

### Hurricane Florence Task Force Recommended Actions

Task	Contractor	Staff/Org	Budget Estimate/Cost	Budget	Start	End	Goal	Status	Notes
<b>STORM DAMAGE/STORM WATER MANAGEMENT</b>									
1 Study the topography of the entire island and develop a new stormwater management plan	CLD	Chris	\$78,000	FY 2019/20	Feb 2019	June 2020	End FY 20	Report @ Council Retreat	
2 Develop a Floodwater Management Discharge Plan for submission to the State that balances economic, public health, public safety, and environmental concerns	CLD	Chris	TBD	FY 2020/21	Jul 2020	Oct 2020	Draft Oct 2020	Pending	The goal is to complete a Draft for State review no later than October 2020. This will be developed with the information received from #1 and #3.
3 Study the aquifer to understand the complex interactions between the aquifer and both the surrounding bodies of saltwater and the surface waters of the island, including the lagoons	ARM	Chris	\$47,500	FY 2019/20	Jul 2019	June 2020		Report @ Council Retreat	
4 Establish new outfalls in areas along South Bald Head Wynd east of Muscadine (Peppervine/Coquina/Brown Pelican and/or Seaton/Dunedin)	CLD	Chris	TBD - Est. \$250,00?	FY 2020/21	Fall/Winter 2021	TBD		Needs Budgeted	* Will require a variance from CRC in similar fashion to the process undertaken to install the existing emergency ocean outfalls on South and West Beach.
5 Reestablish the emergency gravity outfall between Cape Fear Trail and Seagull Trail.	TBD	Chris	\$10,000-\$20,000	FY2019/20	TBD	TBD		Based on info from consultant	* This outfall exists but to-date has not been used.
6 Reestablish the capacity to use both pipes of the emergency gravity outfall across from Black Skimmer Trail. Only one of these outfall pipes was opened after Hurricane Florence. We recommend consultation to determine whether any physical changes are needed to facilitate the use of both 24" outfall pipes during a major flooding event	CLD	Chris	TBD	FY2019/20	Spring 2020	Spring 2020		Pending	*Working with Island Contracting to modify landward end covers for improved (easier) access to open/close in future event. Will consult with CLD staff.
7 Redesign and rebuild Bypass Lagoon 6 and its associated weir gates.	CLD	Chris	TBD	FY2019/20				Report @ Council Retreat	
8 Improve connection from Lagoon 3 to Lagoon 6/7 to facilitate removal of floodwater in the area around Lagoon 3 that has no natural drainage.	CLD	Chris	\$10,000-\$20,000	FY2019/20				Based on info from consultant	
9 Install catch basin at intersection of Edward Teach and Sandwich Tern and feed into phase 3 pipe across Edward Teach. Install catch basin on Stede Bonnet at low point just south of the primary dune and pipe to drain into Lagoon 17	CLD	Chris	\$20,000-30,000	FY2019/20				Based on info from consultant	
10 Reestablish connection from Lagoon 15 under the primary dune to Lagoon 16.	CLD	Chris	\$100,000 to \$150,000	FY 2019/20					Coordinate w/BHI Club
11 Improve and control the flow from lagoon 8 under the primary dune to Lagoon 6/7.	CLD	Chris	\$50,000	FY 2019/20				Report @ Council Retreat	Coordinate w/BHI Club
12 Address stormwater flooding along Federal Road near Kinnakeet and at the Conservancy and in Cape Fear Station	CLD	Chris	\$100,000-200,000	FY 2020/21				Needs Budgeted	
13 Improve and/or install culverts under North Bald Head Wynd beginning at the intersection of West Bald Head Wynd and heading eastward along-Federal Road.	CLD	Chris	\$75,000	FY 2020/21				Report @ Council Retreat	
14 Adopt the ordinance authorizing the Village to remove debris from both public and private rights-of-way following the declaration of a state of emergency.	N/A	Village Council	N/A	FY 2019/20				Completed	

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15 Private Pumping Arrangements	Homeowner	FDPO - Staff	N/A	N/A	N/A	N/A	Compliance	Ongoing	Goal is homeowner compliance with Flood Damage Prevention Ordinance for Stormwater pumping off private property.
16 Assessment of the Design Strength of the As-Built Public Safety Building	GBA & Don Woods							Considered	Structural engineer provided input on the design strength relating to storm intensity.
17 Pre-placement of assets	N/A							Considered	Staff will consider as storm event dictates.
18 Earlier staff return after an evacuation								Completed	Staff renewed agreement with Hampton Inn and will renew for 2020 hurricane season. Thought is to stage essential personnel at this location for prompt return to the island as storm event dictates.
19 Earlier overnight staffing to manage weir gate, if remote monitoring and valve control are not installed.								Considered	Staff will consider as storm event dictates.
20 High-water vehicles.			Potential FEMA Reimbursement					Completed	These were rented for Hurricane Dorian - it worked very well.
21 Breaching the frontal dunes. Incorporate criteria to justify the breaking of the dune and incorporate in Floodwater Management Discharge Plan	CLD	Chris						Pending	Consult with CLD as part of efforts to install additional emergency ocean outfall(s) rather than breach primary frontal dune system.
<b>DISASTER PLANNING &amp; DECISION-MAKING</b>									
22 Conduct a BHI All-Hazard and Vulnerability Analysis									Consider hiring a consultant who has done this with other municipalities.
23 Update and expand the Emergency Management Plan	TBD							Update Complete Expansion Not Completed	EMP updated with changes made by staff after Hurricane Florence. For the expansion, consider hiring a consultant who has done this with other municipalities.
24 Update the Emergency Management Plan to be more compatible with the National Incident Management System (NIMS)	TBD								Hire consultant/model Carolina Beach?
25 Establish Mutual Aid and First Right of Refusal agreements with other counties/organizations								Complete	Village has first right of refusal agreement with Sunbelt for pumps and associated equipment. Village has established mutual aid support with adjacent municipalities, Brunswick County Emergency Services through WebEOC and NCEM.
26 Conduct well-planned emergency exercises									Consider hiring a consultant who has done this with other municipalities.
27 Engage federal and state agencies to discuss early actions to enhance planning and preparation for future flood disasters.								Complete	EOC has/will continue to plan and prepare with State and Federal partners through Brunswick County Emergency Management and WebEOC.
28 Convene a meeting of communications staff from key island entities to discuss how to educate property owners on a wide range of disaster preparedness issues.								Complete	Village will ensure that key island entities are receiving all communications going out from the Village. This was happening during Dorian (with BHA). While transportation kept the Village "in the loop" on their side. The key is to ensure that messages are accurate and sources are reliable. Village will have official comms channels in place prior to the next event.
29 Identify and train backup staff members for each critical EOC member.								Complete	Primary and secondary staff have been identified within EOC for support throughout duration of event.
30 Consider requesting training support from the Community Emergency Response Team (CERT)		Public Safety Volunteers						On-going	Village review of New Hanover County CERT program for benchmarking similar program consisting of educational awareness component for island residents.
31 Evaluate training needs for all emergency personnel and volunteers.		Public Safety						Ongoing	

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32 Explore finding a mainland EOC location that has a back-up generator.		Public Safety						Complete	Mainland EOC identified at Hampton Inn in Southport. Other locations for potential EOC location will be dictated by specific storm event or other natural or man-made hazard event.
33 Consider the best set of policies to encourage evacuation by all Village residents.									
34 Update the Emergency Management Plan to describe, in detail, the EOC Team decision-making process									Consider hiring a consultant who has done this with other municipalities.
35 The EOC should improve documentation of policy and operational decisions and actions.								Complete	See PIO notebook from Dorian
36 The EOC should maintain an island map in the EOC with road conditions and pump/hose placements indicated		David/Stephen?						Complete	Maps were utilized with Dorian.
37 EOC should initiate early contact (day 1 or 2) with Council members								Complete	This was done with Dorian multiple Emergency Council Meetings.
38 Consider the use of drones to get quicker initial assessment and video footage of flooding and damage to island infrastructure and structures if waterways are closed to boat crossing.								Complete	EOC will consider other options for initials assessments to include Public Safety body cameras, in addition to drones and other forms of aerial imagery (i.e. oblique and orthophotography in GIS).
39 Restrict access to the EOC								Complete	This was done with Dorian. Sign in sheet and officer in place.
40 Reassess the role of the Damage Assessment Team									DAT was utilized with Dorian.
41 Re-evaluate requirements and role for Damage Assessment Team members									
42 Reassess the Village's commitment to provide property reports after storms.								Complete	This was not utilized for Dorian and is no longer on the Village website. Council approved the removal of this program.
43 Consider facilitating a property inspection program using interested companies and individuals that would perform brief exterior <i>and interior</i> inspections using either the Association's key service or access to key boxes installed by homeowners.								Considered	Facilitation could be through BHA since they have keys. Village Staff have other priorities during recovery time, most of which are FEMA reimbursed and that is where time and resources should be spent.
44 Whenever the Village offers homeowners damage reports on their property, whether through the DAT, Public Safety, or a new program, feedback should be a standardized emailed assessment with appropriate disclaimers.								N/A	Village will no longer do damage reports for property owners. DAT and Staff will be focused on damage assessment required by County/State/Fed for FEMA.
45 The Village will close the marina when the island is under a mandatory evacuation order								Ongoing	Village EOC and Incident Commander will continue to coordinate with marina owner for any closures based on the event as circumstances dictate. Village does not own the marina. Call is made by marina owner and USCG. Village can ask owner to close marina but there is no guarantee.
46 The Village will close the island to helicopter landings when the island is under a mandatory evacuation order.								Ongoing	Landing areas are owned by the Village, so prohibiting landings is an option. This needs to be spelled out in advance in EMP because announcing it will only give people the idea to try to get over that way. Private flights/vs. emergency responder flights should be listed as an exception.
47 Re-evaluate the re-entry procedure for prolonged states of emergency								Ongoing	Draft re-entry guidance based on HFTF recommendations has been developed for Council review.
48 Whether established in advance or developed during the emergency, reentry criteria should be clear and published so all those who might qualify know the criteria.									See above
49 The Task Force recommends that the Council endorse certain re-entry principles									See above

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<b>COMMUNICATIONS</b>										
50	Continue using the Village's Voice as the primary means of official communication to the public during an emergency.	N/A	Carin	N/A	N/A	August 2019	January 2020	N/A	Complete	PIO has continued to use VV as the primary means of official communication during an emergency. This was established during Hurricane Dorian. PIO has developed a template to structure messages during an emergency as suggested.
51	Conduct a campaign to increase the audience reach of the Village's Voice, with a goal of increasing the number of subscribers by 20%.	N/A	Carin	TBD	FY2021	February 2020	N/A	March 2020	In progress	The Village will be changing e-blast provider when the website is launched. Prior to implementation, Staff will be cleaning up the database so that the Village can establish a baseline number of ACTIVE subscribers. Separate subscription groups likely can be incorporated in this process.
52	During and after future events, use more visual media such as photos, video recordings, and maps of impassable roads and utility outages to supplement the Village's Voice written updates, but in a way that does not violate homeowners' privacy.	N/A	Carin	Possible request for phone stabilizer/tripod and mic for video quality.	FY2021	September 2019	September 2019	N/A	Complete	The PIO utilized Instagram during Hurricane Dorian and provided before, during, and after photos and videos to supplement the VV. This will be utilized again in the future and likely with additional media forums (Facebook, Twitter, YouTube).
53	Redesign and rebuild the Village web site using a website design and hosting service with experience with municipal websites.	PRC (City of Asheville)	Carin/David	\$25,000 in FY2019/20, with ongoing annual costs of approximately \$6000	Budgeted	December 2019	N/A	Mid to late Feb 2020	In progress	Executed proposal with PRC Applications. Website go live target as of now is mid to late February.
54	Develop a hurricane home page and relevant hurricane content in advance of the peak hurricane season (September/October)	N/A	Carin	See above	Budgeted	December 2019	N/A	Mid to late Feb 2020	In progress	New website will include an emergency banner at the top and another banner in the body of the homepage to direct folks to emergency messages. The content on the Emergency Preparedness page includes information on best practices before, during, and after the storm. This includes the tips on cleaning out refrigerator/freezers, moving golf carts, and reference links for insurance and working with contractors. PIO will also implement a social media campaign for Hurricane Preparedness Week (May 3-9) and other messaging throughout the year.
55	Create an archive page on the current website for Village's Voice communications posted over the past 24 months.	N/A	Carin	N/A	N/A	N/A	N/A	N/A	Complete	A VV archive was posted on the old website. The new one will have it as well.
56	Implement the emergency message scroll capacity on all cable channels for the current hurricane season	Spectrum	Carin			January 2020		April 2020	In progress	PIO is coordinating with IT staff to get training from Spectrum.
57	Activate the capability to broadcast over the government access cable channel	Spectrum	Carin		FY2021	January 2020		April 2020	In progress	PIO is coordinating with IT staff to get training from Spectrum.
58	Consider developing, perhaps in conjunction with island non-profits, a "welcome to Bald Head Island" presentation for island visitors with useful non-commercial information and advice that would run as a loop on the government access channel	TBD	Carin	Video will have a cost	FY2021	January 2020	TBD		In progress	PIO started a "welcome" guide. The beginning of which will be on the Village website. Has contacted UNCW and CFCC to see if students could assist the Village with PSAs.
59	Collaborate with the Bald Head Association to develop or identify links to the best content for insurance coverage in advance of a storm, storm preparation steps, evacuation information, re-entry information, and information about choosing contractors and interacting with insurance adjusters in the aftermath of a storm, to determine the best site to host a given type of information, and to provide mutual links to vital information.	N/A	Carin						Completed	New website includes this information.
60	Develop plans for an Emergency Call Center staffed by Village employees or volunteers that would be the primary point of contact for the public	N/A	Carin						On-going	PIO & Village Clerk, as well as others from time to time, manned the citizen phone bank during Hurricane Dorian. There were 24 calls total - 18 calls were answered after the Village had "opened" for everyone. Suggestion is to train CERT members to man the phones.

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61 Budget for and promptly hire a Public Information Officer		Chris						Complete	
62 The Public Information Officer should convene the group of communications specialists that will collaborate on population preparedness (see recommendation 28 above).	N/A	Carin						Complete	From 28 - Convene a meeting of communications staff from key island entities to discuss how to educate property owners on a wide range of disaster preparedness issues. Perhaps do a hurricane awareness month type event, include information in an Island Report. Village will ensure that key island entities are receiving all communications going out from the Village. This was happening during Dorian (with BHA). While transporation kept the Village "in the loop" on their side. They key is to ensure that messages are accurate and sources are reliable. Village will have official comms channels in place prior to the next event. May issue of Island Report will focus on Hurricane Preparedness. Social media will be full of content during Hurricane Preparedness Week (May 3-9).
63 Revise the Emergency Management Plan to assure that the PIO is an active member of the EOC with specific duties.		Carin/Carl						Complete	PIO was added to revised EMP.
64 Undertake an Emergency Preparedness Simulation activity for BHI's Emergency Operations Center	TBD	Carin/Carl	TBD						Consider hiring a consultant who has done this with other municipalities.
65 At the conclusion of the 2019 Hurricane Season, the Village Manager will convene a meeting with the HFTF Communications Committee to review the status and debrief the above-listed recommendations.	N/A	Chris							
<b>UTILITIES</b>									
66 Assure that the current improvements to the power distribution system allow early restoration of power to critical locations	Duke Energy							Ongoing	Village discussed with Duke Energy Representatives
67 Monitor all electrical transformers on the island and document each transformer prone to burial or flooding during storm events	Duke Energy							Ongoing	Village will coordinate with on-island Duke Energy field representative for potential island assessment.
68 Sealed grinder pumps.								Ongoing	Village Utilites is looking into changing to pumps that can handle the flooding much better than current pumps. This will take time to implement but may be a better long term fix.
69 Backup generator review.		Ken	TBD	FY 2021				Ongoing	All Utilities generators are in good working order, at-least (1) of our portable generators will require replacement in the near future.
<b>GOVERNANCE ISSUES</b>									
70 Financial interest. Council should amend the Code of Ethics.		Village Council						Completed	Council Code of Ethics was reviewed, with legal input, and adopted.
71 The Village should establish a formal long-term planning process with a time horizon of several decades									
72 The Village's long-term planning for stormwater management should be based on the projected 6-inch rise in sea level over the next 30 years								Ongoing	Consultants taking into consideration.
73 Working with other coastal communities, the Village should intensify the on-going discussions with the State to create policies and programs that address the needs of municipalities dealing with severe storms and sea level rise									
74 The Village's shoreline studies should continue to address the challenges posed by any proposed dredging, deepening, and relocation of the Cape Fear River channel	Olsen	Jeff						Ongoing	

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75 The Village's shoreline studies should continue to address the challenges posed by any proposed changes to "the Rocks"	Olsen	Jeff						Ongoing	
76 The Village should consider changes to the building code and the Bald Head Association should consider changes in its guidelines and review process to encourage or require design features that make island buildings more resilient to high winds, driven rain, and flooding.								Ongoing	Most recent effort approved with CRS rating effort, approval of a 1 foot freeboard for new construction.
77 The Task Force members recommend that the Village Manager report to Council in early 2020 on actions taken to address each component of the Task Force report, perhaps at the Council retreat.		Chris						Ongoing	