

THE FIRST STATE WATERMARK



Delaware's Floodplain Management Newsletter

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LiDAR Data and Flood Hazard Management

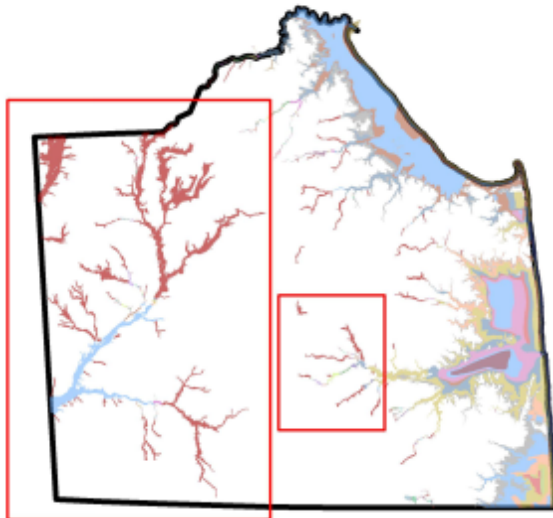
The Delaware State planning office has nearly completed a project to provide LiDAR data for Kent and New Castle counties. With Sussex County previously done by the state and Federal Emergency Management Agency, Delaware will soon have accurate digital topographic data wide.

What is LiDAR?

LiDAR stands for Light Detection and Ranging. The United States Geological Survey defines LiDAR as: "a technology that employs an airborne scanning laser rangefinder to produce detailed and accurate topographic surveys. LIDAR can be used to accurately measure the topography of the ground, even where overlying vegetation is quite dense."

Using LiDAR to map flood risk

This digital topographic data significantly reduces the amount of field work required in order to perform a watershed flood study.



Sussex County LiDAR-based flood study areas

The Delaware DNREC has contracted with URS Corp. to study approximately 70 miles of stream in the two areas of western Sussex County shown on the map above. These stream sections have not

previously been studied in detail by FEMA and no base flood elevations are available.

This project will establish BFE's and the Flood Insurance Rate Maps will be printed. We expect this project to be completed within the next year and preliminary maps will be available for public comment.

FEMA Bulletin Enclosures with Openings

FEMA recently came out with a bulletin clarifying the alternative measures listed in the *Flood Insurance Manual* for meeting the National Flood Insurance Program (NFIP) openings requirement. Please share the information below with your staff and other related parties in your state. This memo does not specifically address floodplain management regulations however it may be useful to consider these requirements which will effect insurance rating.

The Lowest Floor Guide of the *Flood Insurance Manual* describes how proper openings in an enclosure can alter the rating of a flood insurance policy. Openings on two or more walls having a total net area of at least one square inch for every square foot of enclosure changes the lowest floor for rating from the enclosure floor to the elevated floor. In some instances, it is not practical to meet the one square inch for every square foot requirement. In these instances one of the following alternatives may be used:

- A registered professional engineer or architect certification that the flood openings are designed to automatically equalize hydrostatic flood forces on exterior walls by allowing for the entry and exit of floodwaters. This certification is required to assure community officials that the openings are designed in accordance with accepted standards of practice. For acceptable certifications, refer to FEMA Technical Bulletin 1-93, "Openings in Foundation Walls for Buildings Located in Special Flood Hazard Areas" at <http://www.fema.gov/pdf/fima/job2.pdf>.

or

- A letter or other written evidence from the community building official that the flood openings

have been accepted by the community as an alternative to the openings requirement in the International Building Code or the local ordinance based on the issuance of an Evaluation Report on openings by the International Code Council Evaluation Service, Inc.
or

- An Evaluation Report issued by the International Code Council Evaluation Service (ICC-ES) that the automatic flood vents meet code requirement. This report provides the specification on the number of flood vents required for a specified square footage of enclosed area below the base flood elevation.

Dry Floodproofing: Retrofitting existing structures and designing new structures with dry floodproofing

This article will focus on recent projects in Delaware to protect buildings from flooding through dry floodproofing

- The National FloodProofing Conference will be held in Charleston, West Virginia from September 12-16, 2005. This conference is geared towards flood mitigation and property protection. For more information go to the Association of State Floodplain Managers website:

<http://www.floods.org/home/default.asp>

- The Delaware DNREC will be holding a Flood Resistant Development seminar on October 27, 2005 at Clayton Hall at the University of Delaware in Newark. The purpose of this seminar is to provide basic education about Floodplain construction requirements, using floodplain maps and flood studies, FEMA Floodplain Map Revisions and Amendments, new technologies used to study floodplains and the use of Geographic Information Systems (GIS) in floodplain management. For more information and for registration information contact Rita Baty at (302) 645-4346.

THE RESPONSIBILITIES FOR A COMMUNITY IN THE NATIONAL FLOOD INSURANCE PROGRAM

Most communities in Delaware joined the National Flood Insurance Program in the 1970's in order to make flood insurance available for all residents. Communities were required to adopt floodplain regulations that meet or exceed Federal standards in order to join the NFIP. Most communities either amended existing zoning regulations to adopt the NFIP requirements or adopted a stand-alone floodplain ordinance.

Either way, it is the responsibility of EVERY community in the NFIP to actively enforce the provisions of their floodplain regulations. To fail to do so jeopardizes the availability of Federal flood insurance as well as other flood recovery assistance programs which require participation in the NFIP.

- **Floodplain Development Permitting**
Every community in the NFIP must have an inspection and permitting program to monitor activity in the floodplain and ensure that construction and land-altering activities in the floodplain comply. In rare instances, small incorporated communities have entered into agreements with County zoning agencies to enforce floodplain regulations, an acceptable alternative.

How to reach the First State Watermark:

Telephone (302) 739-9921

Fax (302) 739-6724

E-mail

Gregory.williams@state.de.us

Michael.powell@state.de.us

- **Basic Construction Requirements**
At the heart of every floodplain ordinance is the basic requirement that new buildings be constructed to resist flood damage. The lowest floor of residential buildings must be at or above the Base Flood Elevation and non-residential buildings must either be elevated or floodproofed. The responsibility lies with the Community to ensure that these provisions are met.

- **Floodplain Altering Activities**
Activities which can obstruct the flow of water during floods are regulated. Examples would be grading, filling, excavation, placement of culverts or other encroachments. The community MUST permit these activities in the floodplain and require that the permit applicant demonstrate compliance with the community's floodplain regulations.

Send mailing label and your new address, and/or requests for subscriptions to:

DNREC, Division of Soil & Water Conservation

**89 Kings Highway
Dover, Delaware 19901
Attn: Michael Powell**

Dept. Natural Resources & Environmental Control
Division of Soil and Water Conservation
89 Kings Highway
Dover, DE 19901

TO: