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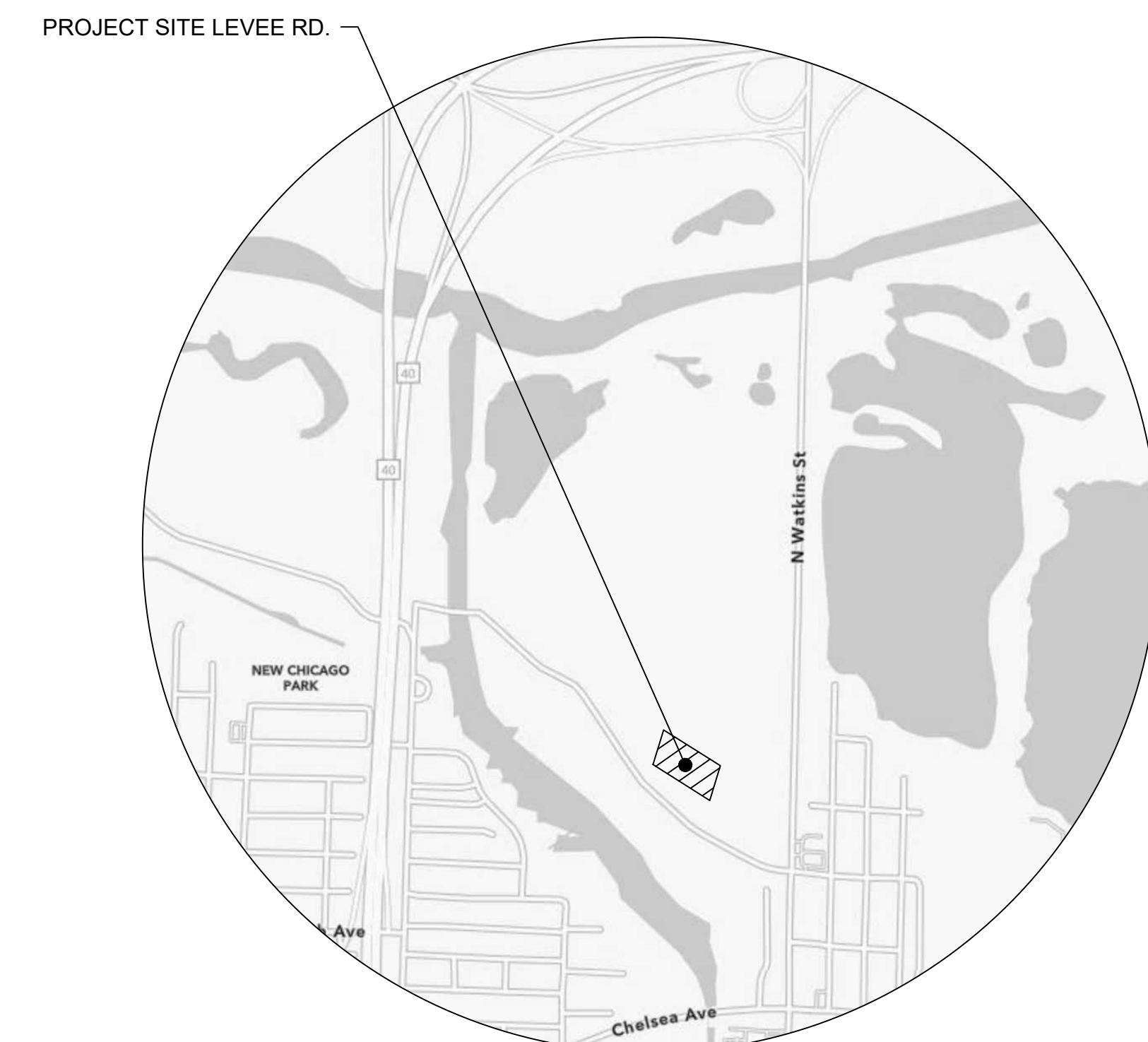
MATA BUS ELECTRIFICATION PHASE 1

FOR

MEMPHIS AREA TRANSIT AUTHORITY
1370 LEVEE ROAD
MEMPHIS, TN 38108

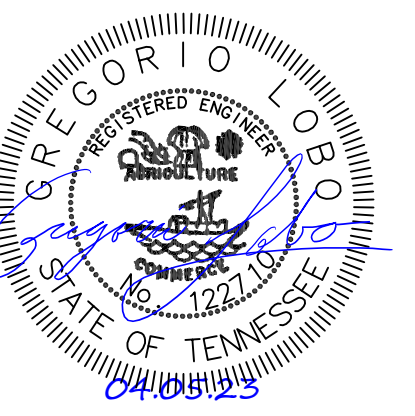


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Memphis, Tennessee 38118
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SCALE: 1"=900'

MARCH 2023



REV	DATE	DESCRIPTION
2	4/5/2023	REVISION 2
1	3/13/2023	REVISION 1

MEMPHIS AREA TRANSIT AUTHORITY
MATA BUS ELECTRIFICATION - PHASE 1
 1370 LEVEE ROAD, MEMPHIS, TN 38108

DRAWN BY	MAM
DESIGNED BY	MAM
CHECKED BY	GUL

SHEET TITLE
ELECTRICAL LEGENDS, INDEX AND DETAILS

DATE	2/17/2023
PROJECT STATUS	CD
SHEET NUMBER	E0.0

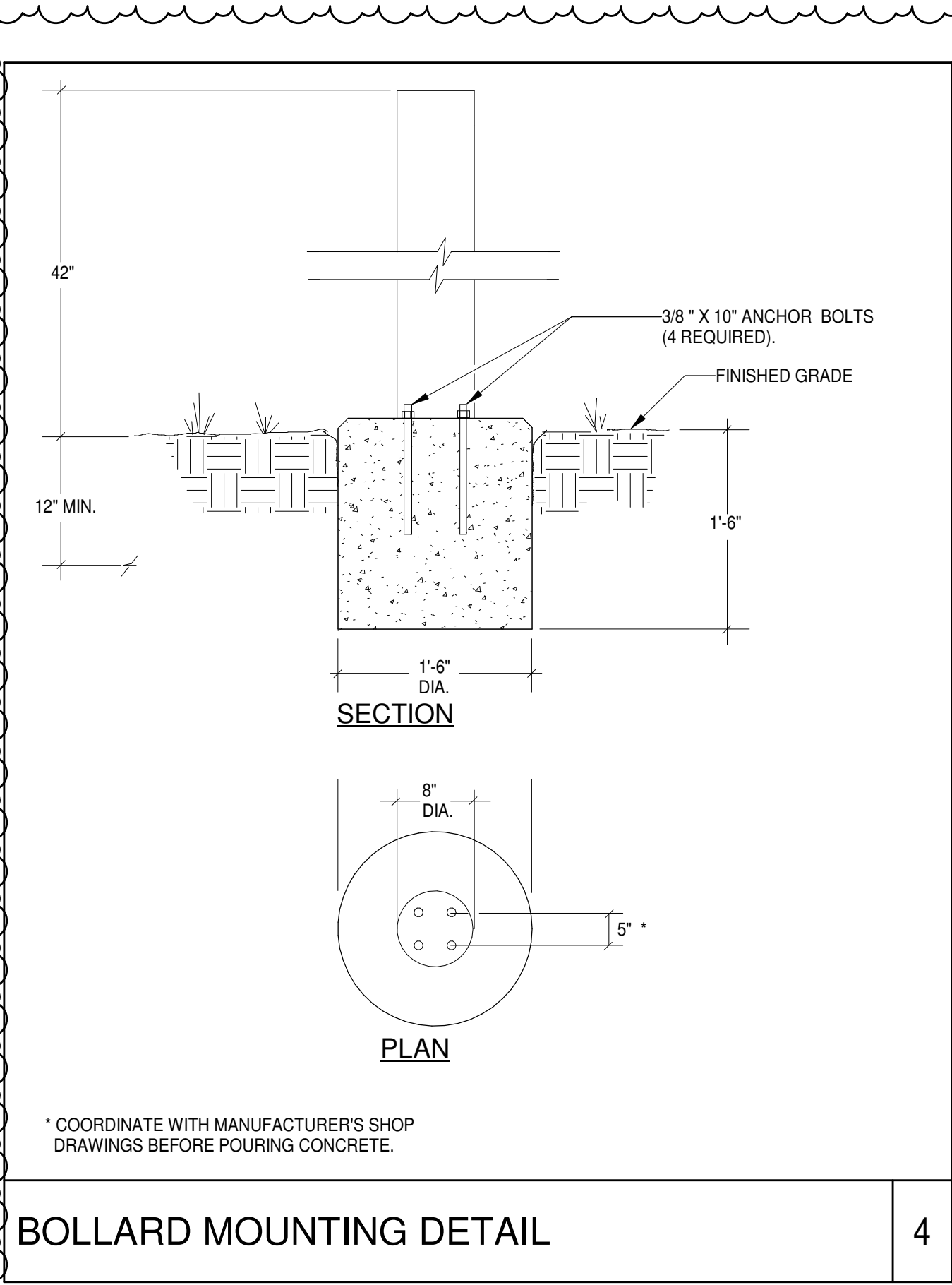
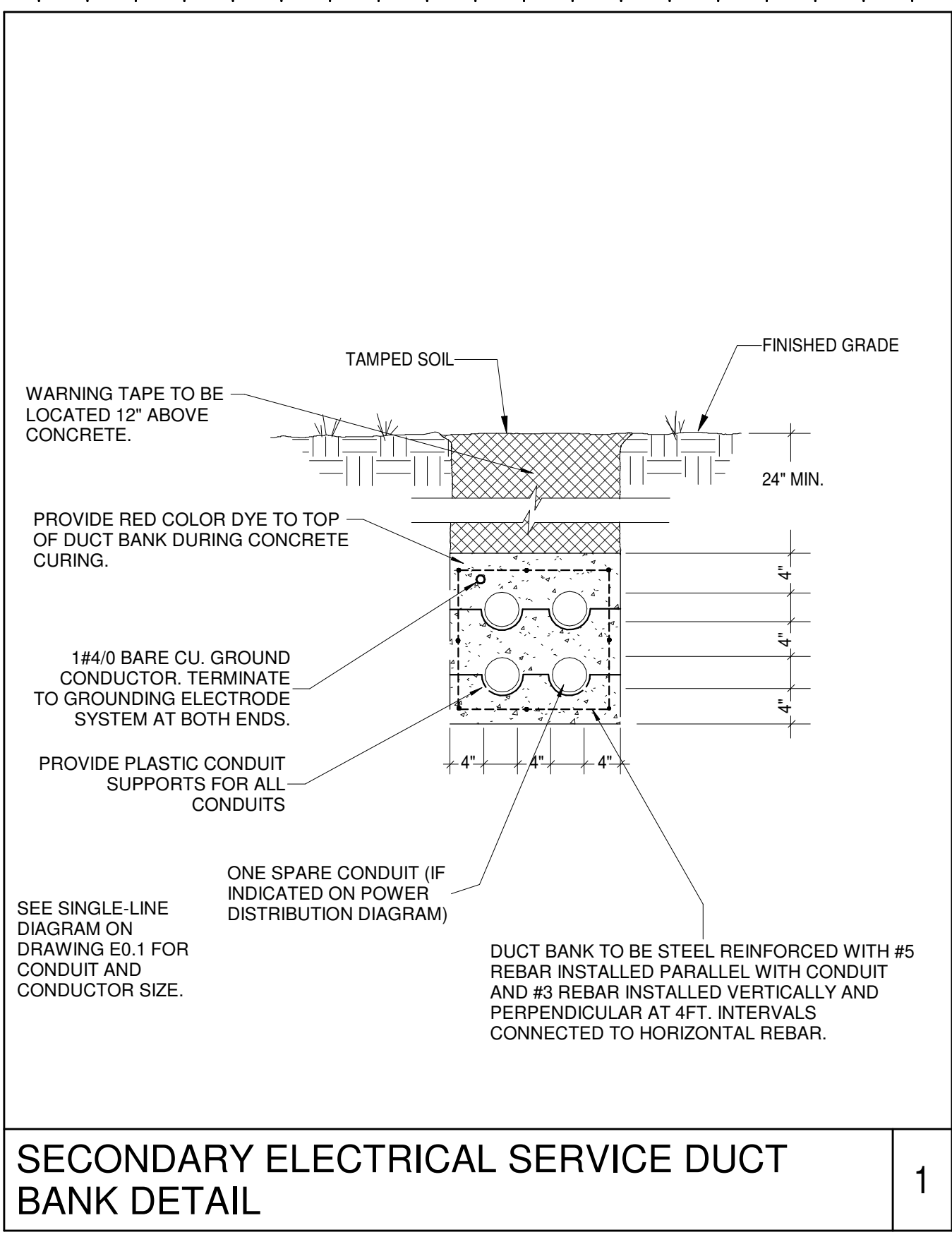
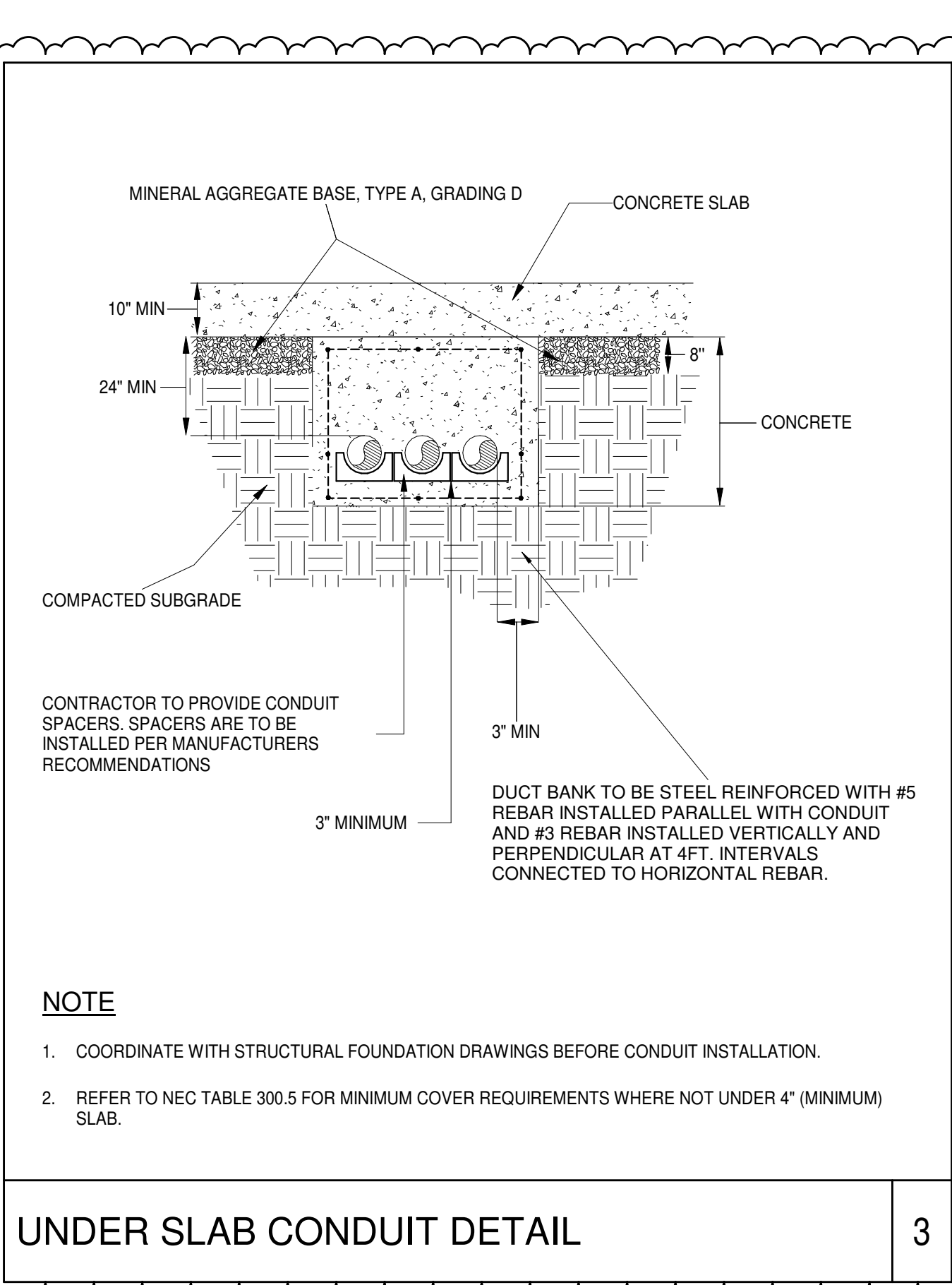
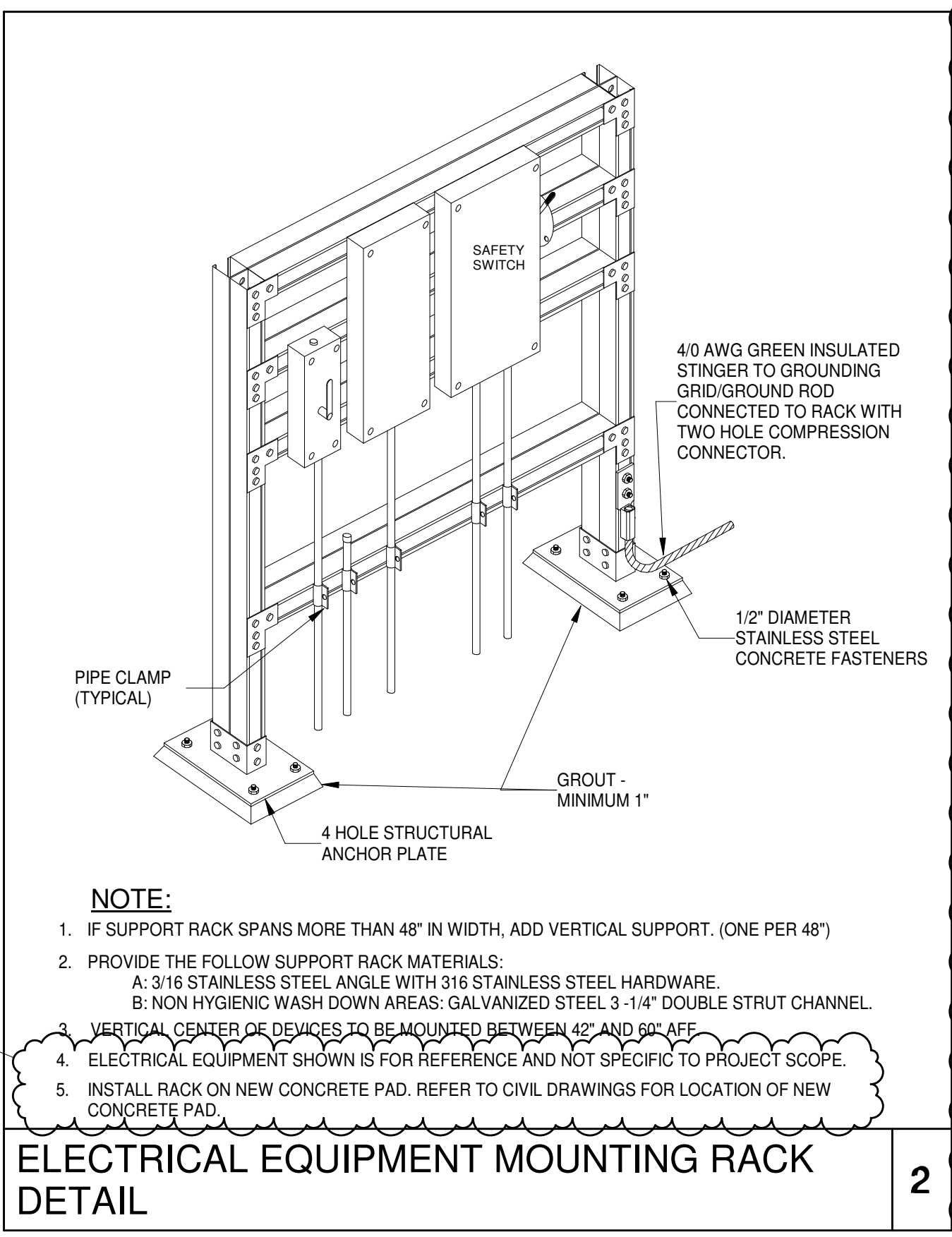
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LEGEND (NOT ALL SYMBOLS MAY BE USED)	
SYMBOL	DESCRIPTION
ABBREVIATIONS	
ABC	ABOVE COUNTER
ADO	AUTOMATIC DOOR OPENER
AFCI	ARC FAULT CIRCUIT INTERRUPTER
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
CLG	CEILING
COF	COFFEE MACHINE
COP	COPIER
CR	CONTROLLED RECEPTACLE
CS	CONTROLLED RECEPTACLE - SPLIT WIRED
DC	DIGITAL CLOCK
DW	DISHWASHER
E	EMERGENCY POWER
EPO	EMERGENCY POWER OFF
EV	ELECTRICAL VEHICLE CHARGING STATION
EWB	ELECTRONIC WHITE BOARD
EWC	ELECTRIC WATER COOLER
FBO	FURNISHED BY OTHERS
FLR	FLOOR MOUNTED
FSD	FIRE/SMOKE DAMPER
GFCI	GROUND FAULT CIRCUIT INTERRUPTER
ICE	ICE MACHINE/MAKER
IG	ISOLATED GROUND
MW	MICROWAVE
PC	PERSONAL COMPUTER WORKSTATION
PR	PRINTER
PT	PNEUMATIC TUBE
RF	REFRIGERATOR
TC	TIME CLOCK
TR	TAMPER RESISTANT
TV	TELEVISION
URF	UNDERCOUNTER REFRIGERATOR
USB	RECEPTACLE WITH USB OUTLET(S)
USBX	USB ONLY (X) = NUMBER OF USB OUTLETS
VFD	VARIABLE FREQUENCY DRIVE
VM	VENDING MACHINE
WP	WEATHERPROOF

EQUIPMENT NOMENCLATURE	
EQUIPMENT IDENTIFICATION TAGS ARE COMPOSED AS FOLLOWS:	
[EQUIPMENT TYPE]	[BRANCH OF POWER] [VOLTAGE] [LEVEL] [LOCATION]
EXAMPLE:	
EQUIPMENT TYPES:	
MSG = MAIN SWITCH GEAR SD = SERVICE DISCONNECT DSG = DISTRIBUTION SWITCHGEAR MSB = MAIN SWITCHBOARD DSB = DISTRIBUTION SWITCHBOARD USB = UNIT SUBSTATION UPS = UNINTERRUPTIBLE POWER SUPPLY MDP = MAIN DISTRIBUTION PANELBOARD DP = DISTRIBUTION PANELBOARD IP = ISOLATED POWER PANELBOARD LP (OR P) = LIGHTING & BRANCH APPLIANCE PANELBOARD	LCP = LIGHTING CONTROL PANEL LRP = LIGHTING RELAY PANEL DCP = DIMMING CONTROL PANEL MCC = MOTOR CONTROL CENTER X = TRANSFORMER G = GENERATOR ATS = AUTOMATIC TRANSFER SWITCH MTS = MANUAL TRANSFER SWITCH WG = WIRING GUTTER EL-# = ELEVATOR (# REPRESENTS CAB) BW = BUSWAY BP = BUS PLUG
BRANCHES OF POWER:	
N = NORMAL E = EMERGENCY C = CRITICAL	S = LIFE SAFETY Q = EQUIPMENT U = UPS
VOLTAGE H = 480/277V L = 208/120V	
LEVELS:	
1 = LEVEL 1 2 = LEVEL 2 3 = LEVEL 3	4 = LEVEL 4 5 = LEVEL 5 6 = LEVEL 6
7 = LEVEL 7 8 = LEVEL 8 9 = LEVEL 9	
AREA / QUAD / SECTOR:	
A = AREA A B = AREA B C = AREA C	D = AREA D E = AREA E F = AREA F
G = AREA G H = AREA H I = AREA I	

LEGEND (NOT ALL SYMBOLS MAY BE USED)	
SYMBOL	DESCRIPTION
MISCELLANEOUS	
	NON-FUSIBLE SAFETY SWITCH, SIZE AS NOTED (AMP RATING/POLES)
	FUSIBLE SAFETY SWITCH, SIZE AS NOTED (AMP RATING/POLES/FUSE SIZE)
	COMBINATION MOTOR STARTER/SAFETY SWITCH
	FACTORY WIRED CONTROLLER OR EQUIPMENT
	MOTOR CONNECTION
	PANELBOARD
	JUNCTION BOX - WALL MOUNTED UNLESS OTHERWISE NOTED
	PUSH BUTTON STATION
	SPECIALTY EQUIPMENT TAG
CIRCUITS AND RACEWAYS	
	CIRCUIT OR RACEWAY CONCEALED OR EXPOSED
	CIRCUIT OR RACEWAY BELOW OR IN FLOOR SLAB OR BELOW GRADE
	CONDUIT OR RACEWAY TURNING UP
	CONDUIT OR RACEWAY TURNING DOWN
	CAPPED CONDUIT OR RACEWAY
	CIRCUIT OR CONDUIT CONTINUATION
	HOMERUN TO PANELBOARD - REFER TO SPECIFICATIONS FOR MINIMUM CONDUIT SIZES.

SHEET INDEX	
NUMBER	SHEET NAME
E0.0	ELECTRICAL LEGENDS, INDEX AND DETAILS
E0.1	ELECTRICAL SPECIFICATIONS AND SCHEDULES
E1.1	ELECTRICAL POWER PLAN
E6.2	RISER DIAGRAM - SERVICE BUILDING CHARGING STATION



4/5/2023 8:32:37 AM C:\Users\globa\Documents\Charging_Station_1_OneLine_REVIT23_GL_globoF4PN6.rvt



REVISION	DATE	DESCRIPTION
2	4/5/2023	REVISION 2
1	3/13/2023	REVISION 1
REV		

MEMPHIS AREA TRANSIT AUTHORITY
MATA BUS ELECTRIFICATION - PHASE 1
1370 LEVEE ROAD, MEMPHIS, TN 38108

DRAWN BY	Author
DESIGNED BY	Designer
CHECKED BY	Checker

SHEET TITLE	
ELECTRICAL SPECIFICATIONS AND SCHEDULES	
DATE	2/17/2023
PROJECT STATUS	CD
SHEET NUMBER	E0.1

ELECTRICAL SPECIFICATIONS

Name: 480V DISTRIBUTION PANEL		Volts: 480/277 Vye	A.I.C. Rating: 65 kA
Location:	Supply From: 1000 KVA UTILITY...	Phases: 3	Mains Type: MCB
Mounting: RACK	Enclosure: NEMA 3R	Wires: 4	Bus Rating: 1200 A
		Feed Thru Lugs: Yes	MCB Rating: 1000 A

CKT	Circuit Description	# of Poles	Frame Size	Trip Rating	Load	Remarks
1	POWER BLOCK 2	3	400 A	350 A	216160	
2	POWER BLOCK 3	3	400 A	350 A	216160	
3	POWER BLOCK 4	3	400 A	350 A	216160	
4	SPACE	3	--	--	--	
5	SPACE	3	--	--	--	
6	SPD	3	400 A	20 A	0	SEE NOTE 1
7						
8						
9						
10						

Total Conn. Load:	648480 VA
Total Amps:	780 A

Load Classification	Connected Load	Demand Factor	Demand Load	Panel Totals
Power	648480 VA	100.00%	648480 VA	
				Total Conn. Load: 648480 VA
				Total Demand: 648480 VA
				Total Conn. Current: 780 A
				Total Demand Current: 780 A

Notes:
1.) SPD CIRCUIT BREAKER TO BE SIZED PER MANUFACTURE'S RECOMMENDATION.

SCOPE

A. INCLUDES THE FURNISHING OF ALL LABOR, SUPERVISION, MATERIALS, EQUIPMENT, TOOLS, ETC., REQUIRED FOR THE ELECTRICAL SYSTEMS AS SHOWN AND DESCRIBED IN THESE DRAWINGS.

B. THE WORK SHALL INCLUDE, BUT IS NOT NECESSARILY LIMITED TO, THE FOLLOWING:

1. WIRE AND CABLE
2. ELECTRICAL BOXES AND FITTINGS
3. CIRCUIT AND DISCONNECTS
4. SUPPORTING DEVICES
5. SEISMIC RESTRAINTS
6. ELECTRICAL IDENTIFICATION
7. GROUNDING

RELATED WORK

A. THE FOLLOWING WORK RELATED TO THE ELECTRICAL WORK.

B. PAINTING, EXCEPT REPAIR OF FACTORY APPLIED FINISHES ON ELECTRICAL EQUIPMENT.

COORDINATION

A. COORDINATE WORK WITH THAT OF OTHER SUBCONTRACTORS ON THE JOB AND ALSO WITH THAT OF THE OWNER IN ORDER THAT THERE BE NO DELAY IN THE PROPER INSTALLATION AND COMPLETION OF THE WORK.

MANUFACTURER'S RECOMMENDATIONS

A. UNLESS SPECIFICALLY INDICATED OTHERWISE, ALL EQUIPMENT AND MATERIALS SHALL BE INSTALLED IN ACCORDANCE WITH THE RECOMMENDATION OF THE MANUFACTURER. A COPY OF THE MANUFACTURER'S INSTALLATION RECOMMENDATIONS SHALL BE KEPT IN THE JOB SUPERINTENDENT'S OFFICE AND SHALL BE AVAILABLE TO THE OWNER'S REPRESENTATIVE AT ALL TIMES.

TESTS

A. TEST ALL ELECTRICAL WIRING FOR CONTINUITY, SHORTS, IMPROPER GROUNDS AND INSULATION RESISTANCE. PANELBOARDS SHALL BE CHECKED FOR BALANCED LOADING AND CORRECT PHASE ROTATION. DISCREPANCIES SHALL BE CORRECTED. THE CONTRACTOR SHALL FURNISH TEST EQUIPMENT AND MATERIAL, AND SHALL BE RESPONSIBLE FOR REPLACEMENT OR REPAIR OF DAMAGE DUE TO TEST FAILURES.

B. AFTER INSTALLATION IS COMPLETE, VOLTAGE MEASUREMENTS SHALL BE MADE AT EACH PANELBOARD TO VERIFY PROPER SYSTEM VOLTAGES. VOLTAGE SHALL BE MEASURED UNDER LOAD CONDITIONS WHERE POSSIBLE. VOLTAGE READINGS SHALL BE RECORDED.

C. AFTER ALL TESTS HAVE BEEN COMPLETED, THIS CONTRACTOR SHALL CLEAN ALL LIGHT FIXTURES AND REPLACE ANY DEFECTIVE COMPONENTS. ALL EQUIPMENT AND CONDUIT SHALL BE CLEANED AND LEFT IN WORKING ORDER. ALL DEBRIS CREATED BY THE EXECUTION OF THE ELECTRICAL WORK SHALL BE REMOVED BY THIS CONTRACTOR. THIS CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO KEEP PANELS, ESPECIALLY CIRCUIT BREAKER HANDLES, CLEAN DURING CONSTRUCTION.

WIRE, CABLE AND CONNECTORS

A. WIRE AND CONNECTORS SHALL BE UL LISTED AND LABELED, COMPLY WITH NEMA, ICEA, ANSI AND ASTM STANDARDS PERTAINING TO MATERIALS, CONSTRUCTION AND TESTING OF WIRE AND CABLE.

B. EXCEPT AS OTHERWISE INDICATED, PROVIDE WIRE, CABLE AND CONNECTORS OF MANUFACTURER'S STANDARD MATERIALS, AS INDICATED BY PUBLISHED PRODUCT INFORMATION, DESIGNED AND CONSTRUCTED AS RECOMMENDED BY MANUFACTURER AND AS REQUIRED FOR THE INSTALLATION.

C. PROVIDE FACTORY FABRICATED 800 VOLT INSULATED WIRE OF SIZES, RATINGS, MATERIALS, AND TYPES INDICATED BELOW:

1. UL TYPE: XHHW-2 WET OR DRY LOCATIONS
2. MATERIAL: COPPER

ACCURACY OF DATA

A. THE DRAWINGS ARE GENERALLY DIAGRAMMATIC, AND EXCEPT WHERE DIMENSIONS ARE SHOWN, ARE NOT INTENDED TO SHOW THE EXACT LOCATIONS OF CONDUITS, WIRE, AND EQUIPMENT. ALL WORK SHALL BE INSTALLED AS NEARLY AS POSSIBLE IN THE LOCATIONS INDICATED, WITH ONLY SUCH MINOR ADJUSTMENTS AS WILL BE REQUIRED TO AVOID INTERFERENCES WITH STRUCTURE OR THE WORK OF OTHER TRADES.

B. THE DRAWINGS ARE NOT INTENDED TO SHOW ALL JUNCTION OR PULL BOXES, FITTINGS AND CONNECTIONS, AND DETAILS OF WORK TO BE DONE. THE CONTRACTOR SHALL SUPPLY ALL NECESSARY BOXES, FITTINGS AND CONNECTIONS FOR COMPLETE INSTALLATION IN A SATISFACTORY MANNER.

C. ANY OFFSETS IN CONDUIT REQUIRED OR NECESSARY TO AVOID INTERFERENCES WITH STRUCTURE, OR THE WORK OF OTHER TRADES, ETC., SHALL BE MADE AT NO ADDITIONAL COST TO THE OWNER.

CONDUCTORS #10 AWG AND SMALLER; SOLID OR STRANDED CONDUCTORS#8 AWG AND LARGER CONCENTRIC-LAY-STRANDED (STANDARD FLEXIBILITY)

CONDUCTOR IDENTIFICATION: CONDUCTORS SHALL BE IDENTIFIED BY COLOR AS FOLLOWS:

480Y/277 VOLT SYSTEMS	
A PHASE	BROWN
B PHASE	ORANGE
C PHASE	YELLOW
NEUTRAL/GROUNDED EQUIPMENT GROUND	GRAY GREEN

COLOR FOR CONDUCTORS #10 AWG AND SMALLER, COLOR SHALL BE PERMANENT FACTORY APPLIED, CONDUCTORS #8 AWG AND LARGER SHALL BE BLACK WITH 3M OR EQUAL, COLOR CODED PHASE TAPE APPLIED AT THE TERMINATIONS, WHERE TYPE MC CABLE IS USED, CIRCUIT NUMBERS SHALL BE APPLIED AT ALL WIRE SPLICES AND TERMINATIONS.

WHEN WIRES ARE INSTALLED IN CONDUIT, SUFFICIENT SLACK SHALL BE ALLOWED TO PERMIT THE CONNECTION OF FIXTURES OR WIRING DEVICES WITHOUT ADDITIONAL SPLICE

UNLESS OTHERWISE NOTED ON THE PLANS, BRANCH CIRCUITS SHALL BE RUN HOME IN INDIVIDUAL CONDUITS, AS FOLLOWS:

1. ALL POWER BRANCH CIRCUIT WIRING SHALL BE RUN HOME IN SEPARATE CONDUITS, AS INDICATED.
2. FEEDERS SHALL BE RUN IN INDIVIDUAL CONDUITS FROM THE FEEDER SOURCE TO THE LOAD TERMINATIONS, AS INDICATED ON THE DRAWINGS. DO NOT COMBINE MULTIPLE FEEDERS IN A WIREWAY OR JUNCTION BOX.
3. USE COMPRESSION TYPE WIRE CONNECTORS FOR STRANDED CONDUCTORS, FOR MOTOR CONNECTIONS, AND ALL OTHER CONNECTIONS OR SPLICES SUBJECT TO VIBRATION. WIRE NUTS MAY BE USED ELSEWHERE.
4. BRANCH CIRCUITS FOR POWER BLOCK, AS INDICATED ON THE DRAWINGS, ARE APPROXIMATE SIZE ONLY. THIS CONTRACTOR SHALL OBTAIN THE EXACT RATING OF THE EQUIPMENT FROM THE MANUFACTURER, AND SHALL ADJUST THE SIZE OF THE PROTECTIVE DEVICE AND WIRE TO CONFORM TO THE REQUIREMENTS OF THE EQUIPMENT. ALL SUCH CHANGES SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL.
5. TORQUE ALL BOLTED LUGS AND CONNECTORS TO TORQUE VALUES RECOMMENDED BY THE EQUIPMENT MANUFACTURER, WHERE TORQUE VALUES ARE NOT GIVEN, USE APPLICABLE TORQUE VALUES GIVEN BY UL STANDARDS #486A AND #486B. IF STUDS ARE COPPER OR STEEL, OR IF STEEL BOLTS ARE USED, USE A BELLEVILLE DISHED WASHER WITH A WIDE SERIES, HEAVY FLAT WASHER, TIGHTEN THE CONNECTION UNTIL THE BELLEVILLE IS FLAT. DO NOT RE-TIGHTEN LATER.
6. MINIMUM SIZE BRANCH CIRCUIT CONDUCTOR SHALL BE #12 AWG.
7. PRIOR TO ENERGIZATION, TEST ALL ASSOCIATED ELECTRICAL EQUIPMENT FOR LOW INSULATION RESISTANCE, GROUNDS, AND SHORT CIRCUITS.
8. FURNISH AND SET UP ALL METERS, INSTRUMENTS, EQUIPMENT, AND LABOR REQUIRED TO MAKE TESTS, AS INDICATED.
9. REPAIR AND/OR REPLACE AT CONTRACTOR'S EXPENSE, ANY EQUIPMENT DAMAGED IN THE PROCESS OF CONDUCTING THE TESTS.
10. TEST RESULTS SHALL SHOW VALUES NO SMALLER THAN THOSE RECOMMENDED BY THE NEC, IPCOA, IEEE, ANSI AND NEMA.
11. PERFORM CONTINUITY TESTS ON ALL POWER AND CONTROL CIRCUITS, INCLUDING SPARE CONDUCTORS. CHECK PHASE IDENTIFICATION ON POWER CABLES.

MANUFACTURER'S RECOMMENDATIONS

A. UNLESS SPECIFICALLY INDICATED OTHERWISE, ALL EQUIPMENT AND MATERIALS SHALL BE INSTALLED IN ACCORDANCE WITH THE RECOMMENDATION OF THE MANUFACTURER. A COPY OF THE MANUFACTURER'S INSTALLATION RECOMMENDATIONS SHALL BE KEPT IN THE JOB SUPERINTENDENT'S OFFICE AND SHALL BE AVAILABLE TO THE OWNER'S REPRESENTATIVE AT ALL TIMES.

TESTS

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B. AFTER INSTALLATION IS COMPLETE, VOLTAGE MEASUREMENTS SHALL BE MADE AT EACH PANELBOARD TO VERIFY PROPER SYSTEM VOLTAGES. VOLTAGE SHALL BE MEASURED UNDER LOAD CONDITIONS WHERE POSSIBLE. VOLTAGE READINGS SHALL BE RECORDED.

C. AFTER ALL TESTS HAVE BEEN COMPLETED, THIS CONTRACTOR SHALL CLEAN ALL LIGHT FIXTURES AND REPLACE ANY DEFECTIVE COMPONENTS. ALL EQUIPMENT AND CONDUIT SHALL BE CLEANED AND LEFT IN WORKING ORDER. ALL DEBRIS CREATED BY THE EXECUTION OF THE ELECTRICAL WORK SHALL BE REMOVED BY THIS CONTRACTOR. THIS CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO KEEP PANELS, ESPECIALLY CIRCUIT BREAKER HANDLES, CLEAN DURING CONSTRUCTION.

WIRE, CABLE AND CONNECTORS

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CONDUCTOR IDENTIFICATION: CONDUCTORS SHALL BE IDENTIFIED BY COLOR AS FOLLOWS:

480Y/277 VOLT SYSTEMS	
A PHASE	BROWN
B PHASE	ORANGE
C PHASE	YELLOW
NEUTRAL/GROUNDED EQUIPMENT GROUND	GRAY GREEN

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WHEN WIRES ARE INSTALLED IN CONDUIT, SUFFICIENT SLACK SHALL BE ALLOWED TO PERMIT THE CONNECTION OF FIXTURES OR WIRING DEVICES WITHOUT ADDITIONAL SPLICE

UNLESS OTHERWISE NOTED ON THE PLANS, BRANCH CIRCUITS SHALL BE RUN HOME IN INDIVIDUAL CONDUITS, AS FOLLOWS:

1. ALL POWER BRANCH CIRCUIT WIRING SHALL BE RUN HOME IN SEPARATE CONDUITS, AS INDICATED.
2. FEEDERS SHALL BE RUN IN INDIVIDUAL CONDUITS FROM THE FEEDER SOURCE TO THE LOAD TERMINATIONS, AS INDICATED ON THE DRAWINGS. DO NOT COMBINE MULTIPLE FEEDERS IN A WIREWAY OR JUNCTION BOX.
3. USE COMPRESSION TYPE WIRE CONNECTORS FOR STRANDED CONDUCTORS, FOR MOTOR CONNECTIONS, AND ALL OTHER CONNECTIONS OR SPLICES SUBJECT TO VIBRATION. WIRE NUTS MAY BE USED ELSEWHERE.
4. BRANCH CIRCUITS FOR POWER BLOCK, AS INDICATED ON THE DRAWINGS, ARE APPROXIMATE SIZE ONLY. THIS CONTRACTOR SHALL OBTAIN THE EXACT RATING OF THE EQUIPMENT FROM THE MANUFACTURER, AND SHALL ADJUST THE SIZE OF THE PROTECTIVE DEVICE AND WIRE TO CONFORM TO THE REQUIREMENTS OF THE EQUIPMENT. ALL SUCH CHANGES SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL.
5. TORQUE ALL BOLTED LUGS AND CONNECTORS TO TORQUE VALUES RECOMMENDED BY THE EQUIPMENT MANUFACTURER, WHERE TORQUE VALUES ARE NOT GIVEN, USE APPLICABLE TORQUE VALUES GIVEN BY UL STANDARDS #486A AND #486B. IF STUDS ARE COPPER OR STEEL, OR IF STEEL BOLTS ARE USED, USE A BELLEVILLE DISHED WASHER WITH A WIDE SERIES, HEAVY FLAT WASHER, TIGHTEN THE CONNECTION UNTIL THE BELLEVILLE IS FLAT. DO NOT RE-TIGHTEN LATER.
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MANUFACTURER'S RECOMMENDATIONS

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TESTS

A. TEST ALL ELECTRICAL WIRING FOR CONTINUITY, SHORTS, IMPROPER GROUNDS AND INSULATION RESISTANCE. PANELBOARDS SHALL BE CHECKED FOR BALANCED LOADING AND CORRECT PHASE ROTATION. DISCREPANCIES SHALL BE CORRECTED. THE CONTRACTOR SHALL FURNISH TEST EQUIPMENT AND MATERIAL, AND SHALL BE RESPONSIBLE FOR REPLACEMENT OR REPAIR OF DAMAGE DUE TO TEST FAILURES.

B. AFTER INSTALLATION IS COMPLETE, VOLTAGE MEASUREMENTS SHALL BE MADE AT EACH PANELBOARD TO VERIFY PROPER SYSTEM VOLTAGES. VOLTAGE SHALL BE MEASURED UNDER LOAD CONDITIONS WHERE POSSIBLE. VOLTAGE READINGS SHALL BE RECORDED.

C. AFTER ALL TESTS HAVE BEEN COMPLETED, THIS CONTRACTOR SHALL CLEAN ALL LIGHT FIXTURES AND REPLACE ANY DEFECTIVE COMPONENTS. ALL EQUIPMENT AND CONDUIT SHALL BE CLEANED AND LEFT IN WORKING ORDER. ALL DEBRIS CREATED BY THE EXECUTION OF THE ELECTRICAL WORK SHALL BE REMOVED BY THIS CONTRACTOR. THIS CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO KEEP PANELS, ESPECIALLY CIRCUIT BREAKER HANDLES, CLEAN DURING CONSTRUCTION.

WIRE, CABLE AND CONNECTORS

A. WIRE AND CONNECTORS SHALL BE UL LISTED AND LABELED, COMPLY WITH NEMA, ICEA, ANSI AND ASTM STANDARDS PERTAINING TO MATERIALS, CONSTRUCTION AND TESTING OF WIRE AND CABLE.

B. EXCEPT AS OTHERWISE INDICATED, PROVIDE WIRE, CABLE AND CONNECTORS OF MANUFACTURER'S STANDARD MATERIALS, AS INDICATED BY PUBLISHED PRODUCT INFORMATION, DESIGNED AND CONSTRUCTED AS RECOMMENDED BY MANUFACTURER AND AS REQUIRED FOR THE INSTALLATION.

C. PROVIDE FACTORY FABRICATED 800 VOLT INSULATED WIRE OF SIZES, RATINGS, MATERIALS, AND TYPES INDICATED BELOW:

1. UL TYPE: XHHW-2 WET OR DRY LOCATIONS
2. MATERIAL: COPPER

BOXES AND FITTINGS

A. COMPLY WITH NEC AS APPLICABLE TO CONSTRUCTION AND INSTALLATION OF ELECTRICAL WIRING BOXES AND FITTINGS.

B. PROVIDE ELECTRICAL BOXES AND FITTINGS WHICH HAVE BEEN UL LISTED AND LABELED.

C. PROVIDE PULL BOXES AND JUNCTION BOXES, AS INDICATED ON THE PLANS, OR AS REQUIRED. BOXES SHALL BE SIZED AS INDICATED ON THE PLANS AND WHERE NOT INDICATED, THEY SHALL BE SIZED IN ACCORDANCE WITH ARTICLE 370 OF THE NATIONAL ELECTRICAL CODE.

D. IN ALL CASES, WHERE TWO OR MORE DEVICES ARE INSTALLED IN GANG BOXES, GANG PLATES WITH SUITABLE OPENINGS SHALL BE PROVIDED.

CIRCUIT AND EQUIPMENT DISCONNECTS

A. ALL DISCONNECT SWITCHES SHALL BE HEAVY DUTY TYPE NEMA 3R AND UL LISTED 480 VOLT OR 600 VOLT RATING AS REQUIRED.

B. FURNISH AND INSTALL DISCONNECT SWITCHES WHERE INDICATED ON THE DRAWINGS AND/OR WHERE REQUIRED BY CODE. DISCONNECT SWITCHES SHALL BE FUSIBLE OR NON-FUSIBLE, AS INDICATED, OR REQUIRED, TO PROVIDE THE REQUIRED DISCONNECT MEANS AND/OR BRANCH CIRCUIT PROTECTION.

C. DISCONNECT SWITCHES SHALL BE AS MANUFACTURED BY SQUARE D COMPANY, G. E. COMPANY, SIEMENS, OR APPROVED EQUAL.

SUPPORTING DEVICES

A. PROVIDE SUPPORT FOR ALL ELECTRICAL WORK AS INDICATED ON THE DRAWINGS, AS SPECIFIED HEREIN, OR AS REQUIRED BY CODE.

B. COMPLY WITH NEC AS APPLICABLE TO CONSTRUCTION AND INSTALLATION OF ELECTRICAL SUPPORTING DEVICES.

C. COMPLY WITH APPLICABLE REQUIREMENTS OF ANSINEMA STD. PUB. NO. FB 1, "FITTINGS AND SUPPORTS FOR CONDUIT AND CABLE ASSEMBLIES".

D. COMPLY WITH THE NATIONAL ELECTRICAL CONTRACTORS ASSOCIATION "STANDARD OF INSTALLATION" PERTAINING TO ANCHORS, FASTENERS, HANGERS, SUPPORTS AND EQUIPMENT MOUNTING.

E. WHERE MANUFACTURED SUPPORTING DEVICES ARE PROVIDED, THEY SHALL COMPLY WITH MANUFACTURER'S STANDARD MATERIALS, DESIGN, AND CONSTRUCTION IN ACCORDANCE WITH PUBLISHED PRODUCT INFORMATION.

F. FURNISH AND INSTALL ALL NECESSARY HANGERS, SUPPORTS, ETC., AS REQUIRED, FOR RIGIDLY AND SECURELY MOUNTING ALL CONNECTOR BOXES, PANELBOARDS, PULL BOXES, CONDUIT, AND ALL OTHER ITEMS OF ELECTRICAL WORK INCLUDED IN THIS PROJECT.

G. ALL HANGERS AND SUPPORTS SHALL BE FASTENED TO THE BUILDING STRUCTURE BY MEANS OF BOLTS, U-CHEMEL STRUT SYSTEM, ANCHORS AND RODS, OR OTHER APPROVED MEANS.

ELECTRICAL IDENTIFICATION

A. FURNISH AND INSTALL A CONDUCTOR IDENTIFICATION BAND ON EACH CONDUCTOR IN EACH BOX/ENCLOSURE/CABINET WHERE WIRES OF MORE THAN ONE CIRCUIT ARE PRESENT, EXCEPT WHERE ANOTHER FORM OF IDENTIFICATION, SUCH AS COLOR CODED CONDUCTORS, IS PROVIDED. CONDUCTOR IDENTIFICATION BANDS SHALL BE T & B TYPE E, Z, OR APPROVED EQUAL.

B. FURNISH AND INSTALL AN ENGRAVED PLASTIC LAMINATE IDENTIFICATION PLATE AT EACH PANELBOARD AND DISCONNECT SWITCH. SECURE WITH STAINLESS STEEL SCREWS. INCLUDE THE FOLLOWING INFORMATION:

C. DISTRIBUTION LIGHTING AND APPLIANCE PANELBOARDS - PANEL NAME IN 1/4" LETTERS, VOLTAGE AND PHASE IN 1/8" LETTERS (E.G., "PANEL A, 120/240V, 1-PHASE, 4 WIRE").

D. EACH DISCONNECT SWITCH - LOAD SERVED, VOLTAGE AND CIRCUIT NUMBER IN 1/8" LETTERS (E.G., "ACU-1, 240V, A-6")

GROUNDING

A. FURNISH AND INSTALL SYSTEM, ENCLOSURE, AND EQUIPMENT GROUNDING FOR ALL ELECTRIC WIRING FOR THE EQUIPMENT IN FULL COMPLIANCE WITH THE REQUIREMENTS OF LOCAL CODES, THE NEC, AND MANUFACTURER. ALL GROUNDING CONDUCTORS SHALL BE COPPER.

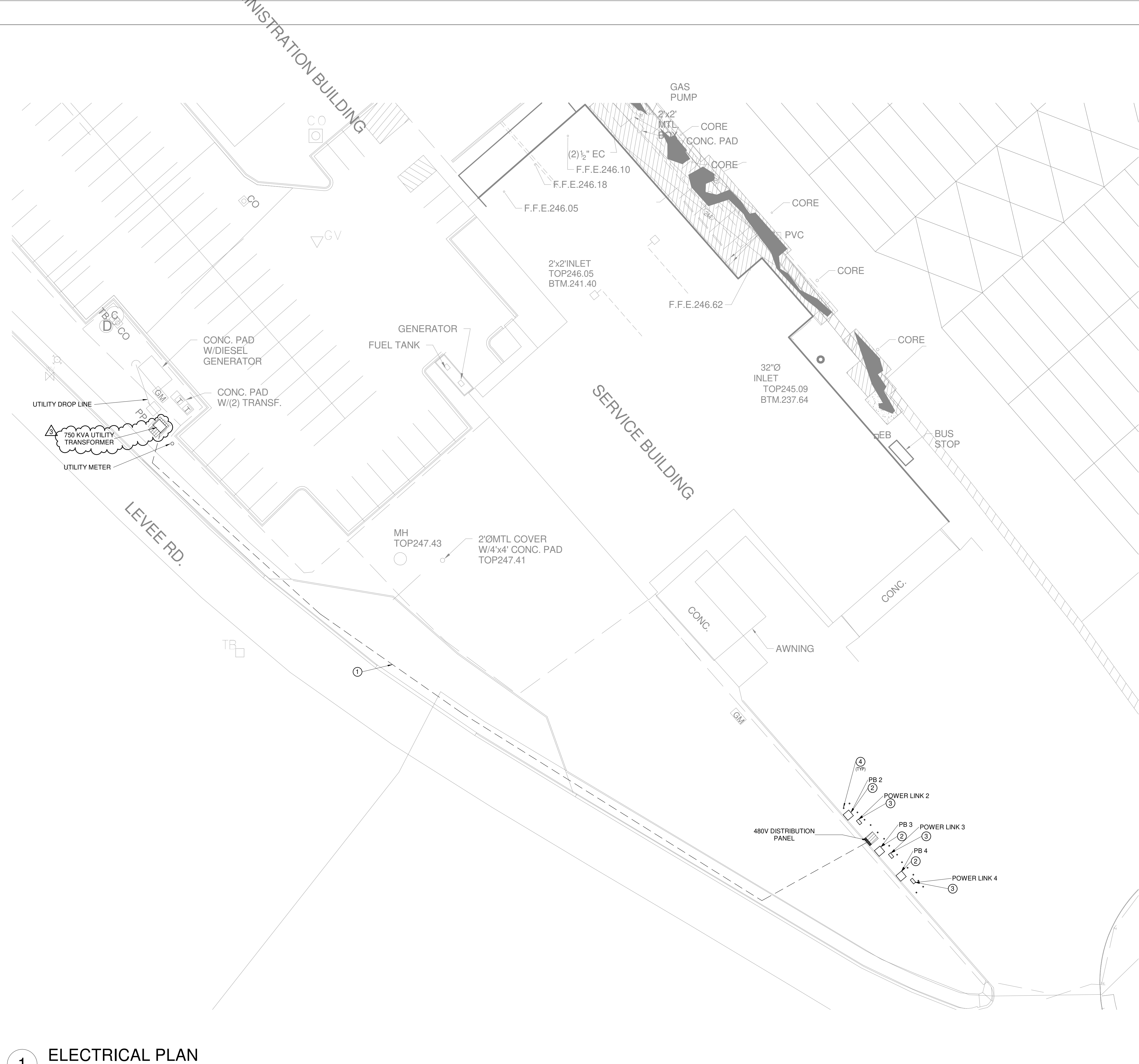
B. PROVIDE GROUNDING PRODUCTS THAT ARE UL LISTED AND LABELED AND COMPLY WITH ESTABLISHED INDUSTRY STANDARDS FOR APPLICATIONS INTENDED.

C. A CONTINUOUS (GREEN) EQUIPMENT GROUNDING CONDUCTOR SHALL BE PROVIDED WITH ALL FEEDERS AND BRANCH CIRCUITS. THIS GROUNDING CONDUCTOR SHALL BE INSULATED SAME AS REQUIRED FOR 600 VOLT PHASE CONDUCTORS AND SHALL BE GREEN IN COLOR, WHERE POSSIBLE. GROUNDING CONDUCTOR SHALL BE SIZED IN ACCORDANCE WITH ARTICLE 250-95 OF THE NEC AND SHALL TERMINATE BY MEANS OF COMPRESSION LUGS AT EACH GROUND BUS, PANELBOARD GROUNDING BAR, PULL BOXES, DISCONNECT SWITCHES, AND OTHER DEVICES.

D. PROVIDE ALL NEW GROUNDING REQUIRED FOR NEW CHARGING STATIONS AS RECOMMENDED BY SYSTEMS MANUFACTURER.

VENDOR EQUIPMENT CONNECTION SCHEDULE

GENERAL NOTES:		REMARKS:									
NONE.		NONE.									
TAG	DESCRIPTION	VOLTAGE	PHASE	KW	FLA	PANEL	CKT.	WIRE SIZE	CONDUIT SIZE	CONNECTION	REMARKS
PB2	POWER BLOCK 2	480 V	3	200	260 A	480V DISTRIBUTION PANEL	1	3-500 KCMIL	4"	--	--
PB3	POWER BLOCK 3	480 V	3	200	260 A	480V DISTRIBUTION PANEL	2	3-500 KCMIL	4"	--	--
PB4	POWER BLOCK 4	480 V	3	200	260 A	480V DISTRIBUTION PANEL	3	3-500 KCMIL	4"	--	--



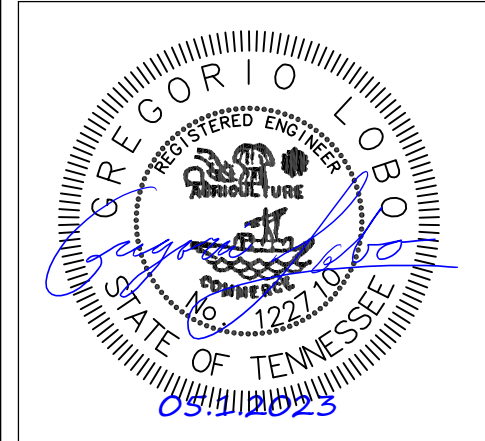
⊗ SHEET KEYED NOTES

1. REFER TO SHEET E6.2 FOR CONDUIT AND WIRE SIZING. REFER TO DETAIL 1 "SECONDARY ELECTRICAL SERVICE DUCT BANK DETAIL" ON SHEET E0.0.
2. REFER TO PANEL SCHEDULE FOR ASSIGNED CIRCUIT AND VENDOR SCHEDULES FOR CONDUIT AND WIRE SIZING ON SHEET E0.0.
3. REFER TO CHARGEPOINT EXPRESS PLUS INSTALLATION MANUAL FOR WIRING DETAILS.
4. BOLLARD TO BE ADDED 36" AWAY FROM ELECTRICAL EQUIPMENT AND 48" APART. MUST BE 42" ABOVE GRADE AND MADE OF 6" ROGOD STEEL CONDUIT CONCRETE FILLED, 3" MINIMUM CONCRETE ENCASED. REFER TO BOLLARD DETAIL ON SHEET E0.0.

SHEET GENERAL NOTES

- A. CONTRACTOR TO COORDINATE WITH MLGW FOR NEW ELECTRICAL SERVICE. COORDINATE DOWNTIME WITH OWNER.
- B. ROUTING OF CONDUCTORS AND CONDUIT IS DIAGRAMMATIC IN NATURE AND REPRESENT GENERAL SCOPE OF WORK. IT IS NOT THE INTENT OF THIS DRAWING TO SHOW EVERY ITEM/DETAIL REQUIRED FOR COMPLETED INSTALLATION.
- C. REFER TO SHEET E6.2 FOR RISER DIAGRAM.

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REV	DATE	DESCRIPTION
3	5/1/2023	REVISION 3
2	4/5/2023	REVISION 2
1	3/13/2023	REVISION 1

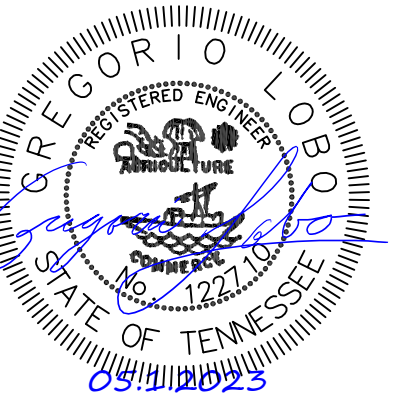
MEMPHIS AREA TRANSIT AUTHORITY
MATA BUS ELECTRIFICATION - PHASE 1
 1370 LEVEE ROAD, MEMPHIS, TN 38108

DRAWN BY	MAM
DESIGNED BY	MAM
CHECKED BY	GUL

SHEET TITLE
ELECTRICAL POWER PLAN

DATE	2/17/2023
PROJECT STATUS	CD
SHEET NUMBER	E1.1

1 ELECTRICAL PLAN
 3/64" = 1'-0"



REV	DATE	DESCRIPTION
3	5/17/2023	REVISION 3
2	4/5/2023	REVISION 2
1	3/13/2023	REVISION 1

MEMPHIS AREA TRANSIT AUTHORITY
MATA BUS ELECTRIFICATION - PHASE 1
 1370 LEVEE ROAD, MEMPHIS, TN 38108

DRAWN BY	MAM
DESIGNED BY	MAM
CHECKED BY	GUL

SHEET TITLE
RISER DIAGRAM - SERVICE BUILDING CHARGING STATION

DATE	2/17/2023
PROJECT STATUS	CD
SHEET NUMBER	E6.2

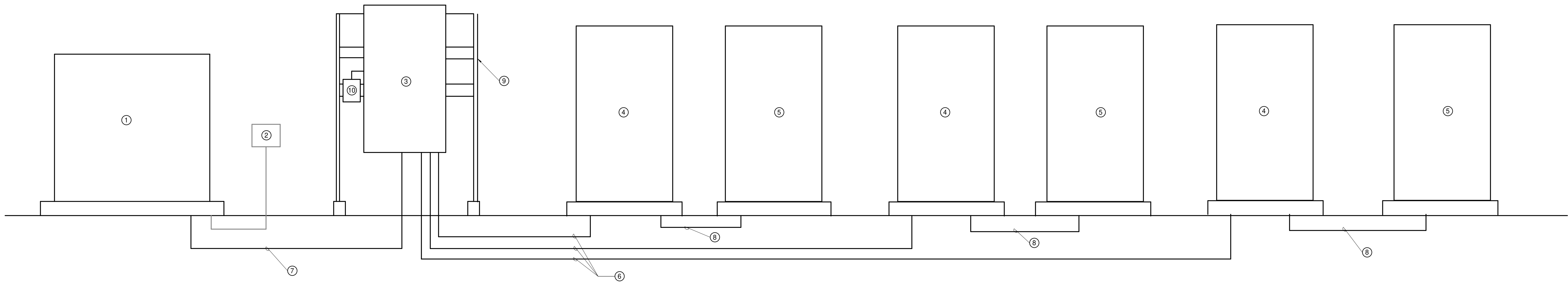
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SHEET GENERAL NOTES

- A. WORK SHALL CONFORM TO LOCAL CODES AND ORDINANCES AS WELL AS APPLICABLE INDUSTRY STANDARDS. EQUIPMENT SHALL BE LISTED/LABELED BY NATIONALLY RECOGNIZED TESTING AGENCY FOR THE INTENDED USE.
- B. COORDINATE FINAL LOCATIONS AND INSTALLATION REQUIREMENTS OF EQUIPMENT AND DEVICES WITH EXISTING CONDITIONS, OTHER TRADES, AND OWNER PRIOR TO ROUGH-IN. PROVIDE NECESSARY ACCESSORIES FOR COMPLETE AND PROPER OPERATION IN ACCORDANCE WITH MANUFACTURER INSTRUCTIONS.
- C. ELECTRICAL RISER DIAGRAM IS DIAGRAMMATIC IN NATURE AND REPRESENTS GENERAL SCOPE OF WORK. IT IS NOT THE INTENT OF THIS DRAWING TO SHOW EVERY ITEM/DETAIL REQUIRED FOR COMPLETED INSTALLATION.
- D. NOTES ON RISER DIAGRAM APPLY ONLY TO THE WORK SCOPE WITHIN THE BOUNDARY OF THIS SHEET ON WHICH IT APPEARS, UNLESS INDICATED OTHERWISE.
- E. WHERE EQUIPMENT GROUND BUS BARS ARE SPECIFIED OR INDICATED ON MANUFACTURER INSTALLATION MANUAL, INSTALL IN LOCATION WHICH WILL ALLOW ADEQUATE ACCESS FOR FUTURE CONNECTIONS.
- F. PROVIDE FIRE PROOFING AT PENETRATIONS THROUGH RATED WALLS TO MEET OR EXCEED WALL RATING USING UL LISTED PRODUCTS IN ACCORDANCE WITH MANUFACTURE INSTRUCTION/UL PENETRATION DETAILS.
- G. RACEWAYS SHALL BE CONCEALED FROM VIEW WHEREVER POSSIBLE. WHERE EXPOSED, RACEWAYS MUST BE INSTALLED IN NEAT AND WORKMANLIKE MANNER AND PARALLEL/PERPENDICULAR TO WALLS IN ASSOCIATED SPACE.
- H. NUMBER OF BENDS SHALL NOT EXCEED THE EQUIVALENT OF FOUR 90 DEGREE BENDS (360 DEGREES TOTAL) BETWEEN PULL POINTS IN ACCORDANCE WITH NEC ARTICLES 342, 344, 358. WHERE REQUIRED, PULL POINTS SHALL BE SIZED IN ACCORDANCE WITH NEC ARTICLE 314.
- I. CONDUIT ROUTING IS NOT INDICATED ON RISER DIAGRAM. CONTRACTOR TO PROVIDE RACEWAYS IN ACCORDANCE WITH RISER DIAGRAM AND WIRE COUNTS AS REQUIRED TO ACHIEVE CIRCUITING AND OPERATION AS INDICATED.
- J. PROVIDE DEDICATED NEUTRAL CONDUCTOR FOR EACH CIRCUIT REQUIRING NEUTRAL CONNECTION. NEUTRAL CONDUCTOR SHALL BE CONSIDERED CURRENT-CARRYING FOR THE PURPOSES OF DERATING AND RACEWAY FILL CALCULATIONS. MULTI-WIRE BRANCH CIRCUITS ARE NOT PERMITTED UNLESS SPECIFICALLY INDICATED.
- K. RACEWAYS SHALL BE LIMITED TO A MAXIMUM OF SIX CURRENT CARRYING CONDUCTORS (I.E. THREE 120V OR 277V BRANCH CIRCUITS), UNLESS OTHERWISE NOTED. WHERE THE NUMBER OF CURRENT CARRYING CONDUCTORS IS ALLOWED TO EXCEED SIX, THE ALLOWABLE AMPACITY OF EACH CONDUCTOR SHALL BE REDUCED PER NEC TABLE 310.15(B).
- L. INSTALL ELECTRICAL EQUIPMENT SUCH THAT MANUFACTURER'S VENTILATION REQUIREMENTS AND NEC REQUIRED CLEARANCES ARE MAINTAINED.
- M. WHERE WIRE AND CONDUITS SIZES ARE SHOWN ON ONE PART OF A FEEDER OR BRANCH CIRCUIT, USE THE SAME WIRE AND RACEWAY FOR THE ENTIRE FEEDER OR BRANCH CIRCUIT UNLESS OTHERWISE NOTED ON THE DRAWINGS.
- N. REFER TO CHARGEPOINT INSTALLATION GUIDE FOR EQUIPMENT CLEARANCES AND GROUNDING REQUIREMENTS.

SHEET KEYED NOTES

1. EXISTING 12.47KV - 480V 300KVA UTILITY TRANSFORMER TO BE UPSIZE TO 750KVA BY MLGW.
2. EXISTING UTILITY METER.
3. PROVIDE A NEMA 3R 480V DISTRIBUTION PANEL WITH A BUSS RATING OF 1200A AND MCB RATED FOR 1000A. SEE KEY NOTE 7 FOR CABLE AND CONDUIT SIZE.
4. CHARGEPOINT 200KW POWER BLOCK PROVIDED BY OWNER.
5. CHARGEPOINT POWER LINK (ELECTRIC DISPENSER) PROVIDED BY OWNER.
6. PROVIDE 1 SET OF 3#500KCMIL, 1/0-G, 4°C. CABLE SHALL BE 90C RATING. REFER TO DETAIL 3 "UNDER SLAB CONDUIT DETAIL" ON SHEET E0.0.
7. PROVIDE 3 SETS OF 4#400KCMIL, 2/0-G, 3°C. CABLE SHALL BE 90C RATING.
8. PROVIDE WIRING PER CHARGEPOINT EXPRESS PLUS INSTALLATION GUIDE. CABLE LENGTH BETWEEN POWER BLOCK AND POWER LINK SHALL NOT EXCEED 328FT.
9. REFER TO ELECTRICAL EQUIPMENT MOUNTING RACK DETAIL ON SHEET E0.0.
10. PROVIDE SURGE PROTECTION DEVICE EQUAL TO CURRENT TECHNOLOGY #SL3-100-480-3Y-SN. CIRCUIT BREAKER TO BE SIZED BY MANUFACTURE.



1

RISER DIAGRAM SERVICE BUILDING AREA

NOT TO SCALE

GENERAL NOTES:

1. THE CONTRACTOR SHALL PROTECT ANY EXISTING STRUCTURES, PAVEMENTS, CURBS, SIDEWALKS, FENCES OR OTHER ELEMENTS DESIGNATED TO REMAIN. ANY EXISTING ELEMENT DAMAGED DURING DEMOLITION OR CONSTRUCTION OPERATIONS, SHALL BE RESTORED TO ORIGINAL CONDITION OR REPLACED IN KIND, AT NO ADDITIONAL COST TO THE OWNER.
2. THE CONTRACTOR SHALL PROTECT ALL EXISTING BENCH MARKS, IRON PINS, SURVEY CONTROL POINTS OR OTHER MONUMENTS TO REMAIN.
3. THE CONTRACTOR SHALL INSTALL AND MAINTAIN ALL SAFETY BARRIERS, TEMPORARY SIDEWALKS AND PROTECTION DEVICES TO COMPLY WITH MATA REQUIREMENTS THROUGHOUT THE ENTIRE PROJECT CONSTRUCTION PERIOD.
4. THE CONTRACTOR SHALL COORDINATE WITH THE OWNER TO MINIMIZE CONFLICTS OR DISRUPTIONS OF NORMAL OPERATIONS.
5. THE CONTRACTOR SHALL RESTORE ALL PAVED AREAS USED FOR ACCESS TO THEIR ORIGINAL CONDITION.
6. THE CONTRACTOR SHALL ESTABLISH CONTROL POINTS AND AN ON SITE BENCHMARK TO BE USED FOR SITE LAYOUT.
7. DIMENSIONS ARE TO FACE OF CURB, FACE OF WALL, FACE OF BUILDING, EDGE OF PAVEMENT OR CENTER OF PAINT STRIPE UNLESS NOTED OTHERWISE.
8. THE CONTRACTOR, INCLUDING SUBCONTRACTORS, SHALL BE RESPONSIBLE FOR VERIFICATION OF ALL DIMENSIONS ON DRAWINGS AS IT RELATES TO THEIR WORK PRIOR TO START OF CONSTRUCTION.
9. ALL GRADING WORK SHALL BE PERFORMED IN SUCH A MANNER THAT ADJACENT PROPERTIES ARE NOT DAMAGED OR ADVERSELY AFFECTED.
10. VERIFY PROPOSED CONCRETE LAYOUT WITH OWNER PRIOR TO PLACING CONCRETE.
11. CONTRACTOR TO SUBMIT CONSTRUCTION SCHEDULE TO OWNER FOR APPROVAL PRIOR TO CONSTRUCTION.
12. ENGINEER SHALL NOT HAVE CONTROL OR BE RESPONSIBLE FOR CONSTRUCTION MEANS, METHODS, TECHNIQUES, PROCEDURES OR SEQUENCES. FOR THE ACTS OR OMISSIONS OF THE CONTRACTOR, OR ANY OTHER PERSONS PERFORMING THE WORK, OR FOR THE FAILURE OF ANY OF THEM TO CARRY OUT THE WORK IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.
13. ALL REINFORCING STEEL ASTM A615 GRADE 60
14. CONCRETE SLAB ON GRADE 28 DAY STRENGTH SHALL BE $F_c=4500$ PSI (MIN)
15. ALL REINFORCING SHALL BE HELD SECURELY IN POSITION WITH STANDARD ACCESSORIES IN CONFORMANCE W/ THE CRSI MANUAL OF STANDARD PRACTICE AND ACI 315 DURING THE PLACING OF THE CONCRETE.
16. ALL REINFORCING SHALL BE DETAILED IN ACCORDANCE WITH THE ACI DETAILING MANUAL, SP-66, THE CRSI MANUAL OF CONCRETE PRACTICE AND ACI 318.
17. PROVIDE BAR SUPPORTS AND SPACERS IN ACCORDANCE WITH ACI 315 AND CRSI "MANUAL OF STANDARD PRACTICE." ALL BAR SUPPORTS IN AREA WHERE CONCRETE WILL BE EXPOSED SHALL HAVE PLASTIC TIPPED FEET. THE CONTRACTOR IS CAUTIONED THAT CARE MUST BE EXERCISED TO PREVENT EXPOSURE OF THE TIE WIRE OR OTHER MATERIAL WHICH MAY CAUSE STAINING OF EXPOSED CONCRETE. PROPER COVER AS INDICATED ABOVE SHALL BE MAINTAINED ON ALL REINFORCEMENT.
18. UNLESS NOTED OTHERWISE, SPLICES IN REINFORCING, WHERE PERMITTED, SHALL BE CLASS B TENSION SPLICES AS FOLLOWS:
 WELDED WIRE FABRIC: WIRE SPACING PLUS 6"
 REINFORCING BARS:

LAP SPlice SCHEDULE

f _c	#6 and Smaller				#7 and Larger			
	Other Bars		Top Bars		Other Bars		Top Bars	
	Class A	Class B	Class A	Class B	Class A	Class B	Class A	Class B
3000 psi	44 d _s	57 d _s	57 d _s	74 d _s	55 d _s	72 d _s	72 d _s	93 d _s
4000 psi	38 d _s	50 d _s	50 d _s	65 d _s	48 d _s	62 d _s	62 d _s	81 d _s
5000 psi	34 d _s	45 d _s	45 d _s	58 d _s	43 d _s	56 d _s	56 d _s	72 d _s

- NOTES:
1. ALL LAPS SHALL BE CLASS B UNLESS NOTED OTHERWISE.
 2. BEAMS AND COLUMNS: INCREASE LAPS SHOWN BY 50% IF CLEAR SPACING OF BARS IS LESS THAN 2d_s, OR IF CLEAR COVER OF BARS IS LESS THAN d_s.
 3. WALLS, SLABS AND FOOTINGS: INCREASE LAPS SHOWN BY 50% IF CLEAR SPACING OF BARS IS LESS THAN 2d_s, OR IF CLEAR COVER OF BARS IS LESS THAN d_s.
 4. INCREASE LAPS BY 25% FOR GRADE 75 REINFORCEMENT.
 5. INCREASE LAPS BY 33% FOR LIGHTWEIGHT CONCRETE.

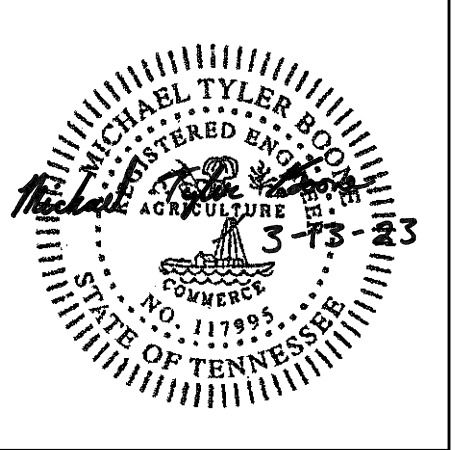
19. DOWELS SHALL BE PLACED BEFORE CONCRETE IS POURED. DOWELS SHALL NOT BE PUSHED INTO THE CONCRETE.
20. PROVIDE COMPRESSIVE STRENGTH TESTS CONFORMING TO ASTM C31 AND ASTM C39. ONE SET OF FOUR CYLINDERS FOR EACH 150 CUBIC YARDS OR FRACTION THEREOF, OF EACH STRENGTH OF CONCRETE PLACED IN ANY ONE DAY. TEST ONE SPECIMEN AT SEVEN DAYS, TEST TWO SPECIMENS AT 28 DAYS AND HOLD ONE IN RESERVE. PERFORM ONE SLUMP TEST FOR EACH SET OF COMPRESSIVE STRENGTH TEST SPECIMENS. SUBMIT RESULTS DIRECTLY TO ENGINEER.
21. CONCRETE EXPOSED TO EARTH AND WEATHER SHALL HAVE LIMESTONE AGGREGATE AND ENTRAINED AIR.
22. CONTRACTOR TO CONFIRM EXTENT AND LAYOUT OF PROPOSED CONCRETE PAVEMENT WITH OWNER PRIOR TO CONSTRUCTION.
23. CONCRETE PAVEMENT IS DESIGNED WITHOUT DEEP FOUNDATIONS DUE TO COST CONCERNS AND THE SHORT DURATION OF TIME (3-5 YEARS) MATA WILL OCCUPY THIS SITE. SOME SETTLEMENT IS EXPECTED ON THIS RECLAIMED LANDFILL SITE.

GRADING & DRAINAGE NOTES

1. CONTRACTOR SHALL MAINTAIN ACCESS TO ALL PROPERTIES.
2. ALL FILL MATERIALS SHALL BE COMPACTED UNTIL THE SURFACE IS TIGHTLY BOUND AND SHOWS NO UNDUE RUTTING OR DISPLACEMENT UNDER OPERATION OF THE ROLLER OR OTHER EQUIPMENT.
3. ALL CONSTRUCTION MATERIALS AND PROCEDURES SHALL MEET OR EXCEED THE REQUIREMENTS OF THE TENNESSEE DEPARTMENT OF TRANSPORTATION 2021 STANDARD SPECIFICATIONS OF ROAD AND BRIDGE CONSTRUCTION.
4. PROPERTY LINES SHALL BE FIELD VERIFIED PRIOR TO CONSTRUCTION. GRADING, CLEARING AND THE ERECTION OR REMOVAL OF FENCES ALONG PROPERTY LINES SHALL BE FULLY COORDINATED WITH OWNER.
5. VERIFY SITE CONDITIONS PRIOR TO CONSTRUCTION.
6. ALL GRADING WORK SHALL BE PERFORMED IN SUCH A MANNER THAT ADJACENT PROPERTIES ARE NOT DAMAGED OR ADVERSELY AFFECTED.
7. FIELD VERIFY ALL EXISTING GRADING AND PROPOSED SLOPES PRIOR TO FORMING FOR ANY CONCRETE, NOTIFY ENGINEER WITH ANY DISCREPANCIES.
8. CONTRACTOR TO ENSURE POSITIVE DRAINAGE ON CONCRETE PAVEMENT. SLAB TO BE FINISHED EVENLY IN SUCH A WAY THAT NO PONDING WILL OCCUR ON SURFACE.
9. CONTRACTOR SHALL PROVIDE A SMOOTH TRANSITION BETWEEN EXISTING PAVEMENT/GRAVEL AND NEW PAVEMENT. FIELD ADJUSTMENT OF FINAL GRADES MAY BE NECESSARY.



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REVISIONS	#	DATE	NOTE	DESCRIPTION
	1	4/3/2023		

MEMPHIS AREA TRANSIT AUTHORITY
MATA BUS ELECTRIFICATION - PHASE 1
 1370 LEVEE ROAD, MEMPHIS, TN 38108

DRAWN BY	DD
DESIGNED BY	MTB
CHECKED BY	SSR

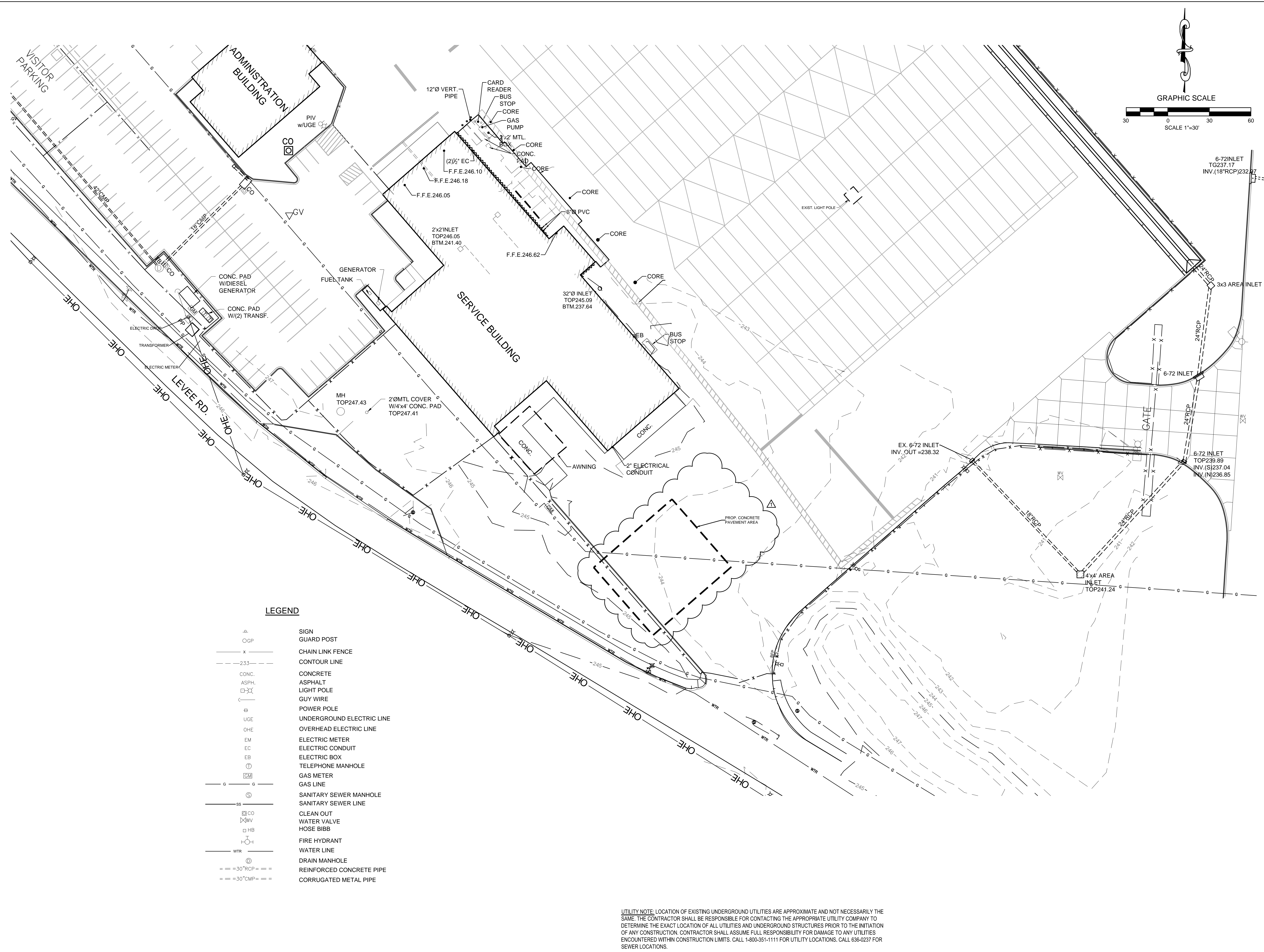
SHEET TITLE

CIVIL NOTES

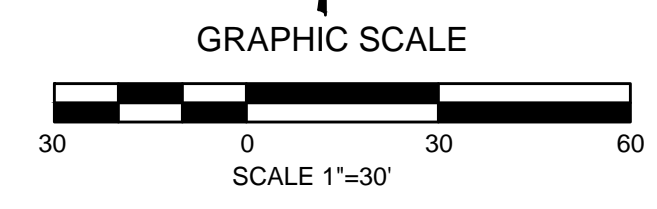
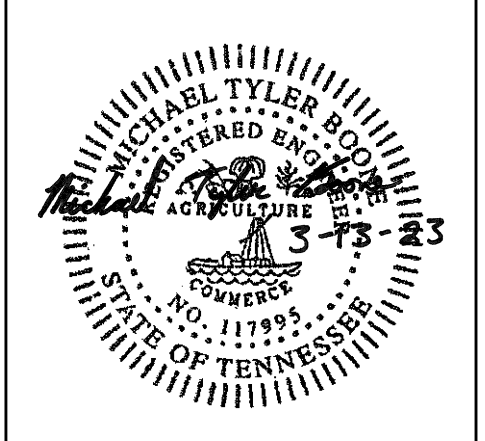
DATE	3/13/2023
PROJECT STATUS	CD
SHEET NUMBER	C0.0

UTILITY NOTE: LOCATION OF EXISTING UNDERGROUND UTILITIES ARE APPROXIMATE AND NOT NECESSARILY THE SAME. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTING THE APPROPRIATE UTILITY COMPANY TO DETERMINE THE EXACT LOCATION OF ALL UTILITIES AND UNDERGROUND STRUCTURES PRIOR TO THE INITIATION OF ANY CONSTRUCTION. CONTRACTOR SHALL ASSUME FULL RESPONSIBILITY FOR DAMAGE TO ANY UTILITIES ENCOUNTERED WITHIN CONSTRUCTION LIMITS. CALL 1-800-351-1111 FOR UTILITY LOCATIONS. CALL 636-0237 FOR SEWER LOCATIONS.

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 SSR Project #: 22640860



REV	DATE	AREA	DESCRIPTION
A	4/3/2023		

LEGEND

△	SIGN
○ GP	GUARD POST
x	CHAIN LINK FENCE
-2.33-	CONTOUR LINE
CONC.	CONCRETE
ASPH.	ASPHALT
□	LIGHT POLE
—	GUY WIRE
⊕	POWER POLE
UGE	UNDERGROUND ELECTRIC LINE
OHE	OVERHEAD ELECTRIC LINE
EM	ELECTRIC METER
EC	ELECTRIC CONDUIT
EB	ELECTRIC BOX
⊙	TELEPHONE MANHOLE
⊙	GAS METER
—	GAS LINE
⊙	SANITARY SEWER MANHOLE
SS	SANITARY SEWER LINE
⊙	CLEAN OUT
⊙	WATER VALVE
□	HOSE BIBB
⊙	FIRE HYDRANT
WTR	WATER LINE
⊙	DRAIN MANHOLE
== 30" RCP ==	REINFORCED CONCRETE PIPE
== 30" CMP ==	CORRUGATED METAL PIPE

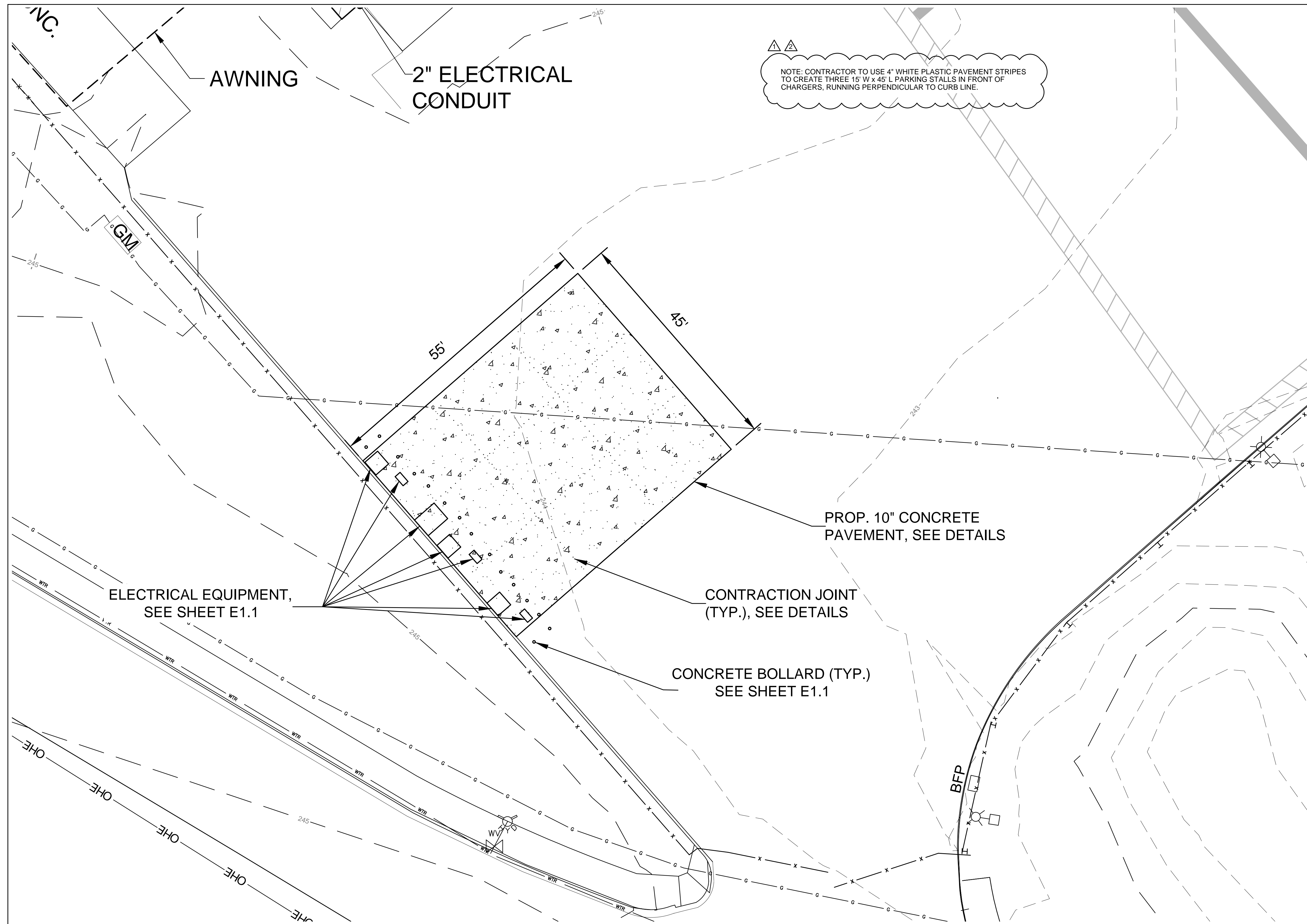
UTILITY NOTE: LOCATION OF EXISTING UNDERGROUND UTILITIES ARE APPROXIMATE AND NOT NECESSARILY THE SAME. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTING THE APPROPRIATE UTILITY COMPANY TO DETERMINE THE EXACT LOCATION OF ALL UTILITIES AND UNDERGROUND STRUCTURES PRIOR TO THE INITIATION OF ANY CONSTRUCTION. CONTRACTOR SHALL ASSUME FULL RESPONSIBILITY FOR DAMAGE TO ANY UTILITIES ENCOUNTERED WITHIN CONSTRUCTION LIMITS. CALL 1-800-351-1111 FOR UTILITY LOCATIONS. CALL 636-0237 FOR SEWER LOCATIONS.

MEMPHIS AREA TRANSIT AUTHORITY
MATA BUS ELECTRIFICATION - PHASE 1
 1370 LEVEE ROAD, MEMPHIS, TN 38108

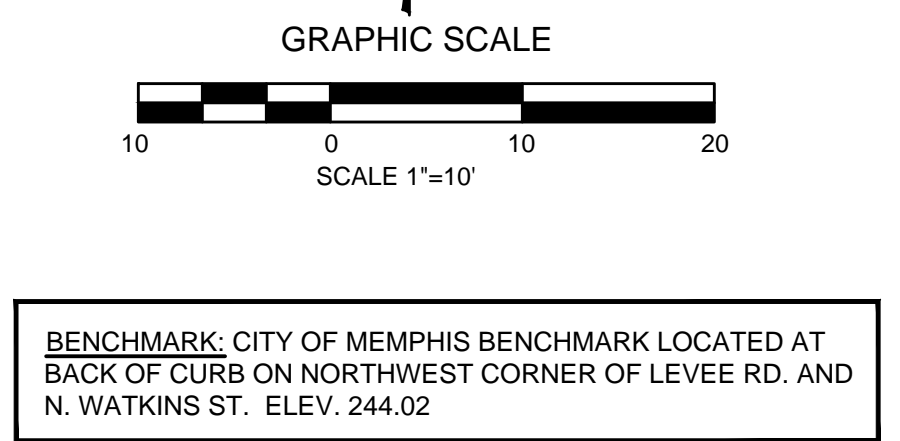
DRAWN BY	DD
DESIGNED BY	MTB
CHECKED BY	SSR

SHEET TITLE	EXISTING CONDITIONS
DATE	3/13/2023
PROJECT STATUS	CD
SHEET NUMBER	C1.0

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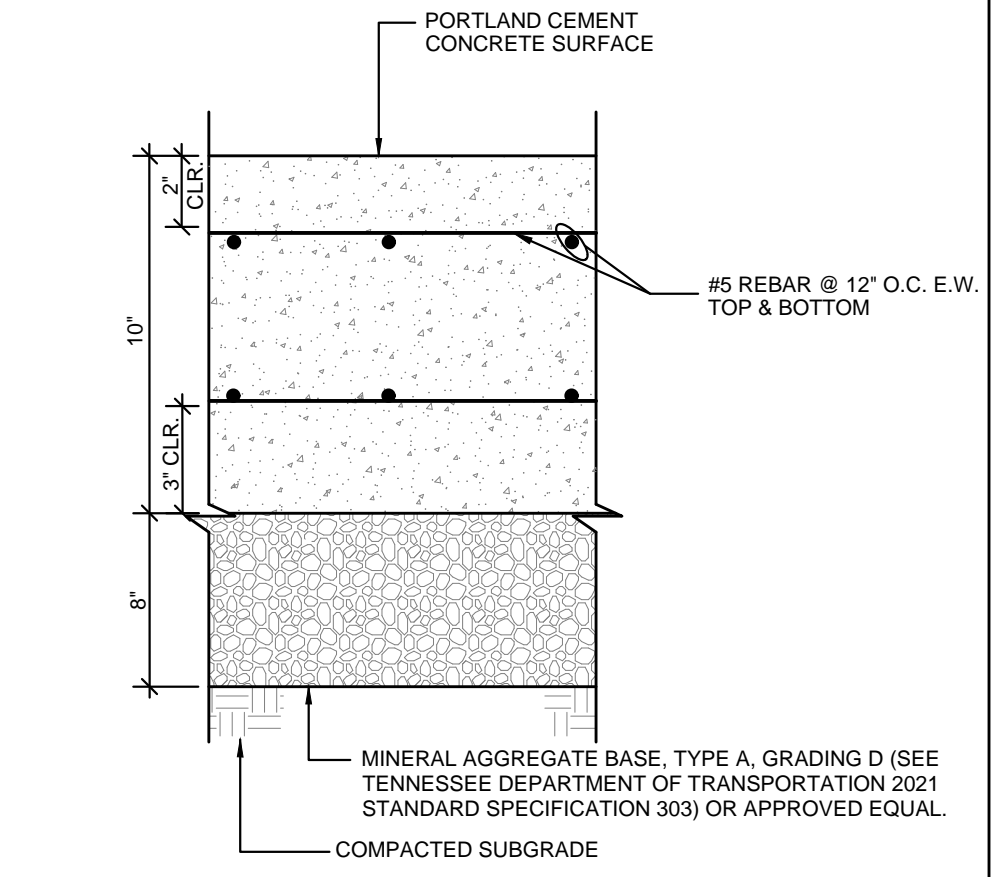


NOTE: CONTRACTOR TO USE 4" WHITE PLASTIC PAVEMENT STRIPES TO CREATE THREE 15' W x 45' L PARKING STALLS IN FRONT OF CHARGERS, RUNNING PERPENDICULAR TO CURB LINE.



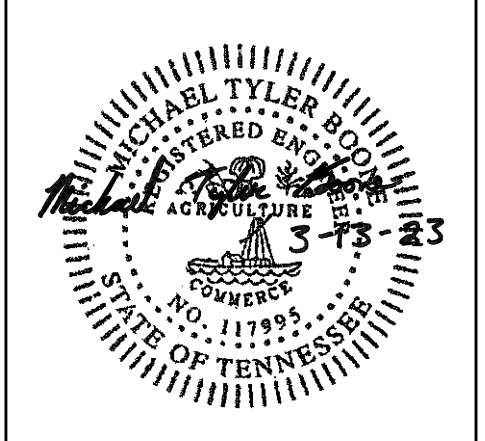
LEGEND

△	SIGN
○ GP	GUARD POST
x	CHAIN LINK FENCE
- - - 233 - - -	CONTOUR LINE
CONC.	CONCRETE
ASPH.	ASPHALT
□	LIGHT POLE
←	GUY WIRE
⊕	POWER POLE
UGL	UNDERGROUND ELECTRIC LINE
OHE	OVERHEAD ELECTRIC LINE
EM	ELECTRIC METER
EC	ELECTRIC CONDUIT
EB	ELECTRIC BOX
⊙	TELEPHONE MANHOLE
GM	GAS METER
○	GAS LINE
SS	SANITARY SEWER MANHOLE
SS	SANITARY SEWER LINE
CO	CLEAN OUT
WV	WATER VALVE
HB	HOSE BIBB
⊕	FIRE HYDRANT
WTR	WATER LINE
⊕	DRAIN MANHOLE
== 30" RCP ==	REINFORCED CONCRETE PIPE
== 30" CMP ==	CORRUGATED METAL PIPE



1 10" CONCRETE PAVEMENT
C2.0 NOT TO SCALE

SSR Smith Seckman Reid, Inc.
2650 Thousand Oaks Boulevard, Suite 4200
Memphis, TN 38118
(901) 683-3900
FAX: (901) 683-3990
www.ssr-inc.com
SSR Project #: 22640860



REVISIONS

NO.	DATE	REV	DESCRIPTION
2	4/27/2023	T	STRIPING NOTE
1	4/3/2023	T	STRIPING NOTE

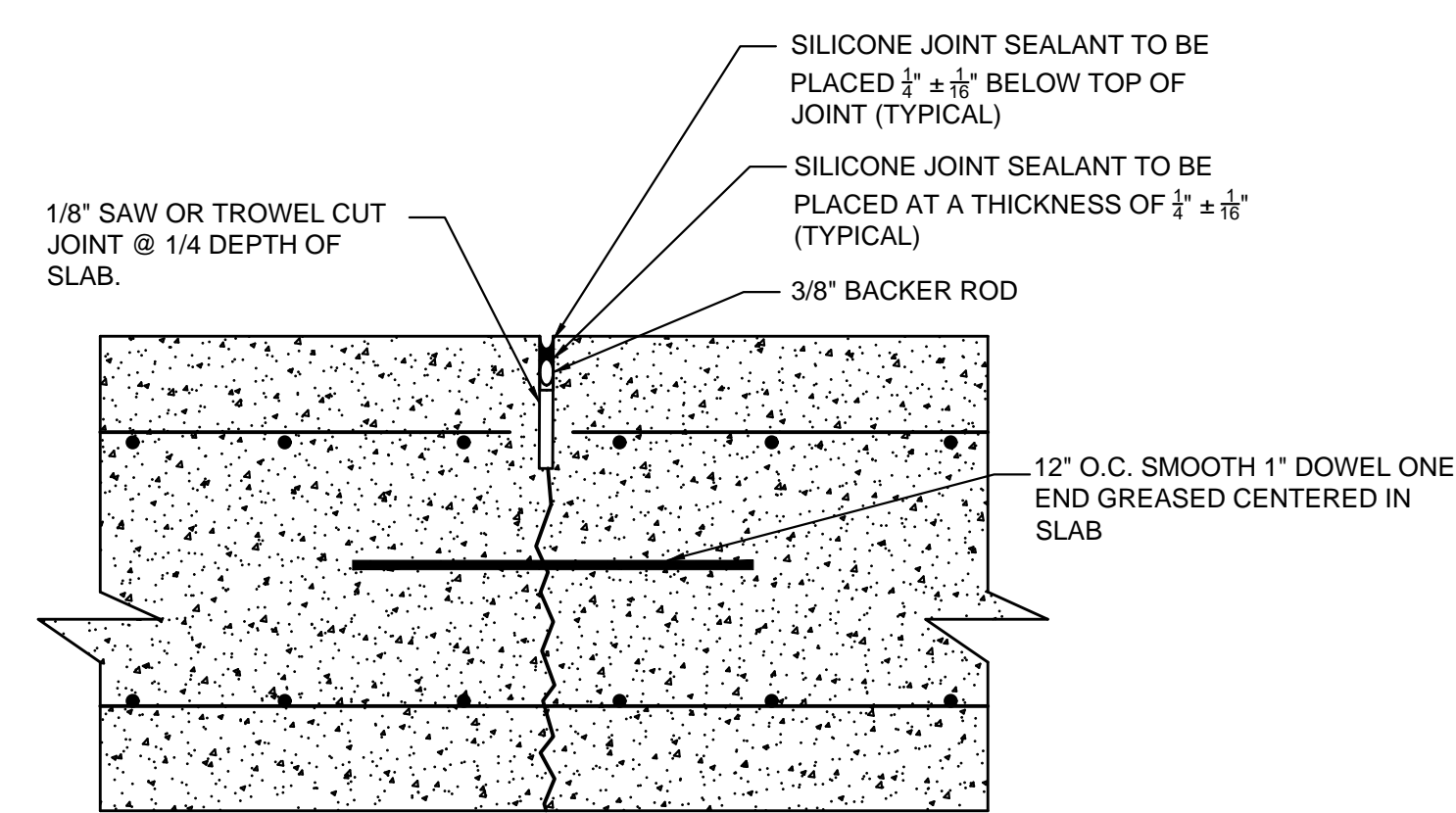
MEMPHIS AREA TRANSIT AUTHORITY
MATA BUS ELECTRIFICATION - PHASE 1
1370 LEEVEE ROAD, MEMPHIS, TN 38108

DRAWN BY	DD
DESIGNED BY	MTB
CHECKED BY	SSR

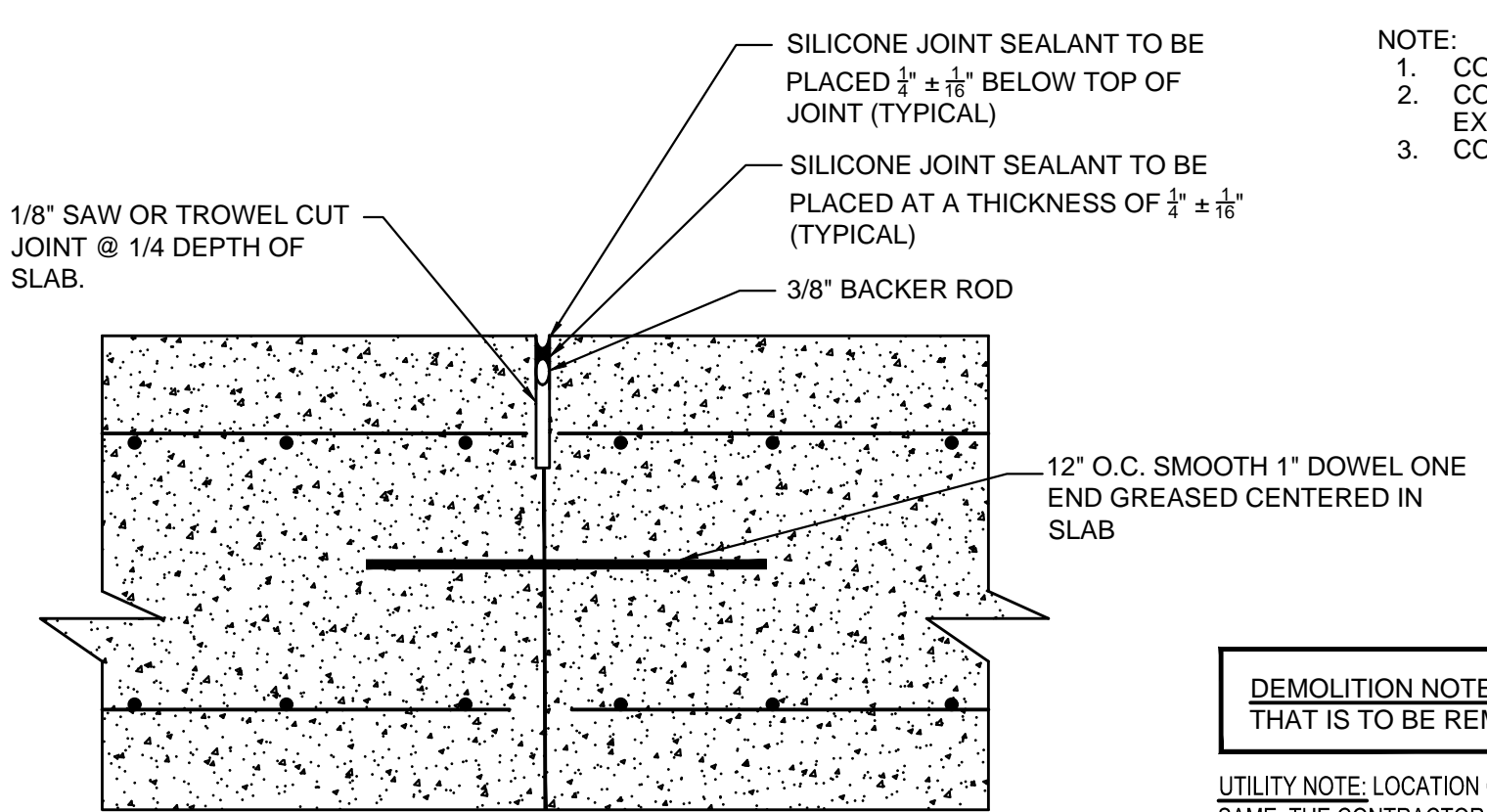
SHEET TITLE

PROPOSED CONCRETE PAVEMENT

DATE	3/13/2023
PROJECT STATUS	CD
SHEET NUMBER	C2.0



2 CONSTRUCTION JOINT
C3.0 NOT TO SCALE



3 CONSTRUCTION JOINT
C3.0 NOT TO SCALE

- NOTE:
- CONSTRUCTION JOINT LAYOUT SHOWN ON PLAN IS SCHEMATIC.
 - CONSTRUCTION JOINT OUTER DIMENSIONS SHOULD NOT EXCEED 2:1 RATIO.
 - CONSTRUCTION JOINT SPACING SHALL NOT EXCEED 20'.

DEMOLITION NOTE: CONTRACTOR TO SAWCUT ALL PORTIONS OF EXISTING ASPHALT THAT IS TO BE REMOVED TO ENSURE A SMOOTH TRANSITION

UTILITY NOTE: LOCATION OF EXISTING UNDERGROUND UTILITIES ARE APPROXIMATE AND NOT NECESSARILY THE SAME. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTING THE APPROPRIATE UTILITY COMPANY TO DETERMINE THE EXACT LOCATION OF ALL UTILITIES AND UNDERGROUND STRUCTURES PRIOR TO THE INITIATION OF ANY CONSTRUCTION. CONTRACTOR SHALL ASSUME FULL RESPONSIBILITY FOR DAMAGE TO ANY UTILITIES ENCOUNTERED WITHIN CONSTRUCTION LIMITS. CALL 1-800-351-1111 FOR UTILITY LOCATIONS. CALL 636-0237 FOR SEWER LOCATIONS.

DEMOLITION NOTES:

- THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING HIS OPERATIONS WITH THE OWNER TO ENSURE ADEQUATE ACCESS TO FACILITIES AT THE SITE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING TRAFFIC CONTROL AND PHASING ARRANGEMENTS WITH THE OWNER PRIOR TO COMMENCEMENT OF WORK.
- ALL MATERIALS RESULTING FROM DEMOLITION SHALL BE REMOVED AND DISPOSED OF OFF THE SITE IN AN APPROVED DISPOSAL SITE, IN ACCORDANCE WITH GOVERNMENTAL REGULATIONS, EXCEPT WHEN NOTED OTHERWISE.
- IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO DETERMINE THE EXACT LOCATION AND EXISTENCE OF ALL EXISTING UTILITIES PRIOR TO ANY DEMOLITION OR CONSTRUCTION.
- TENNESSEE STATE LAW, THE UNDERGROUND FACILITIES DAMAGE PREVENTION ACT, REQUIRES ADVANCE NOTIFICATION THROUGH THE TENNESSEE ONE-CALL SYSTEM CENTER AT LEAST THREE WORKING DAYS PRIOR TO EXCAVATING AT 1-800-351-1111. THE CONTRACTOR SHALL CONTACT ALL NON-MEMBER OF THE TENNESSEE ONE-CALL SYSTEM.

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