

PTC #8 Q & A

1. **Question:** Is it possible to receive permission to install a permanent stormwater pump and be able to pump using the outfall area automatically once the Village knew there was a problem? This will save on time needed to place the pumps and pipes.

Answer: Reference [HFTF Report](#) Page 22, “Pre-placement of Assets” and recommendation action item # 17. Additionally, any permanent fixed equipment and/or placement of permanent hardened infrastructure (i.e., pipe) will require NCDCM (“CAMA”) review and approval once engineering & design has been completed. Based on locations of referenced infrastructure in a CAMA “Area of Environmental Concern” (AEC), the request would be denied by DCM staff at which point the Village could seek a variance that will have to be approved by the Coastal Resources Commission (CRC). Specific to PTC #8, regardless of if/when the Village could start pumping, the reality of the situation is that no one knew in advance how much rain the island would receive and to that point, as of Sunday evening and Monday morning’s NWS briefings only projected 4”- 6” and 6” - 8” inches respectively, not the 20” inches.

2. **Question:** Could you clarify what happens when the power is turned off to a submerged grinder pump to a home that is then occupied with toilets being used? Is this a hazard?

Answer: Reference [HFTF Report](#) Page 48-49 on the Island’s waste treatment system and use of grinder pumps. When the grinder pump is turned off the home is uninhabitable and should not be occupied, or if the home continues to be occupied that the water and sewer within the home is not used to keep sewer from entering the outside environment which could pose a hazard.

3. **Question:** Once snorkels are added to the low-lying grinder pumps identified, will this resolve the issue island-wide for home disposal? If yes, what level of flooding will the snorkels be designed to resist floodwater intrusion into the system (ex. 20”, 30”, 50’)?

Answer: Reference [HFTF Report](#) Page 49, 2nd paragraph and recommendation action item # 68. In addition, staff is looking into other technologies that may be available and will include other options beyond the use of snorkels and/or sealing of pumps.

4. **Question:** Considering the lion's share of homes on the [shut off] list provided by the Village pre-date the Florence Flooding, why haven't they already had snorkels added to their grinder pump?

Answer: Note that with Hurricane Florence, the power was shut off island wide for most of the time that the Village had to pump water off island given that most of the island's power grid was submerged under water. The decision to resume power was to some extent at the call of the power company until they were satisfied turning power back on would not cause further damage to island infrastructure. Once power was restored, there were some grinder pumps that were still submerged which were not cut on until the floodwater receded below the pumps. While there were some improvements made to grinder pumps after Florence, there are no detailed records that were maintained by previous Department Head to which the Village can acknowledge those that were (or were not) improved but there will be a formal plan established this go around to account for each grinder pump on the list to ensure it is has been improved.

5. **Question:** If this time lag is due to staff shortage or money, is it something that should be considered for possible short-term redirection of Village funds and mustering up additional temporary crews to address with an all-out plan to complete the "snorkel fix" before 2025 hurricane season begins?

Answer: The plan referenced will need to be presented by staff to Village Council to include potential costs for improvements to impacted grinder pump systems and completion timeframe with the objective to be completed before the next storm season.

6. **Question:** Within the expansion of infrastructure plans for island water and sewer processing capabilities, is a second holding tank for sewage planned? Cannot recall specifics but with continued island growth and the wastewater treatment plan current capacity having issues with volume, please refresh our memory, if applicable.

Answer: Not applicable, the WWTP expansion project is intended to meet island build-out demand for treatment of residential and commercial sewage, not to handle Infiltration & Inflow ("I&I") of stormwater that is being pumped back to the WWTP due to submerged grinder pumps.

7. **Question:** When I called the county about Brunswick funds available to help BHI, they said they gather information from the county, send to Governor, who sends to the Feds. Then, IF President declares a disaster, FEMA funds are released.

With an as yet unnamed storm, will FEMA funds be released? Or county funds?

Answer: The process for gathering storm-related damage to private and public infrastructure is part of a preliminary damage assessment process to derive to the extent possible the monetary loss to see if it meets a state and/or federal disaster declaration. On October 22nd, the Village Public Information Officer communicated in the [Village's Voice](#) that Governor Cooper's request for a federal major disaster declaration as a result of PTC #8 was granted. This means that four counties, including Brunswick County, will be able to seek public assistance funding from FEMA. It was also announced that the Small Business Administration (SBA) is offering low-interest disaster loans to businesses and residents in Brunswick County who were impacted by the storm.

As a reminder, Public Assistance ("PA") funding goes to public entities (like the Village) and can fund the repair, restoration, reconstruction, or replacement of a public facility or infrastructure, which is damaged or destroyed by a disaster.

The SBA has opened a Disaster Loan Outreach Center (DLOC) to assist Brunswick County business owners and residents in completing their disaster loan application, accept documents, and provide updates on an application's status. For more details reference the Village's Voice dated October 22nd, 2024.

8. **Question:** Are full-time residents given priority in getting grinder pumps turned back on?

Answer: No, generally speaking, the variable for being able to turn the pump back on is whether or not the level of floodwater is below the grinder pump. Village utilities personnel who were out in the field assessing various locations of flooded areas where significant numbers of grinder pumps were submerged and turning them off to ultimately reduce infiltration of floodwater being pumped back to the WWTP. As they made their way through these areas there were no directions to only turn off one or the other (occupied versus unoccupied). If the grinder pump was submerged, then it was turned off. As water levels in these areas began to lower over the following days, and if the floodwater was lower than the grinder pump, then Utilities personnel turned the pump back on. These areas were reported on daily to identify which pumps were turned back on.

9. **Question:** Are occupied homes given priority in getting grinder pumps turned back on?

Answer: Reference to previous response...

10. **Question:** What if my property is dry? What would hold up my grinder pump from being turned back on?

Answer: Reference previous response and variable of water level, but assuming if the “property is dry” then the grinder pump is not submerged so it would not have been turned off or had needed to be turned back on once the water level permitted to do so.

11. **Question:** Why did the Village turn grinder pumps back on in unoccupied homes?

Answer: Ultimately because the grinder pump was no longer below floodwater level.

12. **Question:** Was the emergency outfall located near the intersection of Black Skimmer Trail and South Bald Head Wynd utilized during the storm? If not, why not?

Answer: No, that set of outfalls were not utilized for this event. This location has no direct (force main) hard pipe connection to the lagoon system to force pump water to the ocean. In 2018, given higher floodwater levels from Hurricane Florence than that of PTC #8 (almost twice as much total accumulated rainfall), this outfall was open to allow for gravity flow to exit to the ocean. With PTC #8, the floodwaters were not deep enough to flow by gravity to the ocean. Note: In 2007, two strategic locations were identified (17th lagoon at Stede Bonnet and 8th hole lagoon on Horsemint Trail) to install 12” inch pipes w/ intakes from those locations to the existing emergency outfalls on south beach and west beach/Cape Fear River.

13. **Question:** Is it right to pump stormwater from other areas of the island to the lagoons which in turn floods the nearby neighborhoods keeping them underwater longer they should otherwise be without this intervention?

Answer: To clarify, the Village first pumps floodwater off the island by way of the emergency ocean outfalls and by gravity through the bypass lagoon to Bald Head Creek until the floodwater levels and water table lower where lagoons that had exceeded their banks fall back into their banks (known as “freeboard”). At that point, other pumping actions conducted by the Village move remaining floodwaters adjacent to the lagoons back into the lagoons to then exit off island.

14. **Question:** How many more pumps does the island need to be donated? Cost? Can Islanders fundraise for pumps so we can be better prepared for future events?

Answer: Staff will be assessing internally on what additional assets may be needed to manage future events.

15. **Question:** Have funds from Brunswick County, State, FEMA, or other Federal emergency funds been requested and are they available? Are there any funds available to a resident as well?

Answer: Refer to previous question and answer on availability of Public Assistance funds and how that differs from funds made available to private property owners to cover damages due to the storm beyond what private homeowner and/or flood insurance may cover.

16. **Question:** Can the Village purchase larger pumps that can remain on the island?

Answer: The Village has two (2) each 10” inch pumps that are used to pump from two strategic locations on the island. These pumps are effective in pumping floodwater and reducing the water table overall by removing water from the island through emergency outfalls located on south beach and west beach/Cape Fear River. Staff will be assessing future needs for both replacement and/or additional pumps to include larger sized pumps than the existing 10” inch pumps. Note with the latter, that hardened infrastructure pipe sizes may have to be increased and or installed at other locations to have a direct connection to the larger pumps. Any changes to the existing system will need to be reviewed and validated by an engineer.

17. **Question:** Can volunteers be used to service pumps and check water levels?

Answer: No, trained mechanics employed by the Village are responsible for servicing the pumps and overall pump management is handled by “essential personnel” directed by the Emergency Operations Center (EOC). Notwithstanding, depending on the severity of the event, Village EOC can request mutual aid for additional assets (i.e., personnel and/or equipment) through Brunswick County Emergency Services and up to NC Emergency Management if BCES can’t meet the needs of the local jurisdiction.

18. **Question:** Can the Village have permanent pumps stored in specific areas?

Answer: No, given the costs of the pumps and potential for damages pre-storm the pumps are not deployed until responding in recovery efforts.

19. **Question:** Can the Village assess the level of the water tables manually or remotely?

Answer: Assessing the water table involves routine observations of the various lagoons and their water levels on the island in addition to a series of monitoring wells to show the depth to water level. This is all done manually and based on observations, decisions on when to let water off the island (either proactively through the bypass lagoon or reactionary by force main to the emergency outfalls) are made (Reference HFTF “Hydrogeology of BHI”, Page 7 and “Lagoons on BHI Golf Course” Page 8). Important to note that if lagoon levels are higher than normal due to

periods of excess rainfall over time and regardless of whether a storm is pending or not that water is removed from the island.

20. **Question:** Can the streets and retention walls be reconfigured to help areas that have been flooded?

Answer: No, BHI topography and development does not permit diversion of stormwater in keeping with “living in harmony with nature”. Simply put, BHI is not a development with an engineered stormwater system that uses fill to grade lots sloped to the street with curb & gutter systems to divert stormwater to retention ponds.

21. **Question:** What does it mean to have a repetitive loss property?

Answer: A repetitive loss property is a FEMA designation for properties for which two or more flood insurance claims have been paid by the National Flood Insurance Program (NFIP) within a 10-year period since 1978.

22. **Question:** Now that the Village has implemented the recommendations that came from the [Hurricane Florence Task Force Report](#), did the plan go as planned? Were there deficiencies? Are there things that need to be tweaked?

Answer: The Village will be assessing its response as part of its internal after-action review as is customary following any event but would recognize that the response did follow the plan and as part of its internal review will look at areas for improvement in the plan as there is always something to learn and improve on with these types of events.

23. **Question:** Does the Village have enough pumps? Are they positioned correctly?

Answer: The Village will be assessing its pump inventory for any additional pumps needed and/or replacement of existing pumps to include increased pump sizes for higher/faster volumes of water to be pumped/removed off island. Additionally, current/existing and potential future pump locations including infrastructure will be assessed.

24. **Question:** Can property owners raise the housing on their grinder pumps (ex. A foot and a half above grade)?

Answer: Village Utilities staff will have to make that assessment but note specifically that a property owner can't make those modifications, it has to be the Village.

25. **Question:** Regarding BHI's waste treatment system as addressed in the [Hurricane Florence Task Force Report](#), my inquiry is in regard to the grinder pump component. What is the current status of recommendation #68 “allowing or requiring the

installation of fully sealed grinder pumps?” There is also mention of snorkel devices but no specific recommendation that I could locate.

Answer: Village Utilities will be developing a plan to address the grinder pumps that were submerged to include various options beyond sealing and installation of snorkels. As this equipment is Village-owned and maintained a property owner would not be able to make any adjustments to the pump system, it would have to be done by the Village (Utilities personnel).

26. **Question:** A property owner observed where there are some homes that have a “raised collar” on the grinder, about 4-6 inches and thinks that would make a difference in keeping a grinder pump on. Is this something a property owner can do? (similar to previous question).

Answer: Note that the raised collar is for protection of the wet well more than anything and is not the snorkel, and as referenced in a previous response that with it being Village equipment, Utilities personnel will have to make any adjustments to the grinder pump. A formal plan to address that is being developed by the Public Services Director.

27. **Question:** A property owner seemed to believe that some grinder pumps that were submerged were left on and that the Village chose which ones would stay on.

Answer: Village Utilities personnel did not start shutting off grinder pumps until late Wednesday evening (after dark) when it became apparent that the amount of Infiltration and Inflow (“I&I”) could require us to shut down the WWTP. Those grinder pumps that were submerged in a number of the larger geographical areas where there were multiple numbers that could quickly be turned off to have the biggest impact on efforts to manage the I&I. Those that were identified were done so by the red lights indicating the grinder pump was flooded.

28. **Question:** A property owner inquired that now that the Village has published homes that have issues with submerged pumps that this would impact property values and that there is some correlation with the structure being a repetitive loss property.

Answer: Note that “repetitive loss” properties are those which have submitted multiple flood insurance claims within a certain period of time due to losses from storm events and are not specifically on the list just because the grinder pump was flooded..., to the contrary, as we had seen with PTC #8, while the grinder pumps were flooded, most (if not all), of the primary structures were not damaged at all as they were elevated above the documented FEMA Base Flood Elevation (BFE) within the respective flood zone and level of floodwater..., only areas below the BFE were negatively impacted (i.e., garage/crofters and enclosed areas below the flood level).

29. **Question:** Can private persons or groups purchase and deploy their own pumps to handle their neighborhoods (regional pumping), are approvals necessary and what would be the protocol?

Answer: Staff will be discussing this at a future meeting with Council on what might be appropriate moving forward with respect to private pumping of floodwater on BHI.