

Lewes BPW Mitigation Committee
August 31, 2022
1:00pm

The Wednesday August 31, 2022, mitigation committee meeting was held at 1:00 pm in the upstairs BPW conference room.

1. WELCOME AND CALL TO ORDER

Chairman Lee called the meeting to order at 1:14pm.

2. ROLL CALL

Committee Members

D. Preston Lee, P.E.
Austin Calaman, General Manager BPW
Bob Heffernan
Barbara Curtis
Mark Prouty
Candace Vessella, City Councilperson

Others

Thomas Panetta
Charlie O'Donnell, GMB
Brent Jett, GMB
Aaron Mushrush, Cape Gazette
Bryanna Lisiewski
Madeline Nichols
Kimberly Bellere, BPW
Sharon Sexton, BPW

3. Revisions or Deletions to the agenda.

None.

4. Approval of minutes of the July 6, 2022, and August 3, 2022, meeting.

ACTION: Mr. Heffernan motioned to approve July 6, 2022, and August 3, 2022, minutes. Ms. Curtis seconded the motion, which passed unanimously. Minutes to be submitted to the BPW Board.

5. Consensus for design flood elevation for 2050.

Mr. Lee stated at the last meeting the discussion was to use an elevation of 11 feet as the design for mitigation purposes. This would be for elevation AE7 and would change depending on where an asset is on the flood map.

Mr. Lee suggested adjusting by flood map designation that the property is in. Mr. Lee referred to GHD's study. GHD came to approximately the same elevation from a different direction. GHD ended up between 10'6" and 11'6" for FEMA location AE7. Mr. Lee suggested accepting this approach since it was similar to what was discussed previously, and the committee would be uniform with GHD.

GHD Formula:

Parameter	Value
2015 FEMA 100yr Site Flood EL, ft	7
Projected 2050 Eustatic Sea Level Rise, ft	1.38
Projected 2050 Coastal Subsidence, ft	0.26
2050 Design Flood Elevation, ft	8.64
Freeboard to structural slabs and building thresholds, ft	2
Freeboard to critical equipment, ft	3

Mr. Lee stated that the committee could use either the 2" or 3". The 3" is for critical equipment. In this area, generally, the 500-year floodplain is about two feet higher. Mr. Heffernan thinks that 3 feet is safe, depending on cost.

Mr. O'Donnell stated that GMB has been designing to 18 inches of freeboard plus the 1.38 feet. The newer pump stations like Hauling Cove are set roughly 3 feet above the floodplain elevation. Mr. Lee question if the committee's approach is reasonable. Mr. O'Donnell stated that it is more than what GMB has been doing and will come down to what is defined as critical equipment. Assets in a private backyard or middle of the road cannot be raised to that level. Mr. O'Donnell stated that everything that the BPW wants to protect is critical equipment. Mr. Panetta stated that FEMA broadly defined critical infrastructure: life, health, safety. This is basically water, sewer, and electric.

Mr. Jett questioned what GHD is showing as freeboard. Mr. Panetta stated the freeboard is on top of the design elevation in 2050. Mr. Panetta stated that this is the case and that this is using the upper-level curve. Mr. Jett stated that as the FEMA maps are getting better, some of the elevations are going down. Looking at a historic map of 1994, the WWTP was at elevation nine and is at a seven now. Jonas storm was the highest flood recorded and was not at elevation seven. Mr. O'Donnell stated that the 1.38' is not the worst-case scenario. Mr. Lee agreed and stated that this is using the mid curve, 50%, but has added more freeboard. Mr. Panetta stated that the results are similar. Mr. Jett stated that Maryland is using three feet for any critical infrastructure that has a public component to it, over \$500,000.

Mr. Lee stated that if this is acceptable to the members, then this information can be passed onto the Board. Mr. Lee questioned what the city is currently doing. Ms. Vessella is not aware but will coordinate with the city.

Mr. Heffernan confirmed that the committee is looking to design at 11.6 feet at the AE7 elevation. Mr. Lee agreed and stated that it will change based on the FEMA location.

Mr. O'Donnell questioned if evacuation routes would be defined as critical. To raise the route 4.64 feet above the flood plain may create other issues. Mr. O'Donnell suggests looking at one project at a time. Mr. Jett stated that the potential work around would be critical equipment for a critical

facility. A road does not get a finished elevation or flood survey. Mr. Panetta stated that Savannah Road and Kings Highway are all state roads. Mr. O'Donnell referenced Route 54 in Fenwick Island where the road was bridged, and service roads were put into access business. This would be a lot of work. Mr. Heffernan stated that the city may be more interested in working with DelDot, where the mitigation committee is more concerned with the facilities.

Mr. Lee referred to the list of facilities and the corresponding FEMA elevation designations. Mr. Davis compared the map of the lift stations and DE Map flood planning tool. The X's are not in flood zones and there is not a base flood elevation. Pump station four is not in flood zone. Part of the parcel is but the station is not. Mr. Lee stated that may be the facility should be reviewed again and may need to be adjusted to just use the parcel. Mr. Lee stated that the committee would have to assume a reasonable number since there is not a base. Mr. Panetta questioned if it would be as simple as transferring a datum across the town. Mr. Jett stated that this would be a blanket solution and suggests a minimum elevation or a foot above adjacent grade.

Mr. Lee wants to add the elevations and addresses for all assets for a better description.

Consensus: Committee will recommend using the 11.6" based on the AE7 FEMA base, using the GHD formula with freeboard for critical equipment.

- 6. Presentation by Brent Jett, GMB, regarding potential wind loads from frequent and intense storms for 2050. Item 6 and 7 were discussed together.**
- 7. Discussion regarding establishing wind load design criteria for 2050.**

Mr. Jett advises utilizing the current building code, 120 mph. Mr. Davis stated that the city is looking to change to 2021 code, which would be 130 mph. Mr. Lee questioned if the storms are more intense, are the winds going to increase in 2050 also. Mr. Jett stated that it is unknown whether intensities are in a transition period or the newborn. Mr. Jett stated that it is impossible for Lewes to get a Category 5 storm, just because of the water temperature and the current land mass in mid North Carolina stopping it. The gulf stream would have to rise eight degrees for that line to migrate. No one above Florida has been hit with a Category 4. Mr. Jett stated that engineers use safety factors of 2.2 on structural assets. Mr. Panetta stated that the concern is with increased frequency not so much the intensity.

Mr. Jett recommends using the city residential code, the one that is about to be adopted and will be 130 mph. Mr. O'Donnell stated that buildings are being designed around 120mph currently. Mr. Jett stated that prior to 2018, requirements were not consistent through ICC and IBC. This is no longer the case, there is consistency.

Mr. O'Donnell stated that years ago the old power plant building was not up to standard against hurricane force winds and hurricane straps were put in. 120 mph was the guide back then. Mr. Lee questioned if there was a need to go to 130 mph going forward since the committee wants to be conservative. Mr. Jett stated that he is unsure what the BPW would gain from going to 130 mph. Mr. Davis stated that the BPW should require what the city code says so policies will not have to change every time city code changes. Mr. Jett is comfortable following whatever the ICC says.

Mr. Heffernan stated that if the BPW follows the city, the BPW will be current. Mr. Heffernan suggest staying with the city. Mr. Lee stated that construction would be more expensive. Mr. Panetta is unaware of any place that has ever retrofitted for wind loads. It is not cost effective.

Mr. Panetta stated that if the old power plant building would be used for the battery project, more than likely it would be demolished but questioned if the roof was addressed when straps were added. Mr. O'Donnell stated that it was all addressed. The new garage doors are hurricane rated as well.

Mr. Lee questioned the consensus of the committee for accepting the city's building code for structures. Mr. Panetta stated that the building code does not cover the critical infrastructure. Ms. Vessella stated that the building code is the minimum that needs to be built to. If extra resiliency for the winds is built in, then the BPW would still be within the building code.

Mr. Davis stated that it is easier to reference a manual, so a policy does not need to be reviewed every year. The catch is that right now the minimum is 100 mph. Mr. O'Donnell agrees to reference a manual as other organizations are doing the homework to determine what the number should be. Mr. Panetta stated that there is exposure and height to be factored in. Winds speeds for one structure may be different based on these factors. Mr. O'Donnell stated that this is more reason to defer to the code.

Ms. Curtis questioned when speaking of wind speeds, is it referring to gusts or constants. Mr. Jett stated that wind load is sustained over a certain amount of time, in a certain direction, over a certain location of the building.

Mr. Calaman questioned if the control panels are considered part of a structure. Mr. O'Donnell believes that it should be considered. Mr. Panetta stated that the IRC does not apply to engineered structures, but the BPW can defer to it.

Consensus- The committee recommends using the city building code or 120 mph whichever is higher for wind load.

Ms. Curtis questioned 2021 code that the city is in process approving and the wind load. Mr. Davis stated that he believes that it is 130mph in the 2021 code. Mr. Lee questioned if GMB found anything when researching the water tower. Mr. O'Donnell stated that the water tower is 70 years old, and the plan did not have a wind rating. May be able to get some sense what the footers are at the base of the legs and the foundation ring. The piles go down 25-30 feet. The water tower has already stood up to highest wind in the last 70 years. Each wind causes minimum stress to the concrete and piles. Engineering has become better at efficiency and footers have become smaller. Mr. Lee questioned if GMB is comfortable. GMB is comfortable.

8. Discussion regarding the preparation of long-range utility mitigation plan.

Mr. Lee attended a workshop at APPA conference where mitigation plans were mentioned, FEMA and HUD programs were discussed, and it was suggested to be familiar and prepared for the paperwork. Record keeping and the process of hiring contractors. The APPA conference suggested lining up contractors ahead of time and putting mutual aid agreements in place. Mr. Lee stated that the BPW has this type of agreement. Mr. Calaman stated that the BPW is adding

mutual aid agreements little by little. Mr. Lee stated that there is a sewer and water agreement with the county. Mr. Lee questioned if the new county agreement would apply as emergency response. Mr. Calaman stated that the agreement doesn't define emergency and but mentions emergency. The BPW could call on the county and the county could call on the BPW. Mr. O'Donnell stated that the county has an on-call arrangement with George and Lynch. Mr. O'Donnell has discussed securing a good contractor with Mr. Calaman and Ms. Townshend. Mr. Calaman stated the new county agreement covers the BPW in an emergency. The issue is that other organizations have similar arrangements with large scale contractors, sometimes the same contractor.

Preparation for a mitigation plan.

a. General Manager to head up the emergency plan.

b. Coordinate with the city. Ms. Curtis questioned if the city has an emergency plan committee. Mr. Calaman stated that the city does have an ERP, Emergency Response Plan, and is an umbrella policy that covers the BPW. There is not a committee and would fall under mitigation. Ms. Curtis stated that local emergency planning committee is a federally defined term. Mr. Lee questioned who sits on that committee. Mr. O'Donnell stated that the mayor, people from Beebe, himself, and others. There used to be radio operators in the committee. Ms. Sexton stated that the University of Delaware, building official, maintenance department, and the planner are also on the committee. Mr. Lee questioned if there was a need for the BPW to have a committee of their own. Mr. Calaman stated that he is comfortable with himself and Mr. Davis attending and updating the Board. Mr. Panetta stated that the BPW participates in the city's tabletop exercises but there is not one that really integrates the operator of the wastewater treatment facility. Mr. Lee suggested creating a policy.

Ms. Curtis questioned if SPI has participated in the tabletop exercises. Mr. Calaman is unaware of them participating.

c. Coordinate with the county management center. Mr. Lee questioned if there was any specific needs to update coordination. The BPW does participate in the county drills, but they do not do many. Mr. Calaman and Mr. Davis have completed the NEMA training had have a direct correspondence that sends updates and can be forwarded.

The mutual aid agreement with the county is the first of its kind within the state. The city has led the coordination of the drills through the Olsen group. The first drill was community wide and the second one was specifically for the city of Lewes.

d. Mr. Lee questioned if there was any need with coordinate with DEMA, Delaware Emergency Management Agency. Mr. Calaman stated that there is communication with Joe Thomas, the county, and the BPW and the city. Mr. Lee questioned if the BPW utilizes drills with DEMA? Mr. Calaman stated that the state has not done one. Mr. Davis stated that this is by design and information funnels up and down.

- e. **Coordination with FEMA.** Sussex County coordinates with the state and the state coordinates with FEMA and information is funneled down. Mr. Prouty questioned if there was damage in only Lewes, would Lewes still have to go through Sussex County. Mr. Calaman and Mr. Jett stated that it is the same hierarchy and Lewes would have to go through the county. In this case, Sussex County would not have to fight for resources with other places in the county.

- f. **Secure Mutual aid agreements.** BPW has agreements for water and sewer with Sussex County, and a cross connection agreement with Tidewater. Mr. Lee stated that the BPW is considering another connection with Tidewater in the New Road area. Mr. Lee questioned if the Miller Farm should be pursued to get a line over to that side of town. Mr. O'Donnell stated that it would be a good idea. Mr. Calaman stated that the family is not open to development at this time. Mr. Lee stated that the tower will be near the well fields, the Jones Farm and is in the planning stages. Mr. Panetta stated that the BPW looked to put a water tower near New Road, but it never made sense. Mr. Panetta stated that wells were also considered. Mr. Calaman stated that there was a big concern from saltwater intrusion from DNREC. It is difficult to find an appropriate piece of land.

Mr. Lee questioned if Lewes was in a drought. Mr. Jett stated that the official benchmark is 30% below the average but typically a monthly average. In July Lewes was hit with three days of rain, but a lot of rain in a short period of time does not soak in. Judging by crops, Lewes is in a drought. Blockhouse Pond is 14 inches below the table. Mr. Jett stated the temperature did not fall enough at night to get the dew points down.

BPW utilizes DEMEC. DEMEC is a joint action power supplier who buys wholesale. BPW has an interconnection with Delmarva Power. DEMEC purchases power from a wind farm in Pennsylvania, a natural gas fire plant in OHIO, and various solar facilities. BPW is having a discussion on mutual aid agreements on behalf of the members. DEMEC helps to be more flexible from a hiring perspective. Linemen are hard to come by. DEMEC has started a joint lineman training yard. Every Public Power utility can join APPA. Mr. Lee questioned if there is any coordination the Delaware Electric Cooperative. Mr. Calaman stated that there is the possibility of redundant feeds through Delmarva Power. Mr. Panetta stated that the Co-op approached DEMEC and Lewes about pooled inventory. Utilities are building up inventory and drawing down supply chain. Mr. Calaman stated that the Co-op paused transformers and every week reviews what inventory comes in and determines who will be connected.

- g. **Secure agreements with contractors.** Mr. Lee questioned if the BPW needs anybody else lined up other than George and Lynch. Mr. Calaman stated that the BPW had a contract with Asplundh for circuit one and three tree trimming and has a contract for circuits two and four the next fiscal year. Mr. Lee questioned if there are any contracts or a pre-agreement for emergencies. Mr. Panetta questioned if the city abandoned contract with Bartlett. Ms. Vessella stated the city uses the services of Bartlett, Sussex, and two other tree companies and each bid a project. Mr. Calaman suggested working on an agreement for fuel. Mr. Lee stated that this could be an item to coordinate with the city. The BPW buys fuel directly. Mr.

Panetta stated that historically it is not the same supplier as the city. The BPW supplies the fire department and ambulances, which is reimbursed.

- h. **Secure and store critical replacement parts and equipment.** Mr. Heffernan questioned the amount of heavy equipment the BPW has. Mr. Calaman stated that between the BPW and the City, they are equipment rich.

Ms. Curtis questioned the use of utility subcontractors. Mr. Panetta stated that would be what DEMEC is for. Mr. Calaman stated that DEMEC would have to contract the work out. DEMEC is in these discussions now. Mr. Calaman stated that the county has T & M with a contractor and are spread out. Does it make sense for the BPW to do the same? Mr. O'Donnell stated that if there were an emergency, the BPW would more than likely look for contracts outside the area because everyone will be looking for contractors. Mr. Calaman stated that this is where the T & M would be beneficial. Mr. O'Donnell stated that the T&M that has been discussed was more for the everyday projects. Mr. Panetta stated that there are only a finite number of resources and having a contract with the same company as the county, will not be beneficial. Mr. Lee stated that the BPW would have to bid the contract out. Mr. Calaman agreed and stated it would be a process. Ms. Curtis questioned if the process included consideration for minority owned businesses, etc. Mr. Lee is unsure but assumes that it would be considered. Mr. O'Donnell stated that the city and BPW projects to not have goals for DBE, Disadvantaged Business Enterprises. For federal or state funding, there are goals, and an attempt must be made. Mr. Panetta questioned if this includes emergency relief declarations. Mr. Lee stated that it is important to be prepared in advance.

Ms. Curtis questioned who handles gas lines in case of emergencies. Mr. Lee stated that Chesapeake does, which is a franchise through the city.

- i. **Secure and store critical replacement parts and equipment.** Mr. Lee suggested preparing a list of what items are needed and securing them as they become available. Mr. Calaman stated that one of the goals is to utilize bypass at the pumping stations that will be interchangeable at different pump stations. Mr. Lee stated that portable generators are valuable because the generators can move from station to station. Mr. Calaman stated that the Godwin Bypass pump and portable generator were added to the Board agenda last month.

The discussion is whether a bigger generator is needed. Hans Medlarz recommended diesel power pumps. Preference is bypass pumps and putting in bypass lines. Mr. Lee questioned if the BPW is trying to standardize pumps as they are being replaced. Mr. O'Donnell stated that the BPW is at the beginning stages. Mr. Lee suggests preparing a list of critical equipment to implement.

- j. **Staff housing and supplies.** Mr. Calaman stated that the BPW has cots and have secured two satellite phones. The IT department is looking to switch over to FirstNet. Mr. Lee questioned water and canned goods. Mr. Calaman stated that there is nowhere to store can goods.

Side Note: Ms. Vessella stated that the adoption of the ICC 2121 code will be before the mayor and council in October.

- k. **Potential Mitigation and Recovery funding.** Mr. Lee stated that meticulous record keeping is needed for applying for funding streams like FEMA, HUD, etc. in the event of an emergency. Someone in the organization should understand the administrative needs. Mr. Lee referenced two utilities undergrounding the entire city before disaster being completely funded. Mr. Panetta stated that guidelines are being loosened to allow for preemptive work instead of disaster recovery. Utilities need to know how to play the game.

Mr. Panetta questioned who is best to guide BPW on applying for grants preemptively. Mr. Jett stated that GMB has a little expertise. If an organization allows to apply, then it would be prudent to apply even if the project does not fit, the organization may have a suggestion where the project would fit. Mr. Panetta suggests engaging Sergeant and Lundy on the electrical side.

Mr. Jett stated that the state has not finalized rolling out the program yet, but there will be pre-disaster monies. Mr. Jett suggests having those conversations now, possibly with Jim Sullivan.

9. Schedule next meeting.

Mr. Lee would like to discuss policies and positions to recommend to the Board, like EV, solar, wind, etc. These will be items that the committee would like to encourage and minimize the need for mitigation.

The next meeting is scheduled for Oct 5, 2022, at 9:30 am.

10. Adjournment

Mr. Lee adjourned the meeting at 3:14pm.

Respectfully submitted
Sharon Sexton
Executive Assistant