DGS-30-456
(Rev. 06/17)

Construction Management at Risk
Procurement Review Submittal Form

General Project Information

Agency Name:	Virginia Polytechnic Institute and State University	
Is the agency a covered institution per §2.2-4379?		Yes
Project Name:	Construct Undergraduate Lab Building	
Project Number:	208-18332-000	

Other Project Information

Advising A/E Name:	Zimmer Gunsul Frasca Architects	License Number:	411000367
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)	No
Need for Project Phasing (COV Sections: §2.2-4380.C.5, §2.2-4381.D.5)	No
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 facility is a four-story 102,000 GSF building that includes highly Specialized Teaching Labs, Classrooms, a Discovery Suite, Offices, and Collaboration Areas. Specific features include:

• Nine (9) Introductory Level Labs focused on "Wet" or life science coursework. All wet labs require more sophisticated HVAC systems to ensure fully exhausted air changes as well as requiring more complex utility services such as de-ionized water, natural gas services, and accommodation of a variety of other scientific, experimental gases.

• Twelve (12) Introductory Level Labs focused on "Dry" or non-life science course work

• Mid-Level Labs with inherent flexibility that can operate in both "wet" or "dry" configurations to meet programmatic requirements

• A Special Equipment Lab where a single piece of equipment – for example an Atomic Force Microscope – will be the principal focus of the space

• Maker's Space where students and faculty will be given access to fabricate solutions to problems from courses campus-wide as well as work on prototypes independent of a particular course

• In addition to teaching lab spaces, other key programmatic requirements are required. These include:
  - o Eight (8) Classrooms
  - o Prep and Storage Space for Labs
  - o Faculty/ Staff Offices
  - o Informal Learning Space (Breakout)
  - o Departmental Storage Space

Construction Cost:	$51,176,000	(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	7/17/2017	Design Compl. Date	7/1/2019
	Const. Start Date	9/1/2019	Const. Compl. Date	5/1/2021
	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:

In addition to the inherent complexity of the facility based upon its intended use, the following project characteristics incorporate additional complexities:

Difficult Site Location:

- USLB is the first of several new buildings planned in the North district of the campus as part of the VT master plan. Consequently, the adjacent areas surrounding this project site will be challenged by ongoing simultaneous major construction projects. Construction coordination requirements will be extensive. Additionally, this project is adjacent to the only campus parking deck requiring extensive coordination for traffic control, pedestrian safety, etc.
- Connection to existing utilities (steam/chilled water) will require extended runs exceeding 1500 linear feet through the areas challenged/complicated by other ongoing projects/activities

Additionally, in order to maintain the full program for the building and academic facility goals there is an enhanced need to very tightly manage and coordinate construction costs and utilize any available construction strategy.

- Pre-construction services: 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 (specifically coordinating the construction of exceptionally sophisticated building infrastructure systems to enable laboratories), 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 coupled with constructability analysis throughout the project design phases is essential to project budgetary success—and overall project success. These project control mechanisms are best incorporated through use of the CMaR process and not limited to a third party 40-hour value engineering analysis. The focused investment of a construction partner to generate, evaluate, and price alternative solutions to active, complex and technical constraints will optimize construction of complicated and specialized laboratory and teaching spaces.

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

Submitted by: Christopher Kiwus Date: 6/19/2018

Signature:

Title: Associate Vice President and Chief Facilities Officer

(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. M. Coppa 6/25/18

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