



William Morgante, PWS  
Wetlands Administrator

State of Maryland  
**Board of Public Works**  
Wetlands Administration

80 Calvert Street, Room 117, Annapolis, Maryland 21401  
410-260-7791

Larry Hogan  
Governor

Derick E. Davis  
Treasurer

Peter Franchot  
Comptroller

John T. Gontrum, Esq.  
Executive Secretary

**WETLANDS LICENSE NO. 22-0268EX(R1)**  
**DONJON-SMIT, LLC**

*A minor modification (pursuant to COMAR 23.02.04.17.B.(1)) was made to the original license. Changes to original license language are shown with a strikethrough, and revisions shown with bold type.*

The Maryland Board of Public Works authorizes you to:

Mechanically dredge an area of 131,945.2 ft<sup>2</sup> around the stern of the vessel, an area of 127,996.2 ft<sup>2</sup> around the starboard side of the vessel and 89,486.3 ft<sup>2</sup> around the port of the vessel resulting in a total of 349,427 sq. ft., to a depth of ~~40~~ **43** feet at mean low water; and to deposit at minimum of ~~110,000~~ **164,236.4** cubic yards of dredged material on an approved upland disposal site located at an upland placement cell at the Poplar Island Ecosystem Restoration Project.

*Off Gibson Island, Chesapeake Bay, Anne Arundel County, Maryland*

Issuance of this Tidal Wetlands License constitutes the State's determination that the authorized activities are consistent with the Maryland Coastal Zone Management Program (CZMP), as required by Section 307 of the Federal Coastal Zone Management Act of 1972, as amended [16 U.S.C. §1456]. Accordingly, the State concurs with the Licensee's certification in the Joint Permit Application that the project complies with and will be conducted in a manner consistent with the Maryland CZMP.

**THIS LICENSE AUTHORIZES YOU TO PERFORM THE WORK ONLY IF YOU  
COMPLY WITH THE FOLLOWING SPECIAL CONDITION(S):**

- A. The issuance of this Emergency Wetlands License for the proposed activity does not relieve the applicant from the need to obtain a Wetlands License from the Board of Public Works. Within 14 days of the initial request for the Emergency Wetlands License, the applicant must complete and submit an application to the Department.
- B. The Licensee shall transport all dredged material in watertight trucks. No dredged material shall be discharged onto the roadways of the State.
- C. The Licensee shall stake the dredge area and notify the Water and Science Administration's, Tidal Wetlands Division prior to the start of dredging.
- D. The Licensee shall dispose of dredged material only at the dredge disposal sites approved by this Wetland License. The Licensee shall submit an application for modification of the License to MDE for approval of any dredge disposal site not authorized within this License.

- E. This License provides no justification or assurances for future dredging. All proposed dredging projects shall be evaluated on the biological and physical characteristics of the project site at the time an application is made.
- F. The Licensee shall conduct a post dredge bathymetric survey and forward to the Water and Science Administration, Tidal Wetlands Division within 45 days after the termination of any phase of dredging.
- G. Due to anadromous fish, the Licensee is recommended to deploy and maintain a turbidity curtain around the work area while dredging from April 1 to June 1 of any given year.
- H. Due to a Natural Oyster Bar (NOB 4-2), the Licensee is recommended to deploy and maintain a turbidity curtain around the work area while dredging from June 1 to September 30 of any given year.
- I. The Licensee shall assess the dredge and vessel grounding area for impacts to the NOB (NOB 4-2) and then provide a report on the findings within 30 days from completion of the vessel removal that describe the impacts to the NOB (NOB 4-2) to the Water and Science Administration, Tidal Wetlands Division.
- J. Any impacts to the Natural Oyster Bar (NOB 4-2) due to grounding of the ship and dredging that are determined to require mitigation will require a mitigation plan submission to the Department within 60 days from the notice of determination that mitigation is required.

**THIS LICENSE AUTHORIZES YOU TO PERFORM THE WORK ONLY IF  
YOU COMPLY WITH THE FOLLOWING STANDARD CONDITIONS:**

- 1. Licensee shall conduct the authorized work in accordance with the plans and drawings dated as accepted by MDE on ~~March 18, 2022~~ **March 27, 2022**, which are hereby incorporated into this License.
- 2. Until the authorized work is complete, Licensee shall have available at the site a copy of this License including the plans and drawings.
- 3. This License constitutes Maryland's authorization to conduct the authorized work under the State Tidal Wetlands Law. This License does not bestow any other federal, State, or local government authorization.
- 4. Licensee shall have all proposed work above Mean High Water reviewed and authorized by the local county Department of Planning and Zoning or applicable agency.
- 5. Licensee shall notify MDE's Compliance Program by BOTH phone AND in writing of the following:
  - (a) start date at least five business days before beginning work; and
  - (b) completion date no more than five business days after project completion.Central Division: 410-537-3510 1800 Washington Blvd, Baltimore, MD 21230
- 6. Licensee shall comply with any regulations, conditions, or instructions issued by MDE, including any Water Quality Certification issued with respect to the authorized work.
- 7. Licensee shall conduct the authorized work in accordance with Critical Area Commission requirements. This License does not authorize disturbance in the Buffer. If authorized work will disturb the Buffer, Licensee shall have a Commission-approved or locally-approved Buffer Management Plan before beginning the authorized work.  
"Buffer" means the 100-foot Critical Area Buffer and any expanded area that is immediately landward of the mean high-water line of the tidal waters or is immediately landward of tidal wetlands. The Buffer includes expanded contiguous

area if the contiguous area includes steep slopes, hydric soil, or highly erodible soil, or otherwise meets the criteria of COMAR 27.01.09.01.E(7). "Disturbance" means any alteration or change to the land including any amount of clearing. Clearing includes vegetation removal, grading, and construction activity.

8. Licensee may not fill, dredge, or otherwise alter or destroy tidal marsh or its vegetation unless this License specifically authorizes the activity.
9. Licensee may not stockpile material in State tidal wetlands/State tidal waters of the U.S.
10. Licensee shall allow unfettered public use of State wetlands/State tidal waters of the U.S.
11. This License does not transfer a property interest of the State.
12. Licensee shall file a Miss Utility ticket for the proposed work at least 10 days before beginning work. *Miss Utility: 800-257-7777*
13. Licensee shall ensure that structures (for example, piers and piles) removed from the site are taken to an upland disposal facility approved by MDE's Compliance Program.
14. If the authorized work impacts more than 5,000 square feet or includes 100 or more cubic yards of fill, Licensee shall conduct the authorized work in accordance with a locally-approved Soil Erosion and Sediment Control Plan.
15. If the authorized work is not performed by the property owner, all work performed under this Tidal Wetlands License shall be conducted by a marine contractor licensed by the Marine Contractors Licensing Board (MCLB) in accordance with Title 17 of the Environment Article of Annotated Code of Maryland. A list of licensed marine contractors may be obtained by contacting the MCLB at 410-537-3249, by email at MDE.MCLB@maryland.gov or by accessing the Maryland Department of the Environment, Environmental Boards webpage.
16. Licensee shall allow State officials and employees to make inspections at reasonable times and cooperate with those inspections.
17. This License is granted only to the Licensee. Licensee may transfer the license only with written approval from the Board of Public Works. If the Board of Public Works approves the transfer, the transferee is subject to all License terms and conditions.
18. Licensee shall indemnify, defend, and save harmless the State of Maryland, its officials, officers, and employees from and against any and all liability, suits, claims, and actions of whatever kind, caused by or arising from, the work this License authorizes.
19. The Board of Public Works or its Wetlands Administrator may modify, suspend, or revoke this License in its reasonable discretion. Licensee shall promptly comply upon notice of any such action.
20. This License expires when the authorized work is completed. When the authorized work is completed, all activity must stop.
21. In conducting work authorized under this license, licensee may not cause injury to private property; invade the rights of others; or infringe any federal, state, or local laws or regulations.
22. Licensee shall maintain any authorize structure in good condition and perform the authorized activity in a workmanlike manner in accordance with this license.
23. In conducting work authorized under this license, licensee shall eliminate or minimize adverse effects on fish, wildlife, and the natural environment.

By the authority of the Board of Public Works:

\_\_\_\_\_  
William Morgante  
Wetlands Administrator

Effective Date: March 19, 2022  
Modified Date: March 29, 2022 (R1)

**I accept this License and all its conditions.**

29 March 2022  
Date

Brian P. Henry  
Licensee (Signature)

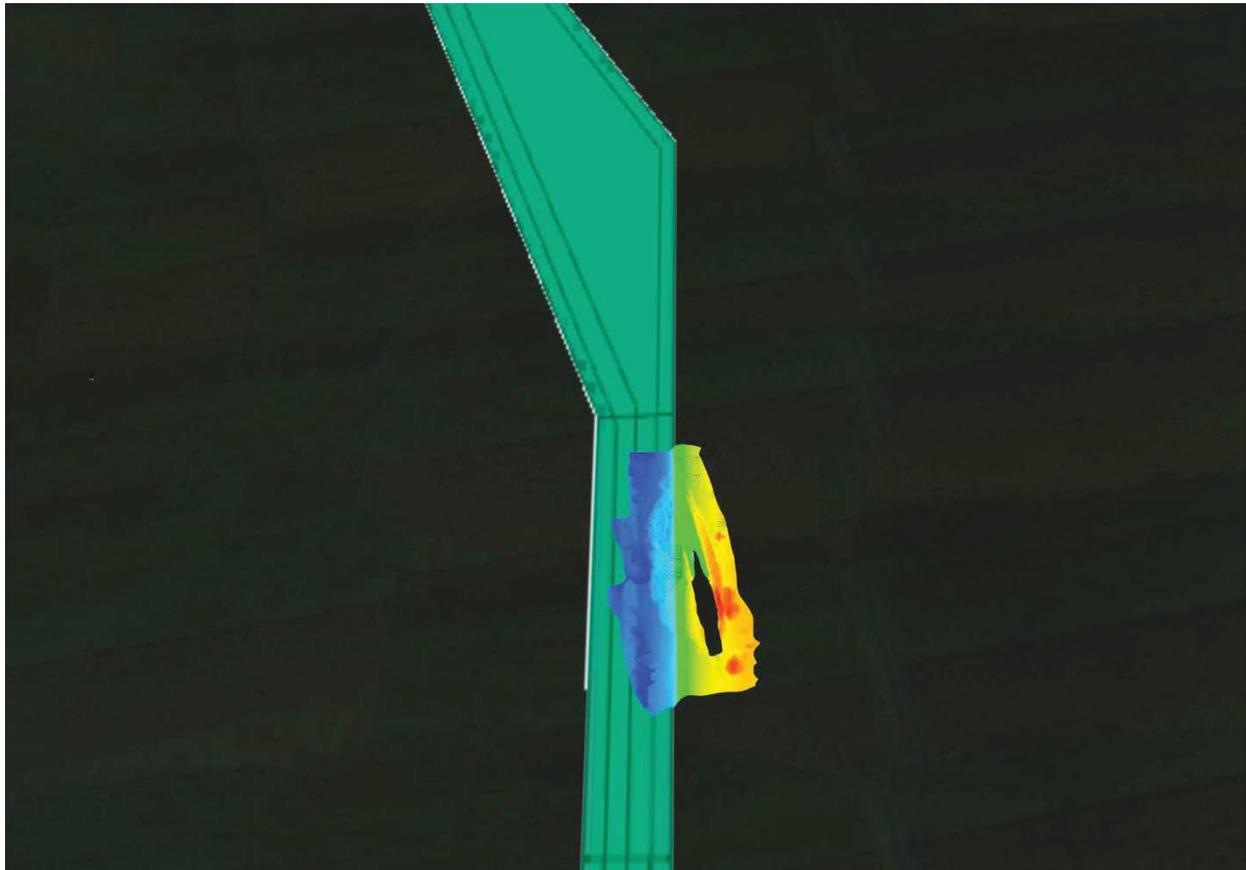
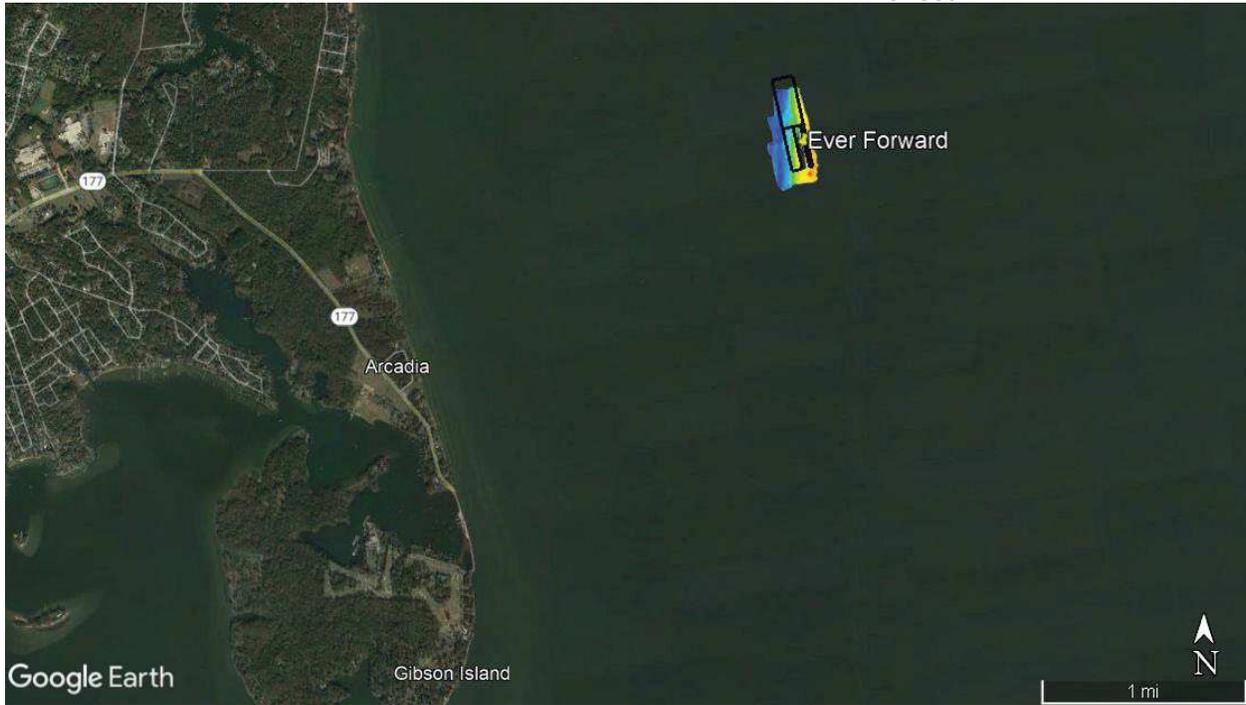
Brian P. Henry  
Name (Printed)

Donjon Smit  
Title

brian.henry@donjon.com  
Email (to receive completed license)

Emergency Tidal Wetlands License Request  
Donjon-SMIT, LLC  
Grounding of the MV EVER FORWARD

22-WL-0268EX(R1)  
202260497  
174710  
3/27/22  
TKR  
Sheet 1



Emergency Tidal Wetlands License Request  
Donjon-SMIT, LLC  
Grounding of the MV EVER FORWARD

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TKR  
Sheet 2



Emergency Tidal Wetlands License Request  
Donjon-SMIT, LLC  
Grounding of the MV EVER FORWARD

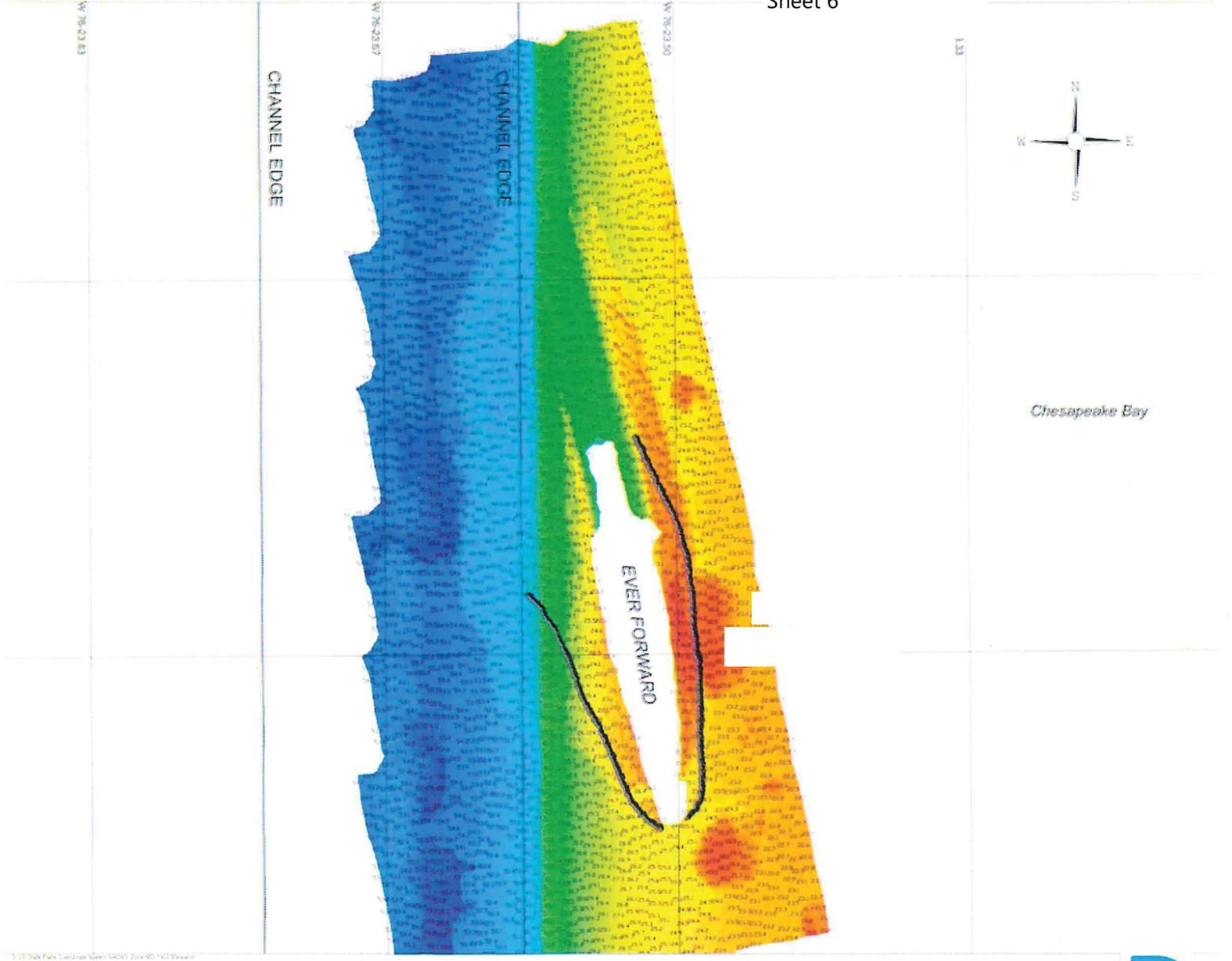
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3/27/22  
TKR  
Sheet 3







22-WL-0268EX(R1)  
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174710  
3/27/22  
TKR  
Sheet 6



1. US Navy Hydrographic Survey SIOU-3204 10m MDTMS VDatum  
US Survey 1:40000  
2. Data collected with the following vessel, crew, equipment, software, and sensors:  
Vessel: USCGC Spencer (WMEC-903) and USCGC Spencer (WMEC-903) by  
USCGC Spencer (WMEC-903) and USCGC Spencer (WMEC-903) by  
USCGC Spencer (WMEC-903) and USCGC Spencer (WMEC-903) by  
USCGC Spencer (WMEC-903) and USCGC Spencer (WMEC-903) by

Project: MV Ever Forward Grounding Response  
Area: Chesapeake Bay, Maryland, USA  
Date of Survey: 17 March 2022





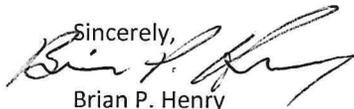


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TKR  
Sheet 8

Holly L. Miller  
Deputy Director Maryland DOT  
Maryland Port Administration  
Office of Harbor Development

In response to your request for a dredge impact from DONJON/SMIT the salvage company in charge of the M/V Ever Forward recovery we shall follow the Federal Consistency (FC), as required by Section 307 of the federal Coastal Zone Management Act (16 USC 1451 et seq.) and Water Quality Certification (WQC) as required by Section 401 of the federal Clean Water Act (33 USC 1251 et seq. Specifically, the emergency dredging to assist with the removal of the Container Ship Ever Forward to their respective depths of -40 feet, mean lower low water plus one foot of over-dredge. The proposed emergency dredging involves the removal of approximately 110,000 cubic yards (CY) of material. This material will be loaded in sealed dump scows using a clam shell environmental bucket. The dredging shall be operated so as to control the rate of descent of the bucket so as to maximize the vertical cut of the clamshell bucket while not penetrating the sediment beyond the vertical dimension of the open bucket (i.e. overfilling the bucket). This will reduce the amount of free water in the dredged material, will avoid overfilling the bucket, and minimize the number of dredge bucket cycles needed to complete the emergency dredge portion to assist with removal of the container Ship Ever Forward. Donjon/SMIT shall use appropriate software and sensors (ADISS) on the dredging equipment to ensure consistent compliance with this condition during the entire dredging operation. ADISS Inc. shall monitor the operation of the software and sensors during the inspections to ensure compliance with all Federal, State, and Maryland Port Administration with all WQC regulations and conditions. Any malfunction of the software and sensors on the dredge equipment at any time shall be immediately reported to the Maryland Port Administration by the Donjon/SMIT and shall be immediately repaired to working order.

1. The closed clamshell environmental bucket shall be equipped with sensors to ensure complete closure of the bucket before lifting the bucket. Said sensors shall be operational during the entire dredging operation.
2. The closed clamshell environmental bucket shall be lifted slowly through the water, at a rate of 2 feet per second or less.
3. Dredged material shall be placed deliberately in the barge in order to prevent spillage of material overboard.
4. The discharge (i.e. "overflow") of water from the barge/scow into which dredged material is placed is prohibited.
5. All barges or scows used to transport sediment shall be of solid hull construction or be sealed.
6. The gunwales of the dredge scows shall not be rinsed or hosed during dredging except to the extent necessary to ensure the safety of workers maneuvering on the dredge scow.

Sincerely,  
  
Brian P. Henry  
Donjon/SMIT LLC.  
100 Central Ave  
Hillside, New Jersey 07205

DONJON-SMIT, an OPA 90 Alliance

**MEMO: WETLANDS LICENSE 22-0268(EX) ADDITIONAL DREDGING APPLICATION**

To: Maryland Department of the Environment

Regarding Wetlands License 22-0268(EX) Donjon-Smit LLC, issued on 19 March 2022, Donjon-Smit requests a modification to the original quantities stated.

In addition to the originally requested dredging depth to 40ft, we request a modification of the emergency license allowing us to dredge to 43ft. After reconsideration of our calculations (following the arrival of our internal Dredging Expert), it was concluded that, in order to sufficiently reduce the ground reaction for re-floating purposes, we need to increase the dredging depth.

The original draft's of the vessel were 12.5m at the bow, 12.7m at midships and 12.9m aft. The vessel's draft's are currently 11.0m at the bow and midships, and 12.0m aft. Following grounding, the vessel has been lifted  $\pm 1.7\text{m}$  or 5.6ft on the soil at midships, which is a volume of  $82\text{m}^3/\text{m}$  or  $32.5\text{yd}^3/\text{ft}$  keeping the vessel aground. To be able to remove the material under the keel, the soil needs to have space to flow to, so material in the direct vicinity of the vessel needs to be removed lower than the keel. The preferred extra depth is 6ft, however, 3ft is expected to give some release also, keeping in mind the environmental sensitivity of the area.

The dredging depth as currently mentioned in the license of 40ft would only create a 'release channel' of 0.6ft deeper than the keel for the soil to flow to, which is not sufficient. Please see **Figure 1** and **Figure 2** below for an illustration of the described current situation.

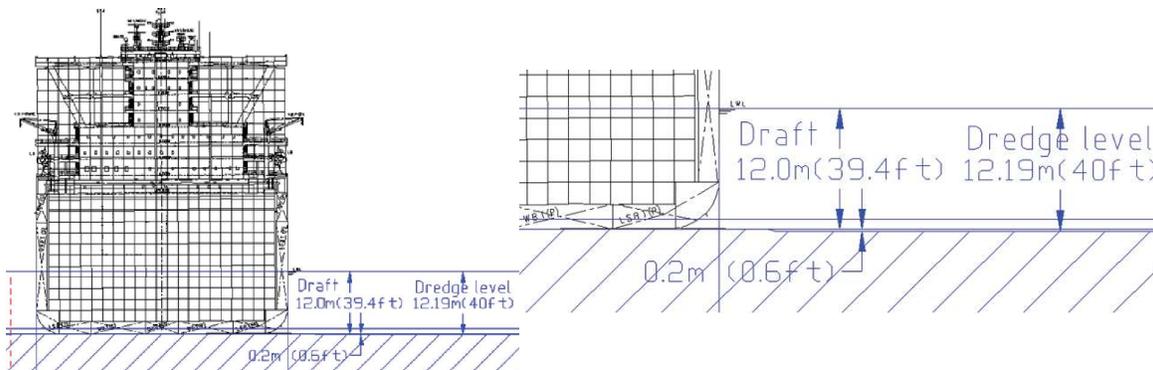


Figure 1: Aft draft and initial dredging depth to 40' (section view left, detailed section view right)

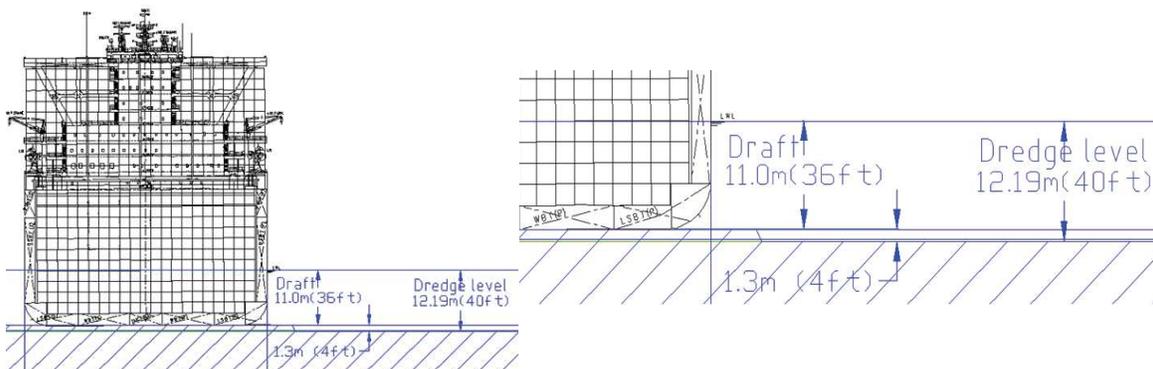


Figure 2: Front and midship draft and initial dredging depth (section view left, detailed section view right)

Should the area surrounding the vessel be lowered to the proposed 43', a height difference between the vessel's keel and 'release channel' would be 4ft. This would create significantly more space in the channel for the material underneath the vessel to flow to. Please see **Figure 3** and **Figure 4** below for an illustration of the described desired situation.

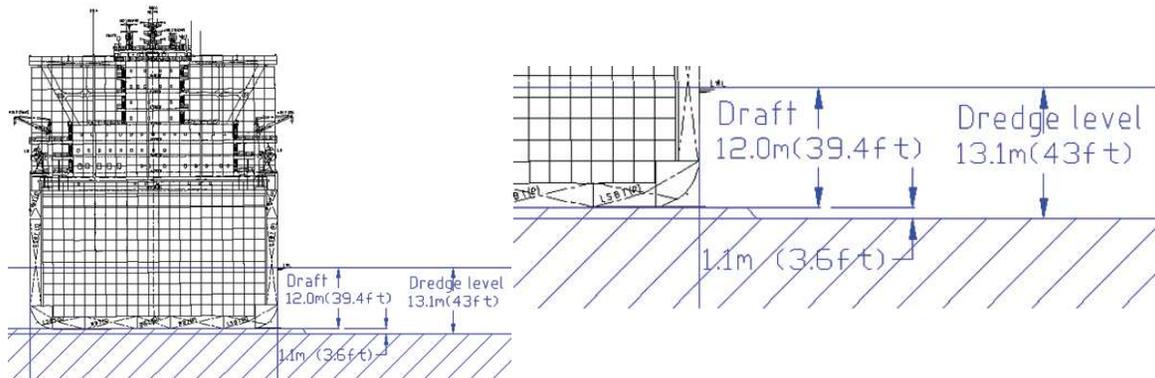


Figure 3: Aft ship draft and **additional** dredging depth (section view left, detailed section view right)

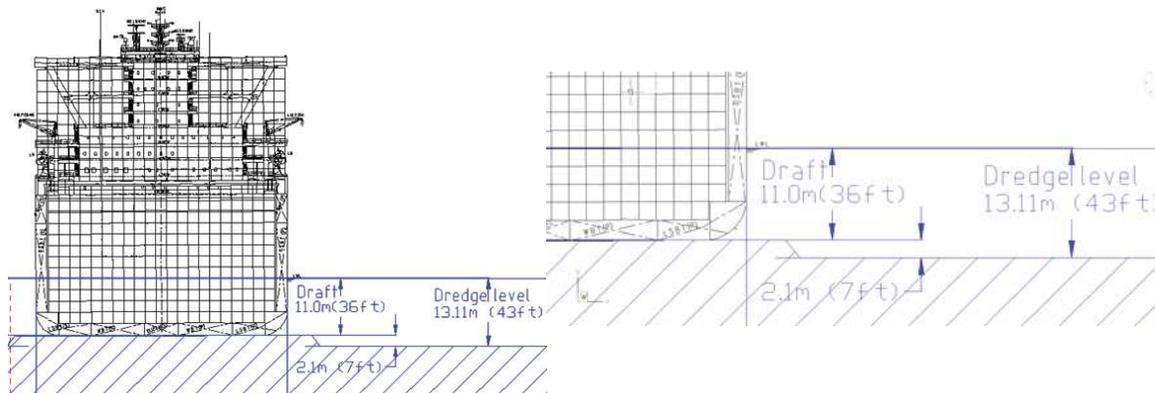


Figure 4: Front and mid ship draft and **additional** dredging depth (section view left, detailed section view right)

The corresponding current and additional volume of dredge material is shown below in the overview in **Table 1**, as determined by our survey engineers.

Table 1: Dredge quantities 40' and 43' depth for the indicated Dredging Zones

Zone	Volume (CY) – 40' depth	Volume (CY) – 43' depth	Final Volumes (CY)
Stern	33,268.1	19,750	53,018.1
Starboard	40,079.6	5,250	45,329.6
Port	55,888.7	10,000	65,888.7
<b>Total</b>	<b>129,236.4</b>	<b>35,000</b>	<b>164,236.4</b>

It is stressed that removing the material underneath is the preferred way to reduce ground reaction, as it does not involve the potential hazards associated with lightering fuel or the stability and logistical challenges of lightering containers.

The proposed additional dredging works have been approved by the Maryland Port Administration. A reference is made to the email sent by Executive Director of Maryland Port Administration William Doyle, sent on the 25<sup>th</sup> of March.

Weather permitting, dredging will resume Sunday morning the 27<sup>th</sup> of March and be completed no later than 31<sup>st</sup> of March, only interrupted by a refloating attempt on Tuesday the 29<sup>th</sup> of March.

With kind regards,

Timothy Williamson  
Project Manager for Ever Forward refloating  
Donjon-Smit LLC



MARYLAND PORT  
ADMINISTRATION

Larry Hogan  
Governor  
Boyd K. Rutherford  
Lt. Governor  
James F. Ports, Jr.  
Secretary  
William P. Doyle  
Executive Director

March 18, 2022

22-WL-0268EX(R1)  
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3/27/22  
TKR  
Sheet 12

Mr. Brian Henry  
Donjon Marine/SMIT LLC  
100 Central Avenue  
Hillside, New Jersey 07205

Dear Mr. Henry:

This letter is regarding the vessel, Ever Forward that has run aground in the Chesapeake Bay, near Gibson Island, Maryland. Per recent discussions, it is our understanding that the proposed vessel removal work will include the dredging of approximately 110,000 cubic yards of dredged material. The Maryland Department of Transportation Maryland Port Administration (MDOT MPA) has determined that it is acceptable for the dredged material associated with this project to be placed at the Poplar Island Ecosystem Restoration Project in a cell to be determined based on the material properties and through ongoing coordination.

Should you have any questions, please do not hesitate to contact me at (410) 385-4748 or at [hmillers2@marylandports.com](mailto:hmillers2@marylandports.com).

Sincerely,

Holly L. Miller  
Deputy Director, Harbor Development  
MDOT Maryland Port Administration

Cc:  
Bob Munroe, MDOT MPA  
Kristen Fidler, MDOT MPA  
David Bibo, MDOT MPA  
Kevin Brennan, CENAB  
Graham McAllister, CENAB  
Heather Nelson, MDE  
Tammy Roberson, MDE

**From:** Bill Doyle <[Bdoyle@marylandports.com](mailto:Bdoyle@marylandports.com)>  
**Sent:** Friday, March 25, 2022 3:40 PM  
**To:** Smoak, Baxter B CDR USCG SEC MD/NCR (USA) <[Baxter.B.Smoak@uscg.mil](mailto:Baxter.B.Smoak@uscg.mil)>; Holly Miller <[hmillier2@marylandports.com](mailto:hmillier2@marylandports.com)>; Bob Munroe <[bmunroe@marylandports.com](mailto:bmunroe@marylandports.com)>; Kristen Fidler <[kfidler@marylandports.com](mailto:kfidler@marylandports.com)>; Brennan, Kevin M CIV USARMY CENAB (USA <[Kevin.M.Brennan@usace.army.mil](mailto:Kevin.M.Brennan@usace.army.mil)>; [Graham.K.Mcallister@usace.army.mil](mailto:Graham.K.Mcallister@usace.army.mil)  
**Cc:** Geoffrey Donahue -MDE- <[geoffrey.donahue@maryland.gov](mailto:geoffrey.donahue@maryland.gov)>; Christopher H James <[CJames@wittobriens.com](mailto:CJames@wittobriens.com)>; Bendle, James R CDR USCG SEC MD/NCR (USA) <[James.R.Bendle@uscg.mil](mailto:James.R.Bendle@uscg.mil)>; Rosen, Christopher C CDR USCG SEC MD/NCR (USA) <[Christopher.C.Rosen@uscg.mil](mailto:Christopher.C.Rosen@uscg.mil)>; Sigler, Silvia P LT USCG SEC MD/NCR (USA) <[Silvia.P.Sigler@uscg.mil](mailto:Silvia.P.Sigler@uscg.mil)>; Olbert, Alex H CPO USCG SEC MD/NCR (USA) <[Alex.H.Olbert@uscg.mil](mailto:Alex.H.Olbert@uscg.mil)>; Gomez, Sonha A LCDR USCG SEC MD/NCR (USA) <[Sonha.A.Gomez@uscg.mil](mailto:Sonha.A.Gomez@uscg.mil)>  
**Subject:** RE: [URL Verdict: Neutral][Non-DoD Source] EVER FORWARD - Salvage Plan - Rev D

Thank you Baxter. Note: The DonJon-Smit salvage team is still in compliance with the Maryland Port Administration's (MPA) dredged material discharge protocol dated March 19, 2022 (attached here for convenience). The MPA authorized a **minimum** discharge quantity of 110,000 cubic yards of dredged material to the Poplar Island Ecosystem Restoration Project site. Baxter/Capt. O'Connell you may share my email with DonJon-Smit. Thank you. Bill Doyle

William P. Doyle  
Executive Director  
Port of Baltimore  
Maryland Port Administration

[www.marylandports.com](http://www.marylandports.com)

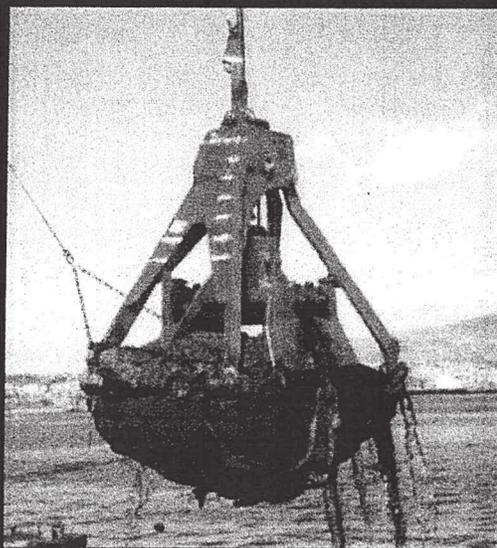
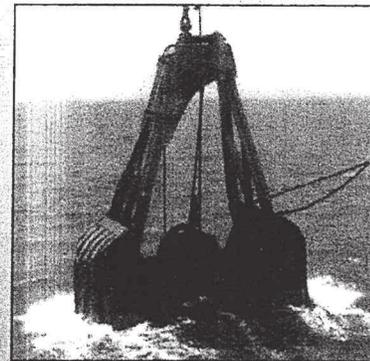
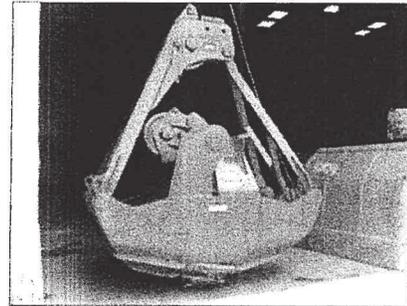
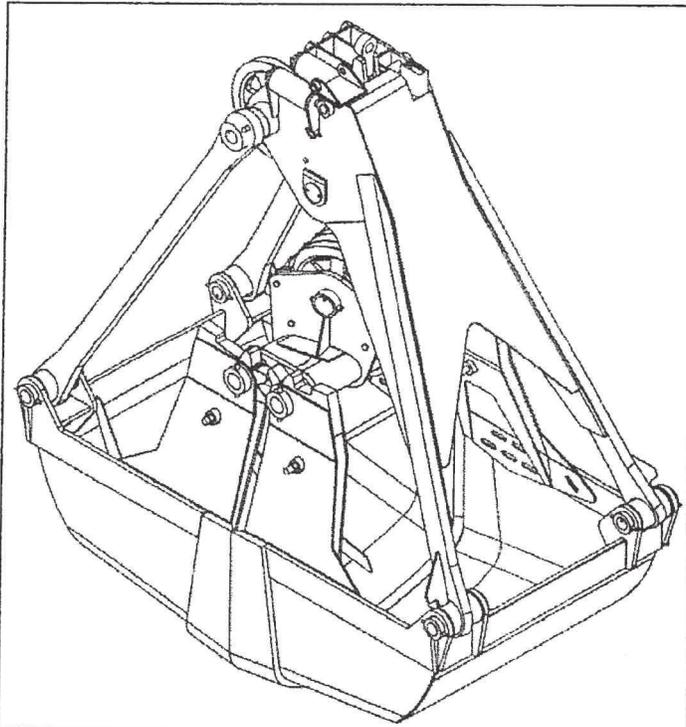
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202260497  
174710  
3/27/22  
TKR  
Sheet 13



22-WL-0268EX(R1)  
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 3/27/22  
 TKR  
 Sheet 14



## General Purpose Digging Bucket – Model GP Round Nose Dredging Bucket - Model RN



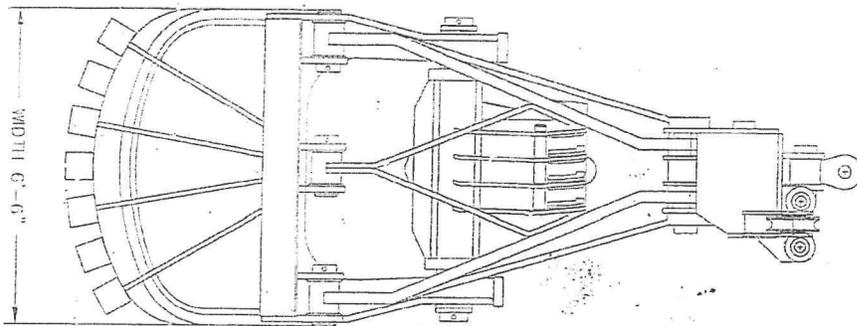
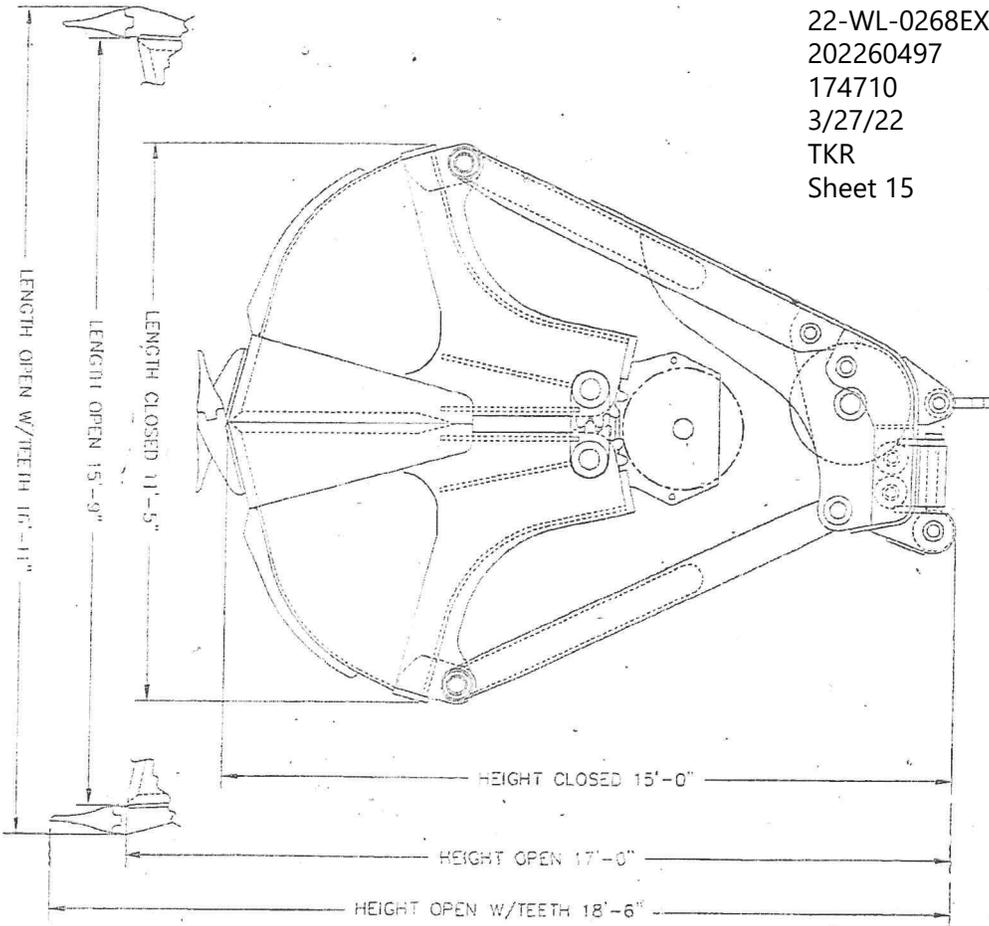
- Narrow bowls give the bucket greater digging force
- Pins are precision machined from 4140 heat treated steel
- Dredging models have suction bars to reduce sticking
- Sheaves are bronze bushed for longer wear life in harsh conditions
- Guide rollers are chrome-moly alloy steel, heat treated and carburized to 470 Brinell
- Weld fabricated with 100,000 & 70,000 P.S.I. minimum yield wear resistance steel
- Lip and bowl plates are made of T-1 (A514) steel for greater wear resistance
- The leading edge of the lip is hard surfaced for longer wear life
- Teeth available in 1 piece bolt-on or 2 piece with replaceable point
- Models come in square nose or round nose design
- General purpose, heavy duty and extra heavy duty models available for different digging conditions

P.O. Box 216/261 Highway 19  
 Slaughter, Louisiana 70777 USA

Ph. 1-225-654-8222  
 Fx. 1-225-654-3125

[www.anvilattachments.com](http://www.anvilattachments.com)  
[sales@anvilattachments.com](mailto:sales@anvilattachments.com)

22-WL-0268EX(R1)  
 202260497  
 174710  
 3/27/22  
 TKR  
 Sheet 15



NO.	DATE	DESCRIPTION	INIT.
REVISION			

TOLERANCES UNLESS SPECIFIED  
 FRACTIONAL ± 1/64  
 .00 ± .01  
 .0000 ± .002  
 ANGLAR ± .0005  
 FINISH ± 1/2"  
 DMC. STD. - ASME Y14.5m-1994  
 MATERIAL

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 BY: CW 1/15/10  
 CHK: MH 1/15/10

8 CU. YD. 2-ROPE XHD ROUND NOSE  
 APPROVAL DRAWING  
 SCALE: NTS  
 WEIGHT: B P10-003  
 REV: -  
 SHEET # 1 OF 1

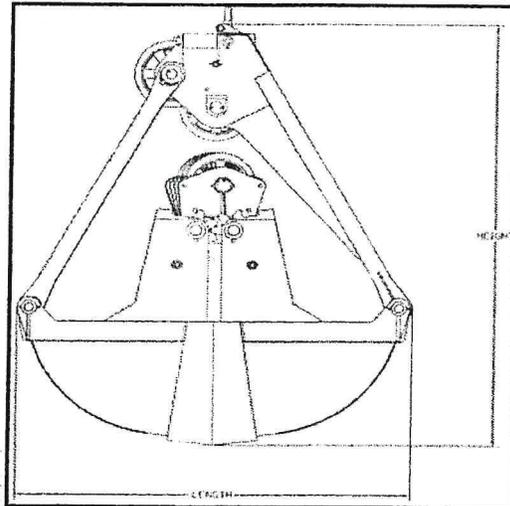
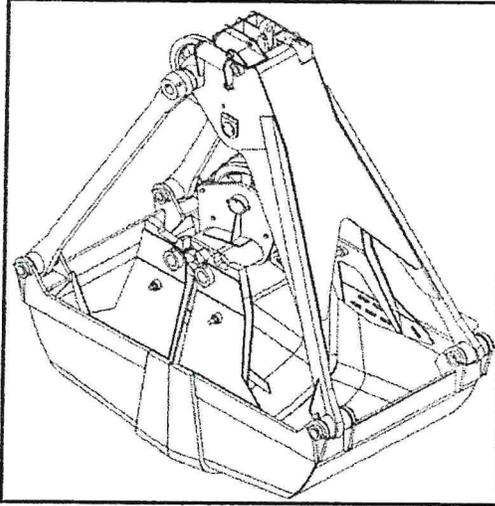
ANVAL  
 APPROVAL SIGNATURE: \_\_\_\_\_  
 APPROVAL DATE: \_\_\_\_\_

SPECIFICATIONS	
RATED CAPACITY	8 CU. YD.
DECK AREA	102 SQ. FT.
SHEAVE DIA.	30"
CABLE DIA.	1 1/2" Ø
CABLE TO REEVE	86'-0"
CABLE TO CLOSE	42'-0"
MAX. PARTS	6
NO. TEETH	9
WEIGHT ±.3%	33,500 LBS.



## General Purpose Digging Bucket – Model GP

### Round Nose Dredging Bucket - Model RN



### Specifications

In accordance with our established company policies of constantly improving our products, we reserve our right to change or modify our product or specification at any time and without notice

Capacity (Heaped) Cu yd	Length Open	Length Closed	Height Open	Height Closed	Width	Sheave Diam. O.D.	Capacity (Plate lined)	Capacity (Water level)	Deck Area (Sq. Ft)	Cable to Reeve	Cable to Close	Weight		
												Gen. Pur	Heavy	Extra Heavy
3/4	6' 7"	6' 2"	7' 0"	6' 1"	3' 1"	12"	21	18	20	51' 0"	28' 0"	2,800	3,200	4,200
1	7' 5"	6' 8"	8' 2"	6' 9"	3' 5"	12"	27	22	25	53' 6"	29' 4"	4,100	5,000	6,000
1 1/2	8' 6"	7' 3"	9' 7"	7' 7"	3' 10"	14"	41	34	32	55' 10"	30' 9"	5,500	6,900	8,500
2	8' 7"	7' 1"	10' 1"	8' 7"	3' 11"	16"	60	48	45	54' 0"	29' 0"	6,900	8,900	11,000
2 1/2	10' 7"	8' 8"	11' 6"	9' 5"	4' 6"	18"	70	58	47	65' 0"	42' 6"	7,800	9,800	13,400
3	10' 0"	8' 5"	12' 0"	10' 2"	5' 1"	20"	87	67	51	63' 6"	35' 0"	8,700	10,650	15,800
3 1/2	11' 7"	9' 6"	13' 2"	11' 0"	5' 9"	20"	115	91	67	69' 3"	39' 6"	10,500	12,500	17,700
4	11' 9"	9' 5"	12' 11"	11' 0"	5' 10"	20"	116	93	69	69' 0"	39' 0"	12,300	14,750	19,600
4 1/2	11' 9"	9' 5"	12' 11"	11' 0"	5' 10"	24"	122	97	69	70' 0"	41' 0"	14,200	15,000	22,100
5	12' 6"	9' 8"	13' 10"	12' 9"	6' 0"	24"	135	108	75	70' 0"	41' 0"	16,100	17,300	24,500
5 1/2	13' 2"	10' 7"	15' 9"	13' 8"	6' 3"	24"	149	119	82	72' 0"	42' 0"	17,100	18,600	26,200
6	13' 2"	10' 7"	15' 9"	13' 8"	6' 6"	30"	165	132	85	72' 0"	42' 0"	17,970	20,000	27,900
6 1/2	13' 2"	10' 7"	15' 9"	13' 8"	6' 6"	30"	175	140	87	74' 6"	44' 0"	19,200	21,100	29,600
7	15' 2"	11' 2"	15' 10"	14' 5"	6' 3"	30"	216	191	95	74' 6"	44' 0"	19,900	22,200	31,400
8	14' 4"	11' 7"	17' 1"	14' 8"	6' 9"	30"	227	180	100	78' 0"	47' 0"	22,000	24,050	35,000
9	15' 4"	12' 3"	17' 6"	15' 8"	7' 0"	30"	243	194	107	82' 0"	52' 0"	24,100	27,500	37,000
10	18' 6"	13' 4"	19' 3"	17' 3"	7' 6"	34"	274	227	130	87' 0"	54' 0"	36,400	32,000	39,000
12	17' 7"	14' 8"	20' 5"	17' 0"	7' 9"	34"	350	324	134	99' 8"	54' 11"	31,500	38,000	44,000
15	18' 10"	15' 3"	20' 0"	18' 0"	8' 3"	36"	405	350	155	115' 0"	55' 6"	37,200	45,000	50,000
18	21' 11"	15' 5"	21' 8"	19' 5"	8' 2"	36"	500	492	179	110' 0"	57' 0"	41,500	50,000	55,000
21	23' 21"	13' 3"	23' 5"	21' 3"	8' 8"	40"	617	570	201	130' 0"	70' 0"	47,500	55,000	60,000