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

Construction Management at Risk
Procurement Review Submittal Form

General Project Information

Agency Name:	Virginia Polytechnic Institute and State University (208)	
Is the agency a covered institution per §2.2-4379?		Yes
Project Name:	Replace Randolph Hall	
Project Number:	208-18502-000	

Other Project Information

Advising A/E Name:	Liza Morris NCARB	License Number:	VA 0401018243
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)
Replace Randolph Hall entails the phased demolition of the existing 166,000 GSF Randolph Hall and the phased construction (within the existing building's footprint) of a new 284,000 GSF building which will be home to Virginia Tech's College of Engineering. The new building will accomodate more than 54,000 SF of instructional laboratories (wet and dry) and classrooms; 56,000 SF of research laboratories (wet and dry); and "dirty" laboratory space on the ground floor to support instructional and research functions. The building will house within its interior, Virginia Tech's existing Stability Wind Tunnel, one of the largest university-operated wind tunnels in the U.S. Additionally, the building will house the Virginia Tech Rescue Squad which provides full-time (24/7/365), student-operated, first response to medical emergencies on campus. The existing building is located within the historical academic district, an area with a high concentration adjacent buildings and pedestrian traffic.

Construction Cost:	$173,000,000	(COV Sections: §2.2-4380.C.3; §2.2-4381.D.3)			
Project schedule: (COV Sections: §2.2-	Design Start Date	Apr-21	Design Compl. Date	Apr-23	
	Const. Start Date	Jul-23	Const. Compl. Date	Jul-26	

4380.C.3; §2.2-4381.D.3)	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:

Construction Cost: Given the massive size of the building, the extensive labs/research spaces, and the tightly constrained area where it will be constructed, this project will be of extremely high cost. The foundation intended likely includes aggregate piers with concrete spread footing systems including significant foundation/below grade excavation. As site conditions become more fully known during the early stages of design, sub-surface bedrock or other conditions may drive the need for alternative foundation systems and below grade building characteristics. Collaborative involvement by the CMaR with the A/E throughout the preliminary design and working drawing phases well before construction begins will better inform design processes, enhance project cost estimation, ensure sequencing of work is efficiently planned and budgeted, and provide constructability analysis—all of which are critical to the maintaining overall project costs within budget.

Project Timeline and Phasing: Coordination of design and construction activities are paramount for optimization of project phasing. Due to the confined project area and swingspace limitations, the building will be demolished and constructed in phases to support ongoing instructional and research-related academic activities that will continue to take place within the building throughout the project. It is anticipated roughly half the building will be vacated, demolished, rebuilt and reoccupied; then the remaining half will undergo similar phasing. Engagement by the CMaR with affected organizations during pre-construction phases is essential to meet project phasing milestones and for coordination of long-lead items including structural steel, transformers, major lab equipment, etc.

Project Complexity: The site is located in the central core of campus and is adjacent to classroom/research buildings, dining facilities, and administrative buildings that lend to high concentrations of pedestrian and vehicular traffic. The resultant impacts include: high volume and vehicular and pedestrian traffic management challenges, little to no adjacent laydown area, just-in-time material deliveries, extensive underground utilities coordination requirements, shared project borders and associated project site control systems. Demolition will be challenging as the existing building shares a common wall with an adjacent academic building. Additionally, the new building is intended to host within its interior the aforementioned wind tunnel and other extremely complex laboratories including an acoustics anachoic chamber, dynamometer, autonomous robotics/lasers, etc. Use of CMaR, particularly during the design phase, will ensure optimal construction techniques are identified early, thus optimizing cost and time.

Need for Quality Control/Vendor Prequalification: Successful orchestration of this project will absolutely require the expertise of a highly qualified CMaR. Use of two-step procurement procedures will help ensure selection of the best possible qualifed CMaR with the expertise and experience best suited for this project. Additionally, subcontractor pre-qualification by the CMaR for certain work packages will also be essential for optimized performance by the contractor team and greatly reduce risk to the university.

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

Submitted by: CHRISTOPHER H. KIWUS Date: 1-28-2021

Signature:

Title: VICE PRESIDENT FOR CAMPUS PLANNING, INFRASTRUCTURE, AND FACILITIES

(Agency Head or Authorized Representative)

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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