CRMC DECISION WORKSHEET
2020-07-031
Paul & Christine Grady

Hearing Date:			
Approved as Recommended			
Approved w/additional Stipulations			
Approved but Modified			
Denied		Vote	

APPLICATION INFORMATION

File Number	Town	Project Location	Category	Special Exception	Variance
2020-07-031	Warren	2 & 4 Shell Road Plat 16 Lot 195,196	A	☐	X

Date Accepted	08/05/2020
Date Completed	11/15/2023

Owner Name and Address
Paul & Christine Grady
Patrick Lebeau & Meghan Rawson
2 Shell Road
Warren, RI 02885

Work at or Below MHW	X
Lease Required	☐

PROJECT DESCRIPTION

This application is for a shared residential boating facility consisting of a 4ft x 90ft fixed pier, a 3ft x 30ft aluminum gangway, and a 8ft x 18.75ft terminal float. The facility is proposed to extend 75 ft past mean low water to achieve water depth of 2.6ft.

KEY PROGRAMMATIC ISSUES

Coastal Feature: Coastal beach backed by concrete seawall

Water Type: Type 2, Mount Hope Bay

CRMP: 1.1.6 1.1.7 1.2.1(C) 1.3.1(A) 1.3.1(D) 1.3.5 1.3.6

Variances and/or Special Exception Details:
1.3.1(D)(11)(l): length variance of 25 ft is required to the 50 ft beyond mean low water standard
1.3.1(D)(11)(m): residential boating facility is located within the 50 ft setback to an approved mooring field

Additional Comments and/or Council Requirements:

Specific Staff Stipulations (beyond Standard stipulations):

STAFF RECOMMENDATION(S)

Engineer **RAS** Recommendation: **Defer**

Biologist _____ Recommendation: _____

Other Staff _____ Recommendation: _____

Engineering Supervisor Sign-Off 11/20/23 date

Supervising Biologist Sign-off date

Executive Director Sign-Off 20NOV23 date

Staff Sign off on Hearing Packet (Eng/Bio) date

STATE OF RHODE ISLAND
COASTAL RESOURCES MANAGEMENT COUNCIL
ENGINEERING REVIEW

TO: Jeffrey M. Willis, Acting Executive Director Date: 11/15/2023
DEPT: Coastal Resources Management Council
FROM: Ross Singer
DEPT: CRMC Engineering Section

SUBJ: **CRMC File No.:** A*2020-07-031
Owner: Paul & Christine Grady/ Patrick Lebeau & Meghan Rawson
Site Address: 2 & 4 Shell Road Plat: 16 Lot: 195,196
Site Town: Warren
Project: Shared residential boating facility

Water Type/Name: Type 2, Low intensity use, Mount Hope Bay

Coastal Feature: Coastal beach backed by concrete seawall

Project Description:

This application is for a shared residential boating facility consisting of a 4ft x 90ft fixed pier, a 3ft x 30ft aluminum gangway, and an 8ft x 18.75ft terminal float. The facility is proposed to extend 75 ft past mean low water to achieve water depth of 2.6ft.

RICRMP Sections Requiring Variance:

1.3.1(D)(11)(l): length variance of 25 ft is required to the 50ft beyond mean low water standard
1.3.1(D)(11)(m): residential boating facility is located within the 50 ft setback to an approved mooring field

Staff Comments:

The proposed shared residential boating facility is located in Mount Hope Bay, Warren, west of Touisset Point. An objection was received by this office during the public notice period and therefore the application has been sent to the full council for a decision.

The original proposal for the residential boating facility requested a length of 108 ft seaward of mean low water to achieve a water depth of 2.7 ft at mean low water (MLW). The sea floor in the area of the proposed dock is relatively shallow with a very flat slope. The water depth is between 2ft and 3ft from 40ft seaward of MLW all the way to 140 ft seaward of MLW. There is very little water depth gained at 108ft beyond MLW (33 inches at 108ft vs 31 inches at 75ft). Therefore staff recommended that the dock should be shortened to 75ft or less past mean low water, which typically without objection would be eligible for administrative review.

Objection:
An objection was received from the adjacent property owner during the public notice period. The objectors stated the proposed facility would have adverse impact on coastal resources, water quality,

and public trust uses. In addition, they also had concerns that the proposed facility would interfere with the scenic viewshed. The objectors further stated that the variances for length and setback into the mooring field should be denied.

The plans presented on the public notice depicted the original proposal for the facility to extend 108ft past MLW. After the plans were revised to be shortened to 75 ft past MLW, Staff contacted the objectors' lawyer to inquire whether the objection might be rescinded. The objectors maintained their objection to the facility at 75 ft citing issues with the impact to the mooring field. After Staff worked to mediate, the objectors agreed to rescind the objection if the dock were shortened to 50ft past mean low water. Staff contacted the applicant's consultant to present this option, however the applicants declined. Staff again attempted to achieve a compromise between the parties but was ultimately unsuccessful.

It is Staffs opinion that evidence was not provided to demonstrate that this constitutes as a substantive objection as defined in RICRMP section 1.1.6.G. The objectors submitted a letter stating concerns, however it is Staffs opinion that evidence presented does not demonstrate that the proposed activity has a potential for significant adverse impacts. It is staff's opinion that the objection is not substantive

Mooring Field:

The residential boating facility was first heard before the Warren Harbor Commission in October of 2020 with the dock proposed at 108ft past MLW, and a letter of no objection was issued. However, during review of this application it was discovered that there were errors concerning the boundaries of Mooring Field 7 in the Warren Harbor Management Plan. An error in the northwest boundary point of the mooring field makes discerning the distance from shore undefinable. Despite this, the Harbor Commission approved the facility at 108 ft past MLW. The objector's attorney petitioned the Harbor Commission to rehear the facility because the assumed lines of the mooring field were too far offshore, and at the April 2021 meeting, the Harbor Commission deferred the letter of no objection and approval of the facility pending the revision of Mooring Field 7. On May 13th, 2021, the revised boundaries of Mooring Field 7 were approved by the Harbor Commission, but the dock was not discussed at that meeting.

The revised Mooring Field 7 boundary is located 84.5 ft beyond mean low water. The proposed dock at 75ft beyond mean low water would not penetrate into the mooring field but would require a variance of 40.5 ft from the 50ft setback. The proposed facility does not obstruct any existing moorings. The nearest moorings are owned by the applicants and are 149ft and 218 feet from the proposed dock. In addition, all five other existing docks along the half mile stretch of the mooring field are located within the setback or intrude into the mooring field if the boundaries were not adjusted to accommodate.

After a long pause, the Warren Harbor Commission reheard the dock on September 6, 2023 in relation to the updated Mooring Field #7 boundaries. Correspondence to CRMC from the Warren Harbor Commission dated September 9, 2023 stated that there was no objection to the facility with the stipulation that the terminal float be reduced from 200sqft to 150sqft. While it should be noted that regulations allow terminal floats for shared facilities to be 200sqft, Staff contacted the applicants on September 25, 2023 to request that the terminal float be reduced to 150sqft to accommodate the Warren Harbor Commissions request. Furthermore, Staff once again recommended reducing the length of the facility to 50ft beyond MLW and eliminate the need for a

variance.

Correspondence and revised plans were received November 7, 2023. While the applicants were amenable to reducing the size of the terminal float, they maintained their request for a length variance.

Variances:

This project requires a length variance of 25 ft beyond the required to the 50ft beyond mean low water standard *1.3.1(D)(11)(l)* and a 40.5 ft variance from the required 50 ft setback to an approved mooring field *1.3.1(D)(11)(m)*. Had the application not received an objection from abutters this project may have been administratively approved. A 25ft length variance is regularly granted for a facility to gain more water depth, and mooring fields are regularly updated to accommodate residential boating facilities with the support of the Harbor Commission. The length of other docks within the half mile area range from 68 ft beyond mean low water to achieve 3 feet of water to a grandfathered dock with the length of 214 ft beyond mean low water. That said, there are no other docks built in the immediate area; the closest existing dock is over 800 ft away.

In light of the objection, a closer look at whether the project meets the variance criteria is warranted. Even though the project, proposed as a shared facility, inherently conforms to the goals and policies of the CRMC, it is questionable whether the requested variances are necessary or minimized.

1.1.7(A)(3) states *"Due to conditions at the site in question, the applicable standard(s) cannot be met."* If the facility were built to meet the length standard at 50 feet beyond mean low water, the water depth at the terminus would be 2.4 feet. This exceeds the minimum required water depth of 1.5 feet per Table 1.3.1.(D)(11)(z). This depth is typically used by CRMC as the standard minimum depth to accommodate reasonable use of a residential boating facility. The water depth at 75 feet beyond mean low water is 2.6 feet. The applicants state that the additional two and a half inches of water depth gained by extending the facility to 75 feet beyond mean low water would allow greater use of the facility at lower tides. By extending the dock to 75 feet past mean low water, the entire length of the terminal float would be in water over 2 feet deep. At 50 feet past mean low water, the 20 foot length of terminal float would be placed in water between 1.6 feet and 2.4 feet. The applicant has argued that the additional water depth is necessary to orient the vessel to face south against oncoming waves; the additional 5 inches of water at the landward side of the float will help prevent the engine from bottoming out on lower tides.

1.1.7(A)(6) states, *"Due to the conditions of the site in question, the standard(s) will cause the applicant an undue hardship. In order to receive relief from an undue hardship an applicant must demonstrate inter alia the nature of the hardship and that the hardship is shown to be unique or particular to the site....."* The applicants have stated that this is a touch and go facility. Both applicants have vessels on moorings near the site and would only use the residential boating facility as needed as tide and weather permits to load and pick up passengers. Furthermore, the applicants have stated that their vessels have drafts between 15 and 18 inches. With this in consideration, it is questionable whether an additional two to five inches of water constitutes an undue hardship.

1.1.7(A)(4) states *"The modification requested by the applicant is the minimum variance to the applicable standard(s) necessary to allow a reasonable alteration or use of the site."* If the facility

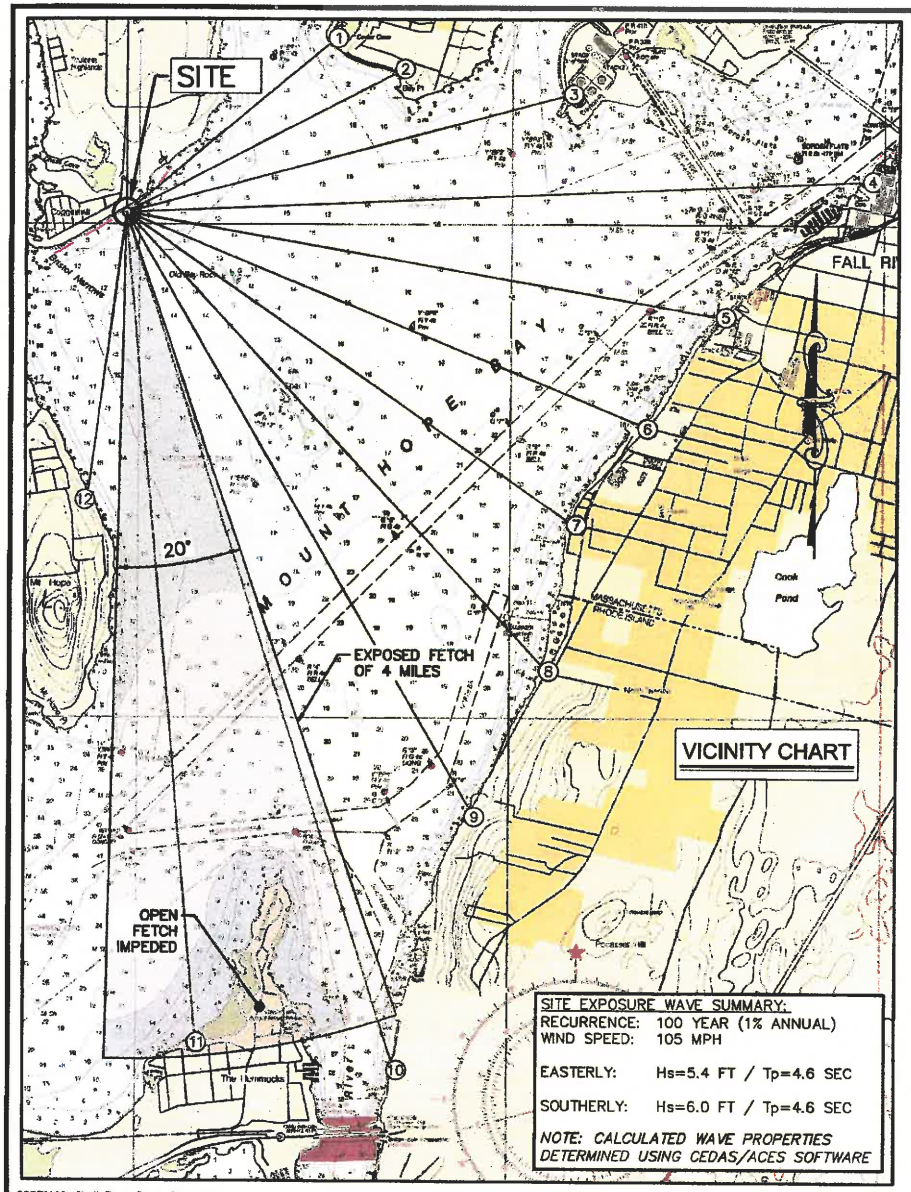
were shortened to the 50 foot standard, it is Staffs opinion that the water depths would not impede the intended use as a touch and go facility. At a 50 ft length the water depth of 2.4 feet exceeds the minimum standard of 1.5ft. Furthermore, at 50 feet, the residential boating facility would minimize the required variance for setback into the mooring field. While the requested variances would provide a small amount of water depth to allow for better use of the facility, it is questionable whether this is the minimum necessary.

The proposed facility at 75 feet past mean low water is not significantly long for the area and variances of 25 feet are regularly granted to gain more water depth. That said, it is questionable whether the applicants have clearly satisfied the variance criteria. Staff defers to council to determine whether the variance should be granted.

Conclusions and Recommendation:

The application requests Assent to construct a "touch-and-go" residential boating facility that requires a variance to the length standard and the mooring field setback. The facility is proposed to terminate at 75 ft past mean low water at a water depth of 2.6 feet. The proposed facility at 75 feet past mean low water is not unusually long for the area, however in light of the objection the requested variances should be more carefully considered. The requested variance only provides an additional 2½ inches of water, and at that proposed length the facility would extend within 9.5 feet of the revised mooring field. Staff defers to the Council to determine whether the applicant has met the variance criteria. In light of the objection Staff does not object to the modification of the facility if it is redesigned to the 50 feet beyond mean low water standard. Should the Council approve this application, a standard dock assent will be prepared.

Signed _____ **Staff Engineer**



20231106_Shell Road Dock_Plan Set.dwg

TABLE 1: SITE EXPOSURE

	ANGLE	FETCH	
		FEET	MILES
1	50	6408	1.2
2	62	7316	1.4
3	75	11009	2.1
4	87	18035	3.4
5	100	14678	2.8
6	112	13601	2.6
7	125	13197	2.5
8	137	15136	2.9
9	150	16950	3.2
10	162	22023	4.2
11	175	20394	3.9
12	187	6838	1.3

TABLE 2: TIDAL AND STORM SURGE BENCHMARKS IN FEET

BENCHMARK	ELEVATION (MLWD)
FEMA BASE FLOOD ELEVATION (BFE)	+24.2
FEMA 1% RECURRENCE (100YR) SWL	+13.4
FEMA 2% RECURRENCE (50YR) SWL	+11.6
FEMA 10% RECURRENCE (10YR) SWL	+8.7
MEAN HIGHER HIGH WATER (MHHW)	+4.5
MEAN HIGH WATER (MHW)	+4.2
NORTH AMERICAN VERTICAL DATUM 1988 (NAVD88)	+2.2
MEAN LOW WATER (MLW)	**0.0**
MEAN LOWER LOW WATER (MLLW)	−0.2

REFERENCES:

1. NAVIGATION CHART PRESENTED HEREIN WAS OBTAINED FROM NOAA CHART #13226 FOR MOUNT HOPE BAY. SOUNDINGS INCLUDED ON THE CHART REFER TO MEAN LOWER LOW WATER (MLLW) DATUM.
2. STORM SURGE STILLWATER LEVEL (SWL) ELEVATIONS WERE OBTAINED FROM TRANSECT #20 FROM THE FLOOD INSURANCE STUDY (FIS) FOR BRISTOL COUNTY, RHODE ISLAND [STUDY #44001CV000B] PREPARED BY FEMA DATED 7/7/2014. SWL ELEVATIONS DO NOT INCLUDE WAVE ACTION.
3. BASE FLOOD ELEVATION, INCLUDING STORM SURGE AND ASSOCIATED WAVE ACTION, WAS OBTAINED FROM THE FLOOD INSURANCE RATE MAP (FIRM) #44001C0012H FOR BRISTOL COUNTY, RHODE ISLAND PREPARED BY FEMA DATED 7/7/2014. THE ELEVATION OF THE BASE FLOOD ELEVATION WAS CONVERTED FROM NAVD88 TO MLW.
4. TIDAL ELEVATIONS WERE OBTAINED FROM NOAA VDATUM ONLINE TOOL USING LAT/LONG COORDINATES IN THE VICINITY OF THE PROJECT AREA.

HARBOR ENGINEERING, LLC
26 BOSWORTH STREET
BARRINGTON, RI 02806
(401) 829-4870
harboreng.com

No.	Revision	Date	App.
2	REDUCED SIZE OF FLOAT & INCLUDED MOORING FIELD	11/6/23	AJK
1	CONVERTED DATUM TO MLW REDUCED LENGTH OF PIER & ADDED NEARBY MOORINGS	1/8/21	AJK

0 3000FT 6000FT
GRAPHIC SCALE

Client/Owner:
PAUL & CHRISTINE GRADY
2 SHELL ROAD
WARREN, RI 02885
PATRICK LEBEAU & MEGHAN RAWSON
4 SHELL ROAD
WARREN, RI 02885

Issued for:
REGULATORY REVIEW & CONSTRUCTION

Drawing Title:
SHARED RESIDENTIAL DOCK
VICINITY CHART &
SITE EXPOSURE INFORMATION
FETCHES, TIDES & COASTAL FLOODING

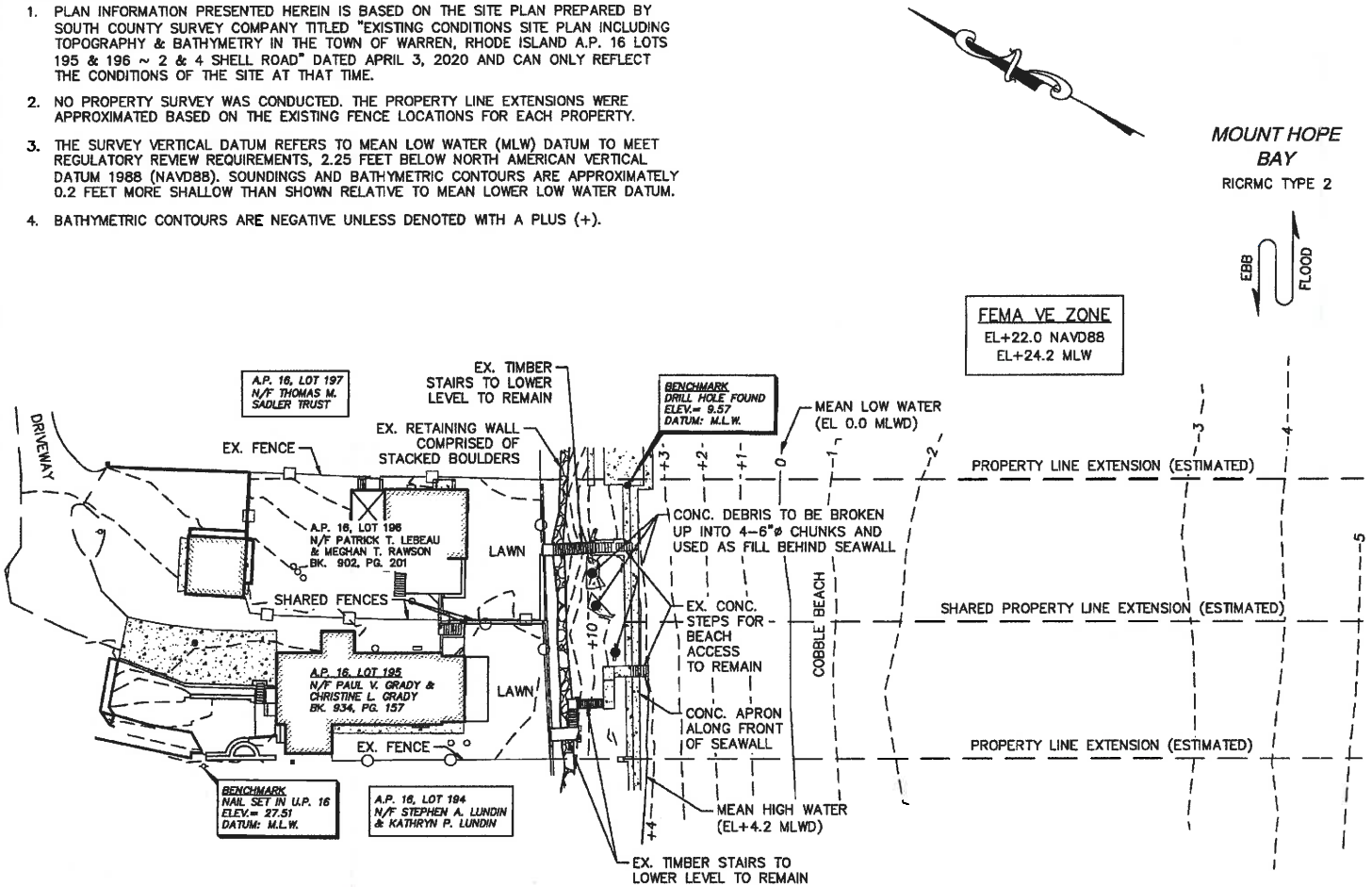
AUGUST J. KREUZKAMP, III
No. 7949
REGISTERED PROFESSIONAL ENGINEER
CIVIL 11/6/23

Date: 5/26/2020
Scale: 1"=3,000FT
Designed By: AJK/MNG
Drawn by: AJK
Checked by:
Project Number: 2020-03
Sheet 1 of 7
Drawing Number: 01

RECEIVED NOV 17 2023 COASTAL RESOURCES MANAGEMENT COUNCIL

SITE PLAN NOTES:

1. PLAN INFORMATION PRESENTED HEREIN IS BASED ON THE SITE PLAN PREPARED BY SOUTH COUNTY SURVEY COMPANY TITLED "EXISTING CONDITIONS SITE PLAN INCLUDING TOPOGRAPHY & BATHYMETRY IN THE TOWN OF WARREN, RHODE ISLAND A.P. 16 LOTS 195 & 196 ~ 2 & 4 SHELL ROAD" DATED APRIL 3, 2020 AND CAN ONLY REFLECT THE CONDITIONS OF THE SITE AT THAT TIME.
2. NO PROPERTY SURVEY WAS CONDUCTED. THE PROPERTY LINE EXTENSIONS WERE APPROXIMATED BASED ON THE EXISTING FENCE LOCATIONS FOR EACH PROPERTY.
3. THE SURVEY VERTICAL DATUM REFERS TO MEAN LOW WATER (MLW) DATUM TO MEET REGULATORY REVIEW REQUIREMENTS, 2.25 FEET BELOW NORTH AMERICAN VERTICAL DATUM 1988 (NAVD88). SOUNDINGS AND BATHYMETRIC CONTOURS ARE APPROXIMATELY 0.2 FEET MORE SHALLOW THAN SHOWN RELATIVE TO MEAN LOWER LOW WATER DATUM.
4. BATHYMETRIC CONTOURS ARE NEGATIVE UNLESS DENOTED WITH A PLUS (+).



EXISTING CONDITIONS

HARBOR ENGINEERING, LLC
26 BOSWORTH STREET
BARRINGTON, RI 02806
(401) 829-4870
harboreng.com

No.	Revision	Date	App.
2	REDUCED SIZE OF FLOAT & INCLUDED MOORING FIELD	11/6/23	AJK
1	CONVERTED DATUM TO MLW	1/8/21	AJK
	REDUCED LENGTH OF PIER & ADDED NEARBY MOORINGS		

0 40FT 80FT
GRAPHIC SCALE

Client/Owner:
PAUL & CHRISTINE GRADY
2 SHELL ROAD
WARREN, RI 02885
PATRICK LEBEAU & MEGHAN RAWSON
4 SHELL ROAD
WARREN, RI 02885

Issued for:
REGULATORY REVIEW & CONSTRUCTION

Drawing Title:
SHARED RESIDENTIAL DOCK
EXISTING SITE PLAN
MLWD

AUGUST J. KREUZKAMP, III
No. 7949
REGISTERED PROFESSIONAL ENGINEER
CIVIL
11/6/23

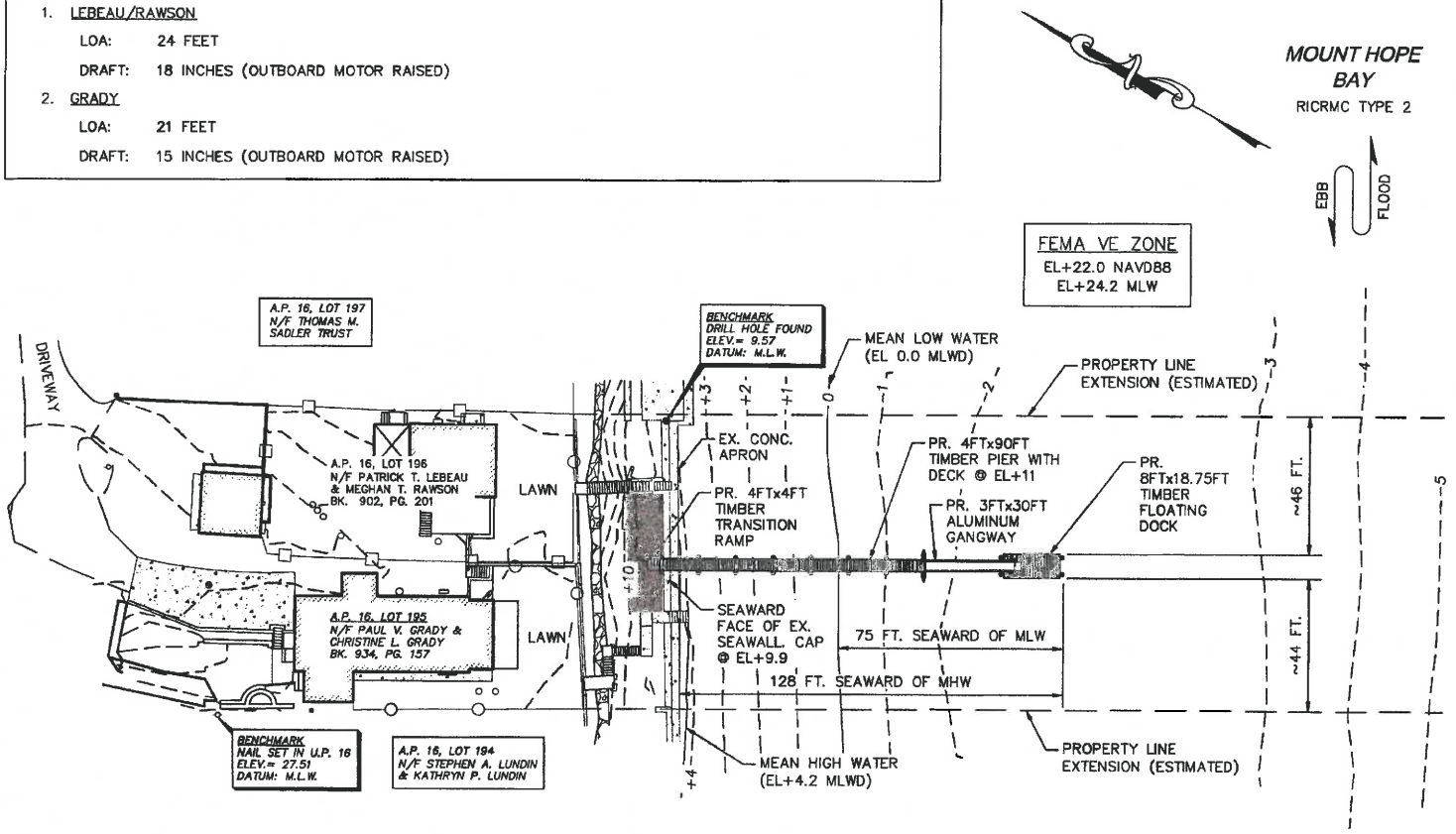
Date: 5/26/2020
Scale: 1"=40FT
Designed By: AJK/MNG
Drawn by: AJK
Checked by:
Project Number: 2020-03
Sheet 2 of 7
Drawing Number: EX-1

20231106_Shell Road Dock_Plan Set.dwg

VESSEL INFORMATION:

VESSELS OWNED BY THE APPLICANTS ARE TO BE STORED ON MOORINGS THAT HAVE BEEN PREVIOUSLY AUTHORIZED BY THE WARREN HARBOR COMMISSION. THE APPLICANTS WILL LAUNCH DINGHIES/KAYAKS FROM THE PROPOSED DOCK TO ACCESS THEIR BOATS ON THEIR MOORINGS AND BRING THE VESSELS TO THE FLOATING DOCK AS-NEEDED AND AS TIDE/WEATHER PERMITS TO LOAD/UNLOAD PASSENGERS AND GEAR. VESSELS INCLUDE:

1. LEBEAU/RAWSON
   - LOA: 24 FEET
   - DRAFT: 18 INCHES (OUTBOARD MOTOR RAISED)
2. GRADY
   - LOA: 21 FEET
   - DRAFT: 15 INCHES (OUTBOARD MOTOR RAISED)



PROPOSED CONDITIONS

NOTES:

1. FOR SITE PLAN INFORMATION, SEE SHEET EX-1.

20231106_Shell Road Dock_Plan Set.dwg

HARBOR ENGINEERING, LLC
26 BOSWORTH STREET
BARRINGTON, RI 02806
(401) 829-4870
harboreng.com

No.	Revision	Date	App.
2	REDUCED SIZE OF FLOAT & INCLUDED MOORING FIELD	11/6/23	AJK
1	CONVERTED DATUM TO MLW	1/8/21	AJK
	REDUCED LENGTH OF PIER & ADDED NEARBY MOORINGS		

0 40FT 80FT
GRAPHIC SCALE

Client/Owner:
PAUL & CHRISTINE GRADY
2 SHELL ROAD
WARREN, RI 02885
PATRICK LEBEAU & MEGHAN RAWSON
4 SHELL ROAD
WARREN, RI 02885

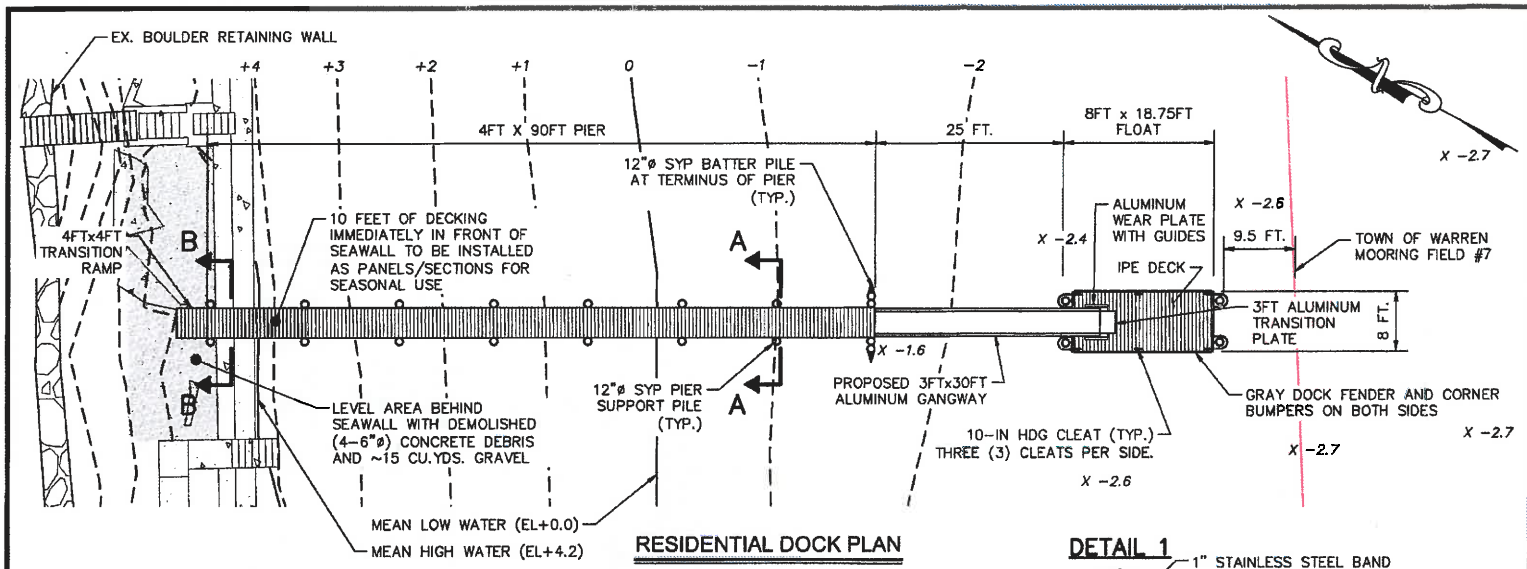
Issued for:
REGULATORY REVIEW & CONSTRUCTION

Drawing Title:
SHARED RESIDENTIAL DOCK
PROPOSED SITE PLAN
MLWD

AUGUST J. KREUZKAMP, III
No. 7949
REGISTERED PROFESSIONAL ENGINEER
CIVIL 11/6/23

Date:	5/26/2020
Scale:	1"=40FT
Designed by:	AJK/MNG
Drawn by:	AJK
Checked by:	
Project Number:	2020-03
Sheet	3 of 7
Drawing Number:	PR-1

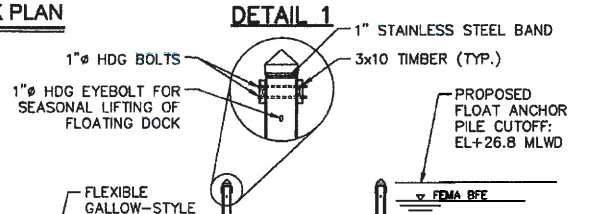
RECEIVED NOV 07 2023 COASTAL RESOURCES MANAGEMENT COUNCIL

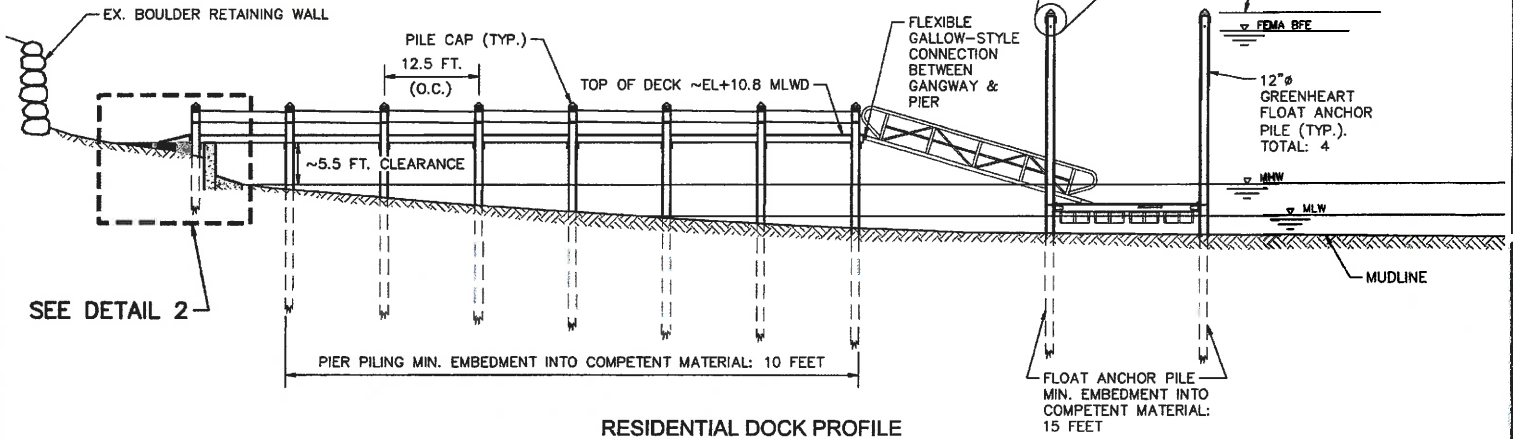


RESIDENTIAL DOCK PLAN

NOTES:
1. FOR SITE PLAN INFORMATION, SEE SHEET EX-1.

DETAIL 1





RESIDENTIAL DOCK PROFILE

20231106_Shell Road Dock_Plan Set.dwg

HARBOR ENGINEERING, LLC
26 BOSWORTH STREET
BARRINGTON, RI 02806
(401) 829-4870
harboreng.com

No.	Revision	Date	App.
2	REDUCED SIZE OF FLOAT & INCLUDED MOORING FIELD	11/6/23	AJK
1	CONVERTED DATUM TO MLW REDUCED LENGTH OF PIER & ADDED NEARBY MOORINGS	1/8/21	AJK

0 16FT 32FT
GRAPHIC SCALE

Client/Owner:
PAUL & CHRISTINE GRADY
2 SHELL ROAD
WARREN, RI 02885
PATRICK LEBEAU & MEGHAN RAWSON
4 SHELL ROAD
WARREN, RI 02885

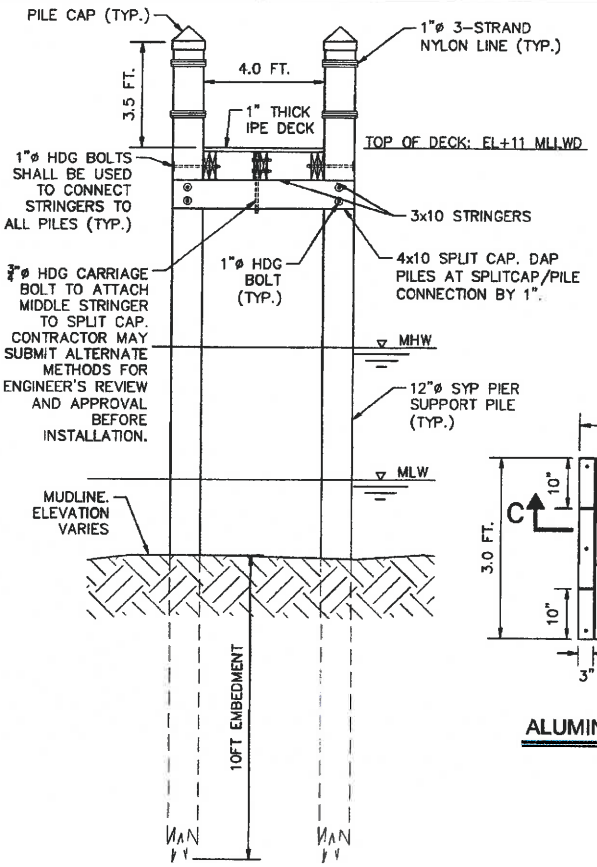
Issued for:
REGULATORY REVIEW & CONSTRUCTION

Drawing Title:
SHARED RESIDENTIAL DOCK
PROPOSED PIER PLAN & PROFILE MLWD

AUGUST J. KREUZKAMP, III
No. 7943
REGISTERED PROFESSIONAL ENGINEER
CIVIL 11/16/23

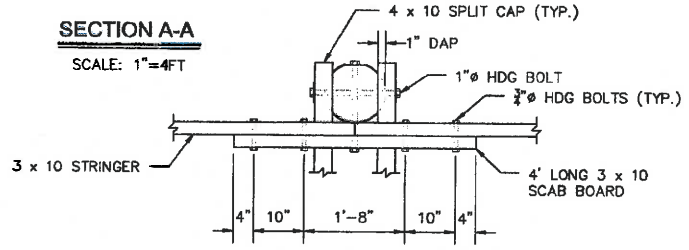
Date: 5/26/2020
Scale: 1"=16FT
Designed By: AJK/MNG
Drawn by: AJK
Checked by:
Project Number: 2020-03
Sheet 4 of 7
Drawing Number: PR-2

RECEIVED NOV 17 2023
RI COASTAL RESOURCES MANAGEMENT COUNCIL



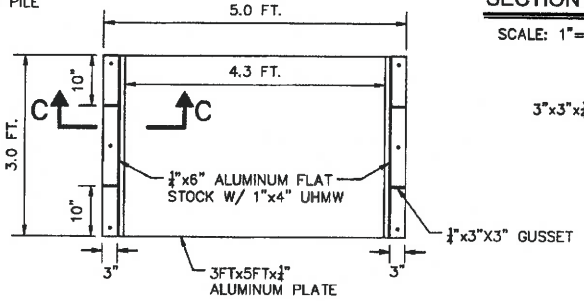
SECTION A-A

SCALE: 1"=4FT



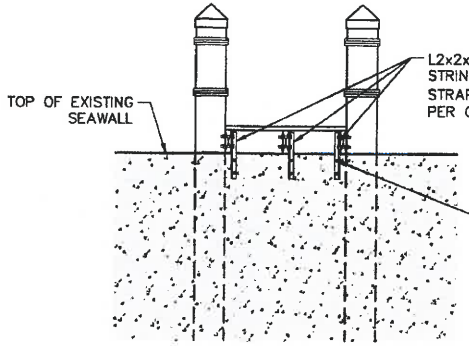
STRINGER SPLICE DETAIL

SCALE: 1"=2FT



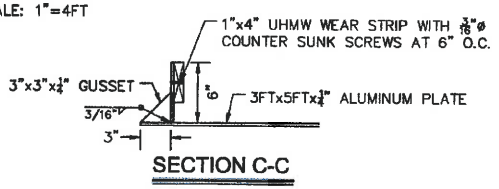
ALUMINUM WEAR PLATE WITH GUIDES

SCALE: 1"=2FT



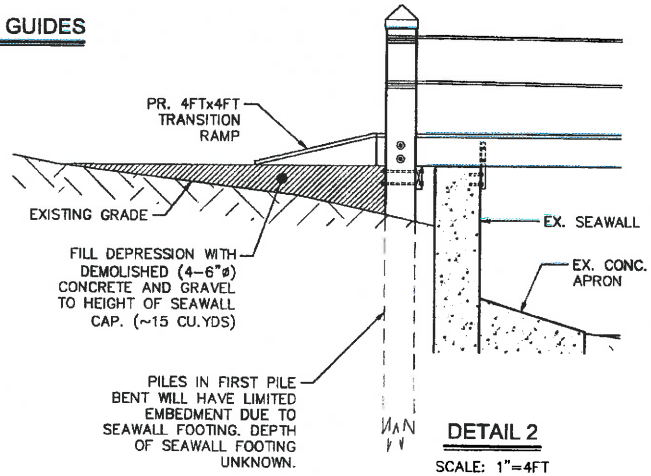
SECTION B-B

SCALE: 1"=4FT



SECTION C-C

SCALE: 1"=1FT



DETAIL 2

SCALE: 1"=4FT

HARBOR ENGINEERING, LLC
26 BOSWORTH STREET
BARRINGTON, RI 02806
(401) 829-4870
harboreng.com

No.	Revision	Date	App.
2	REDUCED SIZE OF FLOAT & INCLUDED MOORING FIELD	11/6/23	AJK
1	CONVERTED DATUM TO MLW	1/8/21	AJK
	REDUCED LENGTH OF PIER & ADDED NEARBY MOORINGS		

0 1" 2"

GRAPHIC SCALE

Client/Owner:
PAUL & CHRISTINE GRADY
2 SHELL ROAD
WARREN, RI 02885
PATRICK LEBEAU & MEGHAN RAWSON
4 SHELL ROAD
WARREN, RI 02885

Issued for:
REGULATORY REVIEW & CONSTRUCTION

Drawing Title:
SHARED RESIDENTIAL DOCK
PROPOSED PIER PLAN & PROFILE

AUGUST J. KREUZKAMP, III
No. 7949
REGISTERED PROFESSIONAL ENGINEER
CIVIL 11/6/23

Date:	5/26/2020
Scale:	VARIES
Designed By:	AJK/MNG
Drawn by:	AJK
Checked by:	
Project Number:	2020-03
Sheet	5 of 7
Drawing Number:	PR-3

RECEIVED NOV 07 2023 COASTAL RESOURCES MANAGEMENT COUNCIL

20231106_Shell Road Dock_Plan Set.dwg

GENERAL NOTES:

1. DRAWING AND SPECIFICATIONS, AS INSTRUMENTS OF PROFESSIONAL SERVICE, ARE AND SHALL REMAIN THE PROPERTY OF HARBOR ENGINEERING, LLC. DOCUMENTS ARE NOT TO BE USED, IN WHOLE OR IN PART, FOR OTHER PROJECTS OR PURPOSES OR BY ANY OTHER PARTIES THAN THOSE AUTHORIZED BY CONTRACT WITHOUT THE SPECIFIC WRITTEN AUTHORIZATION OF HARBOR ENGINEERING, LLC. THE USE OF THIS DOCUMENT IS CONTINGENT UPON PAYMENT TO HARBOR ENGINEERING, LLC. FOR SERVICES RENDERED. NON-PAYMENT SHALL GIVE HARBOR ENGINEERING, LLC. THE AUTHORITY TO BAR DOCUMENT USE BY ANY AND ALL PARTIES.

GENERAL CONSTRUCTION NOTES:

1. ALL WORK SHALL CONFORM TO THE STANDARDS AND REQUIREMENTS AS SHOWN IN THESE PLANS AND SPECIFICATIONS.
2. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL VERIFY THE CONDITIONS SHOWN HEREIN AND NOTIFY THE ENGINEER IN WRITING OF ANY DISCREPANCIES IN DIMENSIONS AND/ OR SITE CONDITIONS PRIOR TO THE FABRICATION AND/OR ORDERING OF ANY CONSTRUCTION MATERIALS. THE CONTRACTOR SHALL NOT BEGIN CONSTRUCTION IN ANY SUCH AFFECTED AREA UNTIL THE DISCREPANCY HAS BEEN RESOLVED BY THE CONTRACTOR AND APPROVED BY THE ENGINEER.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR BRINGING ALL ELEMENTS OF THE PROJECT IN CONFORMANCE WITH THESE PLANS AND SPECIFICATIONS. IF ANY MODIFICATIONS ARE REQUIRED IN ANY ELEMENT, THE CONTRACTOR SHALL SUBMIT PROPOSED CHANGES IN WRITING TO THE ENGINEER FOR REVIEW.
4. ALL SAFETY REGULATIONS ARE TO BE STRICTLY FOLLOWED. METHODS OF CONSTRUCTION AND ERECTION OF STRUCTURAL MATERIAL ARE THE RESPONSIBILITY OF THE CONTRACTOR.
5. ALL WORK SHALL COMPLY WITH FEDERAL LAWS, STATE REGULATIONS, AND LOCAL LAWS AND STATUTES AND THE REQUIREMENTS AND CONDITIONS OF ALL REGULATORY PERMITS ISSUED FOR THE WORK.
6. ALL WORK SHALL CONFORM TO THE LATEST EDITION OF THE OSHA CODE, THE RHODE ISLAND STATE BUILDING CODE, AND THE REFERENCED STANDARDS INCLUDED THEREIN THAT ARE APPLICABLE TO THIS PROJECT.
7. IT SHALL BE CONTRACTOR'S RESPONSIBILITY TO OBTAIN THE SURVEY SUPPORT NEEDED TO COMPLETE THE WORK, INCLUDING STAKEOUT, TO ENSURE THE WORK IS COMPLETED CONSISTENT WITH PROJECT PLANS AND ASSOCIATED REGULATORY APPROVALS.
8. ALL MATERIAL STORAGE SHALL BE DONE VIA BARGE.
9. DAMAGE TO ANY PROPERTY, PRIVATE OR OF PUBLIC TRUST, OCCURRING DURING THE CONSTRUCTION BY THE CONTRACTOR, SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND SHALL BE REPAIRED TO THE SATISFACTION OF THE OWNER AT THE EXPENSE OF THE CONTRACTOR.

PILE DRIVING:

1. THE CONTRACTOR SHALL USE EQUIPMENT ADEQUATE IN SIZE, CAPACITY, AND NUMBERS, AND MAINTAINED TO THE REQUIREMENTS OF ALL FEDERAL, STATE, AND LOCAL LAWS AND REGULATIONS TO ACCOMPLISH THE WORK.
2. PILES SHALL BE DRIVEN AS SPECIFIED ON THE PRCEEDING SHEETS. CONTRACTOR SHALL POINT PILES AND BE PREPARED TO USE STEEL PILE TIPS OR SOCKET PILES TO ACHIEVE THE REQUIRED EMBEDMENT.
3. THE CONTRACTOR SHALL KEEP AN ACCURATE SET OF PILE INSTALLATION/DRIVING LOGS. ALL PILES BEING INSTALLED SHALL BE CLEARLY MARKED IN 1 FOOT INCREMENTS PRIOR TO INSTALLATION TO SUPPORT MONITORING/RECORDING EFFORTS. ALL LOGS SHALL BE CERTIFIED BY THE CONTRACTOR AND SUBMITTED TO THE OWNER PRIOR TO PAYMENT. PILE LOGS SHALL INCLUDE: PILE ID, LOCATION, DEPTH TO MUDLINE (INCLUDING DATE & TIME RECORDED) AND TOTAL EMBEDMENT.

PILE CAPS:

1. PILE CAPS SHALL BE WHITE, ROUND CONE, LOW DENSITY POLYETHYLENE CAPS.
2. PILE CAPS SHALL BE SIZED APPROPRIATELY TO ACCOMMODATE THE UNIQUE SIZE OF EACH PILE BUTT.
3. PILE CAPS SHALL BE ATTACHED USING FOUR (4) STAINLESS STEEL SCREWS.

TIMBER NOTES:

1. DESIGN LIVE LOAD FOR FIXED PIER: 40PSF UNIFORM DISTRIBUTED LOAD.
2. DECKING ON PIER AND FLOATING DOCK SHALL BE 1" NOM. IPE FASTENED TO STRINGERS USING STAINLESS STEEL SCREWS.
3. PIER SUPPORT PILES SHALL BE 12"ø SOUTHERN YELLOW PINE (SYP) WITH 10FT EMBEDMENT INTO COMPETENT MATERIAL.
4. FLOAT ANCHOR PILES SHALL BE 12"ø GREENHEART WITH 15FT EMBEDMENT INTO COMPETENT MATERIAL. GREENHEART PILES SHALL BE BANDED USING ONE 1" STAINLESS STEEL BAND AT EACH PILE BUTT TO PREVENT FUTURE BROOMING.
5. UNLESS NOTED OTHERWISE, ALL TIMBER MATERIAL (INCLUDING STRINGERS, SPLIT CAPS AND OTHER FRAMING) SHALL BE SOLID SAWN LUMBER (S4S) SOUTHERN YELLOW PINE (SYP) GRADE NO. 2 OR BETTER IN ACCORDANCE WITH EITHER THE SOUTHERN PINE INSPECTION BUREAU OR THE TIMBER PRODUCTS INSPECTION BUREAU GRADING RULES.
6. UNLESS NOTED OTHERWISE, SYP TIMBER MATERIALS SHALL BE TREATED WITH CCA PRESERVATIVE SUFFICIENT FOR MARINE CONSTRUCTION WITH THE FOLLOWING MINIMUM RETENTIONS:
   - 6.1. SYP TIMBER PILES: 2.5 LBS PER CUBIC FOOT
   - 6.2. SYP TIMBER FRAMING: 0.6 LBS PER CUBIC FOOT).
7. BRUSH APPLY TWO (2) COATS OF WOOD PRESERVATIVE TO SURFACE OF PRESERVATIVE TREATED MATERIALS WHICH HAVE BEEN FIELD CUT, DRESSED OR DRILLED.
8. SPLICING OF STRINGERS SHOULD OCCUR EXCLUSIVELY OVER THE CENTER OF A PILE BENT (OVER THE SPLIT CAP) WITH A 3FT BUTT SPLICE. EACH SPLICE SHALL INCLUDE A 3FT LONG 3X10 SCAB AND 18-INCH OVERLAP WITH THE BUTTING STRINGERS.
9. TIMBER BLOCKING IS REQUIRED BETWEEN ALL STRINGERS AT MID-SPAN USING 3X10 TIMBERS AND ½"ø HDG LAG BOLTS.

HARDWARE:

1. ALL BOLTS SHALL BE ASTM A307 OR BETTER SIZED NO LESS THAN 1"ø, UNLESS NOTED OTHERWISE, ACCOMPANIED BY APPROPRIATELY SIZED NUTS AND WASHERS.
2. ALL HARDWARE INCLUDING NAILS, SCREWS, BOLTS, NUTS AND WASHERS SHALL BE HOT-DIPPED GALVANIZED (HDG) STEEL, UNLESS NOTED OTHERWISE.
3. COUNTER SINK AREAS WHERE HARDWARE INTERFERES WITH CONSTRUCTION OR VESSEL BERTHING AREAS.
4. CONTRACTOR TO SUBMIT DETAILS OF THE FLEXIBLE (GALLOW-STYLE) GANGWAY CONNECTION TO ENGINEER FOR REVIEW AND APPROVAL BEFORE FABRICATING.

FLOATING DOCK:

1. FLOATING DOCKS SHALL BE CONSTRUCTED USING CCA TREATED TIMBER FRAMING, ENCAPSULATED PERMAFLOAT FLOATATION OR APPROVED EQUAL TUBS AND CCA SYP TIMBER DECKING.
2. FLOAT FRAMING SHALL BE CONSTRUCTED SUCH THAT IT CAN ADEQUATELY MANAGE BEING LIFTED USING CHAINS CONNECTED TO THE BUTTS OF THE FLOAT ANCHOR PILES EACH WINTER FOR SEASONAL STORAGE.
3. CONTRACTOR TO INSTALL A TOTAL OF SIX (6) HOT-DIPPED GALVANIZED STEEL CLEATS ON THE FLOATING DOCK, ATTACHED TO THE FRAMING OF THE FLOATING DOCK USING THROUGH BOLTS. CLEATS SHALL BE NO LESS THAN 10 INCHES IN LENGTH.
4. DOCK FENDER SHALL BE EXTRUDED, NON-MARRING, MARINE GRADE VINYL, CONSISTENT SHADE OF GRAY IN COLOR INCLUDING BUMPER STRIP ALONG THE TWO (2) BERTHING SIDES OF THE FLOAT AND FOUR (4) CORNER BUMPERS.
5. MODIFY FLOAT ANCHOR PILE GUIDES TO INCLUDE 1-INCH THICK UHMW PAD ATTACHED TO FACE OF DOCK/GUIDE IN ADDITION TO STANDARD GUIDE ROLLER.
6. FLOAT DESIGN CRITERIA:
   - 6.1. LIVE LOAD=40 PSF
   - 6.2. DEAD LOAD FREEBOARD=20"

HARBOR ENGINEERING, LLC
26 BOSWORTH STREET
BARRINGTON, RI 02806
(401) 829-4870
harboreng.com

No.	Revision	Date	App.
2	REDUCED SIZE OF FLOAT & INCLUDED MOORING FIELD	11/6/23	AJK
1	CONVERTED DATUM TO MLW REDUCED LENGTH OF PIER & ADDED NEARBY MOORINGS	1/8/21	AJK

Client/Owner:
PAUL & CHRISTINE GRADY
2 SHELL ROAD
WARREN, RI 02885
PATRICK LEBEAU & MEGHAN RAWSON
4 SHELL ROAD
WARREN, RI 02885

Issued for:
REGULATORY REVIEW & CONSTRUCTION

Drawing Title:
SHARED RESIDENTIAL DOCK
PROJECT NOTES

AUGUST J. KREUZKAMP, III
No. 7949
REGISTERED PROFESSIONAL ENGINEER
CIVIL 11/6/23

Date:	5/26/2020
Scale:	
Designed By:	AJK/MNG
Drawn by:	AJK
Checked by:	
Project Number:	2020-03
Sheet	6 of 7
Drawing Number:	N-1

RECEIVED NOV 17 2023 MANAGEMENT COUNCIL

NOTES:

1. THE ORTHOPHOTOGRAPH PRESENTED HEREIN WAS OBTAINED FROM GOOGLE EARTH. THE PHOTOGRAPH WAS TAKEN JUNE 6, 2022.
2. THE INFORMATION INCLUDED IN TABLE 3 WAS OBTAINED FROM REGULATORY FILES ASSOCIATED WITH EACH LOCATION. MEASUREMENTS THAT WERE NOT INCLUDED IN THE REGULATORY DOCUMENTS WERE MEASURED USING GOOGLE EARTH AND SHOULD BE CONSIDERED APPROXIMATE.
3. THE PLACEMENT OF THE TOWN'S MOORING FIELD #7 WAS BASED ON COORDINATES OBTAINED FROM THE TOWN OF WARREN HARBOR MANAGEMENT PLAN ADOPTED JANUARY 12, 2010 AND THE REVISED COORDINATES FOR MARKERS 'C', 'D' AND 'E' THAT WERE PROVIDED BY THE WARREN HARBORMASTER ON MAY 7, 2021. MOORING FIELD COORDINATES WERE ALL PROVIDED IN GPS (LATITUDE/LONGITUDE) AND CONVERTED TO STATE PLANE (NAD83) USING THE WWW.EARTHPOINT.US WEBSITE.

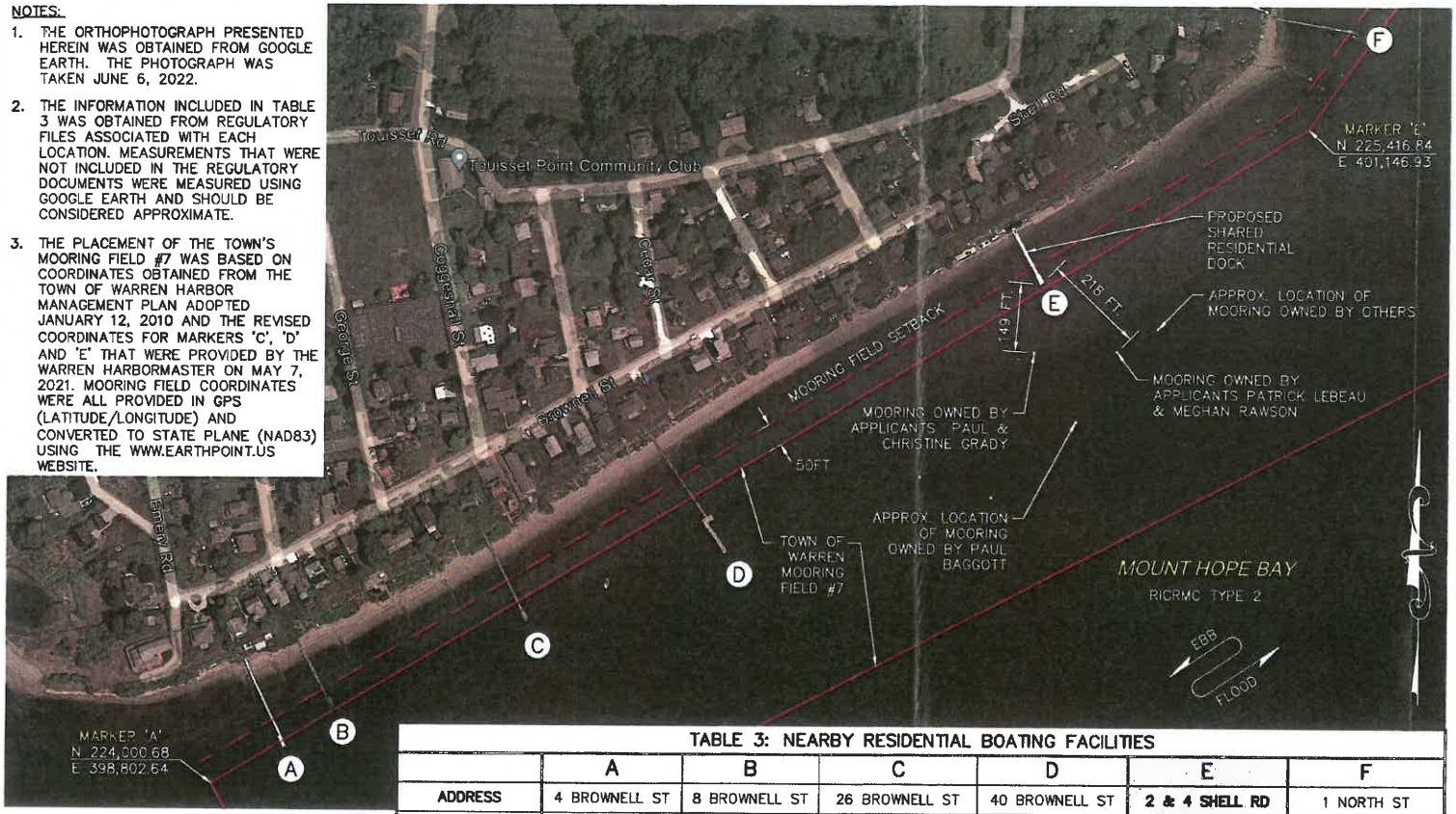


TABLE 3: NEARBY RESIDENTIAL BOATING FACILITIES

	A	B	C	D	E	F
ADDRESS	4 BROWNELL ST	8 BROWNELL ST	26 BROWNELL ST	40 BROWNELL ST	**2 & 4 SHELL RD**	1 NORTH ST
RICRMC FILE #	1995-07-098	2001-07-090	2005-08-051	1998-06-073	**PROPOSED**	2017-03-063
DESCRIPTION OF FACILITY	4FTx200FT PIER	4FTx121FT PIER, 3FTx22FT RAMP & 8FTx18.5FT FLOAT	4FTx112FT PIER, 3FTx38FT RAMP & 8FTx18.5FT FLOAT	6-8FTx280FT PIER	**4FTx90FT PIER, 3FTx30FT RAMP & 8FTx18.75FT FLOAT**	4FTx140FT PIER, 3FTx25FT RAMP & 6FTx25FT FLOAT WITH FLOAT LIFT & MOORING PILES
LENGTH OF TOTAL STRUCTURE SEAWARD OF MLW	96 FEET (ESTIMATED)	66 FEET	68 FEET	214 FEET (ESTIMATED)	**75 FEET (PROPOSED)**	137 FEET
LENGTH OF TOTAL STRUCTURE SEAWARD OF MHW	160 FEET (ESTIMATED)	129 FEET	135 FEET	248 FEET (ESTIMATED)	**127 FEET (PROPOSED)**	193 FEET
FACILITY IMPINGES ON MOORING FIELD OR SETBACK	SETBACK & MOORING FIELD	SETBACK	SETBACK & MOORING FIELD	SETBACK & MOORING FIELD	SETBACK	SETBACK

HARBOR ENGINEERING, LLC
26 BOSWORTH STREET
BARRINGTON, RI 02806
(401) 829-4870
harboreng.com

No.	Revision	Date	App.
2	REDUCED SIZE OF FLOAT & INCLUDED MOORING FIELD	11/6/23	AJK
1	CONVERTED DATUM TO MLW	1/8/21	AJK
	REDUCED LENGTH OF PIER & ADDED NEARBY MOORINGS		

0 250FT 500FT
GRAPHIC SCALE

Client/Owner:
PAUL & CHRISTINE GRADY
2 SHELL ROAD
WARREN, RI 02885
PATRICK LEBEAU & MEGHAN RAWSON
4 SHELL ROAD
WARREN, RI 02885

Issued for:
REGULATORY REVIEW & CONSTRUCTION

Drawing Title:
SHARED RESIDENTIAL DOCK
AREA RESIDENTIAL BOATING FACILITIES SUMMARY

AUGUST J. KREUZKAMP, III
No. 7949
REGISTERED PROFESSIONAL ENGINEER
CIVIL 11/6/23

Date: 5/26/2020
Scale: 1"=250FT
Designed By: AJK/MNG
Drawn By: AJK
Checked by:
Project Number: 2020-03
Sheet 7 of 7
Drawing Number: A-1

RECEIVED
11/10/23
COASTAL RESOURCES MANAGEMENT COUNCIL

20231106_Shell Road Dock_Plan Set.dwg