**Performance Work Statement (PWS)**

**Convert a Convention Center into an Alternate Care Site (ACS)**

**Target Audience:** NFPA 99 Category 2 Patient Space, which is defined as “activities, systems, or equipment whose failure is likely to cause minor injury of patients, staff, or visitors” (NFPA 99 para. 4.1.2)

**1. GENERAL**

The Contractor shall retrofit the selected space into an Alternate Care Site (ACS) **to serve critical-care (COVID-19) patients**. This effort is to provide an Alternate Care Site meeting basic healthcare functions with an emphasis on patient isolation, infection control, fire protection and life safety. Advantages to the user of this space are greater patient density enabling a reduction in healthcare workers and faster construction time as well as greater use of prefabricated construction (e.g. Portable Bathroom Trailers, conex for support service spaces etc.). The ACS shall serve as a satellite patient ward supported by a nearby full service hospital. The full service hospital would provide the logistics, materials and waste management support, nutrition care etc.

[The Contractor shall be responsible for the demobilization and removal/disposal of all facilities and equipment upon completion of this work and the restoration of the permanent facility as necessary in order to return it to its original state.] *This paragraph can be removed or edited as contract and facility lease agreements dictate.*

**2. FUNCTIONAL REQUIREMENTS**

**2.1 Concept of Operations**

The space shall serve as an Alternate Care Site (ACS) serving COVID-19 with isolation tents in a suite configuration for critical care COVID-19 patients. Patients are considered to be NFPA 99 Category 2 (COVID-19). Category 2 is defined by the NFPA 99 as a patient care “activities, systems, or equipment whose failure is likely to cause minor injury of patients, staff, or visitors” (NFPA 99 para. 4.1.2). This Alternate Care Site (ACS) would act as a temporary satellite Ward supported by a nearby full service hospital. The Contractor shall divide the space into “zones” as such: Zone 1 - Utility zone at perimeter, Zone 2 – Support at Perimeter**,** Zone 3 – (Center) – Patient Care Area. The Contractor shall provide all temporary facilities in order to execute a fully functional ACS within the convention center space. This includes facilities such as: toilets, showers, medical waste, pharmacy, general waste, hand-washing facilities, and other requirements included herein. Isolation tents shall be provided with dedicated exhaust in accordance with the following requirements.

**2.2 Facility Modifications Required**

The following are the anticipated facility modifications needed to convert a convention area space to an ACS. Site selection should be based on confirming the critical technical features to achieve minimum life safety and infection control standards.

The Contractor shall provide all necessary labor, materials, and equipment to provide the following equipment and temporary/portable facilities in order to convert the selected space into an ACS:

Patient isolation units for each patient. These units shall be Individual Treatment Room/ Pod Designs and conform, at a minimum, to the following requirements: Non-combustible tent structure that conforms to NFPA 701. Medical tents are permitted, but shall conform to the aforementioned NFPA and combustibility requirements. The Contractor may elect to construct the isolation rooms. Floor area (size) of patient isolation units shall be approximately 100 square feet, as measured from the interior of the space. Units shall have a large single or double access door with vision window. Floor and wall surfaces shall be cleanable and washable for disinfection. Each room/unit/pod shall be fully ducted and connected to negative air unit (central). The Contractor shall provide a free-standing headboard or wall area for each patient isolation room/unit/pod for the mountain of receptacles, ductwork, and wall-mounted equipment. Wall materials shall be non-combustible.

**2.2.1 Temporary/Portable Facilities to Support Patients & Medical Staff:**

Hand washing sinks should be provided within patient areas for hand-washing:  The Contractor shall provide 1 sink per 2 or 3 rooms/pods. Temporary/portable hand-washing station shall have the ability to maintain hot water in accordance with all applicable codes/requirements. The Contractor shall either utilize the facility’s potable water/wastewater utilities and tap into these utilities where practicable OR provide the services to provide potable water and wastewater disposal services at a rate of 15 L/per day per Patient & Caregiver. Temporary/portable structures shall be comprised of non-combustible materials and shop drawings/product data sheets shall be submitted to the Government for review and approval.

Temporary/portable bathrooms: The Contractor shall provide and install temporary/portable toilets with sinks to be located inside the space in close proximity to the patient areas. The number of toilets shall be 1/20 people and ADA compliance is required. The total number of temporary/portable units is based on the Contractor’s selection of the design/construction of the individual units (i.e. 2 toilets/sink per trailer, etc.). These temporary/portable facilities shall be tied into the existing potable/wastewater utilities where practicable. If this is not practicable, then the Contractor shall provide the services to maintain adequate potable water and waste disposal services for the duration of this requirement.

Temporary/Portable Showers: The Contractor shall provide and install temporary/portable showers to be located inside the space in close proximity to the patient areas. The total quantity of individual showers shall be based on a need of 3 people per hour for 24 hours and ADA compliance is required. The total number of temporary/portable units (i.e. 4 showers per trailer/conex, etc.) is based on the Contractor’s selection of the design/construction of the individual units.

*\*Note – The following paragraphs may need to be edited contingent on the agreement with the supporting medical care facilities for the operation of laundry/linens/medical waste/general waste. They may be supported by the facility and their existing service contracts OR operated by the Contractor.*

[Temporary/Portable Laundry: The Contractor shall provide and install temporary/portable laundry facilities to be located inside the space in close proximity to the patient areas. Laundry facilities shall include automatic washer & dryer (separate or two-in-one style units) and be able to service 250 sets of clothes daily for all patients and caregivers. Water & greywater shall be tied into the facility’s existing potable and sewer utilities where practicable. If not practicable, the Contractor shall provide services for potable water provision and wastewater disposal as necessary to allow for full functionally as described above.

Temporary/Portable Soiled Linen Storage: The Contractor shall provide/install temporary/portable soiled linen storage to be located inside the space in close proximity to the patient areas.

Temporary/Portable Medical Gas (Med Gas): The Contractor shall provide, install, and supply temporary medical gas storage and use facilities to support the patient areas. Temporary/portable structure shall be fabricated from non-combustible materials and conform to all applicable local/state/federal transportation and utilization criteria and laws. Medical gases required for this ACS will be: O2.

Temporary/Portable Ice Machines: The Contractor shall provide, install, maintain, and supply temporary/portable ice machines in order to provide ice at a rate of 5 lbs/day per patient, not to exceed 3,100 lbs/day. The Contractor shall tie the temporary/portable ice machine into the facility potable water utility where practicable. If not practicable, the Contractor shall supply the ice machine with potable water in order to fulfill the requirements above.

Temporary/Portable Medical Waste: The Contractor shall provide, install, and maintain temporary/portable medical waste facilities for the collection, storage, and removal of medical waste generated by this ACS.

Temporary/Portable General Waste: The Contractor shall provide, install, and maintain general waste facilities for the collection, storage, and removal of all general waste generated by this ACS.

All temporary/portable facilities listed above can be, but are not limited to, prefabricated units (“off the shelf”), “conex”-type units converted for the uses required above, custom-build units for the applications required above, or a combination thereof. The units shall be fire-rated and comprised of sturdy, non-combustible, washable, materials that can be maintained and disinfected.

Nurse’s Stations: The Contractor shall provide, install, and maintain centralized nurse’s stations that can be fully equipped (by others) to accept all required equipment and materials for full-functionality of a typical primary-care facility Nurses Station.]

**3.0 Architectural**

The Contractor shall, prior to mobilization and execution of the facilities and units described above, place rubber, sheet vinyl, or other acceptable material that has the ability to be seamless (welded seams or other method of achievement) as the flooring for the entire space, including temporary/portable support facilities. The proposed flooring material shall be washable and cleanable while maintaining a safe, non-slip surface.

The Contractor shall provide individual room arrangements meeting patient room criteria. Arrangement of Patient care shall be such that each patient isolation unit maintains full visibility to a nurse’s station. This could be, but is not limited to, a layout where there is a centralized nurse’s station surrounded on three sizes by patient isolation units on three sides to form a patient “block.” The Contractor shall propose a layout that maximizes patient density while maintain ingress/egress requirements, life safety code requirements, patient access and visibility requirements, and ensures temporary/portable support facilities can be maintained in close proximity to the patient zone. The minimum corridor/walkway widths shall be 8 feet. These patient care modules can be aligned/ stacked/ arranged in rows or larger groupings to create multiple and larger capacity patient care. Cluster or grouped areas should not exceed standard smoke compartment sizes per NFPA 101. Each patient area or “block” shall contain beds, storage/supplies, equipment and circulation storage/supplies – carts, equipment, hand washing station and staff work.

**4.0 Mechanical**

The Contractor shall provide, install, and maintain all labor, equipment, and materials as described herein: Isolation tents (grouped in suites) shall be served by an isolation exhaust AHU with HEPA filtration discharging to the outside of the facility. The Contractor shall achieve the ASHRAE 170 requirement of 0.01 inches water gauge to meet patient isolation requirement. Each 100 square foot tent shall be provided with a minimum of 200 cfm exhaust to maintain space conditions and negative pressurization. Make-up air shall be provided from the facility’s central systems. The isolation exhaust AHU’s should be located as close to the building exterior as possible and discharge a minimum of 20ft away from the air intakes, doors and other building openings. All ductwork within the building shall be negative for infection control. Duct to the isolation suites shall be supported on temporary supports at least 10ft above the finished floor level. At the isolation tents, the duct shall be located inside a low partition wall along with other utility systems with an intake installed within the headboard structure.

The Contractor shall adjust, test, and balance the existing Arena AHU systems to minimize exhaust/relief air and maximize outside air to ensure sufficient make-up air is available to account for the additional exhaust at the isolation tents (100% outside air is to be achieved). This shall be performed by qualified HVAC specialist and a certified and accredited TAB specialist. The Contractor shall provide mechanical exhaust in order to route any shower, toiler, and laundry, and other applicable temporary/portable support facility exhaust to the exterior or exhaust system. The Contractor shall not utilize the isolation exhaust system for any wet exhaust (e.g. shower or laundry) as the moisture will degrade the HEPA filters.

The Contractor shall supply all temporary negative air machines/AHU’s with compatible HEPA filters. Further, the Contractor shall provide the existing facility AHU’s with HEPA filters throughout the use of this facility as an ACS. The maintenance of the existing facility AHU’s is the responsibility of others.

**5.0 Electrical**

The Contractor shall provide, install, and maintain an emergency generator on a flatbed or on pad with skid mounted tank. Contractor to provide fuel supply in order to maintain continuous operation of generator. The Contractor shall provide exterior switch board(s) with automatic transfer switch; and connect to emergency power supply from generator and normal power supply from building system. The Contractor shall provide, install, and maintain the temporary electrical system under NFPA 70 article 590, Temporary Installations. Configure the generator as 2nd service, as allowed by NFPA 70 article 230.2A, for “special conditions”.

The Contractor shall provide, install, and maintain two power distribution panels in each “pod” block. One shall be connected to building normal power, which is the normal branch. One shall be connected to the second generator switch board, which is the equipment branch. Panels shall be keyed to limit access. Provide a connection between ground busses in the two panels serving patient care areas, as required by NFPA 70.

Provide a dedicated circuit using medical grade armored cable from each panel (normal and equipment) to each general care pod. For NFPA category 3 basic care beds, the equipment branch circuit need not be dedicated and both circuits need not include redundant grounding; therefore other temporary wiring methods may be considered.

The Contractor shall patient bed “head board”, for mounting receptacles and boxes. Provide 8 receptacles for each general care bed, 4 connected to normal power and 4 connected to equipment power. Provide 4 receptacles for each basic care bed and connect to normal power.

In patient isolation care pods, provide two hanging light fixtures connected to equipment branch. One shall be low level ambient light and one shall be high power examination light. Provide nurse stations with task lights and receptacles circuited to equipment branch. Showers and toilets shall be provided with general illumination connected to normal power and a low level light connected to equipment branch.All temporary/portable facilities and/or containers for soiled utility, storage, etc. get illumination connected to normal power.

**6.0 Plumbing / Medical Gas**

The Contractor shall provide, install, and maintain water and sanitary services to serve the temporary/portable facilities as required. Provide piped sanitary vent to the exterior. Provide sanitary collection tanks and lift stations as needed to continuously pump waste to a sanitary sewer connection, to avoid the need for gravity drainage, enabling routing of utilities without obstruction of egress areas.

Medical gases shall be bottled only stored in hazardous storage areas to be provided by Contractor.

**7.0 Fire Protection / Life Safety**

For All areas, the Contractor shall provide and maintain the following:

Fire extinguishers shall be provided in circulation corridors throughout the arena floor area IAW NFPA 10.

Manual fire alarm stations shall be extended into the arena floor area and located near nurses stations IAW NFPA 72.

Circulation corridors shall be constructed and maintained to allow egress and circulation of patients. Equipment cannot block or inhibit egress. Travel distances from patient areas shall not exceed 100’ from any point

Not less than two exits shall be accessible from patient areas, and egress shall be permitted through adjacent patient areas spaces, provided that the two required egress paths are arranged so that both do not pass through the same adjacent spaces (suite). Two means of egress via circulation corridor must be provided (unimpeded). Marking of means of egress shall be provided IAW NFPA 101.Dead ends are prohibited.

 Nurse’s station shall be arranged to provide a direct line of sight of the patients and minimize staff travel distances and increase efficiency during code emergencies. Where direct line of sight cannot be maintained, a 120 vac smoke alarms within the tent shall be provided with a remote visual notification appliance located just outside of the tent opening for quick identification. All tent fabric shall meet the flame propagation performance criteria contained in NFPA 701. The Contractor shall provide the means to shutdown HVAC serving the tent pods, readily available to nurse’s station.

Hazardous materials shall be separated from adjacent areas via 1 hour fire resistance rating and provided with ¾ hour fire rated doors. i.e. central/bulk laundries larger than 100 square, rooms with soiled linen in volumes exceeding 64 gallons, storage rooms larger than 100 square feet and storing combustible material, rooms with collected trash in volume exceeding 64 gallons, and laboratories employing flammable and combustible materials in that would be classified as severe hazard**.**

Medical gas storage greater than 300 cubic feed shall be provided in a separate and secured room. Medical gas storage greater than 3000 ft3 shall be separated from adjacent areas via 1 hour fire rated construction with ventilation.

**8.0 Communications**

The Contractor shall utilize broadband capabilities for clinicians to VPN into their regional center for health record accessibility and other needs. This VPN connection will enable leveraging the main hospital's cybersecurity posture. The Contractor shall provide and install wireless cameras throughout the floor for viewing at nurse stations.Existing outside plant cabling shall consist of 12 strand fiber optic cabling upgradable to at least 1 Gbps.

The Contractor shall provide, install, and maintain a simplified nurse call system that allows each patient to communicate with/signal to the nurse’s station and allows the nurse’s station to identify the specific patient/location of the call.

**9.0 Schedule**

The Contractor shall submit a schedule to the Government within 24 hours of Notice-To-Proceed (NTP).