

**Statement of Work**  
**Replace Fire Pump**  
**Project Number 583-13-121**

**I. SCOPE OF WORK:**

The Contractor shall provide all tools, equipment, parts, materials, labor, supervision, technical manuals and transportation necessary to completely prepare site for the replacement of the existing Fire Pump (this includes providing a temporary Fire Pump while the old is being removed) as shown in drawings/specifications. Provide carpentry, structural, mechanical and electrical (emergency systems, controls and interlocks) as specified. Contractor will remove/reinstall all mechanical and electrical equipment in the way of new work. Necessary removal of existing structures, construction debris and associated accessories including wall/concrete finish, outdated equipment, frail pipe, faded conduits, old electrical wiring/circuits/feeders, lighting, disconnects and controls will also be part of the work. Contractor will also contact the following as protocol; Indianapolis Public Services: Fire Department and Police; and VA Departments for Fire Watch and Fire Ready Protocol, at the Department of Veteran Affairs, Richard L. Roudebush VA Medical Center, 1481 W 10<sup>th</sup> Street, Indianapolis, IN 46202.

**II. CONFORMANCE STANDARDS:**

All services provided under this contract must be performed in conformance with the National Fire Protection Agency (NFPA), Occupational Safety and Health Administration (OSHA), and Original Equipment Manufacturer standards and specifications.

**III. HOURS OF WORK:**

A. Regular working hours are Monday through Friday from 8 a.m. to 5 p.m. Afterhours work may be required to allow for work around hospital service requirements.

B. The ten holidays observed by the Federal Government are New Year's Day, Martin Luther King Day, President's Day, Memorial Day, Independence Day, Labor Day, Columbus Day, Veterans Day, Thanksgiving Day, and Christmas Day. Also, any other day declared by the President of the United States to be a national holiday.

**IV. CONTRACT REQUIREMENTS:**

A. The Contractor shall provide a proposal for replacing the Fire Pump (See drawings for all locations), to include removal of old Fire Pump and Accessories. All procedures shall be in accordance with the published procedure manuals for the equipment listed in the schedule. The Contractor shall utilize the Original Equipment Manufacturer's established procedures and checklists, (or Contractor-supplied equivalent satisfactory to the Contracting Officer's Representative). To include the following:

1. See Attached AE Design Narrative.
2. See AE Construction Documents including Drawings and Specifications.
3. Contractor will remove all trash and debris associated with this work.
4. Provide a 5 Year MRCA Workmanship Warranty.
5. All Utility Shutdowns shall be given a one week notification to COR. No work will be started without V/A inspectors on site with contractors during shutdown or spraying of odorous adhesions; etc. All shutdowns shall be scheduled around hospital operations and will need to be done at nights or weekends. Provide temporary back-up systems including electrical and mechanical (Emergency Generators for radiator temporary removal or Critical Exhaust or Air Handling Systems) for prolonged utility shutdowns; no exceptions permitted without COR approval.

#### **V. DOCUMENTATION/REPORTS:**

The Contractor shall submit a legible report, which shall include detailed descriptions of the work performed, including photos, drawing and specifications.

#### **VI. REPORTING REQUIREMENTS:**

Contractor shall be required to report to the COR during off hours. **This check in is mandatory especially for weekend or holidays.** When the service is completed, the Contractor shall document services rendered on a legible field service report (daily report). The Contractor shall log out with the COR or Chiller Plant Operator and submit the field service report (daily report) to the COR for a signature.

#### **VII. COMPETENCY OF PERSONNEL SERVICING EQUIPMENT:**

A. The Contractor's job site superintendent shall include "fully qualified" Field Service Representatives with OSHA 30, assigned to this area.

B. "Fully qualified" is based upon training and on experience in the field. For training, the Field Service Representatives must have successfully completed a formalized training program for the equipment covered under this contract. For field experience, the Field Service Engineers must have a minimum of one (5) year of experience providing services on the same make and model of Material installed under this contract.

C. The contractor shall provide written assurance of the competency of their personnel by detailing a list of Field Service Representatives along with applicable training and years of service experience on the specific devices covered in this agreement. This information shall be



included in the quoted proposal for providing service.

## **VIII. SECURITY and SAFETY:**

- A. The contractor and their personnel shall be subject to the same Federal laws, regulations, standards and VA policies as VA personnel regarding information and information system security. These include, but are not limited to Federal Information Security Management Act (FISMA), Appendix III of OMB Circular A-130, and guidance and standards, available from the Department of Commerce's National Institute of Standards and Technology (NIST). This also includes the use of common security configurations available from NIST's website at:  
<http://checklists.nist.gov>
- B. To ensure that appropriate security controls are in place, contractors must follow the procedures set forth in "**VA Information and Information Security/Privacy Requirements for IT Contracts**" located at the following website: <http://www.ipirm.oit.va.gov>
- C. These provisions shall apply to all contracts in which VA sensitive information is stored, generated, transmitted, or exchanged by VA, a contractor, subcontractor or a third-party, or on behalf of any of these entities regardless of format or whether it resides on a VA system or contractor/subcontractor's electronic information system(s) operating for on the VA's behalf.
- D. Clauses (a) and (b) shall apply to current and future contracts and acquisition vehicles including, but not limited to, job orders, task orders, letter contracts, purchase orders, and modifications. Contracts do not include grants and cooperative agreements covered by 31 U.S.C. §6301et seq.
- E. The contractor must provide written certification that all contract employees assigned to the work site have had a pre-placement tuberculin screening within 90 days prior to assignment to the worksite and been found have negative TB screening reactions. Contractors will be required to show documentation of negative TB screening reactions for any additional workers who are added after the 90-day requirement before they will be allowed to work on the work site.

In the performance of this contract, the Contractor shall take such safety precautions as the Contracting Officer may determine to be reasonably necessary to protect the lives and health of occupants of the building. The Contracting Officer shall notify the Contractor of any safety issues and the action necessary to correct these issues. Such notice, when served on the

Contractor or his representative at the work site shall be deemed sufficient for the corrective actions to be taken. If the Contractor fails or refuses to comply promptly, the Contracting Officer may issue an order stopping all or part of the work, and hold the Contractor in default.

## **IX. WARRANTY**

All installed components will be warranted for a period of one year from substantial completion or first use of the system whichever comes first, unless otherwise stated in the below Extended Warranty List. Warranty will cover both equipment and labor. Warranty excludes equipment damaged by misuse, abuse or "acts of God".

Extended Warranty Items:

1. The equipment (parts) warranty for all Fire Pump Components, shall **extend to a total of at least ten (15) years**. Warranty for ancillary devices such as interlocking electrical controls and emergency components **extend to a total of at least two (5) years**.

**Responses to warranty issues shall be within 24hrs.**



## Design Narrative

DEPARTMENT OF VETERANS AFFAIRS  
Richard L. Rouddebush VA Medical Center  
Indianapolis, IN

"Replace Fire Pump Building 1"

Project #583-13-121

**Bid Document Submission**



### General Scope

The purpose of this Project is to replace the existing Fire Pump and associated controls within the Fire Pump Room in the Basement of D-Wing in Building 1.

### Existing Conditions

The existing Fire Pump system was installed over 30 years ago. The existing room that contains the Fire Pump system was created after the system was installed to create a corridor for movement to and from the E-wing warehouse. The existing room has two exterior walls and the added corridor. The added corridor wall does not meet 2-hour construction requirements..

The existing fire pump is electric-driven, 750 Gallons Per Minute (GPM), 115 Pounds per Square Inch (PSI), with a 75 horsepower motor. Existing sprinkler system components are rated for a maximum of 175 PSI.

Analysis of the existing standpipe demand shows that the existing main piping to the manual standpipes is not adequate to meet the requirements of NFPA 14 - Standard for the Installation of Standpipes and Hose Systems. (Standpipe demand for a fully sprinklered building is 1000 GPM with 100 PSI residual pressure at all hose connections.)

There is an existing gate at the stairs on the first floor level with signage that indicates that the basement is not an exit.

There are several Electrical Conditions associated with the existing Fire Pump that do not meet Code Requirements:

1. The Automatic Transfer Switch is not in the same room with the Fire Pump (NEC 695.12(A)).
2. The existing fire pump Controller does not have the proper access. (You have to climb over existing piping to get to it or, to get away from it.)
3. The feeders from the Normal Power Source and the Standby Generator Source are not protected from the effects of fire with a minimum 2-hour rating (NEC 695.6(A)(2)).
4. The Normal Power Source disconnecting means is located in the same switchboard as non-fire-pump loads (NEC 695.4(B)(3)(a)(3)).
5. The Normal Power Source and Standby Generator Source are not arranged to prevent disruption of the other if a fire were to occur at the location of the Sources (NEC 695.3(E)).
6. The fire pump room access is not appropriately rated (NFPA 20 4.12.2.1.2).

### Design

Our revised design replaces the existing fire pump with a new 50 HP pump (500 GPM, 105 PSI that will handle the automatic standpipe fire-fighting requirements of NFPA 14 after confirming with the Fire Department that they can pump the system to 180 PSI and confirming with the water utility (a flow test with Citizens Energy Group). The most demanding hose valve will have 250 GPM at 100 PSI. We accomplish the increased flow and pressure at the most demanding valve by adding a 6-inch main parallel feed in the sub-basement / basement. All piping and



control equipment within the fire pump room is being replaced. All design has been approved by the VA's fire pump inspection service (RSQ Fire Protection).

A new configuration for the fire pump room is created in the design that eliminates the corridor from Stair 7-B to E-wing. The new fire pump room has a single 4-foot door and 2-hour rated walls. A new electrical room is created to contain the relocation of electrical panel 'DSMLT1' so that it is no longer positioned in front of the opening for Chase A, and is out of the Fire Pump room. The existing snow melt contactors and controller are relocated to the new electrical room. Lighting in the fire pump room is being replaced and supplemented with new LED luminaires. One of the walls into the fire pump room is angled to allow for the installation of a fire damper in the large, existing, rectangular air duct. The previous submission showed double-doors as access to the fire pump room, but these did not take into account the need (by NFPA 20) to have a 2-hour rated enclosed passageway for fire pump room access. In order to create this rated access, the design includes 2-hour rated wall construction for the new electrical room walls, and rebuilding and relocating of the wall to existing mechanical room D-B004. This new configuration eliminates the need to relocate existing plumbing items that were being relocated in the previous design. However, new walls must be perpendicular to the existing ductwork to allow installation of fire dampers.

New doors and rated frame are being installed in the wall between Switchgear Room D-B009 and Generator Room D-B010 to maintain a 2-hour separation between the normal power source to the fire pump and the standby power source. These new doors and frame replace the existing frame and missing doors.

A new combination Transfer Switch / Controller is installed in a new location within the new fire pump room with new code-compliant feeders of 2-hour minimum rating installed from a new connection in the existing Normal Power Source (Switchboard 'DMSD') through a new Fire Pump Normal Power Disconnect switch and a new Standby Power connection directly at the existing 500 KW Generator in room D-B010 through a new enclosed circuit breaker mounted at the generator. Installation of a new Transfer Switch / Controller in a new location with new feeders will allow for decreased downtime during change-over to the new pump. The new Transfer Switch / Controller will be located to have the proper clearances and access (unlike the existing Controller). This design item will resolve all Electrical Conditions list issues in the Existing Conditions section of this Design Narrative.

The existing fire alarm components within the fire pump room are updated with new devices for monitor modules and a smoke detector is added to monitor conditions within the fire pump room. A smoke detector is added in the new electrical room. Fire Alarm Notification devices that were in the existing fire pump room and corridor are relocated to the new room and new corridor.

The design requires a temporary diesel-driven fire pump (skid or trailer-mount) to be located outside of the fire pump room connected to the existing sprinkler system. The location of the temporary pump is noted on the drawings and has been shifted away from the building to allow unobstructed egress from the basement. Final connections to the temporary pump are a responsibility of the Fire Protection contractor through the submittal process who, through coordination with the Electrical Contractor, will utilize temporary connections to the new designated sources. It must be understood that VA specifications require that Fire Protection final drawings be submitted by the Contractor, are not created by the A/E, and are not included

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Design Narrative – Bid Document Submission

in the design (refer to Specification 21 10 00). The submission by the Contractor will also include phasing plans as required in Specification 01 00 00.

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**Additional Items Not Included**

There is nothing within the Project Funding Limitations that can be included in our design for any "redundancy". Redundancy is not typically accomplished with additional fire pumps or pump locations, but refers to additional water supplies such as a second connection to the public water utility system (refer to VA Fire Protection Design Manual 5.5.C). Our present design has verified water department and fire department capabilities to provide adequate fire-fighting ability at the standpipes which is presently not available. Electric-driven fire pump systems are designed to continue to run to maintain life-safety at all costs (to the point where the motor, controls, disconnects, and conductors will be destroyed trying to pump the last drop of available water).