

**Delaware Bay Beach Work Group
Drainage Sub-Work Group**

**Minutes and DRAFT Working Documents
June 27, 2011**

Senate Hearing Room, Legislative Hall

Agenda

10:00-10:05	Opening Remarks	Sub-Committee Chair Frank Piorko for Rep. Briggs-King
10:05-10:15	Review of Drainage Recommendations	Andrea Kreiner
10:15-10:25	Discussion of Community Assessment Scope of Work based on Bowers Beach Study	Brooks Cahall
10:25-10:35	Review of Work already completed in Bay beach Communities	Frank Piorko
10:35-11:35	Development of Prioritization Matrix	Andrea Kreiner
11:35-11:50	Public Comment	Andrea Kreiner
11:50-11:55	Discussion about Future Meetings of Subcommittee	Andrea Kreiner
11:55-12:00	Meeting Wrap Up	Sub-Committee Chair

Introduction

Frank Piorko – Division Director – Division of Watershed Stewardship

Mr. Piorko announced that Senator Bushweller had another commitment and that he would be attending the Council on Development Finance meeting. Representative Harvey Kenton stopped by and informed the work group that he had another commitment at the Milton Park event and Representative Ruth Briggs-King also had a previous engagement. Frank will chair the meeting for Representative Briggs-King.

Introductions of those in attendance: (Names taken from sign-in sheet)

Sarah Cooksey, Bonnie Arvay, Michael Stroeh, Andrea Kreiner, Peter McLaughlin, Kelvin Ramsey, Brooks Cahall, Jeff Reed, Michael Costello, Ron Hunsicker, Al Izzarone, Jane Laughlin, Cindy Miller, Lucy Huffman, Richard Huffman, John Robinson, Courtney Janiak, Amy Cannon, Bill Meredith, Frank Piorko, Bob Enright, Marcia Cagle

Purpose: Frank Piorko – This group is a sub-work group of a larger committee that was pulled together to look at economic issues surrounding the coastal towns. Specifically the bay beaches and the work we started with an economic evaluation of a report that was done 2 years ago. That report looked at nourishment in the bay beaches and created a template for sand nourishment and shoreline protection and what it would cost for the State to undertake a plan for nourishment of the bay beaches. That study was done primarily as: here's a beach fill template, here is the cost and we are now doing a compliment to that which we are involved in a bay beach economic study led by JMT involving partners with several universities across the country as well as a rounded team. Those of you that were at previous meetings are aware through the presentations on the economic side and we have discussed that study at a couple of the work group meetings. We are not going to be focusing at this discussion the shoreline nourishment or the beach portion. We are going to be focusing today on the drainage component of the bay beach coastal towns. We are focusing today with the challenges and make the separation within these communities. We really are talking about the network or lack of the infrastructure that exist for conveying and management of water once that water is in that community. By infrastructure we are not only talking about pipes, catch basins that type of infrastructure...open ditches and some of the structures that have been built for management of the drainage.

Andrea Kreiner – Review of Drainage Recommendations:

The responsible agencies should continue to pursue consistent enforcement of laws regarding man-made structures in the flood plain that cause damage, with respect to liability regardless of public or private ownership.

1. DNREC should establish a standard assessment protocol applicable to each bay beach community experiencing drainage problems to quantify the drainage issues in that community.
2. The Bay Beach Work Group should appoint a sub-work group to develop a decision-making matrix to prioritize drainage projects. Criteria should include public safety, economic, technical, environmental, ecological, agricultural, and any other factors the sub-work group determines to be appropriate.
3. In order to move towards engineered plans to address flooding and drainage in each bay beach community, the General Assembly should fund DNREC to undertake an overall study to:
 - A. Identify the drainage and flooding problems and the conditions causing them;
 - B. Compile any drainage and flooding studies, engineering plans, hydrologic studies, etc. that have already been conducted; and

- C. Apply the assessment and prioritization protocol to determine the order in which community-wide solutions are tackled.
4. DNREC should try to develop new federal and state general permits (5 year duration) to allow it to improve open channel conveyance for the purpose of flood water relief at the request of the Division of Soil & Water.

Frank Piorko - Senate Bill 64 – Pulls together affected parties as well as professionals and takes a look at the floodplain language and existing codes and municipalities and counties throughout the State as well as drainage codes throughout the municipalities and counties throughout the State.

Brooks Cahall – Presentation – Bay Beach Communities Drainage Assessment - Available on the Delaware Bay Beach website.

<http://www.dnrec.delaware.gov/swc/shoreline/pages/delawarebaybeachworkgroup.aspx>

DRAFT WORKING DOCUMENTS SUBMITTED BY ANDREA KREINER

Andrea Kreiner – Development of Prioritization Matrix – Important Criteria

1. Identify Criteria
2. What aspect of the project are we applying that to?
3. Weighting

Sub-Committee members and public participants assist in identifying the criteria.

Drainage Project Matrix Criteria (DRAFT WORKING DOCUMENT)

*Notes: On all scales a higher number indicates drainage problems have a higher impact
The next step will be to weight the criteria for importance in decision-making, including identifying “deal breakers”*

PUBLIC SAFETY IMPACTS

1. Emergency vehicle (fire, police, EMT) access to homes
(scale: 5 unable to access, 0 all emergency vehicles able to access)
2. School bus access to homes
(scale: 5 unable to access, 0 able to access)
2. Residents’ ability to egress (evacuate in a storm event)
(scale: 5 no ability to egress, 3 able in 4wd, 0 all vehicles able to egress)

2. Road delineation visibility
(scale: 5 no road visible under the water, 0 road fully visible)

5. Utility impacts (electricity, natural gas)
(scale: 5 all utilities lost, 0 no utility impacts)

ECONOMIC IMPACTS

3. Mail delivery
(scale: 5 mail delivery stopped for 5 or more days, 0 no mail delivery impact)

4. Property value impact
(scale: 5 complete loss of property value, 0 no property value impact)

3. Insurance cost/ability to acquire
(scale: 5 unable to acquire insurance, 4 insurance 2x cost of comparable home, 0 no insurance cost impact)

1. Direct loss of business (due to closure or inability to access)
(scale: 5 complete loss of business for 5 or more days, 0 no loss of business)

5. Maintenance cost for infrastructure to repair drainage impacts
(scale: 5 complete replacement required, 0 no repairs required)

8. Home repair due to drainage problems
(scale: 5 all homes require repair, 0 no homes require repair)

9. Property loss (other than homes)
(scale: 5 vehicle &/or boat loss by 50% or more of community, 0 no property loss)

TECHNICAL CRITERIA

10. Frequency of drainage problem occurrence
(scale: 5 five or more times per year, 1 less than once a year)

10. Intensity of incidents
(scale: 5 flooding happens with normal high tides, 4 flooding happens with 1-inch rainfall event, 1 flooding happens with major storms)

3. Safety design standards
(scale: 1 currently not being met, 0 currently being met)

Aerial extent of drainage problems
(scale: 5 entire community and beyond, 1 one or two houses)

11. Number of critical features to address

(scale: ??)

6. Future considerations (ex - proposed developments)
(scale: 5 in a growth zone, 0 no proposed development in the watershed)
7. Ability to address the problem
(scale: ???)
8. Site accessibility (easements, permission to access)
(scale: 5 site fully accessible all access granted, 0 access permission denied)

ENVIRONMENTAL/ECOLOGICAL IMPACTS

1. Habitat impacts by drainage problems
(scale: 5 habitat destroyed, 0 no habitats impacted)
2. Habitat impacts from proposed drainage improvements
(scale: 5 no habitats impacted 0 habitat destroyed)
3. Presence of endangered/threatened species
(scale: 1 at least one end./thr/ species documented, 0 none present)
4. Phragmites/Invasive species
(scale: ??)
5. Impacts on mosquito populations
(scale: ??)
6. Number of potential contaminant sources impacted
(scale: 5 ___ or more contaminant sources impacted, 0 no contaminant sources impacted)
7. Water Quality
(scale: 5 loss of fishable or swimmable status, 0 no water quality impacts)
8. Permitting
(scale: 1 env. permits required, 0 no permits required)

AGRICULTURAL IMPACTS

1. Loss of crops (short term impacts)
(scale: 5 entire crop/full season lost, 0 no crop loss)
2. Loss of acreage, production capability (long term impacts)
(scale: 5 ___ or more acres, 0 no acres lost)
3. Poultry houses/manure sheds

(scale: 5 ___ or more poultry houses/manure impacted, 0 none impacted)

PUBLIC HEALTH IMPACTS

1. Mold

(scale: 5 10 houses or more with mold problems due to drainage problems, 0 no houses with mold problems due to drainage problems)

2. Combined Sewer Overflows

(scale: 1 CSOs impacted, 0 no CSOs impacted)

3. Septic Systems

(scale: 5 10 or more septic systems impacted, 0 no septic systems impacted)

4. Water supply

(scale: 5 all water supply unsafe to drink, 0 no water supply impacts)

SOCIETAL IMPACTS

1. Environmental justice (EJ)

(scale: 1 recognized EJ community impacted, 0 no EJ community impacted)

2. Access to recreation facilities (e.g. Boating, fishing)

(scale: 5 access blocked for 5 or more days, 0 no loss of access)

3. Population directly impacted

(scale: 5 at least ___ people impacted, 0 no people directly impacted)

OTHER

1. Project cost

(scale ??)

2. Availability of project funding from other than State

(scale: ?? Somehow needs to relate to project cost)

3. Conflicts in land management strategies if do drainage project

(scale: 1 conflicts exist and require resolution, 0 no conflicts)

**Drainage Project Matrix
Criteria Weighting Worksheet
(DRAFT WORKING DOCUMENT)**

Criteria	Include (y/n)	Weight
PUBLIC SAFETY IMPACTS		
2. Emergency vehicle (fire, police, EMT) access to homes		
2. School bus access to homes		
3. Residents' ability to egress (evacuate in a storm event)		
3. Road delineation visibility		
5. Utility impacts (electricity, natural gas)		
ECONOMIC IMPACTS		
4. Mail delivery		
5. Property value impact		
3. Insurance cost/ability to acquire		
2. Direct loss of business (due to closure or inability to access)		
6. Maintenance cost for infrastructure to repair drainage impacts		
9. Home repair due to drainage problems		
10. Property loss (other than homes)		
TECHNICAL CRITERIA		
11. Frequency of drainage problem occurrence		
11. Intensity of incidents		
4. Safety design standards		
Aerial extent of drainage problems		
12. Number of critical features to address		
7. Future considerations (ex - proposed developments)		
8. Ability to address the problem		
9. Site accessibility (easements, permission to access)		

Criteria	Include (y/n)	Weight
ENVIRONMENTAL/ECOLOGICAL IMPACTS		
1. Habitat impacts by drainage problems		
3. Habitat impacts from proposed drainage improvements		
3. Presence of endangered/threatened species		
4. Phragmites/Invasive species		
5. Impacts on mosquito populations		
6. Number of potential contaminant sources impacted		
7. Water Quality		
8. Permitting		
AGRICULTURAL IMPACTS		
2. Loss of crops (short term impacts)		
3. Loss of acreage, production capability (long term impacts)		
4. Poultry houses/manure sheds		
PUBLIC HEALTH IMPACTS		
2. Mold		
3. Combined Sewer Overflows		
4. Septic Systems		
4. Water supply		
SOCIAL IMPACTS		
2. Environmental justice (EJ)		
3. Access to recreation facilities (e.g. Boating, fishing)		
4. Population directly impacted		
OTHER		

Criteria	Include (y/n)	Weight
2. Project cost		
3. Availability of project funding from other than State		
4. Conflicts in land management strategies if do drainage project		

Next Meeting - **Drainage Sub-Committee Work Group** - August 22, 2011 – 10:00 am – Noon, Senate Hearing Room, Legislative Hall, Dover

Full Committee Meeting – Delaware Bay Beach Work Group – September 16, 2011, 10:00 am – 1:00 pm, Senate Hearing Room, Legislative Hall, Dover