

Construction Management at Risk Procurement Review Submittal Form

General Project Information

Agency Name:	Virginia Tech	
Is the agency a covered institution per §2.2-4379?	Yes	
Project Name:	Innovation Campus Academic Building	
Project Number:	208-18412-000	

Other Project Information

Advising A/E Name:	Travis Jessee, AIA - Pending A/E Selection	License Number:	VA 0401014776
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 Control (COV Sections: §2.2-4380.C.5, §2.2-4381.D.5)	Yes

Supporting Information for Procurement Method Selection

<p>Project Use (i.e. lab, classroom, office, etc.): (COV Sections: §2.2-4380.C.3; §2.2-4381.D.3)</p> <p>The Virginia Tech one-million square feet "Innovation Campus" recently announced for establishment in Alexandria, VA in response to the Amazon HQ2 initiative will include a new multi-story academic facility. The Innovation Campus Academic Building will provide a cutting edge platform for graduate-level academic programs keyed to technology-based industries. The facility must be designed and constructed to integrate extensive data management functions with advanced academic delivery methods.</p> <p>The building will be 300,000 SF. Programming for the facility is still under development, but is sure to include multiple large data processing laboratories, student-team data management/project spaces, large classrooms and office spaces.</p> <p>Design and construction of the facility must be accomplished on an accelerated timeline in light of the recent commitment by the Commonwealth to increase the throughput of undergraduate and graduate students with STEM degrees feeding into the Innovation Campus. Planned enrollment increases by more than 2,000 students across the next four to five years is driving the need for rapid establishment of this building and the programs it will house. Overall, in light of the intense need for this highly complex building on a rapid timeline, it is vital to minimize the overall duration of this project through the use of CMaR.</p>

Construction Cost:	\$208,000,000 (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	December 2019	Design Compl. Date	September 2021
	Const. Start Date	August 2021	Const. Compl. Date	February 2024
	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/constructability analysis, quality control/vendor prequalification, and cost/design control as indicated by "Yes" answers above:				
<p>Construction Cost: 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. Value engineering and constructability analysis will enhance project quality through elimination of costly and time consuming change orders. The creation, evaluation and pricing of alternative solutions to complex technical constraints will optimize construction of the complicated and specialized systems envisioned within this building.</p> <p>Project Timeline and Phasing: Academic programs supported by the Innovation Campus are already in demand and dictate the need for rapid execution of this project. As mentioned, the University is accelerating establishment of this critical building to support academic program milestones—specifically, the ability to instruct an additional 2,000 STEM-degree students across the next four to five years. Additionally, the Academic Building itself will be constructed on a fast-track basis with a planned early release package for site work, building foundations, and structural steel. Engagement by the CMaR with affected organizations during pre-construction phases is essential to meeting project milestones for long-lead items including structural steel, IT-infrastructure components, transformers, etc. The building features include centralized high-end HVAC systems and controls, robust IT-infrastructure and data visualization systems, and state-of-the-art lighting systems. Use of CMaR, particularly during the design phase, will ensure these components enhance the academic programs planned for the Innovation Campus.</p> <p>Project Complexity: The academic spaces of the facility will incorporate intensive cyber security and IT-based communications infrastructure for full connection with the University's vast computing power to efficiently translate immense amounts of data. It will provide state-of-the-art data visualization spaces for real time processing, flexible classroom spaces supporting multiple modes of instructional delivery, and support spaces where teams of students and faculty can explore and develop solutions for challenging and data-heavy problems. Additionally, this building is envisioned to be a net-zero facility in light of the fact that it is expected to be the showcase of the Innovation Campus. Given the massive size of the building, 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. Use of CMaR, particularly during the design phase, will ensure optimal construction techniques are identified early on thus optimizing cost and time.</p>				

Additionally, site complexity for this project will be intense due to the urban site conditions. During the construction phase, neighboring areas immediately adjacent to the site will also have significant ongoing construction projects, including: 250,000 SF of partner space dedicated to startups and corporate facilities; 350,000 SF of housing space for students and faculty; 100,000 SF of retail and support spaces; and the construction of a new Metro station. 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. Having a CMaR onboard during the design process is critical to ensure proper coordination with the surrounding construction projects. This coordination may also yield infrastructure synergies and efficiencies that would not otherwise be realized.

Need for Quality Control/Vendor Prequalification: Use of two-step procurement procedures will help ensure selection of a CMaR with the qualifications, expertise and experience best suited for this project. Due to budget constraints and the intense timeline associated with this project, subcontractor pre-qualification by the CMaR for certain work packages will be essential for effective financial management and cost control.

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

Submitted by:

CHRISTOPHER H. KIWUS, AVP/CFO

Date: 7/25/19

Signature:

Title:

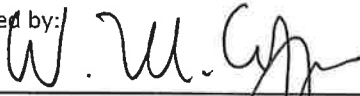


(Agency Head or Authorized Representative)

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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:



7/30/19

W. Michael Coppa, RA

Director, Division of Engineering and Buildings