



## Town of Union Community Meeting

2.15.17

### Attendees

- Town of Union
  - Paul Nelson
  - Daria Golazescki
- Broome County
  - Frank Evangelisti
- New York State Department of Environmental Conservation
  - Benjamin Pratt
  - Dan Fuller
  - Kerrie O'Keeffe
  - Ben Gertain Plowe
  - Bill Nechamen
- United States Army Corps of Engineers
  - Leon Skinner
- Federal Emergency Management Agency (FEMA) Region II
  - Alan Springett
  - Seth Lawler
  - Aneela Mousam
  - CERC
    - Amber Greene
    - Thomas Song
    - Paige Mandy
    - Cara Spidle

### Discussion

- **Review of Levee Analysis and Mapping Approach (LAMP) and Local Levee Partnership Team (LLPT) 1 Meeting:**
  - Primary objective is to identify the specific project issues and levels of protection related to the Town of Union's levees
  - Discussed the first pass analysis methodology of Natural Valley – maximum flood extent if there was no structure there
    1. If we have a flood source that flows from behind the structure, then the Natural Valley should not be the major concern. The higher the levee, the higher the water can be during a flood, so the Community can consider installing facilities and pump stations to reduce risk in those areas
    2. Many of Union's structures have one or more risk areas that need to be considered
  - Established a preliminary timetable to obtain final decisions and put the draft together
- **Discuss Results of First Pass Analysis**
  - LAMP Procedures
    1. Natural Valley Procedure (Applicable)
      - Levee #28 (Nanticoke Creek)
        - Approx. 698 structures impacted
        - Flow comes down through the area pretty well and will overlap
      - Levee #30 (Nanticoke Creek)
        - Approx. 205 structures impacted
      - Levee #0, #1, #2, and #22 (Susquehanna River)
        - Approx. 119 impacted by #0
        - Approx. 1 impacted by #1
        - Approx. 21 impacted by #2
        - Empire State Development Corporation is funding a flood wall to close Watson Blvd. They are planning on



funding another flood wall to be constructed during the next construction season

- Levee #24, #25, #26, #27
  - Approx. 11 structures impacted by #24
  - Approx. 5 structures impacted by #25
  - Approx. 285 structures impacted by #26 & #27
  - A lot of the residential homes that had deep flooding are gone. Community will provide the GPS locations of the structures that have been removed to identify where the risk no longer exists
- 2. Structural Based Inundation Procedure (Not applicable)
- 3. Overtopping Procedure (Potentially applicable)
- 4. Freeboard Deficient Procedure (Potentially applicable)
  - Levee Segment ID #30
    - Scales are different because the depth and length vary
    - This levee is owned by the county
    - FEMA is taking the Preliminary Flood Insurance Rate Maps (PFIRMs) and adding Tropical Storm Lee – the full analysis won't change a lot, but it's still significant and changed the Base Flood Elevation (BFE)
  - Levee Segment ID #28
    - Endicott / Johnson City / Vestal project – currently using data from an old survey that was conducted and found some inaccuracies
      - Likely to have better elevations by the time we get to Phase 2 of the LAMP Process
    - If USACE were to perform a risk analysis, the community can start looking at accreditation
    - Q: Looking at the data and thinking is this survey data showing where there are ruts in the levee and trying to find low points that may not show on the top?
      - The spike in the middle is about 2 ft.
      - If this is a rut, then it could be a cause for concern
      - Rarely seen a well maintained levee with that kind of jump in elevation
    - Q: Is Light Detection and Ranging (LIDAR) data better than survey data?
      - LIDARs only process plus / minus one foot
  - Levee Segment ID #2
    - Virtually 3 ft. below the required freeboard and just barely above the 1-percent-annual-chance flood
  - Levee Segment ID #1
  - Levee Segment ID #0
    - Odd bumps that aren't on the levee, but are showing in the data
      - USACE suspects that they've shot the top of the end walls and simply connected the dots
  - Levee Segment #27
  - Levee Segment #26
    - This is the sort of breach that could be accredited down the road
    - Eligible for Freeboard Deficient
- 5. Sound reach procedure (Not applicable)



- Breaches are a theoretical way to model the uncertainty of flooding, but a lot depends on the amount of freeboard you actually have and how much room there is between the base flood and the top of the structure. At this point, need to start looking at the Overtopping Approach
- Hydrology
  1. Showed using update gauge analysis resulting in a 3.6 increase in flow in the Susquehanna relative to PFIRMs
- Hydraulics
  1. How that water moves through the system is a 1D steady state model
    - 1D model provides a depth grid
  2. We'll be looking at 2D depending on what the conditions are
- Q: Is there a close up of this?
  1. This is an overview, but we'll be zooming into each reach
  2. There is overlap and they affect each other
- Q: The light blue is the extended special flood hazard area. Should a Natural Valley approach be used?
  1. The Town of Union is impacted by the darker blue but it's jurisdictional
  2. This is a total of all of the structures impacted
- Data Requirements
  1. With the data we have, we can use freeboard approach on all of them
  2. Need to get good elevation data to do Structural-Based
    - Anticipate being readily able to get this data
  3. For phase 2, Structural-Based Inundation is a possibility, and then the next option would be Natural Valley
  4. Need to make a decision over the next month
- **Finalization of study methods for Phase 2 Analysis**
  - Currently creating a five-year plan and will soon develop the scope for the Phase 2 analysis and future modeling
  - Requirements left for Freeboard Analysis – some geo-technical data is needed to understand what's going on to determine a path forward
  - FEMA will do a refined Natural Valley for phase 2 with 2D modeling
  - Likely chance that we'll have all the data needed for the Structural-Based Inundation, but unsure we have enough data for the other analyses
    1. Still open to receiving additional data

#### **Next steps**

- Please share any additional data to Seth Lawler ([slawler@Dewberry.com](mailto:slawler@Dewberry.com)) and Sri Koka ([skoka@Dewberry.com](mailto:skoka@Dewberry.com))