

City of Lambertville

A Riverfront Town

John A. Miller, P.E., CFM, CSM
Planning Board member
Emergency Management Council member
Community Rating System Coordinator





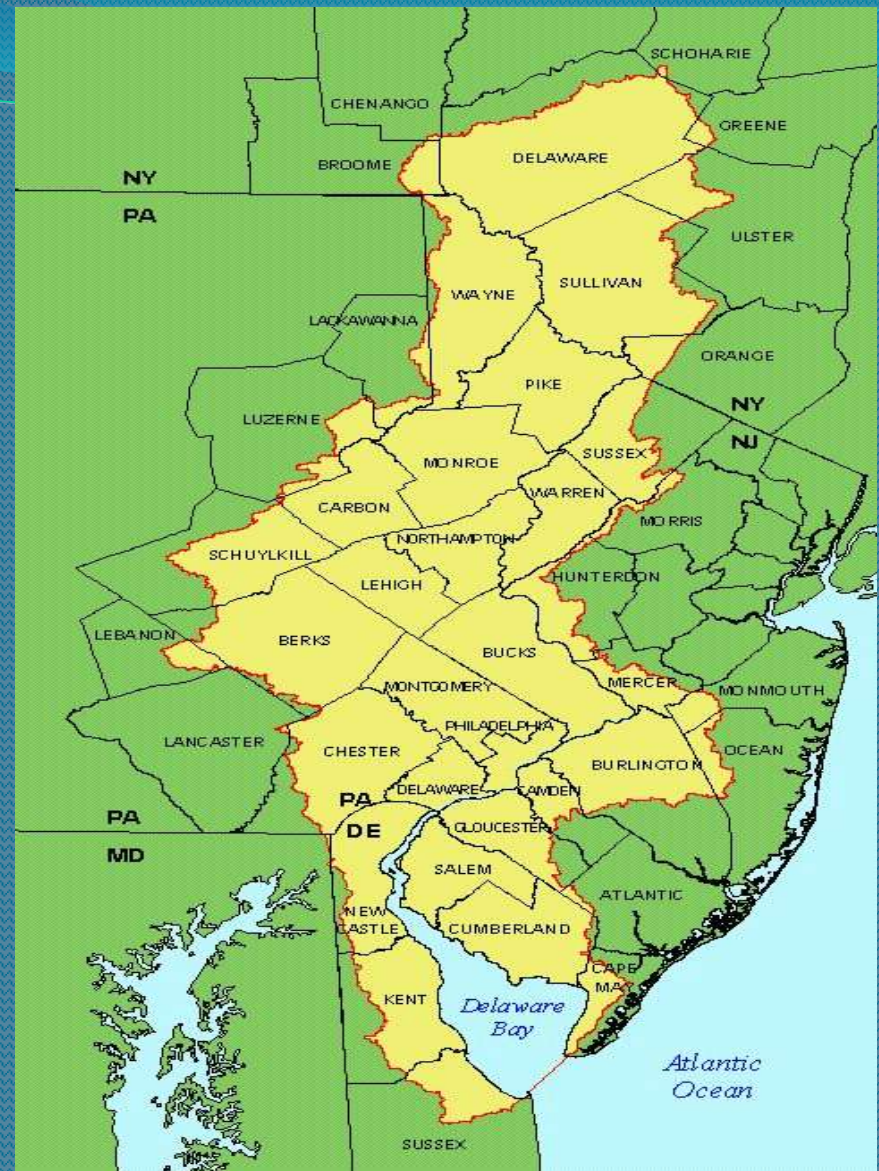


Mary Shaffer – Author of "Devastation
on the Delaware"

Past Flood History:

Major Flooding recorded since 1839

- Snowmelt: 1839, 1841, 1846, 1936, 1996
- Severe Rainfall: 1850, 1862, 1942, 1975, 2005, 2006
- Northeasters: 1869
- Tropical Storms: 1903, 1933, 1938, 2001, 2004, 2011 (Lee - inland)
- Hurricanes: 1955, 1972, 1996, 1999, 2011 (Irene - inland)



Gary Szatkowski, Meteorologist-in-Charge

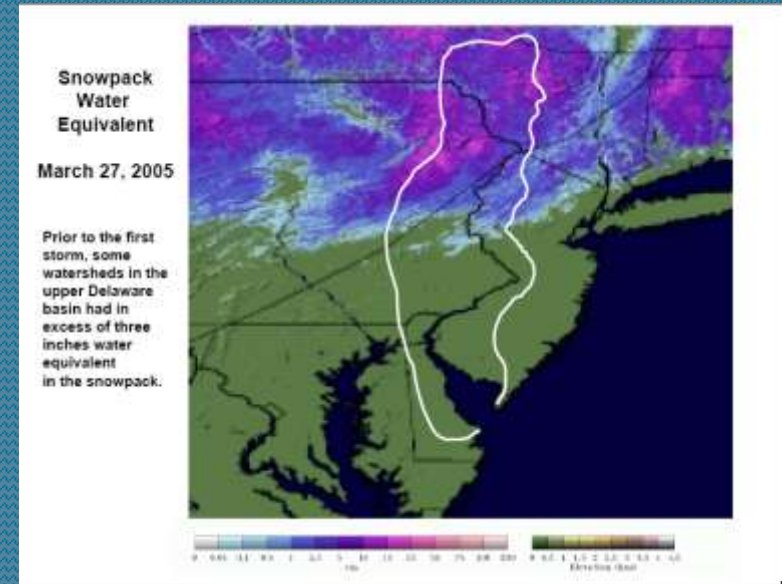
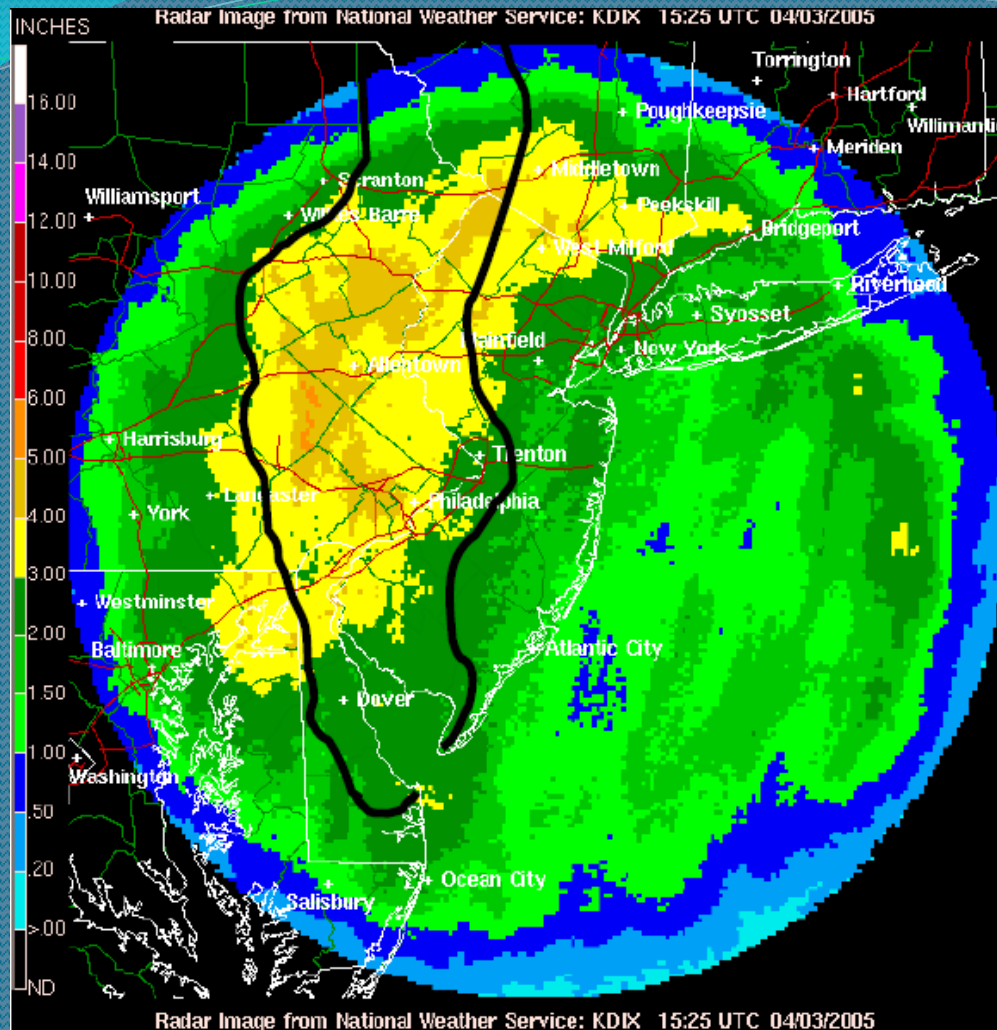
NOAA's National Weather Service Philadelphia/Mt.
Holly NJ Forecast Office





Tropical Storm Ivan - September 2004

Precipitation and Snow Melt



APRIL 2005 FLOOD

Gary Szatkowski, Meteorologist-in-Charge

NOAA's National Weather Service Philadelphia/Mt. Holly NJ Forecast Office







APRIL 2005 FLOOD



Flooding was caused by two early spring rainstorms combined with snowmelt. The City of Lambertville had 103 NFIP claims resulting in \$1,528,326 paid.

APRIL 2005 FLOOD

New Jersey Governor's Flood Mitigation Task Force



STATE OF NEW JERSEY
OFFICE OF THE GOVERNOR

NEW JERSEY
Flood Mitigation Task Force



HAZARD MITIGATION PLAN

City of Lambertville,
Hunterdon County, New Jersey

Swan Creek Watershed

Preliminary Flood Damage and Mitigation Report



January 2007

**Technical Assistance Provided by
USDA Natural Resources Conservation Service through
Hunterdon County Soil Conservation District**

To

City of Lambertville, New Jersey

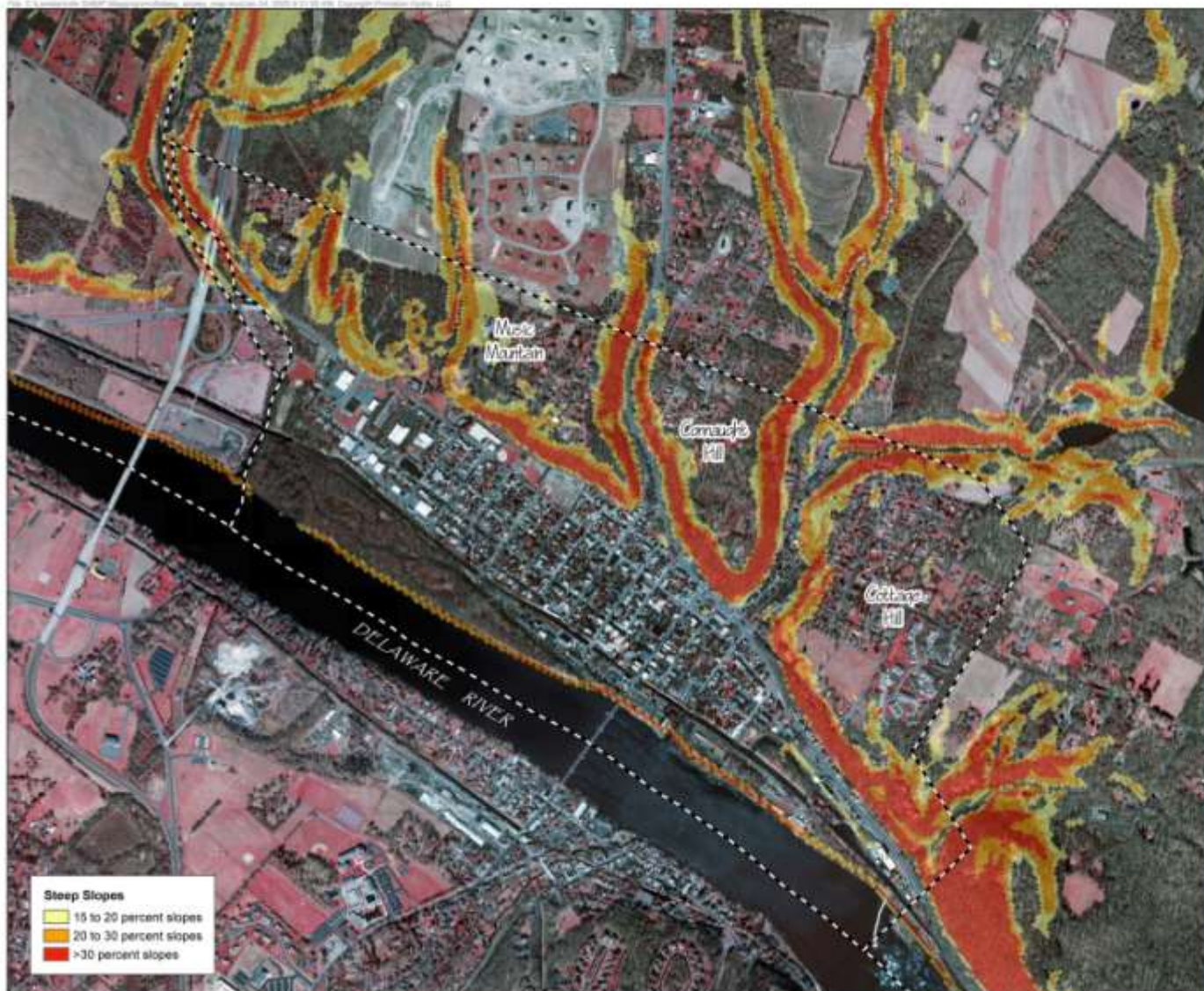


JUNE 2006 FLOOD

The City of Lambertville had 89
NFIP claims resulting in
\$1,581,500 paid.







pH

Princeton Hydro

MUNICIPAL PROXIMITY MAP



Produced by
City of Lambertville
Stormwater Committee

Adopted:
March 2009



0 200 400 600 Feet
1 inch equals 1,000 feet

SOURCES

1. Municipal Boundary as obtained from Hunterdon County Planning Board.
2. Elevation information as interpolated from 10 m DEM for WMA 11 as obtained from NJDEP GIS website.
3. 2002 Aerial orthophotographs obtained from NJGIM website.

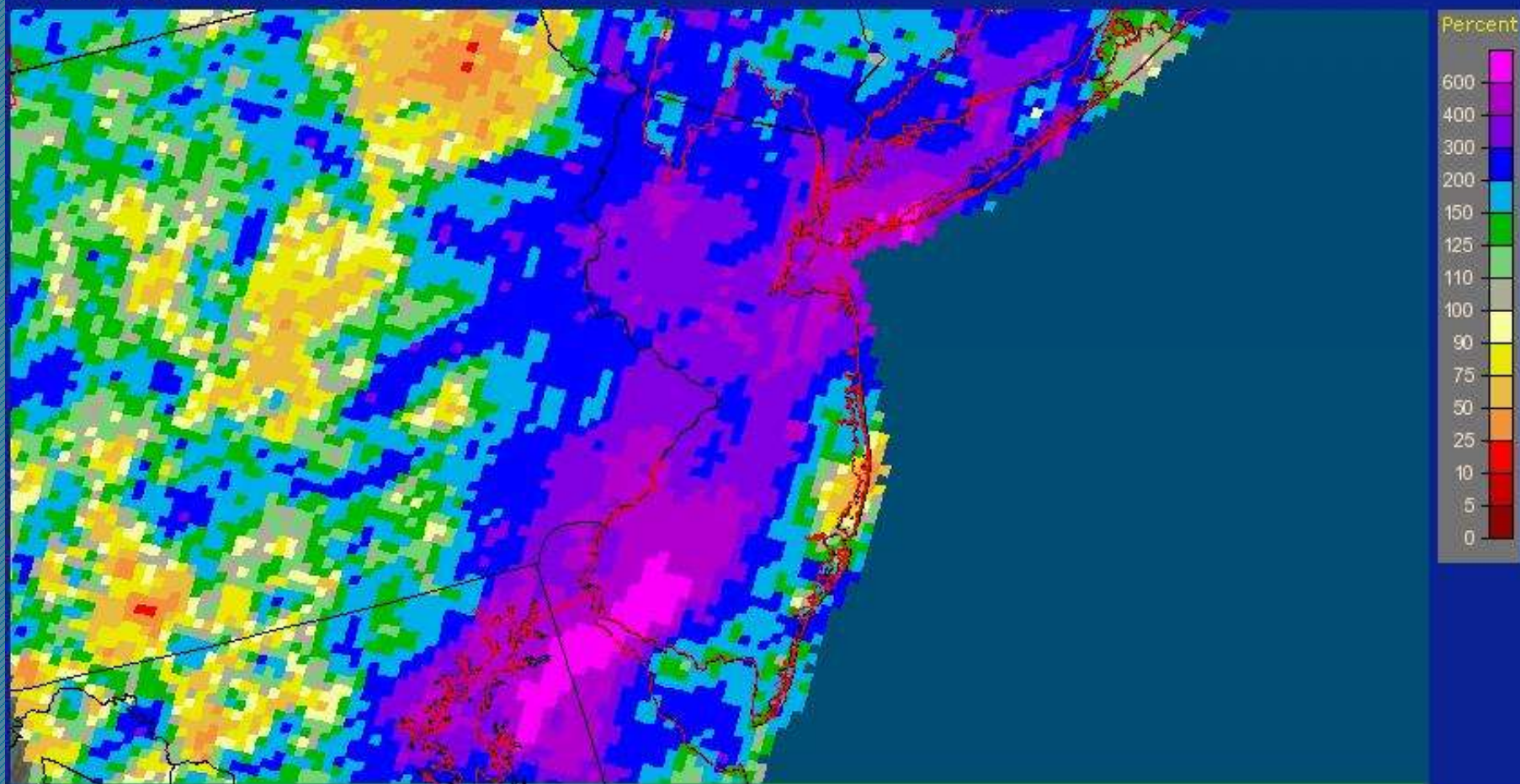
APPENDIX B: Figure B2: STEEP SLOPES MAP

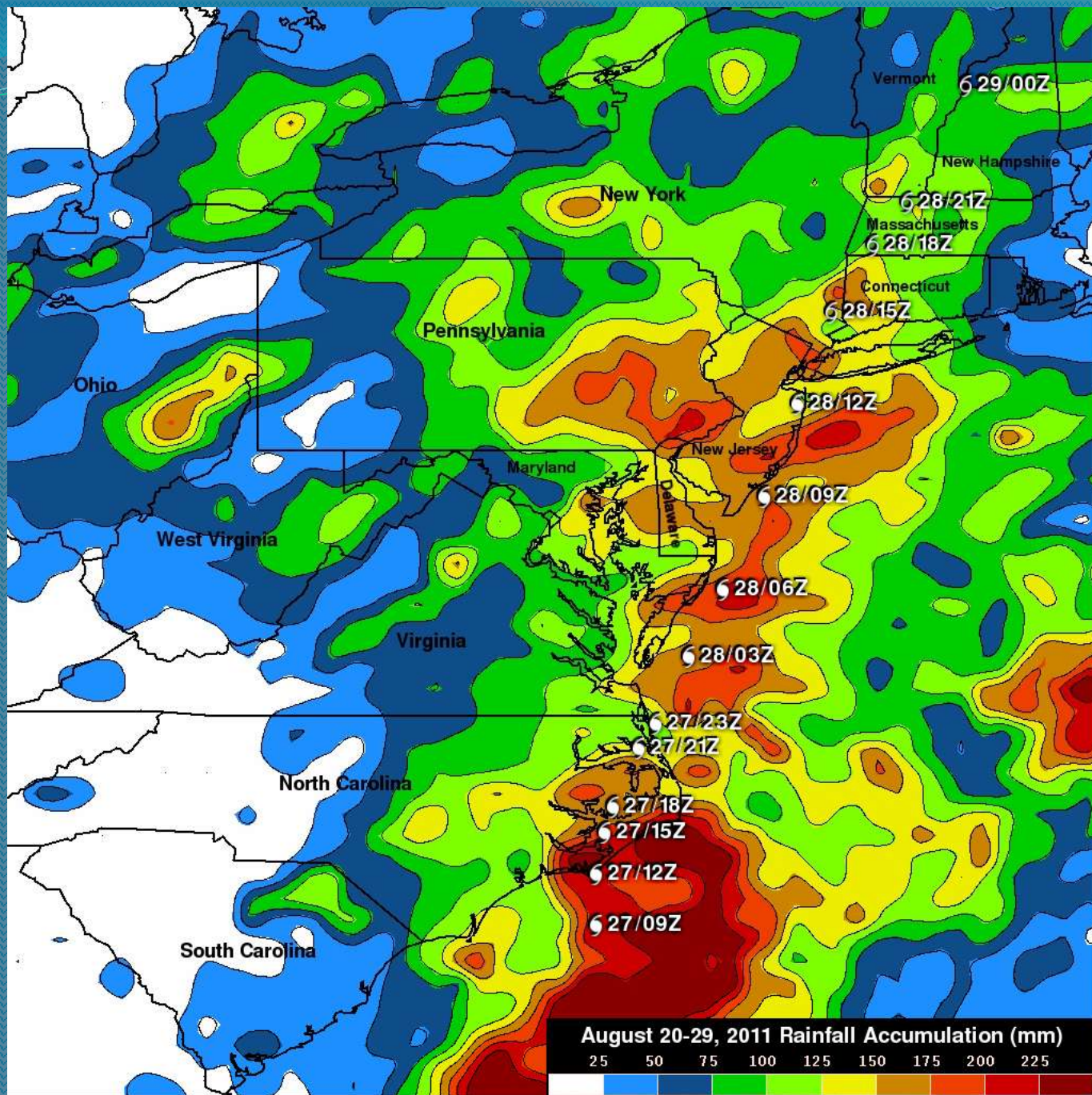
STORMWATER MANAGEMENT PLAN
CITY OF LAMBERTVILLE
HUNTERDON COUNTY, NEW JERSEY

Legend

--- Municipal Boundary

New Jersey: Current 14-Day Percent of Normal Precipitation
Valid at 8/26/2011 1200 UTC - Created 8/27/11 0:07 UTC









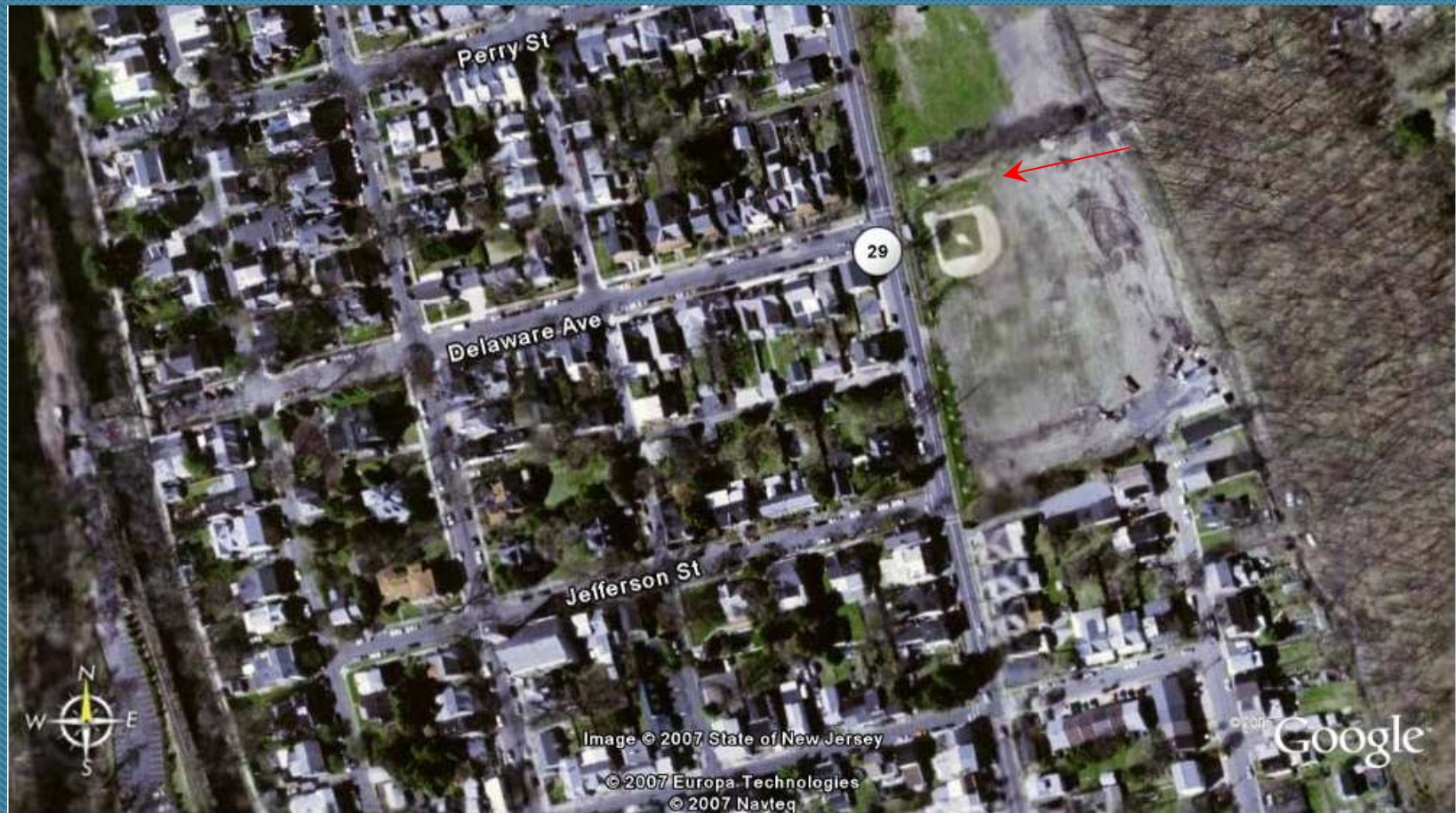
Mitigation

Delaware Avenue Trunkline

Weir at Ely Field



Delaware Avenue Trunkline



FEMA Mitigation

✓ all Hazard Mitigation Plans (90% of NJ population)

FEMA Mitigation Programs

- Flood Mitigation Assistance
 - Pre-Disaster Mitigation
- Hazard Mitigation Grant Program
 - Repetitive Flood Claim
 - Severe Repetitive Loss



Best Practices and Case Studies

[Search Portfolio](#)

[Sample Best Practice](#)

[Add Your Best Practice!](#)

Lambertville Public School Building

Retrofit

This project involved retrofitting the elementary school building in the City of Lambertville, NJ, following Hurricane Floyd in 1999. The school structures include a 1-story brick classroom building and an attached "multi-purpose" building used as a gymnasium, cafeteria, and assembly area.

In 1999, with Hurricane Floyd in the weather forecast, staff and students followed the drill with sand bags and elevation, but the school was overwhelmed by the heavy rain delivered by the storm. Water depths within the school reached 24 inches as floodwaters poured into the school building through doors, windows, and heating vents. Teaching materials, books, equipment, cafeteria appliances, furniture, and photographs were destroyed.

The results of the event, in terms of both dollar cost and emotional impact, was dramatic. The insurance settlement alone was \$1,000,000 (1999 dollars). Teachers and children were in tears and children were out of school for 5 days.

The first real test of the mitigation measures came in August of 2011 when Hurricane Irene slammed into New Jersey, bringing soaking rains and high winds across an already over-saturated ground. With recently installed drainage systems in place for nearby Ely Creek, plus waterproof and reinforced doors and windows, and raised heating units, coupled with overwhelming volunteer support, Lambertville's preparation overcame previous fears.

Recently installed drainage systems for Ely Creek, plus waterproof and reinforced doors and windows, and raised heating units, coupled with overwhelming volunteer support, helped prevent damage to the school. Irene's flash-flooding brought over 18 inches of street level flooding, but the floodwaters were unable to penetrate Lambertville's Public School. The only water that managed to penetrate the building was a few small wet spots in one corner that were easily cleaned up by a custodian using a mop. Financial and emotional costs as a result of the storm and flooding were totally avoided.

Lambertville's experience in mitigating a real threat to a facility critical to their identity, and working together as a community, sets an example for many other communities around the country that find themselves in similar circumstances. The community has demonstrated that recognizing the hazard, formulating a plan and persistently pursuing the assistance offered by FEMA can bring about increased safety and security for people and protect facilities vulnerable to natural and man-made hazards. The modest investment of \$215,000 to mitigate a natural hazard threat yielded estimated avoided costs in excess of \$1,000,000.

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Hunterdon County,
New Jersey



Quick Facts

Year:

1999

Sector:

Public

Cost:

\$215,000.00 (Actual)

Primary Activity/Project:

Flood-proofing

Primary Funding:

Other FEMA funds/ U.S.

Department of Homeland

Security

April 2005

75-year storm – 1.3% annual chance





APRIL 2005 FLOOD

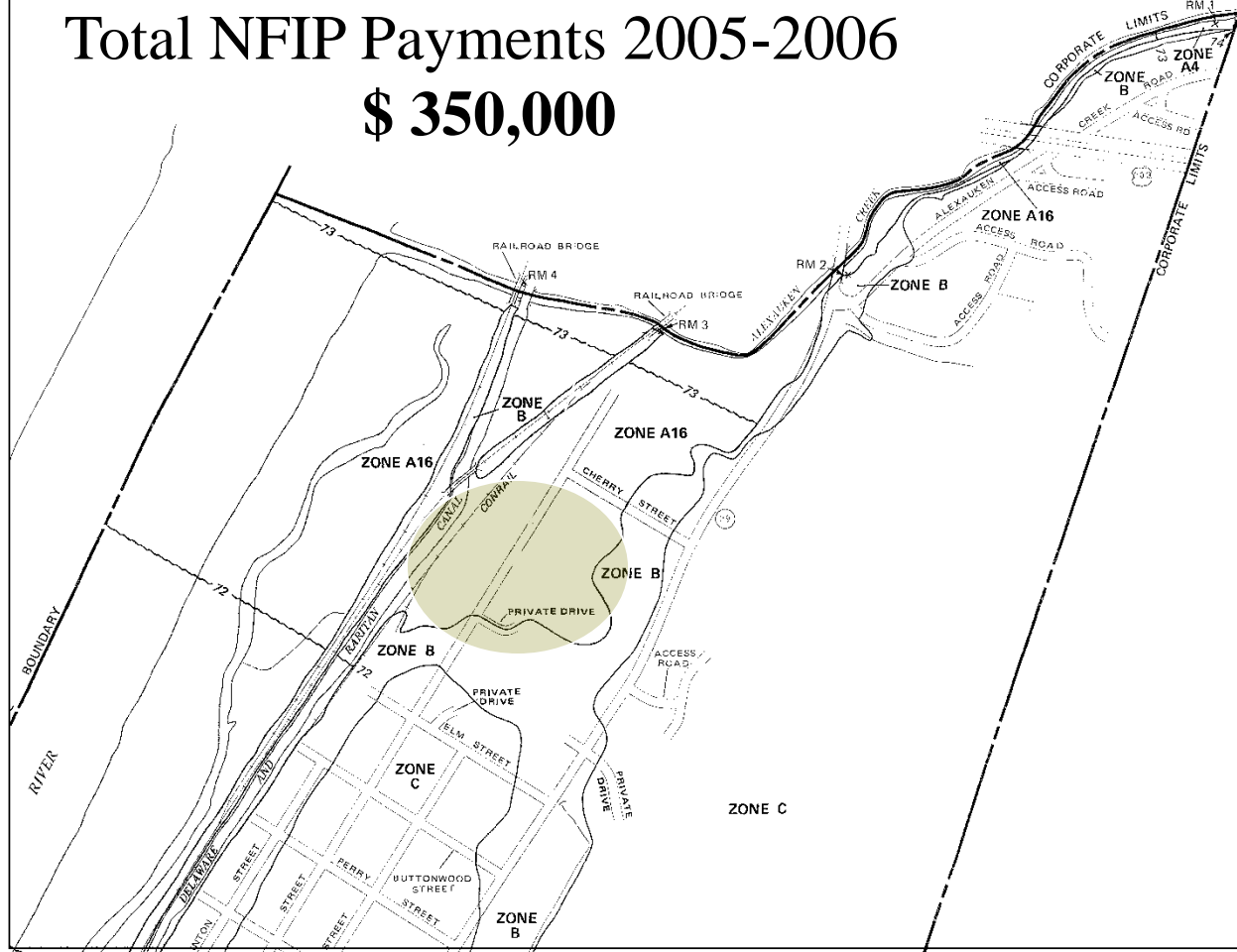
June 2006

60-year storm – 1.7% annual chance



FEMA Flood Insurance Rate Map

Total NFIP Payments 2005-2006
\$ 350,000



APPROXIMATE SCALE

400 0 400 FEET

NATIONAL FLOOD INSURANCE PROGRAM

FIRM
FLOOD INSURANCE RATE MAP

CITY OF
LAMBERTVILLE,
NEW JERSEY
HUNTERDON COUNTY

ONLY PANEL PRINTED

COMMUNITY-PANEL NUMBER
340237 0001 B

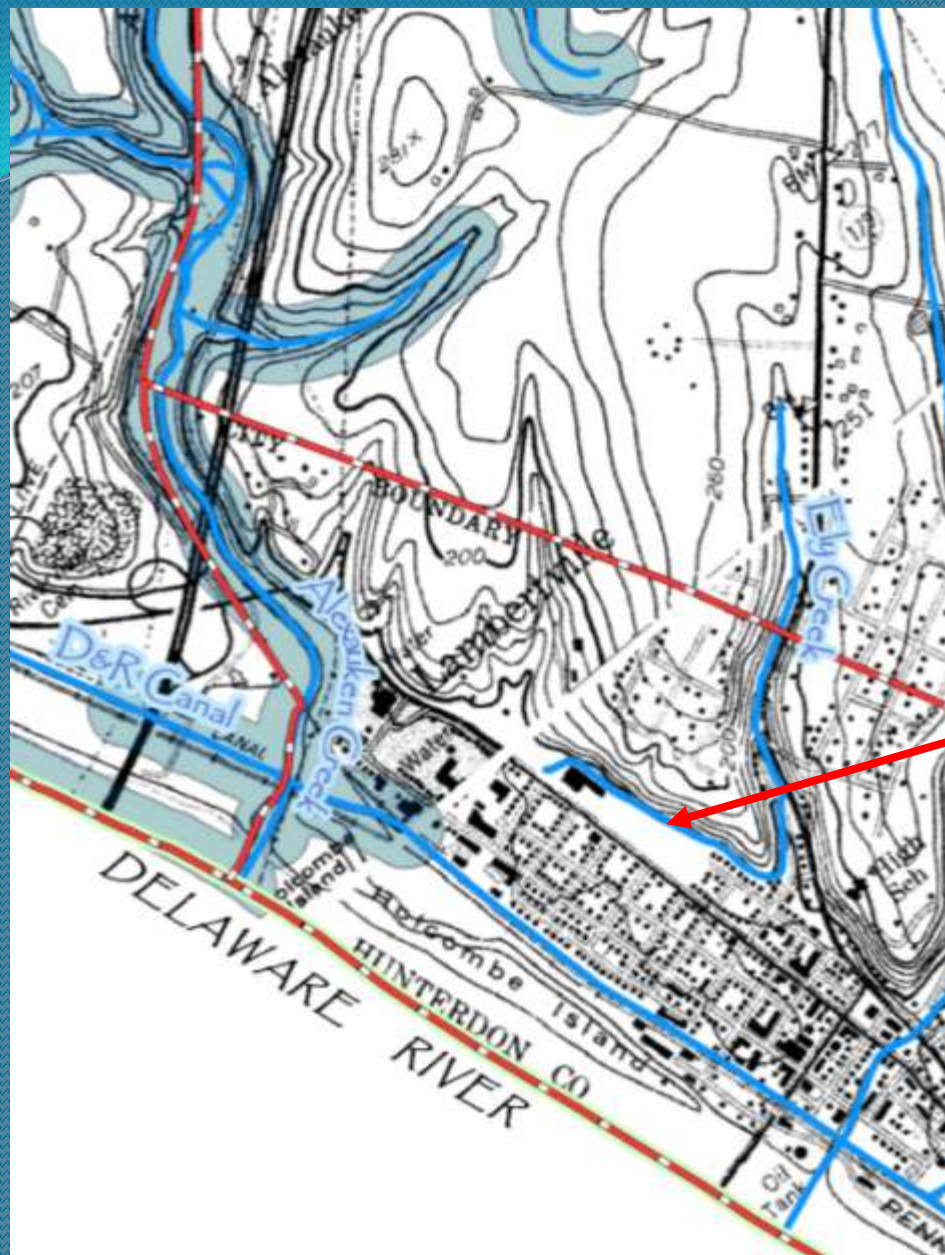
EFFECTIVE DATE:
APRIL 1, 1981



federal emergency management agency
federal insurance administration

This is an official copy of a portion of the above referenced flood map. It was extracted using FIRM On-Line. This map does not reflect changes or amendments which may have been made subsequent to the date on the title block. For the latest product information about National Flood Insurance Program flood maps check the FEMA Flood Map Store at www.msc.fema.gov

Ely Creek - SB



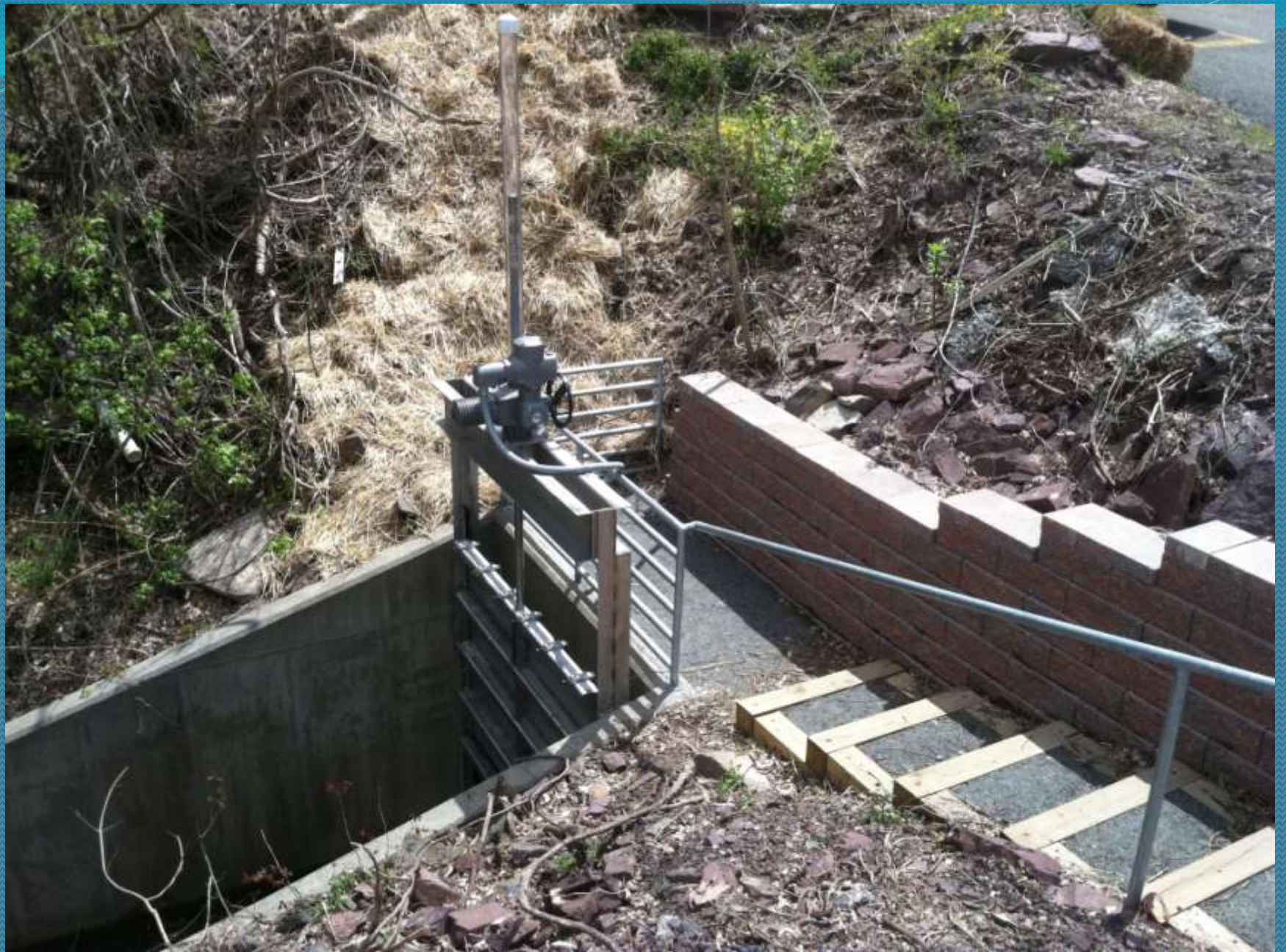


FEMA

FEMA Grant

About \$200,000 from
2010 Flood Mitigation Assistance program



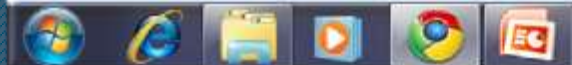








Mt. Holly, NJ NWS Office



Community Rating System (CRS):

The CRS program provides reductions in premiums to policyholders in CRS communities. To join the CRS, a community must implement and maintain floodplain management activities that go beyond the minimum requirements of the NFIP. This benefit includes the adjustment of flood insurance premium rates to reflect the reduced flood risk resulting from community activities.



Credit points earned, classification awarded, and premium reductions given for communities in the National Flood Insurance Program Community Rating System.

Credit Points	Class	Premium Reduction	
		SFHA*	Non-SFHA**
4,500+	1	45%	10%
4,000 – 4,499	2	40%	10%
3,500 – 3,999	3	35%	10%
3,000 – 3,499	4	30%	10%
2,500 – 2,999	5	25%	10%
2,000 – 2,499	6	20%	10%
1,500 – 1,999	7	15%	5%
1,000 – 1,499	8	10%	5%
500 – 999	9	5%	5%
0 – 499	10	0	0

*Special Flood Hazard Area

**Preferred Risk Policies are available only in B, C, and X Zones for properties that are shown to have a minimal risk of flood damage. The Preferred Risk Policy does not receive premium rate credits under the CRS because it already has a lower premium than other policies. Although they are in SFHAs, Zones AR and Agg are limited to a 5% discount. Premium reductions are subject to change.

Land Use

Local Laws and Regulations

No-adverse Impact

Certified Floodplain Manager



John A. Miller, P.E., CFM, CSM
Planning Board member
Emergency Management Council member
Community Rating System Coordinator

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609-203-8935