DGS-30-456
(Rev. 02/22)

Construction Management at Risk
Procurement Review Submittal Form

General Project Information

Agency Name:	George Mason University (247)	
Is the agency a covered institution per §2.2-4379?		Yes
Project Name:	Construct Basketball, Training, and Athlete Academic Support (RAC Addition)	
Project Number:	247-241927	

Other Project Information

Advising A/E Name:	Alex Iszard	License Number:	0402-050092
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)	No
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

Project Use (i.e. lab, classroom, office, etc.): (COV Sections: §2.2-4380.C.3; §2.2-4381.D.3)
The Recreation Athletic Complex (RAC) Addition and related renovations will serve to provide space for the following functions: • Student-athlete academic services space serving all student athletes • Offices for basketball staff • Training facilities for Intercollegiate Athletics (ICA) basketball athletes • Renovation and expansion of the current Basket Practice Facility.

Currently, athlete academic support is provided from a 60' x 117' module building (West PE Module) that was constructed in 2008 that was intended to be temporary in nature. ICA receives complaints about the old and outdated facility. Academic support will be relocated to new RAC addition.

The office area for basketball staff is currently located in the game day arena facility (EagleBank Arena). The area where offices are located are in the lower level of the arena, most of which is below grade, making an expansion or extension of the office area impractical. Additionally, the office area which was originally envisioned during the initial arena construction as solely for basketball operations is now shared with the Arena staff. The amount of offices is not sufficient for the number of assistant coaches and graduate assistants typically on staff for a Division 1 basketball program in the A-10 conference. Basketball offices would relocate to the new RAC addition which will provide both the space needed and better proximity to the training facility.

In 2017, a gym space (the "Cage" Gym) within the RAC building was renovated to be a dedicated practice court/gym for ICA basketball. The size of the existing gym is only sufficient to house one full sized basketball court, plus shooting areas on the side. Both the Mens and Womens teams cannot practice concurrently with only the one gym. The RAC addition project will expand the size of the Cage Gym to provide two full sized courts to allow both teams to practice at the same time. Locker rooms, film viewing rooms, fueling stations, strength & conditioning, and other support areas for the basketball student athletes will be provided as well to allow the RAC addition to serve as the "home base" for team training.

The proposed project includes the design and construction of an approximately 30,000 GSF addition to the existing RAC building. Within the approximately 30,000 GSF addition, there will be approximately 5,540 ASF of academic support, 3,260 ASF of offices for basketball staff, 11,970 ASF of training support spaces, and 960 ASF of shared space. In addition, existing Cage Gym will be expanded by approximately 2,700 SF with 14,323 SF of renovation to the existing gym to create two full size court spaces.

Construction Cost:	$21,750,000	(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	7/8/2024	Design Compl. Date	7/4/2025
	Const. Start Date	7/15/2025	Const. Compl. Date	11/25/2026
	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:

Building Use/Project Complexity: The original RAC building was constructed in 1970 and included in that original construction was the "Cage" Gym which is to be slated to be expanded and renovated with this project. In 2009, the RAC building was renovated and expanded. The new construction portion of the 2009 renovation "wrapped" the existing building on the east and south sides. All new building utility infrastructure was provided which fed both the original building and the new expansion area. The current addition proposes to carefully peel off two of the exterior faces of the existing cage gym to allow the gym to be enlarged in the western direction and connected to the new addition to the north. The roof will need to be added to and expanded to support this addition. The current roof warranty is ideal to remain intact.

The RAC building serves as the main recreation building for the campus and **will remain in operation during the construction of the addition and renovation.** Design decision will need to be made in collaboration with the CMaR to ensure the continued operations. This will include how to supply HVAC services while potentially tieing into the existing systems, coordination the refresh of the Cage gym with the basketball season, safe egress, as well as other unforseen occupancy issues. The continued collaborative involvement of the CMaR with the A/E throughout preliminary design and working drawings will 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 maintaining project costs within budget. Specific project complexity

considerations that push complexity higher and justify the need for CMaR include:

- Complex structural work that will require selective demolition of two sides of the Cage Gym with new roof trusses and potential cross bracing steel where the gym opens to the new addition.
- Structural insufficiencies in the existing Cage Gym roof system prohibiting drifting snow loads or any mechanical equipment installed atop.
- Complex coordination to allow connecting and integrating the new addition to the existing building utilities all while maintaining building operation for:
  - o Power
  - o Fire protection (both sprinkler and fire alarm work)
  - o Domestic Water
  - o Mechanical Systems for the Gym Expansion area
  - o IT (data/telecom/access controls)
  - o BAS Controls System
  - o Storm water system
- The existing chiller plant within the building is at capacity and is not sufficient in size for the addition. In addition, the existing equipment is at the end of its useful life and requires to either be replaced and upsized, or an additional chiller/cooling tower be provided. These would need to be placed on site rather than rooftop mounted due to the gym structural insufficiencies previously noted. The site; however, has complexities that make locating this equipment difficult.
- The existing boiler in the building plant is not sufficient in size for the heating water required for the addition. A new boiler with associated pumps will need to be provided.
- The existing domestic water heater/storage tanks are at the end of the their useful life and are recommended to be replaced with this project.
- Challenging site topography that will require large and extensive retaining walls for access as well sheeting and shoring during construction to avoid disturbance of utilities to the west of the proposed gym expansion. The new building footprint abuts the existing building loading dock which is at a different grade level than the addition and **must remain active during the project.** Additionally, the surrounding site is bounded on two sides by the existing building and the other two sides by active roadways, making site logistics critical and challenging. Lastly, an existing Dominion Energy electrical utility on the site will be impacted from the new addition and will need to be relocated.
- Complex scheduling and critical phasing of work to ensure continuity of building use/operations for patrons/students/staff/classes during the renovation work.
- Separation of the new addition space from the balance of the RAC building to allow 24-7 operation of the new space.

Construction Cost / Value Eng. and/or Constructability Analysis Concurrent with Design / Need for Cost/Design Control:

- CMaR will provide constructability reviews and inputs to stormwater, structural, MEP, and envelope systems.
- Accurate CMaR constructability analysis coupled with timely cost estimation/feedback on scope decisions throughout design will optimize value engineering analyses conducted at each major design phase milestone while reducing the potential for time

consuming budget impasse delays.
• CMaR participation in maintaining an efficient design schedule with continuous cost control oversight will enhance project execution while minimizing construction change order costs and schedule impacts.

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 the budget constraints and intense delivery timelines, subcontractor pre-qualification by the CMaR for certain work packages will be essential for effective financial management and cost control.

Project Complexity:
Utilities for the new addition will be fed from the existing building, including power, domestic water, and life safety systems.
Project Timeline / Need for Project Phasing.

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

Submitted by: Frank Strike Date: 6/26/2024

Signature:

Title: Vice President, Facilities and Campus Operations
(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 NOT** recommended for this project.

Recommended by:

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