MEMPHIS DOWNTOWN PARKING FACILITIES 2024 MEP/FP REPLACEMENT









DRAWIN	IG LIOT	ISSUED	
SHEET NO.	SHEET NO. SHEET NAME		
E0.0	COVER SHEET	•	
E1.0	GENERAL NOTES, SCHEDULES AND LEGENDS	•	
E1.1	SHOPPERS LOWER TIER LIGHTING PLAN	•	
E1.2	SHOPPERS INTERMEDIATE & UPPER TIER LIGHTING PLAN	•	
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E2.2	CRIMINAL JUSTICE CENTER THIRD & FOURTH TIER LIGHTING PLAN	•	
E2.3	CRIMINAL JUSTICE CENTER FIFTH & SIXTH TIER LIGHTING PLAN	•	
E2.4	CRIMINAL JUSTICE CENTER SEVENTH TIER LIGHTING PLAN	•	
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E3.2	PEABODY SECOND TIER LIGHTING PLAN	•	
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E3.5	PEABODY FIFTH TIER LIGHTING PLAN	•	
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E4.1	FIRST PLACE GROUND & SECOND TIER LIGHTING PLAN	•	
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E5.1	BARBORO FLATS LEVEL B3 TIER LIGHTING PLAN •		
E5.2	BARBORO FLATS LEVEL B2 TIER LIGHTING PLAN	•	
E5.3	BARBORO FLATS LEVEL B1 TIER LIGHTING PLAN	•	
E5.4	BARBORO FLATS LEVEL 1 TIER LIGHTING PLAN	•	
E5.5	BARBORO FLATS LEVEL 1M TIER LIGHTING PLAN	•	

DRAWING LIST			
SHEET NO.	SHEET NAME	ISSUED FOR BID	
FP0.1	GENERAL NOTES AND LEGEND	•	
FP1.1 CRIMINAL JUSTICE CENTER SECOND TIER PLAN - FIRE PROTECTION		•	

Owner:

Downtown Mobility Commission

114 N. Main St. Memphis, TN 38103 T: (901) 575-0555

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Structural Restoration Engineers

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Mech/Elec/Plumb/FP Engineers

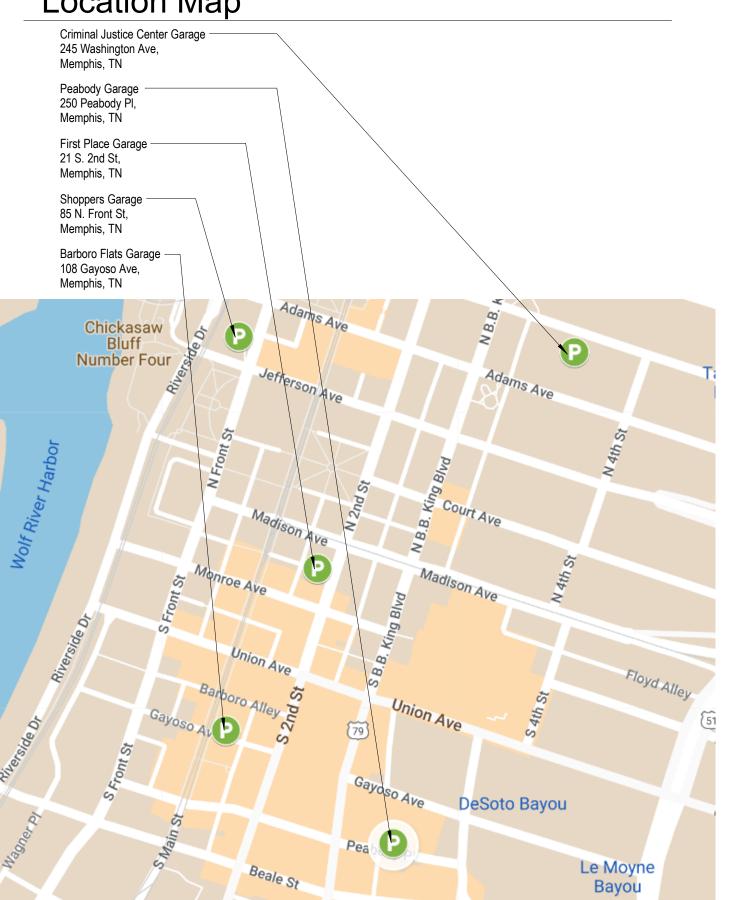
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Contact: Mr. Chad Stewart, PE LEED AP

Location Map





ISSUED FOR BID 05/03/2024

ELECTRICAL SPECIFICATIONS

SCOPE

INCLUDES THE FURNISHING OF ALL LABOR, SUPERVISION, MATERIALS, EQUIPMENT, TOOLS, ETC., REQUIRED FOR THE COMPLETE INSTALLATION OF ELECTRICAL SYSTEMS FOR SHOPPERS GARAGE IN MEMPHIS TENNESSEE, AS OUTLINED IN THESE SPECIFICATIONS AND SHOWN ON THE DRAWINGS. THE WORK SHALL INCLUDE, BUT IS NOT NECESSARILY LIMITED TO, LABOR AND MATERIAL FOR THE FOLLOWING:

- . ELECTRICAL BOXES AND FITTINGS.
- SUPPORTING DEVICES.
 GROUNDING.
- 4. LIGHTING FIXTURES AND LAMPS.

EXIT SIGNS AND EMERGENCY LIGHTING.

CODES AND PERMITS

ALL ELECTRICAL WORK SHALL BE INSTALLED IN ACCORDANCE WITH THE REQUIREMENTS OF THE 2020 EDITION OF THE NATIONAL ELECTRICAL CODE, AND THE LATEST EDITION OF ALL LOCAL OR STATE CODES, LAWS, AND ORDINANCES, AND THE REQUIREMENTS OF THE LOCAL ELECTRIC UTILITY, AS WELL AS NFPA 72 FOR THE FIRE ALARM SYSTEM AND THE 2021 IECC ENERGY CODE.

THIS CONTRACTOR SHALL APPLY FOR, OBTAIN, AND PAY FOR ALL PERMITS REQUIRED. AT THE CONCLUSION OF THE INSTALLATION, HE SHALL SECURE A CERTIFICATE OF INSPECTION, PROPERLY SIGNED BY THE CONTROLLING BUILDING DEPARTMENT, WHICH SHALL STATE THAT ALL RULES HAVE BEEN COMPLIED WITH AND THAT THE WORK IS SATISFACTORY.

MATERIAL AND EQUIPMENT

ALL MATERIAL AND EQUIPMENT SHALL BE NEW AND OF THE QUALITY SPECIFIED.

MATERIAL OR EQUIPMENT THAT HAS BEEN STORED OUTDOORS UNPROTECTED FOR LONG PERIODS OF TIME OR OTHERWISE DAMAGED IS NOT ACCEPTABLE AS NEW MATERIAL.

APPARATUS AND MATERIALS USED IN THIS WORK WHICH ARE SUBJECT TO APPROVAL OF UNDERWRITERS LABORATORIES (UL) SHALL BEAR THE UL LABEL, OR BE UNDERWRITERS LISTED.

SHOP DRAWINGS

SUBMIT DIGITAL SHOP DRAWINGS AND MANUFACTURER'S DATA SHEETS FOR ALL EQUIPMENT FOR REVIEW BY THE ENGINEER PRIOR TO CONSTRUCTION IN PDF FORMAT. SUBSTITUTES WILL BE RECEIVED, HOWEVER, THIS CONTRACTOR SHALL BE PREPARED TO FURNISH MATERIALS AS SPECIFIED IF REQUIRED BY SHOP DRAWING REVIEW.

EQUIPMENT COORDINATION

THIS CONTRACTOR SHALL COORDINATE THE ELECTRICAL REQUIREMENTS FOR ALL HVAC, PLUMBING, AND FIRE PROTECTION EQUIPMENT. WHERE THE DESIGN INFORMATION SHOWN ON THE DRAWINGS IS DIFFERENT THAN THE ACTUAL INSTALLED EQUIPMENT, THIS CONTRACTOR SHALL MAKE CHANGES IN WIRE AND CIRCUIT BREAKER SIZES AS REQUIRED WITHOUT ADDITIONAL COST TO THE OWNER.

PRIOR APPROVAL OF EQUIPMENT

ELECTRICAL EQUIPMENT SHALL BE FURNISHED AS SPECIFIED; HOWEVER, ALTERNATES TO THE SPECIFIED EQUIPMENT WILL BE ACCEPTED. IF A PRODUCT IS TO BE CONSIDERED AS AN EQUAL TO THE PRODUCTS SPECIFIED HEREIN AND ON THE DRAWINGS, MANUFACTURERS PRODUCT INFORMATION SHALL BE SUBMITTED TO THE ENGINEER THRU THE ARCHITECT FOR REVIEW FIVE (5) WORKING DAYS PRIOR TO BIDDING. SUBSTITUTION PRODUCTS SUBMITTED AFTER THE FIVE (5) WORKING DAY DEADLINE OR AFTER THE BIDDING PROCESS WILL NOT BE CONSIDERED.

ACCURACY OF DATA

DRAWINGS ARE GENERALLY DIAGRAMMATIC AND ARE NOT INTENDED TO SHOW EXACT LOCATIONS OF OUTLETS, CONDUITS, SWITCHES, FIXTURES, ETC. INSTALL ALL WORK AS NEARLY AS POSSIBLE IN THE LOCATIONS SHOWN WITH MINOR ADJUSTMENTS TO AVOID INTERFERENCES WITH STRUCTURE OR THE WORK OF OTHER TRADES. COORDINATE THE EXACT LOCATIONS WITH THE OWNER AND/OR ARCHITECT.

MODIFICATION TO EXISTING FACILITY

MAKE MODIFICATION AND ADDITIONS TO EXISTING FACILITY AS SHOWN ON THE DRAWINGS. VERIFY ALL EXISTING CONDITIONS BY SITE SURVEY.

COORDINATION

THE ELECTRICAL CONTRACTOR SHALL COORDINATE HIS 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 SEVERAL PARTS OF THE WORK.

THIS CONTRACTOR SHALL USE EVERY PRECAUTION TO PROTECT THE WORK OF OTHERS, AND HE WILL BE HELD RESPONSIBLE FOR ALL DAMAGE DONE BY HIS WORKERS TO THE WORK OF OTHER TRADES. HE SHALL ALSO PROTECT HIS WORK FROM DANGER OF BREAKAGE, DIRT, FOREIGN MATERIALS, ETC., AND SHALL REPLACE ALL WORK SO DAMAGED.

MANUFACTURER'S RECOMMENDATIONS

UNLESS SPECIFICALLY INDICATED OTHERWISE, ALL EQUIPMENT AND MATERIALS SHALL BE INSTALLED IN ACCORDANCE WITH THE BEST RECOMMENDATION OF THE MANUFACTURER.

CUTTING AND PATCHING

THIS CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CUTTING AND PATCHING REQUIRED FOR PLACEMENT OF HIS WORK AND SHALL EMPLOY WORKERS SKILLED IN THE TRADES REQUIRED. THIS CONTRACTOR SHALL BE RESPONSIBLE FOR ALL SLEEVES AND FIRE CAULKING WHERE PENETRATIONS ARE MADE THROUGH RATED FLOORS OR WALLS.

PROTECTION OF FLOORS

FLOORS SHALL BE PROTECTED WHERE CUTTING AND THREADING OPERATIONS TAKE PLACE. PROTECTION SHALL BE ACCEPTABLE TO THE GENERAL CONTRACTOR.

TEMPORARY CONSTRUCTION POWER AND LIGHTING

THIS CONTRACTOR SHALL FURNISH AND INSTALL ALL TEMPORARY WIRING FOR CONSTRUCTION POWER AND LIGHTING FOR THE PROJECT.

TEMPORARY ELECTRICAL SERVICE FOR CONSTRUCTION POWER AND LIGHTING SHALL BE PROVIDED BY THIS CONTRACTOR.

ALL TEMPORARY WIRING FOR CONSTRUCTION SHALL CONFORM TO ARTICLE 305 OF THE NATIONAL ELECTRICAL CODE AND ALL APPLICABLE RULES AND REGULATIONS OF OSHA.

RECORD DRAWINGS AND MAINTENANCE MANUALS

THIS CONTRACTOR SHALL MAINTAIN A SET OF UP-TO-DATE RECORD DRAWINGS AT THE JOB SITE SHOWING WORK AS INSTALLED. UPON COMPLETION OF THE PROJECT, THIS CONTRACTOR SHALL PREPARE AS-BUILT DRAWINGS ON MYLAR SHOWING CONDITIONS AS INSTALLED. THREE (3) COPIES OF MAINTENANCE MANUALS CONTAINING MANUFACTURER'S INSTALLATION AND MAINTENANCE INFORMATION ON ALL EQUIPMENT INSTALLED SHALL BE PRESENTED TO THE OWNER. FINAL PAYMENT SHALL BE MADE AFTER AS-BUILT DRAWINGS AND MAINTENANCE MANUALS HAVE BEEN APPROVED.

TESTS

THE ENTIRE WIRING SYSTEM SHALL BE THOROUGHLY TESTED AND DEFECTS CORRECTED. ALL ELECTRICAL WIRING SHALL BE TESTED FOR CONTINUITY, SHORTS, IMPROPER GROUNDS AND INSULATION RESISTANCE. MOTORS SHALL BE CHECKED FOR PROPER ROTATION AND BRANCH CIRCUIT AND OVERLOAD PROTECTION. PANELBOARDS SHALL BE CHECKED FOR BALANCED LOADING. PANELBOARDS SHALL BE CHECKED FOR CORRECT PHASE ROTATION. DISCREPANCIES SHALL BE CORRECTED. THIS CONTRACTOR SHALL FURNISH TEST EQUIPMENT AND MATERIAL, AND SHALL BE RESPONSIBLE FOR REPLACEMENT OR REPAIR OF DAMAGE DUE TO TEST FAILURES.

GUARANTEE

THE CONTRACTOR SHALL GUARANTEE TO THE OWNER ALL WORK PERFORMED UNDER THIS CONTRACT TO BE FREE FROM DEFECTS IN WORKMANSHIP AND MATERIAL FOR A PERIOD OF ONE (1) YEAR FROM DATE OF FINAL ACCEPTANCE. DEFECTS ARISING DURING THIS PERIOD WILL BE PROMPTLY REMEDIED BY THE CONTRACTOR AT HIS OWN EXPENSE UPON NOTICE BY THE OWNER. ALL LAMPS FOR LIGHTING FIXTURES SHALL BE EXCLUDED FROM THIS GUARANTEE, BUT ONE (1) COMPLETE AND OPERATIVE SET OF LAMPS FOR LIGHTING FIXTURES SHALL BE IN PLACE AT THE TIME OF FINAL ACCEPTANCE.

ELECTRICAL RACEWAYS

VIBRATION.

ALL WIRING SHALL BE INSTALLED IN A CONTINUOUS CONDUIT

ALL CONDUIT SUBJECT TO WEATHER AND/OR MECHANICAL

DAMAGE SHALL BE GALVANIZED RIGID STEEL OR IMC.

ELECTRIC METALLIC TUBING (EMT) MAY BE USED FOR ALL OTHER CONDUIT APPLICATIONS UNLESS MODIFIED BY THIS SPECIFICATION OR BY THE DRAWINGS. MINIMUM CONDUIT SIZE SHALL BE 1/2".

SHORT LENGTHS OF FLEXIBLE STEEL CONDUIT, "GREENFIELD", SHALL BE USED ONLY ABOVE FURRED CEILINGS BETWEEN OUTLET BOXES AND LAY-IN TYPE LIGHTING FIXTURES.

SEALTITE FLEXIBLE METAL CONDUIT SHALL BE USED FOR FINAL CONNECTION TO MOTORS AND EQUIPMENT SUBJECT TO

SEALTITE CONDUIT SHALL NOT BE USED FOR OTHER APPLICATIONS.

PVC SCHEDULE 40 CONDUIT SHALL BE USED FOR OUTDOOR UNDERGROUND CONDUIT RUNS.

EXPOSED CONDUIT SHALL BE RUN IN PARALLEL ROWS NEATLY RACKED PARALLEL OR PERPENDICULAR TO WALLS AND STRUCTURAL MEMBERS.

WHEREVER POSSIBLE, LOCATE CONDUIT HIGH AS POSSIBLE OVER PIPING OF OTHER TRADES. ALL HORIZONTAL CONDUIT RUNS ABOVE FURRED CEILINGS SHALL BE RUN AS HIGH AS POSSIBLE IN ORDER TO PROVIDE FREE SPACE ABOVE CEILING FOR INSTALLATION OF AIR DISTRIBUTION DUCT AND PIPING.

PLUG THE ENDS OF EACH RACEWAY WITH AN APPROVED CAP OR CAPPED BUSHING TO PREVENT THE ENTRANCE OF FOREIGN MATERIAL DURING THE CONSTRUCTION PERIOD. CONDUIT LEFT EMPTY FOR FUTURE WIRING SHALL BE CAPPED.

CONDUITS PROJECTING THROUGH ROOFING SHALL BE MADE WATERTIGHT BY PROPER FLASHING AND PITCH POCKETS WITH STORM COLLAR SECURELY FASTENED TO CONDUIT ABOVE THE FLASHING.

PROVIDE BONDING TYPE CONDUIT EXPANSION JOINTS OR FITTINGS WHERE CONDUIT CROSSES BUILDING EXPANSION JOINTS. ALL EXPANSION JOINT FITTINGS TO BE PROVIDED WITH EXTERNAL BONDING JUMPER ARE TO BE OF TYPE APPROVED FOR USE WITH A BONDING JUMPER.

ALL RIGID STEEL AND IMC CONDUIT COUPLINGS, FITTINGS, AND CONNECTORS SHALL BE THREADED TYPE.

WHERE PVC CONDUIT IS USED, ALL JOINTS SHALL BE SOLVENT WELDED WITH CEMENT FURNISHED BY THE CONDUIT MANUFACTURER. PROVIDE SUITABLE ADAPTERS WHERE PVC CONDUITS ARE COUPLED TO METALLIC CONDUITS.

PROVIDE A RIGID ELBOW AT BASE OF EACH EXPOSED RISER FROM BELOW GRADE, AS INDICATED ON THE DRAWINGS OR AS REQUIRED.

CONDUIT SHALL NOT BE RUN IN OR UNDER FLOOR SLAB, EXCEPT WHERE RISING UP FROM UNDERGROUND SERVICE TO BUILDING PANELBOARDS.

PROVIDE FIRE BARRIER PENETRATION SEALS WHERE CONDUIT PENETRATES FIRE RATED WALLS OR FLOORS.

WHERE RUN CONCEALED AND ALLOWED BY CODE, IT IS

ACCEPTABLE TO USE TYPE "MC" CABLE INLIEU OF EMT CONDUIT AND BUILDING WIRE.

FROM EACH FLUSH MOUNTED PANELBOARD, EXTEND INTO AN

ACCESSIBLE LOCATION A 3/4" EMPTY CONDUIT FOR EVERY

THREE SPARE BRANCH BREAKERS OR BREAKER SPACES.

CONDUCTORS

ALL CONDUCTORS SHALL BE STRANDED COPPER WITH THHN-TYPE 2 INSULATION. ALL CONDUCTORS SHALL BEAR THE UL LABEL. MINIMUM SIZE CONDUCTOR SHALL BE #12 AWG. WIRE SIZES SHOWN ON THIS DRAWING ARE CALCULATED USING THE 75 DEGREE CELSIUS COLUMN OF TABLE 310.15(B)(16). FOR EQUIPMENT THAT IS RATED SOLELY FOR 60 DEGREE CELSIUS, PROVIDE WIRE SIZED USING THE 60 DEGREE COLUMN.

SEISMIC RESTRAINTS

ALL ELECTRICAL EQUIPMENT SHALL BE SUPPORTED WITH MULTIDIRECTIONAL BRACING AS REQUIRED BY THE NATIONAL, STATE, AND/OR LOCAL BUILDING CODES.

THIS CONTRACTOR SHALL CONSULT THE APPROPRIATE BUILDING CODE TO DETERMINE THE DESIGN REQUIREMENTS FOR SEISMIC BRACING.

THIS CONTRACTOR SHALL EMPLOY A FIRM LICENSED IN THE TRADE TO DESIGN SEISMIC BRACING FOR ALL HIS EQUIPMENT.

PROVIDE SEISMIC BRACING PRODUCTS AS MANUFACTURED BY MASON INDUSTRIES INC. OF ANAHEIM, CALIFORNIA OR AN APPROVED EQUAL.

GROUNDING

PROVIDE GROUNDING AS REQUIRED BY THE NATIONAL ELECTRICAL CODE AND LOCAL CODES. PROVIDE SYSTEM AND ENCLOSURE GROUNDING AT THE SERVICE ENTRANCE PANEL. PROVIDE EXTERNAL 3/4" X 10' COPPERCLAD GROUND ROD OUTSIDE THE BUILDING. PROVIDE GROUNDING ELECTRODE CONDUCTORS IN ACCORDANCE WITH ARTICLE 250-94 OF THE NATIONAL ELECTRICAL CODE. PROVIDE EQUIPMENT GROUNDING CONDUCTORS IN ALL FLEXIBLE CONDUIT CONNECTIONS. CONNECT ALL GROUNDING CONDUCTORS WITH APPROVED GROUND CLAMPS.

LIGHTING

PROVIDE LIGHTING FIXTURES AND LAMPS PER THE "LIGHTING FIXTURE SCHEDULE" SHOWN ON THE DRAWINGS. PROVIDE RETAINER CLIPS ON ALL LAY-IN RECESSED LIGHT FIXTURES AS REQUIRED BY THE NATIONAL ELECTRICAL CODE AND APPLICABLE BUILDING CODES.

ALL EMERGENCY LIGHTING FIXTURES SHALL BE PERMANENTLY CONNECTED TO THE ELECTRICAL SYSTEM. PROVIDE CIRCUIT BREAKER LOCK-ON DEVICES AT CIRCUIT BREAKERS CONTROLLING EXIT AND EMERGENCY LIGHTING CIRCUITS.

DEMOLITION

REMOVE, AS NOTED ON THE DRAWINGS, ALL ELECTRICAL EQUIPMENT AND WIRING.

FURNISH AND INSTALL CONDUIT AND CONDUCTORS TO MAINTAIN CIRCUIT CONTINUITY, WHERE NECESSARY.

COMPLY WITH THE LOCAL AND NATIONAL CODES WHEN RECONNECTING CIRCUITS FOR CONTINUITY.

WHEN DISCONNECTING BRANCH CIRCUITS, LOCATE EACH PIECE OF EQUIPMENT AFFECTED AND NOTIFY THE OWNER OF SERVICE INTERRUPTION PRIOR TO CIRCUIT REMOVAL.

WHERE REMOVAL OF ELECTRICAL ITEMS WOULD INTERRUPT POWER TO THE REMAINDER OF A BRANCH CIRCUIT, THIS CONTRACTOR SHALL FURNISH AND INSTALL CONDUIT, WIRING, CONNECTIONS, AND JUNCTION BOXES AS REQUIRED TO ENSURE CIRCUIT CONTINUITY AFTER THE ELECTRICAL ITEMS HAVE BEEN REMOVED.

REMOVE ALL DEMOLITION WIRING AND CONDUIT WHERE CONDUIT IS ACCESSIBLE BACK TO ITS POINT OF ORIGINATION.

THIS CONTRACTOR SHALL REMOVE FROM THE SITE ALL ELECTRICAL MATERIAL REMOVED IN DEMOLITION.

WHERE ELECTRICAL EQUIPMENT IS SUPPLIED FROM UNDER THE EXISTING FLOOR SLAB, REMOVE EXISTING CONDUCTORS BACK TO THE SOURCE OF ORIGIN AND REPAIR CONDUIT EXITING THE SLAB AS DIRECTED BY THE ARCHITECT.

DISPOSAL OF REGULATED HAZARDOUS AND SPECIAL MATERIAL
REMOVE AND DISPOSE OF ALL MATERIAL THAT CONTAINS OR IS
CONSTRUCTED OF REGULATED HAZARDOUS OR SPECIAL
MATERIALS ASSOCIATED WITH THE PROJECT THAT ARE DEEMED
AS HARMFUL TO THE ENVIRONMENT BY LOCAL, STATE AND
FEDERAL REGULATIONS AS SHOWN ON THE DRAWINGS AND

COMPLY WITH LOCAL, STATE AND FEDERAL REGULATIONS WHEN DISPOSING OF REGULATED HAZARDOUS AND SPECIAL MATERIAL AS APPLICABLE TO THE PROJECT.

SPECIFIED HEREIN.

THIS CONTRACTOR SHALL REMOVE, STORE, TRANSPORT, AND DISPOSE OF ALL ITEMS CONTAINING REGULATED HAZARDOUS OR SPECIAL MATERIALS IN ACCORDANCE WITH ALL STATE, LOCAL AND FEDERAL REGULATIONS PERTAINING TO THE DISPOSAL OF THESE MATERIALS.

LIGHTING FIXTURE SCHEDULE Lamp Electrical Data Mark Description Manufacturer Comments LED Emergency Lights Lithonia 120 V/1-2 VA LED Remote Emergency Lithonia ELA SD QWP L0309 M12 LED 120 V/1-5 VA Combination LED Exit Sign LHQM LED R HO LED 120 V/1-5 VA Lithonia

ELECTRICAL ABBREVIATIONS

ELECTRICAL LEGEND

GFCI DUPLEX

FUSED DISCONNECT

NON-FUSED DISCONNECT

⊢**⊘** WALL MOUNT EXIT SIGN

CEILING MOUNT EXIT SIGN

EMERGENCY STRIP LIGHT

WALL MOUNT EMERGENCY LIGHT

➡ DUPLEX

STRIP LIGHT

X" INDICATES MOUNTING HEIGHT AFF

AUTOMATIC TRANSFER SWITCH

- AFF ABOVE FINISHED FLOOR
- AFG ABOVE FINISHED GRADE
- FLA FULL LOAD AMPS
- GFCI GROUND FAULT CIRCUIT INTERRUPTER
- GRS GALVANIZED RIGID STEEL
- LED LIGHT EMITTING DIODE
- LED LIGHT EMITTING DIODE
- IG ISOLATED GROUND
- MCB MAIN CIRCUIT BREAKER
- MCC MOTOR CONTROL CENTER

MLO MAIN LUGS ONLY

NON-FUSED

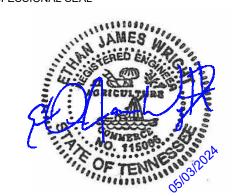
- N.I.C. NOT IN CONTACT
- NEC NATIONAL ELECTRIC CODE
- N.T.S. NOT TO SCALE
- UNO UNLESS OTHERWISE NOTED
- WP WEATHERPROOF

XFMR TRANSFORMER

/ E#.# DETAIL NUMBER/SHEET NUMBER

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PROFESSIONAL SEAL



CONSULTANT



PROJECT NO.
ATL23110.01
PROJECT

MEMPHIS DOWNTOWN PARKING FACILITIES

2024 MEP/FP REPLACEMENT

SUBMISSIONS / REVISIONS
05/03/2024
ISSUED FOR BID

DESCRIPTION

DRAWN:	
DRAWN:	
DRAWN:	B.JB
DRAWN:	BJB
	ВЈВ
DRAWN:	BJB

SHEET TITLE:

GENERAL NOTES, SCHEDULES AND LEGEND

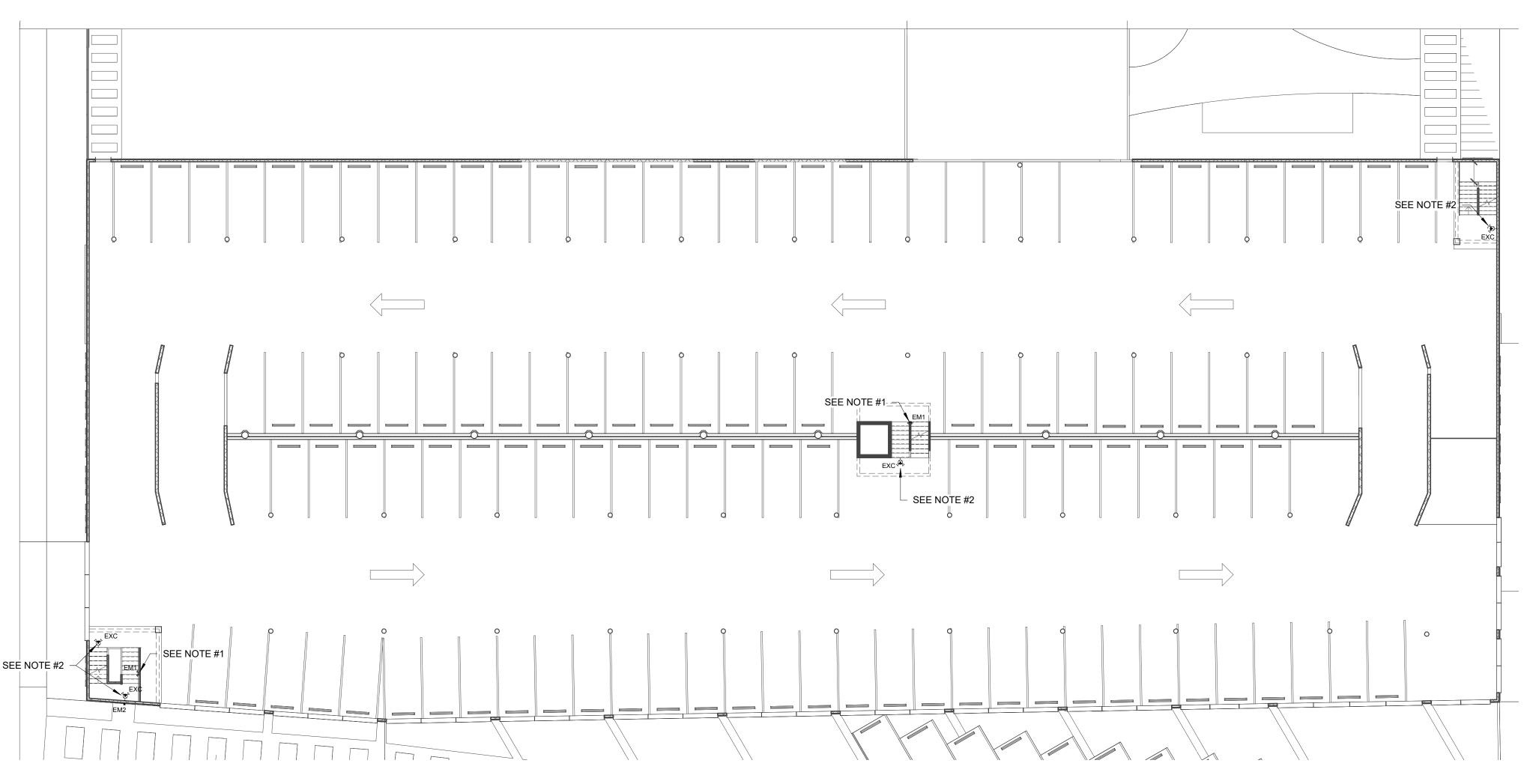
SHEET NO.

E1.0

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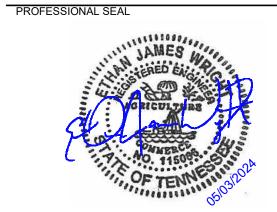
05/03/2024

- REPLACE EXISTING EMERGENCY LIGHTS THROUGHOUT THE GARAGE AND STAIRWELLS 1 FOR 1. FIELD VERIFY THE EXACT QUANTITY AND LOCATIONS BEFORE INSTALLATION.
- 2. PROVIDE NEW BATTERY POWERED EXIT LIGHTS THROUGHOUT THE GARAGE AND STAIRWELLS AT EXISTING EXIT SIGN LOCATIONS. EXTEND NEAREST LIGHTING CIRCUIT WITH UNSWITCHED HOT LEG TO NEW EXIT SIGNS. FIELD VERIFY THE EXACT QUANTITY AND LOCATIONS BEFORE INSTALLATION. PROVIDE CHEVRONS TO MATRCH THE EXISTING EXIT



1 SHOPPERS GARAGE GROUND AND 2ND TIER E1.1 1/16" = 1'-0"





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PROJECT NO. ATL23110.01 PROJECT

MEMPHIS DOWNTOWN PARKING FACILITIES

2024 MEP/FP REPLACEMENT

SUBMISSIONS / REVISIONS 05/03/2024 ISSUED FOR BID

NO. DESCRIPTION

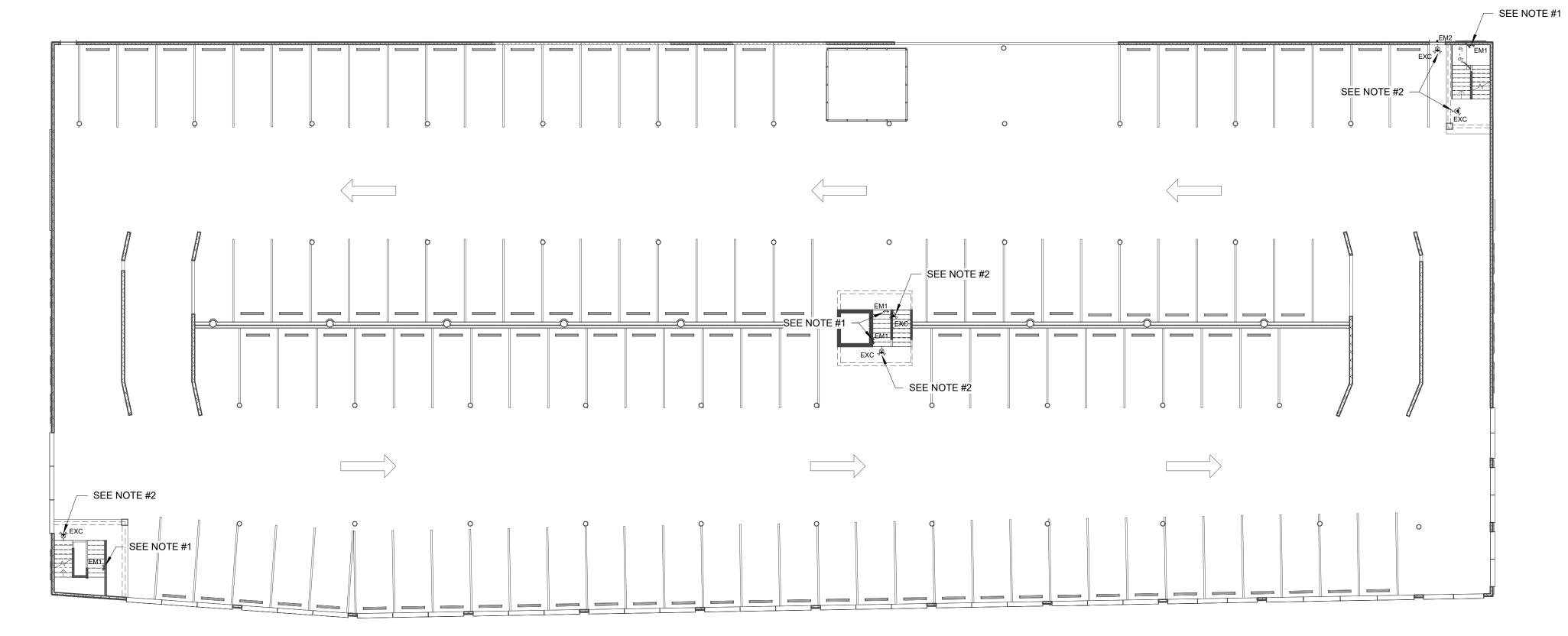


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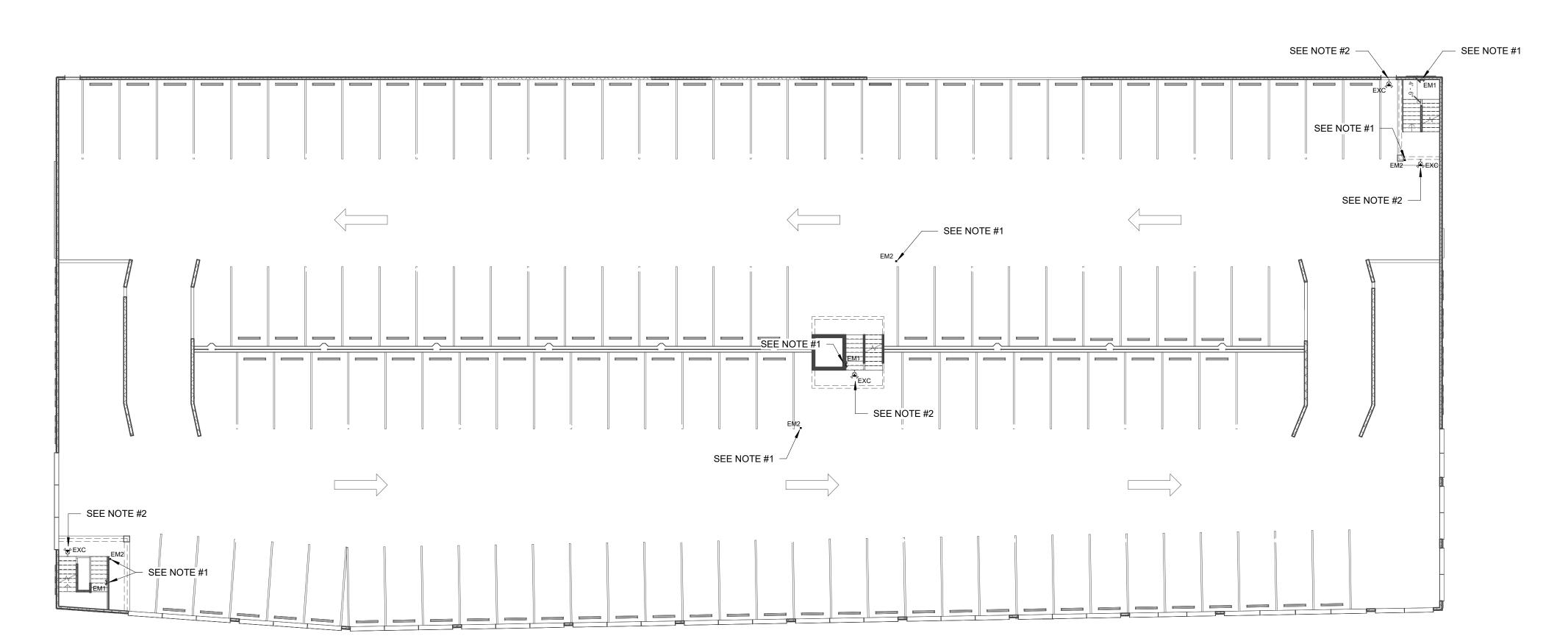
SHOPPERS LOWER TIER LIGHTING

E1.1

- REPLACE EXISTING EXIT LIGHTS THROUGHOUT THE GARAGE AND STAIRWELLS 1 FOR 1. FIELD VERIFY THE EXACT QUANTITY AND LOCATIONS BEFORE INSTALLATION.
- 2. PROVIDE NEW BATTERY POWERED EXIT LIGHTS THROUGHOUT THE GARAGE AND STAIRWELLS AT EXISTING EXIT SIGN LOCATIONS. EXTEND NEAREST LIGHTING CIRCUIT WITH UNSWITCHED HOT LEG TO NEW EXIT SIGNS. FIELD VERIFY THE EXACT QUANTITY AND LOCATIONS BEFORE INSTALLATION. PROVIDE CHEVRONS TO MATRCH THE EXISTING EXIT SIGNS.



1 SHOPPERS GARAGE 3RD AND 4TH TIER E1.2 1/16" = 1'-0"

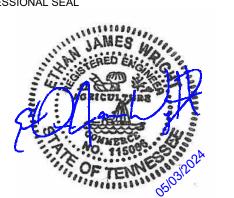


2 SHOPPERS GARAGE 5TH AND 6TH TIER E1.2 1/16" = 1'-0"



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Nashville

PROJECT NO.
ATL23110.01
PROJECT

MEMPHIS DOWNTOWN PARKING FACILITIES

2024 MEP/FP REPLACEMENT

05/03/2024
ISSUED FOR BID

DATE

NORTH

REVIEWED: EJW

DATE: 05/03/2024

SHOPPERS INTERMEDIATE & UPPER TIER LIGHTING

SUEET NO

E1.2

ELECTRICAL SPECIFICATIONS

SCOPE

INCLUDES THE FURNISHING OF ALL LABOR, SUPERVISION, MATERIALS, EQUIPMENT, TOOLS, ETC., REQUIRED FOR THE COMPLETE INSTALLATION OF ELECTRICAL SYSTEMS FOR CRIMINAL JUSTICE GARAGE IN MEMPHIS TENNESSEE, AS OUTLINED IN THESE SPECIFICATIONS AND SHOWN ON THE DRAWINGS. THE WORK SHALL INCLUDE, BUT IS NOT NECESSARILY LIMITED TO, LABOR AND MATERIAL FOR THE FOLLOWING:

- 1. CONDUIT RACEWAY FOR POWER FEEDERS.
- BRANCH CIRCUITS IN CONDUIT RACEWAY.
- ELECTRICAL BOXES AND FITTINGS.
- . CIRCUIT AND MOTOR DISCONNECTS.
 . OVERCURRENT PROTECTIVE DEVICES.
- 6. SUPPORTING DEVICES.
- PANELBOARDS.
 GROUNDING.
- 9. LIGHTING FIXTURES AND LAMPS.
- 10. EXIT SIGNS AND EMERGENCY LIGHTING.11. WIRING FOR HEATING, VENTILATING AND AIR CONDITIONING
- EQUIPMENT.
 2. IDENTIFICATION OF ELECTRICAL EQUIPMENT.

WORK BY OTHERS

THE FOLLOWING WORK RELATED TO WORK WILL BE PROVIDED BY OTHERS:

ALL HEATING, VENTILATING AND AIR CONDITIONING WORK FOR THE PROJECT WILL BE FURNISHED AND INSTALLED BY THE HVAC CONTRACTOR.

CODES AND PERMITS

ALL ELECTRICAL WORK SHALL BE INSTALLED IN ACCORDANCE WITH THE REQUIREMENTS OF THE 2020 EDITION OF THE NATIONAL ELECTRICAL CODE, AND THE LATEST EDITION OF ALL LOCAL OR STATE CODES, LAWS, AND ORDINANCES, AND THE REQUIREMENTS OF THE LOCAL ELECTRIC UTILITY, AS WELL AS NFPA 72 FOR THE FIRE ALARM SYSTEM AND THE 2021 IECC ENERGY CODE.

THIS CONTRACTOR SHALL APPLY FOR, OBTAIN, AND PAY FOR ALL PERMITS REQUIRED. AT THE CONCLUSION OF THE INSTALLATION, HE SHALL SECURE A CERTIFICATE OF INSPECTION, PROPERLY SIGNED BY THE CONTROLLING BUILDING DEPARTMENT, WHICH SHALL STATE THAT ALL RULES HAVE BEEN COMPLIED WITH AND THAT THE WORK IS SATISFACTORY.

MATERIAL AND EQUIPMENT

ALL MATERIAL AND EQUIPMENT SHALL BE NEW AND OF THE QUALITY SPECIFIED.

MATERIAL OR EQUIPMENT THAT HAS BEEN STORED OUTDOORS UNPROTECTED FOR LONG PERIODS OF TIME OR OTHERWISE DAMAGED IS NOT ACCEPTABLE AS NEW MATERIAL.

APPARATUS AND MATERIALS USED IN THIS WORK WHICH ARE SUBJECT TO APPROVAL OF UNDERWRITERS LABORATORIES (UL) SHALL BEAR THE UL LABEL, OR BE UNDERWRITERS LISTED.

SHOP DRAWINGS

SUBMIT DIGITAL SHOP DRAWINGS AND MANUFACTURER'S DATA SHEETS FOR ALL EQUIPMENT FOR REVIEW BY THE ENGINEER PRIOR TO CONSTRUCTION IN PDF FORMAT. SUBSTITUTES WILL BE RECEIVED, HOWEVER, THIS CONTRACTOR SHALL BE PREPARED TO FURNISH MATERIALS AS SPECIFIED IF REQUIRED BY SHOP DRAWING REVIEW.

EQUIPMENT COORDINATION

THIS CONTRACTOR SHALL COORDINATE THE ELECTRICAL REQUIREMENTS FOR ALL HVAC, PLUMBING, AND FIRE PROTECTION EQUIPMENT. WHERE THE DESIGN INFORMATION SHOWN ON THE DRAWINGS IS DIFFERENT THAN THE ACTUAL INSTALLED EQUIPMENT, THIS CONTRACTOR SHALL MAKE CHANGES IN WIRE AND CIRCUIT BREAKER SIZES AS REQUIRED WITHOUT ADDITIONAL COST TO THE OWNER.

PRIOR APPROVAL OF EQUIPMENT

ELECTRICAL EQUIPMENT SHALL BE FURNISHED AS SPECIFIED; HOWEVER, ALTERNATES TO THE SPECIFIED EQUIPMENT WILL BE ACCEPTED. IF A PRODUCT IS TO BE CONSIDERED AS AN EQUAL TO THE PRODUCTS SPECIFIED HEREIN AND ON THE DRAWINGS, MANUFACTURERS PRODUCT INFORMATION SHALL BE SUBMITTED TO THE ENGINEER THRU THE ARCHITECT FOR REVIEW FIVE (5) WORKING DAYS PRIOR TO BIDDING. SUBSTITUTION PRODUCTS SUBMITTED AFTER THE FIVE (5) WORKING DAY DEADLINE OR AFTER THE BIDDING PROCESS WILL NOT BE CONSIDERED.

ACCURACY OF DATA

DRAWINGS ARE GENERALLY DIAGRAMMATIC AND ARE NOT INTENDED TO SHOW EXACT LOCATIONS OF OUTLETS, CONDUITS, SWITCHES, FIXTURES, ETC. INSTALL ALL WORK AS NEARLY AS POSSIBLE IN THE LOCATIONS SHOWN WITH MINOR ADJUSTMENTS TO AVOID INTERFERENCES WITH STRUCTURE OR THE WORK OF OTHER TRADES. COORDINATE THE EXACT LOCATIONS WITH THE OWNER AND/OR ARCHITECT.

MODIFICATION TO EXISTING FACILITY

MAKE MODIFICATION AND ADDITIONS TO EXISTING FACILITY AS SHOWN ON THE DRAWINGS. VERIFY ALL EXISTING CONDITIONS BY SITE SURVEY.

COORDINATION

THE ELECTRICAL CONTRACTOR SHALL COORDINATE HIS 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 SEVERAL PARTS OF THE WORK.

THIS CONTRACTOR SHALL USE EVERY PRECAUTION TO PROTECT THE WORK OF OTHERS, AND HE WILL BE HELD RESPONSIBLE FOR ALL DAMAGE DONE BY HIS WORKERS TO THE WORK OF OTHER TRADES. HE SHALL ALSO PROTECT HIS WORK FROM DANGER OF BREAKAGE, DIRT, FOREIGN MATERIALS, ETC., AND SHALL REPLACE ALL WORK SO DAMAGED.

MANUFACTURER'S RECOMMENDATIONS

UNLESS SPECIFICALLY INDICATED OTHERWISE, ALL EQUIPMENT AND MATERIALS SHALL BE INSTALLED IN ACCORDANCE WITH THE BEST RECOMMENDATION OF THE MANUFACTURER.

CUTTING AND PATCHING

THIS CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CUTTING AND PATCHING REQUIRED FOR PLACEMENT OF HIS WORK AND SHALL EMPLOY WORKERS SKILLED IN THE TRADES REQUIRED. THIS CONTRACTOR SHALL BE RESPONSIBLE FOR ALL SLEEVES AND FIRE CAULKING WHERE PENETRATIONS ARE MADE THROUGH RATED FLOORS OR WALLS.

PROTECTION OF FLOORS

FLOORS SHALL BE PROTECTED WHERE CUTTING AND THREADING OPERATIONS TAKE PLACE. PROTECTION SHALL BE ACCEPTABLE TO THE GENERAL CONTRACTOR.

TEMPORARY CONSTRUCTION POWER AND LIGHTING

THIS CONTRACTOR SHALL FURNISH AND INSTALL ALL TEMPORARY WIRING FOR CONSTRUCTION POWER AND LIGHTING FOR THE

TEMPORARY ELECTRICAL SERVICE FOR CONSTRUCTION POWER AND LIGHTING SHALL BE PROVIDED BY THIS CONTRACTOR.

ALL TEMPORARY WIRING FOR CONSTRUCTION SHALL CONFORM TO
ARTICLE 305 OF THE NATIONAL ELECTRICAL CODE AND ALL
S

RECORD DRAWINGS AND MAINTENANCE MANUALS

APPLICABLE RULES AND REGULATIONS OF OSHA.

THIS CONTRACTOR SHALL MAINTAIN A SET OF UP-TO-DATE RECORD DRAWINGS AT THE JOB SITE SHOWING WORK AS INSTALLED. UPON COMPLETION OF THE PROJECT, THIS CONTRACTOR SHALL PREPARE AS-BUILT DRAWINGS ON MYLAR SHOWING CONDITIONS AS INSTALLED. THREE (3) COPIES OF MAINTENANCE MANUALS CONTAINING MANUFACTURER'S INSTALLATION AND MAINTENANCE INFORMATION ON ALL EQUIPMENT INSTALLED SHALL BE PRESENTED TO THE OWNER. FINAL PAYMENT SHALL BE MADE AFTER AS-BUILT DRAWINGS AND MAINTENANCE MANUALS HAVE BEEN APPROVED.

TESTS

THE ENTIRE WIRING SYSTEM SHALL BE THOROUGHLY TESTED AND DEFECTS CORRECTED. ALL ELECTRICAL WIRING SHALL BE TESTED FOR CONTINUITY, SHORTS, IMPROPER GROUNDS AND INSULATION RESISTANCE. MOTORS SHALL BE CHECKED FOR PROPER ROTATION AND BRANCH CIRCUIT AND OVERLOAD PROTECTION. PANELBOARDS SHALL BE CHECKED FOR BALANCED LOADING. PANELBOARDS SHALL BE CHECKED FOR CORRECT PHASE ROTATION. DISCREPANCIES SHALL BE CORRECTED. THIS CONTRACTOR SHALL FURNISH TEST EQUIPMENT AND MATERIAL, AND SHALL BE RESPONSIBLE FOR REPLACEMENT OR REPAIR OF DAMAGE DUE TO TEST FAILURES.

GUARANTEE

THE CONTRACTOR SHALL GUARANTEE TO THE OWNER ALL WORK PERFORMED UNDER THIS CONTRACT TO BE FREE FROM DEFECTS IN WORKMANSHIP AND MATERIAL FOR A PERIOD OF ONE (1) YEAR FROM DATE OF FINAL ACCEPTANCE. DEFECTS ARISING DURING THIS PERIOD WILL BE PROMPTLY REMEDIED BY THE CONTRACTOR AT HIS OWN EXPENSE UPON NOTICE BY THE OWNER. ALL LAMPS FOR LIGHTING FIXTURES SHALL BE EXCLUDED FROM THIS GUARANTEE, BUT ONE (1) COMPLETE AND OPERATIVE SET OF LAMPS FOR LIGHTING FIXTURES SHALL BE IN PLACE AT THE TIME OF FINAL ACCEPTANCE.

ELECTRICAL RACEWAYS

ALL WIRING SHALL BE INSTALLED IN A CONTINUOUS CONDUIT SYSTEM.

ALL CONDUIT SUBJECT TO WEATHER AND/OR MECHANICAL DAMAGE SHALL BE GALVANIZED RIGID STEEL OR IMC.

ELECTRIC METALLIC TUBING (EMT) MAY BE USED FOR ALL OTHER CONDUIT APPLICATIONS UNLESS MODIFIED BY THIS SPECIFICATION OR BY THE DRAWINGS. MINIMUM CONDUIT SIZE SHALL BE 1/2".

SHORT LENGTHS OF FLEXIBLE STEEL CONDUIT, "GREENFIELD",
SHALL BE USED ONLY ABOVE FURRED CEILINGS BETWEEN OUTLET
BOXES AND LAY-IN TYPE LIGHTING FIXTURES.

SEALTITE FLEXIBLE METAL CONDUIT SHALL BE USED FOR FINAL CONNECTION TO MOTORS AND EQUIPMENT SUBJECT TO VIBRATION.

SEALTITE CONDUIT SHALL NOT BE USED FOR OTHER APPLICATIONS.

PVC SCHEDULE 40 CONDUIT SHALL BE USED FOR OUTDOOR UNDERGROUND CONDUIT RUNS.

EXPOSED CONDUIT SHALL BE RUN IN PARALLEL ROWS NEATLY RACKED PARALLEL OR PERPENDICULAR TO WALLS AND STRUCTURAL MEMBERS.

WHEREVER POSSIBLE, LOCATE CONDUIT HIGH AS POSSIBLE OVER PIPING OF OTHER TRADES. ALL HORIZONTAL CONDUIT RUNS ABOVE FURRED CEILINGS SHALL BE RUN AS HIGH AS POSSIBLE IN ORDER TO PROVIDE FREE SPACE ABOVE CEILING FOR INSTALLATION OF AIR DISTRIBUTION DUCT AND PIPING.

PLUG THE ENDS OF EACH RACEWAY WITH AN APPROVED CAP OR CAPPED BUSHING TO PREVENT THE ENTRANCE OF FOREIGN MATERIAL DURING THE CONSTRUCTION PERIOD. CONDUIT LEFT EMPTY FOR FUTURE WIRING SHALL BE CAPPED.

CONDUITS PROJECTING THROUGH ROOFING SHALL BE MADE WATERTIGHT BY PROPER FLASHING AND PITCH POCKETS WITH STORM COLLAR SECURELY FASTENED TO CONDUIT ABOVE THE FLASHING.

PROVIDE BONDING TYPE CONDUIT EXPANSION JOINTS OR FITTINGS WHERE CONDUIT CROSSES BUILDING EXPANSION JOINTS. ALL EXPANSION JOINT FITTINGS TO BE PROVIDED WITH EXTERNAL BONDING JUMPER ARE TO BE OF TYPE APPROVED FOR USE WITH A BONDING JUMPER.

ALL RIGID STEEL AND IMC CONDUIT COUPLINGS, FITTINGS, AND CONNECTORS SHALL BE THREADED TYPE.

WHERE PVC CONDUIT IS USED, ALL JOINTS SHALL BE SOLVENT WELDED WITH CEMENT FURNISHED BY THE CONDUIT MANUFACTURER. PROVIDE SUITABLE ADAPTERS WHERE PVC CONDUITS ARE COUPLED TO METALLIC CONDUITS.

PROVIDE A RIGID ELBOW AT BASE OF EACH EXPOSED RISER FROM BELOW GRADE, AS INDICATED ON THE DRAWINGS OR AS REQUIRED.

CONDUIT SHALL NOT BE RUN IN OR UNDER FLOOR SLAB, EXCEPT WHERE RISING UP FROM UNDERGROUND SERVICE TO BUILDING PANELBOARDS.

PROVIDE FIRE BARRIER PENETRATION SEALS WHERE CONDUIT PENETRATES FIRE RATED WALLS OR FLOORS.

WHERE RUN CONCEALED AND ALLOWED BY CODE, IT IS ACCEPTABLE TO USE TYPE "MC" CABLE INLIEU OF EMT CONDUIT AND BUILDING WIRE.

FROM EACH FLUSH MOUNTED PANELBOARD, EXTEND INTO AN ACCESSIBLE LOCATION A 3/4" EMPTY CONDUIT FOR EVERY THREE SPARE BRANCH BREAKERS OR BREAKER SPACES.

CONDUCTORS

ALL CONDUCTORS SHALL BE STRANDED COPPER WITH THHN-TYPE 2 INSULATION. ALL CONDUCTORS SHALL BEAR THE UL LABEL. MINIMUM SIZE CONDUCTOR SHALL BE #12 AWG. WIRE SIZES SHOWN ON THIS DRAWING ARE CALCULATED USING THE 75 DEGREE CELSIUS COLUMN OF TABLE 310.15(B)(16). FOR EQUIPMENT THAT IS RATED SOLELY FOR 60 DEGREE CELSIUS, PROVIDE WIRE SIZED USING THE 60 DEGREE COLUMN.

CIRCUIT BREAKERS ADDED TO EXISTING PANELBOARDS

NEW CIRCUIT BREAKERS ADDED TO EXISTING PANELBOARDS SHALL HAVE AN INTERRUPTING RATING EQUAL TO OR GREATER THAN THE RATING OF THE EXISTING PANELBOARD.

SUPPORTING DEVICES

ALL ELECTRICAL EQUIPMENT SHALL BE SUPPORTED FROM THE BUILDING STRUCTURE BY MEANS OF STRUT, BEAM CLAMPS, THREADED ROD, ONE HOLE MALLEABLE IRON CONDUIT STRAPS, ETC. THE CEILING SUPPORT SYSTEM SHALL NOT BE USED FOR SUPPORTING CONDUIT.

SEISMIC RESTRAINTS

ALL ELECTRICAL EQUIPMENT SHALL BE SUPPORTED WITH MULTIDIRECTIONAL BRACING AS REQUIRED BY THE NATIONAL, STATE, AND/OR LOCAL BUILDING CODES.

THIS CONTRACTOR SHALL CONSULT THE APPROPRIATE BUILDING CODE TO DETERMINE THE DESIGN REQUIREMENTS FOR SEISMIC BRACING.

THIS CONTRACTOR SHALL EMPLOY A FIRM LICENSED IN THE TRADE TO DESIGN SEISMIC BRACING FOR ALL HIS EQUIPMENT.

PROVIDE SEISMIC BRACING PRODUCTS AS MANUFACTURED BY MASON INDUSTRIES INC. OF ANAHEIM, CALIFORNIA OR AN APPROVED EQUAL.

GROUNDING

PROVIDE GROUNDING AS REQUIRED BY THE NATIONAL ELECTRICAL CODE AND LOCAL CODES. PROVIDE SYSTEM AND ENCLOSURE GROUNDING AT THE SERVICE ENTRANCE PANEL. PROVIDE EXTERNAL 3/4" X 10' COPPERCLAD GROUND ROD OUTSIDE THE BUILDING. PROVIDE GROUNDING ELECTRODE CONDUCTORS IN ACCORDANCE WITH ARTICLE 250-94 OF THE NATIONAL ELECTRICAL CODE. PROVIDE EQUIPMENT GROUNDING CONDUCTORS IN ALL FLEXIBLE CONDUIT CONNECTIONS. CONNECT ALL GROUNDING CONDUCTORS WITH APPROVED GROUND CLAMPS.

LIGHTING

PROVIDE LIGHTING FIXTURES AND LAMPS PER THE "LIGHTING FIXTURE SCHEDULE" SHOWN ON THE DRAWINGS. PROVIDE RETAINER CLIPS ON ALL LAY-IN RECESSED LIGHT FIXTURES AS REQUIRED BY THE NATIONAL ELECTRICAL CODE AND APPLICABLE BUILDING CODES.

ALL EMERGENCY LIGHTING FIXTURES SHALL BE PERMANENTLY CONNECTED TO THE ELECTRICAL SYSTEM. PROVIDE CIRCUIT BREAKER LOCK-ON DEVICES AT CIRCUIT BREAKERS CONTROLLING EXIT AND EMERGENCY LIGHTING CIRCUITS.

WIRING FOR HVAC EQUIPMENT

THIS CONTRACTOR SHALL FURNISH AND INSTALL ALL WIRING FOR HVAC EQUIPMENT WHERE VOLTAGE EXCEEDS 30 VOLTS. THIS CONTRACTOR SHALL ALSO PROVIDE INTERLOCK WIRING BETWEEN FIRE ALARM DEVICES AND THE CONTROL CIRCUITS OF HVAC EQUIPMENT.

DEMOLITION

REMOVE, AS NOTED ON THE DRAWINGS, ALL ELECTRICAL EQUIPMENT AND WIRING.

FURNISH AND INSTALL CONDUIT AND CONDUCTORS TO MAINTAIN CIRCUIT CONTINUITY, WHERE NECESSARY.

COMPLY WITH THE LOCAL AND NATIONAL CODES WHEN RECONNECTING CIRCUITS FOR CONTINUITY.

WHEN DISCONNECTING BRANCH CIRCUITS, LOCATE EACH PIECE OF EQUIPMENT AFFECTED AND NOTIFY THE OWNER OF SERVICE INTERRUPTION PRIOR TO CIRCUIT REMOVAL.

WHERE REMOVAL OF ELECTRICAL ITEMS WOULD INTERRUPT POWER TO THE REMAINDER OF A BRANCH CIRCUIT, THIS CONTRACTOR SHALL FURNISH AND INSTALL CONDUIT, WIRING, CONNECTIONS, AND JUNCTION BOXES AS REQUIRED TO ENSURE CIRCUIT CONTINUITY AFTER THE ELECTRICAL ITEMS HAVE BEEN REMOVED.

REMOVE ALL DEMOLITION WIRING AND CONDUIT WHERE CONDUIT IS ACCESSIBLE BACK TO ITS POINT OF ORIGINATION.

THIS CONTRACTOR SHALL REMOVE FROM THE SITE ALL ELECTRICAL MATERIAL REMOVED IN DEMOLITION.

WHERE ELECTRICAL EQUIPMENT IS SUPPLIED FROM UNDER THE EXISTING FLOOR SLAB, REMOVE EXISTING CONDUCTORS BACK TO THE SOURCE OF ORIGIN AND REPAIR CONDUIT EXITING THE SLAB AS DIRECTED BY THE ARCHITECT.

DISPOSAL OF REGULATED HAZARDOUS AND SPECIAL MATERIAL

REMOVE AND DISPOSE OF ALL MATERIAL THAT CONTAINS OR IS CONSTRUCTED OF REGULATED HAZARDOUS OR SPECIAL MATERIALS ASSOCIATED WITH THE PROJECT THAT ARE DEEMED AS HARMFUL TO THE ENVIRONMENT BY LOCAL, STATE AND FEDERAL REGULATIONS AS SHOWN ON THE DRAWINGS AND SPECIFIED HEREIN.

COMPLY WITH LOCAL, STATE AND FEDERAL REGULATIONS WHEN DISPOSING OF REGULATED HAZARDOUS AND SPECIAL MATERIAL AS APPLICABLE TO THE PROJECT.

THIS CONTRACTOR SHALL REMOVE, STORE, TRANSPORT, AND DISPOSE OF ALL ITEMS CONTAINING REGULATED HAZARDOUS OR SPECIAL MATERIALS IN ACCORDANCE WITH ALL STATE, LOCAL AND FEDERAL REGULATIONS PERTAINING TO THE DISPOSAL OF THESE MATERIALS.

	LIGHTING FIXTURE SCHEDULE					
Mark	Description	Manufacturer	Model	Lamp	Electrical Data	Comments
EM1	LED Emergency Light	Lithonia	ELM2L	LED	120 V/1-2 VA	
EM2	LED Remote Emergency	Lithonia	ELA SD QWP L0309 M12	LED	120 V/1-5 VA	
EXC	Combination LED Exit Sign	Lithonia	LHQM LED R HO	LED	120 V/1-5 VA	

XFMR TRANSFORMER

/ E#.# DETAIL NUMBER/SHEET NUMBER

ELECTRICAL ABBREVIATIONS ELECTRICAL LEGEND XX" INDICATES MOUNTING HEIGHT AFF ➡ DUPLEX AFF ABOVE FINISHED FLOOR GFCI DUPLEX AFG ABOVE FINISHED GRADE NON-FUSED DISCONNECT ATS AUTOMATIC TRANSFER SWITCH FUSED DISCONNECT CEILING MOUNT EXIT SIGN FLA FULL LOAD AMPS WALL MOUNT EXIT SIGN GFCI GROUND FAULT CIRCUIT INTERRUPTER GRS GALVANIZED RIGID STEEL STRIP LIGHT LED LIGHT EMITTING DIODE EMERGENCY STRIP LIGHT ISOLATED GROUND WALL MOUNT EMERGENCY LIGHT MCB MAIN CIRCUIT BREAKER MCC MOTOR CONTROL CENTER MLO MAIN LUGS ONLY NF NON-FUSED N.I.C. NOT IN CONTACT NEC NATIONAL ELECTRIC CODE N.T.S. NOT TO SCALE UNO UNLESS OTHERWISE NOTED WP WEATHERPROOF



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CONSULTANT

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Lakeland, TN 38002

PROJECT NO.
ATL23110.01
PROJECT

MEMPHIS DOWNTOWN PARKING FACILITIES

2024 MEP/FP REPLACEMENT

SUBMISSIONS / REVISIONS
05/03/2024
ISSUED FOR BID

NO. DESCRIPTION

DRAWN: BJB
REVIEWED: F.IW

SHEET TITLE:

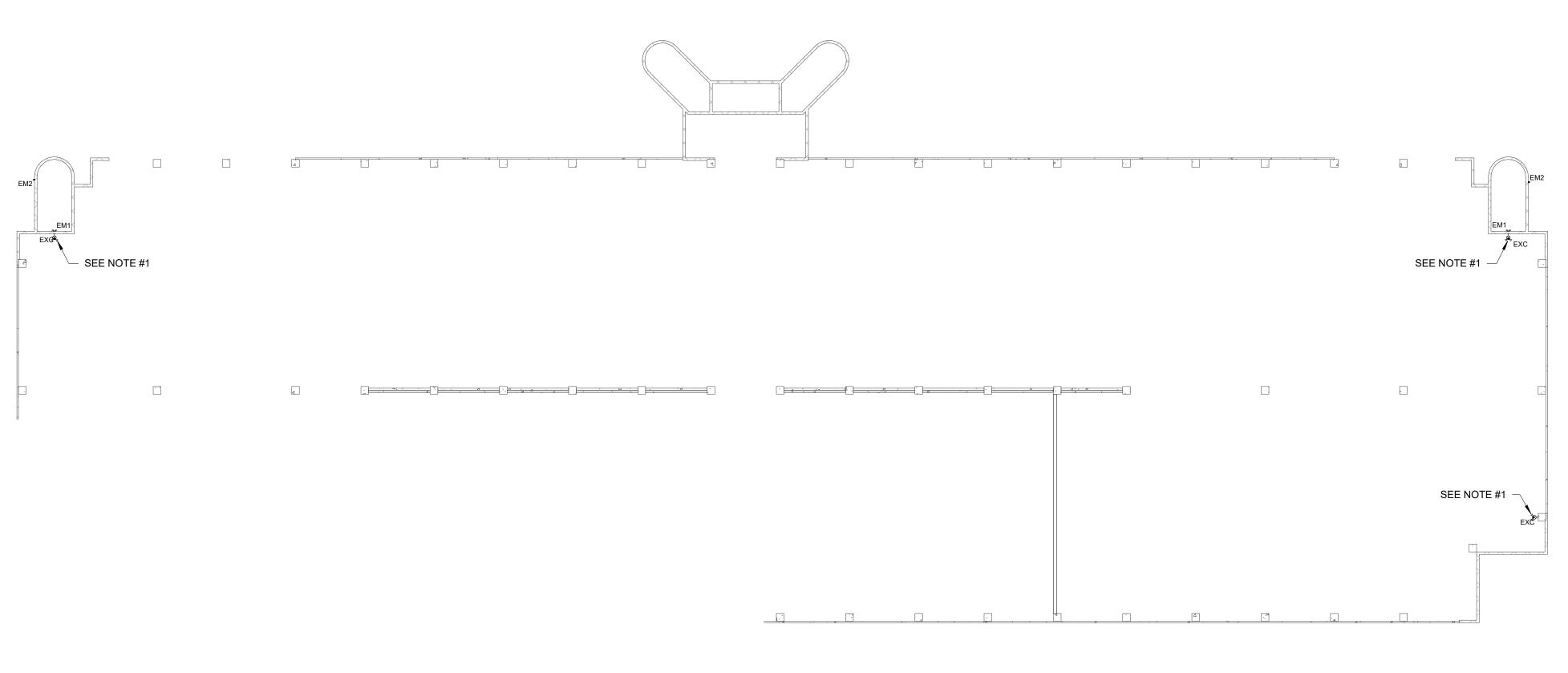
GENERAL NOTES, SCHEDULES

AND LEGEND

2.0

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05/03/2024



CRIMINAL JUSTICE GROUND TIER
E2.1 1" = 20'-0"

NOTES:

SELECTION.)

INSTALLATION.

REPLACE EXISTING EXIT LIGHTS THROUGHOUT THE GARAGE AND STAIRWELLS 1 FOR

FIRE PUMP WITH MECHANICAL CONTRACTOR. FIELD VERIFY EXISTING WIRE FEEDING FIRE PUMP IS PROPERLY SIZED FOR NEW PUMP. PROVIDE NEW CIRCUIT FROM SOURCE LOCATION TO THE FIRE PUMP IF EXISTING FEED IS UNDERSIZED. (THE BASIS OF DESIGN FOR THE FIRE PUMP IS A 208V/3P, MAXIMUM 22 BHP PUMP. ASSUMED FEED SIZE IS 1-1/4" C, 3#1, #6G. COORDINATE ACTUAL FEED SIZE WITH THE FINAL PUMP

STAIRWELLS 1 FOR 1. FIELD VERIFY THE EXACT QUANTITY AND LOCATIONS BEFORE

COORDINATE INSTALLATION OF NEW WALL HEATER WITH MECHANICAL CONTRACTOR. FIELD VERIFY EXISTING WIRE FEEDING WALL HEATER IS PROPERLY SIZED FOR NEW PUMP. PROVIDE NEW CIRCUIT FROM SOURCE LOCATION TO THE FIRE PUMP IF EXISTING FEED IS UNDERSIZED. (THE BASIS OF DESIGN FOR THE WALL HEATER IS A

120V/1P, 1.5KW HEATER. ASSUMED FEED SIZE IS 1/2" C, 1#12, 1#1N, #12G. COORDINATE

1. FIELD VERIFY THE EXACT QUANTITY AND LOCATIONS BEFORE INSTALLATION.

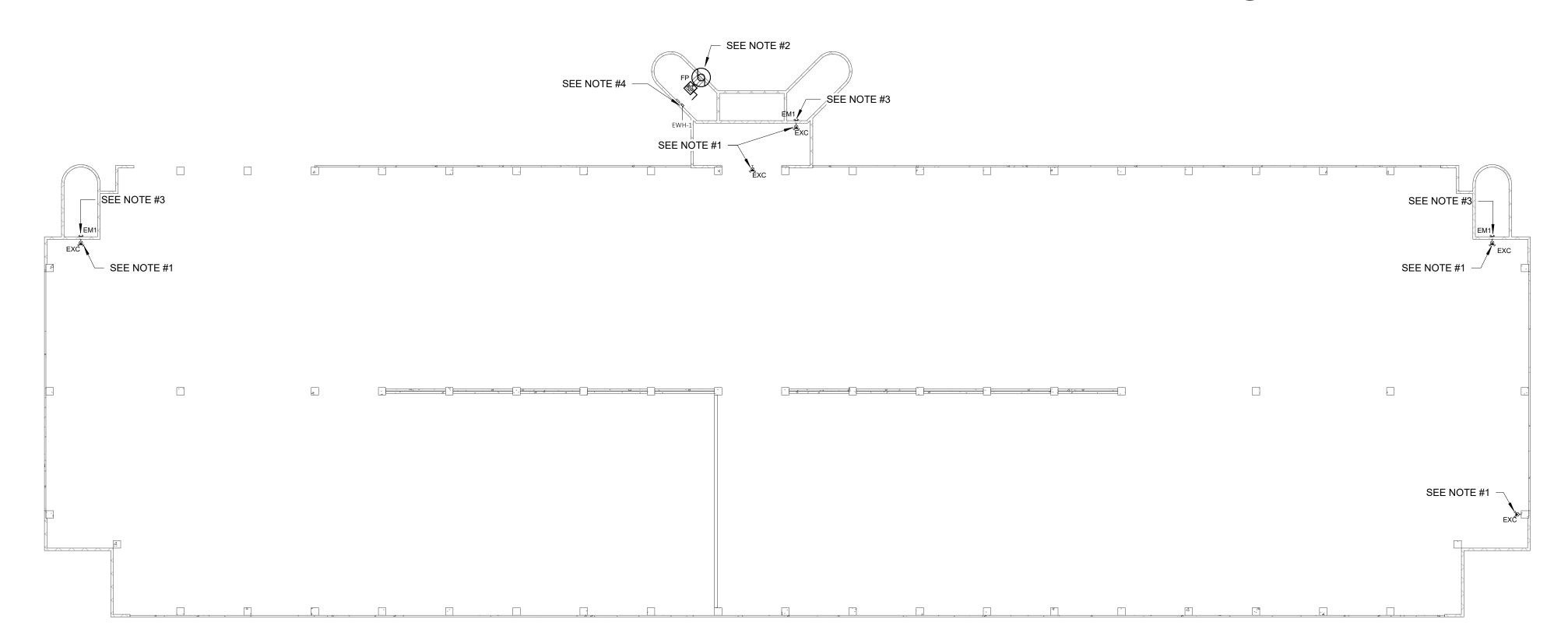
2. EXISTING FIRE PUMP TO BE REPLACED 1 FOR 1. COORDINATE INSTALLATION OF NEW

REPLACE EXISTING EMERGENCY LIGHTS THROUGHOUT THE GARAGE AND

EXISTING WALL HEATER IN THE FIRE PUMP ROOM TO BE REPLACED 1 FOR 1.

PROVIDE CHEVRONS TO MATRCH THE EXISTING EXIT SIGNS.

ACTUAL FEED SIZE WITH THE FINAL HEATER SELECTION.)

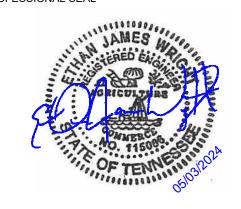






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Memphis Nashville

PROJECT NO.
ATL23110.01
PROJECT

MEMPHIS DOWNTOWN PARKING FACILITIES

2024 MEP/FP REPLACEMENT

SUBMISSIONS / REVISIONS
05/03/2024
ISSUED FOR BID

NORTH

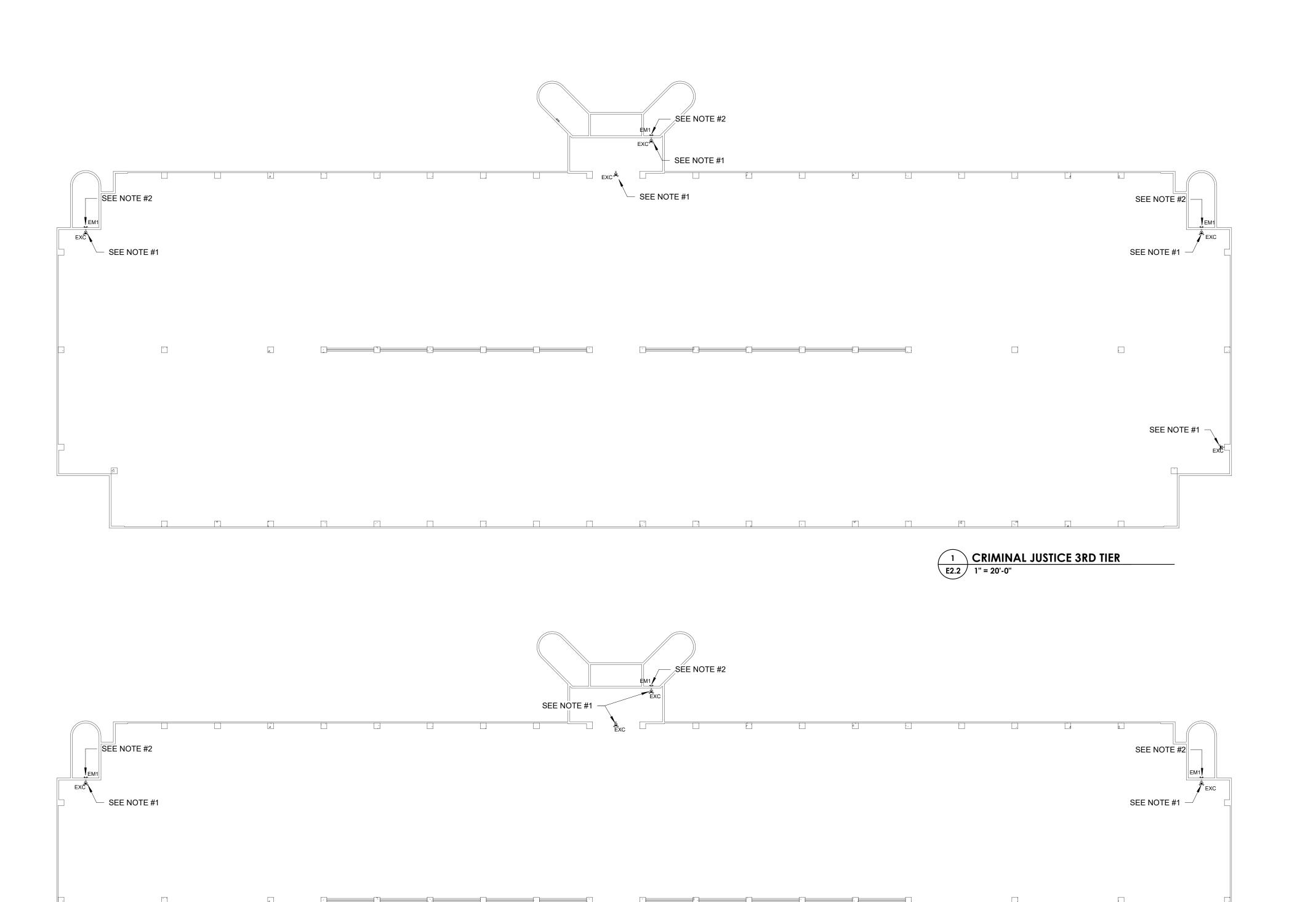
DRAWN: B
REVIEWED: E.

DATE: 05/03/20

CJC GROUND & SECOND TIER LIGHTING

SUEET NO

E2.1



2 CRIMINAL JUSTICE 4TH TIER
E2.2 1" = 20'-0"

SEE NOTE #1 -

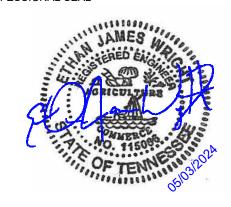
NOTES:

- REPLACE EXISTING EXIT LIGHTS THROUGHOUT THE GARAGE AND STAIRWELLS 1 FOR 1. FIELD VERIFY THE EXACT QUANTITY AND LOCATIONS BEFORE INSTALLATION. PROVIDE CHEVRONS TO MATRCH THE EXISTING EXIT SIGNS.
- REPLACE EXISTING EMERGENCY LIGHTS THROUGHOUT THE GARAGE AND STAIRWELLS 1 FOR 1. FIELD VERIFY THE EXACT QUANTITY AND LOCATIONS BEFORE INSTALLATION.



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PROFESSIONAL SEAL





PROJECT NO. ATL23110.01 PROJECT

MEMPHIS DOWNTOWN PARKING FACILITIES

2024 MEP/FP REPLACEMENT

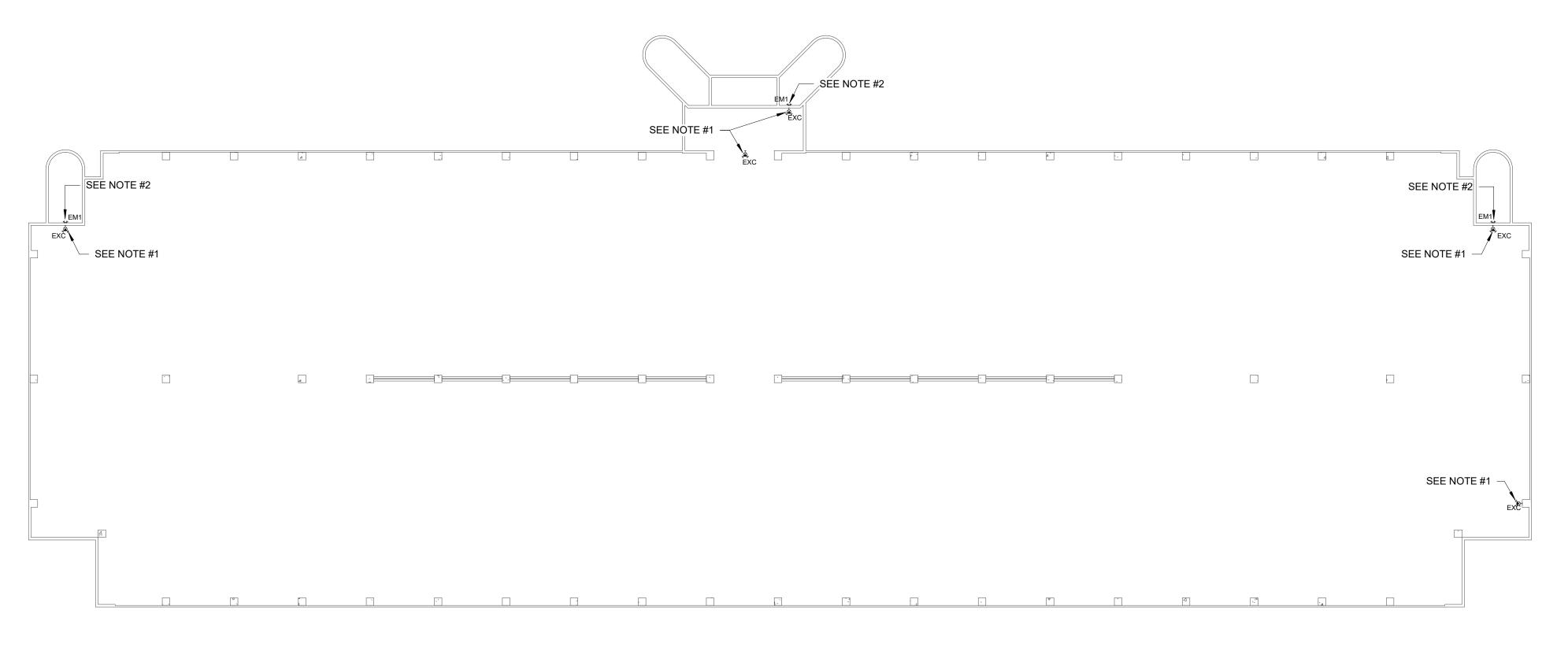
SUBMISSIONS / REVISIONS 05/03/2024 ISSUED FOR BID

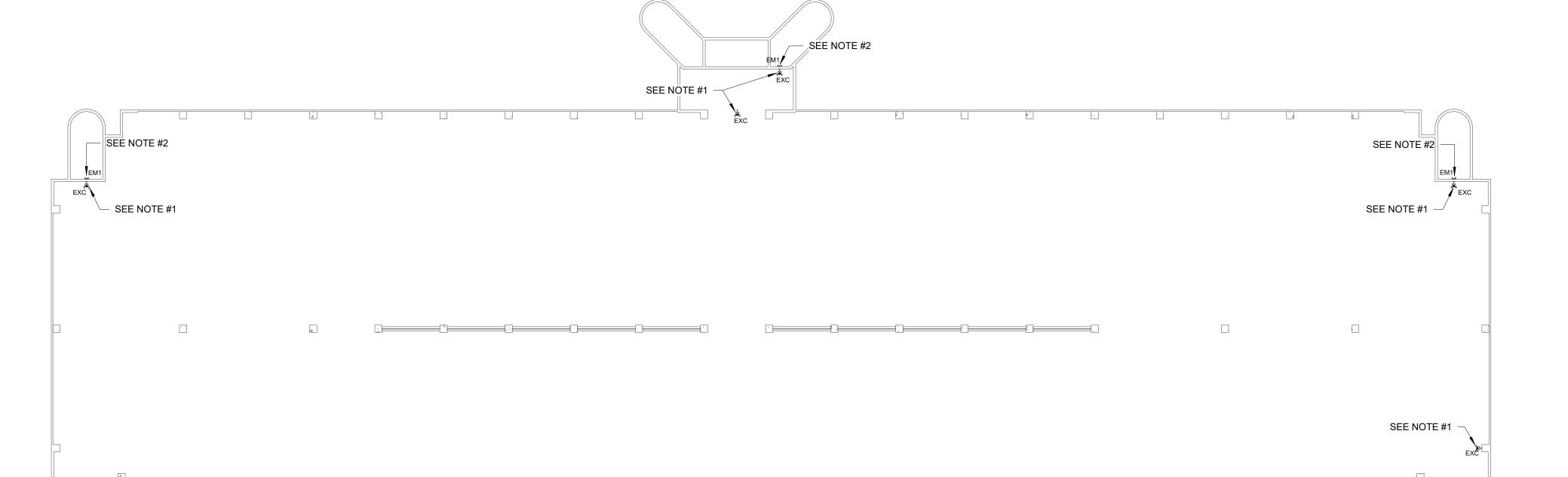
NORTH
SHEET TITLE

05/03/2024

CJC THIRD & FOURTH TIER LIGHTING

E2.2





2 CRIMINAL JUSTICE 6TH TIER E2.3 1" = 20'-0"

1 CRIMINAL JUSTICE 5TH TIER

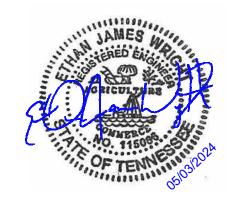
NOTES:

- REPLACE EXISTING EXIT LIGHTS THROUGHOUT THE GARAGE AND STAIRWELLS 1 FOR 1. FIELD VERIFY THE EXACT QUANTITY AND LOCATIONS BEFORE INSTALLATION. PROVIDE CHEVRONS TO MATRCH THE EXISTING EXIT SIGNS.
- REPLACE EXISTING EMERGENCY LIGHTS THROUGHOUT THE STAIRWELLS 1 FOR 1. FIELD VERIFY THE EXACT QUANTITY AND LOCATIONS BEFORE INSTALLATION.



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Nashville

PROJECT NO. ATL23110.01 PROJECT

MEMPHIS DOWNTOWN PARKING FACILITIES

2024 MEP/FP REPLACEMENT

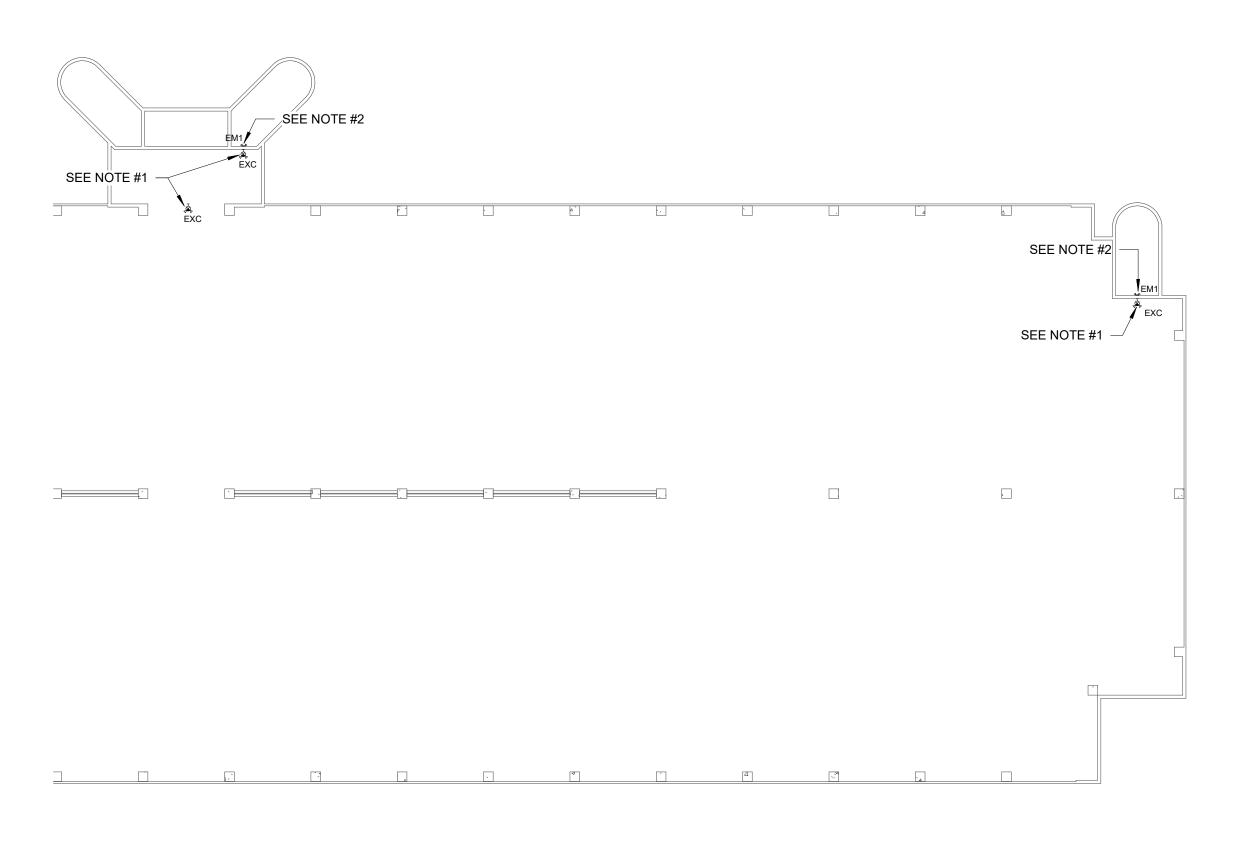
SUBMISSIONS / REVISIONS 05/03/2024 ISSUED FOR BID

NO. DESCRIPTION

05/03/2024

CJC FIFTH & SIXTH TIER LIGHTING

E2.3



1 CRIMINAL JUSTICE 7TH TIER

E2.4 1" = 20'-0"

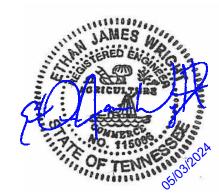
NOTES:

- REPLACE EXISTING EXIT LIGHTS THROUGHOUT THE GARAGE AND STAIRWELLS
 FOR 1. FIELD VERIFY THE EXACT QUANTITY AND LOCATIONS BEFORE INSTALLATION. PROVIDE CHEVRONS TO MATRCH THE EXISTING EXIT SIGNS.
- REPLACE EXISTING EMERGENCY LIGHTS THROUGHOUT THE GARAGE AND STAIRWELLS 1 FOR 1. FIELD VERIFY THE EXACT QUANTITY AND LOCATIONS BEFORE INSTALLATION.



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PROFESSIONAL SEAL





PROJECT NO.
ATL23110.01
PROJECT

MEMPHIS DOWNTOWN PARKING FACILITIES

2024 MEP/FP REPLACEMENT

05/03/2024
ISSUED FOR BID

NO.	DESCRIPTION	DATE
-		

	DF
	RE
NORTH	DA

REVIEWED: EJV

DATE: 05/03/202

CJC SEVENTH TIER LIGHTING

SHEET NO

E2.4

ELECTRICAL SPECIFICATIONS

INCLUDES THE FURNISHING OF ALL LABOR, SUPERVISION, MATERIALS, EQUIPMENT, TOOLS, ETC., REQUIRED FOR THE COMPLETE INSTALLATION OF ELECTRICAL SYSTEMS FOR PEABODY GARAGE IN MEMPHIS TENNESSEE, AS OUTLINED IN THESE SPECIFICATIONS AND SHOWN ON THE DRAWINGS. THE WORK SHALL INCLUDE, BUT IS NOT NECESSARILY LIMITED TO, LABOR AND MATERIAL FOR THE FOLLOWING:

- ELECTRICAL BOXES AND FITTINGS.
- SUPPORTING DEVICES.
- GROUNDING. LIGHTING FIXTURES AND LAMPS. EXIT SIGNS AND EMERGENCY LIGHTING.

CODES AND PERMITS

ALL ELECTRICAL WORK SHALL BE INSTALLED IN ACCORDANCE WITH THE REQUIREMENTS OF THE 2020 EDITION OF THE NATIONAL ELECTRICAL CODE, AND THE LATEST EDITION OF ALL LOCAL OR STATE CODES, LAWS, AND ORDINANCES, AND THE REQUIREMENTS OF THE LOCAL ELECTRIC UTILITY, AS WELL AS NFPA 72 FOR THE FIRE ALARM SYSTEM AND THE 2021 IECC ENERGY CODE.

THIS CONTRACTOR SHALL APPLY FOR, OBTAIN, AND PAY FOR ALL PERMITS REQUIRED. AT THE CONCLUSION OF THE INSTALLATION, HE SHALL SECURE A CERTIFICATE OF INSPECTION. PROPERLY SIGNED BY THE CONTROLLING BUILDING DEPARTMENT, WHICH SHALL STATE THAT ALL RULES HAVE BEEN COMPLIED WITH AND THAT THE WORK IS SATISFACTORY.

MATERIAL AND EQUIPMENT

ALL MATERIAL AND EQUIPMENT SHALL BE NEW AND OF THE QUALITY SPECIFIED.

MATERIAL OR EQUIPMENT THAT HAS BEEN STORED OUTDOORS UNPROTECTED FOR LONG PERIODS OF TIME OR OTHERWISE DAMAGED IS NOT ACCEPTABLE AS NEW MATERIAL.

APPARATUS AND MATERIALS USED IN THIS WORK WHICH ARE SUBJECT TO APPROVAL OF UNDERWRITERS LABORATORIES (UL) SHALL BEAR THE UL LABEL, OR BE UNDERWRITERS LISTED.

SHOP DRAWINGS

SUBMIT DIGITAL SHOP DRAWINGS AND MANUFACTURER'S DATA SHEETS FOR ALL EQUIPMENT FOR REVIEW BY THE ENGINEER PRIOR TO CONSTRUCTION IN PDF FORMAT. SUBSTITUTES WILL BE RECEIVED, HOWEVER, THIS CONTRACTOR SHALL BE PREPARED TO FURNISH MATERIALS AS SPECIFIED IF REQUIRED BY SHOP DRAWING REVIEW.

EQUIPMENT COORDINATION

THIS CONTRACTOR SHALL COORDINATE THE ELECTRICAL REQUIREMENTS FOR ALL HVAC, PLUMBING, AND FIRE PROTECTION EQUIPMENT. WHERE THE DESIGN INFORMATION SHOWN ON THE DRAWINGS IS DIFFERENT THAN THE ACTUAL INSTALLED EQUIPMENT, THIS CONTRACTOR SHALL MAKE CHANGES IN WIRE AND CIRCUIT BREAKER SIZES AS REQUIRED WITHOUT ADDITIONAL COST TO THE OWNER.

PRIOR APPROVAL OF EQUIPMENT

ELECTRICAL EQUIPMENT SHALL BE FURNISHED AS SPECIFIED: HOWEVER, ALTERNATES TO THE SPECIFIED EQUIPMENT WILL BE ACCEPTED. IF A PRODUCT IS TO BE CONSIDERED AS AN EQUA TO THE PRODUCTS SPECIFIED HEREIN AND ON THE DRAWINGS, MANUFACTURERS PRODUCT INFORMATION SHALL BE SUBMITTED TO THE ENGINEER THRU THE ARCHITECT FOR REVIEW FIVE (5) WORKING DAYS PRIOR TO BIDDING. SUBSTITUTION PRODUCTS SUBMITTED AFTER THE FIVE (5) WORKING DAY DEADLINE OR AFTER THE BIDDING PROCESS WILL NOT BE CONSIDERED.

ACCURACY OF DATA

DRAWINGS ARE GENERALLY DIAGRAMMATIC AND ARE NOT INTENDED TO SHOW EXACT LOCATIONS OF OUTLETS, CONDUITS. SWITCHES, FIXTURES, ETC. INSTALL ALL WORK AS NEARLY AS POSSIBLE IN THE LOCATIONS SHOWN WITH MINOR ADJUSTMENTS TO AVOID INTERFERENCES WITH STRUCTURE OR THE WORK OF OTHER TRADES. COORDINATE THE EXACT LOCATIONS WITH THE OWNER AND/OR ARCHITECT.

MODIFICATION TO EXISTING FACILITY

MAKE MODIFICATION AND ADDITIONS TO EXISTING FACILITY AS SHOWN ON THE DRAWINGS. VERIFY ALL EXISTING CONDITIONS BY SITE SURVEY.

COORDINATION

THE ELECTRICAL CONTRACTOR SHALL COORDINATE HIS 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 SEVERAL PARTS OF THE WORK.

THIS CONTRACTOR SHALL USE EVERY PRECAUTION TO PROTECT THE WORK OF OTHERS, AND HE WILL BE HELD RESPONSIBLE FOR ALL DAMAGE DONE BY HIS WORKERS TO THE WORK OF OTHER TRADES. HE SHALL ALSO PROTECT HIS WORK FROM DANGER OF BREAKAGE, DIRT, FOREIGN MATERIALS, ETC., AND SHALL REPLACE ALL WORK SO DAMAGED.

MANUFACTURER'S RECOMMENDATIONS

UNLESS SPECIFICALLY INDICATED OTHERWISE, ALL EQUIPMENT AND MATERIALS SHALL BE INSTALLED IN ACCORDANCE WITH THE BEST RECOMMENDATION OF THE MANUFACTURER.

CUTTING AND PATCHING

THIS CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CUTTING AND PATCHING REQUIRED FOR PLACEMENT OF HIS WORK AND SHALL EMPLOY WORKERS SKILLED IN THE TRADES REQUIRED. THIS CONTRACTOR SHALL BE RESPONSIBLE FOR ALL SLEEVES AND FIRE CAULKING WHERE PENETRATIONS ARE MADE THROUGH RATED FLOORS OR WALLS.

PROTECTION OF FLOORS

FLOORS SHALL BE PROTECTED WHERE CUTTING AND THREADING OPERATIONS TAKE PLACE. PROTECTION SHALL BE ACCEPTABLE TO THE GENERAL CONTRACTOR.

TEMPORARY CONSTRUCTION POWER AND LIGHTING

THIS CONTRACTOR SHALL FURNISH AND INSTALL ALL TEMPORARY WIRING FOR CONSTRUCTION POWER AND LIGHTING FOR THE PROJECT.

TEMPORARY ELECTRICAL SERVICE FOR CONSTRUCTION POWER AND LIGHTING SHALL BE PROVIDED BY THIS CONTRACTOR.

ALL TEMPORARY WIRING FOR CONSTRUCTION SHALL CONFORM TO ARTICLE 305 OF THE NATIONAL ELECTRICAL CODE AND ALL APPLICABLE RULES AND REGULATIONS OF OSHA.

RECORD DRAWINGS AND MAINTENANCE MANUALS

THIS CONTRACTOR SHALL MAINTAIN A SET OF UP-TO-DATE RECORD DRAWINGS AT THE JOB SITE SHOWING WORK AS INSTALLED. UPON COMPLETION OF THE PROJECT, THIS CONTRACTOR SHALL PREPARE AS-BUILT DRAWINGS ON MYLAR SHOWING CONDITIONS AS INSTALLED. THREE (3) COPIES OF MAINTENANCE MANUALS CONTAINING MANUFACTURER'S INSTALLATION AND MAINTENANCE INFORMATION ON ALL EQUIPMENT INSTALLED SHALL BE PRESENTED TO THE OWNER. FINAL PAYMENT SHALL BE MADE AFTER AS-BUILT DRAWINGS AND MAINTENANCE MANUALS HAVE BEEN APPROVED.

TESTS

THE ENTIRE WIRING SYSTEM SHALL BE THOROUGHLY TESTED AND DEFECTS CORRECTED. ALL ELECTRICAL WIRING SHALL BE TESTED FOR CONTINUITY, SHORTS, IMPROPER GROUNDS AND INSULATION RESISTANCE. MOTORS SHALL BE CHECKED FOR PROPER ROTATION AND BRANCH CIRCUIT AND OVERLOAD PROTECTION. PANELBOARDS SHALL BE CHECKED FOR BALANCED LOADING. PANELBOARDS SHALL BE CHECKED FOR CORRECT PHASE ROTATION. DISCREPANCIES SHALL BE CORRECTED. THIS CONTRACTOR SHALL FURNISH TEST EQUIPMENT AND MATERIAL. AND SHALL BE RESPONSIBLE FOR REPLACEMENT OR REPAIR OF DAMAGE DUE TO TEST FAILURES.

THE CONTRACTOR SHALL GUARANTEE TO THE OWNER ALL WORK PERFORMED UNDER THIS CONTRACT TO BE FREE FROM DEFECTS IN WORKMANSHIP AND MATERIAL FOR A PERIOD OF ONE (1) YEAR FROM DATE OF FINAL ACCEPTANCE. DEFECTS ARISING DURING THIS PERIOD WILL BE PROMPTLY REMEDIED BY THE CONTRACTOR AT HIS OWN EXPENSE UPON NOTICE BY THE OWNER. ALL LAMPS FOR LIGHTING FIXTURES SHALL BE EXCLUDED FROM THIS GUARANTEE, BUT ONE (1) COMPLETE AND OPERATIVE SET OF LAMPS FOR LIGHTING FIXTURES SHALL BE IN PLACE AT THE TIME OF FINAL ACCEPTANCE.

ELECTRICAL RACEWAYS

ALL WIRING SHALL BE INSTALLED IN A CONTINUOUS CONDUIT

ALL CONDUIT SUBJECT TO WEATHER AND/OR MECHANICAL DAMAGE SHALL BE GALVANIZED RIGID STEEL OR IMC.

ELECTRIC METALLIC TUBING (EMT) MAY BE USED FOR ALL OTHER CONDUIT APPLICATIONS UNLESS MODIFIED BY THIS SPECIFICATION OR BY THE DRAWINGS. MINIMUM CONDUIT SIZE SHALL BE 1/2".

SHORT LENGTHS OF FLEXIBLE STEEL CONDUIT, "GREENFIELD", SHALL BE USED ONLY ABOVE FURRED CEILINGS BETWEEN OUTLET BOXES AND LAY-IN TYPE LIGHTING FIXTURES.

SEALTITE FLEXIBLE METAL CONDUIT SHALL BE USED FOR FINAL CONNECTION TO MOTORS AND EQUIPMENT SUBJECT TO

SEALTITE CONDUIT SHALL NOT BE USED FOR OTHER APPLICATIONS.

PVC SCHEDULE 40 CONDUIT SHALL BE USED FOR OUTDOOR UNDERGROUND CONDUIT RUNS.

EXPOSED CONDUIT SHALL BE RUN IN PARALLEL ROWS NEATLY RACKED PARALLEL OR PERPENDICULAR TO WALLS AND STRUCTURAL MEMBERS.

WHEREVER POSSIBLE, LOCATE CONDUIT HIGH AS POSSIBLE OVER PIPING OF OTHER TRADES. ALL HORIZONTAL CONDUIT RUNS ABOVE FURRED CEILINGS SHALL BE RUN AS HIGH AS POSSIBLE IN ORDER TO PROVIDE FREE SPACE ABOVE CEILING FOR INSTALLATION OF AIR DISTRIBUTION DUCT AND PIPING.

PLUG THE ENDS OF EACH RACEWAY WITH AN APPROVED CAP OR CAPPED BUSHING TO PREVENT THE ENTRANCE OF FOREIGN MATERIAL DURING THE CONSTRUCTION PERIOD. CONDUIT LEFT EMPTY FOR FUTURE WIRING SHALL BE CAPPED.

CONDUITS PROJECTING THROUGH ROOFING SHALL BE MADE WATERTIGHT BY PROPER FLASHING AND PITCH POCKETS WITH STORM COLLAR SECURELY FASTENED TO CONDUIT ABOVE THE FLASHING.

PROVIDE BONDING TYPE CONDUIT EXPANSION JOINTS OR FITTINGS WHERE CONDUIT CROSSES BUILDING EXPANSION JOINTS. ALL EXPANSION JOINT FITTINGS TO BE PROVIDED WITH EXTERNAL BONDING JUMPER ARE TO BE OF TYPE APPROVED FOR USE WITH A BONDING JUMPER.

ALL RIGID STEEL AND IMC CONDUIT COUPLINGS, FITTINGS, AND CONNECTORS SHALL BE THREADED TYPE.

WHERE PVC CONDUIT IS USED, ALL JOINTS SHALL BE SOLVENT WELDED WITH CEMENT FURNISHED BY THE CONDUIT MANUFACTURER. PROVIDE SUITABLE ADAPTERS WHERE PVC CONDUITS ARE COUPLED TO METALLIC CONDUITS.

PROVIDE A RIGID ELBOW AT BASE OF EACH EXPOSED RISER FROM BELOW GRADE, AS INDICATED ON THE DRAWINGS OR AS REQUIRED.

CONDUIT SHALL NOT BE RUN IN OR UNDER FLOOR SLAB, EXCEPT WHERE RISING UP FROM UNDERGROUND SERVICE TO BUILDING PANELBOARDS.

PROVIDE FIRE BARRIER PENETRATION SEALS WHERE CONDUIT PENETRATES FIRE RATED WALLS OR FLOORS.

WHERE RUN CONCEALED AND ALLOWED BY CODE, IT IS ACCEPTABLE TO USE TYPE "MC" CABLE INLIEU OF EMT CONDUIT AND BUILDING WIRE.

FROM EACH FLUSH MOUNTED PANELBOARD, EXTEND INTO AN ACCESSIBLE LOCATION A 3/4" EMPTY CONDUIT FOR EVERY THREE SPARE BRANCH BREAKERS OR BREAKER SPACES.

CONDUCTORS

ALL CONDUCTORS SHALL BE STRANDED COPPER WITH THHN-TYPE 2 INSULATION. ALL CONDUCTORS SHALL BEAR THE UL LABEL. MINIMUM SIZE CONDUCTOR SHALL BE #12 AWG. WIRE SIZES SHOWN ON THIS DRAWING ARE CALCULATED USING THE 75 DEGREE CELSIUS COLUMN OF TABLE 310.15(B)(16). FOR EQUIPMENT THAT IS RATED SOLELY FOR 60 DEGREE CELSIUS, PROVIDE WIRE SIZED USING THE 60 DEGREE COLUMN.

SEISMIC RESTRAINTS

ALL ELECTRICAL EQUIPMENT SHALL BE SUPPORTED WITH MULTIDIRECTIONAL BRACING AS REQUIRED BY THE NATIONAL, STATE, AND/OR LOCAL BUILDING CODES.

THIS CONTRACTOR SHALL CONSULT THE APPROPRIATE BUILDING CODE TO DETERMINE THE DESIGN REQUIREMENTS FOR SEISMIC BRACING.

THIS CONTRACTOR SHALL EMPLOY A FIRM LICENSED IN THE TRADE TO DESIGN SEISMIC BRACING FOR ALL HIS EQUIPMENT.

PROVIDE SEISMIC BRACING PRODUCTS AS MANUFACTURED BY MASON INDUSTRIES INC. OF ANAHEIM, CALIFORNIA OR AN APPROVED EQUAL.

GROUNDING

PROVIDE GROUNDING AS REQUIRED BY THE NATIONAL ELECTRICAL CODE AND LOCAL CODES. PROVIDE SYSTEM AND ENCLOSURE GROUNDING AT THE SERVICE ENTRANCE PANEL. PROVIDE EXTERNAL 3/4" X 10' COPPERCLAD GROUND ROD OUTSIDE THE BUILDING. PROVIDE GROUNDING ELECTRODE CONDUCTORS IN ACCORDANCE WITH ARTICLE 250-94 OF THE NATIONAL ELECTRICAL CODE. PROVIDE EQUIPMENT GROUNDING CONDUCTORS IN ALL FLEXIBLE CONDUIT CONNECTIONS. CONNECT ALL GROUNDING CONDUCTORS WITH APPROVED GROUND CLAMPS.

LIGHTING

PROVIDE LIGHTING FIXTURES AND LAMPS PER THE "LIGHTING FIXTURE SCHEDULE" SHOWN ON THE DRAWINGS. PROVIDE RETAINER CLIPS ON ALL LAY-IN RECESSED LIGHT FIXTURES AS REQUIRED BY THE NATIONAL ELECTRICAL CODE AND APPLICABLE BUILDING CODES.

ALL EMERGENCY LIGHTING FIXTURES SHALL BE PERMANENTLY CONNECTED TO THE ELECTRICAL SYSTEM. PROVIDE CIRCUIT BREAKER LOCK-ON DEVICES AT CIRCUIT BREAKERS CONTROLLING EXIT AND EMERGENCY LIGHTING CIRCUITS.

DEMOLITION

REMOVE, AS NOTED ON THE DRAWINGS, ALL ELECTRICAL EQUIPMENT AND WIRING.

FURNISH AND INSTALL CONDUIT AND CONDUCTORS TO MAINTAIN CIRCUIT CONTINUITY, WHERE NECESSARY.

COMPLY WITH THE LOCAL AND NATIONAL CODES WHEN RECONNECTING CIRCUITS FOR CONTINUITY.

WHEN DISCONNECTING BRANCH CIRCUITS, LOCATE EACH PIECE OF EQUIPMENT AFFECTED AND NOTIFY THE OWNER OF SERVICE INTERRUPTION PRIOR TO CIRCUIT REMOVAL.

WHERE REMOVAL OF ELECTRICAL ITEMS WOULD INTERRUPT POWER TO THE REMAINDER OF A BRANCH CIRCUIT, THIS CONTRACTOR SHALL FURNISH AND INSTALL CONDUIT, WIRING, CONNECTIONS, AND JUNCTION BOXES AS REQUIRED TO ENSURE CIRCUIT CONTINUITY AFTER THE ELECTRICAL ITEMS HAVE BEEN

REMOVE ALL DEMOLITION WIRING AND CONDUIT WHERE CONDUIT IS ACCESSIBLE BACK TO ITS POINT OF ORIGINATION.

THIS CONTRACTOR SHALL REMOVE FROM THE SITE ALL ELECTRICAL MATERIAL REMOVED IN DEMOLITION.

WHERE ELECTRICAL EQUIPMENT IS SUPPLIED FROM UNDER THE EXISTING FLOOR SLAB. REMOVE EXISTING CONDUCTORS BACK TO THE SOURCE OF ORIGIN AND REPAIR CONDUIT EXITING THE SLAB AS DIRECTED BY THE ARCHITECT.

DISPOSAL OF REGULATED HAZARDOUS AND SPECIAL MATERIAL

REMOVE AND DISPOSE OF ALL MATERIAL THAT CONTAINS OR IS CONSTRUCTED OF REGULATED HAZARDOUS OR SPECIAL MATERIALS ASSOCIATED WITH THE PROJECT THAT ARE DEEMED AS HARMFUL TO THE ENVIRONMENT BY LOCAL STATE AND FEDERAL REGULATIONS AS SHOWN ON THE DRAWINGS AND SPECIFIED HEREIN.

COMPLY WITH LOCAL, STATE AND FEDERAL REGULATIONS WHEN DISPOSING OF REGULATED HAZARDOUS AND SPECIAL MATERIAL AS APPLICABLE TO THE PROJECT.

THIS CONTRACTOR SHALL REMOVE, STORE, TRANSPORT, AND DISPOSE OF ALL ITEMS CONTAINING REGULATED HAZARDOUS OR SPECIAL MATERIALS IN ACCORDANCE WITH ALL STATE, LOCAL AND FEDERAL REGULATIONS PERTAINING TO THE DISPOSAL OF THESE MATERIALS.

LIGHTING FIXTURE SCHEDULE Manufacturer Lamp Electrical Data Description ELM2 LED 120 V/1-2 VA LED Emergency Light ELA SD QWP L0309 M12 LED LED Remote Emergency Lithonia 120 V/1-5 VA Combination LED Exit Sign LHQM LED R HO LED 120 V/1-5 VA Lithonia

ELECTRICAL LEGEND

AFF ABOVE FINISHED FLOOR

XX" INDICATES MOUNTING HEIGHT AFF

ELECTRICAL ABBREVIATIONS

AFG ABOVE FINISHED GRADE

ATS AUTOMATIC TRANSFER SWITCH

FLA FULL LOAD AMPS

GFCI GROUND FAULT CIRCUIT INTERRUPTER GRS GALVANIZED RIGID STEEL

LED LIGHT EMITTING DIODE

IG ISOLATED GROUND

MCB MAIN CIRCUIT BREAKER

MCC MOTOR CONTROL CENTER

MLO MAIN LUGS ONLY

NF NON-FUSED

N.I.C. NOT IN CONTACT

NEC NATIONAL ELECTRIC CODE

N.T.S. NOT TO SCALE

UNO UNLESS OTHERWISE NOTED

WP WEATHERPROOF

XFMR TRANSFORMER

/ E#.# DETAIL NUMBER/SHEET NUMBER

GFCI DUPLEX

➡ DUPLEX

NON-FUSED DISCONNECT

FUSED DISCONNECT

CEILING MOUNT EXIT SIGN

WALL MOUNT EXIT SIGN STRIP LIGHT

₩ WALL MOUNT EMERGENCY LIGHT

EMERGENCY STRIP LIGHT

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PROJECT NO. ATL23110.01 PROJECT

DOWNTOWN

2024 MEP/FP REPLACEMENT

SUBMISSIONS / REVISIONS
05/03/2024
ISSUED FOR BID

DESCRIPTION

	_
DRAWN:	BJB
REVIEWED:	EJW

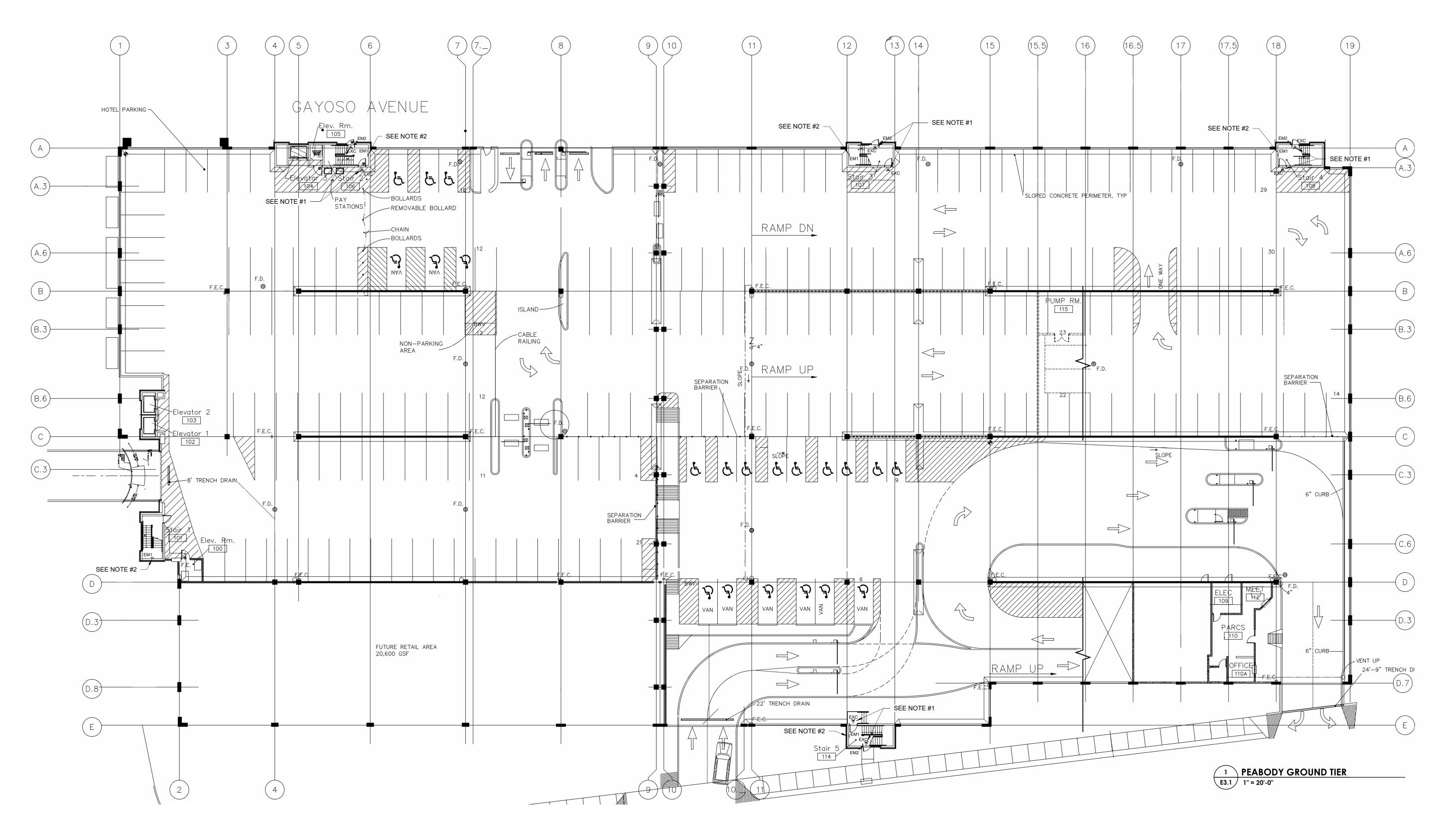
GENERAL NOTES, SCHEDULES AND LEGEND

SHEET NO.

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05/03/2024

- 1. PROVIDE NEW BATTERY POWERED EXIT LIGHTS THROUGHOUT THE GARAGE AND STAIRWELLS AT EXISTING EXIT SIGN LOCATIONS. EXTEND NEAREST LIGHTING CIRCUIT WITH UNSWITCHED HOT LEG TO NEW EXIT SIGNS. FIELD VERIFY THE EXACT QUANTITY AND LOCATIONS BEFORE INSTALLATION. PROVIDE CHEVRONS TO MATRCH THE EXISTING EXIT SIGNS. PROVIDE CHEVRONS TO MATRCH THE EXISTING EXIT SIGNS.
- 2. REPLACE EXISTING EMERGENCY LIGHTS THROUGHOUT THE STAIRWELLS 1 FOR 1. FIELD VERIFY THE EXACT QUANTITY AND LOCATIONS BEFORE INSTALLATION.





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Nashville

PROJECT NO.
ATL23110.01
PROJECT

MEMPHIS DOWNTOWN PARKING FACILITIES

2024 MEP/FP REPLACEMENT

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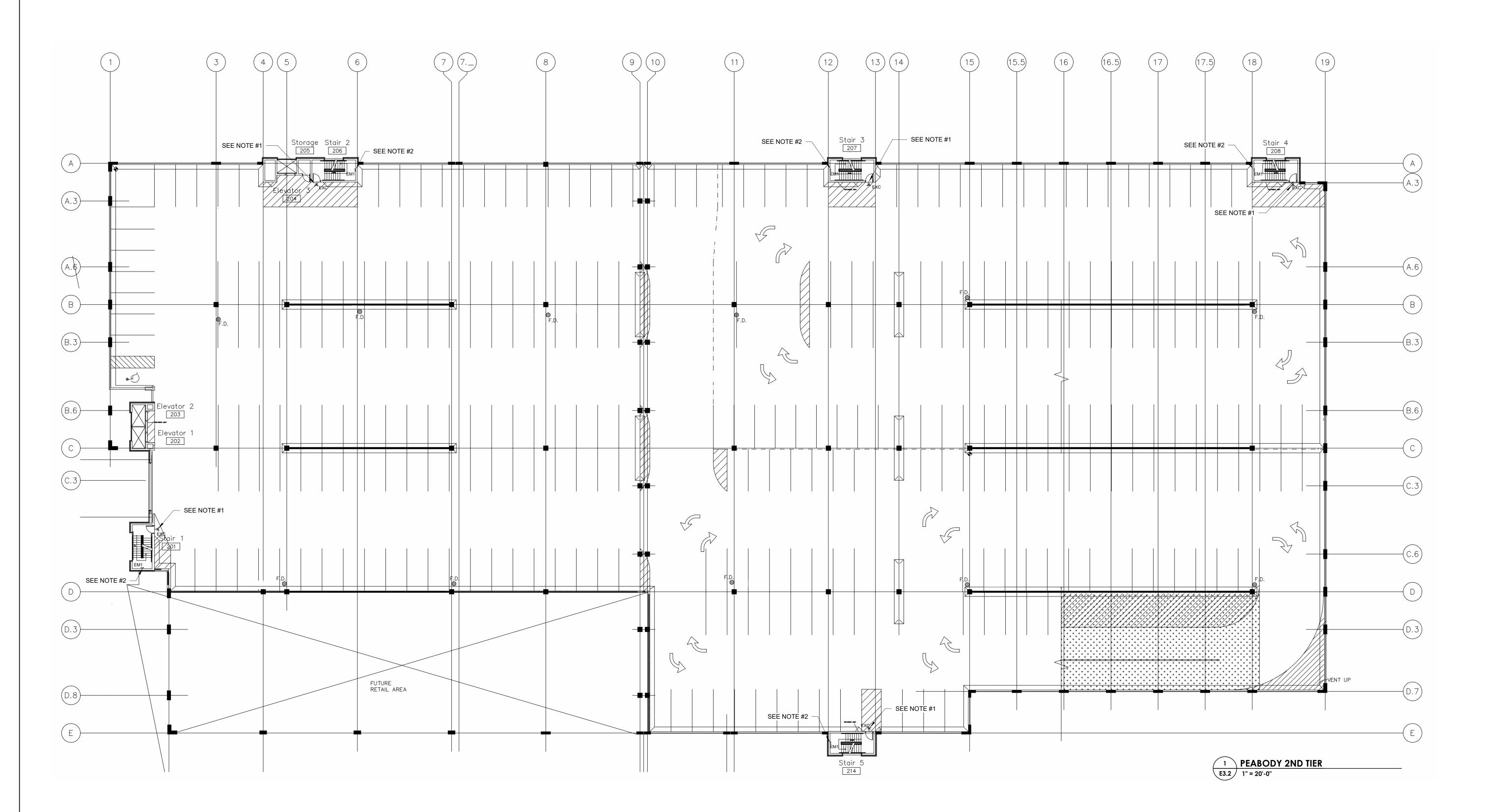
DATE: 05/03/2024

PEABODY GROUND TIER LIGHTING

SUEET NO

E3.1

- 1. PROVIDE NEW BATTERY POWERED EXIT LIGHTS THROUGHOUT THE GARAGE AND STAIRWELLS AT EXISTING EXIT SIGN LOCATIONS. EXTEND NEAREST LIGHTING CIRCUIT WITH UNSWITCHED HOT LEG TO NEW EXIT SIGNS. FIELD VERIFY THE EXACT QUANTITY AND LOCATIONS BEFORE INSTALLATION. PROVIDE CHEVRONS TO MATRCH THE EXISTING EXIT
- 2. REPLACE EXISTING EMERGENCY LIGHTS THROUGHOUT THE STAIRWELLS 1 FOR 1. FIELD VERIFY THE EXACT QUANTITY AND LOCATIONS BEFORE INSTALLATION.





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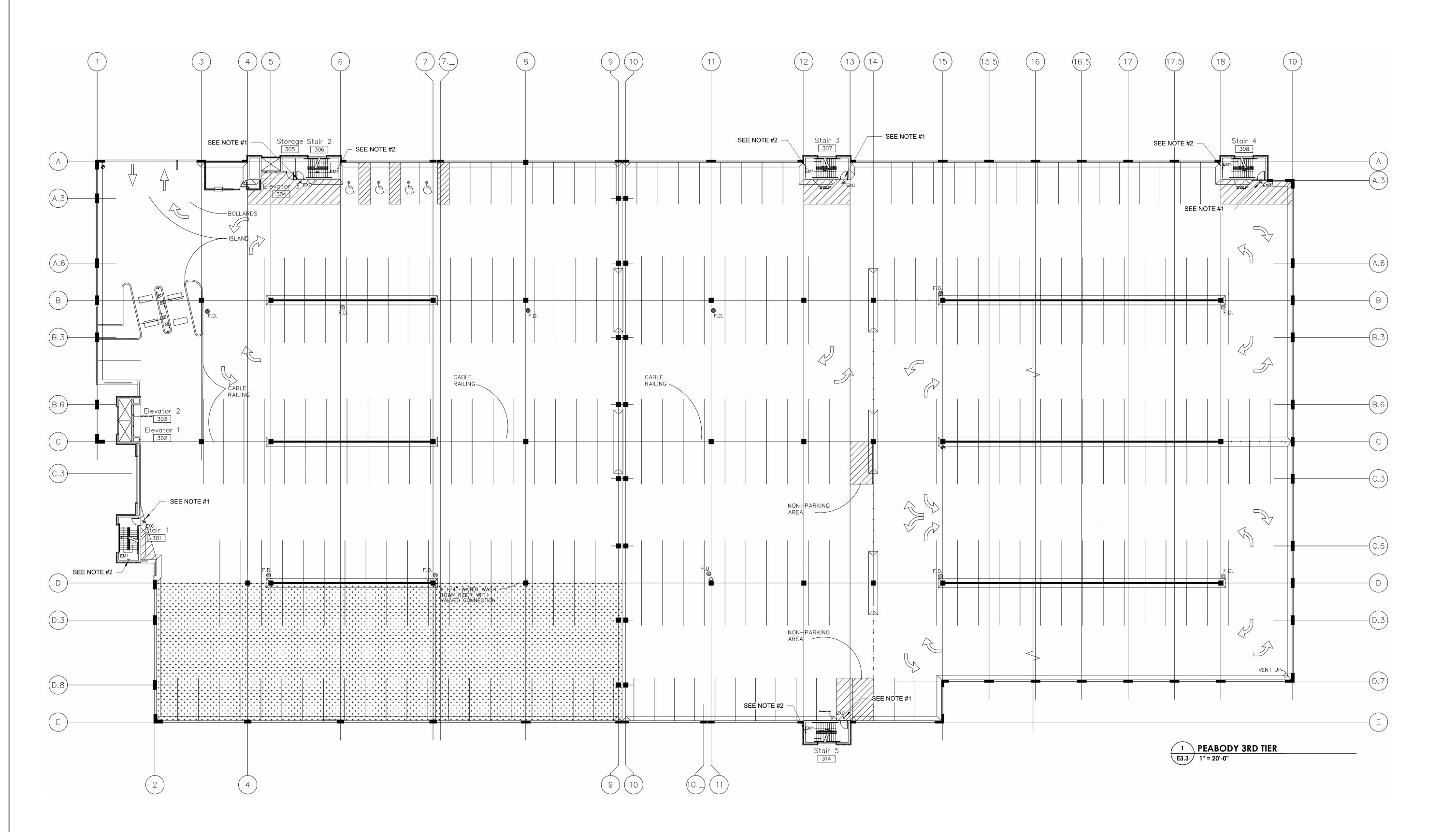
REVIEWED: EJW

DATE: 05/03/2024

PEABODY SECOND TIER LIGHTING

SUEET NO

- 1. PROVIDE NEW BATTERY POWERED EXIT LIGHTS THROUGHOUT THE GARAGE AND STAIRWELLS AT EXISTING EXIT SIGN LOCATIONS. EXTEND NEAREST LIGHTING CIRCUIT WITH UNSWITCHED HOT LEG TO NEW EXIT SIGNS. FIELD VERIFY THE EXACT QUANTITY AND LOCATIONS BEFORE INSTALLATION. PROVIDE CHEVRONS TO MATRCH THE EXISTING EXIT
- 2. REPLACE EXISTING EMERGENCY LIGHTS THROUGHOUT THE STAIRWELLS 1 FOR 1. FIELD VERIFY THE EXACT QUANTITY AND LOCATIONS BEFORE INSTALLATION.





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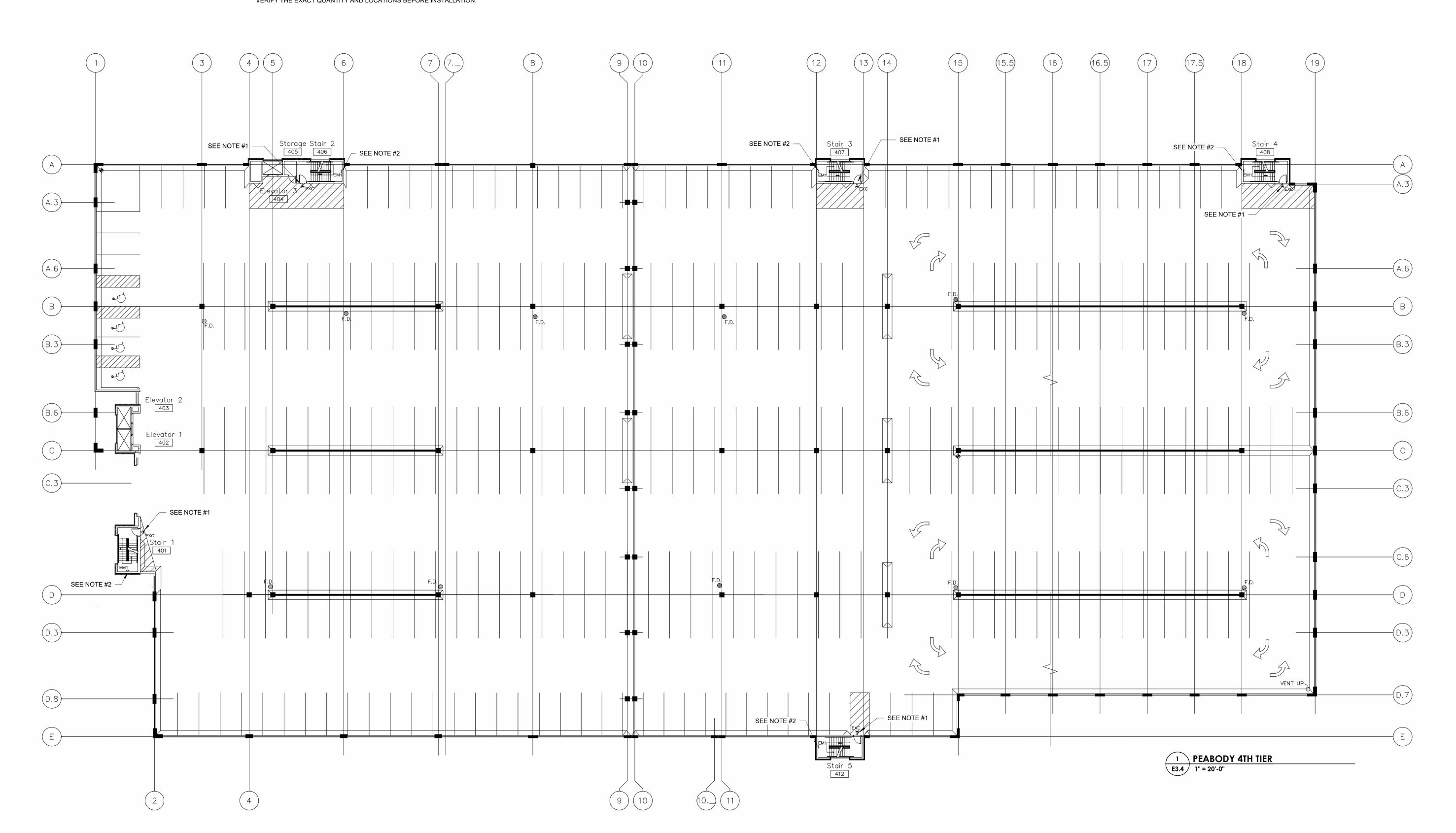
REVIEWED:
EJW

DATE:
05/03/2024

PEABODY THIRD TIER LIGHTING

SUEET NO

- 1. PROVIDE NEW BATTERY POWERED EXIT LIGHTS THROUGHOUT THE GARAGE AND STAIRWELLS AT EXISTING EXIT SIGN LOCATIONS. EXTEND NEAREST LIGHTING CIRCUIT WITH UNSWITCHED HOT LEG TO NEW EXIT SIGNS. FIELD VERIFY THE EXACT QUANTITY AND LOCATIONS BEFORE INSTALLATION. PROVIDE CHEVRONS TO MATRCH THE EXISTING EXIT
- 2. REPLACE EXISTING EMERGENCY LIGHTS THROUGHOUT THE STAIRWELLS 1 FOR 1. FIELD VERIFY THE EXACT QUANTITY AND LOCATIONS BEFORE INSTALLATION.





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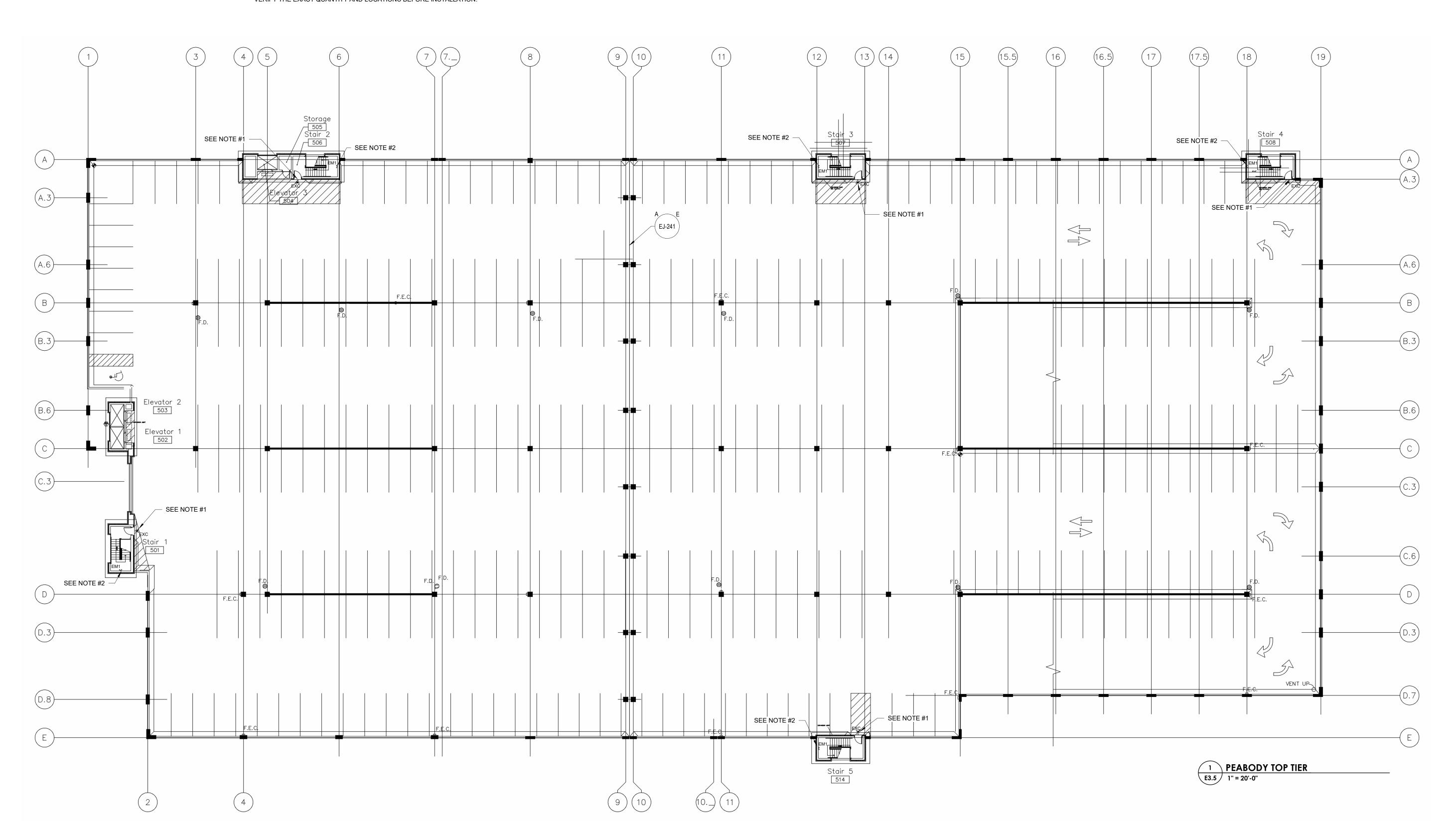
REVIEWED: EJW

DATE: 05/03/2024

PEABODY FOURTH TIER LIGHTING

QUEET

- 1. PROVIDE NEW BATTERY POWERED EXIT LIGHTS THROUGHOUT THE GARAGE AND STAIRWELLS AT EXISTING EXIT SIGN LOCATIONS. EXTEND NEAREST LIGHTING CIRCUIT WITH UNSWITCHED HOT LEG TO NEW EXIT SIGNS. FIELD VERIFY THE EXACT QUANTITY AND LOCATIONS BEFORE INSTALLATION. PROVIDE CHEVRONS TO MATRCH THE EXISTING EXIT
- 2. REPLACE EXISTING EMERGENCY LIGHTS THROUGHOUT THE STAIRWELLS 1 FOR 1. FIELD VERIFY THE EXACT QUANTITY AND LOCATIONS BEFORE INSTALLATION.





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PEABODY TOP TIER LIGHTING

SUEET NO

ELECTRICAL SPECIFICATIONS

INCLUDES THE FURNISHING OF ALL LABOR, SUPERVISION, MATERIALS, EQUIPMENT, TOOLS, ETC., REQUIRED FOR THE COMPLETE INSTALLATION OF ELECTRICAL SYSTEMS FOR FIRST PLACE GARAGE IN MEMPHIS TENNESSEE, AS OUTLINED IN THESE SPECIFICATIONS AND SHOWN ON THE DRAWINGS. THE WORK SHALL INCLUDE, BUT IS NOT NECESSARILY LIMITED TO, LABOR AND MATERIAL FOR THE FOLLOWING:

- ELECTRICAL BOXES AND FITTINGS.
- SUPPORTING DEVICES.
- GROUNDING. LIGHTING FIXTURES AND LAMPS.

EXIT SIGNS AND EMERGENCY LIGHTING.

CODES AND PERMITS

ALL ELECTRICAL WORK SHALL BE INSTALLED IN ACCORDANCE WITH THE REQUIREMENTS OF THE 2020 EDITION OF THE NATIONAL ELECTRICAL CODE, AND THE LATEST EDITION OF ALL LOCAL OR STATE CODES, LAWS, AND ORDINANCES, AND THE REQUIREMENTS OF THE LOCAL ELECTRIC UTILITY, AS WELL AS NFPA 72 FOR THE FIRE ALARM SYSTEM AND THE 2021 IECC ENERGY CODE.

THIS CONTRACTOR SHALL APPLY FOR, OBTAIN, AND PAY FOR ALL PERMITS REQUIRED. AT THE CONCLUSION OF THE INSTALLATION, HE SHALL SECURE A CERTIFICATE OF INSPECTION, PROPERLY SIGNED BY THE CONTROLLING BUILDING DEPARTMENT, WHICH SHALL STATE THAT ALL RULES HAVE BEEN COMPLIED WITH AND THAT THE WORK IS SATISFACTORY.

MATERIAL AND EQUIPMENT

ALL MATERIAL AND EQUIPMENT SHALL BE NEW AND OF THE QUALITY SPECIFIED.

MATERIAL OR EQUIPMENT THAT HAS BEEN STORED OUTDOORS UNPROTECTED FOR LONG PERIODS OF TIME OR OTHERWISE DAMAGED IS NOT ACCEPTABLE AS NEW MATERIAL.

APPARATUS AND MATERIALS USED IN THIS WORK WHICH ARE SUBJECT TO APPROVAL OF UNDERWRITERS LABORATORIES (UL) SHALL BEAR THE UL LABEL, OR BE UNDERWRITERS LISTED.

SHOP DRAWINGS

SUBMIT DIGITAL SHOP DRAWINGS AND MANUFACTURER'S DATA SHEETS FOR ALL EQUIPMENT FOR REVIEW BY THE ENGINEER PRIOR TO CONSTRUCTION IN PDF FORMAT. SUBSTITUTES WILL BE RECEIVED, HOWEVER, THIS CONTRACTOR SHALL BE PREPARED TO FURNISH MATERIALS AS SPECIFIED IF REQUIRED BY SHOP DRAWING REVIEW.

EQUIPMENT COORDINATION

THIS CONTRACTOR SHALL COORDINATE THE ELECTRICAL REQUIREMENTS FOR ALL HVAC, PLUMBING, AND FIRE PROTECTION EQUIPMENT. WHERE THE DESIGN INFORMATION SHOWN ON THE DRAWINGS IS DIFFERENT THAN THE ACTUAL INSTALLED EQUIPMENT, THIS CONTRACTOR SHALL MAKE CHANGES IN WIRE AND CIRCUIT BREAKER SIZES AS REQUIRED WITHOUT ADDITIONAL COST TO THE OWNER

PRIOR APPROVAL OF EQUIPMENT

ELECTRICAL EQUIPMENT SHALL BE FURNISHED AS SPECIFIED: HOWEVER, ALTERNATES TO THE SPECIFIED EQUIPMENT WILL BE ACCEPTED. IF A PRODUCT IS TO BE CONSIDERED AS AN EQUAL TO THE PRODUCTS SPECIFIED HEREIN AND ON THE DRAWINGS, MANUFACTURERS PRODUCT INFORMATION SHALL BE SUBMITTED TO THE ENGINEER THRU THE ARCHITECT FOR REVIEW FIVE (5) WORKING DAYS PRIOR TO BIDDING. SUBSTITUTION PRODUCTS SUBMITTED AFTER THE FIVE (5) WORKING DAY DEADLINE OR AFTER THE BIDDING PROCESS WILL NOT BE CONSIDERED.

ACCURACY OF DATA

DRAWINGS ARE GENERALLY DIAGRAMMATIC AND ARE NOT INTENDED TO SHOW EXACT LOCATIONS OF OUTLETS, CONDUITS, SWITCHES, FIXTURES, ETC. INSTALL ALL WORK AS NEARLY AS POSSIBLE IN THE LOCATIONS SHOWN WITH MINOR ADJUSTMENTS TO AVOID INTERFERENCES WITH STRUCTURE OR THE WORK OF OTHER TRADES. COORDINATE THE EXACT LOCATIONS WITH THE OWNER AND/OR ARCHITECT.

MODIFICATION TO EXISTING FACILITY

MAKE MODIFICATION AND ADDITIONS TO EXISTING FACILITY AS SHOWN ON THE DRAWINGS. VERIFY ALL EXISTING CONDITIONS BY SITE SURVEY.

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THE ELECTRICAL CONTRACTOR SHALL COORDINATE HIS 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 SEVERAL PARTS OF THE WORK.

THIS CONTRACTOR SHALL USE EVERY PRECAUTION TO PROTECT THE WORK OF OTHERS. AND HE WILL BE HELD RESPONSIBLE FOR ALL DAMAGE DONE BY HIS WORKERS TO THE WORK OF OTHER TRADES. HE SHALL ALSO PROTECT HIS WORK FROM DANGER OF BREAKAGE, DIRT, FOREIGN MATERIALS, ETC., AND SHALL REPLACE ALL WORK SO DAMAGED.

MANUFACTURER'S RECOMMENDATIONS

UNLESS SPECIFICALLY INDICATED OTHERWISE, ALL EQUIPMENT AND MATERIALS SHALL BE INSTALLED IN ACCORDANCE WITH THE BEST RECOMMENDATION OF THE MANUFACTURER.

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THIS CONTRACTOR SHALL MAINTAIN A SET OF UP-TO-DATE RECORD DRAWINGS AT THE JOB SITE SHOWING WORK AS INSTALLED, UPON COMPLETION OF THE PROJECT, THIS CONTRACTOR SHALL PREPARE AS-BUILT DRAWINGS ON MYLAR SHOWING CONDITIONS AS INSTALLED. THREE (3) COPIES OF MAINTENANCE MANUALS CONTAINING MANUFACTURER'S INSTALLATION AND MAINTENANCE INFORMATION ON ALL EQUIPMENT INSTALLED SHALL BE PRESENTED TO THE OWNER. FINAL PAYMENT SHALL BE MADE AFTER AS-BUILT DRAWINGS AND MAINTENANCE MANUALS HAVE BEEN APPROVED.

THE ENTIRE WIRING SYSTEM SHALL BE THOROUGHLY TESTED AND DEFECTS CORRECTED. ALL ELECTRICAL WIRING SHALL BE TESTED FOR CONTINUITY, SHORTS, IMPROPER GROUNDS AND INSULATION RESISTANCE. MOTORS SHALL BE CHECKED FOR PROPER ROTATION AND BRANCH CIRCUIT AND OVERLOAD PROTECTION. PANELBOARDS SHALL BE CHECKED FOR BALANCED LOADING. PANELBOARDS SHALL BE CHECKED FOR CORRECT PHASE ROTATION. DISCREPANCIES SHALL BE CORRECTED. THIS CONTRACTOR SHALL FURNISH TEST EQUIPMENT AND MATERIAL, AND SHALL BE RESPONSIBLE FOR REPLACEMENT OR REPAIR OF DAMAGE DUE TO TEST FAILURES.

GUARANTEE

THE CONTRACTOR SHALL GUARANTEE TO THE OWNER ALL WORK PERFORMED UNDER THIS CONTRACT TO BE FREE FROM DEFECTS IN WORKMANSHIP AND MATERIAL FOR A PERIOD OF ONE (1) YEAR FROM DATE OF FINAL ACCEPTANCE. DEFECTS ARISING DURING THIS PERIOD WILL BE PROMPTLY REMEDIED BY THE CONTRACTOR AT HIS OWN EXPENSE UPON NOTICE BY THE OWNER. ALL LAMPS FOR LIGHTING FIXTURES SHALL BE EXCLUDED FROM THIS GUARANTEE, BUT ONE (1) COMPLETE AND OPERATIVE SET OF LAMPS FOR LIGHTING FIXTURES SHALL BE IN PLACE AT THE TIME OF FINAL ACCEPTANCE.

ELECTRICAL RACEWAYS

ALL WIRING SHALL BE INSTALLED IN A CONTINUOUS CONDUIT

ALL CONDUIT SUBJECT TO WEATHER AND/OR MECHANICAL DAMAGE SHALL BE GALVANIZED RIGID STEEL OR IMC.

ELECTRIC METALLIC TUBING (EMT) MAY BE USED FOR ALL OTHER CONDUIT APPLICATIONS UNLESS MODIFIED BY THIS SPECIFICATION OR BY THE DRAWINGS. MINIMUM CONDUIT SIZE SHALL BE 1/2".

SHORT LENGTHS OF FLEXIBLE STEEL CONDUIT, "GREENFIELD", SHALL BE USED ONLY ABOVE FURRED CEILINGS BETWEEN OUTLET BOXES AND LAY-IN TYPE LIGHTING FIXTURES.

SEALTITE FLEXIBLE METAL CONDUIT SHALL BE USED FOR FINAL CONNECTION TO MOTORS AND EQUIPMENT SUBJECT TO

SEALTITE CONDUIT SHALL NOT BE USED FOR OTHER APPLICATIONS.

PVC SCHEDULE 40 CONDUIT SHALL BE USED FOR OUTDOOR UNDERGROUND CONDUIT RUNS.

EXPOSED CONDUIT SHALL BE RUN IN PARALLEL ROWS NEATLY RACKED PARALLEL OR PERPENDICULAR TO WALLS AND STRUCTURAL MEMBERS.

WHEREVER POSSIBLE, LOCATE CONDUIT HIGH AS POSSIBLE OVER PIPING OF OTHER TRADES. ALL HORIZONTAL CONDUIT RUNS ABOVE FURRED CEILINGS SHALL BE RUN AS HIGH AS POSSIBLE IN ORDER TO PROVIDE FREE SPACE ABOVE CEILING FOR INSTALLATION OF AIR DISTRIBUTION DUCT AND PIPING.

PLUG THE ENDS OF EACH RACEWAY WITH AN APPROVED CAP OR CAPPED BUSHING TO PREVENT THE ENTRANCE OF FOREIGN MATERIAL DURING THE CONSTRUCTION PERIOD. CONDUIT LEFT EMPTY FOR FUTURE WIRING SHALL BE CAPPED.

CONDUITS PROJECTING THROUGH ROOFING SHALL BE MADE WATERTIGHT BY PROPER FLASHING AND PITCH POCKETS WITH STORM COLLAR SECURELY FASTENED TO CONDUIT ABOVE THE

PROVIDE BONDING TYPE CONDUIT EXPANSION JOINTS OR FITTINGS WHERE CONDUIT CROSSES BUILDING EXPANSION JOINTS. ALL EXPANSION JOINT FITTINGS TO BE PROVIDED WITH EXTERNAL BONDING JUMPER ARE TO BE OF TYPE APPROVED

FOR USE WITH A BONDING JUMPER.

ALL RIGID STEEL AND IMC CONDUIT COUPLINGS, FITTINGS, AND CONNECTORS SHALL BE THREADED TYPE.

WHERE PVC CONDUIT IS USED, ALL JOINTS SHALL BE SOLVENT WELDED WITH CEMENT FURNISHED BY THE CONDUIT MANUFACTURER. PROVIDE SUITABLE ADAPTERS WHERE PVC CONDUITS ARE COUPLED TO METALLIC CONDUITS.

PROVIDE A RIGID ELBOW AT BASE OF EACH EXPOSED RISER FROM BELOW GRADE, AS INDICATED ON THE DRAWINGS OR AS REQUIRED.

CONDUIT SHALL NOT BE RUN IN OR UNDER FLOOR SLAB, EXCEPT WHERE RISING UP FROM UNDERGROUND SERVICE TO BUILDING PANELBOARDS.

PROVIDE FIRE BARRIER PENETRATION SEALS WHERE CONDUIT PENETRATES FIRE RATED WALLS OR FLOORS.

WHERE RUN CONCEALED AND ALLOWED BY CODE, IT IS ACCEPTABLE TO USE TYPE "MC" CABLE INLIEU OF EMT CONDUIT AND BUILDING WIRE.

FROM EACH FLUSH MOUNTED PANELBOARD, EXTEND INTO AN ACCESSIBLE LOCATION A 3/4" EMPTY CONDUIT FOR EVERY THREE SPARE BRANCH BREAKERS OR BREAKER SPACES.

CONDUCTORS

FLASHING.

ALL CONDUCTORS SHALL BE STRANDED COPPER WITH THHN-TYPE 2 INSULATION. ALL CONDUCTORS SHALL BEAR THE UL LABEL. MINIMUM SIZE CONDUCTOR SHALL BE #12 AWG. WIRE SIZES SHOWN ON THIS DRAWING ARE CALCULATED USING THE 75 DEGREE CELSIUS COLUMN OF TABLE 310.15(B)(16). FOR EQUIPMENT THAT IS RATED SOLELY FOR 60 DEGREE CELSIUS, PROVIDE WIRE SIZED USING THE 60 DEGREE COLUMN.

SEISMIC RESTRAINTS

ALL ELECTRICAL EQUIPMENT SHALL BE SUPPORTED WITH MULTIDIRECTIONAL BRACING AS REQUIRED BY THE NATIONAL, STATE, AND/OR LOCAL BUILDING CODES.

THIS CONTRACTOR SHALL CONSULT THE APPROPRIATE BUILDING CODE TO DETERMINE THE DESIGN REQUIREMENTS FOR SEISMIC BRACING.

THIS CONTRACTOR SHALL EMPLOY A FIRM LICENSED IN THE TRADE TO DESIGN SEISMIC BRACING FOR ALL HIS EQUIPMENT.

PROVIDE SEISMIC BRACING PRODUCTS AS MANUFACTURED BY MASON INDUSTRIES INC. OF ANAHEIM. CALIFORNIA OR AN APPROVED EQUAL.

GROUNDING

PROVIDE GROUNDING AS REQUIRED BY THE NATIONAL ELECTRICAL CODE AND LOCAL CODES. PROVIDE SYSTEM AND ENCLOSURE GROUNDING AT THE SERVICE ENTRANCE PANEL. PROVIDE EXTERNAL 3/4" X 10' COPPERCLAD GROUND ROD OUTSIDE THE BUILDING. PROVIDE GROUNDING ELECTRODE CONDUCTORS IN ACCORDANCE WITH ARTICLE 250-94 OF THE NATIONAL ELECTRICAL CODE. PROVIDE EQUIPMENT GROUNDING CONDUCTORS IN ALL FLEXIBLE CONDUIT CONNECTIONS. CONNECT ALL GROUNDING CONDUCTORS WITH APPROVED GROUND CLAMPS.

LIGHTING

PROVIDE LIGHTING FIXTURES AND LAMPS PER THE "LIGHTING FIXTURE SCHEDULE" SHOWN ON THE DRAWINGS. PROVIDE RETAINER CLIPS ON ALL LAY-IN RECESSED LIGHT FIXTURES AS REQUIRED BY THE NATIONAL ELECTRICAL CODE AND APPLICABLE BUILDING CODES.

ALL EMERGENCY LIGHTING FIXTURES SHALL BE PERMANENTLY CONNECTED TO THE ELECTRICAL SYSTEM. PROVIDE CIRCUIT BREAKER LOCK-ON DEVICES AT CIRCUIT BREAKERS CONTROLLING EXIT AND EMERGENCY LIGHTING CIRCUITS.

DEMOLITION

REMOVE, AS NOTED ON THE DRAWINGS, ALL ELECTRICAL EQUIPMENT AND WIRING.

FURNISH AND INSTALL CONDUIT AND CONDUCTORS TO MAINTAIN CIRCUIT CONTINUITY, WHERE NECESSARY.

COMPLY WITH THE LOCAL AND NATIONAL CODES WHEN RECONNECTING CIRCUITS FOR CONTINUITY.

WHEN DISCONNECTING BRANCH CIRCUITS, LOCATE EACH PIECE OF EQUIPMENT AFFECTED AND NOTIFY THE OWNER OF SERVICE INTERRUPTION PRIOR TO CIRCUIT REMOVAL

WHERE REMOVAL OF ELECTRICAL ITEMS WOULD INTERRUPT POWER TO THE REMAINDER OF A BRANCH CIRCUIT, THIS CONTRACTOR SHALL FURNISH AND INSTALL CONDUIT, WIRING, CONNECTIONS, AND JUNCTION BOXES AS REQUIRED TO ENSURE CIRCUIT CONTINUITY AFTER THE ELECTRICAL ITEMS HAVE BEEN REMOVED.

REMOVE ALL DEMOLITION WIRING AND CONDUIT WHERE CONDUIT IS ACCESSIBLE BACK TO ITS POINT OF ORIGINATION.

THIS CONTRACTOR SHALL REMOVE FROM THE SITE ALL ELECTRICAL MATERIAL REMOVED IN DEMOLITION.

WHERE ELECTRICAL EQUIPMENT IS SUPPLIED FROM UNDER THE EXISTING FLOOR SLAB, REMOVE EXISTING CONDUCTORS BACK TO THE SOURCE OF ORIGIN AND REPAIR CONDUIT EXITING THE SLAB AS DIRECTED BY THE ARCHITECT.

DISPOSAL OF REGULATED HAZARDOUS AND SPECIAL MATERIAL

REMOVE AND DISPOSE OF ALL MATERIAL THAT CONTAINS OR IS CONSTRUCTED OF REGULATED HAZARDOUS OR SPECIAL MATERIALS ASSOCIATED WITH THE PROJECT THAT ARE DEEMED AS HARMFUL TO THE ENVIRONMENT BY LOCAL, STATE AND FEDERAL REGULATIONS AS SHOWN ON THE DRAWINGS AND

COMPLY WITH LOCAL. STATE AND FEDERAL REGULATIONS WHEN DISPOSING OF REGULATED HAZARDOUS AND SPECIAL MATERIAL AS APPLICABLE TO THE PROJECT.

THIS CONTRACTOR SHALL REMOVE, STORE, TRANSPORT, AND DISPOSE OF ALL ITEMS CONTAINING REGULATED HAZARDOUS OR SPECIAL MATERIALS IN ACCORDANCE WITH ALL STATE, LOCAL AND FEDERAL REGULATIONS PERTAINING TO THE DISPOSAL OF THESE MATERIALS.

	LIGHTING FIXTURE SCHEDULE						
Mark	Description	Manufacturer	Model	Lamp	Electrical Data	Comments	
				_	_		
EM2	LED Remote Emergency	Lithonia	ELA SD QWP L0309 M12	LED	120 V/1-5 VA		
EXC	Combination LED Exit Sign	Lithonia	LHQM LED R HO	LED	120 V/1-5 VA		
STE	Battery Strip Light	Lithonia	CLX L48 4000LM SEF RDL MVOLT 40K 80CRI PS1050	LED	120 V/1-25 VA		

ELECTRICAL ABBREVIATIONS XX" INDICATES MOUNTING HEIGHT AFF

AFF ABOVE FINISHED FLOOR AFG ABOVE FINISHED GRADE

ATS AUTOMATIC TRANSFER SWITCH

GFCI GROUND FAULT CIRCUIT INTERRUPTER

FLA FULL LOAD AMPS

GRS GALVANIZED RIGID STEEL

LED LIGHT EMITTING DIODE

MCB MAIN CIRCUIT BREAKER

IG ISOLATED GROUND

MCC MOTOR CONTROL CENTER

MLO MAIN LUGS ONLY

NF NON-FUSED

N.I.C. NOT IN CONTACT

NEC NATIONAL ELECTRIC CODE

N.T.S. NOT TO SCALE

UNO UNLESS OTHERWISE NOTED

WP WEATHERPROOF

/ E#.# DETAIL NUMBER/SHEET NUMBER

XFMR TRANSFORMER

ELECTRICAL LEGEND

➡ DUPLEX GFCI DUPLEX NON-FUSED DISCONNECT FUSED DISCONNECT CEILING MOUNT EXIT SIGN ⊢**⊘** WALL MOUNT EXIT SIGN

WALL MOUNT EMERGENCY LIGHT

STRIP LIGHT

EMERGENCY STRIP LIGHT

THA Consulting, Inc

Suite 200

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Blue Bell, PA 19422

www.tha-consulting.com

PROFESSIONAL SEAL

T. 484.342.0200

9720 Village Circle Lakeland, TN 38002 Phone 901-260-7850 www.CSAengineeringinc.com

PROJECT NO. ATL23110.01 PROJECT

DOWNTOWN

2024 MEP/FP REPLACEMENT

SUBMISSIONS / REVISIONS 05/03/2024 **ISSUED FOR BID**

DESCRIPTION

 DRAWN:	
DRAWN.	BJB
	DJD
	_
DEVIEWED.	
REVIEWED:	□ I\Λ/
	EJW

GENERAL NOTES, SCHEDULES

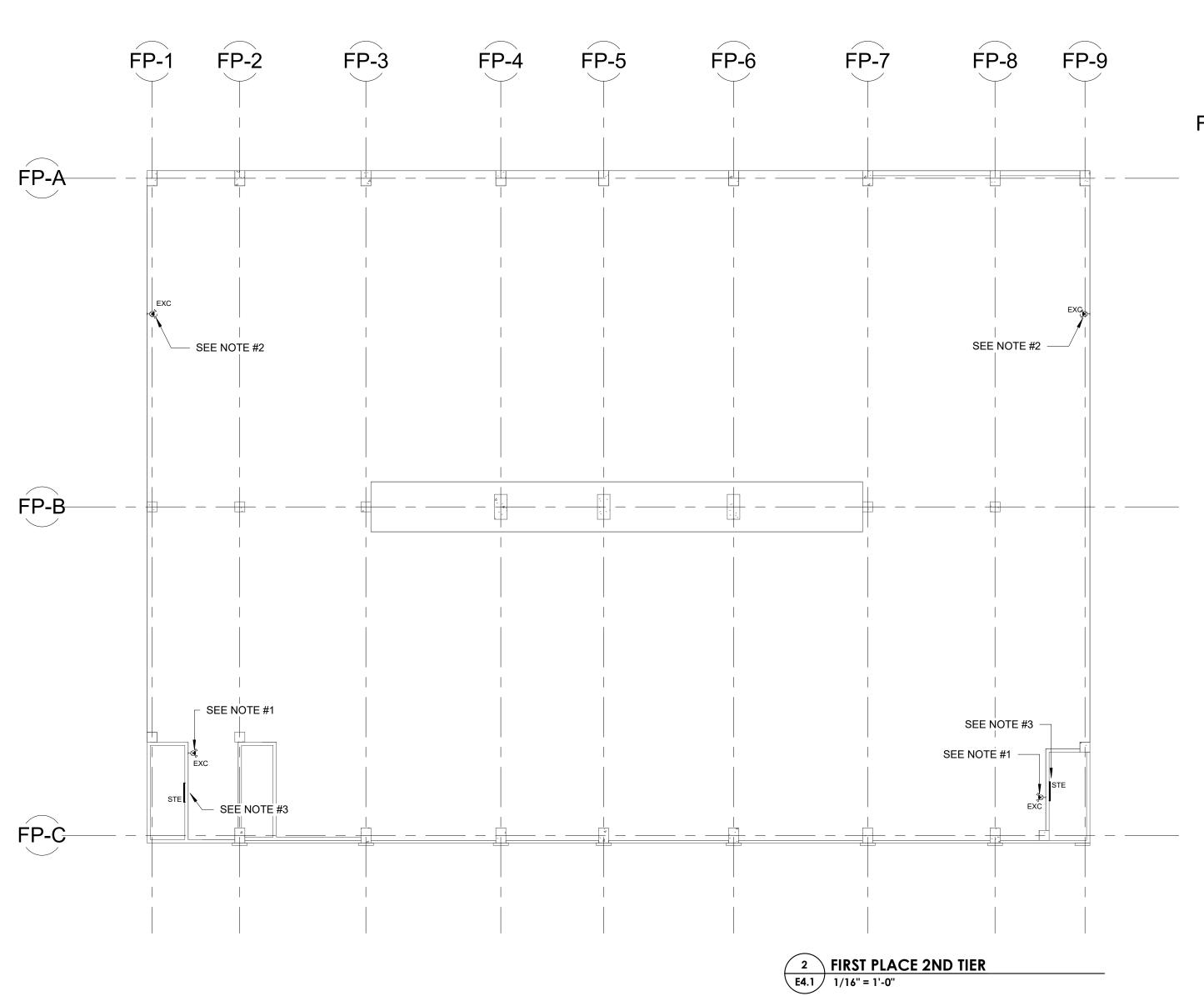
SHEET NO.

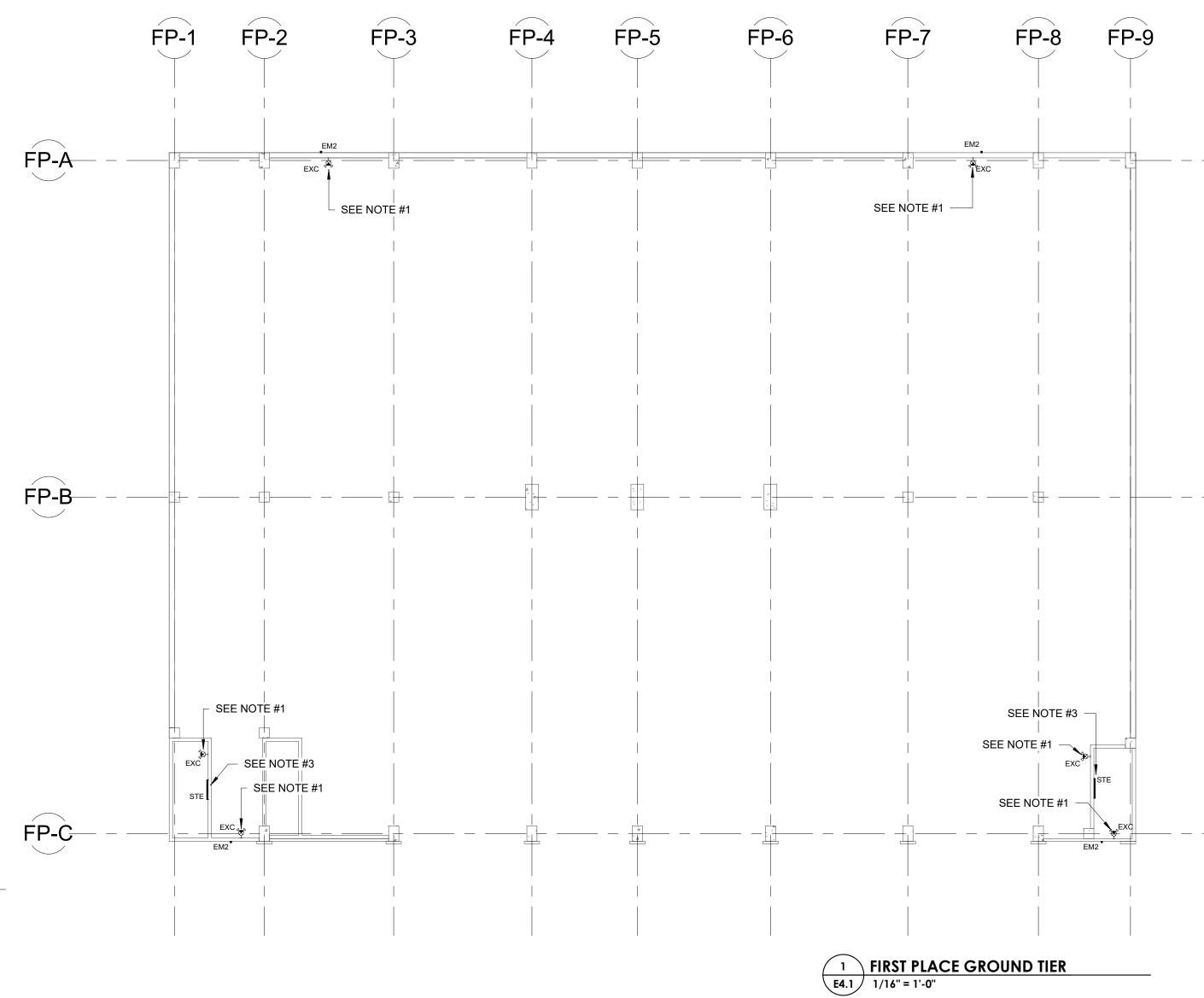
AND LEGEND

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05/03/2024

- 1. PROVIDE NEW BATTERY POWERED EXIT LIGHTS THROUGHOUT THE GARAGE AND STAIRWELLS AT EXISTING EXIT SIGN LOCATIONS. EXTEND NEAREST LIGHTING CIRCUIT WITH UNSWITCHED HOT LEG TO NEW EXIT SIGNS. FIELD VERIFY THE EXACT QUANTITY AND LOCATIONS BEFORE INSTALLATION. PROVIDE CHEVRONS TO MATRCH THE EXISTING EXIT
- 2. PROVIDE NEW BATTERY POWERED EXIT LIGHT AT THIS LOCATION EXTEND NEAREST LIGHTING CIRCUIT WITH UNSWITCHED HOT LEG TO NEW EXIT SIGNS.
- 3. REPLACE EXISTING EMERGENCY STRIP LIGHTS THROUGHOUT THE STAIRWELLS 1 FOR 1. FIELD VERIFY THE EXACT QUANTITY AND LOCATIONS BEFORE INSTALLATION.







PROFESSIONAL SEAL



CONSULTANT

Chad Stewart & Associates, Inc.
9720 Village Circle
Phone 901-260-7850
Memphis

Lakeland, TN 38002
Www.CSAengineeringinc.com
Nashville

PROJECT NO.
ATL23110.01
PROJECT

MEMPHIS DOWNTOWN PARKING FACILITIES

2024 MEP/FP REPLACEMENT

05/03/2024
ISSUED FOR BID

NO. DESCRIPTION



DRAWN: BJB

REVIEWED: EJW

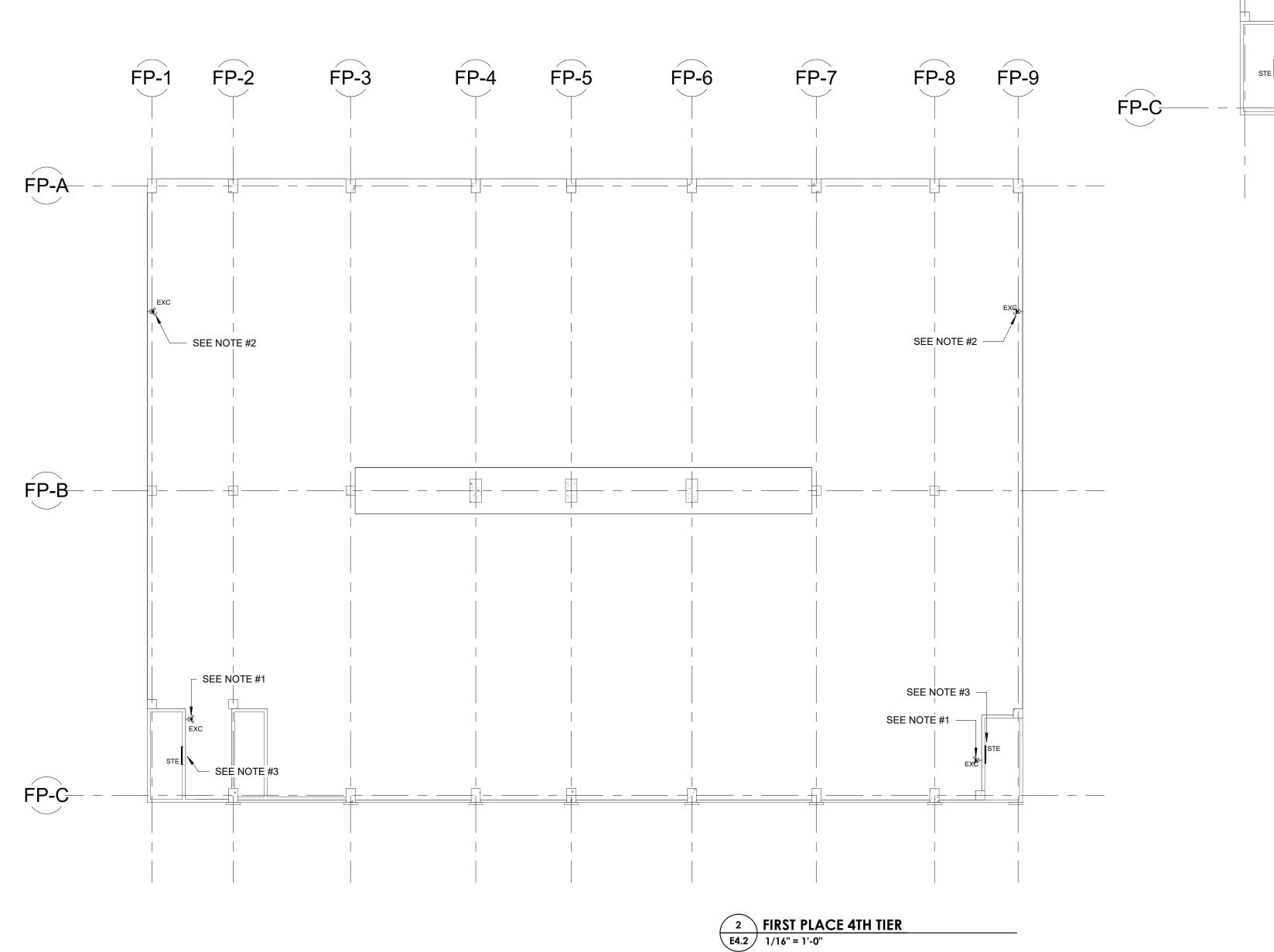
DATE: 05/03/2024

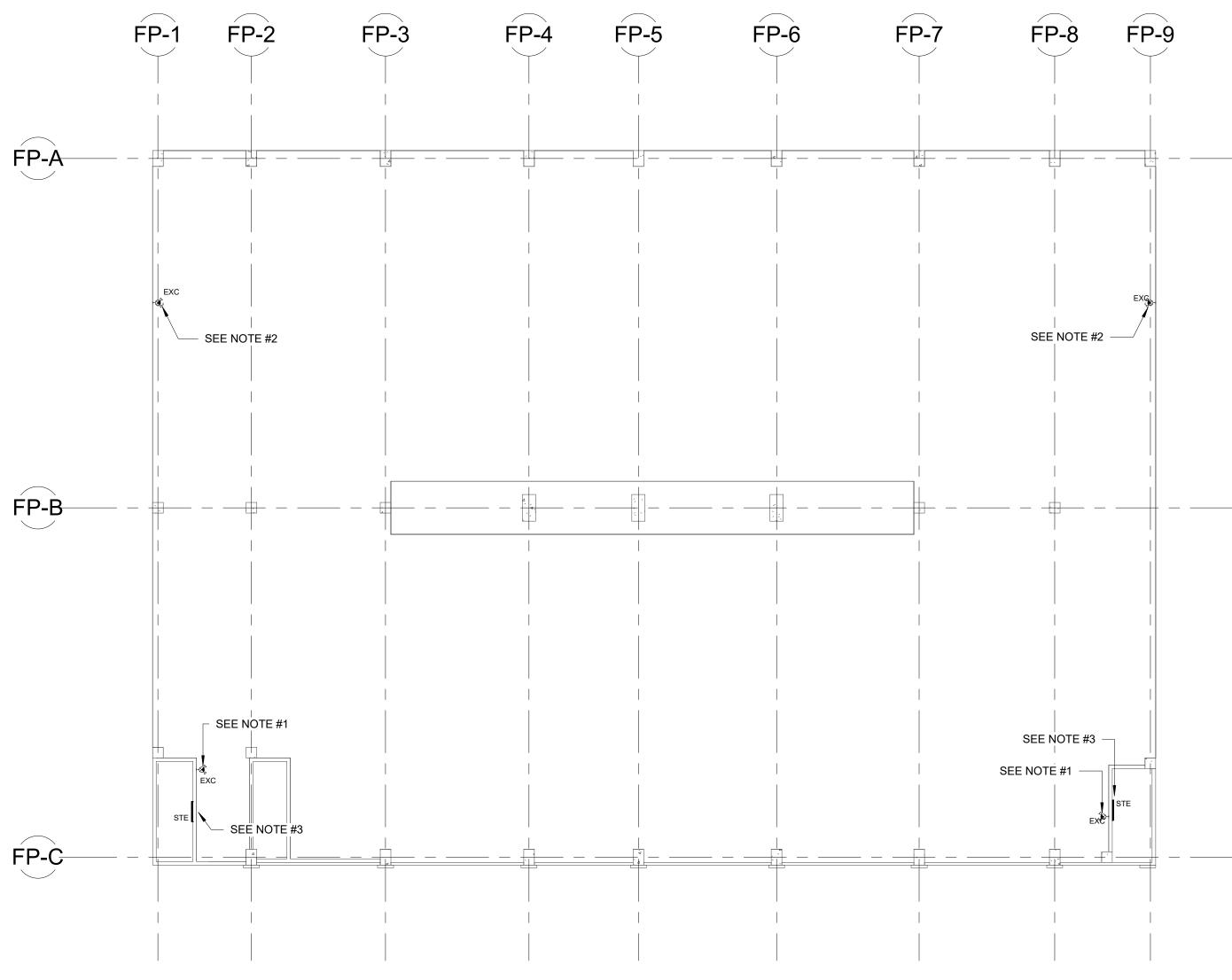
FIRST PLACE GROUND & SECOND TIER LIGHTING

SHEET NO

E4.1

- 1. PROVIDE NEW BATTERY POWERED EXIT LIGHTS THROUGHOUT THE GARAGE AND STAIRWELLS AT EXISTING EXIT SIGN LOCATIONS. EXTEND NEAREST LIGHTING CIRCUIT WITH UNSWITCHED HOT LEG TO NEW EXIT SIGNS. FIELD VERIFY THE EXACT QUANTITY AND LOCATIONS BEFORE INSTALLATION. PROVIDE CHEVRONS TO MATRCH THE EXISTING EXIT
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1 FIRST PLACE 3RD TIER E4.2 1/16" = 1'-0" THA Consulting, Inc.
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Suite 200
Blue Bell, PA 19422
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PROFESSIONAL SEAL



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PROJECT NO.
ATL23110.01
PROJECT

MEMPHIS DOWNTOWN PARKING FACILITIES

2024 MEP/FP REPLACEMENT

05/03/2024
ISSUED FOR BID

NO. DESCRIPTION

NORTH

DRAWN: BJB

REVIEWED: EJW

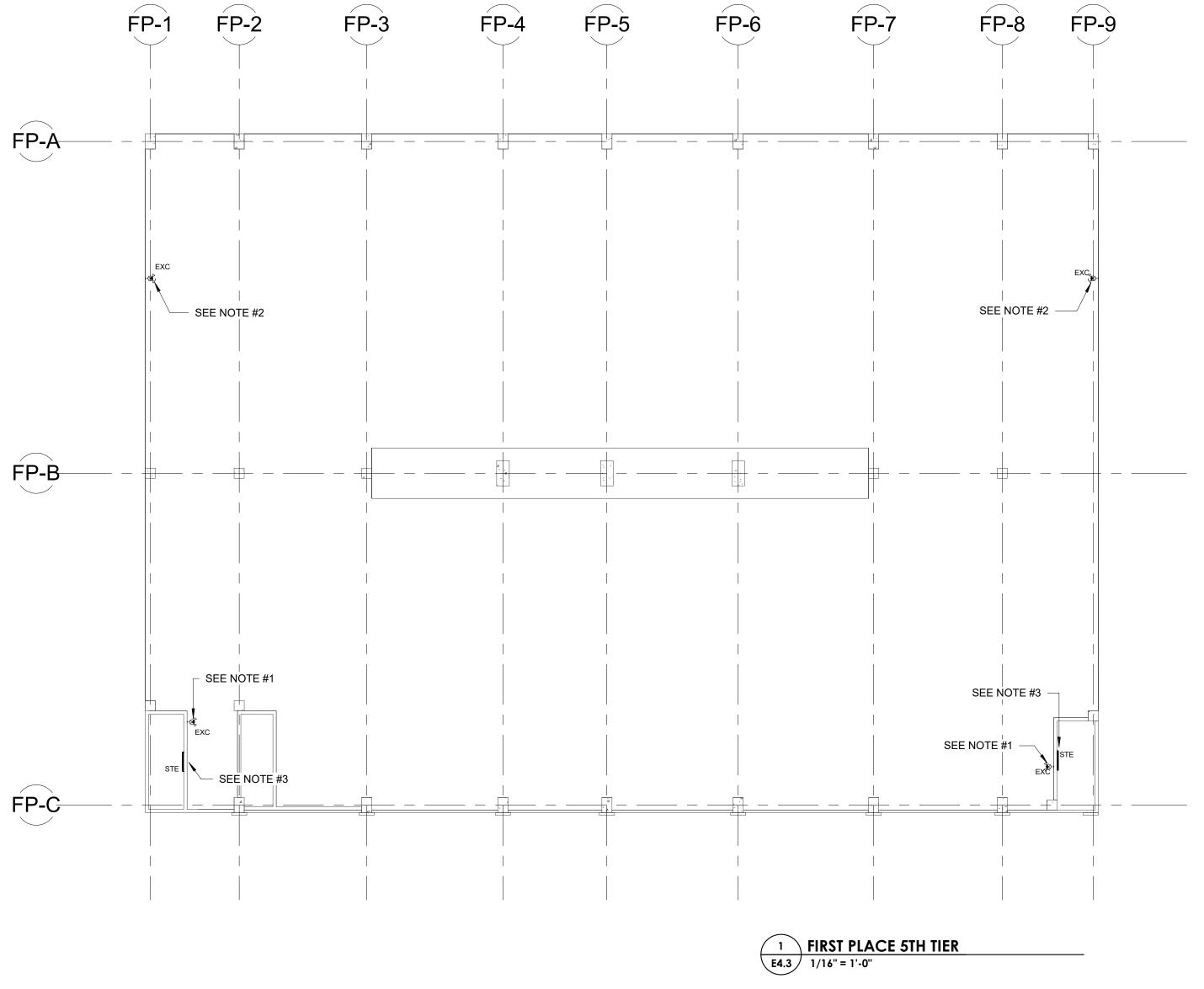
DATE: 05/03/2024

FIRST PLACE THIRD & FOURTH TIER LIGHTING

SUEET NO

E4.2

- 1. PROVIDE NEW BATTERY POWERED EXIT LIGHTS THROUGHOUT THE GARAGE AND STAIRWELLS AT EXISTING EXIT SIGN LOCATIONS. EXTEND NEAREST LIGHTING CIRCUIT WITH UNSWITCHED HOT LEG TO NEW EXIT SIGNS. FIELD VERIFY THE EXACT QUANTITY AND LOCATIONS BEFORE INSTALLATION. PROVIDE CHEVRONS TO MATRCH THE EXISTING EXIT SIGNS
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PROFESSIONAL SEAL



CONSULTANT

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9720 Village Circle Lakeland, TN 38002
Phone 901-260-7850 www.CSAengineeringinc.com
Memphis Nashville

PROJECT NO.
ATL23110.01
PROJECT

MEMPHIS
DOWNTOWN
PARKING
FACILITIES

2024 MEP/FP REPLACEMENT

05/03/2024
ISSUED FOR BID

NO. DESCRIPTION

NORTH

DRAWN: BJ

REVIEWED: EJV

DATE: 05/02/202

FIRST PLACE FIFTH AND SIXTH TIER LIGHTING

SHEET NO

E4.3

ELECTRICAL SPECIFICATIONS

INCLUDES THE FURNISHING OF ALL LABOR, SUPERVISION, MATERIALS, EQUIPMENT, TOOLS, ETC., REQUIRED FOR THE COMPLETE INSTALLATION OF ELECTRICAL SYSTEMS FOR BARBOROR FLATS GARAGE IN MEMPHIS TENNESSEE, AS OUTLINED IN THESE SPECIFICATIONS AND SHOWN ON THE DRAWINGS. THE WORK SHALL INCLUDE, BUT IS NOT NECESSARILY LIMITED TO, LABOR AND MATERIAL FOR THE FOLLOWING:

- ELECTRICAL BOXES AND FITTINGS.
- SUPPORTING DEVICES. GROUNDING.
- LIGHTING FIXTURES AND LAMPS. EXIT SIGNS AND EMERGENCY LIGHTING.

CODES AND PERMITS

ALL ELECTRICAL WORK SHALL BE INSTALLED IN ACCORDANCE WITH THE REQUIREMENTS OF THE 2017 EDITION OF THE NATIONAL ELECTRICAL CODE, AND THE LATEST EDITION OF ALL LOCAL OR STATE CODES, LAWS, AND ORDINANCES, AND THE REQUIREMENTS OF THE LOCAL ELECTRIC UTILITY, AS WELL AS NFPA 72 FOR THE FIRE ALARM SYSTEM AND THE 2021 IECC ENERGY CODE.

THIS CONTRACTOR SHALL APPLY FOR, OBTAIN, AND PAY FOR ALL PERMITS REQUIRED. AT THE CONCLUSION OF THE INSTALLATION, HE SHALL SECURE A CERTIFICATE OF INSPECTION, PROPERLY SIGNED BY THE CONTROLLING BUILDING DEPARTMENT, WHICH SHALL STATE THAT ALL RULES HAVE BEEN COMPLIED WITH AND THAT THE WORK IS SATISFACTORY.

MATERIAL AND EQUIPMENT

ALL MATERIAL AND EQUIPMENT SHALL BE NEW AND OF THE QUALITY SPECIFIED.

MATERIAL OR EQUIPMENT THAT HAS BEEN STORED OUTDOORS UNPROTECTED FOR LONG PERIODS OF TIME OR OTHERWISE DAMAGED IS NOT ACCEPTABLE AS NEW MATERIAL.

APPARATUS AND MATERIALS USED IN THIS WORK WHICH ARE SUBJECT TO APPROVAL OF UNDERWRITERS LABORATORIES (UL) SHALL BEAR THE UL LABEL, OR BE UNDERWRITERS LISTED.

SHOP DRAWINGS

SUBMIT DIGITAL SHOP DRAWINGS AND MANUFACTURER'S DATA SHEETS FOR ALL EQUIPMENT FOR REVIEW BY THE ENGINEER PRIOR TO CONSTRUCTION IN PDF FORMAT. SUBSTITUTES WILL BE RECEIVED, HOWEVER, THIS CONTRACTOR SHALL BE PREPARED TO FURNISH MATERIALS AS SPECIFIED IF REQUIRED BY SHOP DRAWING REVIEW.

EQUIPMENT COORDINATION

THIS CONTRACTOR SHALL COORDINATE THE ELECTRICAL REQUIREMENTS FOR ALL HVAC, PLUMBING, AND FIRE PROTECTION EQUIPMENT. WHERE THE DESIGN INFORMATION SHOWN ON THE DRAWINGS IS DIFFERENT THAN THE ACTUAL INSTALLED EQUIPMENT, THIS CONTRACTOR SHALL MAKE CHANGES IN WIRE AND CIRCUIT BREAKER SIZES AS REQUIRED WITHOUT ADDITIONAL COST TO THE OWNER.

PRIOR APPROVAL OF EQUIPMENT

ELECTRICAL EQUIPMENT SHALL BE FURNISHED AS SPECIFIED: HOWEVER, ALTERNATES TO THE SPECIFIED EQUIPMENT WILL BE ACCEPTED. IF A PRODUCT IS TO BE CONSIDERED AS AN EQUAL TO THE PRODUCTS SPECIFIED HEREIN AND ON THE DRAWINGS. MANUFACTURERS PRODUCT INFORMATION SHALL BE SUBMITTED TO THE ENGINEER THRU THE ARCHITECT FOR REVIEW FIVE (5) WORKING DAYS PRIOR TO BIDDING. SUBSTITUTION PRODUCTS SUBMITTED AFTER THE FIVE (5) WORKING DAY DEADLINE OR AFTER THE BIDDING PROCESS WILL NOT BE CONSIDERED.

ACCURACY OF DATA

DRAWINGS ARE GENERALLY DIAGRAMMATIC AND ARE NOT INTENDED TO SHOW EXACT LOCATIONS OF OUTLETS, CONDUITS, SWITCHES, FIXTURES, ETC. INSTALL ALL WORK AS NEARLY AS POSSIBLE IN THE LOCATIONS SHOWN WITH MINOR ADJUSTMENTS TO AVOID INTERFERENCES WITH STRUCTURE OR THE WORK OF OTHER TRADES. COORDINATE THE EXACT LOCATIONS WITH THE OWNER AND/OR ARCHITECT.

MODIFICATION TO EXISTING FACILITY

MAKE MODIFICATION AND ADDITIONS TO EXISTING FACILITY AS SHOWN ON THE DRAWINGS. VERIFY ALL EXISTING CONDITIONS BY SITE SURVEY.

COORDINATION

THE ELECTRICAL CONTRACTOR SHALL COORDINATE HIS 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 SEVERAL PARTS OF THE WORK.

THIS CONTRACTOR SHALL USE EVERY PRECAUTION TO PROTECT THE WORK OF OTHERS, AND HE WILL BE HELD RESPONSIBLE FOR ALL DAMAGE DONE BY HIS WORKERS TO THE WORK OF OTHER TRADES. HE SHALL ALSO PROTECT HIS WORK FROM DANGER OF BREAKAGE, DIRT, FOREIGN MATERIALS, ETC., AND SHALL REPLACE ALL WORK SO DAMAGED.

MANUFACTURER'S RECOMMENDATIONS

UNLESS SPECIFICALLY INDICATED OTHERWISE, ALL EQUIPMENT AND MATERIALS SHALL BE INSTALLED IN ACCORDANCE WITH THE BEST RECOMMENDATION OF THE MANUFACTURER.

CUTTING AND PATCHING

THIS CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CUTTING AND PATCHING REQUIRED FOR PLACEMENT OF HIS WORK AND SHALL EMPLOY WORKERS SKILLED IN THE TRADES REQUIRED. THIS CONTRACTOR SHALL BE RESPONSIBLE FOR ALL SLEEVES AND FIRE CAULKING WHERE PENETRATIONS ARE MADE THROUGH RATED FLOORS OR WALLS.

PROTECTION OF FLOORS

FLOORS SHALL BE PROTECTED WHERE CUTTING AND THREADING OPERATIONS TAKE PLACE. PROTECTION SHALL BE ACCEPTABLE TO THE GENERAL CONTRACTOR.

TEMPORARY CONSTRUCTION POWER AND LIGHTING

THIS CONTRACTOR SHALL FURNISH AND INSTALL ALL TEMPORARY WIRING FOR CONSTRUCTION POWER AND LIGHTING FOR THE PROJECT.

TEMPORARY ELECTRICAL SERVICE FOR CONSTRUCTION POWER AND LIGHTING SHALL BE PROVIDED BY THIS CONTRACTOR.

ALL TEMPORARY WIRING FOR CONSTRUCTION SHALL CONFORM TO ARTICLE 305 OF THE NATIONAL ELECTRICAL CODE AND ALL APPLICABLE RULES AND REGULATIONS OF OSHA.

RECORD DRAWINGS AND MAINTENANCE MANUALS

THIS CONTRACTOR SHALL MAINTAIN A SET OF UP-TO-DATE RECORD DRAWINGS AT THE JOB SITE SHOWING WORK AS INSTALLED. UPON COMPLETION OF THE PROJECT, THIS CONTRACTOR SHALL PREPARE AS-BUILT DRAWINGS ON MYLAR SHOWING CONDITIONS AS INSTALLED. THREE (3) COPIES OF MAINTENANCE MANUALS CONTAINING MANUFACTURER'S INSTALLATION AND MAINTENANCE INFORMATION ON ALL EQUIPMENT INSTALLED SHALL BE PRESENTED TO THE OWNER. FINAL PAYMENT SHALL BE MADE AFTER AS-BUILT DRAWINGS AND MAINTENANCE MANUALS HAVE BEEN APPROVED.

THE ENTIRE WIRING SYSTEM SHALL BE THOROUGHLY TESTED AND DEFECTS CORRECTED. ALL ELECTRICAL WIRING SHALL BE TESTED FOR CONTINUITY, SHORTS, IMPROPER GROUNDS AND INSULATION RESISTANCE. MOTORS SHALL BE CHECKED FOR PROPER ROTATION AND BRANCH CIRCUIT AND OVERLOAD PROTECTION. PANELBOARDS SHALL BE CHECKED FOR BALANCED LOADING. PANELBOARDS SHALL BE CHECKED FOR CORRECT PHASE ROTATION. DISCREPANCIES SHALL BE CORRECTED. THIS CONTRACTOR SHALL FURNISH TEST EQUIPMENT AND MATERIAL, AND SHALL BE RESPONSIBLE FOR REPLACEMENT OR REPAIR OF DAMAGE DUE TO TEST FAILURES.

GUARANTEE

THE CONTRACTOR SHALL GUARANTEE TO THE OWNER ALL WORK PERFORMED UNDER THIS CONTRACT TO BE FREE FROM DEFECTS IN WORKMANSHIP AND MATERIAL FOR A PERIOD OF ONE (1) YEAR FROM DATE OF FINAL ACCEPTANCE. DEFECTS ARISING DURING THIS PERIOD WILL BE PROMPTLY REMEDIED BY THE CONTRACTOR AT HIS OWN EXPENSE UPON NOTICE BY THE OWNER. ALL LAMPS FOR LIGHTING FIXTURES SHALL BE EXCLUDED FROM THIS GUARANTEE, BUT ONE (1) COMPLETE AND OPERATIVE SET OF LAMPS FOR LIGHTING FIXTURES SHALL BE IN PLACE AT THE TIME OF FINAL ACCEPTANCE.

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SHALL BE 1/2".

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SHORT LENGTHS OF FLEXIBLE STEEL CONDUIT, "GREENFIELD", SHALL BE USED ONLY ABOVE FURRED CEILINGS BETWEEN OUTLET BOXES AND LAY-IN TYPE LIGHTING FIXTURES.

SEALTITE FLEXIBLE METAL CONDUIT SHALL BE USED FOR FINAL CONNECTION TO MOTORS AND EQUIPMENT SUBJECT TO

SEALTITE CONDUIT SHALL NOT BE USED FOR OTHER APPLICATIONS.

PVC SCHEDULE 40 CONDUIT SHALL BE USED FOR OUTDOOR

EXPOSED CONDUIT SHALL BE RUN IN PARALLEL ROWS NEATLY RACKED PARALLEL OR PERPENDICULAR TO WALLS AND STRUCTURAL MEMBERS.

WHEREVER POSSIBLE, LOCATE CONDUIT HIGH AS POSSIBLE OVER PIPING OF OTHER TRADES. ALL HORIZONTAL CONDUIT RUNS ABOVE FURRED CEILINGS SHALL BE RUN AS HIGH AS POSSIBLE IN ORDER TO PROVIDE FREE SPACE ABOVE CEILING FOR INSTALLATION OF AIR DISTRIBUTION DUCT AND PIPING.

PLUG THE ENDS OF EACH RACEWAY WITH AN APPROVED CAP OR CAPPED BUSHING TO PREVENT THE ENTRANCE OF FOREIGN MATERIAL DURING THE CONSTRUCTION PERIOD. CONDUIT LEFT EMPTY FOR FUTURE WIRING SHALL BE CAPPED.

CONDUITS PROJECTING THROUGH ROOFING SHALL BE MADE WATERTIGHT BY PROPER FLASHING AND PITCH POCKETS WITH STORM COLLAR SECURELY FASTENED TO CONDUIT ABOVE THE FLASHING.

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CONNECTORS SHALL BE THREADED TYPE. WHERE PVC CONDUIT IS USED, ALL JOINTS SHALL BE SOLVENT

ALL RIGID STEEL AND IMC CONDUIT COUPLINGS, FITTINGS, AND

WELDED WITH CEMENT FURNISHED BY THE CONDUIT MANUFACTURER. PROVIDE SUITABLE ADAPTERS WHERE PVC CONDUITS ARE COUPLED TO METALLIC CONDUITS.

FROM BELOW GRADE, AS INDICATED ON THE DRAWINGS OR AS REQUIRED.

PROVIDE A RIGID ELBOW AT BASE OF EACH EXPOSED RISER

CONDUIT SHALL NOT BE RUN IN OR UNDER FLOOR SLAB, EXCEPT WHERE RISING UP FROM UNDERGROUND SERVICE TO BUILDING

PROVIDE FIRE BARRIER PENETRATION SEALS WHERE CONDUIT PENETRATES FIRE RATED WALLS OR FLOORS.

WHERE RUN CONCEALED AND ALLOWED BY CODE, IT IS ACCEPTABLE TO USE TYPE "MC" CABLE INLIEU OF EMT CONDUIT AND BUILDING WIRE.

FROM EACH FLUSH MOUNTED PANELBOARD, EXTEND INTO AN

ACCESSIBLE LOCATION A 3/4" EMPTY CONDUIT FOR EVERY

THREE SPARE BRANCH BREAKERS OR BREAKER SPACES.

CONDUCTORS

ALL CONDUCTORS SHALL BE STRANDED COPPER WITH THHN-TYPE 2 INSULATION. ALL CONDUCTORS SHALL BEAR THE UL LABEL. MINIMUM SIZE CONDUCTOR SHALL BE #12 AWG. WIRE SIZES SHOWN ON THIS DRAWING ARE CALCULATED USING THE 75 DEGREE CELSIUS COLUMN OF TABLE 310.15(B)(16). FOR EQUIPMENT THAT IS RATED SOLELY FOR 60 DEGREE CELSIUS, PROVIDE WIRE SIZED USING THE 60 DEGREE COLUMN.

SEISMIC RESTRAINTS

ALL ELECTRICAL EQUIPMENT SHALL BE SUPPORTED WITH MULTIDIRECTIONAL BRACING AS REQUIRED BY THE NATIONAL, STATE, AND/OR LOCAL BUILDING CODES.

THIS CONTRACTOR SHALL CONSULT THE APPROPRIATE BUILDING CODE TO DETERMINE THE DESIGN REQUIREMENTS FOR SEISMIC BRACING.

THIS CONTRACTOR SHALL EMPLOY A FIRM LICENSED IN THE TRADE TO DESIGN SEISMIC BRACING FOR ALL HIS EQUIPMENT.

PROVIDE SEISMIC BRACING PRODUCTS AS MANUFACTURED BY MASON INDUSTRIES INC. OF ANAHEIM, CALIFORNIA OR AN APPROVED EQUAL.

GROUNDING

PROVIDE GROUNDING AS REQUIRED BY THE NATIONAL ELECTRICAL CODE AND LOCAL CODES. PROVIDE SYSTEM AND ENCLOSURE GROUNDING AT THE SERVICE ENTRANCE PANEL PROVIDE EXTERNAL 3/4" X 10' COPPERCLAD GROUND ROD OUTSIDE THE BUILDING. PROVIDE GROUNDING ELECTRODE CONDUCTORS IN ACCORDANCE WITH ARTICLE 250-94 OF THE NATIONAL ELECTRICAL CODE. PROVIDE EQUIPMENT GROUNDING CONDUCTORS IN ALL FLEXIBLE CONDUIT CONNECTIONS. CONNECT ALL GROUNDING CONDUCTORS WITH APPROVED GROUND CLAMPS.

LIGHTING

PROVIDE LIGHTING FIXTURES AND LAMPS PER THE "LIGHTING FIXTURE SCHEDULE" SHOWN ON THE DRAWINGS. PROVIDE RETAINER CLIPS ON ALL LAY-IN RECESSED LIGHT FIXTURES AS REQUIRED BY THE NATIONAL ELECTRICAL CODE AND APPLICABLE BUILDING CODES.

ALL EMERGENCY LIGHTING FIXTURES SHALL BE PERMANENTLY CONNECTED TO THE ELECTRICAL SYSTEM. PROVIDE CIRCUIT BREAKER LOCK-ON DEVICES AT CIRCUIT BREAKERS CONTROLLING EXIT AND EMERGENCY LIGHTING CIRCUITS

DEMOLITION

REMOVE, AS NOTED ON THE DRAWINGS, ALL ELECTRICAL EQUIPMENT AND WIRING.

FURNISH AND INSTALL CONDUIT AND CONDUCTORS TO MAINTAIN CIRCUIT CONTINUITY, WHERE NECESSARY.

COMPLY WITH THE LOCAL AND NATIONAL CODES WHEN RECONNECTING CIRCUITS FOR CONTINUITY.

WHEN DISCONNECTING BRANCH CIRCUITS, LOCATE EACH PIECE OF EQUIPMENT AFFECTED AND NOTIFY THE OWNER OF SERVICE INTERRUPTION PRIOR TO CIRCUIT REMOVAL.

WHERE REMOVAL OF ELECTRICAL ITEMS WOULD INTERRUPT POWER TO THE REMAINDER OF A BRANCH CIRCUIT, THIS CONTRACTOR SHALL FURNISH AND INSTALL CONDUIT, WIRING, CONNECTIONS, AND JUNCTION BOXES AS REQUIRED TO ENSURE CIRCUIT CONTINUITY AFTER THE ELECTRICAL ITEMS HAVE BEEN

REMOVE ALL DEMOLITION WIRING AND CONDUIT WHERE CONDUIT IS ACCESSIBLE BACK TO ITS POINT OF ORIGINATION.

THIS CONTRACTOR SHALL REMOVE FROM THE SITE ALL ELECTRICAL MATERIAL REMOVED IN DEMOLITION.

WHERE ELECTRICAL EQUIPMENT IS SUPPLIED FROM UNDER THE EXISTING FLOOR SLAB. REMOVE EXISTING CONDUCTORS BACK TO THE SOURCE OF ORIGIN AND REPAIR CONDUIT EXITING THE SLAB AS DIRECTED BY THE ARCHITECT.

DISPOSAL OF REGULATED HAZARDOUS AND SPECIAL MATERIAL

REMOVE AND DISPOSE OF ALL MATERIAL THAT CONTAINS OR IS CONSTRUCTED OF REGULATED HAZARDOUS OR SPECIAL MATERIALS ASSOCIATED WITH THE PROJECT THAT ARE DEEMED AS HARMFUL TO THE ENVIRONMENT BY LOCAL, STATE AND FEDERAL REGULATIONS AS SHOWN ON THE DRAWINGS AND SPECIFIED HEREIN.

COMPLY WITH LOCAL, STATE AND FEDERAL REGULATIONS WHEN DISPOSING OF REGULATED HAZARDOUS AND SPECIAL MATERIAL AS APPLICABLE TO THE PROJECT.

THIS CONTRACTOR SHALL REMOVE, STORE, TRANSPORT, AND DISPOSE OF ALL ITEMS CONTAINING REGULATED HAZARDOUS OR SPECIAL MATERIALS IN ACCORDANCE WITH ALL STATE, LOCAL AND FEDERAL REGULATIONS PERTAINING TO THE DISPOSAL OF THESE MATERIALS.

LIGHTING FIXTURE SCHEDULE						
Mark	Description	Manufacturer	Model	Lamp	Electrical Data	Comments
EM2	LED Remote Emergency	Lithonia	ELA SD QWP L0309 M12	LED	120 V/1-5 VA	
EXC	Combination LED Exit Sign	Lithonia	LHQM LED R HO	LED	120 V/1-5 VA	
STE	Battery Strip Light	Lithonia	CLX L48 4000LM SEF RDL MVOLT 40K 80CRI PS1050	LED	120 V/1-25 VA	

ELECTRICAL ABBREVIATIONS

XX" INDICATES MOUNTING HEIGHT AFF

AFF ABOVE FINISHED FLOOR AFG ABOVE FINISHED GRADE

ATS AUTOMATIC TRANSFER SWITCH

FLA FULL LOAD AMPS

GFCI GROUND FAULT CIRCUIT INTERRUPTER

GRS GALVANIZED RIGID STEEL

LED LIGHT EMITTING DIODE

IG ISOLATED GROUND MCB MAIN CIRCUIT BREAKER

MCC MOTOR CONTROL CENTER

MLO MAIN LUGS ONLY

NF NON-FUSED

N.I.C. NOT IN CONTACT

NEC NATIONAL ELECTRIC CODE

N.T.S. NOT TO SCALE

UNO UNLESS OTHERWISE NOTED

WP WEATHERPROOF

XFMR TRANSFORMER

/ E#.# DETAIL NUMBER/SHEET NUMBER

ELECTRICAL LEGEND

→ DUPLEX

GFCI DUPLEX NON-FUSED DISCONNECT

FUSED DISCONNECT

CEILING MOUNT EXIT SIGN

WALL MOUNT EXIT SIGN

STRIP LIGHT

EMERGENCY STRIP LIGHT

WALL MOUNT EMERGENCY LIGHT

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PROFESSIONAL SEAL

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Lakeland, TN 38002

PROJECT NO. ATL23110.01 PROJECT

DOWNTOWN PARKING

2024 MEP/FP REPLACEMENT

SUBMISSIONS / REVISIONS 05/03/2024 **ISSUED FOR BID**

DESCRIPTION

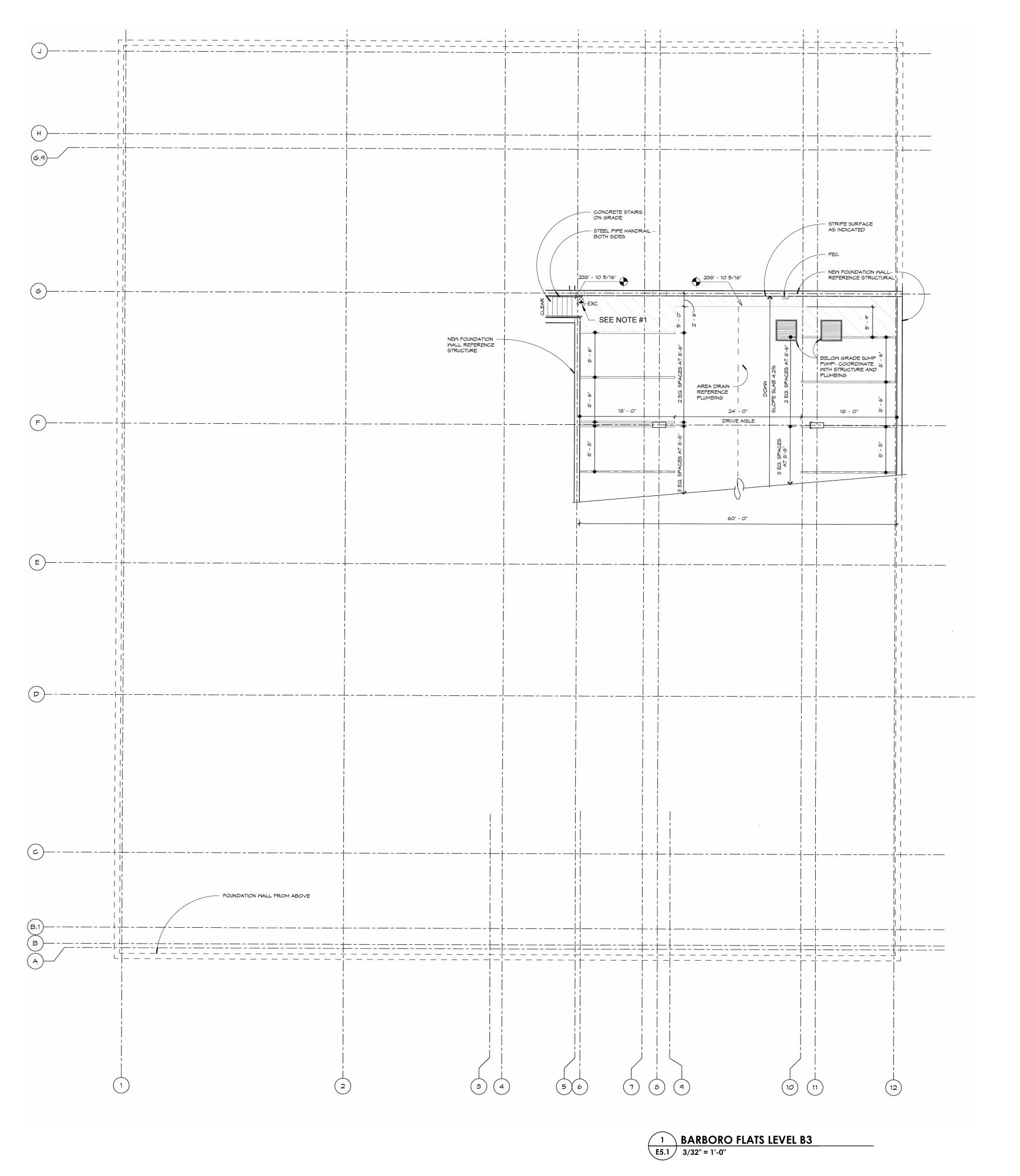
DRAWN:	
DKAWN:	BJB
	BJB
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REVIEWED:	- IVA/
	EJW
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GENERAL NOTES, SCHEDULES AND LEGEND

SHEET NO.

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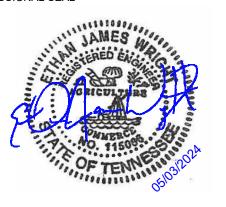
05/03/2024



1. REPLACE EXISTING EXIT LIGHTS THROUGHOUT THE GARAGE AND STAIRWELLS 1 FOR 1. FIELD VERIFY THE EXACT QUANTITY AND LOCATIONS BEFORE INSTALLATION.



PROFESSIONAL SEAL



CONSULTANT



PROJECT NO.
ATL23110.01
PROJECT

MEMPHIS DOWNTOWN PARKING FACILITIES

2024 MEP/FP REPLACEMENT

05/03/2024
ISSUED FOR BID

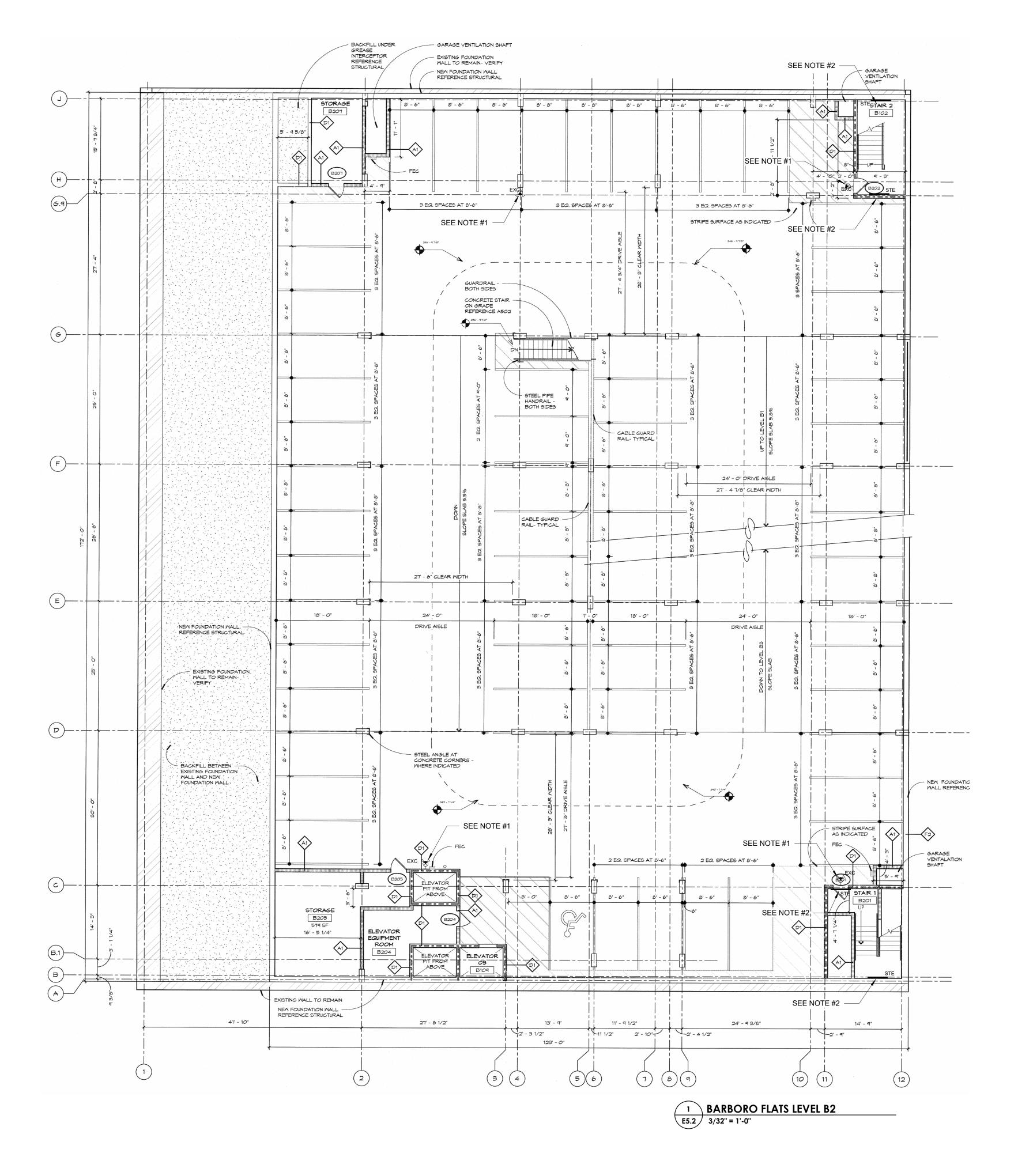
NORTH

REVIEWED: EJ'

BARBORO FLATS LEVEL B3 TIER LIGHTING

SHEET NO

E5.1

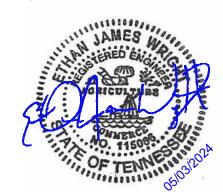


- REPLACE EXISTING EXIT LIGHTS THROUGHOUT THE GARAGE AND STAIRWELLS 1 FOR 1. FIELD VERIFY THE EXACT QUANTITY AND LOCATIONS BEFORE INSTALLATION.
- REPLACE EXISTING EMERGENCY STRIP LIGHTS THROUGHOUT THE STAIRWELLS 1 FOR 1. FIELD VERIFY THE EXACT QUANTITY AND LOCATIONS BEFORE INSTALLATION.



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PROJECT NO. ATL23110.01 PROJECT

MEMPHIS DOWNTOWN PARKING FACILITIES

2024 MEP/FP REPLACEMENT

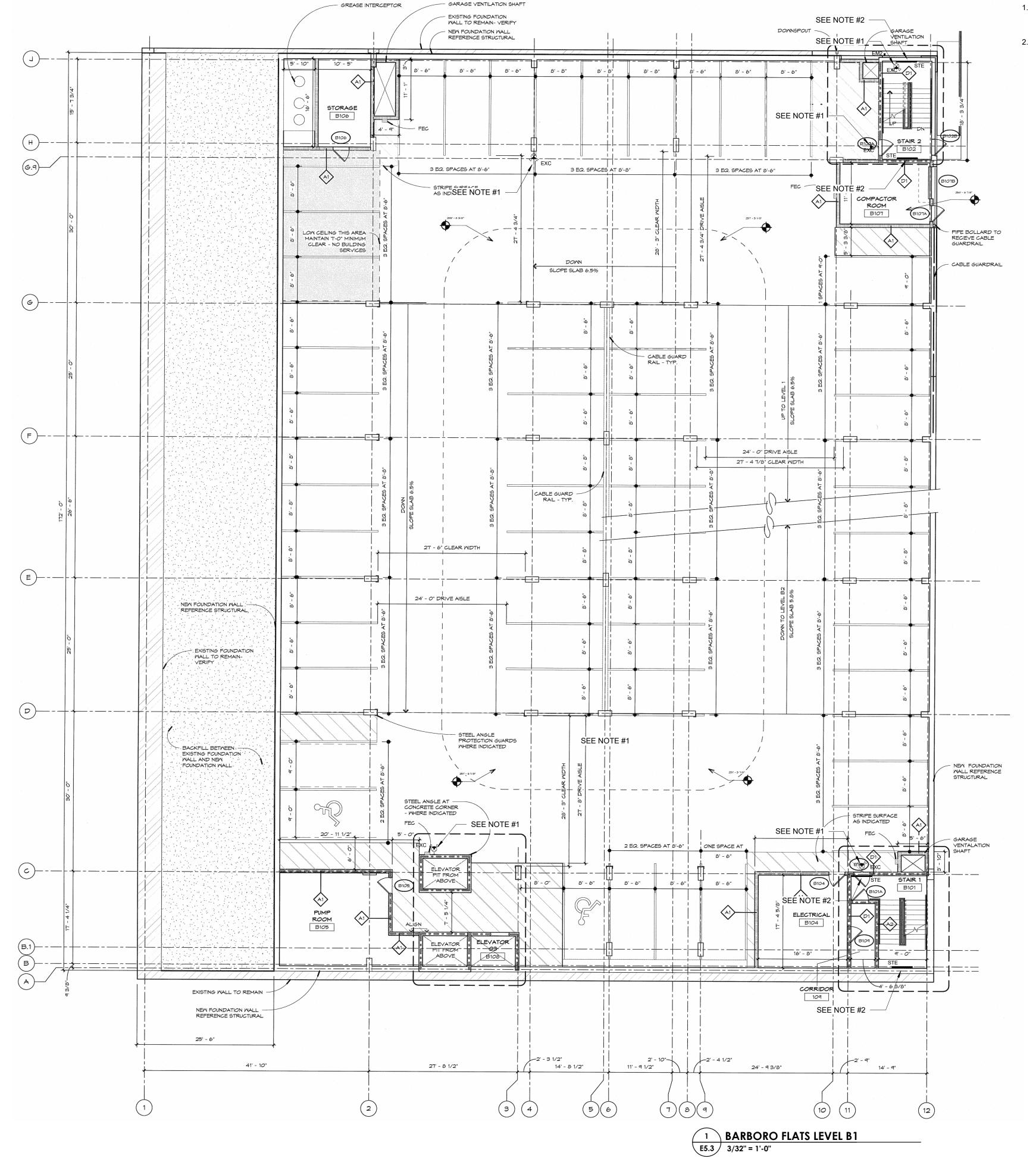
SUBMISSIONS / REVISIONS 05/03/2024 ISSUED FOR BID

NO. DESCRIPTION

05/03/2024

BARBORO FLATS LEVEL B2 TIER LIGHTING

E5.2

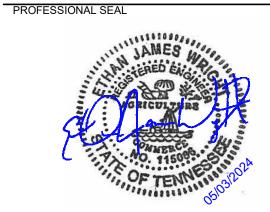


REPLACE EXISTING EXIT LIGHTS THROUGHOUT THE GARAGE AND STAIRWELLS 1 FOR 1. FIELD VERIFY THE EXACT QUANTITY AND LOCATIONS BEFORE INSTALLATION.

2. REPLACE EXISTING EMERGENCY STRIP LIGHTS THROUGHOUT THE STAIRWELLS 1 FOR 1. FIELD VERIFY THE EXACT QUANTITY AND LOCATIONS BEFORE INSTALLATION.



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Nashville

PROJECT NO.
ATL23110.01
PROJECT

MEMPHIS DOWNTOWN PARKING FACILITIES

2024 MEP/FP REPLACEMENT

05/03/2024
ISSUED FOR BID

DESCRIPTION

DATE

NORTH
01 IEEE TITLE

DRAWN: BJB

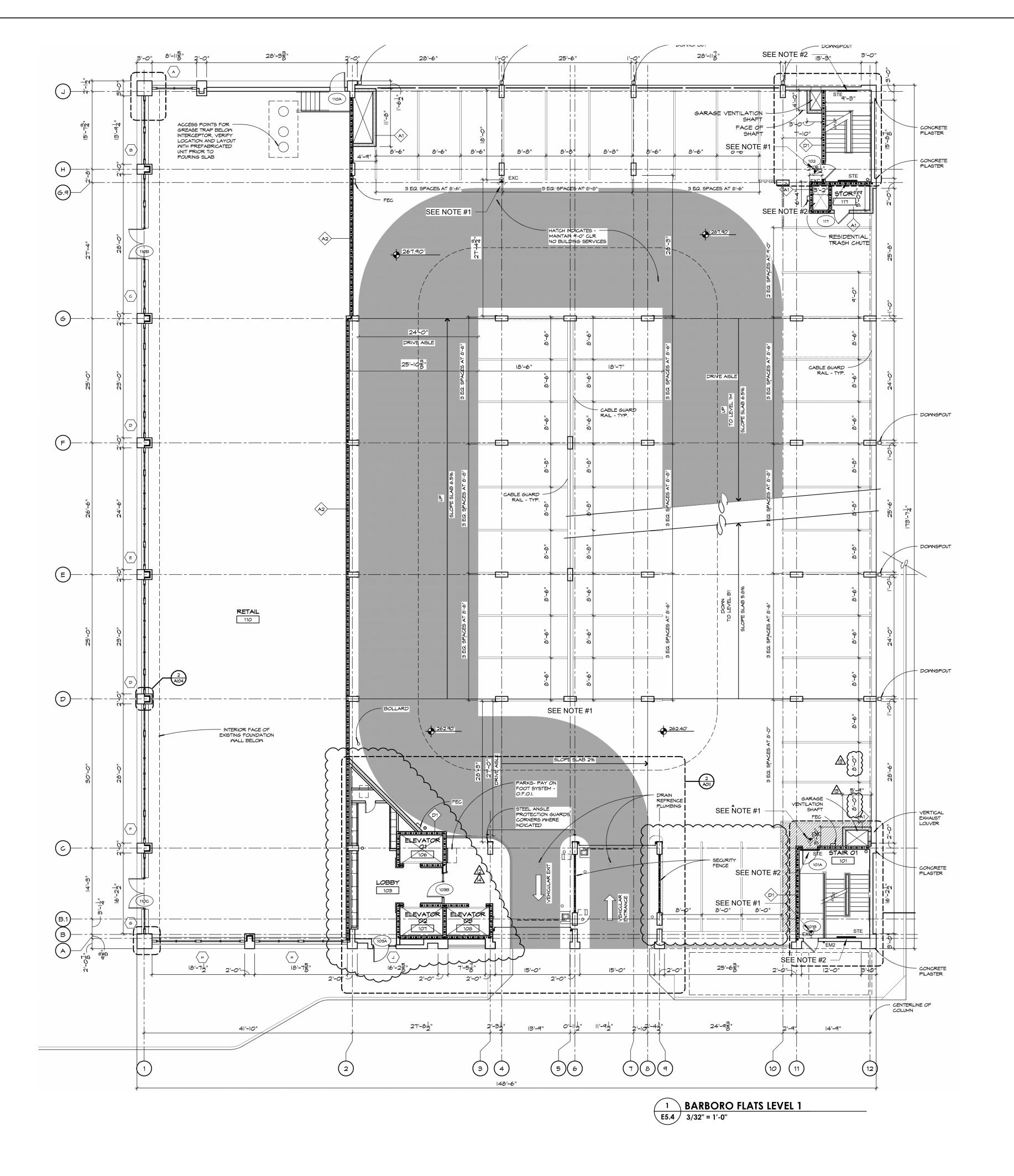
REVIEWED: EJW

DATE: 05/03/2024

BARBORO FLATS LEVEL B1 TIER LIGHTING

SHEET NO

E5.3



- REPLACE EXISTING EXIT LIGHTS THROUGHOUT THE GARAGE AND STAIRWELLS 1 FOR 1. FIELD VERIFY THE EXACT QUANTITY AND LOCATIONS BEFORE INSTALLATION.
- REPLACE EXISTING EMERGENCY STRIP LIGHTS THROUGHOUT THE STAIRWELLS 1 FOR 1. FIELD VERIFY THE EXACT QUANTITY AND LOCATIONS BEFORE INSTALLATION.



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PROJECT NO. ATL23110.01 PROJECT

MEMPHIS DOWNTOWN PARKING FACILITIES

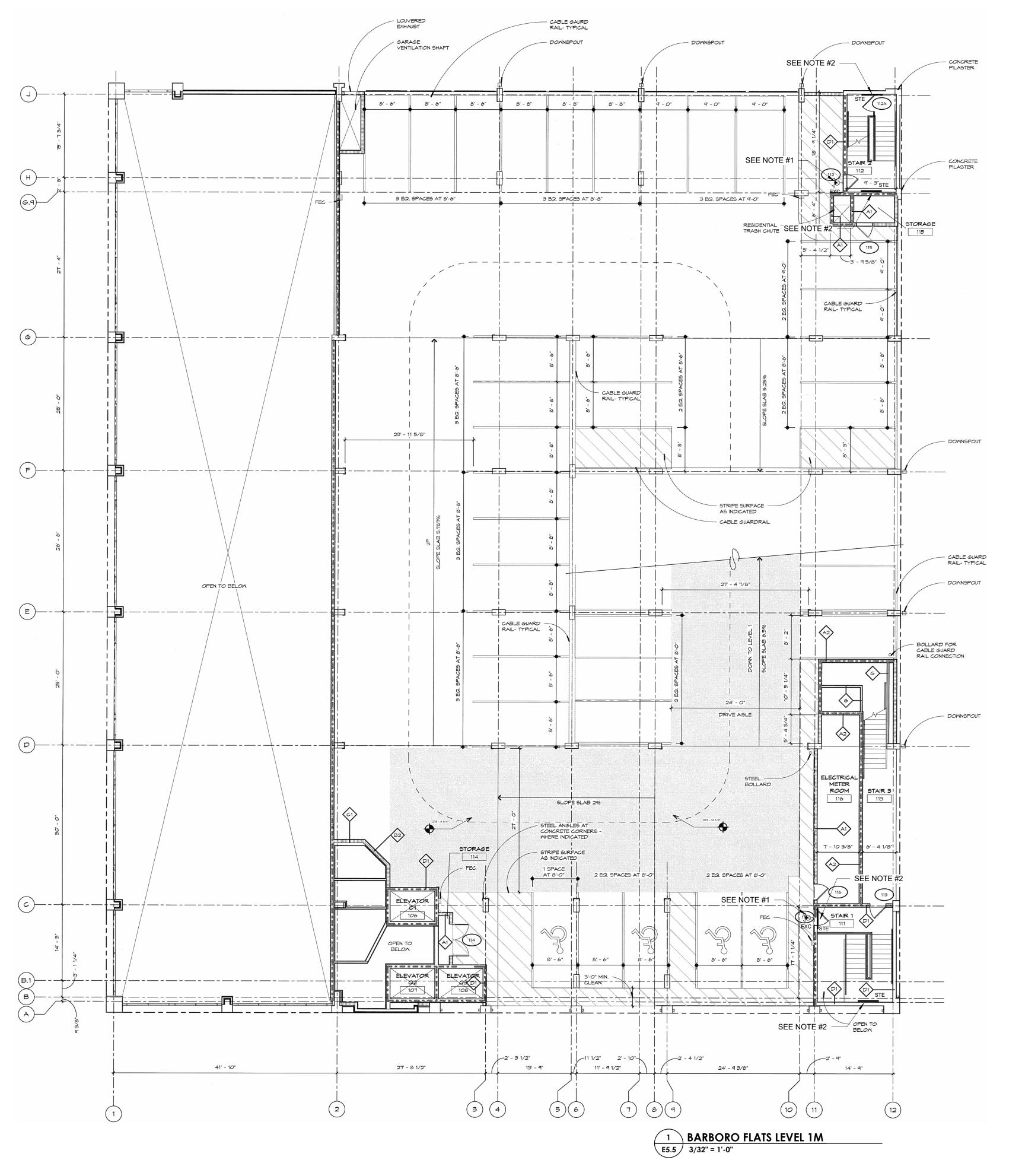
2024 MEP/FP REPLACEMENT

05/03/2024 ISSUED FOR BID

NO. DESCRIPTION

BARBORO FLATS LEVEL 1 TIER LIGHTING

E5.4



- REPLACE EXISTING EXIT LIGHTS THROUGHOUT THE GARAGE AND STAIRWELLS 1 FOR 1. FIELD VERIFY THE EXACT QUANTITY AND LOCATIONS BEFORE INSTALLATION.
- 2. REPLACE EXISTING EMERGENCY STRIP LIGHTS THROUGHOUT THE STAIRWELLS 1 FOR 1. FIELD VERIFY THE EXACT QUANTITY AND LOCATIONS BEFORE INSTALLATION.



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PROFESSIONAL SEAL



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PROJECT NO.
ATL23110.01
PROJECT

MEMPHIS DOWNTOWN PARKING FACILITIES

2024 MEP/FP REPLACEMENT

05/03/2024
ISSUED FOR BID

NO.	DESCRIPTION	DATE

NORTH
011555

DRAWN: BJB

REVIEWED: EJW

DATE: 05/03/2024

BARBORO FLATS LEVEL 1M TIER LIGHTING

SHEET NO

E5.5

SCOPE OF WORK

SCOPE OF WORK

SPRINKLER HEADS

THE CONTRACTOR IS RESPONSIBLE FOR ALL WORK, MATERIALS, AND LABOR TO SATISFY A COMPLETE WORKING SYSTEM. FIRE PROTECTION SYSTEM INCLUDES BUT IS NOT LIMITED TO THE FOLLOWING:

- COVERAGE FOR ENTIRE BUILDING (UNLESS NOTED OTHERWISE). REVIEW ALL PLANS INCLUDING ARCHITECTURAL ELEVATIONS, SECTIONS, AND DETAILS TO INSURE ADEQUATE COVERAGE.
- PROVIDE HYDRAULICALLY DESIGNED SYSTEM TO NFPA 13 OCCUPANCY REQUIREMENTS.
 DETERMINE VOLUME AND PRESSURE OF INCOMING WATER SUPPLY FROM
- WATER FLOW TEST DATA.
 INTERFACE SYSTEM WITH BUILDING FIRE AND SMOKE ALARM SYSTEM.
 PROVIDE FIRE DEPARTMENT CONNECTIONS, PIVs & FIRE HYDRANTS AS
- INDICATED ON DRAWINGS.
 IT IS THE INTENT THAT THE BUILDING BE COVERED WITH A "WET" TYPE SPRINKLER SYSTEM.
- THE SPRINKLER SYSTEM.

 THE SPRINKLER DESIGN SHALL BE LIGHT HAZARD GROUP AND ORDINARY HAZARD GROUP 1 (STORAGE SPACES 100FT² OR LARGER AND JANITOR CLOSETS) USING UPRIGHT, PENDANT, CONCEALED OR SEMI-RECESSED
- PROVIDE UL LISTED FIRE STOPPING SYSTEM AND TESTED ASSEMBLY IN ALL RATED WALL AND FLOOR PIPE PENETRATIONS. FIRESTOP SEALANTS AND MATERIALS 3M FIRE PROTECTION PRODUCTS, OR EQUIVALENT.
- INSTALL THE FIRE PROTECTION SYSTEM IN COMPLIANCE WITH NFPA 13, LOCAL CODES, AND LOCAL FIRE OFFICIAL REQUIREMENTS.
 SEAL ALL PENETRATIONS THRU FIRE RATED WALLS AND FLOORS WITH
- COORDINATE SPRINKLER DISTRIBUTION PIPING ELEVATIONS WITH NEW
 CEILING HEIGHT. REFER TO ARCHITECTURAL PLANS AND SECTIONS.
 PROVIDE COMPLETE SHOP DRAWINGS PER SPECS INDICATING ALL HVAC,
- ELECTRICAL, PLUMBING, AND STRUCTURAL ELEMENTS ON SAME. ALL PLANS SHALL BE FULLY DIMENSIONED AS TO LOCATION OF SPRINKLER PIPING.
 OBTAIN STAMPED AND WRITTEN APPROVAL OF SYSTEM FROM ALL
- GOVERNING AUTHORITIES PRIOR TO SUBMITTING SAME FOR APPROVAL TO THE ARCHITECT.

ALL WORK IS TO BE PERFORMED IN STRICT COMPLIANCE WITH ALL LOCAL CODES AND OTHER REGULATIONS GOVERNING WORK. THE CONTRACTOR SHALL, BEFORE SUBMITTING ANY PROPOSAL, EXAMINE THE PROPOSED SITE AND SHALL DETERMINE FOR HIMSELF THE CONDITIONS THAT MAY AFFECT THE WORK. NO ALLOWANCE SHALL BE MADE IF THE CONTRACTOR FAILS TO MAKE SUCH EXAMINATIONS. ALL EQUIPMENT AND MATERIALS SHALL BE AS SPECIFIED OR "APPROVED EQUAL" BY THE ENGINEER OR ARCHITECT. THE CONTRACTOR SHALL PROVIDE FIRE FLOW TEST PRIOR TO CONSTRUCTION, COORDINATE WITH LOCAL UTILITY AND AHJ AS REQUIRED PER IFC, AND PAY ALL COSTS.

EQUIPMENT INDICATED ON THE DRAWINGS OR AS REQUIRED FOR A COMPLETE INSTALLATION SHALL BE PROVIDED WITHIN THE SCOPE OF WORK OF THIS SECTION. CONTRACTOR SHALL FIELD COORDINATE THE EXACT LOCATION OF EQUIPMENT WITH THE OWNER.

PERMITS

THE CONTRACTOR SHALL OBTAIN AND PAY FOR ALL PERMITS AND INSPECTIONS REQUIRED FOR THIS WORK. RETAIN CERTIFICATES OF INSPECTIONS AND SUBMIT WHEN WORK IS COMPLETE. ALL WORK SHALL BE DONE IN ACCORDANCE WITH APPLICABLE CODES ENFORCED BY CITY, COUNTY, STATE, AND/OR FEDERAL AUTHORITIES.

SHOP DRAWINGS

SUBMIT SHOP DRAWINGS FOR MAJOR EQUIPMENT TO THE ENGINEER FOR APPROVAL. THE CONTRACTOR SHALL SUBMIT ELECTRONIC SHOP DRAWINGS IN PDF FORMAT AND THEY SHALL BE CLEARLY LABELED AS FOLLOWS:

- SHOP DRAWINGS: INDICATE LAYOUT OF FINISHED CEILING AREAS INDICATING SPRINKLER LOCATIONS COORDINATED WITH CEILING INSTALLATION. INDICATE DETAILED PIPE LAYOUT, HANGERS AND SUPPORTS, SPRINKLERS, COMPONENTS AND ACCESSORIES. INDICATE SYSTEM CONTROLS.
- PRODUCT DATA: SUBMIT DATA ON SPRINKLERS, VALVES, AND SPECIALTIES, INCLUDING MANUFACTURERS CATALOG INFORMATION. SUBMIT PERFORMANCE RATINGS, ROUGH-IN DETAILS, WEIGHTS, SUPPORT REQUIREMENTS, AND PIPING CONNECTIONS.
- DESIGN DATA: SUBMIT DESIGN CALCULATIONS; SIGNED AND SEALED BY A
 NICET LEVEL III CERTIFIED TECHNICIAN.
- MANUFACTURER'S CERTIFICATE: CERTIFY PRODUCTS MEET OR EXCEED SPECIFIED REQUIREMENTS.

CLOSEOUT SUBMITTALS

PROJECT RECORD DOCUMENTS: RECORD ACTUAL LOCATIONS OF SPRINKLERS AND DEVIATIONS OF PIPING FROM DRAWINGS. INDICATE DRAIN AND TEST LOCATIONS.

OPERATION AND MAINTENANCE DATA: SUBMIT COMPONENTS OF SYSTEM

OPERATION AND MAINTENANCE DATA: SUBMIT COMPONENTS OF SYSTEM, SERVICING REQUIREMENTS, RECORD DRAWINGS, INSPECTION DATA, REPLACEMENT PART NUMBERS AND AVAILABILITY.

MISCELLANEOUS

ALL EXTERIOR OPENINGS TO BE PROPERLY CAULKED AND SEALED WITH A SEALANT OF HIGH QUALITY AND LONG LIFE, TO PREVENT INFILTRATION OF OUTSIDE AIR INTO CONDITIONED SPACE. DO NOT SCALE THIS DRAWING FOR EXACT DIMENSIONS. VERIFY ALL FIGURES, CONDITIONS, AND DIMENSIONS AT THE JOB SITE. THESE PLANS ARE INTENDED TO BE DIAGRAMMATIC AND ARE BASED ON ONE MANUFACTURER'S EQUIPMENT. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ENSURE THAT ALL REQUIRED SIZES, WEIGHTS ELECTRICAL CONNECTIONS, AND CLEARANCES ARE COMPATIBLE WITH THE DESIGN CONCEPT SHOWN ON THE DRAWING. THESE CHANGES SHALL BE ACCOMPLISHED BY THE CONTRACTOR. THE PLANS ARE NOT INTENDED TO SHOW EVERY ITEM IN ITS EXACT LOCATION, THE EXACT DIMENSIONS, OR ALL THE DETAILS OF THE EQUIPMENT. THE CONTRACTOR SHALL VERIFY THE ACTUAL DIMENSIONS OF THE EQUIPMENT PROPOSED TO ENSURE THAT THE EQUIPMENT WILL FIT IN THE AVAILABLE SPACE.

GENERAL NOTES

1. THIS DOES NOT REPRESENT A FIRE PROTECTION SHOP DRAWING DESIGN.
THIS DOCUMENT IS TO SHOW DESIGN INTENT. FINAL HYDRAULIC
CALCULATIONS, HEAD LAYOUTS, AND PIPE SIZES, COMPLYING WITH ALL
CODES, FOR A COMPLETE AND OPERATIONAL SYSTEM ARE TO BE SUPPLIED
BY THE FIRE PROTECTION CONTRACTOR.

2. THE FIRE PROTECTION CONTRACTOR SHALL PROVIDE THE FINAL DESIGN FOR THE FIRE SPRINKLER SYSTEM AND SHALL PROVIDE THE ARCHITECT/ENGINEER AND THE AUTHORITIES HAVING JURISDICTION, SHOP DRAWINGS AND HYDRAULIC CALCULATIONS, IN ACCORDANCE WITH THE REQUIREMENTS OF NFPA 13, FOR REVIEW.

3. THE FIRE SPRINKLER SYSTEM SHALL CONFORM TO NFPA 13 AND ALL APPLICABLE REGULATORY REQUIREMENTS AND BUILDING CODES AS INTERPRETED BY THE AUTHORITIES HAVING JURISDICTION. WHERE CONFLICTS EXIST BETWEEN SUCH REGULATORY OR CODE REQUIREMENTS, SUCH CONFLICT SHALL BE IDENTIFIED FOR THE REVIEW OF THE ARCHITECT AND ENGINEER.

4. COORDINATE WITH ARCHITECTURAL RCP, HVAC, ELECTRICAL, PLUMBING AND STRUCTURAL ELEMENTS AS REQUIRED FOR PROPER INSTALLATION OF SPRINKLER SYSTEM PIPING AND HEADS.

PROVIDE FLEXIBLE COUPLINGS AT FLEXURE JOINTS PER NFPA 13 SECTION 9.3.2.1. PROVIDE CLEARANCE AROUND PIPING PASSING THROUGH FLOORS, WALL AND FOUNDATIONS WHERE REQUIRED PER NFPA 13 SECTION 9.3.4.
 ALL FIRE PROTECTION EQUIPMENT SHALL BE U.L. LISTED.

7. ALL FIRE PROTECTION EQUIPMENT SHALL BE INSTALLED TO MEET SEISMIC REQUIREMENTS PER NFPA 13.
 8. PROVIDE SEISMIC RESTRAINT FOR PIPING WHERE REQUIRED BY IBC

SECTION 1613.

9. PROVIDE INSPECTOR TEST VALVES AT INSULATED, ACCESSIBLE LOCATIONS WITH DRAINS DISCHARGED TO THE EXTERIOR OF THE BUILDING.

10. PROVIDE A BELL, ACTIVATED BY THE SPRINKLER SYSTEM, ON THE EXTERIOR

OF THE BUILDING.

11. PROVIDE SWING JOINTS ON ALL HEADS TO CENTER HEADS IN CEILING GRID WHERE ONE IS PROVIDED (2 DIRECTIONS).

12. HANG ALL ARMOVERS LONGER THAN 12"CC.
13. ALL PIPING 2 IN. AND SMALLER TO BE SCH. 40 BLACK STEEL. ALL PIPING 2-1/2" AND LARGER TO BE SCH. 10 BLACK STEEL.

AND LARGER TO BE SCH. 10 BLACK STEEL.

14. ALL PIPE PENETRATIONS THROUGH THE STRUCTURE TO BE CORE DRILLED.

15. SLEEVES SHALL BE INSTALLED WHERE PIPING PASSES THROUGH THE

STRUCTURE.

16. ALL OPENINGS THROUGH RATED WALLS SHALL BE SEALED WITH AN APPROVED FIRE PROOFING TO MAINTAIN THE INTEGRITY OF THE WALL.

17. PROVIDE AN O.S.&Y. VALVE WITH TAMPER SWITCH AND A WATER FLOW

SWITCH FOR EACH SPRINKLER ZONE.

18. ALL CONTROL VALVES TO BE EQUIPPED WITH A TAMPER SWITCH.

19. SPRINKLER PIPING SHOWN ABOVE FLOOR OR GRADE SHALL BE INSTALLED ABOVE CEILING WHERE CEILINGS ARE PROVIDED. COORDINATE ROUTING WITH OTHER TRADES.

20. PROVIDE BRASS TAGS ON ALL VALVES.
 21. INSTALL CHROME, METAL SPLIT TYPE PIPE ESCUTCHEON AT EXPOSED WALL PENETRATIONS

2. ALL SYSTEM GAUGES AND VALVES SHALL BE ACCESSIBLE FOR MAINTENANCE AND INSPECTION.

23. ALL FITTINGS TO BE CLASS 250 SLIP ON MECHANICAL JOINT TYPE.
24. INSTALLATION AND TESTING PER NFPA 24.
25. PIPE TO HAVE A MINIMUM 3'-0" BURY FROM TOP OF PIPE.

ALL PIPING TO BE PROPERLY BLOCKED, RODDED, OR CLAMPED.
ALL RODDING PER NFPA 24.
BITUMINOUS COAT ALL UNDERGROUND BOLTS, RODS, AND CONNECTORS.

FLUSH ALL UNDERGROUND PIPING PER NFPA.
SPRINKLER HEADS WITHIN 36" OF SUPPLY GRILLES IN ANY DIRECTION SHALL
HAVE INTERMEDIATE CLASSIFICATION PER NFPA 13 TABLE 3-2.5.1.

CHLORINATE ALL NEW UNDERGROUND PIPING PER MLG&W REQUIREMENTS.

FIRE PUMPS

PART 1 GENERAL

1.01 WORK INCLUDED

1.01 WORK INOLODED

FIRE PUMP PACKAGE.

B. FIRE PUMP MOTOR.

C. ELECTRIC JOCKEY PUMP.

D. CONTROLLERS.

FACTORY MUTUAL SYSTEM (FM) - APPROVAL GUIDE.

B. NEMA MG-1 - MOTORS AND GENERATORS.

C. NEMA 250 - ENCLOSURES FOR ELECTRICAL EQUIPMENT (1000 VOLT MAXIMUM).

D. NFPA 20 - INSTALLATION OF CENTRIFUGAL FIRE PUMPS.

E. NFPA 24 - PRIVATE FIRE SERVICE MAINS AND THEIR APPURTENANCES.F. UL - FIRE PROTECTION EQUIPMENT DIRECTORY.

G. UL 448 - PUMPS FOR FIRE PROTECTION SERVICE

H. UL 778 - MOTOR OPERATED WATER PUMPS.

1.04 SYSTEM DESCRIPTION

A. ELECTRIC MOTOR DRIVEN, SINGLE STAGE, CLOSE COUPLED, VERTICAL, INLINE FIRE PUMP WITH JOCKEY PUMP AND ELECTRIC CONTROLLERS WITH VFD STARTER.

1.05 SUBMITTALS

A. SUBMIT UNDER PROVISIONS OF SECTION 01 33 00.

B. SHOP DRAWINGS: INDICATE LAYOUT, GENERAL ASSEMBLY, COMPONENTS, DIMENSIONS, WEIGHTS, CLEARANCES, AND METHODS OF ASSEMBLY.

C. PRODUCT DATA: PROVIDE MANUFACTURERS LITERATURE INCLUDING GENERAL ASSEMBLY, PUMP CURVES SHOWING PERFORMANCE CHARACTERISTICS WITH PUMP AND SYSTEM, OPERATING POINT INDICATED, NPSH CURVE, CONTROLS, WIRING DIAGRAMS, AND SERVICE CONNECTIONS.

D. MANUFACTURER'S INSTALLATION INSTRUCTION: INDICATE SUPPORT DETAILS, CONNECTION REQUIREMENTS, AND INCLUDE START-UP INSTRUCTIONS FOR FIRE PUMP.

. MANUFACTURER'S CERTIFICATE: CERTIFY THAT FIRE PUMPS MEET OR EXCEED SPECIFIED REQUIREMENTS AT SPECIFIED OPERATING CONDITIONS. SUBMIT SUMMARY AND RESULTS OF

FIELD REPORTS: INDICATE SUMMARY OF HYDROSTATIC TEST AND FIELD ACCEPTANCE TESTS PERFORMED IN ACCORDANCE WITH NFPA 20.

1.06 OPERATION AND MAINTENANCE DATA

A. SUBMIT UNDER PROVISIONS OF SECTION 01 78 21.

OPERATION DATA: INCLUDE MANUFACTURER'S INSTRUCTIONS, STARTUP DATA, TROUBLE-SHOOTING CHECK LISTS, FOR PUMPS, DRIVERS, AND CONTROLLERS.

C. MAINTENANCE DATA: INCLUDE MANUFACTURER'S LITERATURE, CLEANING PROCEDURES, REPLACEMENT PARTS LISTS, AND REPAIR DATA FOR PUMPS, DRIVERS AND CONTROLLERS.

1.07 QUALITY ASSURANCE

A. PERFORM WORK IN ACCORDANCE WITH NFPA 20.

B. EQUIPMENT AND COMPONENTS: BEAR UL OR FM LABEL OR MARKING.

SHOP TESTS PERFORMED IN ACCORDANCE WITH NFPA 20.

C. MAINTAIN ONE COPY OF EACH DOCUMENT ON SITE.

ENSURE PUMP PRESSURE RATINGS ARE AT LEAST EQUAL TO SYSTEM'S MAXIMUM OPERATING PRESSURE AT PINT WHERE INSTALLED, BUT NOT LESS THAN SPECIFIED.

1.08 QUALIFICATIONS

A. MANUFACTURER: COMPANY SPECIALIZING IN MANUFACTURING THE PRODUCTS SPECIFIED IN THIS SECTION WITH MINIMUM FIVE (5) YEARS DOCUMENTED EXPERIENCE.

INSTALLER: COMPANY SPECIALIZING IN PERFORMING THE WORK OF THIS SECTION WITH MINIMUM FIVE (5) YEARS DOCUMENTED EXPERIENCE.

EQUIPMENT PROVIDER SHALL BE RESPONSIBLE FOR PROVIDING CERTIFIED EQUIPMENT START-UP AND, WHEN NOTED, AN IN THE FIELD CERTIFIED TRAINING SESSION. THIS PUMP START-UP

UP AND, WHEN NOTED, AN IN THE FIELD CERTIFIED TRAINING SESSION. THIS PUMP START-UP SHALL BE BY THE PUMP MANUFACTURER OR A CERTIFIED FACTORY-TRAINED REPRESENTATIVE PER NFPA 20, SECTION 11-2. THIS START-UP SHALL INCLUDE VERIFICATION OF PROPER INSTALLATION, SYSTEM INITIATION, ADJUSTMENT AND FINE TUNING. START-UP SHALL NOT BE CONSIDERED COMPLETE UNTIL THE SEQUENCE OF OPERATION, INCLUDING ALL ALARMS HAS BEEN SUFFICIENTLY DEMONSTRATED TO THE OWNER OR OWNER'S DESIGNATED REPRESENTATIVE. THIS JOB SITE VISIT SHALL OCCUR ONLY AFTER ALL HOOK-UPS, TIE-INS, AND TERMINATIONS HAVE BEEN COMPLETED AND SIGNED OFF ON THE MANUFACTURER'S START-UP REQUEST FORM.

1.09 REGULATORY REQUIREMENTS

A. CONFORM TO NFPA 20 FOR INSTALLATION AND TESTING OF FIRE PUMPS, DRIVERS, AND

B. PROVIDE CERTIFICATE OF COMPLIANCE FROM AUTHORITY HAVE JURISDICTION INDICATING APPROVAL OF FIELD ACCEPTANCE TESTS.

1.10 DELIVERY, STORAGE, AND HANDLING

DELIVERY, STORE, PROTECT AND HANDLE PRODUCTS TO SITE UNDER PROVISIONS OF SECTION

B. ACCEPT FIRE PUMPS AND COMPONENTS ON SITE IN FACTORY PACKING. INSPECT FOR DAMAGE. COMPLY WITH MANUFACTURERS RIGGING AND INSTALLATION INSTRUCTIONS.

PROTECT FIRE PUMPS AND COMPONENTS FROM PHYSICAL DAMAGE INCLUDING EFFECTS OF WEATHER, WATER, AND CONSTRUCTION DEBRIS.

PROVIDE TEMPORARY INLET AND OUTLET CAPS, AND MAINTAIN IN PLACE UNTIL INSTALLATION.

1.11 MAINTENANCE SERVICE

A. FURNISH SERVICE AND MAINTENANCE OF FIRE PUMP, DRIVER, AND CONTROLLER FOR ONE (1) YEAR FROM DATE OF SUBSTANTIAL COMPLETION.

PROVIDE A MINIMUM ONE (1) YEAR WARRANTY FROM THE DATE OF OPERATION OR EIGHTEEN (18) MONTHS FROM THE DATE OF SHIPMENT ON THE PRODUCT, WHICHEVER COMES FIRST.

FIRE PUMPS

PART 2 PRODUCTS

2.01 MANUFACTURER

A. AC PUMP COMPANY OR APPROVED EQUAL

$2.02\ \mathsf{HORIZONTAL}\ \mathsf{BASE}\ \mathsf{MOUNTED}\ \mathsf{PUMPS}$

A. TYPE: UL 448 AND UL 778, HORIZONTAL SHAFT, SINGLE STAGE, DOUBLE SUCTION, DIRECT CONNECTED, VERTICAL INLINE, FOR 250 PSIG MAXIMUM WORKING PRESSURE

B. CASING: CAST IRON, WITH SUCTION AND DISCHARGE GAGE PORTS, RENEWABLE BRONZE CASING WEARING RINGS, SEAL FLUSH CONNECTION, DRAIN PLUG, FLANGED SUCTION AND DISCHARGE.

C. IMPELLER: BRONZE DOUBLE SUCTION FULLY ENCLOSED, BALANCED AND KEYED TO SHAFT.

D. BEARINGS: GREASE LUBRICATED BALL BEARINGS, REPLACEABLE WITHOUT OPENING CASING.

SHAFT: ALLOY STEEL WITH REPLACEABLE BRONZE SHAFT SLEEVE.

F. SEAL: PACKING GLAND WITH MINIMUM FOUR RINGS GRAPHITE IMPREGNATED PACKING AND BRONZE LANTERN RINGS, 230 DEGREES F (110 DEGREES C) MAXIMUM CONTINUOUS OPERATING TEMPERATURE.

G. DRIVE: FLEXIBLE COUPLING WITH COUPLING GUARD.

H. BASEPLATE: FABRICATED STEEL WITH INTEGRAL DRAIN RIM.

I. PERFORMANCE: AS INDICATED ON THE DRAWINGS.

2.03 FIRE PUMP ACCESSORIES

A. ECCENTRIC SUCTION REDUCER AND OS&Y GATE OR BUTTERFLY VALVE ON SUCTION SIDE OF PLIMP

B. CONCENTRIC INCREASER AND CHECK VALVE IN PUMP DISCHARGE AND OS&Y GATE OR BUTTERFLY VALVE ON SYSTEM SIDE OF CHECK VALVE.

FIRE PUMP BYPASS FITTED WITH OS&Y GATE OR BUTTERFLY VALVES AND CHECK VALVE.

SUCTION PRESSURE GAGE, 4 1/2 INCH DIAMETER DIAL WITH SNUBBER, VALVE COCK AND LEVER HANDLE.

E. DISCHARGE PRESSURE GAGE MOUNTED ON BOARD ATTACHED TO PUMP, WITH SNUBBER, VALVE COCK AND LEVER HANDLE.

CASING 3/4 INCH RELIEF VALVE.

G. FLOAT OPERATED 3/4 INCH AUTOMATIC AIR RELEASE VALVE.

H. HOSE VALVE MANIFOLD WITH 2 1/2 INCH HOSE GATE VALVES WITH CAPS AND CHAINS.

I. FLOW METERING SYSTEM FOR CLOSED LOOP TESTING.

2.04 ELECTRIC MOTOR DRIVE

A. REFER TO DRAWINGS.

2.05 PRESSURE BOOSTER (JOCKEY) PUMP

A. ELECTRICALLY OPERATED, VERTICAL MULTI-STAGE, CENTRIFUGAL, DIRECT COUPLED

TYPE WITH STANDARD OPEN DRIP-PROOF HORIZONTAL MOTOR.

PERFORMANCE: AS INDICATED ON THE DRAWINGS.

C. CONTROL BY AUTOMATIC JOCKEY PUMP CONTROLLER WITH FULL VOLTAGE STARTER
AND MINIMUM RUN TIMER TO START PUMP ON PRESSURE DROP IN SYSTEM AND STAY
IN OPERATION FOR MINIMUM PERIOD OF TIME. FIRE PLIMP SHALL START

AUTOMATICALLY ON FURTHER PRESSURE DROP OR ON JOCKEY PUMP FAILURE.

PART 3 EXECUTION

3.01 INSTALLATION

A. INSTALL IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.

PROVIDE ACCESS SPACE AROUND PUMPS FOR SERVICE. PROVIDE NO LESS THAN MINIMUM AS RECOMMENDED BY MANUFACTURER.

DECREASE FROM LINE SIZE WITH LONG RADIUS REDUCING ELBOWS OR REDUCERS. SUPPORT PIPING ADJACENT TO PUMP SUCH THAT NO WEIGHT IS CARRIED ON PUMP CASINGS. FOR BASE MOUNTED PUMPS, PROVIDE SUPPORTS UNDER ELBOWS ON PUMP SUCTION AND DISCHARGE.

D. PROVIDE DRAINS FOR BASES AND SEALS, PIPED TO AND DISCHARGING INTO FLOOR

E. MOUNT UNIT ON VIBRATION ISOLATORS.

F. PROVIDE FOR CONNECTION TO ELECTRICAL SERVICE.

G. LUBRICATE PUMPS BEFORE START-UP.

H. CHECK, ALIGN, AND CERTIFY BASE MOUNTED PUMPS BY QUALIFIED MILLWRIGHT PRIOR TO START-UP.

3.02 FIELD QUALITY CONTROL

A. PERFORM HYDROSTATIC FLOW TEST ON ENTIRE SYSTEM IN ACCORDANCE WITH

B. REQUIRE TEST TO BE WITNESSED BY FIRE MARSHALL OR AUTHORITY HAVING JURISDICTION.

END OF SECTION

FIRE PROTECTION LEGEND

NOT ALL SYMBOLS MAY BE USED

SYMBOL	ABB.	DESCRIPTION
-DPSS- DPSS	DPSS	DRY PIPE SPRINKLER SYSTEM
— F — E F	F	FIRE MAIN
		PIPE TURN DOWN
		PIPE TURN UP
⊕ Ĝ		BALL VALVE
ightharpoons		GATE VALVE
		CHECK VALVE
[CAP/PLUG
		UNION
	I.E.	INVERT ELEVATION
	AFF	ABOVE FINISHED FLOOR
	DCVA	DOUBLE CHECK VALVE ASSEMBLY
	DDCVA	DOUBLE DETECTOR CHECK VALVE ASSEMBL
F-		FIRE RISER NO.
"		RISER SIZE
×		CEILING SPRINKLER - UPRIGHT
•		CEILING SPRINKLER - CONCEALED
©		CEILING SPRINKLER - RECESSED PENDANT
⊲		SIDEWALL SPRINKLER
4		SIDEWALL EXTENDED COVERAGE SPRINKLER
4		SIDEWALL SPRINKLER, NON-FREEZE
0		WALL HUNG FIRE EXTINGUISHER
		FIRE EXTINGUISHER CABINET
SI.	FDC	FIRE DEPARTMENT CONNECTION
X	PIV	POST INDICATOR VALVE
\triangle	ТВ	THRUST BLOCK
Ę.	FH	FIRE HYDRANT
		SPRINKLER RISER
		NEW UNDERGROUND PIPE
		EXISTING UNDERGROUND PIPE

FIRE PROTECTION SHEET INDEX NUMBER SHEET NAME

CJC SECOND FLOOR PLAN - FIRE PROTECTION

GENERAL NOTES AND LEGEND

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Memphis Nashville

PROJECT NO.
ATL23110.01
PROJECT

MEMPHIS DOWNTOWN PARKING FACILITIES

2024 MEP/FP REPLACEMENT

SUBMISSIONS / REVISIONS
05/03/2024
ISSUED FOR BID

DESCRIPTION

NORTH D

DRAWN: MCS
REVIEWED: GW

DATE: 05/03/2024

GENERAL NOTES AND LEGEND

ET NO.

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4" F (E) EWH-1 F2	6" F (E) EXISTING 6" F MAIN OVER DOOR. 4" F (E) TO PARKING	TO STANDPIPE LOCATED IN STAIRWELL. CONTRACTOR TO FIELD VERIFY EXACT LOCATION AND SIZING. G LEVEL 2. CONTRACTOR TO FY EXACT LOACTION AND SIZING.	
	(A)	- A,	

F2 INSTALL NEW ELECTRIC WALL HEATER. CONTRACTOR TO FIELD VERIFY EXACT LOCATION.

FIRE PUMP SCHEDULE

45

6x4x12F-M 500

AIRFLOW (CFM)

PROVIDE WITH INTEGRAL DISCONNECT. COORDINATE WITH ELECTRICAL CONTRACTOR.

ALL CAPACITIES ARE NET VALUES.
PROVIDE SURFACE MOUNT KIT AND 16 GA. STEEL HEAVY DUTY GRILLE.

ELECTRIC UNIT HEATER SCHEDULE

TOTAL HEATING CAPACITY (kW)

1.5

MANUF.

AC FIRE PUMP

NOTES:

1. PROVIDE WITH ELECTRICAL DISCONNECT.

2. UL LISTED HORIZONTAL SPLIT CASE ELECTRIC DRIVEN FIRE PUMP.

MODEL

EWH-1 MARKEL E3323TD-RP 175

PROVIDE WITH INTEGRAL THERMOSTAT.

MODEL GPM HEAD (PSI) RPM V/PH/HZ MAX. BHP REMARKS

V/PH/HZ MCA

120/1/60 12.5 SEE NOTES.

1770 208/3/60 22

REMARKS

(#)	FP KEYNOTE LEGEND
DF1	DEMOLISH EXISTING FIRE PUMP. CONTRACTOR TO FIELD VERIFY EXACT LOCATION.
DF2	DEMOLISH EXISTING ELECTRIC WALL HEATER. CONTRACTOR TO FIELD VERIFY EXACT LOCATION.
F1	CONNECT TO EXISTING FP PIPING. CONTRACTOR TO FIELD VERIFY EXACT LOCATION AND SIZE OF PIPING. MODIFY EXISTING PIPING AS REQUIRED TO CONNECT TO NEW FIRE PUMP.
F2	INSTALL NEW ELECTRIC WALL HEATER. CONTRACTOR TO FIELD VERIFY EXACT LOCATION.



PROFESSIONAL SEAL



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PROJECT NO. ATL23110.01 PROJECT

MEMPHIS DOWNTOWN PARKING FACILITIES

2024 MEP/FP REPLACEMENT

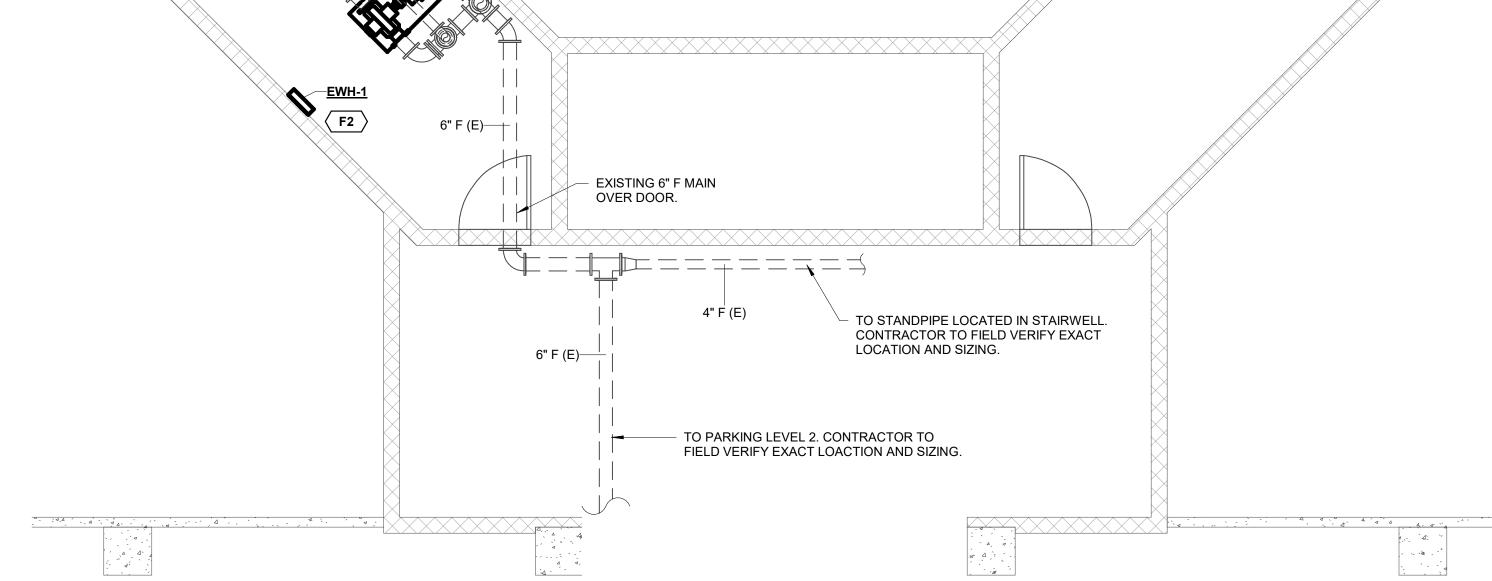
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CJC SECOND FLOOR PLAN - FIRE PROTECTION

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0' 2' 4'

