US Army Corps of Engineers®

PUBLIC NOTICE

Applicant:
Thomas Potts
Deep Research, Inc.

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Jacksonville District
Permit Application No. SAJ-2025-01531

TO WHOM IT MAY CONCERN: The Jacksonville District of the U.S. Army Corps of Engineers (Corps) has received an application for a Department of the Army permit pursuant to Section 10 of the Rivers and Harbors Act of 1899 (33 U.S.C. §403). The purpose of this public notice is to solicit comments from the public regarding the work described below:

If you are interested in receiving additional project drawings associated with this public notice, please send an e-mail to the project manager by electronic mail at Maria.I.Bezanilla@usace.army.mil.

APPLICANT: Thomas Potts
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WATERWAY AND LOCATION: The project would affect aquatic resources associated with the Atlantic Ocean along the Straits of Florida. The project site will be referenced as the Vanguard Undersea Habitat System. The project site is located within the Florida Keys National Marine Sanctuary (FKNMS) boundary SE of Conch Reef and approximately five (5) nautical miles SE of Tavernier, Florida, Monroe County, Florida. Approximate center point coordinates: Latitude: 24.9503 Longitude: -80.4534

EXISTING CONDITIONS: The project is located within the FKNMS Conch Reef Research area within close proximity to the Aquarius Reef Base an underwater habitat. The life support buoy associated with the Aquarius has been removed. The footprint area is 40 foot by 70 foot at a depth of 60-62 feet relative to mean low low water (MLLW). The project footprint was surveyed using repeated linear transects utilizing SCUBA. Additionally, a 10-foot buffer perimeter surrounding the footprint was assessed using randomly placed $1m^2$ quadrats. According to the benthic survey conducted between February 20, 2025 and March 1, 2025, the footprint consists primarily of sand and sediment-covered hard bottom, with occasional rocks and artificial substrates. Macroalgae covers most of the exposed substrate, though stony corals, soft corals, and sponges are present in hard bottom areas and rocky outcrops. The surveyed area included both list and non-listed coral species. The stony corals species within the project footprint included the following species: *Siderastrea radians* (Lesser Starlet Coral), *Stephanocoenia intersepta* (Blushing Star Coral), *Dichocoenia stokesi* (Elliptical

Star Coral), *Agaricia agaricites* (Lettuce Coral), *Porites astreoides* (Mustard Hill Coral), *Montastraea cavernosa* (Great Star Coral), *Siderastrea siderea* (Massive Starlet Coral), *Millepora alcicornis* (Branching Fire Coral), *Tubastraea coccinea* (Orange Cup Coral, invasive), and *Orbicella faveolata* (Mountainous Star Coral). The stony corals species within the buffer zone included the following species: *Orbicella annularis* (Lobed Star Coral), *Meandrina meandrites* (Maze Coral), *Orbicella franksi* (Boulder Star Coral), *Orbicella faveolata* (Mountainous Star Coral), *Eusmilia fastigiata* (Smooth Flower Coral), *Scolymia sp.* (Scoly Coral), *Siderastrea siderea* (Massive Starlet Coral), *Agaricia agaricites* (Lettuce Coral), *Porites astreoides* (Mustard Hill Coral), *Montastraea cavernosa* (Great Star Coral), *Stephanocoenia intersepta* (Blushing Star), *Millepora alcicornis* (Branching Fire Coral), *Dichocoenia stokesi* (Elliptical Star Coral), and *Siderastrea radians* (Lesser Starlet Coral). Buffer zone corals are not proposed for relocation, as they lie outside the direct impact area and are far enough where spudding on installation points should not impact buffer resources. Corals within the project footprint that are candidates for relocation will be relocated and those that cannot be relocated will be assessed by the FKNMS to offset coral impacts.

PROJECT PURPOSE:

Basic: To enhance scientific research, conservation efforts, and workforce training.

Overall: To enhance scientific research, conservation efforts, and workforce training by providing a long-term subsea research platform in the Upper Keys, Florida.

PROPOSED WORK: The applicant seeks a 10-year Corps authorization to deploy an underwater habitat system affixed to the sea bottom. The Vanguard Undersea Habitat System (VUH) is a 13 x 9 meters (43 x 30 feet) class-approved, crewed subsea habitat developed to support extended underwater operations for up to four personnel over seven-day missions. The VUH includes an emergency refuge station (the “ERS”) affixed to the VUH structure used to provide a pressurized, life-sustaining environment in the event of an emergency requiring crew refuge or isolation. The proposed navigational vertical clearance is -35 feet MLLW from the top of the VUH structure. In addition, a Life Support Buoy (LSB) will be installed to serve the Vanguard’s surface platform, supplying power, breathable air, and communications between the habitat and shore.

Methodology the VUH system will be fully assembled onshore and transported to the Conch Reef deployment site via a leased crane barge. Once the system is lowered near the seafloor, divers will guide its placement onto a designated sand patch, ensuring it remains at least 3 meters (10 feet) from emergent hardbottom features. The VUH will be affixed to the substrate via foundation piles or anchoring system. The habitat’s foundation legs will then be extended to level the structure and elevate it to a minimum of 1.2 meters (4 feet) above the seabed. The final storage depth will be approximately 15 meters (48–50 feet) of seawater. Geotechnical investigation involving core sampling at proposed anchor locations will be performed. Core samples, 25–50 mm in diameter and 5–10 meters deep. The LSB will be secured via a three or four-point semi-taut mooring spread. Each mooring leg includes a 0.6 m x 0.6 m base plate and four grouted

anchor rods, 38 mm in diameter and drilled to 1.2 meters deep. Between 12 and 16 anchor rods will be installed in total. These anchors are engineered to resist lateral loads from wave action, buoyancy, and cyclic forces.

AVOIDANCE AND MINIMIZATION: The applicant has provided the following information in support of efforts to avoid and/or minimize impacts to the aquatic environment: Impacts to waters of the United States were avoided and minimized through the design, deployment, and operational procedures associated with the Vanguard Undersea Habitat System and its surface Life Support Buoy (LSB). The habitat will be installed exclusively on a designated sand patch within the FKNMS, with a confirmed setback of at least 3 meters (10 feet) from any emergent hardbottom or sensitive benthic features. Anchoring methods will be specifically selected to reduce seafloor disturbance. Any minor disturbances during deployment (such as sediment resuspension) are expected to be short-lived and fully reversible, with the natural ecosystem recovering over time. The Vanguard system is engineered as a zero-discharge platform with no release of harmful contaminants into marine waters. Waste is stored in external tanks and pumped to surface vessels for disposal, and all cleaning effluent is limited to minimal volumes of ambient-temperature fresh water containing approved disinfectant. Upon project completion, a comprehensive decommissioning plan will ensure full removal of all infrastructure, with no materials left in place unless specifically authorized.

COMPENSATORY MITIGATION: The applicant has provided the following explanation why compensatory mitigation should not be required: Given the project's strict adherence to avoidance and minimization principles, full removability, and negligible long-term impact, compensatory mitigation should not be required.

CULTURAL RESOURCES:
The Corps is evaluating the undertaking for effects to historic properties as required under Section 106 of the National Historic Preservation Act. This public notice serves to inform the public of the proposed undertaking and invites comments including those from local, State, and Federal government Agencies with respect to historic resources. Our final determination relative to historic resource impacts may be subject to additional coordination with the State Historic Preservation Officer, federally recognized tribes and other interested parties.

The District Engineer’s final eligibility and effect determination will be based upon coordination with the SHPO and/or THPO, as appropriate and required, and with full consideration given to the proposed undertaking’s potential direct and indirect effects on historic properties within the Corps-identified permit area. The FKNMS is the lead Federal agency for Section 106 of the National Historic Preservation Act for the proposed action. Any required consultation will be completed by the FKNMS.

ENDANGERED SPECIES: The Corps has performed an initial review of the application, the National Marine Fisheries Service (NMFS) Section 7 Mapper, and the NMFS Critical Habitat Mapper to determine if any threatened, endangered, proposed, or candidate

species, as well as the proposed and final designated critical habitat may occur in the vicinity of the proposed project. Based on this initial review, the Corps has made a preliminary determination that the proposed project may affect species and critical habitat listed below. No other ESA-listed species or critical habitat will be affected by the proposed action.

Species and/or critical habitat for the green sea turtles (*Chelonia mydas*), loggerhead sea turtles (*Caretta caretta*), Kemp's ridley sea turtles (*Lepidochelys kempii*), hawksbill sea turtle (*Eretmochelys imbricata*), leatherback sea turtles (*Dermochelys coriacea*), smalltooth sawfish (*Pristis pectinata*), giant manta ray (*Mobula birostris*), Nassau grouper (*Epinephelus striatus*), queen conch (*Alger gigas*); elkhorn and staghorn corals (*Acropora sp.*), Caribbean corals species and critical habitat; *(Orbicella annularis, Orbicella faveolata, Orbicella franksi, Mycetophyllia ferox,* and *Dendrogyra cylindrus*).

Pursuant to Section 7 ESA, any required consultation with the Service(s) will be conducted in accordance with 50 CFR part 402. The FKNMS is the lead Federal agency for ESA consultation for the proposed action. Any required consultation will be completed by the FKNMS.

This notice serves as request to the U.S. Fish and Wildlife Service and National Marine Fisheries Service for any additional information on whether any listed or proposed to be listed endangered or threatened species or critical habitat may be present in the area which would be affected by the proposed activity.

ESSENTIAL FISH HABITAT: Pursuant to the Magnuson-Stevens Fishery Conservation and Management Act 1996, the Corps reviewed the project area, examined information provided by the applicant, and consulted available species information.

This notice initiates the Essential Fish Habitat (EFH) consultation requirements of the Magnuson-Stevens Fishery Conservation and Management Act. Our initial determination is that the proposed action may adversely affect EFH and/or fisheries managed by Fishery Management Councils and the National Marine Fisheries Service (NMFS). Implementation of the proposed project would directly impact approximately 2,800 square feet of submerged bottom. The effects of the project are determined to be minimal and temporary. These habitat(s) are utilized by the following species and their various life stages:

Bluefish	Adult
Bonnethead Shark (Gulf of Mexico Stock)	Juvenile
Spiny Lobster	ALL
Lemon Shark	Adult
Bluefish	Larvae
Corals	ALL
Nurse Shark	Juvenile/Adult
Blacktip Shark (Gulf of Mexico Stock)	Juvenile/Adult
Bluefish	Juvenile
Tiger Shark	Juvenile/Adult

Great Hammerhead Shark	ALL
Lemon Shark	Juvenile
Snapper Grouper	ALL
Whale Shark	ALL
Atlantic Sharpnose Shark (Gulf of Mexico Stock)	Juvenile/Adult
Skipjack Tuna	Adult
Spinner Shark	Neonate
Blacktip Shark (Gulf of Mexico Stock)	Neonate
Bluefish	
Scalloped Hammerhead Shark	Juvenile/Adult
Bull Shark	Juvenile/Adult
Shrimp	ALL
Sandbar Shark	Adult

Our final determination relative to project impacts and the need for mitigation measures is subject to review by and coordination with the National Marine Fisheries Service. The FKNMS is the lead Federal agency for NMFS consultation for the proposed action. Any required consultation will be completed by the FKNMS.

NAVIGATION: The proposed structure is not located in the vicinity of a federal navigation channel.

SECTION 408: The applicant will not require permission under Section 14 of the Rivers and Harbors Act of 1899 (33 USC 408) because the activity, in whole or in part, would not alter, occupy, or use a Corps Civil Works project.

WATER QUALITY CERTIFICATION: Water Quality Certification may be required from the Florida Department of Environmental Protection (FDEP).

COASTAL ZONE MANAGEMENT CONSISTENCY: Coastal Zone Consistency Concurrence is required from the FDEP. In Florida, the State approval constitutes compliance with the approved Coastal Zone Management Plan.

NOTE: This public notice is being issued based on information furnished by the applicant. This information has not been verified or evaluated to ensure compliance with laws and regulation governing the regulatory program. The geographic extent of aquatic resources within the proposed project area that either are, or are presumed to be, within the Corps jurisdiction has not been verified by Corps personnel.

EVALUATION: The decision whether to issue a permit will be based on an evaluation of the probable impact including cumulative impacts of the proposed activity on the public interest. That decision will reflect the national concern for both protection and utilization of important resources. The benefits, which reasonably may be expected to accrue from the proposal, must be balanced against its reasonably foreseeable detriments. All factors which may be relevant to the proposal will be considered including cumulative impacts thereof; among these are conservation, economics, esthetics, general environmental concerns, wetlands, historical properties, fish and wildlife values, flood hazards, floodplain values, land use, navigation, shoreline erosion and accretion, recreation, water supply and conservation, water quality, energy needs,

safety, food, and fiber production, mineral needs, considerations of property ownership, and in general, the needs and welfare of the people. A permit will be granted unless its issuance is found to be contrary to the public interest.

COMMENTS: The Corps is soliciting comments from the public; Federal, State, and local agencies and officials; Indian Tribes; and other Interested parties in order to consider and evaluate the impacts of this proposed activity. Any comments received will be considered by the Corps to determine whether to issue, modify, condition, or deny a permit for this proposal. To make this determination, comments are used to assess impacts to endangered species, historic properties, water quality, general environmental effects, and the other public interest factors listed above. Comments are used in the preparation of an Environmental Assessment (EA) and/or an Environmental Impact Statement pursuant to the National Environmental Policy Act (NEPA). Comments are also used to determine the need for a public hearing and to determine the overall public interest of the proposed activity.

The Jacksonville District will receive written comments on the proposed work, as outlined above, until June 27, 2025. Comments should be submitted electronically via the Regulatory Request System (RRS) at https://rrs.usace.army.mil/rrs or to Maria Bezanilla at Maria.I.Bezanilla@usace.army.mil. Alternatively, you may submit comments in writing to the Commander, U.S. Army Corps of Engineers, Jacksonville District, Attention: Maria Bezanilla, 9900 Southwest 107th Avenue, Suite 203, Miami, Florida 33176. Please refer to the permit application number in your comments.

Any person may request, in writing, within the comment period specified in this notice, that a public hearing be held to consider the application. Requests for public hearings shall state, with particularity, the reasons for holding a public hearing. Requests for a public hearing will be granted, unless the District Engineer determines that the issues raised are insubstantial or there is otherwise no valid interest to be served by a hearing.

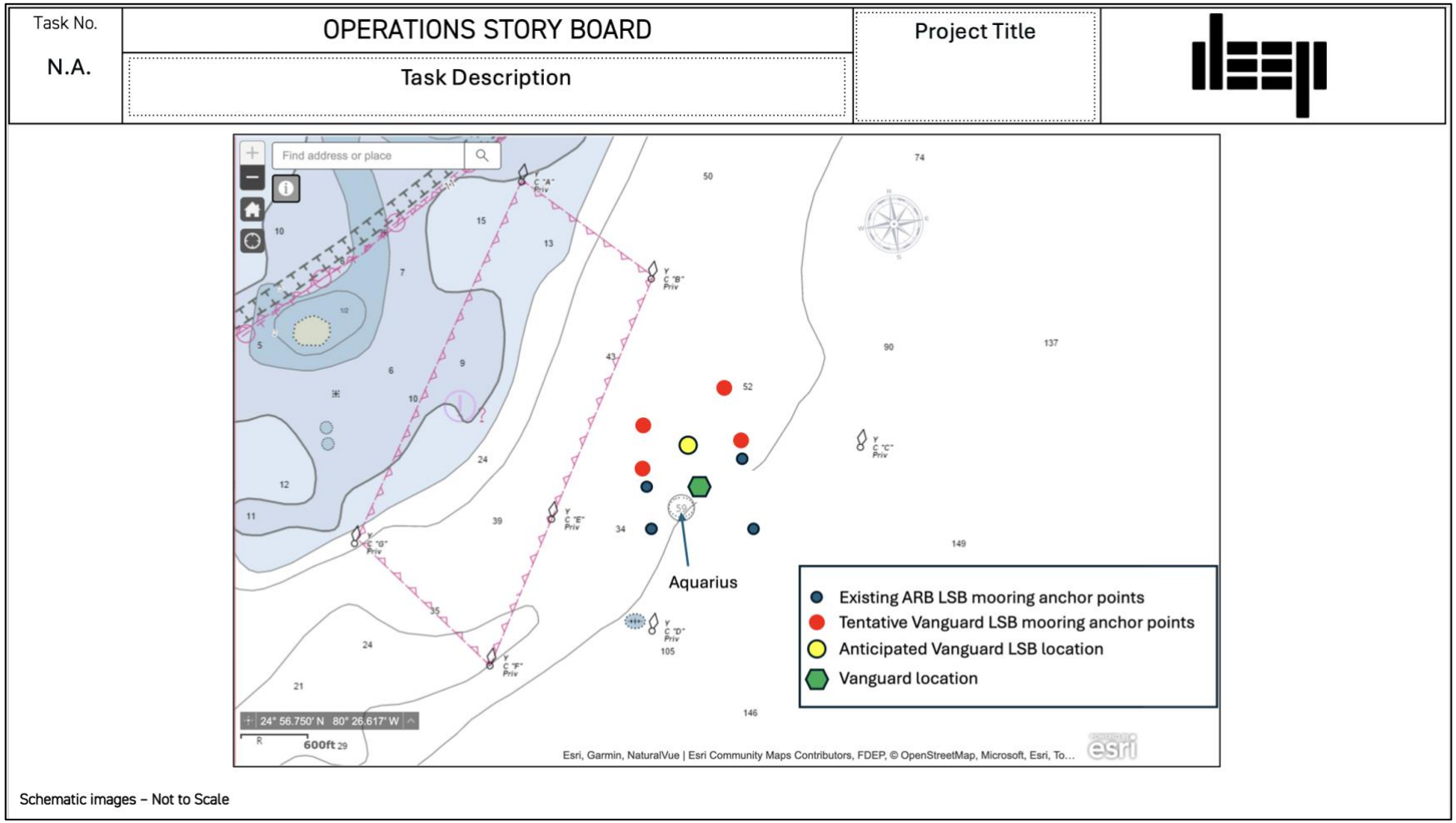

Figure 16. Proposed mapped locations of LSB anchors in relation to the VUH system.

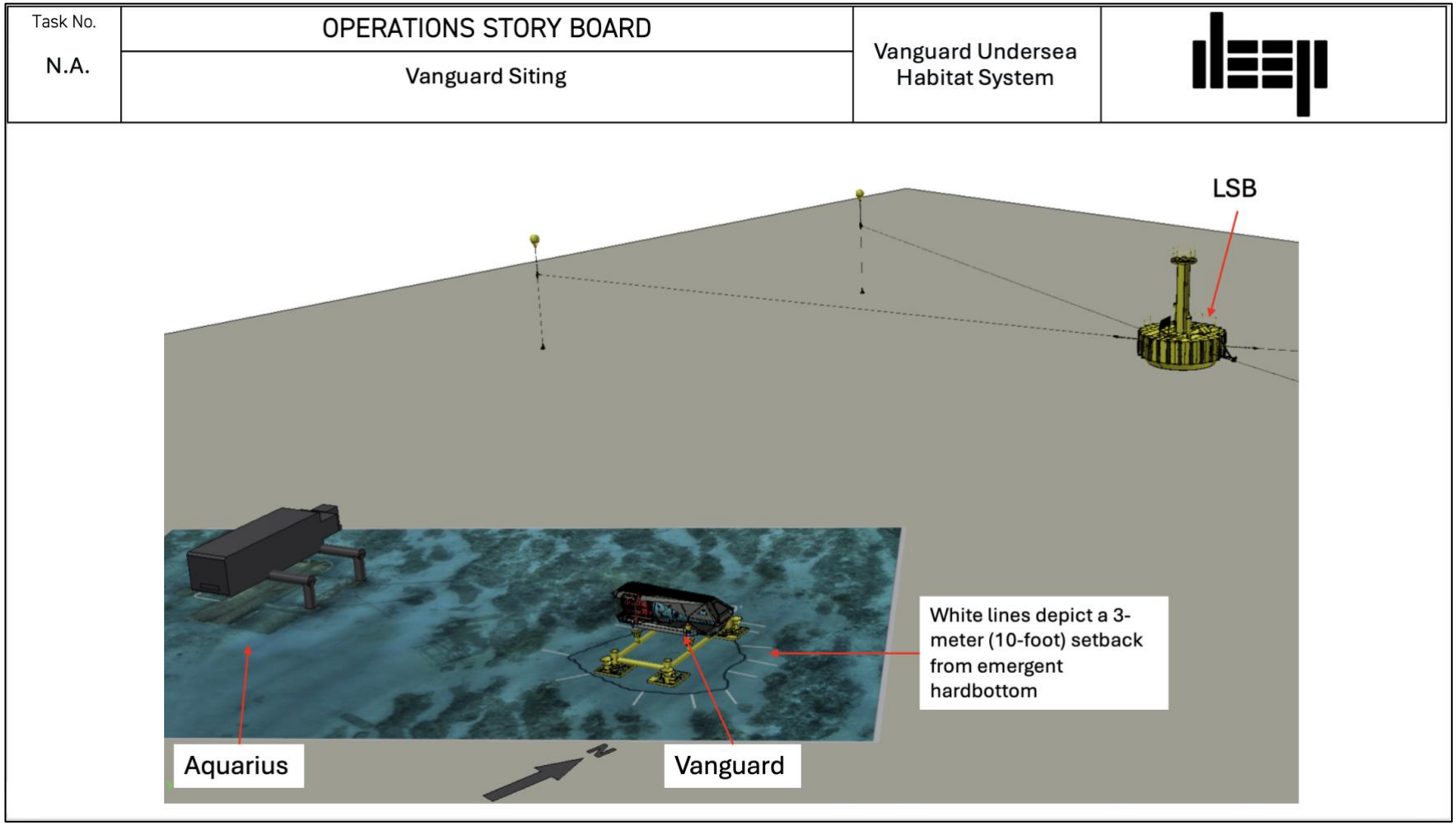

Figure 8. Vanguard siting, including respective orientation to Aquarius and the hard bottom habitat

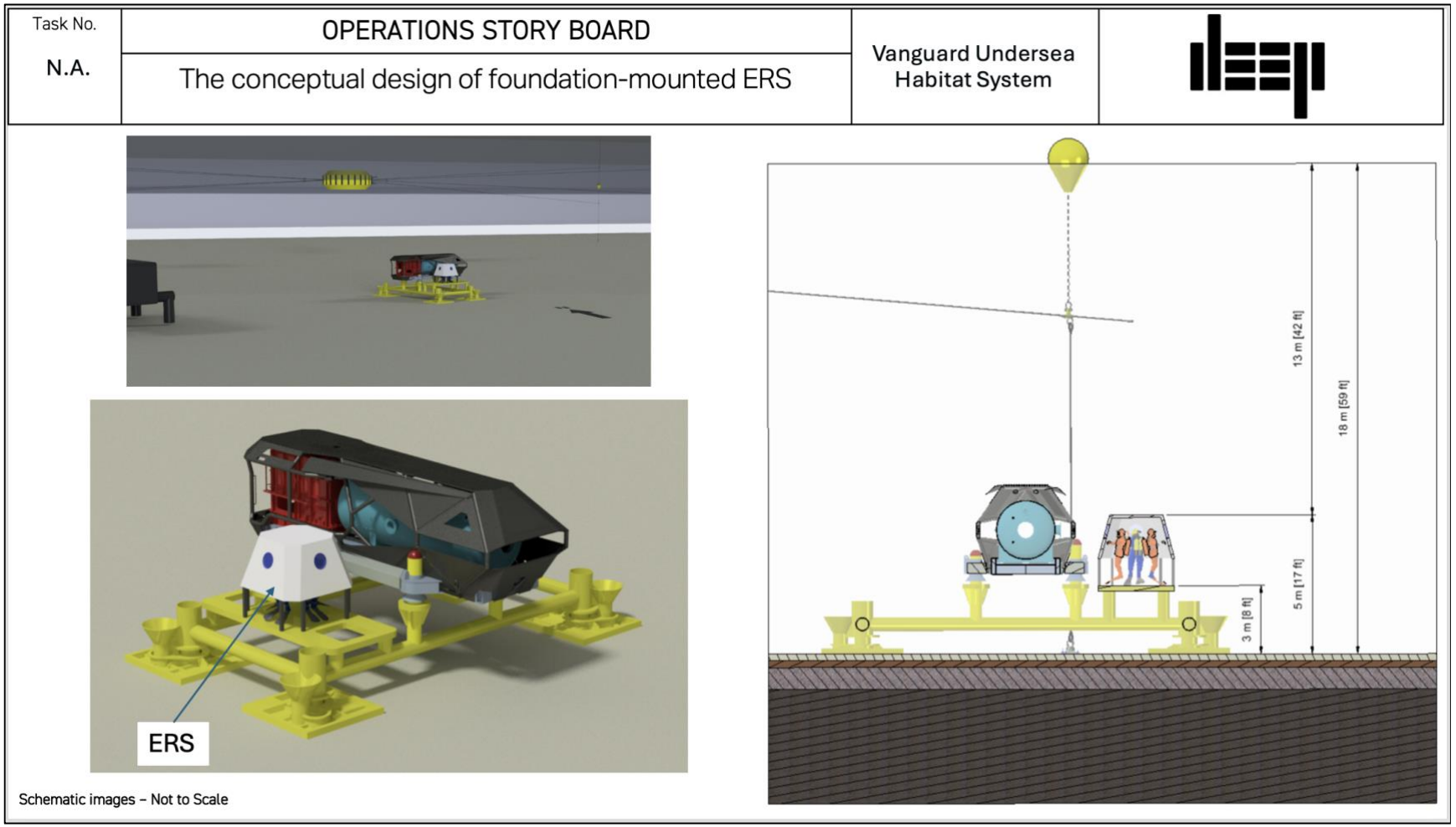

Figure 7. Conceptual design of the foundation-mounted ERS.