

June 30, 2016

REPORT

THE MALLARD BAY PEDESTRIAN TRAILS COMMITTEE

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ABSTRACT

This report reviews the status and physical condition of "the Old Crabbing Pier" and three walking trails at the Mallard Bay development at Heathsville, Virginia. These amenities are showing their age - especially the pier, which has become unsafe due to the loss of much of its decking.

This study was commissioned by the Board of Directors of the Mallard Bay Property Owners Association. The Committee was charged with answering the following questions:

1. what options does the Board have to abandon, repair or replace these amenities?
2. what would each option entail and what would it cost?
3. what recommendations can the committee make for Board action?

The study established and documented the status and condition of the pier and trails, and reviewed complaints about the pier. The users of the pier and trails were asked for comments on all aspects of the need, value, and future prospects for each amenity.

The study concludes that any significant repair to the pier can not be justified in view of the expense and the limitations occasioned by the inadequate height of the pilings. Moderate improvements to the trails are judged worthwhile, however.

The committee recommends:

- the pier decking be removed and the pilings be left in place
- construction of a platform at the end of the Spring Valley Trail to accommodate a picnic table
- improvements (railings, gravel, clean-up, safety improvements) to the trails.

TABLE OF CONTENTS

ABSTRACT	-- 2
I. Introduction	-- 4
II. Study Methods and Activities	-- 5
III. Analysis	-- 6
IV. Conclusions and Recommendations	-- 12
Appendix A	Maps -- 14
Appendix B	Detailed Cost Estimates -- 16
Appendix C	E-mail Summary Responses -- 18
Appendix D	Mallard Bay Pedestrian Trails Town Hall Meeting -- 19
Appendix E	Contributors -- 23

I. INTRODUCTION

The specific initial purpose of this inquiry was to assess the need and value of repairing the "Old" Crabbing Pier which had fallen into disrepair. (Incidentally, this pier became the "Old" crabbing pier in 2009 when the new crabbing pier was built at the Mallard Bay marina.)

The pier problems could not be addressed in a vacuum - the only land based approach to the pier is via the Spring Valley Trail which has its own problems needing attention. So the Committee appointed by the Mallard Bay Board of Directors extended the study to issues of the Spring Valley Trail.

But wait! There's more. There are two additional walking trails which connect Mallard Bay Drive with Canvasback: Flyway Lake Trail and Eagle Lake Trail.

Though only one trail within our community is specifically mentioned on Northumberland County Plats, there are actually three common areas frequently used as hiking and nature trails. The study grew to also consider these trails and to address the need and value of maintaining all three trails in our community.

The community covenants state, "Hiking and jogging trails give pleasure to all who delight in the natural beauty of the area enhanced by the picturesque setting of two freshwater lakes and three ponds, all of which offer catch and release fishing."

This report gives the results of the review, examines specific options, draws certain conclusions, and makes specific recommendations.

II. STUDY METHODS AND ACTIVITIES

The method used in this inquiry was to document the current status of the pier and the trails, identify feasible improvement options, solicit inputs from the owners (residents and part-timers) to determine usage patterns and obstacles to greater use, then to analyze the options. Costs were estimated and difficulties peculiar to individual options were stated. The details of these options and the reviews are throughout this report. See Section III Analysis.

The inputs from owners and users were of three sources:

1. Email: An email message was sent to every member of the Owners Association giving a quick explanation for the inquiry and asking for information about their use of the trails. Twenty-eight responses were returned.

2. Town Hall Meeting: A "Town Hall Meeting" was convened on May 21, 2016 to allow public discussion of the inquiry, its analysis and tentative conclusions. Seventeen property owners attended the meeting.

3. Private conversations with the Committee as a group or with individual Committee members.

Comments made by the owners and users are reported for each option, and are summarized in Appendices C and D.

III. ANALYSIS

Methodology.

Four options were identified for the pier and for each trail:

- **Option 1. Do nothing option** -- abandon the amenity, allowing it to deteriorate and over-grow.
- **Option 2. Economical/Minimum repair** (minimum repair/demolition) -- use community volunteers to fix, clear, and patch areas in need. Demolish structures as needed.
- **Option 3. Partial repair** -- Use community volunteers at minimal cost to improve the condition and safety to less than original (although acceptable) level.
- **Option 4. Rebuild** -- use contracted support to fully improve the trails to a safe and useful condition. Structures repaired as needed to original level.

Old Crabbing Pier:

Description. The pier is 5 feet wide and extends 100 feet into the Great Wicomico River. Water depth at MLT at the end of the pier is about 1 foot.

History. Members of the Committee met with the Treasurer of the Mallard Bay Property Owners Association to discuss the financial aspects of planning for the contemplated work and for future maintenance of the trails.

The details of the planning and building of the Old Crabbing Pier are apparently lost in the mists of time, as no records of its origin could be located. Nor is there any record of the original trails. They were presumably built by the original developer. Damage to the Old Crabbing Pier in the great storm of 2008 was repaired, but no record of the amount was found.

The year 2008 also saw the construction of the "new Crabbing Pier" located at the marina in front of the Clubhouse. Construction was done by Rocks Marine construction for \$20,859.00. A special assessment of \$175 per lot funded the effort. In the minds of many residents, the advent of the new impressive pier totally

obsoleted the Old Crabbing Pier due to its relatively difficult access, its age and its deteriorating condition.

The funding in recent years for maintenance of the trails has been drawn from the budget allocation for "restricted item" but no record shows the amount for just the pier, or just the trail, or any specific amenity. The lump sum appears to average about \$15,000 per year for all maintenance on reserve items.

There is a fully funded line item in the reserve budget for replacement of the Old Crabbing Pier at an estimated cost of \$15,000. There is a line item in the reserve (capital) budget for "Crabbing Pier Path - Old" at an annual rate of \$666.67. The Committee recommends (see Section IV) some restructuring of the budgeting and planning for the trails and piers.

Documentation. The pier is not documented in the Mallard Bay plats, nor is it mentioned in the deed covenants as an amenity of the owner's association common property.

Current Status. It was the dangerous condition of the pier that motivated this inquiry. The Old Crabbing Pier is in poor condition and is unsafe. Stringers are rotting and split, releasing decking boards during occasional very high tides. Approximately 30% of the decking boards have gone missing and the pier is basically unusable. It has been repaired several times by replacement of missing boards, but simple replacement is no longer practical. The following observations are pertinent:

- the wood stringers have deteriorated to the extent that they will no longer hold a nail so will not hold decking boards
- ordinary nails were used in the original construction and many have now rusted away
- the pier was not built high enough to avoid the pressure of moderate wave motion
- the pilings are in good shape but are not high enough to support a proper pier
- no provision was made to allow open seams along the sides of the pier to relieve the pressure of moderate wave motion.

Spring Valley Trail:

Trail Description. The Spring Valley Trail is shown in Appendix A, Figure 1. There is a sign identifying the beginning of the trail near the Canvasback Tennis Courts, but no other markers exist along the trail. The trail begins with a significant slope downward, occasionally passing steep cliffs on the right and wooden retaining walls on the left. Railings have deteriorated on the right side and no longer are safe for use. The retaining walls are in good shape. The trail proceeds through low, level swamp areas, culminating at the Old Crabbing Pier. A few wet areas are traversed by small wooden bridges. These appear to be in good condition. Old iron reinforcing bars protrude from the surface at one point (a walking hazard). The last 170 feet leading up to the Old Crabbing Pier is a wooden walkway. The walkway is in good condition. A wooden kayak/canoe rack on the right is in fair condition.

All the trails - but especially the Spring Valley Trail - include the hazard of copperhead snakes. The presence of snakes in Mallard Bay is an established fact.

The trail is not usable in wet weather and is not for bikes.

History. None.

Documentation. This Trail is not specifically documented in the Mallard Bay plats, nor is it mentioned in the deed covenants as an amenity of the owner's association common property.

Options. The following options were considered.

Impact of each option (Costs (see Appendix B) and Benefits): Note -- costs include materials only -- no contract labor is included.

I. Spring Valley Trail:

1. Do nothing -- Allow the trail and pier to continue to deteriorate. The broken railings near the cliffs represent a potential liability to the community. The pier represents a potential liability to the community due to its unsafe condition. Since this is a safety issue, doing nothing is really not a feasible option. Immediate cost is nothing but potential cost due to personal injury and our liability is

very costly.

2. Economical/minimal repair -- Maintain and clear. Add trail markers, replace broken railing pieces, and demolish pier. Cost=\$260.
3. Partial repair -- Repair and strengthen railings. Add a raised trail where needed. Repair the pier to a shorter length or build a scenic observation deck. Cost=\$4680.
4. Rebuild -- Option 3 plus fully repair/replace the pier to its original and full length. Repair kayak/canoe rack. Cost=\$5590.

Discussion. There is a potential liability to the community if nothing is done to correct the safety hazards on this trail, so Option 1 is not viable. Further, the lack of use of this trail combined with the fact that we have a new crabbing pier does not justify Option 4. Option 2 is the best option if the community does not use the trail any more than its current use. Option 3 has the potential to increase community amenities as a nature trail -- for example, building a small scenic platform at the end of the trail.

Flyway Lake Trail:

Description. The Flyway Lake Trail is shown in Appendix A, Figure 2. This trail runs from Mallard Bay Drive (sharing a driveway), across the Flyway Lake Dam, to the corner of Canvasback and Pintail. There are markers identifying the trail through the woods. A few markers have fallen down. There is a very steep hill near the Flyway Lake Dam that has no support rails nor steps.

History. None.

Documentation. This Trail is not specifically documented in the Mallard Bay plats, nor is it mentioned in the deed covenants as an amenity of the owner's association common property.

Current Status. The Flyway Lake Trail sees moderate use because it provides a through-way for short neighborhood walks. Portions of the trail are overgrown with understory vegetation and some trees have fallen across the trail. During wet weather, this trail is very wet, with standing water in spots.

Options. The following options were considered.

II. Flyway Lake Trail:

1. Do nothing -- Allow the trail to deteriorate. Cost=none
2. Economical/minimal repair -- maintain and clear. Cost=none.
3. Partial repair -- repair/replace markers. Cost estimate=\$50.
4. Rebuild -- Option 3 plus add steps and a railing at steep portion.
Cost estimate=\$150.

Discussion. The trail offers the community a short hiking option (half of the Mallard Bay -- Canvasback -- Eagle Trail walk), so Option 3 is the best option if the community does not use the trail any more than its current use. Option 4 offers the possibility of increased use as a walking trail.

Eagle Lake Trail:

Description. The only trail specifically mentioned in the community plats is the Eagle Lake Trail, depicted in Figure 3 of Appendix A. This trail runs from Mallard Bay Drive (sharing a driveway), across the Eagle Lake Dam, to Canvasback (again sharing a driveway). Most of the trail is cleared and gravel covered (except across the dam itself). There is one gently steep portion with no railings or steps. The trail is wide and clear sufficient for golf cart use.

The Eagle Lake Trail is used daily by many walkers in the community. It is the primary path to the Clubhouse/Marina/Pool for those on the Canvasback "half" of the community.

History. None.

Documentation. The Eagle Lake Trail is specifically documented in the Mallard Bay plats by name.

Current Status. The Eagle Lake Trail is used daily by many walkers in the community. It is the primary walking path to the Clubhouse/Marina/Pool for those on the Canvasback "half" of the community. It is a major pathway for golf cart

traffic going to the Clubhouse area.

Options. The following options were considered.

III. Eagle Lake Lake Trail:

1. Do nothing -- allow trail to deteriorate. Cost=none.
2. Economical/minimal repair -- maintain and clear. Cost=none.
3. Partial repair -- Add new gravel where needed. Cost=\$250.
4. Rebuild -- Option 3 plus steps and railing (passable by autos or golf carts). Cost estimate=\$350.

Discussion. This trail is an oft used amenity within the community. It is a major pathway for golf cart use to the Clubhouse area. Option 3 is the minimum acceptable option. Option 4 is a "nice to have," but would improve the walk for less sure-footed residents.

IV. CONCLUSIONS AND RECOMMENDATIONS

The Committee unanimously concludes:

- Current and projected usage of the pier does not justify the expense of repair at this time.
- Future residents (especially younger ones) may want to use a pier at that location.
- The three trails should be considered important community amenities. We have a large retiree population that enjoys walking.
- The Spring Valley Trail is worthy of greater use but needs some repairs to make it reasonably safe, and improvement to make it more attractive.
- The Flyway Lake and Eagle Lake trails are in good condition and need only minimum maintenance.

The Committee unanimously recommends:

Pier. Removal of the remaining decking from the pier. Pilings to be left in place. This would render it safe yet preserve the site as an approved pier for potential future development. (No expense, all volunteer labor)

Spring Valley Trail. Repair the railing, cleanup the path to make it safe for use in dry weather. This will entail removal of the iron reinforcing rods in the ground. Construction of a deck or observation platform at the end of the Spring Valley Trail with, perhaps, a picnic table. (Cost \$5000, possibly a commercial job, some volunteer labor). It is further recommended an additional sign be attached to post for safety purposes: 'Steep Incline And Narrow Path'.

Flyway Lake Trail. Maintenance consisting of clearing undergrowth and downed trees.

Eagle Lake Trail. The addition of a modest amount of gravel is needed.

Planning and Budgeting. The Committee recommends the Board of Directors, working with the Treasurer, configure a budget item or items in the Operating and Capital Reserve accounts to appropriately support the maintenance and - where needed - replacement of all or portions of the piers and trails.

Appendix A - Maps

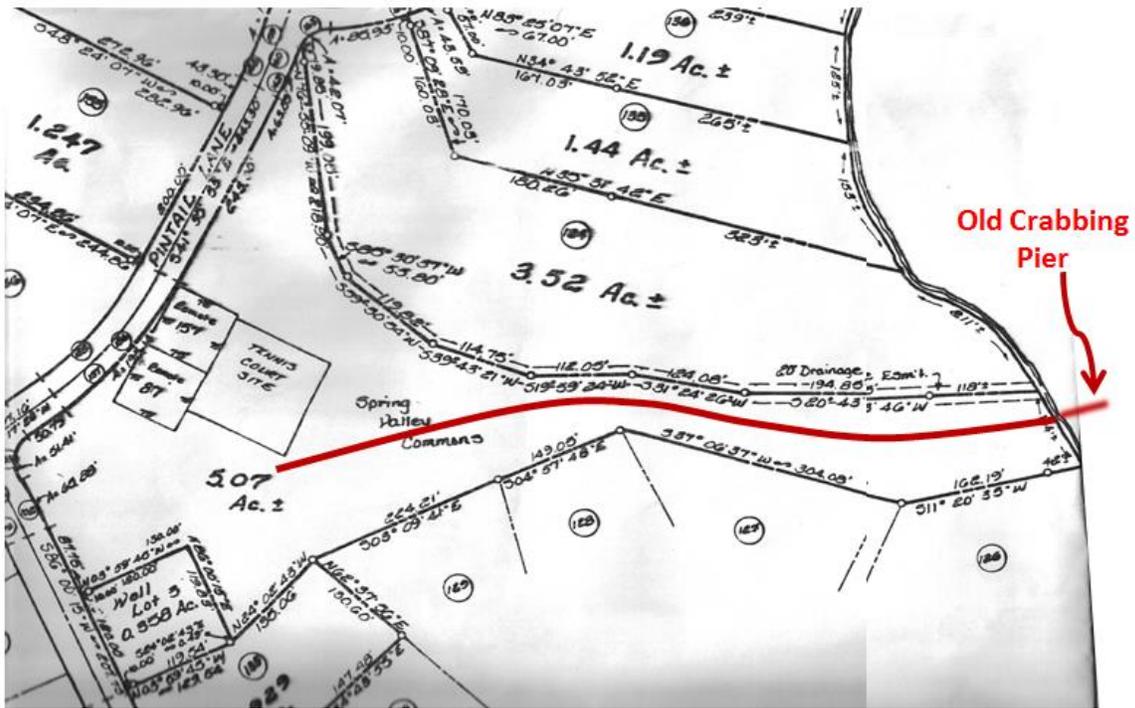


Figure 1. Spring Valley Trail.

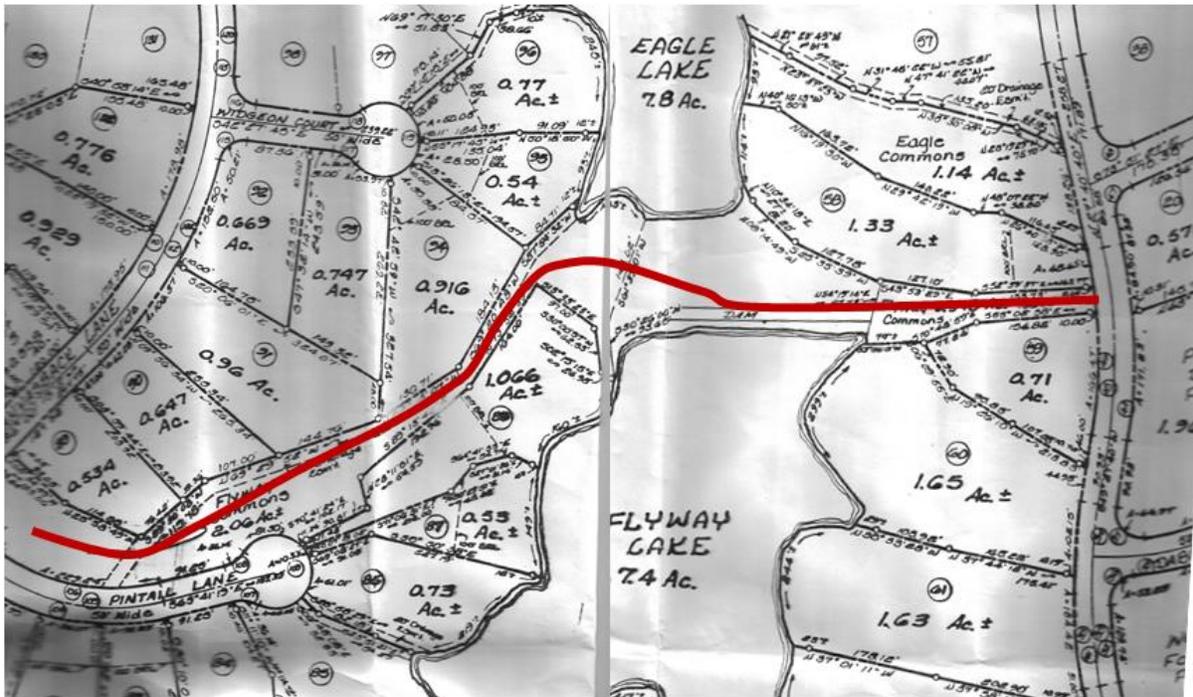


Figure 2. Flyway Lake Trail.

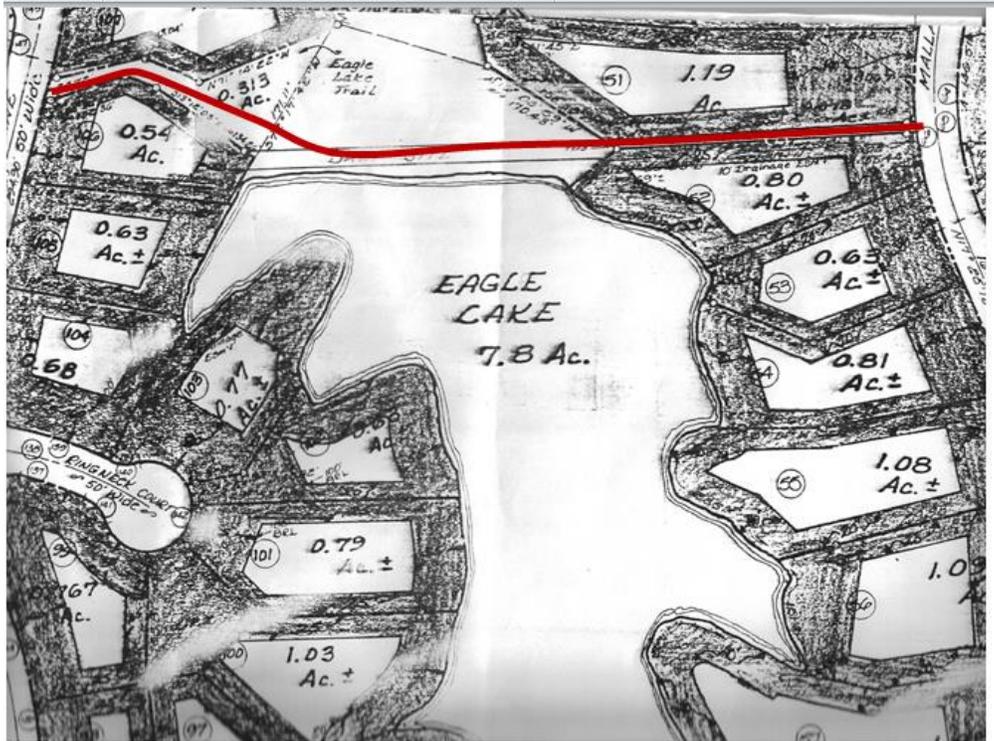


Figure 3. Eagle Lake Trail.

Appendix B – Detailed Cost Estimates

Spring Valley Trail:

Item	Size	# per section	Description	Unit Cost (Lowe's Tappahannock)	Subtotal per Section	# Sections Needed	Subtotal Costs	Total Cost
Railing Section:	(need 7 sections)							
	2x6x12'	1	handrail	\$8.97	\$8.97	7	\$62.79	
	4x4x4'	3	posts -- 6'	\$6.97	\$20.91	7	\$146.37	\$209.16
Long Pier:	(need 7 sections 8'x 7')							
	2x10x8'	2	under supports	\$10.57	\$21.14	7	\$147.98	
	2x8x8'	5	streamers	\$8.97	\$44.85	7	\$313.95	
	2x6x8'	17	decking boards	\$5.97	\$101.49	7	\$710.43	\$1,172.36
Short Pier:					\$21.14	2	\$42.28	
					\$44.85	2	\$89.70	
					\$101.49	2	\$202.98	\$334.96
Spring Valley Raised Pathway	(Total length is 840', 240' above valley floor, 170' already raised, leaving 430' -- 43-10' sections)							
	2x6x10'	3	under supports	\$7.57	\$22.71	43	\$976.53	
	2x6x8'	1	end supports	\$5.97	\$5.97	43	\$256.71	
	2x6x8'	11	decking	\$5.97	\$65.67	43	\$2,823.81	\$4,057.05
Step Areas:	(Need 2 areas - 2'x30' lengths)							
	4"x10'	3	(treated rails)	\$12.52	\$37.56	2	\$75.12	\$75.12
Kayak Rack:	Need Need 10 -- 2x6x10'							
	2x6x10'	10		\$7.57	\$75.70			\$75.70
Markers (24)	2x4x8'	1	posts (makes 3)	\$4.27	\$4.27	8	\$34.16	
	1x6x8'	1	decking (makes 8)	\$4.97	\$4.97	3	\$14.91	\$49.07

Option

I-1	\$0.00
I-2	\$258.23
I-3	\$4,676.29
I-4	\$5,589.39

Flyway Lake Trail:

Item	Size	# per section	Description	Unit Cost (Lowe's Tappahannock)	Subtotal per Section	# Sections Needed	Subtotal Costs	Total Cost
Railing Section:	(need 2 sections)							
	2x6x12'	1	handrail	\$8.97	\$8.97	2	\$17.94	
	4x4x4'	3	posts -- 6'	\$6.97	\$20.91	2	\$41.82	\$59.76
Markers (24)	2x4x8'	1	posts (makes 3)	\$4.27	\$4.27	8	\$34.16	
	1x6x8'	1	decking (makes 8)	\$4.97	\$4.97	3	\$14.91	\$49.07
Step Areas:	(Need 1 area - 2'x30' lengths)							
	4"x10'	3	(treated rails)	\$12.52	\$37.56	1	\$37.56	\$37.56

Option

II-1	\$0.00
II-2	\$0.00
II-3	\$49.07
II-4	\$146.39

Eagle Lake Trail:

Item	Size	# per section	Description	Unit Cost (Lowe's Tappahannock)	Subtotal per Section	# Sections Needed	Subtotal Costs	Total Cost
Railing Section:	(need 2 sections)							
	2x6x12'	1	handrail	\$8.97	\$8.97	2	\$17.94	
	4x4x4'	3	posts -- 6'	\$6.97	\$20.91	2	\$41.82	\$59.76
Step Areas:	(Need 1 area - 2'x30' lengths)							
	4"x10'	3	(treated rails)	\$12.52	\$37.56	1	\$37.56	\$37.56

Option

III-1	\$0.00
III-2	\$0.00
III-3	\$250.00
III-4	\$347.32

Appendix C - E-mail Survey Responses

Responses to the e-mail request are summarized below:

#	Final review		
	Existing Use	Use if Improved	
		Flyway	Spring Valley
1	Y	Y	Y
2	N	N	N
3	N	N	N
4	Y	Y	
5	Y	Y	Y
6	Y	Y	Y
7	N	N	N
8	Y	Y	
9	Y	Y	Y
10	Y	Y	Y
11	Y	Y	Y
12	N	N	N
13	N	N	N
14		N	N
15	Y	Y	N
16	Y	N	Y
17	Y	Y	
18	Y	Y	Y
19	N	Y	N
20	N	N	N
21	Y	Y	Y
22	Y	N	N
23	Y	Y	Y
24	N	N	N
25	Y	Y	Y
26	Y	Y	
27	Y	Y	Y
28	Y		Y
19/28=68%		17/28=61%	13/28=46%

Appendix D -- Mallard Bay Pedestrian Trails Town Hall Meeting May 21, 2016 1:00pm

Attendees ; Committee members (Carl Wigginton, Ted Hobson, and Sharon Hunt), Herta Wigginton, Linda Hobson, Sharon Lommel, Bill Scherer, Charla Marcel, Dave Marcel, Cheryl Hanline, Jim Hanline, Carol Bracker, Mary Yordy, Gary Yordy, Mary McGuire and Jane Locke. Brant Hayes came at the end.

Ringing of bell to begin-Carl

Introduction-Carl

Carl surveyed the audience about the use of trails during their lifetime and most persons present in the audience have used the trail during their life. Carl introduced each committee member. Also towards the end of the meeting he asked how many persons have used the old crabbing pier and only one person raised their hand. Carl stated towards the end of the meeting that we seemed to have reached a consensus [The statement implied standards of safety should be met and not to replace pier to previous length/height (if at all)].

Background/Options-Sharon Hunt

Sharon presented purpose of committee and current status of the three trails/pier and the four options. She also stated towards the end of the meeting, that the current condition of the pier could be considered negligence.

Maps/Pictures/Survey Results-Ted Hobson.

Ted first introduced our newest community members Bill Scherer and Sharon Lommel. Ted presented the details on the condition of the three trails and old crabbing pier with pictures (Gibbs the dog is present in most). Ted showed the results of the MB survey in terms of percentage that did use trail and percentage that might use trail if improved. Towards the end of the meeting he stated that it is probably not in the best interest of the community to replace

the pier and suggested we just keep the pilings for future use if needed. Ted discussed the meaning of liability and explained that nature trails in general are thought to have certain expected risks. Ted also stated some children may even be tempted to explore the current pier even with the missing boards. Thus it may be considered an attractive nuisance. However in response to Gary's comment about liability, Ted stated the current condition of pier is considered an obvious liability and not an expected condition.

Specific Comments from participants

Cheryl and Jim Hanline-Jim pointed out at the onset of the meeting that it is not a jogging trail as described in our presentation. The correction had been made to the website. We accepted his statement and will remove from our slide. Jim stated he does not think we should raise the pier. At high tides, the pier is under water. Common nails were used. His opinion was stated that if the pier is raised you need to replace the pilings. If the pier is rebuilt it would cost at least 20k. It was built in 1990 with life expectancy of pier 15 years... (I could not record total comment). He also stated there are easement and drainage issues from homes nearby. He reported that water has been coming across the trail and eroding constantly. Jim asked who would use this as a crabbing pier when we have another more convenient crabbing pier. He also asked how many people are currently using new crabbing pier. Jim asked how do you get a pile driver to that location. Mary McGuire answered that they would have to come down river in at high tide. In response to Carol's point about people moving in and the possibility of the expanding needs of the community, Jim stated to look at the history of the main pier. The extension to main pier expansion was shot down. Jim states VMRC shot down pier expansion because of existing old crabbing pier. The old crabbing pier offered other opportunities for boat tie up. Jim stated two different funds for monies and explained reserve. Jim explained that the reason we have the reserve is that we spent the money earlier. As a board member he recommends putting in a 20x20 platform at end of trail. Cheryl expressed concerns that SV trail is too steep. Cheryl does not want to just throw away monies for unused trails. Jim stated the need to

replace stringers and that at about 20 ft pier appears to break apart. Cheryl mentioned they showed some new people the trail. She stated the new people were shocked you could not find the pier easily. Cheryl made a statement about the survey in that she feels people should know cost and if they had known cost they might have answered differently on survey. Jim made a statement at the end of the meeting that he had homework to do in reference to Carol's memory of why our pier extension was not approved. By VMRC.

Carol Bracker-Carol asked-1) if the decking can be raised or can you put a cistern on it; 2) if you can raise the pier with new pilings; 3) do we not have monies in reserve and have we not planned for this. Carol stated more people are moving in and the new people may use the old crabbing pier. Carol stated that we have seen growth in community and age is younger and they may use crabbing pier even with carrying the gear. She stated that Spring Valley Trail was very nice to go down originally after repairs and the trail kept well with mulch and such. She stated we did not get original main pier expansion because VMRC did not think we needed it. She suggested partial removal of old crabbing pier, to where pier is sturdy and then block end to pier so no one can go further but leave pilings the rest of the way. Carol also expressed current condition of pier could be considered negligent and she used a specific term which I did not get to record. Also Carol provided us with a brochure that was originally used as a marketing tool for Mallard Bay. It has maps and description of various common areas. Ted was going to make copies and return to Carol. (Note-She also told me privately that with a small backhoe you can easily repair the SV trail on the upper end. She also said the contractor should be known by Jeanne and should be recorded in meeting notes).

Mary and Gary Yordy- Gary stated if we raise the pier, we will have to build a ramp or steps to get to it (because of height). He stated we will have to build walking ramps. Mary stated that long-term more money will need to be invested. Mary asked if you could make an observation deck instead. Gary agreed with Cheryl about not spending the money. Even if you cannot jog or bike on paths, he wanted to know the community liability for the trails. Mary asked about the reserves and

asked if there was a reserve for trail and pier separately. The answer from Jim Hanlin was that there is just one reserve. Mary stated we needed signs and others agreed. Gary asked what our community liability in common areas is. He wants to completely block trail due to liability. He stated we should put a chain across entrance.

Mary McGuire asked if the pier could be shorter and what our options are. Mary stated that she lives near the crabbing pier and water has been higher in recent times. She also stated to get pile drivers into water in that area you have to wait to higher tides. That is what they did.

Bill Scherer and Sharon Lommel-Bill stated that they are new and this is the first time they have seen pictures of the pier and he stated that we definitely need to repair or block access to pier.

Charla and Dave Marcel-Asked would visitors introduce themselves?

Herta Wigginton-None

Jane Locke-None

Appendix E - Contributors

The committee is indebted to the many people who helped with their ideas and experiences. We are especially grateful for the assistance of the following contributors:

Ron Horton for his insight and wealth of information on the pier, its design and construction and his generosity in sharing this with the committee.

Jean Widenmyer for financial, historical and background information

Carol Bracker (former Chair of the Board of Directors) for historical perspective and for valuable suggestions for this report.

Jim Hanline, Chairman of the Board of Directors, for his patience and unflagging support throughout this study.