

MINUTES
KITTY HAWK TOWN COUNCIL
Recessed Meeting
Tuesday, November 15, 2011
Kitty Hawk Town Hall, 9:00 AM

AGENDA

1. Call to Order/Recessed from November 7, 2011
2. Approval of Agenda
3. Public Comment
4. Storm Drainage Study Presentation and Discussion
5. Public Comment
6. Adjourn

COUNCIL MEMBERS PRESENT:

Mayor Clifton Perry, Mayor Pro Tem Gary Perry, Councilman Ervin Bateman, Councilwoman Emilie Klutz, and Councilman Richard Reid

STAFF MEMBERS PRESENT:

Town Manager John Stockton, Town Clerk Lynn Morris, Planning Director Joe Heard, Police Chief David Ward, Fire Chief Lowell Spivey, Public Works Director Willie Midgett (Town Attorney Steve Michael not in attendance)

1. CALL TO ORDER

Mayor Perry called this recessed meeting to order at approximately 9:12 am.

2. APPROVAL OF AGENDA

Councilwoman Klutz made a motion, seconded by Councilman Bateman, to approve the agenda. It passed unanimously, 5-0.

3. PUBLIC COMMENT

1. **Curt Baskette, 3605 Rabbit Hollow, Kitty Hawk, NC.** Mr. Baskette asked if comments could also be made at the end of the meeting.

Mayor Perry replied comments could be made at the end of the meeting.

4. STORM DRAINAGE STUDY PRESENTATION AND DISCUSSION

John DeLucia, Albemarle and Associates: *Good morning. This is our second workshop with you on the stormwater study. With me today is George Wood, who has been our environmental consultant on this project, and my partner Jay Overton from Albemarle and Associates. It has been a pleasure to do this report for you. We appreciate the support we have gotten from staff, council, and also from all of the citizens who filled out the questionnaires and gave us the information to help put this report together. We have given you an initial draft report and received some comments back from several of you and from DOT. We have made some changes to the document. Since the time between the first draft and the second draft we have had more discussion with some of the environmental regulators, with CAMA, and with the Division of Water Quality out of "Little Washington." So that section did change somewhat in the second draft. It has more information than the first draft did.*

In the report you will see it has an introduction and some historical data about Kitty Hawk, but the real meat of it is the various study areas that you authorized at the Phase II of this study. Remember we were looking at areas that not only affected town rights-of-way and town properties but also DOT facilities and DOT roadways because they co-funded part of the study. And future funding will be easier to get if it is a joint project. So we looked at that specifically in some of these study areas. The study areas...there were nine of them, there are actually ten of them total but Beacon Drive is not included in this study. There had been some preliminary work on Beacon that DOT had done on some collection basins, some underground piping, and that area was not an area we recommended that we restudy again. And then the area near Kitty Hawk Road and Sea Dunes Condominiums. As we looked at that drainage basin in there it really appeared rather than being two separate areas it is actually one large drainage basin and the most affected spot to put it was over near the end of Hurdle Street on the Sea Dunes property.

Let me go over the individual areas one at a time because I know there are folks in the audience that have not read this and it may give a little bit of clarity to the study areas.

Area 1: Byrd Street and Lindbergh Avenue

The first area was at Byrd and Lindbergh Avenue. There are about 20.7 acres of drainage area there and about 5.5 acres of that is prone to flooding in moderate storms and a larger area than that is prone to flooding after over wash. There is somewhere between 22 properties and 44 properties that can be affected depending on the intensity and severity of the storm. There is about .84 million gallons of water that potentially stands in that basin and at the pumping rates we can pump with portable 8 inch pumps we are looking at about two days to evacuate it. The initial recommendation was to create some additional infiltration area west of the Byrd Street right-of-way to help with some of the flooding that occurs in the intersection. That will help us with some rainwater flooding but it certainly will not accommodate the over wash conditions that we see there. Costs were ranging from \$44,000 for the first phase with some improvements to the right-of-way and then an additional \$36,000 in order to make connections to the beach

road. All areas except for the Rabbit Hollow area have the same recommendation, the improvements are putting in a catch basin, or a drop inlet and suction pipe that would be routed to the east side of the beach road during...throughout various rights-of-way. That would allow the town to bring a pump to the east side of the beach road and make a connection there rather than sending manpower and equipment into the flooded areas. And it would allow the discharge not to have to go over NC 12 thereby blocking NC 12 when we are under the pumping event. And that is similar for all these that I will discuss.

Byrd Street and Lindbergh Avenue has a drop inlet that has been historically used as a sump that can be modified to act as the inlet for the pump station and it also conveys completely through rights-of-way of the town.

Area 2: Lindbergh Avenue and Fonck Street:

Lindbergh Avenue is similar. It is about a 10 acre drainage area, about 4 acres of that we know floods under moderate conditions of over wash. There are somewhere between 23 and 39 people that are affected. There are about .61 million gallons of water that collects in there and it will take about a day and a half to pump it out. The recommendation for that was to go from about mid-block on Fonck Street just to the east side. Estimated cost is about \$30,000.

Area 3: Lindbergh Avenue and Bennett Street:

Area three was down around Lindbergh Avenue and Bennett Street. This area had about 32.7 acres of drainage area and about 3.7 floods. The properties there affected are between 20 and 59 depending on the severity. Estimated cost to put this station in was about \$65,000 and there is about a half-million gallons of water that need to be pumped in a day and a half. Area three also had all conveyance within existing rights-of-way out to the beach.

Area 4: Lindbergh Avenue between Bleriot Street and Hawks Street:

Then we had Lindbergh between Bleriot and Hawks Street. This area is a little bit...it is a larger drainage area, about 42.2 acres, and almost 12 acres of that floods. It affects between 62 and 66 properties. And in the past, during the last storm anyway, the pump intake location was placed on Hawks Street and it was run up Hawks Street and up over the dune.

At Hawks Street the low point is on private property, several hundred feet north of Hawks Street in about the mid-block. That is the actual lowest spot in these basins. We have made some recommendations for trying to obtain easements from these areas and the reasoning is the lower we can get the inlet structures the more water we can get out of the basins. If the town can get that location, and remember we are talking about something that is 36 inches square and 4 feet square around with a pipe that is underground. So the structure within private property would not look any different than the other ones. It would be a fairly minimal structure that would help drain the neighborhood. If the location at the low spot could not be achieved then it appears to

Kitty Hawk Town Council Minutes: November 15, 2011

Page 4

be lowest on the north right-of-way of Hawks and an inlet station could be placed in the right-of-way. It is actually a little less expensive to put it in the right-of-way because less pipe has to be installed.

Area 5: Lindbergh Avenue between Historic Street and Starfish Lane:

This is a large area. It is around 51 acres and about 16 acres of that is known to flood. It affects 82 to 106 properties. It is going to have about 2.5 million gallons of water standing in it and it will take about five days to evacuate that water at a 2,000 to 3,000 gallons a minute pumping rate. That is what we were expecting on this.

There are actually two basins here. There is somewhat of a high spot just a little south of Sanderlin Drive where it intersects Lindbergh. That typically...the last time we pumped we pumped on Historic Street and we pumped out over the dunes. That is when we had the problems with the dunes up near the Cargill's houses where they started washing away. We do not have a legal easement in that direction so we look down at Starfish to the south and Starfish has another low spot in the Lindbergh right-of-way. However to get the water from the north side up near Historic Street over to that area, we are looking at doing some improvement along Lindbergh Avenue with some underground piping and some open ditching. Open swales so that water could flow from the north to the south of that basin and be able to be pumped out. Estimated costs are in the range of \$82,000 for this system. As an alternative we could put in two pumping stations here. I do not know if that would be as effective. Plus some of the culvert and the swale work that would be done on Lillian Street would also help with some of the water that stands on the pavement in the Lindbergh area there.

Area 6 & 7: East Kitty Hawk Road and Hurdle Street:

Moving south we get down to the East Kitty Hawk Road and Hurdle Street. The drainage basin here is about 60 acres and about 7.3 of it floods. That is basically from the condominiums to the trailer park north of Hurricane Mo's. It is about 108 properties affected when you count the 82 condominiums that are Sea Dunes. Plus there is commercial that gets affected there with The Black Pelican and Hurricane Mo's, and the post office sometimes gets affected. Under extreme conditions that is the area where we will also see the water start coming across the bypass in front of Beacon. We have looked at the most effective place to place a collection inlet there and it really is at the end of Hurdle Street at the Sea Dunes Condominiums. I have personally spoken with the property manager, Doug Young, and the president of the property owners association and both of them were more than willing to give the town an easement in order to utilize this route. Luckily the day I was on site looking around they were both there and we had a very good conversation. Anything the town can do to assist with the problems that the condominiums is having, as everybody else is, they were willing to give us an easement there.

Area 9: Poseidon Street and Goosander Street:

We move south to the last area which is the Poseidon and Goosander area. That is about 45.5 acres of drainage area and about 16 acres flood. There are 53 properties that are affected in there and about 2.4 million gallons of water. It is also one of the larger drainage areas. It will take about five days to pump out. Estimated costs for this are running between \$62,000 and \$78,000 for the improvements that we have shown. However, as I was reviewing this after the second draft, there is about \$10,000 more that needs to be added to this estimate for the swale along the highway.

This was another area where the low spot actually occurs on private property. If it is possible to get an easement that would be the most ideal location where we show it. There are several properties that have about the same elevation that could be considered for easements. If we could not get an easement from somebody in that location then an alternative location would be over on Tateway and Poseidon. And that would all be on town property.

The other issue we have here is we do not have access across NC 12 to the beach. It is all private property. Some of those lots may actually be in public trust already. Looking at the aerials it appears the first line of vegetation on a few of those may actually be in the right-of-way. According to the town attorney that may not be problematic but going across private property he felt we needed to have permission. That would be the cleanest way to approach this. He was also looking into emergency situations as to what rights we would have. I know in the past we have pumped over the dune and we have not had issues but by putting a system like this in place we would need to have all of those permissions.

Those are the recommendations for all of the areas that were on the east side of US 158 between NC 12 and US 158. And I will stop there.

MPT Perry: *Before you go on, when Rabbit Hollow floods, doesn't this area flood as well?*

DeLucia: *Yes.*

MPT Perry: *So if we put a sub-collection here in this area that is beginning to flood would that ... do we believe the water running underneath the ground will migrate to that? It might affect what we need to do at Rabbit Hollow?*

DeLucia: *Yes.*

MPT Perry: *The second question is basically on the suction pipe. Some of this is quite long. They have to be kept clear for sure and when you build your sump, how do you keep that clear when you do not have a storm event?*

Kitty Hawk Town Council Minutes: November 15, 2011

Page 6

DeLucia: *There are a variety of ways to do that. The simplest way would be to take and put a piece of filter fabric against the inlet structure and just leave it there when we are not using it. We are going to know when we are going to need these. We are going to know a storm is coming in. It may be that public works has to go out several days before a storm, dig it out, and make sure the pipe is okay. The idea is to try to make the box as small as you possibly can. The pumps we need to use are going to be 8 inch pumps. Anything bigger than that does not come easily on wheels and would be very difficult for public works to move around town. So if we are limited to an 8 inch rear mounted pump it can do 2,500 to 3,000 gallons a minute.*

MPT Perry: *Do the suction lines rise from the point of suction to where the pump will be? How much rise do you have?*

DeLucia: *Probably. I think on low areas we were looking at somewhere in the 6 to 7 foot elevation and out along the beach road there is probably an 8 to 10.*

Mayor Perry: *I was thinking about a small fence around those suction areas.*

DeLucia: *I think if we keep them low to the ground we could put bollards around them but then it is more visual. If they are in the right-of-way we probably do want to protect them with some type of bollard.*

Mayor Perry: *When you start pumping it is going to be sucking stuff to them. If you had something at that point to stop it from getting to the suction ...*

MPT Perry: *That is an old "coastie" who has been on a floundering ship before and I have been there too. That is why I asked the question.*

DeLucia: *The other option we looked at was it may be possible to put a dual in some of the larger areas like the Goosander and Historic. Where we have the larger drainage areas it is going to take more days. Putting a dual connection on it ... if we bring pumps down and we get one that a day and a half pumps it out and bring a secondary pump it will start reducing the amount of time it would take. I do not know that it would cut it in half ...*

Just to give you an idea, the recommendations for the east side of these areas, depending on options and alternatives, is somewhere around \$460,000 to \$485,000. Within those areas of study we did physically survey and look for some of the low spots, did look at some of the soils that were in the area because we were not looking at any infiltration system. We did not do any real testing of the hydraulics of those soils because it was not necessary for basic recommendations.

When we went to Tateway and the Rabbit Hollow area we did. We did several 20 foot deep borings. We looked at our soil types and had a hydro geologist come out and look at some excavation rates. We were also looking to see if there were any restrictive horizons that was

Kitty Hawk Town Council Minutes: November 15, 2011

Page 7

holding that water from going away. We did not think there was going to be but doing these tests confirmed that there was not. We do have a very high hydraulic continuity, a good sandy layer.

Right now we have 3 monitoring wells that are still in the ground. One of them is at Mr. Baskette's house, one of them is on Ascension State right-of-way, and one of them is behind the T-shirt shop. We have been looking at those after a sundry of events, watching the ground level. The ground water has actually been lower. We knew it was but it is probably 12 to 14 inches lower than normal right now. The recommendation for Tateway was to put in under drainage along the rear property line in order to try to maintain a ground water level in there. The under drainage would be connected to a permanent pump station that will have a set of pumps that would, when the ground water reaches a certain elevation, come on, pump the water over to the Windgrass Circle Park, and then out into Kitty Hawk Bay. We would want to discharge it in the bay, not in the park for many reasons.

Area 10: Tateway Road and the Rabbit Hollow Area:

The drainage area over on Tateway is about 53 acres and there is about 8.5 acres that flood. There are about 20 residential properties and several commercial properties in the area that experience flooding. There is about 1.3 million gallons of water and would take about 3 days of pumping. However in this case, we would be pumping on a continuous basis rather than an as needed basis. Estimated cost for that system would be over \$400,000.

Mayor Perry: *Did you consider putting a pipe under US 158 between Tateway and Goosander? They basically work together. That is what I think.*

DeLucia: *All of our areas probably have connectivity in that subsurface.*

Mayor Perry: *Right. But this is close, we see one ...*

DeLucia: *... affecting the other.*

Mayor Perry: *Yes.*

DeLucia: *Let me go to the environmental part of this before I answer that question.*

Klutz: *I recall that when we worked on the Byrd Street parking lot there were recommendations by the engineer regarding swales and improvements along Lindbergh Avenue. It would direct some of the water to the western area I think. We had a huge push back from the neighborhood. It was a lot of, I would say, vehement opposition. What is the magnitude of the swales? You mentioned they were pretty shallow, with pipe underneath, and there will also be some driveway modifications. And which way on Byrd Street? Are you looking north of Byrd Street on Lindbergh or south?*

Kitty Hawk Town Council Minutes: November 15, 2011
Page 8

Mr. DeLucia directed council to the drawings after page 25 in the study.

Klutz: *So it is on both sides.*

DeLucia: *This was the initial recommendation which would include swales from basically mid-block.*

Klutz: *If that were the solution you probably could do away with a lot of minor flooding that occurs there because it is a little more frequent than other spots.*

DeLucia: *Yes.*

MPT Perry: *Were you monitoring the levels at Rabbit Hollow during Hurricane Irene?*

DeLucia: *Yes sir.*

MPT Perry: *What happened?*

DeLucia: *Not very much.*

MPT Perry: *You did not see any ... I mean it was a fast flood and receded so ...*

DeLucia: *It was a fast storm ... the ground water was low. It came up about 6 or 7 inches I think. Right before the storm we took a measurement and we took measurements three different ... and it did not move a whole lot. It moved up a little bit and then it went right back down.*

MPT Perry: *We did not have any rain so it had to be an impact on the sound side to make it move.*

DeLucia: *Well we did have a lot of rain about a week after.*

MPT Perry: *But I am thinking before the rain you monitored it and you still had some rise?*

DeLucia: *We were monitoring it then we also monitored it right after the hurricane for a couple of days. And then ...*

MPT Perry: *At that point did it rise?*

DeLucia: *Very little.*

MPT Perry: *But it did rise?*

DeLucia: *It did rise.*

Kitty Hawk Town Council Minutes: November 15, 2011
Page 9

MPT Perry: *The flood did not last very long.*

DeLucia: *No.*

MPT Perry: *That tells me there is some hydraulic action underneath that sand dune.*

DeLucia: *Oh, sure.*

MPT Perry: *That leads to my next question. You are thinking pipe and I am thinking nature as far as Rabbit Hollow to Goosander. If you put in a drainage system or pumping system over on Goosander and it is rainwater, can we pump that to the ocean?*

DeLucia: *I am going to let George answer this one.*

MPT Perry: *You can pump it to the sound if it is rainwater but can you pump it to the ocean?*

Wood: *You are getting into the environmental side of it now and if we are ready to move into that we can answer some of those questions. It is not terribly complicated with regards as to whether it can be approved or not. There are some existing policies and some existing regulations that are going to confound the mixing of the waters in different areas. So I am going to make a short answer to your question. If we are going to have permanent pumping in Rabbit Hollow, if we are going to have permanent ground water lowering devices, then it is unlikely that we can pump it to the ocean. If we are going to just use that pumping on an emergency basis then we could.*

MPT Perry: *But the emergency would be that Rabbit Hollow and Goosander has...the water table has come up as a result of heavy rain. In that event what makes that less emergent than the ocean over wash?*

Wood: *When we met with the resource agencies we were...first of all we had a really great meeting with them. We were able to present the strategies and there was a great benefit into separating the strategies on the east side and the ocean outfalls from that on the west side and the sound outfalls. And the reason there was an advantage to separating those is because of the North Carolina Water Quality Anti-degradation Rules. On the ocean side we can...we did not see any resistance at all from the resource agencies as long as it is a response to an emergency situation. Now an emergency situation is defined as those circumstances where you have 14 inches of water on the roads. So we could then pump to the ocean because we will temporarily de-grade the water quality in the ocean. We will remove its highest and best use for a period of time which is in contravention of the anti-degradation rule.*

On the west side, if we go to the sound, we do not have that removal of best use of water by permanent pumping and therefore it does not have to be an emergency situation. It can be something that is of longer duration and anticipates the need to lower the ground water so that

Kitty Hawk Town Council Minutes: November 15, 2011
Page 10

you do not have a flooding event in case of a storm. So linking the two can create a problem if you are going to pump to the ocean because now we all of a sudden have a limitation on what we might be able to do at Rabbit Hollow until we have an emergency situation.

With that being said, the policy that speaks to the emergency situation was developed in response to hurricanes that have occurred up and down the coast of North Carolina. DOT and the Division of Water Quality needed some way to allow for the temporary contravention of the Water Quality Anti-degradation Rules. They jointly came up with the 14 inches which relates to the ability of emergency vehicles to transit the roadways. In our discussion with the resource agencies there was an encouragement that maybe that policy needs to be revisited. Certainly some of the arguments we would like to make is, as you were saying, the emergency can be other than just the ability of emergency vehicles to move up and down the roadway. It could be we have water that is being contaminated by the septic systems and therefore when we do pump over, we create a larger environmental hazard than if we were able to pump earlier. But right now linking the two would create that difficulty in cleaning the water which is going to the ocean under our emergency circumstance and that which is going to the sound under a continuous circumstance.

DeLucia: *And just to expand on that, what was said about taking it from one side to the other, pulling the ground water down on the west side may affect the east side for the rainwater. If we are trying to pull the Goosander back down again and taking it up ... a continuous rate. If Goosander, that area is not ... hydraulic like we think they are we may be able to affect, I do not know whether it is too far to affect. We may be able to affect some of the ground water on the east side because we are lowering it on the west side.*

MPT Perry: *Yes and half a million dollars difference too and it is a maybe whereas...the permanent ground water pumping is going to cost as much as doing all of the other things and we have to look at it from that point of view too. I guess, and maybe I am early in asking this question based on your dissertation, but how do we go about getting the policy changed to a more amenable way?*

Wood: *John and I have discussed this and quite frankly we do not recommend the town try to change State policy. If the environmental management commission is inclined to revisit the policy that is great because it is probably going to be a lot more liberal than it is now. What we would prefer the town consider is that we make our arguments for the specific case of Kitty Hawk, therefore it be a condition of permit that has either some special consideration of variance through the commissions or by the resource agencies. Have some understanding of the efficacy of doing it in a different way other than just following State policy. State policy is just that, policy. It is not rule. Therefore it is guidance not necessarily law. There are provisions in the State Water Quality Anti-degradation Rules to allow temporary impermanent of the best uses of water. But I still contend that if we put in a formal structure like pipe underneath the road it is going to connect these two that will ... they are connected I guess by subsurface but if it*

Kitty Hawk Town Council Minutes: November 15, 2011

Page 11

becomes a formal connection it is going to complicate the issue for the resource agency to permit.

We told you we were going to try to find those types of solutions that would be cost effective, would be effective, and could be permitted. That does not mean we should not necessarily move towards those solutions that are safe permitting. We just have to realize that if we go to some solution that might be a concern to the resource agencies we might need to be prepared to go to the commissions to ask for a variance. And that is what we would recommend.

MPT Perry: *Forget the pipe for the moment. I understand your inner connection conflict but go back to what you said about a "Kitty Hawk specific" attempt to get some permitting for us in particular. In that case, if we were to put in the Goosander drainage system and we ask for permission to pump rainwater out of Goosander and then we find that hydraulically, by natural processes it assists Rabbit Hollow, are we not ahead of the game as far as what we are trying to accomplish overall? Is that a possibility?*

Wood: *Yes. It is the formal connection, the formal linking, and it is also the combination of the continuance of pumping as opposed to the emergency pumping. I did not do the science on the Rabbit Hollow side and I am not an engineer. John might be able to answer this, but if we cannot get ahead of the increase in the water table on Rabbit Hollow and then we try to pump it down during the emergency situation I do not know what the delay would be in the relief for those people. My guess is that it is going to be longer than what we would expect with a permanent ground water lowering device. And so that is a trade off. And of course that is some of the difficult decisions that have to be made with regards to the, not only the efficiency of what is designed, but also the ability to fund it.*

Klut: *I have a question, and if the answer is too complicated and would take too long, just tell me to go away. The degradation of the water, "best use" I think is what was said, what does that have to do with pumping water into the ocean? The best use of the ocean water in terms of what?*

Wood: *Go away. (Laughter)*

Klut: *What you said about not trying to change the policy, try to make a case for Kitty Hawk. It would seem to me if the connection would actually work in terms of pumping into the ocean, if cost effectiveness has any influence at all on environmentalists, which I do not know the answer to that question either, perhaps that would be a way to talk about it.*

Wood: *In looking at regulations, sometimes you have to cleave the right side of your brain from the left side because there are practical solutions that might not meet rule. In the case here, the State classifies different water bodies differently for shellfish, for drinking water, for contact waters, and the ocean has a classification which is higher contact waters. If you pump water into the ocean you degrade the best and highest use of that water, even if only temporarily. So*

Kitty Hawk Town Council Minutes: November 15, 2011
Page 12

the only provision in State rule to allow that is in the emergency situations and that goes back to defining what an emergency situation is. It is outside of that practical side and into the regulatory side because you have to hit all these little triggers that are in the regulations.

Now with that said, as we mentioned before, the Environmental Management Commission has the authority to vary from that provision in rule. They are the only ones that do. If we find a strategy that makes sense and is kind of outside of the thought process that has been used up to that point, and we come with a compelling argument to the commission, then they could issue a variance. And we might be able to pump Rabbit Hollow into the ocean, but as you all know, when you go to a commission, they are individuals. They have the ability to hear the arguments made and vote whichever way they desire. We were trying to find things that we felt were pretty reliable based on rule and staff recommendation because it becomes much more uncertain when you start going to a commission. Did that answer your question?

Klutz: *It answers my question, thank you.*

MPT Perry: *Sometimes if you make a sound argument you can prevail. A sewage system in a large residential area for a long period of time versus quickly doing something. Then you can also make an argument by just going a little south of us and they have drainage ditches that drain all effluent to the sound. We have to put in a half a million dollar ground water pumping system to meet their regulations and you go two miles south and everything works. It sounds to me like there is some argument here. It seems to me we have to figure out how much of it we can afford at a particular time, where do we start, and what impact might we have when we start with one to the other. That is where my conversation has been going all along.*

Wood: *If I may follow up, I am not trying to sway the notion of seeking a variance but we felt for the purposes of this study we might want to make sure we at least had an option that would function under State rule. Then if you see a better solution, then at that time, and this will probably be a town permit, you can decide whether you want to pursue any type of request for a variance. But it would require a request for a variance under the DEMC, under current policy and rule.*

MPT Perry: *Have you lost anything in the trying?*

Wood: *The only thing you have lost in the trying is design fees and probably attorney fees and those sorts of things. And if you have a really strong argument, which I think we do because the resource agents we talked with get the notion there is a real advantage to getting the water out as quickly as possible. And when you align what their primary purpose is, environmental protection, with the primary purpose of the citizens of Kitty Hawk which is to be able to get in and out of their houses. When those are right in line then all of a sudden we have the opportunity to do what the citizens need as well as what the resource agencies want.*

Kitty Hawk Town Council Minutes: November 15, 2011
Page 13

Mayor Perry: *Now the pumping stations, I think we mentioned it previously, if we got them permitted, we would not have to get permission every time we pumped. We would not have to wait for permission to pump.*

Wood: *What we had proposed to the resource agencies is that we would establish a set of protocols under which the pumps would be brought in and the pumping began. There were a couple of things we were trying to achieve. One is that we did not have a delay in getting the water out. If we have a really big storm we did not want to have to wait for a resource agency or agent coming down from Washington or Elizabeth City to bless the strategy.*

And the second thing is we wanted to build in some existing infrastructure so it did not block the ability of emergency vehicles to do what they needed to do. So there is going to be a series of protocols that would be established and they seem very comfortable with that. Probably as a part of that we are going to want to monitor to see what it is doing to the ocean water or sound water which is...I think is reasonable. One thing we have to guard against is we do not set standards which we cannot meet. In which the standards would say if we reach these certain levels we turn the pumps off. We cannot get to that point in those negotiations in the...

Mayor Perry: *If it is over wash, generally we can start pumping right away. There would not be anybody in the ocean for a few days to get in contact with those things. The quicker we get to it there would probably be nobody there to get affected by it.*

Wood: *Once again Mr. Mayor, it is the difference between the practical and the regulatory side. It makes sense but the resource agencies, when they are looking at permitting these things you cannot contravene that standard which says you cannot degrade the uses of the water even temporarily, except in emergency circumstances.*

Bateman: *Are there filters that can be put on the pumps to filter the water that goes back? Some of the other municipalities have them and if that is the case I do not understand what the problem is.*

Wood: *You can put filters on there and this may be a question for the engineers but from an environmental standpoint I think you are better served by not putting the filters on. They become an additional component of the system that has to be taken care of, they clog.*

This system we are designing is not going to be used very often. It will probably, at most, be used once a year if that much. And we can see there are opportunities for the "dilution solution" is what they call it, where you put the water out in the ocean and for it ... and temporarily it does degrade the water quality but that goes away real quickly. Most pathogens, once it touches salt water, do not live very long. So the pathogenic side is very limited.

Kitty Hawk Town Council Minutes: November 15, 2011
Page 14

The more concerning side, from an environmental standpoint, would be hydrocarbon because you flush all the gas and oils and stuff that has been on the roads. But they also degrade fairly quickly over time. My recommendation is that we not look at filters. They are expensive, they are problematic, and they probably reduce flows.

MPT Perry: *The outfalls that have filters have provided enormous problems and expenses have they not?*

DeLucia: *They have been very expensive but I do not know how expensive.*

Bateman: *I was asking because what you were saying presented a picture to me that it might be hard to pump the water over there on a permanent basis and I was just trying to find a solution.*

Wood: *You are correct. If we are going to look at a permanent or a continuous pumping basis then we are probably going to have to look at combinations of best management practices and probably filters of some sort whether they be natural or in-line filters. That is what Nags Head is doing. They have an ocean outfall that has a very incredible filtration system in it. I have seen the results but I have not seen the results long enough to see if it is a long term solution. What we hope is going to be in Kitty Hawk are very short term and sporadic needs.*

Stockton: *As far as the permitting process goes, would we go after permits for all the projects at one time or would we split them out?*

Wood: *If we stay with the essentially two systems, one where we try to address the stormwater issues on the east side of the highway...I suggest that they all have similar concerns, they all have similar issues and suggest that you address those all on one permit. But you do not address the Rabbit Hollow side in that same permitting process because that is going to have different issues. It is going to have different solutions and different arguments. One of the things I found with my involvement with State agencies is they are busy with a lot of projects so their ability to separate the issues for the two different processes we are proposing could end up contaminating both of the processes with regards to their ability to say yes.*

We are recommending you take it under two permits and they will both be major permits. They will both have stormwater permits and they will both probably have erosion sediment concerns and issues. We do not know yet and have not analyzed whether there is going to be impacts to wetlands and that may bring the corps of engineers in. That is something that would be pursued in the subsequent design and coordination process.

One of the recommendations they made is that we eventually get to a point where we have the inter-agency meeting, which for some of the public here who might not be aware, is a coordinated meeting that would occur in Washington with the four federal agencies and the fourteen State agencies that would be involved in the permitting of this. There are a lot of agencies involved.

Kitty Hawk Town Council Minutes: November 15, 2011
Page 15

Bateman: *It has been eight years we have been talking about this. I feel like that guy in the movie "Groundhog Day." It just goes on and on and on. I want a resolution. I want somebody to say we feel it is best for you to do this and then we do it. We find out how to pay for it and make some kind of a step forward to do something. When you are talking about four other agencies in Washington, DC that scares me, because those people cannot decide anything, any time, on anything.*

Wood: *Well, it is Washington, North Carolina which might be a little better.*

Mayor Perry: *But it is still fourteen agencies.*

Wood: *This will make us feel a little better. It is actually sixteen State agencies and four Federal agencies.*

Bateman: *That makes me feel a lot better.*

Wood: *What will make you feel better is that of those we talked with, the Division of Water Quality and Division of Coastal Management would be the most problematic in trying to understand their rules. The others are advisories mostly, such as the Marine Fisheries and Wildlife Resources Commission. They do not have a permit that they issue so they are advisory to the others. Many of those State agencies will not even come such as Community Assistance. There are a bunch of those agencies that are in the review chain that really do not have play. It really boils down to a handful of agencies.*

We have not done the co-ordination with the corps because their primary concern is going to be whether the ground water lowering devices are going to have an impact on wetlands and we really feel like in large part we have addressed those concerns with the two agencies that are going to have the most concern and input. And they seemed very supportive of what we were proposing to do.

MPT Perry: *In answer to your frustration, I really think for the first time we have a plan that is possibly doable. I have a little more optimistic outlook with these gentlemen having already approached the various agencies to get some feedback that seems more positive than not. And I think we in Kitty Hawk have an excellent argument on a couple of different grounds. One, we have periodic problems, they are not continuous. We have a situation on the oceanfront that with every storm now we see over wash so there are more people involved.*

I happened to see Stan Riggs on the beach the other day. A North Carolina university is getting ready to do a comprehensive study on the beach profiles and some other things. In talking with him there is an acknowledgement out there this stretch of beach has some issues. One side says no nourishment so you are going to have to deal with those issues and that is an argument that we can make. There is another side that wants to do some different things.

Kitty Hawk Town Council Minutes: November 15, 2011
Page 16

I understand your frustration over a long period of time and I certainly understand the populace frustration every time the tide comes up. I think there are some options we can do over a period of time. I think we need some grant money and I think we need to choose carefully what we start with and see how it works as far as other possibilities. That is where I am going and I am a little more optimistic than most because I think there is a plan that is doable.

Mayor Perry: *Talk about the frustration. We have had a plan to do an outfall. DOT drew up that plan and planned to put it in and then we had an uprising from the Surfriders and somebody else stood up and said "no" so that killed it. Then there was a plan to put a French drain in the same area. We were promised they were putting stubs in so we could put Lindbergh's water into that but it cost so much it died in Raleigh. We had the plan of pump stations. We did not have a study to do it, but they approved that also and then when we did not have a flood it just went away. DOT was involved in all of this in the '90's. Then we had a study, not telling us how to do it or what to do, but pointing out where the locations were. That study just gave us information on where the flooding was. I thought we needed this kind of a study.*

Then we find out in order to get some grants we have to have a study that we can present and has been engineered. That leads to my question. DOT supposedly is going to be involved in this process where it affects their roads. They should be a part in producing funds for what we had planned before with the pumping stations. They were going to do under the road borings and then we were going to run the pipes to where they quit. We were going to take care of our part and they were going to take care of their part. It has been frustrating and discouraging. We do have a plan but the source of funds may not be there like it was a couple of years ago because that person is gone. He is why the plan got started and we got the funds to help do the plan. Now we have to figure out how we are going to approach this. How are we going to get funds now? Does this go to DOT?

DeLucia: *The first draft has already been sent to Barry Hobbs and to Gretchen Byrum I think. We have gotten very few comments back from them at this point. We have sent them the second draft and are waiting for comments back on that one.*

Klutz: *I have one thing I would like to clarify regarding those east side pumping solutions. What I understand you to say is when we go to the regulatory agencies we are going to present a plan which would allow us to pump in an emergency at all of these locations without having to obtain a permit at that time. Is that correct?*

DeLucia: *Yes.*

Klutz: *The emergency situation as defined by the regulation is there is 14 inches of water on the road. Does that mean 14 inches of water on the beach road or a town road? Can we say that looks like 14 inches and start pumping? Can we in the permit define what the emergency is?*

Wood: *The 14 inches really is not going to serve what we want.*

Kitty Hawk Town Council Minutes: November 15, 2011
Page 17

Klutz: *Exactly.*

Mayor Perry: *No, that will not help us.*

Wood: *And it does not address the argument we are going to make which is that getting the water out quickly reduces the overall environmental impact from the pumping. Once again the 14 inches is articulated in policy which is not rule. Therefore that policy is a guide but it does not mean they have to have 14 inches. With good arguments and with good understanding of when we should start the pumping, the protocol would be developed and be a part of the application process. With a vigorous monitoring program there can be some understanding of what it really means. We probably can do something different than 14 inches.*

Klutz: *We are going to be looking at the septic compromise and all of those things. We define the emergency criteria we want to use and if we are successful then they will permit this early pumping whether there is 14 inches on the road or not. It will be an emergency as defined by the Town of Kitty Hawk.*

Wood: *It will be an emergency as defined by the permit which would be the protocols and that will be negotiated. Surprisingly most permits are negotiated. Particularly some that are ... most that are complicated. They are either denied or negotiated because every situation does not necessarily fall into that little niche in the rule.*

In this case we have some really good arguments and the path we take is going to be with a major CAMA permit which may result in a need to go and seek a variance as I mentioned. But with good arguments I think we can prevail. I feel very good about the feedback we have gotten from the resource agencies. I feel really good about the funding sources we have identified. It could maybe help with some of the development of the arguments including the planning aspects for the protocol and the monitoring aspects for when the project is implemented. There are all kinds of opportunities and they are in the report. Funding sources that help with some of those components would be...I cannot really say ancillary to the primary purpose but are in that...they are studies, they are monitoring and those sorts of things. So yes, can we move forward, do we feel confident this plan can be permitted? I believe it can and I have not heard anything from a resource agent yet that says no it cannot. I am basing some of this on my 30 year's worth of experience in this, but once again, it is a permit and I do not issue the permit because otherwise you would have it by now.

Klutz: *The other question I have has to do with all of the many regulatory agencies. What I am basing this on is what I have seen going on in Hatteras for the Bonner Bridge. It appears that even though many of these advisory agencies may not have a say so on permitting, if it does not appeal to them they will file some sort of a complaint and it halts the whole project. Do you see that being something that could happen to us as we are trying to go through the permitting process?*

Kitty Hawk Town Council Minutes: November 15, 2011
Page 18

Wood: *Any of the State or Federal agencies has an opportunity to question the issuance of a permit and in the Federal agencies they do that through a process called "404 Q." The State does it through a process called an "Appeal of a Permit Decision by a State Agency." Their major influence though is in the commenting period time before the permit decision is made. And by the way, about being scared by all those agencies, if you get a bulkhead permit those same agencies look at a bulkhead permit as do this. It is not as if this is a special committee convened just to look at this.*

The job of the organization is to take you through the permitting process. Make the best presentation possible with regards to why this should be permitted. To listen carefully to the responses that come back and try to respond to those in a way that if at least it does not convince the agencies they should remove their objection it at least builds the case so when we go to request a variance we develop the case arguments. In order for the commission to do what is practical as opposed to just what is regulatory. So yes, can it fall into that same thing? Yes, it can, but I doubt it. Not with the plan we have. I really feel very comfortable we have a plan that could be permitted without a tremendous amount of angst. Still...we have friends in the organizations that you mentioned. We do not know who is going to show up and they can have a third party appeal of any permit. They make their best arguments, we will make ours, and then of course those appeals go in front of an administrative law judge and decisions are made there. Hopefully we will never get there. If we do adequate work in trying to understand the concerns that are made from our friends we can persuade them that this is the best solution to a really bad situation.

Bateman: *I got a call this afternoon from the owner of Hurricane Mo's and she asked if this plan is going to address the issue she had during the last storm with water standing on her property. We could not pump it off her property. Of course it is not town property. Is it going to solve the gentleman's issue at Rabbit Hollow? Is it going to solve the issue on Goosander when water is not in the road but it is on their property? Is this plan going to alleviate, in your opinion, those problems?*

Wood: *I am going to answer part of it and let John answer part of it but the answer is yes. The answer is yes but we also have to let the public know that there are events, storms, and series of events, where there is going to be flooding regardless of what we do.*

Bateman: *I understand that.*

Wood: *You could design and implement something that would address all of the storms but I doubt very seriously the citizens of Kitty Hawk would want to pay for it because it would be terribly expensive. What we have tried to do is match the solution with what we have seen historically. It is going to take care of those issues, the engineering is there, and it works. And we feel like we can get it permitted. We recognize there are going to be times when that system is overrun by a series of storm events or a storm event.*

Kitty Hawk Town Council Minutes: November 15, 2011
Page 19

MPT Perry: *And if I might add, every low lot is not going to be pumped dry. Even within what you have identified here, it is for a large area and not for individual lots within that area that might for whatever reason be lower. If that is the answer to Hurricane Mo's problem it may be the answer you have to give her. She is lower than the larger problem.*

Wood: *Before John answers, the one criterion that we said with this board was that we were going to try to reduce the duration of flooding, not necessarily that it is flooding.*

DeLucia: *We are not going to turn the pumps on until the water is already in the basins. Yes, everyone is still going to get flooded like they were flooded before. The idea is not to wait eleven, twelve, or fifteen days before we get a permit and then a few more days until we get the pumps in place but to be able to the day after the event have the pumps here or have the pumps on the way and plug them in. It will not eliminate all the little pockets of water, but if we can get people back into their houses and water off of their drain field or if it is still on their drain field at least it is not under their house where they are tracking it in and out. It becomes a health safety issue. We turn the pumps off when the water is low enough that it is out of most people's houses and at that point we let infiltration do the rest.*

Mayor Perry: *Basically where you have these stations it would also help NC 12 because from NC 12 it runs to these lower places.*

DeLucia: *We get the water off of 12 and off of Lindbergh with these stations.*

Reid: *Are we talking about 8 pumps that we are going to haul out every storm or are we talking about 6 pumps and then shifting them. What is the thinking on that?*

DeLucia: *It depends on how many stations you have in. When they are all in and implemented it will depend on how many pumps we can get. If we have a major storm Godwin starts...a lot of towns start calling them and reserving them. It will depend on how much water has come in because we can move pumps around. Ideally, every pump station should have a pump on it if we can afford it but at \$5,000 per pump, per week, you are looking at \$40,000, \$45,000 a week in just pumping rental costs. Having the ability to move these around a little also will save some costs.*

I know the Town of Manteo has been looking at...it has and is looking at another mobile pump that they use for some of their sewage pump stations. There are other municipalities around and maybe the ability to do some discussions...if Manteo does not need their pump and we need it out here we would lease it from them. Have some pumps that are closer to us than having to bring it down from Chesapeake or...

Mayor Perry: *And DOT has some and they might have some more if they had this system in.*

Kitty Hawk Town Council Minutes: November 15, 2011
Page 20

DeLucia: *If we have everything standardized, all the parts are the same, or at least have connections that interconnect ... it may not be a bad idea for us to have our own portable pump. I do not know.*

Mayor Perry: *Public Works does not want a pump. If you play with pumps long enough, pumps do not work when you get ready to use them. They work every fire drill until you have a fire. That's the way it is.*

MPT Perry: *What is next?*

DeLucia: *We are here to answer any questions or take any advice or any changes you would like us to make in this before we finalize the report before the public meeting. Then present the final report to ...*

Mayor Perry: *It looks like you need to do your presentation to the public and then come back and we will direct you. That is what it appears to me.*

MPT Perry: *That is what I see.*

Mayor Perry: *I thought it was pretty good.*

DeLucia: *Thank you.*

Stockton: *It may be premature but is council interested in setting up some type of priority for the different projects?*

Mayor Perry: *Undoubtedly we will have to do them in phases of some sort if we can get the permits. We need to look for funds for the permits and we need the permits before we can do anything. Then if the permit will cover all of the pumping stations and we do not have to go back every time for another permit, over a period of time, they could be put in. That seems to be the process. We definitely need to begin to look for funds for the permitting process which is the first thing and if we do not get a permit we cannot get funds for building them. I think you can build ... you can do these things regardless of whether you had permits or not and use them when the emergency comes and meet the criteria but we do not want to have to do that. We want to get permits that we can go ahead and use it when there is not necessarily "x" number of water on the road.*

DeLucia: *You are right. We could get the permits to put the infrastructure in but we still have to have a CAMA permit. And we want the condition of when we can pump tied to the permit.*

Mayor Perry: *Right. That needs to be ... that is a big issue.*

Kitty Hawk Town Council Minutes: November 15, 2011
Page 21

MPT Perry: *John, personally, I think it would be premature to prioritize anything before the public meeting.*

Stockton: *That is what I was after.*

MPT Perry: *I think we need to make sure the public is satisfied and if we hear something different we may have to back up and punt but I would like to know what the final public output or outcry might be. I already have some feel for where I want to go.*

Klutz: *I think we also need to hear from DOT.*

Mayor Perry: *Yes, definitely, they are part of this.*

Klutz: *They have to weigh in on what they think. I agree that the first thing we need to do, if we get everybody on board, is start the permitting process or try to get some money.*

Mayor Perry: *The permitting process seems to be the first thing and whether DOT is going to be involved with us. Or are we going to have to do it and they help us with the cost for their area.*

DeLucia: *There is one other item that I had not brought up. For the Rabbit Hollow area I am getting cost estimates of what it would cost to put a data logger on one of those wells. They are not that expensive. Rather than paying someone a salary to go out and read it after each storm we would have that data available. That information would probably be necessary.*

Bateman: *We also need to look at the money. We need to find if there are grants. We know how much it is going to cost us and where we want to go but we need to find the money.*

Mayor Perry: *We also need to know about how much money we are talking about to go after the permits if that is the first process. And where can we get funds for that. George has that in hand I know.*

DeLucia: *If you notice in the estimates there was some designing, permitting, and legal numbers on some of those. That was how we recommend bringing all this together.*

Wood: *There are some Coastal Planning Grants and we may be able to get some grants for innovative stormwater design that would help with the design phase. As far as permitting, it is difficult to get funding from an agency that in turn is going to review its own project that they funded. But you can get design funding and then you go through the permitting process. The permitting process on this type of project may be as little as three months and can go to as much as two years. The three months would be the agencies just signed off on it and it can happen. The likelihood of that is pretty low. The two year side is if we have to go through a protracted*

Kitty Hawk Town Council Minutes: November 15, 2011
Page 22

series of variance requests and settlement agreements and those sorts of things which I hope we do not have to do.

The timing becomes somewhat problematic because most of the grants that are available usually occur in two funding cycles: January and July. Generally grant requests, as you had mentioned Mr. Mayor, require permits in hand. That actually gives you really good points in the grant process if you already have approval. Not necessary but preferred. So when you start putting this thing out into some type of timeline it looks as if we will not have time to get the project implemented by next hurricane season. But you should be fairly far along with regards to knowing what the design will be and the funding will be. That is just the reality of this process and I think the citizens need to know that.

The report contains a number of grant opportunities and other funding opportunities that you need to look at, consider, and decide which one works best for this town. All of these grants and all of these funding options have worked in other areas and if we need more information on that I can give you examples of where some of these things have occurred. If you have any questions later with regards to any part of the grants, if you would get in touch with me I can get that information to you.

Mayor Perry: *And we need to correspond with DOT when we start this process. Once we finish the public meeting we need to correspond with them. Maybe have a meeting with them concerning this issue and see what part they are going to take.*

MPT Perry: *The manager and I talked with the replacement for Stan White on the DOT Transportation Committee and he said things are moving. I said which way, west? He said yes and that is what we are faced with.*

Mayor Perry: *Any other questions or comments?*

Stockton: *George how much of the design do we have to have done before we can apply for the permits?*

Wood: *Pretty much all of it. The unfortunate thing is that some of the permits are schematic. The Division of Coastal Management really wants to see where the pipes are going to be and just a little detail. At the same time this will probably be handled under what is called a "General Permit 291 Process" which is a coordinated process. It means the agencies like the Division of Water Quality will need the details of the pipes and the pumps and all those other details that the engineers want to see as opposed to the other things I call the "bugs and bunny" people want to see. The impacts on primary nursery areas and the impact on water quality. John, the long and short of it is, short of construction drawings, you have to have a whole lot done.*

Kitty Hawk Town Council Minutes: November 15, 2011
Page 23

DeLucia: *These are still conceptual in nature. There has to be some refinement to the drawings on the east side but probably not much more than what we have in the individual planning profile. The west side for Rabbit Hollow will be a little more complicated because of the underground pipe ... Tateway and the discharge. The design of that will be more complicated and be more ... the regulatory people will be looking for more information. Primary nursery areas is something that has already been brought up to us.*

Mayor Perry: *Thank you for coming and for the information.*

DeLucia: *Thank you. We will schedule a public meeting.*

After a brief discussion, everyone agreed early December would be a good time to schedule the public meeting.

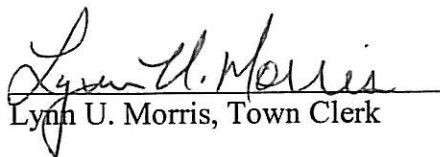
DeLucia: *Thank you all very much. It is a pleasure assisting on this report.*

5. PUBLIC COMMENT

1. Curt Baskette, 3605 Rabbit Hollow, Kitty Hawk, NC: *I want to applaud John and Albemarle and Associates for the work they have done. This is something we have been hoping for, for a long time. It is a concrete plan. Using the plan they are proposing, managing ground water, is going to benefit not only Rabbit Hollow but the areas around Rabbit Hollow including Goosander. It will benefit not only Goosander rainfall stormwater problems but also ocean over wash. If the water table is down when we have the over wash it is going to lessen the impact and the damages and it is also going to take less time to pump out the water that does not filter down into the water table. There are going to be multiple benefits from that but I know we still have a ways to go.*

6. ADJOURN

MPT Perry made a motion to adjourn the meeting. Councilman Bateman seconded and it passed unanimously, 5-0. Time was 10:46 a.m.


Lynn U. Morris, Town Clerk


Clifton G. Perry, Mayor

These minutes were approved at the February 6, 2012 council meeting.