

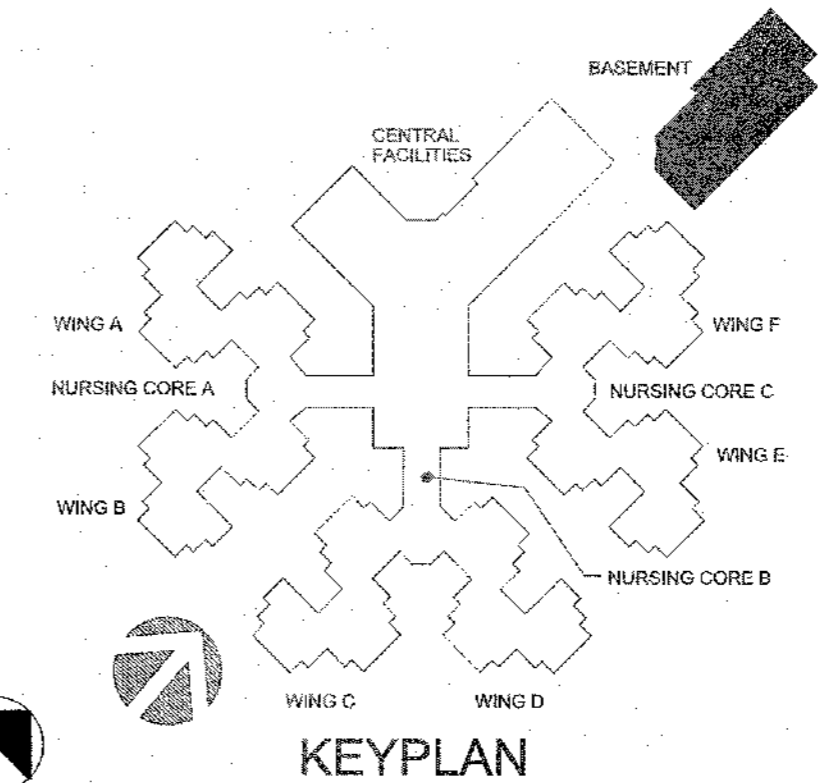
18 Oct 2017 - 3:21 PM



ALTERNATE BID NO. 1: REMOVE AND REPLACE EXISTING DOMESTIC HOT WATER HEATER WITH TWO NEW HOT WATER HEATERS. PROVIDE ALL ASSOCIATED PIPING, PIPING VALVING, FUSE CHANGES AND CONTROLS FOR A COMPLETE AND FULLY OPERATIONAL SYSTEM. REFER TO SHEETS G-100, E-100, M-101, M-112, M-501, M-600, M-801 & M-802. REFER TO SPECIFICATIONS.

ALTERNATE NO. 2: REMOVE AND REPLACE EXISTING CHILLED WATER PUMPS AND CONDENSER WATER PUMPS. PROVIDE ALL ASSOCIATED PIPING, PIPING VALVING AND CONTROLS FOR A COMPLETE AND FULLY OPERATIONAL SYSTEM. REFER TO SHEETS G-100, E-100, M-101, M-112, M-501, M-600, M-801 & M-802. REFER TO SPECIFICATIONS.

ALTERNATE NO. 3: REMOVE AND REPLACE EXISTING MECHANICAL HOT WATER BOILERS AND HOT WATER PUMPS. PROVIDE ALL ASSOCIATED PIPING, PIPING VALVING, INTAKE AND VENT PIPING AND CONTROLS FOR A COMPLETE AND FULLY OPERATIONAL SYSTEM. REFER TO SHEETS G-100, E-100, E-800, M-100, M-101, M-112, M-501, M-600, M-801 & M-802. REFER TO SPECIFICATIONS.



**1**  
**E-100**  
**BASEMENT LEVEL ELECTRICAL PLAN**  
SCALE: 1/8"=1'-0"  
NORTH

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**NOTES:**

- UNDER ALTERNATE #2, NEW PUMP TO REPLACE EXISTING. REUSE EXISTING CIRCUIT FOR NEW PUMP. MAKE ALL REQUIRED CONNECTIONS. VERIFY REQUIREMENTS FOR NEW PUMP PRIOR TO MAKING FINAL CONNECTIONS. VERIFY THAT EXISTING MOTOR STARTERS IN MOTOR CONTROL CENTER ARE SIZED PROPERLY FOR NEW PUMPS. PROVIDE NEW 20-AMP FUSES IN EXISTING MOTOR CONTROL CENTER.
- UNDER ALTERNATE BID #1, FURNISH AND INSTALL EMERGENCY BOILER SHUTDOWN BUTTON. PROVIDE KELE WFS-44-B5-CL1 SERIES. INTERLOCK WITH CONTACTOR "LC1" SO THAT ALL GAS FIRED EQUIPMENT IN THE BOILER ROOM SHUTS DOWN UPON ACTIVATION OF PUSH BUTTON. THIS WOULD INCLUDE THE NEW BOILERS, THE NEW WATER HEATERS, AND THE EXISTING WATER HEATERS. COVERPLATE SHALL BE LABELED "EMERGENCY BOILER SHUTDOWN".
- UNDER ALTERNATE BID #3, NEW BOILER TO REPLACE EXISTING. REUSE EXISTING CIRCUIT FOR NEW BOILER. MAKE ALL REQUIRED CONNECTIONS. ROUTE CIRCUIT THRU CONTACTOR "LC1" FOR BOILER SHUTDOWN SEQUENCE. REPLACE EXISTING 20-AMP, 1-POLE CIRCUIT BREAKER SERVING CIRCUIT WITH NEW 15-AMP, 1-POLE CIRCUIT BREAKER. VERIFY REQUIREMENTS FOR BOILER PRIOR TO MAKING FINAL CONNECTIONS.
- UNDER ALTERNATE BID #1, NEW DOMESTIC WATER HEATERS TO REPLACE EXISTING. MAKE ALL REQUIRED CONNECTIONS. ROUTE CIRCUIT THRU CONTACTOR "LC1" FOR SHUTDOWN SEQUENCE. REPLACE EXISTING 20-AMP, 1-POLE CIRCUIT BREAKER SERVING CIRCUIT WITH NEW 15-AMP, 1-POLE CIRCUIT BREAKER. VERIFY REQUIREMENTS FOR WATER HEATER PRIOR TO MAKING FINAL CONNECTIONS.
- UNDER ALTERNATE BID #1, EXISTING DOMESTIC WATER HEATER TO REMAIN. ROUTE EXISTING CIRCUIT THRU CONTACTOR "LC1" FOR SHUTDOWN SEQUENCE.
- PROVIDE NEW 15-AMP, 1-POLE CIRCUIT BREAKER IN INDICATED PANELBOARD. CONNECT CIRCUIT TO NEW CIRCUIT BREAKER. REMOVE EXISTING SPARE CIRCUIT BREAKER TO MAKE ROOM FOR NEW BREAKER.
- UNDER ALTERNATE BID #1, EXISTING DOMESTIC WATER HEATER TO BE REMOVED. PROVIDE REQUIRED ELECTRICAL DEMOLITION. REUSE EXISTING CIRCUIT FOR NEW WATER HEATERS.
- UNDER ALTERNATE BID #3, NEW PUMP SHALL BE PROVIDED WITH VFD. THE EXISTING STARTERS IN THE MOTOR CONTROL CENTER THAT SERVES THE EXISTING PUMPS SHALL BE REPLACED WITH A COORDINATE MOTOR HP, VOLTAGE AND PHASE WITH PUMP MOTOR. PROVIDE NEW 20-AMP FUSES.
- UNDER ALTERNATE BID #1, PROVIDE NEW SWITCH WITH LOCKABLE COVER. COVER SHALL BE EQUAL TO MASTERLOCK 4969.
- REPLACE EXISTING DUCT DETECTOR WITH NEW DETECTOR. CONNECT TO EXISTING FIRE ALARM SYSTEM.
- PROVIDE NEW FAN SHUTDOWN RELAY. INTERCONNECT WITH ASSOCIATED DUCT DETECTOR.
- PROVIDE NEW 15-AMP, 1-POLE CIRCUIT BREAKER IN INDICATED PANELBOARD. CONNECT CIRCUIT TO NEW CIRCUIT BREAKER.
- PUMP "PH1", COORDINATE EXACT LOCATION IN FIELD WITH OTHER TRADES.
- PUMP "PH2", COORDINATE EXACT LOCATION IN FIELD WITH OTHER TRADES.
- PROVIDE NEW 30-AMP, 1-POLE CIRCUIT BREAKER IN INDICATED PANELBOARD. CONNECT CIRCUIT TO NEW CIRCUIT BREAKER.
- UNDER ALTERNATE BID #1, MAKE ALL REQUIRED CONNECTIONS TO CIRC PUMP. TERMINATE ON BOILER AND PROVIDE REQUIRED WIRING BETWEEN BOILER AND CIRC PUMP. PROVIDE NEW 25-AMP, 1-POLE CIRCUIT BREAKER IN INDICATED PANELBOARD. REMOVE EXISTING SPARE CIRCUIT BREAKER TO MAKE ROOM FOR NEW BREAKER. CONNECT CIRCUIT TO NEW CIRCUIT BREAKER. VERIFY ALL REQUIRED PUMP REQUIREMENTS PRIOR TO ROUGH-IN.
- UNDER ALTERNATE BID #3, PROVIDE NEW SWITCH WITH LOCKABLE COVER. COVER SHALL BE EQUAL TO MASTERLOCK 4969.
- UNDER ALTERNATE BID #1, PROVIDE NEW 15-AMP, 1-POLE CIRCUIT BREAKER IN INDICATED PANELBOARD. CONNECT CIRCUIT TO NEW CIRCUIT BREAKER.
- PROVIDE NEW 15-AMP, 2-POLE CIRCUIT BREAKER IN INDICATED PANELBOARD. CONNECT CIRCUIT TO NEW CIRCUIT BREAKER. REMOVE EXISTING SPARE CIRCUIT BREAKER TO MAKE ROOM FOR NEW BREAKER.

**BRANCH CIRCUIT & FEEDER SCHEDULE:**

- 2 - #10 AND 1 - #10 GROUND IN 0.5" CONDUIT

**GENERAL DEMOLITION NOTES:**

- INFORMATION ON THESE DRAWINGS REPRESENT INFORMATION FROM EXISTING DRAWINGS AND LIMITED SITE INSPECTIONS. CONTRACTOR SHALL FIELD VERIFY EXISTING CONDITIONS PRIOR TO SUBMITTING BID. NO EXTRAS SHALL BE PAID DUE TO UNANTICIPATED CONDITIONS.
- CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CORING, PATCHING, AND REPAIR OF ALL WALL AND FLOOR SYSTEM AS REQUIRED DUE TO NEW CONSTRUCTION. MAINTAIN ALL FIRE RATINGS.
- FOR ALL EXISTING WIRING, EQUIPMENT, ETC. SHOWN TO BE REMOVED, THE OWNER SHALL HAVE THE FIRST RIGHT OF REFUSAL.
- WHERE DEMOLISHED DEVICES ARE PART OF A CIRCUIT THAT IS THRU-WIRED, OR HAS ADDITIONAL DEVICES ON THE CIRCUIT THAT ARE TO REMAIN UNCHANGED, THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING THE INTEGRITY OF THE EXISTING CIRCUIT. ANY ADDITIONAL CONDUIT, CONDUCTOR, BOXES, ETC. NEEDED TO MODIFY THE EXISTING CIRCUIT TO MAINTAIN THE INTEGRITY ARE THE RESPONSIBILITY OF THIS CONTRACTOR AND SHALL BE INCLUDED IN BID.
- REMOVE ANY UNUSED CONDUCTORS, CONDUIT, AND WIRING LOCATED WITHIN THE AREA OF CONSTRUCTION.

**GENERAL NOTES:**

- ALL ELECTRICAL WORK SHALL BE IN ACCORDANCE WITH THE 2017 NATIONAL ELECTRIC CODE.
- THE CONTRACTOR SHALL VERIFY ALL EXISTING CONSTRUCTION PRIOR TO SUBMITTING HIS BID. NO EXTRAS WILL BE PAID DUE TO UNANTICIPATED EXISTING CONDITIONS.
- THE CONTRACTOR SHALL SCHEDULE AND EXECUTE ALL WORK WITH REGARD TO THE OWNER'S USE OF THE BUILDING.
- PLANS ARE DIAGRAMMATIC AND SHALL NOT BE SCALED.
- ALL WIRING SHALL BE IN CONDUIT.
- CONDUIT CONNECTORS AND COUPLINGS SHALL COMPRESSION TYPE. SET SCREW TYPE CONDUIT FITTINGS SHALL NOT BE ALLOWED.
- ALL POWER CIRCUITS SHALL HAVE A GROUNDING CONDUCTOR.
- ELECTRICAL CONTRACTOR SHALL PROVIDE A TYPED CIRCUIT DIRECTORY FOR ALL PANELS. DIRECTORY INFORMATION SHALL INCLUDE CIRCUIT NUMBER AND EQUIPMENT SERVED.
- ELECTRICAL CONTRACTOR SHALL PROVIDE DUCT SMOKE DETECTORS FOR ALL HVAC UNITS GREATER THAN 2,000 CFM SUPPLY. DUCT DETECTORS SHALL HAVE SAMPLING TUBE IN LENGTH PROPER FOR DUCT SIZE AND REMOTE KEYED TEST STATION.
- CONTRACTOR SHALL CONFIRM EXISTING POWER, VOLTAGE AND PHASE OF AVAILABLE CIRCUITS FOR EQUIPMENT BEING REPLACED PRIOR TO SUBMISSION OF EQUIPMENT SHOP DRAWINGS.
- FOR ALL ELECTRICAL QUESTIONS DURING BIDDING OR CONSTRUCTION, CONTACT ANTHONY BEIER (417)-881-0020

STATE OF MISSOURI  
ERIC R. GREITENS,  
GOVERNOR



Missouri State Certificate of Authority #00075  
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AIA architects & planners

COMM. # 4092

OFFICE OF ADMINISTRATION  
DIVISION OF FACILITIES  
MANAGEMENT,  
DESIGN AND CONSTRUCTION

DEPARTMENT OF  
PUBLIC SAFETY,  
MISSOURI VETERANS  
COMMISSION

HVAC REPLACEMENT  
PROJECT

MISSOURI VETERANS  
HOME

620 N. JEFFERSON  
ST. JAMES, MO 65559

PROJECT # U1503-03  
FAI # 29-051  
SITE # 4700  
FACILITY # 55019

REVISION: \_\_\_\_\_  
DATE: \_\_\_\_\_  
REVISION: \_\_\_\_\_  
DATE: \_\_\_\_\_  
REVISION: \_\_\_\_\_  
DATE: \_\_\_\_\_  
ISSUE DATE: 10-27-17

CAD DWG FILE: E-100.DWG  
DRAWN BY: AGB  
CHECKED BY: CKC  
DESIGNED BY: AGB

SHEET TITLE:

**ELECTRICAL PLAN**

SHEET NUMBER:

**E-100**

35 OF 41 SHEETS

10-27-17