Anacostia Flood Risk Reduction
Levee Rehabilitation Case Study
Maureen P. Cissel, CFM
Discussion Topics

- Levee System Overview
- Evaluate Existing Conditions
- Planning
- Complete Rehabilitation
- Sustainability
- Looking Forward
LEVEE SYSTEM OVERVIEW
Anacostia Levee System

Constructed in the 1950s, the levee includes:

- More than five miles of earthen levees
- Twin 8x4 pressure conduits 2500 feet long
- Four flood control pumping stations
- Gravity outfall
Ongoing Investment in Levee System

- Construction of new screw pumps
- Replacement of flapper valves
- Installation of automatic bar screen cleaners
- Emergency generator installations at each pumping station

- No levee failures, overtopping or breaches
Levee owner was advised that the levee system would not meet the standards for FEMA accreditation.

What does that mean?
EVALUATE EXISTING CONDITIONS
- H&H Analysis to establish WSEL
- Field Inspection
  - Penetrations
  - Structures
- Concrete Testing
- Utility Coordination
- Review of Historical Records
Field Inspections
Levee Penetration Inspections
Levee Penetration Inspections
Structure Inspections
Concrete Testing
Sluice Gate Damage
Pressure Conduit
2500 If
Utility Coordination
Concept Design Report

- Summarized alternatives
- Cost Benefit Analysis
- Property and community impacts
Typical Section

STANDARD LEVEE RAISING

RIVERSIDE

LANDWARD SIDE

3' Raise
2' Raise
1' Raise
Existing Ground

Bike Trail

New Fill

Topsoil

Easement Line

ANACOSTIA LEVEE
3 PLANNING
Stakeholders Outreach

- Public Outreach
- Elected Officials
- Property Owners
- Maintenance Division
Outreach Methods

- Briefings to elected officials
- Community meetings, press releases and website updates
Permitting Requirements

- Tidal and Non-Tidal Wetland
- Dam Safety and Waterway Construction
- Critical Area Commission, Natural Resources and Historic Trust
- Stormwater management and erosion and sediment control
4 COMPLETE REHABILITATION
4 Separate Contracts to Address Primary Deficiencies

- Levee Rehabilitation
- Flood Control Pumping Stations Repair and Upgrades
- Pressure Conduit Access Vaults, Cleaning and Evaluation
- Steep Slope Improvements to allow for Maintenance
5 SUSTAINABILITY
Operations and Maintenance Manuals for each segment
Emergency Action Plans for each Segment

EMERGENCY ACTION PLAN (EAP)
BRENTWOOD LEVEE SYSTEM
Anacostia River
Brentwood Flood Control Pumping Station
4018 Banner Street
Prince George’s County, Maryland

Reviewed and Updated:

Date:

Emergency Sponsor:
Director of Prince George’s County Department of Public Works and Transportation

Copy of

EMERGENCY ACTION PLAN (EAP)
EDMONSTON – BLADENSBURG LEVEE
Anacostia River Levee System
Bladensburg Flood Control Pumping Station
4601 Annapolis Road
Prince George’s County, Maryland

Reviewed and Updated:

Date:

Emergency Sponsor:
Director of Prince George’s County Department of Public Works and Transportation

Copy of

EMERGENCY ACTION PLAN (EAP)
COLMAR MANOR LEVEE SYSTEM
Anacostia River
Colmar Manor Flood Control Pumping Station
4327 Monroe Street
Prince George’s County, Maryland

Reviewed and Updated:

Date:

Emergency Sponsor:
Director of Prince George’s County Department of Public Works and Transportation

Copy of
Checklists were developed:

- Maintenance Personnel
- Electrical and Mechanical Contractor(s)
How did we achieve success?
LOOKING FORWARD
What is the future of levees?

- Nationwide Inventory
- Hazard Classification based on Risk
- Levee Safety
- Public Awareness
- Grant Funds
Questions?