

Williams County Flood Plains



May 27, 2009 Enforcement Update
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WILLIAMS COUNTY, OHIO

**SPECIAL PURPOSE FLOOD DAMAGE PREVENTION
REGULATIONS**

Amended August, 1998

A. STATUTORY AUTHORIZATION

These regulations shall be known and may be cited to as the “Williams County, Ohio Special Purpose Flood Damage Prevention Regulations,” except as referred to herein, where it shall be known as “these regulations.” These regulations are adopted pursuant to authorization contained in Sections 307.37 and 307.85 of the Ohio Revised Code. The adoption of these regulations is necessary for participation in the National Flood Insurance Program. Therefore, the Board of County Commissioners of Williams County do resolve as follows:

B. FINDINGS OF FACT

1. The flood hazard areas of Williams County are subject to periodic inundation which may result in loss of life and property, health and safety hazards, disruption of commerce and governmental services, extraordinary public expenditures for flood protection and relief, and impairment of the tax base, all of which adversely affect the public health, safety and general welfare.
2. These flood losses are caused by the cumulative effect of obstructions in areas of special flood hazards which increase flood heights and velocities and, when inadequately anchored, damage uses in other areas. Uses that are inadequately floodproofed, elevated or otherwise protected from flood damage also contribute to the flood loss.

C. STATEMENT OF PURPOSE

It is the purpose of these regulations to promote the public health, safety and general welfare, and to minimize public and private losses due to flood conditions in specific areas.

D. METHODS OF REDUCING FLOOD LOSSES

In order to accomplish its purposes, these regulations include methods and provisions for:

1. Restricting or prohibiting uses which are dangerous to health, safety and property

due to water hazards, or which result in damaging increases in flood heights or velocities;

2. Requiring that uses vulnerable to floods, including facilities which serve such uses, be protected against flood damage at the time of initial construction;
3. Controlling the alteration of natural floodplains, stream channels, and natural protective barriers, which help accommodate or channel flood waters;
4. Controlling, filling, grading, dredging, and other development which may increase flood damage; and,
5. Preventing or regulating the construction of flood barriers which will unnaturally divert flood water or which may increase flood hazards in other areas.

New Construction means structures for which the “start of construction” commenced on or after the initial effective date of Williams County’s Flood Insurance Rate Map, and includes any subsequent improvements to such structures.

Recreational Vehicle means a vehicle which is:

- A. Built on a single chassis;
- B. Is 400 square feet or less when measured at the largest horizontal projection;
- C. Designed to be self-propelled or permanently towable by a light duty truck; and
- D. Designed primarily not for use as a permanent dwelling but as temporary living quarters for recreational, camping, travel or seasonal use.

Start of Construction means the date the building permit was issued, provided the actual start of construction, repair, reconstruction, rehabilitation, addition, placement or other improvement was within 180 days of the permit date. The actual start means either the first placement of permanent construction of a structure on a site, such as the pouring of slab or footings, the installation of piles, the construction of columns, or any work beyond the stage of excavation; or the placement of a manufactured home on a foundation. Permanent construction does not include land preparation, such as clearing, grading and filling; nor does it include the installation of streets and/or walkways; nor does it include excavation for a basement, footings, piers or foundations or the erection of temporary forms; nor does it include the installation on the property of accessory buildings, such as garages or sheds not occupied as dwelling units or not part of the main structure. For a substantial improvement, the actual start of construction means the first alteration of any wall, ceiling, floor or other structural part of a building, whether or not that alteration affects the external dimensions of a building.

Substantial Improvement means any reconstruction, rehabilitation, addition or other improvement of a structure, the cost of which equals or exceeds 50 percent of the market value of the structure before the “start of construction” of the improvement. This term includes structures which have incurred “substantial damage,” regardless of the actual repair work performed. The term does not, however, include:

- A. Any project for improvement of a structure to correct existing violations of state or local health, sanitary or safety code specifications which have been identified by the local code enforcement official and which are the minimum necessary to assure safe living conditions;
- B. Any alteration of a “historic structure,” provided that the alteration will not preclude the structure’s continued designation as a “historic structure;” or
- C. Any improvement to a structure which is considered new construction.

C. COMPLIANCE

Unless specifically exempted from filing for a development permit as stated in Section IV-B, EXEMPTION FROM FILING A DEVELOPMENT PERMIT, no structure or land shall hereafter be located, erected, constructed, repaired, extended, converted, enlarged or altered without full compliance with the terms of these regulations and all other applicable regulations which apply to uses within the jurisdiction of these regulations.

A. ESTABLISHMENT OF DEVELOPMENT PERMIT

A Development Permit shall be obtained before construction or development begins within any area of special flood hazard established in Section III-B, BASIS FOR ESTABLISHING THE AREAS OF SPECIAL FLOOD HAZARD. There shall be a filing fee (per hour rate, based on actual cost of those persons reviewing plans, plus mileage) for the submittal of a development permit. However, the filing fee shall be waived for minor development activities, and shall be applied only on an as-needed basis (i.e. large development projects that require a significant amount of review/inspection time on behalf of the Flood Damage Prevention Regulations Administrator or any other applicable local official). Application for a development permit shall be made on forms furnished by the Flood Damage Prevention Regulations Administrator and may include, but not be limited to: plans in duplicate drawn to scale showing the nature, location, dimensions and elevations of the area in question; existing or proposed structures, fill, storage of materials, drainage facilities, and the location of the foregoing; and, a description of the extent to which any watercourse will be altered or relocated as a result of proposed development. If base flood elevation data are available, the following information is also required:

1. Elevation in relation to mean sea level of the lowest floor, including basement of all proposed structures;
2. Elevation in relation to mean sea level to which any proposed structure will be floodproofed; and,
3. Certification by a registered professional engineer or architect that the floodproofing methods for any nonresidential structure meet the floodproofing criteria in Section V-B-2-a.
4. Description of the extent to which any watercourse will be altered or relocated as a result of the proposed development and certification by a registered professional engineer that the flood carrying capacity of the watercourse will not be diminished.

B. EXEMPTION FROM FILING A DEVELOPMENT PERMIT

An application for a Development Permit shall not be required for maintenance work such as roofing, painting and basement sealing, or for small development activities (except for filling and grading) valued at less than \$1,000.00. Building additions that do not fall under the "substantial improvement" definition still must obtain a permit before construction

- a. New construction, substantial improvements, or other development (including fill) shall only be permitted if it is demonstrated that the cumulative effect of any proposed development, when combined with all other existing and anticipated development, shall not increase the water surface elevation of the base flood more than 1 (one) foot at any point.

The following will be the minimum requirements to be submitted to Williams County for review of building and/or construction activities in which the property is shown to have flood plain situated on the property based on the flood maps.

- Site plan showing proposed layout of the property including driveways, structures, well, septic system and other features that will impact the flood plain.
- Existing contours of the parcel at a minimum of 2 feet intervals (Use of existing county contours is acceptable).
- Location of the Base Flood Elevation as calculated by the Engineer or Surveyor.
- Williams County Special Flood Hazard Development Permit.

WILLIAMS COUNTY PLANNING COMMISSION
SPECIAL FLOOD HAZARD AREA DEVELOPMENT PERMIT APPLICATION

SECTION 1: APPLICANT INFORMATION (Please Print or Type)

Application is hereby made for a DEVELOPMENT PERMIT as required by the SPECIAL PURPOSE FLOOD DAMAGE PREVENTION REGULATIONS, of Williams County, Ohio, for development in all areas of special flood hazard within the jurisdiction of Williams County. All activities shall be completed in accordance with the requirements of said Resolution. The development to be performed is described below and in attachments hereto. The applicant understands and agrees that:

- 1) This permit is issued on the conditions and facts described;
- 2) any permit may be repealed if conditions or facts change;
- 3) permit void if the activity has not begun within 180 days of the issuance date; and,
- 4) permit void if activity not completed within one year from date of issuance.

Owner's Name:

Builder: Owner

Address:

Address: _____

Phone:

Phone: _____

NOTE: In addition to completion of this form the applicant agrees to submit any additional information required by the administrator in order to determine that the proposed development is compliant with the local and federal flood damage prevention criteria of the National Flood Insurance Program. This may include but is not limited to: site specific plans to scale showing the nature, location, dimensions and elevations of the area and structure(s) in question.

Address of proposed development site:

Legal description:

Kind of development proposed (check all that apply):

- | | | |
|--|---|--|
| ☐ new building | ☐ existing structure | ☐ filling/grading |
| ☐ residential | ☐ alteration | ☐ mining/dredging |
| ☐ nonresidential | ☐ addition | ☐ watercourse |
| ☐ installation | ☐ accessory | alteration |
| ☐ manufactured home | ☐ materials storage | ☐ other* |

*Describe activity:

If the proposed construction is an alteration, addition or improvement to an existing structure, indicate the cost of proposed construction. \$ _____ What is the estimated market value of the existing structure? \$ _____

NOTE: An existing structure must comply with the flood protection standards if it is substantially improved (an improvement equal to or greater than 50% of the market value of the structure). FEMA maintains that the "substantial improvements" definition applies to existing structures only and that once a structure meets the definition of "new construction" any further improvements to that structure must meet "new construction" requirements. For floodplain management purposes "new construction" means structures for which "start of construction" began on or after the effective date of the initial Flood Insurance Rate Map issued by FEMA for the community.

Does proposed development involve a subdivision or other development containing at least 50 lots or 5 acres (whichever is less)? ☐ Yes ☐ No

NOTE: If yes, base flood elevation data is required from applicant if it has not been provided by FEMA.

I AGREE THAT ALL STATEMENTS IN AND ATTACHMENTS TO THIS APPLICATION ARE A TRUE DESCRIPTION OF THE EXISTING PROPERTY AND THE PROPOSED DEVELOPMENT ACTIVITY. I UNDERSTAND THE DEVELOPMENT REQUIREMENTS FOR SPECIAL FLOOD HAZARD AREA ACTIVITIES PER THE APPROPRIATE RESOLUTION AND AGREE TO ABIDE THERETO. I UNDERSTAND IT IS MY RESPONSIBILITY TO OBTAIN ALL APPLICABLE FEDERAL, STATE AND LOCAL PERMITS.

Form Approved 02/98

Applicant's Signature and Date

SECTION 2: ADMINISTRATIVE (Office Use Only)

NOTE: The following is to be completed by the local floodplain administrator. All references to elevations are in feet mean sea level (m.s.l.). The term base flood elevation means the same as the 100-year elevation. Provide all applicable information.

Is the proposed development located in:

- () an identified floodway
() a flood hazard area where base flood elevations exist with no identified floodway
() an area within the floodplain fringe
() an approximate flood hazard area (Zone A)

NOTE: Floodway development must demonstrate through hydrologic and hydraulic analysis, performed in accordance with standard engineering practice, that no increase in base flood elevation will result during occurrence of the base flood discharge. If base flood elevations exist with no floodway delineation, hydrologic and hydraulic analysis is required to demonstrate not more than one foot increase at any point to the water surface elevation of the base flood.

Does proposed development meet NFIP and local General Standards in Section V. A. of the flood damage prevention regulations of Williams County, Ohio? () Yes () No

- () anchored properly
() construction materials and methods resistant to flood damage
() utilities safe from flooding
() subdivision designed to minimize flood damage

Does proposed development meet NFIP and local Specific Standards in Section V. B. of the flood damage prevention regulations of Williams County, Ohio? () Yes () No

- () encroachments - proposed action will not obstruct flood waters
() proposed site grade elevations if fill or topographic alteration is planned
() proposed lowest floor elevation expressed in feet mean sea level
() proposed floodproofed elevation expressed in feet mean sea level

Base flood elevation (100-year) at proposed site is _____ feet m.s.l.

data source: Williams County Engineer hydrologic calculations

map effective date:

FEMA Community-Panel No.:

Does the structure contain:

- () basement
() enclosed area used only for parking access or storage, other than basement, below the lowest floor

The certified as-built elevation of the structure's lowest floor is _____ feet m.s.l.

The certified as-built floodproofed elevation of the structure's lowest floor is _____ feet m.s.l.

NOTE: Where applicable, the Special Flood Hazard Area Development Permit shall be issued on the conditions that, 1) the certified elevation of the structure's lowest floor, including basement, will be at or above the 100-year base flood elevation; 2) floodproofed structures will be certified that the floodproofing methods are in accordance with accepted standards; and 3) the certified elevation and/or floodproofing methods will be provided by applicant in a timely manner after the respective structure's lowest floor (foundation) is constructed. Any condition that is not met, including others listed below, will render this permit in violation of meeting the applicable requirements of the flood damage prevention regulations of Williams County, Ohio, unless a variance has been granted. For structures located in Zone A flood hazard areas (no BFE available) the certified elevation will be based on "depth of flow" analysis.

The proposed development is in compliance with applicable floodplain standards.

PERMIT ISSUED ON: ____/____/____

CONDITIONS (If any): **Must provide an elevation certificate for dwelling**

The proposed development is not in compliance with applicable floodplain standards.

PERMIT DENIED ON: _____

The proposed development is exempt from the floodplain standards per Section _____ of the Special Purpose Flood Damage Prevention Regulations.

WILLIAMS COUNTY PLANNING COMMISSION
ELEVATION CERTIFICATION FORM (Please Print or Type)

I, the undersigned, do hereby certify to the following elevation at the referenced property as required by the Special Purpose Flood Damage Prevention Regulations of Williams County, Ohio.

Community-Panel Number of FEMA map:

Location of Property:

Owner of Property: Williams County Engineer

Lowest Floor Elevation: _____ feet above m.s.l. (mean sea level)

Date of Construction: _____

NOTE: "Lowest Floor" means the lowest floor of the lowest enclosed area (including basement). An unfinished or flood resistant enclosure, usable solely for parking of vehicles, building access or storage in an area other than a basement area is not considered a building's lowest floor; provided, that such enclosure is not built so as to render the structure in violation of the applicable design requirements for enclosed areas below the lowest floor.

Engineer's or
Surveyor's Signature and Date: _____

PROFESSIONAL SEAL:

**WILLIAMS COUNTY PLANNING COMMISSION
VARIANCE AND APPEAL RECORD**

SECTION 1: APPLICANT INFORMATION (Please Print or Type)

A variance is a grant of relief given by a community from the terms of specific standards required in its floodplain regulations. The issuance of a variance is for floodplain management purposes only. Insurance premium rates are determined by the federal government according to actuarial risk and will not be modified by the grant of a variance. ANY VARIANCE GRANTED BY A COMMUNITY MUST BE CONSISTENT WITH THE NFIP GUIDELINES AND WITH LOCAL LAW.

Name of Applicant:

Specify the section of the floodplain regulations from which a variance is sought:

Explain how proposed development would vary from the provisions of the floodplain regulations:

Explain the hardship imposed if a strict application of the floodplain regulations is enforced:

NOTE: Applicant may attach any additional supporting documents and data he/she feels necessary to help explain this project and variance request.

AN APPLICANT RECEIVING A VARIANCE TO BUILD A STRUCTURE WITH THE LOWEST FLOOR ELEVATION BELOW THE BASE FLOOD ELEVATION (100-YEAR) IS HEREBY NOTIFIED THAT THE REDUCED FLOOR ELEVATION WILL RESULT IN INCREASED PREMIUM RATES FOR FLOOD INSURANCE UP TO AMOUNTS AS HIGH AS \$25 PER \$100 OF INSURANCE COVERAGE. FURTHERMORE, CONSTRUCTION, BELOW THE BASE FLOOD LEVEL INCREASES RISKS TO LIFE AND PROPERTY.

Applicant's Signature and Date

Administrator's Signature and Date

SECTION 2: RECORD OF VARIANCE ACTIONS (Office Use Only)

Variance request submitted to the Variance Board on:

In accordance with the criteria and guidelines of the floodplain regulations, the Variance Board of Williams County hereby () approves, () denies the above request for variance.

Board Member's Signature and Date

Reason(s) for Variance Board's decision:

Conditional provisions of variance approval:

NOTE: As provided in Chapter 2506 of the Ohio Revised Code, those aggrieved by the decision of the Variance Board may appeal such decisions to the Williams County Court of Common Pleas.

- The next portion of the presentation demonstrates the technical portion of calculating a “Base Flood Elevation” for a Approximate Zone A.
- Non-Engineering/Surveying attendees may want to leave at this point, but you are welcome to stay.

- The development of a BFE consists of the following steps.
- Determine the watershed area and 100 year discharge using Streamstats. This is an internet based system that was developed by USGS. The web site is <http://water.usgs.gov/osw/streamstats/ohio.html>.
- Develop one or more cross sections for a given property. This can be completed by field survey or by using the existing 2' contours that were developed during our 2006 aerial photography.
- Add the cross section information along with the discharge information into the FEMA Quick 2 Software that can be downloaded from this website. http://www.fema.gov/plan/prevent/fhm/dl_qck22.shtm
- Quick 2 will calculate the BFE for one cross section or for multiple cross sections based on your input.
- If you use county cross sections, they are based on the NAVD of 1988. FEMA requires the elevation certificate elevations to be based on the NGVD of 1929. The BFE based on the 1988 datum needs to be converted to the 1929 datum. This can be done at the following web site <http://www.ngs.noaa.gov/TOOLS/Vertcon/vertcon.html>. This web site calculates the data shift between the 1929 and 1988 datums.



StreamStats

Best viewed in Internet Explorer 5 or above
 Screen resolution of 1024x768 or greater, with pop-up blocker disabled

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Ohio

The reports below document the regression equations available in StreamStats for Ohio, the methods used to develop the equations and to measure the basin characteristics used in the equations, and the errors associated with the estimates obtained from the equations. Users should familiarize themselves with this report before using StreamStats to obtain estimates of stream flow statistics for un-gaged sites.

- Koltun, G.F., Kula, S.P., and Puskas, B.M., 2006. A Streamflow Statistics (StreamStats) Web Application for Ohio: U.S. Geological Survey Scientific Investigations Report 2006-5312, 62 p.
- Koltun, G.F., 2003. Techniques for estimating flood-peak discharges of rural, unregulated streams in Ohio: U.S. Geological Survey Scientific Investigations Report 03-4164, 75 p.
- Koltun, G.F., and Whitehead, M.T., 2002. Techniques for estimating selected stream flow characteristics of rural, unregulated streams in Ohio: U.S. Geological Survey Scientific Investigations Report 02-4068, 50 p.

Interactive Map

StreamStats for Ohio was developed in cooperation with:
 Ohio Department of Transportation,
 U.S. Department of Transportation, Federal Highway Administration,
 Federal Emergency Management Agency,
 Ohio Environmental Protection Agency, and
 Ohio Department of Natural Resources.



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U.S. Department of the Interior | U.S. Geological Survey

URL: <http://streamstats.usgs.gov/>

Page Contact Information: GS-W_Streamstats@usgs.gov

Page Last Modified: 03/14/07



USGS
Ohio StreamStats

ZoomIn ZoomOut Pan GetInfo FullExtent LastExtent EditBasin FlowStats BasinChar ClearBasin Download GageInfo Print Help

Scale

Zoom To:

Latitude:

Longitude:

Map Layers **Locator Map**

USGS Scale 1:32400215

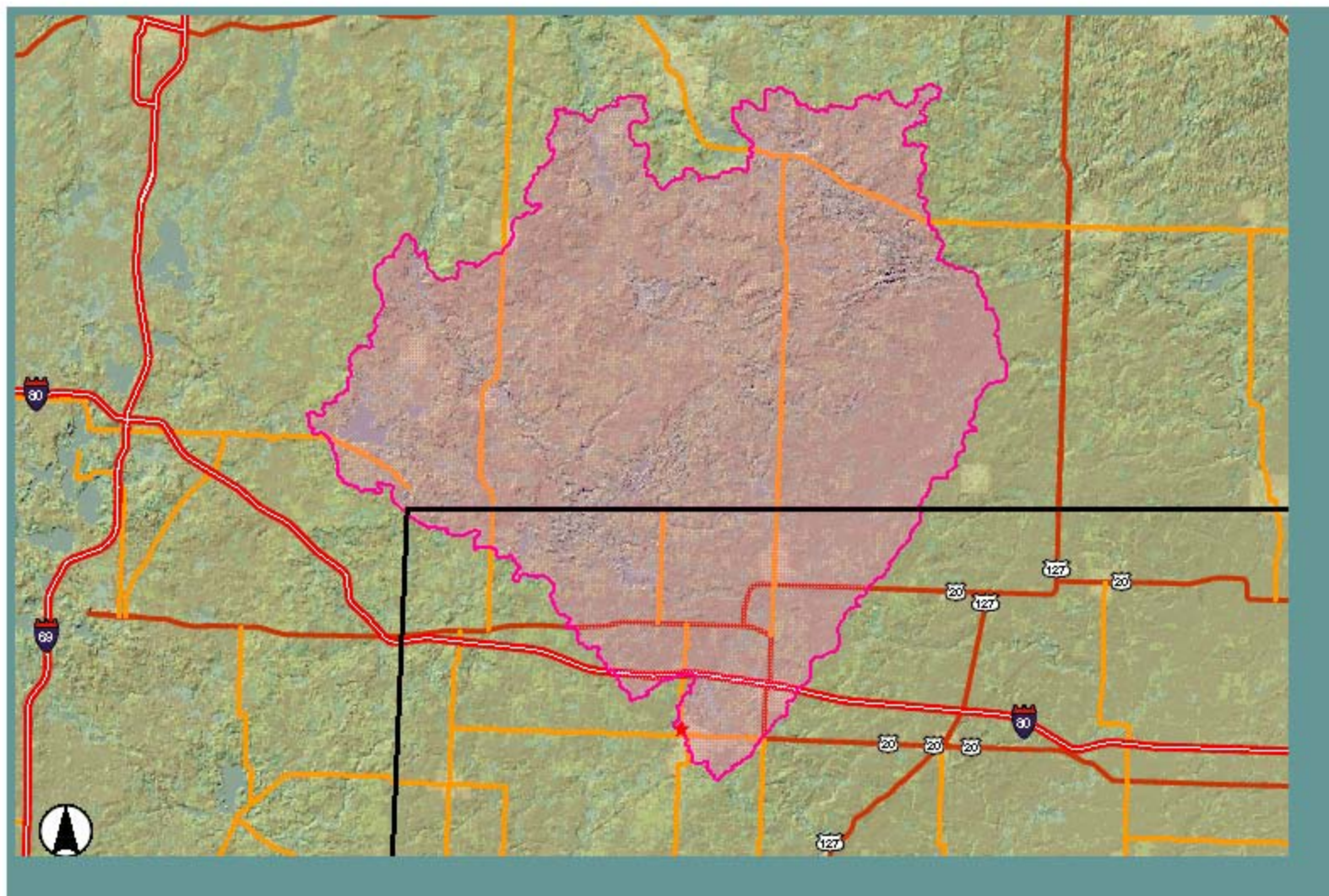
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TAKE PRIDE IN AMERICA





StreamStats

Streamflow Statistics Report

Date: Tue May 26 2009 14:22:05

Site Location: Ohio

Latitude: 41.5896

Longitude: -84.6121

Drainage Area: 342.25 mi²

Latitude (NAD83): 41.5896 (41 35 22)

Longitude (NAD83): -84.6121 (-84 36 43)

Peak Flow Basin Characteristics

100% Peak Flow Full Model (342 mi²)

Parameter	Value	Min	Max
Drainage Area (square miles)	342	0.01	7422
Ohio Region C Indicator 1 if in C else 0 (dimensionless)	0	0	1
Ohio Region A Indicator 1 if in A else 0 (dimensionless)	0	0	1
Stream Slope 10 and 85 Longest Flow Path (feet per mi)	5.92	1.53	674
Percent Storage from NLCD (percent)	5.28	0	25.8

Low Flow Basin Characteristics

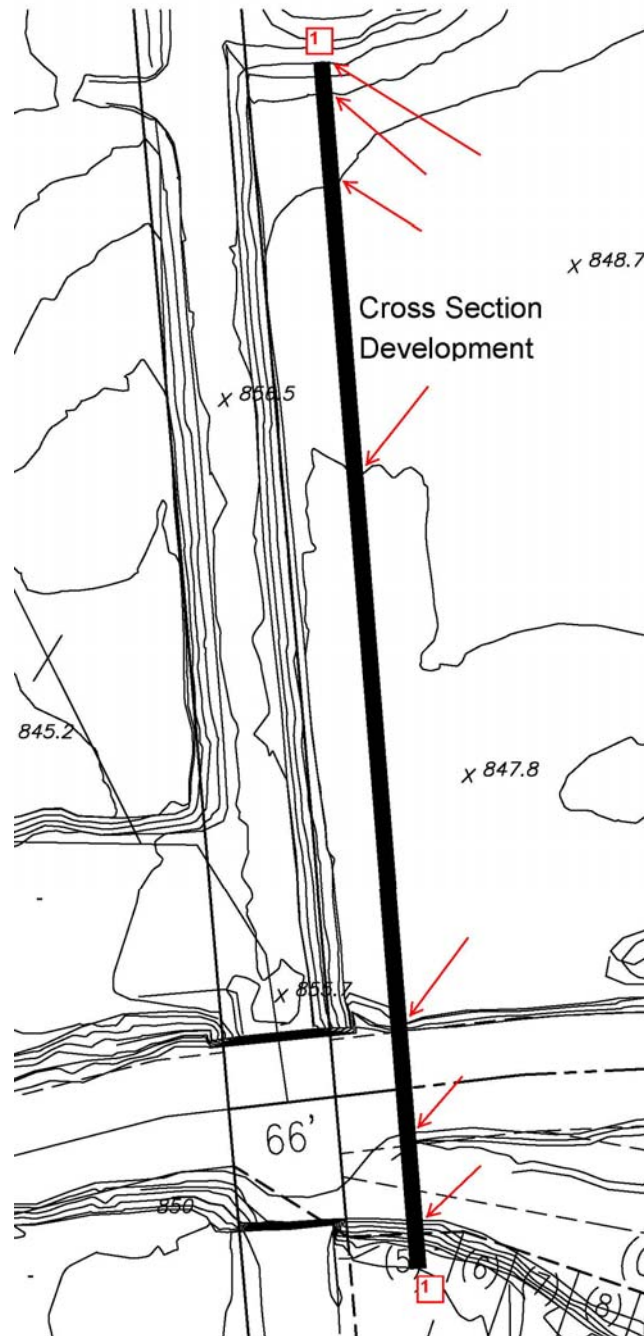
100% Low Flow Latitude GT 41.2 (342 mi²)

Parameter	Value	Min	Max
Drainage Area (square miles)	342	0.12	7422
Percent Forest (percent)	19.1	0	99.1
Percent Storage from NLCD (percent)	5.28	0	19
Mean Annual Precipitation (inches)	35.1	34	43.2
Streamflow Variability Index (dimensionless)	0.56	0.25	1.13
Latitude of Basin Centroid (decimal degrees)	41.7603 (above max value 41.59)	41.2	41.59
Longitude of Basin Centroid (decimal degrees)	84.6177 (above max value 84.6)	80.53	84.6

Warning: Some parameters are outside the suggested range. Estimates will be extrapolations with unknown errors.

Streamflow Statistics

Statistic	Flow (ft ³ /s)	Prediction Error (percent)	Equivalent years of record	90-Percent Prediction Interval	
				Minimum	Maximum
PK2	4200	37	2.1	2330	7570
PK5	5780	35	3.3	3320	10100
PK10	6820	34	4.4	3930	11800
PK25	8000	35	5.9	4560	14100
PK50	8840	37	6.8	4940	15800
PK100	9680	38	7.5	5300	17700
PK500	11400	42	8.6	5870	22100



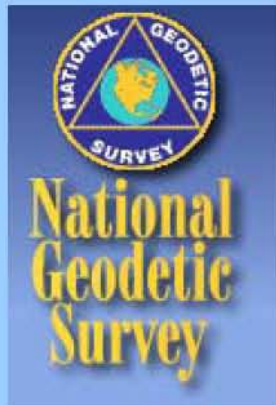
Cross Section: 1 Type: * Irregular Channel

Stat	Elev	Stat	Elev	Stat	Elev	Stat	Elev
0	854	13	852	17	851.9	19	850
21	848	24	846	27	844	30	842.5
83	842.5	146	844	148	846	490	848
667	850	725	852	744	854	0	0

	Left	Channel	Right	CC:	0.1	CE:	0.3
N Values	0.04	0.025	0.04				
Bank Stat	0		147.6				
Reach Len	0	0	0				

CWSEL →	854.39	Elmin	842.5	Froude#	0.15
EG	854.47	Depth	11.89	EG Slope	0.00012
Chan Vel	2.97	TopWidth	743.8	CritDepth	848.88
Discharge	9680	KRatio	1	FlowType	Sub-Critical

Quick 2 Detailed Output

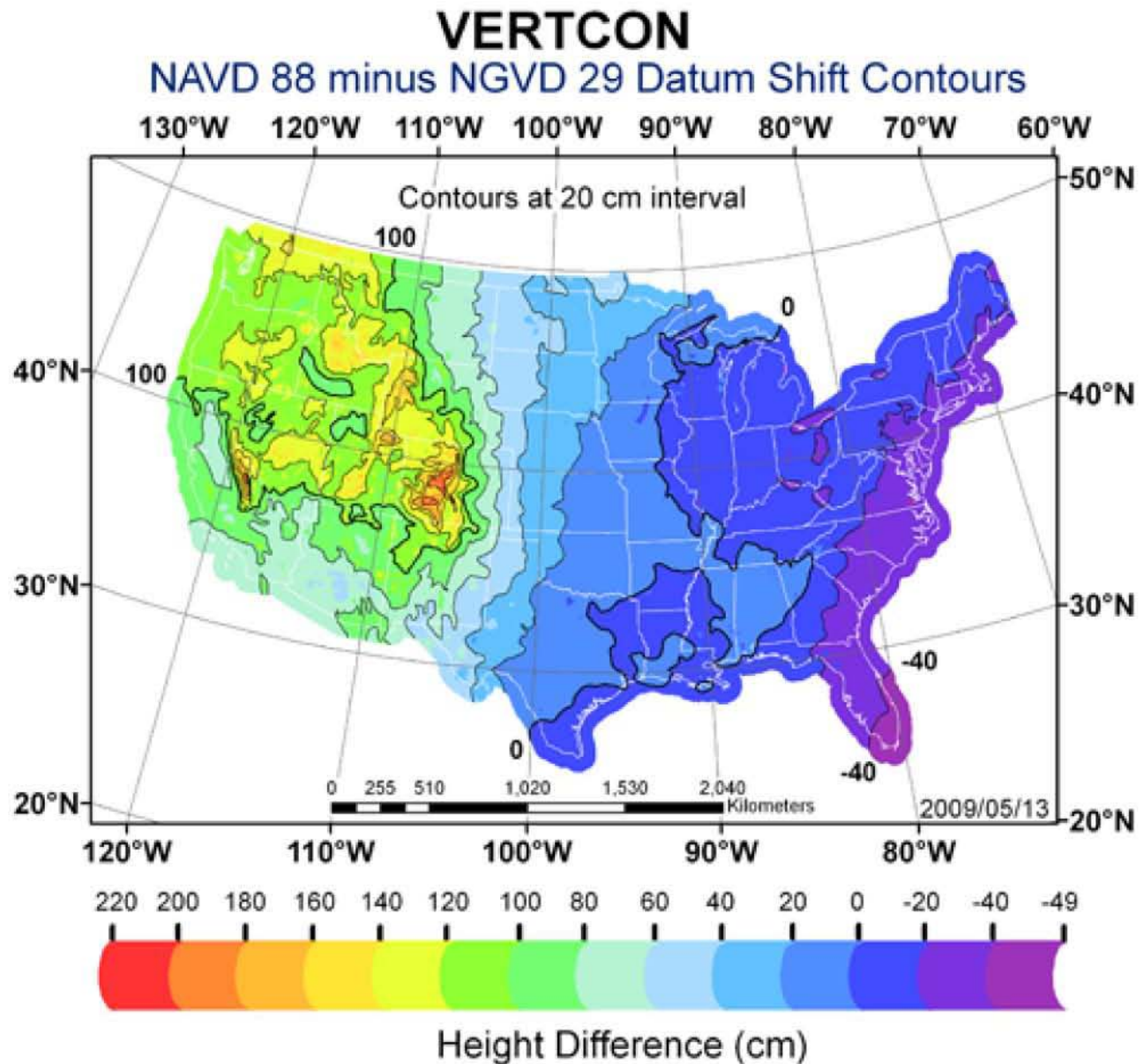


Method

**Sign
conventions**

Questions ?

**Height
Conversion**



Quick 2 BFE (88 Datum)	854.39
Vertcon Datum Shift	minus 0.459 ft
BFE 1929 Datum	854.85
Published BFE for Gage at Bridge, 1929 Datum	853.91

