

NFIP 101

Floodplain Management Section



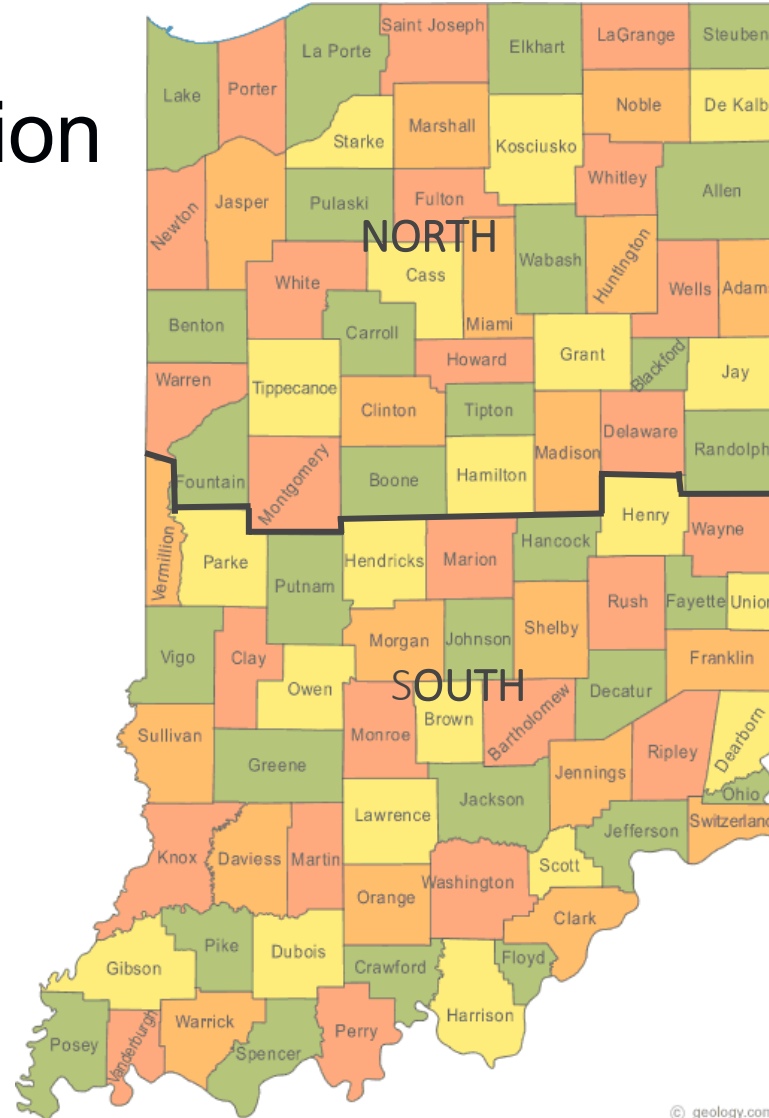
Section Manager
Anita Nance, CFM



NFIP State Coordinator
Darren Pearson, CFM



Senior Planner
Doug Wagner, CFM



Northern Planner
Currently Vacant



Southern Planner
Sarah Black
Extended Leave

Contact
DOWFPM@dnr.IN.gov

Topics for the Day

- General NFIP
- Mapping Information
- Fundamental Duties of the Floodplain Administrator

What is the National Flood Insurance Program (NFIP)?



- Federal program - administered by the Federal Emergency Management Agency (FEMA)
- Enables property owners in participating communities to purchase flood insurance
- Participation based on agreement between local communities and the Federal Government
- Communities agree to adopt and **enforce** a compliant floodplain management ordinance

Primary Purposes of the NFIP

- Identify the flood risk
- Establish safe building standards in high hazard flood areas
- Provide federally-backed flood insurance coverage

NFIP Goals

- To protect lives and property
- To reduce the financial burden for flood disaster assistance

The DNR's Role in NFIP

In each State, the Governor designates a coordinating agency for the NFIP. In Indiana, it is the Department of Natural Resources, Division of Water.



DNR's NFIP Responsibilities

- Establish development/building guidelines
 - State Model Floodplain Management Ordinance
 - meets requirements of 44 CFR 60.3 (Federal NFIP Regulations)
 - meets requirements of IC-14-28-1 (Indiana Flood Control Act)
 - meets requirements of 312 IAC 10 (Indiana Floodplain Rules)
- Provide technical assistance and training to local communities/agencies
- Under contract with FEMA, evaluate and document community/agency floodplain management activities

THE COMMUNITY

Community NFIP Participation

- Communities must adopt and enforce local floodplain management ordinances that comply with the minimum standards of the NFIP and of the State
- Federally-backed flood insurance is made available to all property owners and tenants in communities that enforce NFIP compliant development standards within Special Flood Hazard Areas

RISKS

- For a house located within the Special Flood Hazard Area, there is at least a **25%** chance that it will be inundated by a 100-year flood during the life of a 30-year mortgage.
- Over a 50-year period, the probability increases to **39%**.



Insurance Implications

- By law, structures that are located within the Special Flood Hazard Area and are financed by a federally regulated lender must have flood insurance coverage for the amount of the loan
- There is no federal flood insurance purchase requirement for structures that are located outside of the Special Flood Hazard Area (Zone B, C, or X)

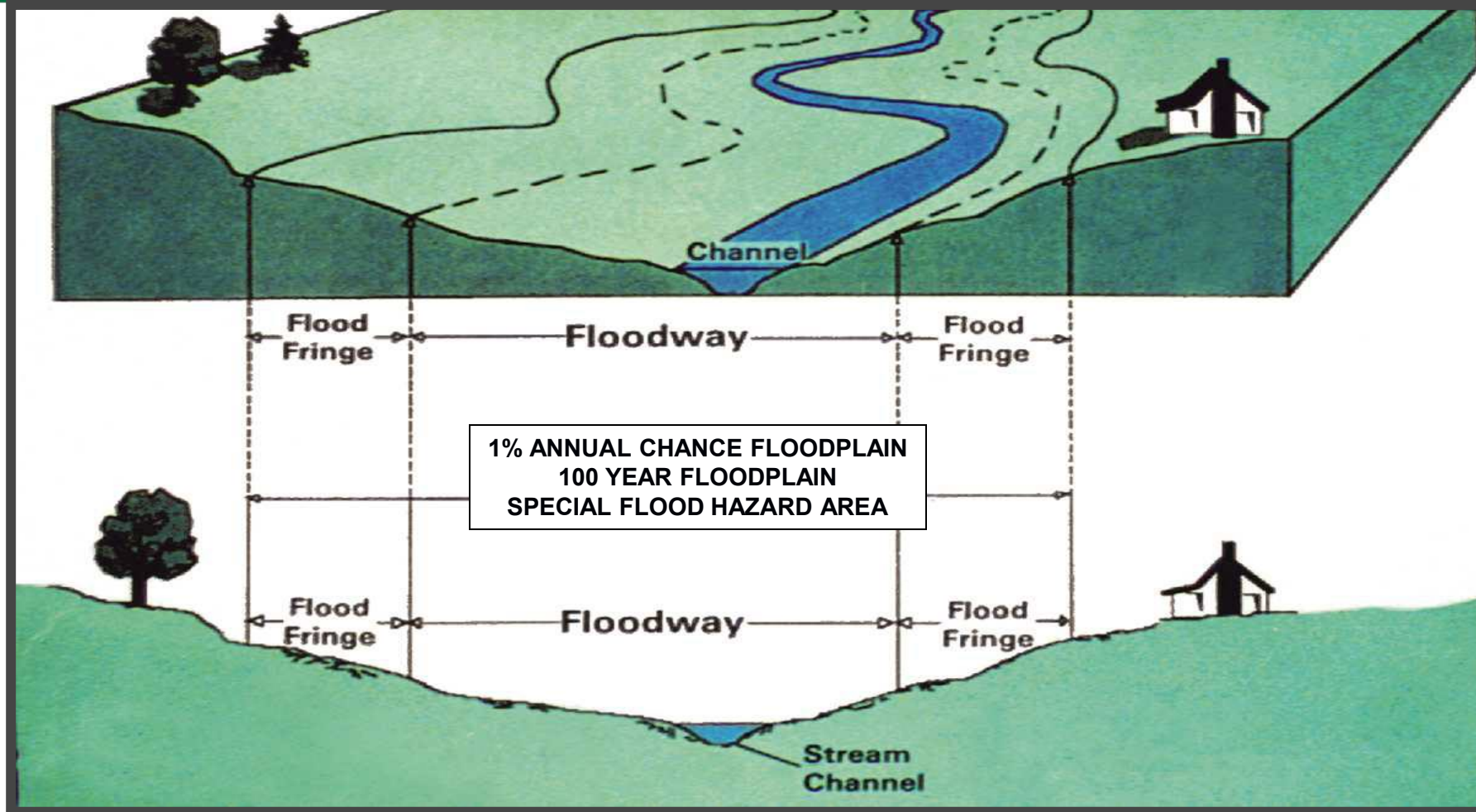
Floodplain Management Priorities

Public Safety!

The NFIP should be viewed as a public safety program at the local level.

Where do these regulations apply?

- Special Flood Hazard Area (SFHA)
- 100-year Floodplain (one-percent annual chance floodplain/regulatory floodplain/area covered by the base flood)
- Generally identified on FEMA maps as Zone A, AE, AH, AO, A1-A30, V, and VE
- Areas identified on DNR Best Available Floodplain Layer (BAFL)
 - INFIP.DNR.IN.GOV
- Areas identified by the local official as flood prone



Water doesn't see lines on the map or understand the regulations. There are smaller and **larger** floods than what are mapped!

FEMA Maps and Studies

Historic Maps

- Flood Hazard Boundary Map (FHBM)
- Flood Insurance Rate Map (FIRM) pre-1989
- Flood Boundary Floodway Map (FBFM) pre-1989
- Flood Insurance Rate Map (FIRM) 1989 and later

Current Products

- Digital Flood Insurance Rate Map (D-FIRM)
- Flood Insurance Study (FIS)

NFP

PANEL 0180G

FIRM

FLOOD INSURANCE RATE MAP

ALLEN COUNTY,
INDIANA
AND INCORPORATED AREAS

PANEL 180 OF 495

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
ALLEN COUNTY	180302	0180	G
FORT WAYNE, CITY OF	180303	0180	G

Notice to User: The Map Number shown below should be used when placing map orders; the Community Number shown above should be used on insurance applications for the subject community.

MAP REVISED
AUGUST 3, 2009

MAP NUMBER
18003C0180G



Maumee River Basin Commission
Federal Emergency Management Agency



LEGEND

SPECIAL FLOOD HAZARD AREAS (SFHAs) SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD
 The 1% annual chance flood (100-year flood), also known as the "base flood," is the flood that has a 1% chance of being equaled or exceeded in any given year. The Special Flood Hazard Area is the area subject to flooding by the 1% annual chance flood. Areas of Special Flood Hazard include Zones A, AE, AH, AO, AR, AP9, V, and VE. The Base Flood Elevation is the water-surface elevation of the 1% annual chance flood.

ZONE A No Base Flood Elevations determined.

ZONE AE Base Flood Elevations determined.

ZONE AH Flood depths of 1 to 3 feet (usually areas of ponding); Base Flood Elevations determined.

ZONE AO Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined. For areas of alluvial fan flooding, velocities also determined.

ZONE AR Special Flood Hazard Areas formerly protected from the 1% annual chance flood by a flood control system that was subsequently deserted. Zone AR indicates that the former flood control system is being restored to provide protection from the 1% annual chance or greater flood. Area to be protected from 1% annual chance flood by a Federal flood protection system under construction; no Base Flood Elevations determined.

ZONE AP9 Area to be protected from 1% annual chance flood by a Federal flood protection system under construction; no Base Flood Elevations determined.

ZONE V Coastal flood zone with velocity hazard (wave action); no Base Flood Elevations determined.

ZONE VE Coastal flood zone with velocity hazard (wave action); Base Flood Elevations determined.

FLOODWAY AREAS IN ZONE AE

The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights.

OTHER FLOOD AREAS

ZONE X Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.

OTHER AREAS

ZONE X Areas determined to be outside the 0.2% annual chance floodplain.

1% Annual Chance Floodplain Boundary

0.2% Annual Chance Floodplain Boundary

Floodway boundary

Zone D boundary

CRS and OFA boundary

Boundary dividing Special Flood Hazard Area Zones and boundary dividing Special Flood Hazard Areas of different Base Flood Elevations, flood depths, or flood velocities.

Base Flood Elevation line and value; elevation in feet*

Base Flood Elevation value where uniform within zone; elevation in feet*

*Referenced to the North American Vertical Datum of 1988

A Cross section line

23 Transect line

--- Culvert

--- Bridge

45° 02' 08", 93° 02' 12" Geographic coordinates referenced to the North American Datum of 1983 (NAD 83) Western Hemisphere

3100000 FT 5000-foot ticks: Indiana State Plane East Zone (FIPS Zone 1301), Transverse Mercator projection

89° 00' 00" N 1000-meter Universal Transverse Mercator grid values, zone 16

DX5510 X Bench mark (see explanation in Notes to Users section of this FIRM panel)

M 1.5 River Mile

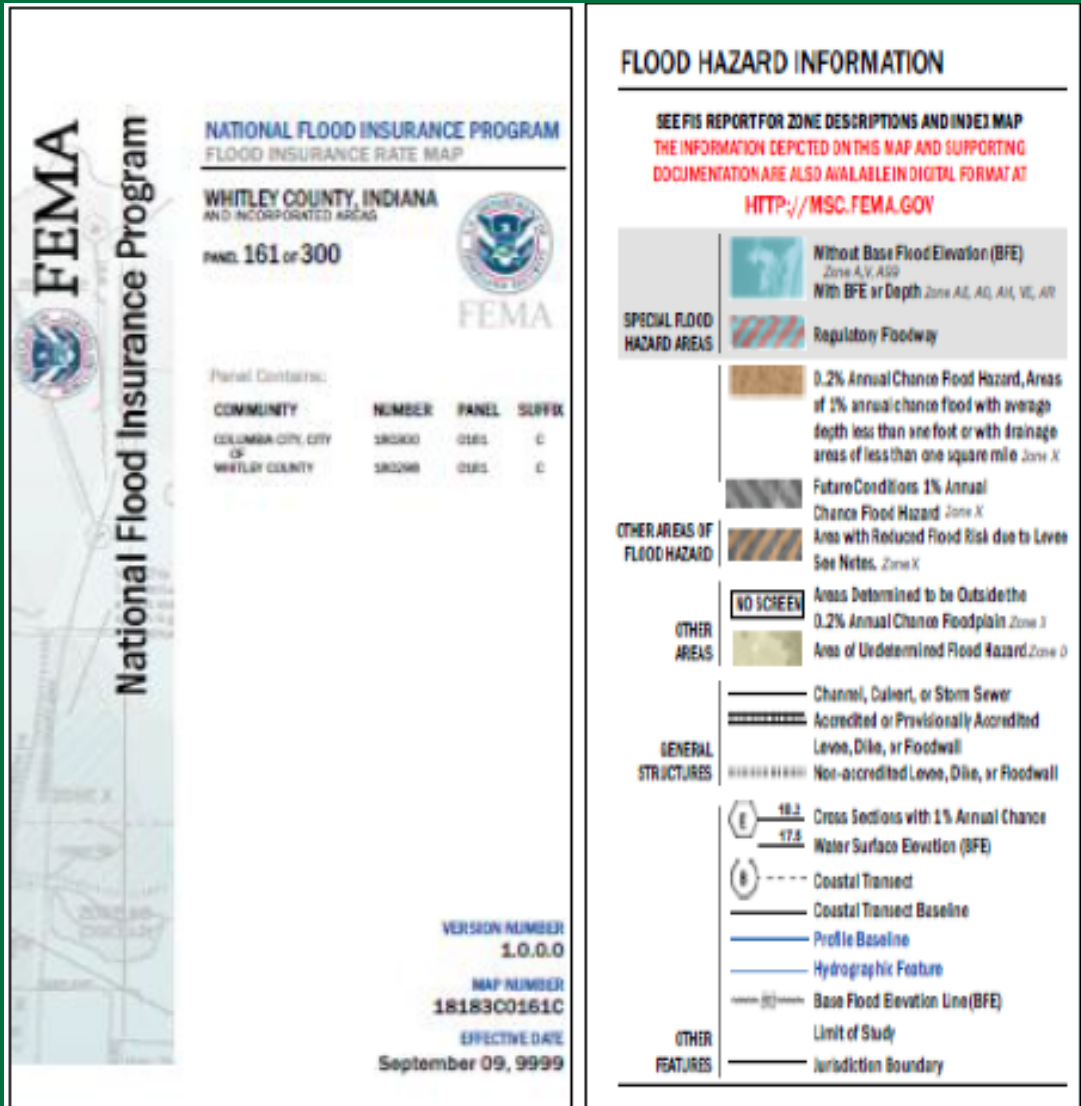
MAP REPOSITORIES

Refer to Map Repositories list on Map Index

EFFECTIVE DATE OF COUNTYWIDE FLOOD INSURANCE RATE MAP
October 16, 2003

EFFECTIVE DATE(S) OF REVISION(S) TO THIS PANEL

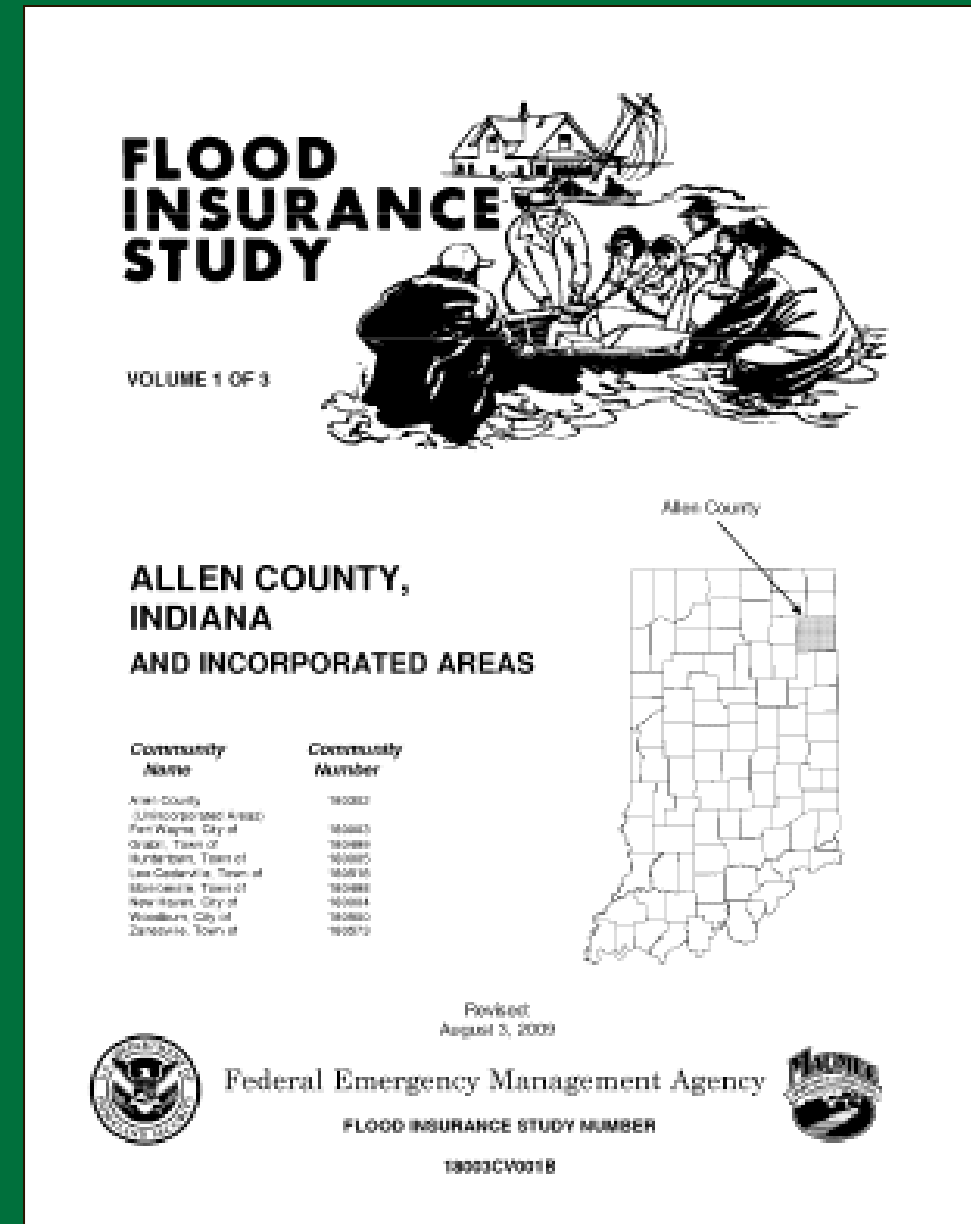
Digital Flood Insurance Rate Map



Digital Flood Insurance Rate Map (introduced in 2014)

Flood Insurance Study

- Provides historical information
- Documents engineering methods
- Contains data tables, profiles, and other information related to the study



Data Tables

FLOODING SOURCE		FLOODWAY			1-PERCENT-ANNUAL-CHANCE-FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY (FEET NAVD)	WITHOUT FLOODWAY (FEET NAVD)	WITH FLOODWAY (FEET NAVD)	INCREASE (FEET)
ELY RUN								
A	211 ¹	59	329	5.2	774.8	766.2 ²	766.3	0.1
B	3,062 ¹	66	233	7.1	776.9	776.9	776.9	0.0
C	5,333 ¹	315	792	2.1	781.8	781.8	781.9	0.1
D	8,712 ¹	280	1,738	0.9	794.0	794.0	794.0	0.0
E	10,771 ¹	155	278	5.7	796.9	796.9	796.9	0.0
F	16,579 ¹	281	765	1.7	808.9	808.9	809.0	0.1
G	18,216 ¹	234	315	2.6	812.2	812.2	812.3	0.1
H	19,906 ¹	97	203	4.1	818.1	818.1	818.2	0.1
FAIRFIELD DITCH								
A	1,954 ³	54	522	2.6	762.1	758.5 ⁴	758.6	0.1
B	2,165 ³	61	544	2.5	762.1	745.0 ⁴	745.0	0.0
C	4,752 ³	83	515	2.8	762.1	748.5 ⁴	748.5	0.0
D	5,861 ³	350	1,255	1.5	762.1	761.4 ⁴	761.5	0.1
E	7,656 ³	120	577	2.4	762.1	762.3 ⁴	762.3	0.0
F	9,557 ³	896	3,756	0.6	762.8	762.8	762.9	0.1

¹Feet above confluence with St. Joseph River

²Elevation computed without consideration of backwater effects from St. Joseph River

³Feet above confluence with St. Marys River

⁴Elevation computed without consideration of backwater effects from St. Marys River

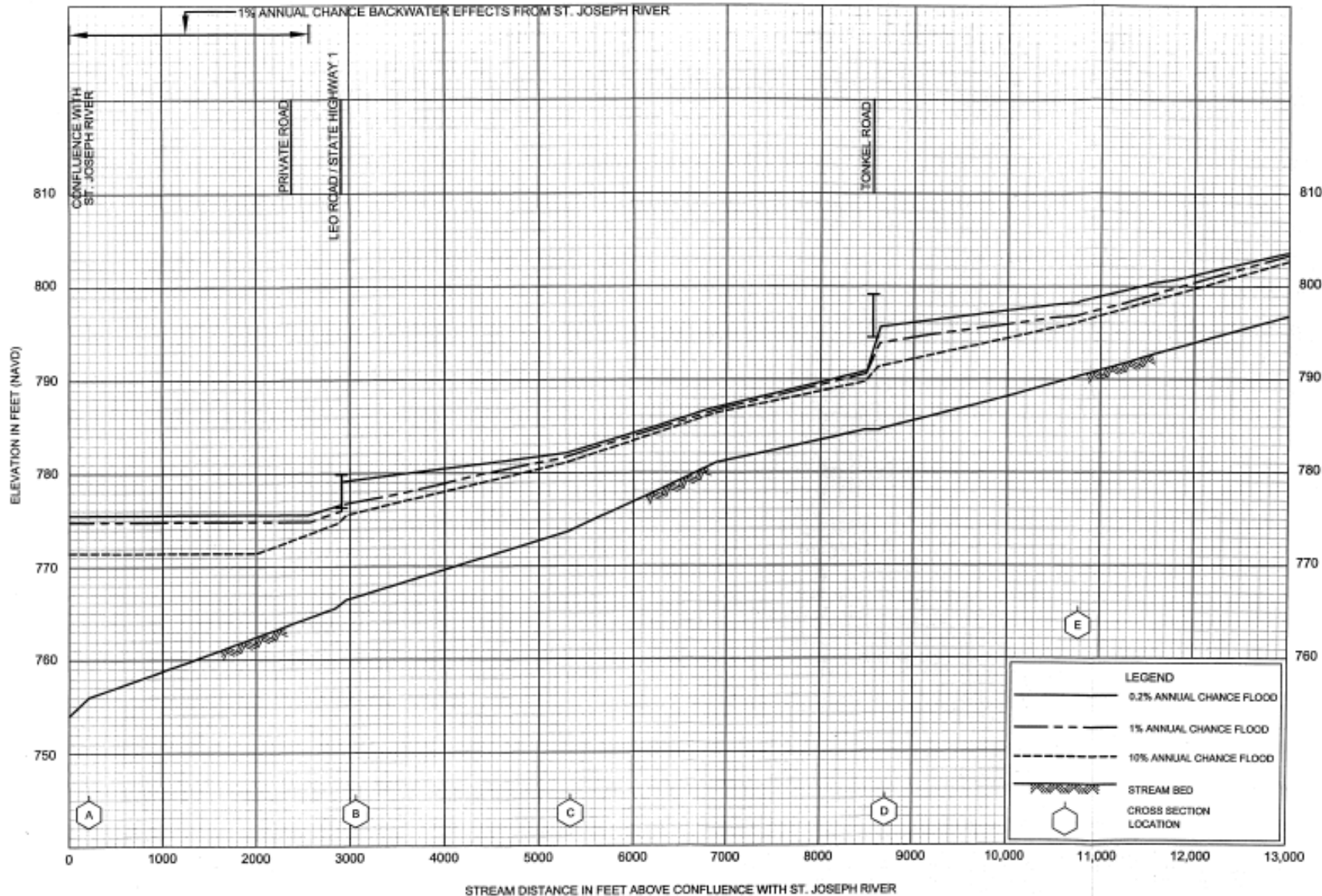
TABLE 3

FEDERAL EMERGENCY MANAGEMENT AGENCY

ALLEN COUNTY, IN
AND INCORPORATED AREAS

FLOODWAY DATA

ELY RUN – FAIRFIELD DITCH



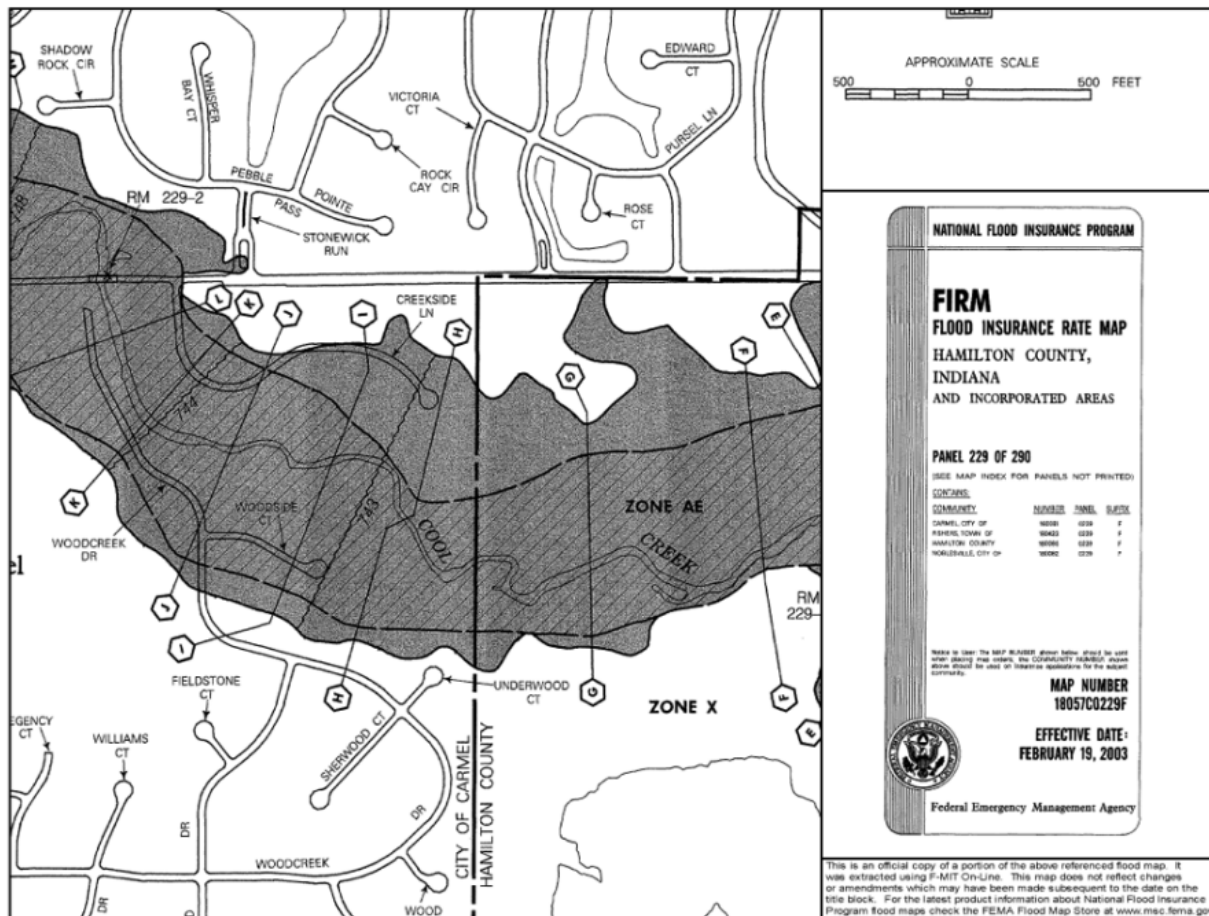
FLOOD PROFILES

ELY RUN

FEDERAL EMERGENCY MANAGEMENT AGENCY
ALLEN COUNTY, IN
AND INCORPORATED AREAS

39P

Flood Profiles



Make a FIRMette

- www.msc.fema.gov
- Considered an official Map
- Portion of FIRM
- Includes panel info

Fundamental Duties

Who administers the local floodplain ordinance?

Each Indiana community that participates in the NFIP has designated someone to fill the role of floodplain administrator.

Authority to Regulate Floodplains

- The floodplain administrator is enforcing the local jurisdiction's regulations
- Local regulations for reducing flood loss receive authority granted to communities by the States
- Inherent in the right to enact regulations is the duty and authority to administer and enforce them

Fundamental Duties of the Floodplain Administrator

Become Familiar with Flood Risks

- Utilize the community's flood maps and become familiar with the flood risks
- Tour the SFHA's in the community
- Compile a list of structures at risk if not already complete and up-to-date – GIS is a great tool for this task!
- INFIP.DNR.IN.GOV

Review and Evaluate Applications

- Review and evaluate development permit applications; determine whether or not proposed development will take place in the Special Flood Hazard Area (SFHA)
- If in the SFHA, determine if the site is in the floodway, flood fringe, or where the limits of the floodway and flood fringe have not yet been determined.

Permit ALL Development

DEVELOPMENT?

What is ALL Development?

REMINDER

About the Floodway and Development

Development within the floodway requires authorization/approval from DNR prior to issuing a local permit.



Base Flood Data

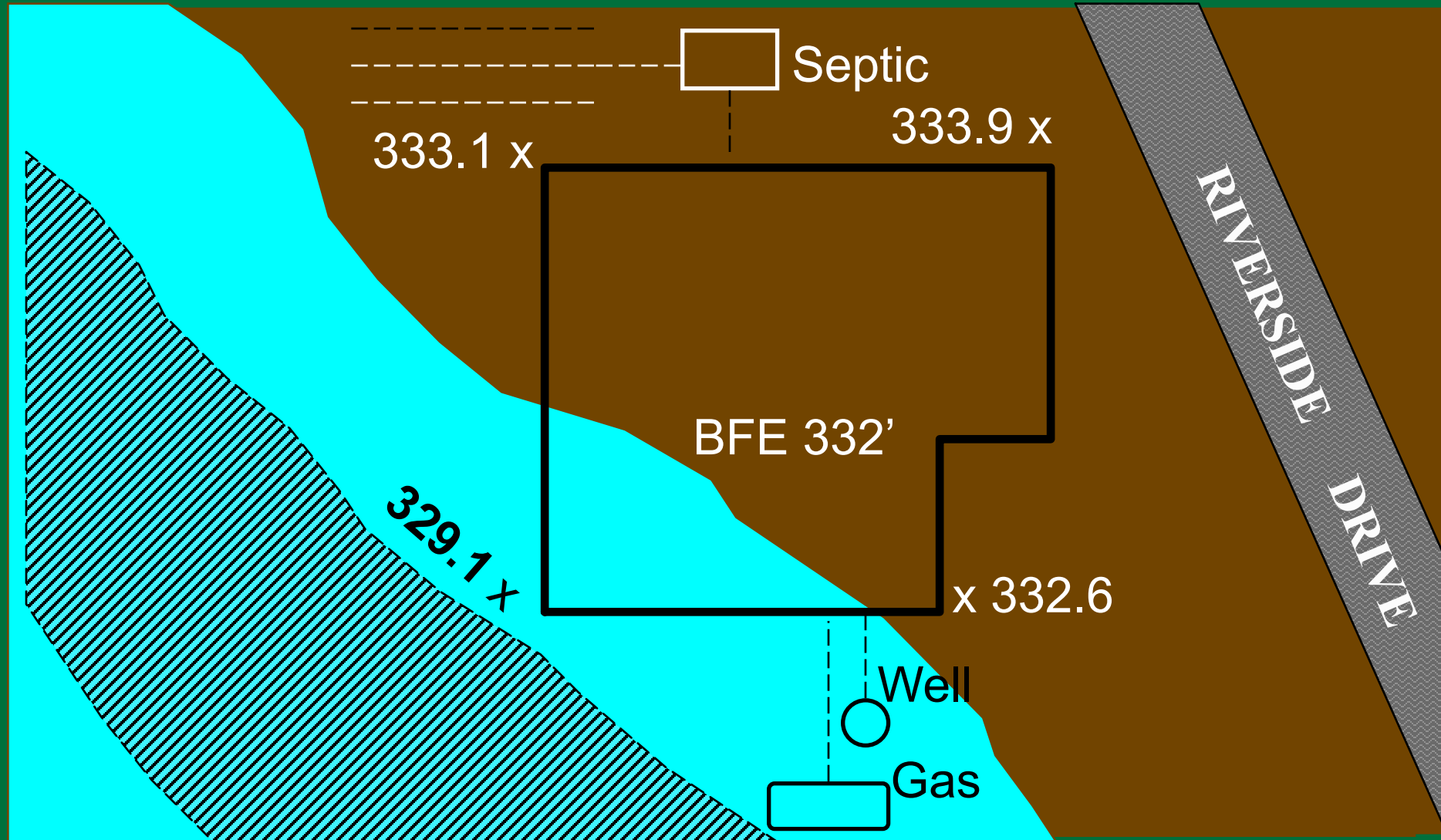
- Interpret floodplain boundaries and provide base flood elevation (BFE) data when available on FEMA maps/studies
- Direct applicants to DNR for floodplain analysis/regulatory assessment (FARA) to obtain BFE data when the information is not available on FEMA maps/studies. (Must be obtained prior to the issuance of a local permit.)
- Zone A: 5 acres or 50 lots subdivision, BFE must be obtained

Plans and Specifications

Review plans and specifications for conformance with NFIP & **LOCAL** floodplain management criteria...

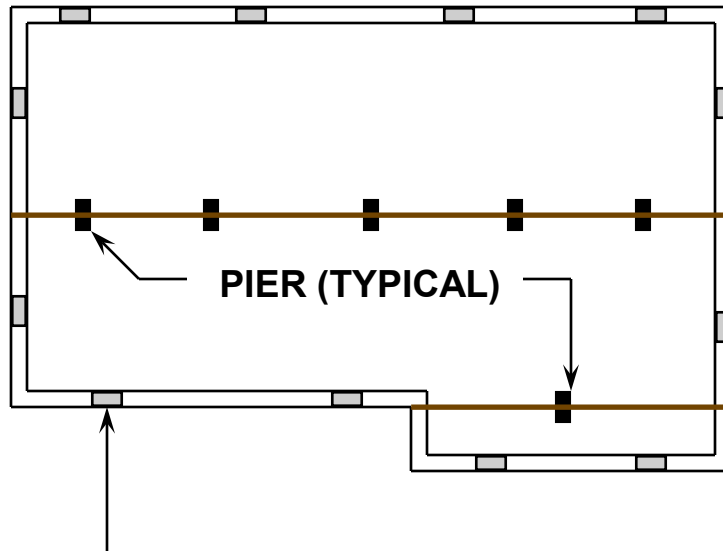
- Complete plans/description
- Site Plan
- Proposed elevations
- Foundation design details

Site Plan - Sample



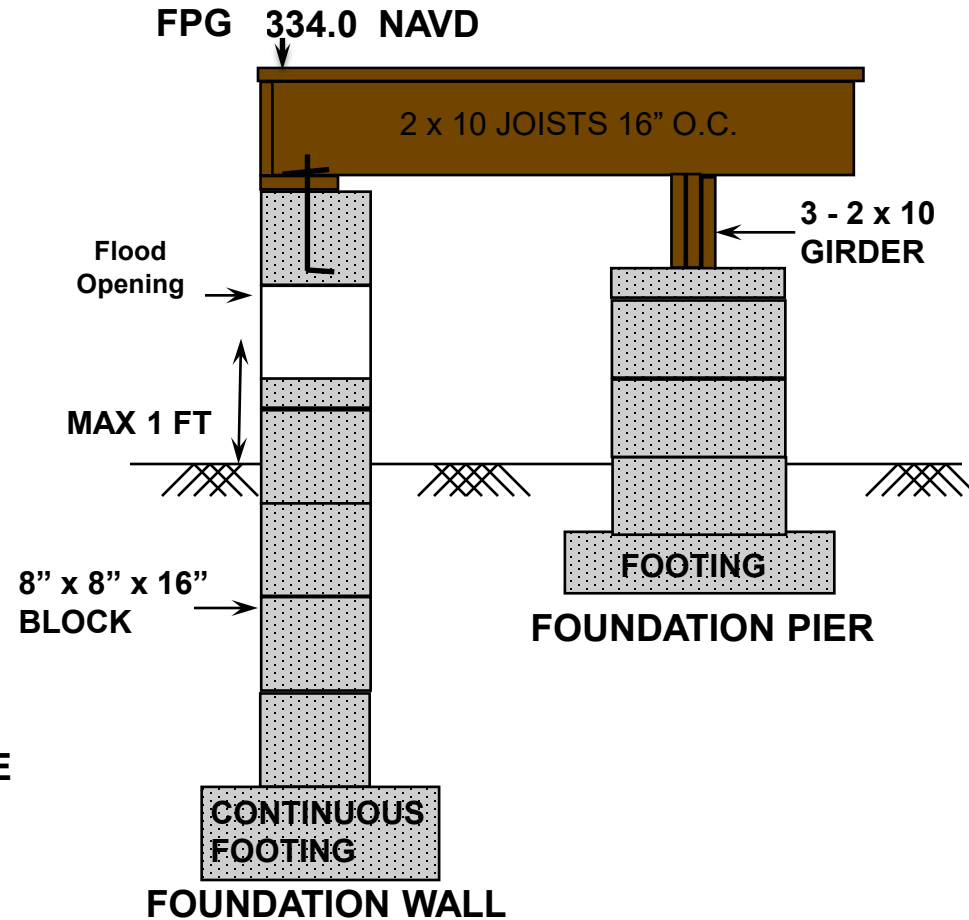
Foundation Plan - Sample

FOUNDATION PLAN



TYPICAL FOUNDATION WALL OPENING
16" x 8"
BOTTOM OF OPENING 8" ABOVE GRADE
ENCLOSED AREA 1500 SQUARE FEET
NET AREA OF 12 OPENINGS 1536 SQ-IN

CRAWL SPACE FOUNDATION



FOUNDATION SECTION

Other Permits

Advises applicant of other permits or approvals that may be necessary....

- **Federal**
- **State**
- **Other Local**

Watercourse Alterations

Provide required notifications of changes in existing watercourses to...

- DNR (Floodway Permit)
- FEMA (Letter of Map Revision)
 - CLOMR when required
- Adjacent communities

Permits

- Issue permits when appropriate
- Conditionally approve permits as appropriate
- Deny permits when appropriate

Inspections

Inspect development in progress to field check location and to verify that construction proceeds in conformance with approved plans...

- Foundation construction
- Elevation requirements
- Opening requirements (flood vents)
- Flood resistant material requirements
- Utilities and other building systems

Record Keeping

Maintain records of floodplain development....

- Application/Permit Records
- Inspection Records, including post-flood (disaster) damage assessments
- Compliance Records/Documents
- Certified “as-built” lowest floor elevations (Elevation Certificates)
- Floodplain Analysis/DNR Permits
- Variance actions
- Letters of Map Change – LOMA, LOMR-F, LOMA-OAS, LOMR

Remedy Violations

Investigate violations and take appropriate action....

- Implement enforcement provisions of ordinance, including fines if needed
- Bring structure(s) or other development into compliance
- Protect structure(s) or other development from flood damages, i.e., retrofit
- Deter future similar violations by modifying procedures and training

Other Duties

- Advise elected officials and the public on floodplain management
- Counsel applicants and the Variance Board about variance criteria
- Post flood (disaster) responsibilities
- Notify DNR and FEMA of changes in corporate limits affecting your floodplain areas

What's Not on the Duties List

- Flood zone determinations for lenders and insurance agents
- Communities are not expected to provide flood insurance related information to the public

Making it Work

Each NFIP community is unique.

What do we want to see?

We want to see that a good permit process is in place.

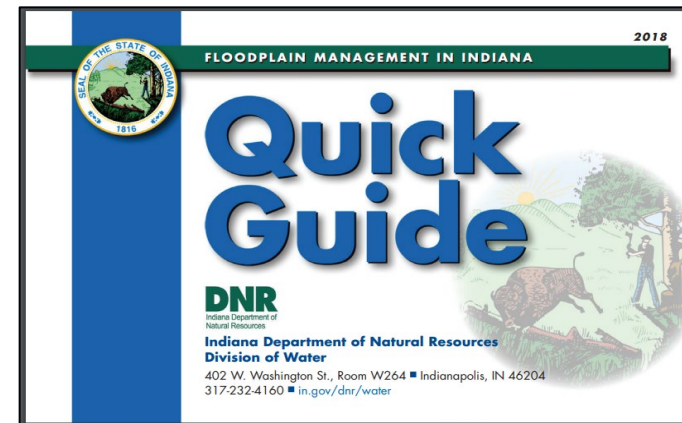
Need Additional Help?

- Floodplain Administrator's Guidebook
 - Permit Procedures: A Step-By-Step Guide
 - Permit Process Flowchart
- Revised in 2021 and on the Web



Additional Reference

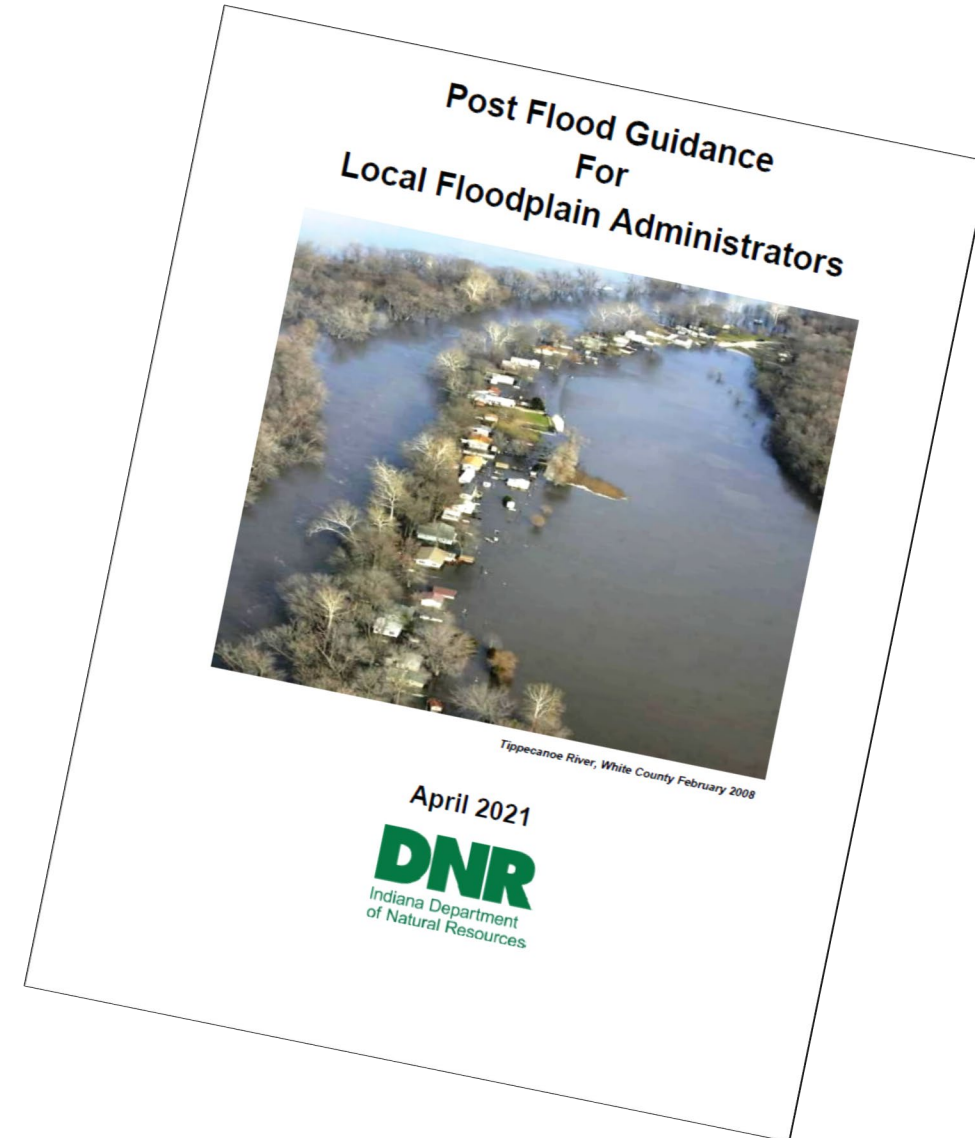
- Improves Understanding
- Explains why communities must manage floodplain development
- Easy to use visual aids
- Excellent overview



- https://www.in.gov/dnr/water/files/wa-FP_Management_Indiana_QuickGuide.pdf

Post Flood ?

- Improves Understanding of Post Disaster Duties
- Step by Step process
- Sample letters
- <https://www.in.gov/dnr/water/files/wa-post-flood-guidance.pdf>



QUESTIONS ?

THANK YOU!

National Flood Insurance Program (NFIP) Acronyms and Common Terminology

BFE	Base Flood Elevation - The elevation of the one-percent annual chance flood.
FEMA	Federal Emergency Management Agency
Flood	A general and temporary condition of partial or complete inundation of normally dry land areas from the overflow, the unusual and rapid accumulation, or the runoff of surface waters from any source.
FIRM	Flood Insurance Rate Map - An official map of a community, on which FEMA has delineated both the areas of special flood hazard and the risk premium zones applicable to the community.
FIS	Flood Insurance Study - The official hydraulic and hydrologic report provided by FEMA. The report contains flood profiles, as well as the FIRM, and the water surface elevation of the base flood.
FPG	Flood Protection Grade (FPG) The elevation of the regulatory flood plus two feet at any given location in the SFHA.
Floodplain	The channel proper and the areas adjoining any wetland, lake, or watercourse which have been or hereafter may be covered by the regulatory flood. Includes both the floodway and fringe.
FARA	Floodplain Analysis and Regulatory Assessment - Provides floodplain information and the BFE for a tract of land that is often needed for flood insurance purposes or for proposed construction projects. FARAs are provided by DNR Division of Water.
Floodway	The channel of a river or stream and those portions of the floodplains adjoining the channel which are reasonably required to efficiently carry and discharge the peak flow of the regulatory flood of any river or stream.
Fringe	Those portions of the floodplain lying outside the floodway.

LOMA	Letter of Map Amendment - An amendment by letter to the currently effective FEMA map that establishes that a property is not located in a SFHA through the submittal of property specific elevation data. A LOMA is only issued by FEMA.
LOMR	Letter of Map Revision - An official revision to the currently effective FEMA map. It is issued by FEMA and changes flood zones, delineations, and elevations.
LOMR-F	Letter of Map Revision Based on Fill - An official revision by letter to an effective NFIP map. A LOMR-F provides FEMA's determination concerning whether a structure or parcel has been elevated on fill above the BFE and excluded from the SFHA.
One-percent annual chance flood	The flood that has a one percent (1%) chance of being equaled or exceeded in any given year. Any flood zone that begins with the letter A is subject to the one-percent annual chance flood. Also known by the term "Base Flood", "Regulatory Flood", and "100-Year Flood".
Post-FIRM	After the effective date of the FIRM.
Pre-FIRM	Before the effective date of the FIRM.
SFHA	Special Flood Hazard Area - Those lands within the jurisdiction of the community subject to inundation by the regulatory flood.
X zone (Unshaded)	Unshaded X zones (C zones on older FIRMs) designate areas where the annual exceedance probability of flooding is less than 0.2 percent.
X zones (Shaded)	Shaded X zones shown on recent FIRMs (B zones on older FIRMs) designate areas subject to inundation by the flood with a 0.2 percent chance of being equaled or exceeded (the 500-year flood).
Zone A	Areas subject to inundation by the one-percent annual chance flood event. Because detailed hydraulic analyses have not been performed, no base flood elevation or depths are shown.
Zone AE	Areas subject to inundation by the one-percent annual chance flood event determined by detailed methods. Base flood elevations are shown within these zones.