

MEMPHIS DOWNTOWN PARKING FACILITIES 2024 MEP/FP REPLACEMENT



Owner :

Downtown Mobility Commission
114 N. Main St.
Memphis, TN 38103
T: (901) 575-0555
Contact: Ms. Lauren Bermudez, Transportation Manager

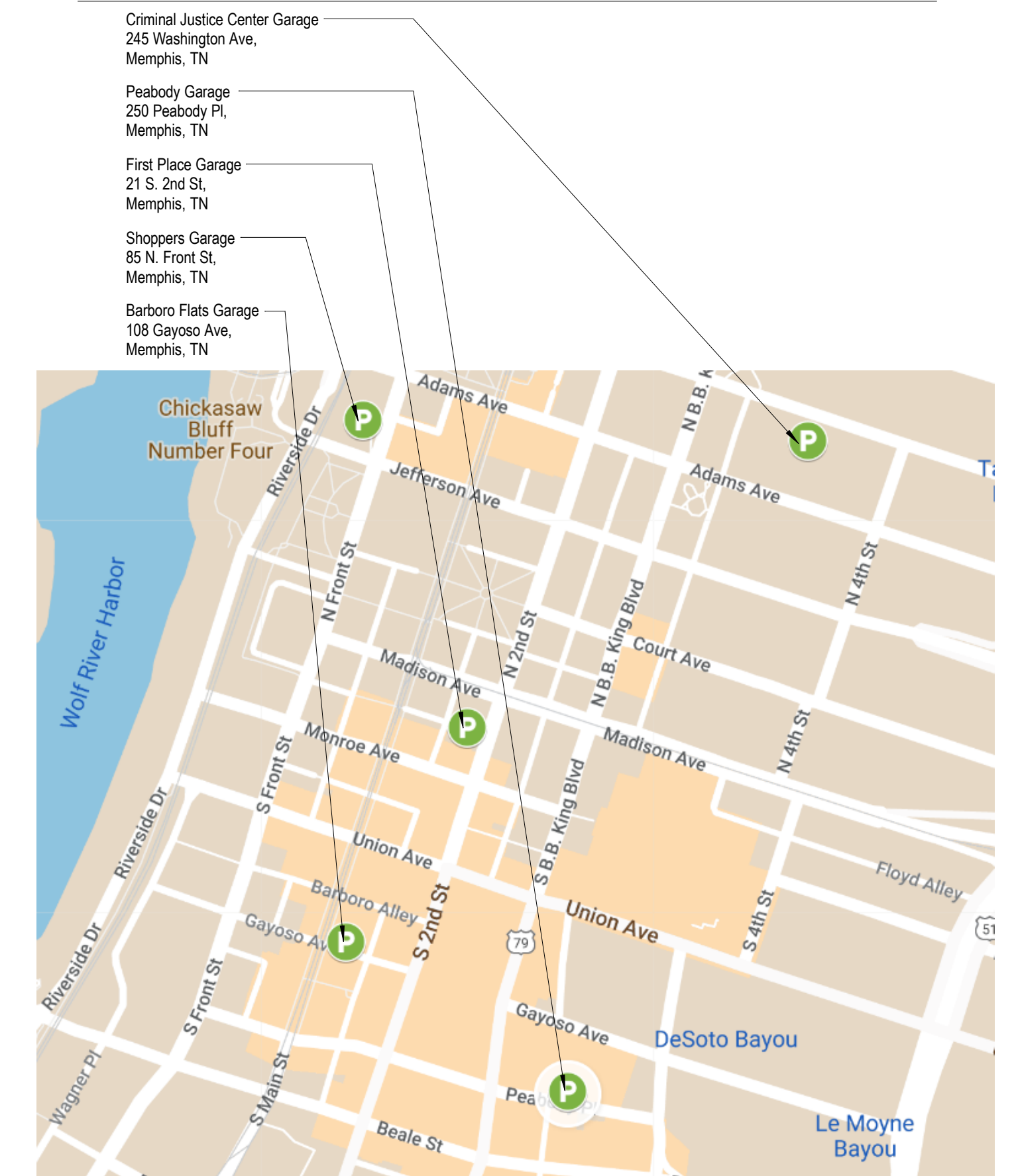
Structural Restoration Engineers

THA Consulting, Inc.
470 Norristown Road, Suite 200
Blue Bell, PA 19422
T: (484) 342-0200
Project Manager: Mr. Ryan Klass, E.I.T.
Contact: (908) 936-1779
Principal In Charge: Mr. Kevin Carrigan, P.E.
Contact: (484) 686-3993

Mech/Elec/Plumb/FP Engineers

Chad Stewart & Associates, Inc.
9720 Village Circle
Lakeland, TN 38002
T: (901) 260-7850
Contact: Mr. Chad Stewart, PE LEED AP

Location Map



DRAWING LIST

SHEET NO.	SHEET NAME	ISSUED FOR BID
E0.0	COVER SHEET	•
E1.0	GENERAL NOTES, SCHEDULES AND LEGENDS	•
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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	•



ISSUED FOR BID
05/03/2024

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 SYSTEMS.
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 100FT 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 FULLY DIMENSIONED WITH THE SCOPE 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

- 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.
THE FIRE PROTECTION CONTRACTOR SHALL PROVIDE THE FINAL DESIGN FOR THE FIRE SPRINKLER SYSTEM AND SHALL PROVIDE THE ARCHITECT WITH SHOP DRAWINGS AND HYDRAULIC CALCULATIONS, IN ACCORDANCE WITH THE REQUIREMENTS OF NFPA 13, FOR REVIEW.
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.
COORDINATE WITH ARCHITECTURAL RCP, HVAC, ELECTRICAL, PLUMBING AND STRUCTURAL ELEMENTS AS REQUIRED FOR PROPER INSTALLATION OF SPRINKLER SYSTEM PIPING AND HEADS.
PROVIDE FLEXIBLE COUPLINGS AT FLEXURE JOINTS PER NFPA 13 SECTION 9.3.2.1. PROVIDE CLEARANCE AROUND PIPING PASSING THROUGH FLOORS, WALL AND FOUNDATIONS WHERE REQUIRED PER NFPA 13 SECTION 9.3.4. ALL FIRE PROTECTION EQUIPMENT SHALL BE U.L. LISTED.
ALL FIRE PROTECTION EQUIPMENT SHALL BE INSTALLED TO MEET SEISMIC REQUIREMENTS PER NFPA 13.
PROVIDE SEISMIC RESTRAINT FOR PIPING WHERE REQUIRED BY IBC SECTION 1613.
PROVIDE INSPECTOR TEST VALVES AT INSULATED, ACCESSIBLE LOCATIONS WITH DRAINS DISCHARGED TO THE EXTERIOR OF THE BUILDING. PROVIDE A BELL, ACTIVATED BY THE SPRINKLER SYSTEM, ON THE EXTERIOR OF THE BUILDING.
PROVIDE SWING JOINTS ON ALL HEADS TO CENTER HEADS IN CEILING GRID WHERE ONE IS PROVIDED (2 DIRECTIONS).
HANG ALL ARMOVERS LONGER THAN 12" CC.
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.
ALL PIPE PENETRATIONS THROUGH THE STRUCTURE TO BE CORE DRILLED. SLEEVES SHALL BE INSTALLED WHERE PIPING PASSES THROUGH THE STRUCTURE.
ALL OPENINGS THROUGH RATED WALLS SHALL BE SEALED WITH AN APPROVED FIRE PROOFING TO MAINTAIN THE INTEGRITY OF THE WALL. PROVIDE AN O.S.&Y. VALVE WITH TAMPER SWITCH AND A WATER FLOW SWITCH FOR EACH SPRINKLER ZONE.
ALL CONTROL VALVES TO BE EQUIPPED WITH A TAMPER SWITCH. SPRINKLER PIPING SHOWN ABOVE FLOOR OR GRADE SHALL BE INSTALLED ABOVE CEILING WHERE CEILINGS ARE PROVIDED. COORDINATE ROUTING WITH OTHER TRADES.
PROVIDE BRASS TAGS ON ALL VALVES.
INSTALL CHROME, METAL SPLIT TYPE PIPE ESCUTCHEON AT EXPOSED WALL PENETRATIONS.
ALL SYSTEM GAUGES AND VALVES SHALL BE ACCESSIBLE FOR MAINTENANCE AND INSPECTION.
ALL FITTINGS TO BE CLASS 250 SLIP ON MECHANICAL JOINT TYPE.
INSTALLATION AND TESTING PER NFPA 24.
PIPE TO HAVE A MINIMUM 3'-0" BURY FROM TOP OF PIPE.
ALL PIPING TO BE PROPERLY BLOCKED, RODDED, OR CLAMPED.
ALL RODDING PER NFPA 24.
BITUMINOUS COAT ALL UNDERGROUND BOLTS, RODS, AND CONNECTORS.
CHLORINATE ALL NEW UNDERGROUND PIPING PER MLG&W REQUIREMENTS.
FLUSH ALL UNDERGROUND PIPING PER NFPA.
SPRINKLER HEADS WITHIN 36" OF SUPPLY GRILLES IN ANY DIRECTION SHALL HAVE INTERMEDIATE CLASSIFICATION PER NFPA 13 TABLE 3-2.5.1.

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 OF 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 KEYS 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

Table with 3 columns: SYMBOL, ABB., DESCRIPTION. Includes symbols for DPSS, F, ID, I.E., AFF, DCVA, DDCA, F-1, FDC, TB, FH, and dashed lines.

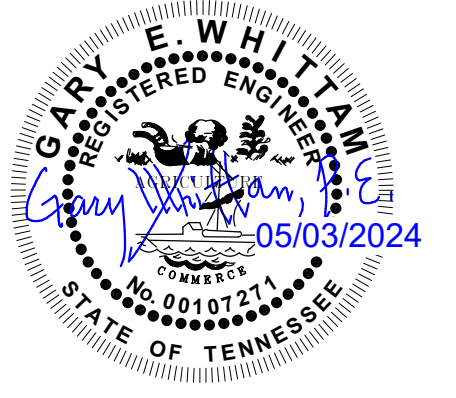
FIRE PROTECTION SHEET INDEX

Table with 2 columns: NUMBER, SHEET NAME. Includes FPO.1 and FP1.1.



THA Consulting, Inc. 470 Norristown Road Suite 200 Blue Bell, PA 19422 T. 484.342.0200 www.tha-consulting.com

PROFESSIONAL SEAL



CONSULTANT



Chad Stewart & Associates, Inc. 9720 Village Circle Memphis TN 38002 Phone 901-260-7850 www.CSAengineeringinc.com Nashville

PROJECT NO. ATL23110.01 PROJECT

MEMPHIS DOWNTOWN PARKING FACILITIES

2024 MEP/FP REPLACEMENT

SUBMISSIONS / REVISIONS

05/03/2024 ISSUED FOR BID

Table with 3 columns: NO., DESCRIPTION, DATE. Includes rows for NO., DESCRIPTION, DATE.

DRAWN: MCS REVIEWED: GW DATE: 05/03/2024 SHEET TITLE:

GENERAL NOTES AND LEGEND

SHEET NO.

FPO.1

