MEMPHIS DOWNTOWN PARKING FACILITIES
2024 RESTORATION



DRAWING LIST

SHEET NO.	SHEET NAME	ISSUED FOR BID
R0.0	COVER SHEET	•
R0.1	RESTORATION GENERAL NOTES	•
R0.2	SCOPE OF WORK & BID QUANTITY TABLE	•
R1.1	CRIMINAL JUSTICE CENTER (CJC) GROUND & SECOND TIER RESTORATION PLAN	•
R1.2	CRIMINAL JUSTICE CENTER (CJC) THIRD & FOURTH TIER RESTORATION PLAN	•
R1.3	CRIMINAL JUSTICE CENTER (CJC) FIFTH & SIXTH TIER RESTORATION PLAN	•
R1.4	CRIMINAL JUSTICE CENTER (CJC) SEVENTH & PARTIAL EIGHTH TIER RESTORATION PLAN	•
R2.1	PEABODY FOURTH TIER RESTORATION PLAN	•
R2.2	PEABODY TOP TIER RESTORATION PLAN	•
R3.1	FIRST PLACE GROUND & SECOND TIER RESTORATION PLAN	•
R3.2	FIRST PLACE THIRD & FOURTH TIER RESTORATION PLAN	•
R3.3	FIRST PLACE FIFTH & SIXTH TIER RESTORATION PLAN	•
R4.1	RESTORATION REPAIR DETAILS	•
R4.2	RESTORATION REPAIR DETAILS	•
R4.3	RESTORATION REPAIR DETAILS	•

DRAWING LIST

SHEET NO.	SHEET NAME	ISSUED FOR BID
E1.0	GENERAL NOTES, SCHEDULES AND LEGENDS	•
E1.1	SHOPPERS LOWER TIER LIGHTING PLAN	•
E1.2	SHOPPERS INTERMEDIATE & UPPER TIER LIGHTING PLAN	•
E2.0	GENERAL NOTES, SCHEDULES AND LEGEND	•
E2.1	CRIMINAL JUSTICE CENTER GROUND & SECOND TIER LIGHTING PLAN	•
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	•
E3.0	GENERAL NOTES, SCHEDULES AND LEGEND	•
E3.1	PEABODY GROUND TIER LIGHTING PLAN	•
E3.2	PEABODY SECOND TIER LIGHTING PLAN	•
E3.3	PEABODY THIRD TIER LIGHTING PLAN	•
E3.4	PEABODY FOURTH TIER LIGHTING PLAN	•
E3.5	PEABODY FIFTH TIER LIGHTING PLAN	•
E4.0	GENERAL NOTES, SCHEDULES AND LEGEND	•
E4.1	FIRST PLACE GROUND & SECOND TIER LIGHTING PLAN	•
E4.2	FIRST PLACE THIRD & FOURTH TIER LIGHTING PLAN	•
E4.3	FIRST PLACE FIFTH & SIXTH TIER LIGHTING PLAN	•
E5.0	GENERAL NOTES, SCHEDULES AND LEGEND	•
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 :

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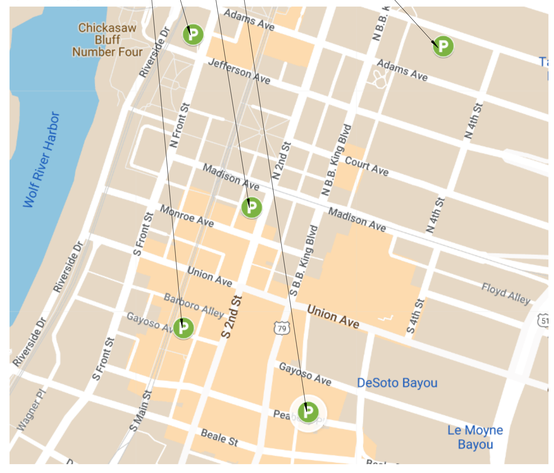
Location Map



THA CONSULTING

ISSUED FOR BID
03/08/2024

GENERAL NOTES

A. GENERAL CONDITIONS

1. IT IS THE INTENT OF THE PLANS TO ADEQUATELY DESCRIBE AND INDICATE AREAS THAT REQUIRE RESTORATION WORK BASED ON A PRIORITIZED REPAIR PROGRAM THAT WILL EXTEND OVER MULTIPLE YEARS. IN THE EVENT IT BECOMES NECESSARY TO ALTER THE PLANS FOR THE BEST INTEREST OF THE PROJECT DUE TO CIRCUMSTANCES NOT KNOWN AT THE TIME OF SURVEY, WORK QUANTITIES MAY BE ADJUSTED IN ACCORDANCE WITH THE ENGINEER AND OWNER'S APPROVAL.

2. CONTRACTOR IS RESPONSIBLE FOR VERIFYING EXISTING CONDITIONS PRIOR TO COMMENCING WORK AND SHALL REPORT IN WRITING TO THE ENGINEER ALL DISCREPANCIES WITH RESPECT TO PLANS & SPECIFICATIONS.

3. CONTRACTOR IS RESPONSIBLE FOR THE DESIGN AND CONSTRUCTION OF ALL BRACING, SHEETING, AND SHORING AS REQUIRED. PROVIDE TEMPORARY SUPPORT WHERE REPAIR WORK WILL DEGRADE THE INTEGRITY OF THE STRUCTURE INCLUDING CONNECTIONS. SHORING SHALL BE DESIGNED, PREPARED, SIGNED, AND SEALED BY A REGISTERED PROFESSIONAL ENGINEER IN THE STATE OF TENNESSEE, HIRED BY THE CONTRACTOR. SHORING ENGINEER SHALL FIELD VERIFY ALL DIMENSIONS, CONNECTION TYPES, ETC. AS NEEDED TO DETERMINE ALL APPLICABLE LOADING AND LOAD PATHS.

4. CONTRACTOR IS REQUIRED TO INSTALL A TEMPORARY DUST ENCLOSURE AT EACH AREA OF WORK TO PREVENT DUST & ODOR MIGRATION. FOR BIDDING PURPOSES, ASSUME A CONTINUOUS PLASTIC SEAL AT THE PERIMETER OF EACH WORK AREA. ALL DUST/DEBRIS FROM THE WORK SHALL BE CLEANED/REMOVED PRIOR TO REMOVING TEMPORARY DUST ENCLOSURE.

5. CONDUCT A PRECONSTRUCTION MEETING PRIOR TO COMMENCING WORK, HOLD PREINSTALLATION MEETINGS AS REQUIRED, AND HOLD REGULAR COORDINATION MEETINGS.

6. CONTRACTOR SHALL NOTIFY THE ENGINEER OF ANY CONDITION WHICH MAY ENDANGER THE STABILITY AND STRUCTURAL INTEGRITY OF, CAUSE DISTRESS TO, OR COMPROMISE THE DURABILITY OF THE STRUCTURE.

7. CONTRACTOR SHALL REFER TO THE SPECIFICATIONS FOR INFORMATION NOT COVERED BY THE DRAWINGS. IN CASE OF CONFLICT BETWEEN DRAWINGS AND SPECIFICATIONS, THE MOST STRINGENT REQUIREMENTS SHALL GOVERN.

8. ALL WORK MUST BE PERFORMED IN ACCORDANCE WITH THESE PLANS, SPECIFICATIONS, AND CONDITIONS OF APPROVAL, AND ALL APPLICABLE REQUIREMENTS, RULES, REGULATIONS, STATUTORY REQUIREMENTS, CODES, LAWS, AND STANDARDS OF ALL AUTHORITIES HAVING JURISDICTION OVER THIS PROJECT.

9. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR MEANS AND METHODS OF CONSTRUCTION AND SITE SAFETY.

11. IF THE BID SCHEDULE INCLUDES COLD WEATHER MONTHS, INCLUDE COLD WEATHER PROVISIONS AS REQUIRED TO COMPLETE THE WORK.

12. CONTRACTOR QUALIFICATION REQUIREMENTS:

   a. QUALIFIED BIDDERS SHOULD HAVE A MINIMUM OF FIVE (5) PARKING STRUCTURE RESTORATION PROJECTS WITH A MINIMUM OF OVER $500,000 PROJECT COST PERFORMED IN THE LAST FIVE (5) YEARS.
   b. QUALIFIED BIDDERS SHALL INCLUDE A WRITTEN DOCUMENT REFERENCING PROJECT QUALIFICATION INFORMATION INCLUDING BUT NOT LIMITED TO SCOPE OF PROJECTS, CLIENT INFORMATION, PROJECT COSTS, REFERENCES, ETC.
   c. QUALIFIED BIDDERS SHOULD HAVE SERVED AS PRIME CONTRACTORS AND SELF PERFORMED CONCRETE AND WATERPROOFING REPAIRS/REPLACEMENT AT THE FIVE (5) REFERENCE PROJECTS.
   d. A MINIMUM OF THREE (3) REFERENCED PROJECTS PERFORMED MUST INCLUDE POST-TENSION REPAIRS THAT WERE SELF PERFORMED OR COMPLETED BY QUALIFIED SUBCONTRACTORS.

B. PHASING OF WORK & WORK RESTRICTIONS

1. BIDDERS SHALL INCLUDE A PRELIMINARY SITE UTILIZATION / PHASING PLAN WITH THEIR BID.

2. THE SUCCESSFUL CONTRACTOR SHALL SUBMIT COMPOSITE SITE UTILIZATION/PHASING PLANS FOR APPROVAL PRIOR TO MOBILIZATION. THE CONTRACTOR SHALL COORDINATE CLOSELY WITH THE ENGINEER AND THE OWNER WHILE DEVELOPING, MAINTAINING, AND REVISING THE PLANS AS NECESSARY. THE GARAGE WILL BE PARTIALLY OCCUPIED BY VEHICLES AND PEDESTRIANS DURING CONSTRUCTION. THE COMPOSITE PLANS SHALL SHOW TEMPORARY FACILITIES, TEMPORARY UTILITY AND CONNECTIONS, STAGING AND STORAGE AREAS, DELIVERIES, SITE ACCESS, TEMPORARY VEHICLE AND PEDESTRIAN CIRCULATION, CONSTRUCTION PHASING, SHORING, TEMPORARY FENCING, BARRICADES, SIGNAGE, FLAGMEN, ETC.

3. THE INTENT OF THE CONTRACTOR'S PHASING PLAN SHOULD BE TO DIVIDE THE WORK INTO THE LEAST NUMBER OF PHASES WHILE MAINTAINING VEHICLE ACCESSIBILITY TO ALL AREAS THAT ARE NOT BEING WORKED ON. THE SUCCESSFUL CONTRACTOR IS RESPONSIBLE FOR INCORPORATING ALL REQUIREMENTS AND SUBMITTING THE COMPOSITE SITE UTILIZATION/PHASING PLANS.

4. ALL WORK CAN BE COMPLETED DURING THE DAY, UNLESS NOTED OTHERWISE BY THE OWNER OR GARAGE OPERATOR OR BASED ON THE REQUIREMENTS OF THE AUTHORITY HAVING JURISDICTION. COMPLY WITH WORK HOUR RESTRICTIONS AND NOISE ORDINANCE OF THE AUTHORITY HAVING JURISDICTION.

5. ONE ELEVATOR MUST REMAIN IN SERVICE AND BE ACCESSIBLE AT ALL TIMES, UNLESS AN ALTERNATE ACCESSIBILITY PLAN IS SUBMITTED TO AND APPROVED BY THE AUTHORITY HAVING JURISDICTION.

6. STAIR TOWERS MUST REMAIN IN SERVICE AND BE ACCESSIBLE AT ALL TIMES, UNLESS AN ALTERNATE MEANS OF EGRESS PLAN IS SUBMITTED TO AND APPROVED BY THE AUTHORITY HAVING JURISDICTION.

7. THE MAXIMUM NUMBER OF SPACES THE CONTRACTORS MAY TAKE OUT OF SERVICE DURING NORMAL BUSINESS HOURS AND WEEKENDS, WITH THE EXCEPTION OF EVENTS, ARE AS FOLLOWS:

A.	SHOPPERS PARKING GARAGE	125 SPACES
B.	CRIMINAL JUSTICE CENTER PARKING GARAGE	150 SPACES
C.	PEABODY PARKING GARAGE	300 SPACES
D.	FIRST PLACE PARKING GARAGE	50 SPACES
E.	BARBORO FLATS PARKING GARAGE	20 SPACES

8. COMPLY WITH LIMITATIONS ON USE OF PUBLIC STREETS AND WITH OTHER REQUIREMENTS OF AUTHORITIES HAVING JURISDICTION.

9. THE CONTRACTOR SHOULD COORDINATE THE SHUTDOWN OF AREAS FOR THE APPLICATION OF WATERPROOFING TRADE MATERIALS WITH THE EXTENDED WEATHER FORECAST TO AVOID WEATHER-RELATED DELAYS.

10. PARKING AND PEDESTRIAN ACCESS AT THE LEVEL BELOW DEMOLITION WORK AND/OR STRUCTURAL REPAIRS SHALL BE TAKEN OUT OF SERVICE UNTIL REPAIRS ARE COMPLETE. PARKING AND PEDESTRIAN ACCESS AT THE LEVEL BELOW WATERPROOFING WORK SHALL BE TAKEN OUT OF SERVICE UNTIL WORK IS COMPLETE, UNLESS CONTRACTOR TAKES APPROPRIATE ACTIONS TO PROTECT PEDESTRIANS AND VEHICLES FROM HARM/DAMAGE.

11. REFER TO SPECIFICATION SECTION 011000 ("SUMMARY") FOR ADDITIONAL REQUIREMENTS AND RESTRICTIONS.

C. MEASUREMENT AND RECORD DRAWINGS

1. DO NOT SCALE DRAWINGS. VERIFY ALL DRAWING DIMENSIONS IN THE FIELD.

2. CONTRACTOR SHALL MEASURE TO THE NEAREST INCH AND RECORD THE REPAIR AREAS AND QUANTITIES PERFORMED.

3. ELECTRONIC COPIES OF THE DRAWINGS SHOWING THE ACTUAL SHAPE, LOCATION, AND SIZE OF THE REPAIRS AND A REPAIR TABULATION SPREADSHEET SHALL BE SUBMITTED BY THE CONTRACTOR TO THE ENGINEER AT THE END OF EACH PHASE OF THE PROJECT AND WITH EACH PAYMENT APPLICATION.

4. AT THE PROJECT CONCLUSION, SUBMIT ONE SET OF REPRODUCIBLE RECORD DRAWINGS IN A NEAT AND ORDERLY FASHION TO THE OWNER & ENGINEER SHOWING ALL REPAIRS PERFORMED. PROVIDE ONE HARD COPY AND AN ELECTRONIC COPY IN CAD OR PDF FORMAT.

D. GENERAL PREPARATION FOR CONCRETE REPAIRS

1. THE DRAWINGS INDICATE THE AREAS THAT HAVE BEEN DETERMINED TO REQUIRE REPAIR PER FIELD SURVEYS. CONTRACTOR SHALL SOUND SURFACES WITH HAMMER, ROD, CHAIN, OR APPROPRIATE TOOLS TO DETECT DELAMINATIONS AND SPALLS. ALL SUPPORTED STRUCTURAL ELEMENTS WITHIN THE GARAGE SHALL BE SOUNDED. THE LIMITS OF THE DELAMINATIONS SHALL BE MARKED FOR DEMOLITION. PRIOR TO REMOVAL, LIMITS OF REPAIR AREA SHALL BE REVIEWED BY ENGINEER IN THE FIELD. REPAIR QUANTITIES THAT DEVIATE FROM THAT SHOWN ON PLAN SHALL BE REPORTED IN WRITING TO THE ENGINEER AND OWNER FOR APPROVAL.

2. SAWCUT PERIMETER OF REPAIR AREA EDGES TO AVOID FEATHERED EDGES. REMOVE SPALLED AND UNSOUND CONCRETE WITHIN MARKINGS. EXTEND REPAIR AREAS WITH THE APPROVAL OF ENGINEER AND OWNER IF ADDITIONAL UNSOUND CONCRETE IS ENCOUNTERED. THE REPAIR EDGE SHALL BE EXTENDED A MINIMUM OF THREE INCHES BEYOND THE EXTENT OF CORRODED REINFORCING STEEL.

3. ALL REINFORCING IN GOOD CONDITION (SECTION LOSS LESS THAN 20%) WITHIN THE REPAIR AREA SHALL BE UNDERCUT PER DETAIL 9/R4.1, SANDBLASTED CLEAN, AND TREATED WITH CORROSION INHIBITING COATING MATERIALS PER SPECIFICATIONS. ALL REINFORCING WITH SECTION LOSS GREATER THAN 20% WITHIN THE REPAIR AREA SHALL BE REPLACED WITH EQUAL REINFORCEMENT; DEVELOP TENSILE STRENGTH OF REPLACEMENT REINFORCEMENT BY SPLICING TO REINFORCING IN "GOOD CONDITION" OR BY DOWELING INTO SOUND CONCRETE AT PERIMETER OF REPAIR AREA USING ADHESIVE EPOXY ANCHORING SYSTEM.

4. WATERBLAST OR SANDBLAST THE CAVITY SURFACES TO REMOVE ALL DEBRIS AND CONTAMINANTS. AIRBLAST AS THE FINAL STEP TO REMOVE REMAINING DEBRIS.

E. CONCRETE REMOVAL

1. CHIPPING HAMMERS SHALL BE SIZED SO THAT THE UNSOUND CONCRETE CAN BE REMOVED IN AN EFFICIENT MANNER WITHOUT DAMAGING THE ADJACENT SOUND CONCRETE. DO NOT CUT INTO OR DAMAGE EMBEDDED REINFORCING AND OTHER EMBEDDED ITEMS SUCH AS CONDUITS.

2. CHIPPING SHALL CONTINUE UNTIL ALL UNSOUND CONCRETE HAS BEEN REMOVED PER REPAIR DETAIL SHEET NOTES.

F. CONCRETE (FOR REPAIRS GREATER THAN 3 INCHES THICK)

1. CONCRETE SHALL MEET THE FOLLOWING CRITERIA:

   28 DAY COMPRESSIVE DESIGN STRENGTH: 5000 PSI (MIN.)

   MAXIMUM W/C RATIO OF 0.4

   PORTLAND CEMENT CONCRETE (REGULAR OR HI-EARLY), TYPE I OR III

   AGGREGATE TO CONFORM TO ASTM C33

   AGGREGATE: #8, 1/2 INCH (MAXIMUM AGGREGATE SIZE)

   SUPERPLASTICIZED

   AIR ENTRAINED: 6 1/2 ± 1 1/2%

   SLUMP: 4±1 INCH (BEFORE ADDING SUPERPLASTICIZER)

   SYNTHETIC FIBER: 1.5 LB./C.Y. OF CONCRETE, MINIMUM

   3 GAL. OF CALCUIM NITRITE CORROSION INHIBITOR PER CU. YD. OF CONC.

2. CONTRACTOR SHALL SUBMIT MIX DESIGN FOR ENGINEER'S APPROVAL. ADMIXTURES SHALL NOT BE CHANGED FROM THE APPROVED MIX DESIGN WITHOUT THE ENGINEER'S APPROVAL.

3. CONFORM TO THE REQUIREMENTS OF ACI 301 AND ACI 318, LATEST EDITION.

4. THE FIELD QUALITY CONTROL TESTING SHALL BE PERFORMED BY AN INDEPENDENT TESTING AGENCY HIRED BY OWNER:

   AIR ENTRAINMENT AND SLUMP TESTS FOR EVERY BATCH

   COMPRESSION STRENGTH TESTS ON EVERY 50 C.Y. POUR AND IN ACCORDANCE WITH ACI 318, LATEST EDITION.

5. APPLY ACCEPTABLE BONDING AGENT PRODUCTS PER SPECIFICATION SECTION 033000 & SECTION 039300. DO NOT ALLOW TO DRY BEFORE PLACING CONCRETE.

6. CONCRETE SHALL BE CONSOLIDATED AND CURED PER SPECIFICATIONS. IF CURING COMPOUND IS USED, IT SHALL BE REMOVED BY WATER-BLASTING OR SHOT-BLASTING PRIOR TO THE APPLICATION OF SURFACE WATERPROOFING MEASURES.

7. FOR CONCRETE REPAIRS LESS THAN OR EQUAL TO 3 INCHES THICK, USE CEMENTITIOUS PATCHING MATERIAL PER SPECIFICATION SECTION 039300.

G. REINFORCEMENT

1. ALL NEW REINFORCEMENT SHALL COMPLY WITH ASTM A615 GR. 60.

2. WELDED WIRE FABRIC SHALL BE PER ASTM A185 OR A497. USE MATS ONLY, ROLL STOCK IS NOT PERMITTED.

3. ALL REINFORCING SHALL HAVE THE MINIMUM COVER PER ACI 318, LATEST EDITION.

4. ALL EXISTING EXPOSED STEEL SHALL BE COATED WITH CORROSION INHIBITING TREATMENT IN ACCORDANCE WITH SPECIFICATION SECTION 039300.

H. EMBEDDED GALVANIC ANODES

1. REFER TO CONCRETE REPAIR DETAILS SUCH AS TYPE PFR & FFR FOR LOCATIONS WHERE ANODES ARE REQUIRED. REFER TO SPECIFICATION SECTION 039300 FOR ADDITIONAL REQUIREMENTS.

2. CONTRACTOR SHALL ONLY ORDER 25% OF REQUIRED ANODES AT BEGINNING OF PROJECT ONCE SUBMITTAL HAS BEEN APPROVED BY ENGINEER. ENGINEER WILL GIVE DIRECTION FOR THE CONTRACTOR TO ORDER ADDITIONAL ANODES AFTER THEIR USE AND NECESSITY HAS BEEN IDENTIFIED DURING THE EARLY STAGES OF THE REPAIR WORK. CONTRACTOR TO INFORM ENGINEER IF A LONG LEAD TIME IS EXPECTED ON THE ANODE ORDERS.

I. ADHESIVE ANCHORS / DOWEL AND MECHANICAL ANCHORS INSTALLED IN CONCRETE OR MASONRY AS REQUIRED

1. MECHANICAL ANCHORS SHALL BE HILTI KWIK BOLT TZ OR EQUAL, U.N.O.

2. ADHESIVE ANCHORS / DOWELS SHALL BE HILTI HIT HY 200 OR EQUAL, U.N.O.

3. ANCHORS, WASHERS, AND NUTS SHALL BE HOT DIP GALVANIZED OR TYPE 316 STAINLESS STEEL AND MUST BE SELECTED TO ASSURE COMPATIBILITY WITH THE BASE MATERIAL AND PREVENT CORROSION DUE TO DISSIMILAR METALS.

4. WHEN INSTALLING ANCHORS / DOWELS IN EXISTING CONCRETE OR MASONRY, EXERCISE CAUTION TO AVOID CUTTING OR DAMAGING THE EXISTING REINFORCING.

5. PREPARATION AND INSTALLATION OF THE ANCHORS / DOWELS SHALL BE IN ACCORDANCE WITH THE SPECIFICATIONS AND THE MANUFACTURER'S WRITTEN INSTRUCTIONS. INCLUDE COST OF MANUFACTURER REPRESENTATIVE'S SUPERVISION DURING PREPARATION, INSTALLATION, AND PULL TESTS. THE MANUFACTURER'S REPRESENTATIVE SHALL PROVIDE A REPORT OF THEIR OBSERVATIONS, ANY CORRECTIVE ACTIONS THAT WERE REQUIRED AND IF THE PREPARATION, INSTALLATION, AND PULL TESTS ARE IN CONFORMANCE WITH THE MANUFACTURER'S WRITTEN REQUIREMENTS.

6. FIELD QUALITY CONTROL

   a. OWNER WILL ENGAGE A QUALIFIED TESTING AGENCY TO PERFORM THE FIELD TESTS AND INSPECTIONS.

   b. ANCHORS AND DOWELS INSTALLED HORIZONTALLY, IN OVERHEAD, OR UPWARDLY INCLINED ORIENTATIONS, OR ANY ANCHOR OR DOWEL THAT RESISTS SUSTAINED TENSION LOADS.

      b.1. PROVIDE CONTINUOUS SPECIAL INSPECTIONS.
      b.2. PERFORM PROOF PULL TESTS ON 50% OF ANCHORS AND DOWELS.

   c. PROOF PULL TEST LOAD SHALL BE THE MEAN ULTIMATE ANCHOR TENSION STRENGTH. COORDINATE TESTING REQUIREMENTS WITH MANUFACTURER'S REPRESENTATIVE.

J. STRUCTURAL STEEL

1. MATERIAL PROPERTIES - STRUCTURAL STEEL: (U.N.O.)

TYPE	Fy, PSI	ASTM NO.
W-SHAPE	50,000	A992
CONNECTION STEEL	36,000	A36
STEEL PIPES	35,000	A53, GRADE B
COLD FORMED STEEL	33,000	A924
WELDING ELECTRODES	E70XX	AWS D1.1, D1.6 OR D19.0
HIGH STRENGTH BOLTS	120,000 (Fu, PSI)	A325
STRUCTURAL TUBES	46,000	A500, GRADE B

1. STRUCTURAL STEEL FABRICATION, ERECTION, AND CONNECTION DESIGN SHALL CONFORM TO AISC "STEEL CONSTRUCTION MANUAL", LATEST EDITION.

2. SUBMIT SHOP DRAWINGS FOR APPROVAL PRIOR TO ANY FABRICATION.

3. ALL EXTERIOR STEEL MEMBERS AND CONNECTIONS SHALL BE PAINTED WITH RUST-INHIBITING PRIMER OR HOT-DIP GALVANIZED, AND PAINTED PER SPECIFICATIONS. DO NOT GALVANIZE OR PAINT SURFACES TO BE FIELD WELDED. TOUCH UP ALL FIELD WELDS WITH RUST-INHIBITING PRIMER OR GALVANIZING REPAIR PAINT AND PAINT PER SPECIFICATIONS. REFER TO AWS D19.0 FOR ADDITIONAL INFO.

4. BOLTED CONNECTIONS:

   a. ALL BOLTED CONNECTIONS SHALL BE MADE WITH 3/4" DIA. ASTM A325 BOLTS WITH ASTM F436 WASHERS AND ASTM A563 NUTS, U.N.O.

   b. ALL HIGH-STRENGTH BOLT CONNECTIONS SHALL CONFORM TO "SPECIFICATIONS FOR STRUCTURAL JOINT USING ASTM A325 BOLTS" AS ENDORSED BY AISC.

   c. HIGH-STRENGTH BOLTED CONNECTIONS SHALL BE BEARING TYPE WITH THREADS ALLOWED IN THE SHEAR PLANE, U.N.O.

   d. HIGH-STRENGTH BOLTS SHALL BE SNUG-TIGHTENED, UNLESS REQUIRED BY AISC SPECIFICATIONS TO BE FULLY PRETENSIONED OR NOTED AS PRETENSIONED ON THE DRAWINGS. PRETENSION BOLTS WITH A CALIBRATED TORQUE WRENCH OR BY THE "TURN OF THE NUT" METHOD.

5. ALL WELDING SHALL CONFORM TO AWS D1.1 OR AWS D19.0 (GALVANIZED STEEL), LATEST EDITION.

K. SEALANT

1. REFER TO SPECIFICATION SECTIONS 079020 FOR ACCEPTABLE JOINT SEALANTS.

2. REMOVE AND PROPERLY DISPOSE OF EXISTING SEALANT AND APPLY NEW SEALANT TO MATCH EXISTING COLOR. SAMPLES SHALL BE PROVIDED FOR ENGINEER'S & OWNER'S REVIEW AND APPROVAL.

3. JOINT EDGES SHALL BE WATER-BLASTED, SANDBLASTED, OR OTHERWISE CLEANED AND PREPARED PRIOR TO THE SEALANT APPLICATION.

4. PRIMER SHALL BE APPLIED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS PRIOR TO APPLICATION OF NEW SEALANT.

L. EXPANSION JOINT SYSTEMS

1. REFER TO SPECIFICATION SECTION 079020 FOR ACCEPTABLE EXPANSION JOINT SYSTEM AND INSTALLATION PROCEDURES.

2. JOINT EDGES AND BLOCKOUTS SHALL BE SANDBLASTED OR PREPARED ACCORDING TO THE MANUFACTURER'S REQUIREMENTS PRIOR TO THE EXPANSION JOINT APPLICATION.

M. PAINTING

1. TRAFFIC MARKING PAINT (LINE STRIPING AND TRAFFIC ARROWS)

   a. CONTRACTOR SHALL REPLACE ALL TRAFFIC MARKINGS (LINE STRIPING AND TRAFFIC ARROWS) THAT ARE WITHIN THE REPAIR WORK. THE CONTRACTOR SHALL DOCUMENT THE EXISTING LAYOUT PRIOR TO CONSTRUCTION, AND AT THE COMPLETION OF REPAIRS PROVIDE THE TRAFFIC MARKINGS TO MATCH SIZE AND LOCATION. REMOVE EXISTING PAINT BY SHOT-BLASTING.

N. MECHANICAL/ELECTRICAL/PLUMBING/FIRE PROTECTION SYSTEMS, EQUIPMENT, & SERVICES (MEP&FP SES)

1. CONTRACTOR SHALL TAKE NECESSARY PRECAUTIONS TO PROTECT ALL EXISTING MEP&FP SES. CONTRACTOR SHALL REVIEW ALL REPAIR AREAS PRIOR TO COMMENCING EACH PHASE OF THE WORK AND NOTIFY ENGINEER IF REMOVAL, REPLACEMENT OR RELOCATION OF MEP&FP SES IS NECESSARY TO COMPLETE THE WORK. IF MEP&FP WORK IS NECESSARY, INCLUDE THE PROPOSED SCOPE AND ESTIMATED COST. APPROVED MEP&FP WORK SHALL BE PERFORMED BY THE CONTRACTOR OR ITS APPROVED SUBCONTRACTOR AND BILLED AGAINST THE MEP&FP SES ALLOWANCE.

2. EMBEDDED CONDUITS WITHIN REPAIR AREA SHALL BE LOCATED, MARKED, AND DE-ENERGIZED PRIOR TO DEMOLITION.

3. SPECIAL CARE SHALL BE TAKEN TO PREVENT CLOGGING EXISTING DRAINS.

4. AFTER WORK IS COMPLETE, CONTRACTOR SHALL BE RESPONSIBLE FOR CLEANING ANY EXISTING DRAIN SYSTEMS THAT HAVE BEEN CLOGGED BY CONSTRUCTION ACTIVITIES.

O. EXAMINATION PRIOR TO CUTTING, DRILLING, AND CORING THROUGH STRUCTURE

1. DO NOT CUT, DRILL, OR CORE THROUGH ANY STRUCTURAL ELEMENT WITHOUT PRIOR WRITTEN APPROVAL FROM THE ENGINEER, U.N.O.

2. THE CONTRACTOR SHALL SCAN THE CONCRETE AT ALL LOCATIONS OF PROPOSED CUTS AND PENETRATIONS TO LOCATE AND MARK ALL EMBEDDED OBJECTS INCLUDING, BUT NOT LIMITED TO, REINFORCING, PRESTRESS OR POST-TENSION STRANDS, CONNECTIONS, ELECTRICAL CONDUIT, AND ANY OTHER HARDWARE/EQUIPMENT. SCANNING SHALL BE PERFORMED BY A CERTIFIED TECHNICIAN USING A PACHOMETER OR GROUND PENETRATING RADAR TYPE SCANNER. CALIBRATE THE SCANNER AT THE BEGINNING OF EACH SHIFT AND WHEN CONDITIONS CHANGE. LOCATE AT LEAST THREE REINFORCING BARS USING THE SCANNER, AND HAMMER DRILL TEST HOLES TO DETERMINE DEPTH OF COVER. CALIBRATE SCANNER USING THE DEPTH OF COVER MEASUREMENTS.

3. ADJUST LOCATIONS OF CUTS AND PENETRATIONS AS REQUIRED TO AVOID EMBEDDED OBJECTS.

4. SUBMIT SCANNING REPORT(S), INCLUDING PHOTOGRAPHS AND SCALED DRAWINGS AND/OR SKETCHES TO ENGINEER FOR APPROVAL. ALLOW SEVEN DAYS FOR ENGINEER TO REVIEW AND APPROVE OR COMMENTS ON THE PROPOSED CUTS AND PENETRATIONS. ADJUST THE LOCATIONS AS DIRECTED BY THE ENGINEER.

5. USE HAMMER DRILLS WHEN POSSIBLE; DO NOT CORE DRILL UNLESS THE SCANNING OPERATION HAS CLEARLY SHOWN THAT THE AREA IS FREE OF EMBEDDED OBJECTS.

6. DO NOT CUT THROUGH OR DAMAGE THE EMBEDDED OBJECTS INCLUDING, BUT NOT LIMITED TO, REINFORCING, PRESTRESS OR POST-TENSION STRANDS, CONNECTIONS, ELECTRICAL CONDUIT, AND ANY OTHER HARDWARE/EQUIPMENT.

P. ABBREVIATIONS

A.B.	ANCHOR BOLTS	H.A.S.	HEADED ANCHOR STUDS
A.F.F.	ABOVE FINISHED FLOOR	H.M.	HOLLOW METAL
ALT.	ALTERNATE	HOR.	HORIZONTAL
ARCH.	ARCHITECT	HT.	HEIGHT
BET.	BETWEEN	H.V.A.C.	HEATING, VENTILATION & AIR CONDITIONING
BIT.	BITUMINOUS		
BOTT.	BOTTOM	I.D.	INSIDE DIAMETER
BRG.	BEARING	INFO.	INFORMATION
C.I.P.	CAST-IN-PLACE	INSUL.	INSULATION
C.J.	CONTROL JOINT / CONSTRUCTION JOINT	INT.	INTERIOR
		INV.	INVERT
CL./CLR.	CLEAR	JT.	JOINT
C.M.	CONSTRUCTION MANAGER	LBS.	POUNDS
C.M.U.	CONCRETE MASONRY UNIT	LIN.	LINEAL
COL.	COLUMN	MAX.	MAXIMUM
CONC.	CONCRETE	MECH.	MECHANICAL
CONN.	CONNECTION	MFR.	MANUFACTURER
CONT.	CONTINUOUS	MIN.	MINIMUM
CONTR.	CONTRACTOR	MISC.	MISCELLANEOUS
D.B.A.	DEFORMED BAR ANCHOR	MSB	MEDIUM SAND BLAST
DET.	DETAIL	MTL.	METAL
DIA.	DIAMETER	(N)	NEW
DIM.	DIMENSION	N.F.	NEAR FACE
DN.	DOWN	N.I.C.	NOT IN CONTRACT
D.O.	DOOR OPENING	NOM.	NOMINAL
DWG(S).	DRAWING(S)	N.S.N.S.	NON-SHRINK, NON-STAIN
(E)	EXISTING	N.T.S.	NOT TO SCALE
EA.	EACH	O.C., O/C	ON CENTERS
E.B.F.	ELEVATION BOTTOM OF FOOTING	O.D.	OUTSIDE DIAMETER
E.B.P.	ELEVATION BOTTOM OF PIER	O.H.	OPPOSITE HAND
E.F.	EACH FACE	P/C	PRECAST CONCRETE
E.F.G.	ELEVATION FINISHED GRADE	PL.	PLATE
E.J.	EXPANSION JOINT	PSI	POUNDS PER SQUARE INCH
EL./ELEV.	ELEVATION	PSF	POUNDS PER SQUARE FOOT
ELEC.	ELECTRICAL	P/T	POST-TENSIONED
E.T.B.	ELEVATION TOP OF BEAM	R.D.	ROOF DRAIN
E.T.C.	ELEVATION TOP OF PILE OR DRILLED PIER CAP	REINF.	REINFORCEMENT/REINFORCING
		REQ'D	REQUIRED
E.T.F.	ELEVATION TOP OF FOOTING	RM.	ROOM
E.T.L.	ELEVATION TOP OF LEDGE	R.O.	ROUGH OPENING
E.T.P.	ELEVATION TOP OF PIER	SCHED.	SCHEDULE
E.T.P/C.	ELEVATION TOP OF PRECAST	SECT.	SECTION
E.T.S.	ELEVATION TOP OF SLAB	SHT.	SHEET
E.T.W.	ELEVATION TOP OF WALL	SIM.	SIMILAR
E.W.	EACH WAY	S.O.G.	SLAB-ON-GRADE
E.W.E.F.	EACH WAY, EACH FACE	SPECS.	SPECIFICATIONS
E.W.P.	ELEVATION WORKING POINT	SQ.	SQUARE
EXIST.	EXISTING	S.S.	STAINLESS STEEL
EXT.	EXTERIOR	STD.	STANDARD
F.D.	FLOOR DRAIN	STL.	STEEL
F.E.	FIRE EXTINGUISHER	T & B	TOP AND BOTTOM
F.F.	FAR FACE	T.B.D.	TO BE DETERMINED
FDN.	FOUNDATION	TYP.	TYPICAL
FIN.	FINISH	U.N.	UNLESS NOTED
FL./FLR.	FLOOR	VERT.	VERTICAL
FTG.	FOOTING	V.I.F.	VERIFY IN FIELD
GA.	GAUGE	W/	WITH
GALV.	GALVANIZED	W/O	WITHOUT
G.B.	GRADE BEAM	W.P.	WORKING POINT
G.C.	GENERAL CONTRACTOR	WT.	WEIGHT
GR.	GRADE	WWF	WELDED WIRE FABRIC
G.W.B.	GYPSUM WALL BOARD	WWR	WELDED WIRE REINFORCEMENT

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PROFESSIONAL SEAL

CONSULTANT

PROJECT NO.
ATL23110.01

PROJECT

MEMPHIS DOWNTOWN PARKING FACILITIES

2024 RESTORATION

SUBMISSIONS / REVISIONS
03/08/2024
ISSUED FOR BID

NO.	DESCRIPTION	DATE

DRAWN: DJB
REVIEWED: SHH
DATE: 03/08/2024

SHEET TITLE:
RESTORATION GENERAL NOTES

SHEET NO.
R0.1

SCOPE OF WORK AND BIDDING QUANTITIES

THE FOLLOWING INFORMATION SHALL BE USED BY THE BIDDER FOR ASSISTANCE IN PREPARING THE BID. THE ITEMS NOTED AS UNIT PRICE WORK SHALL BE BID IN ACCORDANCE WITH THE QUANTITIES SHOWN FOR THE BASE BID. THE CONTRACT PRICE WILL BE ADJUSTED TO REFLECT THE ACTUAL QUANTITY OF WORK PERFORMED. THE UNIT PRICES WILL BE USED TO INCREASE OR DECREASE THE CONTRACT SUM.

THE REPAIR AREAS INDICATED ON THE DRAWINGS ARE A GENERAL INDICATION OF WHERE THE ENGINEER'S SURVEYS HAVE NOTED POSSIBLE REPAIR LOCATIONS. THE CONTRACTOR SHALL NOT MAKE ANY ASSUMPTIONS OF REPAIR LOCATIONS, SIZES, OR OVERALL QUANTITIES BASED UPON THE INFORMATION ON PLANS. THE PROCEDURE FOR DETERMINING THE REPAIR LOCATIONS ARE EXPLAINED IN THE GENERAL NOTES AND SPECIFICATIONS. ALL WORK SHALL BE PERFORMED BASED ON THE GENERAL CONDITIONS SET FORTH IN THE PROJECT SPECIFICATIONS.

(*) THE CONTINGENT REPAIR QUANTITIES ARE INCLUDED IN THE TOTAL BASE BID QUANTITY. THE EXACT LOCATION AND QUANTITIES OF REPAIRS SHALL BE FIELD VERIFIED BY THE CONTRACTOR AND APPROVED BY THE ENGINEER. CONTRACTOR SHALL ONLY ORDER 25% OF REQUIRED MATERIALS AT BEGINNING OF PROJECT ONCE SUBMITTAL HAS BEEN APPROVED BY ENGINEER. CONTRACTOR SHALL ORDER ADDITIONAL MATERIALS AFTER THEIR USE AND NECESSITY HAS BEEN IDENTIFIED DURING THE EARLY STAGES OF THE REPAIR WORK. CONTRACTOR TO INFORM THE ENGINEER/OWNER IF A LONG LEAD TIME IS EXPECTED ON THE MATERIAL ORDERS.

BID QUANTITY TABLE

REPAIR ITEM TYPE	REPAIR ITEM	UNIT OF MEASURE	CJC BASE BID QUANTITIES	PEABODY BASE BID QUANTITIES	FIRST PLACE BASE BID QUANTITIES	TOTALS	REPAIR REFERENCE	UNIT PRICE NUMBER
PFR	PARTIAL DEPTH FLOOR REPAIR	SF	832	243	0	1075	1/R4.1	1
FFR	FULL DEPTH FLOOR REPAIR	SF	0	0	0	0	2/R4.1	2
OSR	OVERHEAD SURFACE REPAIR	SF	85	100	0	185	3/R4.1	3
OBR	OVERHEAD BEAM REPAIR	SF	18	0	1	19	4/R4.1	4
VR	VERTICAL REPAIR	SF	16	46	1	63	6/R4.1	5
CR	COLUMN REPAIR	SF	2	0	0	2	5/R4.1	6
HRG	HAUNCH REPAIR AT GIRDER	EA	2	0	0	2	3/R4.2	7
GBPR	GIRDER BEARING PAD REPLACEMENT	EA	1	0	0	1	4/R4.2	8
TSR1	TEE STEM REPAIR - NON-DAPPED END	EA	0	1	0	1	5/R4.2	9
PTR	P/T TENDON SPLICE REPAIR	EA	39	0	2	41	1/R4.2	10
EJ	EXPANSION JOINT REPLACEMENT	LF	0	482	0	482	1/R4.3	11
EJN	EXPANSION JOINT NOSING REPAIR	LF	0	0	0	0	1/R4.3	12
EJB1	EXPANSION JOINT BLOCKOUT REPAIR	LF	0	0	0	0	2/R4.3	13
EJB2	EXPANSION JOINT BLOCKOUT REPAIR	LF	0	0	0	0	2/R4.3	14
BCR	BARRIER CABLE REPAIR	EA	0	0	39	39	8/R4.1	15
PBI	PIPE BOLLARD INSTALLATION	EA	0	0	406	406	7/R4.1	16
GA	GALVANIC ANODES (*)	EA	200	30	0	230	H/R0.1	17
PCR	P/C PANEL CONNECTION REPAIR	EA	9	0	0	9	8/R4.2	18
FCS	STATIC FLOOR CRACK REPAIR	LF	0	2923	0	2923	9/R4.2	19
TCAU	TRAFFIC DECK COATING APPLICATION - URETHANE	SF	0	964	0	964	4/R4.3	20
COR	CONCRETE OVERLAY REPAIR	SF	0	200	0	200	10/R4.3	21
SFD	SUPPLEMENTAL FLOOR DRAIN	EA	0	3	0	3	9/R4.3	22
STA	SHEAR TRANSFER ANGLE	EA	0	80	0	80	7/R4.3	23
TTC5	TEE-TO-TEE CONNECTION REPAIR (ANGLE CONNECTION) (*)	EA	0	100	0	100	6/R4.3	24
SR	SEALANT REPLACEMENT	LF	0	18216	0	18216	8/R4.3	25
VSR	VERTICAL SEALANT REPLACEMENT	LF	0	2908	0	2908	8/R4.3	26
RGI	RAILING/GAURDRAIL INSTALLATION	LF	0	20	0	20	10/R4.2	27
LS	LINE STRIPING AT SPOT REPAIRS	EA	1	0	0	1	M.1/R0.1	28

NOTES:
1. FOR BID PURPOSES ONLY, THE CONTRACTOR SHALL PROVIDE UNIT PRICES FOR ZERO (0) QUANTITY REPAIR ITEMS.
2. MEP & FP ALLOWANCE TO BE $10,000.00.
3. THE QUANTITY OF ITEMS (*) IS A CONTINGENCY. THE ACTUAL LOCATION SHALL BE DETERMINED PER FIELD CONDITION BY THE CONTRACTOR AND SHALL BE VERIFIED BY THE ENGINEER.

LEGEND

FLOOR REPAIR

REPAIR TYPE OF REFERENCE — XX-X (#) — # OF LOCATIONS PER REFERENCE; QUANTITY

OVERHEAD REPAIR

REPAIR TYPE OF REFERENCE — XX-X (#) — # OF LOCATIONS PER REFERENCE; QUANTITY

VERTICAL REPAIR

REPAIR TYPE OF REFERENCE — XX-X (#) — # OF LOCATIONS PER REFERENCE; QUANTITY

REPAIR AREAS ON PLAN ARE DEPICTED ON THE FOLLOWING SURFACES:

PLAN — OVERHEAD; VERTICAL; FLOOR

- PARTIAL DEPTH FLOOR REPAIR
- OVERHEAD SURFACE OR BEAM REPAIR
- TEE STEM REPAIR
- P/T TENDON SPLICE REPAIR
- EXPANSION JOINT REPLACEMENT
- BARRIER CABLE REPAIR
- STATIC FLOOR CRACK REPAIR
- SUPPLEMENTAL FLOOR DRAIN
- CONCRETE OVERLAY REPAIR

FLOOR REPAIR

PFR	PARTIAL DEPTH FLOOR REPAIR
PTR	P/T TENDON SPLICE REPAIR
EJ	EXPANSION JOINT REPLACEMENT
PBI	PIPE BOLLARD INSTALLATION
FCS	STATIC FLOOR CRACK REPAIR
TCAU	TRAFFIC DECK COATING APPLICATION - URETHANE
COR	CONCRETE OVERLAY REPAIR
SFD	SUPPLEMENTAL FLOOR DRAIN
TTC5	TEE-TO-TEE CONNECTION REPAIR (ANGLE CONNECTION) (*)
SR	SEALANT REPLACEMENT

OVERHEAD REPAIR

OSR	OVERHEAD SURFACE REPAIR
OBR	OVERHEAD BEAM REPAIR
GBPR	GIRDER BEARING PAD REPLACEMENT
TSR1	TEE STEM REPAIR - NON-DAPPED END
STA	SHEAR TRANSFER ANGLE

VERTICAL REPAIR

VR	VERTICAL REPAIR
CR	COLUMN REPAIR
HRG	HAUNCH REPAIR AT GIRDER
BCR	BARRIER CABLE REPAIR
PCR	P/C PANEL CONNECTION REPAIR
VSR	VERTICAL SEALANT REPLACEMENT
RGI	RAILING/GAURDRAIL INSTALLATION

- PIPE BOLLARD INSTALLATION
- P/C PANEL CONNECTION REPAIR
- SHEAR TRANSFER ANGLE
- TRAFFIC DECK COATING APPLICATION
- RAILING/GAURDRAIL INSTALLATION

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PROFESSIONAL SEAL

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PROJECT NO.
ATL23110.01

PROJECT

MEMPHIS DOWNTOWN PARKING FACILITIES

2024 RESTORATION

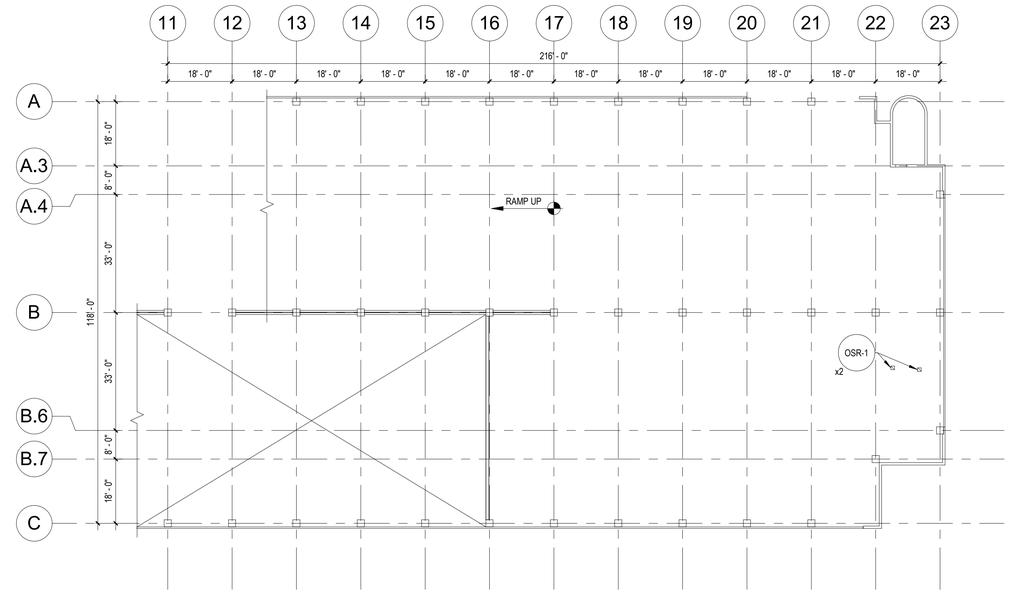
SUBMISSIONS / REVISIONS
03/08/2024
ISSUED FOR BID

NO.	DESCRIPTION	DATE

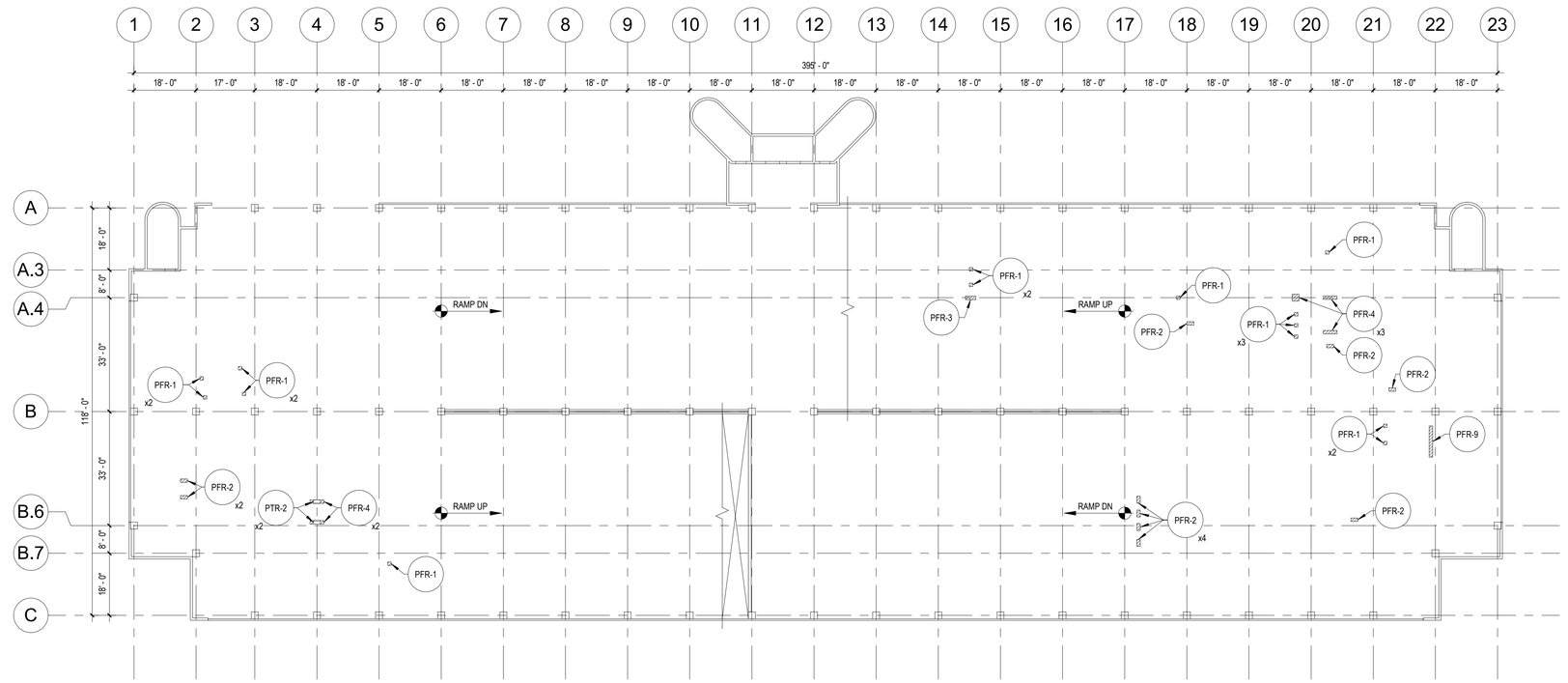
DRAWN: DJB
REVIEWED: SHH
DATE: 03/08/2024

SHEET TITLE:
SCOPE OF WORK & BID QUANTITY TABLE

SHEET NO.
R0.2



1 R1.1 CRIMINAL JUSTICE GROUND TIER RESTORATION PLAN (OVERHEAD)
1" = 20'-0"



2 R1.1 CRIMINAL JUSTICE SECOND TIER RESTORATION PLAN (FLOOR & OVERHEAD)
1" = 20'-0"

LEGEND

FLOOR REPAIR

REPAIR TYPE OF REFERENCE — XX-X (#) — # OF LOCATIONS PER REFERENCE / QUANTITY

OVERHEAD REPAIR

REPAIR TYPE OF REFERENCE — XX-X (#) — # OF LOCATIONS PER REFERENCE / QUANTITY

VERTICAL REPAIR

REPAIR TYPE OF REFERENCE — XX-X (#) — # OF LOCATIONS PER REFERENCE / QUANTITY

REPAIR AREAS ON PLAN ARE DEPICTED ON THE FOLLOWING SURFACES:

PLAN — OVERHEAD / VERTICAL / FLOOR

- PARTIAL DEPTH FLOOR REPAIR
- OVERHEAD SURFACE OR BEAM REPAIR
- TEE STEM REPAIR
- P/T TENDON SPLICE REPAIR
- EXPANSION JOINT REPLACEMENT
- BARRIER CABLE REPAIR
- STATIC FLOOR CRACK REPAIR
- SUPPLEMENTAL FLOOR DRAIN
- CONCRETE OVERLAY REPAIR

FLOOR REPAIR

PFR	PARTIAL DEPTH FLOOR REPAIR
PTR	P/T TENDON SPLICE REPAIR
EJ	EXPANSION JOINT REPLACEMENT
PBI	PIPE BOLLARD INSTALLATION
FCS	STATIC FLOOR CRACK REPAIR
TCAU	TRAFFIC DECK COATING APPLICATION - URETHANE
COR	CONCRETE OVERLAY REPAIR
SFD	SUPPLEMENTAL FLOOR DRAIN
TTC5	TEE-TO-TEE CONNECTION REPAIR (ANGLE CONNECTION) (*)
SR	SEALANT REPLACEMENT

OVERHEAD REPAIR

OSR	OVERHEAD SURFACE REPAIR
OBR	OVERHEAD BEAM REPAIR
GBPR	GIRDER BEARING PAD REPLACEMENT
TSR1	TEE STEM REPAIR - NON-DAPPED END
STA	SHEAR TRANSFER ANGLE

VERTICAL REPAIR

VR	VERTICAL REPAIR
CR	COLUMN REPAIR
HRG	HAUNCH REPAIR AT GIRDER
BCR	BARRIER CABLE REPAIR
PCR	P/C PANEL CONNECTION REPAIR
VSR	VERTICAL SEALANT REPLACEMENT
RGI	RAILING/GAURDRAIL INSTALLATION

- PIPE BOLLARD INSTALLATION
- P/C PANEL CONNECTION REPAIR
- SHEAR TRANSFER ANGLE
- TRAFFIC DECK COATING APPLICATION
- RAILING/GAURDRAIL INSTALLATION

NOTES:
1. ASSUME 2 SF OF PARTIAL DEPTH FLOOR REPAIR (PFR) AT EACH P/T TENDON SPLICE REPAIR (PTR), U.N.O.

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PROJECT

MEMPHIS DOWNTOWN PARKING FACILITIES

2024 RESTORATION

CJC PARKING GARAGE

SUBMISSIONS / REVISIONS
03/08/2024
ISSUED FOR BID

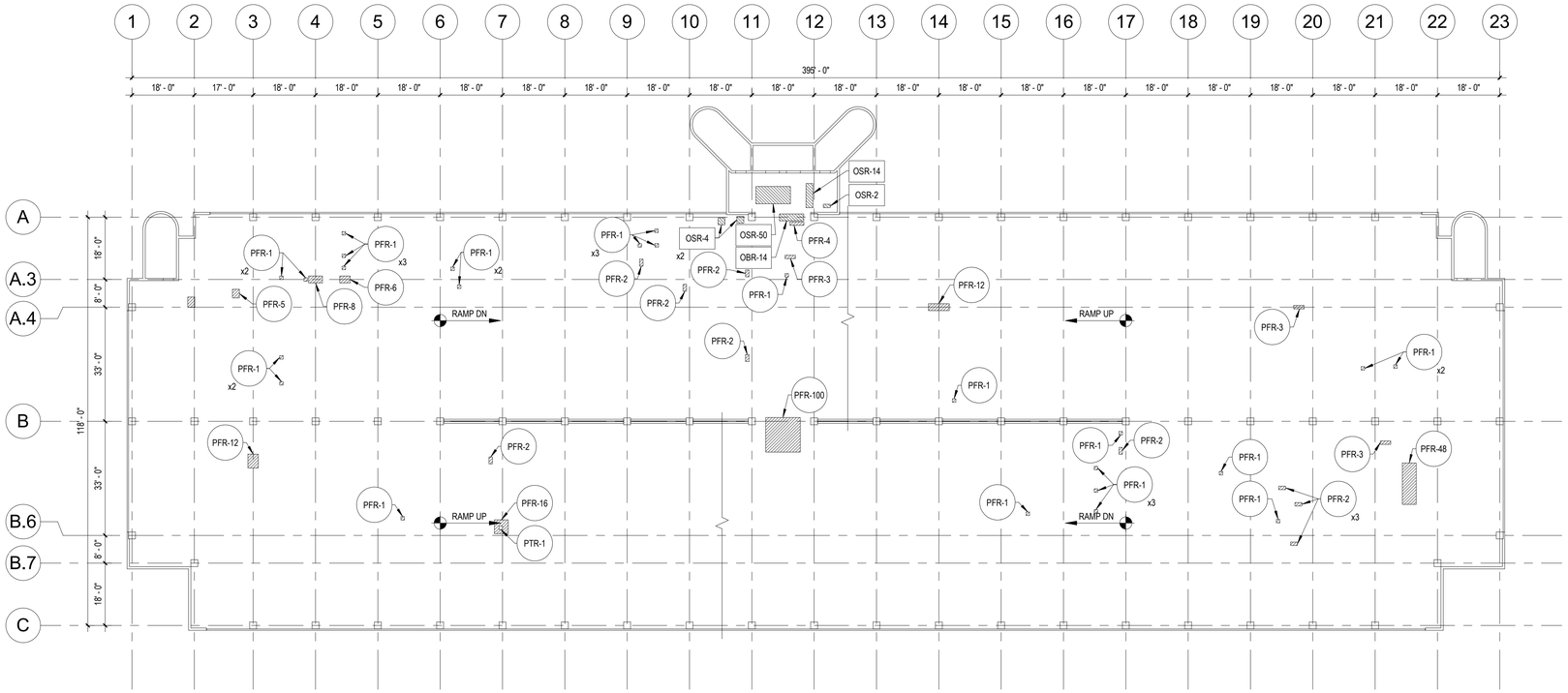
NO.	DESCRIPTION	DATE

NORTH

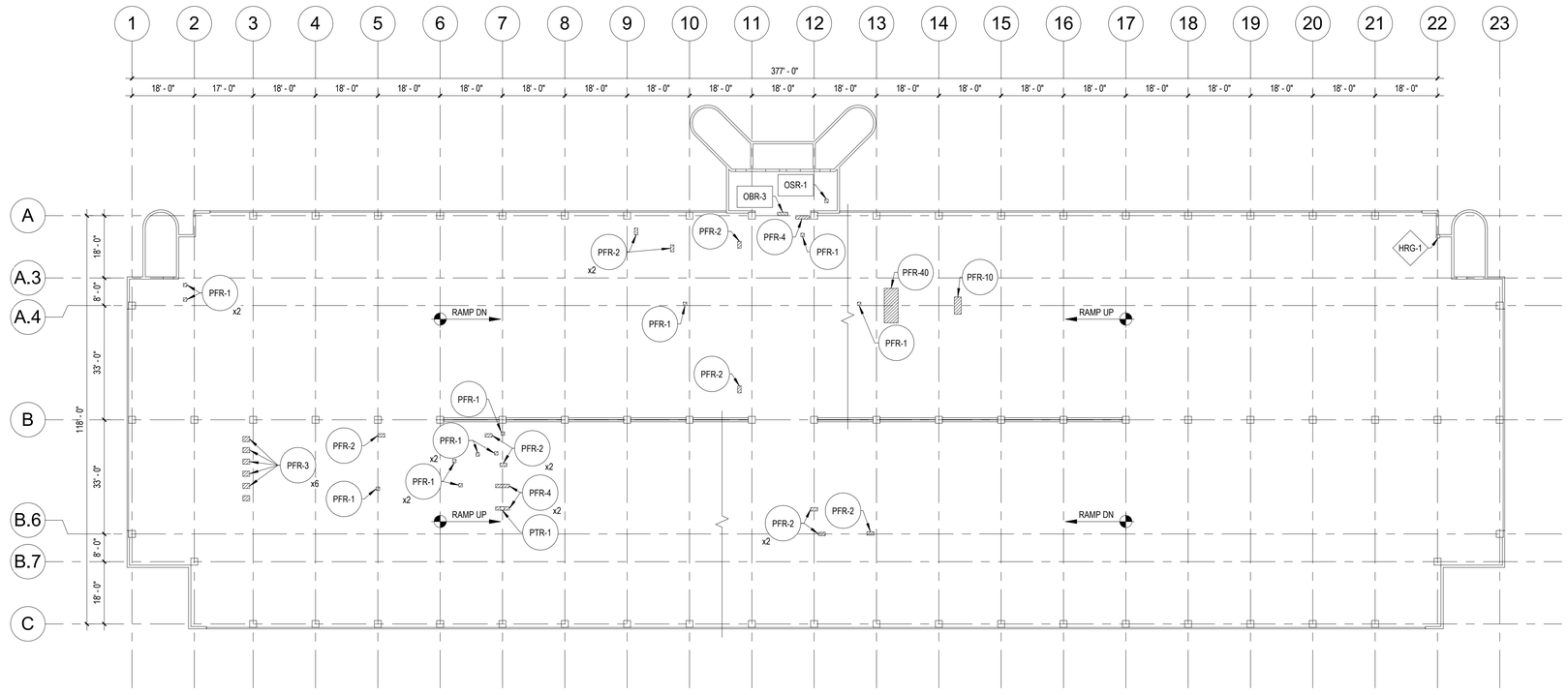
DRAWN: DJB
REVIEWED: SHH
DATE: 03/08/2024

SHEET TITLE:
CRIMINAL JUSTICE CENTER (CJC) GROUND & SECOND TIER RESTORATION PLAN

SHEET NO.
R1.1



1 R1.2 CRIMINAL JUSTICE THIRD TIER RESTORATION PLAN (FLOOR & OVERHEAD)
1" = 20'-0"



2 R1.2 CRIMINAL JUSTICE FOURTH TIER RESTORATION PLAN (FLOOR & OVERHEAD)
1" = 20'-0"

LEGEND

FLOOR REPAIR

REPAIR TYPE OF REFERENCE — XX-X — # OF LOCATIONS PER REFERENCE — (#) — QUANTITY

OVERHEAD REPAIR

REPAIR TYPE OF REFERENCE — XX-X — # OF LOCATIONS PER REFERENCE — (#) — QUANTITY

VERTICAL REPAIR

REPAIR TYPE OF REFERENCE — XX-X — # OF LOCATIONS PER REFERENCE — (#) — QUANTITY

REPAIR AREAS ON PLAN ARE DEPICTED ON THE FOLLOWING SURFACES:

PLAN — OVERHEAD, VERTICAL, FLOOR

- PARTIAL DEPTH FLOOR REPAIR
- OVERHEAD SURFACE OR BEAM REPAIR
- TEE STEM REPAIR
- P/T TENDON SPLICE REPAIR
- EXPANSION JOINT REPLACEMENT
- BARRIER CABLE REPAIR
- STATIC FLOOR CRACK REPAIR
- SUPPLEMENTAL FLOOR DRAIN
- CONCRETE OVERLAY REPAIR

FLOOR REPAIR

PFR	PARTIAL DEPTH FLOOR REPAIR
PTR	P/T TENDON SPLICE REPAIR
EJ	EXPANSION JOINT REPLACEMENT
PBI	PIPE BOLLARD INSTALLATION
FCS	STATIC FLOOR CRACK REPAIR
TCAU	TRAFFIC DECK COATING APPLICATION - URETHANE
COR	CONCRETE OVERLAY REPAIR
SFD	SUPPLEMENTAL FLOOR DRAIN
TTC5	TEE-TO-TEE CONNECTION REPAIR (ANGLE CONNECTION) (*)
SR	SEALANT REPLACEMENT

OVERHEAD REPAIR

OSR	OVERHEAD SURFACE REPAIR
OBR	OVERHEAD BEAM REPAIR
GBPR	GIRDER BEARING PAD REPLACEMENT
TSR1	TEE STEM REPAIR - NON-DAPPED END
STA	SHEAR TRANSFER ANGLE

VERTICAL REPAIR

VR	VERTICAL REPAIR
CR	COLUMN REPAIR
HRG	HAUNCH REPAIR AT GIRDER
BCR	BARRIER CABLE REPAIR
PCR	P/C PANEL CONNECTION REPAIR
VSR	VERTICAL SEALANT REPLACEMENT
RGI	RAILING/GAURDRAIL INSTALLATION

- PIPE BOLLARD INSTALLATION
- P/C PANEL CONNECTION REPAIR
- SHEAR TRANSFER ANGLE
- TRAFFIC DECK COATING APPLICATION
- RAILING/GAURDRAIL INSTALLATION

NOTES:
1. ASSUME 2 SF OF PARTIAL DEPTH FLOOR REPAIR (PFR) AT EACH P/T TENDON SPLICE REPAIR (PTR), U.N.O.

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2024 RESTORATION

CJC PARKING GARAGE

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03/08/2024
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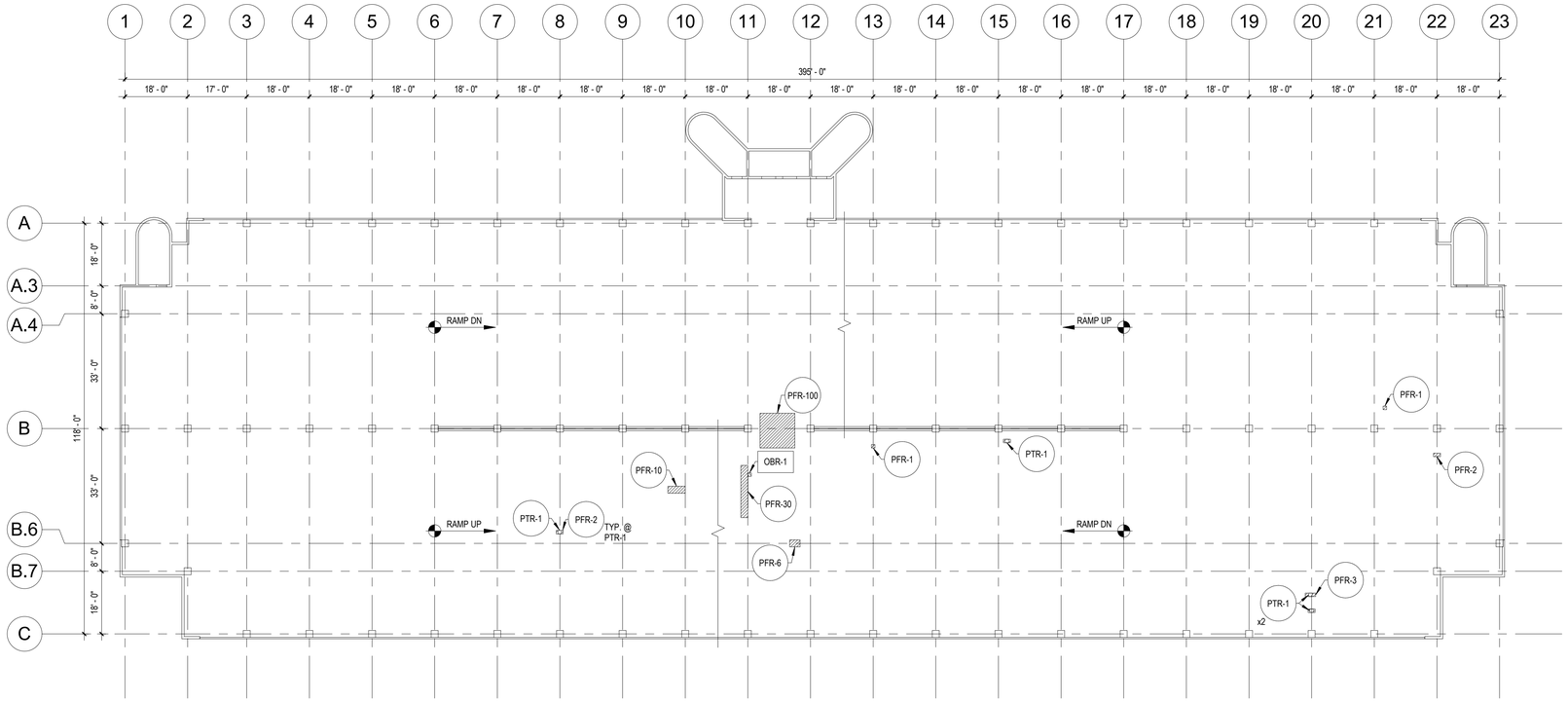
NO.	DESCRIPTION	DATE

NORTH

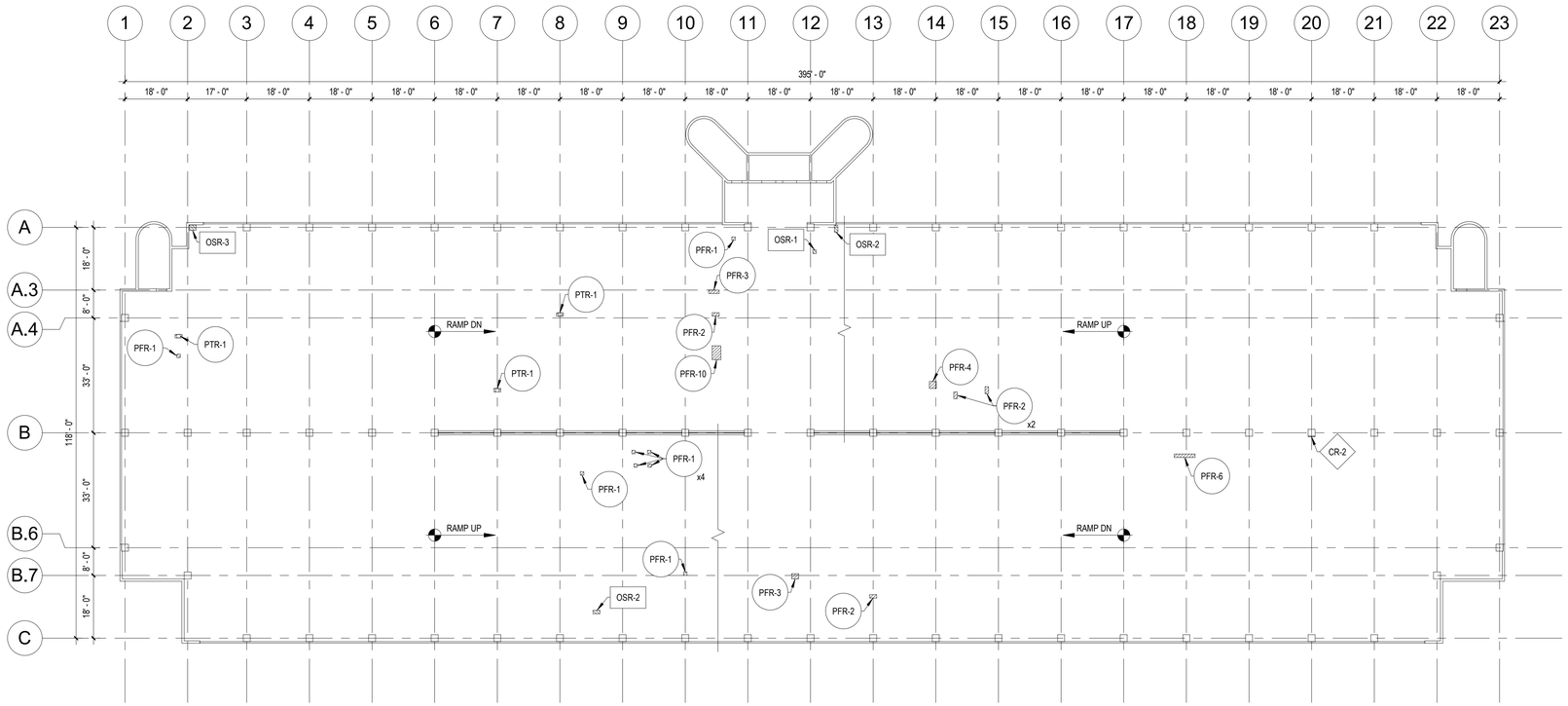
DRAWN: DJB
REVIEWED: SHH
DATE: 03/08/2024

SHEET TITLE:
CRIMINAL JUSTICE CENTER (CJC) THIRD & FOURTH TIER RESTORATION PLAN

SHEET NO.
R1.2



1 R1.3 CRIMINAL JUSTICE FIFTH TIER RESTORATION PLAN (FLOOR & OVERHEAD)
1" = 20'-0"



2 R1.3 CRIMINAL JUSTICE SIXTH TIER RESTORATION PLAN (FLOOR & OVERHEAD)
1" = 20'-0"

LEGEND

FLOOR REPAIR

REPAIR TYPE OF REFERENCE — XX-X — # OF LOCATIONS PER REFERENCE (#) QUANTITY

OVERHEAD REPAIR

REPAIR TYPE OF REFERENCE — XX-X — # OF LOCATIONS PER REFERENCE (#) QUANTITY

VERTICAL REPAIR

REPAIR TYPE OF REFERENCE — XX-X — # OF LOCATIONS PER REFERENCE (#) QUANTITY

REPAIR AREAS ON PLAN ARE DEPICTED ON THE FOLLOWING SURFACES:

PLAN / OVERHEAD / VERTICAL / FLOOR

- PARTIAL DEPTH FLOOR REPAIR
- OVERHEAD SURFACE OR BEAM REPAIR
- TEE STEM REPAIR
- P/T TENDON SPLICE REPAIR
- EXPANSION JOINT REPLACEMENT
- BARRIER CABLE REPAIR
- STATIC FLOOR CRACK REPAIR
- SUPPLEMENTAL FLOOR DRAIN
- CONCRETE OVERLAY REPAIR

FLOOR REPAIR

PFR	PARTIAL DEPTH FLOOR REPAIR
PTR	P/T TENDON SPLICE REPAIR
EJ	EXPANSION JOINT REPLACEMENT
PBI	PIPE BOLLARD INSTALLATION
FCS	STATIC FLOOR CRACK REPAIR
TCAU	TRAFFIC DECK COATING APPLICATION - URETHANE
COR	CONCRETE OVERLAY REPAIR
SFD	SUPPLEMENTAL FLOOR DRAIN
TTC5	TEE-TO-TEE CONNECTION REPAIR (ANGLE CONNECTION) (*)
SR	SEALANT REPLACEMENT

OVERHEAD REPAIR

OSR	OVERHEAD SURFACE REPAIR
OBR	OVERHEAD BEAM REPAIR
GBPR	GIRDER BEARING PAD REPLACEMENT
TSR1	TEE STEM REPAIR - NON-DAPPED END
STA	SHEAR TRANSFER ANGLE

VERTICAL REPAIR

VR	VERTICAL REPAIR
CR	COLUMN REPAIR
HRG	HAUNCH REPAIR AT GIRDER
BCR	BARRIER CABLE REPAIR
PCR	P/C PANEL CONNECTION REPAIR
VSR	VERTICAL SEALANT REPLACEMENT
RGI	RAILING/GAURDRAIL INSTALLATION

- PIPE BOLLARD INSTALLATION
- P/C PANEL CONNECTION REPAIR
- SHEAR TRANSFER ANGLE
- TRAFFIC DECK COATING APPLICATION
- RAILING/GAURDRAIL INSTALLATION

NOTES:
1. ASSUME 2 SF OF PARTIAL DEPTH FLOOR REPAIR (PFR) AT EACH P/T TENDON SPLICE REPAIR (PTR), U.N.O.

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PROFESSIONAL SEAL

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MEMPHIS DOWNTOWN PARKING FACILITIES

2024 RESTORATION

CJC PARKING GARAGE

SUBMISSIONS / REVISIONS

03/08/2024
ISSUED FOR BID

NO.	DESCRIPTION	DATE

NORTH

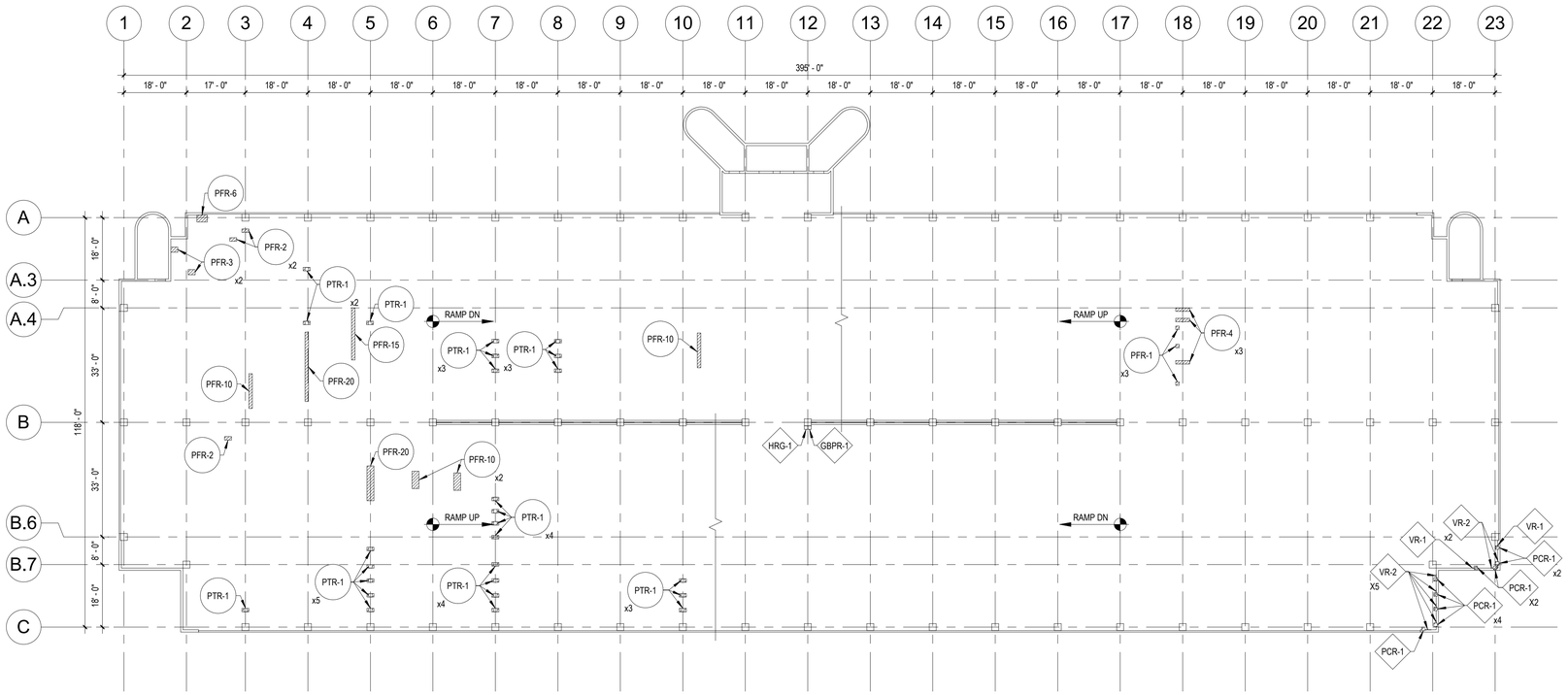
DRAWN: DJB
REVIEWED: SHH
DATE: 03/08/2024

SHEET TITLE:

CRIMINAL JUSTICE CENTER (CJC) FIFTH & SIXTH TIER RESTORATION PLAN

SHEET NO.

R1.3



1 R1.4 CRIMINAL JUSTICE SEVENTH TIER RESTORATION PLAN (FLOOR)
1" = 20'-0"

LEGEND

FLOOR REPAIR

REPAIR TYPE OF REFERENCE — XX-X — # OF LOCATIONS PER REFERENCE (#) — QUANTITY

OVERHEAD REPAIR

REPAIR TYPE OF REFERENCE — XX-X — # OF LOCATIONS PER REFERENCE (#) — QUANTITY

VERTICAL REPAIR

REPAIR TYPE OF REFERENCE — XX-X — # OF LOCATIONS PER REFERENCE (#) — QUANTITY

REPAIR AREAS ON PLAN ARE DEPICTED ON THE FOLLOWING SURFACES:

PLAN — OVERHEAD, VERTICAL, FLOOR

- PARTIAL DEPTH FLOOR REPAIR
- OVERHEAD SURFACE OR BEAM REPAIR
- TEE STEM REPAIR
- P/T TENDON SPLICE REPAIR
- EXPANSION JOINT REPLACEMENT
- BARRIER CABLE REPAIR
- STATIC FLOOR CRACK REPAIR
- SUPPLEMENTAL FLOOR DRAIN
- CONCRETE OVERLAY REPAIR

FLOOR REPAIR

PFR	PARTIAL DEPTH FLOOR REPAIR
PTR	P/T TENDON SPLICE REPAIR
EJ	EXPANSION JOINT REPLACEMENT
PBI	PIPE BOLLARD INSTALLATION
FCS	STATIC FLOOR CRACK REPAIR
TCAU	TRAFFIC DECK COATING APPLICATION - URETHANE
COR	CONCRETE OVERLAY REPAIR
SFD	SUPPLEMENTAL FLOOR DRAIN
TTC5	TEE-TO-TEE CONNECTION REPAIR (ANGLE CONNECTION) (*)
SR	SEALANT REPLACEMENT

OVERHEAD REPAIR

OSR	OVERHEAD SURFACE REPAIR
OBR	OVERHEAD BEAM REPAIR
GBPR	GIRDER BEARING PAD REPLACEMENT
TSR1	TEE STEM REPAIR - NON-DAPPED END
STA	SHEAR TRANSFER ANGLE

VERTICAL REPAIR

VR	VERTICAL REPAIR
CR	COLUMN REPAIR
HRG	HAUNCH REPAIR AT GIRDER
BCR	BARRIER CABLE REPAIR
PCR	P/C PANEL CONNECTION REPAIR
VSR	VERTICAL SEALANT REPLACEMENT
RGI	RAILING/GAURDRAIL INSTALLATION

- PIPE BOLLARD INSTALLATION
- P/C PANEL CONNECTION REPAIR
- SHEAR TRANSFER ANGLE
- TRAFFIC DECK COATING APPLICATION
- RAILING/GAURDRAIL INSTALLATION

NOTES:
1. ASSUME 2 SF OF PARTIAL DEPTH FLOOR REPAIR (PFR) AT EACH P/T TENDON SPLICE REPAIR (PTR), U.N.O.

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PROFESSIONAL SEAL

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PROJECT NO.
ATL23110.01

PROJECT

MEMPHIS DOWNTOWN PARKING FACILITIES

2024 RESTORATION

CJC PARKING GARAGE

SUBMISSIONS / REVISIONS
03/08/2024
ISSUED FOR BID

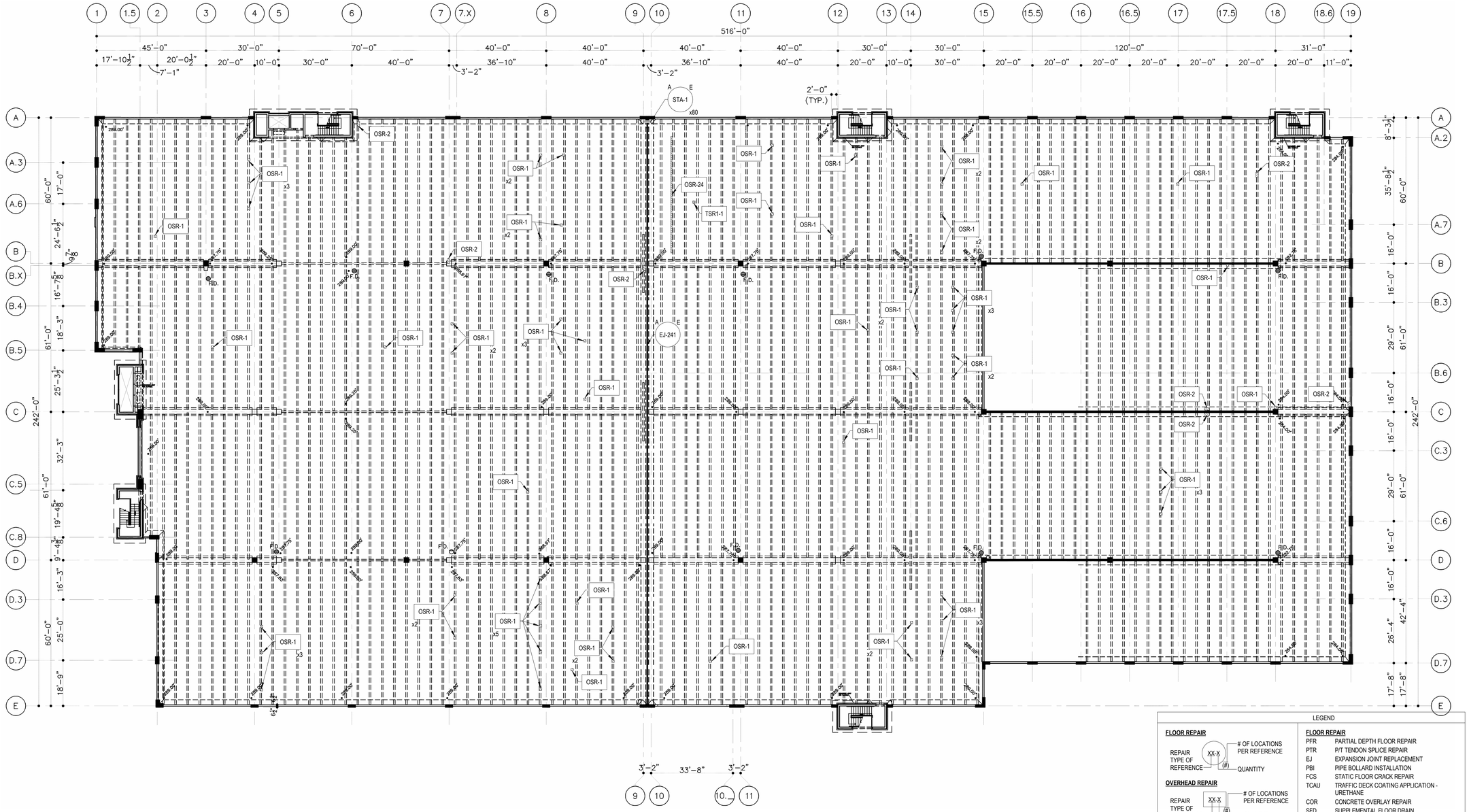
NO.	DESCRIPTION	DATE

NORTH

DRAWN: DJB
REVIEWED: SHH
DATE: 03/08/2024

SHEET TITLE:
CRIMINAL JUSTICE CENTER (CJC) SEVENTH & PARTIAL EIGHTH TIER RESTORATION PLAN

SHEET NO.
R1.4



1 R2.1 PEABODY FOURTH TIER RESTORATION PLAN (FLOOR & OVERHEAD)
1" = 20'-0"

LEGEND

FLOOR REPAIR

REPAIR TYPE OF REFERENCE — XX-X — # OF LOCATIONS PER REFERENCE; (#) QUANTITY

OVERHEAD REPAIR

REPAIR TYPE OF REFERENCE — XX-X — # OF LOCATIONS PER REFERENCE; (#) QUANTITY

VERTICAL REPAIR

REPAIR TYPE OF REFERENCE — XX-X — # OF LOCATIONS PER REFERENCE; (#) QUANTITY

REPAIR AREAS ON PLAN ARE DEPICTED ON THE FOLLOWING SURFACES:

PLAN — OVERHEAD / VERTICAL / FLOOR

- PARTIAL DEPTH FLOOR REPAIR
- OVERHEAD SURFACE OR BEAM REPAIR
- TEE STEM REPAIR
- P/T TENDON SPLICE REPAIR
- EXPANSION JOINT REPLACEMENT
- BARRIER CABLE REPAIR
- STATIC FLOOR CRACK REPAIR
- SUPPLEMENTAL FLOOR DRAIN
- CONCRETE OVERLAY REPAIR

FLOOR REPAIR

PFR	PARTIAL DEPTH FLOOR REPAIR
PTR	P/T TENDON SPLICE REPAIR
EJ	EXPANSION JOINT REPLACEMENT
PBI	PIPE BOLLARD INSTALLATION
FCS	STATIC FLOOR CRACK REPAIR
TCAU	TRAFFIC DECK COATING APPLICATION - URETHANE
COR	CONCRETE OVERLAY REPAIR
SFD	SUPPLEMENTAL FLOOR DRAIN
TTCS	TEE-TO-TEE CONNECTION REPAIR (ANGLE CONNECTION) (*)
SR	SEALANT REPLACEMENT

OVERHEAD REPAIR

OSR	OVERHEAD SURFACE REPAIR
OBR	OVERHEAD BEAM REPAIR
GBPR	GIRDER BEARING PAD REPLACEMENT
TSR1	TEE STEM REPAIR - NON-DAPPED END
STA	SHEAR TRANSFER ANGLE

VERTICAL REPAIR

VR	VERTICAL REPAIR
CR	COLUMN REPAIR
HRG	HAUNCH REPAIR AT GIRDER
BCR	BARRIER CABLE REPAIR
PCR	P/C PANEL CONNECTION REPAIR
VSR	VERTICAL SEALANT REPLACEMENT
RGI	RAILING/GAURDRAIL INSTALLATION

- PIPE BOLLARD INSTALLATION
- P/C PANEL CONNECTION REPAIR
- SHEAR TRANSFER ANGLE
- TRAFFIC DECK COATING APPLICATION
- RAILING/GAURDRAIL INSTALLATION

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MEMPHIS DOWNTOWN PARKING FACILITIES

2024 RESTORATION

PEABODY PARKING GARAGE

SUBMISSIONS / REVISIONS

03/08/2024
ISSUED FOR BID

NO.	DESCRIPTION	DATE

NORTH

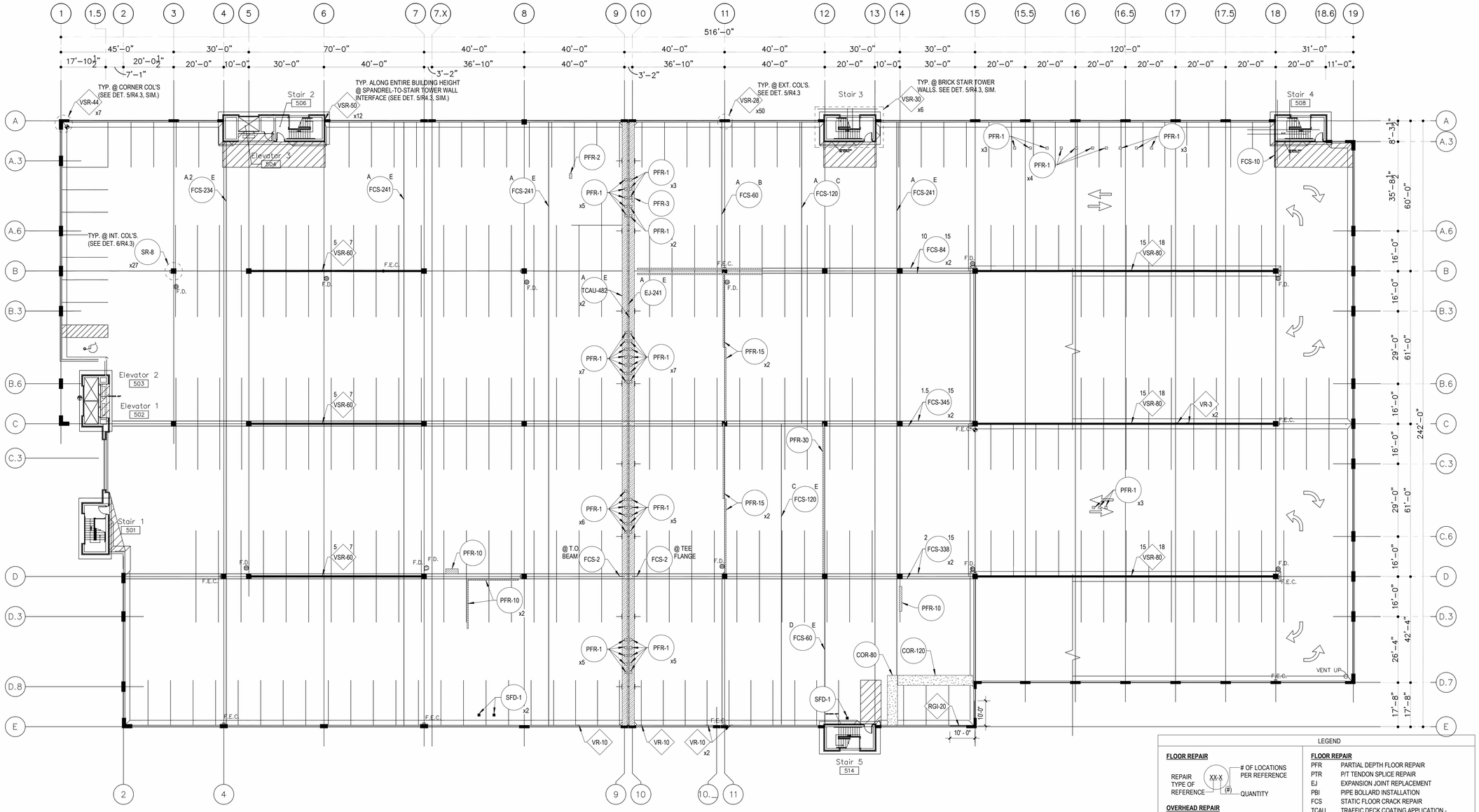
DRAWN: DJB
REVIEWED: SHH
DATE: 03/08/2024

SHEET TITLE:

PEABODY FOURTH TIER RESTORATION PLAN

SHEET NO.

R2.1



1 R2.2 PEABODY TOP TIER RESTORATION PLAN (FLOOR & VERTICAL)
1" = 20'-0"

NOTES:
1. HORIZ. JOINT SEALANT REPLACEMENT NOT SHOWN FOR CLARITY. GLOBALIZED SEALANT REPLACEMENT IS REQ'D AT THIS TIER.
2. VERTICAL SEALANT REPLACEMENT QUANTITIES SHOWN AT PERIMETER LOCATIONS APPLY TO BOTH THE INTERIOR AND EXTERIOR OF THE GARAGE. VERTICAL JOINT SEALANT REPLACEMENT IS REQ'D AT THIS TIER. SEE DET. 5/R4.3 FOR ADDITIONAL INFORMATION.
3. VERTICAL SEALANT REPLACEMENT AT BRICK STAIR TOWER WALLS TO MATCH COLOR OF EXISTING BRICK.

LEGEND

FLOOR REPAIR
REPAIR TYPE OF REFERENCE — XX-X — # OF LOCATIONS PER REFERENCE; (#) QUANTITY

OVERHEAD REPAIR
REPAIR TYPE OF REFERENCE — XX-X — # OF LOCATIONS PER REFERENCE; (#) QUANTITY

VERTICAL REPAIR
REPAIR TYPE OF REFERENCE — XX-X — # OF LOCATIONS PER REFERENCE; (#) QUANTITY

REPAIR AREAS ON PLAN ARE DEPICTED ON THE FOLLOWING SURFACES:
PLAN — OVERHEAD, VERTICAL, FLOOR

- PARTIAL DEPTH FLOOR REPAIR
- OVERHEAD SURFACE OR BEAM REPAIR
- TEE STEM REPAIR
- P/T TENDON SPLICE REPAIR
- EXPANSION JOINT REPLACEMENT
- BARRIER CABLE REPAIR
- STATIC FLOOR CRACK REPAIR
- SUPPLEMENTAL FLOOR DRAIN
- CONCRETE OVERLAY REPAIR
- PIPE BOLLARD INSTALLATION
- P/C PANEL CONNECTION REPAIR
- SHEAR TRANSFER ANGLE
- TRAFFIC DECK COATING APPLICATION
- RAILING/GAURDRAIL INSTALLATION

FLOOR REPAIR
PFR	PARTIAL DEPTH FLOOR REPAIR
PTR	P/T TENDON SPLICE REPAIR
EJ	EXPANSION JOINT REPLACEMENT
PBI	PIPE BOLLARD INSTALLATION
FCS	STATIC FLOOR CRACK REPAIR
TCAU	TRAFFIC DECK COATING APPLICATION - URETHANE
COR	CONCRETE OVERLAY REPAIR
SFD	SUPPLEMENTAL FLOOR DRAIN
TTC5	TEE-TO-TEE CONNECTION REPAIR (ANGLE CONNECTION) (*)
SR	SEALANT REPLACEMENT

OVERHEAD REPAIR
OSR	OVERHEAD SURFACE REPAIR
OBR	OVERHEAD BEAM REPAIR
GBPR	GIRDER BEARING PAD REPLACEMENT
TSR1	TEE STEM REPAIR - NON-DAPPED END
STA	SHEAR TRANSFER ANGLE

VERTICAL REPAIR
VR	VERTICAL REPAIR
CR	COLUMN REPAIR
HRG	HAUNCH REPAIR AT GIRDER
BCR	BARRIER CABLE REPAIR
PCR	P/C PANEL CONNECTION REPAIR
VSR	VERTICAL SEALANT REPLACEMENT
RGI	RAILING/GAURDRAIL INSTALLATION

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2024 RESTORATION

PEABODY PARKING GARAGE

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03/08/2024
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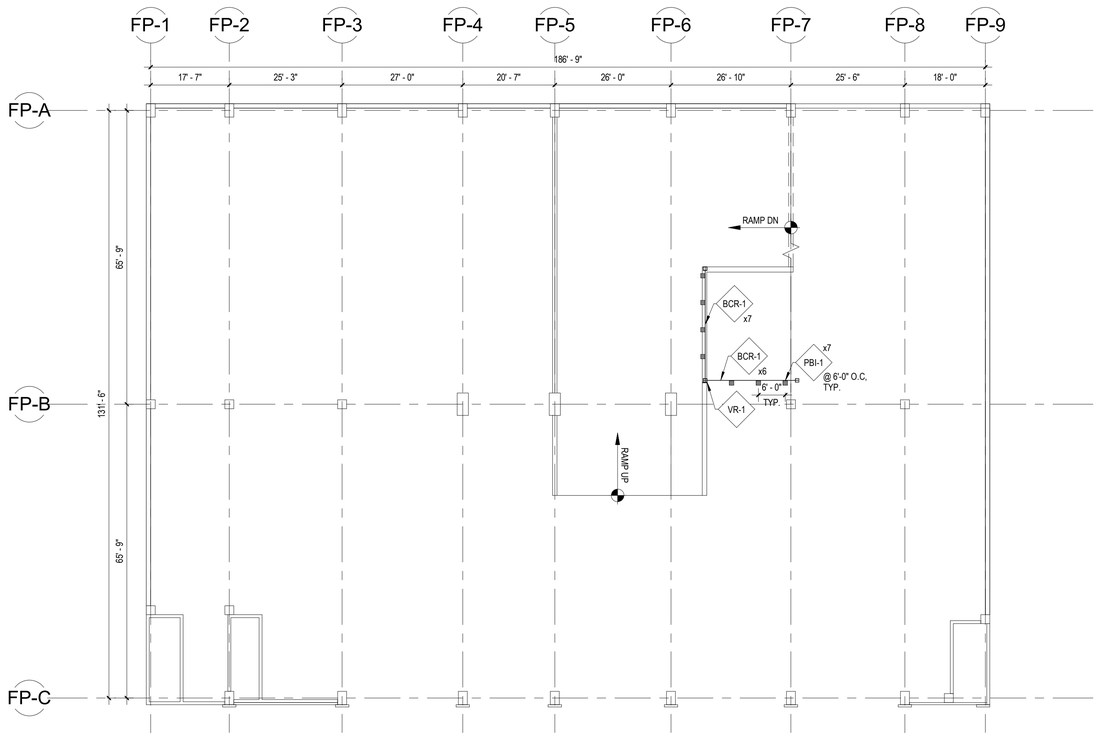
NO.	DESCRIPTION	DATE

NORTH

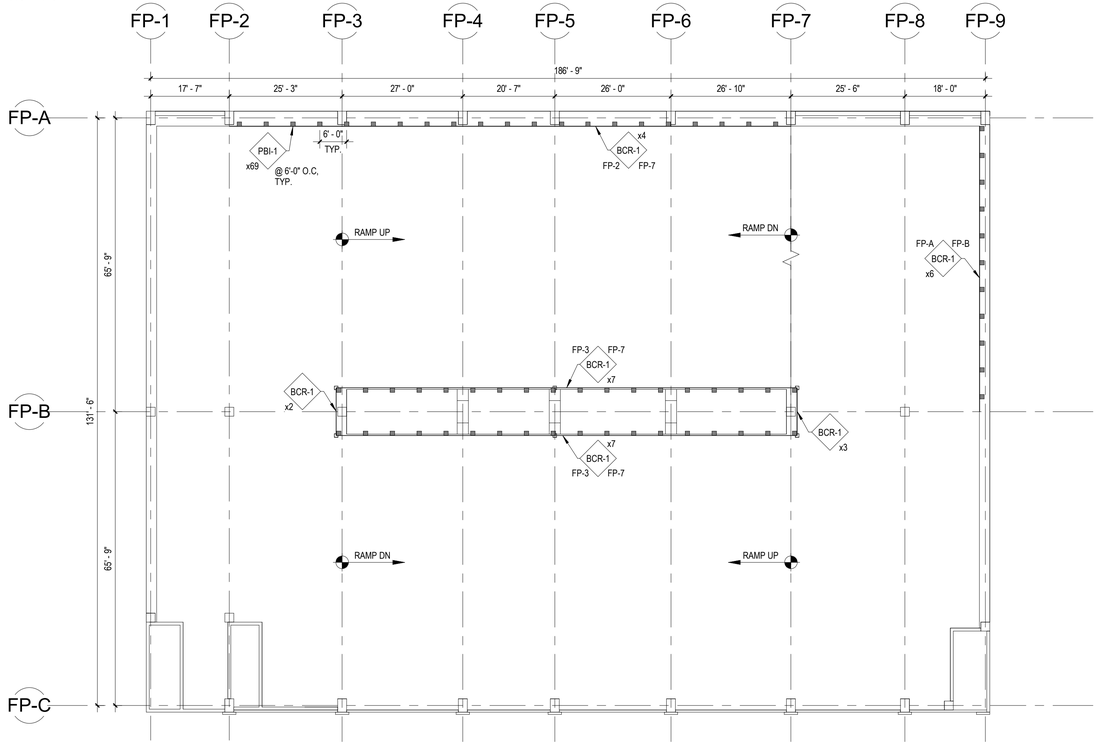
DRAWN: DJB
REVIEWED: SHH
DATE: 03/08/2024

SHEET TITLE:
PEABODY TOP TIER RESTORATION PLAN

SHEET NO.
R2.2



1 R3.1 FIRST PLACE GROUND TIER
1/16" = 1'-0"



2 R3.1 FIRST PLACE 2ND TIER
1/16" = 1'-0"

LEGEND

FLOOR REPAIR

REPAIR TYPE OF REFERENCE — XX-X — # OF LOCATIONS PER REFERENCE; (#) QUANTITY

OVERHEAD REPAIR

REPAIR TYPE OF REFERENCE — XX-X — # OF LOCATIONS PER REFERENCE; (#) QUANTITY

VERTICAL REPAIR

REPAIR TYPE OF REFERENCE — XX-X — # OF LOCATIONS PER REFERENCE; (#) QUANTITY

REPAIR AREAS ON PLAN ARE DEPICTED ON THE FOLLOWING SURFACES:

PLAN / OVERHEAD / VERTICAL / FLOOR

- PARTIAL DEPTH FLOOR REPAIR
- OVERHEAD SURFACE OR BEAM REPAIR
- TEE STEM REPAIR
- P/T TENDON SPLICE REPAIR
- EXPANSION JOINT REPLACEMENT
- BARRIER CABLE REPAIR
- STATIC FLOOR CRACK REPAIR
- SUPPLEMENTAL FLOOR DRAIN
- CONCRETE OVERLAY REPAIR
- PIPE BOLLARD INSTALLATION
- P/C PANEL CONNECTION REPAIR
- SHEAR TRANSFER ANGLE
- TRAFFIC DECK COATING APPLICATION
- RAILING/GAURDRAIL INSTALLATION

FLOOR REPAIR

PFR	PARTIAL DEPTH FLOOR REPAIR
PTR	P/T TENDON SPLICE REPAIR
EJ	EXPANSION JOINT REPLACEMENT
PBI	PIPE BOLLARD INSTALLATION
FCS	STATIC FLOOR CRACK REPAIR
TCAU	TRAFFIC DECK COATING APPLICATION - URETHANE
COR	CONCRETE OVERLAY REPAIR
SFD	SUPPLEMENTAL FLOOR DRAIN
TTC5	TEE-TO-TEE CONNECTION REPAIR (ANGLE CONNECTION) (*)
SR	SEALANT REPLACEMENT

OVERHEAD REPAIR

OSR	OVERHEAD SURFACE REPAIR
OBR	OVERHEAD BEAM REPAIR
GBPR	GIRDER BEARING PAD REPLACEMENT
TSR1	TEE STEM REPAIR - NON-DAPPED END
STA	SHEAR TRANSFER ANGLE

VERTICAL REPAIR

VR	VERTICAL REPAIR
CR	COLUMN REPAIR
HRG	HAUNCH REPAIR AT GIRDER
BCR	BARRIER CABLE REPAIR
PCR	P/C PANEL CONNECTION REPAIR
VSR	VERTICAL SEALANT REPLACEMENT
RGI	RAILING/GAURDRAIL INSTALLATION

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MEMPHIS DOWNTOWN PARKING FACILITIES

2024 RESTORATION

FIRST PLACE
PARKING GARAGE

SUBMISSIONS / REVISIONS
03/08/2024
ISSUED FOR BID

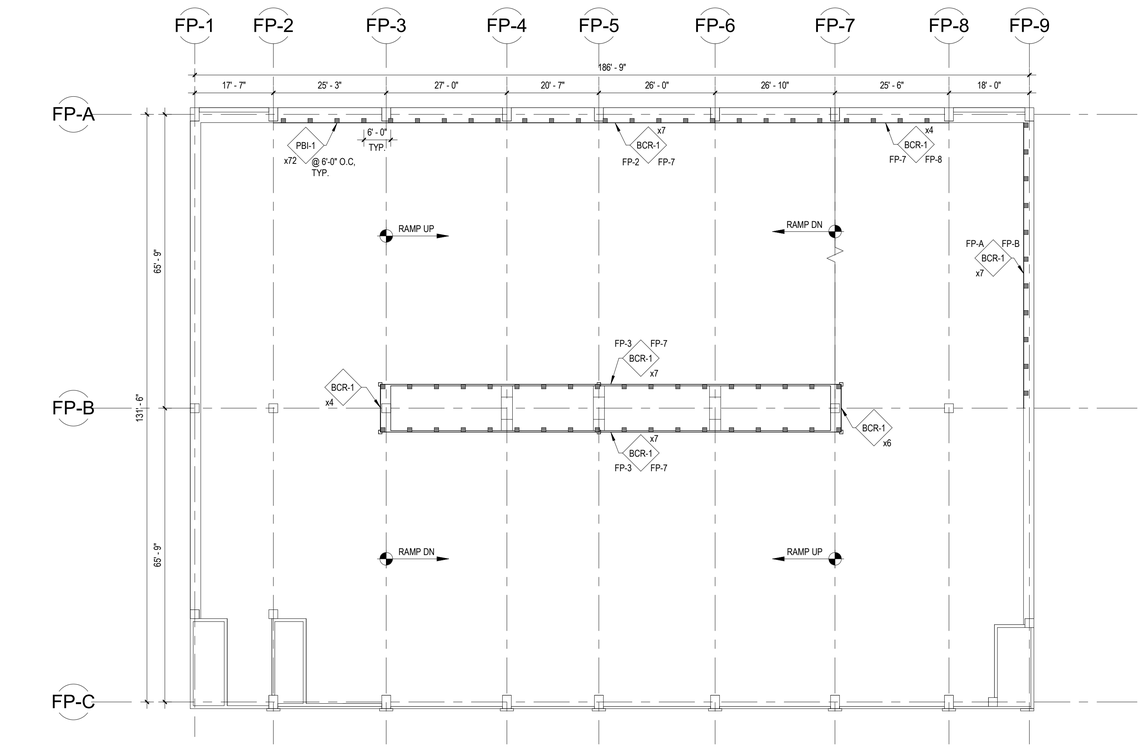
NO.	DESCRIPTION	DATE

NORTH

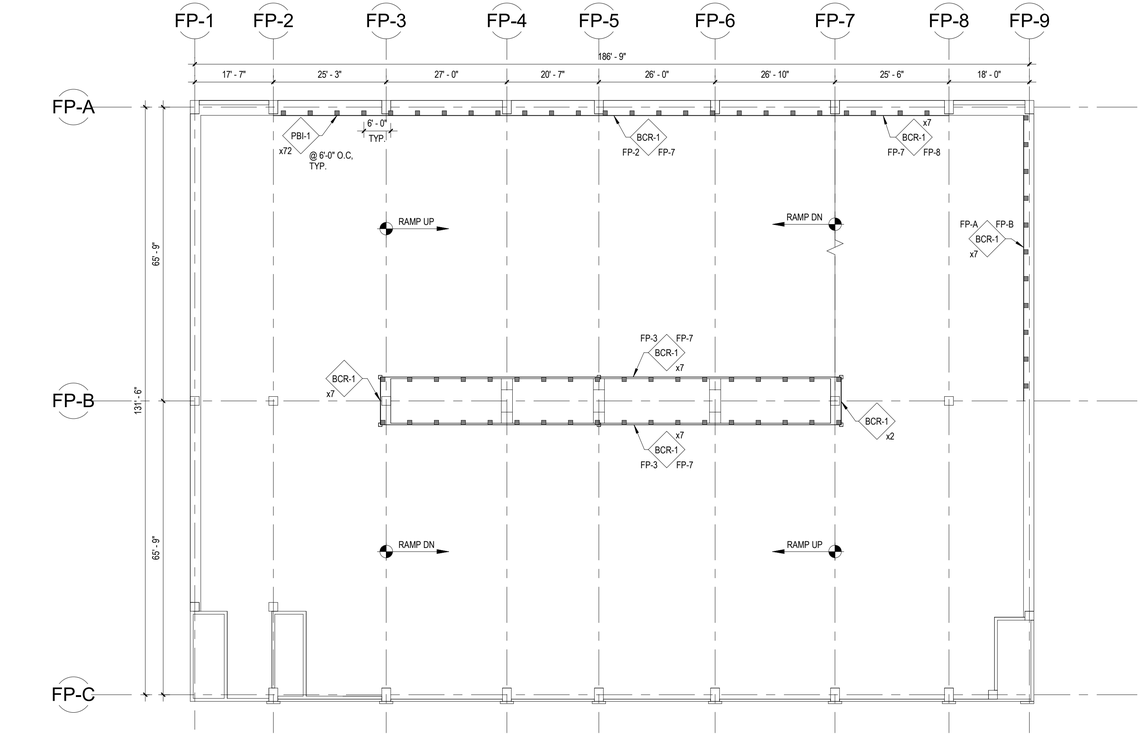
DRAWN: DJB
REVIEWED: SHH
DATE: 03/08/2024

SHEET TITLE:
FIRST PLACE GROUND & SECOND TIER RESTORATION PLAN

SHEET NO.
R3.1



1 R3.2 FIRST PLACE 3RD TIER
1/16" = 1'-0"



2 R3.2 FIRST PLACE 4TH TIER
1/16" = 1'-0"

LEGEND

FLOOR REPAIR

REPAIR TYPE OF REFERENCE — XX-X (#) — # OF LOCATIONS PER REFERENCE / QUANTITY

OVERHEAD REPAIR

REPAIR TYPE OF REFERENCE — XX-X (#) — # OF LOCATIONS PER REFERENCE / QUANTITY

VERTICAL REPAIR

REPAIR TYPE OF REFERENCE — XX-X (#) — # OF LOCATIONS PER REFERENCE / QUANTITY

REPAIR AREAS ON PLAN ARE DEPICTED ON THE FOLLOWING SURFACES:

PLAN — OVERHEAD / VERTICAL / FLOOR

- PARTIAL DEPTH FLOOR REPAIR
- OVERHEAD SURFACE OR BEAM REPAIR
- TEE STEM REPAIR
- P/T TENDON SPLICE REPAIR
- EXPANSION JOINT REPLACEMENT
- BARRIER CABLE REPAIR
- STATIC FLOOR CRACK REPAIR
- SUPPLEMENTAL FLOOR DRAIN
- CONCRETE OVERLAY REPAIR
- PIPE BOLLARD INSTALLATION
- P/C PANEL CONNECTION REPAIR
- SHEAR TRANSFER ANGLE
- TRAFFIC DECK COATING APPLICATION
- RAILING/GAURDRAIL INSTALLATION

FLOOR REPAIR

PFR	PARTIAL DEPTH FLOOR REPAIR
PTR	P/T TENDON SPLICE REPAIR
EJ	EXPANSION JOINT REPLACEMENT
PBI	PIPE BOLLARD INSTALLATION
FCS	STATIC FLOOR CRACK REPAIR
TCAU	TRAFFIC DECK COATING APPLICATION - URETHANE
COR	CONCRETE OVERLAY REPAIR
SFD	SUPPLEMENTAL FLOOR DRAIN
TTC5	TEE-TO-TEE CONNECTION REPAIR (ANGLE CONNECTION) (*)
SR	SEALANT REPLACEMENT

OVERHEAD REPAIR

OSR	OVERHEAD SURFACE REPAIR
OBR	OVERHEAD BEAM REPAIR
GBPR	GIRDER BEARING PAD REPLACEMENT
TSR1	TEE STEM REPAIR - NON-DAPPED END
STA	SHEAR TRANSFER ANGLE

VERTICAL REPAIR

VR	VERTICAL REPAIR
CR	COLUMN REPAIR
HRG	HAUNCH REPAIR AT GIRDER
BCR	BARRIER CABLE REPAIR
PCR	P/C PANEL CONNECTION REPAIR
VSR	VERTICAL SEALANT REPLACEMENT
RGI	RAILING/GAURDRAIL INSTALLATION

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MEMPHIS DOWNTOWN PARKING FACILITIES

2024 RESTORATION

FIRST PLACE
PARKING GARAGE

SUBMISSIONS / REVISIONS
03/08/2024
ISSUED FOR BID

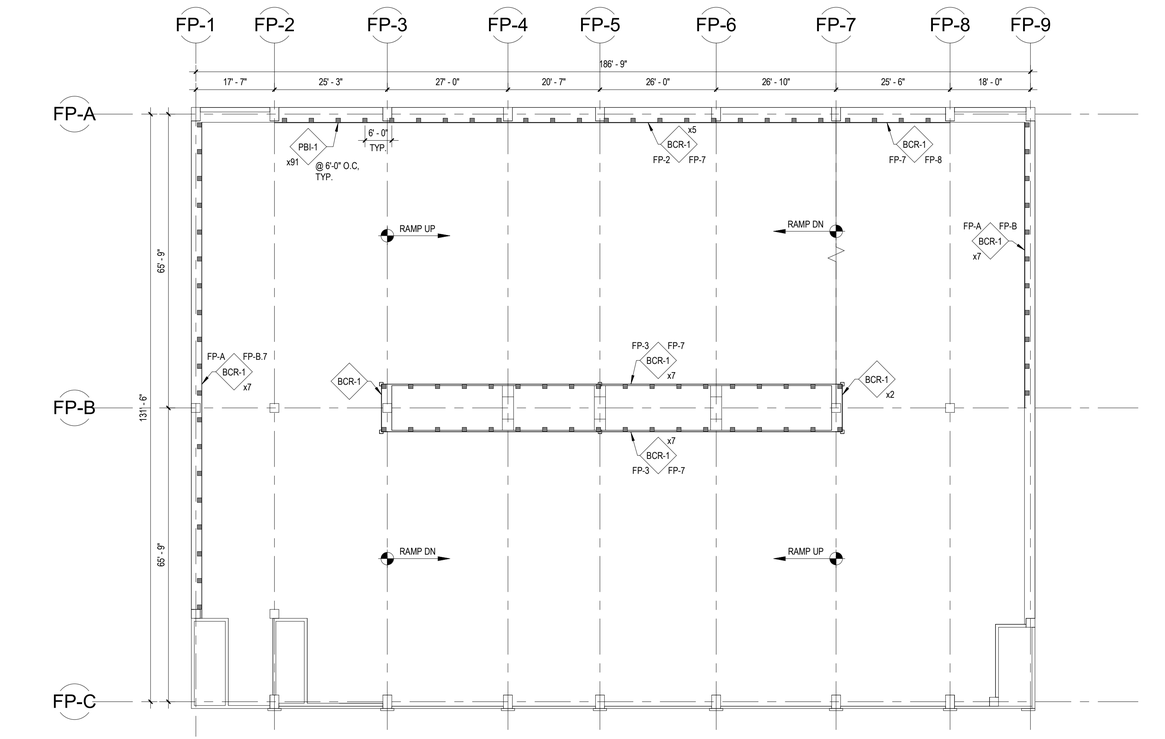
NO.	DESCRIPTION	DATE

NORTH

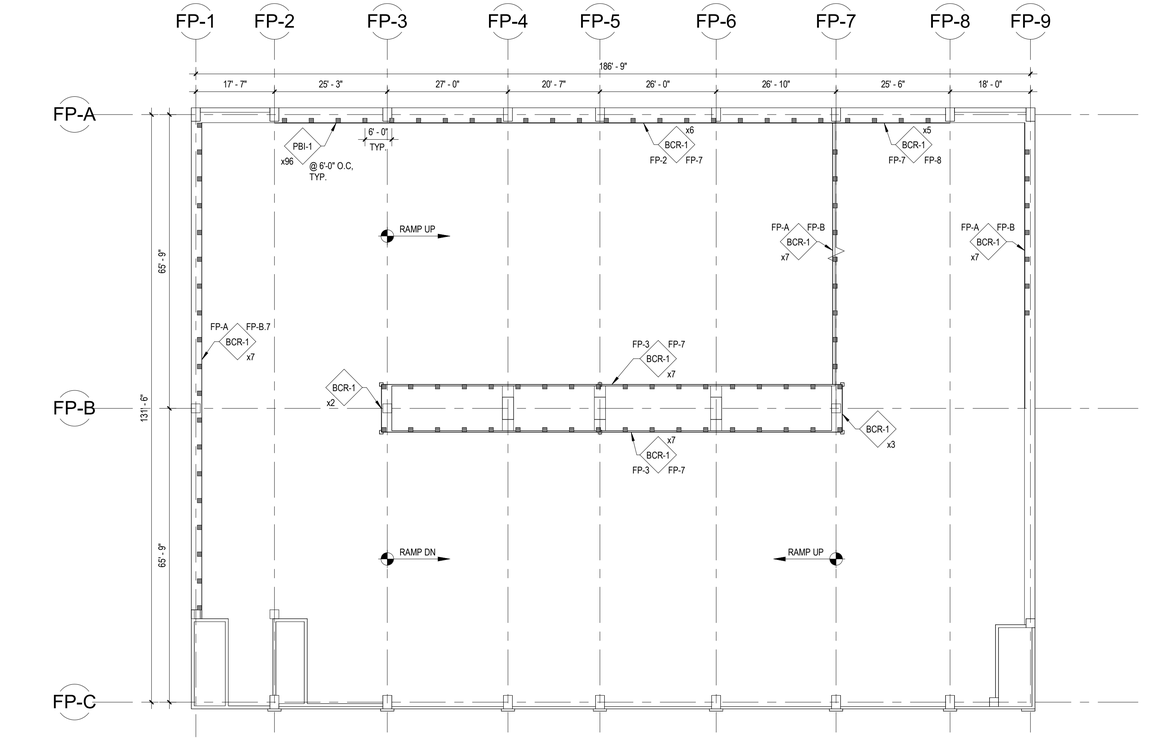
DRAWN: DJB
REVIEWED: SHH
DATE: 03/08/2024

SHEET TITLE:
FIRST PLACE THIRD & FOURTH TIER RESTORATION PLAN

SHEET NO.
R3.2



1 R3.3 FIRST PLACE 5TH TIER
1/16" = 1'-0"



2 R3.3 FIRST PLACE 6TH TIER
1/16" = 1'-0"

LEGEND

FLOOR REPAIR

REPAIR TYPE OF REFERENCE — XX-X (#) — # OF LOCATIONS PER REFERENCE / QUANTITY

OVERHEAD REPAIR

REPAIR TYPE OF REFERENCE — XX-X (#) — # OF LOCATIONS PER REFERENCE / QUANTITY

VERTICAL REPAIR

REPAIR TYPE OF REFERENCE — XX-X (#) — # OF LOCATIONS PER REFERENCE / QUANTITY

REPAIR AREAS ON PLAN ARE DEPICTED ON THE FOLLOWING SURFACES:

PLAN / OVERHEAD / VERTICAL / FLOOR

- PARTIAL DEPTH FLOOR REPAIR
- OVERHEAD SURFACE OR BEAM REPAIR
- TEE STEM REPAIR
- P/T TENDON SPLICE REPAIR
- EXPANSION JOINT REPLACEMENT
- BARRIER CABLE REPAIR
- STATIC FLOOR CRACK REPAIR
- SUPPLEMENTAL FLOOR DRAIN
- CONCRETE OVERLAY REPAIR

FLOOR REPAIR

PFR	PARTIAL DEPTH FLOOR REPAIR
PTR	P/T TENDON SPLICE REPAIR
EJ	EXPANSION JOINT REPLACEMENT
PBI	PIPE BOLLARD INSTALLATION
FCS	STATIC FLOOR CRACK REPAIR
TCAU	TRAFFIC DECK COATING APPLICATION - URETHANE
COR	CONCRETE OVERLAY REPAIR
SFD	SUPPLEMENTAL FLOOR DRAIN
TTC5	TEE-TO-TEE CONNECTION REPAIR (ANGLE CONNECTION) (*)
SR	SEALANT REPLACEMENT

OVERHEAD REPAIR

OSR	OVERHEAD SURFACE REPAIR
OBR	OVERHEAD BEAM REPAIR
GBPR	GIRDER BEARING PAD REPLACEMENT
TSR1	TEE STEM REPAIR - NON-DAPPED END
STA	SHEAR TRANSFER ANGLE

VERTICAL REPAIR

VR	VERTICAL REPAIR
CR	COLUMN REPAIR
HRG	HAUNCH REPAIR AT GIRDER
BCR	BARRIER CABLE REPAIR
PCR	P/C PANEL CONNECTION REPAIR
VSR	VERTICAL SEALANT REPLACEMENT
RGI	RAILING/GAURDRAIL INSTALLATION

- PIPE BOLLARD INSTALLATION
- P/C PANEL CONNECTION REPAIR
- SHEAR TRANSFER ANGLE
- TRAFFIC DECK COATING APPLICATION
- RAILING/GAURDRAIL INSTALLATION

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MEMPHIS DOWNTOWN PARKING FACILITIES

2024 RESTORATION

FIRST PLACE
PARKING GARAGE

SUBMISSIONS / REVISIONS
03/08/2024
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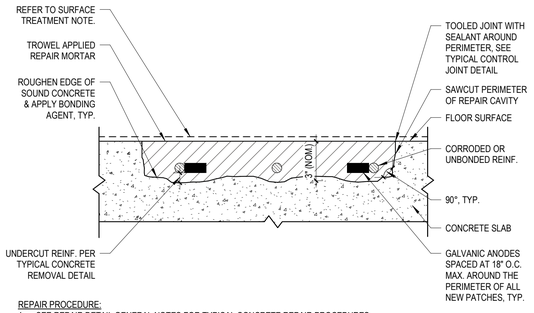
NO.	DESCRIPTION	DATE

NORTH

DRAWN: DJB
REVIEWED: SHH
DATE: 03/08/2024

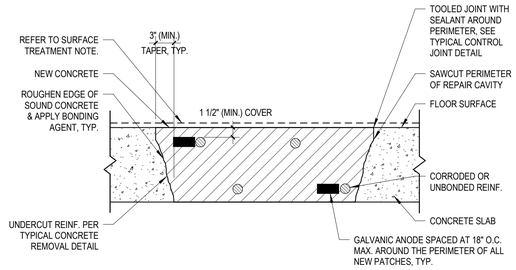
SHEET TITLE:
FIRST PLACE FIFTH & SIXTH TIER RESTORATION PLAN

SHEET NO.
R3.3



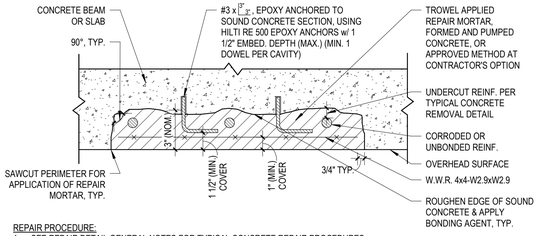
REPAIR PROCEDURE:
1. SEE REPAIR DETAIL GENERAL NOTES FOR TYPICAL CONCRETE REPAIR PROCEDURES.
2. INSTALL GALVANIC ANODES AT THE PERIMETER OF ALL REPAIR PATCHES PER MANUFACTURER'S RECOMMENDATIONS. VERIFY CONTINUITY & PROVIDE ADEQUATE CONCRETE COVER FOR GALVANIC ANODES. ANODES ARE NOT INCLUDED IN THE UNIT PRICE.
3. SURFACE TREATMENT NOTE: APPLY PENETRATING SEALER, PENETRATING CORROSION INHIBITING TREATMENT, TRAFFIC DECK COATING, AND/OR OTHER SURFACE TREATMENT AS INDICATED ON THE DRAWINGS. IF SURFACE TREATMENT IS NOT INDICATED, APPLY PENETRATING SEALER TO THE REPAIR AND EXTEND 6" MIN. BEYOND PERIMETER OF REPAIR. THE PENETRATING SEALER SHALL BE INCLUDED IN THE UNIT COST OF THE CONCRETE REPAIR; ALL OTHER SURFACE TREATMENTS SHALL BE EXCLUDED FROM THE UNIT COST.
4. DAMAGED P/T TENDONS SHALL BE REPAIRED PER REPAIR TYPES PTS & PTR.
5. DO NOT UNDERCUT P/T TENDONS WITHOUT ENGINEER'S APPROVAL.
6. INCLUDE COSTS OF SEALANTS AT CAVITY PERIMETER/CONTROL JOINTS AND SURFACE TREATMENT (SEE NOTE 3) IN THE UNIT COST. SEE "TYPICAL CONTROL JOINT DETAIL" FOR JOINT SPACING.

1 R4.1 REPAIR TYPE PFR - PARTIAL DEPTH FLOOR REPAIR DETAIL
NOT TO SCALE



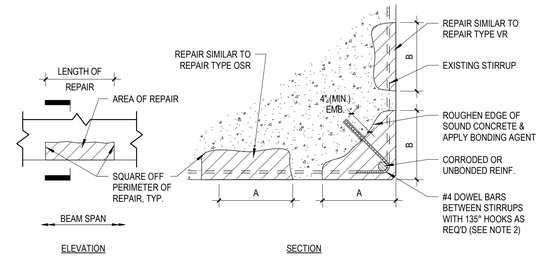
REPAIR PROCEDURE:
1. SEE REPAIR DETAIL GENERAL NOTES FOR TYPICAL CONCRETE REPAIR PROCEDURES.
2. INSTALL GALVANIC ANODES AT THE PERIMETER OF ALL REPAIR PATCHES PER MANUFACTURER'S RECOMMENDATIONS. VERIFY CONTINUITY & PROVIDE ADEQUATE CONCRETE COVER FOR GALVANIC ANODES. ANODES ARE NOT INCLUDED IN THE UNIT PRICE.
3. TO BE USED IN LIEU OF REPAIR TYPE PFR BASED ON FIELD CONDITIONS.
4. SURFACE TREATMENT NOTE: APPLY PENETRATING SEALER, PENETRATING CORROSION INHIBITING TREATMENT, TRAFFIC DECK COATING, AND/OR OTHER SURFACE TREATMENT AS INDICATED ON THE DRAWINGS. IF SURFACE TREATMENT IS NOT INDICATED, APPLY PENETRATING SEALER TO THE REPAIR AND EXTEND 6" MIN. BEYOND PERIMETER OF REPAIR. THE PENETRATING SEALER SHALL BE INCLUDED IN THE UNIT COST OF THE CONCRETE REPAIR; ALL OTHER SURFACE TREATMENTS SHALL BE EXCLUDED FROM THE UNIT COST.
5. DAMAGED P/T TENDONS SHALL BE REPAIRED PER REPAIR TYPES PTS & PTR.
6. INCLUDE COSTS OF SEALANTS AT CAVITY PERIMETER/CONTROL JOINTS AND SURFACE TREATMENT (SEE NOTE 4) IN THE UNIT COST. SEE TYPICAL CONTROL JOINT DETAIL FOR JOINT SPACING.

2 R4.1 REPAIR TYPE FFR - FULL DEPTH FLOOR REPAIR DETAIL (REFERENCE DETAIL)
NOT TO SCALE



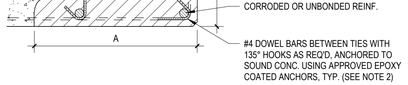
REPAIR PROCEDURE:
1. SEE REPAIR DETAIL GENERAL NOTES FOR TYPICAL CONCRETE REPAIR PROCEDURES.
2. APPLY REPAIR MORTAR APPROVED BY THE ENGINEER AS INDICATED IN THE SHADED AREA WITH FORMED AND PUMPED CONCRETE OR OTHER APPROVED METHOD AT CONTRACTOR'S OPTION. SEE SPECS FOR ADD'L INFO.
3. DAMAGED P/T TENDONS SHALL BE REPAIRED PER REPAIR TYPES PTS & PTR.
4. DO NOT UNDERCUT P/T TENDONS WITHOUT ENGINEER'S APPROVAL.

3 R4.1 REPAIR TYPE OSR - OVERHEAD SURFACE REPAIR DETAIL
1" = 1'-0"



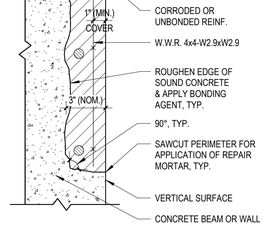
REPAIR PROCEDURE:
1. SEE REPAIR DETAIL GENERAL NOTES FOR TYPICAL CONCRETE REPAIR PROCEDURES.
2. FOR CAVITIES DEPPER THAN 6", PROVIDE #4 ADHESIVE DOWEL BARS WITH 135° HOOKS IN BETWEEN STIRRUPS AT A MAXIMUM SPACING OF 6" O.C.
3. REFER TO REPAIR TYPE VR FOR ADDITIONAL INFORMATION.
4. UNIT OF REPAIR AREA = Σ (A + B) x LENGTH OF REPAIR = SF.
5. FOR BIDDING PURPOSES, ASSUME REPAIR DEPTH = 3" NOMINAL.

4 R4.1 REPAIR TYPE OBR - OVERHEAD BEAM REPAIR DETAIL
1" = 1'-0"



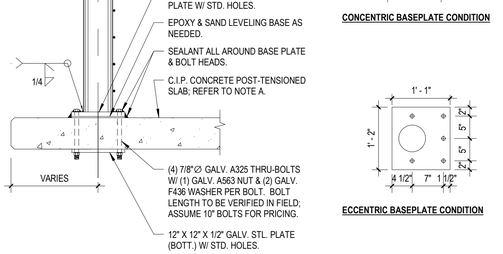
REPAIR PROCEDURE:
1. SEE REPAIR DETAIL GENERAL NOTES FOR TYPICAL CONCRETE REPAIR PROCEDURES.
2. FOR CAVITIES DEPPER THAN 6", PROVIDE #4 ADHESIVE DOWEL BARS WITH 135° HOOKS IN BETWEEN TIES AT A MAXIMUM SPACING OF 6" O.C.
3. REFER TO REPAIR TYPE VR FOR ADDITIONAL INFORMATION.
4. UNIT OF REPAIR AREA = (A + B) x HEIGHT OF REPAIR = SF.
5. FOR BIDDING PURPOSES, ASSUME REPAIR DEPTH = 3" NOMINAL.

5 R4.1 REPAIR TYPE CR - COLUMN REPAIR DETAIL
1" = 1'-0"



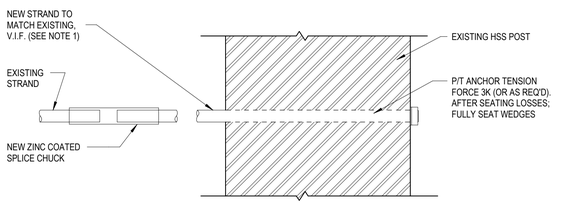
REPAIR PROCEDURE:
1. SEE REPAIR DETAIL GENERAL NOTES FOR TYPICAL CONCRETE REPAIR PROCEDURES.

6 R4.1 REPAIR TYPE VR - VERTICAL REPAIR DETAIL
1" = 1'-0"



7 R4.1 REPAIR TYPE PBI - PIPE BOLLARD INSTALLATION DETAIL
NOT TO SCALE

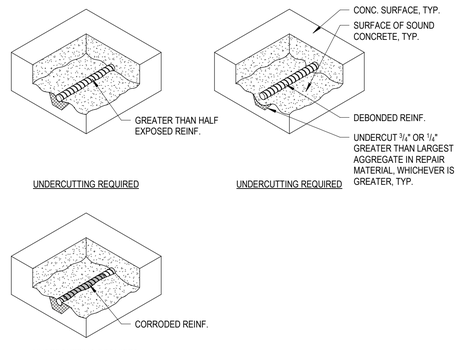
NOTES:
A. EXAMINATION PRIOR TO CUTTING, DRILLING, AND CORING THROUGH STRUCTURE
   1. DO NOT CUT, DRILL, OR CORE THROUGH ANY STRUCTURAL ELEMENT WITHOUT PRIOR WRITTEN APPROVAL FROM THE ENGINEER, U.N.O.
   2. THE CONTRACTOR SHALL SCAN THE CONCRETE AT ALL LOCATIONS OF PROPOSED CUTS AND PENETRATIONS TO LOCATE AND MARK ALL EMBEDDED OBJECTS INCLUDING, BUT NOT LIMITED TO, REINFORCING, PRESTRESSING OR POST-TENSION STRANDS, CONNECTIONS, ELECTRICAL CONDUITS, AND ANY OTHER HARDWARE/EQUIPMENT. SCANNING SHALL BE PERFORMED BY A CERTIFIED TECHNICIAN USING A PACHOMETER OR GROUND PENETRATING RADAR TYPE SCANNER. CALIBRATE THE SCANNER AT THE BEGINNING OF EACH SHIFT AND WHEN CONDITIONS CHANGE. LOCATE AT LEAST THREE REINFORCING BARS USING THE SCANNER, AND HAMMER DRILL TEST HOLES TO DETERMINE DEPTH OF COVER. CALIBRATE SCANNER USING THE DEPTH OF COVER MEASUREMENTS.
   3. ADJUST LOCATIONS OF CUTS AND PENETRATIONS AS REQUIRED TO AVOID EMBEDDED OBJECTS.
   4. SUBMIT SCANNING REPORT(S), INCLUDING PHOTOGRAPHS AND SCALED DRAWINGS AND/OR SKETCHES TO ENGINEER FOR APPROVAL. ALLOW SEVEN DAYS FOR ENGINEER TO REVIEW AND APPROVE OR COMMENTS ON THE PROPOSED CUTS AND PENETRATIONS. ADJUST THE LOCATIONS AS DIRECTED BY THE ENGINEER.
   5. USE HAMMER DRILLS WHEN POSSIBLE. DO NOT CORE DRILL UNLESS THE SCANNING OPERATION HAS CLEARLY SHOWN THAT THE AREA IS FREE OF EMBEDDED OBJECTS.
   6. DO NOT CUT THROUGH OR DAMAGE THE EMBEDDED OBJECTS INCLUDING, BUT NOT LIMITED TO, REINFORCING, PRESTRESSING OR POST-TENSION STRANDS, CONNECTIONS, ELECTRICAL CONDUITS, AND ANY OTHER HARDWARE/EQUIPMENT.
B. TAKE CAUTION TO PREVENT BLOWOUT OF THE UNDERSIDE OF THE SLAB WHEN DRILLING. PATCH BLOWOUTS WITH A SPECIFIED/APPROVED OVERHEAD REPAIR MORTAR.
C. BOLLARDS AND FASTENERS SHALL BE HOT-DIPPED GALVANIZED TO COMPLY WITH ASTM A 153.
D. IF EXISTING CONDITIONS CAUSE THE BOLT EDGE DISTANCE TO BE LESS THAN SPECIFIED, SHIFT THE STEEL PIPE OFF-CENTER OF THE BASE PLATE AS NEEDED TO ACHIEVE THE SPECIFIED MINIMUM EDGE DISTANCE.
E. LOCALIZED SLAB FAILURE MAY OCCUR DURING A VEHICULAR IMPACT SINCE THE EXISTING POST-TENSIONED SLABS HAVE NOT BEEN DESIGNED AND REINFORCED FOR THE FORCES GENERATED DURING A VEHICULAR IMPACT. LOCALIZED FAILURES THAT OCCUR AROUND THE BASE OF AN IMPACTED BOLLARD MAY CONSIST OF CONCRETE CRACKING AND SPALLING, AND POST-TENSION ANCHORAGE ZONE FAILURE.



THROUGH HSS POST DETAIL

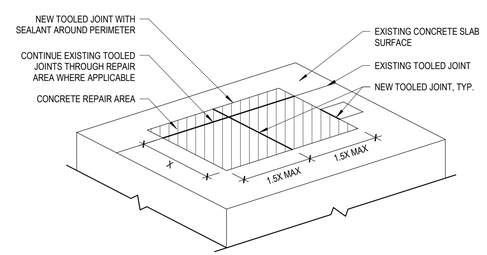
NOTES:
1. REMOVE AND REPLACE BARRIER CABLE PER MANUFACTURER'S REQUIREMENTS.
2. UNIT OF REPAIR IS EACH AND INCLUDES (2) NEW ANCHORAGE DEVICES AND 5 LF OF ADDITIONAL CABLE.

8 R4.1 REPAIR TYPE BCR - BARRIER CABLE REPAIR
1" = 1'-0"



NOTES:
1. SEE REPAIR DETAIL GENERAL NOTES FOR ADDITIONAL INFORMATION.
2. UNDERCUTTING REQUIRED AT ALL VERTICAL AND OVERHEAD SURFACES.
3. ANY REINFORCEMENT WITH SECTION LOSS GREATER THAN 20% SHALL BE REPLACED.
4. ALL REBAR SHALL BE SANDBLASTED CLEAN AND TREATED WITH CORROSION INHIBITING COATING MATERIALS PER SPECIFICATIONS.

9 R4.1 TYPICAL CONCRETE REMOVAL DETAIL
NOT TO SCALE



NOTES:
1. IF NO EXISTING TOOLED JOINT IS PRESENT, DIMENSION 'X' SHALL REFER TO THE FULL WIDTH OF THE REPAIR.
2. PROVIDE TOOLED JOINTS SUCH THAT DIMENSION 'X' IS NO GREATER THAN 6 FEET AT ANY REPAIR LOCATION. REFER TO REPAIR TYPE FCS / SR FOR TOOLED JOINT DIMENSIONS AND ADDITIONAL INFORMATION.

10 R4.1 TYPICAL CONTROL JOINT DETAIL
NOT TO SCALE

REPAIR DETAIL GENERAL NOTES:
1. REFER TO SHEET R0.1 FOR GENERAL NOTES.
2. REFER TO RESTORATION PLANS FOR APPROXIMATE SIZE AND LOCATIONS OF REPAIR AREAS. NOT ALL REPAIRS APPLY TO ALL GARAGES.
3. DETAILS SHOWN ARE FOR ILLUSTRATIVE PURPOSES ONLY. EXACT CONDITIONS VARY (i.e. DIMENSIONS, REBAR, ANODES, ETC.).
4. TYPICAL CONCRETE REPAIR PROCEDURES ARE AS FOLLOWS, U.N.O.:
   A. THE DRAWINGS INDICATE THE AREAS THAT HAVE BEEN DETERMINED TO REQUIRE REPAIR PER ENGINEER'S FIELD SURVEY. CONTRACTOR SHALL SOUND SURFACES WITH HAMMER, ROD, CHAIN, OR APPROPRIATE TOOL TO DETECT DELAMINATION EXTENTS. SEE "GENERAL SURFACE PREPARATION" ON SHEET R0.1.
   B. SAWCUT 1/2" MAX. PERIMETER OF REPAIR AREAS TO AVOID CUTTING REINFORCEMENT.
   C. REMOVE DELAMINATED CONCRETE TO SOUND CONCRETE. IF REINFORCEMENT IS GREATER THAN HALF EXPOSED, DEBONDED FROM CONCRETE, OR CORRODED, UNDERCUT REINFORCEMENT 3/4" OR 1/4" LARGER THAN THE LARGEST AGGREGATE IN REPAIR MATERIAL, WHICHEVER IS GREATER, U.N.O. SEE TYPICAL CONCRETE REMOVAL DETAIL FOR CLARIFICATION. UNDERCUT REINFORCEMENT AT ALL VERTICAL AND OVERHEAD REPAIRS.
   D. CARE SHALL BE TAKEN NOT TO BREAK NON-CORRODED REINFORCEMENT BOND TO SURROUNDING CONCRETE. IF BOND IS BROKEN, UNDERCUTTING OF THE REINFORCEMENT IS REQUIRED.
   E. PROVIDE RIGHT ANGLE CUTS / SQUARE OFF ENDS ALONG PERIMETER OF REPAIR AREAS.
   F. CLEAN SURFACE FREE OF DUST, LAITANCE, AND OTHER INHIBITING MATERIALS AS INDICATED UNDER "GENERAL SURFACE PREPARATION" ON SHEET R0.1.
   G. DAMAGED REINFORCEMENT WITH SECTION LOSS LESS THAN 20% SHALL BE PREPARED AS INDICATED UNDER "GENERAL SURFACE PREPARATION" ON SHEET R0.1.
   H. DAMAGED REINFORCEMENT WITH SECTION LOSS GREATER THAN 20% SHALL BE SUPPLEMENTED AND DEVELOPED INTO EXISTING REINFORCEMENT. ADDITIONAL REINFORCEMENT SHALL BE SUPPLIED AT UNIT COST, U.N.O.
   I. ALL EXISTING EXPOSED STEEL SHALL BE COATED WITH STEEL CORROSION INHIBITING TREATMENT IN ACCORDANCE WITH SPECIFICATION SECTION 039300.
   J. PREPARE CONCRETE SUBSTRATE, INCLUDING APPLYING APPLICABLE BONDING AGENT TO THE SCARIFIED PATCHING SURFACE, TO RECEIVE NEW REPAIR MORTAR.
   K. PROVIDE 1 1/2" CONC. COVER U.N.O.; IF REQUIRED COVER IS NOT ACHIEVABLE, MOUND CONCRETE TO PROVIDE MINIMUM COVER OVER MAJORITY OF REINFORCEMENT WHILE MAINTAINING REQUIRED HEADROOM. IF HEADROOM CANNOT BE ACHIEVED, CONSULT ENGINEER.
   L. PREPARE, PLACE, FINISH, & CURE REPAIR MORTAR PER MANUFACTURER'S REQUIREMENTS & SPECIFICATION SECTION 039300. CONCRETE PER SPECIFICATION SECTION 033000 MAY BE USED AT CONTRACTOR'S OPTION FOR DEPTH GREATER THAN 3", U.N.O. PLACE TOOLED JOINTS AND SEALANT PER "TYPICAL CONTROL JOINT DETAIL".
   M. RE-PAINT PARKING STALLS & TRAFFIC MARKINGS AS REQUIRED TO MATCH EXISTING CONDITIONS.

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PROFESSIONAL SEAL

CONSULTANT

PROJECT NO.
ATL23110.01

PROJECT

MEMPHIS DOWNTOWN PARKING FACILITIES

2024 RESTORATION

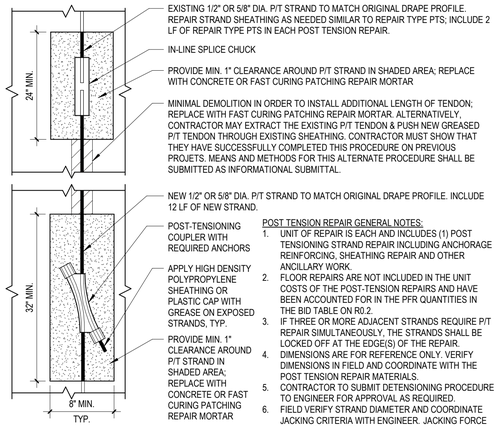
SUBMISSIONS / REVISIONS
03/08/2024
ISSUED FOR BID

NO.	DESCRIPTION	DATE

DRAWN: DJB
REVIEWED: SHH
DATE: 03/08/2024

SHEET TITLE:
RESTORATION REPAIR DETAILS

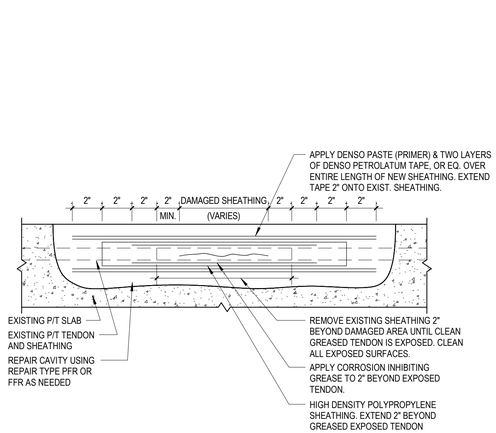
SHEET NO.
R4.1



POST TENSION REPAIR GENERAL NOTES:

1. UNIT OF REPAIR IS EACH AND INCLUDES (1) POST TENSIONING STRAND REPAIR INCLUDING ANCHORAGE REINFORCING, SHEATHING REPAIR AND OTHER ANCILLARY WORK.
2. FLOOR REPAIRS ARE NOT INCLUDED IN THE UNIT COSTS OF THE POST-TENSION REPAIRS AND HAVE BEEN ACCOUNTED FOR IN THE PPR QUANTITIES IN THE BID TABLE ON R0.2.
3. IF THREE OR MORE ADJACENT STRANDS REQUIRE P/T REPAIR SIMULTANEOUSLY, THE STRANDS SHALL BE LOCKED OFF AT THE EDGE(S) OF THE REPAIR. DIMENSIONS ARE FOR REFERENCE ONLY. VERIFY DIMENSIONS IN FIELD AND COORDINATE WITH THE POST TENSION REPAIR MATERIALS.
4. CONTRACTOR TO SUBMIT DETENSIONING PROCEDURE TO ENGINEER FOR APPROVAL AS REQUIRED.
5. FIELD VERIFY STRAND DIAMETER AND COORDINATE JACKING CRITERIA WITH ENGINEER. JACKING FORCE SHALL NOT EXCEED 80% Fu.

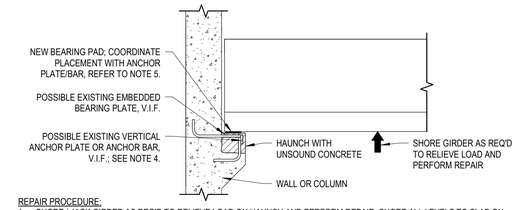
1 R4.2 REPAIR TYPE PTR - P/T TENDON SPLICE REPAIR DETAIL
1" = 1'-0"



NOTE:

1. CONSIDER THE LENGTH OF DAMAGE SHEATHING IS 2'-0" (NOM.) FOR BIDDING PURPOSES.

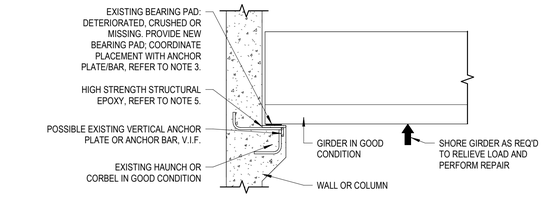
2 R4.2 REPAIR TYPE PTS - P/T TENDON SHEATHING REPAIR DETAIL
1" = 1'-0"



REPAIR PROCEDURE:

1. SHORE / JACK GIRDER AS REQ'D TO RELIEVE LOAD ON HAUNCH AND PERFORM REPAIR. SHORE ALL LEVELS TO SLAB ON GRADE AS REQ'D TO ENSURE INTERMEDIATE LEVELS ARE NOT OVERSTRESSED. SHORE / JACK MEMBER PER GENERAL NOTE A.3 ON SHEET R0.1.
2. SEE REPAIR DETAIL GENERAL NOTES FOR TYPICAL CONCRETE REPAIR PROCEDURES.
3. NOTIFY ENGINEER TO REVIEW REINFORCEMENT CONDITION AFTER DEMOLITION. INSTALL NEW REINFORCING PER ENGINEER'S DIRECTION AT UNIT PRICING.
4. IF A VERTICAL ANCHORAGE PLATE EXISTS, PERFORM SURFACE PREPARATION AS INDICATED ON R0.1. THEN WELD WIRE TO THE PLATE TO PROVIDE POSITIVE ANCHORAGE OF THE NEW REPAIR MORTAR. BEND W4.0 WIRE IN SINUSOIDAL SHAPE W/ 3/4" AMPLITUDE & 4" WAVELENGTH. CUT WIRES TO 1" LESS THAN THE PLATE WIDTH & TACK WELD TO THE HAUNCH PLATE @ 3" O.C. APPLY BONDING/ANTI-CORROSION AGENT TO THE PLATE & WIRE TO ASSURE THE REPAIR MATERIAL BONDS TO THE PLATE.
5. ADHERE NEW RANDOM ORIENTED FIBER BEARING PAD TO BOTTOM OF TEE STEM OR GIRDER USING STRUCTURAL ADHESIVE (1/2"xW-3"xD-2" FOR REPAIR TYPE HRG, WHERE W IS THE WIDTH OF THE HAUNCH AND D IS THE DEPTH OF THE HAUNCH IN INCHES). APPLY PRESSURE DURING ADHESION PROCESS TO ASSURE FULL CONTACT BETWEEN BEARING PAD AND CONCRETE. THE BEARING PAD SHALL BE POSITIONED SO IT DOES NOT PROJECT BEYOND THE INTERIOR FACE OF THE TRANSVERSE ANCHOR PLATE OR BAR WITHIN THE HAUNCH OR CORBEL.
6. PROVIDE 1 1/2" CONC. COVER ON EMBEDDED REBAR & PLATES.
7. REPAIR UNSOUND CONCRETE SIMILAR TO REPAIR TYPE OBR OR VR PER ENGINEER'S DIRECTION (ASSUME OBR-4 FOR BIDDING PURPOSES). ASSURE THAT NEW REPAIR PROVIDES FULL BEARING BETWEEN BEARING PAD AND CONCRETE SURFACES.
8. REMOVE SHORING AFTER MATERIAL REACHES DESIGN STRENGTH.
9. REPAIR UNIT IS PER HAUNCH.
   A. REPAIR TYPE HRG: CONCRETE GIRDER HAUNCH REPAIR
10. SUPERFICIAL CONCRETE REPAIRS THAT DO NOT REQUIRE SHORING AND BEARING PAD REPLACEMENT SHALL BE BILLED AS REPAIR TYPE VR OR OBR AS APPROPRIATE.

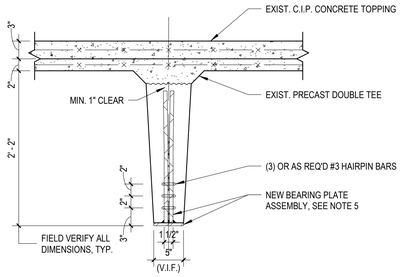
3 R4.2 REPAIR TYPE HRG - GIRDER HAUNCH REPAIR DETAIL
1" = 1'-0"



REPAIR PROCEDURE:

1. SHORE / JACK GIRDER AS REQ'D TO RELIEVE LOAD ON HAUNCH AND PERFORM REPAIR. SHORE ALL LEVELS TO SLAB ON GRADE AS REQ'D TO ENSURE INTERMEDIATE LEVELS ARE NOT OVERSTRESSED. SHORE / JACK MEMBER PER GENERAL NOTE A.3 ON SHEET R0.1.
2. CHIP THE CONCRETE BELOW THE BEARING PAD AS NEEDED TO REMOVE THE PAD, BUT NOT LESS THAN 1/2" OF CONCRETE.
3. ADHERE NEW RANDOM ORIENTED FIBER BEARING PAD TO BOTTOM OF GIRDER USING STRUCTURAL ADHESIVE (1/2"xW-3"xD-2" FOR REPAIR TYPE GBPR, WHERE W IS THE WIDTH OF THE HAUNCH AND D IS THE DEPTH OF THE HAUNCH IN INCHES). APPLY PRESSURE DURING ADHESION PROCESS TO ASSURE FULL CONTACT BETWEEN BEARING PAD AND CONCRETE. THE BEARING PAD SHALL BE POSITIONED SO IT DOES NOT PROJECT BEYOND THE INTERIOR FACE OF THE TRANSVERSE ANCHOR PLATE OR BAR WITHIN THE HAUNCH OR CORBEL.
4. SEE REPAIR DETAIL GENERAL NOTES FOR TYPICAL CONCRETE REPAIR PROCEDURES.
5. POUR LAYER OF HIGH STRENGTH STRUCTURAL EPOXY AS NEEDED TO FILL GAP AND PROVIDE FULL BEARING BETWEEN BEARING PAD AND CONCRETE SURFACES. PERFORM SURFACE PREPARATION, MIX AND INSTALL EPOXY PER MANUFACTURER'S WRITTEN INSTRUCTIONS. ACCEPTABLE EPOXY MATERIALS ARE SIKADUR 32 HI-MOD OR EQUAL. EPOXY SHALL BE MIXED WITH AN OVEN DRIED SILICA SAND AT THE RATE PER MANUFACTURER'S WRITTEN INSTRUCTIONS; SAND SHALL BE A "20/40", "30/40" OR SIMILAR BLEND. THE TOP 1/4" TO 3/8" OF EPOXY SHALL BE APPLIED NEAT (WITHOUT SAND). POUR A SUFFICIENT QUANTITY OF NEAT EPOXY TO ALLOW THE LEVEL TO RISE SLIGHTLY HIGHER THAN THE UNDERSIDE OF THE BEARING PAD.
6. REMOVE SHORING AFTER MATERIAL REACHES DESIGN STRENGTH.
7. REPAIR UNIT IS EACH.
   A. REPAIR TYPE GBPR: GIRDER BEARING PAD REPLACEMENT

4 R4.2 REPAIR TYPE GBPR -GIRDER BEARING PAD REPLACEMENT DETAIL
1" = 1'-0"

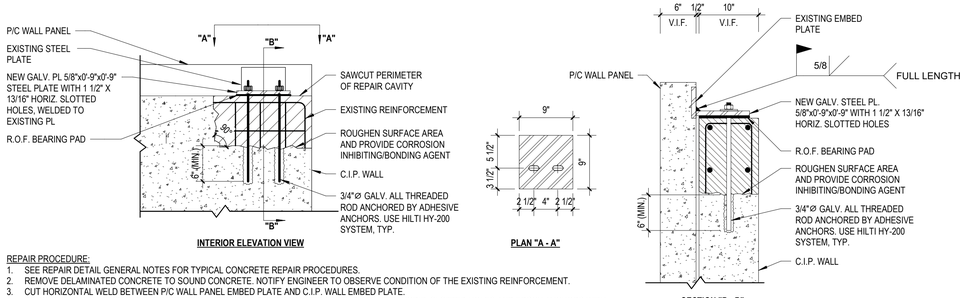


X TEE STEM SECTION

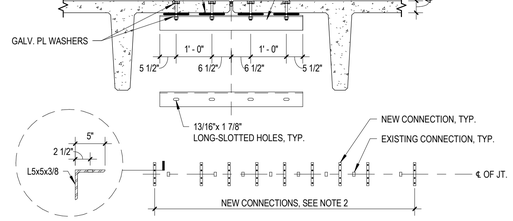
REPAIR PROCEDURE:

1. SEE REPAIR DETAIL GENERAL NOTES FOR TYPICAL CONCRETE REPAIR PROCEDURES.
2. REMOVE DELAMINATED CONCRETE TO SOUND CONCRETE. NOTIFY ENGINEER TO OBSERVE CONDITION OF THE EXISTING REINFORCEMENT.
3. CUT HORIZONTAL WELD BETWEEN P/C WALL PANEL EMBED PLATE AND C.I.P. WALL EMBED PLATE.
4. REMOVE C.I.P WALL EMBED PLATE ASSEMBLY AND INSTALL 5/8" GALVANIZED STEEL PLATE WITH HORIZ. SLOTTED HOLES AND EPOXY ANCHORS WITH 10" MIN. EMBEDMENT LENGTH IN SOUND CONCRETE.
5. APPLY REPAIR MORTAR APPROVED BY THE ENGINEER AS INDICATED IN THE SHADED AREA WITH FORMED AND PUMPED CONCRETE. SEE SPECS FOR ADD'L INFO.
6. RE-WELD NEWLY INSTALLED GALV. STEEL PLATE ON C.I.P. WALL TO EXISTING STEEL PLATE ON P/C WALL PANEL.
7. CONTRACTOR TO PROVIDE SHORING AND BRACING TO PREVENT MOVEMENT OF PANELS DURING WORK.

5 R4.2 REPAIR TYPE TSR1 - TEE STEM SHEAR REPAIR DETAIL - NON-DAPPED END
1" = 1'-0"



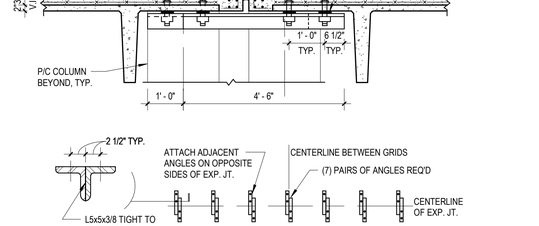
8 R4.2 REPAIR TYPE PCR - P/C PANEL CONNECTION REPAIR
1" = 1'-0"



REPAIR PROCEDURE:

1. ALL CONN. HARDWARE SHALL BE GALVANIZED.
2. LOCATE NEW CONNECTIONS BETWEEN EXISTING CONNECTIONS, OR AS DIRECTED BY ENGINEER.
3. BOLT RECESS SHALL BE 1" DEEP & CUT WITH A 2 1/4" DIAMETER CONCRETE CORE BIT (WET DRILL).
4. MAINTAIN CAUTION TO PREVENT BLOWOUT OF UNDERSIDE OF TEE WHEN DRILLING FULL DEPTH BOLT HOLE; USE WET CORE BIT OR OTHER MEANS TO PREVENT BLOWOUT.
5. SEE REPAIR DETAIL GENERAL NOTES FOR TYPICAL CONCRETE REPAIR PROCEDURES AS REQ'D.

6 R4.2 REPAIR TYPE TTC5 - TEE-TO-TEE CONNECTION REPAIR DETAIL (ANGLE CONN.)
1/2" = 1'-0"

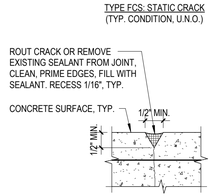


NOTES:

1. ALL CONNECTION HARDWARE SHALL BE GALVANIZED.
2. ALIGN BOLT HOLES (DRILLED IN P/C TEES) & ANGLES WITH DIRECTION OF MOVEMENT (PERPENDICULAR TO LENGTH OF TEES) TO ALLOW FREE MOVEMENT.

7 R4.2 REPAIR TYPE STA - STEEL TRANSFER ANGLE REPAIR DETAIL
1/2" = 1'-0"

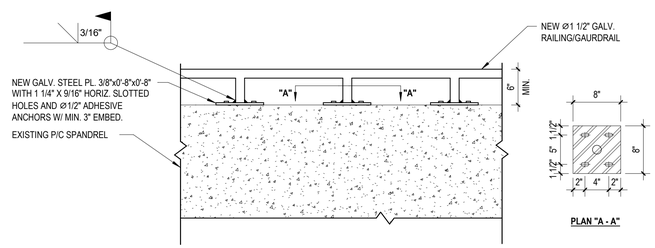
TYPE FCS: STATIC CRACK
(TYP. CONDITION, U.N.O.)



REPAIR PROCEDURES:

1. ROUT AT CENTER OF CRACK OR TOOLED JOINT TO FORM A GROOVE AND GRIND ANY UNEVEN SURFACES OR REMOVE SEALANT FROM EXISTING JOINT.
2. REMOVE DUST, FOREIGN PARTICLES, AND ANY BOND INHIBITING MATERIAL FROM SURFACE BY AIR OR SAND BLASTING AS REQUIRED.
3. SEALANT MUST BE APPLIED EVENLY AND RECESSED 1/16" BELOW SURFACE. INSTALL SEALANT FLUSH WITH SURFACE FOR AREAS TO RECEIVE TRAFFIC DECK MEMBRANE. DO NOT OVERFILL JOINT.
4. SEE SPECIFICATION SECTION 079020 FOR ADDITIONAL REQUIREMENTS.
5. AT FCS: WHERE URETHANE TRAFFIC DECK COATING IS INDICATED ON THE DRAWINGS, APPLY SEALANT PRIOR TO APPLICATION OF THE TRAFFIC DECK COATING.

9 R4.2 REPAIR TYPE FCS - FLOOR CRACK REPAIR DETAIL
1" = 1'-0"



10 R4.2 REPAIR TYPE RGI - RAILING/GAURDRAIL INSTALLATION
1" = 1'-0"

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PROFESSIONAL SEAL

CONSULTANT

PROJECT NO.
ATL23110.01

PROJECT

MEMPHIS DOWNTOWN PARKING FACILITIES

2024 RESTORATION

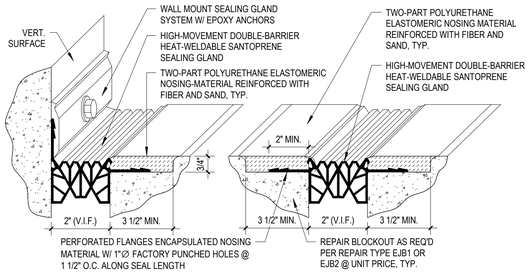
SUBMISSIONS / REVISIONS
03/08/2024
ISSUED FOR BID

NO.	DESCRIPTION	DATE

DRAWN: DJB
REVIEWED: SHH
DATE: 03/08/2024

SHEET TITLE:
RESTORATION REPAIR DETAILS

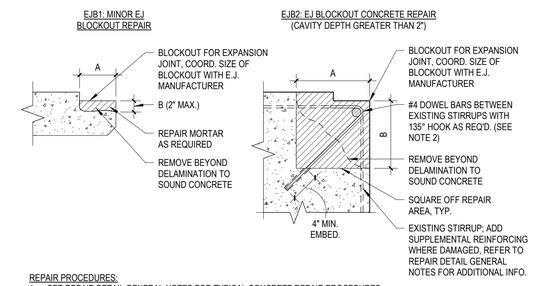
SHEET NO.
R4.2



REPAIR PROCEDURES:

1. EXPANSION JOINT MANUFACTURER TO SIZE SEALING GLAND FOR FIELD MEASURED GAP AND TO ACCOUNT FOR ALL APPLICABLE MOVEMENT AFTER INSTALLATION.
2. THE CONTRACTOR MUST COORDINATE ACTUAL SIZE OF BLOCKOUTS REQUIRED BY EXPANSION JOINT MATERIAL.
3. VERIFY THE FOLLOWING INFORMATION WITH THE MANUFACTURER'S TECHNICAL REPRESENTATIVE AND SUBMIT THE SHOP DRAWINGS PRIOR TO ORDERING MATERIAL: JOINT SELECTED, FIELD MEASUREMENT, DATE TAKEN, OUTDOOR TEMPERATURE, & STRUCTURE TEMPERATURE (TOP & BOTTOM).
4. REMOVE EXISTING JOINT & PREP JOINT SUBSTRATE AS REQUIRED PER MANUFACTURER'S REQUIREMENTS.
5. PROVIDE SPLICES PER TYPICAL EXPANSION JOINT SPLICE DETAIL & MANUFACTURER'S REQUIREMENTS, AS REQ'D. SEE TYPICAL EXPANSION JOINT SPLICE DETAIL FOR ADDITIONAL INFORMATION.
6. THE EXPANSION JOINT SYSTEM MUST BE ADA-ACCESSIBLE.
7. USE WALL EXPANSION JOINT WHERE APPLICABLE.
8. REPAIR TYPE EJ SHALL CONSIST OF REMOVING AND REPLACING THE ENTIRE EXPANSION JOINT SYSTEM.
9. REPAIR TYPE EJN SHALL CONSIST OF REMOVING AND REPLACING THE ELASTOMERIC NOSING MATERIAL ON ONE SIDE OF THE JOINT. THE NEW NOSING MATERIAL SHALL BE INSTALLED PER THE MANUFACTURER'S WRITTEN INSTRUCTIONS. ASSUME A = 4" & B = 2" (UNIT OF REPAIR = LF). A TWO-PART POLYURETHANE ELASTOMERIC NOSING-MATERIAL REINFORCED WITH FIBER AND SAND SHOULD BE USED.

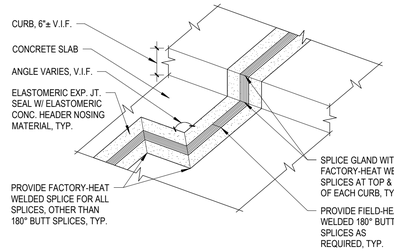
1 R4.3 REPAIR TYPE EJ & EJN - EXPANSION JOINT REPLACEMENT & NOSING REPAIR DETAIL
1" = 1'-0"



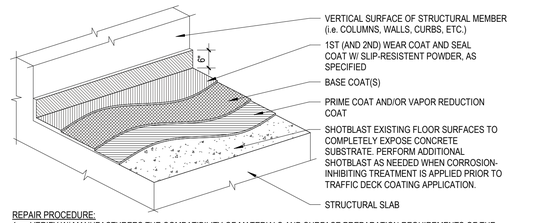
REPAIR PROCEDURES:

1. SEE REPAIR DETAIL GENERAL NOTES FOR TYPICAL CONCRETE REPAIR PROCEDURES.
2. FOR REPAIR CAVITIES 4" OR MORE, PROVIDE #4 ADHESIVE DOWEL BARS WITH 135° HOOKS IN BETWEEN STIRRUPS @ 6" O.C. MAX.
3. FOR REPAIR TYPE EJB1, ASSUME A = 3 1/2" & B = 2" (UNIT OF REPAIR = LF). AN EPOXY-SAND PATCHING MATERIAL SHOULD BE USED.
4. FOR REPAIR TYPE EJB2, ASSUME A = 6" & B = 4" (UNIT OF REPAIR = LF). INCLUDE THE COST OF THE ADHESIVE DOWELS IN THE UNIT COST.

2 R4.3 REPAIR TYPE EJB1 & EJB2 - EXPANSION JOINT BLOCKOUT REPAIR DETAIL (REFERENCE DETAIL)
1" = 1'-0"



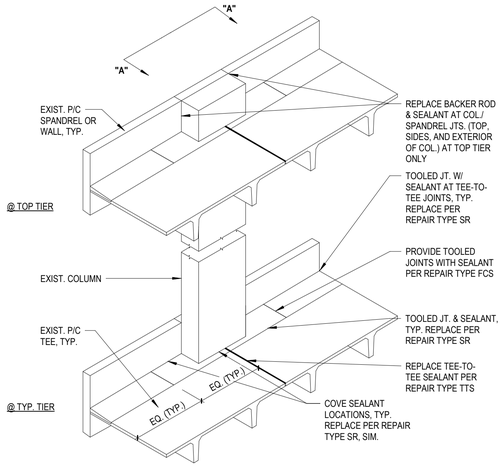
3 R4.3 TYPICAL EXPANSION JOINT SPLICE DETAIL (REFERENCE DETAIL)
1" = 1'-0"



REPAIR PROCEDURE:

1. VERIFY W/ MANUFACTURERS THE COMPATIBILITY OF MATERIALS AND SURFACE PREPARATION REQUIREMENTS OF THE VARIOUS LAYERS OF THE SURFACE TREATMENT SYSTEM INCLUDING VAPOR REDUCTION COAT AND/OR CORROSION-INHIBITING TREATMENT, WHEN APPLICABLE. PROVIDE MOCKUP AND HAVE TRAFFIC MEMBRANE MANUFACTURER'S REPRESENTATIVE PERFORM PULL TEST AND REPORT RESULTS TO ENGINEER FOR APPROVAL PRIOR TO PROCEEDING WITH WORK.
2. DEGREASE AND SHOT BLAST EXISTING FLOOR SURFACES TO REMOVE EXISTING LAITANCE, SEALERS, SEALANTS, SURFACE COATINGS, TRAFFIC PAINTING, AND FOREIGN SUBSTANCES.
3. PREPARE SURFACE & CRACKS IN ACCORDANCE WITH THE MANUFACTURER'S REQUIREMENTS AND PROCEDURES. SEE SPECIFICATION SECTION 079020 FOR ADDITIONAL REQUIREMENTS.
4. APPLY COATING PER SPECIFICATION SECTION 079020 AND PER MANUFACTURER'S WRITTEN INSTRUCTIONS. EXTEND MIN. 6" BEYOND NEWLY REPAIRED CONCRETE FLOOR PATCH PERIMETER AND VERTICAL SURFACES AS NOTED. EXTEND 6" OVER EXISTING DECK COATING WHERE APPLICABLE. PROVIDE REINFORCING FABRIC ABOVE TEE-TO-TEE JOINTS PER REPAIR TYPE TCT, AS REQUIRED. INCLUDE COST OF REINFORCING FABRIC IN THE UNIT PRICE.
5. CONTRACTOR TO RE-STRIPE PARKING STALLS TO MATCH EXISTING CONDITION. REFER TO SPECIFICATION 321723 FOR ADDITIONAL INFORMATION.
6. TRAFFIC DECK COATING LEGEND:
   A. TCAU = TRAFFIC DECK COATING APPLICATION - URETHANE SYSTEM PER SPEC SECTION 079020.

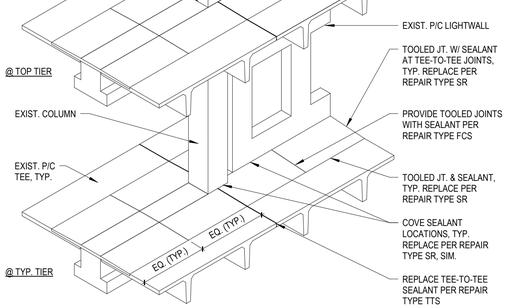
4 R4.3 REPAIR TYPE TCAU - TRAFFIC DECK COATING APPLICATION DETAIL
1" = 1'-0"



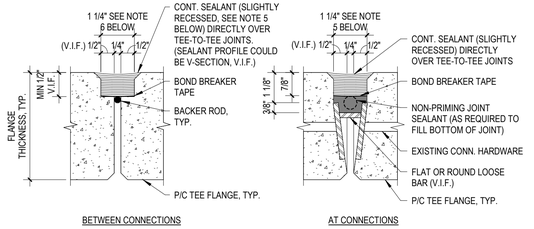
NOTES:

1. VERTICAL SEALANT AT BRICK STAIR TOWER WALLS TO MATCH COLOR OF EXISTING BRICK.

5 R4.3 TYPICAL EXTERIOR P/C JOINT SEALANT DETAIL @ P/C TEE SYSTEM DETAIL (REFERENCE DETAIL)
1" = 1'-0"



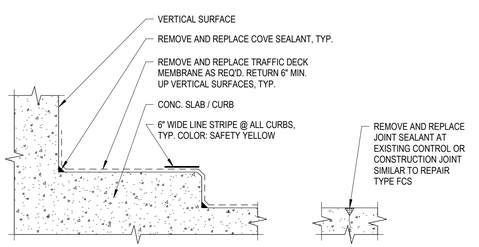
6 R4.3 TYPICAL INTERIOR P/C JOINT SEALANT DETAIL @ P/C TEE SYSTEM DETAIL (REFERENCE DETAIL)
1" = 1'-0"



REPAIR PROCEDURE:

1. REMOVE EXISTING SEALANT ALONG THE ENTIRE LENGTH OF DOUBLE TEE, U.N.O.
2. INSPECT TEE-TO-TEE CONNECTIONS AND REPORT DETERIORATION AND/OR FAILURES TO ENGINEER. CONNECTION FAILURES THAT ARE NOT OBVIOUS DURING A VISUAL INSPECTION, BECOME MORE APPARENT IF DIFFERENTIAL DEFLECTION OCCURS WHEN A VEHICLE PASSES OVER THE JOINT. REPAIR CONNECTIONS PER ENGINEER'S DIRECTION USING REPAIR TYPE TTC. DO NOT REPLACE JOINT SEALANT UNTIL CONNECTION REPAIRS ARE COMPLETE.
3. REMOVE DUST, FOREIGN PARTICLES, AND BOND INHIBITING MATERIAL FROM SURFACE BY BLAST-CLEANING.
4. PROVIDE BOND-BREAKING TAPE AT BOTTOM OF JOINTS. APPLY PRIME COAT TO SURFACE AND SEAL WITH AN APPROVED POLYURETHANE SEALANT IN ACCORDANCE WITH MANUFACTURER'S REQUIREMENTS AND PROCEDURES. DO NOT OVERFILL JOINT.
5. SEALANT MUST BE APPLIED EVENLY AND RECESSED SLIGHTLY (1/16") BELOW SURFACE.
6. JOINTS BETWEEN TEE COMPONENTS MAY VARY IN THE FIELD. FIELD VERIFY ACTUAL CONDITIONS.

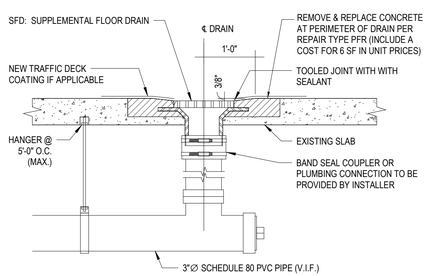
7 R4.3 REPAIR TYPE TTS - TEE-TO-TEE SEALANT REPLACEMENT DETAIL
1" = 1'-0"



REPAIR PROCEDURE:

1. SEE REPAIR PROCEDURE ON REPAIR TYPE FCS FOR ADDITIONAL INFO.
2. WHERE URETHANE TRAFFIC DECK COATING IS INDICATED ON THE DRAWINGS, APPLY SEALANT PRIOR TO APPLICATION OF THE TRAFFIC DECK COATING.
3. UNIT PRICE INCLUDES PER LF OF SEALANT REPLACEMENT. TRAFFIC DECK MEMBRANE AND LINE STRIPING ARE NOT INCLUDED.
4. REPAIR TYPE SR APPLIES TO HORIZONTAL FLOOR JOINTS INCLUDING CONTROL, CONSTRUCTION, AND COVE JOINTS; JOINT SIZE IS PER REPAIR TYPE FCS.

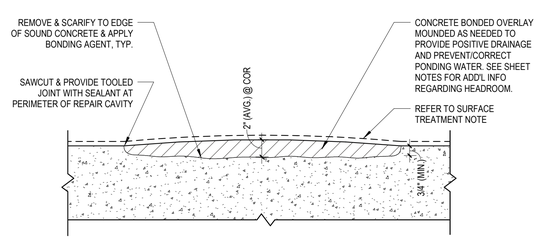
8 R4.3 REPAIR TYPE SR - SEALANT REPLACEMENT DETAIL (HORIZONTAL)
1" = 1'-0"



REPAIR PROCEDURE:

1. GRIND & SMOOTH HIGH SURFACE AREA TO OBTAIN POSITIVE SLOPE FOR DRAINAGE (MIN. 1/4" PER FT.).
2. PROVIDE 1/8" PER FT. MIN. PITCH & CONNECT TO EXISTING DRAIN LINE. RUN PIPE ADJACENT TO BEAM AND MAINTAIN HEADROOM CLEARANCE AT DRIVE LANES. PROVIDE ELBOWS, CLEANOUTS & OTHER CONNECTIONS AS REQUIRED TO ROUTE PIPE TO EXISTING DRAIN LINE & MEET CODE REQUIREMENTS. RUN PIPE AS HIGH AS POSSIBLE AT PARKING SPACES TO MINIMIZE PROJECTIONS BELOW STRUCTURE. RUN PIPE TIGHT TO COLUMNS OR WALLS IF POSSIBLE. PROVIDE AN ALLOWANCE OF 20 LF OF PIPING PER INSTALLED DRAIN FOR BIDDING PURPOSES, U.N.O. ON PLAN.
3. LOCATE REINFORCING, CONDUIT, AND OTHER OBSTRUCTIONS PRIOR TO PUNCHING THROUGH SLAB.
4. DO NOT DAMAGE EXISTING EMBEDDED MATERIAL AND NOTIFY ENGINEER PRIOR TO REMOVING ANY REINFORCING.
5. INSTALL WATTS FD-910 EPOXY COATED CAST IRON PARKING DECK DRAIN OR EQUAL.
6. AT REPAIR TYPE SFD, DRAIN LOCATION TO BE DETERMINED IN THE FIELD BASED ON ACTUAL WATER PONDING AT LOW SPOTS.

9 R4.3 REPAIR TYPE SFD - SUPPLEMENTAL FLOOR DRAIN DETAIL
1" = 1'-0"



REPAIR PROCEDURE:

1. SEE REPAIR DETAIL GENERAL NOTES FOR TYPICAL CONCRETE REPAIR PROCEDURES.
2. REMOVE DELAMINATED CONCRETE TO SOUND CONCRETE AND AS REQUIRED TO ASSURE A MINIMUM OVERLAY THICKNESS OF 3/4".
3. APPLY APPROVED CONCRETE OVERLAY MATERIALS OVER PREPARED SURFACE IN ACCORDANCE WITH MANUFACTURER REQUIREMENTS AND RECOMMENDED PROCEDURES.
4. AFTER PLACEMENT OF CONCRETE, TOOL JOINTS AND APPLY JOINT SEALANT AT EDGES OF REPAIR AREA AND ALONG TEE-TO-TEE JOINTS. REFER TO "TYPICAL CONTROL JOINT DETAIL" FOR ADDITIONAL REQUIREMENT AND TOOLED JOINTS THAT MAY APPLY. CAVITY PERIMETER JOINTS AND CONTROL JOINTS SHALL BE INCLUDED IN COR UNIT COST.
5. SURFACE TREATMENT NOTE: APPLY PENETRATING SEALER, PENETRATING CORROSION INHIBITING TREATMENT, TRAFFIC DECK COATING, AND/OR OTHER SURFACE TREATMENT AS INDICATED ON THE DRAWINGS. IF SURFACE TREATMENT IS NOT INDICATED, APPLY PENETRATING SEALER TO THE REPAIR AND EXTEND 6" MIN. BEYOND PERIMETER OF REPAIR. THE PENETRATING SEALER SHALL BE INCLUDED IN THE UNIT COST OF THE CONCRETE REPAIR; ALL OTHER SURFACE TREATMENTS SHALL BE EXCLUDED FROM THE UNIT COST.

10 R4.3 REPAIR TYPE COR - CONCRETE OVERLAY REPAIR DETAIL
1" = 1'-0"

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PROFESSIONAL SEAL

CONSULTANT

PROJECT NO.
ATL23110.01

PROJECT

MEMPHIS DOWNTOWN PARKING FACILITIES

2024 RESTORATION

SUBMISSIONS / REVISIONS
03/08/2024
ISSUED FOR BID

NO.	DESCRIPTION	DATE

DRAWN: DJB
REVIEWED: SHH
DATE: 03/08/2024

SHEET TITLE:
RESTORATION REPAIR DETAILS

SHEET NO.
R4.3

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:

1. ELECTRICAL BOXES AND FITTINGS.
2. SUPPORTING DEVICES.
3. GROUNDING.
4. LIGHTING FIXTURES AND LAMPS.
5. 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

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.

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 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 Lights	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	

ELECTRICAL ABBREVIATIONS

XX"	INDICATES MOUNTING HEIGHT AFF
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
ATS	AUTOMATIC TRANSFER SWITCH
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ELECTRICAL LEGEND

	DUPLEX
	GFCI DUPLEX
	NON-FUSED DISCONNECT
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Nashville

PROJECT NO.
ATL23110.01

PROJECT

MEMPHIS DOWNTOWN PARKING FACILITIES

2024 RESTORATION

SHOPPERS PARKING GARAGE

SUBMISSIONS / REVISIONS
03/08/2024
ISSUED FOR BID

NO.	DESCRIPTION	DATE

NORTH

DRAWN: BJB
REVIEWED: EJW
DATE: 12/1/23

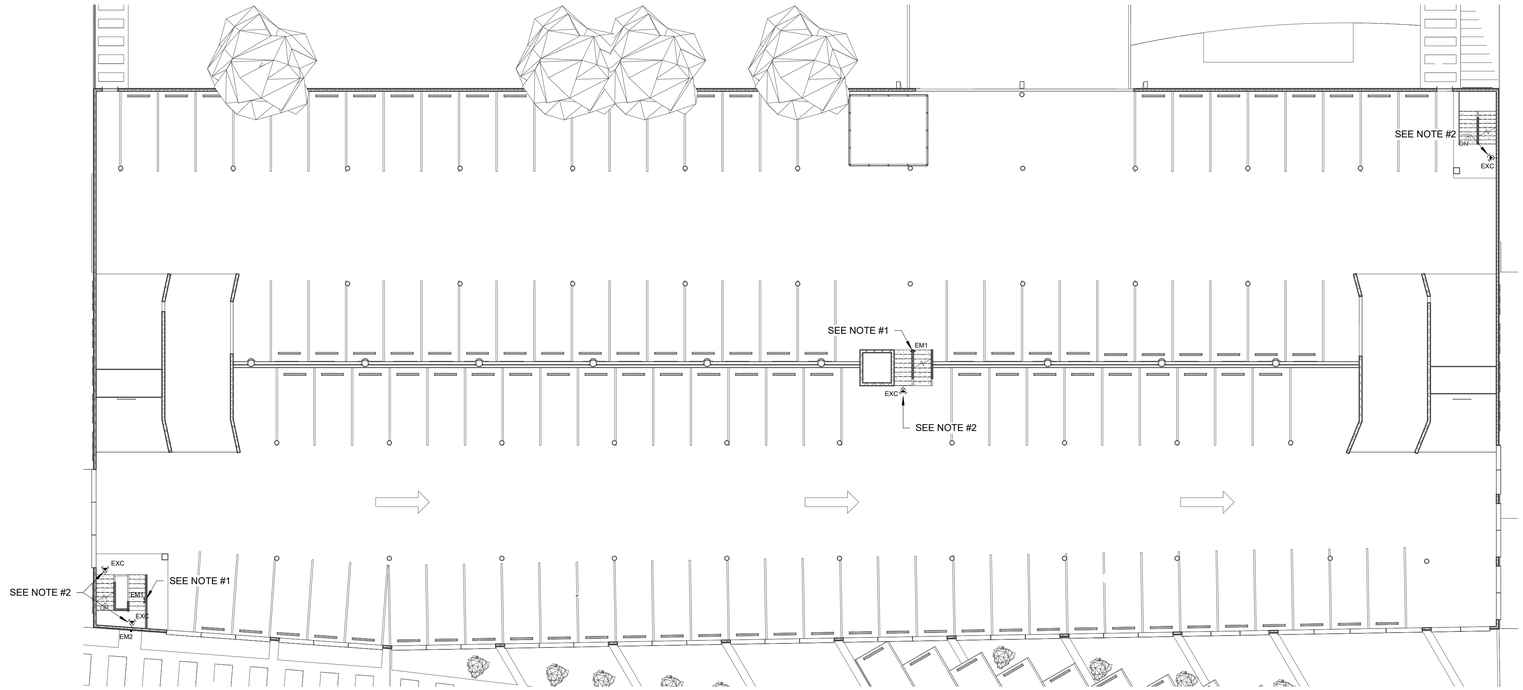
SHEET TITLE:
GENERAL NOTES, SCHEDULES AND LEGEND

SHEET NO.
E1.0

NOTES:

1. 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 SIGNS.



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

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SHOPPERS LOWER TIER LIGHTING

SHEET NO.
E1.1

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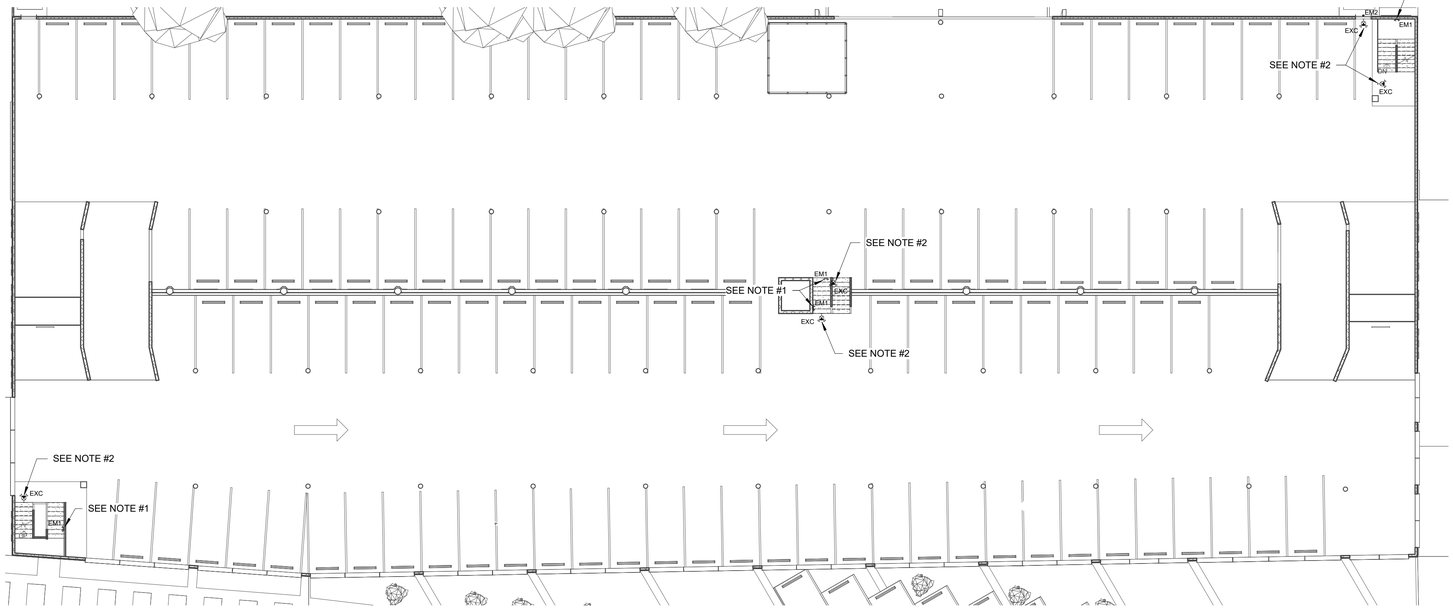
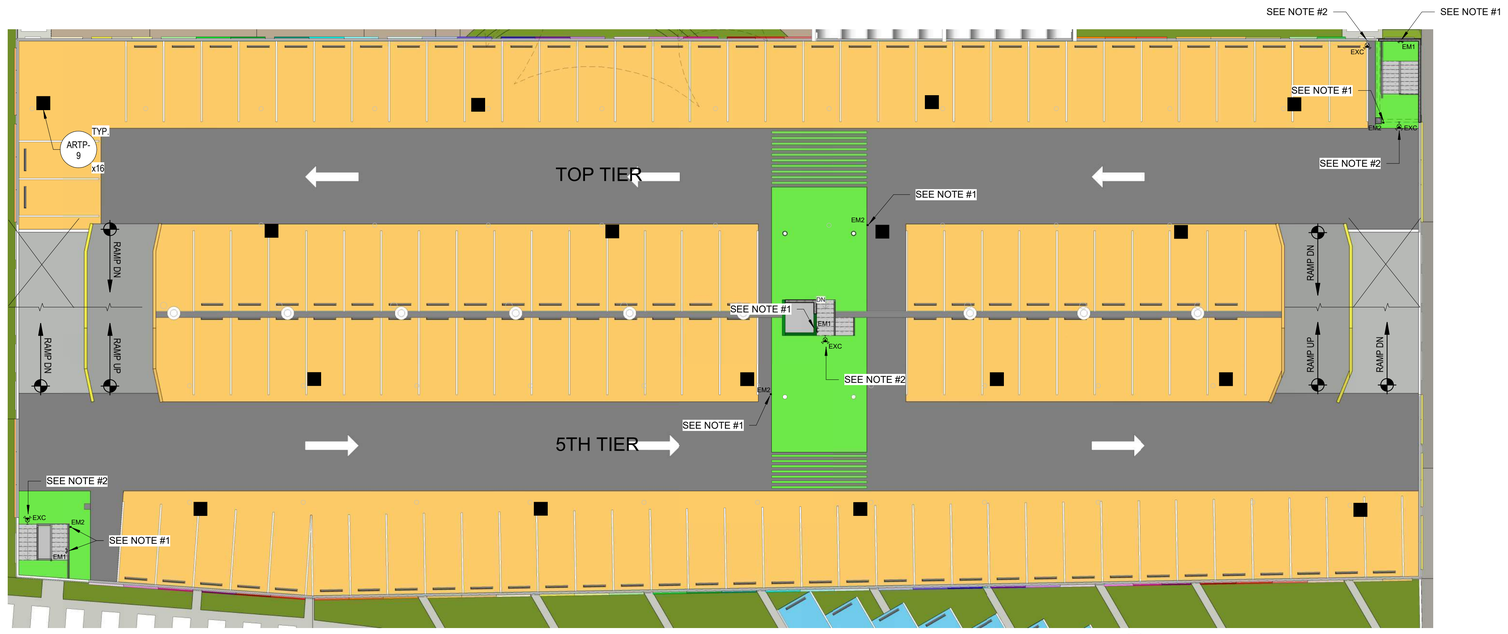


1 E1.2 **SHOPPERS GARAGE 3RD AND 4TH TIER**
1/16" = 1'-0"



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

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2024 RESTORATION

SHOPPERS PARKING GARAGE

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NO.	DESCRIPTION	DATE

NORTH

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SHEET TITLE:
SHOPPERS INTERMEDIATE & UPPER TIER LIGHTING

SHEET 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.
2. BRANCH CIRCUITS IN CONDUIT RACEWAY.
3. ELECTRICAL BOXES AND FITTINGS.
4. CIRCUIT AND MOTOR DISCONNECTS.
5. OVERCURRENT PROTECTIVE DEVICES.
6. SUPPORTING DEVICES.
7. PANELBOARDS.
8. GROUNDING.
9. LIGHTING FIXTURES AND LAMPS.
10. EXIT SIGNS AND EMERGENCY LIGHTING.
11. WIRING FOR HEATING, VENTILATING AND AIR CONDITIONING EQUIPMENT.
12. IDENTIFICATION OF ELECTRICAL EQUIPMENT.

WORK BY OTHERS

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

1. 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 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

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.

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CJC PARKING GARAGE

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NO.	DESCRIPTION	DATE

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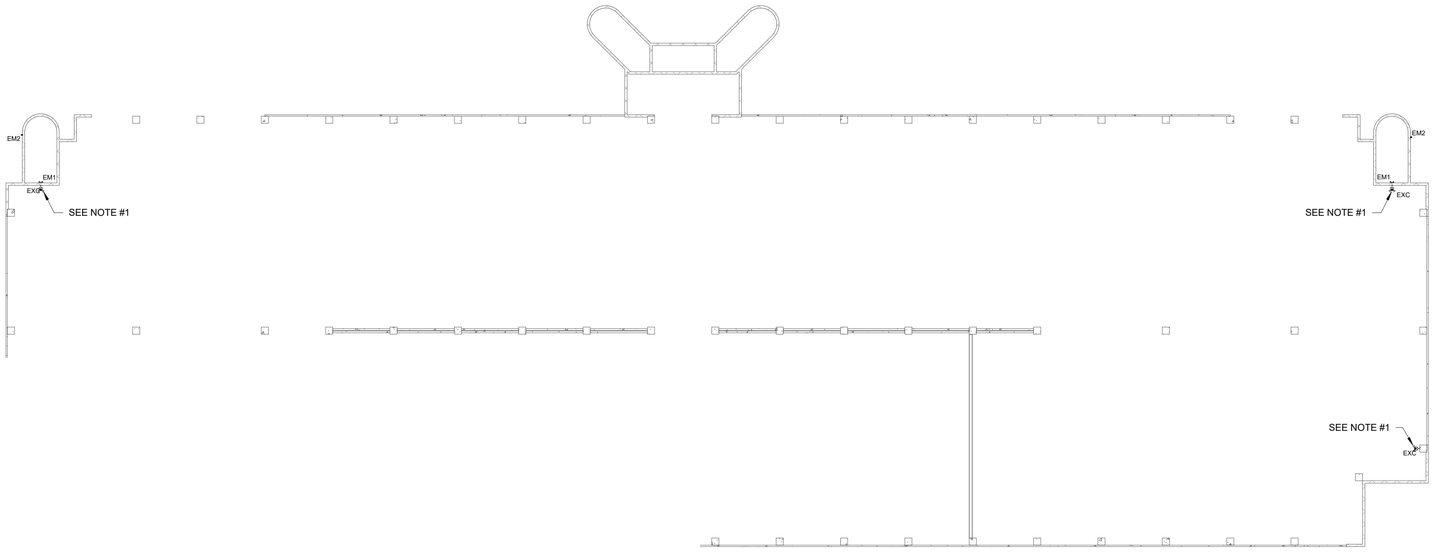
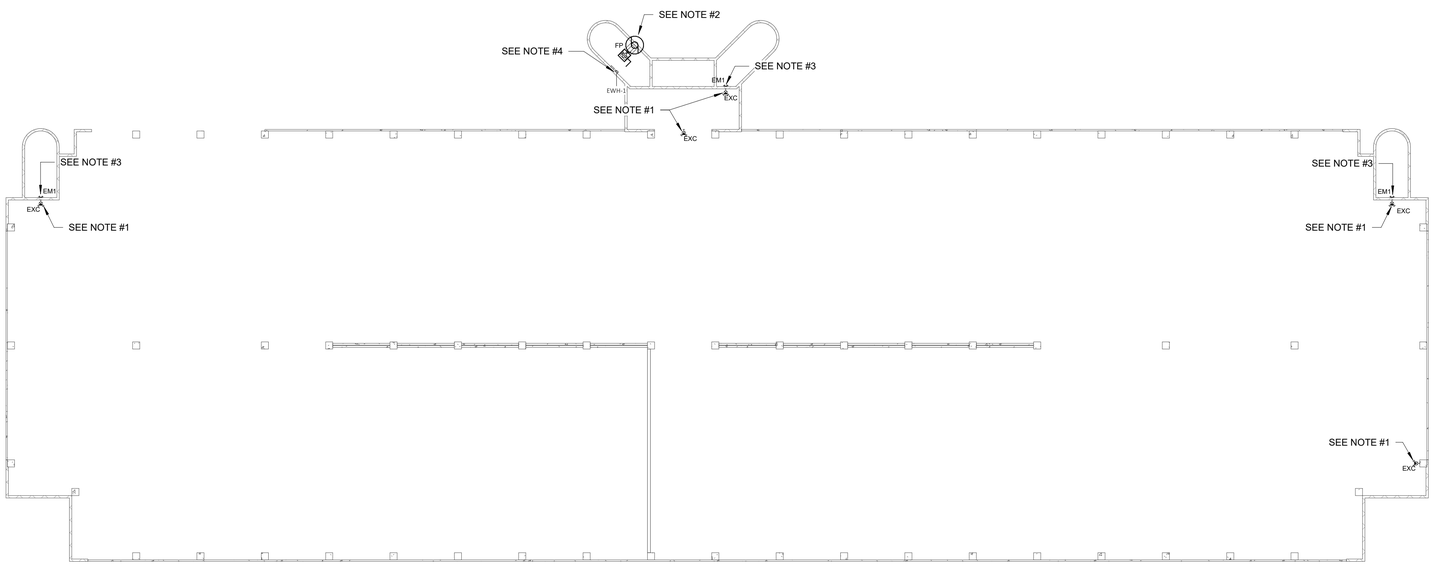
DRAWN: Author
REVIEWED: Checker
DATE: 07/18/19

SHEET TITLE:
GENERAL NOTES, SCHEDULES AND LEGEND

SHEET NO.
E2.0



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



2 E2.1 **CRIMINAL JUSTICE 2ND TIER**
1" = 20'-0"

NOTES:

1. 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.
2. EXISTING FIRE PUMP TO BE REPLACED 1 FOR 1. COORDINATE INSTALLATION OF NEW 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 SELECTION.)
3. REPLACE EXISTING EMERGENCY LIGHTS THROUGHOUT THE GARAGE AND STAIRWELLS 1 FOR 1. FIELD VERIFY THE EXACT QUANTITY AND LOCATIONS BEFORE INSTALLATION.
4. EXISTING WALL HEATER IN THE FIRE PUMP ROOM TO BE REPLACED 1 FOR 1. 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 ACTUAL FEED SIZE WITH THE FINAL HEATER SELECTION.)

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PROJECT NO.
ATL23110.01

PROJECT

MEMPHIS DOWNTOWN PARKING FACILITIES

2024 RESTORATION

CJC PARKING GARAGE

SUBMISSIONS / REVISIONS
03/08/2024
ISSUED FOR BID

NO.	DESCRIPTION	DATE

NORTH

DRAWN: BJB
REVIEWED: EJW
DATE: 12/1/23

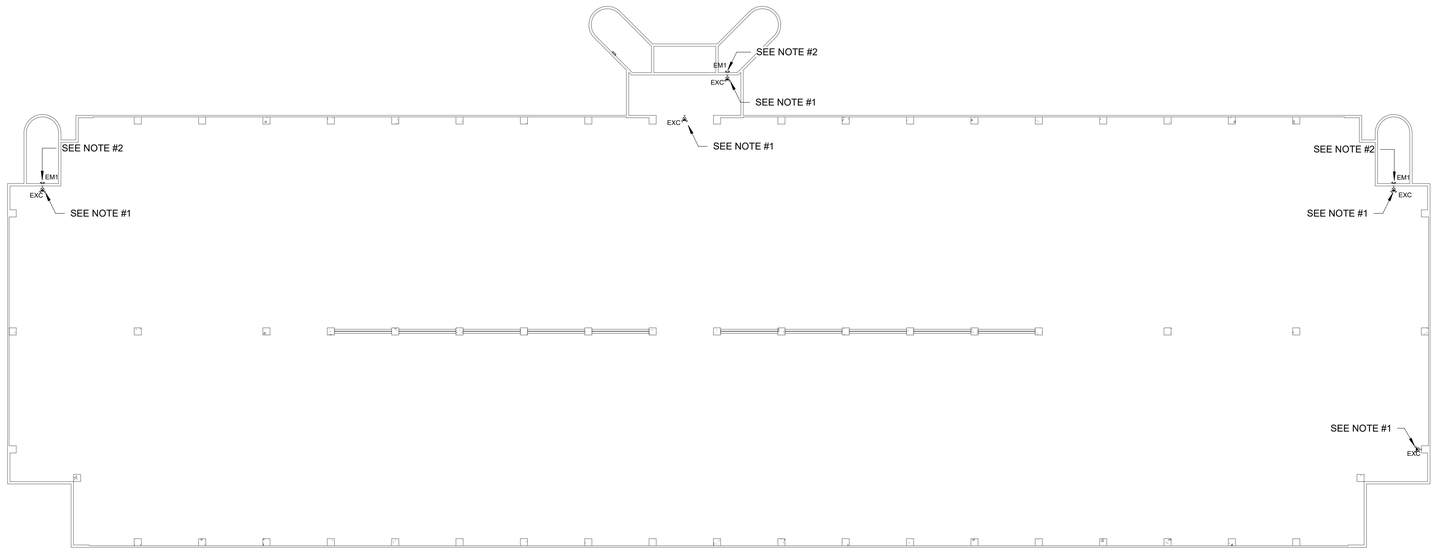
SHEET TITLE:
CJC GROUND & SECOND TIER LIGHTING

SHEET NO.
E2.1

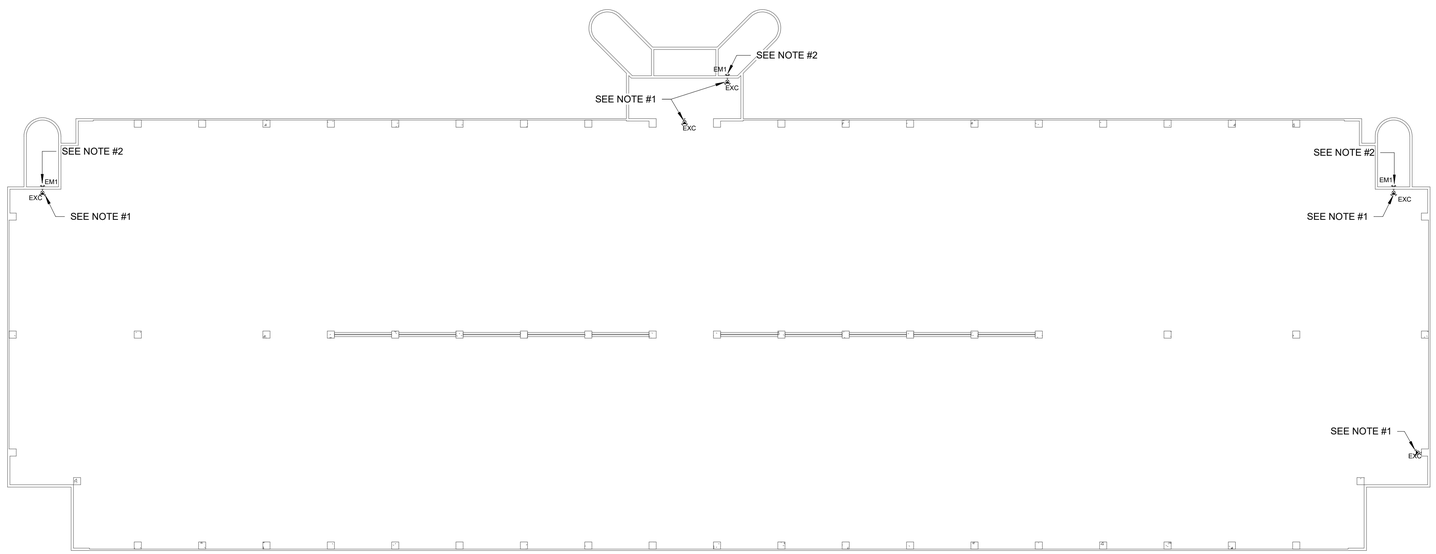
NOTES:

1. 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.

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



1 E2.2 **CRIMINAL JUSTICE 3RD TIER**
1" = 20'-0"



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

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MEMPHIS DOWNTOWN PARKING FACILITIES

2024 RESTORATION

CJC PARKING GARAGE

SUBMISSIONS / REVISIONS
03/08/2024
ISSUED FOR BID

NO.	DESCRIPTION	DATE

NORTH

DRAWN: BJB
REVIEWED: EJW
DATE: 12/1/23

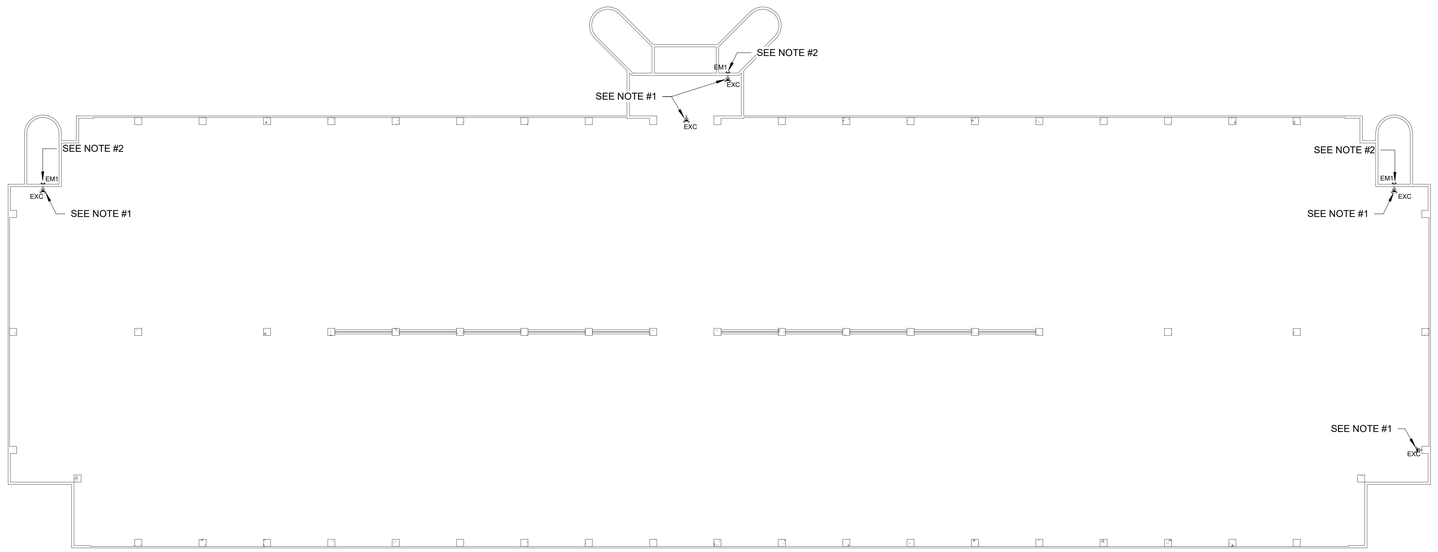
SHEET TITLE:
CJC THIRD & FOURTH TIER LIGHTING

SHEET NO.
E2.2

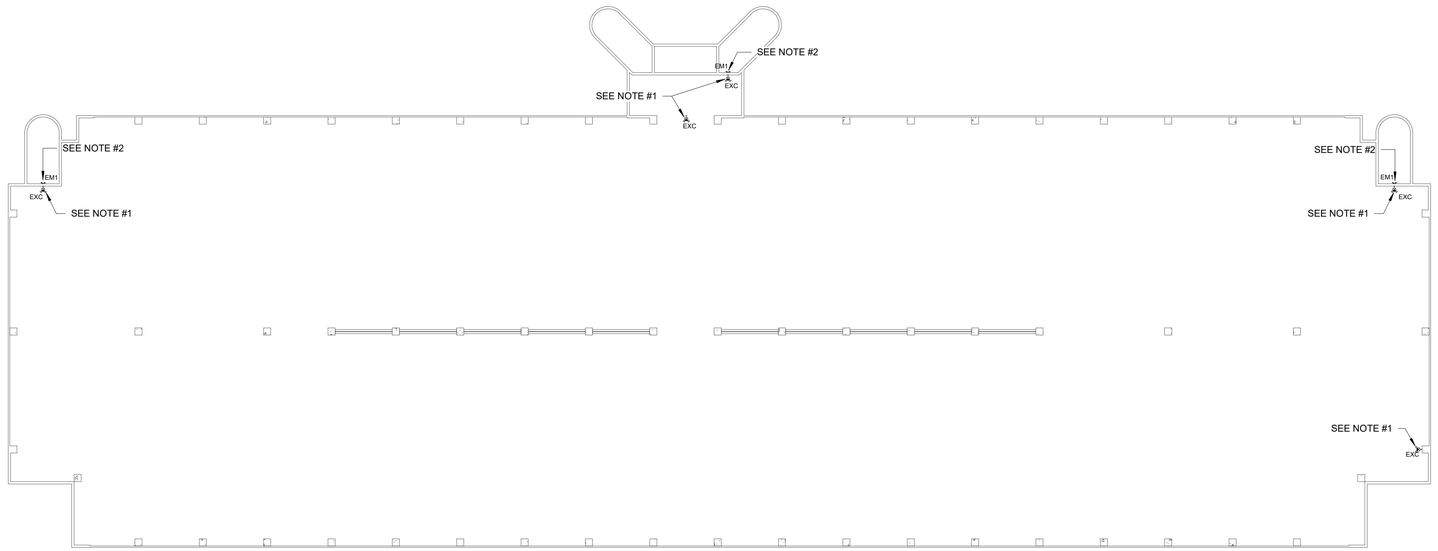
NOTES:

1. 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.

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



1 E2.3 **CRIMINAL JUSTICE 5TH TIER**
1" = 20'-0"



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

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MEMPHIS DOWNTOWN PARKING FACILITIES

2024 RESTORATION

CJC PARKING GARAGE

SUBMISSIONS / REVISIONS
03/08/2024
ISSUED FOR BID

NO.	DESCRIPTION	DATE

NORTH

DRAWN: BJB
REVIEWED: EJW
DATE: 12/1/23

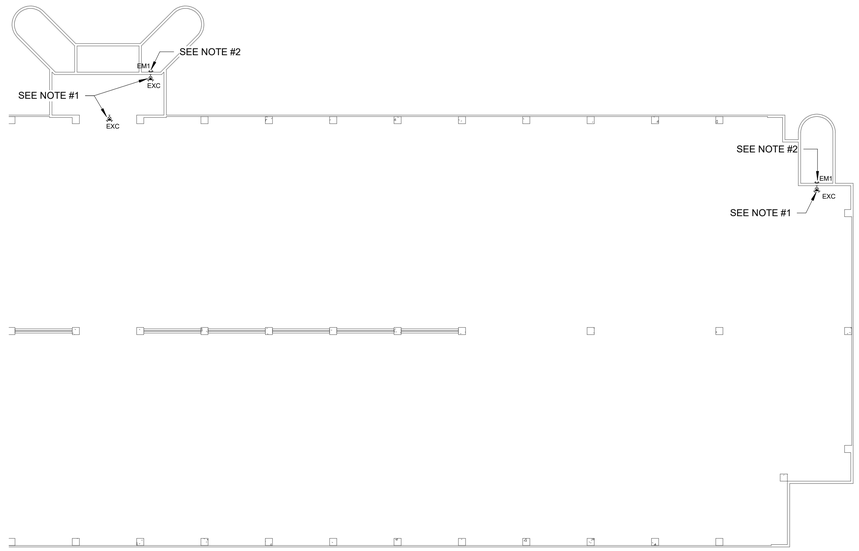
SHEET TITLE:
CJC FIFTH & SIXTH TIER LIGHTING

SHEET NO.
E2.3

NOTES:

1. 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.

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



1 E2.4 **CRIMINAL JUSTICE 7TH TIER**
1" = 20'-0"

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2024 RESTORATION

CJC PARKING GARAGE

SUBMISSIONS / REVISIONS
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NO.	DESCRIPTION	DATE

NORTH

DRAWN: BJB
REVIEWED: EJW
DATE: 12/1/23

SHEET TITLE:
CJC SEVENTH TIER LIGHTING

SHEET NO.
E2.4

ELECTRICAL SPECIFICATIONS

SCOPE

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:

1. ELECTRICAL BOXES AND FITTINGS.
2. SUPPORTING DEVICES.
3. GROUNDING.
4. LIGHTING FIXTURES AND LAMPS.
5. 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

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.

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 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	ELM2 LED	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	

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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MEMPHIS DOWNTOWN PARKING FACILITIES

2024 RESTORATION

PEABODY PARKING GARAGE

SUBMISSIONS / REVISIONS
03/08/2024
ISSUED FOR BID

NO.	DESCRIPTION	DATE

NORTH

DRAWN: Author
REVIEWED: Checker
DATE: 07/18/19

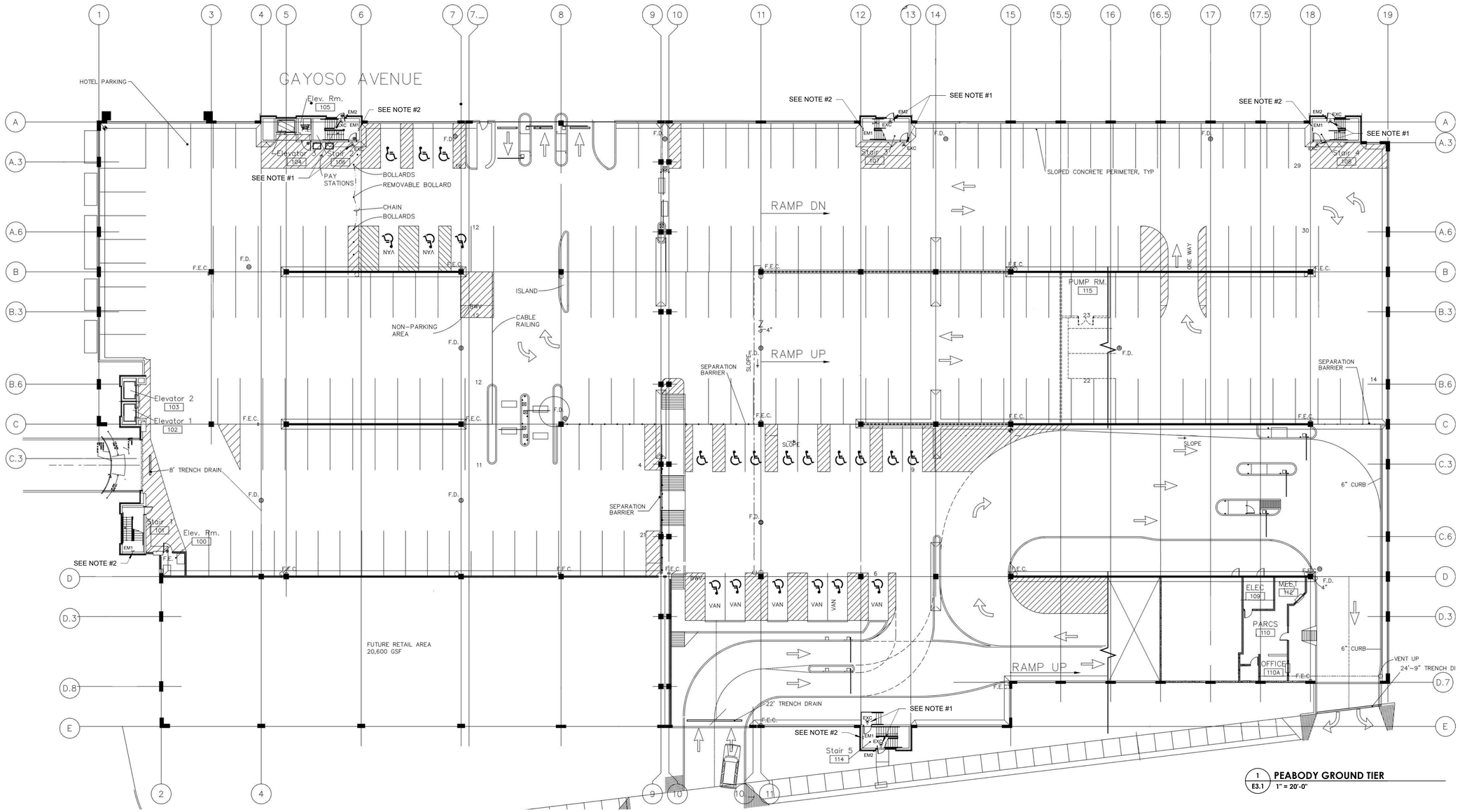
SHEET TITLE:
GENERAL NOTES, SCHEDULES AND LEGEND

SHEET NO.
E3.0

NOTES:

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.



1 E3.1 **PEABODY GROUND TIER**
1" = 20'-0"

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PROJECT NO: 23205

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Memphis Nashville

PROJECT NO.
ATL23110.01

PROJECT

MEMPHIS DOWNTOWN PARKING FACILITIES

2024 RESTORATION

PEABODY PARKING GARAGE

SUBMISSIONS / REVISIONS
03/08/2024
ISSUED FOR BID

NO.	DESCRIPTION	DATE

NORTH

DRAWN: BJB
REVIEWED: EJW
DATE: 12/1/23

SHEET TITLE:
PEABODY GROUND TIER LIGHTING

SHEET NO.
E3.1

NOTES:

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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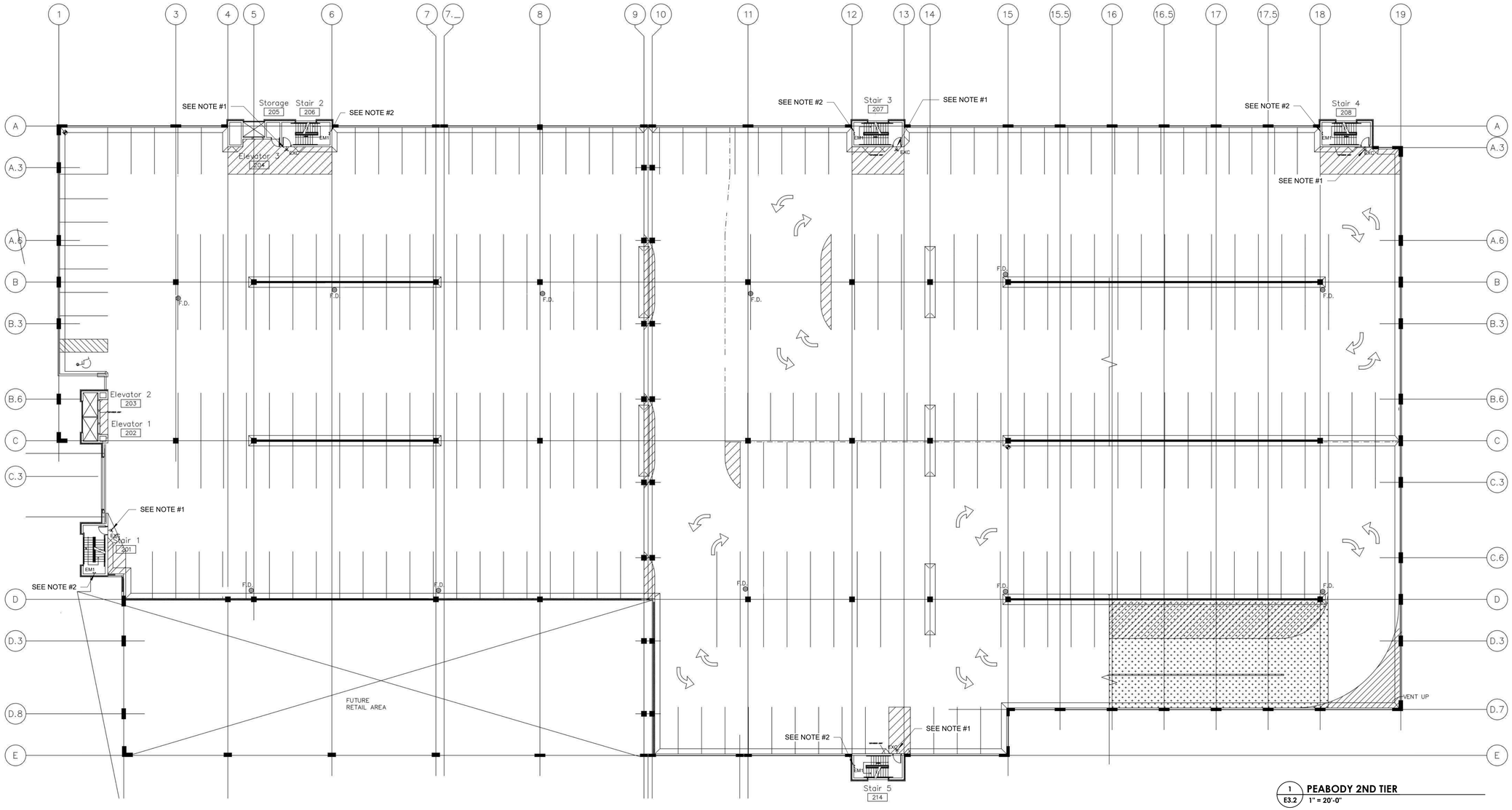

1 E3.2 **PEABODY 2ND TIER**
1" = 20'-0"

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2024 RESTORATION

PEABODY PARKING GARAGE

SUBMISSIONS / REVISIONS
03/08/2024
ISSUED FOR BID

NO.	DESCRIPTION	DATE

NORTH

DRAWN: BJB
REVIEWED: EJW
DATE: 12/1/23

SHEET TITLE:
PEABODY SECOND TIER LIGHTING

SHEET NO.
E3.2

NOTES:

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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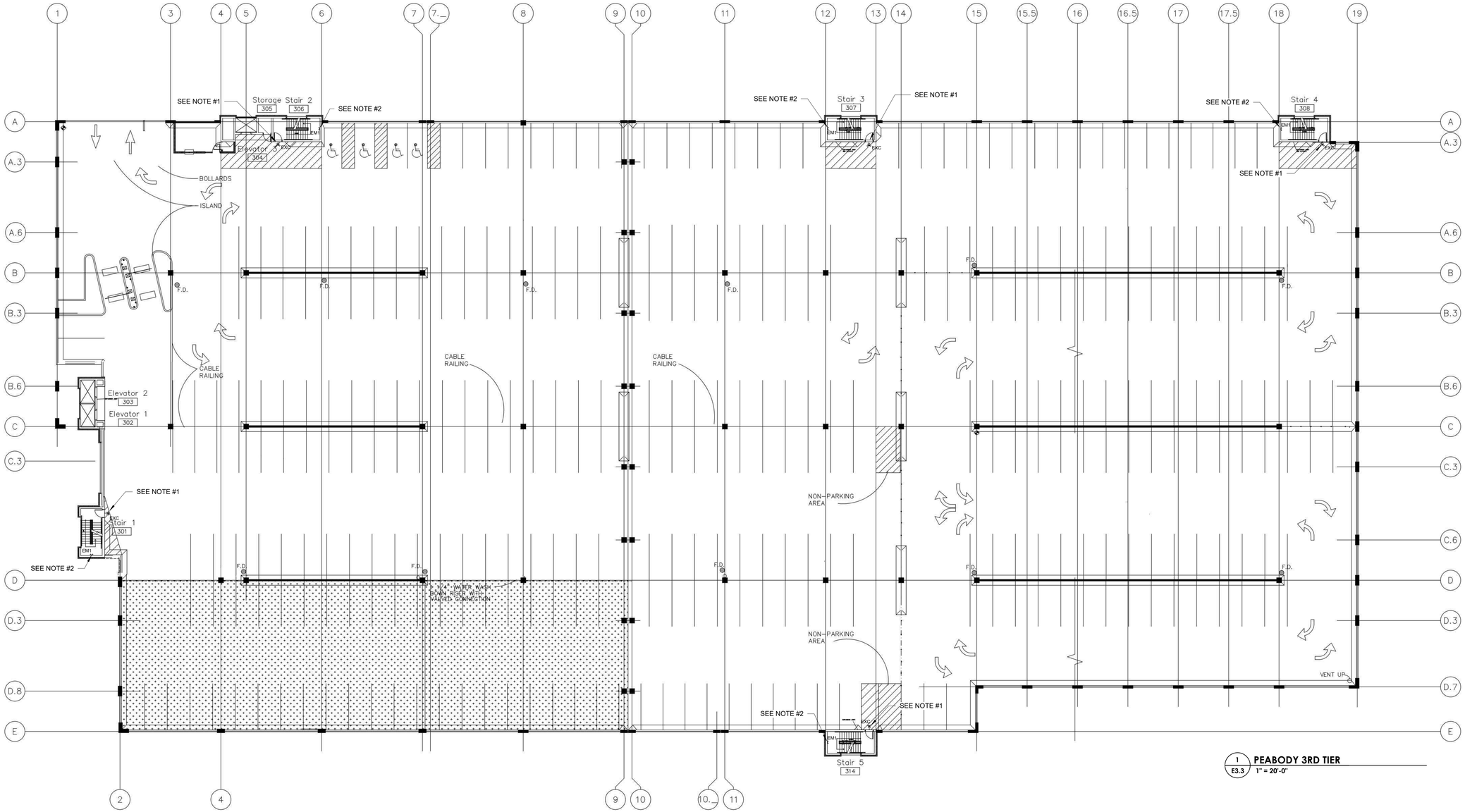

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NO.	DESCRIPTION	DATE

NORTH

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REVIEWED: EJW
DATE: 12/1/23

SHEET TITLE:
PEABODY THIRD TIER LIGHTING

SHEET NO.
E3.3

NOTES:

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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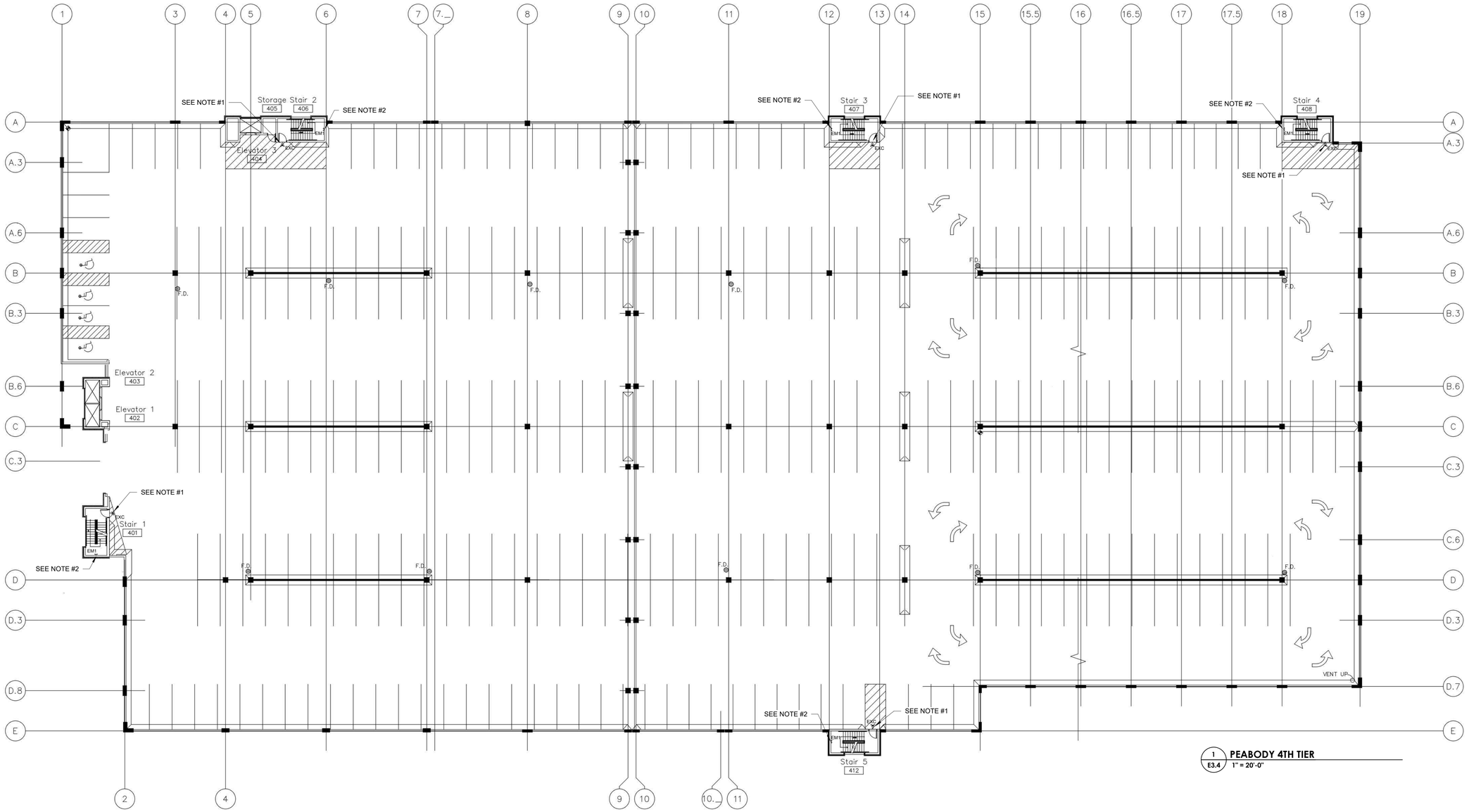

1 E3.4 **PEABODY 4TH TIER**
1" = 20'-0"

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PEABODY PARKING GARAGE

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NORTH

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DATE: 12/1/23

SHEET TITLE:

PEABODY FOURTH TIER LIGHTING

SHEET NO.

E3.4

NOTES:

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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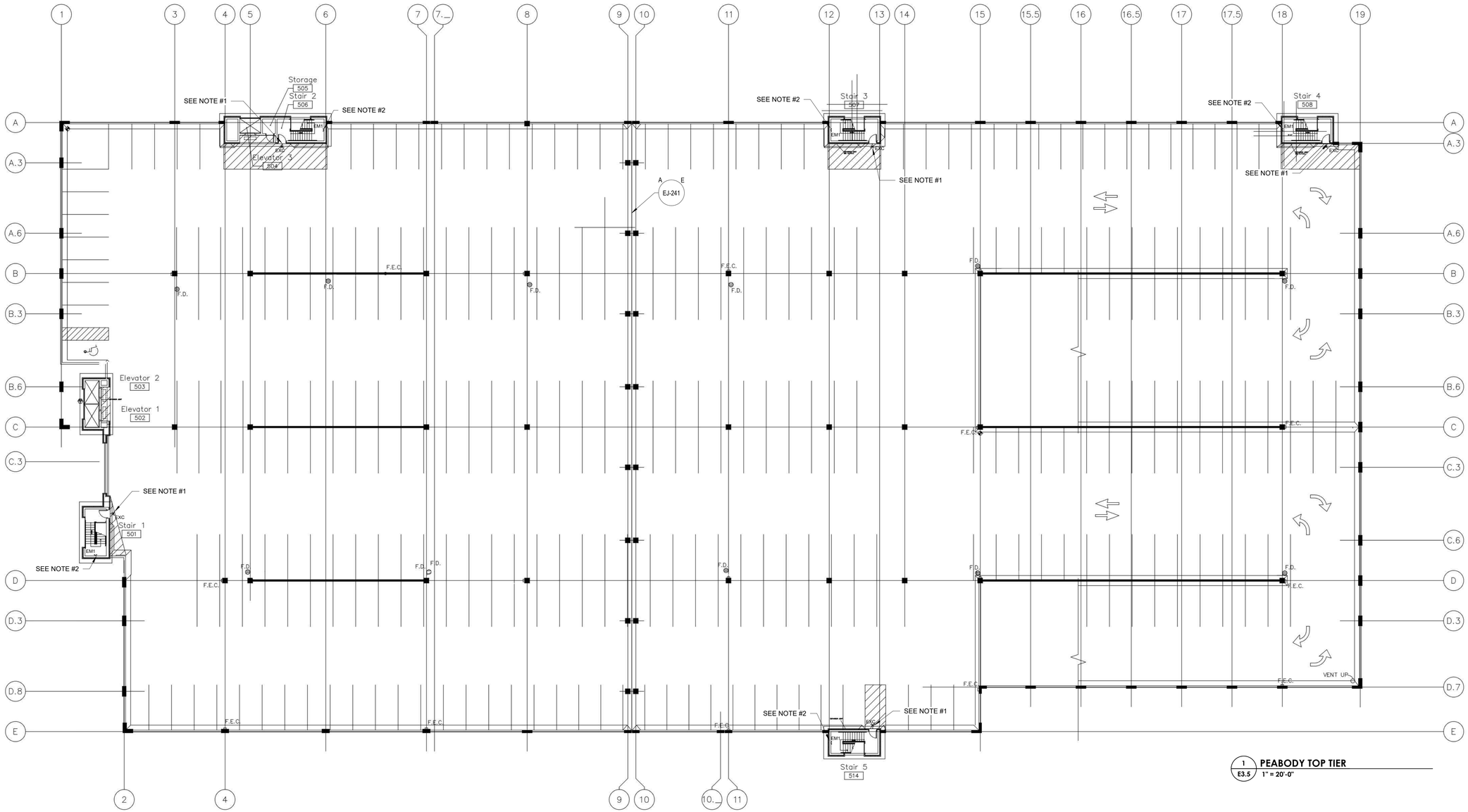

1 E3.5 **PEABODY TOP TIER**
1" = 20'-0"

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SHEET TITLE:
PEABODY TOP TIER LIGHTING

SHEET NO.
E3.5

ELECTRICAL SPECIFICATIONS

SCOPE

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:

1. ELECTRICAL BOXES AND FITTINGS.
2. SUPPORTING DEVICES.
3. GROUNDING.
4. LIGHTING FIXTURES AND LAMPS.
5. 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

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.

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 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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PROJECT

MEMPHIS DOWNTOWN PARKING FACILITIES

2024 RESTORATION

FIRST PLACE
PARKING GARAGE

SUBMISSIONS / REVISIONS
03/08/2024
ISSUED FOR BID

NO.	DESCRIPTION	DATE

NORTH

DRAWN: Author
REVIEWED: Checker
DATE: 07/18/19

SHEET TITLE:
GENERAL NOTES, SCHEDULES AND LEGEND

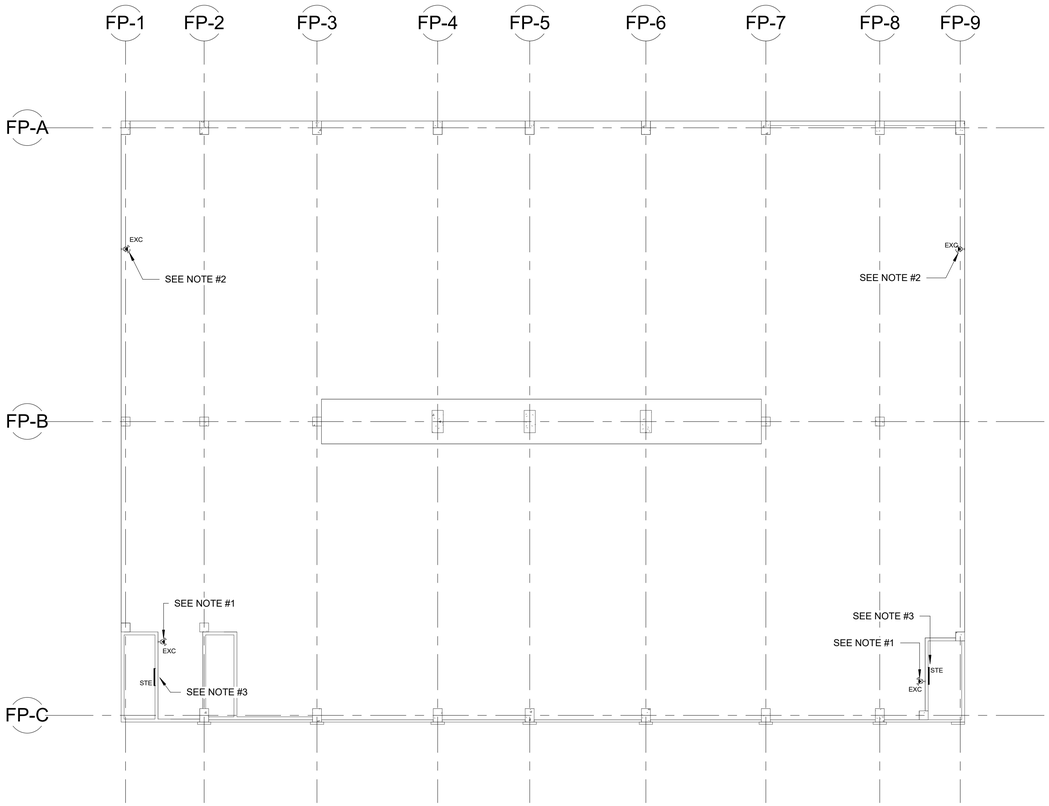
SHEET NO.
E4.0

NOTES:

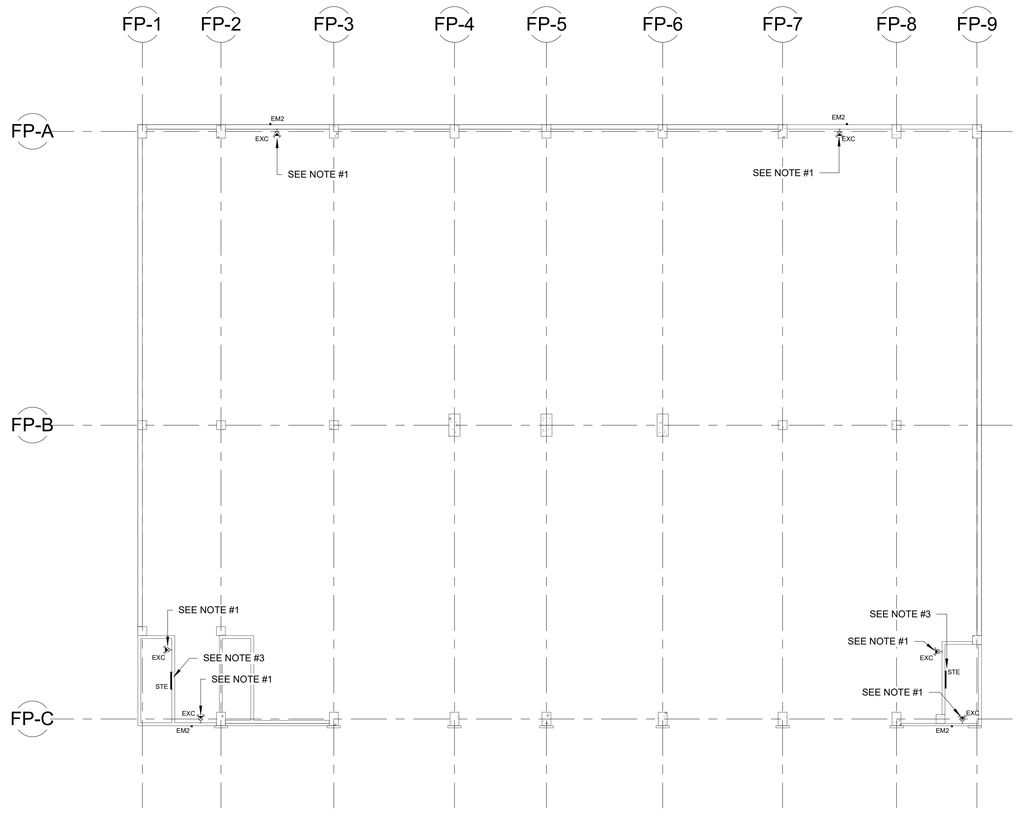
1. PROVIDE NEW BATTERY POWERED EXIT LIGHTS THROUGHOUT THE GARAGE AND STAIRWELLS AT EXISTING EXIT SIGN LOCATIONS. EXTEND NEAREST LIGHTING CIRCUIT WITH UNSWITCHED HOT LEG TO NEW EXIT SIGNS. FIELD VERIFY THE EXACT QUANTITY AND LOCATIONS BEFORE INSTALLATION. PROVIDE CHEVRONS TO MATRCH THE EXISTING EXIT SIGNS.

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.



2 E4.1 **FIRST PLACE 2ND TIER**
1/16" = 1'-0"



1 E4.1 **FIRST PLACE GROUND TIER**
1/16" = 1'-0"

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PROJECT NO.
ATL23110.01

PROJECT

MEMPHIS DOWNTOWN PARKING FACILITIES

2024 RESTORATION

FIRST PLACE
PARKING GARAGE

SUBMISSIONS / REVISIONS
03/08/2024
ISSUED FOR BID

NO.	DESCRIPTION	DATE

NORTH

DRAWN: BJB
REVIEWED: EJW
DATE: 12/1/23

SHEET TITLE:
FIRST PLACE GROUND & SECOND TIER LIGHTING

SHEET NO.
E4.1

NOTES:

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.
2. PROVIDE NEW BATTERY POWERED EXIT LIGHT AT THIS LOCATION EXTEND NEAREST LIGHTING CIRCUIT WITH UNSWITCHED HOT LEG TO NEW EXIT SIGNS.
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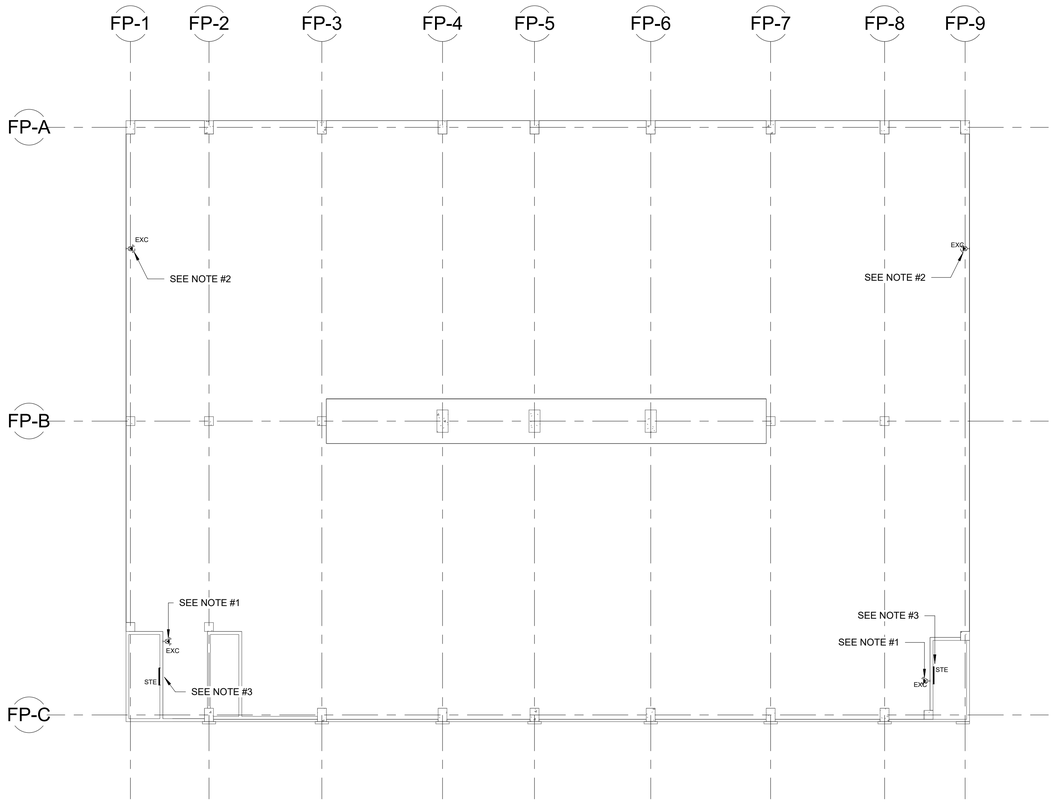
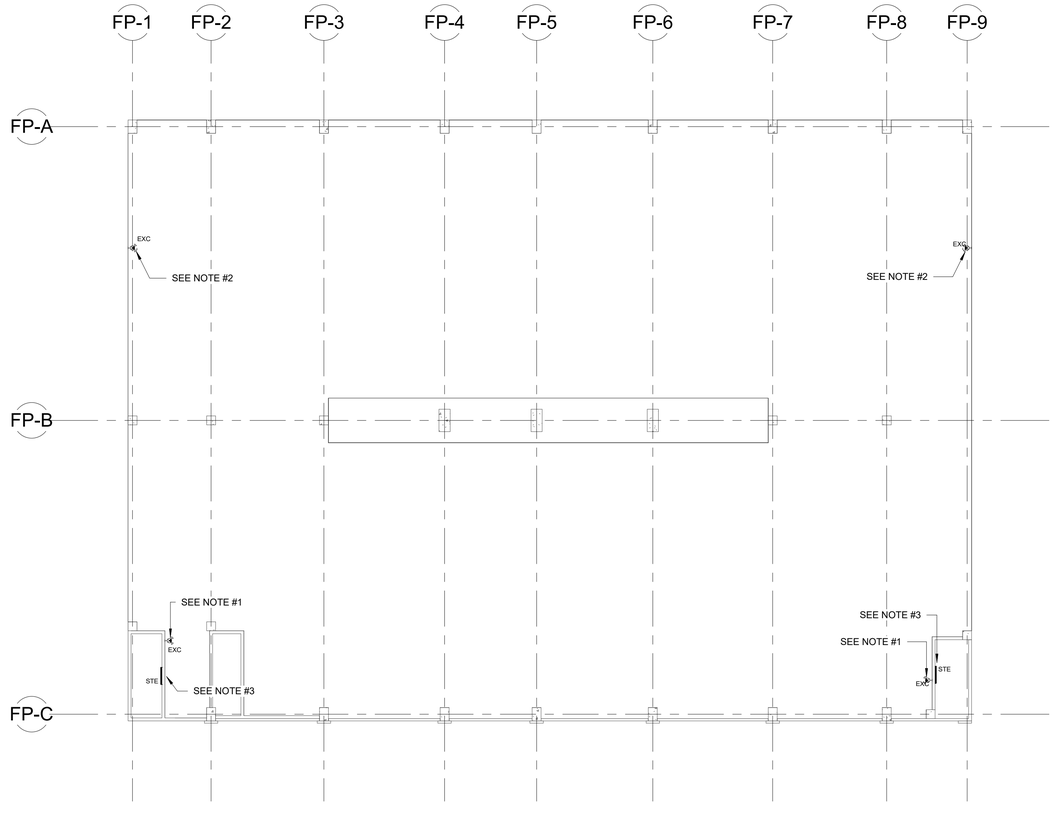


2 E4.2 **FIRST PLACE 4TH TIER**
1/16" = 1'-0"



1 E4.2 **FIRST PLACE 3RD TIER**
1/16" = 1'-0"

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2024 RESTORATION

FIRST PLACE
PARKING GARAGE

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03/08/2024
ISSUED FOR BID

NO.	DESCRIPTION	DATE

NORTH

DRAWN: BJB
REVIEWED: EJW
DATE: 12/1/23

SHEET TITLE:
FIRST PLACE THIRD & FOURTH TIER LIGHTING

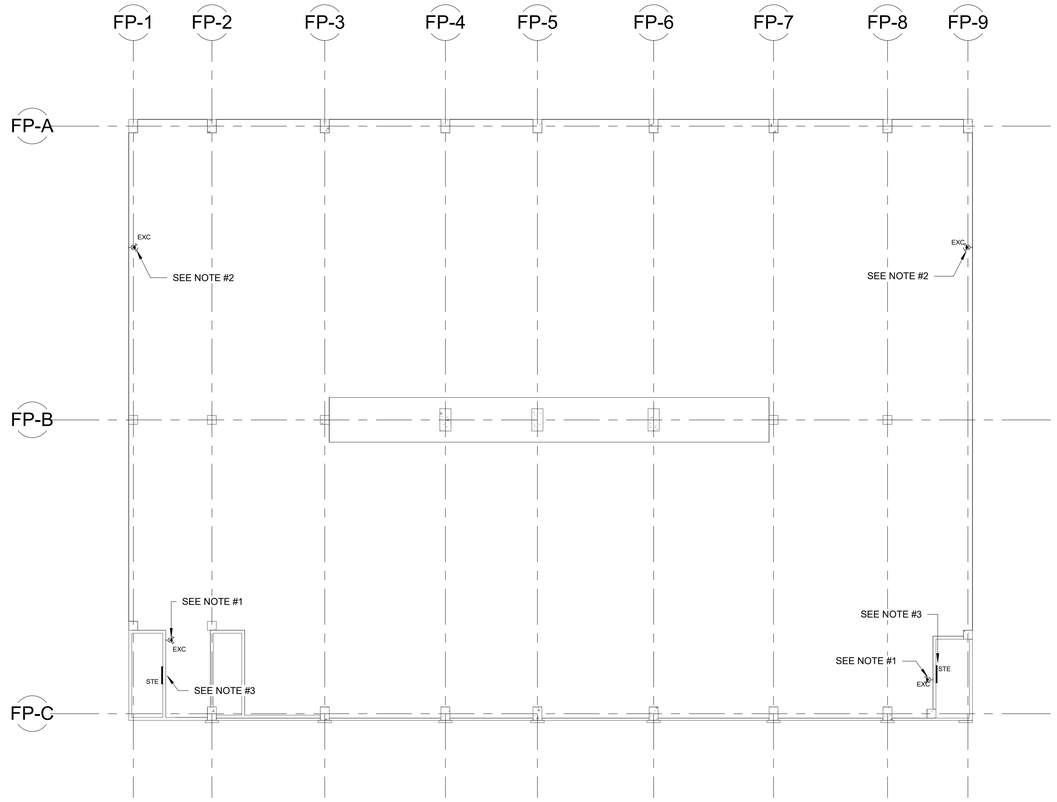
SHEET NO.
E4.2

NOTES:

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.

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.



1 E4.3 **FIRST PLACE 5TH TIER**
1/16" = 1'-0"

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2024 RESTORATION

FIRST PLACE
PARKING GARAGE

SUBMISSIONS / REVISIONS
03/08/2024
ISSUED FOR BID

NO.	DESCRIPTION	DATE

NORTH

DRAWN: BJB
REVIEWED: EJW
DATE: 12/1/23

SHEET TITLE:
FIRST PLACE FIFTH AND SIXTH TIER LIGHTING

SHEET NO.
E4.3

ELECTRICAL SPECIFICATIONS

SCOPE

INCLUDES THE FURNISHING OF ALL LABOR, SUPERVISION, MATERIALS,EQUIPMENT, TOOLS, ETC., REQUIRED FOR THE COMPLETE INSTALLATION OF ELECTRICAL SYSTEMS FOR BARBORON 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:

1. ELECTRICAL BOXES AND FITTINGS.
2. SUPPORTING DEVICES.
3. GROUNDING.
4. LIGHTING FIXTURES AND LAMPS.
5. 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.

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.

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 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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PROJECT

MEMPHIS DOWNTOWN PARKING FACILITIES

2024 RESTORATION

BARBORO FLATS PARKING GARAGE

SUBMISSIONS / REVISIONS
03/08/2024
ISSUED FOR BID

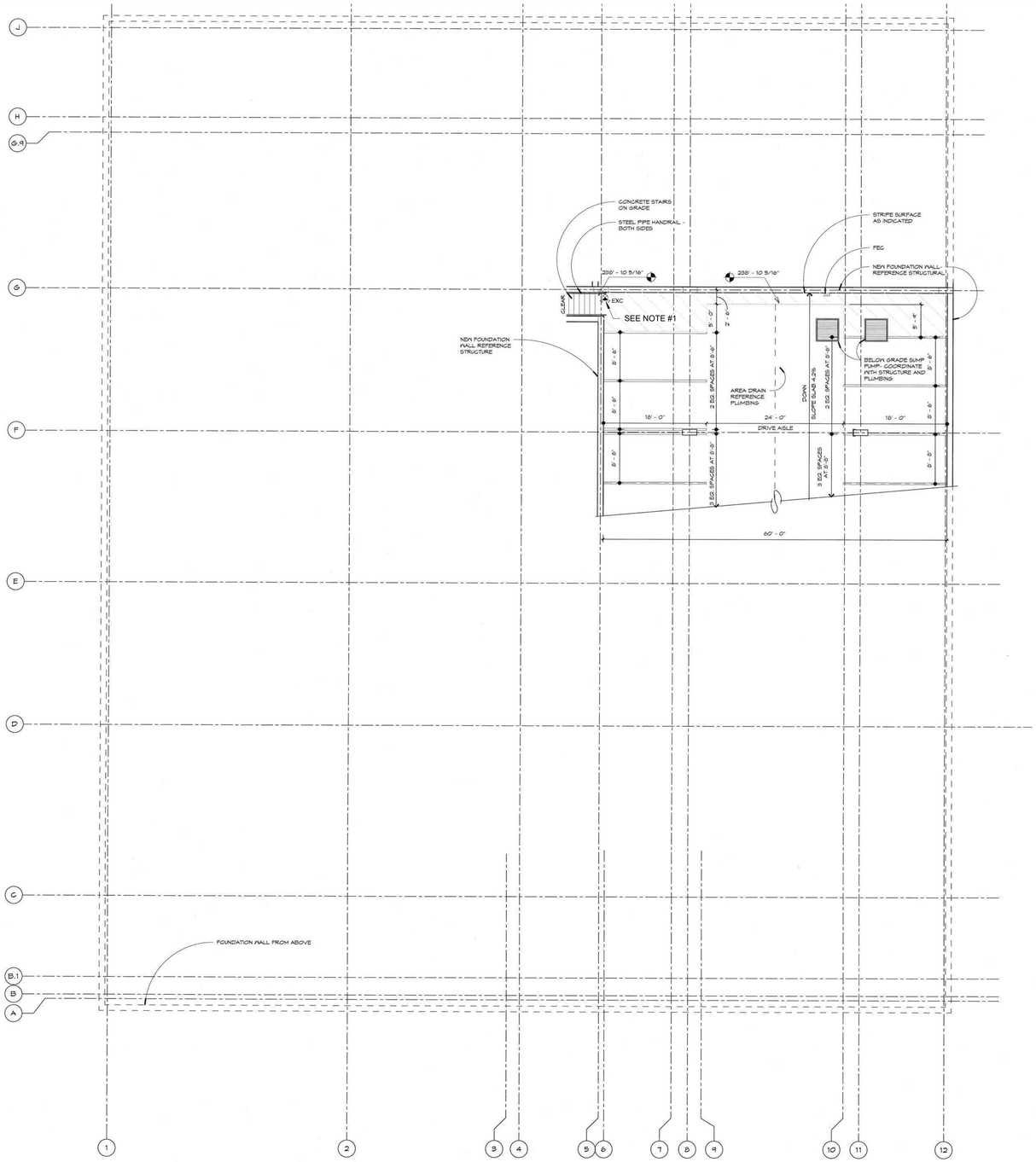
NO.	DESCRIPTION	DATE

NORTH

DRAWN: BJB
REVIEWED: EJW
DATE: 12/1/23

SHEET TITLE:
GENERAL NOTES, SCHEDULES AND LEGEND

SHEET NO.
E5.0



1 E5.1 **BARBORO FLATS LEVEL B3**
3/32" = 1'-0"

NOTES:

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

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2024 RESTORATION

BARBORO FLATS
PARKING GARAGE

SUBMISSIONS / REVISIONS
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NO.	DESCRIPTION	DATE

NORTH

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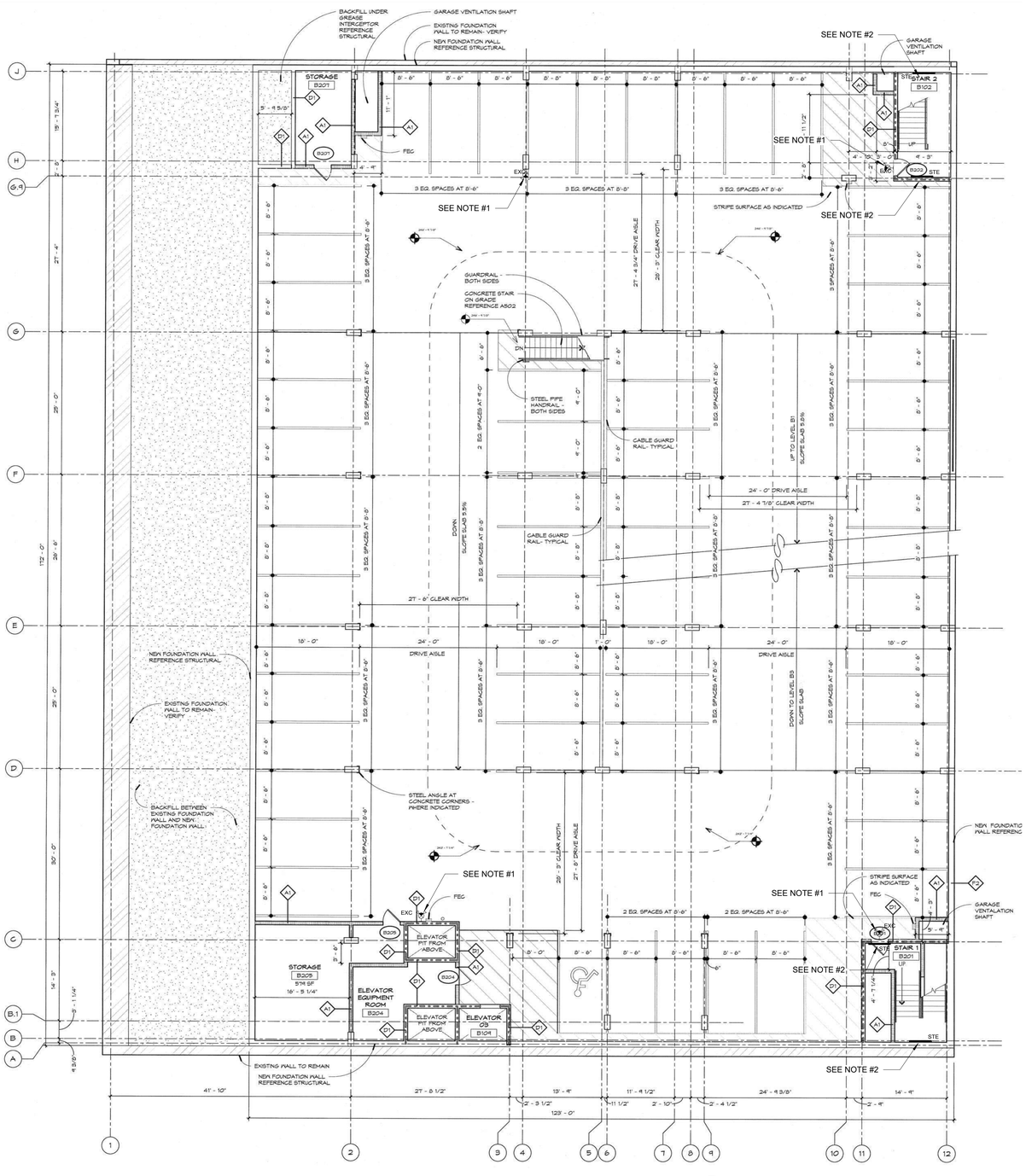
SHEET TITLE:
BARBORO FLATS LEVEL B3 TIER LIGHTING

SHEET NO.
E5.1



1 E5.2 **BARBORO FLATS LEVEL B2**
3/32" = 1'-0"

NOTES:

1. 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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Memphis Nashville

PROJECT NO.
ATL23110.01

PROJECT

MEMPHIS DOWNTOWN PARKING FACILITIES

2024 RESTORATION

BARBORO FLATS PARKING GARAGE

SUBMISSIONS / REVISIONS
03/08/2024
ISSUED FOR BID

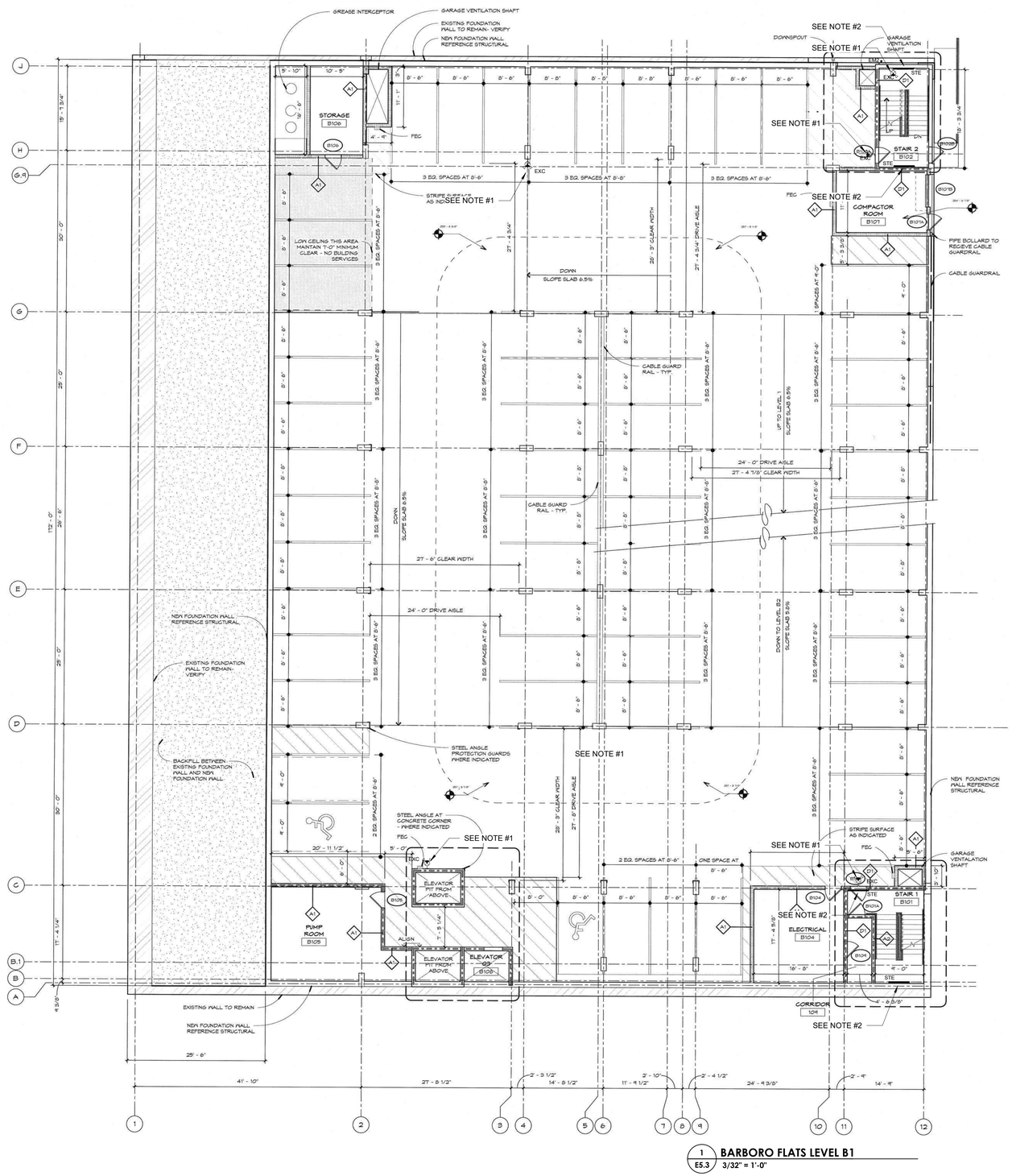
NO.	DESCRIPTION	DATE

NORTH

DRAWN: BJB
REVIEWED: EJW
DATE: 12/1/23

SHEET TITLE:
BARBORO FLATS LEVEL B2 TIER LIGHTING

SHEET NO.
E5.2



1 E5.3 **BARBORO FLATS LEVEL B1**
3/32" = 1'-0"

NOTES:

1. 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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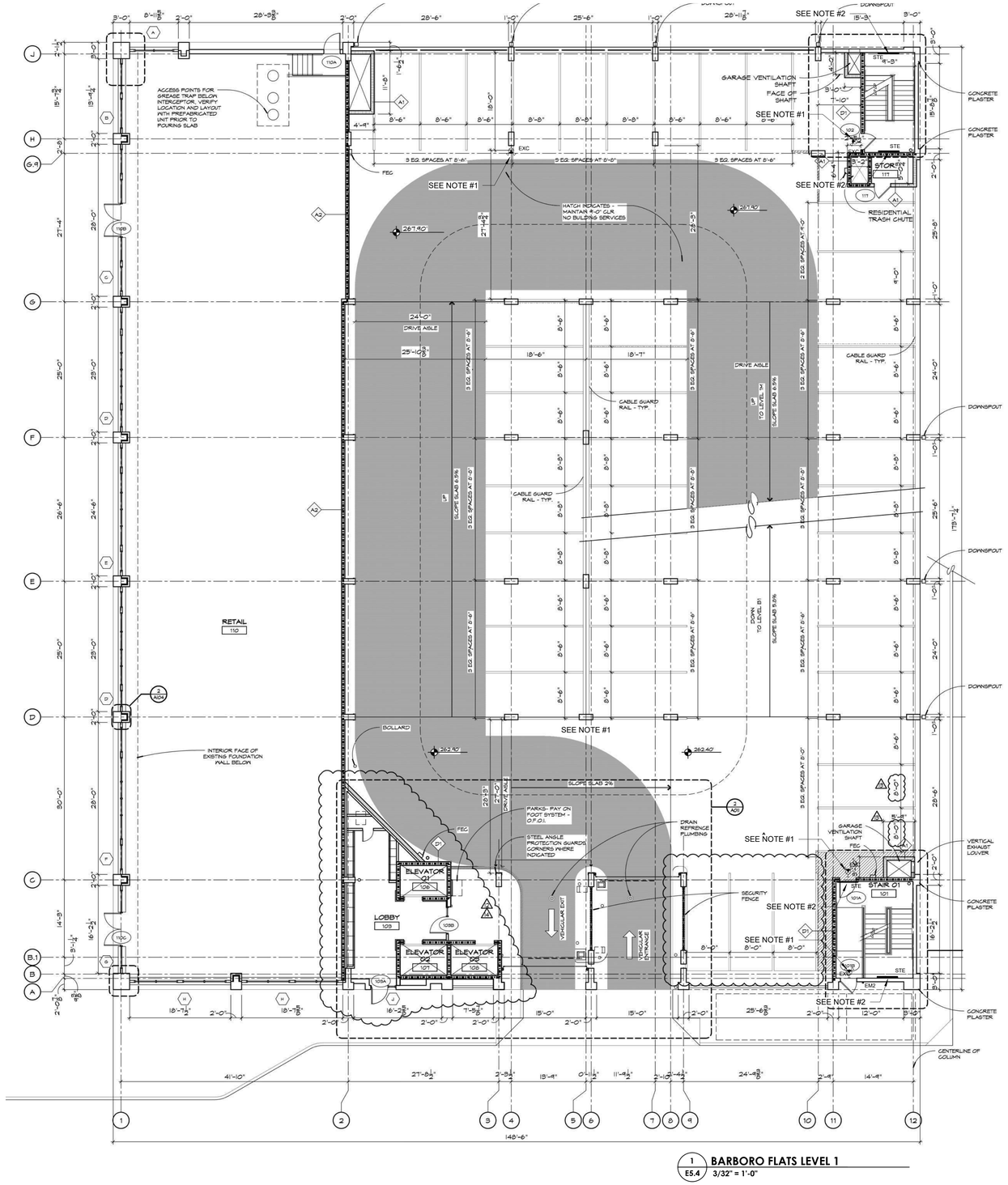

1 E5.4 **BARBORO FLATS LEVEL 1**
3/32" = 1'-0"

NOTES:

1. 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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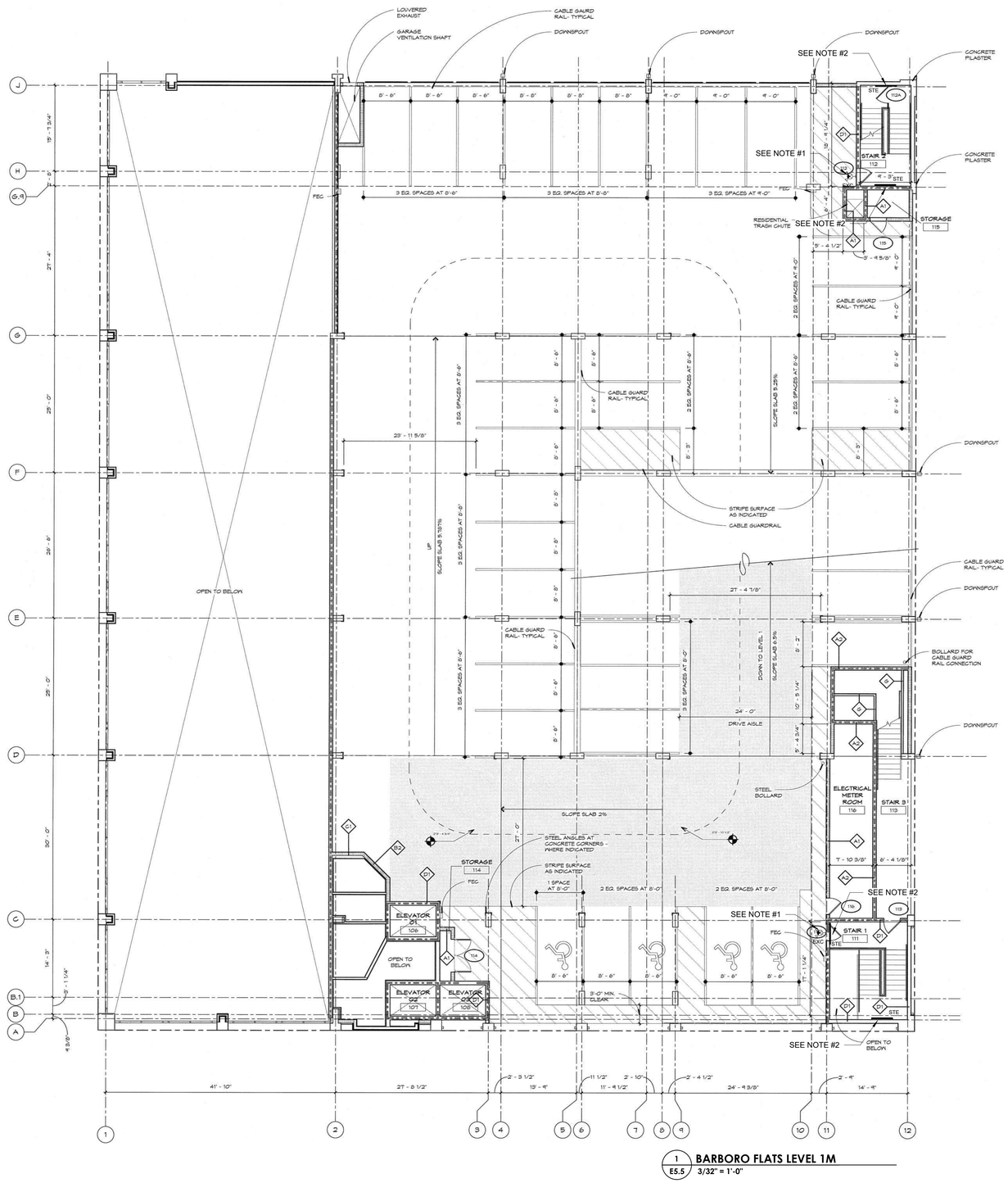
SHEET NO.
E5.4



1 **BARBORO FLATS LEVEL 1M**
E5.5 3/32" = 1'-0"

NOTES:

1. 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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SHEET NO.
E5.5

SCOPE OF WORK

SCOPE OF WORK

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 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 SPRINKLER HEADS.
- 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 CAULK.
- 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, 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.
5. 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.
6. 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.
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.
22. 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.
26. ALL PIPING TO BE PROPERLY BLOCKED, RODDED, OR CLAMPED.
27. ALL RODDING PER NFPA 24.
28. BITUMINOUS COAT ALL UNDERGROUND BOLTS, RODS, AND CONNECTORS.
29. CHLORINATE ALL NEW UNDERGROUND PIPING PER MLG&W REQUIREMENTS.
30. FLUSH ALL UNDERGROUND PIPING PER NFPA.
31. SPRINKLER HEADS WITHIN 36" OF SUPPLY GRILLES IN ANY DIRECTION SHALL HAVE INTERMEDIATE CLASSIFICATION PER NFPA 13 TABLE 3-2.5.1.

FIRE PUMPS

PART 1 GENERAL

1.01 WORK INCLUDED

A. FIRE PUMP PACKAGE.

B. FIRE PUMP MOTOR.

C. ELECTRIC JOCKEY PUMP.

D. CONTROLLERS.

1.03 REFERENCES

A. 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.

E. MANUFACTURER'S CERTIFICATE: CERTIFY THAT FIRE PUMPS MEET OR EXCEED SPECIFIED REQUIREMENTS AT SPECIFIED OPERATING CONDITIONS. SUBMIT SUMMARY AND RESULTS OF SHOP TESTS PERFORMED IN ACCORDANCE WITH NFPA 20.

F. 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.

B. 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.

C. MAINTAIN ONE COPY OF EACH DOCUMENT ON SITE.

D. 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.

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

C. 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 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 CONTROLLERS.

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

1.10 DELIVERY, STORAGE, AND HANDLING

A. DELIVERY, STORE, PROTECT AND HANDLE PRODUCTS TO SITE UNDER PROVISIONS OF SECTION 01 10 00.

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

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

D. 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.

B. 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 HORIZONTAL BASE MOUNTED 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.

E. 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 PUMP.

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

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

D. 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.

F. 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.

B. 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 PUMP 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.

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

C. 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 DRAINS.

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 NFPA 20.

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 — F	F	FIRE MAIN
		PIPE TURN DOWN
		PIPE TURN UP
		BALL VALVE
		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 ASSEMBLY
F- "		FIRE RISER NO.
		RISER SIZE
		CEILING SPRINKLER - UPRIGHT
		CEILING SPRINKLER - CONCEALED
		CEILING SPRINKLER - RECESSED PENDANT
		SIDEWALL SPRINKLER
		SIDEWALL EXTENDED COVERAGE SPRINKLER
		SIDEWALL SPRINKLER, NON-FREEZE
		WALL HUNG FIRE EXTINGUISHER
		FIRE EXTINGUISHER CABINET
	FDC	FIRE DEPARTMENT CONNECTION
	PIV	POST INDICATOR VALVE
	TB	THRUST BLOCK
	FH	FIRE HYDRANT
		SPRINKLER RISER
		NEW UNDERGROUND PIPE
		EXISTING UNDERGROUND PIPE

FIRE PROTECTION SHEET INDEX

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PROJECT NO.
ATL23110.01

PROJECT

MEMPHIS DOWNTOWN PARKING FACILITIES

2024 RESTORATION

CJC PARKING GARAGE

SUBMISSIONS / REVISIONS
03/08/2024
ISSUED FOR BID

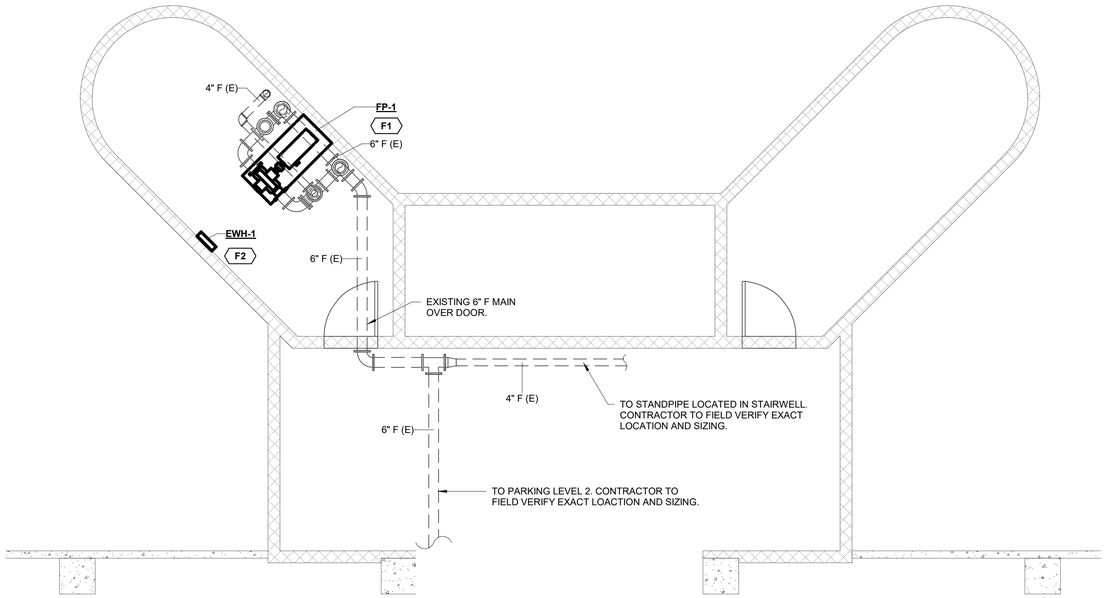
NO.	DESCRIPTION	DATE

NORTH

DRAWN: MCS
REVIEWED: ETC
DATE: 12/1/23

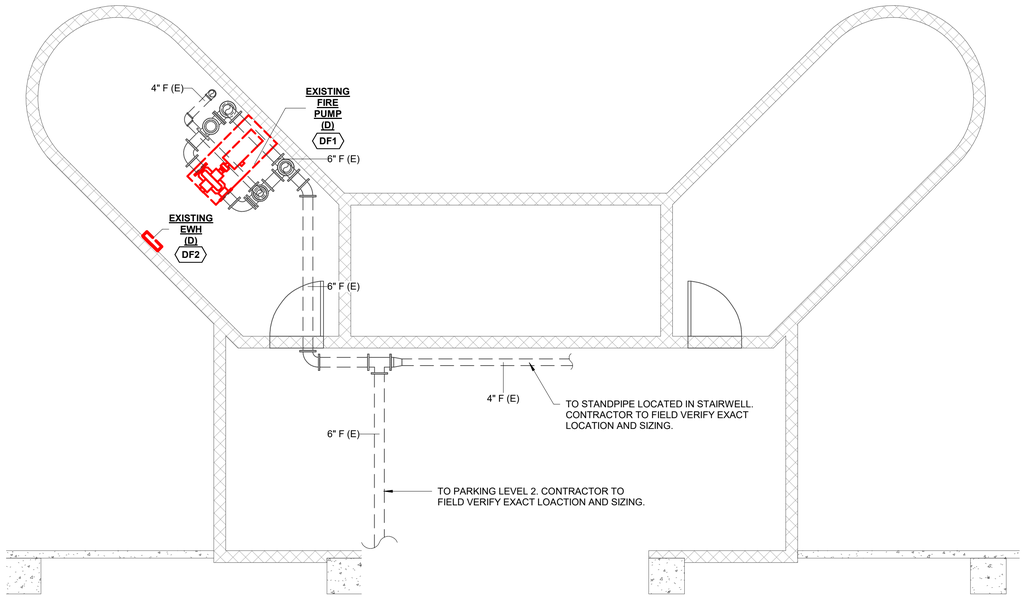
SHEET TITLE:
GENERAL NOTES AND LEGEND

SHEET NO.
FP0.1



1 FP1.1 **CRIMINAL JUSTICE 2ND TIER - FIRE PROTECTION**
1/4" = 1'-0"

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



2 FP1.1 **CRIMINAL JUSTICE 2ND TIER DEMO - FIRE PROTECTION**
1/4" = 1'-0"

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

#	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.

FIRE PUMP SCHEDULE

MARK	MANUF.	MODEL	GPM	HEAD (PSI)	RPM	V/PH/HZ	MAX. BHP	REMARKS
FP-1	AC FIRE PUMP	6x4x12F-M	500	45	1770	208/3/60	22	SEE NOTES.

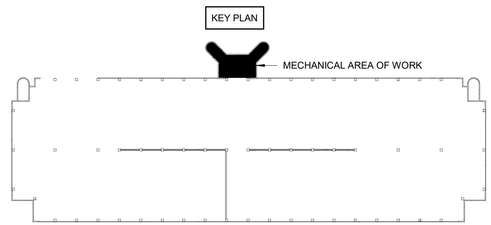
NOTES:
1. PROVIDE WITH ELECTRICAL DISCONNECT.
2. UL LISTED HORIZONTAL SPLIT CASE ELECTRIC DRIVEN FIRE PUMP.

ELECTRIC UNIT HEATER SCHEDULE

MARK	MFR.	MODEL	AIRFLOW (CFM)	TOTAL HEATING CAPACITY (kW)	ELECTRICAL		REMARKS
					V/PH/HZ	MCA	
EWH-1	MARKEL	E3323TD-RP	175	1.5	120/1/60	12.5	SEE NOTES.

NOTES:
1. ALL CAPACITIES ARE NET VALUES.
2. PROVIDE SURFACE MOUNT KIT AND 16 GA. STEEL HEAVY DUTY GRILLE.
3. PROVIDE WITH INTEGRAL THERMOSTAT.
4. PROVIDE WITH INTEGRAL DISCONNECT. COORDINATE WITH ELECTRICAL CONTRACTOR.

KEY PLAN



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PROFESSIONAL SEAL

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SHEET TITLE:
CJC SECOND FLOOR PLAN - FIRE PROTECTION

SHEET NO.
FP1.1