September 6, 2024
240199

Sophia L. Wilson, Town Manager
Charles Tetreau, Marine Resource Conservation Officer/Harbormaster
Town of Freeport
30 Main Street
Freeport, Maine 04032

Review Services for the "Island Rover," Temporary Access and Boat Launch at "0" Shore Drive, Freeport, Maine

Dear Sophie and Charles;

I appreciated the opportunity to meet with Coastal Waters Commission on Augusts 14, 2024 to present the third-party review prepared by Sebago Technics, Inc. Following the meeting, I met with Greg Mears Freeport Harbor Master), Chairman Mark Morrissey (Coastal Waters Commission) the applicant and there consultants (Carter Becker, Ross Cudlitz, Mike Morse) at Sebago Technics, Inc. on August 20, 2024. The purpose of the meeting was informational in nature and provided an opportunity to clarify the applicants approach and specifics of the project.

The applicant's agent (referred to as applicant hereon since the agent is assumed to be acting on behalf of the applicant) has since submitted a response dated (August 28, 2024) responding to the Sebago Technics, Inc. dated July 23, 2024. The following provides Sebago Technics, Inc comments and opinions of the August 28, 2024 response to review comments.

General:

1. The general approach to the temporary boat launch appears to be a practical strategy for work within wetlands/soft soils that includes the use of stacked crane mats, geotextile, and stone bedding to disperse the weight of the ship over a larger area to reduce the ground contact pressure. This approach is a method typically used for temporary wetland crossings and bridging soft soils associated with moving heavy equipment such as utility corridors and construction of structures in or adjacent coastal areas. These situations are temporary in nature and intended to minimize soil compaction and disturbance of ecosystems.

   As we have discussed and noted previously, each situation is different, must be assessed for the locality, and site-specific conditions. The applicant has retained a Professional Engineer who has provided calculations, prepared plans, and documented the design of the temporary access. An environmental consultant was also retained who assessed the coastal shoreline and prepared an environmental assessment including potential remediation of areas adversely damaged by the temporary launch.

While the approach is consistent with strategies, we would expect to see at wetland crossings and in soft soil conditions, it is important to consider the potential for intangibles and unforeseen conditions that that may arise during the implementation of a project. Therefore, it is important for the applicant to have strategies in-place to manage risk and be able to address any conditions that may arise during work. The applicant has proposed a variety of strategies to address the site conditions.

Our review has focused on requesting additional information from the applicant to clarify aspects of the launch system, better understand the work plan, permitting, who will be involved in the installation and launching, lines of authority for any remediation that is needed and what guarantees and insurance will be provided to Town of Freeport.

2. The applicant has asserted multiple times during meetings and in their response letter that the Coastal Waters Commission's authority is limited to the below the HAT line (coastal wetland) and any review comments related to activities above the HAT line are not in the Commissions jurisdiction. This is a legal consideration and should be confirmed with the Commission's legal counsel. The challenge is the upland and coastal wetland work are integral to each other and one is not mutually exclusive to the other but we will defer to the town's legal counsel.

Below is our original review comments with our "Supplemental Comments" in italic based on the August 28, 2024 response letter prepared by Archipelago.

Environmental Considerations and Comments:

1. The submitted documentation notes that the applicant and the applicant's consultant team will obtain the necessary MDEP and US ACOE permits. We recommend that before any work, the applicant confirm permits are in place and provide supporting documentation. Given the controversy of the "Island Rover," it is likely that once the project begins, the public may contact the regulatory agencies (local, state, and federal) expressing concerns about the work and potential environmental impacts on the coastal wetland. Therefore, we recommend that the town and/or applicant inform the Town, MDEP, and US ACOE in advance of the work and host a pre-work site coordination meeting.

   <u>Supplemental Comments:</u> The applicant has agreed to provide written notification to the MDEP, Town and USACE prior to starting the work. This is agreeable to STI.

   The applicant has stated the project is not subject to MDEP permitting. We assume the applicant is falling under the NRPA 480-Q provisions but would request the applicant to confirm which specific provision of the state regulations the project qualifies as being exempt. At the town's request, STI has independently reached out to the MDEP to confirm if permitting is or isn't needed. At the time of this letter, we have not received a response.

   The applicant has noted that an USACOE permit is pending. This permit should be submitted to the town once received and prior to any construction.

2. The Archipelago report indicates that the access road surface will utilize a series of 20' x 4' x 12" crane mats placed on top of the geotextile fabric with additional 4' x 16' x 8" crane mats installed running longitudinally over the timber mats in critical locations. Construction bags filled with washed ¾" stone are proposed to fill vertical transition zones between the fabric mesh and the mats. The mats will be fastened together longitudinally. The report suggests that

the launch ramp structure will be in place for several tide cycles, and possibly for several days. As noted in the report, the mats are expected to compress the vegetation and if any vegetation is damaged the vegetation will be restored the following growing season. Work is proposed outside of the growing season (October).

Comments:

- The provided drawings include a cross-section showing the placement of tote bags under the crane mats. The intent of the tote bags filled with crushed stone is to create a uniform surface for the placement of the crane mats. However, the bags may result in uneven loading of the underlying soils (point loads) since it is practically difficult to achieve a perfect uniform load-bearing surface. The means and methods for placement of the tote bags will be important. We would ask the applicant to confirm how the tote bags will be placed and leveled and what measures will be taken should the tote bags become damaged or broken during installation depositing stone on the underlying geotextile that is proposed or spilling over onto the coastal wetland.

  <u>Supplemental Comments:</u> The applicant has provided a more detailed description. We have no further comment.

- The applicant has stated the project is not subject to MDEP permitting. We assume the applicant is falling under the NRPA 480-Q provisions but would request the applicant to confirm which specific provision of the state regulations the project qualifies as being exempt. We ask this for general informational purposes.

  <u>Supplemental Comment:</u> Refer to item 1 above.

- The applicant has noted that an USACOE permit is pending. This permit should be submitted to the town once received and prior to any construction.

  <u>Supplemental Comments:</u> Refer to item 1 above.

- Given the soft coastal soils, we believe it is highly likely that the geotextile placed over the coastal wetland layered with the tote bags will cause variable settlement in the coastal wetland and may become partially embedded into underlying soft soils creating post-launching difficulties in removing the temporary geotextile and stone filled tote bags. How will the tote bags and geotextile be removed? Depending on the size of the tote bags and the level of settlement in the coastal wetland, the geotextile and tote bags may be difficult to remove. We recommend the applicant confirm the method of tote bag installation/removal including the geotextile since this could require excavation or soil disturbance.

  <u>Supplemental Comments:</u> The applicant has provided a more detailed description. We have no further comment.

- It is our opinion that the Town should expect that deformation of the surficial soils and vegetation is likely in the coastal wetland and bay mud. At a minimum, the vegetation will be compressed and will be visually apparent after removal with potential areas that may require remediation to restore the area will be needed. The October 10, 2023 letter from Archipelago includes the following restoration measures.

"Specifically, if compression of 4 inches or more persists and if a good catch of salt marsh vegetation fails to re-establish within the footprint, the compressed area will be mechanically tilled/aerated using a small, tracked excavator operating on mats and the affected area would be replanted with spartina plugs. Spartina alterniflora would be planted within the lower vegetated salt marsh zone, and Spartina patens would be planted in the high marsh zone. Plugs will be planted on 2'- 3' centers in accordance with USDA/NRCS planting specifications, and would be monitored during the 2024 growing season to ensure success. Again, we do not anticipate that corrective actions will be necessary, but we provide you with this plan simply so that it is clear that a plan is in place should unexpected results occur. If minor compression occurs and a good catch of salt marsh vegetation grows within the area during the growing season, we are reluctant to disturb the established vegetation only to replant new vegetation."

Please note that the proposed remediation only occurs if 4" or more of compressed salt marsh/coastal wetland occurs and good salt marsh vegetation fails to re-establish. A "good catch" should be defined and be agreeable to the town and the town should confirm 4" or more of compressed salt marsh/coastal wetland is an acceptable threshold.

In addition, who will determine if remediation is or isn't needed? This can often be a source of contention between the regulatory agency and the applicant. We recommend clear lines of authority are determined from the onset and who will make the determinations.

<u>Supplemental Comments:</u> The applicant has provided a more detailed description. We believe it remains important to establish who will have the ultimate authority to require remediation and when and if remediation is needed. The applicant has stipulated that if more than 4" of deformation occurs and a good catch of salt marsh fails to re-stablish then more invasive remediation would be undertaken. We suggest the town have a determining role in the decision of when and if to remediate. Depending on the condition of the salt marsh after removal of the temporary system, it may be beneficial to let the marsh cycle through a growing season and then determine if the impacted area of the salt marsh requires remediation.

I have also consulted internally with our environmental specialist, Cole Peters. Cole noted that the existing vegetation from photo documentation taken by Owens McCullough suggests the salt marsh vegetation is well established with a substantive height. The placement of the temporary crane mat system will compress the vegetation to at least ground level. Cole Peters noted the 4" criteria is a tight tolerance that may be difficult to assess post removal since the current salt marsh will likely have irregular topography in the existing condition. As such, the only quantitative means to identify if the salt marsh underlying soil has compressed 4" or more over existing conditions is to complete a surveyed profile at tight intervals (centerline and right and left at the edges on a 5' grid). The survey would establish a baseline and could be resurveyed if the post removal observations suggest deformation a concern. Again, the current height of the vegetation could be misleading since in the post removal condition the grass will be compacted and therefore it may look visually as if the ground has compacted. If the applicant is not willing to complete pre-construction survey, we would ask how they

plan to determine if 4" or more of deformation occurs between pre and post construction conditions.

Whether deformation is observed or not, we recommend the marsh be allowed to go through one growing season to determine if the compacted salt marsh vegetation results in mortality of the vegetation and if a panne condition occurred where pocketed water of enough depth interferes with the marsh vegetation rebounding. The exception would be if there is obvious mortality or soil deformation that occurs at the time of the temporary launch.

We further understand the work is planned for a time when the marsh vegetation is dormant. If the ship launch occurs in the spring, then an evaluation could be made periodically through the summer growing season and potentially conclude in the fall. If the launch occurs in the fall of a given year, then as described above evaluation through the following growing season would be needed.

3. Given the recent severity of coastal storms, we recommend that the project work be planned and completed to the maximum extent practicable to avoid predicted weather events. Given the fragile nature of the coastal wetland and the placement of temporary facilities, a storm surge and significant wave action could adversely impact the temporary work.

   <u>Supplemental Comments:</u> The applicant has responded in agreement. No further comment.

4. We recommend that the applicant have their environmental consultant visit the site daily during the work to review/document environmental conditions for consistency with the evaluations completed and to monitor any needed remedial restoration work. The environmental consultant should also photo document the work and provide written reports and summaries to the Town.

   <u>Supplemental Comments:</u> The applicant has responded that this is not necessary and " is not within the scope of the project or the ordinance standards relevant to this project, and would be disproportionally expensive and time-consuming to achieve." While we appreciate the experience of the contractor, we believe that given the complexity and sensitivity of the project, the environmental consultant who prepared the assessment of the coastal wetland and potential remediation, should visit the site, and observe the work.

   We recommend the applicants environmental consultant complete site visits at key times (during placement in the coastal wetlands and after removal of the temporary facilities) and prepare a written field report with photographic documentation assessing the condition of the coastal wetland. The report should be submitted to the Harbor Master. The environmental consultant should also be available if there are unforeseen impacts to the coastal wetland or if the regulatory agencies and town request a site visit and meetings. We believe this to be reasonable request.

Engineering Considerations and Comments:

The applicant's consultant provided an engineering assessment in the October 2, 2023 response to review comments. In addition, a "draft flotation," bag design was prepared by Falls Point Marine and included in the February 26, 2024 submittal to the Coastal Waters Commission.

Comments:

1. The 2-26-24 submittal prepared by Archipelago included a comprehensive list of support (seaward and landward) equipment that would be on hand for the project. This equipment in addition to the crushed stone tote bags and crane mats will require a location for staging. The site plan depicts a circular area for staging next to the temporary access road that appears to be approximately 500 s.f. Given the list of landside equipment and materials, the 500 square feet does not appear to be adequate. Please confirm what will be stored onsite, what will be brought in daily, and what ground preparation will be needed for the stored material/equipment area and the actual area needed for equipment and materials. For instance, where will the crane mats be staged, and where will the stone be filled and stored?

   Supplemental Comments: The applicant has responded that this item falls outside the purview of the Coastal Waters Commission. We would defer to the town for a determination. This may be a consideration for the Town's Project Review Board since we understand a permit will be needed from the Review Board.

2. The provided site plan includes the expected limits of the crane mats, the finish grade of the crane mats, and a typical section of the proposed access road. Two sections are provided; one section includes stone-filled totes and one layer of crane mats, and a second section includes stoned-filled totes and two layers of crane mats depending on the location.

   We recommend the applicant prepare a scaled profile of the access road including existing contour elevations, proposed top of crane mats, limits of the coastal vegetation, profile of the Island Rover at the launch point, mud flat, and waterline profile noting mean high water, observed tide elevation, the limit of crane mats and extended profile beyond the end of the crane mats to assess depth for floating the ship. The scaled profile will be helpful to better understand the relationship between the existing soils, crane mat buildup, and water available for the flotation of the ship. We would note that the crane mat buildup shown on the site plan suggests approximately 2' of sectional buildup but the finish contours at the 40-foot section of 5% grade depict approximately 1 foot from the top of the mat to the existing ground surface.

   Supplemental Comments: The applicant has provided a scaled plan as requested which addresses our comments for the profile. The applicant has responded that the floatation comments fall outside the purview of the Coastal Waters Commission. We would defer to the town's legal counsel for jurisdictional determinations.

3. The provided site plan includes a detail for Access Contours 0 to 3 that states "4' WIDE x 8" THK CRANE MATS RUNNERS (TYP)" over 20' LONG X 12' THK CRANE MATS (TYP). We assume the 12' reference is intended to be 12" for a total sectional depth of 20 inches plus the thickness of the rubber mats geotextile. Given the expected soft soils, the geotextile, rubber mats, and crane mats may settle into the underlying mud. How will the geotextile and rubber mats be removed? We are concerned that the geotextile/rubber mats could become embedded in the mud and difficult to remove without excavation.

We also recommend the applicant's engineer review the need to have all double-stacked crane mats and consider a load test at the time of mobilization to assess the behavior of the design under expected loading before launching the Island Rover. This would provide an opportunity to confirm the stability of the mats before the more unstable Island Rover ship moves across the mats. Given the weight of the ship, any lateral instability or movement would create a shift in the center of gravity inducing a rotational moment that could be difficult to manage.

Supplemental Comments: The applicant has provided an expanded narrative.

The applicant has clarified the methods for removing the geotextile, mats, stone bags, and related materials which is also described in the provided work plan.

The applicant noted in the narrative and at the meeting the mats will be placed such that the keel of the ship will be positioned to ride between two crane mats such that the keel could be lowered onto the mats by the dolly lifts if needed. The applicant has further explained that the dollies can be hydraulically adjusted in the vertical plane by up to two feet to compensate for any lateral movement. We also understand from our meeting with the applicant, the travel speed of the dollies will essential be a crawl suggesting any lateral movement could be addressed given the slow travel speed by raising or lowering the dollies. It was also noted in the work plan that as a backup/secondary means of control, a cable would be attached to an upland piece of equipment and the bow of the haul for redundancy. We believe the slow movement, adjustable dollies and redundancy are agreeable in place of a load test given the dolly adjustments and proposed contingencies.

While the above provisions appear reasonable, there are always project risks and the contractor and applicants design team remain solely responsible for the means, methods and outcome of the launch including any unforeseen issues that may arise to successfully launch the ship.

4. We understand the Island Rover to be approximately 113 feet long (overall length). The site plan depicts a 40-foot-long (5%) launch pad at elevation 1-2. The applicant should provide documentation noting that the 40-foot-long (5% launch pad grade) is adequate given the length and profile of the ship bottom. We also suggest the profile of the ship be drawn to scale on the profile requested in item 2 above along with the locations of the floatation bags, and the vessel carrying system.

   Supplemental Comments: The applicant has provided a profile with explanation that addresses our initial review comment. The applicant has responded that the floatation comments fall outside the purview of the Coastal Waters Commission which is a jurisdictional question for the Coastal Waters Commission legal counsel.

5. The applicant's engineer provided an assessment (10-10-23 Archipelago Submittal) of the bearing capacity of the mud flats and load path from the ship and carrying system to the subsoil. The basic assumption of the analysis is that the crane mats will uniformly distribute the weight over the underlying mud flats. This is based on the presumptive bearing capacities of the underlying mud flats. We had requested that a geotechnical engineer review the site-specific conditions to assumptions in the applicant's engineering assessment. The applicant responded via e-mail and stated, *"Ross Cudlitz, the P.E. for the project, and he reiterated what we've already advised the CWC, that the design takes into account the worst possible soil conditions."* While we appreciate the conservative nature of the approach, it is our opinion that a

geotechnical engineers' review would be advisable given the size and nature of the project. The applicant and their engineers of record shall be fully responsible for the means, methods, outcome, and liability of the project.

Supplemental Comments: We appreciate the applicant's response that the design has established a significant factor of safety in lieu of a site-specific geotechnical review. We were originally concerned that the dollies were fixed and any settlement or movement in the crane mats would result in lateral movement of the ship that would potentially be an undesirable condition. Given the clarifications in the means and methods for the launch, positioning of the keel in-between the crane mats, slow movement of the dollies, adjustability of the dollies and factor of safety in the analysis, the approach offers redundancy and conservativism to address potential anomalies in the soil bearing capacity. While a geotechnical review could be beneficial, the applicant has provided more substantive information that includes redundancy and provisions to address potential soil instability.

We also note that the applicant and their engineer of record (EOR) shall be fully responsible for the means, methods, outcome, and liability of the project. We also recommend the applicants engineer of record (as the entity responsible for the design) be available to the contractor and visit the during the ships traverse over the coastal wetland to confirm the installation of the launch system is consistent with the EOR's design and functioning as intended. The EOR should also be available for any unforeseen conditions and be prepared to develop solutions, if necessary.

6. The October 10, 2023 submittal referenced a total ship weight of 180,000 lbs. Please confirm how this weight was determined.

Supplemental Comments: The applicant has addressed this item in the response. No further comments.

7. A significant component of the ship launching will rely on the successful use of floatation bags as described in the February 26, 2024 submittal. The applicant's submittal states, "*It should be noted that this proposed plan has been put together by Carter Becker and Capt. Bill Creighton. Carter has used lift bags for many years in many aspects of marine construction. Bill has extensive experience in the use of enclosed floatation bags as the owner/operator of Sea Tow Midcoast Maine, where these devices were routinely used for the salvage/recovery of vessels up to 110' in length. This plan has been reviewed by Richard Fryeburg of Subsalve USA, (www.subsalve.com) one of the primary designers and suppliers of lift bags used throughout the world by government agencies and industry. "*

We recommend that the final flotation design be provided and certified by the experienced installer and the entities referenced above. We remain concerned about the differential settlement of the crane mats as the dollies roll across the mats and how lateral stability will be maintained. The floatation devices are an integral part of maintaining lateral stability and will require careful attention throughout the launch (see comment item 3). The applicant's submittal has noted that additional floatation bags will be on site with equipment to address stability and floatation difficulties. Since this will be the most vulnerable time of the launching, we recommend the applicant have their engineer, designer of the floatation, and sufficient equipment and workforce onsite to address any occurrence.

As noted in the provided narrative, specific information was stated regarding elevations and buoyancy calculations to float the ship. The narrative speaks to 80 tons (160,000) which differs from the ship weight referenced by Ross Cudlitz, P.E. in his assessment which noted the ship weight to be 180,000 pounds. As stated in item 6 above, we request that the applicant confirm the weight of the ship.

Supplemental Comments: The applicant has confirmed the floatation design was reviewed by an experienced floatation designer. The applicant has further responded that the floatation comments fall outside the purview of the Coastal Waters Commission. We would defer to the Coastal Waters Commission legal counsel for any jurisdictional questions.

8. Given the complexity of the project, we recommend that the applicant provide a comprehensive work plan and timeline to the town before the work. This information will help identify the expected sequencing of the work from start to finish and establish a timeline. We also recommend a pre-mobilization meeting with the marine contractor, owners' environmental consultant, engineer, town, regulatory agency (if possible) and other key individuals involved in the ship launching. The applicant's submittal referenced contingencies to address challenges or issues encountered during the work. The contingencies include having materials, equipment, and personnel must be readily available onsite.

Supplemental Comments: The applicant has addressed this item in their response and provided a work plan. The work plan is consistent with submittals and addresses the critical elements of the project. A pre-construction conference/meeting a week or two before the start of the project is typical for most all projects. We suggest a pre-construction meeting be held to review the schedule, mobilization, special considerations, work plan, weather and confirm insurances, letters of credit, permits and notifications are in place. This could be virtual or in person.

9. While the project work is the sole responsibility and liability of the applicant including contingency plans, the town should consider having the applicant provide a cost estimate for the work including contingencies and potential restoration, and determine an appropriate amount for any bonds and insurance.

Supplemental Comments: The applicant stated a performance bond is not necessary. The applicant has stated, "a performance bond is not the appropriate mechanism for this project. However, common sense dictates that carrying insurance is appropriate for the applicant and we have already provided evidence that the applicant will carry substantial insurance for the launching of the vessel." The applicant also noted they are prepared to set aside $4,800 as an escrow for the cost of removal of the temporary launch ramp and separately $8,000 for the restoration of the coastal wetland, if necessary, with an additional cost of $4,500 for tug services if needed. Total amount is $17,300.00 along with insurances. The Coastal Waters Commission should review the amount to determine if it is reasonable for the work to be completed.

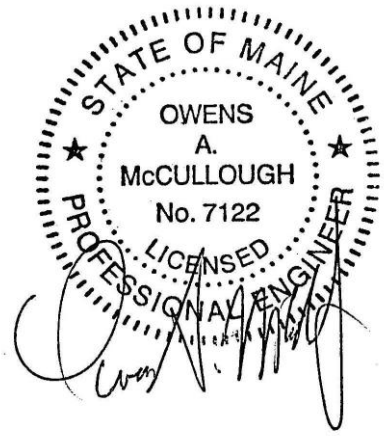
Regarding insurance, we would defer to the Coastal Waters Commission legal counsel as to what type of insurance would be required (liability, general commercial, or some type of insurance that would cover any claims or damages affiliated with the ship launch) along with limits of the insurance policy and naming the town as an additional insured.

Closure:

Thank you for the opportunity to assist the Town of Freeport with this third-party review. As always, please feel free to contact me with any questions.

Sincerely,

SEBAGO TECHNICS, INC.



Owens A. McCullough, P.E.; LEED A.P.
Sr. Vice President of Strategy and Client Development
OAM: oam
Att: August 28, 2024 Submittal by Applicant and Ramp Profile

Archipelago

Law • Science • Policy

Michael Morse
Principal
Senior Environmental Consultant
MMorse@ArchipelagoNA.com

1 Dana Street
Portland, Maine 04101
(207) 558-0102

August 28, 2024

Coastal Waters Commission
Town of Freeport
30 Main Street
Freeport, ME 04032

Re: Carter Becker, Shore Drive (Map 5, Lot 96A)- Response to Sebago Technics Report

Dear Commission Members:

We are in receipt of the project review report ("Report") prepared by Sebago Technics ("Reviewer"), dated July 23, 2024, purportedly acting as an independent reviewer on behalf of the Commission. Our responses are in the same order as noted in the Report.

Additionally, we have commented to the Commission on numerous occasions that the subject application is for the construction of a temporary boat launch ramp and that a permit to launch the vessel *Island Rover* is not required by the Town. Accordingly, information directly related to the vessel and its launching is not subject to the Commission's jurisdiction. To clarify, we fully agree that certain information about the vessel and the general launching process is relevant to the Commission's review of the application to the extent necessary to confirm that the proposed temporary boat launch ramp will meet the relevant standards within the Town's ordinance. However, not all details associated with the launching process are relevant. It is with this understanding that we comment in some instances that the Reviewer's comments are outside of the scope of the project. We provide the following:

Environmental Considerations and Comments:

1. The Report recommends that the applicant confirm that permits are in place prior to constructing the project, and further recommends that the applicant host a pre-work site coordination meeting. While these recommendations are outside of the scope of the project and the standards of review considered by the Commission, the applicant agrees to provide written notification in advance of the vessel launching to the Town, DEP, and US Army Corps of Engineers as it would be beneficial to all parties. Whereas the applicant is also the contractor for the project, an on-site pre-work meeting is not necessary or appropriate. The applicant is intimately aware of the project design, construction method, and regulatory standards. If the contractor was not the applicant, then holding a pre-work meeting may be appropriate. Also, the applicant is knowledgeable of the permitting requirements for this project and is actively pursuing the

necessary permits. For the Commission's edification, while no permit is required from the Maine Department of Environmental Protection for this project, no fewer than FIVE permits are required from the Town of Freeport. The U.S. Army Corps of Engineers has stated that their approval is forthcoming.

2. The Reviewer suggests that uneven loading of the substrate may occur. Tote bags will be partially filled with clean 3/4-inch stone and placed only where necessary below the HAT line. The bags will be only partially filled so that their height does not exceed the square width for stability and so that they can fit within the natural contours of the substrate to achieve as near perfect a load bearing surface as is practical. Construction tote bags will only be utilized in areas of uneven contours in the substrate. It is expected that tote bags will not be needed over most of the temporary boat launch ramp below the HAT. Mirafi 600X Geotextile shall be placed on the surface and construction totes will be placed on the geotextile. Totes will be packed together with an excavator, leaving little or no gaps between them to assure contiguous contact. The construction bags are extremely durable. However, construction bags that are structurally compromised will not be utilized for the project. Numerous on-site decisions, such as inspections of bag quality, ground contour variation, and leveling of materials, will need to be made on site, just as they are with every other construction project.

   The Reviewer speculates that the geotextile fabric and construction bags may become partially embedded into the soils or be held to the substrate by a vacuum force, creating difficulty removing these components. Construction bags will be placed and removed using a properly sized excavator or similar equipment. Geotextile fabric will extend beyond the footprint of the construction mats to allow for gathering and pulling, as needed for removal. Geotextile fabric will be removed either by rolling it by hand or by attaching its end to a line or cable and removing it using mechanical equipment operating on construction mats or in an upland location. If partial embedment occurs, the equipment is sufficiently capable of carefully removing these components with minimal, if any disturbance of soils. Should a vacuum exist, the geotextile will be punctured to eliminate the vacuum to assist with its removal.

   The Reviewer offers their opinion that deformation of the surficial soils and vegetation is likely in the coastal wetland and bay mudflat. As previously described in the application materials submitted, the design engineer has calculated the load of the vessel on the ground surface to be very low, approximately 3.47 psi, and has based his design on the worst soil type. By contrast, an adult human standing upright imparts a direct load of approximately 16 psi. We have also previously indicated that the applicant intends to construct the project when salt marsh vegetation is dormant. We have also acknowledged that, visually, the remaining dormant vegetation foliage above the substrate surface will show evidence of mild compression. The timing of the project is intentional to reduce the possibility of damaging vegetative root structure and it is expected that the vegetation will continue to grow as typical during the next growing season. The use of the phrase "good catch of vegetation" is commonly used to describe a generally vegetated condition. In this case, a good catch of vegetation would include vegetation at a density that is similar to the existing density of vegetation. Existing vegetative conditions were

previously documented and provided to the Commission. The design engineer also notes that should any modest compression of soils actually occur, there will be a natural rebound of soils upon removal of the load. This is routinely experienced when heavy equipment operating on a similarly designed construction mat surface is removed from freshwater wetland soils associated with utility corridor construction projects.

3. The Reviewer recommends that the project be planned and completed to avoid predicted weather events to the maximum extent practicable. The applicant agrees to not construct the project when large predicted coastal storms are forecast (e.g. hurricanes, nor'easters) that would be detrimental to the project, to the extent practicable. It is certainly not in the applicant's interest to disregard dangerous or impactful weather events. The plan is to have the launch proceed without incident.

4. The Reviewer recommends that the applicant have an environmental consultant visit the site daily during the work and to provide written reports and summaries to the town. This recommendation is not within the scope of the project or the ordinance standards relevant to this project, and would be disproportionally expensive and time-consuming to achieve. Furthermore, there is no regulatory basis for this comment or for such requirements of the applicant. Despite this, the applicant, who is also the contractor for this project, is a well-respected marine contractor who has prepared numerous environmental and town applications over many years. In addition to exhibiting substantial competence in marine-related construction practices, the applicant is extremely knowledgeable of coastal environmental conditions and the environmental regulations and standards associated with this project. The applicant will regularly be on-site to monitor construction and deconstruction activities. There are post-launch abatement plans already in place in the application that the town can rely upon for assurances that the property will be restored to its original condition if unreasonable impacts occur.

Engineering Considerations and Comments:

1. The Reviewer requests additional information regarding support equipment and materials, and their assumed staging area located within the upland portion of the project. This request is unrelated to the subject application. The application before the Commission is concerned exclusively with the portion of the project that is located within the coastal wetland. If the Reviewer's concern is that equipment and materials may be staged within the coastal wetland, then no equipment or materials will be staged or temporarily stored within the coastal wetland. As an aside, the applicant has indicated that there is ample area to accommodate the staging of materials and equipment. Respectfully, the Commission should disregard this comment as it does not directly apply to the project scope and specific ordinance standards that are within the Commission's jurisdiction.

2. The Reviewer requests a scaled profile of the access road as it may be helpful to understand, in part, the water available for the floatation of the vessel. A scaled profile plan is provided and attached to this response. The profile plan provides a

more detailed construction design for the temporary boat launch ramp. A scaled depiction of the vessel is included on the plan. We respectfully disagree that vessel floatation is within the Commission's jurisdiction. The Commission members may be interested in floatation details as a matter of personal interest; however, the floatation design is neither required nor addressed by the ordinance standards and is not subject to review for this application.

3. The Reviewer offers a redundant opinion that project components might partially embed into the substrate, and they again request additional information regarding the removal of these components. Similar to our response above, the design engineer has stated that construction mats placed directly over geotextile will be removed by a standard method that uses excavator teeth to lift up the corner or end of the mat to eliminate potential vacuum. The oversized geotextile flap will be used to pull up the fabric. The fabric will be perforated if necessary to eliminate any vacuum force on it.

   The Reviewer further recommends that the applicant's engineer consider a load test at the time of mobilization to "assess the behavior of the design". The applicant has indicated that a load test is unnecessary for this project as the project design accounts for construction mat settling or shifting. As previously stated, the loads calculated and presented in the application demonstrate that the loads are very reasonable for the conditions such that substantial shifting or settling is not an expected result. The vessels launch design, which is not subject to Commission review or approval, incorporates the use of a hydraulic dolly system that was previously used to move this same vessel. Each dolly is equipped to provide independent lift adjustments, if needed, as the vessel is traversing the launch ramp. Simply stated, if a corner or side of a construction mat exhibits settling, for example, the corresponding dollies may be adjusted accordingly to maintain an ideal vertically balanced vessel position. Although only nominal shifting or settling may occur, each dolly lift capacity is nearly 2'. If more than nominal shifting or settling occurs, the vessel movement can be reversed on the launch ramp to allow for adjustments to the launch ramp. At any point, the system allows the vessel to be lowered to temporarily rest partially on its keel along with the dolly supports, which is a very stable position for the vessel. This design in conjunction with the design engineer's calculations effectively renders a load test unnecessary.

4. The Reviewer requests that the applicant provide the vessel profile and vessel carrying system on the profile plan requested in #2, above. This has been included in the attached profile plan. The profile plan demonstrates that the 40' long project terminus is sufficiently sized for the vessel and its carrying system components. Plans depicting the locations of floatation bags have been provided to the Commission previously, although the floatation system design again is not within the Commission's scope of review.

5. The Reviewer recommends that a geotechnical engineer review the site conditions and the calculations that have been provided by the design engineer. The project was designed by a Licensed Professional Engineer according to accepted engineering

practices, and it has also been reviewed by the Commission's third-party reviewer who is also a Licensed Professional Engineer. The Reviewer was hired to conduct a comprehensive review of the engineering design and no substantive concerns with the project design have been identified by the Reviewer. In fact, the Reviewer has stated that the design is reasonable for the launching of the *Island Rover*. Additional engineering review is unreasonable and should not be required. Such a requirement would cause further delay of the Commission's approval of the project and it would place an additional financial burden upon the applicant. The applicant has already paid the Commission $8,300 for what was previously designed to be a comprehensive engineering review required by the Commission.

6. The Reviewer requests confirmation of the weight of the vessel, which they state is 180,000 pounds. We have provided evidence regarding the weight of the vessel, including the tonnage calculation according to the American Bureau of Shipping, which is 160,000 pounds. In his design load calculations, the design engineer utilized a total weight of 180,000 pounds to account for the weight of the vessel, construction mats, the dolly transportation system, and any other equipment utilized as the vessel traverses the temporary boat launch ramp.

7. The Reviewer recommends that the flotation design be certified by Richard Fryeburg of Subsalve USA. As indicated in our previous submittals, the proposed flotation design has already been reviewed by Mr. Fryeburg, who did not identify any concerns (in part because these types of operations are performed every day, all over the United States, utilizing these products). The applicant and his team have significant experience with the use of the flotation system designed for the project and they will be directly supervising the system during the vessel launch. We again note that the pending application is not requesting approval of the actual launch of the vessel or the launching design as it specifically relates to the vessel or vessel flotation system as no such approval from the Town is required. Review of such details are unrelated to the application and are not within the Commission's jurisdiction.

8. The Reviewer recommends that the applicant provide a comprehensive work plan for the project. Accordingly, we are pleased to provide the attached work plan that details the construction of the temporary launch ramp, the vessel's travel along the launch ramp, and the post-launch removal of the temporary launch ramp.

9. The Reviewer suggests that the applicant should be required to provide a cost estimate to the town for the purpose of establishing a bond or insurance requirement. After exchanging information about the scope of the project with the Reviewer, a performance bond is not the appropriate mechanism for this project. However, common sense dictates that carrying insurance is appropriate for the applicant and we have already provided evidence that the applicant will carry substantial insurance for the launching of the vessel. In the event that extenuating circumstances arise and the temporary boat launch ramp cannot be removed by the applicant, the applicant is prepared to set aside $4,800 as escrow for the cost of removal of the temporary boat launch ramp. This includes the deconstruction and removal of all components of the

temporary boat launch ramp, including equipment cost and disposal of items, such as geotextile fabric. This escrow will be released upon removal of the temporary boat launch ramp. Separately, the applicant is prepared to establish an escrow of $8,000 associated with the restoration of the coastal wetland if restoration is necessary, and those monies will be released if it is realized that restoration efforts are not required after the start of the growing season subsequent to the completion of the project (anticipated release on or about July 15th). The applicant's insurance policy is intended to account for any unforeseen issues that arise with the vessel launch procedure. Although it is not within the scope of the Commission's jurisdiction, the applicant estimates that if a tug is required to assist with the launching and removal of the vessel in any state, that cost would be approximately $4,500 (6 hrs @ $750/hr). The applicant has sufficient funds available to cover the cost of tug services. It is understood that if the launch ramp is partially constructed and the applicant is unable to complete the project, the project would simply be removed. Neither the Town nor Commission will complete construction of the project and launch the vessel, and projected costs account for this.

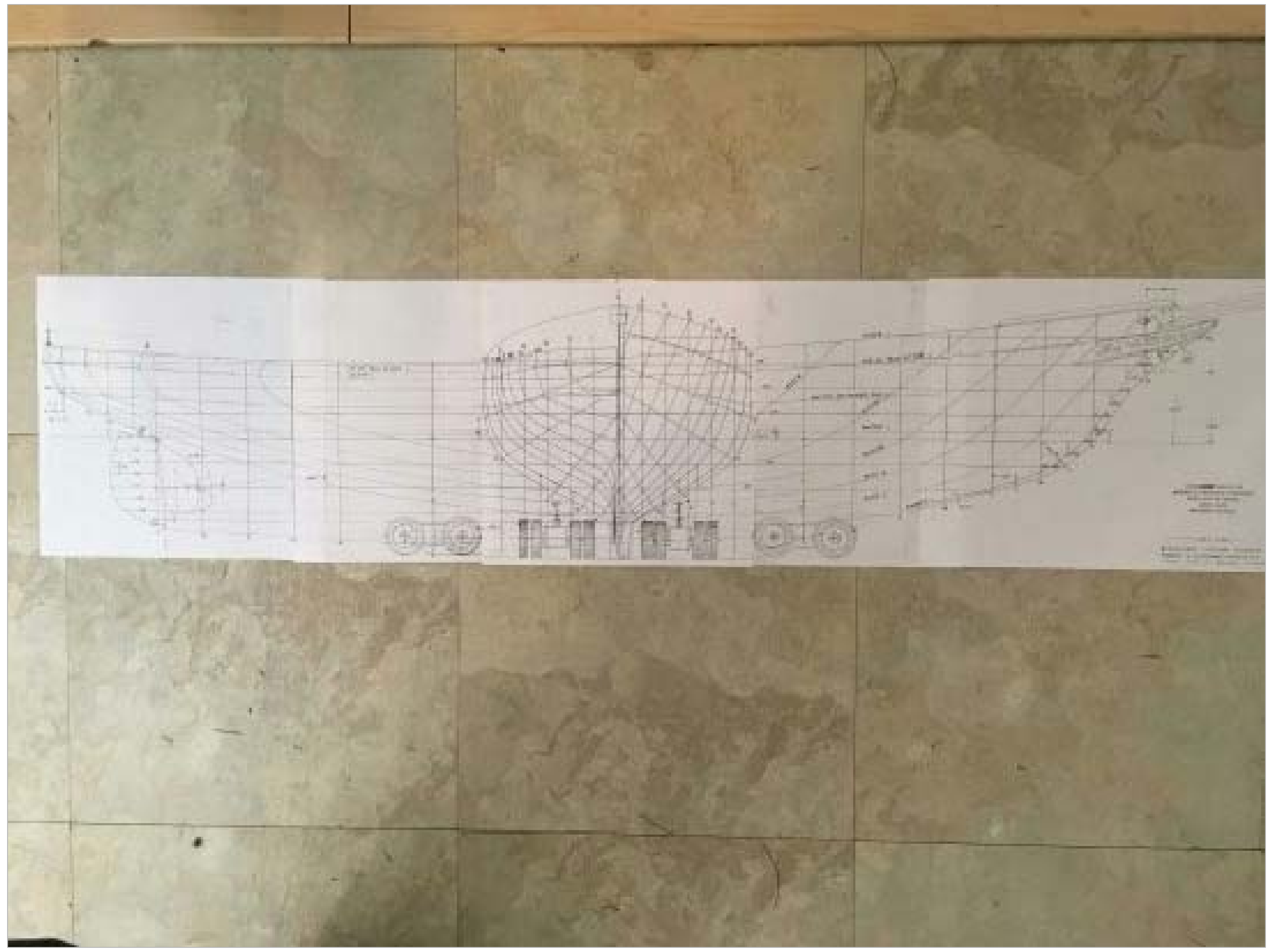
Finally, we have provided the Commission with a technical engineered design and solution for the construction of the boat launch ramp, as well as specific details associated with the launching of a vessel-- the latter of which has been provided as a courtesy and is not material to the Commission's review. The information we have provided supports that the project meets the applicable review standards and demonstrates the project is capable of a successful launching of the *Island Rover*. Our engineering design supports the successful launching of the vessel and clearly demonstrates that it is extremely unlikely that the vessel would become compromised during the launching effort. If any unexpected problems arise during the vessel's launch, we have provided the Commission with our contingency plans and evidence of insurance sufficient to cause the mitigation of any unsurmountable problems and removal of the vessel. We have provided the Commission with a comprehensive restoration plan if unreasonable impacts to the coastal wetland occur. The Reviewer has reviewed this information and has stated that the design is reasonable for the launching of the vessel. The Reviewer has not provided any substantive factual or technical review comments that indicate that the proposed project design is insufficient or that it will not meet its objective, or that it will cause unreasonable environmental harm. Considering that the Reviewer discovered no substantive concerns regarding the project and deemed the design to be reasonable, their report should effectively be considered as an objective endorsement of the application and project design and the Commission should use its authority to approve the application immediately.

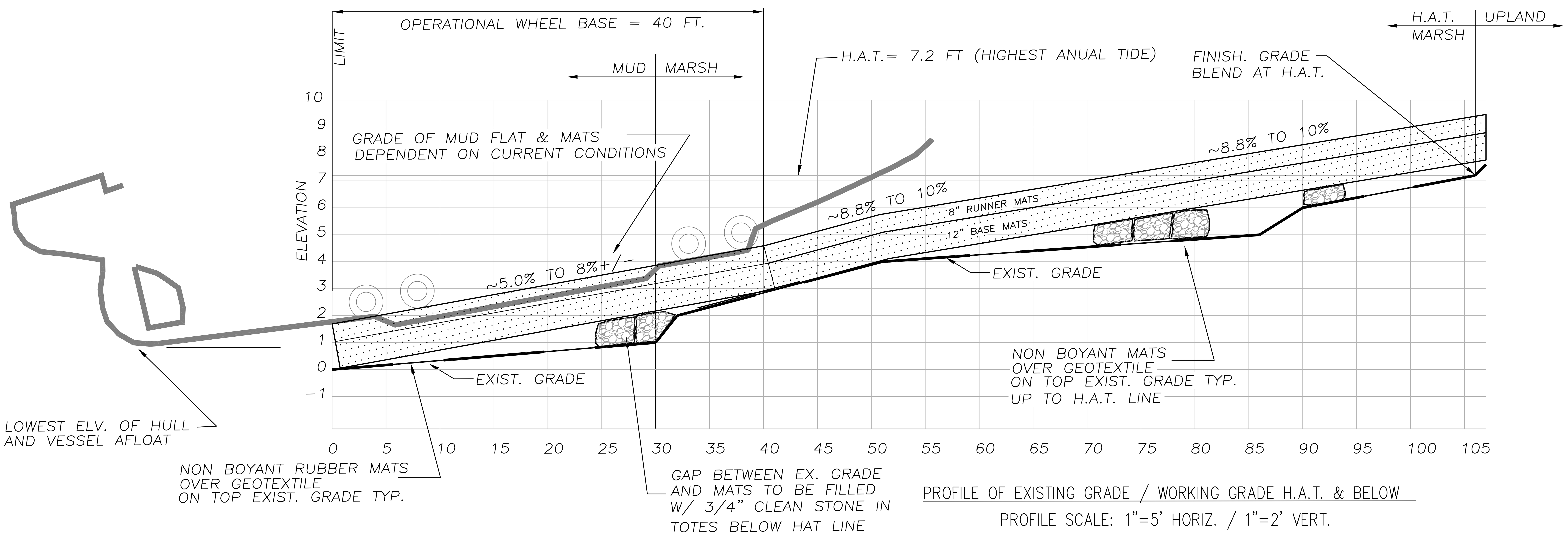
Thank you in advance for your consideration of our responses.

Sincerely,

Mike Morse

Enclosures
Cc: Carter Becker





PROFILE OF EXISTING GRADE / WORKING GRADE H.A.T. & BELOW

PROFILE SCALE: 1"=5' HORIZ. / 1"=2' VERT.

REVISIONS

REV	BY	DATE	DESCRIPTION
0	RAC	05/12/24	PROFILE

SHEET TITLE:

ENGINEERING ASSISTANCE & DESIGN, INC.
ROSS A CUDLITZ, PE (ME 5865, NH 6881)
10 NORTH ROAD, YARMOUTH, MAINE 04096
CPESC, CPSWQ, CESSWI, Me DEP CERT.
PHONE/FAX: 207-846-0839; E-MAIL: ZTILDUC@MAINE.RR.COM

DATE :	02-02-2021
SCALE :	AS NOTED
DESIGN BY:	RAC
DRAWN BY:	RAC
FILE No.	C1.dwg
PROJECT NUMBER:	
SHEET:	P-1

Work Plan

Temporary Boat Launch Ramp
Carter Becker
0 Shore Drive, Freeport

Step 1- Construct ramp from HAT to end

- Prepare industrial tote bags partially full of clean ¾ inch stone. For stability, height of tote bag should be no more than approximately ½ of width.
- Roll out Mirafi 600X Geotextile ahead of work. Fabric should extend beyond work area to the side of sufficient distance to assist with removal. All overlaps of fabric shall be a minimum of two feet.
- Anti buoyancy rubber mats shall be placed over fabric to prevent fabric from floating out of place.
- No heavy machinery will operate directly on top of fabric or rubber mats.
- Place tote bags on top of fabric/rubber mats, as needed. Work tote bags with the side of excavator bucket so that they are tight and even across the top.
- No heavy machinery will operate directly on top of tote bags.
- Place 20-foot construction mats on top of rubber mats and tote bags. Work mat with bucket pressure to make level and stable; repeat with as necessary. Where utilized, totes should extend one half of bag width beyond ends of mats. Any tote bag punctured by teeth of bucket must be replaced.
- All mats to be secured to each other at ends to remain tightly abutted; contractor to provide means and method.
- Place construction mat runners perpendicular on top of base mats at spacing shown on plans. Secure runners to base mats to prevent sliding before traveling down ramp. Contractor to provide means and methods of connections.
- The matted ramp shall be diagonally chained to mushroom or helical anchors (similar to floating wharfs) so that they may float between tides and settle back down in place.

Step 2- Travel on ramp

- Similar to travel on roads, the articulating dollies (vertical and independent adjustment) will be used to maintain the centroid (center of gravity) of the hull centered and in the static design location. Hull shall be positioned at the lowest elevation possible (keel in between the runner mats).
- Timing of launch will be based on highest available tide. Hull shall be positioned above the HAT on the ramp prior to the launch.
- As the tide recedes travel of the hull shall commence to take greatest advantage of daylight and time between outgoing and incoming tides.
- Speed of travel and positioning adjustments made by qualified individuals.
- For safety and redundancy, the bow of the hull will be securely tethered to a piece of machinery of suitable winch type anchor located at the top of the ramp. This tethered connection will remain attached until the vessel is floated.

Step 3- Ramp removal

- Starting at seaward end, runners will be removed, and base mats incrementally disconnected from anchoring. All heavy equipment will work on top of mats.
- Mats will be removed efficiently and at a steady pace and work ahead of tides. Contractor responsible for timely production.
- Excavator teeth worked into side of mats will be used for grabbing and breaking any vacuum that may be present where totes were not utilized under mats; this is typical in similar utility construction.
- Tote bags will be removed and taken to lay down area.
- Anti buoyancy mats removed in progression.
- Fabric will be secured along extra flap by excavator. Any vacuum will be broken by puncturing fabric with teeth.
- This progression will continue until all materials in resource below the HAT is removed.