**DGS-30-456**
(Rev. 10/18)

# Construction Management at Risk
# Procurement Review Submittal Form

### General Project Information

| | | |
|---|---|---|
| Agency Name: | University of Virginia Medical Center (209) | |
| Is the agency a covered institution per §2.2-4379? | | Yes |
| Project Name: | UH Focused Ultrasound & MRI Expansion | |
| Project Number: | P06672 | |

### Other Project Information

| | | | |
|---|---|---|---|
| Advising A/E Name: | Rick Sasaki | License Number: | 11981 |
| COV Sections: §2.2-4380.B.2, §2.2-4381.C.2 | | | |
| | | | |
| Attach written determination for use of CM at Risk. | | | |
| COV Sections: §2.2-4380.C.2, §2.2-4380.B.1; §2.2-4381.D.2, §2.2-4381.C.1 | | | |
| | | | |
| Is the procurement process proposed a two-step process? | | | Yes |
| COV Sections: §2.2-4380.C.2, §2.2-4380.B.7; §2.2-4381.D.2, §2.2-4381.C.7 | | | |

### Agency Reasons for Use of CM at Risk

| | |
|---|---|
| Construction Cost (COV Sections: §2.2-4381.B.1, §2.2-4380.C.3, §2.2-4381.D.3) | Yes |
| Building Use (COV Sections: §2.2-4381.B.1, §2.2-4380.C.3, §2.2-4381.D.3) | Yes |
| Project Timeline (COV Sections: §2.2-4381.B.1, §2.2-4380.C.3, §2.2-4381.D.3) | Yes |
| Need for Project Phasing (COV Sections: §2.2-4380.C.5, §2.2-4381.D.5) | Yes |
| Project Complexity (COV Sections: §2.2-4381.B.1, §2.2-4380.C.4, §2.2-4381.D.4) | Yes |
| Value Eng. and/or Constructability Analysis Concurrent with Design (COV Sections: §2.2-4381.A) | Yes |
| Need for Quality Control/Vendor Prequalification (COV Sections: §2.2-4380.C.5, §2.2-4381.D.5) | Yes |
| Need for Cost/Design Contol (COV Sections: §2.2-4380.C.5, §2.2-4381.D.5) | Yes |

### Supporting Information for Procurement Method Selection

| |
|---|
| Project Use (i.e. lab, classroom, office, etc.): (COV Sections: §2.2-4380.C.3; §2.2-4381.D.3) |

The University Hospital, originally designed and constructed in the late 1980s, is a Level 1 trauma center and provides over six hundred inpatient beds, procedural and operating rooms, specialized diagnostic services, and a myriad of support functions. During the last ten years, the UVA Medical Center has made major investments in critical infrastructure systems supporting the UVA Hospital, including the recent addition of the South Tower. However, with the growth in patient volume and advancements in the clinical uses of MRIs, existing MRI facilities have exceeded their operating capacities and the University needs to improve and expand them. One important clinical advance has been in Focused Ultrasound (FUS), used in combination with MRI, which the FDA has approved for treatment of essential tremor and Parkinson's Disease, and which has seen a growing clinical practice at UVA.

At the completion of the South Tower, the Interventional Radiology suite moved to the new tower, vacating its space adjacent to the existing MRI suite, presenting the opportunity to expand the MRI suite, as well as to reconsider the planning of the large Radiology Department as a whole, leading to the creation of a new Master Plan. The current Project includes the addition of one new MRI (#4), shell space for a future MRI (#5), and associated functions. The Focused Ultrasound and MRI Expansion is the first of a series of projects contemplated by the Master Plan.

The existing MRI suite and portions of other adjacent spaces (e.g., Guided Ultrasound, Radiology Clinic, patient prep and recovery spaces) on the first floor of the hospital will remain operational for patients and staff. The CM firm will be responsible for make-safe operations and coordination with occupied spaces adjacent, above, and below, prior to any demolition activities, and throughout the construction process.

| | | |
|---|---|---|
| Construction Cost: | $13,156,000 | (COV Sections: §2.2-4380.C.3; §2.2-4381.D.3) |

| | | | | |
|---|---|---|---|---|
| Project schedule: (COV Sections: §2.2-4380.C.3; §2.2-4381.D.3) | Design Start Date | 8/15/22 | Design Compl. Date | 7/5/23 |
| | Const. Start Date | Summer/Fall '23 | Const. Compl. Date | 8/6/24 |
| | Attach bar chart schedule to illustrate fast tracking or other schedule complexities. (COV Sections: §2.2-4380.C.3, §2.2-4380.C.4; §2.2-4381.D.3, §2.2-4381.D.4) | | | |

Additional description to highlight key attributes that affect the project complexity, need for value engineering/constuctabilitiy analysis, qualitiy control/vendor prequalification, and cost/design control as indicated by "Yes" answers above:

Competitive sealed bidding and Design/ Build are not practical for this Project.
The MRI Suite in University Hospital is located directly above the Central Sterile Services department, and directly below general operating rooms. Central Sterile is getting ready for a 17-phase HVAC renovation project, certain phases of which are expected to affect/ be affected by structural reinforcement work and magnetic shielding required for the MRIs. The work of these two projects will require careful coordination, and the available hours for work are short in duration, and limited in frequency, posing further challenges. Further, a portion of this structural and shielding work is expected to be out of sequence with the rest of the MRI Project. The location below the operating rooms will present challenges during every phase of construction, as was experienced during the original construction of the existing MRI suite in 2015. Procedures in the operating rooms have been demonstrated to be extremely sensitive to the noise and vibration typical of construction work.
In addition, quench and exhaust ducts for these two new MRIs are conceptually planned to run above the ceiling of the adjacent spaces. Those adjacent spaces are themselves expected to be reconfigured and re-purposed in a future phase, including relocation of the corridor, and demolition/ re-design/ relocation of all MEP systems that serve those spaces. This will require careful planning of systems for both the MRIs and the future phase, as well as phasing of the construction of those systems, especially since we will need to accommodate ongoing clinical operations in the adjacent spaces.
While this is primarily an interior renovation, a new external shaft will accommodate quench and exhaust ductwork, and new knock-out panels will enable future equipment replacement.

A CM is critical for required preconstruction coordination with the adjacent functions, design team, and end users, providing early cost models, managing the extensive Value Engineering process and Constructability Analysis efforts, developing effective and optimal phasing plans, and performing preconstruction activities and commissioning. Significant complexity includes:

- Working in collaboration with the design team to minimize unforeseen conditions utilizing early investigation including laser scanning and clash detection that is critical given the nature of the adjacent functions, and their heavy MEP system infrastructure.
- Planning for upcoming phases of renovations.
- Planning and executing a viable, efficient, multi-phased renovation plan to accommodate Medical Center staff, operations, and on-going patient care during renovations of an occupied hospital.
- Scheduling and executing all staging, phased demolition work, enabling projects to accommodate swing space, construction, and renovation activities.
- Relocating occupants in phases as the facility is renovated, and planning and providing temporary building systems to support occupants throughout construction.
- Maintaining functionality of occupied spaces including minimizing noise and disruption, keeping existing systems online while new systems are being built, and developing a transition plan to switch over with input from occupants and the design team.
- Ensuring life safety systems are operational and maintained including fire alarm systems and egress; and working with the Radiology Department, design team, Health System Physical Plant (HSPP), and users to develop and understand circulation throughout an active construction site.
- Current volatility in the construction industry, including labor shortages and supply chain delays, will require the CM's assistance to enable cost control and effective planning for phasing.

These complicating factors require a responsive phasing and logistics plan coordinated closely with the design team, Radiology Department, HSPP, and users. Early costing exercises are essential to ensure priority scope items are accommodated in the renovations. This complex project will gain significant fiscal benefit, schedule reliability, and an improved final product, from bringing a seasoned CM team on board during the design process.

(COV Sections: §2.2-4380.C.4; §2.2-4381.D.4)

Submitted by: Jeff Moore DocuSigned by: Jeff Moore 392ED34288F241D... Date: 9/6/2022

Signature: DocuSigned by: Donald Sundgren AED1A3FA59A74E1... DocuSigned by: Donald Sundgren AED1A3FA59A74E1...

Title: Associate Vice President & Chief Facilities Officer

(Agency Head or Authorized Representative)

**For DGS Use Only**

Based upon the information provided by the Agency, the use of Construction Management at Risk IS recommended for this project.

Recommended by:

W. Michael Coppa, RA
Director, Division of Engineering and Buildings