROOF

POWER PLAN SYMBOL LIST

SYMBOL	DESCRIPTION
A S R	ALARM STATION INCLUDES RELAY ENCLOSURE AND ALARM BEACON WITH HORN "R" DENOTES REMOTE ALARM BEACON WITH HORN ONLY
HOA	HAND-OFF-AUTO CONTROL STATION
	PUSHBUTTON STATION (ONE, TWO OR THREE UNIT)
X X	CONTROL DEVICE: "X X" DENOTES TYPE AS LISTED: CS - CONTROL STATION CTR - CONTACTOR FOR POWER CIRCUIT DM - DAMPER MOTOR DPS - DIFFERENTIAL PRESSURE SWITCH DS - DOOR SWITCH EP - ELECTRO-PNEUMATIC VALVE ETM - ELAPSED TIME METER FLS - FLOAT SWITCH FS - FLOW SWITCH LC - LIGHTING CONTACTOR FOR LOCAL CONTROL LS - LEVEL SWITCH PC - PHOTOCELL PE - PNEUMATIC/ELECTRIC SWITCH PS - PRESSURE SWITCH SPC - SAFETY PULL CORD SV - SOLENOID VALVE TS - THERMOSTAT TQS - TORQUE SWITCH VSW - VACUUM SWITCH ZS - LIMIT SWITCH
$ 2 XX	SINGLE POLE TOGGLE SWITCH, 3'-6" AFF "2" DENOTES CIRCUIT NUMBER 2 "XX" DENOTES TYPE AS LISTED: BLANK - SINGLE POLE SWITCH 3W - THREE WAY SWITCH 4W - FOUR WAY SWITCH D - DIMMER SWITCH FOR LIGHTING SYSTEM (600 WATTS) DX - DIMMER SWITCH FOR LIGHTING SYSTEM (1500 WATTS) DS - DOOR SWITCH K - KEY OPERATED SWITCH L - LOW VOLTAGE SWITCH MC - MOMENTARY CONTACT SWITCH MS - MOTOR DISCONNECT SWITCH P - SWITCH WITH PILOT LIGHT T - MOTOR STARTING SWITCH WITH THERMAL OVERLOAD AND PILOT LIGHT TS - TIME SWITCH
$ 2a $ 2b	TWO-POLE SINGLE THROW TOGGLE SWITCH, 3'-6" AFF "2a" DENOTES CIRCUIT NUMBER AND SWITCH LEG "2b" DENOTES CIRCUIT NUMBER AND SWITCH LEG

SECURITY SYSTEM SYMBOL LIST

SYMBOL	DESCRIPTION
SCP	INTRUSION ALARM SYSTEM CONTROL EQUIPMENT
DC	DOOR CONTACT
P	28VAC POWER SUPPLY IN WEATHERPROOF ENCLOSURE
K	KEY PAD (DOOR SECURITY)
CCTV	CCTV SYSTEM CONTROL EQUIPMENT
CMC	CCTV MONITOR CONSOLE
CC PTZ	CCTV FIX FOCUS CAMERA, ARROW INDICATES AIMING DIRECTION "PTZ" INDICATES PAN-TILT AND MOTORIZED ZOOM LENS CAMERA WITH RECEIVER "D" INDICATES NEW DOME STYLE PTZ CAMERA "180" CAMERA WITH 180 DEGREE PANORAMIC LENS
	DOOR PUSH BUTTON STATION, 3'-6" AFF
	FENCE PERIMETER DETECTORS
CR	CARD READER
ES	ELECTRIC DOOR STRIKE
RTE	REQUEST EXIT DEVICE
MS	MOTION SENSOR

CHLORINE ALARM SYMBOL LIST

SYMBOL	DESCRIPTION
C	CHLORINE EMERGENCY EVAC LIGHTED SIGN
C	CHOLORINE EMERGENCY EVAC HORN

NOTES:

1. THIS IS AN OFFICE STANDARD SYMBOL AND ABBREVIATION LIST. ALL SYMBOLS AND ABBREVIATIONS DO NOT NECESSARILY APPEAR ON THIS PROJECT.

AECOM

PROJECT

2021 Low No Grant Chargers & Dispensers

CLIENT

Kansas City Area Transportation Authority

KCATA

1200 E. 18th Street
Kansas City, MO 64108

ENGINEER

AECOM

AECOM TECHNICAL SERVICES, INC.
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MINNEAPOLIS, MN 55402
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REGISTRATION

STATE OF MISSOURI ★ REGISTERED ★ PROFESSIONAL ★ ENGINEER
ROBERT J. SMOLINSKI
NUMBER PE-2018003142

ISSUE

MARK	DATE	DESCRIPTION
	2/16/2026	RECORD DRAWINGS

KEY PLAN

PROJECT

CHARGE NUMBER

SHEET TITLE

ELECTRICAL - SYMBOLS AND ABBREVIATIONS

SHEET NUMBER

E-002

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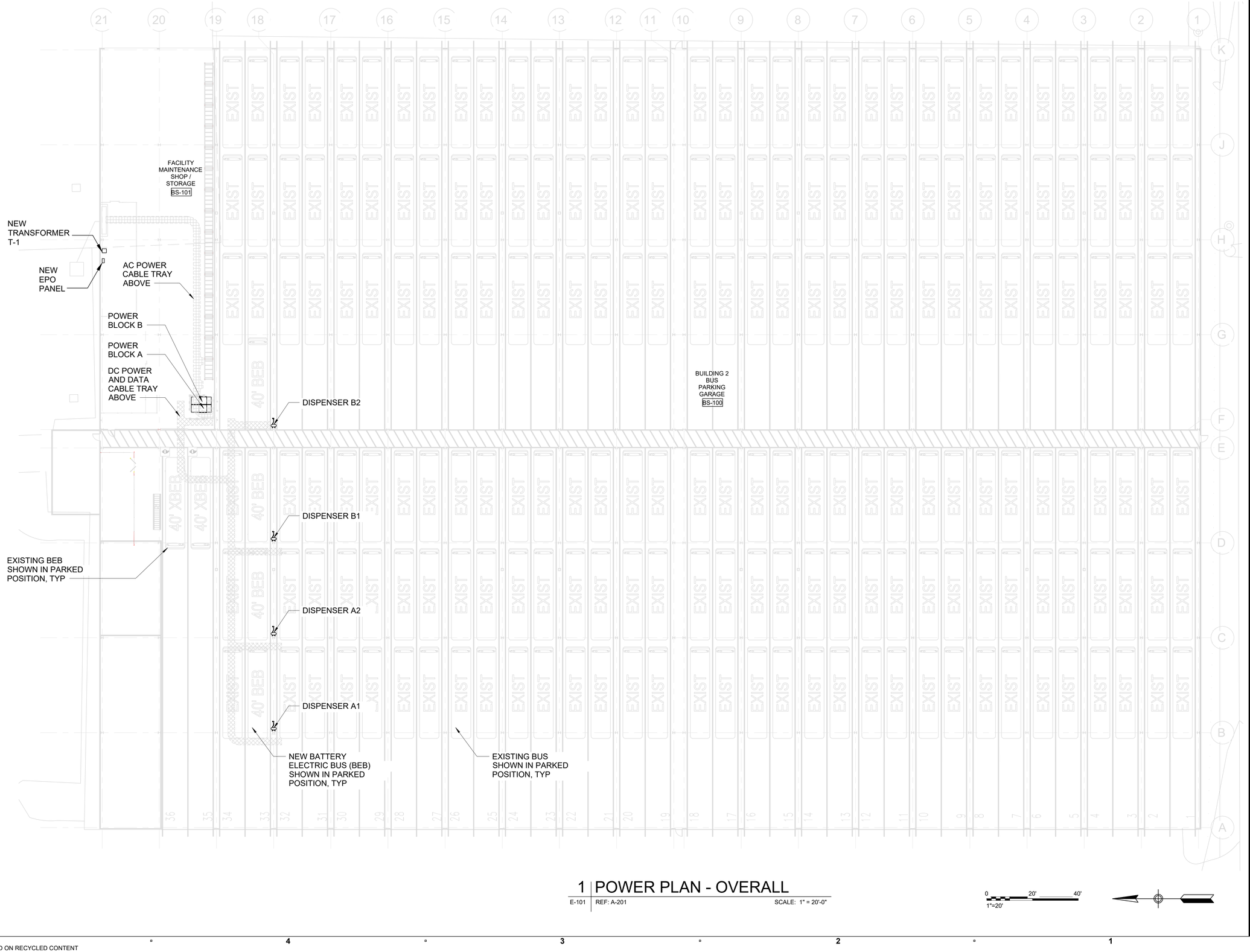

1 POWER PLAN - OVERALL

E-101 | REF: A-201 | SCALE: 1" = 20'-0"

0 20' 40'
1"=20'

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FIRST FLOOR POWER PLAN OVERALL

SHEET NUMBER

E-101

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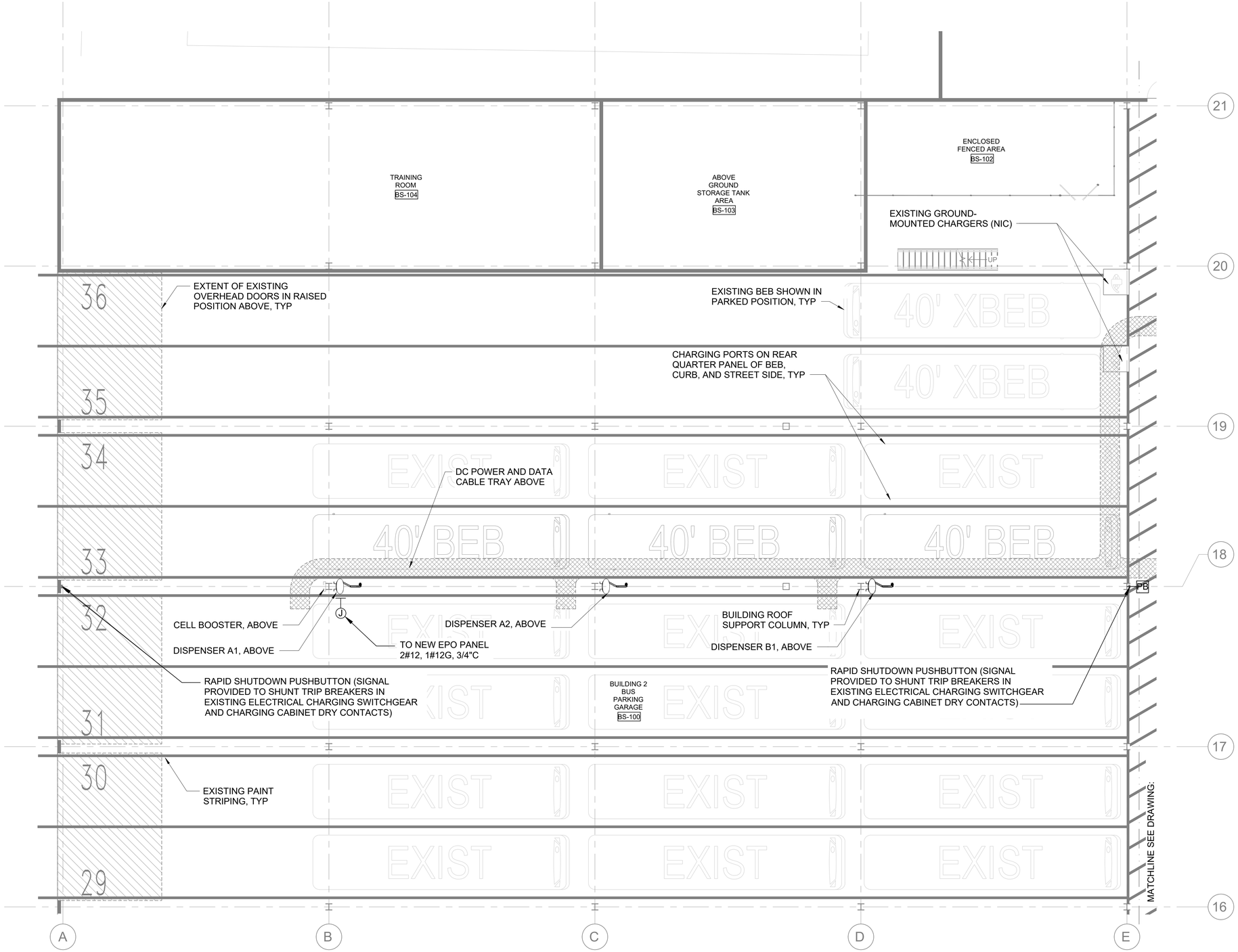

NOTES:

1. CONTRACTOR TO PROVIDE CABLE SUPPORT BRACING FROM CABLE TRAY TO EACH DISPENSER.

1 | ENLARGED POWER PLAN - BAY A

E-101A | REF: E-101 SCALE: 1/8" = 1'-0"

0 2 4 6 11 16
1/8"=1'-0"

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SHEET TITLE

ENLARGED POWER PLAN - BAY A

SHEET NUMBER

E-101A

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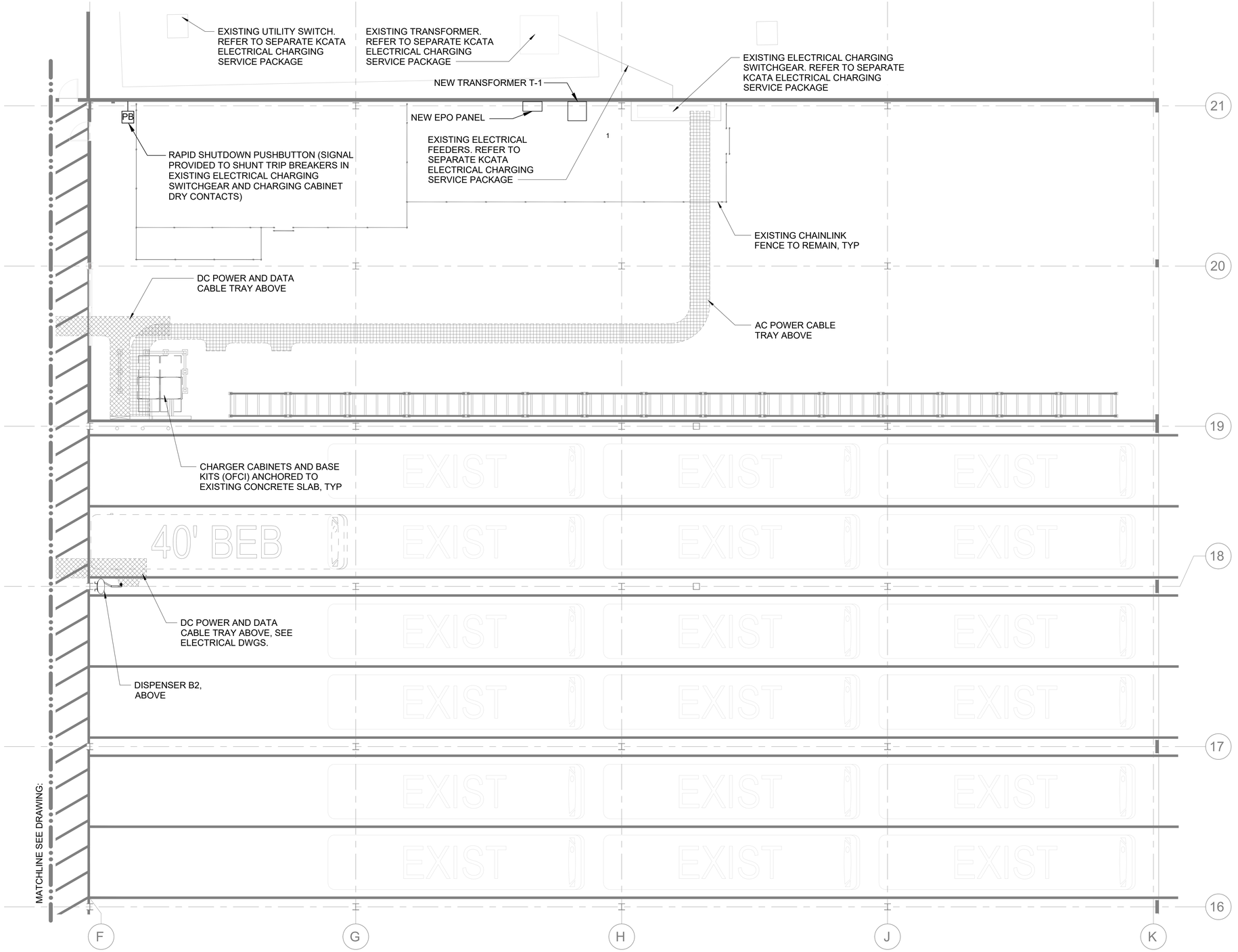

1 ENLARGED POWER PLAN - BAY B

E-101B | REF: E-101 | SCALE: 1/8" = 1'-0"

0 2 4 6 11 16
1/8"=1'-0"

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ENLARGED POWER PLAN - BAY B

SHEET NUMBER

E-101B

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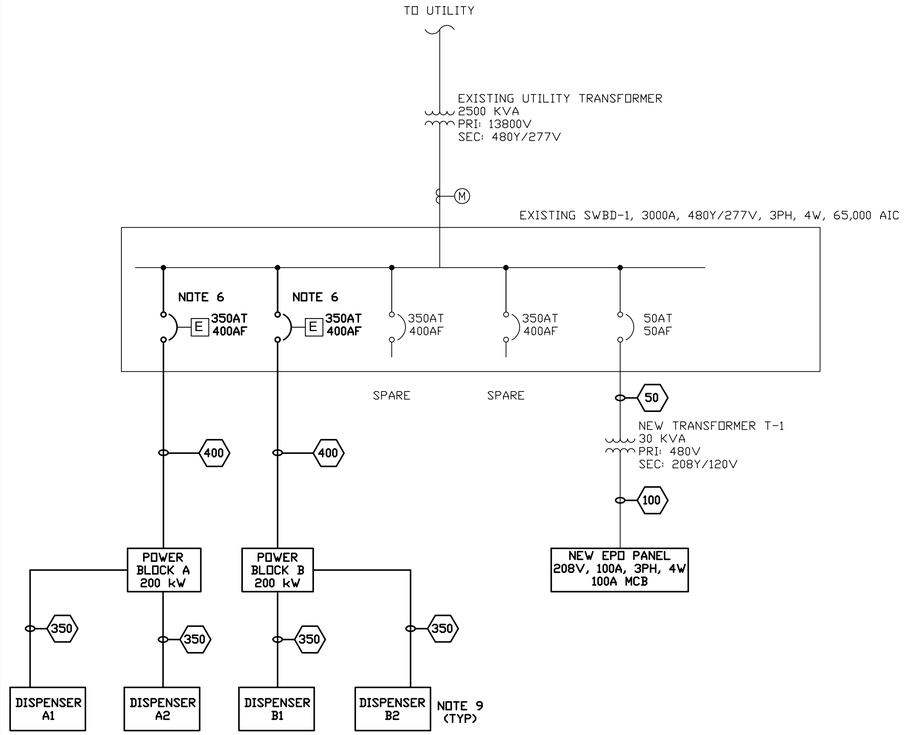


1 | SINGLE-LINE DIAGRAM

E-401 | REF: E-101 | SCALE: N/A

FEEDER SCHEDULE

(350) 2#250MCM, 1#2 AWG GND, XHHW-2, 1000V RATED, IN CABLE TRAY

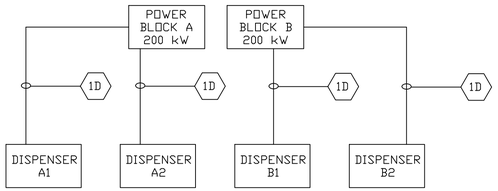
(400) 2 SETS OF 3#3/0 AWG, 1#3 AWG GND, XHHW-2, 1000V RATED, IN CABLE TRAY

(12C) 2#6 AWG CONTROL CABLES, XHHW-2, 1000V RATED

(100) 3#2 AWG, 1#8 AWG GND, 600VAC RATING, IN 1-1/4"C

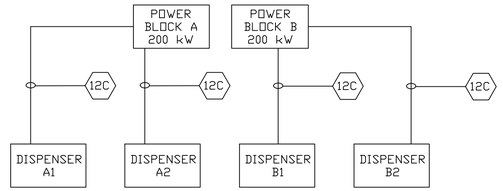
(50) 3#8 AWG, 1#10 AWG GND, 600VAC RATING, IN 3/4"C

(1D) CAT6 SHIELDED TWISTED PAIR (STP), OUTDOOR RATED



2 | ETHERNET BLOCK DIAGRAM

E-401 | REF: E-101 | SCALE: N/A



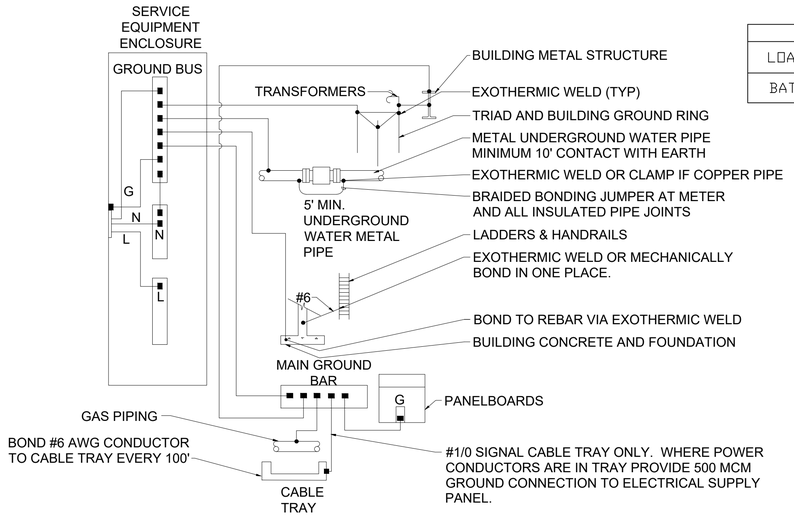
3 | DC CONTROLS BLOCK DIAGRAM

E-401 | REF: E-101 | SCALE: N/A

NOTES:

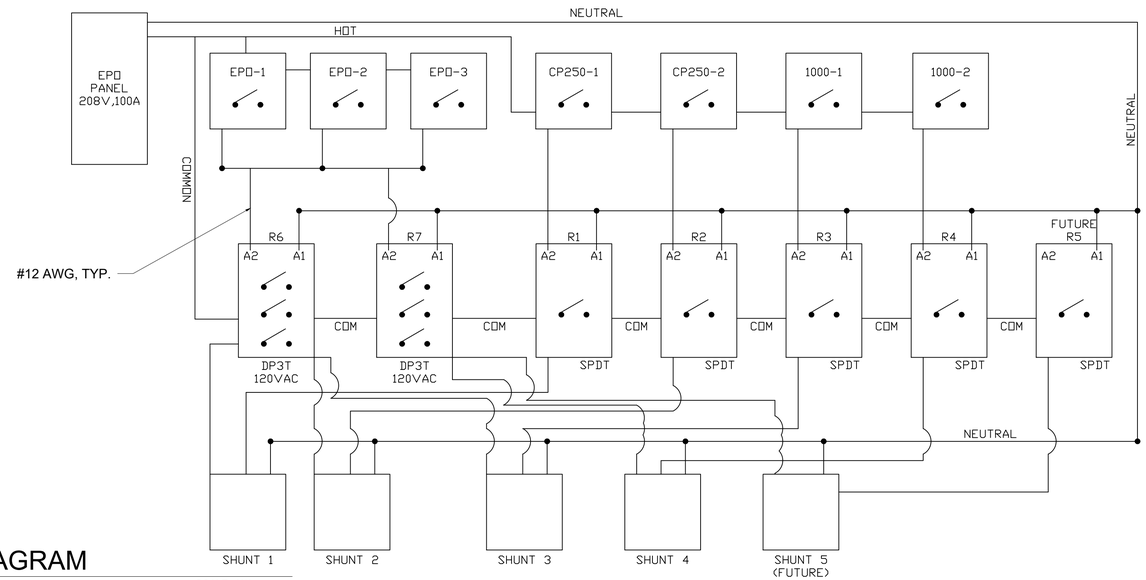
1. SWITCHBOARD IS PROVIDED UNDER A SEPARATE KCATA PROJECT.
2. ALL CONDUCTORS ARE COPPER, THHN INSULATION.
3. ALL GROUNDING ELECTRODE CONDUCTORS AND BONDING JUMPERS ARE #4/0 AWG BARE COPPER UNLESS NOTED OTHERWISE.
4. FAULT CURRENT AT EXISTING UTILITY TRANSFORMER SECONDARY IS 60,141 A. ASSUMING 5% IMPEDANCE (Z%) FOR UTILITY TRANSFORMER.
5. FAULT CURRENT AT 200KW CHARGER IS 5,064 A. ASSUMING 5% IMPEDANCE OF CHARGER.
6. RAPID SHUTDOWN PUSHBUTTON SENDS SIGNAL TO SHUNT TRIP BREAKER AND CHARGER DRY CONTACTS TO DE-ENERGIZE .
7. SHUNT TRIP DEVICES AND WIRING RATED FOR 240VAC.
8. EPO RELAY SYSTEM POWER IS CONNECTED TO CIRCUIT BREAKER #2 AT EPO RELAY PANEL. CONNECTED LOAD IS 600 VA.
9. 350A CHARGEPOINT CABLE IS CCS1 FROM POWER LINK TO BUS CONNECTION POINT.

LOAD CALCULATIONS		
LOAD DESCRIPTION	KW/KVA	AMP AT 480V, 3PH
BATTERY CHARGER	200	260



4 | GROUNDING DETAIL

E-401 | REF: E-101 | SCALE: N/A



5 | EPO DIAGRAM

E-401 | REF: E-101 | SCALE: N/A

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