

Hessel Marina

Masterplan Update
June 2022

NEAL RESIDENCE SUPPLEMENTAL STUDY



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Subsequent to the completion of the Hessel Marina Master Plan completed in June of 2021, the property immediately adjacent to the west of Hessel Marina known as the Neal Residence became available for sale. The Township decided to explore the possibility of acquiring the property to expand the marina, increase public waterfront, and implement a more cost effective means of providing the necessary boater service facilities and other public uses.

Existing Neal Residence and Garage Assessment

The Neal residence building is a 5,500 sf. residence with approximately 2,000 sf basement. Originally built as the Fenton Store in 1907, this was a two story, rectangular, wood framed structure with a simple gable roof and second story dormer windows. Over time there have been two single story additions on the east and west and in 1998 it was renovated into the Neal Family Home. The property includes a free standing wood framed, single story, two car garage, 115' of water frontage on Lake Huron and private docks.

The home is in good condition. It's been well cared for, appears structurally sound, shows no signs of water damage or decay and usual wear and tear.

There are several advantages to renovating this building into the Clark Township Marina Offices, Boater Amenities on the main and basement floors and a second floor Marina Guest vacation rental supporting the marina expansion to add attractive and practical amenities to the boater experience in Hessel.

Existing Building location and scale

- The buildings proximity and walk out building on the water side accommodates a second story direct view of the marina and extended views of Lake Huron.
- Site amenities of the connection to both the street and the docks accommodates all staff vehicles and services on both the water and land
- The existing garage location is well situated and adequately sized to be renovated into a bath house accommodating restroom and shower facilities on a concrete floor
- The main floor balcony overlooks Lake Huron and the marina for boaters to enjoy the outdoor space and connect to the natural beauty with extended views of the islands and the lake.
- The orientation of the existing building to the new marina gives newly arriving guest boaters a direct view and connection to the Marina Staff and amenities

Existing Building Space Planning and Programming

- A walk out basement on the water side accommodates access to storage, a garage and workshop space in the basement . There are two garages in this building. One at grade facing



Lake Street and the second garage at the basement level facing the east driveway. This is ideal for Clark Township Harbor operations, maintenance and seasonal storage uses with two grade level, garage door access points.

- ADA accommodations:
 - Main floor ADA compliant entry at grade is easily accomplished for both the Marina Office and Boater services proposed uses. Once inside, the building is equipped with an elevator accessing both levels. The elevator cab appears to meet the minimum size for ADA compatibility in an existing building.
 - ADA restrooms, door widths, signage and floor clearances are easily accomplished. Some of the existing spaces are already ADA compatible.

Marina Offices, Staff Spaces and Seasonal Storage:

- The current owner's suite on the main floor southeast corner, would be allocated for the Marina Harbormaster offices overlooking the marina and will include a working desk area and the current kitchenette in the raised main floor suite. The large rooms to the east of the main entry will be staff spaces or public/private conference meeting rooms with attached restrooms and the potential to connect to the main office on the southeast corner.

Boaters Amenities

- The current main floor living room in the center of the south side, will be converted into a comfortable boater's lounge with a fireplace, television, soft seating, a wet bar, a covered porch overlooking the marina, a boaters Laundry and restroom. Access to the boater's amenities can be directly from the marina via the southwest flight of stairs, or through the ADA compliant front entry on Lake Street.

Boater vacation rental

- The second floor of the home is currently a three bedroom suite with a generous living room, dining room and kitchen. It has a full width second floor balcony deck that overlooks the harbor and Lake Huron. Two bedrooms have private bathrooms with a third full bathroom and laundry room centrally located in the suite. The elevator makes this an ADA accessible vacation rental. Revisions to door openings and possibly to bathroom fixtures will make this a completely ADA compatible unit.

Existing Neal Home Garage:

- The unattached garage is a single story, wood framed structure. It is 24' x 27'-8" and 664 square feet, which is large enough for ADA compliant restrooms and showers for



the marina boaters. This building will have a locking device that allows use by only those registered boaters docked in the marina and not the general public.

RECOMMENDATIONS

Public Restroom at the Hessel Marina

- Remove and replace the existing restroom structure with a new Public Restroom Building of approximately 700 square feet in the same location. This will include ADA compliant restrooms for men and women, two universally designed family restrooms, a centrally located plumbing alley, a janitor sink and storage for cleaning supplies, paper goods and seasonal items and an exterior drinking fountain and bottle filler. Showers are optional and could be included if Clark Township prefers.

Neal Residence Property

- Renovate the existing 648 sf Neal Home garage into an amenity for marina boaters. A new Bath House including restroom and shower facilities will be planned for this building. The facility will be ADA compliant and support the marina expansion.
- Renovate the Neal House to include:
 - Basement and Main floor spaces will be allocated for the Marina Harbormaster including meeting spaces, staff offices and break room with lockers, staff restroom, storage and maintenance for supplies and vehicles needed for marina operations.
 - Main floor renovation for marina boater amenities to include a boaters Lounge, laundry, connection to the Harbor Master office and restrooms. A Ships store will be included if that fits into the existing footprint. A building renovation without an addition is expected with this program.
 - Second floor renovation includes an ADA accessible, three-bedroom marina guest vacation rental. This is an income generating overnight rental that can be reserved by anyone docking a boat for a minimum one night stay in the Clark Township Marina.

Existing Neal Residence and Garage Photos

Home exterior, Garage exterior and interior





Basement: Proposed Marina Operations, Maintenance and Storage

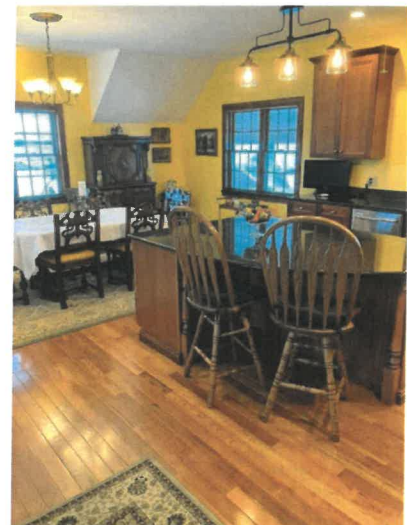


Main Floor: Marina Offices, Boaters Amenities





Second Floor: Proposed Marina Guest Vacation Rental





CONCEPT MASTER PLAN FUTURE EXPANSION

With the opportunity to acquire the adjacent Neal Residence property, the planning team and Township staff explored a range of possible modifications to the approved Concept Master Plan to take best advantage of the additional water frontage. The planning team incorporated the comments, feedback, and community input received through the development of the Concept Master Plan to guide the revised plan that follows.

The overall concept suggests modifying the existing Hessel Marina basin to support island resident day docking and larger transient vessels and expanding the new marina basin to the west to focus more on seasonal vessels.

Parking and Circulation

The proposed expansion plan maintains the reconfigured boat launch circulation area to improve turning movements while providing access to a new single lane service boat launch oriented south within the new seasonal marina basin. The existing boat launch will remain in use as the primary boat launch for recreational vessels and special events. The existing parking area at the east end of the site is reoriented, with a portion of the lot converted to public green space for improved views and support for special events.

Pedestrian circulation paths along the edges of all green spaces provide safer, more direct access to the waterfront area.

Boater Services Building

The plan proposes to relocate boater services, restrooms, and marina offices to the renovated Neal Residence home and garage with a new covered pavilion/restroom structure in the location of the current boater services facility. The new boater services facilities in the renovated garage and home will include dedicated restroom and shower facilities, laundry, boater lounge, harbor master office, and utility/storage areas. The facility will be fully code compliant and meet all modern MDNR standards.

Utilities

As in the prior Concept Master Plan, all site infrastructure will be improved, with all new potable water and electrical utilities will be provided throughout the upland areas and marina to meet current codes and standards. Ground fault protection will greatly reduce the risk of Electric Shock Drowning, and electrical capacity at each slip will be increased to meet current and anticipated growth in demand. Consideration should be given to adding individual electrical metering to each pedestal, which has been shown to decrease energy usage by more than 30%. Power and potable water should be added to all



seasonal and transient docks facilities, with basic maintenance power provided on the docks within the Courtesy Day Dock basin.

As part of the overhaul of utilities, the pump-out system will be replaced with a new point of service unit. Wi-Fi services are proposed to be enhanced to provide high speed Wi-Fi at each slip through a third party vendor. An improved potable water supply system should be considered, along with a more flexible upland electrical system to support outdoor festival activities.

The overall site lighting system should be overhauled to eliminate the taller pole mounted lights and replace them with dark sky compliant low level bollard lighting, which will reduce energy costs, improve navigational safety, and protect the views of the night sky from unnecessary light pollution.

Marina Layout

Hessel Marina Basin

The proposed configuration of the marina will be organized into the new main Hessel Marina Basin to the west, and the new Courtesy Day Dock and transient facilities within the existing basin to the east. Within the existing Hessel Marina Basin to the east, the Fork Dock is proposed to be replaced with a series of finger docks along the north wall. This will take allow the addition of eight new slips ranging in size from 25'-50' in length. Four of the existing finger piers located along the north side of the fixed pier within the existing basin would be removed to create additional protected flexible broadside transient mooring. An ADA compliant floating kayak/paddle craft launch dock is located near the accessible parking area.

The central floating dock will be expanded to the east to increase the total number of slips to 20. If practical, modern potable water and marine electrical systems should be added to this dock system, and consideration given to extending the length of the gangway to achieve ADA compliance in a wider range of water levels.

Consideration should be given to the fact that nearly all of the existing floating dock infrastructure in the main basin were constructed and installed in the early 1990s and are now thirty years old or more. While they are generally in very good condition for their age, floating docks of this type typically have a useful life expectancy of 25-30 years. This suggests that at some point over the next ten years or so, these docks will likely need to be replaced. While adding power and water utilities to the main floating pier is highly desirable, the cost to install those systems on docks with a relatively short lifespan remaining may be cost prohibitive.

Outer Fixed Pier and Broadside Mooring

The elevation of the outer fixed pier is estimated to be LWD +5.5, which is less than one foot above record high water level for Lake Huron. With the need to install new utilities and correct the settling pavement, we recommend raising the elevation of the outer fixed pier to at least LWD +6 or +6.5. We



also recommend the installation of an improved timber fendering system, both along the face of the steel sheet pile wall and including more robust vertical fenders to accommodate larger ferry or superyacht vessels.

In all cases, we recommend separating the marina utility systems from the vertical fenders as damage to the fender puts the utility system at risk.

New West Basin

The new seasonal docks are located within a new basin to the west of the existing facility, formed by a heavy timber floating dock system similar to that installed at EJ Mertaugh Boat Works. The new timber floating dock system is connected to land by two ADA compliant aluminum gangways. The dock system extends to the south approximately 350', and then extends eastward approximately 300' to form a protected inner basin. Mooring space for up to fourteen 25' island day docks and thirty-one 35' seasonal slips are provided, with approximately 300 linear feet of flexible broadside mooring within the new basin.

The east wall of the Seasonal Dock basin will be improved from the existing mix of armor stone revetment and steel sheet pile to all sheet pile with timber fendering to facilitate additional staging and transient boating.

Expanded Concept Master Plan

Eighteen (18) 25' slips:	450lf
Twelve (12) 30' slips:	360lf
Thirty-one (31) 35' slips:	1,085lf
Ten (10) 40' slips:	400lf
Four (4) 45' slips:	180lf
Two (2) 50' slips:	100lf
 Flexible Broadside:	 900lf





IMPLEMENTATION and FUNDING STRATEGIES

We suggest the following strategies that have been utilized successfully many times be considered to offset construction costs, including:

- Apply for USFWS Boating Infrastructure Grant Funding of up to \$1.5 million. This project is an excellent candidate for this program due to the very high quality of the destination.
- Apply for Clean Vessel Act grant funding for the proposed pump-out facilities, which would cover the \$30,000-45,000 cost of new pump-out infrastructure. This grant is one of the easiest to obtain grants for marina facilities.

While the strategies outlined above will cover a large part of the total cost of construction if implemented, additional strategies for consideration include:

- Consider value engineering strategies to reduce the overall cost of the proposed plan during preliminary engineering phases
- Consider breaking the project down into smaller phases
- Consider additional grant funding sources including:
 - MDNR Waterways Program Funding
 - Michigan Natural Resources Trust Fund (MNRTF) construction funds
 - Coastal Zone Management (CZM) program grant funding
 - Michigan Economic Development Corporation (MEDC) grant funding

COST ESTIMATE FOR HESSEL HARBOR RENOVATION

Neal Home Purchase & Renovations

PHASE I					
	Work Items	Units	Qty	Unit Price	Total Price
1.0	<i>Purchase</i>				
1.1	Purchase Price		1	975,000	975,000
2.0	MI Natural Resources Trust Fund Grant				
2.1	Grant		74%	721,500	(721,500)
2.2	Local Grant Match		26%	253,500	
3.0	<i>Residence</i>				
3.1	Renovate First Floor Bath to ADA		1	10,000	10,000
				Subtotal	263,500
				0% Contingency	
				Total	263,500

COST ESTIMATE FOR HESSEL HARBOR RENOVATION

New Yacht Basin

PHASE II					
	Work Items	Units	Qty	Unit Price	Total Price
1.0	<i>General</i>				
1.1	Mobilization & General Conditions	LS	1	\$42,000	\$42,000
2.0	<i>Shoreline Protection</i>				
2.1	Armor Stone and SSP Protection (320)	LF	0	\$1,750	\$0
2.2	Phase 2 Abutment-(2 @ 40-LF)	LF	40	\$1,500	\$60,000
3.0	<i>Floating West Pier & Breakwall</i>				
3.1	60' ADA Gangway	EA	1	\$40,000	\$40,000
3.2	Gangway Abutment	LS	1	\$110,000	\$110,000
3.3	Floating Dock & Fingers	SF	5800	\$80	\$464,000
3.4	Marine Electrical	/SLIP	17	\$8,000	\$136,000
3.5	Marine Plumbing	/SLIP	17	\$800	\$14,000
4.0	<i>Existing Center Crib Dock off North Shore</i>				
4.1	Floating Fingers (10)	SF	1280	\$80	\$102,400
4.2	60' ADA Gangway	EA	0	\$40,000	\$0
4.3	Marine Plumbing (28 slips)	/SLIP	0	\$800	\$0
4.4	Marine Electrical (28 slips)	/SLIP	0	\$8,000	\$0
5.0	<i>Dredging</i>				
5.1	Dredging*	CY	3000	\$50	\$150,000
6.0	<i>Garage</i>				
6.1	Renovation of Garage to Boater Restroom	LS	1	\$250,000	\$250,000
				Subtotal	\$1,368,400
				20% Contingency	\$274,000
				Total	\$1,642,400

COST ESTIMATE FOR HESSEL HARBOR RENOVATION

Original Yacht Basin

PHASE III					
	Work Items	Units	Qty	Unit Price	Total Price
1.0	<i>General</i>				
1.1	Mobilization & General Conditions	LS	1	\$84,000	\$84,000
2.0	<i>Site Work & Shore Facilities</i>				
2.1	Demo Main Asphalt Parking	SF	9600	\$4	\$38,400
2.2	New Main Asphalt Parking	SF	16100	\$8	\$128,800
2.3	Demo Eastern Asphalt Parking	SF	7350	\$4	\$29,400
2.4	New Eastern Asphalt Parking	SF	3025	\$8	\$24,200
2.5	Landscape Half of Eastern Parking	SF	4400	\$6	\$26,400
2.6	Demo Concrete Sidewalk	SF	4500	\$5	\$22,500
2.7	New Concrete Sidewalk	SF	11750	\$10	\$117,500
2.9	Landscaping	SF	22500	\$6	\$135,000
2.10	Gazebo Replacement	SF	315	\$75	\$23,625
2.8	Demo Building	SF	1400	\$10.00	\$14,000
2.11	Pavillion/Restroom	SF	700	\$350	\$245,000
3.0	<i>Contractor Boat Launch</i>				
3.1	Relocate Rip Rap	LS	1	\$10,000	\$10,000
3.2	CIP Concrete Paving	SF	1200	\$20	\$24,000
3.3	Sheet Pile Bulkheads	LF	80	\$1,500	\$120,000
3.0	<i>Northern Shoreline Courtesy Dock Upgrades</i>				
3.1	Floating Deck System Elongation (880)	SF	0	\$80	\$0
3.2	Marine Plumbing	/SLIP	0	\$800	\$0
3.3	Marine Electrical (4)	/SLIP	0	\$4,000	\$0
5.0	<i>Northern Shoreline Finger Piers</i>				
5.1	Demo Existing Finger Piers	LS	0	\$3,500	\$0
5.2	Finger Piers	SF	380	\$100	\$38,000
5.3	Marine Plumbing (6)	/SLIP	0	\$800	\$0
5.4	Marine Electrical (6)	/SLIP	0	\$2,000	\$0
5.5	Kayak Launch	LS	0	\$45,000	\$0
6.0	<i>Central Floating Piers</i>				
6.1	Lengthen Pier & Add Fingers	SF	0	\$75	\$0
6.2	Marine Plumbing	/SLIP	0	\$800	\$0
6.3	Marine Electrical (16)	/SLIP	0	\$4,000	\$0
7.0	<i>Existing Southern Sheetpile Pier</i>				
7.1	Demo Concrete Decking	SF	5200	\$10	\$52,000
7.2	Demo Finger Piers	LS	0	\$4,000	\$0
7.3	New Concrete Decking	SF	5200	\$20	\$104,000
7.4	Replacement Finger Piers	SF	360	\$100	\$36,000
7.5	Replacement Slip Utilities	LS	1	\$150,000	\$150,000
7.6	Sanitary Pumpout	LS	0	\$50,000	\$0
7.7	Timber Fendering	LF	460	\$150	\$69,000
				Subtotal	\$1,491,825
				20% Contingency	\$298,000
				Total	\$1,789,825

Three Phase Total \$3,695,725