Application Score Sheet

Proposed Project: University of West Florida, WAVE (#330)
Proposed Project/Program County: Escambia
Board of County Commission Support:
Rural County: No
Opportunity Zone:

Total Projected Project Cost: $13,935,600
Match Provided: $10,620,000
Triumph Funds Requested: $3,315,600 (24%)
Triumph Funds Recommended by Staff: up to $3,315,600

Score: A
ROI: $12.8 dollars of increased personal income (in constant dollars) per dollar of Triumph expenditure

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Economic Analysis, Impact and Score

The University of West Florida (UWF) is requesting $3,315,600 to start up a Center for Water and Vessel Engineering (WAVE). The WAVE program will be located primarily at the Port of Pensacola but with additional space on the UWF Pensacola campus. It will serve as a research and development center for vessel engineering and related fields by connecting UWF faculty with organizations such as the American Magic. The requested Triumph award would represent 23.8% of total project spending.

WAVE will leverage existing UWF expertise in material science, computational fluid dynamics, human performance, non-destructive material evaluation, design for manufacturability, control systems, data science, as well as other related fields. WAVE will also serve to connect UWF engineering and technology students to watercraft industries in Escambia County as well as other coastal counties in Northwest Florida. UWF has an existing project-based mechanical engineering curriculum that enables UWF students to learn practical skills. The proposed effort with American Magic will provide a new focus area, that is R&D for watercraft and vessel manufacturing.

UWF funds will be used to triple the size of existing space at the Port from approximately 5,000 square feet to 15,000 square feet. The additional space will be utilized to add the requested equipment and office space that supports research and development in WAVE. Some equipment that will be added includes added computational power for things such as computational fluid dynamics and dynamic system modeling, metrology equipment to ensure that items design and manufactured meet dimensional tolerances, equipment for composite material manufacturing and testing, a five-axis CNC to enhance the part making capabilities, and equipment related to structural and hydroacoustic measurement.

WAVE will include a facility to support the production of custom assemblies and unique hull designs required for the development of technologically advanced sailing vessels and high-speed watercraft. The WAVE team will support the design of new sail configurations, foils, and hulls made from sustainably sourced materials. The WAVE center would be highly attractive to potential companies who wish to synergize with industry leaders such as American Magic, recruit a skilled workforce, and access R&D equipment and knowledge in a convenient location on Pensacola Bay.

As noted in the proposed project performance metric #4, UWF will commit to spend at least $9,946,800 in expenditures above and beyond Triumph funding to support the WAVE functions across a 10-year performance period. State and national funding obtained by agencies such as the Office of Naval Research, Air Force Research Lab, National Science Foundation, and other external funding sources will expand and diversify R&D expenditures in the Triumph counties.

The view of Triumph staff is that Project 330 is potentially transformational for this economic sector in the Triumph region. We calculated that the total project funding is expected to be $12.8 dollars of increased personal income (in constant dollars) per dollar of Triumph expenditure. For these reasons, Triumph staff rate the project as an "A."

Project Summary (based on information provided by the applicant)

The University of West Florida (UWF) is requesting $3,315,600 toward the establishment of a new Water and Vessel Engineering (WAVE) center. Located primarily at the Port of Pensacola WAVE will serve as a research and development (R&D) center for vessel engineering and related fields connecting UWF faculty and engineering and technology students with watercraft organizations such as the American Magic. WAVE will leverage existing UWF expertise in material science, computational fluid dynamics, human performance, non-destructive material evaluation, design for manufacturability, control systems, data science, as well as other related fields. Triumph funds will be used toward personnel, equipment, software, supplies, and renovation costs.

Matching funds will include external research and contract funds expended at the project from entities such Office of Naval Research, Air Force Research Lab, National Science Foundation and contracts completed from related industries for prototype production, small- volume parts manufacture, material testing, design simulation, experimental design, and testing support for local small businesses, UWF is committing that at least 175 students will earn Marine Composites Certification by The American Boat & Yacht Council. Once students earn certification, they become eligible to work in boat manufacturing or other related jobs at aerospace firms.

The permanent relocation of American Magic to Pensacola has the potential to be transformative to regional economic development. American Magic's arrival has attracted many WAVE related industries to look at Pensacola. One hydrofoiling industry leader, Foiling Week, chose Pensacola to be the next location of its annual global conference in February 2025. Several watercraft companies have recently considered establishing a presence in Pensacola.

Securing Pensacola as the home for American Magic was a big accomplishment for Northwest Florida. It is critical that a research and development infrastructure is established to support and leverage American Magic. Terry Hutchinson, President of Sailing Operations for American Magic, has written a letter of support for this. In the letter Terry has established key areas of needed support. This WAVE proposal can support all the areas cited: structural engineering, mechatronics, hydraulics, aerodynamics, and hydrodynamics. UWF engineering faculty have expertise in each of those areas and the coordinator and students will work with faculty on applied research and development. This collaboration is a win for all participants and is a key part of the future success of American Magic.

The WAVE center will be highly attractive to potential companies who wish to synergize with industry leaders such as American Magic, recruit a skilled workforce, and access to R&D equipment and knowledge in a convenient location on Pensacola Bay. WAVE will include a facility to support the production of custom assemblies and unique hull designs required for the development of technologically advanced sailing vessels and high-speed watercraft. The WAVE team will support the design of new sail configurations, foils, and hulls made from sustainably sourced materials. This project will directly benefit maritime industries and will enhances research in lightweight composites benefiting Northwest Florida's large regional military aviation footprint and DOD contractors

This proposal will also enable access to WAVE facilities, faculty, and technicians to existing and startup industries in the eight-county region. Access to the space will enable start-up and existing companies to work directly with UWF students and faculty on projects, prototype development, material testing, computational analysis, and other related tasks.

The University of West Florida currently leases space at the Port of Pensacola where students and faculty work on engineering projects, many of which have local industry support. UWF funds will be used to triple the size of the space from approximately 5,000 square feet to 15,000 square feet. The additional space will be utilized for equipment and office space that supports research and development.

New equipment will include increased computational power for computational fluid dynamics and dynamic system modeling, metrology equipment to ensure that items design and manufactured meet dimensional tolerances, equipment for composite material manufacturing and testing, a five-axis CNC to enhance the part making capabilities, and equipment related to structural and hydroacoustic measurement.

The center at the Port of Pensacola will also assist American Magic and other Northwest Florida companies with testing, prototype development, small volume part production, and other contract work. UWF currently assists the Institute for Human and Machine Cognition (IHMC as well as other small companies in prototype development and materials testing. The added space, personnel and equipment will allow UWF to expand R&D work and graduate student opportunities.

This proposal would more than double the research space for the Mechanical Engineering department while also including other departments such as Electrical and Computer Engineering.

The WAVE facility will combine the current research and development support structure at UWF (e.g. computational software, machining centers, nondestructive testing equipment) with new equipment that will support composite material research, the development of efficient and low-emission foiling boats, reduced corrosion in metal hull material, as well as other research and development projects related to WAVE. It is expected that WAVE will be a catalyst for grant activity with agencies such as National Science Foundation, Office of Naval Research, Air Force Research Labs, and Small Business Technology Transfer.

The UWF Mechanical Engineering Department has received several contracts for applied research from Florida companies in the past five years. In addition to the space at the Port of Pensacola, 1000 square feet of future annex space will be dedicated to WAVE activities. The new annex will be on the main campus in Pensacola in 2028. Connected to Hal Marcus College of Science and Engineering Building 4, this additional space will allow more faculty to conduct research in WAVE areas without having to travel to the Port of Pensacola. It is expected that the equipment and knowledge of UWF faculty and staff in applied industry sponsored research will also be leveraged.

The grant request incudes personnel support funds for graduate students. This is critical to enhance opportunities for students to pursue research at the graduate level. Engineering students at UWF are often more engaged in hands-on projects than students at many other universities. The Enterprise Program at UWF is a unique interdisciplinary program that facilitates project-based learning for sophomores, juniors and seniors in engineering. Students work in teams to design and build projects that are often industry sponsored.

The proposed WAVE initiative will enhance the engineering student experience in several ways. It will be a point where more students can engage in industry sponsored projects and allow students to work alongside partner companies including American Magic. WAVE will facilitate opportunities for UWF students to work as interns and in full time positions in related industries. It will allow UWF undergraduate and graduate students to work in research positions that emerge from WAVE. UWF will offer students the opportunity to earn the Marine Composites Certification by The American Boat & Yacht Council. This certification will help UWF students secure employment with watercraft industries. These opportunities will enhance the skills and experience of UWF engineering students as well as provide needed talent to new and existing companies in Northwest Florida.

In addition to committing to at least $10,620,000 in external research and contract funds to be expended at the project from entities such Office of Naval Research, Air Force Research Lab, National Science Foundation and contracts completed from related industries for prototype production, small- volume parts manufacture, material testing, design simulation, experimental design, and testing support for local small businesses, UWF is committing that at least 175 students will earn Marine Composites Certification by The American Boat & Yacht Council. Once students earn certification, they become eligible to work in boat manufacturing or other related jobs at aerospace firms

Budget and Funding

See attached

Support Letters

NYYC American Magic
Florida Power & Light
Mercury Machining
National Energy USA
Fabbro Marine Group, Inc.
Oceana energy company
IHMC

University of West Florida

Exhibit A							
Watercraft and Vessel Engineering							
Budget							
Estimated construction start date if applica		Jan-25					
Estimated education component start date		Jan-26					
	Year	**Personnel**	**Equipment, Supplies, & Software**	**Facility Lease**	**Construction, renovation, & modular bldgs**	**Certificate costs**	**Total**
Project Total							
Calendar Year 1	2025	$ 400,000.00	$ 340,000.00	$ 1,000,000.00	$ 181,000.00	$ -	$ 1,921,000.00
Calendar Year 2	2026	$ 560,000.00	$ 340,000.00	$ -	$ -	$ -	$ 900,000.00
Calendar Year 3	2027	$ 645,000.00	$ 120,000.00	$ -	$ 500,000.00	$ 22,050.00	$ 1,287,050.00
Calendar Year 4	2028	$ 850,000.00	$ 20,000.00	$ -	$ 500,000.00	$ 22,050.00	$ 1,392,050.00
Calendar Year 5	2029	$ 1,030,000.00	$ 20,000.00	$ -	$ -	$ 24,400.00	$ 1,074,400.00
Calendar Year 6	2030	$ 1,130,000.00	$ 20,000.00	$ -	$ 500,000.00	$ 24,400.00	$ 1,674,400.00
Calendar Year 7	2031	$ 1,205,000.00	$ 20,000.00	$ -	$ 450,000.00	$ 24,400.00	$ 1,699,400.00
Calendar Year 8	2032	$ 1,280,000.00	$ 20,000.00	$ -	$ -	$ 26,750.00	$ 1,326,750.00
Calendar Year 9	2033	$ 1,280,000.00	$ 20,000.00	$ -	$ -	$ 29,100.00	$ 1,329,100.00
Calendar Year 10	2034	$ 1,280,000.00	$ 20,000.00	$ -	$ -	$ 31,450.00	$ 1,331,450.00
Project Total		$ 9,660,000.00	$ 940,000.00	$ 1,000,000.00	$ 2,131,000.00	$ 204,600.00	**$ 13,935,600.00**
Triumph							
Calendar Year 1	2025	$ 310,000.00	$ 330,000.00	$ -	$ 81,000.00	$ -	$ 721,000.00
Calendar Year 2	2026	$ 440,000.00	$ 330,000.00	$ -	$ -	$ -	$ 770,000.00
Calendar Year 3	2027	$ 425,000.00	$ 110,000.00	$ -	$ -	$ 22,050.00	$ 557,050.00
Calendar Year 4	2028	$ 545,000.00	$ 10,000.00	$ -	$ -	$ 22,050.00	$ 577,050.00
Calendar Year 5	2029	$ 370,000.00	$ 10,000.00	$ -	$ -	$ 24,400.00	$ 404,400.00
Calendar Year 6	2030	$ 20,000.00	$ 10,000.00	$ -	$ -	$ 24,400.00	$ 54,400.00
Calendar Year 7	2031	$ 20,000.00	$ 10,000.00	$ -	$ -	$ 24,400.00	$ 54,400.00
Calendar Year 8	2032	$ 20,000.00	$ 10,000.00	$ -	$ -	$ 26,750.00	$ 56,750.00
Calendar Year 9	2033	$ 20,000.00	$ 10,000.00	$ -	$ -	$ 29,100.00	$ 59,100.00
Calendar Year 10	2034	$ 20,000.00	$ 10,000.00	$ -	$ -	$ 31,450.00	$ 61,450.00
Triumph Total		$ 2,190,000.00	$ 840,000.00	$ -	$ 81,000.00	$ 204,600.00	**$ 3,315,600.00**
Grantee							
Calendar Year 1	2025	$ 90,000	$ 10,000.00	$ 1,000,000.00	$ 100,000.00	$ -	$ 1,200,000.00
Calendar Year 2	2026	$ 120,000	$ 10,000.00	$ -		$ -	$ 130,000.00
Calendar Year 3	2027	$ 120,000	$ 10,000.00	$ -	$ 500,000.00	$ -	$ 630,000.00
Calendar Year 4	2028	$ 120,000	$ 10,000.00	$ -	$ 500,000.00	$ -	$ 630,000.00
Calendar Year 5	2029	$ 120,000	$ 10,000.00	$ -		$ -	$ 130,000.00
Calendar Year 6	2030	$ 120,000	$ 10,000.00	$ -		$ -	$ 130,000.00
Calendar Year 7	2031	$ 120,000	$ 10,000.00	$ -		$ -	$ 130,000.00
Calendar Year 8	2032	$ 120,000	$ 10,000.00	$ -		$ -	$ 130,000.00
Calendar Year 9	2033	$ 120,000	$ 10,000.00	$ -		$ -	$ 130,000.00
Calendar Year 10	2034	$ 120,000	$ 10,000.00	$ -		$ -	$ 130,000.00
Grantee Total		$ 1,170,000.00	$ 100,000.00	$ 1,000,000.00	$ 1,100,000.00	$ -	**$ 3,370,000.00**
Grants/Contracts/Fees for Svc							
Calendar Year 1	2025	$ -	$ -	$ -		$ -	$ -
Calendar Year 2	2026	$ -	$ -	$ -		$ -	$ -
Calendar Year 3	2027	$ 100,000.00	$ -	$ -		$ -	$ 100,000.00
Calendar Year 4	2028	$ 185,000.00	$ -	$ -		$ -	$ 185,000.00
Calendar Year 5	2029	$ 540,000.00	$ -	$ -		$ -	$ 540,000.00
Calendar Year 6	2030	$ 990,000.00	$ -	$ -	$ 500,000.00	$ -	$ 1,490,000.00
Calendar Year 7	2031	$ 1,065,000.00	$ -	$ -	$ 450,000.00	$ -	$ 1,515,000.00
Calendar Year 8	2032	$ 1,140,000.00	$ -	$ -		$ -	$ 1,140,000.00
Calendar Year 9	2033	$ 1,140,000.00	$ -	$ -		$ -	$ 1,140,000.00
Calendar Year 10	2034	$ 1,140,000.00	$ -	$ -		$ -	$ 1,140,000.00
Match Source 1 Total		$ 6,300,000.00	$ -	$ -	$ 950,000.00	$ -	**$ 7,250,000.00**