

PRELIMINARY FLOOD INSURANCE STUDY

FEDERAL EMERGENCY MANAGEMENT AGENCY

A Report of Flood Hazards in
JOHNSTON COUNTY, NORTH
CAROLINA AND
INCORPORATED AREAS



Community Name	Community Number
JOHNSTON COUNTY	370138
TOWN OF BENSON	370504
TOWN OF CLAYTON	370139
TOWN OF FOUR OAKS	370502
TOWN OF KENLY	370501
TOWN OF MICRO	370500
TOWN OF PINE LEVEL	370505
TOWN OF PRINCETON	370485
TOWN OF SELMA	370499
TOWN OF SMITHFIELD	370140
TOWN OF WILSON'S MILLS	370262



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Federal Emergency Management Agency

State of North Carolina

Flood Insurance Study Number

37101CV000

www.fema.gov and www.ncfloodmaps.com



FOREWORD

This countywide Flood Insurance Study (FIS) Report was produced through a unique cooperative partnership between the State of North Carolina and the Federal Emergency Management Agency (FEMA). The State of North Carolina has implemented a long-term approach to floodplain management to decrease the costs associated with flooding. This is demonstrated by the State's commitment to map floodplain areas at the state level. As a part of this effort, the State of North Carolina has joined with FEMA in a Cooperating Technical State (CTS) agreement to produce and maintain this FIS Report and the accompanying digital Flood Insurance Rate Map (FIRM) for North Carolina.

NOTICE TO FLOOD INSURANCE STUDY USERS

Communities participating in the National Flood Insurance Program have established repositories of flood hazard data for floodplain management and flood insurance purposes. This Flood Insurance Study (FIS) may not contain all data available within the repository. It is advisable to contact the community repository for any additional data.

The following is a list of the publication dates of this Countywide FIS Report starting with the initial Report accompanying the North Carolina Statewide FIRM:

Date	Reason
12/2/2005	Initial Countywide FIS Report Effective Date

This FIS has been produced as part of the North Carolina Floodplain Mapping Program. Johnston County, North Carolina, falls under the administrative jurisdiction of Region IV of the Federal Emergency Management Agency (FEMA). Questions concerning this FIS may be directed to the North Carolina Floodplain Mapping Program at www.ncfloodmaps.com, the FEMA Map Assistance Center by calling the toll-free information line at 1-877-FEMA MAP (1-877-336-2627), or by contacting the FEMA Regional Office at the following address:

FEMA, Federal Insurance and Mitigation Administration
Koger Center - Rutgers Building
3003 Chamblee Tucker Road
Atlanta, Georgia 30341
(770) 220-5400

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1.0 Introduction

1.1 The National Flood Insurance Program

In 1968, Congress created the National Flood Insurance Program (NFIP) in response to the rising cost of taxpayer-funded disaster relief for flood victims and the increasing amount of damage caused by floods. The NFIP makes federally backed flood insurance available in communities that agree to adopt and enforce floodplain management ordinances to reduce future flood damage. Federally backed flood insurance is available in more than 19,000 communities across the United States and its territories.

The NFIP is managed by the Federal Insurance and Mitigation Administration of the Federal Emergency Management Agency (FEMA). The Federal Insurance and Mitigation Administration manages the insurance component of the NFIP and oversees the flood hazard mapping and the floodplain management aspects of the program.

The NFIP, through involvement with communities, the insurance industry, and the lending industry, helps reduce flood damage by nearly \$800 million a year. Further, buildings constructed in compliance with NFIP building standards suffer approximately 80% less damage annually than those not built in compliance. In addition, every \$3 paid in flood insurance claims saves \$1 in disaster assistance payments. The NFIP is self-supporting for the average historical loss year, which means that operating expenses and flood insurance claims are not paid by the taxpayer, but through premiums collected for flood insurance policies.

Additional information of interest to homeowners, community officials, insurance companies, lenders, and study contractors is available in Section 9.0 of this FIS Report and on the NFIP Internet homepage at <http://www.fema.gov/business/nfip/>.

1.2 Purpose of this Flood Insurance Study

Flood Insurance Studies (FISs) are one of the primary means by which the NFIP administers the National Flood Insurance Act of 1968, the Flood Disaster Protection Act of 1973, and the National Flood Insurance Reform Act of 1994. FISs develop flood risk data that are used to establish actuarial flood insurance rates. The information in this FIS Report will also be used by Johnston County and the jurisdictions therein (hereinafter referred to collectively as Johnston County) to facilitate the adoption and maintenance of floodplain management ordinances, which form the basis of communities' continued participation in the NFIP. Minimum requirements for participation in the NFIP are set forth in Title 44, Part 60, Section 3 of the Code of Federal Regulations (44 CFR 60.3). In some States and/or communities, floodplain management criteria or regulations may exist that are more restrictive than the minimum Federal requirements. In such cases, the more restrictive criteria will take precedence, and the State and/or community (or other jurisdictional agency) will be able to explain them.

This FIS investigates the existence and severity of flood hazards in, or revises and updates previous FISs for, the geographic area of Johnston County, North Carolina, including the jurisdictions listed in Table 1.

Table 1 - Jurisdictions in Johnston County

Community	Included in this FIS	If Not Included, Location of Flood Hazard/Flood Insurance Rate Data
JOHNSTON COUNTY	Yes	*
TOWN OF BENSON	Yes	*
TOWN OF CLAYTON	Yes	*
TOWN OF FOUR OAKS	Yes	*
TOWN OF KENLY	Yes	*
TOWN OF MICRO	Yes	*
TOWN OF PINE LEVEL	Yes	*
TOWN OF PRINCETON	Yes	*
TOWN OF SELMA	Yes	*
TOWN OF SMITHFIELD	Yes	*

1.3 FIS Components

A Flood Insurance Study (FIS) is an analysis of flood hazards, typically presented as a set of Flood Insurance Rate Map (FIRM) panels and the FIS Report, which includes a set of Flood Profiles and/or Water-surface elevation rasters.

Flood Insurance Study Report

The FIS Report provides a context for the information shown on the FIRM, as well as a summary of the data upon which the analyses are based. It also includes an index of sources of additional information on the NFIP.

1.4 Considerations for Using this Flood Insurance Study Report

The NFIP encourages State and local governments to implement sound floodplain management programs. To assist in this endeavor, each FIS Report provides floodplain data, which may include a combination of the following: 10-, 4-, 2-, 1-, and 0.2-percent annual chance flood elevations (the 1% annual chance flood elevation is also referred to as the Base Flood Elevation (BFE)); delineations of the 1% annual chance and 0.2% annual chance floodplains; and 1% annual chance floodway. This information is presented on the FIRM and/or in many components of the FIS Report, including Flood Profiles, Floodway Data tables, Summary of Non-Coastal Stillwater Elevations tables, and Coastal Transect Parameters tables (not all components may be provided for a specific FIS).

It is, therefore, the responsibility of the user to consult with community officials by contacting the community repository to obtain the most current FIS Report components. Communities participating in the NFIP have established repositories of flood hazard data for floodplain management and flood insurance purposes. Community map repository addresses are provided in Table 27, "Map Repositories," within this FIS Report.

New FIS Reports are frequently developed for multiple communities, such as entire counties. A countywide FIS Report incorporates previous FIS Reports for individual communities and the unincorporated area of the county (if not jurisdictional) into a single document and supersedes those documents for the purposes of the NFIP.

The Initial Countywide FIS Report for Johnston became Effective on 12/2/2005. Refer to Table XX for information about subsequent revisions to FIRMs.

Selected FIRM panels for the community may contain information (such as floodways and cross sections) that was previously shown separately on the corresponding Flood Boundary and Floodway Map panels. In addition, former flood hazard zone designations have been changed as follows:

Old Zone	New Zone
A1 through A30	AE
V1 through V30	VE
B	X (shaded)
C	X (unshaded)

FEMA does not impose floodplain management requirements or special insurance ratings based on Limit of Moderate Wave Action (LiMWA) delineations at this time. The LiMWA represents the approximate landward limit of the 1.5-foot breaking wave. If the LiMWA is shown on the FIRM, it is being provided by FEMA as information only. For communities that do adopt Zone VE building standards in the area defined by the LiMWA, additional Community Rating System (CRS) credits are available. Refer to Section 2.5.4 for additional information about the LiMWA.

The CRS is a voluntary incentive program that recognizes and encourages community floodplain management activities that exceed the minimum NFIP requirements. Visit the FEMA Web site at <http://www.fema.gov> or contact your appropriate FEMA Regional Office for more information about this program.

Previous FIS Reports and FIRMs may have included levees that were accredited as reducing the risk associated with the 1% annual chance flood based on the information available and the mapping standards of the NFIP at that time. For FEMA to continue to accredit the identified levees, the levees must meet the criteria of the Code of Federal Regulations, Title 44, Section 65.10 (44 CFR 65.10), titled "Mapping of Areas Protected by Levee Systems."

Since the status of levees is subject to change at any time, the user should contact the appropriate agency for the latest information regarding levees presented in Table 9 of this FIS Report. For levees owned or operated by the U.S. Army Corps of Engineers (USACE), information may be obtained from the USACE national levee database. For all other levees, the user is encouraged to contact the appropriate local community.

FEMA has developed a Guide to Flood Maps (FEMA 258) and online tutorials to assist users in accessing the information contained on the FIRM. These include how to read panels and step-by-step instructions to obtain specific information. To obtain this guide and other assistance in using the FIRM, visit the FEMA Web site at <http://www.fema.gov>.

2.0 Floodplain Management Applications

Flood events of a magnitude expected to occur with a 10%, 2%, 1%, or 0.2% annual chance have been selected as having special significance for developing sound floodplain management programs. These events, commonly termed the 10-, 50-, 100-, and 500-year floods, have a 10%, 2%, 1%, and 0.2% chance, respectively, of being equaled in any given year. Therefore, FIS Reports typically determine water-surface elevations for floods with these probabilities. The FIRM delineates 1% and 0.2% annual chance floodplains and 1% annual chance floodway boundaries, and depicts 1% annual chance flood elevations, rounded to the nearest foot, to assist in developing floodplain management measures.

2.1 Floodplains

To provide a national standard without regional discrimination, the 1% annual chance flood has been adopted by FEMA as the base flood for floodplain management purposes. A 1% annual chance flood, or base flood, is defined as that having a 1% chance of being equaled or exceeded in any given year. The 1% annual chance floodplains shown on the FIRM identify areas that are expected to be inundated by the 1% annual chance flood. This 1% annual chance floodplain is also called a Special Flood Hazard Area (SFHA), where the NFIP's floodplain management regulations must be enforced by the community as a condition of participation in the NFIP. The 0.2% annual chance floodplain is employed to indicate additional areas of flood risk associated with exceptionally severe floods.

2.2 Floodways

Encroachment on floodplains such as that caused by placement of structures and fill reduces flood-carrying capacity, increases flood heights and velocities, and increases flood hazards in areas beyond the encroachment itself. One aspect of floodplain management involves balancing the economic gain from floodplain development against the resulting increase in flood hazard. For purposes of the NFIP, floodways are provided as a tool to assist local communities in this aspect of floodplain management. Under this concept, the 1% annual chance riverine floodplain is divided into a floodway and a floodway fringe. 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. Figure 1, "Floodway Schematic," illustrates this principle. Minimum Federal standards limit such increases to 1.0 foot, provided that hazardous velocities are not produced. The floodways in this FIS are presented to local agencies as a minimum standard that can be adopted directly or that can be used as a basis for additional encroachment studies.

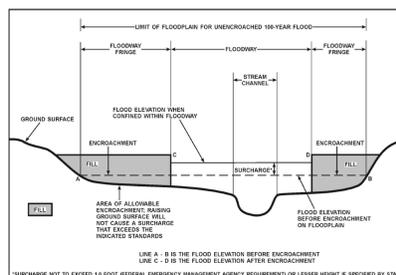


Figure 1- Floodway Schematic

2.3 Base Flood Elevations

The hydraulic characteristics of flooding sources were analyzed to provide estimates of the elevations of floods of the selected recurrence intervals. The Base Flood Elevation (BFE) is the elevation of the 1% annual chance flood. These BFEs are most commonly rounded to the whole foot, as shown on the FIRM, but in certain circumstances or locations they may be rounded to 0.1 foot. Cross section lines shown on the FIRM may also be labeled with the BFE rounded to 0.1 foot. Whole-foot BFEs derived from engineering analyses that apply to coastal areas, areas of ponding, or other static areas with little elevation change may also be shown at selected intervals on the FIRM. Cross sections with BFEs shown on the FIRM correspond to the cross sections shown in the Floodway Data table and Flood Profiles in this FIS Report. BFEs are primarily intended for flood insurance rating purposes. For construction and/or floodplain management purposes, users are cautioned to use the flood elevation data presented in this FIS Report in conjunction with the data shown on the FIRM.

2.4 Watershed Characteristics

Because a FIS is a probability analysis that may not account for some of the factors listed below, communities are strongly encouraged to consider adopting more restrictive or higher floodplain management criteria or ordinances than the minimum Federal requirements. Communities may also increase the validity of their flood hazard data by investing in continuous maintenance of river gages (see the Data Validity and Reliability paragraph below). If the U.S. Geological Survey (USGS) or other agencies do not maintain gages on the flooding sources of interest, partnerships with the USGS may be pursued, or local gages may be installed. For more information, see Section 9.0 of this report.

This flood hazard study represents an analysis of certain watershed characteristics, some of which are summarized as follows:

Drainage Area

In general, streams that drain larger areas have greater flood hazards. FISs, in North Carolina, do not typically analyze flood hazards in places with rural drainage areas of less than one square mile and within urban drainage areas of less than ½ square mile.

Soil Permeability and Infiltration

Differences in the types of soil and the amount of vegetation in a watershed have a significant effect on the amount of water that the soil can absorb; soils with a high sand content absorb much more water than soils with a high clay content. The presence of vegetation increases infiltration; the presence of pavement decreases infiltration and also speeds runoff to receiving waters. As soil permeability and infiltration decrease, the volume and rate of overland flow increases.

Soil Moisture Conditions

In addition to soil permeability and infiltration, the level of the water table helps determine the saturation point, beyond which no water is absorbed. As rainfall duration increases, the height of the water table increases.

Channel and Floodplain Geometry

The geometric contour of a streambed, termed channel geometry, and the geometric contour of a floodplain determine the volume of water that a channel can hold and partially determine the rate at which water flows through it.

Channel and Floodplain Roughness

The roughness of a surface affects the characteristics of runoff whether the water is on the surface of the watershed or in the channel.

FIS Reports include analyses of how these factors will combine to produce overland flow patterns during floods that have a certain probability of occurring in any given year. Although the recurrence interval represents the long-term average period between floods of a specific magnitude, rare floods could occur at shorter intervals or even within the same year. The risk of experiencing a rare flood increases when longer periods are considered. For example, the risk of having a flood which equals or exceeds the 1% annual chance flood (1% chance of annual exceedence) in any 50-year period is approximately 40% (4 in 10), but for any 90-year period, the risk increases to approximately 60% (6 in 10).

It is important to note that the 1% annual chance flood is used as the national standard to allow a consistent approach to floodplain

management, flood hazard assessment, and flood hazard mapping. In any given community, a number of factors may result in flooding characteristics that do not conform to predicted conditions. Therefore, the determination that an area is not shown on the FIRM as being within a Special Flood Hazard Area is no guarantee that it will not flood during a 1% annual chance flood. Examples of these factors include Data Validity and Reliability; Developmental and Topographic Changes Over Time; Erosion, Deposition, and Debris Flow; and Meandering and Lateral Migration.

Data Validity and Reliability

Certain types of analysis methods yield more justifiable characterizations of flood hazards. For example, a gage analysis, to determine peak discharges, is based on actual measurements of watershed conditions over time and, therefore, is typically considered the most accurate method of hydrologic analysis. However, it is not feasible to install enough gages to gather data on every stream. In addition, for many of the gage sites that do exist, there are interruptions in the period of record. The usefulness of gage data for the purpose of predicting flooding behavior decreases with interruptions in the period of record; predicted flooding conditions over a 100-year period based on 20 years of measurements spread over a 35-year period are less valid than those based on 30 years of continuous measurements. A regression analysis is typically considered the best method in the absence of gage data, as it uses gage data from watersheds with similar characteristics to estimate flood frequency and magnitude in an ungaged watershed. Regression equations reflect average conditions for a region; therefore, the results will not exactly match the results of a gage analysis at a particular location. The standard errors of the North Carolina rural regression equations range from 44 to 51 percent for estimates of the 1% annual chance flood. That means the difference between the results of the regression equation and the gage analysis for approximately two-thirds of the locations that gage data exists are within 44 to 51 percent of the gage analysis results. A rainfall-runoff hydrologic analysis may be used for gaged or ungaged watersheds, and can estimate the effects of storage areas and flood control structures and measures. This method is most valid when calibrated against historical data.

Developmental and Topographic Changes Over Time

A FIRM is based on the best topographic and planimetric information available to FEMA and the State of North Carolina at the time the study is produced. In time, however, development and/or natural phenomena can alter the physical characteristics of a watershed and its drainage channels, resulting in changes in the flood hazards in those areas. For example, constructing a housing subdivision reduces the amount of soil that is available to absorb water; this in turn causes an increase in the volume of surface water that flows into the channel.

Erosion, Deposition, and Debris Flow

The flood hazards shown on a FIRM are based on the assumption of unobstructed flow. The FIRM does not reflect an analysis of areas that are subject to erosion caused by the increased water-surface elevations and velocities that occur during flooding. In addition to the risks of landslides or a weakening of the ground underneath roads or structures, any sediment that is removed from one location will be deposited in another; accumulated deposits may have a pronounced effect on flood hazards in those areas. Similarly, debris such as fallen trees or branches, litter, or other items may obstruct stream channels or hydraulic structures, increasing water-surface elevations, velocities, and floodplain width.

Meandering and Lateral Migration

FISs are based on the assumption that channel geometry will remain stable during normal drainage and during flood events. This assumption is valid for most streams, which flow over bedrock or between bedrock outcroppings that form non-alluvial channels. However, alluvial streams change the channel geometry with time, significantly so during flood events. Alluvial streams are subject to erosion and deposition, which may result in braided or meandering channels. Streams of this type may be characterized by lateral migration, or channel shifting, in which the stream may change course entirely during a flood. Whenever clear evidence is available, a FIRM will identify the alluvial nature of a studied flooding source and designate wider floodways to allow for potential migration. However, these floodways are based on qualitative assessments and not on quantitative geomorphic and engineering analyses.

2.5 Coastal Flood Hazard Areas

For most areas along rivers, streams, and small lakes, BFEs and floodplain boundaries are based on the amount of water expected to enter the area during a 1% annual chance flood and the geometry of the floodplain. Floods in these areas are typically caused by storm events. However, for areas on or near ocean coasts, large rivers, or large bodies of water, BFE and floodplain boundaries may need to be based on additional components, including storm surges and waves. Communities on or near ocean coasts face flood hazards caused by offshore seismic events as well as storm events.

Coastal flooding sources that are included in this Flood Risk Project are shown in Table XX.

2.5.1 Water Elevations and the Effects of Waves

Specific terminology is used in coastal analyses to indicate which components have been included in evaluating flood hazards.

The stillwater elevation (SWEL or still water level) is the surface of the water resulting from astronomical tides, storm surge, and freshwater inputs, but excluding wave setup contribution or the effects of waves.

- *Astronomical tides* are periodic rises and falls in large bodies of water caused by the rotation of the earth and by the gravitational forces exerted by the earth, moon and sun.
- *Storm surge* is the additional water depth that occurs during large storm events. These events can bring air pressure changes and strong winds that force water up against the shore.
- *Freshwater inputs* include rainfall that falls directly on the body of water, runoff from surfaces and overland flow, and inputs from rivers.

The 1% annual chance stillwater elevation is the stillwater elevation that has been calculated for a storm surge from a 1% annual chance storm. The 1% annual chance storm surge can be determined from analyses of tidal gage records, statistical study of regional historical storms, or other modeling approaches. Stillwater elevations for storms of other frequencies can be developed using similar approaches.

The total stillwater elevation (also referred to as the mean water level) is the stillwater elevation plus wave setup contribution but excluding the effects of waves.

- *Wave setup* is the increase in stillwater elevation at the shoreline caused by the reduction of waves in shallow water. It occurs as breaking wave momentum is transferred to the water column.

Like the stillwater elevation, the total stillwater elevation is based on a storm of a particular frequency, such as the 1% annual chance storm. Wave setup is typically estimated using standard engineering practices or calculated using models, since tidal gages are often sited in areas sheltered from wave action and do not capture this information.

Coastal analyses may examine the effects of overland waves by analyzing storm-induced erosion, overland wave propagation, wave runup, and/or wave overtopping.

- *Storm-induced erosion* is the modification of existing topography by erosion caused by a specific storm event, as opposed to general erosion that occurs at a more constant rate.
- *Overland wave propagation* describes the combined effects of variation in ground elevation, vegetation, and physical features on wave characteristics as waves move onshore.
- *Wave runup* is the uprush of water from wave action on a shore barrier. It is a function of the roughness and geometry of the shoreline at the point where the stillwater elevation intersects the land.
- *Wave overtopping* refers to wave runup that occurs when waves pass over the crest of a barrier.

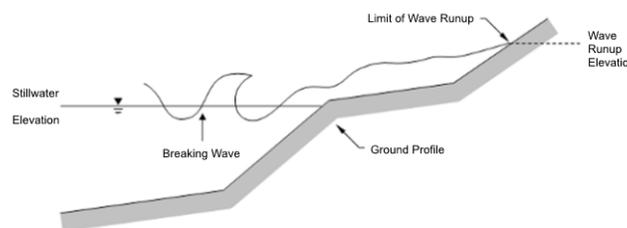


Figure 5: Wave Runup Transect Schematic

2.5.2 Floodplain Boundaries and BFEs for Coastal Areas

For coastal communities along the Atlantic and Pacific Oceans, the Gulf of Mexico, the Great Lakes, and the Caribbean Sea, flood

hazards must take into account how storm surges, waves, and extreme tides interact with factors such as topography and vegetation. Storm surge and waves must also be considered in assessing flood risk for certain communities on rivers or large inland bodies of water.

Beyond areas that are affected by waves and tides, coastal communities can also have riverine floodplains with designated floodways, as described in previous sections.

Floodplain Boundaries

In many coastal areas, storm surge is the principle component of flooding. The extent of the 1% annual chance floodplain in these areas is derived from the total stillwater elevation (stillwater elevation including storm surge plus wave setup) for the 1% annual chance storm. The methods that were used for calculation of total stillwater elevations for coastal areas are described in Section 5.3 of this FIS Report. Location of total stillwater elevations for coastal areas are shown in Figure 8, "1% Annual Chance Total Stillwater Levels for Coastal Areas."

In some areas, the 1% annual chance floodplain is determined based on the limit of wave runup or wave overtopping for the 1% annual chance storm surge. The methods that were used for calculation of wave hazards are described in Section 5.3 of this FIS Report.

Table 18 and 18P presents the types of coastal analyses that were used in mapping the 1% annual chance floodplain in coastal areas.

Coastal BFEs

Where they apply, coastal BFEs are calculated along transects extending from offshore to the limit of coastal flooding onshore. Results of these analyses are accurate until local topography, vegetation, or development type and density within the community undergoes major changes.

Parameters that were included in calculating coastal BFEs for each transect included in this FIS Report are presented in Table 20, "Coastal Transect Parameters." The locations of transects are shown in Figure 9, "Transect Location Map." More detailed information about the methods used in coastal analyses and the results of intermediate steps in the coastal analyses are presented in Section 5.3 of this FIS Report. Additional information on specific mapping methods is provided in Section 6.4 of this FIS Report.

2.5.3 Coastal High Hazard Areas

Certain areas along the open coast and other areas may have higher risk of experiencing structural damage caused by wave action and/or high-velocity water during the 1% annual chance flood. These areas will be identified on the FIRM as Coastal High Hazard Areas.

- *Coastal High Hazard Area (CHHA)* is a SFHA extending from offshore to the inland limit of the primary frontal dune (PFD) or any other area subject to damages caused by wave action and/or high-velocity water during the 1% annual chance flood.
- *Primary Frontal Dune (PFD)* is a continuous or nearly continuous mound or ridge of sand with relatively steep slopes immediately landward and adjacent to the beach. The PFD is subject to erosion and overtopping from high tides and waves during major coastal storms.

CHHAs are designated as "V" zones (for "velocity wave zones") and are subject to more stringent regulatory requirements and a different flood insurance rate structure. The areas of greatest risk are shown as VE on the FIRM. Zone VE is further subdivided into elevation zones and shown with BFEs on the FIRM.

The landward limit of the PFD occurs at a point where there is a distinct change from a relatively steep slope to a relatively mild slope; this point represents the landward extension of Zone VE. Areas of lower risk in the CHHA are designated with Zone V on the FIRM. More detailed information about the identification and designation of Zone VE is presented in Section 6.4 of this FIS Report.

Areas that are not within the CHHA but are SFHAs may still be impacted by coastal flooding and damaging waves; these areas are shown as "A" zones on the FIRM.

Figure 6, "Coastal Transect Schematic," illustrates the relationship between the base flood elevation, the 1% annual chance stillwater elevation, and the ground profile as well as the location of the Zone VE and Zone AE areas in an area without a PFD subject to overland wave propagation. This figure also illustrates energy dissipation and regeneration of a wave as it moves inland.

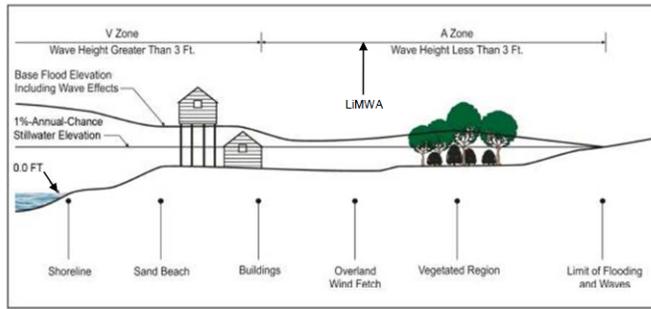


Figure 6: Coastal Transect Schematic

Methods used in coastal analyses in this Flood Risk Project are presented in Section 5.3 and mapping methods are provided in Section 6.4 of this FIS Report.

Coastal floodplains are shown on the FIRM using the symbology described in Figure 3, “Map Legend for FIRM.” In many cases, the BFE on the FIRM is higher than the stillwater elevations shown in Table 17 due to the presence of wave effects. The higher elevation should be used for construction and/or floodplain management purposes.

2.5.4 Limit of Moderate Wave Action

Laboratory tests and field investigations have shown that wave heights as little as 1.5 feet can cause damage to and failure of typical Zone AE building construction. Wood-frame, light gage steel, or masonry walls on shallow footings or slabs are subject to damage when exposed to waves less than 3 feet in height. Other flood hazards associated with coastal waves (floating debris, high velocity flow, erosion, and scour) can also damage Zone AE construction.

Therefore, a LiMWA boundary may be shown on the FIRM as an informational layer to assist coastal communities in safe rebuilding practices. The LiMWA represents the approximate landward limit of the 1.5-foot breaking wave. The location of the LiMWA relative to Zone VE and Zone AE is shown in Figure 6.

The effects of wave hazards in Zone AE between Zone VE (or the shoreline where Zone VE is not identified) and the limit of the LiMWA boundary are similar to, but less severe than, those in Zone VE where 3-foot or greater breaking waves are projected to occur during the 1% annual chance flooding event. Communities are therefore encouraged to adopt and enforce more stringent floodplain management requirements than the minimum NFIP requirements in the LiMWA. The NFIP Community Rating System provides credits for these actions.

Where wave runup elevations dominate over wave heights, there is no evidence to date of significant damage to residential structures by runup depths less than 3 feet. Examples of these areas include areas with steeply sloped beaches, bluffs, or flood protection structures that lie parallel to the shore. In these areas, the FIRM shows the LiMWA immediately landward of the VE/AE boundary. Similarly, in areas where the zone VE designation is based on the presence of a primary frontal dune or wave overtopping, the LiMWA is delineated immediately landward of the Zone VE/AE boundary.

3.0 Insurance Applications

3.1 National Flood Insurance Program Insurance Zones

For flood insurance applications, the FIRM designates flood insurance rate zones and, in 1% annual chance floodplains that were studied by detailed methods, shows selected whole-foot BFEs or average depths. Insurance agents use the zones and BFEs in conjunction with information on structures and their contents to assign premium rates for flood insurance policies. Table 2, “Flood Zone Designations,” includes a description of each type of flood hazard zone.

Table 2 - Flood Designations

Zone	Description
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A	Zone A is the flood insurance rate zone that corresponds to the 1% annual chance floodplains that are determined in the FIS Report by approximate methods. Because detailed hydraulic analyses are not performed for such areas, no Base Flood Elevations or depths are shown within this zone.
AE	Zone AE is the flood insurance rate zone that corresponds to the 1% annual chance floodplains that are determined in the FIS Report by detailed methods. In most instances, whole-foot Base Flood Elevations derived from the detailed hydraulic analyses are shown at selected intervals within this zone.
AH	Zone AH is the flood insurance rate zone that corresponds to the areas of 1% annual chance shallow flooding (usually areas of ponding) where average depths are between 1 and 3 feet. Whole-foot Base Flood Elevations derived from the detailed hydraulic analyses are shown at selected intervals within this zone.
AO	Zone AO is the flood insurance rate zone that corresponds to the areas of 1% annual chance shallow flooding (usually sheet flow on sloping terrain) where average depths are between 1 and 3 feet. Average whole-foot depths derived from the detailed hydraulic analyses are shown within this zone.
AR	Zone AR is the flood insurance rate zone that corresponds to areas that were formerly protected from the 1% annual chance flood by a flood control system that was subsequently decertified. Zone AR indicates that the former flood control system is being restored to provide protection from the 1% annual chance or greater flood.
A99	Zone A99 is the flood insurance rate zone that corresponds to areas of the 1% annual chance floodplain that will be protected by a Federal flood protection system where construction has reached specified statutory milestones. No Base Flood Elevations or depths are shown within this zone.
V	Zone V is the flood insurance rate zone that corresponds to the 1% annual chance coastal floodplains that have additional hazards associated with storm waves. Because approximate hydraulic analyses are performed for such areas, no Base Flood Elevations are shown within this zone.
VE	Zone VE is the flood insurance rate zone that corresponds to the 1% annual chance coastal floodplains that have additional hazards associated with storm waves. Whole-foot Base Flood Elevations derived from the detailed hydraulic analyses are shown at selected intervals within this zone.
X	Zone X is the flood insurance rate zone that corresponds to areas outside the 0.2% annual chance floodplain, areas within the 0.2% annual chance floodplain, and to areas of 1% annual chance flooding where average depths are less than 1 foot, areas of 1% annual chance flooding where the contributing drainage area is less than 1 square mile, and areas protected from the 1% annual chance flood by levees. No Base Flood Elevations or depths are shown within this zone.
X (Future)	Zone X (Future Base Flood) is the flood insurance risk zone that corresponds to the 1-percent-annual-chance floodplains that are determined based on future-conditions hydrology. No BFEs or base flood depths are shown within this zone.
D	Zone D is the flood insurance rate zone that corresponds to unstudied areas where flood hazards are undetermined, but possible.

3.2 Coastal Barrier Resources System

3.2 Coastal Barrier Resources System

This section is not applicable to this FIS project.

4.0 Area Studied

Johnston County is found in the Coastal Plain region of North Carolina. It is surrounded by Wake, Franklin, and Nash Counties to the north, Wilson and Wayne Counties to the east, Sampson County to the south, and Harnett County to the west.

4.1 Basin Description

Table 3, "Basin Description" contains a description of the characteristics of the HUC-8 sub-basins within which each community falls. The table includes the main flooding sources within each basin, a brief description of the basin, and its area.

Table 3 - Basin Description

HUC-8 Sub-Basin Name	HUC-8 Sub-Basin Number	Primary Flooding Source	Description	HUC Area (square miles)
Black	03030006	Black River	The Black River Basin begins in the northeastern region of Harnett County, North Carolina. The basin then drains southeast through significant portions of Bladen, Cumberland, and Sampson Counties, ending at the Cape Fear River in Pender County.	1,574
Contentnea	03020203	Contentnea Creek	The Contentnea Creek Basin begins in southern Franklin County and drains southeast through significant portions of Greene, Nash, Pitt, Wayne, and Wilson Counties. The basin ends at the confluence with Neuse River in Craven County.	1,008
Upper Neuse	03020201	Neuse River	The Upper Neuse Basin is initially drained by the Eno and Flat Rivers in Orange County. Once they confluence near Falls Lake, the basin is then drained by the Neuse River which flows through Durham, Wake, and Johnston Counties.	2,406

4.2 Principal Flood Problems

Table 4, "Principal Flood Problems" contains a list of principal flooding problems in Johnston County.

Table 4 - Principal Flood Problems

Flooding Source	Problem
All Sources	Low-lying areas of Johnston County are subject to periodic flooding from the Neuse River, Little River, Mill Creek, Swift Creek, Black Creek, Middle Creek, and other streams included in this FIS. The most severe flooding on rivers and large creeks results from heavy thunderstorms. The United States Geological Survey (USGS) has operated nine stream gages in the vicinity of Johnston County. Gages on the Neuse River were established at Smithfield in 1911, and on North Carolina Highway 42 near Clayton in 1927. Discharges exceeding 20,000 cubic feet per second (cfs) were experienced at the Clayton gage in 1919, 1929, and 1945. Severe flooding occurred in September of 1996 and had a discharge of 19,500 cfs. The gage on Little River is located on County Road 1210 near Princeton. The maximum known flood had occurred in September 1924 and approximated the 50-year event. Recent severe flooding occurred in October 1964 and approximated the 20-year event. The gage on Middle Creek is on North Carolina Highway 50 near Clayton. A maximum discharge of 13,000 cfs occurred in September of 1996, during Hurricane Fran. Hurricane Fran hit Johnston County in September of 1996, causing a 100-year event of greater on the larger streams and rivers in the county. The previous maximum peak discharge was 8,510 cfs, occurring in February of 1973. Other large storms occurred in 1957, 1959, 1962, 1964, and 1965.

4.3 Historic Flood Elevations

Hurricane Floyd (9/16/1999)

Hurricane Floyd made landfall near Wilmington with category two winds of 105 to 110 mph. Rainfall totals from Floyd were as high as 15 to 20 inches over portions of eastern North Carolina; with a record of 23.45 inches of rain falling in the month of September at Wilmington, NC. This breaks the previous record of 21.12 inches set in July 1886. These rains combined with saturated ground from previous rain events, including Hurricane Dennis, to produce an inland flood disaster. There were 74 deaths in the United States, including 52 in North Carolina, due to drowning from flood waters. This makes Floyd the deadliest U.S. hurricane since Agnes in 1972. Data from the USGS indicate that eleven of their stream gage monitoring sites in North Carolina (Ahoskie, Rocky Mount, Hilliardston, White Oak, Enfield, Tarboro, Lucama, Hookerton, Trenton, Chinquapin, and Freeland) exceeded 0.2% annual chance flood levels due to Floyd. Total losses in North Carolina approach \$5 billion with an estimated \$3.5 billion in damages to North Carolina homes, businesses, roads, and infrastructure. Floyd passed relatively close to the entire U.S. east coast, justifying hurricane warnings from Florida to Massachusetts and requiring an estimated two million people to evacuate. The last hurricane to require warnings for as large a stretch of coastline was Hurricane Donna in 1960.

Hurricane Bonnie (8/26/1998)

The landfall location of Bonnie was in southern North Carolina near Cape Fear very close to landfall of both Hurricanes Bertha and Fran in 1996. Even though a powerful storm, damage from Bonnie was much less than Fran, which was also Category 3. Winds gusted up to 100 knots and storm tides of 5 to 8 feet above normal were reported mainly in eastern beaches of Brunswick County, while a storm surge of 6 feet was reported at Pasquotank and Camden Counties in the Albemarle Sound.

Hurricane Fran (9/5/1996)

The landfall location of Fran near the city of Wilmington and its progression into the Raleigh-Durham area caused an estimated \$1.275 billion in damage in North Carolina alone. Fran hit with gusts up to 105 mph and a storm surge of approximately 16 feet. Over \$1 billion in damage was reported in North Topsail Beach and Surf City and 23 people were killed.

**Hurricane Bertha
(7/12/1996)**

1996 was a damaging year in the hurricane history of North Carolina. Tropical Storm Arthur, Hurricane Bertha, and Hurricane Fran all made direct landfall on the North Carolina coastline. It was the most active tropical cyclone season in the state since 1955, when Hurricanes Connie, Diane, and Irene all hit the coast. Bertha entered North Carolina in North Topsail Beach with 105 mph gust and a storm surge of approximately 5 feet.

**Hurricane Gloria
(9/26/1985)**

The landfall location of Gloria was Cape Hatteras, with 90 knot winds and a storm surge of approximately 6-8 feet.

**Hurricane Diana
(9/13/1984)**

The landfall location of Diana was 38 miles south of Wilmington with 90 mph winds at its closest approach to Wilmington. Diana had 115 mph sustained winds before landfall. Storm surge was approximately 5-6 feet.

Table 5, "Historic Flood Elevations", lists selected flooding sources in Johnston County with records of past stages. The table shows the historic peak, a location description, approximate stream station, the date of the historic peak, and approximate recurrence interval of the flood elevation. The approximate recurrence interval for a flood is often estimated based on an analysis of rainfall amounts from a storm and /or stream gage data.

Table 5 - Historic Flood Elevations

Flooding Source/Tropical Storm	Location Description	Approx. Stream Station	Historic Peak (Feet NAVD 88)	Date	Approximate Recurrence Interval (in years)
Bawdy Swamp / Hurricane Floyd	3913 Stevens Chapel Road, Smithville	4847	113.8	9/1/1999	100
Bull Branch / Unknown Storm	Flower Road	5878	169.6	1/1/1994	100
Little River / Hurricane Floyd	Just upstream of Zebulon Road	416200	307.0	9/1/1996	100
Little River / Hurricane Floyd	4811 NC 231, Zebulon	334089	202.8	9/1/1999	100
Little River / Hurricane Floyd	Approximately 0.3 mile downstream of Wheeler Creek	366000	229.5	9/1/1999	100
Little River / Hurricane Floyd	Upstream of Highway 98	457531	342.4	9/1/1999	100
Little River / Hurricane Fran	Just upstream of State Highway 97	372000	236.1	9/1/1996	100
Marks Creek / Unknown Storm	500 Windless Trail, Clayton	11685	167.6	9/1/1996	100
Mill Creek (South) / Hurricane Floyd	1534 Olvens Grove Road, Four Oak	12558	151.5	9/1/1999	100
Moccasin Creek / Hurricane Floyd	Downstream of Pearces Road	111461	262.2	9/1/1999	100
Neuse River / Hurricane Floyd	Downstream face of Main Street	591830	54.9	9/1/1999	50
Neuse River / Hurricane Floyd	Downstream face of NC 111	636585	61.7	9/1/1999	50
Neuse River / Hurricane Floyd	Upstream face of SR 1915	694195	71.1	9/1/1999	50
Neuse River / Hurricane Floyd	160 feet Southeast of Bryan Boulevard	710650	72.8	9/1/1999	50
Swift Creek / Hurricane Fran	Golf Course Green approximately 700 feet upstream of confluence from Lens Branch (Basin 20, Stream 22)	241000	309.8	9/1/1996	100
Swift Creek / Hurricane Fran	Golf course maintenance shed	238300	311.2	9/1/1996	100

* Data Not Available

4.4 Flood Protection Measures

Flood protection measures may be structural (such as levees, dams, and reservoirs) or non-structural (such as land-use management ordinances, policies, or practices).

Table 6, "Non-Levee Flood Protection Measures" is not applicable in Johnston County.

Table 7, "Levees" is not applicable in Johnston County.

4.5 Scope of Study

For this map maintenance revision, a scoping meeting was held in Johnston County to present the results of initial research to the

county and communities within the county and to discuss their floodplain mapping needs. The county and communities were asked to provide input on proposed study priorities and analysis methods. These meetings resulted in the identification of flooding sources having a floodplain mapping need. Map Maintenance Plans were developed based on the results of the scoping meetings and were both mailed to each jurisdiction within Johnston County and posted to the State's website at www.ncfloodmaps.com.

Draft basin plans were developed based on the results of the initial scoping meetings. Final scoping meetings were held by the State and FEMA to provide counties and communities an overview of the draft basin plans, including the proposed scope and schedule for the project, and to provide an opportunity for additional county and community input. After the final scoping meeting was held, the Final Basin Plans were produced.

This FIS covers the geographic area of Johnston County, North Carolina, and all jurisdictions therein. The areas studied by detailed methods were selected with priority given to all known flood hazard areas and areas of projected development and proposed construction. Limits of detailed study are indicated on the Flood Profiles and/or Water-surface elevation rasters and/or the FIRM.

Table 8P, "Scope of Revisions: Revised or New Detailed Study -Preliminary", lists flooding sources that were newly studied by detailed methods or were previously studied by detailed methods and had a change in backwater elevation due to flooding effects from a newly studied flooding source.

Table 8P - Scope of Revisions: Revised or New Detailed Study - Preliminary

Source	Riverine Sources		Affected Communities
	From	To	
Black Creek	The confluence with Neuse River	Approximately 230 feet upstream of NC Highway 210	Johnston County Town Of Four Oaks Town Of Smithfield
Buffalo Creek	The confluence with Neuse River	Approximately 300 feet upstream of U.S. Highway 301	Town Of Smithfield
Buffalo Creek (Basin 9, Stream 1)	The confluence with Little River	Approximately 720 feet upstream of NC Highway 42	Johnston County
Buffalo Creek West	The confluence with Middle Creek	The Johnston/Wake County boundary	Johnston County
Hannah Creek	The confluence with Mill Creek (South)	Approximately 1,800 feet upstream of Interstate 95	Johnston County
Little Creek	The confluence with Swift Creek	The confluence with Swift Creek	Johnston County Town Of Clayton
Little Creek Tributary	The confluence with Little Creek	Approximately 770 feet upstream of U.S. Highway 70	Town Of Clayton
Little Poplar Creek	The confluence with Poplar Creek	Approximately 260 feet upstream of U.S. Highway 70	Johnston County Town Of Smithfield Town Of Wilson's Mills
Little River	At confluence with Neuse River	Approximately 1.0 mile upstream of the Wayne/Johnston County Boundary	Johnston County
Middle Creek	The confluence with Swift Creek	The Johnston/Wake County boundary	Johnston County Town Of Smithfield
Mill Branch	The confluence with Mill Creek (South)	Approximate 2.4 miles upstream of Harper House Road	Johnston County
Mill Creek (South)	The confluence with Neuse River	Approximate 0.8 mile upstream of confluence of Stone Creek	Johnston County
Moccasin Creek	Approximately 3,425 feet downstream of Buckleberry Road	Approximately 0.4 mile upstream of U.S. Highway 70	Johnston County Town Of Princeton
Moccasin Creek	At confluence with Neuse River	Wayne/Johnston County boundary	Johnston County
Neuse River	The Johnston/Wayne County boundary	Just downstream of Mial Plantation Road	Johnston County Town Of Clayton Town Of Four Oaks Town Of Selma Town Of Smithfield Town Of Wilson's Mills
Sams Creek	Approximately 0.7 mile upstream of Oneil Street	Approximately 270 feet upstream of City Road	Town Of Clayton
Spring Branch	The confluence with Neuse River	Collier Street	Town Of Smithfield
Stone Creek	The confluence with Mill Creek (South)	Approximately 1,640 feet upstream of U.S. Highway 701	Johnston County
Stony Fork	The confluence with Hannah Creek	Approximately 1,550 feet upstream of U.S. Highway 301	Johnston County
Swift Creek	The confluence with Neuse River	The Johnston/Wake County boundary	Johnston County Town Of Smithfield
Unnamed Tributary (#1) to Swift Creek	The confluence with Swift Creek	The Johnston/Wake County boundary	Johnston County
Unnamed Tributary (#2) to Swift Creek	The confluence with Swift Creek	Approximately 190 feet upstream of Cornwallis Road	Johnston County
White Oak Creek	The confluence with Swift Creek	The Johnston/Wake County boundary	Johnston County Town Of Clayton

Table 9P, "Scope of Revisions: Redelineated - Preliminary", contains a list of flooding sources that were studied by detailed methods for previous FISs, but were only partially revised in the current study. Their effective analyses remain valid; however, their floodplain delineations have been revised on the current FIRM.

Table 9P - Scope of Revisions: Redelineated - Preliminary

Source	Riverine Sources		Affected Communities
	From	To	
Poplar Creek ¹	The confluence with the Neuse River	Approximately 0.3 mile upstream of Wilson's Mills Road	Town Of Smithfield Town Of Wilson's Mills

¹Revised to reflect backwater effects from new detailed study

Table 10P, "Scope of Revisions: Limited Detailed - Preliminary", lists flooding sources that were newly studied by limited detailed methods or were previously studied by limited detailed methods and had a change in backwater elevation due to flooding effects from a newly studied flooding source.

Table 10P - Scope of Revisions: Limited Detailed - Preliminary

Source	Riverine Sources		Affected Communities
	From	To	
Arters Branch ¹	The confluence with the Neuse River	Approximately 635 feet downstream of Galilee Road	Town Of Smithfield
Bawdy Creek ¹	The confluence with the Neuse River	Approximately 1.7 miles upstream of confluence with Neuse River	Johnston County
Beaverdam Swamp ¹	The confluence with Hannah Creek	Approximately 2,900 feet upstream of Parkertown Road	Johnston County Town Of Four Oaks
Beddingfield Creek	Approximately 0.4 mile upstream of the confluence with Neuse River	Approximately 385 feet downstream of Shotwell Road	Town Of Clayton
Bernal Branch ¹	The confluence with Hannah Creek	Just downstream of Mulberry Road	Johnston County
Black Creek Tributary ¹	The confluence with Black Creek	Approximately 1,500 feet upstream of confluence with Black Creek	Johnston County
Buffalo Creek ¹	The confluence with Middle Creek	Approximately 0.54 mile upstream of confluence with Middle Creek	Johnston County
Buffalo Creek	U.S. Highway 301	Approximately 1,000 feet upstream of U.S. Highway 70	Town Of Selma Town Of Smithfield
Burnt Stocking Branch	The confluence with Little Creek	Approximately 0.5 mile upstream of Pine Level Micro Road	Johnston County
Camp Branch ¹	The confluence with Black Creek	Approximately 620 feet upstream of confluence with Black Creek	Johnston County
Cooper Branch ¹	The confluence with Swift Creek	Approximately 0.3 mile upstream of Little Creek Church Road	Johnston County
Cow Branch	The confluence with Middle Creek	Approximately 0.9 mile upstream of Sommerset Drive	Johnston County
Dicks Branch ¹	The confluence with Black Creek	Approximately 0.37 mile upstream of confluence with Black Creek	Johnston County
Hardee Mill Branch ¹	The confluence with Black Creek	Approximately 690 feet downstream of Benson-Hardee Road	Johnston County
Johnson Swamp ¹	The confluence with Stone Creek	Approximately 1,450 feet upstream of confluence with Stone Creek	Johnston County
Juniper Swamp ¹	The confluence with Hannah Creek	Approximately 1,825 upstream of Webb Mill Road	Johnston County Town Of Four Oaks
Little Black Creek ¹	The confluence with Black Creek	Approximately 1,200 feet upstream of confluence with Black Creek	Johnston County
Little Creek (Into Middle Creek)	The confluence with Middle Creek	Approximately 0.80 mile upstream of confluence with Middle Creek	Johnston County
Marks Creek	The confluence with the Neuse River	Approximately 254 feet upstream of confluence with Marks Creek Tributary	Johnston County Johnston County Town Of Clayton Town Of Clayton
Marks Creek Tributary	The confluence with Marks Creek	Approximately 0.9 mile upstream of the confluence with Marks Creek	Town Of Clayton
McCullens Branch ¹	The confluence with Black Creek	Approximately 720 feet upstream of Old Fairground Road	Johnston County
Mill Creek (Near Clayton) ¹	The confluence with the Neuse River	Approximately 0.54 mile downstream of NC Highway 42	Johnston County
Mill Creek (Near Selma) ¹	The confluence with the Neuse River	Approximately 640 feet downstream of Buffalo Road	Town Of Selma Town Of Smithfield
Mill Creek Tributary 2 ¹	The confluence with Mill Creek (South)	Approximately 225 feet upstream of Bentonville Road	Johnston County
Mill Creek Tributary 3 ¹	The confluence with Mill Creek (South)	Approximately 1,750 downstream of Shaw's Pond Road	Johnston County

Table 10P - Scope of Revisions: Limited Detailed - Preliminary

Source	Riverine Sources		Affected Communities
	From	To	
Mill Creek Tributary 6 ¹	The confluence with Mill Creek (South)	Approximately 0.42 mile upstream of Bentonville Road	Johnston County
Moccasin Swamp	U.S. Highway 70	Approximately 0.6 mile upstream of Lizzie Mill Road	Town Of Pine Level Town Of Selma
Neuse River Tributary 1	The confluence with Neuse River	Approximately 0.5 mile upstream of Country Valley Place	Town Of Wilson's Mills
Neuse River Tributary 2	The confluence with Neuse River	Approximately 1,780 feet upstream of Vinson Road	Johnston County
Oak Creek ¹	The confluence with Stone Creek	Just upstream of Oak Forest Road	Johnston County
Pole Branch ¹	The confluence with Black Creek	Approximately 0.6 mile upstream of confluence with Black Creek	Johnston County
Polecat Branch ¹	Approximately 0.8 mile downstream of Brogden Road	Approximately 0.54 mile downstream of Brogden Road	Johnston County Town Of Smithfield
Poplar Creek	Approximately 300 feet downstream of U.S. Highway 70	Approximately 0.7 mile upstream of Wilsons Mills Road	Town Of Wilson's Mills
Reedy Creek ¹	The confluence with Black Creek	Just upstream of King Mill Road	Johnston County
Sams Creek ¹	Approximately 0.4 mile downstream of the confluence with Neuse River	Approximately 0.65 mile upstream of confluence with Neuse River	Town Of Clayton
Stone Creek	Approximately 1,640 feet upstream of U.S. Highway 70	Approximately 0.4 mile upstream of Interstate 40	Johnston County
Stone Creek Tributary ¹	The confluence with Stone Creek	Approximately 950 upstream of confluence with Stone Creek	Johnston County
Swift Creek Tributary 3	The confluence with Swift Creek	Approximately 1,750 feet upstream of U.S. Highway 70	Town Of Smithfield

¹Revised to reflect backwater effects from new detailed study

Table 8, "Flooding Sources Studied by Detailed Methods", lists all flooding sources within the county that were studied by detailed methods for this FIS and previous FISs.

Table 8 - Flooding Sources Studied by Detailed Methods: Revised or Newly Studied

Source	Riverine Sources		Affected Communities
	From	To	
Black Creek	The confluence with Neuse River	Approximately 230 feet upstream of NC Highway 210	Johnston County Town Of Four Oaks Town Of Smithfield
Buffalo Creek	The confluence with Neuse River	Approximately 300 feet upstream of U.S. Highway 301	Town Of Smithfield
Buffalo Creek (Basin 9, Stream 1)	The confluence with Little River	Approximately 720 feet upstream of NC Highway 42	Johnston County
Buffalo Creek West	The confluence with Middle Creek	The Johnston/Wake County boundary	Johnston County
Hannah Creek	The confluence with Mill Creek (South)	Approximately 1,800 feet upstream of Interstate 95	Johnston County
Little Creek	The confluence with Swift Creek	The confluence with Swift Creek	Johnston County Town Of Clayton
Little Creek Tributary	The confluence with Little Creek	Approximately 770 feet upstream of U.S. Highway 70	Town Of Clayton
Little Poplar Creek	The confluence with Poplar Creek	Approximately 260 feet upstream of U.S. Highway 70	Johnston County Town Of Smithfield Town Of Wilson's Mills
Little River	At confluence with Neuse River	Approximately 1.0 mile upstream of the Wayne/Johnston County Boundary	Johnston County
Little River	The Johnston/Wayne County boundary	Approximately 1,600 feet upstream of State Highway 42	Johnston County Town Of Kenly Town Of Micro Town Of Princeton
Little River	The Wake/Johnston County Boundary	Approximately 300 feet upstream of confluence of Perry Creek (Basin 10, Stream 19)	Johnston County
Middle Creek	The confluence with Swift Creek	The Johnston/Wake County boundary	Johnston County Town Of Smithfield
Mill Branch	The confluence with Mill Creek (South)	Approximate 2.4 miles upstream of Harper House Road	Johnston County
Mill Creek (South)	The confluence with Neuse River	Approximate 0.8 mile upstream of confluence of Stone Creek	Johnston County
Moccasin Creek	Approximately 3,425 feet downstream of Buckleberry Road	Approximately 0.4 mile upstream of U.S. Highway 70	Johnston County Town Of Princeton
Moccasin Creek	At confluence with Neuse River	Approximately 3,425 feet downstream of Buckleberry Road	Johnston County

Table 8 - Flooding Sources Studied by Detailed Methods: Revised or Newly Studied

Source	Riverine Sources		Affected Communities
	From	To	
Neuse River	The Johnston/Wayne County boundary	Just downstream of Mial Plantation Road	Johnston County Town Of Clayton Town Of Four Oaks Town Of Selma Town Of Smithfield Town Of Wilson's Mills
Neuse River	Wayne/Lenoir County boundary	Wayne/Johnston County boundary	Johnston County Town Of Clayton Town Of Four Oaks Town Of Selma Town Of Smithfield Town Of Wilson's Mills
Sams Creek	Approximately 0.7 mile upstream of Oneil Street	Approximately 270 feet upstream of City Road	Town Of Clayton
Spring Branch	The confluence with Neuse River	Collier Street	Town Of Smithfield
Stone Creek	The confluence with Mill Creek (South)	Approximately 1,640 feet upstream of U.S. Highway 701	Johnston County
Stony Fork	The confluence with Hannah Creek	Approximately 1,550 feet upstream of U.S. Highway 301	Johnston County
Swift Creek	The confluence with Neuse River	The Johnston/Wake County boundary	Johnston County Town Of Smithfield
Unnamed Tributary (#1) to Swift Creek	The confluence with Swift Creek	The Johnston/Wake County boundary	Johnston County
Unnamed Tributary (#2) to Swift Creek	The confluence with Swift Creek	Approximately 190 feet upstream of Cornwallis Road	Johnston County
White Oak Creek	The confluence with Swift Creek	The Johnston/Wake County boundary	Johnston County Town Of Clayton

Table 9, "Flooding Sources Studied by Detailed Methods: Redelineated", lists all flooding sources that were studied by detailed methods for the pre- statewide FIS and redelineated for previous FISs. These flooding sources were not part of this revision and their effective analyses remain valid.

Table 9 - Flooding Sources Studied by Detailed Methods: Redelineated

Source	Riverine Sources		Affected Communities
	From	To	
Poplar Creek	The confluence with the Neuse River	Approximately 1.4 miles upstream of the confluence with Little Poplar Creek	Town Of Smithfield Town Of Wilson's Mills

Table 10, "Flooding Sources Studied by Detailed Methods: Limited Detailed", lists all flooding sources within the county that were studied by limited detailed methods for either this FIS or previous FISs.

Table 10 - Flooding Sources Studied by Detailed Methods: Limited Detailed

Source	Riverine Sources		Affected Communities
	From	To	
Arters Branch	The confluence with the Neuse River	Approximately 300 feet upstream of North Johnson Road	Town Of Smithfield
Basin 11, Stream 7	The Wake/Johnston County boundary	Approximately 0.4 mile upstream of Wake/Johnston County boundary	Johnston County
Bawdy Creek	The confluence with the Neuse River	The confluence with Bawdy Swamp and Quincosin Swamp	Johnston County
Bawdy Swamp	The confluence with Bawdy Creek	Approximately 0.8 mile upstream of HWY 70	Johnston County Town Of Pine Level
Beaverdam Branch	The confluence with Middle Creek	Approximately 100 feet downstream of Raleigh Road	Johnston County
Beaverdam Creek	At Rosewood Road	Approximately 575 feet downstream of Pierce Street	Johnston County Town Of Princeton
Beaverdam Swamp	The confluence with Hannah Creek	Approximately 1,300 feet upstream of Tetersville Road	Johnston County Town Of Four Oaks
Beddingfield Creek	Approximately 0.4 mile upstream of the confluence with Neuse River	Approximately 0.2 mile upstream of Shotwell Road	Town Of Clayton
Bernal Branch	The confluence with Hannah Creek	Approximately 1.3 miles upstream of Olivers Grove Road	Johnston County
Big Arm Creek	The confluence with Marks Creek	Approximately 0.6 mile upstream of Medlin Road	Johnston County Town Of Clayton
Big Branch	The confluence with the Little River	Approximately 1,300 feet upstream of Micro Road West	Johnston County Town Of Micro

Table 10 - Flooding Sources Studied by Detailed Methods: Limited Detailed

Source	Riverine Sources		Affected Communities
	From	To	
Black Creek	Approximately 260 feet upstream of State HWY 210	Approximately 1.0 mile upstream of dam along Black Creek (Basin 23, Stream 1)	Johnston County
Black Creek Tributary	The confluence with Black Creek	Approximately 0.3 mile upstream of Plainview Church Road	Johnston County
Buffalo Creek	U.S. Highway 301	Approximately 1,000 feet upstream of U.S. Highway 70	Town Of Selma Town Of Smithfield
Buffalo Creek (Basin 9, Stream 1)	State Highway 42	The Johnston/Wake County boundary	Johnston County
Bull Branch	The confluence with Moccasin Creek	Approximately 0.2 mile upstream of Woodard's Dairy Road	Johnston County
Burnt Stocking Branch	The confluence with Little Creek	Approximately 0.5 mile upstream of Pine Level Micro Road	Johnston County
Camp Branch	The confluence with Black Creek	Approximately 0.3 mile upstream of Stephenson Road crossing	Johnston County
Cattail Creek	The confluence with the Little River	Approximately 0.2 mile upstream of Harris Wilson Road	Johnston County
Cooper Branch	The confluence with Swift Creek	Approximately 0.3 mile upstream of Little Creek Church Road	Johnston County
Cow Branch	The confluence with Middle Creek	Approximately 0.9 mile upstream of Sommerset Drive	Johnston County
Dicks Branch	The confluence with Black Creek	Approximately 0.4 mile upstream of Zacks Mill Road	Johnston County
Dismal Branch	The confluence with Johnson Swamp	Approximately 0.4 mile upstream of Meadowbrook Road	Johnston County
East Mingo Creek	The confluence with Mingo Swamp	Approximately 0.8 miles upstream of Banner Elk Road	Town Of Benson
Hannah Creek	Approximately 250 feet upstream of the confluence with Stony Fork	Approximately 1,500 feet upstream of Morgan Road	Johnston County Town Of Benson
Hannah Creek Tributary 2	The confluence with Hannah Creek	Approximately 500 feet upstream of Tarheel Road	Johnston County Town Of Benson
Hardee Mill Branch	The confluence with Black Creek	Approximately 1.2 miles upstream of the confluence with Black Creek	Johnston County
Hogpen Branch	The confluence with Bernal Branch	Approximately 0.5 mile upstream of Hummingbird Road	Johnston County
Johnson Swamp	The confluence with Stone Creek	Approximately 0.2 mile upstream of State Highway 96	Johnston County
Johnson Swamp Tributary	The confluence with Johnson Swamp	Approximately 0.2 mile upstream of State HWY 96	Johnston County
Jumping Run	The confluence with Mill Creek (South)	Approximately 1.1 miles upstream of Jumping Road	Johnston County
Juniper Swamp	The confluence with Hannah Creek	Approximately 0.3 mile upstream of Interstate 95	Johnston County Town Of Four Oaks
Juniper Swamp Tributary 1	The confluence with Juniper Swamp	Approximately 0.8 mile upstream of State HWY 96	Town Of Four Oaks
Juniper Swamp Tributary 2	The confluence with Juniper Swamp Tributary 1	Approximately 400 feet downstream of Keen Road	Town Of Four Oaks
Little Bernal Branch	The confluence with Bernal Branch	Approximately 0.4 mile upstream of the confluence with Bernal Branch	Johnston County
Little Black Creek	The confluence with Black Creek	Approximately 0.6 mile upstream of Walter Myatt Road	Johnston County
Little Buffalo Creek	The confluence with the Little River	Approximately 1.3 miles upstream of Meadow Road	Johnston County
Little Buffalo Creek Tributary	The confluence with Little Buffalo Creek	Approximately 0.6 mile upstream of HWY 222	Johnston County Town Of Kenly
Little Creek (Basin 11, Stream 2)	The confluence with Moccasin Creek	Approximately 0.3 mile downstream of Highway 39	Johnston County
Little Creek (Into Middle Creek)	The confluence with Middle Creek	Approximately 2.3 miles upstream of the confluence of Juniper Branch	Johnston County
Little Creek (Near Micro)	The confluence with the Little River	Approximately 0.5 mile upstream of Hawkins Road	Johnston County Town Of Micro Town Of Selma
Little River	Approximately 1,600 feet upstream of State Highway 42	The Johnston/Wake County boundary	Johnston County
Little River Tributary 1	The confluence with the Little River	Approximately 0.4 mile upstream of Hwy 42	Johnston County
Little Swamp Branch	The confluence with Mill Creek (South)	Approximately 3,758 feet upstream of Holly Grove Road	Johnston County
Little Swamp Branch Tributary 1	The confluence with Little Swamp Branch	Approximately 0.5 mile upstream of T-Bar Road	Johnston County
Little Swamp Branch Tributary 2	The confluence with Little Swamp Branch	Approximately 720 feet upstream of the confluence with Little Swamp Branch	Johnston County
Long Branch	The confluence with the Little River	Approximately 0.7 mile upstream of NC 96	Johnston County
Marks Creek	The confluence with the Neuse River	Approximately 0.8 mile downstream of Knightdale Eagle Rock Road	Johnston County Town Of Clayton

Table 10 - Flooding Sources Studied by Detailed Methods: Limited Detailed

Source	Riverine Sources		Affected Communities
	From	To	
Marks Creek Tributary	The confluence with Marks Creek	Approximately 0.9 mile upstream of the confluence with Marks Creek	Town Of Clayton
McCullens Branch	The confluence with Black Creek	Approximately 0.5 mile upstream of Ridge Road	Johnston County
Mill Creek (Near Clayton)	The confluence with the Neuse River	Approximately 1.0 mile upstream of Motorcycle Road	Johnston County
Mill Creek (Near Selma)	The confluence with the Neuse River	Approximately 1.4 miles upstream of River Road	Town Of Selma Town Of Smithfield
Mill Creek (South)	Approximately 0.7 mile upstream of the confluence with Stone Creek	Approximately 0.5 mile upstream of NC 96	Johnston County
Mill Creek Tributary 2	The confluence with Mill Creek (South)	Approximately 225 feet upstream of Bentonville Road	Johnston County
Mill Creek Tributary 3	The confluence with Mill Creek (South)	Approximately 0.4 mile upstream of Shaws Pond Road	Johnston County
Mill Creek Tributary 4	The confluence with Mill Creek (South)	Approximately 0.4 mile upstream of Harper House Road	Johnston County
Mill Creek Tributary 5	The confluence with Mill Creek (South)	Approximately 0.5 mile upstream of Harper House Road	Johnston County
Mill Creek Tributary 6	The confluence with Mill Creek (South)	Approximately 0.1 mile upstream of Bentonville Road	Johnston County
Mill Swamp Branch	The confluence with Little Swamp Branch	Approximately 0.1 mile upstream of Holly Grove Road	Johnston County
Mingo Swamp Tributary 2	The Johnston/Harnett County boundary	Approximately 425 feet upstream of NC Highway 27	Town Of Benson
Moccasin Creek	60 feet downstream of Buckhorn Reservoir Dam	Approximately 400 feet upstream of the confluence with Little Creek (Basin 11, Stream 2), Downstream Reach	Johnston County
Moccasin Creek	Approximately 1,900 feet upstream of US Highway 70	US Highway 70 Alternate	Johnston County Town Of Pine Level
Moccasin Creek Tributary 1	The confluence with Moccasin Creek	Approximately 0.6 mile upstream of Highway 222	Johnston County
Moccasin Creek Tributary 2	The confluence with Moccasin Creek	Approximately 0.3 mile upstream of Buck Road	Johnston County
Moccasin Swamp	U.S. Highway 70	Approximately 0.6 mile upstream of Lizzie Mill Road	Town Of Pine Level Town Of Selma
Neuse River Tributary 1	The confluence with Neuse River	Approximately 0.5 mile upstream of Country Valley Place	Town Of Wilson's Mills
Neuse River Tributary 2	The confluence with Neuse River	Approximately 1,780 feet upstream of Vinson Road	Johnston County
Oak Creek	The confluence with Stone Creek	Approximately 1.1 miles upstream of White Oak Road	Johnston County
Oak Creek Tributary	The confluence with Oak Creek	Approximately 1.2 miles upstream of the confluence with Oak Creek	Johnston County
Pole Branch	The confluence with Black Creek	Approximately 0.4 mile upstream of I-40	Johnston County
Polecat Branch	Approximately 0.8 mile downstream of Brogden Road	Approximately 2.2 miles upstream of Brogden Road	Johnston County Town Of Smithfield
Poplar Creek	Approximately 300 feet downstream of U.S. Highway 70	Approximately 0.7 mile upstream of Wilsons Mills Road	Town Of Wilson's Mills
Quincosin Swamp	The confluence with Bawdy Swamp	Approximately 2.3 miles upstream of Red House Road	Johnston County
Reedy Creek	The confluence with Black Creek	Approximately 1.4 miles upstream of King Mill Road	Johnston County
Reedy Prong	The confluence with Mill Creek (South)	Approximately 0.2 mile upstream of the confluence with Reedy Prong Tributary	Johnston County
Reedy Prong Tributary	The confluence with Reedy PRong	Approximately 200 feet upstream of Thornton Road	Johnston County
Sams Creek	Approximately 0.4 mile downstream of the confluence with Neuse River	Approximately 350 feet upstream of City Road	Town Of Clayton
Snipes Creek	The confluence with the Little River	Approximately 0.6 mile upstream of State Highway 96	Johnston County
Spring Branch	The confluence with the Little River	Approximately 200 feet downstream of Cuddington Road	Johnston County
Spring Branch Tributary 1	The confluence with Spring Branch	Approximately 1,900 feet upstream of Rhodes Road	Johnston County
Stone Creek	Approximately 1,640 feet upstream of U.S. Highway 701	Approximately 0.4 mile upstream of Interstate 40	Johnston County
Stone Creek Tributary	The confluence with Stone Creek	Approximately 0.5 mile upstream of Adams Road	Johnston County
Stony Fork	Approximately 1,550 feet upstream of US HWY 301	Approximately 0.6 mile upstream of Shade Tree Road	Johnston County
Stony Fork Tributary	The confluence with Stony Fork	Approximately 300 feet upstream of Interstate 40	Johnston County
Swift Creek Tributary 3	The confluence with Swift Creek	Approximately 1,750 feet upstream of U.S. Highway 70	Town Of Smithfield

Table 11, "Stream Name Changes" is not applicable in Johnston County.

Table 12, "Letters of Map Revision" is not applicable in Johnston County.

5.0 Engineering Methods

For the flooding sources in the community, standard hydrologic and hydraulic study methods were used to determine the flood hazard data required for this study. Flood events of a magnitude that are expected to be equaled or exceeded at least once on the average during any 10-, 25-, 50-, 100-, or 500-year period (recurrence interval) have been selected as having special significance for floodplain management and for flood insurance rates. These events, commonly termed the 10-, 25-, 50-, 100-, and 500-year floods, have a 10-, 4-, 2-, 1-, and 0.2% annual chance, respectively, of being equaled or exceeded during any year. Although the recurrence interval represents the long-term, average period between floods of a specific magnitude, rare floods could occur at short intervals or even within the same year. The risk of experiencing a rare flood increases when periods greater than 1 year are considered. For example, the risk of having a flood that equals or exceeds the 100-year flood (1-percent chance of annual exceedance) during the term of a 30-year mortgage is approximately 26 percent (about 3 in 10); for any 90-year period, the risk increases to approximately 60 percent (6 in 10). The analyses reported herein reflect flooding potentials based on conditions existing in the community at the time of completion of this study. Maps and flood elevations will be amended periodically to reflect future changes.

5.1 Hydrologic Analyses

Hydrologic analyses were carried out to establish the peak elevation-frequency relationships for floods of the selected recurrence intervals for each flooding source studied. Hydrologic analyses are typically performed at the watershed level. Depending on factors such as watershed size and shape, land use and urbanization, and natural or man-made storage, various models or methodologies may be applied. For details on the county's hydrologic analyses, the hydrologic report is available by request.

A summary of the drainage area-peak discharge relationships for the flooding sources studied by detailed methods is shown in Table 13, "Summary of Discharges".

Table 13 - Summary of Discharges

Flooding Source		Discharges (cfs)				
Location	Drainage Area (square miles)	10% Annual Chance	2% Annual Chance	1% Annual Chance	1% Annual Future Annual Chance	0.2% Annual Chance
Arters Branch						
Approximately 0.1 mile upstream of Galilee Road	3.23	*	*	908	*	*
Approximately 0.5 mile upstream of Galilee Road	3.03	*	*	877	*	*
Approximately 0.4 mile downstream of Johnson Road	2.48	*	*	782	*	*
Approximately 0.1 mile upstream of Johnson Road	2.06	*	*	704	*	*
Basin 11, Stream 7						
Approximately 80 feet downstream of Wake/Johnston County boundary	0.38	*	*	406	737	*
Basin 20, Stream 5						
Approximately 600 feet downstream of Wake/Johnston County boundary	0.87	*	*	433	*	*
Bawdy Creek						
Approximately 0.6 mile downstream of Brogden Road	24.42	*	*	5490	*	*
Approximately 40 feet upstream of Brogden Road	22.38	*	*	5200	*	*
Approximately 0.3 mile upstream of Brogden Road	21.65	*	*	5090	*	*
Approximately 0.5 mile upstream of Brogden Road	21.05	*	*	5000	*	*
Approximately 1.8 miles downstream of Bakers Chapel Road	20.43	*	*	4910	*	*
Approximately 1.5 miles downstream of Bakers Chapel Road	19.88	*	*	4830	*	*
Approximately 0.9 mile downstream of Bakers Chapel Road	19.22	*	*	4730	*	*
Approximately 0.5 mile downstream of Bakers Chapel Road	18.71	*	*	4650	*	*

Table 13 - Summary of Discharges

Flooding Source		Discharges (cfs)				
Location	Drainage Area (square miles)	10% Annual Chance	2% Annual Chance	1% Annual Chance	1% Annual Future Annual Chance	0.2% Annual Chance
Approximately 0.3 mile upstream of Bakers Chapel Road	18.16	*	*	4560	*	*
Bawdy Swamp						
Approximately 0.2 mile upstream of the confluence with Bawdy Creek	11.50	*	*	3430	*	*
Approximately 0.4 mile downstream of Stevens Chapel Road	11.31	*	*	3390	*	*
Approximately 0.3 mile upstream of Stevens Chapel Road	10.61	*	*	3260	*	*
Approximately 0.7 mile upstream of Stevens Chapel Road	9.91	*	*	3120	*	*
Approximately 1.1 miles upstream of Stevens Chapel Road	9.17	*	*	2980	*	*
Approximately 1.6 miles downstream of Creechs Mill Road	7.93	*	*	2720	*	*
Approximately 0.4 mile downstream of Creechs Mill Road	7.64	*	*	2660	*	*
Approximately 0.3 mile upstream of Creechs Mill Road	6.31	*	*	2360	*	*
Approximately 0.6 mile downstream of Highway 70 BUS	4.33	*	*	1860	*	*
Approximately 0.1 mile downstream of Highway 70 BUS	3.74	*	*	1700	*	*
Approximately 0.6 mile upstream of Highway 70	3.06	*	*	1500	*	*
Approximately 0.8 mile upstream of Highway 70	2.49	*	*	1320	*	*
Beaverdam Branch						
Approximately 0.7 mile upstream of the confluence with Middle Creek	4.11	*	*	1040	*	*
Approximately 0.9 mile upstream of the confluence with Middle Creek	3.23	*	*	909	*	*
Approximately 1.1 miles upstream of the confluence with Middle Creek	3.16	*	*	898	*	*
Approximately 1.2 miles upstream of the confluence with Middle Creek	2.74	*	*	829	*	*
Beaverdam Creek						
Approximately 0.6 mile downstream of Luby Smith Road	3.10	*	*	1500	*	*
Approximately 0.33mile upstream of Luby Smith Road	2.45	*	*	1300	*	*
Approximately 0.4 mile downstream of Pineview Street	0.94	*	*	716	*	*
Approximately 0.3 mile downstream of Pierce Street	0.76	*	*	626	*	*
Beaverdam Swamp						
Approximately 0.6 mile upstream of the confluence with Hannah Creek	1.39	*	*	915	*	*
Approximately 0.2 mile upstream of Tetterville Road	1.02	*	*	756	*	*
Beddingfield Creek						
Approximately 0.1 mile downstream of Shotwell Road	4.48	*	*	1900	*	*
Bernal Branch						
Approximately 0.1 mile upstream Interstate 95	4.68	*	*	1950	*	*
Approximately 0.3 mile downstream of Highway 301	3.56	*	*	1650	*	*
Approximately 0.3 mile upstream of Highway 301	3.27	*	*	1560	*	*
Approximately 0.1 mile downstream of Olivers Grove Road	1.99	*	*	1140	*	*
Approximately 0.3 mile upstream of Olivers Grove Road	1.74	*	*	1050	*	*
Approximately 1.2 miles upstream of Olivers Grove Road	1.03	*	*	757	*	*
Approximately 1.3 miles upstream of Olivers Grove Road	0.76	*	*	628	*	*
Big Arm Creek						
At the confluence with Marks Creek	4.14	*	*	1810	*	*
Approximately 0.5 mile upstream of Medlin Rd	1.58	*	*	990	*	*
Big Branch						
Just downstream of Lowell Mill Road	3.87	*	*	1730	*	*
Approximately 0.1 mile upstream of Peele Farm Road	3.44	*	*	1610	*	*

Table 13 - Summary of Discharges

Flooding Source		Discharges (cfs)				
Location	Drainage Area (square miles)	10% Annual Chance	2% Annual Chance	1% Annual Chance	1% Annual Future Annual Chance	0.2% Annual Chance
Approximately 0.3 mile upstream of Interstate 95	2.44	*	*	1300	*	*
Approximately 0.3 mile upstream of Oak Grove Inn Road	1.99	*	*	1150	*	*
Approximately 0.2 mile upstream of Micro Road West	1.01	*	*	747	*	*
Black Creek						
At mouth	101.28	3002	4935	5906	*	8114
At Elevation Road	81.85	2632	4343	5204	*	7166
Below Pole Branch	73.07	2454	4057	4865	*	6708
At NC 50	65.18	1200	1974	4546	*	6275
Below Camp Branch	54.27	1189	1963	4077	*	5640
Above Camp Branch	46.24	1181	1955	3707	*	5137
Approximately 1 mile upstream of Old Fairground Road	37.05	1172	1946	3296	*	4575
At NC 210	31.03	1166	1940	3279	*	4530
Approximately 0.6 mile downstream of Jackson King Road	18.70	1153	1927	2462	*	3417
Approximately 0.2 mile upstream of Jackson King Road	16.39	*	*	2280	*	*
Approximately 0.2 mile upstream of Jackson King Road	16.37	1151	1925	2308	*	3205
Approximately 0.9 mile upstream of Jackson King Road	16.05	*	*	2250	*	*
Approximately 0.6 mile downstream of Wake/Johnston County boundary	14.50	*	*	2130	*	*
At the Johnston/Wake County boundary	14.50	*	*	2126	*	*
NP	14.48	1067	1789	2146	*	2984
Black Creek Tributary						
Approximately 0.3 mile upstream of the confluence with Black Creek	3.20	*	*	908	*	*
Approximately 0.6 mile upstream of the confluence with Black Creek	2.62	*	*	806	*	*
Approximately 0.1 mile downstream of Plainview Church Road	2.41	*	*	770	*	*
Approximately 0.1 mile upstream of Plainview Church Road	2.18	*	*	728	*	*
Approximately 0.3 mile upstream of Plainview Church Road	1.30	*	*	542	*	*
Buffalo Creek						
At mouth	5.08	1174	1974	2274	*	3147
Approximately 0.25 mile upstream of Buffalo Road	4.57	1119	1888	2174	*	3008
Above Buffalo Road	4.13	1057	1792	2066	*	2862
Approximately 0.8 mile downstream of Brightleaf Boulevard	3.56	1003	1703	1960	*	2707
Approximately 0.5 mile downstream of Brightleaf Boulevard	3.28	970	1649	1897	*	2617
Approximately 0.8 mile above Buffalo Road	3.08	947	1610	1851	*	2552
Above unnamed Tributary	2.82	834	1450	1678	*	2347
At Railroad	1.69	558	1024	1198	*	1722
Just upstream of Brightleaf Boulevard	1.63	527	976	1146	*	1658
Just upstream of Ava Gardner Avenue	1.23	439	831	980	*	1429
Just downstream of U.S. 70 Bypass	1.18	432	818	963	*	1403
Buffalo Creek (Basin 9, Stream 1)						
At mouth	57.98	3772	5969	6942	*	9296
At NC 39	50.39	3803	5985	6930	*	9245
At NC 96	45.14	3829	5999	6922	*	9207
At NC 42	41.60	3845	6006	6913	*	9175
Approximately 1,040 feet downstream of Jordan-Narron Road	38.06	3704	5785	6656	*	8834
Approximately 350 feet downstream of Jordan Narron Road	38.00	*	*	7240	*	*

Table 13 - Summary of Discharges

Flooding Source		Discharges (cfs)				
Location	Drainage Area (square miles)	10% Annual Chance	2% Annual Chance	1% Annual Chance	1% Annual Future Annual Chance	0.2% Annual Chance
Approximately 0.4 mile upstream of Jordan Narron Road	37.02	*	*	7120	*	*
Approximately 0.5 mile upstream of Jordan Narron Road	36.54	*	*	7060	*	*
Approximately 1.0 mile upstream of Jordan Narron Road	34.04	*	*	6760	*	*
Approximately 2.0 mile upstream of Jordan Narron Road	33.07	*	*	6630	*	*
Approximately 2,320 feet downstream of Covered Bridge Road	32.50	3410	5334	6137	*	8154
Approximately 390 feet downstream of Covered Bridge Road	32.10	*	*	6510	*	*
Approximately 0.7 mile upstream of Covered Bridge Road	31.11	*	*	6390	*	*
Approximately 1.0 mile downstream of Wendell Road	28.82	*	*	6090	*	*
Approximately 4,500 feet downstream of Wendell Road	28.80	3166	4962	5713	*	7600
Approximately 0.9 mile downstream of Wendell Road	26.14	*	*	5730	*	*
Approximately 600 feet downstream of Lake Wendell Road	25.60	2941	4618	5322	*	7089
Approximately 0.2 mile upstream of Wendell Road	23.30	*	*	5330	*	*
Approximately 0.4 mile upstream of Lake Wendell Road	23.11	*	*	5300	*	*
Approximately 1.1 mile upstream of Lake Wendell Road	22.12	*	*	5160	*	*
NP	22.10	2690	4235	4884	*	6516
Approximately 1.2 mile upstream of Lake Wendell Road	21.21	*	*	5030	*	*
Approximately 0.3 mile upstream of Stotts Mill Road	20.22	*	*	4880	*	*
NP	20.21	2544	4012	4629	*	6182
Buffalo Creek West						
At mouth	5.72	510	880	1072	*	1520
Approximately 3,700 feet upstream of Old Drug Store Road	5.12	476	823	1003	*	1424
Below unnamed tributary at RS 9200	4.17	420	728	888	*	1264
Above unnamed Tributary at RS 9200	2.95	339	591	723	*	1033
Approximately 2,000 feet downstream of Johnston/Wake County Boundary	2.15	278	489	598	*	858
At Johnston-Wake County Boundary	1.81	251	442	542	*	778
Bull Branch						
Just upstream of the confluence with Moccasin Creek 1	3.07	*	*	1500	*	*
Approximately 0.6 mile upstream of the confluence with Moccasin Creek 1	2.57	*	*	1340	*	*
Approximately 0.5 mile downstream of Flower Hill Road	2.28	*	*	1250	*	*
Approximately 0.5 mile upstream of Flower Hill Road	2.00	*	*	1150	*	*
Approximately 1.0 mile upstream of Flower Hill Road	1.58	*	*	990	*	*
Approximately 0.1 mile upstream of Woodard's Dairy Road	1.30	*	*	878	*	*
Burnt Stocking Branch						
At confluence with Little Creek (near Micro)	3.63	784	1365	1668	*	2531
Approximately 3,700 feet upstream of Fulghum Little Creek Road	2.86	670	1174	1437	*	2191
Approximately 350 feet upstream of Pine Level-Micro Road	1.90	511	906	1114	*	1712
Camp Branch						
Approximately 0.5 mile upstream of Stephenson Road	4.20	*	*	1057	*	*
Approximately 0.2 mile upstream of Stephenson Road	4.03	*	*	1030	*	*
Approximately 0.4 mile upstream of the confluence with Black Creek	3.54	*	*	957	*	*
Cattail Creek						
At the confluence with the Little River	9.79	*	*	3101	*	*
Approximately 0.8 mile upstream of North Carolina Highway 96	8.95	*	*	2930	*	*

Table 13 - Summary of Discharges

Flooding Source		Discharges (cfs)				
Location	Drainage Area (square miles)	10% Annual Chance	2% Annual Chance	1% Annual Chance	1% Annual Future Annual Chance	0.2% Annual Chance
Approximately 0.5 mile upstream of Antioch Church Road	8.39	*	*	2820	*	*
Approximately 0.4 mile downstream of Eatmon Road	7.44	*	*	2610	*	*
Approximately 0.7 mile downstream of Covered Bridge Road	5.27	*	*	2110	*	*
Approximately 0.1 mile upstream of Covered Bridge Road	4.73	*	*	1970	*	*
Approximately 0.2 mile upstream of Covered Bridge Road	3.68	*	*	1680	*	*
Approximately 0.3 mile upstream of Covered Bridge Road	3.51	*	*	1630	*	*
Approximately 0.6 mile upstream of Covered Bridge Road	2.55	*	*	1340	*	*
Approximately 0.1 mile downstream of Lake Wendell Road	1.86	*	*	1100	*	*
Approximately 0.3 mile downstream of Harris Wilson Road	1.00	*	*	746	*	*
Cooper Branch						
At the confluence with Swift Creek	3.95	*	*	1020	*	*
Approximately 300 feet downstream of Little Church Creek Road	3.82	*	*	1220	*	*
Cow Branch						
Just upstream of confluence with Middle Creek	1.82	252	443	543	*	780
Approximately 1,930 feet downstream of Sommerset Drive	1.51	225	396	487	*	700
Approximately 215 feet upstream of Sommerset Drive	1.23	197	349	429	*	619
Approximately 0.6 mile upstream of Sommerset Drive	1.03	177	315	388	*	560
Dicks Branch						
Approximately 0.4 mile upstream of Zacks Mill Road	1.60	*	*	616	*	*
Approximately 35 feet upstream of Zacks Mill Road	1.28	*	*	538	*	*
Dismal Branch						
Approximately 0.5 mile upstream of Meadowbrook Road	1.64	*	*	1010	*	*
Approximately 0.1 mile upstream of Meadowbrook Road	1.47	*	*	949	*	*
East Mingo Creek						
Approximately at the confluence with Mingo Swamp	3.50	*	*	954	*	*
Approximately 425 feet upstream of Banner Elk Road	2.60	*	*	795	*	*
Approximately 0.7 mile upstream of Banner Elk Road	1.50	*	*	592	*	*
Hannah Creek						
At mouth	64.56	5209	8054	9229	*	12168
At US 701	61.28	5044	7805	8947	*	11804
Approximately 2,500 feet downstream of U.S. 701	53.55	4641	7199	8258	*	10911
Above Juniper Swamp	43.87	4104	6387	7336	*	9714
Above Lee Branch	38.23	3770	5881	6760	*	8965
Approximately 450 feet upstream of Hockaday Road	34.21	3520	5502	6328	*	8403
At Juniper Church Road	29.29	3199	5013	5771	*	7676
Below Stony Fork	24.44	2861	4497	5183	*	6907
Approximately 0.2mile downstream of Ivey Road	13.61	1993	3165	3660	*	4910
Approximately 0.3 mile upstream of Eastridge Road	13.19	*	*	3740	*	*
Approximately 0.1 mile downstream of Hannah Creek Road	12.94	*	*	3690	*	*
Approximately 0.3 mile downstream of Allens Crossroads Road	11.71	*	*	3470	*	*
Approximately 0.1 mile downstream of Allens Crossroads Road	5.74	*	*	2220	*	*
Approximately 0.1 mile upstream of I-40	3.80	*	*	1720	*	*
Approximately 0.3 mile upstream of Morgan Road	2.85	*	*	1430	*	*

Table 13 - Summary of Discharges

Flooding Source		Discharges (cfs)				
Location	Drainage Area (square miles)	10% Annual Chance	2% Annual Chance	1% Annual Chance	1% Annual Future Annual Chance	0.2% Annual Chance
Hannah Creek Tributary 2						
Approximately 0.1 mile upstream of I-95	5.55	*	*	2180	*	*
Approximately 35 feet upstream of Ivey Road	5.30	*	*	2110	*	*
Approximately 0.2 mile upstream of Highway 301	2.67	*	*	1320	*	*
Approximately 0.3 mile downstream of Tarheel Road	2.45	*	*	1260	*	*
Approximately 0.1 mile upstream of Tarheel Road	1.54	*	*	963	*	*
Hardee Mill Branch						
Approximately 0.1 mile upstream of Benson Hardee Road	2.20	*	*	735	*	*
Approximately 0.5 mile upstream of Benson Hardee Road	0.99	*	*	464	*	*
Approximately 0.8 mile upstream of Benson Hardee Road	0.81	*	*	416	*	*
Hogpen Branch						
Approximately 0.6 mile upstream of the confluence with Bernal Branch	0.75	*	*	624	*	*
Johnson Swamp						
Approximately 0.3 mile downstream of West Johnson Road	7.43	*	*	2610	*	*
Approximately 40 feet upstream of West Johnson Road	5.19	*	*	2090	*	*
Approximately 0.5 mile upstream of West Johnson Road	4.13	*	*	1810	*	*
Approximately 0.7 mile downstream of State Highway 96	3.73	*	*	1700	*	*
Approximately 0.4 mile downstream of State Highway 96	1.58	*	*	992	*	*
Approximately 0.1 mile downstream of State Highway 96	1.29	*	*	872	*	*
Approximately 0.2 mile upstream of State Highway 96	1.19	*	*	832	*	*
Johnson Swamp Tributary						
Approximately 0.2 mile upstream of Interstate 40	1.64	*	*	1020	*	*
Approximately 0.1 mile upstream of State Highway 96 5S	1.47	*	*	947	*	*
Approximately 0.4 mile upstream of State Highway 96 5S	1.17	*	*	824	*	*
Jumping Run						
Approximately 0.4 mile downstream of Holly Grove Road	2.49	*	*	1320	*	*
Approximately 0.2 mile upstream of Holly Grove Road	2.04	*	*	1160	*	*
Approximately 0.7 mile upstream of Holly Grove Road	1.68	*	*	1030	*	*
Approximately 1.1 miles upstream of Holly Grove Road	1.00	*	*	744	*	*
Juniper Swamp						
Approximately 0.7 mile upstream of the confluence with Hannah Creek	9.44	*	*	3030	*	*
Approximately 0.9 mile upstream of the confluence with Hannah Creek	8.27	*	*	2790	*	*
Approximately 1.4 miles upstream of the confluence with Hannah Creek	8.15	*	*	2770	*	*
Approximately 0.9 mile downstream of State Highway 96	7.71	*	*	2670	*	*
Approximately 0.4 mile downstream of State Highway 96	4.37	*	*	1870	*	*
Approximately 0.1 mile upstream of State Highway 96	4.18	*	*	1820	*	*
Approximately 0.2 mile downstream of Hockaday Road	3.43	*	*	1610	*	*
Approximately 0.2 mile upstream of Hockaday Road	2.91	*	*	1450	*	*
Approximately 0.1 mile upstream of Parker Road	2.22	*	*	1220	*	*
Juniper Swamp Tributary 1						
Approximately 0.6 mile upstream of the confluence with Juniper Swamp	2.54	*	*	1340	*	*
Approximately 0.5 mile upstream of State Highway 96	1.32	*	*	886	*	*
Approximately 0.8 mile upstream of State Highway 96	1.10	*	*	792	*	*

Table 13 - Summary of Discharges

Flooding Source		Discharges (cfs)				
Location	Drainage Area (square miles)	10% Annual Chance	2% Annual Chance	1% Annual Chance	1% Annual Future Annual Chance	0.2% Annual Chance
Juniper Swamp Tributary 2						
Approximately 0.7 mile upstream of the confluence with Juniper Swamp Tributary 1	0.88	*	*	687	*	*
Approximately 0.4 mile upstream of the confluence with Juniper Swamp Tributary 1	0.75	*	*	623	*	*
Little Bernal Branch						
Approximately 0.4 mile upstream of the confluence with Bernal Branch	1.05	*	*	770	*	*
Approximately 0.2 mile upstream of the confluence with Bernal Branch	0.96	*	*	724	*	*
Little Black Creek						
Approximately 0.4 mile downstream of Jackson King Road	11.83	*	*	1890	*	*
Approximately 0.8 mile upstream of Jackson King Road	11.06	*	*	1820	*	*
Approximately 1.0 mile downstream of Old Stage Road	9.23	*	*	1650	*	*
Approximately 0.7 mile downstream of Old Stage Road	7.42	*	*	1460	*	*
Approximately 0.3 mile downstream of Old Stage Road	7.10	*	*	1420	*	*
At the Johnston/Wake County boundary	6.36	*	*	1330	*	*
Little Buffalo Creek						
Approximately 0.4 mile downstream of Old Route 22	24.33	*	*	5480	*	*
Just upstream of Old Route 22	23.41	*	*	5350	*	*
Just downstream of Glendale Road	22.43	*	*	5200	*	*
Just upstream of Glendale Road	21.46	*	*	5060	*	*
Approximately 0.1 mi upstream of Glendale Road	10.28	*	*	3200	*	*
Just upstream of the confluence with Little Buffalo Creek Tributary	9.97	*	*	3140	*	*
Approximately 0.8 mile upstream of Beulahtown Road	8.50	*	*	2840	*	*
Approximately 0.7 mile upstream of Beulahtown Road	8.12	*	*	2760	*	*
Approximately 1.1 mile Little Buffalo Creek downstream of Bay Valley Road	7.22	*	*	2560	*	*
Approximately 0.2 mile downstream of Bay Valley Road	6.63	*	*	2430	*	*
Approximately 0.2 mile downstream of Bay Valley Road	4.49	*	*	1900	*	*
Approximately 0.5 mile downstream of Glendale Road	3.81	*	*	1719	*	*
Little Buffalo Creek Tributary						
Just upstream of the confluence with Little Buffalo Creek	10.91	*	*	3320	*	*
Approximately 0.1 mile upstream of Bay Valley Road	10.51	*	*	3240	*	*
Approximately 0.4 mile upstream of North Carolina Highway 222	7.93	*	*	2720	*	*
Little Creek						
Approximately 0.6 mile upstream of Steel Bridge Road	15.93	1965	3140	3651	*	4920
Approximately 1.8 miles downstream of Ranch Road	13.05	1707	2887	3325	*	4599
Approximately 0.7 mile downstream of Ranch Road	9.92	1615	2702	3089	*	4201
Approximately 0.5 mile upstream of Ranch Road	7.12	1396	2338	2667	*	3609
Approximately 0.85 mile downstream of Amelia Church Road	6.37	1361	2269	2582	*	3472
Approximately 140 feet downstream of NC 42	5.50	1222	2059	2347	*	3171
Approximately 250 feet downstream of Amelia Church Road	4.82	1069	1833	2100	*	2868
Just upstream of confluence with Little Creek Tributary	2.67	729	1191	1391	*	1899
Just upstream of the confluence of Little Creek Tributary	2.67	*	*	816	*	*
Approximately 0.6 mile upstream of the confluence of Little Creek Tributary	2.25	*	*	741	*	*
Approximately 0.6 miles upstream of confluence with Little Creek Tributary	2.24	655	1072	1254	*	1716

Table 13 - Summary of Discharges

Flooding Source		Discharges (cfs)				
Location	Drainage Area (square miles)	10% Annual Chance	2% Annual Chance	1% Annual Chance	1% Annual Future Annual Chance	0.2% Annual Chance
Approximately 0.8 mile upstream of the confluence of Little Creek Tributary	1.77	*	*	647	*	*
Approximately 0.8 miles upstream of confluence with Little Creek Tributary	1.76	564	926	1085	*	1522
Approximately 1.2 miles upstream of the confluence of Little Creek Tributary	1.64	*	*	619	*	*
Approximately 1.2 miles upstream of confluence with Little Creek Tributary	1.54	520	889	1032	*	1456
Approximately 1.5 miles upstream of the confluence of Little Creek Tributary	1.13	*	*	502	*	*
Approximately 1.7 miles upstream of confluence with Little Creek Tributary	0.97	391	650	764	*	1080
Approximately 1.7 miles upstream of the confluence of Little Creek Tributary	0.97	*	*	461	*	*
Approximately 1.9 miles upstream of the confluence of Little Creek Tributary	0.85	*	*	427	*	*
Approximately 1.9 miles upstream of confluence with Little Creek Tributary	0.82	353	595	696	*	1000
Little Creek (Basin 11, Stream 2)						
Approximately 0.6 mile upstream of the confluence with Moccasin Creek	6.38	*	*	2370	*	*
Little Creek (Into Middle Creek)						
Approximately 1.1 miles upstream of the confluence with Middle Creek	12.28	*	*	1940	*	*
Approximately 0.1 mile downstream of the Johnston/Wake County boundary	11.52	*	*	1870	*	*
At the Johnston/Wake County boundary	9.88	*	*	1711	*	*
Little Creek (Near Micro)						
Approximately 0.5 mile downstream of Bizzell Grove Church Road	16.53	*	*	4301	*	*
Approximately 0.1 mile upstream of Bizzell Grove Church Road	15.53	*	*	4140	*	*
Approximately 0.5 mile downstream of Rains Crossroads Road	14.82	*	*	4020	*	*
Just below Rains Crossroads Road	13.83	*	*	3850	*	*
At the confluence with Burnt Stocking Branch	9.68	*	*	3080	*	*
Approximately 0.1 mile upstream of the confluence with Burnt Stocking Branch	8.79	*	*	2900	*	*
Approximately 0.6 mile downstream of Lizzie Mill Rd	8.32	*	*	2800	*	*
Approximately 0.2 mile upstream of Lizzie Mill Road	7.37	*	*	2600	*	*
Just downstream of Pittman Road	6.43	*	*	2380	*	*
Approximately 0.6 mile downstream of Browns Dairy Road	5.73	*	*	2219	*	*
Approximately 0.2 mile downstream of Hawkins Road	4.81	*	*	1990	*	*
Approximately 0.2 mile upstream of Hawkins Road	3.92	*	*	1750	*	*
Approximately 0.3 mile upstream of Hawkins Road	3.26	*	*	1559	*	*
Little Creek Tributary						
At mouth	1.18	459	833	960	*	1333
Little Poplar Creek						
At the confluence with Poplar Creek	3.89	403	700	854	*	1216
Approximately 0.8 mile upstream of Swift Creek Rd	3.55	381	664	810	*	1154
Approximately 0.5 mile upstream of Swift Creek Road	3.25	361	629	769	*	1097
Approximately 0.85 mile upstream of Swift Creek Road	2.99	343	599	732	*	1045
Approximately 1.1 miles upstream of Swift Creek Road	2.75	326	570	697	*	996
Approximately 1.7 miles upstream of Swift Creek Rd	2.10	277	485	594	*	852
Approximately 0.25 mile downstream of U.S. Highway 70	1.78	250	441	540	*	775
Little River						
Approximately 1.8 miles downstream of Rains Mill Road	265.44	*	*	14600	*	*
Approximately 1.7 miles upstream of Rains Mill Road	251.08	*	*	14100	*	*
Approximately 0.6 mile downstream of Rains Crossroads Road	229.72	*	*	13800	*	*

Table 13 - Summary of Discharges

Flooding Source		Discharges (cfs)				
Location	Drainage Area (square miles)	10% Annual Chance	2% Annual Chance	1% Annual Chance	1% Annual Future Annual Chance	0.2% Annual Chance
Approximately 0.3 mile downstream of Bagley Road	220.23	*	*	12900	*	*
Approximately 0.3 mile downstream of Woodruff Road	190.67	*	*	12900	*	*
Approximately 0.3 mile downstream of Shoeheel Road	130.30	*	*	11000	*	*
Approximately 0.2 mile downstream of NC Highway 39	104.15	*	*	10500	*	*
Just upstream of the confluence of Cattail Creek	92.82	*	*	6080	*	*
Approximately 0.8 mile upstream of the confluence of Cattail Creek	92.43	*	*	6070	*	*
Approximately 0.3 mile upstream of Antioch Church Road	91.56	*	*	6030	*	*
Approximately 1.6 miles upstream of Antioch Church Road	90.81	*	*	6010	*	*
Approximately 2.5 miles upstream of Antioch Church Road	89.94	*	*	5970	*	*
Approximately 2.9 miles upstream of Antioch Church Road	88.98	*	*	5940	*	*
Approximately 2.3 miles downstream of State Highway 231	86.82	*	*	5850	*	*
Approximately 1.6 miles downstream of State Highway 231	86.31	*	*	5840	*	*
Approximately 1.4 miles downstream of State Highway 231	85.64	*	*	5810	*	*
Approximately 0.4 miles downstream of State Highway 231	83.03	*	*	5710	*	*
Approximately 0.2 mile downstream of State Highway 231	82.64	*	*	5690	*	*
Just upstream of the confluence of Snipes Creek	75.73	*	*	5420	*	*
Approximately 265 feet upstream of NC Highway 96 S	74.90	*	*	5390	*	*
Approximately 0.9 mile upstream of NC Highway 96 S	73.91	*	*	5340	*	*
Approximately 0.6 mile downstream of Mudham Road	72.93	*	*	5300	*	*
Approximately 0.3 mile downstream of Mudham Road	71.95	*	*	5260	*	*
Approximately 0.3 mile upstream of Mudham Road	70.95	*	*	5220	*	*
Approximately 0.7 mile upstream of Mudham Road	69.97	*	*	5180	*	*
At Wake/Johnston County boundary	69.24	*	*	11700	11700	*
Little River Tributary 1						
Just upstream of the confluence with Little River	3.32	*	*	1580	*	*
Just upstream of Feed Mill	2.79	*	*	1410	*	*
Approximately 0.1 mile upstream of NC Highway 42	2.03	*	*	1160	*	*
Little Swamp Branch						
Approximately 0.1 mile upstream of Godwin Lake Road	7.33	*	*	2590	*	*
Approximately 0.2 mile downstream of State Highway 96	6.74	*	*	2460	*	*
Approximately 0.5 mile upstream of State Highway 96	6.33	*	*	2360	*	*
Approximately 0.2 mile downstream of TBar Road	4.07	*	*	1790	*	*
Approximately 0.1 mile downstream of Holly Grove Road	2.16	*	*	1210	*	*
Approximately 0.5 mile upstream of Holly Grove Road	1.92	*	*	1120	*	*
Approximately 0.7 mile upstream of Holly Grove Road	0.89	*	*	690	*	*
Little Swamp Branch Tributary 1						
Approximately 0.3 mile upstream of the confluence with Little Swamp Branch	1.66	*	*	1020	*	*
Approximately 0.6 mile upstream of the confluence with Little Swamp Branch	1.40	*	*	919	*	*
Little Swamp Branch Tributary 2						
Approximately 0.1 mile upstream of the confluence with Little Swamp Branch	0.76	*	*	626	*	*
Long Branch						
At the confluence with the Little River	10.76	*	*	3910	*	*
Approximately 0.1 mile upstream of the confluence with the Little River	9.76	*	*	3880	*	*

Table 13 - Summary of Discharges

Flooding Source		Discharges (cfs)				
Location	Drainage Area (square miles)	10% Annual Chance	2% Annual Chance	1% Annual Chance	1% Annual Future Annual Chance	0.2% Annual Chance
Approximately 1.0 mile upstream of Shoeheel Road	8.82	*	*	3820	*	*
Approximately 1.4 miles upstream of Shoeheel Road	7.84	*	*	3710	*	*
Just below NC Highway 39	7.06	*	*	3290	*	*
Approximately 0.8 mile upstream of NC Highway 39	6.09	*	*	2790	*	*
Approximately 1.6 miles upstream of NC Highway 39	5.18	*	*	2330	*	*
Approximately 2.4 miles upstream of NC Highway 39	4.25	*	*	1900	*	*
Just below NC Highway 96 N	2.53	*	*	1330	*	*
Approximately 0.4 mile upstream of NC Highway 96 N	2.37	*	*	1280	*	*
Approximately 0.6 mile upstream of NC Highway 96 N	1.37	*	*	907	*	*
Marks Creek						
Just upstream of confluence with Neuse River	28.64	3154	4945	5694	*	7575
Approximately 100 feet upstream of confluence with Marks Creek Tributary	26.37	2998	4706	5422	*	7220
Marks Creek Tributary						
At confluence with Marks Creek	1.51	513	845	991	*	1361
Approximately 1,800 feet upstream of confluence with Marks Creek	1.34	477	788	925	*	1272
Approximately 3,400 feet upstream of confluence with Marks Creek	1.20	445	737	865	*	1191
McCullens Branch						
Approximately 20 feet downstream of Old Fairground Road	4.00	*	*	1022	*	*
Approximately 0.4 mile upstream of Old Fairground Road	3.84	*	*	1000	*	*
Approximately 0.3 mile downstream of Ridge Road	1.88	*	*	669	*	*
Approximately 0.1 mile upstream of Ridge Road	1.75	*	*	642	*	*
Approximately 0.3 mile upstream of Ridge Road	1.60	*	*	612	*	*
Approximately 0.5 mile upstream of Ridge Road	1.39	*	*	565	*	*
Middle Creek						
At mouth at Swift Creek	131.12	4701	7691	9418	*	13704
At Crantock Road	119.30	4547	7609	9321	*	13645
Below Beaverdam Creek	109.55	4405	7539	9236	*	13582
Below Mill Branch	102.13	4301	7486	9170	*	13528
Below Buffalo Creek (West)	92.77	4178	7424	9088	*	13457
Approximately 2,800 feet downstream of N.C. 50	82.86	4060	7369	9012	*	13388
At USGS gage at NC 50	82.78	4059	7369	9012	*	13388
Above Little Creek	68.62	4017	7020	8538	*	12557
Mill Branch						
At confluence with Mill Creek (South)	4.24	424	735	897	*	1276
Approximately 0.6 mile upstream of confluence with Mill Creek (South)	3.30	363	633	773	*	1102
Approximately 1.1 miles upstream of confluence with Mill Creek (South)	3.09	348	608	743	*	1060
Approximately 1.5 miles upstream of confluence with Mill Creek (South)	2.42	300	525	643	*	920
Approximately 1.85 miles upstream of confluence with Mill Creek (South)	2.15	279	489	599	*	858
Approximately 2.1 miles upstream of confluence with Mill Creek (South)	1.57	230	405	497	*	715
Upper study limit	1.36	210	371	456	*	657
Mill Creek (Near Clayton)						
Approximately 1.2 miles downstream of NC Highway 42	4.18	*	*	1820	*	*
Just upstream of NC Highway 42	3.53	*	*	1640	*	*

Table 13 - Summary of Discharges

Flooding Source		Discharges (cfs)				
Location	Drainage Area (square miles)	10% Annual Chance	2% Annual Chance	1% Annual Chance	1% Annual Future Annual Chance	0.2% Annual Chance
Approximately 0.4 mile upstream of Motorcycle Rd	2.56	*	*	1340	*	*
Mill Creek (Near Selma)						
Approximately 0.8 mile downstream of Buffalo Road	5.70	*	*	2210	*	*
Approximately 0.7 mile downstream of Buffalo Road	5.66	*	*	2200	*	*
Approximately 0.6 mile upstream of Railroad	4.66	*	*	1950	*	*
Just upstream of River Road	3.72	*	*	1690	*	*
Approximately 0.5 mile upstream of River Road	2.72	*	*	1390	*	*
Mill Creek (South)						
At mouth	188.70	6496	10230	11937	*	15940
Above Mill Branch	178.72	6419	10101	11775	*	15715
Above overflow into Neuse River (RS 27,000)	172.27	6372	10020	11674	*	15573
At RS 35,000	169.04	6349	9981	11624	*	15503
Above Hannah Creek	88.31	6319	9718	11115	*	14605
Approximately 1.0 mile upstream of confluence with Stone Creek	49.42	4417	6860	8430	*	10412
Approximately 0.3 mile downstream of Shaws Pond Road	47.13	*	*	8280	*	*
Approximately 0.2 mile downstream of the confluence with Mill Creek Tributary 4	46.11	*	*	8170	*	*
Approximately 0.1 mile upstream of the confluence with Mill Creek Tributary 4	40.43	*	*	7520	*	*
Approximately 0.3 mile downstream of US Highway 701	39.89	*	*	7460	*	*
Approximately 0.4 mile upstream of US Highway 701	38.74	*	*	7320	*	*
Approximately 0.5 mile upstream of US Highway 701	36.54	*	*	7060	*	*
Approximately 0.1 mile downstream of the confluence with Mill Creek Tributary 5	35.87	*	*	6980	*	*
Approximately 0.4 mile upstream of the confluence with Mill Creek Tributary 5	32.24	*	*	6530	*	*
Approximately 0.8 mile downstream of Eldridge Road	31.95	*	*	6490	*	*
Approximately 0.4 mile downstream of Eldridge Road	31.21	*	*	6400	*	*
Approximately 0.1 mile upstream of Eldridge Road	30.73	*	*	6340	*	*
Approximately 0.2 mile downstream of Interstate 40	29.39	*	*	6160	*	*
Approximately 0.4 mile upstream of Highway 50	28.51	*	*	6050	*	*
Approximately 0.2 mile downstream of Reedy Prong Church Road	27.21	*	*	5870	*	*
Approximately 0.2 mile upstream of Reedy Prong Church Road	20.31	*	*	4890	*	*
Approximately 0.3 mile upstream of Reedy Prong Church Road	20.08	*	*	4860	*	*
Approximately 0.4 mile upstream of Reedy Prong Church Road	19.35	*	*	4750	*	*
Approximately 0.9 mile upstream of Reedy Prong Church Road	18.43	*	*	4600	*	*
Approximately 0.1 mile downstream of the confluence with John K. Swamp	17.96	*	*	4530	*	*
Approximately 0.2 mile upstream of the confluence with John K. Swamp	9.97	*	*	3140	*	*
Approximately 0.5 mile upstream of Highway 96 2S road crossing	9.82	*	*	3110	*	*
Approximately 0.2 mile downstream of Holly Grove Road	5.55	*	*	2170	*	*
Approximately 0.4 mile upstream of Holly Grove Road	4.84	*	*	2000	*	*
Approximately 0.2 mile upstream of State Highway 242	4.47	*	*	1900	*	*
Approximately 0.1 mile downstream of Godwin Lake Road	2.60	*	*	1350	*	*
Approximately 0.6 mile upstream of Godwin Lake Road	2.20	*	*	1220	*	*
Mill Creek Tributary						
Approximately 0.4 mile upstream of the confluence with Middle Creek	1.02	*	*	756	*	*

Table 13 - Summary of Discharges

Flooding Source		Discharges (cfs)				
Location	Drainage Area (square miles)	10% Annual Chance	2% Annual Chance	1% Annual Chance	1% Annual Future Annual Chance	0.2% Annual Chance
Approximately 0.2 mile upstream of Westbrook Lowgrounds Road	0.92	*	*	709	*	*
Approximately 0.4 mile downstream of Bentonville Road	0.83	*	*	663	*	*
Approximately 0.1 mile upstream of Bentonville Road	0.41	*	*	427	*	*
Mill Creek Tributary 2						
Approximately 0.6 mile upstream of the confluence with Mill Creek (South)	3.10	*	*	1510	*	*
Approximately 0.3 mile upstream of Shaws Pond Road	2.03	*	*	1160	*	*
Approximately 0.4 mile upstream of Shaws Pond Road	1.26	*	*	862	*	*
Mill Creek Tributary 3						
Approximately 0.1 mile upstream Almon Road Crossing	4.97	*	*	2030	*	*
Approximately 0.2 mile downstream of Harper House Road	3.33	*	*	1580	*	*
Approximately 0.1 mile upstream of Harper House Road	2.68	*	*	1380	*	*
Approximately 0.4 mile upstream of Harper House Road crossing	2.12	*	*	1190	*	*
Mill Creek Tributary 4						
Approximately 0.4 mile downstream of Harper House Road	3.14	*	*	1520	*	*
Approximately 0.3 mile upstream of Harper House Road	2.52	*	*	1330	*	*
Approximately 0.5 mile upstream of Harper House Road	1.84	*	*	1090	*	*
Mill Creek Tributary 5						
Approximately 0.6 mile upstream of the confluence with Mill Creek (South)	1.76	*	*	1060	*	*
Approximately 0.4 mile downstream of Scout Road	1.53	*	*	973	*	*
Approximately 0.2 mile upstream of Scout Road	1.36	*	*	903	*	*
Approximately 0.4 mile upstream of Scout Road	1.03	*	*	758	*	*
Mill Swamp Branch						
Approximately 0.2 mile downstream of TBar Road	1.59	*	*	994	*	*
Approximately 0.1 mile downstream of Holly Grove Road	1.21	*	*	840	*	*
Approximately 0.1 mile upstream of Holly Grove Road	0.76	*	*	627	*	*
Mingo Swamp						
Approximately 2.6 miles upstream of State Route 55	25.70	*	*	2940	*	*
Approximately 3.0 miles upstream of State Route 55	24.90	*	*	2890	*	*
Approximately 3.6 miles upstream of State Route 55	24.00	*	*	2830	*	*
Approximately 360 feet downstream of the confluence of Mingo Swamp Tributary 1	23.20	*	*	2770	*	*
Approximately 400 feet upstream of the confluence of Mingo Swamp Tributary 1	19.30	*	*	2500	*	*
Approximately 750 feet downstream of Hayner Lake Dam	18.90	*	*	2470	*	*
Approximately 0.82 mile upstream of Jonesboro Road	15.20	*	*	2180	*	*
Approximately 0.29 mile downstream of Farmview Road	14.30	*	*	2110	*	*
Approximately 0.05 mile upstream of Interstate 95	13.50	*	*	2040	*	*
Approximately 0.16 mile downstream of U.S. Route 301	12.80	*	*	1980	*	*
Approximately 0.15 mile upstream of U.S. Route 301	8.30	*	*	1560	*	*
Confluence of East Mingo Creek	3.40	*	*	928	*	*
Approximately 0.26 mile downstream of Red Hill Church Road	2.20	*	*	738	*	*
Approximately 0.41 mile upstream of Red Hill Church Road	1.80	*	*	655	*	*
Mingo Swamp Tributary 2						
At confluence with Mingo Swamp	1.60	*	*	733	*	*

Table 13 - Summary of Discharges

Flooding Source		Discharges (cfs)				
Location	Drainage Area (square miles)	10% Annual Chance	2% Annual Chance	1% Annual Chance	1% Annual Future Annual Chance	0.2% Annual Chance
Approximately 0.6 mile upstream of McLamb Tart Road	0.90	*	*	541	*	*
Moccasin Creek						
Just downstream of the confluence of Bull Branch	63.04	*	*	9930	*	*
Just upstream of the confluence of Bull Branch	59.91	*	*	9620	*	*
Approximately 0.4 mile downstream of New Sandy Hill Church Road	58.78	*	*	9500	*	*
Approximately 370 feet upstream of New Sandy Hill Church Road	57.95	*	*	9420	*	*
Approximately 0.3 mile upstream of New Sandy Hill Church Road	56.97	*	*	9321	*	*
Just upstream of the confluence of UNT 1 to Moccasin Creek	50.50	*	*	8650	*	*
Just upstream of the confluence of UNT 2 to Moccasin Creek	48.11	*	*	8390	*	*
Approximately 0.4 mile upstream of the confluence of UNT 2 to Moccasin Creek	47.58	*	*	8330	*	*
Just downstream of Selma/Buck Road/Highway 22	46.59	*	*	8320	*	*
Approximately 0.7 mile upstream of Selma/Buck Road/Highway 22	45.83	*	*	8310	*	*
Approximately 0.8 mile downstream of Friendship Church Road	44.84	*	*	8300	*	*
Approximately 0.2 mile downstream of Friendship Church Road	44.13	*	*	8291	*	*
Approximately 0.6 mile upstream of Friendship Church Road	41.97	*	*	8250	*	*
Approximately 200 feet upstream of Taylors Mill Road	40.66	*	*	8210	*	*
Approximately 1.0 mile upstream of Taylors Mill Road	39.76	*	*	8180	*	*
Approximately 1.2 miles downstream of Railroad	35.25	*	*	7990	*	*
Just downstream of Railroad	34.49	*	*	7950	*	*
At confluence with Neuse River	32.80	1500	2510	3020	*	4210
Just downstream of State Road 2404	27.96	*	*	7470	*	*
Approximately 5,600 feet upstream of Brogden Road	25.16	1348	2265	2732	*	3807
At Secondary Road 1007	22.42	1271	2140	2582	*	3603
Below Tributary at Station 47,500	18.80	1184	1997	2411	*	3368
Above Tributary at Station 47,500	16.46	1062	1797	2172	*	3039
Above dam at Holts Pond	13.38	978	1659	2007	*	2813
Upper Study Limit	13.09	861	1465	1774	*	2493
Approximately 775 feet upstream of Bizzell Grove Church Road	9.00	1547	2473	2868	*	3864
Approximately 4,550 feet upstream of Bizzell Grove Church Road	8.10	1447	2317	2688	*	3627
Just downstream of U.S. 70 A	7.09	1333	2140	2485	*	3358
Approximately 1,500 feet downstream of Pine Level-Micro Road	4.46	1001	1620	1887	*	2562
Approximately 1,800 feet upstream of Pine Level-Micro Road	2.96	777	1266	1478	*	2016
Approximately 800 feet downstream of Campground Road	2.41	686	1121	1310	*	1791
Approximately 500 feet upstream of Interstate 95	1.24	455	752	882	*	1215
Approximately 245 feet upstream of Railroad	0.82	353	587	691	*	955
Approximately 2,075 feet upstream of Railroad	0.70	321	535	630	*	873
Moccasin Creek Tributary 1						
Just upstream of the confluence with Moccasin Creek 1	5.69	*	*	2210	*	*
Approximately 0.3 mile upstream of State Highway 231	4.26	*	*	1840	*	*
Approximately 0.5 mile upstream of State Highway 231	4.08	*	*	1790	*	*
Approximately 0.1 mile downstream of Highway 222	3.63	*	*	1670	*	*
Approximately 0.3 mile upstream of Highway 222	2.69	*	*	1380	*	*
Approximately 0.4 mile upstream of Highway 222	2.15	*	*	1200	*	*

Table 13 - Summary of Discharges

Flooding Source		Discharges (cfs)				
Location	Drainage Area (square miles)	10% Annual Chance	2% Annual Chance	1% Annual Chance	1% Annual Future Annual Chance	0.2% Annual Chance
Moccasin Creek Tributary 2						
Just upstream of the confluence with Moccasin Creek 1	1.83	*	*	1090	*	*
Approximately 0.3 mile upstream of the confluence with Moccasin Creek	1.69	*	*	1030	*	*
Approximately 0.2 mile downstream of Buck Road	1.46	*	*	944	*	*
Approximately .11 mi downstream of Buck Road	1.32	*	*	887	*	*
Neuse River						
Below Mill Creek (South)	1869.46	17966	26449	32153	*	52458
Above Mill Creek (South)	1679.82	16900	24886	30688	*	51138
Above Black Creek	1508.31	15732	23344	29210	*	49792
At confluence with Swift Creek	1212.43	13784	20620	25272	*	44246
At Smithfield gage	1209.66	13766	20594	25234	*	44191
At Market Street	1209.56	13765	20593	25232	*	44189
Approximatelt 1,075 feet upstream of confluence with Buffalo Creek	1204.19	13729	20541	25158	*	44083
At confluence with Poplar Creek	1191.71	13631	20432	24963	*	43452
At confluence with Neuse River Tributary 1	1173.81	13483	20283	24665	*	42278
At confluence with Neuse River Tributary 2	1164.36	13404	20205	24507	*	41664
At Clayton gage	1153.03	13309	20110	24318	*	40933
At confluence with Sams Creek	1143.23	13227	20027	24154	*	40306
At confluence with Marks Creek	1109.66	10520	16181	19677	*	34591
Neuse River Tributary 1						
Approximately 60 feet upstream of confluence with Neuse River	1.89	423	714	852	*	1189
Approximately 3,150 feet upstream of confluence with Neuse River	1.44	369	625	745	*	1041
Approximately 3,500 feet downstream of Fire Department Road	1.19	316	537	643	*	902
Approximately 1,450 feet downstream of Fire Department Road	1.01	301	511	610	*	856
Approximately 220 feet upstream of Fire Department Road	0.82	299	505	599	*	836
Approximately 1,500 feet upstream of Fire Department Road	0.67	286	481	569	*	793
Approximately 0.7 mile upstream of Fire Department Road	0.53	248	419	496	*	693
Neuse River Tributary 2						
Just upstream of confluence with Neuse River	2.46	677	1108	1297	*	1775
Approximately 1,400 feet downstream of Vinson Road	1.17	417	694	816	*	1128
Approximately 1,100 feet upstream of Vinson Road	1.05	388	646	761	*	1053
Approximately 1,650 feet upstream of Vinson Road	0.99	373	623	734	*	1017
Approximately 0.55 miles upstream of Vinson Road	0.78	317	531	628	*	872
Approximately 0.76 miles upstream of Vinson Road	0.73	302	508	601	*	836
Approximately 0.95 miles upstream of Vinson Road	0.64	276	464	550	*	766
Approximately 1.05 miles upstream of Vinson Road	0.57	254	430	509	*	711
Oak Creek						
Approximately 0.3 mile upstream of Oak Forest Road crossing	5.57	*	*	2180	*	*
Approximately 0.1 mile downstream of New Hope Road	3.41	*	*	1600	*	*
Approximately 0.1 mile downstream of White Oak Road	2.76	*	*	1410	*	*
Approximately 0.2 mile upstream of White Oak Road	2.02	*	*	1160	*	*
Approximately 0.3 mile downstream of Hayes Road	1.35	*	*	900	*	*
Approximately 0.1 mile upstream of Hayes Road crossing	0.75	*	*	625	*	*

Table 13 - Summary of Discharges

Flooding Source		Discharges (cfs)				
Location	Drainage Area (square miles)	10% Annual Chance	2% Annual Chance	1% Annual Chance	1% Annual Future Annual Chance	0.2% Annual Chance
Oak Creek Tributary						
Approximately 0.4 mile upstream of the confluence with Oak Creek	1.66	*	*	1020	*	*
Approximately 0.8 mile upstream of the confluence with Oak Creek	1.51	*	*	964	*	*
Approximately 1.2 miles upstream of the confluence with Oak Creek	0.98	*	*	735	*	*
Pole Branch						
Approximately 0.6 mile upstream of the confluence with Black Creek	5.40	*	*	1220	*	*
Approximately 0.9 mile upstream of Zacks Mill Road	5.15	*	*	1180	*	*
Approximately 0.5 mile downstream of Interstate 40	4.65	*	*	1120	*	*
Approximately 0.2 mile downstream of Interstate 40	3.48	*	*	949	*	*
Approximately 0.1 mile upstream of Interstate 40	3.14	*	*	895	*	*
Approximately 0.2 mile upstream of Interstate 40	2.86	*	*	848	*	*
Approximately 0.4 mile upstream of Interstate 40	2.13	*	*	718	*	*
Polecat Branch						
Approximately 0.5 mile downstream of Brogden Road	7.68	*	*	1480	*	*
Approximately 1.0 mile upstream of Brogden Road	5.67	*	*	1250	*	*
Approximately 1.6 miles upstream of Brogden Road	3.47	*	*	947	*	*
Approximately 2.1 miles upstream of Brogden Road	3.07	*	*	883	*	*
Approximately 2.2 miles upstream of Brogden Road	2.07	*	*	706	*	*
Poplar Creek						
At the confluence with Neuse River	12.11	822	1400	1695	*	2382
Approximately 1.6 miles upstream of Wilsons Mills Road	5.35	506	871	1059	*	1501
Approximately 0.8 mile downstream of Swift Creek Road	2.94	359	623	759	*	1081
Approximately 240 feet downstream of U.S. 70	2.49	327	570	694	*	990
Approximately 785 feet upstream of Wilsons Mills Road	2.28	312	543	662	*	945
Approximately 575 feet downstream of Wilsons Mills Road	1.52	252	442	538	*	770
Approximately 800 feet downstream of Railroad	1.25	229	401	489	*	700
Quincosin Swamp						
Approximately 0.3 mile upstream of the confluence with Bawdy Creek	6.00	*	*	2280	*	*
Approximately 0.1 mile downstream of Red House Road	5.90	*	*	2260	*	*
Approximately 0.5 mile upstream of Red House Road	5.15	*	*	2080	*	*
Approximately 0.4 mile downstream of WC. Braswell Road	4.41	*	*	1880	*	*
Approximately 0.4 mile upstream of WC. Braswell Road	3.67	*	*	1680	*	*
Approximately 0.9 mile upstream of WC. Braswell Road	2.96	*	*	1470	*	*
Reedy Creek						
Approximately 0.2 mile upstream of King Mill Road	3.40	*	*	928	*	*
Approximately 0.7 mile upstream of King Mill Road	3.01	*	*	873	*	*
Approximately 1.0 miles upstream of King Mill Road	2.65	*	*	812	*	*
Approximately 1.2 miles upstream of King ill Road	2.25	*	*	740	*	*
Approximately 1.4 miles upstream of King Mill Road	1.88	*	*	669	*	*
Reedy Prong						
Approximately 20 feet upstream of Eldridge Road	6.21	*	*	2330	*	*
Approximately 0.3 mile upstream of Eldridge Road	5.67	*	*	2200	*	*

Table 13 - Summary of Discharges

Flooding Source		Discharges (cfs)				
Location	Drainage Area (square miles)	10% Annual Chance	2% Annual Chance	1% Annual Chance	1% Annual Future Annual Chance	0.2% Annual Chance
Approximately 0.1 mile downstream of the confluence of Mill Creek (South) Tributary 1A	5.58	*	*	2180	*	*
Approximately 0.2 mile upstream of confluence of Mill Creek (South) Tributary 1A	2.36	*	*	1270	*	*
Reedy Prong Tributary						
Approximately 0.1 mile upstream of the confluence with Mill Creek (South) Tributary 1	2.93	*	*	1460	*	*
Approximately 0.3 mile upstream of the confluence with Mill Creek (South) Tributary 1	2.84	*	*	1430	*	*
Just upstream of Thornton Road	2.14	*	*	1200	*	*
Sams Creek						
Approximately 0.2 miles upstream of O'Neil St	1.59	530	872	995	*	1404
At the mouth	1.36	482	795	932	*	1283
At City Road	1.11	425	704	827	*	1140
Snipes Creek						
At confluence with Little River	6.08	*	*	2300	*	*
Approximately 1.6 miles upstream of confluence with Little River	5.21	*	*	2090	*	*
Just upstream of Earpsboro Road	3.06	*	*	1499	*	*
Approximately 0.6 mile downstream of NC Highway 96	1.33	*	*	892	*	*
Approximately 1,060 feet downstream of Wake/Johnston County boundary	1.00	*	*	723	1150	*
Spring Branch						
Approximately 0.4 mile downstream of Princeton-Kenly Road	11.23	*	*	3380	*	*
Approximately 0.4 mile upstream of Rains Crossroads Road	7.79	*	*	2690	*	*
Just upstream of the confluence of Spring Branch Tributary	7.07	*	*	2530	*	*
Approximately 0.5 mile upstream of Hinnant-Edgerton Road	4.94	*	*	2020	*	*
Approximately 1.1 miles upstream of Hinnant-Edgerton Road	2.15	*	*	1200	*	*
At mouth	1.31	628	1099	1264	*	1743
Approximately 0.9 mile upstream of Hickory X-Roads Road	1.29	*	*	873	*	*
Just upstream of 3rd Street	1.17	580	1025	1181	*	1636
Just upstream of 5th Street	1.14	565	1003	1156	*	1605
At Brightleaf Boulevard	0.84	395	744	872	*	1255
At Collier Street	0.67	334	641	755	*	1098
Spring Branch Tributary 1						
At the confluence with Spring Branch	2.41	*	*	1290	*	*
Approximately 0.3 mile downstream of Sunshine Road	1.88	*	*	1100	*	*
Just downstream of Rhodes Road	1.07	*	*	778	*	*
Stone Creek						
At Confluence with Oak Creek	29.09	1511	2519	3023	*	4192
At US 701	28.03	1476	2464	2957	*	4102
Approximately 2,600 feet upstream of U.S. 701	21.07	1238	2076	2496	*	3473
Approximately 5,550 feet upstream of U.S. 701	20.61	1221	2049	2464	*	3429
Approximately 8,365 feet upstream of U.S. 701	19.24	1171	1966	2365	*	3294
Approximately 5,950 feet downstream of Stone Creek Road	11.12	835	1415	1708	*	2393
Approximately 1,685 feet downstream of Stone Creek Road	10.24	793	1346	1626	*	2280

Table 13 - Summary of Discharges

Flooding Source		Discharges (cfs)				
Location	Drainage Area (square miles)	10% Annual Chance	2% Annual Chance	1% Annual Chance	1% Annual Future Annual Chance	0.2% Annual Chance
Approximately 3,300 feet upstream of Stone Creek Road	8.58	711	1211	1463	*	2056
At N.C. 96	7.40	649	1108	1340	*	1886
Approximately 3,145 feet upstream of N.C. 96	6.13	578	990	1199	*	1692
Approximately 4,650 feet downstream of Adams Road	5.03	511	879	1066	*	1506
Approximately 2,350 feet downstream of Adams Road	1.79	271	473	578	*	826
Approximately 800 feet downstream of Adams Road	1.24	216	380	464	*	667
Approximately 1,750 feet downstream of Interstate 40	1.09	198	351	430	*	618
At Interstate 40	0.62	140	250	308	*	445
Stone Creek Tributary						
Approximately 0.2 mile upstream of the confluence with Stone Creek	2.59	*	*	1350	*	*
Approximately 0.1 mile downstream of Adams Road	1.43	*	*	933	*	*
Approximately 0.2 mile upstream of Adams Road	1.33	*	*	889	*	*
Approximately 0.5 mile upstream of Adams Road	1.06	*	*	773	*	*
Stony Fork						
At the mouth at Hannah Creek	9.43	1589	2539	2943	*	3963
At the mouth at Hannah Creek	8.70	*	*	1920	*	*
At Railroad	7.95	1431	2293	2664	*	3589
Approximately 0.5 mile downstream of Raleigh Road	7.68	*	*	2660	*	*
Approximately 0.1 mile upstream of Shade Tree Road	2.78	*	*	1410	*	*
Approximately 0.6 mile upstream of Shade Tree Road	1.87	*	*	1100	*	*
Stony Fork Tributary						
Approximately 0.4 mile upstream of the confluence with Stony Fork	3.78	*	*	1710	*	*
Approximately 0.6 mile downstream of Federal Road	3.39	*	*	1600	*	*
Approximately 0.2 mile downstream of Federal Road	3.12	*	*	1520	*	*
Approximately 0.1 mile upstream of Interstate 40	2.64	*	*	1370	*	*
Swift Creek						
At the mouth	286.80	9523	14739	17036	*	22489
Above Middle Creek (at NC 210)	155.22	7904	12164	13961	*	18358
Just upstream of confluence with Swift Creek Tributary 3	153.01	7894	12145	13934	*	18318
Approximately 2.0 miles downstream of Lee Road	120.85	7424	11387	13022	*	17083
Approximately 0.9 mile upstream of Barver Mill Road	109.88	7070	10853	12412	*	16290
Approximately 0.9 mile downstream of Cornwallis Road	89.45	6195	9547	10936	*	14389
Approximately 0.3 mile upstream of NC 42	81.22	6002	9243	10577	*	13911
Swift Creek Tributary 3						
Just upstream of confluence with Swift Creek	1.62	477	904	1069	*	1572
Approximately 3,225 feet upstream of confluence with Swift Creek	0.57	122	220	271	*	395
Approximately 1,150 feet downstream of Market Street	0.40	99	178	220	*	322
Approximately 1,265 feet upstream of Market Street	0.21	65	119	148	*	218
Unnamed Tributary (#1) to Swift Creek						
At the confluence with Swift Creek	4.77	1044	1687	1963	*	2664
Approximately 100 feet downstream of New Bethel Church Road	3.98	934	1513	1763	*	2397
Approximately 3,050 feet upstream of New Bethel Road	3.12	804	1309	1527	*	2082
Unnamed Tributary (#2) to Swift Creek						

Table 13 - Summary of Discharges

Flooding Source		Discharges (cfs)				
Location	Drainage Area (square miles)	10% Annual Chance	2% Annual Chance	1% Annual Chance	1% Annual Future Annual Chance	0.2% Annual Chance
At the confluence with Swift Creek	2.27	499	836	993	*	1380
Just upstream of Josephine Road	1.88	444	746	887	*	1235
Approximately 1.1 mile downstream of Cornwallis Road	1.67	400	676	806	*	1125
Approximately 4,325 feet upstream of Josephine Road	1.14	311	530	633	*	889
Approximately 4,175 feet downstream of Cornwallis Road	0.82	244	418	502	*	709
Approximately 1,300 feet downstream of Cornwallis Road	0.54	156	275	334	*	479
White Oak Creek						
At the confluence with Swift Creek	14.46	2069	3282	3794	*	5086
Approximately 480 feet upstream of NC 42	13.52	1985	3152	3646	*	4891
Approximately 120 feet downstream of Winston Road	10.48	1696	2705	3133	*	4215
Approximately 3,200 feet upstream of Winston Road	9.66	1613	2576	2986	*	4020
Approximately 1.6 miles upstream of Winston Road	8.06	1443	2311	2682	*	3618

Table 14, "Summary of Stillwater Elevations" is not applicable in Johnston County.

Table 15, "Gage Information", lists the stream gages located in Johnston County, including the drainage area of the flooding source at the gage and the period of record available at the time of the publication of this FIS Report.

Table 15 - Gage Information

Gage Number	Flooding Source	Site Name	Drainage Area (square miles)	Period of Record	
				From	To
02088210	Hannah Creek Tributary 2	HANNAH CREEK NEAR BENSON, N.C.	2.59	1953	1971
02088000	Middle Creek	MIDDLE CREEK NEAR CLAYTON, NC	83.50	1939	2013
02087500	Neuse River	NEUSE RIVER NEAR CLAYTON, NC	1150.00	1919	2013
02088140	Stone Creek	STONE CREEK NEAR NEWTON GROVE, N.C.	27.90	1953	1971

5.2 Hydraulic Analyses

Analyses of the hydraulic characteristics of flooding from the sources studied were carried out to provide estimates of the flood elevations for the selected recurrence intervals. Locations of selected cross sections used in the hydraulic analyses are shown on the Flood Profiles and/or Water-surface elevation rasters. For stream segments for which BFEs were computed, selected cross-section locations are also shown on the FIRM. Flood Profiles and/or Water-surface elevation rasters were developed showing computed water-surface elevations for floods of the selected recurrence intervals.

Users should be aware that flood elevations shown on the FIRM represent rounded whole-foot elevations and may not exactly reflect the elevations shown on the Flood Profiles and/or Water-surface elevation rasters or in the Floodway Data tables in the FIS Report. For construction and/or floodplain management purposes, users are encouraged to use the flood elevation data presented in the FIS in conjunction with the data shown on the FIRM.

The hydraulic analyses for this FIS were based on unobstructed flow. The flood elevations shown on the Flood Profiles are thus considered valid only if hydraulic structures remain unobstructed, operate properly, and do not fail.

For details on the county's hydraulic analyses, the hydraulic report is available by request.

For the streams studied by detailed methods, water surface elevations of floods of the selected recurrence intervals were computed through use of the Army Corps of Engineers' HEC RAS step backwater computer program. The hydraulic analyses were based on unobstructed flow. The flood elevations shown on the Profiles and/or Water-surface elevation rasters are thus considered valid only if hydraulic structures remain unobstructed, operate properly, and do not fail. The computer models were calibrated using historic high water data collected during field investigations.

The cross section geometries were obtained from a combination of digital elevation data obtained by Light Detection and Ranging (LIDAR) and field surveys. All bridges, dams, and culverts were field surveyed to obtain elevation data and structural geometry. Natural floodplain cross sections were surveyed approximately every 4000 feet along the detail study reaches to obtain the channel geometry between bridges and culverts. Overbank cross section data for the backwater analyses were obtained from recently flown LIDAR data.

Channel roughness factors (Manning's "n") used in the hydraulic computations were made in the field by an engineer where stream access was possible, with orthophotos used to supplement areas that could not be accessed. The channel and overbank "n" values for all of the streams studied by detailed methods are shown in Table 16, "Roughness Coefficients".

Table 16 - Roughness Coefficients

Stream	Channel "n"	Overbank "n"
Arters Branch	0.045	0.110 to 0.130
Basin 11, Stream 7	0.042	0.130
Bawdy Creek	0.050	0.150
Bawdy Swamp	0.050	0.150
Beaverdam Branch	0.045	0.130
Beaverdam Creek	0.040 to 0.068	0.080 to 0.160
Beaverdam Swamp	0.050	0.150
Beddingfield Creek	0.050	0.130
Bernal Branch	0.050	0.150
Big Arm Creek	0.055	0.150
Big Branch	0.042	0.130
Black Creek	0.025 to 0.060	0.030 to 0.150
Black Creek Tributary	0.045	0.130
Buffalo Creek	0.040 to 0.055	0.030 to 0.150
Buffalo Creek (Basin 9, Stream 1)	0.030 to 0.070	0.032 to 0.140
Buffalo Creek West	0.045 to 0.052	0.030 to 0.140
Bull Branch	0.045 to 0.050	0.120 to 0.130
Burnt Stocking Branch	0.050	0.150
Camp Branch	0.045	0.130
Cattail Creek	0.042	0.130
Cooper Branch	0.045	0.130
Cow Branch	0.035 to 0.053	0.050 to 0.140
Dicks Branch	0.045	0.130
Dismal Branch	0.050	0.150
Great Swamp Tributary 3	0.046	0.130
Hannah Creek	0.040 to 0.060	0.030 to 0.150
Hannah Creek Tributary 2	0.050	0.150
Hardee Mill Branch	0.045	0.130
Hogpen Branch	0.050	0.150
Johnson Swamp	0.045	0.130
Johnson Swamp Tributary	0.050	0.150
Jumping Run	0.050	0.150
Juniper Swamp	0.050	0.150
Juniper Swamp Tributary 1	0.050	0.150
Juniper Swamp Tributary 2	0.050	0.150
Little Bernal Branch	0.050	0.150
Little Black Creek	0.030 to 0.070	0.070 to 0.130
Little Buffalo Creek	0.042	0.130
Little Buffalo Creek Tributary	0.042	0.130
Little Creek	0.033 to 0.050	0.030 to 0.150
Little Creek (Basin 11, Stream 2)	0.030 to 0.080	0.055 to 0.150
Little Creek (Into Middle Creek)	0.033 to 0.047	0.095 to 0.140
Little Creek (Near Micro)	0.045	0.130
Little Creek Tributary	0.048	0.030 to 0.140
Little Poplar Creek	0.050	0.070 to 0.150
Little River	0.040 to 0.066	0.070 to 0.240
Little River Tributary 1	0.042	0.130
Little Swamp Branch	0.050	0.150
Little Swamp Branch Tributary 2	0.050	0.150
Long Branch	0.041	0.130

Table 16 - Roughness Coefficients

Stream	Channel "n"	Overbank "n"
Marks Creek	0.025 to 0.070	0.032 to 0.130
Marks Creek Tributary	0.050	0.120
McCullens Branch	0.045	0.130
Middle Creek	0.040 to 0.050	0.030 to 0.140
Mill Branch	0.050	0.030 to 0.150
Mill Creek (Near Clayton)	0.045	0.100
Mill Creek (Near Selma)	0.055	0.150
Mill Creek (South)	0.035 to 0.060	0.040 to 0.160
Mill Creek Tributary 2	0.050	0.150
Mill Creek Tributary 3	0.050	0.150
Mill Creek Tributary 4	0.050	0.150
Mill Creek Tributary 6	0.050	0.150
Mill Swamp Branch	0.050	0.150
Moccasin Creek	0.030 to 0.070	0.030 to 0.220
Moccasin Creek Tributary 1	0.045 to 0.050	0.120 to 0.140
Moccasin Creek Tributary 2	0.046	0.130
Moccasin Swamp	0.048	0.035 to 0.150
Neuse River	0.035 to 0.060	0.055 to 0.250
Neuse River Tributary 1	0.051 to 0.052	0.050 to 0.150
Neuse River Tributary 2	0.048 to 0.052	0.065 to 0.150
Oak Creek	0.050	0.150
Pole Branch	0.045	0.130
Polecat Branch	0.045	0.130
Poplar Creek	0.051	0.055 to 0.150
Quincosin Swamp	0.050	0.150
Reedy Creek	0.045	0.130
Reedy Prong	0.050	0.150
Reedy Prong Tributary	0.050	0.150
Sams Creek	0.035 to 0.055	0.070 to 0.150
Snipes Creek	0.042 to 0.045	0.120 to 0.130
Spring Branch	0.020 to 0.060	0.030 to 0.140
Spring Branch Tributary 1	0.042	0.130
Stone Creek	0.040 to 0.060	0.030 to 0.150
Stone Creek Tributary	0.050	0.150
Stony Fork	0.045 to 0.060	0.030 to 0.150
Stony Fork Tributary	0.050	0.150
Swift Creek	0.032 to 0.072	0.035 to 0.240
Swift Creek Tributary 3	0.055	0.060 to 0.150
Unnamed Tributary (#1) to Swift Creek	0.045 to 0.060	0.050 to 0.150
Unnamed Tributary (#2) to Swift Creek	0.043	0.050 to 0.150
White Oak Creek	0.035 to 0.050	0.035 to 0.150

For flooding sources studied by limited detailed methods in the county, standard hydrologic and hydraulic study methods were used to determine the flood hazard data required for this report and the FIRM panels. This method entails developing a HEC-RAS hydraulic model, resulting in the calculation of BFEs and the delineation of the 1% annual chance floodplain (designated as Zone AE). Cross sections for the flooding sources studied by limited detailed methods were obtained using digital elevation data obtained with LIDAR technology developed as part of the North Carolina Statewide Floodplain Mapping Program. The hydraulic model is prepared using this digital elevation data, without surveying bathymetric or structural data. Where bridge or culvert data are readily available, such as from the North Carolina Department of Transportation, these data have been reflected in the hydraulic model. If these structural data are not readily available, field measurements of these structures were made to approximate their geometry in the hydraulic models. In addition, this method does not include field surveys that determine specifics on channel and floodplain characteristics. A limited detailed study is a “buildable” product that can be upgraded to a fully detailed study at a later date by verifying stream channel characteristics, bridge and culvert opening geometry, and by analyzing multiple recurrence intervals.

The results of the HEC-RAS computations are tabulated for all cross sections (Table 17, “Limited Detailed Flood Hazard Data”). Flood Profiles have not been developed for streams studied by limited detailed methods. Water-surface elevation rasters were developed for streams studied by limited detailed methods. In addition, floodways for streams studied by limited detailed methods are not delineated

on the FIRM. However, the 1% annual chance water-surface elevations, flood discharges, and non-encroachment widths from the limited detailed studies for every modeled cross section are given in Table 17. The non-encroachment widths given at modeled cross sections can be used by communities to enforce floodplain management ordinances that meet the requirement defined in 44 CFR 60.3(c)(10).

Between cross sections for streams studied by limited detailed methods, 1% annual chance water-surface elevations can be calculated by mathematical interpolation using the distance along the stream centerline. Non-encroachment widths and, therefore, the location of a non-encroachment area boundary between cross sections should be determined based on either 1) mathematical interpolation, or 2) the non-encroachment width at the upstream or downstream cross section, whichever is larger. If the width determined by this second method is wider than the Special Flood Hazard Area (SFHA) or the 1% annual chance floodplain delineated on the FIRM for this location along the stream, the non-encroachment area shall be considered to be coincident with the SFHA. A full detailed study incorporating field survey data in the HEC-RAS hydraulic model may be submitted for a Letter of Map Revision (LOMR) request to map a regulatory floodway along a section of a stream in lieu of applying the non-encroachment widths listed in Table 17.

Table 17 - Limited Detailed Flood Hazard Data

Cross Section	Stream Station	Flood Discharge (cfs)	1% Annual Chance Water-Surface Elevation (feet NAVD 88)	Non-Encroachment Width (feet) Left/Right from Stream Centerline
Arters Branch				
010	988	908	123.3 ¹	49 / 16
013	1,345	908	123.3 ¹	15 / 25
018	1,800	908	123.3 ¹	44 / 17
025	2,453	908	123.3 ¹	15 / 15
032	3,170	908	123.8	21 / 16
042	4,242	908	129.6	60 / 137
047	4,694	877	129.6	209 / 251
054	5,434	877	131.4	14 / 60
061	6,126	877	134.2	75 / 135
069	6,861	782	135.6	41 / 74
080	8,030	782	145.6	136 / 203
086	8,552	782	145.6	192 / 134
093	9,317	782	145.6	217 / 14
099	9,916	782	146.4	14 / 257
105	10,481	704	147.5	13 / 178
111	11,120	704	149.0	13 / 308
116	11,587	704	150.7	13 / 133
124	12,381	704	155.0	13 / 307
Bawdy Creek				
018	1,777	5,489	86.2 ¹	841 / 317
028	2,753	5,489	86.2 ¹	870 / 293
034	3,400	5,489	86.2 ¹	884 / 312
047	4,695	5,489	86.6	904 / 339
058	5,844	5,489	87.0	916 / 372
073	7,328	5,489	87.3	929 / 374
079	7,919	5,489	87.4	955 / 368
084	8,436	5,489	87.6	1,113 / 164
093	9,266	5,489	87.9	318 / 343
097	9,720	5,489	88.2	279 / 352
103	10,283	5,489	88.5	867 / 95
108	10,757	5,489	88.7	350 / 530
113	11,311	5,489	89.1	352 / 172

Table 17 - Limited Detailed Flood Hazard Data

Cross Section	Stream Station	Flood Discharge (cfs)	1% Annual Chance Water-Surface Elevation (feet NAVD 88)	Non-Encroachment Width (feet) Left/Right from Stream Centerline
122	12,160	5,489	90.4	263 / 98
127	12,697	5,489	91.2	141 / 358
132	13,151	5,489	91.5	366 / 341
138	13,843	5,489	91.9	110 / 122
144	14,413	5,197	92.9	189 / 558
150	14,951	5,197	93.4	327 / 150
159	15,889	5,197	94.5	732 / 28
164	16,417	5,197	95.2	334 / 99
169	16,890	5,197	96.1	440 / 153
174	17,434	5,091	97.5	235 / 81
179	17,892	5,091	98.0	166 / 183
184	18,447	5,091	98.3	859 / 192
190	18,970	5,003	98.6	480 / 430
195	19,521	5,003	98.8	634 / 27
200	19,973	4,910	99.0	693 / 27
203	20,327	4,910	99.1	981 / 27
207	20,698	4,910	99.2	1,068 / 27
212	21,184	4,910	99.3	1,316 / 27
215	21,522	4,910	99.4	1,573 / 27
221	22,103	4,910	99.6	1,621 / 27
225	22,540	4,827	99.6	1,063 / 27
230	23,046	4,827	99.7	1,455 / 27
236	23,583	4,827	99.8	1,425 / 27
240	24,049	4,726	100.0	1,005 / 26
246	24,569	4,726	100.4	948 / 26
251	25,111	4,726	100.6	1,000 / 26
257	25,653	4,726	100.8	675 / 26
262	26,174	4,726	101.3	773 / 58
268	26,786	4,726	101.9	110 / 275
273	27,293	4,647	102.5	740 / 274
278	27,816	4,647	102.8	800 / 26
283	28,305	4,647	103.1	788 / 416
288	28,834	4,647	103.5	767 / 111
293	29,338	4,561	104.1	617 / 234
299	29,856	4,561	104.5	53 / 151
304	30,369	4,561	106.0	49 / 300
309	30,885	4,561	106.9	68 / 234
314	31,385	4,561	107.9	82 / 221
323	32,276	4,561	110.0	173 / 282
328	32,815	4,561	110.2	404 / 136
333	33,319	4,561	110.4	418 / 150
Bawdy Swamp				
007	685	3,428	110.4 ¹	725 / 50
012	1,225	3,428	110.4 ¹	100 / 410
018	1,751	3,392	110.4 ¹	489 / 332

Table 17 - Limited Detailed Flood Hazard Data

Cross Section	Stream Station	Flood Discharge (cfs)	1% Annual Chance Water-Surface Elevation (feet NAVD 88)	Non-Encroachment Width (feet) Left/Right from Stream Centerline
024	2,384	3,392	110.4 ¹	450 / 275
030	2,956	3,392	110.8	310 / 300
036	3,569	3,261	112.0	25 / 600
043	4,260	3,261	112.5	90 / 590
047	4,712	3,261	112.9	21 / 492
056	5,611	3,261	115.4	280 / 382
063	6,252	3,261	115.8	375 / 37
070	7,012	3,123	116.3	158 / 402
076	7,621	3,123	116.9	375 / 75
081	8,094	3,123	117.5	348 / 91
087	8,744	3,123	118.1	321 / 197
096	9,583	2,976	118.9	218 / 249
102	10,239	2,976	119.8	178 / 104
108	10,780	2,976	120.8	390 / 91
113	11,285	2,717	121.2	425 / 19
119	11,857	2,717	121.6	342 / 277
124	12,448	2,717	122.1	141 / 145
130	12,979	2,655	122.6	177 / 312
136	13,631	2,655	123.2	199 / 331
142	14,214	2,655	123.8	19 / 325
149	14,931	2,655	124.8	272 / 107
155	15,450	2,655	125.7	119 / 136
160	16,026	2,655	126.7	119 / 334
166	16,564	2,655	127.4	33 / 184
171	17,120	2,655	128.4	185 / 150
177	17,711	2,655	129.1	94 / 145
183	18,275	2,655	130.0	264 / 116
189	18,858	2,655	130.6	463 / 14
199	19,882	2,356	131.6	16 / 80
204	20,389	2,356	135.4	53 / 50
214	21,365	2,356	145.4	282 / 198
221	22,092	2,356	145.4	223 / 143
227	22,730	1,863	145.5	275 / 575
233	23,296	1,863	145.5	275 / 275
239	23,857	1,863	145.5	231 / 118
245	24,484	1,863	145.6	117 / 226
250	25,034	1,863	145.7	118 / 271
256	25,588	1,863	145.8	44 / 601
265	26,489	1,863	145.9	310 / 254
271	27,060	1,863	146.0	223 / 156
276	27,602	1,863	146.5	178 / 99
281	28,113	1,863	147.4	250 / 20
288	28,761	1,698	148.4	260 / 16
293	29,301	1,698	149.4	169 / 26
299	29,885	1,698	150.7	245 / 114

Table 17 - Limited Detailed Flood Hazard Data

Cross Section	Stream Station	Flood Discharge (cfs)	1% Annual Chance Water-Surface Elevation (feet NAVD 88)	Non-Encroachment Width (feet) Left/Right from Stream Centerline
305	30,454	1,698	152.0	270 / 250
310	30,986	1,498	152.9	107 / 175
313	31,286	1,498	156.2	75 / 75
319	31,894	1,498	158.4	150 / 185
326	32,638	1,498	158.5	150 / 200
332	33,216	1,498	158.5	164 / 200
337	33,669	1,498	158.5	72 / 200
342	34,222	1,498	158.7	126 / 149
347	34,701	1,498	159.0	159 / 100
353	35,340	1,319	159.6	120 / 162
359	35,892	1,319	160.1	20 / 190
Beaverdam Branch				
017	1,703	1,042	171.3 ¹	225 / 320
023	2,264	1,042	171.3 ¹	223 / 82
029	2,892	1,042	173.2	83 / 108
033	3,320	1,042	174.2	24 / 95
039	3,892	1,042	176.0	78 / 156
044	4,402	909	177.6	15 / 81
049	4,943	909	179.5	45 / 92
054	5,377	898	180.5	67 / 28
059	5,884	898	182.0	21 / 30
064	6,401	829	183.1	14 / 14
Beaverdam Creek				
347	34,672	1,500	124.6	81 / 85
352	35,157	1,500	125.0	157 / 73
356	35,568	1,500	125.3	116 / 56
360	35,991	1,300	126.0	85 / 12
365	36,549	1,300	126.7	146 / 99
371	37,066	1,300	127.2	119 / 85
376	37,568	1,300	128.2	17 / 93
380	38,047	1,300	129.6	125 / 12
385	38,514	1,300	130.9	106 / 45
390	38,995	1,300	132.1	157 / 34
395	39,501	1,300	133.2	15 / 190
401	40,071	716	133.8	35 / 210
403	40,258	716	134.0	50 / 210
405	40,489	716	134.6	14 / 75
409	40,900	716	136.8	14 / 50
414	41,427	716	137.8	14 / 51
420	41,988	716	138.7	14 / 40
424	42,418	626	139.2	25 / 25
428	42,828	626	139.6	25 / 25
433	43,274	626	140.6	18 / 22
Beaverdam Swamp				
004	406	915	128.5 ¹	14 / 111
017	1,733	915	128.7	70 / 156

Table 17 - Limited Detailed Flood Hazard Data

Cross Section	Stream Station	Flood Discharge (cfs)	1% Annual Chance Water-Surface Elevation (feet NAVD 88)	Non-Encroachment Width (feet) Left/Right from Stream Centerline
027	2,650	915	131.6	138 / 73
033	3,334	915	134.4	62 / 102
037	3,720	756	136.1	64 / 14
043	4,317	756	138.8	250 / 40
049	4,929	756	140.5	112 / 14
053	5,332	756	142.4	79 / 14
060	6,031	756	146.7	80 / 20
067	6,680	756	151.4	60 / 14
Beddingfield Creek				
025	2,492	2,146	162.3 ¹	17 / 202
029	2,903	2,146	162.3 ¹	53 / 136
035	3,526	2,146	162.3 ¹	149 / 50
041	4,069	1,902	162.3 ¹	20 / 88
045	4,483	1,902	162.7	34 / 129
046	4,642	1,902	163.4	25 / 21
055	5,477	1,902	165.9	16 / 17
Bernal Branch				
002	159	1,953	129.5 ¹	75 / 375
012	1,241	1,953	129.5 ¹	25 / 265
021	2,135	1,953	129.5 ¹	72 / 180
031	3,064	1,953	129.5	25 / 100
037	3,742	1,953	131.0	60 / 199
044	4,389	1,953	135.7	433 / 200
046	4,630	1,647	135.7	189 / 228
047	4,725	1,647	135.8	160 / 327
052	5,234	1,647	135.8	90 / 188
055	5,536	1,647	136.0	48 / 270
061	6,067	1,647	136.2	100 / 160
066	6,558	1,647	136.5	100 / 196
070	6,993	1,647	136.8	150 / 40
075	7,512	1,647	137.9	150 / 15
081	8,083	1,647	139.8	156 / 14
087	8,684	1,562	141.2	174 / 116
092	9,158	1,562	142.1	170 / 11
104	10,382	1,562	147.7	35 / 108
107	10,682	1,562	148.4	40 / 15
112	11,163	1,144	155.0	113 / 100
115	11,545	1,144	155.0	116 / 131
123	12,282	1,052	155.2	39 / 200
131	13,140	1,052	157.6	169 / 77
136	13,612	1,052	157.8	54 / 168
141	14,095	1,052	158.6	160 / 38
145	14,505	757	160.4	40 / 21
150	15,013	757	162.3	11 / 69
155	15,505	757	164.2	14 / 72

Table 17 - Limited Detailed Flood Hazard Data

Cross Section	Stream Station	Flood Discharge (cfs)	1% Annual Chance Water-Surface Elevation (feet NAVD 88)	Non-Encroachment Width (feet) Left/Right from Stream Centerline
161	16,082	757	167.2	14 / 60
166	16,601	757	170.3	50 / 50
171	17,094	757	173.9	50 / 14
175	17,535	757	176.8	47 / 18
180	18,047	757	179.3	14 / 33
186	18,604	757	182.3	37 / 38
193	19,326	628	185.1	14 / 50
Big Arm Creek				
007	657	1,810	162.9 ¹	16 / 199
015	1,486	1,810	164.8	46 / 70
021	2,092	1,810	167.6	111 / 23
029	2,860	1,810	169.7	49 / 251
033	3,336	1,810	173.1	56 / 55
040	4,024	1,810	174.8	77 / 175
046	4,650	1,810	175.5	130 / 126
052	5,186	1,810	177.3	16 / 226
058	5,760	1,810	180.8	75 / 87
064	6,374	990	184.2	56 / 72
Big Branch				
033	3,324	1,740	140.7	74 / 82
036	3,620	1,740	144.8	150 / 70
041	4,093	1,740	144.9	288 / 62
048	4,838	1,740	145.5	31 / 245
062	6,169	1,610	152.7	218 / 175
071	7,143	1,610	154.7	122 / 50
082	8,208	1,300	157.6	120 / 147
089	8,868	1,300	160.0	172 / 7
093	9,344	1,300	162.6	183 / 3
102	10,211	1,300	166.9	57 / 196
109	10,922	1,300	167.5	3 / 157
122	12,164	1,300	171.6	140 / 107
128	12,825	1,300	171.9	61 / 263
134	13,387	1,150	172.3	3 / 179
140	14,046	1,150	173.2	87 / 137
146	14,588	1,150	174.0	52 / 155
151	15,064	1,150	174.9	185 / 11
155	15,529	1,150	175.7	239 / 37
162	16,222	1,150	177.0	277 / 3
168	16,805	1,150	178.4	158 / 7
174	17,375	1,150	179.3	128 / 121
179	17,902	1,150	179.9	132 / 129
189	18,884	1,150	181.6	118 / 107
196	19,571	750	182.4	85 / 208
Black Creek				
1360	136,035	2,457	193.1	325 / 25
1365	136,500	2,279	194.0	375 / 24

Table 17 - Limited Detailed Flood Hazard Data

Cross Section	Stream Station	Flood Discharge (cfs)	1% Annual Chance Water-Surface Elevation (feet NAVD 88)	Non-Encroachment Width (feet) Left/Right from Stream Centerline
1370	137,000	2,279	195.0	465 / 24
1374	137,429	2,279	195.7	427 / 24
1380	138,000	2,279	196.5	299 / 152
1385	138,500	2,279	197.4	237 / 284
1398	139,791	2,279	199.3	151 / 37
1403	140,324	2,279	200.3	36 / 179
1410	140,968	2,252	201.1	201 / 180
1415	141,542	2,252	201.7	442 / 24
1420	142,000	2,252	202.4	305 / 24
1425	142,500	2,252	203.3	283 / 24
1430	143,000	2,252	204.6	224 / 31
1435	143,527	2,252	205.7	115 / 45
1439	143,920	2,252	207.2	176 / 28
1445	144,537	2,126	208.1	278 / 23
1450	144,963	2,126	208.7	213 / 23
1455	145,491	2,126	209.9	196 / 23
1459	145,897	2,126	210.6	349 / 60
1464	146,426	2,126	211.2	380 / 23
1469	146,924	2,126	212.1	384 / 23
Black Creek Tributary				
005	500	908	184.2 ¹	446 / 15
010	1,000	908	185.1	333 / 15
014	1,360	908	187.3	15 / 143
018	1,783	806	190.2	31 / 179
024	2,440	806	191.8	14 / 178
029	2,943	806	193.1	22 / 103
035	3,508	770	195.1	75 / 100
039	3,943	770	196.2	141 / 65
044	4,401	770	197.6	63 / 20
048	4,825	770	199.8	13 / 87
053	5,267	770	201.5	13 / 98
057	5,737	728	202.6	13 / 150
061	6,128	728	207.3	37 / 218
070	7,040	542	207.4	187 / 165
076	7,597	542	211.8	12 / 12
Buffalo Creek				
148	14,814	1,851	136.9	210 / 90
151	15,088	1,851	137.1	198 / 119
155	15,500	1,851	137.6	24 / 83
157	15,730	1,678	138.4	12 / 183
158	15,836	1,678	143.9	12 / 183
162	16,189	1,678	143.9	346 / 111
165	16,502	1,678	143.9	171 / 289
170	17,008	1,678	143.9	196 / 168
173	17,344	1,678	144.0	182 / 180

Table 17 - Limited Detailed Flood Hazard Data

Cross Section	Stream Station	Flood Discharge (cfs)	1% Annual Chance Water-Surface Elevation (feet NAVD 88)	Non-Encroachment Width (feet) Left/Right from Stream Centerline
178	17,786	1,678	144.0	188 / 146
181	18,096	1,198	144.0	200 / 221
182	18,233	1,198	147.1	200 / 50
186	18,588	1,198	147.1	237 / 50
189	18,887	1,198	147.1	292 / 22
193	19,270	1,198	147.2	150 / 60
194	19,423	1,198	147.2	134 / 80
195	19,547	1,198	147.2	134 / 80
200	20,003	1,146	147.2	90 / 180
203	20,266	1,146	147.3	80 / 141
205	20,477	1,146	147.4	112 / 12
206	20,573	1,146	147.5	112 / 18
208	20,756	1,146	147.6	36 / 12
209	20,923	1,146	147.9	119 / 212
210	21,007	1,146	147.9	119 / 212
213	21,290	980	148.0	251 / 28
216	21,578	980	148.1	108 / 38
216	21,629	980	148.1	108 / 37
219	21,901	980	148.2	57 / 14
223	22,271	980	148.4	25 / 30
225	22,513	963	148.6	30 / 15
227	22,732	963	151.6	55 / 45
229	22,878	963	151.8	25 / 46
235	23,501	963	154.2	20 / 169
Buffalo Creek (Basin 9, Stream 1)				
652	65,151	7,355	205.7	42 / 462
657	65,691	7,355	205.9	92 / 307
662	66,192	7,355	206.2	35 / 411
669	66,855	7,355	206.7	133 / 333
676	67,630	7,355	207.2	317 / 285
680	68,000	7,237	207.4	469 / 112
690	68,996	7,237	209.4	190 / 347
695	69,538	7,237	209.6	376 / 315
700	70,047	7,237	209.8	308 / 500
706	70,550	7,119	210.0	189 / 427
710	71,017	7,062	210.2	467 / 361
716	71,569	7,062	210.4	213 / 445
722	72,207	7,062	210.7	217 / 352
727	72,671	7,062	211.0	320 / 415
732	73,180	7,062	211.3	403 / 580
736	73,649	6,755	211.6	343 / 398
742	74,180	6,755	212.0	258 / 300
750	74,956	6,755	212.7	388 / 471
756	75,576	6,755	213.2	325 / 315
762	76,159	6,755	213.7	355 / 659

Table 17 - Limited Detailed Flood Hazard Data

Cross Section	Stream Station	Flood Discharge (cfs)	1% Annual Chance Water-Surface Elevation (feet NAVD 88)	Non-Encroachment Width (feet) Left/Right from Stream Centerline
767	76,682	6,755	213.9	293 / 328
775	77,482	6,755	214.7	207 / 33
777	77,749	6,755	215.4	151 / 234
782	78,201	6,755	215.9	276 / 305
788	78,752	6,634	216.4	328 / 331
792	79,193	6,634	216.7	363 / 366
797	79,700	6,634	217.0	330 / 274
802	80,243	6,634	217.5	342 / 278
809	80,936	6,634	217.9	439 / 454
814	81,372	6,634	218.1	343 / 323
818	81,835	6,634	218.4	446 / 250
823	82,308	6,512	218.7	260 / 327
833	83,305	6,512	222.3	458 / 251
837	83,697	6,512	222.4	333 / 489
845	84,549	6,512	222.6	390 / 353
849	84,943	6,512	222.7	551 / 116
854	85,395	6,512	222.8	359 / 231
860	85,963	6,512	223.1	292 / 328
866	86,637	6,386	223.4	339 / 32
871	87,054	6,386	223.9	365 / 346
875	87,510	6,386	224.2	376 / 343
880	88,045	6,386	224.6	484 / 175
885	88,534	6,290	224.9	235 / 389
888	88,803	6,087	225.1	219 / 301
901	90,110	6,087	226.2	360 / 283
910	91,016	6,087	226.7	369 / 312
915	91,495	6,087	227.1	526 / 97
923	92,282	6,087	227.7	714 / 31
929	92,866	6,087	227.9	328 / 444
933	93,339	6,087	228.1	31 / 276
950	94,982	5,728	232.4	408 / 455
956	95,647	5,728	232.5	469 / 358
963	96,288	5,728	232.6	117 / 337
970	97,033	5,728	233.0	305 / 30
976	97,558	5,728	233.3	486 / 195
979	97,906	5,728	233.3	30 / 150
988	98,765	5,728	234.4	318 / 46
998	99,757	5,728	238.6	30 / 530
1009	100,865	5,330	238.6	728 / 428
1021	102,093	5,330	238.6	328 / 428
1037	103,666	5,303	238.7	485 / 476
1042	104,168	5,303	238.8	438 / 289
1047	104,710	5,160	238.9	97 / 662
1053	105,295	5,026	239.1	319 / 452
1061	106,053	5,026	239.3	27 / 399

Table 17 - Limited Detailed Flood Hazard Data

Cross Section	Stream Station	Flood Discharge (cfs)	1% Annual Chance Water-Surface Elevation (feet NAVD 88)	Non-Encroachment Width (feet) Left/Right from Stream Centerline
1065	106,501	5,026	239.6	191 / 400
1071	107,120	5,026	240.0	27 / 355
1075	107,505	5,026	240.4	27 / 308
1083	108,296	5,026	241.4	49 / 204
1091	109,092	5,026	242.4	27 / 145
1096	109,562	5,026	243.0	35 / 67
1104	110,364	5,026	244.8	194 / 153
1111	111,056	4,878	245.0	75 / 113
1115	111,520	4,878	245.2	47 / 77
1120	112,003	4,878	245.8	242 / 26
1123	112,283	4,878	245.8	149 / 33
Bull Branch				
011	1,126	1,500	152.2 ¹	485 / 33
019	1,869	1,500	152.2 ¹	196 / 116
024	2,435	1,500	152.2 ¹	191 / 14
028	2,800	1,500	152.2 ¹	183 / 14
035	3,468	1,340	155.2	21 / 108
040	3,963	1,340	156.9	21 / 104
043	4,335	1,340	158.3	69 / 14
047	4,735	1,340	161.7	81 / 14
052	5,224	1,340	163.8	148 / 14
057	5,748	1,340	166.4	73 / 45
066	6,590	1,250	173.8	175 / 28
068	6,764	1,250	174.0	146 / 84
074	7,373	1,250	175.0	150 / 29
082	8,200	1,250	179.6	5 / 190
085	8,513	1,250	180.7	13 / 146
088	8,843	1,150	182.1	39 / 55
094	9,403	1,150	185.8	13 / 80
099	9,913	1,150	188.9	39 / 42
103	10,313	1,150	190.6	152 / 13
107	10,695	1,150	192.3	82 / 13
110	11,023	1,150	194.3	30 / 52
114	11,440	990	197.4	28 / 27
118	11,795	990	200.2	89 / 12
125	12,465	990	203.4	39 / 79
128	12,819	990	204.6	85 / 6
133	13,280	990	206.3	12 / 124
136	13,625	990	208.0	71 / 47
139	13,941	990	209.6	112 / 12
149	14,947	878	214.3	78 / 19
155	15,521	878	217.4	12 / 67
Burnt Stocking Branch				
007	672	1,668	138.5 ¹	126 / 25
009	872	1,668	139.2	29 / 125

Table 17 - Limited Detailed Flood Hazard Data

Cross Section	Stream Station	Flood Discharge (cfs)	1% Annual Chance Water-Surface Elevation (feet NAVD 88)	Non-Encroachment Width (feet) Left/Right from Stream Centerline
010	993	1,668	141.5	29 / 125
011	1,142	1,668	141.9	102 / 118
013	1,298	1,668	142.1	167 / 65
020	1,980	1,668	143.0	10 / 255
026	2,646	1,668	144.6	155 / 10
034	3,373	1,668	147.3	75 / 78
040	3,994	1,668	149.1	133 / 85
048	4,791	1,668	150.5	98 / 116
058	5,759	1,437	152.1	205 / 20
063	6,254	1,437	152.8	116 / 114
072	7,217	1,437	154.1	202 / 43
079	7,939	1,437	156.0	154 / 109
085	8,476	1,437	157.2	9 / 237
091	9,143	1,437	157.9	212 / 45
094	9,450	1,437	158.3	171 / 107
098	9,791	1,437	159.0	118 / 19
099	9,940	1,437	162.0	118 / 19
104	10,431	1,114	162.2	75 / 249
108	10,769	1,114	162.4	64 / 58
114	11,357	1,114	163.6	56 / 138
119	11,858	1,114	164.6	71 / 26
123	12,271	1,114	165.7	16 / 99
128	12,788	1,114	167.1	64 / 48
Camp Branch				
007	673	1,057	160.3 ¹	282 / 182
011	1,122	1,057	161.2	170 / 152
015	1,549	1,057	162.5	83 / 113
020	2,000	1,057	164.6	59 / 95
025	2,542	1,030	166.6	90 / 92
030	2,984	1,030	168.0	124 / 16
039	3,876	1,030	177.2	203 / 88
044	4,433	1,030	177.2	199 / 112
049	4,896	957	177.2	266 / 77
055	5,470	957	177.2	78 / 121
059	5,914	957	177.3	131 / 75
Cattail Creek				
005	492	3,100	182.0 ¹	696 / 86
011	1,064	3,100	182.0 ¹	254 / 152
016	1,594	3,100	182.0 ¹	110 / 221
020	2,000	3,100	182.0 ¹	257 / 20
025	2,500	3,100	182.0 ¹	232 / 90
030	3,000	3,100	182.0 ¹	107 / 115
035	3,500	3,100	182.0 ¹	50 / 67
043	4,346	3,100	185.5	225 / 242
054	5,385	3,100	185.5	259 / 252

Table 17 - Limited Detailed Flood Hazard Data

Cross Section	Stream Station	Flood Discharge (cfs)	1% Annual Chance Water-Surface Elevation (feet NAVD 88)	Non-Encroachment Width (feet) Left/Right from Stream Centerline
065	6,500	3,100	185.6	310 / 300
077	7,742	2,930	185.7	318 / 315
085	8,548	2,930	185.9	163 / 147
089	8,940	2,930	188.8	146 / 19
096	9,638	2,930	191.5	220 / 270
108	10,778	2,930	194.0	72 / 55
112	11,184	2,930	194.9	142 / 205
116	11,563	2,930	195.2	333 / 19
121	12,102	2,930	196.0	286 / 57
126	12,587	2,820	197.2	96 / 50
129	12,946	2,820	198.1	103 / 111
135	13,477	2,820	198.7	275 / 105
142	14,230	2,820	199.6	138 / 184
149	14,913	2,820	200.8	19 / 145
158	15,843	2,820	202.1	341 / 118
165	16,500	2,820	202.6	114 / 56
170	17,037	2,610	203.6	136 / 213
176	17,612	2,610	204.2	116 / 214
180	18,000	2,610	204.6	168 / 65
186	18,608	2,610	205.8	147 / 63
196	19,603	2,610	208.1	213 / 134
201	20,080	2,610	209.0	217 / 94
205	20,500	2,610	209.6	238 / 208
211	21,070	2,610	210.3	193 / 150
215	21,500	2,610	210.9	244 / 173
219	21,911	2,410	211.4	283 / 176
225	22,527	2,110	212.2	261 / 17
231	23,149	2,110	213.0	276 / 40
239	23,938	2,110	214.3	323 / 17
246	24,642	2,110	215.8	236 / 66
253	25,306	2,110	216.8	231 / 107
260	25,967	2,110	218.2	217 / 17
266	26,619	2,110	220.4	277 / 17
270	27,000	1,970	220.9	137 / 257
274	27,450	1,680	221.3	47 / 209
280	27,991	1,630	221.9	188 / 59
285	28,543	1,630	222.7	36 / 203
290	29,000	1,630	223.5	25 / 218
295	29,500	1,340	224.4	211 / 30
300	30,000	1,340	225.3	166 / 18
305	30,545	1,340	227.1	69 / 50
310	31,000	1,340	228.4	78 / 83
315	31,500	1,340	229.3	225 / 14
320	32,000	1,340	230.5	240 / 14
325	32,500	1,340	232.3	14 / 120

Table 17 - Limited Detailed Flood Hazard Data

Cross Section	Stream Station	Flood Discharge (cfs)	1% Annual Chance Water-Surface Elevation (feet NAVD 88)	Non-Encroachment Width (feet) Left/Right from Stream Centerline
330	33,035	1,340	234.9	146 / 52
337	33,711	1,100	236.7	51 / 91
345	34,534	1,100	243.0	59 / 203
350	35,000	1,100	243.1	90 / 148
355	35,520	1,100	243.4	71 / 132
360	36,044	1,100	244.9	117 / 45
365	36,500	1,100	246.3	98 / 96
370	37,000	1,100	247.4	45 / 20
375	37,522	1,100	249.6	80 / 240
380	38,000	1,100	250.6	50 / 88
385	38,541	1,100	252.5	139 / 38
390	39,000	1,100	254.3	77 / 30
396	39,560	1,100	257.4	13 / 193
400	40,000	745	259.1	129 / 34
404	40,434	745	260.8	14 / 67
410	40,957	745	264.2	20 / 64
420	42,012	745	272.2	55 / 59
425	42,500	745	273.6	45 / 14
Cooper Branch				
004	410	1,019	139.3 ¹	133 / 16
009	884	1,019	139.3 ¹	16 / 165
013	1,273	1,019	139.3 ¹	16 / 87
015	1,478	1,019	139.3 ¹	16 / 16
017	1,668	1,019	139.3 ¹	16 / 16
020	1,976	1,019	139.3 ¹	93 / 63
024	2,368	1,000	139.3 ¹	25 / 84
031	3,067	1,000	139.3 ¹	48 / 64
035	3,451	1,000	139.7	18 / 34
039	3,891	1,000	141.2	67 / 15
043	4,251	1,000	142.6	77 / 24
046	4,584	1,000	143.8	139 / 15
Cow Branch				
010	1,038	543	159.8 ¹	375 / 9
015	1,504	543	160.2	216 / 9
021	2,083	543	163.9	37 / 76
025	2,520	543	167.5	7 / 69
030	3,000	543	170.0	8 / 76
035	3,500	543	172.2	30 / 48
041	4,069	543	173.8	6 / 78
045	4,500	543	175.1	20 / 60
050	5,000	543	178.3	11 / 46
054	5,358	543	180.2	5 / 50
056	5,603	543	181.1	25 / 30
057	5,664	543	182.7	25 / 25
060	6,000	487	184.1	8 / 21

Table 17 - Limited Detailed Flood Hazard Data

Cross Section	Stream Station	Flood Discharge (cfs)	1% Annual Chance Water-Surface Elevation (feet NAVD 88)	Non-Encroachment Width (feet) Left/Right from Stream Centerline
065	6,500	487	188.3	17 / 28
069	6,940	487	190.8	64 / 5
073	7,301	487	192.7	11 / 26
076	7,632	487	194.2	14 / 13
077	7,745	487	196.5	15 / 15
081	8,084	429	197.1	18 / 17
085	8,500	429	199.6	58 / 5
090	9,000	429	202.1	91 / 5
093	9,284	429	203.4	37 / 17
095	9,498	429	204.1	23 / 9
096	9,639	429	214.5	480 / 60
100	10,041	429	214.5	249 / 177
104	10,447	429	214.5	116 / 207
109	10,892	388	214.5	80 / 80
114	11,375	388	214.5	40 / 70
119	11,885	388	216.4	7 / 50
Dicks Branch				
013	1,317	616	156.8 ¹	48 / 136
020	2,000	616	159.1	12 / 12
025	2,493	616	163.4	16 / 14
036	3,593	538	168.6	25 / 71
040	3,992	538	169.0	30 / 56
045	4,483	538	169.5	195 / 41
050	5,004	538	171.6	58 / 12
Dismal Branch				
008	807	1,015	128.6 ¹	63 / 25
013	1,271	1,015	133.4	13 / 80
016	1,614	1,015	136.9	32 / 37
022	2,232	1,015	140.6	13 / 175
026	2,615	949	140.8	60 / 28
030	2,959	949	141.8	43 / 47
034	3,394	949	144.0	13 / 65
038	3,768	949	145.8	15 / 145
043	4,264	949	148.9	13 / 78
East Mingo Creek				
005	508	954	219.6 ¹	155 / 17
010	1,000	954	220.0	67 / 110
017	1,708	954	221.7	17 / 145
023	2,282	954	223.6	29 / 30
023	2,328	954	224.4	29 / 30
029	2,876	954	225.4	175 / 37
038	3,787	954	225.9	95 / 39
046	4,579	954	226.8	93 / 34
052	5,239	954	227.6	130 / 24
060	5,981	954	230.0	104 / 18
066	6,568	954	233.2	120 / 27

Table 17 - Limited Detailed Flood Hazard Data

Cross Section	Stream Station	Flood Discharge (cfs)	1% Annual Chance Water-Surface Elevation (feet NAVD 88)	Non-Encroachment Width (feet) Left/Right from Stream Centerline
069	6,875	954	234.1	90 / 17
070	7,046	954	234.7	62 / 47
071	7,107	954	239.5	62 / 47
076	7,637	795	239.5	126 / 82
083	8,290	795	239.6	85 / 113
090	9,021	795	239.7	130 / 55
097	9,659	795	240.0	106 / 15
102	10,227	795	241.3	71 / 15
109	10,904	592	244.2	79 / 14
Great Swamp				
643	64,326	745	161.1	14 / 110
Great Swamp Tributary 3				
101	10,093	937	156.1	57 / 16
Hannah Creek				
886	88,647	3,735	135.8	62 / 184
896	89,606	3,735	139.7	117 / 337
903	90,280	3,735	139.9	354 / 142
907	90,695	3,691	140.0	366 / 158
911	91,111	3,691	140.2	277 / 209
916	91,642	3,691	140.6	166 / 357
920	91,993	3,691	140.8	275 / 400
926	92,570	3,691	141.1	435 / 275
938	93,769	3,467	146.1	338 / 107
943	94,302	3,467	146.1	146 / 203
948	94,812	3,467	146.2	612 / 128
953	95,313	3,467	146.3	622 / 73
958	95,763	3,467	146.3	347 / 583
964	96,414	3,467	146.4	434 / 75
970	97,013	3,467	146.7	93 / 112
977	97,724	2,222	147.8	372 / 29
983	98,263	2,222	148.6	187 / 149
993	99,330	1,716	153.2	16 / 175
999	99,886	1,716	153.8	85 / 15
1012	101,176	1,434	166.0	153 / 200
1022	102,200	1,434	167.8	40 / 200
1028	102,824	1,434	168.0	75 / 150
1032	103,226	1,434	168.0	75 / 150
Hannah Creek Tributary 2				
005	538	2,176	146.8 ¹	227 / 42
010	1,027	2,176	146.8 ¹	225 / 17
016	1,557	2,176	148.8	195 / 65
026	2,577	2,176	153.2	205 / 156
031	3,068	2,113	153.5	204 / 175
036	3,630	2,113	153.9	135 / 275
049	4,897	1,383	158.2	190 / 175
054	5,420	1,383	158.2	200 / 175

Table 17 - Limited Detailed Flood Hazard Data

Cross Section	Stream Station	Flood Discharge (cfs)	1% Annual Chance Water-Surface Elevation (feet NAVD 88)	Non-Encroachment Width (feet) Left/Right from Stream Centerline
059	5,915	1,383	158.7	148 / 42
063	6,264	1,383	159.4	68 / 135
073	7,273	1,315	162.7	153 / 100
077	7,737	1,315	163.3	137 / 36
083	8,320	1,256	165.1	200 / 13
093	9,263	1,256	173.6	236 / 68
097	9,674	1,256	173.7	214 / 125
101	10,090	1,256	173.7	220 / 17
105	10,510	963	173.9	90 / 12
112	11,240	963	180.3	35 / 150
120	11,985	963	183.5	92 / 75
Hardee Mill Branch				
005	500	735	155.7 ¹	132 / 440
010	1,000	735	155.7 ¹	13 / 563
015	1,486	735	156.0	39 / 13
020	2,000	735	159.3	41 / 71
030	3,033	735	166.8	316 / 33
035	3,517	464	166.8	57 / 37
040	4,017	464	166.9	14 / 84
045	4,517	464	167.2	34 / 82
050	5,017	464	169.0	40 / 7
055	5,452	416	171.7	14 / 72
060	6,005	416	173.8	22 / 29
065	6,505	416	176.9	9 / 52
Johnson Swamp				
009	852	2,609	118.0	85 / 225
014	1,403	2,609	120.2	85 / 213
022	2,203	2,609	122.2	186 / 276
027	2,746	2,609	123.6	251 / 76
033	3,320	2,609	125.3	275 / 163
038	3,786	2,609	126.1	350 / 200
045	4,547	2,609	126.9	275 / 300
052	5,159	2,609	127.6	352 / 113
057	5,722	2,609	128.2	332 / 102
064	6,439	2,086	128.8	349 / 245
069	6,918	2,086	129.1	128 / 422
078	7,783	1,806	130.7	124 / 247
083	8,270	1,806	131.3	150 / 135
087	8,734	1,806	132.0	300 / 60
092	9,196	1,806	132.7	250 / 15
097	9,676	1,806	134.0	240 / 15
102	10,178	1,695	135.2	222 / 15
107	10,667	1,695	136.6	183 / 53
113	11,345	1,695	139.2	195 / 114
120	11,970	1,695	140.6	382 / 108

Table 17 - Limited Detailed Flood Hazard Data

Cross Section	Stream Station	Flood Discharge (cfs)	1% Annual Chance Water-Surface Elevation (feet NAVD 88)	Non-Encroachment Width (feet) Left/Right from Stream Centerline
126	12,630	1,695	142.8	25 / 143
149	14,934	992	150.4	375 / 75
151	15,144	992	152.4	75 / 68
155	15,460	872	161.5	30 / 131
158	15,835	872	163.0	93 / 170
163	16,332	872	164.3	84 / 30
169	16,865	832	166.1	68 / 54
176	17,622	832	168.2	13 / 129
182	18,176	832	171.8	12 / 107
Johnson Swamp Tributary				
008	779	1,016	145.7 ¹	70 / 355
014	1,450	1,016	153.1	300 / 34
020	1,959	1,016	153.2	275 / 12
026	2,563	947	153.5	152 / 12
031	3,071	947	154.8	85 / 25
037	3,726	947	157.3	92 / 2
042	4,214	947	159.3	40 / 30
046	4,603	824	162.8	140 / 24
051	5,141	824	168.1	150 / 29
055	5,462	824	168.2	145 / 10
057	5,697	824	168.6	125 / 10
Jumping Run				
011	1,085	1,319	158.5 ¹	125 / 50
022	2,164	1,319	161.6	24 / 170
026	2,614	1,319	164.1	25 / 125
032	3,164	1,165	167.8	55 / 25
038	3,848	1,165	170.8	85 / 145
052	5,198	1,165	175.7	46 / 190
056	5,598	1,165	176.5	75 / 185
061	6,100	1,031	177.9	13 / 196
067	6,681	1,031	180.4	13 / 175
073	7,321	1,031	182.6	35 / 175
079	7,915	1,031	184.4	45 / 305
085	8,474	1,031	185.9	35 / 275
090	8,981	744	187.0	158 / 11
095	9,541	744	188.2	176 / 25
105	10,469	744	191.3	100 / 150
Juniper Swamp				
005	520	3,031	113.1 ¹	310 / 445
021	2,130	3,031	113.1 ¹	362 / 300
028	2,798	3,031	113.1 ¹	198 / 326
043	4,307	2,790	113.1 ¹	203 / 340
048	4,810	2,790	113.1 ¹	74 / 612
053	5,276	2,765	113.1 ¹	280 / 219
058	5,777	2,765	113.6	164 / 114
064	6,361	2,765	114.8	129 / 313

Table 17 - Limited Detailed Flood Hazard Data

Cross Section	Stream Station	Flood Discharge (cfs)	1% Annual Chance Water-Surface Elevation (feet NAVD 88)	Non-Encroachment Width (feet) Left/Right from Stream Centerline
069	6,853	2,765	115.4	286 / 313
074	7,373	2,765	115.7	261 / 339
079	7,948	2,670	116.1	214 / 188
085	8,516	2,670	116.8	260 / 81
090	8,996	2,670	117.3	329 / 23
095	9,487	2,670	117.7	105 / 245
099	9,903	2,670	118.2	36 / 412
106	10,587	1,872	118.8	24 / 337
111	11,127	1,872	119.4	214 / 22
115	11,481	1,872	120.2	62 / 143
120	11,963	1,872	121.5	100 / 101
124	12,358	1,872	122.5	96 / 122
129	12,854	1,821	123.8	54 / 148
134	13,426	1,821	125.0	146 / 109
140	13,979	1,821	125.9	25 / 222
144	14,430	1,821	127.1	125 / 160
153	15,260	1,821	130.7	140 / 250
158	15,787	1,609	131.3	168 / 108
162	16,248	1,609	132.3	111 / 41
169	16,857	1,609	134.8	106 / 38
174	17,375	1,609	136.1	102 / 158
177	17,700	1,609	136.8	38 / 133
182	18,154	1,609	138.2	93 / 126
187	18,698	1,609	139.5	250 / 14
192	19,165	1,609	140.6	175 / 34
197	19,661	1,452	142.4	219 / 14
202	20,212	1,452	144.1	150 / 93
210	20,995	1,452	146.5	96 / 145
214	21,426	1,452	147.0	90 / 139
219	21,936	1,225	148.1	62 / 9
230	22,961	1,225	158.2	235 / 132
233	23,252	1,225	158.2	140 / 233
239	23,943	1,225	158.3	325 / 25
Juniper Swamp Tributary 1				
004	413	1,336	118.6 ¹	88 / 34
010	1,001	1,336	121.2	125 / 13
013	1,303	1,336	122.5	135 / 13
018	1,801	1,336	124.7	21 / 82
024	2,353	1,336	126.5	72 / 63
028	2,803	1,336	128.0	133 / 82
032	3,244	1,336	130.8	124 / 75
038	3,820	886	133.0	161 / 77
043	4,300	886	134.3	39 / 10
050	4,993	886	137.0	12 / 85
055	5,502	886	138.9	16 / 81

Table 17 - Limited Detailed Flood Hazard Data

Cross Section	Stream Station	Flood Discharge (cfs)	1% Annual Chance Water-Surface Elevation (feet NAVD 88)	Non-Encroachment Width (feet) Left/Right from Stream Centerline
059	5,908	886	141.0	95 / 42
063	6,324	886	143.1	31 / 65
069	6,859	886	147.1	20 / 61
074	7,362	792	149.7	45 / 56
079	7,883	792	151.6	33 / 76
084	8,387	792	154.1	9 / 79
088	8,771	792	156.7	27 / 40
Juniper Swamp Tributary 2				
006	607	687	133.0 ¹	55 / 75
010	997	687	135.3	60 / 14
014	1,426	687	138.2	75 / 75
019	1,893	687	141.1	75 / 14
024	2,424	623	145.0	57 / 14
029	2,904	623	147.0	14 / 23
034	3,391	623	149.6	25 / 14
038	3,843	623	155.1	20 / 14
Little Black Creek				
014	1,372	1,895	189.6	264 / 231
018	1,840	1,895	190.9	28 / 381
023	2,293	1,895	191.9	21 / 444
027	2,689	1,895	192.7	21 / 341
031	3,105	1,895	193.7	158 / 141
038	3,771	1,895	195.4	294 / 68
044	4,376	1,895	196.8	100 / 163
049	4,950	1,824	197.6	71 / 301
053	5,320	1,824	198.2	133 / 201
059	5,851	1,824	199.0	122 / 422
063	6,288	1,824	199.6	265 / 53
074	7,396	1,824	202.8	149 / 138
081	8,106	1,824	203.7	87 / 238
085	8,542	1,824	204.4	83 / 146
090	9,042	1,824	205.4	21 / 244
095	9,542	1,824	206.0	212 / 46
102	10,169	1,824	206.8	21 / 434
105	10,542	1,824	207.3	94 / 270
110	11,042	1,824	208.3	282 / 62
115	11,542	1,647	209.2	166 / 93
120	12,003	1,647	210.1	145 / 23
125	12,516	1,647	211.0	215 / 111
131	13,119	1,647	211.6	142 / 214
135	13,516	1,647	212.2	257 / 20
140	14,016	1,647	213.3	182 / 64
145	14,516	1,455	214.2	88 / 104
150	15,044	1,455	215.1	73 / 172
155	15,516	1,455	215.7	19 / 301

Table 17 - Limited Detailed Flood Hazard Data

Cross Section	Stream Station	Flood Discharge (cfs)	1% Annual Chance Water-Surface Elevation (feet NAVD 88)	Non-Encroachment Width (feet) Left/Right from Stream Centerline
160	16,016	1,455	216.9	155 / 59
165	16,516	1,420	218.0	140 / 158
170	17,016	1,420	219.2	81 / 147
176	17,580	1,420	221.2	18 / 166
180	18,016	1,420	222.3	94 / 243
186	18,597	1,334	223.1	18 / 95
191	19,095	1,334	224.0	73 / 113
200	20,016	1,334	226.7	124 / 111
205	20,516	1,334	227.0	269 / 18
210	20,952	1,334	227.4	144 / 42
214	21,367	1,334	228.1	159 / 8
Little Buffalo Creek				
054	5,435	5,475	146.9 ¹	29 / 646
063	6,256	5,346	146.9 ¹	241 / 725
069	6,880	5,346	146.9 ¹	403 / 665
074	7,421	5,346	146.9 ¹	351 / 438
081	8,139	5,346	146.9 ¹	156 / 542
087	8,735	5,346	146.9 ¹	28 / 595
095	9,460	5,346	146.9 ¹	139 / 655
100	9,958	5,346	146.9 ¹	420 / 534
109	10,859	5,205	149.7	499 / 431
113	11,343	5,063	149.8	610 / 32
121	12,137	5,063	150.2	646 / 176
127	12,681	5,063	150.5	505 / 229
131	13,134	5,063	150.8	495 / 123
141	14,093	3,196	151.6	180 / 347
145	14,463	3,196	151.9	207 / 106
152	15,223	3,196	153.2	339 / 143
157	15,703	3,196	153.6	351 / 20
161	16,099	3,196	154.1	475 / 25
172	17,158	3,135	157.1	346 / 126
178	17,781	2,837	157.6	357 / 19
184	18,419	2,837	158.8	218 / 19
189	18,920	2,837	159.8	168 / 193
194	19,419	2,837	160.6	142 / 136
201	20,051	2,837	161.9	255 / 19
208	20,801	2,759	163.2	378 / 19
215	21,468	2,563	164.4	173 / 94
219	21,943	2,563	166.0	303 / 18
222	22,191	2,563	166.8	334 / 53
227	22,742	2,563	167.9	261 / 46
231	23,122	2,563	168.8	248 / 38
235	23,547	2,563	169.9	216 / 21
243	24,254	2,430	172.2	50 / 144
248	24,750	2,430	173.5	218 / 22

Table 17 - Limited Detailed Flood Hazard Data

Cross Section	Stream Station	Flood Discharge (cfs)	1% Annual Chance Water-Surface Elevation (feet NAVD 88)	Non-Encroachment Width (feet) Left/Right from Stream Centerline
251	25,099	2,430	174.2	207 / 20
256	25,565	2,430	174.9	225 / 82
261	26,133	2,430	175.8	160 / 74
267	26,707	2,430	176.8	55 / 313
272	27,235	2,430	177.4	201 / 156
277	27,708	2,430	178.0	270 / 96
283	28,329	2,430	178.9	18 / 344
290	29,000	2,430	179.9	380 / 18
296	29,619	1,904	180.6	138 / 337
301	30,086	1,904	181.0	55 / 85
309	30,945	1,904	183.5	111 / 237
315	31,505	1,904	183.9	146 / 193
322	32,207	1,904	184.5	203 / 86
330	33,000	1,904	185.5	63 / 217
342	34,193	1,904	187.2	249 / 89
347	34,719	1,904	187.8	205 / 90
355	35,500	1,904	189.0	136 / 145
361	36,076	1,904	189.9	172 / 107
366	36,618	1,720	190.8	87 / 190
372	37,220	1,720	191.8	157 / 75
378	37,847	1,720	192.5	267 / 102
385	38,499	1,720	193.2	78 / 180
390	38,970	1,720	194.0	52 / 240
395	39,542	1,720	194.8	160 / 38
401	40,077	1,720	195.9	15 / 201
407	40,712	1,720	197.0	74 / 170
Little Buffalo Creek Tributary				
009	910	3,320	151.0 ¹	21 / 441
015	1,544	3,320	151.3	317 / 171
021	2,075	3,320	152.2	276 / 114
025	2,516	3,320	153.1	305 / 158
032	3,160	3,320	154.4	428 / 36
036	3,554	3,320	155.3	316 / 69
047	4,716	3,240	161.3	100 / 925
053	5,347	3,240	161.5	350 / 460
059	5,925	3,240	161.8	300 / 450
073	7,309	3,240	164.4	20 / 433
080	8,016	3,240	165.1	27 / 418
085	8,491	3,240	166.4	113 / 258
091	9,128	2,720	168.1	212 / 127
096	9,630	2,720	169.0	217 / 119
Little Creek (Basin 11, Stream 2)				
002	152	2,370	204.8	79 / 174
008	760	2,248	209.7	65 / 15
013	1,276	2,248	212.1	221 / 114

Table 17 - Limited Detailed Flood Hazard Data

Cross Section	Stream Station	Flood Discharge (cfs)	1% Annual Chance Water-Surface Elevation (feet NAVD 88)	Non-Encroachment Width (feet) Left/Right from Stream Centerline
017	1,656	2,136	212.8	127 / 158
020	2,011	2,136	214.2	85 / 64
Little Creek (Into Middle Creek)				
020	1,963	1,935	203.3 ¹	21 / 564
031	3,061	1,935	203.3 ¹	100 / 344
035	3,518	1,935	203.3 ¹	22 / 415
040	4,000	1,935	203.3 ¹	22 / 256
050	5,000	1,935	203.5	230 / 22
054	5,441	1,935	204.4	22 / 127
065	6,500	1,867	207.7	738 / 475
070	7,000	1,867	207.8	519 / 256
075	7,500	1,867	207.9	90 / 297
085	8,500	1,867	212.0	21 / 221
090	9,000	1,867	214.0	197 / 225
095	9,500	1,867	214.9	118 / 366
100	10,000	1,867	216.3	125 / 129
105	10,500	1,867	218.2	110 / 263
110	11,023	1,711	219.3	228 / 191
Little Creek (Near Micro)				
004	351	4,300	123.0 ¹	125 / 16
010	1,000	4,300	123.0 ¹	131 / 119
015	1,480	4,300	123.0 ¹	33 / 114
021	2,103	4,300	123.0 ¹	66 / 130
026	2,640	4,300	123.0 ¹	160 / 37
032	3,210	4,300	123.3	425 / 110
040	4,000	4,140	123.7	251 / 344
049	4,932	4,140	124.2	57 / 728
055	5,489	4,140	124.5	234 / 164
062	6,249	4,140	125.4	406 / 48
071	7,146	4,140	126.6	187 / 166
077	7,740	4,140	127.5	225 / 134
081	8,126	4,140	127.8	162 / 557
085	8,478	4,140	127.9	206 / 554
090	8,991	4,140	128.2	286 / 401
094	9,392	4,020	128.4	415 / 400
099	9,917	4,020	128.8	261 / 567
106	10,647	4,020	129.3	595 / 199
113	11,329	3,850	129.9	730 / 23
128	12,774	3,850	132.5	39 / 216
133	13,272	3,850	133.2	22 / 539
142	14,158	3,850	133.8	22 / 483
146	14,583	3,850	134.3	23 / 204
155	15,496	3,850	136.2	48 / 117
160	16,025	3,850	137.3	101 / 54
170	17,000	3,080	139.2	109 / 330

Table 17 - Limited Detailed Flood Hazard Data

Cross Section	Stream Station	Flood Discharge (cfs)	1% Annual Chance Water-Surface Elevation (feet NAVD 88)	Non-Encroachment Width (feet) Left/Right from Stream Centerline
176	17,563	2,900	139.8	24 / 379
182	18,222	2,900	140.8	83 / 107
189	18,904	2,900	143.1	50 / 148
195	19,500	2,900	144.5	15 / 55
200	20,020	2,900	147.5	55 / 373
206	20,591	2,900	148.3	54 / 191
213	21,264	2,900	150.0	230 / 52
219	21,864	2,800	151.1	232 / 91
226	22,576	2,800	152.1	87 / 155
231	23,053	2,800	153.1	77 / 157
235	23,500	2,800	154.3	226 / 102
243	24,298	2,800	156.2	19 / 180
256	25,637	2,800	160.3	212 / 164
264	26,398	2,600	160.9	198 / 179
273	27,303	2,600	161.7	151 / 177
281	28,120	2,600	162.7	196 / 149
286	28,587	2,600	163.4	264 / 110
289	28,880	2,600	163.9	319 / 113
298	29,770	2,600	174.3	380 / 36
303	30,299	2,380	174.3	386 / 46
312	31,173	2,220	174.4	188 / 155
324	32,365	2,220	183.0	625 / 348
327	32,718	2,220	183.0	511 / 283
334	33,353	2,220	183.0	632 / 334
339	33,894	2,220	183.0	483 / 248
348	34,809	2,220	183.0	458 / 186
356	35,597	2,220	183.0	476 / 302
366	36,554	2,220	183.0	339 / 478
372	37,170	2,220	183.0	1,043 / 309
379	37,893	2,220	183.0	596 / 418
385	38,505	1,990	183.0	190 / 425
394	39,445	1,990	183.1	495 / 198
404	40,425	1,750	183.1	420 / 109
415	41,483	1,750	183.2	304 / 335
427	42,747	1,750	183.4	471 / 16
436	43,600	1,750	183.7	291 / 118
446	44,550	1,560	184.2	182 / 242
Little River				
2735	273,542	10,400	181.7	425 / 400
2741	274,146	10,400	181.7	649 / 39
2748	274,839	10,300	181.9	389 / 1,020
2754	275,354	10,300	182.0	98 / 681
2759	275,892	10,300	182.1	698 / 211
2766	276,563	10,300	182.2	369 / 344
2772	277,203	10,300	182.4	536 / 37

Table 17 - Limited Detailed Flood Hazard Data

Cross Section	Stream Station	Flood Discharge (cfs)	1% Annual Chance Water-Surface Elevation (feet NAVD 88)	Non-Encroachment Width (feet) Left/Right from Stream Centerline
2777	277,712	10,300	182.6	264 / 403
2782	278,179	10,300	182.7	112 / 455
2786	278,646	10,300	182.8	318 / 856
2791	279,129	10,300	182.9	304 / 1,011
2798	279,795	10,300	183.0	37 / 1,108
2803	280,295	10,300	183.1	37 / 855
2808	280,795	10,300	183.2	69 / 865
2818	281,846	10,300	183.5	348 / 55
2838	283,795	10,300	184.2	1,332 / 37
2868	286,795	10,300	184.6	37 / 369
2873	287,295	10,300	184.8	55 / 284
2878	287,795	10,300	185.3	49 / 312
2887	288,735	10,300	187.8	47 / 200
2894	289,415	10,300	188.3	281 / 97
2899	289,904	10,300	188.4	252 / 146
2904	290,364	10,300	188.6	395 / 96
2908	290,795	10,300	188.8	473 / 83
2913	291,295	10,300	188.9	315 / 170
2919	291,893	10,300	189.1	265 / 161
2928	292,795	10,300	189.5	130 / 318
2935	293,526	10,300	189.9	37 / 822
2948	294,795	10,300	190.2	522 / 319
2959	295,876	10,300	190.6	426 / 36
2963	296,295	10,300	190.7	165 / 125
2968	296,795	10,300	191.1	187 / 316
2978	297,795	10,300	191.5	204 / 452
2985	298,491	10,300	191.7	734 / 36
2989	298,914	10,300	191.8	747 / 721
2995	299,452	10,300	191.9	573 / 699
2999	299,895	10,200	192.0	505 / 536
3004	300,443	10,200	192.0	331 / 486
3012	301,192	10,200	192.2	695 / 504
3019	301,909	10,200	192.2	365 / 133
3025	302,501	10,200	192.5	616 / 754
3031	303,058	10,200	192.6	819 / 779
3035	303,531	10,200	192.6	526 / 871
3042	304,198	10,200	192.7	1,124 / 737
3049	304,924	10,200	192.8	1,564 / 315
3053	305,295	10,200	192.9	1,639 / 114
3060	305,968	10,200	193.0	990 / 238
3068	306,831	10,200	193.3	421 / 115
3078	307,795	10,200	194.1	241 / 287
3088	308,795	10,200	194.7	554 / 327
3093	309,295	10,200	195.0	178 / 362
3098	309,795	10,200	195.3	359 / 295

Table 17 - Limited Detailed Flood Hazard Data

Cross Section	Stream Station	Flood Discharge (cfs)	1% Annual Chance Water-Surface Elevation (feet NAVD 88)	Non-Encroachment Width (feet) Left/Right from Stream Centerline
3103	310,295	10,200	195.7	516 / 394
3109	310,917	10,200	195.9	579 / 848
3118	311,795	10,200	196.4	471 / 366
3124	312,373	10,200	196.7	323 / 44
3128	312,848	10,200	197.2	218 / 41
3135	313,450	10,100	198.2	555 / 83
3139	313,903	10,100	198.4	778 / 35
3145	314,529	10,100	198.6	923 / 162
3153	315,295	10,100	198.9	975 / 68
3163	316,295	10,100	200.7	108 / 35
3167	316,719	10,100	201.7	35 / 344
3173	317,295	10,100	202.1	275 / 46
3183	318,277	10,100	202.8	116 / 390
3188	318,795	10,100	202.9	82 / 515
3193	319,295	10,100	203.1	686 / 186
3198	319,837	10,100	203.2	844 / 165
3201	320,140	10,100	203.3	869 / 134
3207	320,685	10,100	203.3	403 / 326
3213	321,295	9,950	203.5	1,646 / 34
3222	322,183	9,950	203.6	1,150 / 104
3227	322,720	9,950	203.6	798 / 102
3233	323,337	9,950	203.8	442 / 34
3240	324,017	9,950	204.3	106 / 131
3246	324,638	9,950	205.0	119 / 100
3253	325,302	9,950	205.8	75 / 100
3270	326,974	9,930	209.3	265 / 189
3279	327,900	9,930	209.6	215 / 605
3288	328,818	9,930	209.8	962 / 702
3296	329,619	9,930	209.9	1,214 / 255
3303	330,295	9,930	209.9	1,078 / 112
3311	331,129	9,910	210.0	810 / 91
3316	331,589	9,910	210.1	797 / 54
3323	332,295	9,910	210.3	667 / 255
3328	332,795	9,910	210.4	483 / 102
3333	333,281	9,910	210.4	204 / 53
3338	333,830	9,910	211.0	91 / 121
3344	334,419	9,910	211.9	164 / 631
3352	335,176	9,890	212.2	34 / 403
3358	335,832	9,890	212.6	99 / 560
3364	336,391	9,890	212.7	81 / 408
3368	336,795	9,870	212.9	291 / 293
3373	337,295	9,870	213.0	118 / 271
3378	337,751	9,870	213.3	172 / 155
3390	339,038	9,870	214.7	240 / 190
3398	339,764	9,870	215.0	473 / 68

Table 17 - Limited Detailed Flood Hazard Data

Cross Section	Stream Station	Flood Discharge (cfs)	1% Annual Chance Water-Surface Elevation (feet NAVD 88)	Non-Encroachment Width (feet) Left/Right from Stream Centerline
3403	340,295	9,850	215.2	591 / 429
3408	340,795	9,850	215.2	364 / 785
3414	341,366	9,850	215.3	321 / 699
3418	341,812	9,850	215.4	748 / 547
3424	342,430	9,830	215.4	995 / 345
3428	342,795	9,830	215.5	1,024 / 297
3433	343,252	9,830	215.5	704 / 315
3436	343,618	9,830	215.6	329 / 262
3441	344,083	9,830	215.7	399 / 33
3446	344,592	9,830	216.0	455 / 226
3448	344,836	9,830	216.1	554 / 520
Little River Tributary 1				
005	500	1,580	174.8 ¹	89 / 104
010	1,000	1,580	174.8 ¹	167 / 15
016	1,619	1,580	174.8 ¹	15 / 140
020	2,000	1,580	174.8 ¹	100 / 15
027	2,654	1,580	174.8 ¹	24 / 154
030	3,000	1,580	174.8 ¹	22 / 159
041	4,120	1,410	179.9	182 / 71
045	4,545	1,410	181.6	29 / 110
051	5,061	1,410	184.6	103 / 46
056	5,597	1,410	187.2	93 / 33
061	6,145	1,410	189.8	37 / 67
066	6,617	1,410	192.0	138 / 14
071	7,060	1,410	194.0	54 / 100
080	8,000	1,410	198.7	14 / 153
085	8,488	1,410	199.8	134 / 14
100	9,975	1,160	207.2	100 / 13
105	10,546	1,160	209.7	67 / 31
111	11,142	1,160	212.6	96 / 13
Little Swamp Branch				
002	230	2,588	148.5 ¹	53 / 501
005	515	2,588	148.5 ¹	93 / 288
011	1,057	2,588	149.7	85 / 300
015	1,549	2,588	150.6	85 / 300
020	2,037	2,588	151.9	150 / 150
027	2,693	2,588	153.6	300 / 30
032	3,235	2,455	154.2	266 / 43
036	3,585	2,455	154.5	224 / 42
041	4,071	2,361	155.1	190 / 17
044	4,391	2,361	156.3	103 / 194
051	5,134	2,361	159.2	47 / 332
057	5,725	2,361	160.2	73 / 234
063	6,336	2,361	161.6	33 / 293
067	6,735	2,361	162.3	71 / 361

Table 17 - Limited Detailed Flood Hazard Data

Cross Section	Stream Station	Flood Discharge (cfs)	1% Annual Chance Water-Surface Elevation (feet NAVD 88)	Non-Encroachment Width (feet) Left/Right from Stream Centerline
072	7,203	2,361	162.9	132 / 261
080	7,968	1,792	163.8	79 / 154
085	8,481	1,792	164.5	250 / 15
090	9,004	1,792	165.0	250 / 15
095	9,474	1,792	165.7	246 / 15
100	9,984	1,207	166.7	188 / 15
110	11,035	1,207	170.1	14 / 120
115	11,548	1,207	171.8	13 / 175
120	12,038	1,207	172.9	265 / 9
125	12,523	1,207	173.8	60 / 53
130	13,020	1,207	175.6	88 / 20
135	13,515	1,207	176.8	97 / 63
140	14,005	1,120	177.9	99 / 163
147	14,688	1,120	181.9	13 / 286
152	15,200	1,120	182.4	13 / 205
157	15,719	1,120	183.3	18 / 247
162	16,202	1,120	184.2	49 / 142
166	16,632	1,120	185.0	16 / 184
172	17,247	690	186.2	14 / 85
179	17,888	690	188.3	26 / 12
Little Swamp Branch Tributary 1				
008	757	1,024	169.3	54 / 114
012	1,194	1,024	170.6	128 / 21
017	1,749	1,024	172.9	13 / 141
023	2,286	919	175.0	13 / 205
026	2,632	919	175.7	19 / 200
029	2,885	919	177.0	50 / 200
Little Swamp Branch Tributary 2				
002	219	626	185.6 ¹	14 / 100
007	718	626	186.5	50 / 14
Long Branch				
002	197	3,910	156.9 ¹	74 / 495
009	864	3,910	156.9 ¹	354 / 154
015	1,471	3,910	156.9 ¹	368 / 283
021	2,079	3,910	156.9 ¹	187 / 422
027	2,651	3,910	156.9 ¹	132 / 286
032	3,211	3,910	156.9 ¹	418 / 21
038	3,813	3,910	157.9	254 / 55
049	4,937	3,910	160.1	226 / 438
060	6,000	3,910	161.5	21 / 391
066	6,565	3,910	162.6	68 / 434
071	7,052	3,910	163.3	123 / 439
075	7,523	3,910	163.8	152 / 387
080	7,970	3,910	164.6	285 / 213
085	8,500	3,910	165.7	252 / 150
090	9,000	3,910	166.6	508 / 86

Table 17 - Limited Detailed Flood Hazard Data

Cross Section	Stream Station	Flood Discharge (cfs)	1% Annual Chance Water-Surface Elevation (feet NAVD 88)	Non-Encroachment Width (feet) Left/Right from Stream Centerline
095	9,462	3,910	167.0	565 / 70
100	9,964	3,880	167.6	402 / 186
105	10,500	3,880	168.4	288 / 85
111	11,094	3,880	169.5	387 / 69
117	11,737	3,880	170.9	301 / 67
125	12,499	3,880	172.2	205 / 176
130	13,000	3,820	173.2	198 / 126
136	13,561	3,820	174.4	208 / 267
140	14,028	3,820	175.2	469 / 47
145	14,500	3,820	176.2	406 / 19
150	15,000	3,820	177.6	369 / 22
154	15,446	3,820	178.6	395 / 36
165	16,471	3,710	181.8	291 / 392
170	17,044	3,710	182.0	147 / 278
174	17,444	3,710	182.4	202 / 249
180	18,000	3,710	183.0	19 / 309
185	18,506	3,710	183.8	321 / 90
191	19,061	3,710	184.7	306 / 114
195	19,479	3,710	185.5	189 / 113
200	20,000	3,710	186.4	81 / 327
205	20,500	3,290	186.9	264 / 297
210	21,000	3,290	187.4	92 / 430
216	21,634	3,290	188.4	114 / 174
220	22,000	3,290	189.4	75 / 314
225	22,500	3,290	190.3	194 / 158
230	23,000	2,790	191.1	48 / 311
234	23,425	2,790	191.6	74 / 182
241	24,091	2,790	193.0	65 / 355
245	24,527	2,790	193.7	81 / 259
251	25,113	2,790	194.4	163 / 340
257	25,715	2,790	194.9	410 / 107
261	26,055	2,790	195.3	151 / 118
264	26,445	2,790	196.4	186 / 121
269	26,915	2,790	197.4	265 / 151
276	27,623	2,330	198.5	168 / 123
285	28,500	2,330	200.1	192 / 143
291	29,117	2,330	201.0	178 / 136
295	29,500	2,330	201.7	180 / 115
300	30,000	1,900	202.7	97 / 91
306	30,589	1,330	205.1	168 / 110
310	31,026	1,330	205.5	119 / 107
316	31,552	1,330	206.3	14 / 134
321	32,109	1,330	207.6	32 / 135
327	32,726	1,280	209.1	167 / 13
332	33,210	1,280	210.0	13 / 149

Table 17 - Limited Detailed Flood Hazard Data

Cross Section	Stream Station	Flood Discharge (cfs)	1% Annual Chance Water-Surface Elevation (feet NAVD 88)	Non-Encroachment Width (feet) Left/Right from Stream Centerline
335	33,478	1,280	210.5	36 / 224
339	33,935	907	211.5	114 / 24
Marks Creek				
003	263	6,064	158.5 ¹	30 / 39
007	699	6,064	158.5 ¹	160 / 31
013	1,334	6,064	158.5 ¹	59 / 31
019	1,912	6,064	158.5 ¹	30 / 30
027	2,709	6,064	158.5 ¹	30 / 150
033	3,276	6,064	158.5 ¹	30 / 220
041	4,099	6,064	158.5 ¹	31 / 101
046	4,564	6,064	158.5 ¹	30 / 30
052	5,215	6,064	158.5 ¹	30 / 30
060	5,957	6,064	158.5 ¹	30 / 30
067	6,693	5,759	158.5	175 / 33
072	7,226	5,759	158.7	29 / 35
076	7,621	5,759	159.8	50 / 50
081	8,060	5,759	160.6	106 / 29
090	9,004	5,759	161.9	22 / 97
097	9,653	5,759	162.7	195 / 285
103	10,315	5,759	162.9	54 / 71
110	11,040	5,131	164.0	79 / 308
117	11,685	5,131	164.4	100 / 346
125	12,501	5,050	164.9	181 / 76
131	13,114	5,050	165.5	262 / 248
138	13,815	5,050	166.1	95 / 157
145	14,476	5,050	167.9	76 / 75
150	15,017	5,050	169.3	125 / 94
157	15,671	5,050	170.3	26 / 83
163	16,262	5,050	171.8	32 / 55
173	17,297	4,772	174.1	73 / 158
180	18,024	4,772	174.8	170 / 33
Marks Creek Tributary				
004	350	991	158.5 ¹	26 / 10
007	701	991	158.5 ¹	65 / 10
010	980	991	159.1	78 / 24
012	1,175	991	159.9	111 / 10
014	1,400	991	160.7	98 / 10
018	1,750	991	162.4	83 / 10
021	2,100	991	163.7	139 / 15
025	2,450	925	164.4	55 / 41
026	2,606	925	164.4	19 / 60
028	2,750	925	165.7	57 / 14
028	2,821	925	168.6	57 / 14
031	3,053	925	169.7	87 / 10
032	3,211	925	170.1	29 / 40

Table 17 - Limited Detailed Flood Hazard Data

Cross Section	Stream Station	Flood Discharge (cfs)	1% Annual Chance Water-Surface Elevation (feet NAVD 88)	Non-Encroachment Width (feet) Left/Right from Stream Centerline
035	3,500	925	171.2	10 / 62
039	3,882	925	172.1	31 / 36
040	4,035	865	172.4	10 / 22
042	4,200	865	173.2	14 / 19
044	4,361	865	174.4	45 / 10
045	4,518	865	175.2	25 / 27
046	4,650	865	176.4	80 / 10
McCullens Branch				
013	1,307	1,022	163.5 ¹	408 / 244
020	2,000	1,022	163.5 ¹	472 / 109
025	2,500	1,022	163.5 ¹	289 / 20
030	3,000	1,022	164.6	125 / 14
040	4,000	1,002	170.2	225 / 267
048	4,777	1,002	170.3	241 / 215
055	5,500	1,002	171.2	38 / 194
060	6,000	669	173.8	166 / 13
065	6,500	669	174.8	27 / 112
070	7,000	669	175.6	13 / 343
075	7,548	669	176.1	460 / 13
079	7,920	642	176.6	29 / 28
082	8,239	642	179.6	24 / 31
087	8,699	642	181.6	12 / 51
097	9,723	642	187.2	102 / 31
102	10,223	612	187.9	61 / 59
107	10,723	612	189.1	6 / 73
112	11,223	565	192.2	22 / 12
117	11,723	565	194.3	89 / 23
Mill Creek (Near Clayton)				
000	40	1,823	145.4 ¹	43 / 115
004	382	1,823	145.4 ¹	10 / 17
012	1,167	1,823	145.4 ¹	76 / 85
017	1,655	1,823	145.4 ¹	183 / 82
021	2,104	1,823	145.4 ¹	295 / 18
025	2,527	1,823	145.4 ¹	44 / 268
031	3,077	1,823	145.4 ¹	19 / 24
034	3,387	1,823	145.4 ¹	41 / 16
044	4,432	1,823	147.7	125 / 57
049	4,924	1,823	148.9	177 / 16
058	5,761	1,823	152.2	16 / 83
064	6,363	1,823	155.2	43 / 45
070	6,981	1,823	159.4	20 / 20
075	7,455	1,639	161.0	17 / 28
079	7,852	1,639	163.4	15 / 113
084	8,397	1,639	165.4	15 / 173
088	8,788	1,639	167.2	31 / 31

Table 17 - Limited Detailed Flood Hazard Data

Cross Section	Stream Station	Flood Discharge (cfs)	1% Annual Chance Water-Surface Elevation (feet NAVD 88)	Non-Encroachment Width (feet) Left/Right from Stream Centerline
097	9,739	1,639	172.5	20 / 185
101	10,121	1,639	176.1	18 / 189
109	10,903	1,342	178.0	118 / 137
115	11,521	1,342	181.2	14 / 37
123	12,318	1,342	186.2	142 / 14
130	13,030	1,342	189.2	17 / 14
137	13,706	1,342	196.9	20 / 42
144	14,365	1,342	202.2	81 / 14
Mill Creek (Near Selma)				
033	3,331	2,211	129.9 ¹	157 / 30
036	3,620	2,211	129.9 ¹	146 / 35
039	3,936	2,200	129.9 ¹	55 / 52
044	4,407	2,200	129.9 ¹	7 / 243
051	5,061	2,200	129.9 ¹	29 / 7
056	5,631	2,200	129.9 ¹	200 / 30
062	6,192	2,200	129.9 ¹	7 / 90
068	6,817	2,200	132.3	255 / 129
074	7,436	2,200	139.4	35 / 35
078	7,816	1,949	139.8	50 / 10
081	8,144	1,949	139.9	300 / 50
088	8,766	1,949	140.2	256 / 48
094	9,399	1,949	140.3	331 / 7
099	9,876	1,949	140.6	260 / 185
102	10,244	1,949	140.9	42 / 81
106	10,640	1,949	145.1	56 / 96
107	10,750	1,949	145.8	326 / 158
115	11,485	1,949	146.0	238 / 96
119	11,873	1,949	146.8	338 / 7
121	12,137	1,949	152.0	300 / 50
128	12,807	1,949	152.1	286 / 88
136	13,578	1,949	154.2	9 / 174
140	14,012	1,692	154.4	55 / 197
148	14,771	1,692	155.3	212 / 75
156	15,602	1,692	156.8	278 / 53
164	16,408	1,392	157.7	48 / 294
171	17,066	1,392	158.4	272 / 141
181	18,053	1,392	160.6	131 / 70
189	18,908	1,392	162.1	277 / 62
196	19,623	1,392	163.3	195 / 29
203	20,328	1,392	164.2	482 / 104
210	20,973	1,392	165.2	159 / 10
Mill Creek (South)				
788	78,812	8,430	105.7	884 / 380
796	79,571	8,430	106.3	1,097 / 352
803	80,315	8,430	106.7	522 / 637

Table 17 - Limited Detailed Flood Hazard Data

Cross Section	Stream Station	Flood Discharge (cfs)	1% Annual Chance Water-Surface Elevation (feet NAVD 88)	Non-Encroachment Width (feet) Left/Right from Stream Centerline
809	80,947	8,306	107.0	649 / 1,035
816	81,558	8,306	107.3	561 / 995
821	82,068	8,306	107.6	672 / 605
827	82,747	8,306	108.3	897 / 42
835	83,458	8,306	109.0	646 / 391
845	84,478	8,279	109.6	810 / 458
850	85,050	8,279	109.8	650 / 618
862	86,165	8,279	110.3	681 / 763
869	86,919	8,279	110.7	1,030 / 510
881	88,073	8,279	111.0	1,289 / 434
889	88,863	8,166	111.6	677 / 875
894	89,370	8,166	111.9	600 / 1,000
906	90,557	8,166	114.4	380 / 852
912	91,199	8,166	114.6	568 / 925
921	92,131	8,166	114.8	275 / 1,075
937	93,671	7,522	115.5	250 / 710
943	94,313	7,459	115.9	600 / 639
948	94,827	7,459	116.1	627 / 675
954	95,436	7,459	116.3	600 / 600
961	96,069	7,324	116.6	600 / 575
966	96,648	7,324	117.0	150 / 275
975	97,543	7,324	121.1	650 / 650
982	98,173	7,324	121.2	750 / 825
989	98,891	7,324	121.2	750 / 930
995	99,458	7,061	121.3	565 / 970
1000	100,030	6,980	121.4	600 / 883
1006	100,642	6,980	121.4	325 / 929
1016	101,567	6,980	121.6	325 / 1,100
1023	102,261	6,980	121.6	250 / 1,099
1031	103,067	6,980	121.8	115 / 1,050
1045	104,489	6,530	122.4	80 / 880
1052	105,192	6,530	122.9	168 / 679
1058	105,765	6,530	123.4	219 / 547
1062	106,221	6,492	123.7	130 / 1,150
1068	106,761	6,492	123.9	161 / 1,154
1073	107,280	6,492	124.1	53 / 1,241
1077	107,679	6,492	124.2	123 / 967
1085	108,540	6,398	124.6	421 / 335
1091	109,077	6,398	125.0	743 / 261
1097	109,667	6,398	125.6	1,212 / 386
1104	110,410	6,398	126.0	1,101 / 362
1109	110,875	6,337	126.3	950 / 450
1114	111,389	6,337	126.8	775 / 325
1119	111,932	6,337	127.4	1,175 / 285
1132	113,205	6,337	129.7	550 / 400

Table 17 - Limited Detailed Flood Hazard Data

Cross Section	Stream Station	Flood Discharge (cfs)	1% Annual Chance Water-Surface Elevation (feet NAVD 88)	Non-Encroachment Width (feet) Left/Right from Stream Centerline
1139	113,872	6,163	130.0	575 / 481
1144	114,438	6,163	130.2	600 / 300
1149	114,883	6,163	130.4	650 / 425
1158	115,778	6,163	130.7	597 / 816
1165	116,540	6,047	130.9	429 / 1,408
1177	117,689	6,047	136.2	929 / 1,313
1183	118,260	6,047	136.3	740 / 1,255
1191	119,083	6,047	136.6	563 / 661
1196	119,612	6,047	136.7	150 / 91
1202	120,171	6,047	136.8	623 / 525
1207	120,686	6,047	136.9	463 / 789
1212	121,245	5,873	137.0	591 / 538
1219	121,859	5,873	137.1	645 / 683
1224	122,429	5,873	137.2	697 / 478
1230	122,971	5,873	137.3	719 / 304
1235	123,517	5,873	137.5	606 / 483
1240	124,020	5,873	137.6	301 / 722
1246	124,606	5,873	137.9	128 / 991
1252	125,201	5,873	138.2	289 / 922
1257	125,689	5,873	138.4	363 / 422
1263	126,280	5,873	138.9	514 / 286
1269	126,947	4,892	139.4	463 / 759
1273	127,276	4,892	139.6	297 / 589
1280	128,036	4,892	142.9	381 / 461
1286	128,551	4,892	143.1	183 / 579
1290	128,981	4,857	143.2	146 / 514
1296	129,575	4,746	143.5	270 / 544
1303	130,346	4,604	143.8	466 / 175
1308	130,841	4,604	144.0	442 / 175
1314	131,352	4,604	144.3	619 / 110
1319	131,905	4,604	144.6	381 / 175
1325	132,529	4,604	145.0	605 / 75
1331	133,075	4,530	145.4	294 / 398
1334	133,411	4,530	145.6	438 / 500
1339	133,899	4,530	145.8	565 / 230
1345	134,503	4,530	146.4	468 / 266
1351	135,080	4,530	146.9	537 / 115
1356	135,568	4,530	147.3	513 / 92
1361	136,079	4,530	148.0	349 / 51
1372	137,177	3,136	149.5	266 / 149
1377	137,666	3,136	150.0	81 / 226
1382	138,205	3,106	150.8	37 / 295
1387	138,702	3,106	151.5	125 / 200
1393	139,278	3,106	152.6	68 / 179
1398	139,771	3,106	153.5	225 / 248

Table 17 - Limited Detailed Flood Hazard Data

Cross Section	Stream Station	Flood Discharge (cfs)	1% Annual Chance Water-Surface Elevation (feet NAVD 88)	Non-Encroachment Width (feet) Left/Right from Stream Centerline
1405	140,483	3,106	156.1	176 / 288
1411	141,099	3,106	156.5	100 / 237
1416	141,550	3,106	156.9	150 / 317
1421	142,083	3,106	157.4	159 / 230
1426	142,628	3,106	158.1	50 / 302
1438	143,814	2,174	159.0	100 / 580
1444	144,350	2,174	159.2	75 / 471
1448	144,848	2,174	160.1	125 / 159
1455	145,472	1,996	161.3	114 / 71
1459	145,935	1,996	162.3	215 / 90
1466	146,621	1,996	168.9	553 / 105
1470	147,012	1,996	169.5	456 / 118
1474	147,437	1,996	169.9	281 / 280
1479	147,880	1,996	170.3	252 / 200
1484	148,408	1,996	170.8	285 / 66
1490	148,966	1,900	171.6	181 / 54
1493	149,346	1,900	172.2	206 / 31
1498	149,767	1,900	172.6	219 / 25
1502	150,248	1,900	173.0	347 / 125
1507	150,747	1,900	173.3	119 / 285
1512	151,207	1,900	173.9	17 / 288
1517	151,718	1,900	175.4	88 / 217
1522	152,217	1,900	176.7	150 / 202
1529	152,890	1,900	180.2	149 / 326
1535	153,483	1,900	180.6	150 / 138
1539	153,947	1,353	181.1	201 / 352
1544	154,389	1,353	181.5	164 / 65
1547	154,734	1,353	182.5	150 / 133
1552	155,230	1,353	183.7	247 / 34
1557	155,659	1,353	184.5	200 / 60
1562	156,158	1,221	185.8	145 / 13
1568	156,825	1,221	188.6	500 / 100
1572	157,235	1,221	188.8	500 / 125
1577	157,724	1,221	189.4	335 / 125
1581	158,121	1,221	190.5	300 / 125
1586	158,634	1,221	191.3	300 / 100
1591	159,148	1,221	192.1	250 / 203
1596	159,618	1,221	193.1	218 / 132
Mill Creek Tributary 2				
023	2,328	756	94.5	300 / 19
032	3,183	709	96.6	72 / 14
036	3,614	709	97.8	13 / 12
051	5,064	709	105.2	100 / 36
056	5,573	709	109.0	75 / 14
060	6,003	663	110.8	78 / 14

Table 17 - Limited Detailed Flood Hazard Data

Cross Section	Stream Station	Flood Discharge (cfs)	1% Annual Chance Water-Surface Elevation (feet NAVD 88)	Non-Encroachment Width (feet) Left/Right from Stream Centerline
067	6,659	663	115.0	29 / 14
071	7,067	663	117.6	72 / 14
077	7,676	427	120.9	29 / 14
082	8,196	427	125.5	24 / 14
088	8,778	427	131.9	14 / 24
092	9,227	427	137.8	13 / 75
Mill Creek Tributary 3				
031	3,124	1,512	98.8	32 / 49
041	4,053	1,355	106.7	85 / 86
047	4,706	1,355	109.7	14 / 75
057	5,690	1,159	118.4	194 / 104
062	6,223	1,159	118.9	67 / 78
066	6,611	1,159	119.5	100 / 66
073	7,270	862	120.7	83 / 43
Mill Creek Tributary 4				
009	921	2,029	115.2 ¹	390 / 550
018	1,811	2,029	115.2 ¹	390 / 550
026	2,551	2,029	117.1	118 / 200
031	3,082	2,029	119.0	128 / 128
036	3,641	2,029	120.6	131 / 224
046	4,619	2,029	126.5	25 / 225
052	5,187	1,581	126.7	25 / 250
058	5,814	1,581	127.0	18 / 142
063	6,335	1,581	128.4	38 / 119
069	6,941	1,581	130.6	225 / 20
075	7,481	1,581	132.4	200 / 20
080	8,028	1,581	134.1	175 / 43
085	8,521	1,379	135.7	84 / 180
090	9,020	1,379	137.2	63 / 128
099	9,897	1,379	142.0	75 / 86
105	10,455	1,192	143.4	18 / 92
108	10,761	1,192	144.1	52 / 134
113	11,301	1,192	145.5	81 / 46
Mill Creek Tributary 5				
008	784	1,523	121.9 ¹	450 / 260
014	1,364	1,523	121.9 ¹	275 / 250
019	1,894	1,523	124.0	250 / 125
025	2,469	1,523	125.8	50 / 139
029	2,934	1,523	128.4	112 / 15
035	3,502	1,523	129.7	205 / 14
041	4,128	1,523	130.8	33 / 126
045	4,540	1,329	131.9	25 / 150
052	5,179	1,329	134.1	14 / 150
058	5,755	1,329	136.0	14 / 152
066	6,588	1,329	142.1	94 / 180
071	7,063	1,329	142.2	20 / 262

Table 17 - Limited Detailed Flood Hazard Data

Cross Section	Stream Station	Flood Discharge (cfs)	1% Annual Chance Water-Surface Elevation (feet NAVD 88)	Non-Encroachment Width (feet) Left/Right from Stream Centerline
076	7,618	1,329	142.6	76 / 13
082	8,205	1,092	145.1	110 / 25
087	8,679	1,092	146.2	110 / 50
Mill Creek Tributary 6				
031	3,103	1,059	95.1	90 / 100
037	3,729	973	97.9	90 / 100
042	4,228	973	99.5	75 / 100
047	4,744	973	101.3	175 / 75
053	5,293	973	102.7	80 / 25
058	5,843	973	105.7	65 / 25
063	6,299	903	108.4	25 / 71
070	7,030	903	111.6	76 / 25
075	7,542	903	115.1	62 / 32
084	8,367	903	128.4	30 / 214
089	8,876	903	128.4	12 / 200
093	9,303	758	128.4	14 / 178
098	9,815	758	128.5	56 / 19
101	10,105	758	128.9	100 / 14
Mill Swamp Branch				
006	595	994	162.9 ¹	189 / 12
011	1,103	994	165.0	20 / 110
017	1,687	994	167.2	13 / 98
022	2,168	994	169.8	13 / 156
031	3,070	840	172.8	12 / 256
036	3,629	840	173.3	12 / 260
041	4,098	840	174.5	36 / 235
046	4,595	840	176.2	12 / 205
051	5,098	840	179.1	80 / 26
056	5,597	627	180.0	150 / 14
062	6,163	627	182.4	50 / 19
Mingo Swamp				
575	57,450	2,793	172.8	439 / 211
581	58,134	2,747	173.5	478 / 268
588	58,803	2,747	174.1	500 / 317
596	59,583	2,747	174.7	898 / 29
605	60,511	2,747	175.5	79 / 517
612	61,155	2,689	176.4	29 / 302
616	61,571	2,689	177.0	185 / 455
621	62,144	2,689	177.4	234 / 551
628	62,754	2,689	177.8	273 / 396
633	63,253	2,636	178.3	514 / 453
640	63,986	2,369	179.0	387 / 132
645	64,482	2,369	180.0	30 / 30
646	64,554	2,369	181.8	30 / 30
652	65,237	2,369	182.8	696 / 255
658	65,802	2,369	183.0	906 / 250

Table 17 - Limited Detailed Flood Hazard Data

Cross Section	Stream Station	Flood Discharge (cfs)	1% Annual Chance Water-Surface Elevation (feet NAVD 88)	Non-Encroachment Width (feet) Left/Right from Stream Centerline
664	66,365	2,369	183.1	839 / 26
672	67,164	2,369	183.5	1,160 / 26
678	67,763	2,344	183.7	1,069 / 26
679	67,865	2,344	183.6	312 / 26
684	68,376	2,344	185.0	600 / 500
692	69,191	2,070	185.8	90 / 493
699	69,857	2,070	186.2	366 / 148
705	70,491	2,070	186.8	297 / 227
712	71,178	2,070	187.8	247 / 222
719	71,911	2,070	188.7	246 / 377
725	72,544	2,070	189.4	158 / 413
732	73,158	2,070	190.2	466 / 217
739	73,937	1,995	191.3	616 / 23
745	74,531	1,995	192.5	506 / 56
749	74,928	1,995	193.0	55 / 55
750	74,975	1,995	193.5	55 / 55
754	75,449	1,995	194.1	353 / 170
761	76,108	1,995	194.9	121 / 399
766	76,615	1,995	195.5	44 / 44
767	76,748	1,995	196.1	44 / 44
773	77,349	1,931	197.0	243 / 221
781	78,099	1,931	197.6	275 / 327
788	78,842	1,931	198.8	62 / 103
795	79,486	1,931	200.5	251 / 402
802	80,220	1,931	201.0	428 / 379
812	81,185	1,931	201.6	35 / 35
812	81,216	1,878	202.0	35 / 35
814	81,370	1,878	202.4	36 / 36
814	81,440	1,878	202.9	36 / 36
817	81,737	1,878	203.5	33 / 33
818	81,777	1,878	204.3	33 / 33
824	82,422	1,467	205.0	321 / 375
828	82,784	1,467	205.1	371 / 146
832	83,162	1,467	205.2	378 / 73
836	83,628	1,467	205.5	241 / 191
841	84,079	1,467	205.9	148 / 163
845	84,486	1,467	206.4	188 / 88
850	84,974	1,467	207.0	128 / 304
854	85,440	1,467	207.6	226 / 303
859	85,881	1,467	208.4	217 / 120
863	86,334	1,467	209.4	241 / 161
867	86,707	1,467	210.2	228 / 119
870	87,017	1,467	210.5	473 / 146
874	87,357	1,467	210.8	217 / 197
877	87,674	1,467	211.5	157 / 210

Table 17 - Limited Detailed Flood Hazard Data

Cross Section	Stream Station	Flood Discharge (cfs)	1% Annual Chance Water-Surface Elevation (feet NAVD 88)	Non-Encroachment Width (feet) Left/Right from Stream Centerline
880	88,028	1,467	212.1	67 / 310
885	88,469	1,467	213.0	181 / 222
888	88,840	1,467	213.8	267 / 131
894	89,420	1,467	214.6	248 / 292
900	90,027	1,467	215.4	133 / 171
907	90,689	1,467	216.5	367 / 19
913	91,263	1,467	217.4	185 / 51
917	91,745	1,467	218.2	29 / 29
918	91,802	1,467	219.1	29 / 29
920	91,993	1,467	219.6	201 / 301
923	92,341	870	219.6	99 / 223
928	92,758	870	219.8	58 / 257
932	93,172	870	220.2	55 / 105
935	93,497	870	220.9	46 / 161
940	93,957	870	222.1	96 / 16
944	94,398	870	223.7	108 / 68
950	94,998	870	225.4	88 / 115
953	95,268	870	226.2	107 / 106
957	95,734	870	227.6	101 / 56
961	96,149	870	229.0	106 / 97
966	96,556	870	230.2	41 / 121
971	97,063	870	231.7	86 / 207
977	97,666	870	233.1	86 / 77
982	98,185	870	234.6	238 / 28
986	98,551	870	235.7	142 / 46
991	99,123	870	236.7	251 / 72
996	99,562	870	237.6	111 / 23
1000	100,047	690	239.5	158 / 48
1005	100,531	690	240.4	52 / 64
1009	100,949	690	241.6	162 / 50
1012	101,199	690	242.0	19 / 19
1013	101,267	690	243.4	19 / 19
1018	101,767	690	244.6	111 / 106
1022	102,248	690	245.5	13 / 121
1028	102,806	690	247.2	38 / 145
1032	103,185	690	247.8	136 / 62
1037	103,664	611	248.8	96 / 48
1040	104,043	611	250.3	21 / 97
1045	104,464	611	252.7	12 / 103
1050	104,984	611	254.6	12 / 152
Mingo Swamp Tributary 2				
006	550	733	205.0 ¹	93 / 27
011	1,061	733	206.6	53 / 19
015	1,484	733	209.4	63 / 73
019	1,875	733	211.5	50 / 55

Table 17 - Limited Detailed Flood Hazard Data

Cross Section	Stream Station	Flood Discharge (cfs)	1% Annual Chance Water-Surface Elevation (feet NAVD 88)	Non-Encroachment Width (feet) Left/Right from Stream Centerline
020	1,991	733	212.1	60 / 90
020	2,049	733	214.0	60 / 90
023	2,339	733	214.2	98 / 64
028	2,837	733	215.2	78 / 4
034	3,443	733	220.4	107 / 4
039	3,919	733	223.5	75 / 50
042	4,155	733	225.3	75 / 76
042	4,211	733	227.4	75 / 76
047	4,651	733	227.7	156 / 48
051	5,100	733	228.1	78 / 162
056	5,590	733	228.9	23 / 117
061	6,125	733	231.5	4 / 138
065	6,491	733	233.2	26 / 91
069	6,903	733	235.4	58 / 66
073	7,329	733	237.4	73 / 18
078	7,828	541	239.8	58 / 21
082	8,200	541	240.7	35 / 35
083	8,273	541	241.8	35 / 35
087	8,681	541	242.6	76 / 3
Moccasin Creek				
692	69,217	3,412	126.8	300 / 600
697	69,709	3,412	127.0	319 / 200
701	70,099	3,412	127.3	125 / 344
706	70,572	3,412	127.6	129 / 370
710	71,011	3,412	127.8	87 / 423
715	71,468	3,412	128.0	198 / 253
719	71,895	3,412	128.2	284 / 353
724	72,354	3,412	128.3	386 / 743
727	72,733	3,412	128.3	94 / 763
735	73,471	3,269	128.5	289 / 397
740	74,018	3,269	128.7	73 / 374
746	74,606	3,269	129.0	436 / 62
757	75,729	3,269	129.6	63 / 414
762	76,242	3,126	130.0	214 / 350
767	76,730	3,126	130.5	317 / 53
773	77,315	3,126	131.0	245 / 172
778	77,833	3,126	131.4	273 / 125
784	78,359	3,126	131.9	291 / 94
790	78,988	2,982	132.5	425 / 100
795	79,539	2,982	132.7	425 / 125
800	80,049	2,879	133.0	344 / 94
807	80,692	2,879	133.5	480 / 182
812	81,193	2,879	133.7	268 / 307
816	81,607	2,879	133.9	212 / 183
820	81,987	2,879	134.2	112 / 272

Table 17 - Limited Detailed Flood Hazard Data

Cross Section	Stream Station	Flood Discharge (cfs)	1% Annual Chance Water-Surface Elevation (feet NAVD 88)	Non-Encroachment Width (feet) Left/Right from Stream Centerline
825	82,540	2,879	134.8	72 / 364
831	83,130	2,754	135.3	180 / 160
836	83,633	2,754	135.8	329 / 50
841	84,120	2,754	136.2	103 / 125
847	84,717	2,754	136.9	141 / 40
852	85,231	2,754	137.7	258 / 101
858	85,757	2,594	138.5	213 / 132
863	86,321	2,547	139.1	400 / 149
867	86,692	2,547	139.1	20 / 18
Moccasin Creek				
159	15,924	17,900	152.1	3,106 / 737
186	18,609	17,800	152.2	3,407 / 1,180
196	19,593	9,929	152.2	2,311 / 974
220	21,971	9,618	152.2	1,975 / 818
229	22,947	9,618	152.2	1,253 / 1,081
243	24,339	9,618	152.2	1,031 / 842
255	25,518	9,618	152.2	564 / 1,774
265	26,482	9,618	152.2	704 / 1,863
285	28,527	9,504	152.2	750 / 885
296	29,592	9,504	152.9	729 / 200
315	31,527	9,420	157.5	41 / 180
321	32,112	9,420	158.1	291 / 323
323	32,273	9,420	158.2	691 / 326
330	33,001	9,321	158.3	706 / 223
336	33,636	9,321	158.4	680 / 421
344	34,373	9,321	158.6	679 / 550
350	35,044	9,321	158.7	701 / 313
357	35,692	9,321	159.0	582 / 41
362	36,236	9,321	159.5	608 / 41
369	36,886	9,321	160.1	328 / 342
375	37,490	9,321	162.1	247 / 369
379	37,864	9,321	162.3	149 / 467
389	38,866	9,321	162.9	674 / 41
392	39,249	9,321	163.1	814 / 273
397	39,750	9,321	163.3	580 / 239
402	40,203	9,321	163.5	531 / 146
418	41,752	8,647	164.4	356 / 91
426	42,577	8,647	165.2	549 / 40
438	43,817	8,386	166.2	637 / 124
445	44,470	8,386	166.7	800 / 31
450	44,987	8,386	167.1	600 / 40
457	45,702	8,386	167.8	789 / 39
462	46,214	8,328	168.4	615 / 39
468	46,760	8,328	168.6	176 / 160
477	47,662	8,328	169.7	393 / 78

Table 17 - Limited Detailed Flood Hazard Data

Cross Section	Stream Station	Flood Discharge (cfs)	1% Annual Chance Water-Surface Elevation (feet NAVD 88)	Non-Encroachment Width (feet) Left/Right from Stream Centerline
485	48,510	8,328	170.4	256 / 294
495	49,476	8,328	171.3	460 / 480
504	50,423	8,328	171.9	30 / 500
518	51,847	8,320	173.5	312 / 223
525	52,500	8,320	174.1	104 / 453
530	52,994	8,320	174.6	393 / 630
545	54,467	8,320	175.6	691 / 66
550	54,967	8,320	176.0	687 / 99
556	55,620	8,310	176.6	654 / 124
561	56,086	8,310	177.1	886 / 326
570	56,995	8,310	177.7	316 / 74
575	57,491	8,310	178.8	572 / 317
581	58,120	8,310	179.4	379 / 585
587	58,728	8,310	179.8	770 / 243
594	59,387	8,310	180.4	593 / 527
599	59,947	8,310	181.1	58 / 419
606	60,559	8,300	182.4	512 / 54
611	61,064	8,300	183.0	621 / 191
617	61,736	8,300	183.4	413 / 38
623	62,307	8,300	184.1	305 / 38
627	62,701	8,300	184.6	72 / 59
631	63,125	8,300	185.5	149 / 49
637	63,687	8,290	186.2	360 / 57
649	64,918	8,290	187.6	51 / 208
653	65,293	8,290	187.9	61 / 86
659	65,910	8,290	188.5	57 / 52
664	66,362	8,290	189.3	96 / 55
668	66,829	8,290	190.0	373 / 38
671	67,121	8,290	190.2	342 / 83
676	67,582	8,290	190.4	299 / 38
686	68,573	8,250	191.2	231 / 85
693	69,275	8,250	191.7	108 / 182
696	69,622	8,250	192.2	413 / 114
700	69,977	8,250	192.4	263 / 101
703	70,313	8,250	192.7	251 / 37
706	70,611	8,250	192.9	206 / 73
713	71,304	8,210	196.6	240 / 240
717	71,695	8,210	196.6	260 / 260
721	72,144	8,210	196.6	210 / 514
727	72,650	8,210	196.6	113 / 700
732	73,210	8,210	196.8	240 / 730
739	73,850	8,210	196.9	412 / 671
743	74,337	8,210	197.0	464 / 587
746	74,642	8,210	197.0	51 / 699
752	75,222	8,210	197.2	377 / 287

Table 17 - Limited Detailed Flood Hazard Data

Cross Section	Stream Station	Flood Discharge (cfs)	1% Annual Chance Water-Surface Elevation (feet NAVD 88)	Non-Encroachment Width (feet) Left/Right from Stream Centerline
758	75,832	8,210	197.5	488 / 312
762	76,230	8,180	197.7	639 / 423
772	77,161	8,180	198.0	704 / 269
775	77,517	8,180	198.2	703 / 310
779	77,917	8,180	198.3	609 / 632
784	78,366	8,180	198.4	671 / 795
791	79,088	7,990	198.7	603 / 749
796	79,589	7,990	198.9	83 / 650
805	80,508	7,990	199.7	646 / 305
811	81,145	7,990	200.2	792 / 262
819	81,857	7,990	200.7	691 / 262
823	82,271	7,990	201.1	566 / 395
828	82,820	7,990	202.0	872 / 396
838	83,837	7,990	203.6	893 / 130
843	84,335	7,990	204.1	894 / 98
848	84,805	7,990	204.7	1,086 / 49
852	85,192	7,990	205.3	465 / 231
862	86,179	7,950	207.8	558 / 537
878	87,839	7,470	208.7	360 / 195
Moccasin Creek Tributary 1				
010	1,021	2,207	164.0 ¹	139 / 61
015	1,508	2,207	164.0 ¹	36 / 111
020	1,985	2,207	164.0	118 / 75
025	2,465	2,207	165.1	212 / 30
030	3,049	2,207	168.9	238 / 150
036	3,593	2,207	169.2	119 / 216
041	4,110	1,843	169.7	48 / 21
049	4,878	1,843	175.6	35 / 97
054	5,394	1,793	177.4	118 / 11
060	5,973	1,793	179.9	11 / 258
064	6,399	1,793	181.3	11 / 79
073	7,266	1,793	186.4	77 / 61
079	7,907	1,793	188.6	171 / 11
084	8,363	1,668	190.0	10 / 74
093	9,277	1,668	195.0	114 / 107
098	9,780	1,668	196.5	44 / 114
104	10,425	1,383	199.8	62 / 39
109	10,906	1,203	201.6	161 / 8
117	11,746	1,203	204.7	14 / 58
Moccasin Creek Tributary 2				
006	572	1,086	166.0 ¹	19 / 27
009	923	1,086	169.1	54 / 35
012	1,211	1,086	171.5	41 / 13
015	1,547	1,086	176.2	73 / 8
020	2,020	1,086	180.9	16 / 85

Table 17 - Limited Detailed Flood Hazard Data

Cross Section	Stream Station	Flood Discharge (cfs)	1% Annual Chance Water-Surface Elevation (feet NAVD 88)	Non-Encroachment Width (feet) Left/Right from Stream Centerline
026	2,638	1,034	184.4	161 / 32
031	3,125	1,034	187.6	16 / 105
036	3,614	1,034	190.8	7 / 132
041	4,077	1,034	193.5	50 / 38
044	4,363	944	195.9	36 / 74
047	4,671	887	198.4	44 / 21
050	5,030	887	202.4	63 / 7
055	5,466	887	206.2	71 / 149
059	5,857	887	207.3	15 / 84
064	6,428	887	211.8	114 / 22
068	6,848	887	214.0	54 / 66
Moccasin Swamp				
868	86,831	2,547	140.2	36 / 258
873	87,323	2,485	141.0	386 / 277
877	87,716	2,485	141.1	510 / 455
878	87,762	2,485	141.2	510 / 455
882	88,216	2,485	141.3	56 / 401
886	88,604	2,485	141.9	18 / 260
890	88,996	2,485	142.8	18 / 313
892	89,207	2,485	143.1	25 / 221
893	89,265	2,485	143.4	25 / 221
896	89,600	2,485	143.7	192 / 355
901	90,072	2,485	144.0	196 / 181
905	90,537	2,485	144.6	352 / 118
910	91,000	2,485	144.9	315 / 299
914	91,414	2,485	145.1	295 / 239
919	91,941	2,485	145.8	177 / 115
925	92,540	1,887	146.4	144 / 281
929	92,884	1,887	146.5	116 / 172
933	93,253	1,887	146.8	168 / 19
936	93,567	1,887	147.2	113 / 27
937	93,656	1,887	150.9	113 / 34
939	93,936	1,887	151.0	277 / 122
944	94,373	1,887	151.1	135 / 158
950	94,994	1,887	151.3	78 / 361
952	95,247	1,887	151.3	207 / 350
955	95,540	1,478	151.4	143 / 193
956	95,580	1,478	151.4	143 / 193
960	96,000	1,478	151.6	114 / 111
963	96,333	1,478	151.8	183 / 22
967	96,740	1,478	152.3	76 / 84
971	97,071	1,478	152.7	41 / 84
973	97,297	1,478	152.9	80 / 19
977	97,729	1,478	153.8	18 / 25
983	98,279	1,478	154.9	162 / 20

Table 17 - Limited Detailed Flood Hazard Data

Cross Section	Stream Station	Flood Discharge (cfs)	1% Annual Chance Water-Surface Elevation (feet NAVD 88)	Non-Encroachment Width (feet) Left/Right from Stream Centerline
986	98,593	1,478	155.3	18 / 19
993	99,288	1,478	156.5	18 / 64
998	99,780	1,478	157.1	18 / 19
1005	100,501	1,478	158.8	40 / 54
1010	101,014	1,310	159.8	80 / 130
1013	101,271	1,310	160.1	90 / 106
1015	101,529	1,310	160.5	23 / 38
1016	101,615	1,310	162.4	17 / 120
1019	101,859	1,310	162.6	18 / 163
1022	102,227	1,310	162.9	180 / 30
1028	102,751	1,310	163.4	155 / 27
1031	103,067	1,310	163.8	88 / 38
1033	103,331	1,310	169.2	88 / 38
1037	103,658	1,310	169.2	18 / 468
1042	104,201	882	169.3	272 / 187
1047	104,653	882	169.3	205 / 158
1052	105,231	882	169.4	217 / 94
1055	105,535	882	169.4	299 / 29
1057	105,658	882	174.0	299 / 29
1058	105,822	882	174.0	497 / 294
1060	105,991	882	174.0	751 / 167
1061	106,058	882	174.0	751 / 167
1063	106,277	691	174.0	218 / 230
1066	106,588	691	174.0	251 / 160
1070	107,000	691	174.1	180 / 244
1075	107,500	691	174.1	161 / 90
1078	107,787	630	174.2	165 / 162
1081	108,080	630	174.4	206 / 15
1081	108,123	630	174.4	206 / 14
1085	108,455	630	174.6	143 / 130
1088	108,759	630	174.7	56 / 330
1091	109,111	630	174.8	269 / 383
Neuse River Tributary 1				
006	563	852	137.8 ¹	28 / 20
008	760	852	137.8 ¹	11 / 21
009	944	852	137.8 ¹	4 / 13
015	1,467	852	137.8 ¹	33 / 5
017	1,702	852	137.8 ¹	20 / 30
021	2,104	852	137.8 ¹	7 / 34
025	2,489	852	137.8 ¹	24 / 30
030	2,985	852	140.8	90 / 7
035	3,494	745	144.6	91 / 4
040	3,953	745	147.7	49 / 10
042	4,247	745	149.9	14 / 19
046	4,566	745	152.9	31 / 33

Table 17 - Limited Detailed Flood Hazard Data

Cross Section	Stream Station	Flood Discharge (cfs)	1% Annual Chance Water-Surface Elevation (feet NAVD 88)	Non-Encroachment Width (feet) Left/Right from Stream Centerline
050	4,977	745	154.9	87 / 7
054	5,426	643	157.3	58 / 21
060	5,999	643	163.6	42 / 9
066	6,592	643	168.7	60 / 14
071	7,142	643	173.3	35 / 20
075	7,527	643	178.1	16 / 7
078	7,807	610	182.2	34 / 18
081	8,057	610	184.9	34 / 4
084	8,352	610	189.2	49 / 8
087	8,653	610	193.9	32 / 14
090	8,994	610	197.9	31 / 8
092	9,210	610	200.2	15 / 10
094	9,376	610	212.2	15 / 10
097	9,728	599	212.2	30 / 36
101	10,101	599	212.3	36 / 43
103	10,310	599	212.5	24 / 52
105	10,461	599	213.3	38 / 5
106	10,628	599	215.4	24 / 23
108	10,794	599	217.4	25 / 33
111	11,073	569	219.8	14 / 42
111	11,116	569	221.1	24 / 47
116	11,554	569	223.2	38 / 24
121	12,137	569	228.6	44 / 67
126	12,565	569	229.5	84 / 68
130	12,998	569	230.6	54 / 125
136	13,622	496	231.3	122 / 87
Neuse River Tributary 2				
002	162	1,297	142.3 ¹	13 / 24
007	709	1,297	142.3 ¹	84 / 16
013	1,348	1,297	142.3 ¹	26 / 301
017	1,738	1,297	142.3 ¹	12 / 12
021	2,148	1,297	142.3 ¹	21 / 7
026	2,595	1,297	142.3 ¹	13 / 17
031	3,089	1,297	142.3 ¹	7 / 42
036	3,594	1,297	142.3 ¹	17 / 20
040	4,015	1,297	142.3 ¹	24 / 7
043	4,317	1,297	144.8	13 / 7
046	4,648	816	148.1	12 / 12
052	5,168	816	151.9	7 / 6
056	5,591	816	157.0	28 / 24
057	5,731	816	157.6	6 / 16
059	5,886	816	161.0	6 / 10
060	5,992	816	163.9	11 / 7
061	6,067	816	170.4	25 / 23
065	6,461	816	170.5	25 / 37

Table 17 - Limited Detailed Flood Hazard Data

Cross Section	Stream Station	Flood Discharge (cfs)	1% Annual Chance Water-Surface Elevation (feet NAVD 88)	Non-Encroachment Width (feet) Left/Right from Stream Centerline
069	6,871	816	172.2	27 / 36
071	7,110	816	175.2	14 / 10
075	7,452	761	179.7	29 / 6
078	7,757	734	183.2	34 / 15
082	8,215	734	185.5	20 / 44
Oak Creek				
013	1,275	2,179	109.4	500 / 200
018	1,828	2,179	109.8	500 / 200
023	2,259	2,179	110.3	302 / 250
031	3,142	2,179	111.0	35 / 445
043	4,314	2,179	115.3	221 / 149
048	4,765	2,179	115.4	249 / 95
052	5,245	2,179	115.7	242 / 100
062	6,150	1,604	116.4	220 / 200
067	6,692	1,604	117.0	200 / 140
071	7,132	1,604	117.9	297 / 100
077	7,668	1,604	119.2	287 / 150
082	8,242	1,604	120.2	180 / 220
088	8,801	1,604	121.0	129 / 158
092	9,183	1,407	121.7	120 / 185
101	10,053	1,407	124.4	267 / 103
105	10,547	1,407	124.6	250 / 130
111	11,068	1,407	125.0	200 / 211
117	11,688	1,407	126.6	216 / 177
121	12,129	1,158	127.8	180 / 80
129	12,922	1,158	131.1	155 / 185
135	13,478	1,158	132.1	100 / 200
139	13,943	900	134.0	12 / 108
146	14,615	900	136.2	191 / 17
150	15,016	900	139.5	91 / 12
155	15,500	900	143.2	210 / 12
161	16,066	900	143.4	177 / 25
165	16,527	625	143.7	100 / 62
171	17,079	625	146.3	47 / 9
181	18,057	625	152.0	75 / 54
Oak Creek Tributary				
006	557	1,022	116.0 ¹	107 / 136
011	1,068	1,022	116.8	55 / 106
018	1,829	1,022	118.7	170 / 120
023	2,304	964	120.0	170 / 12
028	2,823	964	122.1	82 / 98
032	3,222	964	123.4	35 / 133
037	3,701	964	125.6	80 / 19
042	4,248	964	127.3	26 / 149
048	4,827	735	128.1	135 / 14

Table 17 - Limited Detailed Flood Hazard Data

Cross Section	Stream Station	Flood Discharge (cfs)	1% Annual Chance Water-Surface Elevation (feet NAVD 88)	Non-Encroachment Width (feet) Left/Right from Stream Centerline
053	5,310	735	128.8	87 / 86
057	5,731	735	130.0	14 / 75
064	6,444	735	133.0	14 / 153
Pole Branch				
016	1,571	1,220	144.5 ¹	18 / 222
020	2,000	1,220	144.5 ¹	161 / 28
025	2,466	1,220	144.5	107 / 31
030	2,952	1,220	145.7	132 / 53
035	3,471	1,183	146.6	142 / 17
040	4,029	1,183	147.8	106 / 55
045	4,470	1,183	148.7	85 / 31
056	5,624	1,183	154.0	220 / 17
060	5,993	1,116	154.1	249 / 17
063	6,339	1,116	154.3	187 / 17
070	6,986	1,116	154.6	17 / 241
075	7,486	1,116	154.9	33 / 143
080	7,986	1,116	155.5	176 / 18
085	8,463	1,116	156.0	140 / 71
090	8,975	1,116	156.4	203 / 144
095	9,479	949	157.0	154 / 17
100	9,979	949	158.7	46 / 20
105	10,479	949	160.5	121 / 15
110	10,979	949	161.5	42 / 15
115	11,479	895	163.2	39 / 15
129	12,947	848	165.5	22 / 64
134	13,447	718	166.5	13 / 191
139	13,947	718	167.6	13 / 47
Polecat Branch				
269	26,855	1,484	111.4 ¹	133 / 260
275	27,460	1,484	111.4 ¹	288 / 57
280	27,982	1,484	111.4 ¹	244 / 145
286	28,599	1,250	111.8	283 / 17
291	29,092	1,250	112.9	52 / 28
297	29,728	1,250	115.7	17 / 96
303	30,327	1,250	116.5	207 / 114
315	31,506	1,250	121.2	129 / 196
320	31,978	1,250	121.3	171 / 197
326	32,560	1,250	121.4	221 / 52
330	32,999	1,250	121.6	40 / 186
336	33,612	1,250	122.1	104 / 98
341	34,118	1,250	122.7	143 / 124
347	34,682	1,250	123.4	194 / 47
353	35,325	1,250	124.1	25 / 239
360	35,960	1,250	125.0	99 / 124
365	36,486	947	125.7	204 / 15

Table 17 - Limited Detailed Flood Hazard Data

Cross Section	Stream Station	Flood Discharge (cfs)	1% Annual Chance Water-Surface Elevation (feet NAVD 88)	Non-Encroachment Width (feet) Left/Right from Stream Centerline
375	37,544	947	127.8	106 / 15
382	38,152	947	129.2	73 / 39
388	38,760	947	130.2	86 / 15
392	39,225	947	131.0	68 / 26
398	39,809	883	132.3	90 / 14
400	39,968	947	126.3	120 / 15
403	40,319	883	133.2	211 / 14
409	40,915	883	134.0	158 / 68
414	41,411	883	134.9	22 / 106
419	41,911	883	136.1	106 / 14
425	42,453	706	137.1	99 / 36
Poplar Creek				
283	28,319	2,420	195.2	40 / 50
285	28,536	694	195.6	70 / 75
287	28,716	694	195.6	70 / 75
293	29,300	694	195.6	29 / 50
297	29,710	694	196.8	30 / 57
301	30,133	694	199.3	7 / 65
305	30,500	694	201.5	7 / 71
310	30,962	694	204.4	35 / 35
314	31,408	662	208.0	58 / 12
317	31,682	662	208.9	29 / 14
319	31,870	662	210.9	20 / 20
321	32,117	662	211.5	36 / 12
326	32,588	538	216.0	70 / 6
331	33,129	538	219.1	6 / 53
335	33,500	538	222.2	34 / 56
340	33,957	538	224.3	9 / 71
340	33,984	538	224.3	9 / 71
340	34,014	538	224.3	15 / 71
345	34,500	489	227.3	26 / 53
351	35,097	489	230.5	44 / 37
353	35,252	489	237.0	46 / 102
358	35,767	489	237.0	64 / 80
Quincosin Swamp				
012	1,235	2,283	110.4 ¹	59 / 218
017	1,656	2,283	110.4 ¹	212 / 182
022	2,167	2,259	110.5	82 / 275
026	2,623	2,259	111.0	81 / 244
031	3,080	2,259	111.8	240 / 74
037	3,654	2,259	113.0	141 / 94
041	4,135	2,075	113.9	33 / 297
047	4,736	2,075	117.5	220 / 311
050	5,018	2,075	117.6	193 / 212
054	5,408	2,075	117.7	257 / 151

Table 17 - Limited Detailed Flood Hazard Data

Cross Section	Stream Station	Flood Discharge (cfs)	1% Annual Chance Water-Surface Elevation (feet NAVD 88)	Non-Encroachment Width (feet) Left/Right from Stream Centerline
064	6,381	2,075	118.1	255 / 146
070	7,003	2,075	118.6	161 / 234
076	7,554	1,883	119.4	400 / 55
081	8,098	1,883	120.4	195 / 112
086	8,577	1,883	121.5	157 / 132
090	9,046	1,883	122.2	143 / 200
095	9,510	1,883	123.1	41 / 111
100	10,009	1,883	124.5	256 / 70
105	10,469	1,883	125.5	47 / 133
110	10,995	1,883	126.4	228 / 43
115	11,457	1,883	127.0	129 / 159
120	12,007	1,680	127.8	116 / 129
125	12,546	1,680	128.8	214 / 15
131	13,065	1,680	130.5	129 / 15
136	13,596	1,680	132.2	120 / 15
145	14,491	1,680	134.3	25 / 150
150	15,033	1,680	134.6	200 / 95
156	15,609	1,680	134.9	171 / 14
162	16,161	1,468	135.4	140 / 101
167	16,691	1,468	135.8	143 / 23
171	17,107	1,468	136.3	161 / 153
177	17,664	1,468	136.7	250 / 14
184	18,427	1,468	138.1	83 / 87
Reedy Creek				
008	837	928	139.5 ¹	138 / 172
011	1,069	928	139.5 ¹	15 / 527
014	1,423	928	139.5 ¹	85 / 275
022	2,238	928	140.7	210 / 15
026	2,622	928	141.1	127 / 86
030	2,962	928	141.8	42 / 108
034	3,399	873	143.0	36 / 79
039	3,860	873	143.7	141 / 61
044	4,387	873	144.5	53 / 60
049	4,912	873	146.0	104 / 25
054	5,380	873	147.8	55 / 52
058	5,812	812	149.2	115 / 14
062	6,233	812	150.4	85 / 26
066	6,566	812	151.4	28 / 46
069	6,949	812	153.2	14 / 108
076	7,614	740	157.6	188 / 160
081	8,150	740	157.6	14 / 93
087	8,730	669	161.4	44 / 13
092	9,180	669	162.8	71 / 44
Reedy Prong				
007	740	2,333	139.0 ¹	77 / 61

Table 17 - Limited Detailed Flood Hazard Data

Cross Section	Stream Station	Flood Discharge (cfs)	1% Annual Chance Water-Surface Elevation (feet NAVD 88)	Non-Encroachment Width (feet) Left/Right from Stream Centerline
012	1,166	2,205	141.7	257 / 85
014	1,424	2,205	141.8	120 / 76
019	1,865	2,205	142.7	175 / 50
024	2,377	2,205	143.5	154 / 150
029	2,864	2,181	144.4	101 / 189
034	3,430	2,181	145.4	124 / 160
039	3,878	2,181	146.2	112 / 173
043	4,336	2,181	147.4	86 / 272
050	5,032	1,275	149.3	143 / 68
055	5,504	1,275	150.8	171 / 20
Reedy Prong Tributary				
004	362	1,459	149.6 ¹	25 / 225
009	909	1,431	149.7	25 / 229
014	1,409	1,431	151.1	14 / 216
019	1,939	1,197	154.8	14 / 137
022	2,222	1,197	161.7	100 / 100
Sams Creek				
030	2,960	1,859	154.4 ¹	52 / 16
037	3,724	1,859	155.0	16 / 16
043	4,288	1,859	158.8	16 / 16
050	4,977	1,301	163.3	13 / 114
056	5,579	1,301	166.2	10 / 30
061	6,142	1,301	170.6	90 / 18
069	6,863	1,301	173.8	14 / 42
074	7,366	1,301	175.9	32 / 13
075	7,518	1,301	181.1	15 / 12
082	8,213	1,301	182.8	15 / 15
087	8,746	1,168	185.7	14 / 14
093	9,306	1,168	190.4	46 / 8
099	9,901	1,168	196.4	97 / 14
108	10,766	995	200.8	118 / 6
112	11,223	995	204.8	49 / 16
Snipes Creek				
015	1,486	2,301	203.7 ¹	18 / 540
021	2,145	2,301	203.7 ¹	18 / 337
027	2,735	2,301	203.7 ¹	18 / 337
033	3,287	2,301	203.7 ¹	18 / 347
040	3,956	2,301	203.7 ¹	230 / 119
044	4,448	2,301	203.7 ¹	113 / 130
050	4,991	2,301	204.8	246 / 68
056	5,556	2,301	206.0	367 / 18
061	6,112	2,301	207.2	221 / 46
066	6,614	2,301	208.3	47 / 302
071	7,071	2,301	209.2	42 / 194
076	7,570	2,301	210.5	182 / 72
082	8,162	2,301	211.6	18 / 257

Table 17 - Limited Detailed Flood Hazard Data

Cross Section	Stream Station	Flood Discharge (cfs)	1% Annual Chance Water-Surface Elevation (feet NAVD 88)	Non-Encroachment Width (feet) Left/Right from Stream Centerline
088	8,779	2,301	213.4	104 / 156
093	9,315	2,301	214.8	141 / 92
099	9,860	2,091	215.8	215 / 119
106	10,614	2,091	217.1	46 / 271
114	11,365	2,091	218.8	120 / 98
119	11,904	2,091	219.9	71 / 126
125	12,500	2,091	221.5	61 / 204
131	13,094	2,091	223.1	55 / 136
136	13,592	2,091	225.1	217 / 17
141	14,088	2,091	226.3	219 / 75
146	14,633	2,091	227.4	221 / 17
151	15,127	2,091	229.0	75 / 85
162	16,168	1,499	233.0	191 / 143
167	16,739	1,499	233.6	112 / 35
174	17,401	1,499	236.2	111 / 75
180	18,024	1,499	238.3	14 / 133
185	18,500	1,499	240.9	31 / 84
190	19,008	1,499	243.4	37 / 112
196	19,557	1,499	245.2	120 / 49
200	20,000	1,499	246.8	111 / 14
205	20,500	1,499	249.5	135 / 14
210	21,036	1,499	251.3	167 / 14
216	21,560	1,499	252.8	91 / 121
220	22,000	1,248	253.9	116 / 80
225	22,542	1,248	255.4	181 / 13
230	23,000	1,248	256.9	128 / 38
236	23,595	1,248	259.1	151 / 13
240	24,000	1,248	260.6	34 / 154
246	24,552	1,248	262.3	92 / 44
250	25,000	1,248	264.0	13 / 89
255	25,500	1,248	266.2	13 / 106
260	26,000	1,248	268.2	81 / 57
266	26,588	1,248	270.8	118 / 10
270	27,000	1,248	272.9	51 / 100
275	27,500	1,248	276.0	135 / 56
Spring Branch				
035	3,545	3,380	121.9 ¹	53 / 666
041	4,080	3,380	121.9 ¹	7 / 432
045	4,519	3,380	121.9 ¹	15 / 428
050	5,001	3,380	121.9 ¹	19 / 321
060	5,981	3,380	123.6	149 / 526
065	6,482	3,380	123.8	170 / 425
075	7,518	3,380	125.1	133 / 234
080	8,021	3,380	125.9	303 / 136
085	8,481	3,380	127.0	301 / 77

Table 17 - Limited Detailed Flood Hazard Data

Cross Section	Stream Station	Flood Discharge (cfs)	1% Annual Chance Water-Surface Elevation (feet NAVD 88)	Non-Encroachment Width (feet) Left/Right from Stream Centerline
096	9,592	2,690	129.8	19 / 318
101	10,061	2,690	130.8	73 / 155
105	10,539	2,690	131.6	125 / 50
110	11,033	2,690	133.6	150 / 140
116	11,555	2,690	136.0	200 / 190
123	12,250	2,690	136.8	234 / 140
132	13,177	2,690	139.3	30 / 50
135	13,500	2,690	141.3	225 / 72
141	14,082	2,690	142.0	207 / 39
144	14,448	2,690	142.7	159 / 65
151	15,051	2,690	143.8	195 / 171
157	15,688	2,690	145.0	204 / 190
165	16,454	2,690	146.0	220 / 128
170	16,967	2,690	146.8	217 / 118
178	17,779	2,530	148.3	200 / 232
185	18,500	2,530	149.4	50 / 441
192	19,234	2,530	150.2	18 / 598
199	19,939	2,530	151.1	40 / 350
202	20,166	2,530	151.7	57 / 359
207	20,721	2,530	152.9	142 / 240
220	22,028	2,530	155.9	240 / 14
225	22,500	2,530	157.6	321 / 18
231	23,088	2,530	158.8	345 / 20
236	23,625	2,530	159.7	229 / 71
243	24,287	2,310	160.7	293 / 45
248	24,833	2,020	161.6	253 / 181
256	25,592	2,020	163.0	206 / 119
261	26,069	2,020	163.5	204 / 117
265	26,542	2,020	164.1	224 / 53
270	27,031	2,020	165.3	97 / 149
278	27,758	1,200	167.7	13 / 101
284	28,402	1,200	171.0	47 / 39
291	29,083	1,200	174.2	70 / 68
302	30,216	1,200	178.9	118 / 66
309	30,930	1,200	180.8	14 / 109
316	31,648	1,200	182.9	135 / 31
326	32,572	1,200	185.0	48 / 134
332	33,208	1,200	186.2	79 / 92
340	34,023	1,200	188.0	70 / 108
345	34,471	874	189.2	227 / 13
351	35,111	874	190.9	12 / 147
358	35,777	874	193.5	12 / 117
364	36,446	874	198.2	36 / 22
370	37,049	874	204.0	24 / 105
377	37,711	874	208.8	15 / 103

Table 17 - Limited Detailed Flood Hazard Data

Cross Section	Stream Station	Flood Discharge (cfs)	1% Annual Chance Water-Surface Elevation (feet NAVD 88)	Non-Encroachment Width (feet) Left/Right from Stream Centerline
383	38,306	874	213.8	112 / 22
Spring Branch Tributary 1				
005	544	1,290	131.4	14 / 207
010	1,017	1,290	134.1	164 / 14
016	1,599	1,290	137.2	13 / 122
022	2,189	1,290	140.5	167 / 13
029	2,944	1,290	144.9	60 / 69
036	3,566	1,110	147.9	138 / 18
043	4,275	1,110	150.4	283 / 13
053	5,250	1,110	155.2	259 / 114
060	6,004	1,110	157.6	419 / 273
066	6,576	1,110	160.9	168 / 17
070	7,033	1,110	162.8	65 / 13
076	7,576	1,110	166.0	96 / 77
080	8,029	1,110	167.8	23 / 55
084	8,396	1,110	169.3	13 / 222
090	9,043	1,110	171.3	85 / 63
101	10,096	777	176.1	244 / 73
106	10,595	777	176.5	115 / 42
110	11,000	777	177.2	78 / 100
115	11,457	777	178.2	103 / 12
120	11,988	777	180.6	82 / 12
126	12,581	777	183.0	80 / 46
131	13,070	777	185.1	12 / 116
135	13,535	777	187.0	77 / 73
144	14,392	777	190.9	29 / 40
150	14,957	777	194.9	45 / 61
155	15,526	777	197.3	32 / 116
160	16,026	777	199.6	73 / 24
166	16,569	777	202.4	65 / 46
170	16,960	777	204.2	33 / 67
175	17,535	777	207.8	60 / 12
181	18,085	777	211.2	129 / 12
Stone Creek				
091	9,088	2,957	108.5	410 / 393
102	10,201	2,496	108.8	97 / 768
108	10,783	2,496	109.2	230 / 554
113	11,251	2,496	109.6	260 / 202
117	11,745	2,496	110.2	333 / 28
126	12,609	2,496	110.9	453 / 138
135	13,482	2,496	111.3	171 / 612
139	13,941	2,464	111.6	493 / 116
144	14,439	2,464	111.9	239 / 433
149	14,949	2,464	112.2	80 / 694
154	15,436	2,464	112.6	22 / 748

Table 17 - Limited Detailed Flood Hazard Data

Cross Section	Stream Station	Flood Discharge (cfs)	1% Annual Chance Water-Surface Elevation (feet NAVD 88)	Non-Encroachment Width (feet) Left/Right from Stream Centerline
159	15,938	2,464	113.0	22 / 687
165	16,455	2,464	113.4	22 / 581
169	16,909	2,365	113.8	21 / 519
178	17,824	2,365	114.6	21 / 277
184	18,408	2,365	115.3	21 / 541
189	18,932	2,365	115.8	24 / 234
190	19,034	2,365	115.8	90 / 93
191	19,079	2,365	116.5	140 / 143
197	19,735	2,365	117.2	337 / 224
203	20,279	2,365	117.3	404 / 305
207	20,741	2,365	117.5	247 / 800
213	21,285	2,365	117.8	21 / 730
216	21,575	2,365	118.1	21 / 745
222	22,167	1,708	118.6	16 / 446
226	22,577	1,708	119.0	16 / 553
233	23,270	1,708	119.7	56 / 442
239	23,934	1,708	120.6	16 / 491
244	24,404	1,708	121.1	36 / 537
248	24,821	1,708	121.5	16 / 441
254	25,353	1,708	122.2	16 / 426
259	25,883	1,708	122.9	118 / 342
268	26,817	1,626	123.7	149 / 278
275	27,471	1,626	124.4	136 / 15
280	28,041	1,626	126.4	72 / 119
282	28,151	1,626	126.5	31 / 31
282	28,190	1,626	127.1	31 / 31
289	28,950	1,626	127.6	134 / 124
295	29,543	1,626	127.9	411 / 87
300	30,021	1,626	128.2	439 / 27
306	30,580	1,626	128.7	299 / 47
310	31,041	1,626	129.3	456 / 15
316	31,563	1,626	130.0	372 / 14
322	32,178	1,463	130.8	381 / 14
327	32,681	1,463	131.4	298 / 22
331	33,147	1,463	132.1	217 / 85
337	33,720	1,463	133.0	107 / 225
341	34,078	1,463	133.3	394 / 42
346	34,627	1,463	134.0	151 / 14
351	35,103	1,463	134.9	203 / 130
356	35,585	1,463	135.6	166 / 14
361	36,131	1,463	136.5	279 / 14
367	36,691	1,463	137.4	152 / 168
372	37,244	1,340	138.3	119 / 13
374	37,370	1,340	138.7	21 / 21
374	37,426	1,340	139.7	21 / 21

Table 17 - Limited Detailed Flood Hazard Data

Cross Section	Stream Station	Flood Discharge (cfs)	1% Annual Chance Water-Surface Elevation (feet NAVD 88)	Non-Encroachment Width (feet) Left/Right from Stream Centerline
379	37,903	1,340	140.2	104 / 98
384	38,363	1,340	140.5	260 / 228
387	38,743	1,340	140.8	192 / 179
391	39,135	1,340	141.2	196 / 177
397	39,657	1,340	141.8	157 / 33
401	40,131	1,340	142.7	94 / 115
406	40,638	1,340	143.5	50 / 32
410	41,000	1,199	144.4	13 / 183
417	41,674	1,199	145.2	77 / 248
421	42,145	1,199	145.6	113 / 242
427	42,724	1,199	146.6	109 / 168
432	43,180	1,199	148.0	122 / 150
438	43,753	1,199	149.1	144 / 74
443	44,279	1,066	150.3	12 / 255
449	44,906	1,066	151.5	12 / 305
455	45,487	1,066	152.8	107 / 187
456	45,563	1,066	153.1	301 / 17
457	45,681	1,066	157.7	300 / 17
461	46,060	1,066	157.7	225 / 395
465	46,530	1,066	157.8	12 / 448
473	47,297	578	157.9	83 / 203
478	47,845	578	159.1	7 / 127
484	48,372	578	162.8	7 / 118
490	48,957	464	165.5	7 / 102
495	49,533	464	170.2	9 / 50
496	49,622	464	172.6	39 / 66
497	49,712	464	180.8	59 / 66
504	50,351	464	180.9	106 / 91
511	51,053	464	180.9	83 / 67
516	51,634	430	181.1	17 / 68
522	52,199	430	182.3	10 / 40
523	52,310	430	183.0	20 / 30
524	52,370	430	183.2	10 / 30
526	52,554	430	184.2	9 / 35
529	52,897	430	186.6	12 / 12
531	53,107	430	188.8	12 / 12
535	53,531	308	191.7	9 / 10
540	53,961	308	196.8	13 / 13
540	54,013	308	205.2	170 / 135
541	54,126	308	205.2	124 / 125
547	54,656	308	205.2	80 / 145
552	55,194	308	205.2	45 / 55
Stone Creek Tributary				
005	455	1,350	157.8 ¹	56 / 96
010	982	1,350	158.1	50 / 150

Table 17 - Limited Detailed Flood Hazard Data

Cross Section	Stream Station	Flood Discharge (cfs)	1% Annual Chance Water-Surface Elevation (feet NAVD 88)	Non-Encroachment Width (feet) Left/Right from Stream Centerline
015	1,531	933	160.6	100 / 20
019	1,917	933	164.4	56 / 48
025	2,541	933	166.4	12 / 175
031	3,126	889	168.4	12 / 155
039	3,941	889	174.2	12 / 305
044	4,416	889	176.9	12 / 165
049	4,949	773	179.0	16 / 260
055	5,455	773	183.3	12 / 110
059	5,931	773	185.4	15 / 200
Stony Fork				
144	14,420	2,532	153.0	375 / 335
150	15,005	2,532	153.2	380 / 130
157	15,683	1,413	153.5	300 / 75
161	16,134	1,413	153.9	178 / 26
165	16,524	1,413	154.6	79 / 59
177	17,683	1,413	157.6	25 / 152
183	18,313	1,101	158.1	55 / 175
189	18,925	1,101	158.6	65 / 40
194	19,406	1,101	160.7	128 / 12
200	19,953	1,101	162.3	118 / 16
204	20,416	1,101	164.0	109 / 12
Stony Fork Tributary				
006	558	1,709	153.3 ¹	73 / 125
011	1,092	1,709	154.9	125 / 44
016	1,585	1,709	156.2	125 / 126
021	2,081	1,709	157.5	50 / 180
026	2,577	1,597	159.5	281 / 14
031	3,062	1,597	161.7	38 / 166
038	3,833	1,597	162.5	75 / 161
043	4,341	1,597	163.7	90 / 72
049	4,890	1,518	164.9	52 / 229
054	5,379	1,518	165.6	38 / 253
059	5,877	1,518	167.3	130 / 29
064	6,393	1,518	168.8	204 / 16
068	6,811	1,368	169.5	52 / 18
078	7,838	1,368	175.4	53 / 75
083	8,344	1,368	178.6	50 / 30
Swift Creek Tributary 3				
068	6,828	220	124.7 ¹	12 / 9
069	6,922	220	124.7 ¹	9 / 10
071	7,050	220	125.2	23 / 46
073	7,283	220	126.7	15 / 12
074	7,388	220	127.5	6 / 9
075	7,500	220	128.7	16 / 9
076	7,619	220	129.4	9 / 9
077	7,742	220	131.6	11 / 21

Table 17 - Limited Detailed Flood Hazard Data

Cross Section	Stream Station	Flood Discharge (cfs)	1% Annual Chance Water-Surface Elevation (feet NAVD 88)	Non-Encroachment Width (feet) Left/Right from Stream Centerline
080	7,971	220	134.7	11 / 21
081	8,104	220	135.0	19 / 20
082	8,223	220	137.0	8 / 11
083	8,311	220	139.0	7 / 13
084	8,411	220	140.2	7 / 30
086	8,575	220	141.8	16 / 10
087	8,711	220	142.8	7 / 51
089	8,918	220	144.4	17 / 20
090	9,011	220	146.6	43 / 7
093	9,311	148	149.3	20 / 12
096	9,611	148	152.1	11 / 7

¹Elevation includes backwater effects

5.3 Coastal Analyses

This section is not applicable to this FIS project. Table 18 “Summary of Coastal Analyses” does not apply to Johnston County.

6.0 Mapping Methods

6.1 Vertical and Horizontal Control

Vertical Datum

All FISs are referenced to a specific vertical datum. The vertical datum provides a starting point against which flood, ground, and structure elevations can be referenced and compared. With the finalization of the North American Vertical Datum of 1988 (NAVD 88), all North Carolina FISs have been prepared using NAVD 88 as the referenced vertical datum.

All flood elevations shown on the FIRM for Johnston County are referenced to NAVD 88. Structure and ground elevations in the county must, therefore, be referenced to NAVD 88. It is important to note that FISs for adjacent communities in neighboring states may be referenced to NGVD 29. This may result in BFE differences across political boundaries between the communities.

As noted above, the elevations shown in this FIS are referenced to NAVD 88. Ground, structure, and flood elevations may be compared and/or referenced to NGVD 29 by applying a standard conversion factor. The conversion factor for Johnston County is # feet. The locations used to establish the conversion factor were USGS quadrangle corners that fell within the county, as well as those that were within 2.5 miles outside the county. The benchmarks are referenced to NAVD 88. Table 21, “Datum Conversion Locations and Values,” is shown below.

Table 21, “Datum Conversion Locations and Values.”

Table 21 - Datum Conversion Locations and Values

Latitude	Longitude	Conversion from NGVD29 to NAVD88 (feet)
35.50	-78.63	-0.84
35.75	-78.37	-0.96
35.75	-78.25	-0.99
35.62	-78.50	-0.89
35.63	-78.38	-0.95
35.63	-78.25	-1.00
35.50	-78.50	-0.89
35.50	-78.37	-0.95
35.50	-78.25	-0.98
35.50	-78.13	-1.02

Table 21 - Datum Conversion Locations and Values

Latitude	Longitude	Conversion from NGVD29 to NAVD88 (feet)
35.38	-78.50	-0.92
35.38	-78.37	-0.95
35.38	-78.25	-0.98
Average conversion in Johnston County from NGVD 29 to NAVD 88 = -0.95 feet		

The vertical datum conversion factor for all flooding sources which run along a county boundary are in accordance with the conversion factor used in those contiguous counties.

BFEs shown on the FIRM represent whole-foot rounded values. For example, a 1% annual chance water-surface elevation of 102.4 feet will appear as 102 on the FIRM and 102.6 feet will appear as 103. Therefore, users who wish to convert the elevations in this FIS to NGVD 29 should apply the stated conversion factor(s) to elevations shown on the Flood Profiles and/or Water-surface elevation rasters and supporting data tables in the FIS Report, which are shown, at a minimum, to the nearest 0.1 foot.

For more information on NAVD 88, see *Converting the National Flood Insurance Program to the North American Vertical Datum of 1988*, or contact the Vertical Network Branch, National Geodetic Survey, Coast and Geodetic Survey, National Oceanic and Atmospheric Administration, Rockville, Maryland 20910 (<http://www.ngs.noaa.gov>).

Vertical Control Monuments

Qualifying bench marks within Johnston County that are cataloged by the National Geodetic Survey (NGS) and entered into the National Spatial Reference System (NSRS) as First or Second Order Vertical, with a vertical stability classification of A, B, or C, are shown and labeled on the FIRM with their 6-character NSRS Permanent Identifier (PID).

The National Geodetic Survey establishes precisely located monuments on the North Carolina Grid System and Bench Marks referenced to a vertical datum (NGVD 1929 and NAVD 1988).

Bench marks cataloged by the NGS and entered into the NSRS vary widely in vertical stability classification. NSRS vertical stability classifications are as follows:

- Stability A: Monuments of the most reliable nature, expected to hold position/elevation well (e.g., mounted in bedrock)
- Stability B: Monuments which generally hold their position/elevation well (e.g., concrete bridge abutment)
- Stability C: Monuments which may be affected by surface ground movements (e.g., concrete monument below frost line)
- Stability D: Mark of questionable or unknown vertical stability (e.g., concrete monument above frost line, or steel witness post)

Monuments with a Stability D classification may be used as Elevation Reference Marks (ERMs) when a Stability C or better monument is not an option. These ERMs must be approved by NCGS and can be set and used as elevation bench marks to establish vertical control and produce NC DFIRMs. Including such ERMs will greatly augment North Carolina’s useable vertical control network.

In addition, when local jurisdictions have established their own vertical monument network, these monuments may also be shown on the FIRM with the appropriate designations. Local monuments will be placed on the FIRM if the community has requested that they be included and if the monuments meet the aforementioned criteria.

North Carolina Geodetic Survey (NCGS) and contractor surveyed vertical control monuments will be shown on the FIRM panels. Those cataloged by NCGS meet similar requirements to the NGS monuments as described above. Most monuments that have been cataloged by NCGS have been established to NGS standards, but have not been submitted to NGS for inclusion into the NSRS. The qualifying criteria for depicting bench marks established by the State’s contractors on the new digital FIRM panels include:

- GPS surveying of permanent 3-D survey monuments to 5-centimeter or better local network accuracy guidelines, in accordance with NOAA Technical Memorandum NOS NGS-58 “Guidelines for Establishing GPS-Derived Ellipsoid Heights (Standards: 2 cm and 5

cm),” and conversion to NAVD 88 orthometric heights using NGS’ latest geoid mode;

- Requiring a stability classification of “C” or better; and
- Submitting GPS files and station descriptions to NCGS.

To obtain current information for cataloging local bench marks in the NSRS, please visit the Data Sheet page of the NGS website at <http://www.ngs.noaa.gov/cgi-bin/datasheet.prl>, or contact the NGS Information Services Branch at:

**NGS Information Services
NOAA, N/NGS12
National Geodetic Survey
SSMC-3, #9202
1315 East-West Highway
Silver Spring, Maryland 20910-32822
(301) 713-3242**

Information regarding the NCGS or State contractor bench marks can be obtained through the NCGS website at www.ncgs.state.nc.us, or by phone at (919) 733-3836.

It is important to note that temporary vertical monuments, sometimes called Elevation Reference Marks, are often established during the preparation of a flood hazard analysis for the purpose of establishing local vertical control. Although these monuments are not shown on the FIRM, interested individuals may contact FEMA to access this information.

Horizontal Datum and Control

The digital files that comprise the FIRM are georeferenced to an established coordinate system. The coordinate system used for the production of this FIRM is North Carolina State Plane (FIPSZONE 3200) referenced to the North American Datum of 1983 (NAD83), GRS80 ellipsoid.

6.2 Base Map

The FIRMs and FIS Report for this project have been produced in a digital format. The flood hazard information was converted to a Geographic Information System (GIS) format that meets FEMA’s FIRM database specifications and geographic information standards. This information is provided in a digital format so that it can be incorporated into a local GIS and be accessed more easily by the community. The FIRM Database includes most of the tabular information contained in the FIS Report in such a way that the data can be associated with pertinent spatial features.

The projection used in the preparation of this map was the North Carolina State Plane Coordinate System. The horizontal datum was NAD83, GRS80 spheroid. Differences in datum, spheroid, or projection used in the production of FIRMs for adjacent states may result in slight positional differences in map features across the state boundary. These differences do not affect the accuracy of this FIRM.

As part of the North Carolina CTS Initiative, North Carolina digital FIRM panel numbers are consistent with the North Carolina Land Records Management Program (LRMP).

The 11-digit digital FIRM panel numbering system for North Carolina is: SS MM LLLL PP X, where SS = State Federal Information Processing Code (37); MM = Easting-Northing (EN) 1,000,000-foot coordinates; LLLL = LRMP map numbers to include the EN 100,000-foot coordinates, and the EN 10,000-foot coordinates; PP = place holders for additional EN 1,000-foot coordinates; and X = suffix (“J” for the initial edition). North Carolina’s State Plane Coordinate System origin is outside the State boundary to the southwest (in Georgia), the eastings range from approximately 0,404,000 (Tennessee border) to 3,040,000 (Atlantic Ocean); and the northings range from approximately 0,045,000 (South Carolina border) to 1,043,000 (Virginia border). Digital FIRM panels were compiled at either 1”=1,000’, covering an area of 20,000 feet x 20,000 feet (20” x 20” panels); or at 1”=500’, covering an area of 10,000 feet x 10,000 feet (20” x 20” panels). An additional 2 digits (both zeros) are held in reserve as a “place holder” in the event that future FIRMs are printed at a larger scale; e.g., 1”=250’, covering an area of 5,000 feet x 5,000 feet for which the 1,000-foot coordinates would either

be 0 or 5.

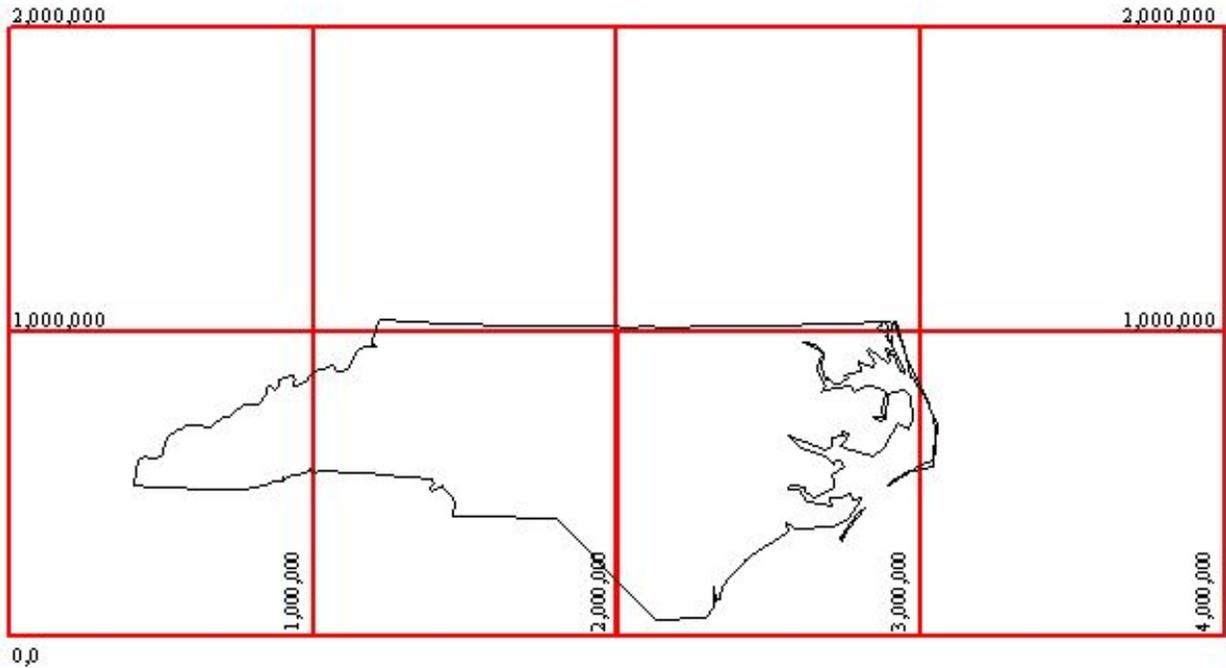


Figure 3 - North Carolina's State Plane Coordinate System

6.3 Floodplain and Floodway Delineation

Floodplain Boundaries

For streams restudied by detailed and limited detailed methods, the 1% and 0.2% annual chance floodplains were delineated using flood elevations determined at each cross section. Between cross sections, the boundaries were interpolated using topographic data acquired using airborne Light Detection and Ranging (LIDAR). This LIDAR data was acquired during the (insert date from basin plan and update for map maintenance, if necessary) flying season.

The topographic data satisfies a vertical root-mean-square error (RMSE) accuracy standard of 20 cm (1.3 feet accuracy at the 95% confidence limit) for the Outer Banks and 25 cm (1.6 feet accuracy at the 95% confidence limit) for those portions of the basin lying west of the Outer Banks. These data could be contoured at roughly a 2-foot vertical contour interval. All elevations were referenced to the NAVD 88 and reflect orthometric heights. Variably spaced, bare-earth digital topographic data in ASCII point file format were combined with imagery (either flown concurrently with the LIDAR data or using existing digital orthophotos) to establish a Triangulated Irregular Network (TIN) of digital elevation points, which include selected breaklines to be used for hydraulic modeling. Furthermore, a uniformly spaced sampling of the TIN resulted in uniformly spaced Digital Elevation Models (DEMs), with 20 ft x 20 ft post spacing, which was generated in multiple file formats.

The 1% annual chance floodplain boundary corresponds to the boundary of the areas of special flood hazards (Zones VE, AO, AH, A99, AR, A, and AE), and the 0.2% annual chance floodplain boundary corresponds to the boundary of areas of moderate flood hazards. In cases where the 1% and 0.2% annual chance floodplain boundaries are close together, only the 1% annual chance floodplain boundaries have been shown.

Floodway Delineation

The floodways presented in this FIS were computed for certain stream segments on the basis of equal conveyance reduction from each side of the floodplain. Floodway widths were computed at cross sections. Between cross sections, the floodway boundaries were interpolated. The results of the floodway computations are tabulated for selected cross sections (Table 22, "Floodway Data"). The computed floodway is shown on the FIRM. In cases where the floodway and 1% annual chance floodplain boundaries are either close together or collinear, only the floodway boundary is shown. In areas where the top of the bridge or road is higher than the 1.0-percent annual chance (100-year) flood, the FIRM will show the flood discharge as contained within the structure for emergency management purposes. It is important to note that FEMA and community floodway regulations still apply in and around those areas.

Table 22 - Floodway Data

Floodway Source		Floodway			Water Surface Elevation				
Cross Section	Distance (Feet Above Mouth)	Width (Feet)	Section Area (Square Feet)	Mean Velocity (Feet Per Second)	Regulatory	1% Annual Chance Future Water-Surface Elevation	Without Floodway	With Floodway	Increase
Black Creek									
027	2,674	610	4,138	1.4	116.9	*	116.9	112.3	-4.6
030	3,029	646	4,488	1.3	116.9 ¹	*	111.5	112.5	1.0
040	4,005	1,191	6,774	0.9	116.9 ¹	*	111.9	112.9	1.0
052	5,200	1,290	13,076	0.4	116.9 ¹	*	112.0	113.0	1.0
063	6,276	1,425	15,681	0.4	116.9 ¹	*	112.1	113.1	1.0
073	7,342	779	7,476	0.8	116.9 ¹	*	112.1	113.1	1.0
081	8,088	219	2,385	2.5	116.9 ¹	*	112.4	113.4	1.0
092	9,163	169	1,866	3.2	116.9 ¹	*	114.2	114.9	0.7
101	10,060	527	5,492	1.1	119.8	*	119.8	119.8	0.0
111	11,084	372	3,727	1.6	120.1	*	120.1	120.1	0.0
118	11,792	367	3,580	1.6	120.2	*	120.2	120.2	0.0
130	13,002	441	4,125	1.4	120.2	*	120.2	120.2	0.0
139	13,905	1,324	13,175	0.4	120.3	*	120.3	120.3	0.0
148	14,802	1,808	17,722	0.3	120.3	*	120.3	120.3	0.0
157	15,654	1,052	9,025	0.6	120.3	*	120.3	120.3	0.0
170	17,002	1,922	18,345	0.3	120.3	*	120.3	120.3	0.0
180	17,990	1,963	20,372	0.3	120.3	*	120.3	120.3	0.0
187	18,680	2,302	24,307	0.2	120.3	*	120.3	120.3	0.0
195	19,483	2,016	23,989	0.2	120.3	*	120.3	120.3	0.0
208	20,846	2,831	25,792	0.2	120.3	*	120.3	120.3	0.0
220	22,002	2,081	17,635	0.3	120.3	*	120.3	120.3	0.0
234	23,445	1,293	10,905	0.5	120.3	*	120.3	120.3	0.0
246	24,578	1,932	15,529	0.4	120.3	*	120.3	120.3	0.0
255	25,500	1,772	12,772	0.5	120.4	*	120.4	120.4	0.0
268	26,779	1,992	12,722	0.5	120.4	*	120.4	120.4	0.0
280	28,002	2,005	11,845	0.5	120.5	*	120.5	120.6	0.1
290	28,969	1,844	11,795	0.5	120.5	*	120.5	120.6	0.1
298	29,784	1,870	11,604	0.5	120.6	*	120.6	120.7	0.1
309	30,934	1,809	7,416	0.8	120.7	*	120.7	120.9	0.2
326	32,588	1,340	6,869	0.9	120.9	*	120.9	121.3	0.4
340	34,002	1,399	7,012	0.8	121.2	*	121.2	121.7	0.5
349	34,911	1,261	6,248	1.0	121.4	*	121.4	122.0	0.6
360	36,026	1,420	6,254	0.9	121.7	*	121.7	122.3	0.6
370	37,002	1,325	4,875	1.2	121.9	*	121.9	122.6	0.7
398	39,786	723	3,871	1.3	125.2	*	125.2	125.9	0.6
409	40,933	676	4,309	1.2	125.9	*	125.9	126.6	0.8
425	42,521	1,025	5,995	0.9	126.9	*	126.9	127.7	0.8
443	44,250	1,108	5,930	0.9	127.6	*	127.6	128.5	0.8
463	46,327	1,295	6,120	0.8	128.5	*	128.5	129.4	0.9
474	47,440	1,108	5,541	0.9	129.1	*	129.1	130.0	0.9
481	48,133	593	3,217	1.6	129.8	*	129.8	130.6	0.9
491	49,077	484	2,893	1.8	131.2	*	131.2	132.0	0.8
496	49,618	634	4,108	1.3	131.8	*	131.8	132.7	0.8

Table 22 - Floodway Data

Floodway Source		Floodway			Water Surface Elevation				
Cross Section	Distance (Feet Above Mouth)	Width (Feet)	Section Area (Square Feet)	Mean Velocity (Feet Per Second)	Regulatory	1% Annual Chance Future Water-Surface Elevation	Without Floodway	With Floodway	Increase
502	50,194	909	5,591	0.9	132.1	*	132.1	133.0	1.0
512	51,246	652	3,938	1.3	132.6	*	132.6	133.6	1.0
523	52,321	714	3,200	1.6	133.6	*	133.6	134.5	0.9
530	52,971	879	4,166	1.2	134.1	*	134.1	135.1	0.9
534	53,435	697	4,024	1.3	134.4	*	134.4	135.3	0.9
539	53,854	537	2,421	2.2	134.6	*	134.6	135.6	0.9
542	54,215	349	1,930	2.7	135.2	*	135.2	136.2	1.0
547	54,701	404	2,100	2.5	136.1	*	136.1	137.0	0.9
552	55,199	464	2,753	1.9	136.8	*	136.8	137.7	0.9
559	55,868	485	3,263	1.6	137.4	*	137.4	138.3	1.0
566	56,611	453	2,785	1.9	138.0	*	138.0	138.9	0.8
577	57,747	800	5,592	0.9	139.0	*	139.0	139.8	0.8
586	58,560	524	3,826	1.4	139.4	*	139.4	140.1	0.8
591	59,139	991	6,535	0.7	139.6	*	139.6	140.4	0.8
609	60,863	913	7,013	0.7	140.8	*	140.8	141.5	0.7
624	62,386	661	4,420	1.1	141.2	*	141.2	142.0	0.8
636	63,580	890	6,151	0.8	141.7	*	141.7	142.6	0.9
652	65,163	896	5,740	0.8	142.2	*	142.2	143.1	0.9
658	65,797	915	5,269	0.9	142.6	*	142.6	143.4	0.9
666	66,624	866	5,157	0.9	142.8	*	142.8	143.8	0.9
690	69,010	750	5,204	0.9	144.3	*	144.3	145.1	0.8
703	70,286	844	5,124	0.9	144.6	*	144.6	145.5	0.9
710	70,994	650	3,599	1.3	145.0	*	145.0	145.9	0.9
736	73,630	686	3,984	1.1	147.0	*	147.0	147.7	0.7
749	74,857	770	3,718	1.2	147.3	*	147.3	148.2	0.9
776	77,593	985	5,377	0.8	149.0	*	149.0	149.9	0.9
786	78,585	1,000	5,136	0.9	149.3	*	149.3	150.3	0.9
803	80,300	884	3,940	1.2	150.3	*	150.3	151.2	0.9
812	81,209	1,025	4,909	0.9	150.8	*	150.8	151.7	0.9
821	82,065	1,061	5,391	0.8	151.1	*	151.1	152.0	0.9
829	82,908	772	4,133	1.1	151.4	*	151.4	152.3	0.9
838	83,846	959	4,732	1.0	151.6	*	151.6	152.5	0.9
852	85,168	865	4,016	1.1	152.0	*	152.0	152.9	0.9
870	87,001	804	3,203	1.4	153.0	*	153.0	153.9	0.9
886	88,565	717	3,232	1.4	154.1	*	154.1	155.0	1.0
896	89,610	801	3,419	1.3	154.6	*	154.6	155.6	1.0
906	90,598	784	2,856	1.6	155.3	*	155.3	156.2	0.9
919	91,937	944	3,423	1.2	156.0	*	156.0	156.9	0.9
931	93,104	738	2,833	1.4	156.6	*	156.6	157.5	1.0
946	94,610	446	1,903	2.1	157.7	*	157.7	158.6	1.0
957	95,656	495	2,030	2.0	158.6	*	158.6	159.5	1.0
968	96,788	719	2,715	1.5	159.3	*	159.3	160.3	1.0
976	97,602	501	1,943	2.1	159.8	*	159.8	160.8	1.0
987	98,708	491	1,808	2.0	160.7	*	160.7	161.6	1.0

Table 22 - Floodway Data

Floodway Source		Floodway			Water Surface Elevation				
Cross Section	Distance (Feet Above Mouth)	Width (Feet)	Section Area (Square Feet)	Mean Velocity (Feet Per Second)	Regulatory	1% Annual Chance Future Water-Surface Elevation	Without Floodway	With Floodway	Increase
999	99,853	623	2,025	1.8	161.7	*	161.7	162.6	0.8
1009	100,950	657	2,238	1.7	162.7	*	162.7	163.5	0.8
1033	103,297	768	2,851	1.3	165.8	*	165.8	166.1	0.3
1043	104,319	754	3,421	1.1	166.5	*	166.5	167.0	0.5
1049	104,902	448	2,194	1.7	166.8	*	166.8	167.4	0.6
1056	105,581	581	2,913	1.3	167.1	*	167.1	167.9	0.7
1065	106,506	786	2,799	1.3	167.9	*	167.9	168.7	0.8
1070	107,046	475	2,251	1.6	168.4	*	168.4	169.2	0.8
1078	107,818	791	3,413	1.1	169.0	*	169.0	169.9	0.9
1088	108,832	940	3,639	1.0	169.6	*	169.6	170.4	0.8
1098	109,836	848	3,313	1.0	170.0	*	170.0	170.8	0.8
1107	110,657	478	1,943	1.7	171.0	*	171.0	171.8	0.8
1115	111,482	699	2,518	1.3	172.1	*	172.1	172.9	0.8
1121	112,129	572	2,442	1.4	173.0	*	173.0	173.8	0.9
1131	113,138	743	2,831	1.2	173.9	*	173.9	174.8	0.9
1138	113,788	500	2,276	1.4	174.7	*	174.7	175.6	0.9
1146	114,592	815	3,245	1.0	175.5	*	175.5	176.5	1.0
1151	115,077	509	2,095	1.6	176.0	*	176.0	177.0	0.9
1157	115,745	478	2,433	1.4	176.9	*	176.9	177.9	1.0
1166	116,606	566	2,541	1.3	177.9	*	177.9	178.9	1.0
1174	117,447	635	3,348	1.0	178.6	*	178.6	179.6	1.0
1187	118,683	699	3,379	1.0	179.3	*	179.3	180.2	1.0
1199	119,895	695	2,867	1.2	180.3	*	180.3	181.3	1.0
1208	120,840	700	2,718	1.2	181.2	*	181.2	182.1	1.0
1217	121,672	720	2,949	1.1	181.9	*	181.9	182.9	1.0
1228	122,797	540	1,999	1.6	183.0	*	183.0	183.9	0.9
1235	123,463	505	2,135	1.5	183.9	*	183.9	184.8	0.9
1244	124,428	680	2,978	1.1	184.7	*	184.7	185.6	1.0
1257	125,723	448	1,771	1.8	185.6	*	185.6	186.6	1.0
1276	127,586	680	3,569	0.9	188.2	*	188.2	189.1	0.9
1280	128,036	773	3,904	0.8	188.4	*	188.4	189.3	0.9
1286	128,623	800	3,354	1.0	188.6	*	188.6	189.5	0.9
1290	129,036	509	2,330	1.1	188.9	*	188.9	189.9	1.0
1295	129,497	603	2,486	1.0	189.1	*	189.1	190.1	1.0
1300	129,959	466	1,859	1.3	189.5	*	189.5	190.4	1.0
1307	130,686	530	1,575	1.6	190.1	*	190.1	191.1	1.0
1310	131,036	522	1,756	1.4	190.7	*	190.7	191.6	1.0
1315	131,536	299	1,081	2.3	191.4	*	191.4	192.4	0.9
1320	132,036	343	1,496	1.6	192.2	*	192.2	193.2	1.0
Buffalo Creek									
008	828	350	2,013	1.1	126.5 ²	*	117.3 ²	118.3 ²	1.0
014	1,398	537	3,293	0.7	126.6 ²	*	117.5 ²	118.4 ²	1.0
018	1,807	296	1,566	1.5	126.6 ²	*	117.6 ²	118.5 ²	1.0
025	2,457	304	2,201	1.0	126.6 ²	*	117.9 ²	118.8 ²	1.0

Table 22 - Floodway Data

Floodway Source		Floodway			Water Surface Elevation				
Cross Section	Distance (Feet Above Mouth)	Width (Feet)	Section Area (Square Feet)	Mean Velocity (Feet Per Second)	Regulatory	1% Annual Chance Future Water-Surface Elevation	Without Floodway	With Floodway	Increase
038	3,796	222	2,533	0.9	126.7 ¹	*	119.0	119.5	0.5
057	5,650	302	2,862	0.8	126.7 ¹	*	124.4	124.8	0.4
062	6,185	265	3,224	0.7	126.7 ¹	*	124.4	124.8	0.4
067	6,746	240	2,771	0.8	126.7 ¹	*	124.4	124.8	0.4
071	7,068	200	2,459	0.9	126.7 ¹	*	124.4	124.8	0.4
074	7,449	136	1,537	1.4	126.7 ¹	*	124.4	124.9	0.5
078	7,804	218	2,494	0.9	126.7 ¹	*	124.4	125.0	0.5
082	8,232	237	2,411	0.9	126.7 ¹	*	124.5	125.0	0.5
086	8,630	255	2,489	0.8	126.7 ¹	*	124.5	125.0	0.6
093	9,287	275	2,641	0.8	126.7 ¹	*	124.5	125.1	0.6
097	9,676	285	2,329	0.9	126.7 ¹	*	124.6	125.2	0.6
101	10,072	235	1,689	1.2	126.7 ¹	*	124.6	125.2	0.7
103	10,333	257	1,927	1.0	126.7 ¹	*	124.6	125.3	0.7
106	10,646	245	1,622	1.2	126.7 ¹	*	124.6	125.4	0.7
109	10,921	234	1,376	1.4	126.7 ¹	*	124.7	125.4	0.7
112	11,230	175	734	2.7	126.7 ¹	*	124.9	125.6	0.7
117	11,691	110	660	2.9	126.7 ¹	*	125.4	126.3	0.8
120	11,991	125	718	2.6	126.7 ¹	*	125.8	126.7	0.9
123	12,343	147	807	2.4	126.7 ¹	*	126.3	127.2	0.9
127	12,671	87	620	3.1	126.9	*	126.9	127.8	0.9
130	13,000	132	679	2.8	127.9	*	127.9	128.8	1.0
134	13,388	122	642	2.9	129.2	*	129.2	130.2	1.0
137	13,713	86	378	4.9	130.6	*	130.6	131.5	0.9
139	13,945	32	235	7.9	132.1	*	132.1	132.9	0.8
142	14,195	32	247	7.5	133.8	*	133.8	134.4	0.6
148	14,814	210	1,383	1.3	136.9	*	136.9	137.8	0.9
Buffalo Creek (Basin 9, Stream 1)									
005	494	1,006	9,563	0.7	151.9 ¹	*	146.0	147.0	1.0
014	1,427	1,291	12,151	0.6	151.9 ¹	*	146.2	147.2	1.0
025	2,500	1,341	11,179	0.6	151.9 ¹	*	146.3	147.3	1.0
036	3,562	1,415	11,171	0.6	151.9 ¹	*	146.5	147.5	1.0
044	4,373	764	4,927	1.4	151.9 ¹	*	146.7	147.7	1.0
065	6,538	767	7,160	1.0	151.9 ¹	*	150.5	151.3	0.8
079	7,878	1,149	8,906	0.8	151.9 ¹	*	150.8	151.7	0.9
088	8,757	1,290	8,700	0.8	151.9 ¹	*	151.0	151.9	0.9
096	9,607	890	5,195	1.3	151.9 ¹	*	151.4	152.3	0.9
117	11,703	690	6,667	1.0	155.8	*	155.8	156.3	0.5
123	12,309	800	6,630	1.0	155.9	*	155.9	156.4	0.5
132	13,166	890	7,106	1.0	155.9	*	155.9	156.5	0.6
138	13,836	1,050	7,430	0.9	156.0	*	156.0	156.6	0.7
147	14,716	1,201	8,630	0.8	156.2	*	156.2	157.0	0.8
156	15,616	960	5,872	1.2	156.5	*	156.5	157.4	0.9
181	18,109	871	4,402	1.6	158.7	*	158.7	159.7	1.0
193	19,275	1,329	6,357	1.1	159.6	*	159.6	160.6	1.0

Table 22 - Floodway Data

Floodway Source		Floodway			Water Surface Elevation				
Cross Section	Distance (Feet Above Mouth)	Width (Feet)	Section Area (Square Feet)	Mean Velocity (Feet Per Second)	Regulatory	1% Annual Chance Future Water-Surface Elevation	Without Floodway	With Floodway	Increase
204	20,395	1,160	5,080	1.4	160.3	*	160.3	161.3	1.0
216	21,579	1,450	4,767	1.5	161.8	*	161.8	162.8	1.0
233	23,295	1,023	5,743	1.2	163.6	*	163.6	164.6	1.0
240	23,960	1,040	4,368	1.6	164.6	*	164.6	165.6	0.9
254	25,386	1,100	6,263	1.1	166.1	*	166.1	166.9	0.9
273	27,315	709	5,479	1.3	170.1	*	170.1	170.4	0.3
285	28,538	929	6,555	1.1	170.4	*	170.4	171.0	0.6
295	29,489	1,206	8,080	0.9	170.7	*	170.7	171.4	0.7
307	30,732	1,241	6,604	1.0	171.2	*	171.2	172.1	0.9
321	32,059	1,270	7,297	1.0	171.8	*	171.8	172.8	1.0
331	33,138	1,336	6,648	1.0	172.3	*	172.3	173.3	1.0
339	33,931	1,283	6,086	1.1	172.9	*	172.9	173.9	1.0
352	35,151	1,145	4,899	1.4	174.2	*	174.2	175.2	1.0
365	36,469	855	4,392	1.6	176.0	*	176.0	177.0	1.0
374	37,433	1,089	4,185	1.7	177.4	*	177.4	178.4	0.9
383	38,277	647	3,408	2.0	178.9	*	178.9	179.9	1.0
387	38,737	425	2,341	3.0	179.9	*	179.9	180.9	1.0
399	39,916	346	3,523	2.0	186.1	*	186.1	186.2	0.1
407	40,692	450	4,858	1.4	186.4	*	186.4	186.8	0.4
414	41,405	530	5,216	1.3	186.5	*	186.5	187.2	0.7
421	42,069	740	6,791	1.0	186.6	*	186.6	187.4	0.8
426	42,635	862	7,321	1.0	186.7	*	186.7	187.6	0.9
431	43,110	1,074	8,765	0.8	186.8	*	186.8	187.7	0.9
437	43,670	832	5,857	1.2	186.9	*	186.9	187.8	0.9
444	44,391	818	6,249	1.1	187.2	*	187.2	188.2	0.9
455	45,547	740	5,656	1.2	187.6	*	187.6	188.5	0.9
462	46,245	1,166	8,547	0.8	187.9	*	187.9	188.8	0.9
476	47,592	1,178	6,999	1.0	188.3	*	188.3	189.2	0.9
488	48,814	940	5,760	1.2	188.7	*	188.7	189.6	0.8
495	49,549	1,100	6,401	1.1	189.4	*	189.4	190.1	0.7
502	50,194	1,170	6,465	1.1	189.9	*	189.9	190.5	0.6
508	50,802	1,260	6,107	1.1	190.5	*	190.5	191.0	0.5
513	51,329	1,330	6,327	1.1	191.0	*	191.0	191.4	0.4
528	52,766	616	3,243	2.1	192.9	*	192.9	193.1	0.3
533	53,289	486	2,532	2.7	193.6	*	193.6	194.1	0.6
538	53,808	609	3,943	1.8	194.5	*	194.5	195.3	0.8
547	54,660	632	4,140	1.7	195.4	*	195.4	196.2	0.9
554	55,414	870	5,443	1.3	195.9	*	195.9	196.8	0.9
562	56,244	839	5,147	1.3	196.4	*	196.4	197.3	0.9
570	57,031	520	3,164	2.2	197.2	*	197.2	198.1	0.9
575	57,539	614	3,905	1.8	198.0	*	198.0	198.9	0.9
582	58,213	555	3,659	1.9	199.0	*	199.0	199.8	0.8
592	59,198	873	5,817	1.2	199.7	*	199.7	200.6	0.9
599	59,867	726	4,691	1.5	200.2	*	200.2	201.0	0.9

Table 22 - Floodway Data

Floodway Source		Floodway			Water Surface Elevation				
Cross Section	Distance (Feet Above Mouth)	Width (Feet)	Section Area (Square Feet)	Mean Velocity (Feet Per Second)	Regulatory	1% Annual Chance Future Water-Surface Elevation	Without Floodway	With Floodway	Increase
603	60,307	803	4,427	1.6	200.6	*	200.6	201.4	0.8
608	60,758	796	4,931	1.4	201.0	*	201.0	201.9	0.8
613	61,343	689	4,319	1.6	201.5	*	201.5	202.4	0.8
619	61,913	585	3,994	1.7	202.0	*	202.0	202.8	0.8
629	62,876	320	2,673	2.6	204.8	*	204.8	205.6	0.8
633	63,257	559	5,124	1.4	205.0	*	205.0	205.9	0.9
Buffalo Creek West									
017	1,668	455	1,616	0.7	195.2 ¹	*	192.1	193.1	1.0
025	2,462	95	505	2.1	195.2 ¹	*	193.1	194.0	0.9
029	2,946	133	435	2.5	195.2 ¹	*	193.5	194.5	1.0
037	3,714	191	441	2.4	195.2 ¹	*	195.0	195.9	0.8
041	4,101	209	602	1.8	196.3	*	196.3	197.0	0.7
045	4,502	197	516	2.1	197.0	*	197.0	197.9	0.8
050	4,961	177	433	2.5	198.4	*	198.4	199.2	0.8
054	5,433	171	558	1.9	199.7	*	199.7	200.5	0.8
060	6,034	223	430	2.5	201.2	*	201.2	201.9	0.7
065	6,506	236	676	1.6	202.9	*	202.9	203.8	1.0
070	7,026	177	516	1.9	204.2	*	204.2	205.1	0.9
075	7,505	180	452	2.2	205.7	*	205.7	206.5	0.9
080	8,020	146	429	2.3	207.0	*	207.0	208.0	1.0
083	8,344	106	341	2.9	208.3	*	208.3	209.0	0.7
089	8,922	192	666	1.5	209.8	*	209.8	210.6	0.8
094	9,399	184	514	2.0	210.6	*	210.6	211.5	0.9
100	10,005	221	506	2.0	212.4	*	212.4	213.2	0.8
103	10,309	199	473	1.9	213.7	*	213.7	214.2	0.6
108	10,810	192	391	2.3	215.1	*	215.1	216.0	0.9
116	11,561	79	364	2.0	219.5	*	219.5	219.6	0.1
120	12,004	73	237	3.0	219.4	*	219.4	220.2	0.8
125	12,510	50	177	4.1	222.4	*	222.4	222.8	0.4
129	12,927	46	161	4.5	224.2	*	224.2	225.1	1.0
133	13,321	114	402	1.8	226.4	*	226.4	227.0	0.6
139	13,905	97	245	3.0	228.6	*	228.6	229.3	0.7
141	14,129	100	312	2.3	230.0	*	230.0	231.0	1.0
146	14,620	101	307	2.4	232.3	*	232.3	233.3	0.9
150	15,025	39	165	3.6	234.0	*	234.0	235.0	1.0
152	15,233	19	98	6.1	235.1	*	235.1	235.6	0.5
158	15,799	53	177	3.4	239.2	*	239.2	239.4	0.2
162	16,198	35	122	4.9	240.2	*	240.2	241.2	1.0
167	16,657	20	92	6.5	243.9	*	243.9	244.2	0.4
Hannah Creek									
005	500	1,501	8,765	1.0	95.3 ¹	*	94.7	95.7	1.0
010	1,000	1,266	8,215	1.1	95.3 ¹	*	94.8	95.8	1.0
015	1,500	933	5,838	1.6	95.3 ¹	*	95.2	96.2	1.0
022	2,156	910	6,125	1.5	95.9	*	95.9	96.8	1.0

Table 22 - Floodway Data

Floodway Source		Floodway			Water Surface Elevation				
Cross Section	Distance (Feet Above Mouth)	Width (Feet)	Section Area (Square Feet)	Mean Velocity (Feet Per Second)	Regulatory	1% Annual Chance Future Water-Surface Elevation	Without Floodway	With Floodway	Increase
030	3,016	632	4,236	2.2	97.0	*	97.0	97.9	0.9
046	4,642	1,192	10,584	0.9	98.3	*	98.3	99.2	1.0
051	5,123	834	5,294	1.7	98.4	*	98.4	99.4	1.0
065	6,497	353	2,734	3.4	99.3	*	99.3	100.0	0.7
070	6,997	493	3,995	2.3	100.2	*	100.2	101.1	0.8
075	7,497	535	4,327	2.1	100.7	*	100.7	101.5	0.9
080	7,997	559	5,358	1.7	101.4	*	101.4	102.4	0.9
085	8,525	709	7,033	1.3	101.9	*	101.9	102.9	1.0
090	9,038	646	7,104	1.3	102.1	*	102.1	103.0	1.0
095	9,536	630	6,655	1.4	102.3	*	102.3	103.3	1.0
104	10,366	649	6,887	1.3	102.8	*	102.8	103.7	1.0
111	11,106	978	9,088	1.0	103.1	*	103.1	104.1	1.0
121	12,100	1,494	12,974	0.7	103.5	*	103.5	104.4	1.0
131	13,105	1,206	10,266	0.9	103.7	*	103.7	104.7	1.0
136	13,607	1,239	9,582	1.0	103.9	*	103.9	104.9	1.0
145	14,515	890	7,669	1.2	104.5	*	104.5	105.4	1.0
156	15,559	1,063	8,162	1.1	105.1	*	105.1	106.1	1.0
166	16,563	1,003	8,890	1.0	105.7	*	105.7	106.7	1.0
176	17,555	882	7,505	1.2	106.2	*	106.2	107.2	1.0
191	19,054	729	7,336	1.2	107.9	*	107.9	108.6	0.7
196	19,554	805	8,035	1.1	108.1	*	108.1	108.8	0.7
206	20,599	975	9,726	0.9	108.4	*	108.4	109.2	0.8
213	21,292	887	8,310	1.1	108.7	*	108.7	109.5	0.8
220	21,968	770	7,471	1.2	108.9	*	108.9	109.7	0.8
227	22,705	618	6,541	1.4	109.1	*	109.1	110.0	0.9
236	23,562	688	7,669	1.2	109.6	*	109.6	110.5	0.9
241	24,062	817	8,461	1.1	109.8	*	109.8	110.7	0.9
251	25,062	894	8,615	1.0	110.1	*	110.1	111.0	0.9
261	26,062	1,068	10,104	0.9	110.3	*	110.3	111.2	0.9
266	26,562	1,219	11,315	0.8	110.4	*	110.4	111.3	0.9
276	27,562	1,664	15,998	0.6	110.5	*	110.5	111.4	0.9
286	28,562	1,687	14,908	0.6	110.6	*	110.6	111.5	0.9
297	29,671	1,383	11,725	0.8	110.7	*	110.7	111.6	0.9
305	30,525	1,436	11,147	0.7	110.8	*	110.8	111.8	1.0
313	31,341	1,214	9,615	0.9	111.0	*	111.0	112.0	1.0
323	32,305	1,015	8,861	0.9	111.2	*	111.2	112.2	1.0
333	33,304	933	9,967	0.8	112.8	*	112.8	113.3	0.5
345	34,474	873	8,791	0.9	113.0	*	113.0	113.6	0.5
351	35,051	1,365	13,413	0.6	113.2	*	113.2	113.7	0.6
361	36,051	1,036	8,852	0.8	113.3	*	113.3	113.9	0.6
369	36,878	1,142	8,861	0.8	113.4	*	113.4	114.1	0.7
375	37,533	1,363	10,114	0.7	113.6	*	113.6	114.3	0.7
385	38,533	1,601	12,249	0.6	113.8	*	113.8	114.5	0.8
395	39,533	1,463	11,149	0.7	114.0	*	114.0	114.7	0.8

Table 22 - Floodway Data

Floodway Source		Floodway			Water Surface Elevation				
Cross Section	Distance (Feet Above Mouth)	Width (Feet)	Section Area (Square Feet)	Mean Velocity (Feet Per Second)	Regulatory	1% Annual Chance Future Water-Surface Elevation	Without Floodway	With Floodway	Increase
405	40,495	1,024	8,148	0.9	114.2	*	114.2	115.0	0.8
413	41,335	791	6,535	1.1	114.5	*	114.5	115.4	0.9
419	41,921	928	6,810	1.1	114.9	*	114.9	115.8	0.9
426	42,615	941	7,071	1.0	115.2	*	115.2	116.1	0.9
435	43,520	970	7,343	1.0	115.5	*	115.5	116.5	1.0
440	44,001	802	5,846	1.2	115.8	*	115.8	116.8	1.0
447	44,703	499	4,617	1.6	116.4	*	116.4	117.4	1.0
455	45,482	500	4,988	1.5	117.1	*	117.1	118.0	1.0
465	46,502	733	5,862	1.2	117.7	*	117.7	118.7	1.0
479	47,876	714	6,934	1.1	118.9	*	118.9	119.6	0.7
484	48,425	622	6,694	1.1	119.0	*	119.0	119.8	0.8
489	48,926	669	6,174	1.2	119.2	*	119.2	119.9	0.8
494	49,449	688	5,826	1.3	119.4	*	119.4	120.1	0.8
499	49,949	567	5,210	1.4	119.6	*	119.6	120.4	0.8
506	50,602	612	5,915	1.2	119.9	*	119.9	120.7	0.8
511	51,146	762	6,835	1.0	120.0	*	120.0	120.9	0.8
519	51,852	473	4,830	1.4	120.2	*	120.2	121.1	0.8
525	52,510	593	5,960	1.1	120.6	*	120.6	121.4	0.8
530	53,010	629	6,879	1.0	120.8	*	120.8	121.6	0.8
535	53,510	523	5,691	1.2	120.9	*	120.9	121.8	0.8
541	54,063	512	5,701	1.2	121.1	*	121.1	122.0	0.9
555	55,514	656	7,112	1.0	122.3	*	122.3	123.2	0.9
560	56,014	599	6,176	1.1	122.4	*	122.4	123.4	1.0
564	56,363	597	6,217	1.1	122.5	*	122.5	123.5	1.0
568	56,848	627	6,605	1.0	122.7	*	122.7	123.6	0.9
573	57,319	620	5,898	1.2	122.8	*	122.8	123.8	1.0
580	57,970	471	5,080	1.3	123.1	*	123.1	124.0	0.9
585	58,470	492	4,723	1.4	123.3	*	123.3	124.2	0.9
590	58,978	517	4,805	1.4	123.5	*	123.5	124.5	0.9
605	60,459	506	5,385	1.2	124.8	*	124.8	125.6	0.8
610	60,959	593	5,426	1.2	124.9	*	124.9	125.7	0.8
615	61,459	747	6,218	1.0	125.0	*	125.0	125.8	0.9
620	61,959	921	9,248	0.7	125.1	*	125.1	126.0	0.9
625	62,459	828	8,685	0.7	125.1	*	125.1	126.0	0.9
631	63,124	961	10,034	0.6	125.2	*	125.2	126.1	0.9
638	63,786	827	8,378	0.8	125.3	*	125.3	126.2	0.9
645	64,459	1,058	10,022	0.6	125.4	*	125.4	126.2	0.9
650	64,959	1,005	9,342	0.7	125.4	*	125.4	126.3	0.9
655	65,459	828	7,126	0.9	125.5	*	125.5	126.4	0.9
660	65,959	681	5,512	1.2	125.6	*	125.6	126.5	0.9
666	66,615	684	5,896	1.1	125.8	*	125.8	126.7	0.9
671	67,116	655	5,504	1.2	125.9	*	125.9	126.8	0.9
677	67,664	539	4,501	1.4	126.1	*	126.1	127.0	1.0
683	68,257	620	5,071	1.2	126.4	*	126.4	127.3	1.0

Table 22 - Floodway Data

Floodway Source		Floodway			Water Surface Elevation				
Cross Section	Distance (Feet Above Mouth)	Width (Feet)	Section Area (Square Feet)	Mean Velocity (Feet Per Second)	Regulatory	1% Annual Chance Future Water-Surface Elevation	Without Floodway	With Floodway	Increase
687	68,750	644	5,325	1.2	126.5	*	126.5	127.5	1.0
695	69,500	618	5,035	1.3	126.8	*	126.8	127.8	1.0
700	70,033	610	5,059	1.2	127.0	*	127.0	128.0	1.0
711	71,142	458	3,900	1.6	128.4	*	128.4	129.2	0.8
718	71,809	432	2,963	2.0	128.7	*	128.7	129.6	0.9
723	72,317	420	3,650	1.6	129.1	*	129.1	130.0	0.9
728	72,817	832	8,591	0.7	129.3	*	129.3	130.2	0.9
732	73,224	932	9,571	0.6	129.4	*	129.4	130.3	0.9
736	73,583	965	9,695	0.6	129.4	*	129.4	130.3	0.9
741	74,139	801	7,373	0.8	129.4	*	129.4	130.4	1.0
748	74,806	528	4,844	1.1	129.6	*	129.6	130.5	0.9
753	75,317	698	6,270	0.8	129.7	*	129.7	130.6	1.0
758	75,817	574	4,058	1.3	129.8	*	129.8	130.8	1.0
763	76,327	549	4,014	1.3	130.0	*	130.0	131.0	1.0
769	76,885	745	5,277	1.0	130.1	*	130.1	131.1	1.0
777	77,659	1,000	5,822	0.9	130.3	*	130.3	131.3	1.0
783	78,312	674	5,263	1.0	130.4	*	130.4	131.4	1.0
788	78,812	362	2,693	1.9	130.6	*	130.6	131.5	1.0
792	79,171	394	3,423	1.5	130.8	*	130.8	131.8	1.0
800	80,009	788	6,792	0.8	134.0	*	134.0	134.5	0.5
813	81,274	919	6,638	0.6	134.1	*	134.1	134.6	0.6
817	81,688	906	7,031	0.5	134.1	*	134.1	134.7	0.6
823	82,337	438	3,290	1.2	134.2	*	134.2	134.8	0.6
830	82,975	303	2,247	1.7	134.3	*	134.3	135.0	0.7
837	83,749	531	2,765	1.4	134.7	*	134.7	135.6	0.8
842	84,221	434	2,407	1.6	134.9	*	134.9	135.8	1.0
Little Creek									
005	514	192	1,287	3.0	151.7 ¹	*	139.0	139.8	0.8
011	1,134	282	1,614	2.4	151.7 ¹	*	140.4	141.2	0.9
016	1,572	314	1,448	2.7	151.7 ¹	*	141.1	142.0	0.8
023	2,317	220	1,262	3.0	151.7 ¹	*	143.0	143.8	0.9
026	2,638	195	857	4.5	151.7 ¹	*	144.1	144.4	0.3
031	3,112	238	1,420	2.7	151.7 ¹	*	146.4	146.8	0.4
036	3,622	257	1,400	2.8	151.7 ¹	*	147.3	147.9	0.6
038	3,799	299	1,683	2.3	151.7 ¹	*	147.8	148.4	0.6
041	4,126	226	1,302	3.0	151.7 ¹	*	148.1	148.7	0.6
045	4,549	124	793	4.9	151.7 ¹	*	148.6	149.1	0.4
049	4,878	109	824	4.7	151.7 ¹	*	149.8	150.4	0.6
052	5,164	252	1,677	2.3	151.7 ¹	*	150.9	151.8	0.8
059	5,921	166	1,177	3.3	152.1	*	152.1	152.9	0.8
067	6,734	232	1,783	2.2	153.4	*	153.4	154.3	0.9
075	7,459	180	1,144	3.4	154.0	*	154.0	154.8	0.8
077	7,744	167	1,283	3.0	154.6	*	154.6	155.4	0.9
083	8,293	184	1,552	2.5	157.1	*	157.1	158.1	1.0

Table 22 - Floodway Data

Floodway Source		Floodway			Water Surface Elevation				
Cross Section	Distance (Feet Above Mouth)	Width (Feet)	Section Area (Square Feet)	Mean Velocity (Feet Per Second)	Regulatory	1% Annual Chance Future Water-Surface Elevation	Without Floodway	With Floodway	Increase
087	8,736	301	1,995	1.9	158.0	*	158.0	158.8	0.8
092	9,177	310	1,842	2.1	158.4	*	158.4	159.4	1.0
096	9,617	319	1,521	2.5	159.1	*	159.1	160.0	0.9
100	10,049	330	2,327	1.7	159.7	*	159.7	160.7	1.0
107	10,708	390	2,832	1.4	160.2	*	160.2	161.1	0.9
111	11,120	320	2,224	1.7	160.5	*	160.5	161.4	0.9
117	11,738	352	2,118	1.8	161.4	*	161.4	162.2	0.8
124	12,402	387	2,231	1.7	161.9	*	161.9	162.8	0.9
136	13,572	423	1,904	1.9	162.3	*	162.3	163.3	1.0
140	14,036	319	1,407	2.6	162.7	*	162.7	163.6	0.9
147	14,743	425	2,023	1.8	163.9	*	163.9	164.8	0.9
153	15,313	364	1,243	2.9	165.2	*	165.2	165.7	0.5
159	15,889	201	907	4.0	167.1	*	167.1	167.9	0.8
164	16,448	145	1,023	3.6	169.1	*	169.1	169.9	0.8
169	16,923	170	1,108	3.3	170.2	*	170.2	171.0	0.8
174	17,402	190	1,407	2.6	170.5	*	170.5	171.5	1.0
178	17,761	87	696	5.2	171.4	*	171.4	172.0	0.6
182	18,226	186	1,686	2.2	172.6	*	172.6	173.4	0.8
188	18,810	362	2,964	1.2	173.1	*	173.1	174.0	0.8
194	19,414	210	1,455	2.3	173.5	*	173.5	174.3	0.8
199	19,918	427	2,347	1.4	174.0	*	174.0	174.8	0.8
206	20,609	392	1,842	1.8	174.4	*	174.4	175.3	0.8
210	21,048	240	1,221	2.7	175.4	*	175.4	176.2	0.8
215	21,541	160	942	3.5	176.8	*	176.8	177.7	0.8
220	22,001	183	1,245	2.7	178.1	*	178.1	179.0	0.9
224	22,361	204	1,108	3.0	179.0	*	179.0	179.9	0.9
231	23,135	175	1,309	2.5	180.7	*	180.7	181.6	0.9
237	23,698	249	1,942	1.7	181.4	*	181.4	182.3	0.9
242	24,220	224	1,493	2.2	181.7	*	181.7	182.6	0.9
246	24,562	224	1,290	2.6	182.1	*	182.1	182.8	0.7
255	25,508	328	1,242	2.7	182.6	*	182.6	183.4	0.8
259	25,852	200	1,317	2.5	183.5	*	183.5	184.0	0.5
262	26,175	158	1,303	2.6	192.4	*	192.4	192.4	0.0
266	26,557	234	1,961	1.7	192.5	*	192.5	192.5	0.0
271	27,115	598	3,387	1.0	192.6	*	192.6	192.6	0.0
275	27,464	425	2,265	1.4	192.6	*	192.6	192.6	0.0
279	27,926	356	1,324	2.3	192.8	*	192.8	192.9	0.0
282	28,194	250	1,014	3.0	193.4	*	193.4	193.8	0.4
287	28,695	329	1,343	2.3	195.1	*	195.1	195.9	0.8
292	29,179	381	1,877	1.6	196.0	*	196.0	196.8	0.8
296	29,635	435	1,657	1.9	196.6	*	196.6	197.4	0.9
300	29,962	327	1,239	2.5	197.2	*	197.2	198.2	1.0
308	30,808	317	2,092	1.5	201.9	*	201.9	202.1	0.1
315	31,453	320	2,007	1.5	202.3	*	202.3	202.6	0.3

Table 22 - Floodway Data

Floodway Source		Floodway			Water Surface Elevation				
Cross Section	Distance (Feet Above Mouth)	Width (Feet)	Section Area (Square Feet)	Mean Velocity (Feet Per Second)	Regulatory	1% Annual Chance Future Water-Surface Elevation	Without Floodway	With Floodway	Increase
321	32,057	236	1,722	1.8	202.6	*	202.6	203.2	0.5
324	32,414	254	1,570	2.0	203.0	*	203.0	203.6	0.6
327	32,719	350	1,963	1.6	203.1	*	203.1	203.8	0.7
330	33,029	329	1,389	2.2	203.3	*	203.3	204.1	0.7
337	33,710	346	1,400	2.2	204.3	*	204.3	205.0	0.8
340	34,048	389	1,231	2.5	205.4	*	205.4	206.2	0.8
346	34,601	270	1,385	1.9	207.0	*	207.0	208.0	1.0
351	35,139	233	1,098	2.4	207.9	*	207.9	208.8	0.9
356	35,583	251	802	3.3	209.2	*	209.2	210.1	0.8
360	35,951	250	1,045	2.6	210.9	*	210.9	211.6	0.8
365	36,451	263	991	2.7	212.6	*	212.6	213.3	0.8
370	36,970	75	406	6.6	214.5	*	214.5	215.0	0.5
375	37,451	65	485	5.5	217.3	*	217.3	218.3	1.0
379	37,868	116	632	4.2	219.1	*	219.1	219.8	0.8
385	38,474	232	943	2.8	220.5	*	220.5	221.5	1.0
389	38,868	245	941	2.8	221.3	*	221.3	222.2	0.9
395	39,513	239	975	2.7	224.1	*	224.1	225.0	0.9
400	40,010	117	700	3.7	226.4	*	226.4	227.2	0.9
404	40,437	109	765	3.4	228.1	*	228.1	229.0	1.0
409	40,862	70	466	5.5	229.3	*	229.3	230.2	0.9
414	41,385	84	619	4.2	232.2	*	232.2	233.0	0.8
415	41,540	101	822	3.1	232.9	*	232.9	233.8	1.0
420	41,992	284	1,899	1.4	233.9	*	233.9	234.9	1.0
426	42,618	314	1,952	1.3	234.4	*	234.4	235.3	0.9
431	43,054	159	777	3.3	234.9	*	234.9	235.6	0.7
435	43,504	108	634	4.1	236.4	*	236.4	237.2	0.9
440	43,967	133	709	3.6	237.6	*	237.6	238.5	0.9
444	44,403	152	691	3.4	239.3	*	239.3	240.3	1.0
448	44,764	266	827	2.8	242.4	*	242.4	242.7	0.3
450	45,029	183	1,056	2.2	242.9	*	242.9	243.2	0.3
455	45,515	149	890	2.6	243.3	*	243.3	243.7	0.4
459	45,853	130	560	4.2	243.6	*	243.6	244.0	0.4
460	46,019	90	719	3.3	244.1	*	244.1	244.7	0.6
462	46,229	184	960	2.4	244.2	*	244.2	244.9	0.7
471	47,075	187	854	2.8	245.6	*	245.6	246.3	0.7
476	47,591	241	773	3.0	247.4	*	247.4	248.0	0.6
477	47,726	150	726	3.2	248.3	*	248.3	248.9	0.6
484	48,422	233	1,545	1.4	252.0	*	252.0	252.9	0.9
487	48,719	126	845	2.5	252.2	*	252.2	253.1	0.9
491	49,139	180	1,145	1.8	252.8	*	252.8	253.8	1.0
496	49,576	101	583	3.6	253.3	*	253.3	254.1	0.9
501	50,093	228	1,059	2.0	254.8	*	254.8	255.8	1.0
507	50,669	224	915	2.3	255.6	*	255.6	256.5	0.8
511	51,058	224	589	3.6	256.8	*	256.8	257.3	0.4

Table 22 - Floodway Data

Floodway Source		Floodway			Water Surface Elevation				
Cross Section	Distance (Feet Above Mouth)	Width (Feet)	Section Area (Square Feet)	Mean Velocity (Feet Per Second)	Regulatory	1% Annual Chance Future Water-Surface Elevation	Without Floodway	With Floodway	Increase
518	51,788	160	656	3.2	259.4	*	259.4	260.0	0.6
521	52,072	176	653	3.2	260.6	*	260.6	261.1	0.6
528	52,817	213	1,358	1.0	265.4	*	265.4	265.7	0.3
531	53,077	97	536	2.6	265.5	*	265.5	265.8	0.3
535	53,466	101	483	2.9	265.7	*	265.7	266.0	0.4
541	54,112	116	461	3.0	267.3	*	267.3	268.1	0.8
546	54,576	85	353	3.9	269.6	*	269.6	270.4	0.8
550	55,001	69	297	4.7	272.5	*	272.5	273.3	0.8
554	55,418	153	731	1.9	274.4	*	274.4	275.3	0.9
560	55,953	134	461	3.0	276.0	*	276.0	276.5	0.6
564	56,407	83	374	3.7	278.1	*	278.1	278.4	0.3
570	56,967	94	409	3.1	280.1	*	280.1	281.0	0.8
575	57,467	156	487	2.6	282.2	*	282.2	283.0	0.9
582	58,177	67	237	5.3	285.5	*	285.5	286.3	0.8
587	58,677	94	420	2.6	288.2	*	288.2	289.1	0.9
590	58,967	48	254	4.3	289.0	*	289.0	289.9	0.9
592	59,158	94	319	3.4	289.6	*	289.6	290.4	0.8
595	59,471	74	316	3.4	290.7	*	290.7	291.6	0.9
600	59,971	75	183	5.9	293.0	*	293.0	293.0	0.1
605	60,471	111	454	2.4	296.3	*	296.3	297.1	0.8
608	60,849	83	315	3.3	297.5	*	297.5	298.3	0.8
615	61,480	101	350	3.0	300.2	*	300.2	301.1	0.8
620	61,971	65	227	4.6	303.2	*	303.2	303.8	0.6
625	62,471	83	331	2.3	306.5	*	306.5	306.8	0.3
630	62,968	75	193	4.0	308.4	*	308.4	309.0	0.6
635	63,500	45	221	3.5	312.4	*	312.4	312.9	0.5
638	63,833	62	236	3.2	313.9	*	313.9	314.6	0.7
642	64,248	24	133	5.2	316.2	*	316.2	317.0	0.8
646	64,590	60	235	3.0	318.1	*	318.1	319.0	0.9
650	64,968	104	301	2.3	319.9	*	319.9	320.7	0.8
Little Creek Tributary									
002	207	83	395	2.4	265.1 ¹	*	262.0	262.9	0.9
005	453	126	505	1.9	265.1 ¹	*	262.8	263.8	0.9
008	766	133	442	2.2	265.1 ¹	*	264.2	264.9	0.8
010	1,026	95	274	3.5	265.8	*	265.8	266.8	1.0
017	1,748	125	1,373	0.7	279.4	*	279.4	279.4	0.0
020	2,029	87	653	1.5	279.4	*	279.4	279.5	0.1
022	2,233	51	328	2.9	279.5	*	279.5	279.8	0.3
Little Poplar Creek									
004	401	139	424	2.0	142.1 ¹	*	136.8	137.8	1.0
007	658	70	297	2.9	142.1 ¹	*	137.6	138.5	0.9
009	913	38	162	5.3	142.1 ¹	*	138.6	139.3	0.7
012	1,194	76	314	2.7	142.1 ¹	*	140.4	141.0	0.7
017	1,739	70	271	3.2	142.1 ¹	*	142.1	143.0	1.0

Table 22 - Floodway Data

Floodway Source		Floodway			Water Surface Elevation				
Cross Section	Distance (Feet Above Mouth)	Width (Feet)	Section Area (Square Feet)	Mean Velocity (Feet Per Second)	Regulatory	1% Annual Chance Future Water-Surface Elevation	Without Floodway	With Floodway	Increase
022	2,231	95	262	3.3	144.4	*	144.4	145.3	0.9
028	2,766	48	224	3.8	146.5	*	146.5	147.4	0.8
031	3,145	58	238	3.6	148.0	*	148.0	148.9	0.9
035	3,499	65	279	3.1	149.2	*	149.2	150.2	1.0
039	3,924	90	389	2.2	150.8	*	150.8	151.8	1.0
042	4,172	86	174	4.9	151.6	*	151.6	152.6	0.9
044	4,386	130	344	2.5	154.0	*	154.0	154.9	0.8
048	4,771	193	521	1.6	155.5	*	155.5	156.3	0.9
051	5,075	110	262	3.1	156.4	*	156.4	157.3	0.9
056	5,575	48	190	4.2	159.9	*	159.9	160.3	0.4
057	5,708	38	123	6.6	161.0	*	161.0	161.3	0.4
060	6,043	70	431	1.9	163.5	*	163.5	163.9	0.5
065	6,542	111	610	1.3	163.7	*	163.7	164.5	0.8
072	7,166	82	375	2.2	164.2	*	164.2	165.1	0.9
076	7,564	82	296	2.7	165.0	*	165.0	166.0	1.0
080	7,986	42	160	5.0	166.6	*	166.6	167.6	1.0
082	8,225	66	193	4.2	168.8	*	168.8	169.5	0.7
085	8,519	51	200	4.0	170.3	*	170.3	171.3	1.0
088	8,830	50	184	4.2	171.6	*	171.6	172.5	0.9
092	9,225	42	183	4.2	173.2	*	173.2	174.1	0.9
096	9,599	40	164	4.7	175.1	*	175.1	175.8	0.7
098	9,811	40	133	5.8	176.2	*	176.2	177.0	0.8
100	9,983	33	126	6.1	178.0	*	178.0	178.4	0.4
101	10,095	33	150	5.1	178.6	*	178.6	179.4	0.8
104	10,409	32	116	6.6	180.6	*	180.6	181.2	0.6
106	10,632	32	159	4.6	182.4	*	182.4	183.3	0.8
108	10,847	38	128	5.7	183.8	*	183.8	184.6	0.8
110	10,988	48	170	4.3	185.3	*	185.3	185.7	0.4
113	11,265	76	136	5.4	187.9	*	187.9	188.5	0.6
116	11,554	54	254	2.9	189.8	*	189.8	190.7	0.9
119	11,909	61	204	3.6	191.0	*	191.0	191.9	0.9
124	12,380	70	242	3.0	192.8	*	192.8	193.8	1.0
127	12,733	39	145	4.8	194.2	*	194.2	195.1	1.0
132	13,233	68	253	2.8	197.7	*	197.7	198.3	0.6
137	13,716	48	177	3.9	199.6	*	199.6	200.5	1.0
140	13,967	59	194	3.6	200.9	*	200.9	201.9	1.0
143	14,294	39	158	4.4	202.3	*	202.3	203.2	0.8
145	14,456	39	160	4.4	203.7	*	203.7	204.0	0.2
147	14,701	39	157	4.4	204.6	*	204.6	205.2	0.6
151	15,114	39	153	3.9	206.7	*	206.7	207.2	0.6
155	15,521	39	130	4.6	208.1	*	208.1	209.0	0.9
157	15,734	53	149	4.0	209.7	*	209.7	210.6	0.9
163	16,329	48	228	2.6	212.5	*	212.5	213.4	0.9
170	16,973	34	140	4.3	214.3	*	214.3	215.2	0.9

Table 22 - Floodway Data

Floodway Source		Floodway			Water Surface Elevation				
Cross Section	Distance (Feet Above Mouth)	Width (Feet)	Section Area (Square Feet)	Mean Velocity (Feet Per Second)	Regulatory	1% Annual Chance Future Water-Surface Elevation	Without Floodway	With Floodway	Increase
176	17,569	61	185	3.2	218.0	*	218.0	218.6	0.5
178	17,820	80	254	2.3	219.2	*	219.2	220.1	0.9
182	18,171	44	153	3.9	221.2	*	221.2	222.1	1.0
184	18,415	34	136	4.4	223.1	*	223.1	224.0	0.9
186	18,646	43	173	3.4	224.8	*	224.8	225.7	0.9
190	18,966	50	195	3.0	226.5	*	226.5	227.4	0.9
197	19,683	93	346	1.7	228.8	*	228.8	229.7	1.0
200	20,045	61	249	2.2	229.5	*	229.5	230.5	1.0
205	20,460	43	154	3.5	230.7	*	230.7	231.6	0.9
208	20,754	38	121	4.5	232.5	*	232.5	233.1	0.6
210	21,035	63	202	2.7	234.1	*	234.1	235.0	0.9
211	21,146	41	140	3.8	234.5	*	234.5	235.4	0.9
215	21,452	81	282	1.9	235.6	*	235.6	236.6	1.0
221	22,054	56	182	3.0	238.8	*	238.8	238.9	0.1
Little River									
1227	122,708	700	5,405	2.7	109.0	*	109.0	109.9	0.9
1250	125,032	700	5,610	2.6	108.9	*	108.9	109.7	0.8
1253	125,348	540	4,379	3.3	111.3	*	111.3	112.1	0.8
1265	126,460	388	4,674	3.1	112.3	*	112.3	113.1	0.8
1276	127,550	190	3,136	4.7	114.0	*	114.0	114.5	0.5
1292	129,193	167	2,941	5.0	115.5	*	115.5	116.2	0.7
1321	132,071	155	2,655	5.5	118.9	*	118.9	119.6	0.7
1339	133,936	185	3,379	4.3	121.5	*	121.5	122.2	0.6
1362	136,170	2,225	28,870	0.5	122.3	*	122.3	123.2	0.8
1382	138,287	2,250	32,001	0.4	122.4	*	122.4	123.3	0.9
1428	142,778	4,540	50,269	0.3	122.6	*	122.6	123.5	1.0
1448	144,847	4,455	35,614	0.4	122.6	*	122.6	123.6	1.0
1488	148,753	3,838	20,253	0.7	123.2	*	123.2	124.2	1.0
1530	152,960	1,245	11,019	1.2	125.5	*	125.5	126.4	0.9
1537	153,704	945	8,616	1.6	126.0	*	126.0	126.8	0.8
1555	155,469	1,350	13,125	1.0	127.1	*	127.1	127.9	0.9
1569	156,875	1,600	15,239	0.9	127.5	*	127.5	128.4	0.9
1577	157,667	1,150	13,454	1.0	127.8	*	127.8	128.7	0.9
1588	158,760	1,300	11,226	1.2	128.1	*	128.1	129.0	1.0
1601	160,081	1,040	9,783	1.4	128.7	*	128.7	129.7	1.0
1614	161,371	1,200	11,122	1.2	129.2	*	129.2	130.2	1.0
1623	162,348	550	6,246	2.2	129.7	*	129.7	130.6	1.0
1633	163,312	950	10,650	1.3	130.4	*	130.4	131.4	1.0
1641	164,084	1,150	8,117	1.7	130.8	*	130.8	131.7	0.9
1649	164,901	690	8,213	1.7	131.4	*	131.4	132.4	1.0
1665	166,513	740	7,408	1.9	132.3	*	132.3	133.2	0.8
1680	168,023	515	5,597	2.5	133.2	*	133.2	134.1	1.0
1710	171,003	500	6,261	2.2	136.7	*	136.7	137.6	0.9
1723	172,311	280	4,848	2.8	137.5	*	137.5	138.4	1.0

Table 22 - Floodway Data

Floodway Source		Floodway			Water Surface Elevation				
Cross Section	Distance (Feet Above Mouth)	Width (Feet)	Section Area (Square Feet)	Mean Velocity (Feet Per Second)	Regulatory	1% Annual Chance Future Water-Surface Elevation	Without Floodway	With Floodway	Increase
1753	175,345	650	8,789	1.6	139.1	*	139.1	140.1	1.0
1774	177,436	615	7,866	1.8	139.9	*	139.9	140.8	0.9
1791	179,110	585	7,486	1.8	140.6	*	140.6	141.5	1.0
1802	180,221	410	6,248	2.1	141.2	*	141.2	142.2	1.0
1837	183,729	1,235	16,818	0.8	142.4	*	142.4	143.4	1.0
1857	185,700	1,175	16,879	0.8	142.6	*	142.6	143.6	1.0
1917	191,694	779	9,838	1.3	144.2	*	144.2	145.1	0.9
1963	196,326	1,975	29,976	0.4	146.8	*	146.8	147.7	1.0
2018	201,772	2,070	21,590	0.6	147.4	*	147.4	148.3	1.0
2032	203,188	1,550	16,680	0.8	147.5	*	147.5	148.5	1.0
2045	204,451	1,590	15,216	0.8	147.8	*	147.8	148.7	0.9
2082	208,153	2,250	24,362	0.5	148.3	*	148.3	149.3	1.0
2143	214,317	1,450	12,195	1.1	149.0	*	149.0	150.0	1.0
2160	216,022	560	6,156	2.1	150.2	*	150.2	151.1	0.9
2174	217,440	695	7,482	1.7	151.4	*	151.4	152.3	0.9
2187	218,677	1,085	15,048	0.9	151.8	*	151.8	152.8	0.9
2198	219,804	1,075	10,141	1.1	152.1	*	152.1	153.0	0.9
2247	224,746	1,335	10,670	1.0	153.8	*	153.8	154.7	0.9
2285	228,509	1,850	18,106	0.6	155.8	*	155.8	156.8	1.0
2326	232,598	2,450	23,870	0.5	156.4	*	156.4	157.3	1.0
2349	234,927	2,960	25,127	0.4	156.6	*	156.6	157.6	1.0
2375	237,543	2,180	16,345	0.6	157.0	*	157.0	157.9	0.9
2403	240,331	950	9,077	1.2	160.0	*	160.0	160.8	0.8
2416	241,615	1,030	8,288	1.3	160.7	*	160.7	161.5	0.9
2432	243,179	975	9,469	1.1	161.5	*	161.5	162.4	0.9
2449	244,880	1,335	12,551	0.8	162.2	*	162.2	163.1	0.9
2464	246,395	1,550	17,145	0.6	162.5	*	162.5	163.3	0.8
2485	248,488	1,750	16,899	0.6	162.8	*	162.8	163.8	1.0
2520	251,989	1,220	9,986	1.0	163.7	*	163.7	164.7	1.0
2537	253,660	1,290	9,196	1.1	164.7	*	164.7	165.7	0.9
2569	256,911	1,450	10,280	1.0	167.1	*	167.1	168.0	0.9
2582	258,191	1,310	8,976	1.2	168.1	*	168.1	169.0	0.9
2597	259,670	515	5,178	2.0	169.5	*	169.5	170.4	1.0
2608	260,809	285	3,194	3.3	171.1	*	171.1	171.9	0.9
2620	261,976	690	8,533	1.2	172.6	*	172.6	173.5	0.9
2631	263,106	1,085	10,645	1.0	173.1	*	173.1	174.1	1.0
2641	264,106	1,085	8,507	1.2	173.7	*	173.7	174.7	1.0
2666	266,637	1,085	9,225	1.1	174.7	*	174.7	175.6	0.9
2676	267,571	460	5,168	2.0	175.4	*	175.4	176.3	1.0
2691	269,095	430	4,784	2.2	177.4	*	177.4	178.3	0.9
2707	270,693	255	3,562	3.0	179.4	*	179.4	180.4	0.9
2735	273,539	825	10,969	1.0	181.7	*	181.7	182.7	1.0
3448	344,836	1,074	11,305	0.9	216.1	217.7	216.1	217.0	0.9

Middle Creek

Table 22 - Floodway Data

Floodway Source		Floodway			Water Surface Elevation				
Cross Section	Distance (Feet Above Mouth)	Width (Feet)	Section Area (Square Feet)	Mean Velocity (Feet Per Second)	Regulatory	1% Annual Chance Future Water-Surface Elevation	Without Floodway	With Floodway	Increase
025	2,468	1,000	4,558	2.1	124.5 ¹	*	111.3	112.1	0.8
029	2,873	1,205	5,752	1.6	124.5 ¹	*	111.5	112.3	0.8
035	3,457	1,790	6,022	1.6	124.5 ¹	*	111.7	112.5	0.8
044	4,381	1,820	7,030	1.3	124.5 ¹	*	112.0	112.8	0.7
051	5,050	2,535	8,759	1.1	124.5 ¹	*	112.6	113.1	0.6
058	5,774	2,780	8,571	1.1	124.5 ¹	*	113.0	113.4	0.4
073	7,273	2,665	10,348	0.9	124.5 ¹	*	113.9	114.1	0.2
078	7,814	2,280	6,515	1.4	124.5 ¹	*	114.3	114.4	0.2
085	8,511	2,225	8,067	1.2	124.5 ¹	*	114.9	115.2	0.3
091	9,058	2,115	7,987	1.2	124.5 ¹	*	115.2	115.7	0.4
096	9,559	2,012	8,072	1.2	124.5 ¹	*	115.4	115.9	0.5
106	10,551	1,415	6,104	1.5	124.5 ¹	*	116.0	116.7	0.7
110	10,979	1,146	5,153	1.8	124.5 ¹	*	116.5	117.2	0.7
115	11,480	991	4,155	2.3	124.5 ¹	*	117.2	117.9	0.7
120	12,044	709	3,259	2.9	124.5 ¹	*	118.0	119.0	1.0
125	12,487	314	1,756	5.4	124.5 ¹	*	118.8	119.2	0.4
133	13,256	332	2,958	3.2	124.5 ¹	*	124.0	124.0	0.0
138	13,817	375	3,428	2.8	124.5 ¹	*	124.4	124.8	0.4
143	14,329	679	5,790	1.6	124.6	*	124.6	125.2	0.6
145	14,541	620	5,170	1.8	124.7	*	124.7	125.3	0.6
149	14,944	418	3,758	2.5	124.8	*	124.8	125.5	0.6
157	15,673	330	3,929	2.4	125.2	*	125.2	125.9	0.7
161	16,092	655	5,850	1.6	125.6	*	125.6	126.3	0.7
165	16,487	826	6,786	1.4	125.7	*	125.7	126.4	0.7
168	16,839	1,160	12,110	0.8	125.8	*	125.8	126.6	0.8
177	17,750	1,269	12,939	0.7	125.8	*	125.8	126.6	0.8
182	18,206	1,215	11,760	0.8	125.9	*	125.9	126.7	0.8
185	18,504	1,215	11,228	0.8	125.9	*	125.9	126.7	0.8
190	19,000	973	8,731	1.1	126.0	*	126.0	126.8	0.8
196	19,560	644	5,816	1.6	126.1	*	126.1	126.9	0.8
201	20,111	362	3,687	2.6	126.3	*	126.3	127.1	0.8
204	20,430	467	4,623	2.0	126.6	*	126.6	127.5	0.8
210	21,015	558	5,376	1.8	127.0	*	127.0	127.8	0.9
214	21,428	600	4,644	2.0	127.2	*	127.2	128.0	0.8
225	22,495	855	7,381	1.3	127.9	*	127.9	128.8	1.0
230	23,000	822	8,208	1.2	128.0	*	128.0	129.0	1.0
235	23,514	1,039	7,471	1.3	128.1	*	128.1	129.1	1.0
240	24,000	1,108	6,558	1.4	128.3	*	128.3	129.2	1.0
245	24,500	1,180	6,725	1.4	128.6	*	128.6	129.5	1.0
254	25,436	1,404	8,833	1.1	129.1	*	129.1	130.1	1.0
260	26,028	1,435	8,213	1.2	129.4	*	129.4	130.4	0.9
265	26,500	1,337	7,400	1.3	129.8	*	129.8	130.7	0.9
270	27,000	1,158	6,238	1.5	130.1	*	130.1	131.0	0.9
275	27,500	1,145	6,185	1.5	130.4	*	130.4	131.4	1.0

Table 22 - Floodway Data

Floodway Source		Floodway			Water Surface Elevation				
Cross Section	Distance (Feet Above Mouth)	Width (Feet)	Section Area (Square Feet)	Mean Velocity (Feet Per Second)	Regulatory	1% Annual Chance Future Water-Surface Elevation	Without Floodway	With Floodway	Increase
280	27,996	1,173	6,127	1.5	130.9	*	130.9	131.8	0.9
285	28,500	976	4,750	2.0	131.3	*	131.3	132.2	0.9
290	29,000	474	2,045	4.6	131.4	*	131.4	132.2	0.9
296	29,600	312	2,527	3.7	133.5	*	133.5	134.4	0.8
304	30,438	1,001	7,288	1.3	134.5	*	134.5	135.5	1.0
312	31,198	1,547	10,746	0.9	134.9	*	134.9	135.9	1.0
320	32,019	1,201	9,235	1.0	135.2	*	135.2	136.1	1.0
325	32,511	869	5,875	1.6	135.5	*	135.5	136.4	0.9
330	33,017	689	5,355	1.7	135.8	*	135.8	136.7	0.9
338	33,806	600	4,391	2.1	136.5	*	136.5	137.3	0.8
342	34,210	664	5,167	1.8	136.9	*	136.9	137.7	0.8
350	35,000	698	6,748	1.4	137.3	*	137.3	138.2	0.9
360	35,972	1,200	8,488	1.1	137.6	*	137.6	138.6	0.9
363	36,262	1,396	8,054	1.2	137.8	*	137.8	138.7	0.9
369	36,852	1,571	9,376	1.0	138.0	*	138.0	138.8	0.9
374	37,418	1,837	11,510	0.8	138.2	*	138.2	139.0	0.9
390	39,017	1,523	9,043	1.0	138.4	*	138.4	139.3	0.9
395	39,474	1,341	7,854	1.2	138.5	*	138.5	139.4	0.9
401	40,089	1,157	7,083	1.3	138.7	*	138.7	139.7	1.0
404	40,417	1,039	6,414	1.4	138.9	*	138.9	139.9	1.0
413	41,333	1,047	5,950	1.6	139.1	*	139.1	140.1	1.0
421	42,135	848	4,814	1.9	139.5	*	139.5	140.4	1.0
428	42,776	1,053	6,172	1.5	140.1	*	140.1	141.1	1.0
435	43,504	1,273	7,604	1.2	140.6	*	140.6	141.5	0.9
439	43,934	1,805	10,367	0.9	141.1	*	141.1	142.0	0.9
445	44,495	2,209	11,765	0.8	141.4	*	141.4	142.3	0.8
450	45,022	2,127	9,607	1.0	141.9	*	141.9	142.7	0.8
459	45,853	2,011	9,896	0.9	142.4	*	142.4	143.3	0.8
465	46,498	1,693	8,228	1.1	142.8	*	142.8	143.6	0.8
472	47,162	1,590	6,861	1.4	143.0	*	143.0	143.9	0.8
477	47,661	1,360	6,763	1.4	143.4	*	143.4	144.2	0.9
483	48,253	1,121	5,258	1.8	143.9	*	143.9	144.7	0.8
489	48,939	985	5,141	1.8	144.6	*	144.6	145.4	0.8
495	49,500	965	4,917	1.9	145.5	*	145.5	146.4	0.9
501	50,059	958	5,573	1.7	146.5	*	146.5	147.2	0.7
505	50,531	940	4,620	2.0	147.2	*	147.2	147.8	0.6
512	51,189	1,048	5,809	1.6	147.9	*	147.9	148.7	0.8
515	51,474	1,221	7,721	1.2	148.1	*	148.1	148.9	0.8
536	53,560	1,730	7,394	1.3	148.7	*	148.7	149.6	0.9
541	54,055	1,823	7,624	1.2	149.0	*	149.0	149.9	0.9
550	55,042	1,509	6,256	1.5	149.6	*	149.6	150.3	0.8
560	56,033	1,535	7,718	1.2	150.2	*	150.2	151.0	0.8
568	56,827	1,353	6,915	1.4	150.8	*	150.8	151.5	0.8
576	57,564	1,469	6,888	1.4	151.3	*	151.3	152.1	0.8

Table 22 - Floodway Data

Floodway Source		Floodway			Water Surface Elevation				
Cross Section	Distance (Feet Above Mouth)	Width (Feet)	Section Area (Square Feet)	Mean Velocity (Feet Per Second)	Regulatory	1% Annual Chance Future Water-Surface Elevation	Without Floodway	With Floodway	Increase
581	58,130	1,540	7,492	1.2	151.6	*	151.6	152.4	0.8
585	58,524	1,545	6,894	1.4	151.8	*	151.8	152.6	0.9
590	58,988	1,402	6,666	1.4	152.1	*	152.1	153.0	0.9
595	59,493	1,398	6,884	1.4	152.5	*	152.5	153.4	0.9
599	59,893	1,619	7,932	1.2	152.7	*	152.7	153.6	0.9
611	61,068	1,415	7,046	1.3	153.4	*	153.4	154.1	0.7
620	62,001	1,416	6,429	1.4	153.8	*	153.8	154.6	0.7
626	62,554	1,907	8,904	1.0	154.0	*	154.0	154.8	0.8
630	63,037	1,876	8,074	1.2	154.2	*	154.2	154.9	0.8
636	63,569	1,567	7,628	1.2	154.4	*	154.4	155.2	0.8
645	64,488	1,033	5,528	1.7	157.6	*	157.6	157.6	0.0
651	65,149	1,076	5,942	1.6	157.8	*	157.8	158.1	0.3
656	65,616	1,155	5,016	1.9	158.0	*	158.0	158.5	0.6
665	66,495	1,375	8,046	1.2	158.4	*	158.4	159.3	0.9
671	67,138	1,550	8,398	1.1	158.5	*	158.5	159.4	0.9
681	68,147	2,428	14,415	0.6	158.6	*	158.6	159.5	0.9
689	68,880	2,396	12,052	0.8	158.8	*	158.8	159.6	0.8
692	69,238	2,420	14,341	0.6	158.9	*	158.9	159.7	0.8
697	69,670	2,194	13,223	0.7	158.9	*	158.9	159.7	0.8
713	71,331	2,012	12,215	0.8	159.1	*	159.1	159.9	0.8
720	71,998	1,945	8,993	1.0	159.2	*	159.2	160.0	0.7
730	73,001	2,085	9,593	1.0	159.5	*	159.5	160.3	0.8
745	74,544	1,791	7,595	1.2	160.2	*	160.2	161.0	0.7
751	75,093	1,540	5,624	1.6	160.8	*	160.8	161.6	0.7
755	75,512	1,205	3,876	2.4	161.8	*	161.8	162.5	0.7
760	75,953	1,013	4,920	1.9	162.6	*	162.6	163.6	1.0
765	76,498	914	4,787	1.9	163.6	*	163.6	164.2	0.7
770	76,996	1,247	5,866	1.6	164.0	*	164.0	164.9	0.8
780	78,042	2,122	9,936	0.9	164.6	*	164.6	165.6	1.0
785	78,505	1,908	9,661	1.0	164.8	*	164.8	165.7	0.9
789	78,897	1,872	10,130	0.9	164.9	*	164.9	165.8	0.9
797	79,744	1,702	10,239	0.9	165.0	*	165.0	165.9	0.9
805	80,511	1,637	10,329	0.9	165.2	*	165.2	166.0	0.9
810	81,028	1,257	7,830	1.2	165.3	*	165.3	166.1	0.9
815	81,483	1,078	5,645	1.6	165.5	*	165.5	166.3	0.9
821	82,125	853	6,065	1.5	165.8	*	165.8	166.8	1.0
825	82,521	724	5,263	1.8	166.0	*	166.0	166.9	1.0
832	83,160	752	4,160	2.2	166.3	*	166.3	167.2	0.9
835	83,512	771	4,241	2.2	166.8	*	166.8	167.7	0.9
837	83,737	779	4,683	2.0	167.3	*	167.3	168.1	0.8
854	85,441	715	6,358	1.4	168.2	*	168.2	169.2	0.9
858	85,821	619	6,127	1.5	168.4	*	168.4	169.3	0.9
863	86,266	585	5,694	1.6	168.7	*	168.7	169.6	0.9
868	86,819	702	6,156	1.5	168.9	*	168.9	169.8	0.9

Table 22 - Floodway Data

Floodway Source		Floodway			Water Surface Elevation				
Cross Section	Distance (Feet Above Mouth)	Width (Feet)	Section Area (Square Feet)	Mean Velocity (Feet Per Second)	Regulatory	1% Annual Chance Future Water-Surface Elevation	Without Floodway	With Floodway	Increase
874	87,423	934	7,424	1.2	169.1	*	169.1	170.0	0.9
881	88,058	998	8,412	1.1	169.2	*	169.2	170.2	0.9
886	88,610	1,079	7,995	1.2	169.4	*	169.4	170.3	0.9
895	89,514	1,191	9,060	1.0	169.5	*	169.5	170.5	1.0
899	89,938	1,130	7,788	1.2	169.6	*	169.6	170.6	1.0
905	90,495	1,203	6,619	1.4	169.9	*	169.9	170.9	1.0
911	91,092	1,219	6,588	1.4	170.2	*	170.2	171.2	1.0
915	91,534	1,183	6,319	1.5	170.5	*	170.5	171.4	0.9
920	92,035	1,165	5,668	1.6	170.8	*	170.8	171.7	1.0
926	92,621	979	5,435	1.7	171.1	*	171.1	172.1	1.0
929	92,944	880	4,147	2.2	171.5	*	171.5	172.5	1.0
934	93,351	705	3,214	2.8	172.2	*	172.2	173.1	0.8
942	94,242	129	1,436	6.4	173.1	*	173.1	174.1	1.0
947	94,681	130	1,435	6.4	173.9	*	173.9	174.8	1.0
952	95,181	115	1,515	6.0	174.7	*	174.7	175.6	0.8
962	96,183	125	1,448	6.3	176.8	*	176.8	177.4	0.6
966	96,649	87	1,155	7.9	177.4	*	177.4	178.0	0.7
970	97,009	98	1,369	6.7	178.4	*	178.4	179.2	0.8
975	97,456	102	1,413	6.5	179.1	*	179.1	179.9	0.8
978	97,797	123	1,732	5.3	179.9	*	179.9	181.0	1.0
981	98,123	105	1,547	5.9	180.1	*	180.1	181.2	1.1
987	98,710	173	2,210	4.2	181.2	*	181.2	182.2	1.0
991	99,128	137	2,215	4.1	181.8	*	181.8	182.8	1.0
996	99,610	250	3,898	2.4	182.4	*	182.4	183.4	1.0
1001	100,099	470	7,048	1.3	182.5	*	182.5	183.5	1.0
1005	100,455	469	7,378	1.2	182.6	*	182.6	183.6	1.0
1009	100,859	914	13,480	0.7	182.6	*	182.6	183.7	1.1
1015	101,484	753	10,968	0.8	182.6	*	182.6	183.7	1.1
1019	101,929	550	7,256	1.3	182.7	*	182.7	183.7	1.1
1025	102,534	919	12,923	0.7	182.8	*	182.8	183.8	1.1
1030	103,035	1,143	15,370	0.6	182.8	*	182.8	183.8	1.0
1035	103,528	1,225	15,475	0.6	182.8	*	182.8	183.8	1.0
1039	103,899	1,284	15,619	0.6	182.8	*	182.8	183.9	1.0
1044	104,448	1,459	15,844	0.6	182.8	*	182.8	183.9	1.0
1049	104,917	1,453	16,069	0.6	182.9	*	182.9	183.9	1.0
1054	105,420	1,331	13,214	0.7	182.9	*	182.9	184.0	1.0
1060	105,985	1,512	14,031	0.6	183.0	*	183.0	184.0	1.0
1065	106,465	1,806	16,893	0.5	183.0	*	183.0	184.0	1.0
1071	107,125	1,929	18,334	0.5	183.0	*	183.0	184.1	1.1
1075	107,496	1,818	17,743	0.5	183.0	*	183.0	184.1	1.1
1079	107,891	1,789	16,851	0.5	183.1	*	183.1	184.1	1.0
1085	108,496	1,917	15,434	0.6	183.1	*	183.1	184.2	1.0
1094	109,383	1,933	16,054	0.6	183.2	*	183.2	184.2	1.0
1098	109,849	1,509	11,741	0.8	183.2	*	183.2	184.3	1.0

Table 22 - Floodway Data

Floodway Source		Floodway			Water Surface Elevation				
Cross Section	Distance (Feet Above Mouth)	Width (Feet)	Section Area (Square Feet)	Mean Velocity (Feet Per Second)	Regulatory	1% Annual Chance Future Water-Surface Elevation	Without Floodway	With Floodway	Increase
1105	110,504	1,098	8,425	1.1	183.4	*	183.4	184.4	1.0
1112	111,204	805	6,027	1.5	183.6	*	183.6	184.6	1.0
1115	111,497	979	7,150	1.3	183.8	*	183.8	184.8	1.0
1121	112,112	1,337	9,097	1.0	184.2	*	184.2	185.1	1.0
1125	112,515	1,439	9,313	1.0	184.3	*	184.3	185.3	1.0
1130	112,971	1,478	7,946	1.2	184.6	*	184.6	185.6	1.0
1134	113,366	1,373	7,042	1.3	184.7	*	184.7	185.7	1.0
1141	114,085	1,150	6,635	1.4	185.0	*	185.0	186.0	1.0
1149	114,885	793	5,506	1.7	185.5	*	185.5	186.5	1.0
1154	115,365	648	4,623	2.0	185.9	*	185.9	186.9	1.0
1159	115,903	579	4,234	2.2	186.4	*	186.4	187.4	1.0
1173	117,335	1,024	8,270	1.1	189.4	*	189.4	190.4	0.9
1195	119,489	1,315	8,735	1.0	189.9	*	189.9	190.8	1.0
1198	119,849	1,288	8,080	1.1	190.1	*	190.1	191.1	1.0
1207	120,680	798	4,721	1.9	190.4	*	190.4	191.4	1.0
1214	121,356	598	3,741	2.4	190.8	*	190.8	191.9	1.1
1219	121,926	904	6,026	1.5	191.1	*	191.1	192.2	1.1
1224	122,369	913	4,227	2.2	191.6	*	191.6	192.7	1.1
1230	123,004	1,087	5,434	1.7	192.2	*	192.2	193.2	1.0
1236	123,578	1,169	5,197	1.8	192.7	*	192.7	193.6	0.9
1240	123,999	1,228	5,393	1.7	193.3	*	193.3	194.2	0.9
1248	124,810	883	4,373	2.1	194.0	*	194.0	195.0	0.9
1253	125,332	206	1,397	6.4	194.2	*	194.2	195.2	1.0
1258	125,774	293	2,091	4.3	195.9	*	195.9	196.8	0.9
1261	126,112	462	2,999	3.0	196.6	*	196.6	197.5	1.0
1264	126,430	344	2,366	3.8	197.0	*	197.0	197.9	1.0
1275	127,538	491	4,499	2.0	198.6	*	198.6	199.8	1.2
1281	128,083	391	3,274	2.8	199.0	*	199.0	200.1	1.2
1286	128,551	236	2,383	3.8	199.3	*	199.3	200.6	1.2
1290	129,013	326	4,217	2.1	200.3	*	200.3	201.3	1.0
1293	129,266	330	4,081	2.2	200.4	*	200.4	201.4	1.0
1295	129,511	330	3,854	2.3	200.5	*	200.5	201.6	1.1
1300	130,027	321	3,789	2.4	200.9	*	200.9	201.9	1.0
1305	130,458	408	4,766	1.9	201.3	*	201.3	202.4	1.1
1311	131,105	478	5,810	1.6	201.7	*	201.7	202.8	1.1
1315	131,543	490	5,904	1.5	201.8	*	201.8	202.9	1.1
1320	131,971	452	4,754	1.9	202.0	*	202.0	203.1	1.1
1325	132,470	526	5,633	1.6	202.4	*	202.4	203.4	1.1
1330	132,966	596	6,680	1.4	202.6	*	202.6	203.6	1.1
1336	133,616	807	8,188	1.1	202.8	*	202.8	203.8	1.1
1340	133,996	1,208	11,616	0.8	203.0	*	203.0	203.9	0.9
1345	134,503	1,350	13,334	0.7	203.0	*	203.0	204.1	1.1
1349	134,916	1,501	13,677	0.7	203.1	*	203.1	204.1	1.0
1355	135,496	1,587	13,001	0.7	203.2	*	203.2	204.2	1.0

Table 22 - Floodway Data

Floodway Source		Floodway			Water Surface Elevation				
Cross Section	Distance (Feet Above Mouth)	Width (Feet)	Section Area (Square Feet)	Mean Velocity (Feet Per Second)	Regulatory	1% Annual Chance Future Water-Surface Elevation	Without Floodway	With Floodway	Increase
1360	135,979	1,657	12,428	0.7	203.2	*	203.2	204.3	1.0
1365	136,520	1,513	10,414	0.8	203.3	*	203.3	204.4	1.1
1371	137,093	1,375	8,998	1.0	203.6	*	203.6	204.6	1.1
1377	137,722	1,278	8,029	1.1	203.8	*	203.8	204.8	1.0
1382	138,209	1,142	6,914	1.2	204.1	*	204.1	205.0	1.0
1390	139,049	1,073	6,003	1.4	204.5	*	204.5	205.5	1.0
1396	139,618	1,027	6,208	1.4	204.9	*	204.9	205.9	1.0
1400	140,021	910	5,494	1.6	205.2	*	205.2	206.2	1.0
1405	140,496	882	4,850	1.8	205.6	*	205.6	206.6	1.0
1408	140,807	882	4,915	1.7	206.1	*	206.1	207.2	1.0
1416	141,629	951	6,181	1.4	206.8	*	206.8	207.8	1.0
1420	141,996	850	4,923	1.7	207.1	*	207.1	208.1	1.0
1425	142,454	713	4,280	2.0	207.6	*	207.6	208.6	1.0
1428	142,830	505	3,262	2.6	208.0	*	208.0	209.0	1.0
1432	143,230	297	2,194	3.9	208.7	*	208.7	209.6	0.9
1442	144,165	643	5,607	1.5	212.0	*	212.0	212.7	0.7
1444	144,418	821	6,371	1.3	212.1	*	212.1	212.9	0.8
1450	144,997	861	6,834	1.2	212.2	*	212.2	213.1	0.9
1455	145,535	870	6,835	1.2	212.4	*	212.4	213.3	0.9
1460	145,996	907	6,730	1.3	212.7	*	212.7	213.6	0.9
1465	146,485	932	6,877	1.2	212.9	*	212.9	213.8	0.9
1468	146,790	1,004	7,108	1.2	213.1	*	213.1	214.0	0.9
Mill Branch									
006	608	117	243	3.7	88.0 ¹	*	77.4	77.4	0.0
010	1,000	42	174	5.2	88.0 ¹	*	79.3	79.3	0.0
015	1,491	91	189	4.8	88.0 ¹	*	81.8	81.8	0.0
021	2,091	139	309	2.9	88.0 ¹	*	84.4	84.9	0.5
026	2,646	85	229	3.9	88.0 ¹	*	86.3	87.1	0.8
032	3,163	204	1,057	0.8	91.4	*	91.4	91.5	0.1
035	3,523	166	639	1.2	91.4	*	91.4	91.7	0.2
040	4,021	132	575	1.3	91.7	*	91.7	92.2	0.4
046	4,555	139	403	1.9	92.5	*	92.5	93.0	0.5
049	4,877	100	375	2.1	93.8	*	93.8	93.9	0.0
052	5,200	117	241	3.2	94.8	*	94.8	94.8	0.0
056	5,603	81	250	3.1	96.3	*	96.3	96.5	0.2
060	6,000	85	346	2.2	97.2	*	97.2	97.5	0.4
065	6,526	98	329	2.3	98.3	*	98.3	98.5	0.2
071	7,050	112	357	2.1	99.7	*	99.7	99.9	0.2
076	7,575	151	331	2.2	101.6	*	101.6	101.6	0.1
078	7,818	164	452	1.6	102.6	*	102.6	102.7	0.1
081	8,137	153	384	1.9	103.7	*	103.7	103.8	0.2
085	8,490	112	356	2.1	105.2	*	105.2	105.5	0.3
089	8,863	121	379	1.7	106.6	*	106.6	106.8	0.2
095	9,500	175	498	1.3	108.2	*	108.2	108.4	0.2

Table 22 - Floodway Data

Floodway Source		Floodway			Water Surface Elevation				
Cross Section	Distance (Feet Above Mouth)	Width (Feet)	Section Area (Square Feet)	Mean Velocity (Feet Per Second)	Regulatory	1% Annual Chance Future Water-Surface Elevation	Without Floodway	With Floodway	Increase
101	10,051	122	338	1.9	109.5	*	109.5	109.8	0.4
105	10,507	125	367	1.6	111.3	*	111.3	111.5	0.2
110	11,000	113	380	1.6	112.9	*	112.9	113.1	0.2
114	11,426	137	398	1.5	114.1	*	114.1	114.5	0.4
121	12,133	82	267	1.9	116.0	*	116.0	116.7	0.7
127	12,670	89	221	2.2	117.7	*	117.7	118.4	0.7
132	13,152	101	219	2.3	120.4	*	120.4	120.5	0.0
137	13,714	100	294	1.6	122.1	*	122.1	122.3	0.3
143	14,295	84	114	4.0	124.7	*	124.7	125.1	0.4
148	14,810	104	229	2.0	129.2	*	129.2	129.8	0.6
151	15,125	93	222	2.0	130.5	*	130.5	131.0	0.4
156	15,602	82	291	1.6	131.8	*	131.8	132.2	0.4
Mill Creek (South)									
544	54,398	1,750	10,976	1.0	95.1 ¹	*	93.9	94.8	0.8
553	55,299	1,700	9,682	1.2	95.1 ¹	*	94.6	95.4	0.8
571	57,145	1,810	12,416	0.9	95.4	*	95.4	96.3	0.9
583	58,337	1,700	9,865	1.1	95.8	*	95.8	96.8	0.9
617	61,701	1,200	8,040	1.4	97.8	*	97.8	98.7	0.8
629	62,889	1,130	7,230	1.5	98.6	*	98.6	99.4	0.9
641	64,067	1,090	7,457	1.5	99.3	*	99.3	100.2	0.9
652	65,247	1,260	9,771	1.1	100.0	*	100.0	101.0	1.0
665	66,481	1,480	11,050	1.0	100.5	*	100.5	101.5	1.0
677	67,707	1,340	10,284	1.1	101.0	*	101.0	102.0	0.9
693	69,348	1,280	9,593	1.2	101.8	*	101.8	102.6	0.9
727	72,743	1,270	9,358	1.2	103.4	*	103.4	104.0	0.7
738	73,760	1,720	10,799	1.0	103.8	*	103.8	104.5	0.7
750	74,980	1,790	12,726	0.9	104.2	*	104.2	104.9	0.8
759	75,905	2,050	14,165	0.8	104.4	*	104.4	105.2	0.8
769	76,947	2,385	14,563	0.8	104.7	*	104.7	105.5	0.8
779	77,918	2,485	12,527	0.9	105.0	*	105.0	105.8	0.8
793	79,322	1,547	7,793	1.1	105.4	*	105.4	106.4	1.0
Moccasin Creek									
074	7,442	388	1,909	1.6	83.8 ¹	*	79.0	79.8	0.9
094	9,449	984	4,851	0.6	83.8 ¹	*	79.8	80.7	0.9
113	11,253	869	4,339	0.7	83.8 ¹	*	80.1	81.0	0.9
138	13,829	1,231	7,734	0.4	83.8 ¹	*	80.5	81.4	0.9
165	16,507	1,460	7,855	0.4	83.8 ¹	*	80.7	81.6	1.0
221	22,123	935	3,972	0.8	83.8 ¹	*	81.6	82.5	0.9
229	22,880	788	3,522	0.9	83.9 ²	*	82.0 ²	82.9 ²	0.9
239	23,873	755	3,242	0.8	83.9 ²	*	82.7 ²	83.5 ²	0.8
253	25,319	1,428	5,237	0.5	83.9 ²	*	83.4 ²	84.4 ²	1.0
259	25,887	1,562	5,541	0.5	83.9 ²	*	83.6 ²	84.6 ²	0.9
274	27,379	2,145	6,661	0.4	84.0	*	84.0	84.8	0.8
286	28,648	2,505	11,115	0.2	84.0	*	84.0	84.8	0.8

Table 22 - Floodway Data

Floodway Source		Floodway			Water Surface Elevation				
Cross Section	Distance (Feet Above Mouth)	Width (Feet)	Section Area (Square Feet)	Mean Velocity (Feet Per Second)	Regulatory	1% Annual Chance Future Water-Surface Elevation	Without Floodway	With Floodway	Increase
298	29,845	2,689	9,706	0.3	84.0	*	84.0	84.9	0.8
308	30,771	1,937	5,783	0.5	84.2	*	84.2	85.0	0.8
316	31,631	1,424	3,415	0.8	84.4	*	84.4	85.3	0.9
321	32,133	935	2,756	1.0	84.8	*	84.8	85.6	0.8
333	33,272	698	2,542	1.1	86.8	*	86.8	87.1	0.3
343	34,277	499	2,027	1.4	87.1	*	87.1	87.6	0.6
346	34,637	744	2,264	1.2	87.3	*	87.3	87.9	0.6
352	35,172	926	3,403	0.8	87.5	*	87.5	88.2	0.7
357	35,678	604	1,890	1.4	87.7	*	87.7	88.4	0.7
361	36,099	647	2,153	1.3	88.0	*	88.0	88.8	0.8
364	36,395	724	2,215	1.2	88.2	*	88.2	89.0	0.8
368	36,751	618	1,970	1.4	88.5	*	88.5	89.4	0.8
373	37,270	646	2,371	1.2	88.8	*	88.8	89.7	0.9
376	37,625	517	1,815	1.5	89.0	*	89.0	89.9	0.9
378	37,842	548	1,601	1.7	89.2	*	89.2	90.1	0.9
391	39,065	604	2,283	1.1	89.9	*	89.9	90.9	0.9
394	39,429	557	2,163	1.2	90.1	*	90.1	91.1	0.9
399	39,880	835	3,040	0.8	90.4	*	90.4	91.3	0.9
406	40,596	811	3,232	0.8	90.7	*	90.7	91.6	0.9
411	41,142	622	2,256	1.1	90.9	*	90.9	91.8	0.9
417	41,708	397	1,514	1.7	91.4	*	91.4	92.3	0.9
422	42,157	551	2,013	1.3	91.9	*	91.9	92.8	0.9
428	42,753	892	3,152	0.8	92.4	*	92.4	93.3	0.9
433	43,253	987	3,702	0.7	92.6	*	92.6	93.6	1.0
438	43,754	719	2,549	1.0	93.0	*	93.0	93.9	0.9
442	44,230	685	2,460	1.0	93.4	*	93.4	94.3	0.9
446	44,647	537	2,074	1.2	93.8	*	93.8	94.7	0.9
450	44,991	624	2,216	1.2	94.3	*	94.3	95.2	0.9
454	45,419	677	2,644	1.0	94.8	*	94.8	95.7	0.9
461	46,149	1,043	3,679	0.7	95.2	*	95.2	96.1	0.9
466	46,587	1,020	3,158	0.8	95.4	*	95.4	96.4	0.9
471	47,102	908	2,683	0.9	96.0	*	96.0	96.8	0.8
477	47,701	877	2,847	0.8	96.5	*	96.5	97.4	0.9
483	48,267	736	2,584	0.9	96.8	*	96.8	97.7	1.0
486	48,587	702	2,533	1.0	97.0	*	97.0	97.9	0.9
488	48,801	690	2,380	1.0	97.2	*	97.2	98.0	0.9
494	49,358	767	2,341	1.0	97.7	*	97.7	98.6	0.9
498	49,782	716	2,609	0.9	98.2	*	98.2	99.2	1.0
501	50,110	713	2,610	0.9	98.5	*	98.5	99.5	1.0
506	50,640	734	2,816	0.9	98.9	*	98.9	99.9	1.0
512	51,180	733	2,794	0.9	99.4	*	99.4	100.4	1.0
516	51,571	704	2,419	1.0	99.8	*	99.8	100.7	0.9
522	52,156	637	2,274	1.1	100.4	*	100.4	101.2	0.8
528	52,776	562	2,283	1.0	100.9	*	100.9	101.7	0.9

Table 22 - Floodway Data

Floodway Source		Floodway			Water Surface Elevation				
Cross Section	Distance (Feet Above Mouth)	Width (Feet)	Section Area (Square Feet)	Mean Velocity (Feet Per Second)	Regulatory	1% Annual Chance Future Water-Surface Elevation	Without Floodway	With Floodway	Increase
533	53,292	754	2,912	0.8	101.2	*	101.2	102.0	0.9
538	53,836	614	2,173	1.0	101.4	*	101.4	102.3	0.9
542	54,233	367	1,366	1.6	101.8	*	101.8	102.7	0.9
546	54,631	580	2,101	1.0	102.5	*	102.5	103.3	0.8
552	55,164	512	1,899	1.1	103.1	*	103.1	103.8	0.7
558	55,751	488	2,118	1.0	103.7	*	103.7	104.4	0.8
562	56,213	527	2,525	0.9	104.0	*	104.0	104.8	0.8
569	56,893	514	2,232	1.0	104.3	*	104.3	105.2	0.9
572	57,222	351	1,677	1.3	104.5	*	104.5	105.4	1.0
577	57,688	490	1,899	1.1	104.9	*	104.9	105.8	1.0
583	58,301	494	1,957	1.1	105.2	*	105.2	106.2	1.0
591	59,145	517	1,886	1.2	105.6	*	105.6	106.5	1.0
594	59,406	187	774	2.8	105.8	*	105.8	106.7	0.9
598	59,804	232	1,075	2.0	106.4	*	106.4	107.3	0.9
602	60,189	321	1,429	1.5	106.7	*	106.7	107.6	0.9
608	60,847	484	1,703	1.3	107.0	*	107.0	108.0	1.0
614	61,413	470	1,371	1.5	107.3	*	107.3	108.3	0.9
620	61,975	488	1,013	2.0	107.9	*	107.9	108.7	0.8
625	62,450	246	800	2.5	108.4	*	108.4	109.3	0.9
629	62,917	95	493	4.1	109.0	*	109.0	109.9	0.8
635	63,458	69	467	4.3	110.1	*	110.1	110.8	0.7
640	63,979	75	461	4.4	111.0	*	111.0	111.5	0.5
644	64,416	76	479	4.2	111.8	*	111.8	112.2	0.4
647	64,707	77	507	4.0	112.3	*	112.3	112.6	0.4
651	65,094	88	460	4.4	114.0	*	114.0	114.3	0.2
654	65,376	226	2,601	0.8	126.4	*	126.4	126.5	0.1
655	65,484	226	2,567	0.8	126.4	*	126.4	126.5	0.1
657	65,669	441	4,707	0.4	126.4	*	126.4	126.5	0.1
661	66,064	502	5,116	0.4	126.4	*	126.4	126.5	0.1
665	66,484	555	6,629	0.3	126.4	*	126.4	126.5	0.1
670	66,984	690	7,854	0.3	126.4	*	126.4	126.5	0.1
674	67,401	564	7,613	0.3	126.4	*	126.4	126.5	0.1
683	68,319	913	9,259	0.2	126.5	*	126.5	126.6	0.1
688	68,806	805	6,794	0.3	126.5	*	126.5	126.6	0.1
696	69,583	733	3,734	0.5	126.5	*	126.5	126.6	0.1
878	87,845	555	3,856	1.9	208.5	*	208.5	209.5	1.0
887	88,695	700	5,560	1.3	210.0	*	210.0	211.0	1.0
Neuse River									
8211	821,075	8,400	81,886	0.4	83.9	*	83.9	84.8	1.0
8226	822,628	9,580	77,080	0.4	83.9	*	83.9	84.9	1.0
8253	825,301	11,300	91,752	0.4	84.0	*	84.0	85.0	1.0
8275	827,468	11,300	75,993	0.4	84.0	*	84.0	85.0	1.0
8304	830,408	11,500	79,982	0.4	84.1	*	84.1	85.1	1.0
8341	834,148	9,675	54,542	0.6	84.2	*	84.2	85.2	0.9

Table 22 - Floodway Data

Floodway Source		Floodway			Water Surface Elevation				
Cross Section	Distance (Feet Above Mouth)	Width (Feet)	Section Area (Square Feet)	Mean Velocity (Feet Per Second)	Regulatory	1% Annual Chance Future Water-Surface Elevation	Without Floodway	With Floodway	Increase
8356	835,617	10,140	64,868	0.5	84.4	*	84.4	85.3	0.9
8372	837,207	10,300	61,229	0.5	84.5	*	84.5	85.4	0.9
8407	840,664	10,300	60,413	0.5	84.6	*	84.6	85.5	0.9
8435	843,494	8,250	41,440	0.7	84.8	*	84.8	85.6	0.9
8504	850,407	8,750	45,846	0.7	86.6	*	86.6	87.5	0.9
8543	854,271	10,150	55,369	0.6	86.8	*	86.8	87.7	0.9
8562	856,193	9,900	46,365	0.7	87.0	*	87.0	87.9	0.8
8571	857,137	10,300	51,239	0.6	87.2	*	87.2	88.0	0.8
8596	859,622	11,250	51,886	0.6	87.7	*	87.7	88.4	0.7
8637	863,693	11,600	50,412	0.6	88.5	*	88.5	89.4	0.8
8657	865,709	11,100	52,330	0.6	88.9	*	88.9	89.7	0.8
8679	867,929	10,700	56,555	0.5	89.2	*	89.2	90.0	0.8
8709	870,876	10,600	51,395	0.6	89.5	*	89.5	90.3	0.8
8743	874,326	10,200	45,768	0.7	89.9	*	89.9	90.6	0.8
8775	877,510	9,750	47,003	0.6	90.5	*	90.5	91.1	0.6
8815	881,463	10,250	39,984	0.8	91.5	*	91.5	92.0	0.5
8828	882,844	10,500	42,427	0.7	92.1	*	92.1	92.6	0.5
8875	887,468	11,000	51,931	0.6	92.6	*	92.6	93.2	0.6
8889	888,938	11,175	56,192	0.6	92.9	*	92.9	93.5	0.6
8916	891,603	10,800	60,019	0.5	93.2	*	93.2	93.8	0.7
8936	893,619	9,650	48,680	0.6	93.4	*	93.4	94.2	0.8
8958	895,777	9,395	50,455	0.6	93.8	*	93.8	94.6	0.8
8981	898,071	11,300	43,458	0.7	94.2	*	94.2	95.1	1.0
9013	901,287	12,700	49,724	0.6	94.4	*	94.4	95.4	1.0
9039	903,944	12,600	47,847	0.6	94.8	*	94.8	95.7	0.9
9062	906,220	12,100	44,468	0.7	95.7	*	95.7	96.4	0.6
9074	907,373	11,500	36,419	0.8	96.5	*	96.5	97.0	0.5
9093	909,337	10,350	40,232	0.8	97.4	*	97.4	97.9	0.5
9115	911,511	9,400	39,869	0.8	98.2	*	98.2	98.6	0.4
9131	913,140	9,515	43,282	0.7	98.6	*	98.6	98.9	0.3
9148	914,764	9,550	33,073	0.9	99.2	*	99.2	99.4	0.2
9164	916,436	9,250	40,023	0.8	100.0	*	100.0	100.2	0.2
9205	920,532	10,300	52,083	0.6	100.4	*	100.4	100.6	0.2
9222	922,155	9,550	34,822	0.9	100.8	*	100.8	101.2	0.4
9236	923,647	9,450	40,141	0.8	101.2	*	101.2	101.6	0.5
9263	926,330	8,550	30,048	1.0	101.8	*	101.8	102.4	0.6
9282	928,152	7,975	32,510	0.9	102.2	*	102.2	102.9	0.7
9321	932,063	8,100	32,587	0.9	103.1	*	103.1	103.8	0.7
9336	933,562	7,450	31,468	1.0	104.1	*	104.1	104.9	0.8
9356	935,579	8,750	36,374	0.8	104.9	*	104.9	105.6	0.7
9399	939,929	8,925	40,880	0.8	105.7	*	105.7	106.5	0.8
9418	941,760	7,850	35,208	0.9	106.0	*	106.0	106.9	0.9
9431	943,078	6,950	32,593	0.9	106.6	*	106.6	107.4	0.9
9476	947,557	7,400	33,250	0.9	108.6	*	108.6	109.5	0.8

Table 22 - Floodway Data

Floodway Source		Floodway			Water Surface Elevation				
Cross Section	Distance (Feet Above Mouth)	Width (Feet)	Section Area (Square Feet)	Mean Velocity (Feet Per Second)	Regulatory	1% Annual Chance Future Water-Surface Elevation	Without Floodway	With Floodway	Increase
9515	951,468	6,449	31,857	1.0	109.8	*	109.8	110.4	0.7
9566	956,640	5,012	29,759	1.0	111.2	*	111.2	112.1	0.9
9597	959,726	5,739	30,856	1.0	111.9	*	111.9	112.9	1.0
9643	964,278	4,000	22,974	1.3	113.6	*	113.6	114.5	0.9
9673	967,302	2,900	18,362	1.7	115.0	*	115.0	116.0	1.0
9700	969,977	1,875	16,212	1.9	116.4	*	116.4	117.3	0.9
9718	971,793	1,325	9,943	2.9	117.3	*	117.3	118.3	1.0
9738	973,788	750	9,202	3.2	119.6	*	119.6	120.4	0.9
9758	975,802	540	9,359	3.1	122.8	*	122.8	123.4	0.6
9775	977,521	800	13,247	2.2	123.7	*	123.7	124.4	0.6
9794	979,415	1,500	24,716	1.2	124.1	*	124.1	125.0	0.8
9816	981,646	1,550	21,866	1.3	124.4	*	124.4	125.2	0.9
9827	982,688	2,200	32,552	0.9	124.4	*	124.4	125.4	1.0
9854	985,420	3,450	42,359	0.6	124.6	*	124.6	125.7	1.0
9875	987,482	2,950	37,152	0.7	124.7	*	124.7	125.8	1.1
9898	989,824	1,850	24,606	1.0	124.8	*	124.8	125.9	1.1
9918	991,810	2,000	23,590	1.1	125.1	*	125.1	126.2	1.0
9933	993,257	1,200	16,022	1.6	125.5	*	125.5	126.5	1.0
9950	994,974	1,925	23,957	1.0	126.5	*	126.5	127.4	1.0
9979	997,900	1,300	15,840	1.6	127.7	*	127.7	128.6	0.9
9981	998,068	1,550	16,766	1.5	127.0	*	127.0	127.9	0.9
9989	998,900	1,500	17,290	1.5	128.0	*	128.0	128.8	0.8
9995	999,477	1,200	15,177	1.7	127.3	*	127.3	128.3	1.0
10013	1,001,332	1,550	23,796	1.0	127.8	*	127.8	128.7	1.0
10037	1,003,723	1,575	23,682	1.0	128.1	*	128.1	129.0	1.0
10055	1,005,468	1,625	22,119	1.1	128.3	*	128.3	129.3	1.0
10079	1,007,907	1,025	13,863	1.8	129.0	*	129.0	129.9	1.0
10091	1,009,130	1,100	13,194	1.9	129.4	*	129.4	130.3	0.9
10115	1,011,468	1,225	17,038	1.5	130.2	*	130.2	131.0	0.9
10141	1,014,108	700	12,055	2.3	134.7	*	134.7	135.4	0.6
10151	1,015,069	1,400	24,958	1.0	135.3	*	135.3	136.0	0.7
10174	1,017,435	1,079	18,594	1.3	135.5	*	135.5	136.1	0.7
10195	1,019,468	998	16,845	1.5	135.6	*	135.6	136.3	0.7
10219	1,021,945	1,068	15,815	1.6	135.8	*	135.8	136.5	0.7
10257	1,025,656	946	16,491	1.5	136.5	*	136.5	137.2	0.7
10275	1,027,514	1,058	17,112	1.5	136.8	*	136.8	137.6	0.8
10287	1,028,728	948	15,604	1.6	137.0	*	137.0	137.8	0.8
10317	1,031,710	599	10,469	2.4	137.5	*	137.5	138.3	0.8
10343	1,034,265	600	10,300	2.4	138.3	*	138.3	139.2	0.9
10352	1,035,218	650	11,671	2.1	138.6	*	138.6	139.6	0.9
10367	1,036,659	875	14,987	1.6	139.1	*	139.1	140.0	0.9
10375	1,037,468	1,100	17,695	1.4	139.2	*	139.2	140.2	0.9
10391	1,039,082	875	14,665	1.7	139.5	*	139.5	140.4	0.9
10415	1,041,468	1,100	17,759	1.4	140.5	*	140.5	141.4	0.8

Table 22 - Floodway Data

Floodway Source		Floodway			Water Surface Elevation				
Cross Section	Distance (Feet Above Mouth)	Width (Feet)	Section Area (Square Feet)	Mean Velocity (Feet Per Second)	Regulatory	1% Annual Chance Future Water-Surface Elevation	Without Floodway	With Floodway	Increase
10429	1,042,899	900	14,819	1.7	140.8	*	140.8	141.6	0.9
10444	1,044,442	1,000	16,911	1.5	141.1	*	141.1	142.0	0.9
10456	1,045,610	1,260	20,512	1.2	141.3	*	141.3	142.2	0.9
10472	1,047,240	779	12,176	2.0	141.5	*	141.5	142.4	0.9
10489	1,048,938	535	8,866	2.8	142.0	*	142.0	142.9	0.9
10504	1,050,411	603	9,981	2.5	142.8	*	142.8	143.6	0.9
10521	1,052,054	600	10,012	2.4	143.4	*	143.4	144.3	0.9
10533	1,053,337	538	10,255	2.4	143.8	*	143.8	144.7	0.9
10555	1,055,468	600	9,556	2.6	144.4	*	144.4	145.3	0.9
10574	1,057,380	485	7,969	3.1	145.1	*	145.1	146.0	0.9
10594	1,059,390	600	9,112	2.7	145.8	*	145.8	146.8	0.9
10615	1,061,469	500	7,399	3.3	146.8	*	146.8	147.7	0.9
10638	1,063,825	405	6,460	3.8	148.1	*	148.1	149.0	0.9
10655	1,065,468	510	9,430	2.6	149.0	*	149.0	149.9	0.9
10679	1,067,905	650	8,835	2.8	149.7	*	149.7	150.6	0.9
10708	1,070,824	947	11,810	2.1	151.4	*	151.4	152.3	0.9
10723	1,072,263	658	7,578	3.2	151.8	*	151.8	152.6	0.8
10749	1,074,906	567	8,916	2.7	152.8	*	152.8	153.7	0.9
10766	1,076,583	642	9,904	2.5	153.3	*	153.3	154.2	0.9
10776	1,077,598	608	8,355	2.9	153.5	*	153.5	154.4	0.9
10800	1,080,023	698	10,387	2.3	154.4	*	154.4	155.2	0.9
10819	1,081,867	717	9,332	2.6	154.9	*	154.9	155.7	0.9
10834	1,083,409	723	11,225	2.2	155.4	*	155.4	156.3	0.9
10845	1,084,484	499	8,197	3.0	155.6	*	155.6	156.5	0.8
10855	1,085,468	567	10,157	2.4	156.4	*	156.4	157.2	0.7
10863	1,086,319	583	8,251	2.9	156.7	*	156.7	157.4	0.7
10874	1,087,397	637	9,505	2.5	157.2	*	157.2	157.9	0.7
10898	1,089,849	720	9,776	2.5	158.0	*	158.0	158.7	0.7
10920	1,091,980	745	12,391	1.6	158.5	*	158.5	159.3	0.7
10940	1,094,032	527	7,937	2.5	158.9	*	158.9	159.6	0.7
10957	1,095,661	416	6,473	3.0	159.3	*	159.3	160.0	0.7
10975	1,097,468	982	11,750	1.7	159.9	*	159.9	160.6	0.8
10993	1,099,305	675	9,857	2.0	160.3	*	160.3	161.1	0.7
11016	1,101,589	686	9,463	2.1	160.8	*	160.8	161.6	0.7
11042	1,104,153	640	8,499	2.3	161.7	*	161.7	162.4	0.7
11056	1,105,567	749	11,129	1.8	162.1	*	162.1	162.9	0.8
Poplar Creek									
006	640	1,300	15,840	1.6	127.9 ²	*	-8,888.0	-8,888.0	0.0
020	1,990	1,500	17,290	1.5	128.0 ²	*	117.8	117.8	0.0
047	4,680	620	3,854	1.8	127.9 ¹	*	118.1	118.3	0.2
057	5,706	480	3,749	1.9	127.9 ¹	*	118.5	119.6	1.1
063	6,280	470	3,826	1.8	127.9 ¹	*	119.4	120.2	0.8
081	8,074	330	2,443	2.9	127.9 ¹	*	124.2	124.8	0.6
089	8,911	280	2,209	3.2	127.9 ¹	*	126.3	126.7	0.4

Table 22 - Floodway Data

Floodway Source		Floodway			Water Surface Elevation				
Cross Section	Distance (Feet Above Mouth)	Width (Feet)	Section Area (Square Feet)	Mean Velocity (Feet Per Second)	Regulatory	1% Annual Chance Future Water-Surface Elevation	Without Floodway	With Floodway	Increase
098	9,847	410	2,978	2.4	128.6	*	128.6	129.3	0.7
107	10,653	515	3,852	1.8	130.2	*	130.2	131.1	0.9
116	11,576	190	1,312	5.5	133.0	*	133.0	133.3	0.3
126	12,628	835	5,783	1.2	135.7	*	135.7	136.7	1.0
137	13,724	680	5,052	1.4	136.8	*	136.8	137.8	1.0
144	14,437	560	4,082	1.8	137.6	*	137.6	138.6	1.0
156	15,617	325	1,941	3.7	139.1	*	139.1	140.0	0.9
179	17,888	195	1,264	3.2	143.9	*	143.9	144.7	0.8
187	18,724	345	2,347	1.7	146.2	*	146.2	147.2	1.0
198	19,812	170	931	4.4	149.4	*	149.4	150.2	0.8
207	20,656	250	1,605	2.5	154.5	*	154.5	155.3	0.8
217	21,731	220	1,739	2.3	157.3	*	157.3	158.3	1.0
228	22,787	145	748	5.4	161.7	*	161.7	162.3	0.6
234	23,425	240	1,532	2.7	167.0	*	167.0	168.0	1.0
241	24,076	215	1,239	3.3	169.9	*	169.9	170.9	1.0
254	25,445	145	859	2.8	174.3	*	174.3	175.3	1.0
263	26,287	157	851	2.8	178.1	*	178.1	179.1	1.0
Sams Creek									
119	11,904	48	172	5.8	209.8	*	209.8	210.0	0.2
121	12,125	93	149	6.3	211.8	*	211.8	211.8	0.0
123	12,271	60	153	6.1	213.5	*	213.5	213.7	0.2
124	12,396	115	177	5.3	216.1	*	216.1	216.1	0.0
126	12,552	95	248	3.8	218.0	*	218.0	218.0	0.0
127	12,655	36	103	9.1	218.1	*	218.1	218.1	0.0
128	12,754	71	162	5.7	219.9	*	219.9	219.9	0.0
129	12,880	116	247	3.8	221.2	*	221.2	221.2	0.0
130	12,992	117	317	2.9	222.3	*	222.3	222.3	0.0
131	13,097	126	233	4.0	222.9	*	222.9	222.9	0.0
132	13,215	66	281	3.3	224.4	*	224.4	224.4	0.1
133	13,345	60	163	5.7	226.0	*	226.0	226.0	0.0
134	13,442	47	250	3.7	227.3	*	227.3	228.0	0.7
135	13,540	37	171	5.4	227.6	*	227.6	228.4	0.7
136	13,636	47	268	3.5	229.2	*	229.2	229.7	0.5
137	13,745	42	178	5.2	229.7	*	229.7	230.2	0.4
139	13,854	42	272	3.4	231.1	*	231.1	231.5	0.4
140	13,966	56	274	3.0	231.5	*	231.5	232.0	0.5
144	14,363	80	705	1.2	240.0	*	240.0	241.0	0.9
Spring Branch									
001	116	42	283	4.5	125.4 ¹	*	112.6	113.1	0.5
002	177	28	211	6.0	125.4 ¹	*	112.6	113.0	0.4
003	260	38	236	5.4	125.4 ¹	*	112.8	113.4	0.6
004	418	60	426	3.0	125.4 ¹	*	113.6	114.1	0.5
006	622	138	1,005	1.3	125.4 ¹	*	113.8	114.4	0.5
008	844	130	726	1.7	125.4 ¹	*	113.8	114.4	0.5

Table 22 - Floodway Data

Floodway Source		Floodway			Water Surface Elevation				
Cross Section	Distance (Feet Above Mouth)	Width (Feet)	Section Area (Square Feet)	Mean Velocity (Feet Per Second)	Regulatory	1% Annual Chance Future Water-Surface Elevation	Without Floodway	With Floodway	Increase
011	1,070	65	434	2.9	125.4 ¹	*	113.9	114.4	0.5
017	1,707	171	1,982	0.6	129.0	*	129.0	130.0	0.9
021	2,135	131	957	1.2	129.1	*	129.1	130.0	0.9
026	2,552	119	669	1.8	130.4	*	130.4	131.4	1.0
027	2,729	80	433	2.7	130.5	*	130.5	131.5	0.9
031	3,079	146	647	1.8	131.7	*	131.7	132.7	1.0
038	3,812	123	374	3.1	133.0	*	133.0	134.0	1.0
057	5,729	220	459	1.6	142.2	*	142.2	143.1	1.0
Stone Creek									
029	2,854	1,648	3,554	0.8	105.6 ¹	*	102.0	102.2	0.2
032	3,195	1,197	2,806	1.1	105.6 ¹	*	102.4	102.6	0.2
035	3,540	937	2,955	1.0	105.6 ¹	*	103.0	103.2	0.2
041	4,056	777	2,015	1.5	105.6 ¹	*	103.7	103.9	0.2
046	4,551	644	2,219	1.4	105.6 ¹	*	104.6	104.7	0.1
051	5,083	518	2,008	1.5	105.6 ¹	*	105.3	105.4	0.2
055	5,500	621	2,595	1.2	105.7	*	105.7	106.1	0.4
061	6,124	795	3,838	0.8	105.9	*	105.9	106.5	0.6
065	6,505	710	2,585	1.2	106.1	*	106.1	106.8	0.7
077	7,733	331	1,711	1.7	107.8	*	107.8	108.3	0.6
081	8,092	430	2,292	1.3	108.1	*	108.1	108.9	0.8
086	8,619	602	3,479	0.8	108.4	*	108.4	109.3	0.9
Stony Fork									
011	1,147	671	2,288	1.3	134.1 ¹	*	127.6	128.5	0.9
017	1,692	496	1,772	1.7	134.1 ¹	*	128.7	129.7	0.9
020	2,036	436	1,634	1.8	134.1 ¹	*	129.7	130.7	1.0
024	2,383	312	1,382	2.1	134.1 ¹	*	130.7	131.6	0.9
029	2,851	525	2,329	1.3	134.1 ¹	*	131.7	132.6	0.9
032	3,214	589	2,603	1.1	134.1 ¹	*	132.0	133.0	1.0
036	3,649	482	1,745	1.5	134.1 ¹	*	132.4	133.4	1.0
039	3,948	278	753	3.5	134.1 ¹	*	133.4	134.0	0.6
041	4,149	216	965	2.8	134.7	*	134.7	135.5	0.8
048	4,765	77	514	5.2	136.5	*	136.5	137.5	1.0
054	5,372	40	318	8.4	140.1	*	140.1	140.2	0.0
056	5,634	44	422	6.3	141.6	*	141.6	142.3	0.7
058	5,815	40	369	7.2	142.3	*	142.3	142.9	0.7
060	6,037	29	230	11.6	143.7	*	143.7	144.3	0.6
071	7,115	100	1,303	2.0	150.7	*	150.7	151.3	0.6
076	7,555	170	1,932	1.4	150.7	*	150.7	151.4	0.8
080	8,016	269	2,824	0.9	150.7	*	150.7	151.6	0.8
085	8,457	290	2,779	1.0	150.7	*	150.7	151.6	0.9
092	9,156	405	3,814	0.7	150.8	*	150.8	151.7	0.9
098	9,817	410	3,776	0.7	150.8	*	150.8	151.8	0.9
104	10,399	567	4,856	0.6	150.9	*	150.9	151.8	0.9
110	11,031	507	3,675	0.7	150.9	*	150.9	151.9	1.0

Table 22 - Floodway Data

Floodway Source		Floodway			Water Surface Elevation				
Cross Section	Distance (Feet Above Mouth)	Width (Feet)	Section Area (Square Feet)	Mean Velocity (Feet Per Second)	Regulatory	1% Annual Chance Future Water-Surface Elevation	Without Floodway	With Floodway	Increase
117	11,675	620	4,569	0.6	151.0	*	151.0	151.9	1.0
124	12,429	343	2,488	1.1	151.1	*	151.1	152.0	1.0
127	12,668	307	2,264	1.2	151.1	*	151.1	152.1	1.0
132	13,158	258	1,744	1.5	151.3	*	151.3	152.3	1.0
Swift Creek									
037	3,701	2,877	11,421	1.2	124.7 ¹	*	111.0	111.6	0.6
041	4,131	2,745	8,252	1.7	124.7 ¹	*	111.2	111.8	0.6
047	4,687	2,327	8,270	1.7	124.7 ¹	*	111.7	112.4	0.8
053	5,296	2,192	8,214	1.7	124.7 ¹	*	112.0	112.8	0.9
059	5,896	2,060	8,530	1.6	124.7 ¹	*	112.4	113.4	1.0
064	6,370	1,831	7,722	1.8	124.7 ¹	*	112.8	113.7	0.9
075	7,494	1,565	7,706	1.8	124.7 ¹	*	113.7	114.6	0.9
078	7,812	1,371	7,612	1.8	124.7 ¹	*	114.0	114.9	1.0
081	8,096	1,177	4,848	2.9	124.7 ¹	*	114.4	115.3	0.9
090	9,005	1,191	7,353	1.9	124.7 ¹	*	116.5	117.0	0.5
095	9,500	1,070	7,074	2.0	124.7 ¹	*	116.9	117.5	0.6
105	10,464	1,101	6,581	2.1	124.7 ¹	*	117.4	118.1	0.8
113	11,315	1,002	7,490	1.9	124.7 ¹	*	118.3	119.1	0.8
129	12,937	1,709	13,535	1.0	124.7 ¹	*	119.9	120.5	0.6
135	13,496	2,146	16,797	0.8	124.7 ¹	*	120.0	120.6	0.6
140	14,007	2,526	17,762	0.8	124.7 ¹	*	120.1	120.6	0.6
148	14,790	2,997	21,527	0.6	124.7 ¹	*	120.1	120.7	0.6
155	15,469	2,927	18,683	0.8	124.7 ¹	*	120.2	120.8	0.6
162	16,249	2,596	16,210	0.9	124.7 ¹	*	120.2	120.9	0.6
166	16,591	2,412	13,292	1.0	124.7 ¹	*	120.3	121.0	0.7
170	17,000	2,048	10,973	1.3	124.7 ¹	*	120.5	121.2	0.7
175	17,475	1,866	10,110	1.4	124.7 ¹	*	121.1	121.7	0.6
180	17,974	1,557	8,810	1.6	124.7 ¹	*	121.8	122.6	0.7
184	18,394	1,494	7,576	1.8	124.7 ¹	*	122.2	122.9	0.7
190	18,989	1,327	7,575	1.8	124.7 ¹	*	122.9	123.6	0.7
195	19,531	1,249	6,830	2.0	124.7 ¹	*	123.6	124.3	0.7
204	20,369	1,110	7,368	1.9	124.7 ¹	*	124.3	125.0	0.8
212	21,206	1,206	9,178	1.5	124.6	*	124.6	125.4	0.7
215	21,500	1,243	8,750	1.6	124.8	*	124.8	125.6	0.8
221	22,146	1,058	7,786	1.8	125.0	*	125.0	126.0	1.0
225	22,500	598	4,245	3.3	125.4	*	125.4	126.4	1.0
230	23,041	470	3,157	4.4	126.1	*	126.1	126.9	0.8
235	23,507	409	3,481	4.0	127.4	*	127.4	128.1	0.7
240	23,955	357	3,342	4.2	128.3	*	128.3	128.9	0.6
242	24,227	383	3,184	4.4	129.1	*	129.1	129.2	0.1
245	24,499	373	3,375	4.1	129.4	*	129.4	130.1	0.6
250	24,985	467	4,856	2.9	130.1	*	130.1	131.0	0.9
255	25,500	800	7,225	1.9	130.4	*	130.4	131.4	0.9
260	26,000	828	6,548	2.1	130.7	*	130.7	131.5	0.9

Table 22 - Floodway Data

Floodway Source		Floodway			Water Surface Elevation				
Cross Section	Distance (Feet Above Mouth)	Width (Feet)	Section Area (Square Feet)	Mean Velocity (Feet Per Second)	Regulatory	1% Annual Chance Future Water-Surface Elevation	Without Floodway	With Floodway	Increase
263	26,343	817	5,973	2.3	130.8	*	130.8	131.7	0.9
271	27,125	1,171	11,265	1.2	131.1	*	131.1	132.0	0.9
277	27,652	1,237	10,540	1.3	131.2	*	131.2	132.0	0.9
281	28,110	1,171	10,788	1.3	131.2	*	131.2	132.1	0.9
285	28,486	1,300	11,051	1.3	131.3	*	131.3	132.2	0.9
288	28,845	1,296	11,068	1.3	131.4	*	131.4	132.3	0.9
293	29,344	1,331	11,367	1.2	131.5	*	131.5	132.4	0.9
300	30,000	1,331	10,693	1.3	131.6	*	131.6	132.5	0.9
304	30,436	1,305	10,661	1.3	131.7	*	131.7	132.6	0.9
308	30,800	1,331	10,124	1.4	131.7	*	131.7	132.6	0.9
314	31,389	1,220	8,373	1.7	131.8	*	131.8	132.8	0.9
321	32,109	941	4,996	2.8	132.2	*	132.2	133.1	0.9
329	32,944	851	6,824	2.0	132.8	*	132.8	133.7	0.9
334	33,435	817	6,635	2.1	133.1	*	133.1	134.0	1.0
340	34,000	633	4,974	2.8	133.2	*	133.2	134.1	0.9
345	34,501	487	3,648	3.8	133.6	*	133.6	134.6	0.9
350	35,010	302	2,371	5.9	134.2	*	134.2	135.1	0.9
354	35,437	191	3,223	4.3	135.5	*	135.5	136.5	1.0
360	36,000	312	2,437	5.7	135.6	*	135.6	136.5	1.0
365	36,490	362	3,794	3.7	137.1	*	137.1	137.9	0.8
370	37,028	340	3,598	3.9	137.6	*	137.6	138.4	0.8
373	37,331	227	3,231	4.3	137.8	*	137.8	138.6	0.9
376	37,578	212	2,903	4.8	137.9	*	137.9	138.8	0.9
382	38,163	243	3,698	3.8	138.8	*	138.8	139.7	0.9
385	38,494	238	2,951	4.7	139.0	*	139.0	139.8	0.8
390	39,000	210	2,722	5.1	139.6	*	139.6	140.6	0.9
395	39,521	233	3,379	4.1	140.6	*	140.6	141.6	1.0
400	39,957	185	2,546	5.5	140.8	*	140.8	141.8	1.0
402	40,176	157	2,335	6.0	141.2	*	141.2	142.1	1.0
405	40,530	149	2,533	5.5	142.0	*	142.0	142.9	0.9
410	41,036	218	3,242	4.3	142.6	*	142.6	143.5	0.9
416	41,650	558	5,317	2.6	143.5	*	143.5	144.3	0.8
421	42,098	622	5,387	2.6	143.8	*	143.8	144.5	0.8
425	42,455	551	6,029	2.3	143.9	*	143.9	144.7	0.7
430	43,013	253	3,263	4.3	144.0	*	144.0	144.7	0.7
435	43,500	271	3,801	3.7	144.5	*	144.5	145.2	0.7
439	43,905	284	3,722	3.7	144.7	*	144.7	145.4	0.7
443	44,328	285	3,536	3.9	145.0	*	145.0	145.7	0.7
447	44,691	274	3,979	3.5	145.4	*	145.4	146.2	0.7
452	45,164	218	3,404	4.1	145.7	*	145.7	146.4	0.7
455	45,500	209	3,282	4.2	145.9	*	145.9	146.6	0.7
460	46,000	158	2,732	5.1	146.2	*	146.2	146.9	0.7
465	46,500	139	2,631	5.3	146.6	*	146.6	147.4	0.8
470	47,005	141	2,637	5.3	147.0	*	147.0	147.8	0.8

Table 22 - Floodway Data

Floodway Source		Floodway			Water Surface Elevation				
Cross Section	Distance (Feet Above Mouth)	Width (Feet)	Section Area (Square Feet)	Mean Velocity (Feet Per Second)	Regulatory	1% Annual Chance Future Water-Surface Elevation	Without Floodway	With Floodway	Increase
475	47,502	229	4,545	3.1	147.8	*	147.8	148.5	0.8
479	47,923	256	4,225	3.3	147.9	*	147.9	148.7	0.8
483	48,345	296	3,910	3.6	148.0	*	148.0	148.8	0.8
490	48,997	192	3,322	4.2	148.6	*	148.6	149.3	0.7
495	49,502	178	3,211	4.3	148.8	*	148.8	149.5	0.7
500	50,013	176	2,903	4.8	149.0	*	149.0	149.7	0.7
506	50,610	189	3,244	4.3	149.6	*	149.6	150.4	0.7
510	51,000	159	3,016	4.6	150.1	*	150.1	150.8	0.7
515	51,456	153	2,924	4.8	150.4	*	150.4	151.1	0.7
518	51,819	203	3,258	4.3	150.6	*	150.6	151.4	0.7
521	52,108	155	2,964	4.7	150.9	*	150.9	151.7	0.8
525	52,537	278	4,570	3.0	151.4	*	151.4	152.1	0.8
529	52,937	367	5,854	2.4	151.6	*	151.6	152.4	0.8
535	53,539	760	12,371	1.0	151.9	*	151.9	152.7	0.8
541	54,093	735	10,170	1.3	151.9	*	151.9	152.8	0.8
545	54,458	485	6,067	2.2	151.9	*	151.9	152.8	0.8
550	54,984	387	4,543	2.9	152.1	*	152.1	152.9	0.8
555	55,527	303	4,066	3.2	152.3	*	152.3	153.2	0.9
560	55,997	202	2,889	4.5	152.5	*	152.5	153.4	0.8
565	56,498	219	3,300	4.0	153.1	*	153.1	153.9	0.8
569	56,896	259	3,545	3.7	153.4	*	153.4	154.3	0.8
573	57,268	434	6,038	2.2	154.0	*	154.0	154.8	0.9
575	57,503	385	4,266	3.0	153.9	*	153.9	154.8	0.9
579	57,902	285	3,907	3.3	154.2	*	154.2	155.1	0.9
585	58,482	196	2,483	5.2	154.9	*	154.9	155.7	0.9
590	58,980	193	2,826	4.6	156.2	*	156.2	157.0	0.9
595	59,545	317	4,103	3.2	157.1	*	157.1	157.9	0.8
600	60,000	177	2,700	4.8	157.2	*	157.2	158.0	0.8
604	60,410	178	3,015	4.3	157.8	*	157.8	158.7	0.8
611	61,076	231	3,239	4.0	158.3	*	158.3	159.2	0.9
617	61,698	499	5,921	2.2	159.3	*	159.3	160.1	0.8
621	62,074	485	7,131	1.8	159.6	*	159.6	160.4	0.8
625	62,515	479	6,316	2.1	159.7	*	159.7	160.5	0.8
630	62,976	386	4,439	2.9	159.8	*	159.8	160.5	0.8
635	63,521	248	3,094	4.2	159.8	*	159.8	160.8	0.9
639	63,885	334	4,061	3.2	160.6	*	160.6	161.4	0.8
652	65,171	269	4,063	3.2	161.6	*	161.6	162.3	0.7
655	65,524	420	6,232	2.1	161.9	*	161.9	162.7	0.7
659	65,885	623	7,972	1.6	162.0	*	162.0	162.8	0.8
665	66,479	641	8,120	1.6	162.0	*	162.0	162.8	0.8
669	66,873	566	8,567	1.5	162.1	*	162.1	162.9	0.8
673	67,307	658	8,887	1.5	162.3	*	162.3	163.1	0.8
680	68,000	780	10,558	1.2	162.4	*	162.4	163.2	0.8
684	68,403	926	11,146	1.2	162.4	*	162.4	163.2	0.8

Table 22 - Floodway Data

Floodway Source		Floodway			Water Surface Elevation				
Cross Section	Distance (Feet Above Mouth)	Width (Feet)	Section Area (Square Feet)	Mean Velocity (Feet Per Second)	Regulatory	1% Annual Chance Future Water-Surface Elevation	Without Floodway	With Floodway	Increase
689	68,924	823	9,044	1.4	162.4	*	162.4	163.2	0.8
695	69,538	264	3,548	3.7	162.4	*	162.4	163.2	0.8
700	69,993	130	2,366	5.5	162.5	*	162.5	163.3	0.8
705	70,500	135	2,369	5.5	162.8	*	162.8	163.7	0.9
710	71,027	201	3,162	4.1	163.6	*	163.6	164.4	0.8
714	71,365	235	3,614	3.6	163.8	*	163.8	164.7	0.9
717	71,700	340	4,704	2.8	164.2	*	164.2	165.0	0.9
720	71,989	392	6,653	2.0	164.5	*	164.5	165.4	0.9
726	72,607	688	11,701	1.1	164.7	*	164.7	165.6	0.9
729	72,941	680	10,830	1.2	164.7	*	164.7	165.7	0.9
733	73,256	963	13,461	1.0	164.8	*	164.8	165.7	0.9
740	73,964	749	9,683	1.3	164.8	*	164.8	165.8	0.9
745	74,518	619	7,636	1.7	165.0	*	165.0	165.9	0.9
751	75,076	431	4,527	2.9	165.1	*	165.1	166.0	0.9
756	75,596	351	4,167	3.1	165.3	*	165.3	166.2	0.9
761	76,107	420	4,431	2.9	165.6	*	165.6	166.5	1.0
768	76,774	569	6,492	2.0	166.2	*	166.2	167.2	1.0
771	77,128	750	9,192	1.4	166.4	*	166.4	167.4	1.0
777	77,721	833	9,188	1.4	166.6	*	166.6	167.6	1.0
781	78,096	989	10,554	1.2	166.7	*	166.7	167.7	1.0
784	78,429	1,303	9,609	1.4	166.7	*	166.7	167.7	1.0
787	78,717	1,417	10,546	1.2	166.8	*	166.8	167.8	1.0
791	79,128	1,211	8,785	1.5	166.9	*	166.9	167.9	1.0
798	79,799	1,060	10,391	1.2	167.2	*	167.2	168.1	0.9
802	80,162	907	10,162	1.3	167.3	*	167.3	168.2	0.9
806	80,607	725	7,103	1.8	167.4	*	167.4	168.4	0.9
811	81,119	666	5,797	2.2	167.8	*	167.8	168.7	0.9
816	81,613	454	4,274	3.0	168.1	*	168.1	169.0	1.0
822	82,179	366	4,106	3.2	168.6	*	168.6	169.6	1.0
826	82,602	369	4,302	3.0	168.9	*	168.9	169.9	0.9
831	83,116	296	3,588	3.6	169.1	*	169.1	170.1	1.0
836	83,624	198	3,188	4.1	169.6	*	169.6	170.5	0.9
841	84,145	502	5,835	2.2	170.1	*	170.1	171.0	0.9
844	84,399	524	5,938	2.2	170.2	*	170.2	171.1	0.9
852	85,166	641	8,762	1.5	170.8	*	170.8	171.5	0.8
857	85,697	798	10,952	1.2	171.0	*	171.0	171.7	0.8
861	86,098	799	10,467	1.2	171.1	*	171.1	171.8	0.8
865	86,512	650	8,617	1.5	171.1	*	171.1	171.9	0.8
870	87,035	813	8,983	1.4	171.2	*	171.2	172.0	0.8
881	88,107	1,407	13,782	0.9	171.2	*	171.2	172.2	0.9
886	88,639	1,303	12,620	1.0	171.2	*	171.2	172.2	0.9
889	88,929	1,231	11,087	1.2	171.3	*	171.3	172.2	1.0
896	89,620	1,049	9,152	1.4	171.3	*	171.3	172.3	1.0
901	90,091	704	6,054	2.2	171.4	*	171.4	172.4	1.0

Table 22 - Floodway Data

Floodway Source		Floodway			Water Surface Elevation				
Cross Section	Distance (Feet Above Mouth)	Width (Feet)	Section Area (Square Feet)	Mean Velocity (Feet Per Second)	Regulatory	1% Annual Chance Future Water-Surface Elevation	Without Floodway	With Floodway	Increase
908	90,834	520	5,062	2.6	171.8	*	171.8	172.8	1.0
911	91,126	645	5,754	2.3	172.0	*	172.0	172.9	0.9
916	91,558	650	6,745	1.9	172.2	*	172.2	173.2	1.0
926	92,639	933	11,912	1.1	173.7	*	173.7	174.6	0.9
931	93,107	1,122	12,528	1.0	173.8	*	173.8	174.7	0.9
936	93,607	959	9,363	1.4	173.9	*	173.9	174.8	0.9
941	94,107	941	9,139	1.4	174.0	*	174.0	174.9	0.9
946	94,617	745	7,533	1.7	174.0	*	174.0	174.9	0.9
951	95,107	574	7,065	1.8	174.2	*	174.2	175.0	0.8
956	95,552	482	5,632	2.3	174.3	*	174.3	175.1	0.8
961	96,110	478	6,080	2.1	174.7	*	174.7	175.6	0.9
966	96,611	663	8,041	1.6	174.8	*	174.8	175.7	0.9
971	97,094	501	6,197	2.0	175.0	*	175.0	175.9	0.9
976	97,621	587	6,571	1.9	175.3	*	175.3	176.2	0.9
980	98,022	806	8,451	1.5	175.5	*	175.5	176.4	1.0
983	98,296	927	9,597	1.3	175.6	*	175.6	176.5	1.0
991	99,106	890	10,061	1.2	175.9	*	175.9	176.8	1.0
996	99,585	1,051	10,297	1.2	176.0	*	176.0	177.0	1.0
1001	100,061	1,233	14,074	0.9	176.2	*	176.2	177.1	1.0
1006	100,607	1,101	11,048	1.1	176.2	*	176.2	177.1	1.0
1012	101,219	987	11,302	1.1	176.3	*	176.3	177.3	1.0
1016	101,614	836	9,566	1.3	176.4	*	176.4	177.4	1.0
1020	101,980	853	10,210	1.2	176.5	*	176.5	177.5	1.0
1026	102,634	1,001	11,557	1.1	176.6	*	176.6	177.6	1.0
1030	103,049	1,195	12,582	1.0	176.7	*	176.7	177.7	1.0
1036	103,574	1,342	12,557	1.0	176.8	*	176.8	177.8	1.0
1041	104,135	1,416	13,158	0.9	177.0	*	177.0	178.0	1.0
1046	104,627	1,505	14,433	0.9	177.1	*	177.1	178.1	1.0
1051	105,106	1,577	14,072	0.9	177.2	*	177.2	178.2	1.0
1056	105,649	1,754	15,583	0.8	177.3	*	177.3	178.3	1.0
1061	106,116	1,948	16,594	0.8	177.4	*	177.4	178.4	1.0
1065	106,453	2,141	15,349	0.8	177.4	*	177.4	178.4	1.0
1074	107,379	2,350	16,872	0.7	177.4	*	177.4	178.4	1.0
1081	108,124	2,431	16,502	0.8	177.5	*	177.5	178.4	1.0
1086	108,628	2,219	12,490	1.0	177.5	*	177.5	178.5	1.0
1095	109,488	1,539	7,818	1.6	177.7	*	177.7	178.6	0.9
1101	110,072	1,239	6,069	2.0	177.8	*	177.8	178.7	0.9
1106	110,588	994	6,261	2.0	178.0	*	178.0	178.9	0.9
1110	111,012	872	5,350	2.3	178.1	*	178.1	179.0	0.8
1115	111,491	809	5,671	2.2	178.4	*	178.4	179.2	0.8
1122	112,159	749	5,365	2.3	178.6	*	178.6	179.4	0.7
1124	112,425	837	5,445	2.3	178.9	*	178.9	179.6	0.7
1127	112,726	702	4,612	2.7	179.2	*	179.2	180.0	0.8
1131	113,074	608	3,493	3.6	179.6	*	179.6	180.3	0.7

Table 22 - Floodway Data

Floodway Source		Floodway			Water Surface Elevation				
Cross Section	Distance (Feet Above Mouth)	Width (Feet)	Section Area (Square Feet)	Mean Velocity (Feet Per Second)	Regulatory	1% Annual Chance Future Water-Surface Elevation	Without Floodway	With Floodway	Increase
1136	113,574	389	3,050	4.1	180.5	*	180.5	181.4	0.8
1141	114,088	310	2,866	4.3	181.3	*	181.3	182.2	1.0
1145	114,546	310	2,803	4.4	182.3	*	182.3	183.1	0.8
1151	115,068	597	7,114	1.7	183.7	*	183.7	184.7	0.9
1155	115,533	706	8,192	1.5	183.9	*	183.9	184.8	0.9
1160	115,958	522	5,927	2.1	184.0	*	184.0	185.0	1.0
1166	116,564	208	2,785	4.5	184.2	*	184.2	185.2	1.0
1171	117,122	256	3,473	3.2	185.2	*	185.2	186.0	0.8
1177	117,681	398	5,427	2.0	185.7	*	185.7	186.7	1.0
1180	118,025	446	5,528	2.0	185.9	*	185.9	186.9	1.0
1183	118,308	488	4,473	2.4	186.2	*	186.2	187.1	1.0
1190	118,987	691	8,237	1.3	186.4	*	186.4	187.4	1.0
1197	119,690	507	5,653	1.9	186.4	*	186.4	187.4	1.0
1201	120,081	465	5,572	2.0	186.6	*	186.6	187.6	1.0
1206	120,572	784	8,599	1.3	186.9	*	186.9	187.9	1.0
1211	121,073	950	9,828	1.1	187.0	*	187.0	188.0	1.0
1220	121,993	934	9,442	1.2	187.9	*	187.9	188.5	0.6
1227	122,671	934	9,145	1.2	188.0	*	188.0	188.7	0.7
1231	123,069	762	7,851	1.4	188.2	*	188.2	188.9	0.7
1233	123,317	555	4,141	2.6	188.3	*	188.3	189.0	0.8
1237	123,687	423	4,044	2.7	188.5	*	188.5	189.3	0.8
1239	123,922	874	8,961	1.2	189.1	*	189.1	190.0	0.9
1246	124,569	1,479	14,656	0.8	189.3	*	189.3	190.2	0.9
1250	124,960	1,589	15,113	0.7	189.3	*	189.3	190.2	0.9
1255	125,543	1,605	15,062	0.7	189.4	*	189.4	190.3	0.9
1258	125,845	1,648	15,257	0.7	189.4	*	189.4	190.3	0.9
1265	126,477	1,720	15,454	0.7	189.4	*	189.4	190.3	0.9
1271	127,074	1,492	12,651	0.9	189.5	*	189.5	190.4	0.9
1276	127,615	1,198	9,386	1.2	189.6	*	189.6	190.6	0.9
1281	128,134	1,025	7,808	1.4	189.8	*	189.8	190.7	0.9
1287	128,678	932	7,040	1.6	190.0	*	190.0	190.9	0.8
1290	129,024	912	6,551	1.7	190.2	*	190.2	191.0	0.8
1296	129,606	933	7,634	1.4	190.5	*	190.5	191.3	0.8
1301	130,128	943	6,372	1.7	190.6	*	190.6	191.5	0.9
1308	130,771	935	6,542	1.7	191.0	*	191.0	191.8	0.8
1318	131,761	669	6,785	1.6	193.7	*	193.7	194.2	0.5
1320	132,050	697	6,328	1.7	193.7	*	193.7	194.2	0.5
1326	132,592	726	6,592	1.7	194.0	*	194.0	194.6	0.6
1331	133,098	735	8,096	1.3	194.1	*	194.1	194.7	0.6
1336	133,575	770	5,956	1.8	194.3	*	194.3	194.9	0.6
1338	133,841	758	5,279	2.0	194.4	*	194.4	195.1	0.7
1343	134,343	895	7,097	1.5	194.7	*	194.7	195.5	0.9
1349	134,911	862	6,623	1.6	194.8	*	194.8	195.7	0.9
1355	135,466	1,013	7,690	1.4	195.2	*	195.2	196.1	0.9

Table 22 - Floodway Data

Floodway Source		Floodway			Water Surface Elevation				
Cross Section	Distance (Feet Above Mouth)	Width (Feet)	Section Area (Square Feet)	Mean Velocity (Feet Per Second)	Regulatory	1% Annual Chance Future Water-Surface Elevation	Without Floodway	With Floodway	Increase
1361	136,087	953	7,950	1.3	195.4	*	195.4	196.4	0.9
1366	136,579	876	5,848	1.8	195.7	*	195.7	196.6	0.9
1371	137,065	829	6,454	1.6	196.2	*	196.2	197.1	0.8
1376	137,569	711	5,171	2.0	196.8	*	196.8	197.7	0.9
1380	138,045	674	4,490	2.4	197.3	*	197.3	198.3	1.0
1386	138,591	560	5,229	2.0	198.3	*	198.3	199.3	1.0
1393	139,252	574	5,439	1.9	199.0	*	199.0	199.8	0.8
1396	139,643	649	6,188	1.7	199.3	*	199.3	200.2	0.8
1411	141,092	384	4,882	2.2	202.2	*	202.2	202.8	0.6
1415	141,524	758	8,922	1.2	202.3	*	202.3	203.1	0.8
1427	142,676	953	10,580	1.0	202.4	*	202.4	203.2	0.8
1431	143,118	1,002	10,614	1.0	202.5	*	202.5	203.3	0.9
Unnamed Tributary (#1) to Swift Creek									
004	378	131	663	3.0	194.1 ¹	*	188.0	188.9	0.9
008	840	188	883	2.2	194.1 ¹	*	189.2	190.2	1.0
011	1,130	194	916	2.1	194.1 ¹	*	190.0	191.0	1.0
015	1,472	155	644	3.0	194.1 ¹	*	191.1	192.0	0.9
019	1,940	93	530	3.7	194.1 ¹	*	193.2	194.1	0.9
022	2,178	120	649	3.0	194.3	*	194.3	195.2	0.9
023	2,322	197	1,141	1.7	194.7	*	194.7	195.7	1.0
027	2,660	273	1,423	1.4	195.0	*	195.0	196.0	1.0
030	2,971	238	1,170	1.7	195.2	*	195.2	196.2	1.0
033	3,288	157	607	3.2	195.8	*	195.8	196.7	0.9
035	3,453	145	650	3.0	196.5	*	196.5	197.5	1.0
037	3,703	184	843	2.3	197.2	*	197.2	198.2	1.0
041	4,106	163	739	2.7	198.2	*	198.2	199.2	1.0
043	4,340	105	525	3.7	198.8	*	198.8	199.8	1.0
051	5,128	206	1,248	1.6	201.4	*	201.4	202.4	1.0
054	5,442	248	1,136	1.6	201.7	*	201.7	202.7	1.0
057	5,699	201	892	2.0	202.0	*	202.0	203.0	1.0
061	6,100	227	869	2.0	202.6	*	202.6	203.6	1.0
064	6,378	353	1,176	1.5	203.2	*	203.2	204.2	0.9
068	6,841	210	771	2.3	204.4	*	204.4	205.2	0.7
071	7,067	140	434	4.1	205.7	*	205.7	206.5	0.8
073	7,332	79	367	4.8	207.4	*	207.4	208.2	0.8
075	7,526	101	516	3.4	208.4	*	208.4	209.3	0.9
077	7,681	198	1,039	1.7	209.0	*	209.0	210.0	1.0
079	7,853	230	1,120	1.6	209.3	*	209.3	210.3	0.9
080	8,041	140	697	2.5	209.7	*	209.7	210.6	1.0
085	8,520	164	793	1.9	210.9	*	210.9	211.8	1.0
089	8,899	173	713	2.1	211.8	*	211.8	212.7	1.0
093	9,340	162	709	2.2	213.0	*	213.0	214.0	1.0
098	9,769	118	420	3.6	214.7	*	214.7	215.7	1.0
100	10,035	48	259	5.9	216.4	*	216.4	217.4	1.0

Table 22 - Floodway Data

Floodway Source		Floodway			Water Surface Elevation				
Cross Section	Distance (Feet Above Mouth)	Width (Feet)	Section Area (Square Feet)	Mean Velocity (Feet Per Second)	Regulatory	1% Annual Chance Future Water-Surface Elevation	Without Floodway	With Floodway	Increase
Unnamed Tributary (#2) to Swift Creek									
005	483	136	325	3.0	174.9 ¹	*	168.4	169.4	1.0
010	958	79	188	5.3	174.9 ¹	*	171.9	172.2	0.3
015	1,500	78	328	3.0	174.9 ¹	*	174.2	175.1	0.9
019	1,897	56	143	6.9	175.7	*	175.7	176.0	0.3
022	2,198	47	183	5.4	177.8	*	177.8	178.7	0.9
025	2,498	46	146	6.8	179.8	*	179.8	180.4	0.6
033	3,251	84	353	2.5	184.4	*	184.4	184.8	0.5
036	3,617	78	280	3.2	185.0	*	185.0	185.9	0.9
039	3,916	40	166	5.4	186.4	*	186.4	187.3	0.8
047	4,726	90	618	1.4	192.5	*	192.5	193.2	0.8
051	5,059	130	393	2.3	192.6	*	192.6	193.3	0.7
055	5,511	60	217	4.1	193.7	*	193.7	194.7	1.0
060	6,037	36	158	5.1	196.7	*	196.7	197.2	0.5
063	6,255	34	113	7.1	197.8	*	197.8	197.9	0.1
066	6,553	52	211	3.8	200.3	*	200.3	200.9	0.6
071	7,074	110	303	2.7	204.0	*	204.0	204.6	0.6
076	7,614	152	404	2.0	206.4	*	206.4	207.3	0.9
080	7,982	45	176	3.6	207.8	*	207.8	208.7	0.8
083	8,252	36	131	4.8	209.9	*	209.9	210.2	0.4
086	8,594	50	209	3.0	211.7	*	211.7	212.2	0.5
091	9,086	48	153	4.1	213.8	*	213.8	214.5	0.7
095	9,524	58	147	4.3	216.9	*	216.9	217.7	0.8
101	10,065	25	116	4.3	219.8	*	219.8	220.8	0.9
106	10,555	22	87	5.7	222.6	*	222.6	222.8	0.2
109	10,910	22	90	5.6	224.6	*	224.6	224.8	0.2
115	11,475	21	92	5.4	227.3	*	227.3	227.3	0.0
120	11,990	19	66	7.6	230.0	*	230.0	230.0	0.0
126	12,598	22	85	5.9	235.9	*	235.9	236.0	0.1
129	12,939	22	65	5.2	238.5	*	238.5	238.5	0.1
136	13,597	19	44	7.6	244.5	*	244.5	244.5	0.0
141	14,054	18	63	5.3	250.5	*	250.5	250.7	0.2
144	14,413	113	381	0.9	256.4	*	256.4	256.4	0.0
White Oak Creek									
002	217	108	742	5.1	184.8 ¹	*	176.4	176.4	0.0
006	616	67	463	8.2	184.8 ¹	*	177.3	177.3	0.0
010	1,046	215	1,218	3.1	184.8 ¹	*	179.5	179.7	0.2
015	1,500	382	1,996	1.9	184.8 ¹	*	180.0	180.4	0.4
021	2,060	290	1,482	2.6	184.8 ¹	*	180.5	181.0	0.5
025	2,456	362	1,785	2.1	184.8 ¹	*	181.0	181.6	0.6
031	3,054	449	2,159	1.8	184.8 ¹	*	181.7	182.3	0.6
036	3,629	338	1,414	2.7	184.8 ¹	*	182.3	182.9	0.6
038	3,845	487	1,545	2.5	184.8 ¹	*	182.6	183.3	0.7
041	4,062	451	1,949	2.0	184.8 ¹	*	183.7	184.0	0.2

Table 22 - Floodway Data

Floodway Source		Floodway			Water Surface Elevation				
Cross Section	Distance (Feet Above Mouth)	Width (Feet)	Section Area (Square Feet)	Mean Velocity (Feet Per Second)	Regulatory	1% Annual Chance Future Water-Surface Elevation	Without Floodway	With Floodway	Increase
047	4,694	524	2,133	1.8	185.0	*	185.0	185.1	0.1
051	5,084	417	1,611	2.4	185.7	*	185.7	185.7	0.0
058	5,829	202	1,050	3.5	189.2	*	189.2	189.2	0.0
063	6,292	451	3,921	0.9	196.6	*	196.6	196.6	0.0
072	7,229	177	1,533	2.4	196.6	*	196.6	196.6	0.0
080	8,045	655	3,373	1.1	196.8	*	196.8	196.8	0.0
087	8,727	291	2,911	1.2	196.8	*	196.8	196.8	0.0
097	9,735	433	3,552	1.0	196.9	*	196.9	196.9	0.0
103	10,314	224	1,694	2.2	196.9	*	196.9	196.9	0.0
108	10,804	645	4,044	0.9	197.0	*	197.0	197.0	0.0
112	11,206	437	1,937	1.9	197.1	*	197.1	197.1	0.0
115	11,514	466	1,777	2.0	197.4	*	197.4	197.4	0.0
119	11,882	460	1,673	2.2	197.7	*	197.7	197.9	0.2
125	12,514	446	2,088	1.8	198.0	*	198.0	198.3	0.3
134	13,435	269	976	3.2	198.4	*	198.4	198.7	0.3
143	14,336	369	1,248	2.5	201.3	*	201.3	202.0	0.6
147	14,694	463	1,588	2.0	202.3	*	202.3	203.0	0.7
159	15,857	355	1,785	1.8	206.2	*	206.2	206.3	0.0
164	16,387	444	1,816	1.7	206.6	*	206.6	206.8	0.3
173	17,298	392	1,430	2.2	207.3	*	207.3	207.8	0.5
178	17,809	267	880	3.6	208.6	*	208.6	209.2	0.6
183	18,267	93	656	4.8	209.9	*	209.9	210.6	0.7
184	18,410	51	377	8.3	210.0	*	210.0	210.5	0.5
189	18,930	276	1,705	1.8	211.8	*	211.8	212.5	0.7
196	19,604	112	578	5.2	212.5	*	212.5	213.1	0.6
200	20,042	235	1,230	2.4	214.0	*	214.0	214.8	0.8
208	20,758	410	2,244	1.3	214.9	*	214.9	215.7	0.8
211	21,097	308	1,516	2.0	215.2	*	215.2	216.0	0.8
218	21,756	123	883	3.4	216.3	*	216.3	217.0	0.7
220	21,963	120	748	4.0	216.7	*	216.7	217.4	0.7
225	22,473	86	658	4.5	218.4	*	218.4	219.1	0.7
234	23,401	356	2,377	1.3	220.1	*	220.1	221.0	0.8
238	23,844	178	1,323	2.3	220.5	*	220.5	221.3	0.8
243	24,310	335	2,462	1.2	221.1	*	221.1	222.0	0.8
248	24,828	275	1,779	1.5	221.5	*	221.5	222.3	0.8
252	25,192	358	1,966	1.4	221.8	*	221.8	222.6	0.8
254	25,412	262	1,366	2.0	222.0	*	222.0	222.7	0.8
258	25,831	240	1,205	5.5	222.5	*	222.5	223.2	0.7

¹Elevation includes backwater effects

²Neuse River

* Future conditions not computed for this stream

6.4 Coastal Flood Hazard Mapping

Flood insurance zones and BFEs including the wave effects were identified on each transect based on the results from the onshore wave hazard analyses. Between transects, elevations were interpolated using topographic maps, land-use and land-cover data, and knowledge of coastal flood processes to determine the aerial extent of flooding. Sources for topographic data are shown in Table 23.

Zone VE is subdivided into elevation zones and BFEs are provided on the FIRM.

The limit of Zone VE shown on the FIRM is defined as the farthest inland extent of any of these criteria (determined for the 1% annual chance flood condition):

- *The primary frontal dune zone* is defined in 44 CFR Section 59.1 of the NFIP regulations. The primary frontal dune represents a continuous or nearly continuous mound or ridge of sand with relatively steep seaward and landward slopes that occur immediately landward and adjacent to the beach. The primary frontal dune zone is subject to erosion and overtopping from high tides and waves during major coastal storms. The inland limit of the primary frontal dune zone occurs at the point where there is a distinct change from a relatively steep slope to a relatively mild slope.
- *The wave runup zone* occurs where the (eroded) ground profile is 3.0 feet or more below the 2-percent wave runup elevation.
- *The wave overtopping splash zone* is the area landward of the crest of an overtopped barrier, in cases where the potential 2-percent wave runup exceeds the barrier crest elevation by 3.0 feet or more.
- *The breaking wave height zone* occurs where 3-foot or greater wave heights could occur (this is the area where the wave crest profile is 2.1 feet or more above the total stillwater elevation).
- *The high-velocity flow zone* is landward of the overtopping splash zone (or area on a sloping beach or other shore type), where the product of depth of flow times the flow velocity squared (hv^2) is greater than or equal to 200 ft³/sec². This zone may only be used on the Pacific Coast.

The SFHA boundary indicates the limit of SFHAs shown on the FIRM as either “V” zones or “A” zones.

Table 23, “Summary of Coastal Transect Mapping Considerations” is not applicable in Johnston County.

A LiMWA boundary has also been added in coastal areas subject to wave action for use by local communities in safe rebuilding practices. The LiMWA represents the approximate landward limit of the 1.5-foot breaking wave. In areas where the Zone VE designation is based on the presence of a primary frontal dune the LiMWA was not delineated.

7.0 Revising the FIS

7.1 Letters of Map Amendment and Letters of Map Revision - Based on Fill

LOMAs and LOMR-Fs are documents issued by FEMA that officially remove a property and/or a structure from a Special Flood Hazard Area (SFHA), if data supporting the removal are submitted. LOMAs and LOMR-Fs are generally determinations regarding areas that are too small to be shown on a FIRM panel; consequently, the changes they describe become official without revising the FIRM or the FIS Report.

NFIP regulations require that the lowest adjacent grade (the lowest ground touching the structure) be at or above the 1% annual chance flood elevation for a LOMA to be issued. Currently, there is no fee for FEMA’s review of a LOMA request, but the requester of a LOMA is responsible for providing all the information needed for the review, which may include structure and/or property elevations

certified by a licensed land surveyor or professional engineer. Therefore, LOMA requesters may need to retain the services of a land surveyor or engineer.

A LOMA cannot be used for property on which fill has been placed. For those situations, a LOMR-F must be used. As a participant in the NFIP, a local government must adopt ordinances that meet the minimum Federal floodplain management standards, which are outlined in Section 60.3 of the NFIP regulations. For a number of reasons, these ordinances generally vary from community to community. Nonetheless, because the placement of fill within the floodplain can affect flood hazards in the surrounding area, additional information is needed before FEMA can process a LOMR-F request. Among the data required for a LOMR-F is the community acknowledgment form. This form is FEMA's assurance that all appropriate Federal, State, and local floodplain management requirements have been met. Furthermore, NFIP regulations require that the lowest adjacent grade (the lowest ground touching the structure) be at or above the 1% annual chance flood elevation for a LOMR-F to be issued removing the structure from the floodplain. Because LOMR-F requests are the result of changed physical conditions rather than limitations of scale or topographic definition, FEMA charges a fee for the review of a LOMR-F request. As with the LOMA, the requester of a LOMR-F is responsible for providing all supporting information, including structure and/or property elevation data.

In cases where property owners plan to add fill in the SFHA, NFIP regulations require plans and technical information to be submitted for review by FEMA before construction takes place. FEMA will issue a conditional LOMR-F stating how flood hazards would change and what portions of the property, if any, would remain in the SFHA if the project were built according to the submitted plans.

The issuance of a LOMA or LOMR-F ends the property owner's obligation to purchase flood insurance as a condition of Federal or federally backed financing. However, the property owner's mortgage company maintains the prerogative to require flood insurance as a condition of providing financing. Before attempting to obtain a LOMA or LOMR-F, property owners are advised to consult their mortgage companies regarding this policy. Even if the mortgage company indicates that it will require flood insurance if a LOMA or LOMR-F is issued, it may be advantageous for property owners to request a LOMA or LOMR-F because flood insurance premiums are lower for properties removed from the SFHA than for properties that remain within the SFHA.

For additional information regarding LOMAs, LOMR-Fs, conditional LOMR-Fs, or current application fees, please call the FEMA Map Information eXchange (FMIX) toll-free information line at 1-877-FEMA MAP (1-877-336-2627).

7.2 Letters of Map Revision

A Letter of Map Revision (LOMR) is a document issued by FEMA and the NCFMP that revises an FIS Report and/or FIRM. A LOMR is used to change flood risk zones, floodplain and/or floodway delineations, flood elevations, or planimetric features such as road systems or corporate limits. A LOMR provides FEMA and the NCFMP with a cost-effective means of revising the FIS information without physically changing and reprinting the map or report itself. A portion of the FIRM panel or FIS Report showing the revised information is issued with the LOMR. The LOMR is sent to all affected communities and is archived in the communities' NFIP map repository for public reference.

In cases where a proposed project (such as construction in the 1% annual chance floodplain) would result in a significant rise in 1% annual chance water-surface elevations, NFIP regulations require the community to submit plans and technical information for review by FEMA and the NCFMP before construction takes place. This assures communities participating in the NFIP that proposed projects meet minimum NFIP requirements. The result of FEMA and the NCFMP reviews is documented in a conditional LOMR.

For additional information regarding LOMRs, conditional LOMRs, or current application fees, please call the FEMA Map Assistance Center toll-free information line at 1-877-FEMA MAP (1-877-336-2627) or the NCFMP at 919-715-5711.

7.3 Physical Map Revisions

Physical Map Revisions (PMRs) are processed to incorporate information concerning conditions present in the community that are not reflected in the FIS, and involve distributing republished FISs that supersede the most current NFIP data in the community repository.

PMRs may be initiated by a request from a community resident or agency, or FEMA may initiate a PMR to incorporate one or more LOMRs, to reflect significant changes in corporate limits, to correct errors, or to update flood hazards to match new information from an adjacent community's FIS. Due to the costs associated with updating and distributing FISs, map revisions will be processed as LOMRs rather than PMRs whenever possible. For more information regarding PMRs, please contact the FEMA Map Information eXchange (FMIX) toll-free information line at 1-877-FEMA MAP (1-877-336-2627), the FEMA Regional Office at the address listed on the Notice to Flood Insurance Study Users page at the front of this report, or the NCFMP at 919-715-5711.

7.4 Contracted Restudies

The NFIP provides for a periodic review and restudy of flood hazards in a given community. FEMA accomplishes this through a national mapping needs assessment process that assigns priorities and allocates funds to sponsor or subsidize new flood hazard analyses used to update FIS Reports. For map maintenance restudies within the state of North Carolina, scoping will be performed by county approximately 2.5-3.5 years after the previous effective date. Scoping will focus on streams with restudy needs within those previously effective counties rather than on full countywide restudies. A restudy refers specifically to updating or reevaluating engineering analyses that were performed for a flood mapping project that directly impact BFEs and/or flood hazard boundary extents or analysis of previously unstudied flood prone areas. Restudy project evaluation triggers and prioritization values are an essential component of the map maintenance program. For more information regarding NCFMP-contracted restudies, please contact the NCFMP at 919-715-5711 or at www.ncfloodmaps.com. For more information regarding FEMA-contracted restudies, please contact the FEMA Map Information eXchange (FMIX) toll-free information line at 1-877-FEMA MAP(1-877-336-2627) or the FEMA Regional Office at the address listed on the Notice to Flood Insurance Study Users page at the front of this report.

7.5 Map Revision History

The current FIRM is a subset of the Statewide FIRM, showing flood hazard information for the entire geographic area of Johnston County. Previously, separate Flood Hazard Boundary Maps (FHBMs), Flood Boundary and Floodway Maps (FBFMs), and/or FIRMs were prepared for each identified flood prone jurisdiction within the county. Historical data relating to the NFIP maps prepared for each community prior to and including the 12/2/2005 North Carolina Statewide FIRM, which includes Johnston County, are presented in Table 22, "Community Map History."

Information pertaining to revised and unrevised flood hazards for each jurisdiction within Johnston County has been compiled into this FIS. Therefore, this FIS supersedes all previously printed FIS Reports, FHBMs, FIRMs, and/or FBFMs for all of the incorporated and unincorporated jurisdictions within Johnston County.

Table 24 - Map Revision History

Community	Initial Identification Date	Initial FIRM Effective Date	FIS Revision Date
JOHNSTON COUNTY	1/3/1975	9/30/1983	12/02/2005
TOWN OF BENSON	10/20/2000	10/20/2000	12/02/2005
TOWN OF CLAYTON	12/28/1973	4/1/1982	12/02/2005
TOWN OF FOUR OAKS	10/20/2000	10/20/2000	12/02/2005
TOWN OF KENLY	10/20/2000	10/20/2000	12/02/2005
TOWN OF MICRO	10/20/2000	10/20/2000	12/02/2005
TOWN OF PINE LEVEL	10/20/2000	10/20/2000	12/02/2005
TOWN OF PRINCETON	1/3/1975	9/30/1983	12/02/2005
TOWN OF SELMA	10/20/2000	10/20/2000	12/02/2005
TOWN OF SMITHFIELD	10/29/1976	4/1/1982	12/02/2005
TOWN OF WILSON'S MILLS	10/20/2000	10/20/2000	12/02/2005

8.0 Study Contracting and Community Coordination

8.1 Authority and Acknowledgments

The sources of authority for this FIS are the National Flood Insurance Act of 1968 and the Flood Disaster Protection Act of 1973.

This FIS revises and updates the previous countywide FIS for the geographic area of Johnston County and Incorporated Areas. Table 25, "Authority and Acknowledgments," includes information for the previous countywide FIS and for this revision. This table also includes information for the single-jurisdiction FISs published for each community included in this countywide FIS (if available) as compiled from their previously printed FIS Reports

Table 25 — Authority and Acknowledgments

Community	FIS Dated	Study Contracted By	Data Source	Contract or IAA Number	Work Completed In
JOHNSTON COUNTY	12/2/2005	NCFMP	NCFMP	286-000023	5/13/2013
JOHNSTON COUNTY	12/2/2005	NCFMP	NCFMP	286-000022	3/5/2013
JOHNSTON COUNTY	12/2/2005	NCFMP	NCFMP	19-000017	8/8/8888
TOWN OF ARCHER LODGE	12/2/2005	NCFMP	NCFMP	286-000023	5/13/2013
TOWN OF ARCHER LODGE	12/2/2005	NCFMP	NCFMP	286-000022	3/5/2013
TOWN OF ARCHER LODGE	12/2/2005	NCFMP	NCFMP	19-000017	8/8/8888
TOWN OF BENSON	12/2/2005	NCFMP	NCFMP	286-000023	5/13/2013
TOWN OF BENSON	12/2/2005	NCFMP	NCFMP	286-000022	3/5/2013
TOWN OF BENSON	12/2/2005	NCFMP	NCFMP	19-000017	8/8/8888
TOWN OF CLAYTON	12/2/2005	NCFMP	NCFMP	286-000023	5/13/2013
TOWN OF CLAYTON	12/2/2005	NCFMP	NCFMP	286-000022	3/5/2013
TOWN OF CLAYTON	12/2/2005	NCFMP	NCFMP	19-000017	8/8/8888
TOWN OF FOUR OAKS	12/2/2005	NCFMP	NCFMP	286-000023	5/13/2013
TOWN OF FOUR OAKS	12/2/2005	NCFMP	NCFMP	286-000022	3/5/2013
TOWN OF FOUR OAKS	12/2/2005	NCFMP	NCFMP	19-000017	8/8/8888
TOWN OF KENLY	12/2/2005	NCFMP	NCFMP	286-000023	5/13/2013
TOWN OF KENLY	12/2/2005	NCFMP	NCFMP	286-000022	3/5/2013
TOWN OF KENLY	12/2/2005	NCFMP	NCFMP	19-000017	8/8/8888
TOWN OF MICRO	12/2/2005	NCFMP	NCFMP	286-000023	5/13/2013
TOWN OF MICRO	12/2/2005	NCFMP	NCFMP	286-000022	3/5/2013
TOWN OF MICRO	12/2/2005	NCFMP	NCFMP	19-000017	8/8/8888
TOWN OF PINE LEVEL	12/2/2005	NCFMP	NCFMP	286-000023	5/13/2013
TOWN OF PINE LEVEL	12/2/2005	NCFMP	NCFMP	286-000022	3/5/2013
TOWN OF PINE LEVEL	12/2/2005	NCFMP	NCFMP	19-000017	8/8/8888
TOWN OF PRINCETON	12/2/2005	NCFMP	NCFMP	286-000023	5/13/2013
TOWN OF PRINCETON	12/2/2005	NCFMP	NCFMP	286-000022	3/5/2013
TOWN OF PRINCETON	12/2/2005	NCFMP	NCFMP	19-000017	8/8/8888
TOWN OF SELMA	12/2/2005	NCFMP	NCFMP	286-000023	5/13/2013
TOWN OF SELMA	12/2/2005	NCFMP	NCFMP	286-000022	3/5/2013
TOWN OF SELMA	12/2/2005	NCFMP	NCFMP	19-000017	8/8/8888
TOWN OF SMITHFIELD	12/2/2005	NCFMP	NCFMP	286-000023	5/13/2013
TOWN OF SMITHFIELD	12/2/2005	NCFMP	NCFMP	286-000022	3/5/2013
TOWN OF SMITHFIELD	12/2/2005	NCFMP	NCFMP	19-000017	8/8/8888
TOWN OF WILSON'S MILLS	12/2/2005	NCFMP	NCFMP	286-000023	5/13/2013
TOWN OF WILSON'S MILLS	12/2/2005	NCFMP	NCFMP	286-000022	3/5/2013
TOWN OF WILSON'S MILLS	12/2/2005	NCFMP	NCFMP	19-000017	8/8/8888

This FIS Report was produced through a unique cooperative partnership between the State of North Carolina and FEMA. The State of North Carolina, through FEMA's Cooperating Technical Partner (CTP) Initiative, has become the first Cooperating Technical State (CTS) and will assume primary ownership of the NFIP FIRM panels for all North Carolina communities. This role has traditionally been fulfilled by FEMA. The North Carolina Floodplain Mapping Program is conducting flood hazard analyses and producing updated, digital FIRM panels. The hydrologic and hydraulic analyses and the FIRM panels for the initial statewide mapping for Johnston County were produced by NCFMP under contract with the State of North Carolina and issued on effective 3/31/2015. For this revision, the hydrologic and hydraulic analyses and the FIRM panels were produced by NCFMP, under contract with the State of North Carolina.

8.2 Consultation Coordination Officer's Meetings/Scoping Meetings

In general, for each FIS an initial Consultation Coordination Officer's (CCO) meeting is held with representatives from FEMA, the

communities, and the study contractors to explain the nature and purpose of the FIS and to identify the streams to be studied by detailed methods. A final CCO meeting is held with representatives from FEMA, the communities, and the study contractors to review the results of the study

The dates of the initial and final CCO meetings held for Johnston County and Incorporated Areas were compiled from the previous countywide FIS Report and are shown in Table 26, "Consultation Coordination Officer's Meetings

Table 26 — Consultation Coordination Officer's Meetings

Community	For FIS Dated	Initial CCO Date	Attended By	Final CCO Date	Attended By
JOHNSTON COUNTY	3/30/1983	11/21/1978	Representatives of USACE, FEMA, the county, and local residents	12/1/1982	Representatives of USACE, FEMA, the county, and local residents
JOHNSTON COUNTY	3/30/1983	11/21/1978	Representatives of USACE, FEMA, the county, and local residents	12/2/1983	USACE, FEMA, and local officials
JOHNSTON COUNTY	3/30/1983	1/24/1980	Representatives of USACE and the county	12/1/1982	Representatives of USACE, FEMA, the county, and local residents
JOHNSTON COUNTY	3/30/1983	1/24/1980	Representatives of USACE and the county	12/2/1983	USACE, FEMA, and local officials
JOHNSTON COUNTY	10/20/2000	9/26/1995	Representatives of the county and Hayes, Seay, Mattern & Mattern, Inc.	7/20/1999	Representatives of FEMA, the State, the county and Hayes, Seay, Mattern & Mattern, Inc.
TOWN OF CLAYTON	10/1/1981	11/21/1978	Representatives of USACE, FEMA, the community, and local residents	2/25/1981	USACE, FEMA, and local officials
TOWN OF CLAYTON	10/1/1981	11/21/1978	Representatives of USACE, FEMA, the community, and local residents	5/22/1981	Representatives of FEMA and the community
TOWN OF CLAYTON	10/1/1981	11/21/1978	Representatives of USACE, FEMA, the community, and local residents	5/22/1981	Representatives of USACE, FEMA, and the community
TOWN OF CLAYTON	10/1/1981	9/12/1979	Representatives of USACE and the community	2/25/1981	USACE, FEMA, and local officials
TOWN OF CLAYTON	10/1/1981	9/12/1979	Representatives of USACE and the community	5/22/1981	Representatives of FEMA and the community
TOWN OF CLAYTON	10/1/1981	9/12/1979	Representatives of USACE and the community	5/22/1981	Representatives of USACE, FEMA, and the community
TOWN OF CLAYTON ETJ	10/1/1981	11/21/1978	Representatives of USACE, FEMA, the community, and local residents	2/25/1981	USACE, FEMA, and local officials
TOWN OF CLAYTON ETJ	10/1/1981	11/21/1978	Representatives of USACE, FEMA, the community, and local residents	5/22/1981	Representatives of FEMA and the community
TOWN OF CLAYTON ETJ	10/1/1981	11/21/1978	Representatives of USACE, FEMA, the community, and local residents	5/22/1981	Representatives of USACE, FEMA, and the community
TOWN OF CLAYTON ETJ	10/1/1981	9/12/1979	Representatives of USACE and the community	2/25/1981	USACE, FEMA, and local officials
TOWN OF CLAYTON ETJ	10/1/1981	9/12/1979	Representatives of USACE and the community	5/22/1981	Representatives of FEMA and the community
TOWN OF CLAYTON ETJ	10/1/1981	9/12/1979	Representatives of USACE and the community	5/22/1981	Representatives of USACE, FEMA, and the community
TOWN OF SMITHFIELD	10/1/1981	11/21/1978	Representatives of USACE, FEMA, the community, and local residents	2/25/1981	USACE, FEMA, and local officials
TOWN OF SMITHFIELD	10/1/1981	11/21/1978	Representatives of USACE, FEMA, the community, and local residents	5/22/1981	Representatives of FEMA and the community
TOWN OF SMITHFIELD	10/1/1981	11/21/1978	Representatives of USACE, FEMA, the community, and local residents	5/22/1981	Representatives of USACE, FEMA, and the community
TOWN OF SMITHFIELD	10/1/1981	9/12/1979	Representatives of USACE and the community	2/25/1981	USACE, FEMA, and local officials
TOWN OF SMITHFIELD	10/1/1981	9/12/1979	Representatives of USACE and the community	5/22/1981	Representatives of FEMA and the community

Table 26 — Consultation Coordination Officer’s Meetings

Community	For FIS Dated	Initial CCO Date	Attended By	Final CCO Date	Attended By
TOWN OF SMITHFIELD	10/1/1981	9/12/1979	Representatives of USACE and the community	5/22/1981	Representatives of USACE, FEMA, and the community
TOWN OF SMITHFIELD	10/1/1981	1/25/1980	Representatives of USACE and the community	2/25/1981	USACE, FEMA, and local officials
TOWN OF SMITHFIELD	10/1/1981	1/25/1980	Representatives of USACE and the community	5/22/1981	Representatives of FEMA and the community
TOWN OF SMITHFIELD	10/1/1981	1/25/1980	Representatives of USACE and the community	5/22/1981	Representatives of USACE, FEMA, and the community
TOWN OF SMITHFIELD ETJ	10/1/1981	11/21/1978	Representatives of USACE, FEMA, the community, and local residents	2/25/1981	USACE, FEMA, and local officials
TOWN OF SMITHFIELD ETJ	10/1/1981	11/21/1978	Representatives of USACE, FEMA, the community, and local residents	5/22/1981	Representatives of FEMA and the community
TOWN OF SMITHFIELD ETJ	10/1/1981	11/21/1978	Representatives of USACE, FEMA, the community, and local residents	5/22/1981	Representatives of USACE, FEMA, and the community
TOWN OF SMITHFIELD ETJ	10/1/1981	9/12/1979	Representatives of USACE and the community	2/25/1981	USACE, FEMA, and local officials
TOWN OF SMITHFIELD ETJ	10/1/1981	9/12/1979	Representatives of USACE and the community	5/22/1981	Representatives of FEMA and the community
TOWN OF SMITHFIELD ETJ	10/1/1981	9/12/1979	Representatives of USACE and the community	5/22/1981	Representatives of USACE, FEMA, and the community
TOWN OF SMITHFIELD ETJ	10/1/1981	1/25/1980	Representatives of USACE and the community	2/25/1981	USACE, FEMA, and local officials
TOWN OF SMITHFIELD ETJ	10/1/1981	1/25/1980	Representatives of USACE and the community	5/22/1981	Representatives of FEMA and the community
TOWN OF SMITHFIELD ETJ	10/1/1981	1/25/1980	Representatives of USACE and the community	5/22/1981	Representatives of USACE, FEMA, and the community

For each FIS produced during the initial phase of statewide, an Initial Scoping Meeting was held with representatives from FEMA, the county, the incorporated communities, and the State of North Carolina. A Final Scoping meeting was held to review the Draft Basin Plan and finalize the streams to be studied by detailed methods. This information was then used to create the Final Basin Plan.

For map maintenance revisions, only one scoping meeting was held to identify the streams to be newly studied by detailed methods, redelineated, or to be studied by limited detailed methods. This information was then used to create the Map Maintenance Plan.

The historical dates of the Initial and Final Scoping Meetings held during the first round of statewide mapping for Johnston County are shown in Table 27, “Scoping Meetings.” Meetings held for the map maintenance revision are also included below for Johnston County.

Table 27 — Scoping Meetings

Community	Riverbasin	Initial Scoping Date	Attended By	Final Scoping Date	Attended By
JOHNSTON COUNTY	NEUSE	12/12/2000	Representatives of FEMA, the State, Dewberry, and the county	4/24/2001	Representatives of FEMA, the State, Dewberry, and the county
TOWN OF BENSON	NEUSE	12/12/2000	Representatives of FEMA, the State, Dewberry, and the community	4/24/2001	Representatives of FEMA, the State, Dewberry, and the community
TOWN OF BENSON ETJ	NEUSE	12/12/2000	Representatives of FEMA, the State, Dewberry, and the community	4/24/2001	Representatives of FEMA, the State, Dewberry, and the community
TOWN OF CLAYTON	NEUSE	12/13/2000	Representatives of FEMA, the State, Dewberry, and the community	4/24/2001	Representatives of FEMA, the State, Dewberry, and the community
TOWN OF CLAYTON ETJ	NEUSE	12/13/2000	Representatives of FEMA, the State, Dewberry, and the community	4/24/2001	Representatives of FEMA, the State, Dewberry, and the community
TOWN OF FOUR OAKS	NEUSE	12/12/2000	Representatives of FEMA, the State, Dewberry, and the community	4/24/2001	Representatives of FEMA, the State, Dewberry, and the community
TOWN OF FOUR OAKS ETJ	NEUSE	12/12/2000	Representatives of FEMA, the State, Dewberry, and the community	4/24/2001	Representatives of FEMA, the State, Dewberry, and the community

Table 27 — Scoping Meetings

Community	Riverbasin	Initial Scoping Date	Attended By	Final Scoping Date	Attended By
TOWN OF KENLY	NEUSE	12/12/2000	Representatives of FEMA, the State, Dewberry, and the community	4/24/2001	Representatives of FEMA, the State, Dewberry, and the community
TOWN OF KENLY ETJ	NEUSE	12/12/2000	Representatives of FEMA, the State, Dewberry, and the community	4/24/2001	Representatives of FEMA, the State, Dewberry, and the community
TOWN OF PINE LEVEL	NEUSE	12/12/2000	Representatives of FEMA, the State, Dewberry, and the community	4/24/2001	Representatives of FEMA, the State, Dewberry, and the community
TOWN OF PINE LEVEL ETJ	NEUSE	12/12/2000	Representatives of FEMA, the State, Dewberry, and the community	4/24/2001	Representatives of FEMA, the State, Dewberry, and the community
TOWN OF SELMA	NEUSE	12/12/2000	Representatives of FEMA, the State, Dewberry, and the community	4/24/2001	Representatives of FEMA, the State, Dewberry, and the community
TOWN OF SELMA ETJ	NEUSE	12/12/2000	Representatives of FEMA, the State, Dewberry, and the community	4/24/2001	Representatives of FEMA, the State, Dewberry, and the community
TOWN OF SMITHFIELD	NEUSE	12/12/2000	Representatives of FEMA, the State, Dewberry, and the community	4/24/2001	Representatives of FEMA, the State, Dewberry, and the community
TOWN OF SMITHFIELD ETJ	NEUSE	12/12/2000	Representatives of FEMA, the State, Dewberry, and the community	4/24/2001	Representatives of FEMA, the State, Dewberry, and the community
TOWN OF WILSON'S MILLS	NEUSE	12/12/2000	Representatives of FEMA, the State, Dewberry, and the community	4/24/2001	Representatives of FEMA, the State, Dewberry, and the community
TOWN OF WILSON'S MILLS ETJ	NEUSE	12/12/2000	Representatives of FEMA, the State, Dewberry, and the community	4/24/2001	Representatives of FEMA, the State, Dewberry, and the community
TOWN OF ZEBULON ETJ	NEUSE	11/29/2000	Representatives of the State, FEMA, Dewberry, and the Towns of Knightdale, Wendell, and Zebulon	4/23/2001	State, FEMA, Dewberry, county, Raleigh, Apex, Cary, Garner, Holly Springs, Knightdale, Wake Forest, Wendell, Zebulon

Preliminary Meetings are held in each county to disseminate and review the FIS Report and FIRM panels. This meeting is required by FEMA. Public Participation Meetings are not required by FEMA, but provide an opportunity to review and discuss the FIS Report and FIRM panels for each jurisdiction in a public setting. The dates for the preliminary and public participation meetings are shown in Table 28, "Preliminary and Public Participation Meetings."

Table 28 — Preliminary and Public Participation Meetings

Community	For FIS Dated	Meeting Location	Preliminary Meeting Date	Attended By	Public Meeting Date	Attended By
JOHNSTON COUNTY	12/2/2005	NP	10/1/2003	NP	10/15/2003	NP
JOHNSTON COUNTY	12/2/2005	NP	10/1/2003	NP	10/29/2003	NP

9.0 Guide to Additional Information

Information concerning the pertinent data used in the preparation of this FIS Report can be obtained by submitting an order with any required payment to the FEMA Engineering Library. For more information on this process, see <http://www.fema.gov>.

The Map Repositories table below lists locations where FIRMs for Johnston County can be viewed. Please note that the maps at these locations are for reference only and are not for distribution. Also, please note that only the maps for the community listed in the table are available at that particular repository. A user may need to visit another repository to view maps from an adjacent community.

Table 27 — Map Repositories

Community	Address	City	State	Zip Code
Town of Micro	Micro Town Hall, 101 U.S. 301 South, NC	Micro	NC	27555
Town of Smithfield	Smithfield Town Hall, 350 East Market Street, NC	Smithfield	NC	27577
Town of Wilson's Mills	Wilson's Mills Town Hall, 105 Railroad Street, NC	Wilson's Mill	NC	27593

Table 27 — Map Repositories

Town of Princeton	Town of Princeton Public Utilities Office, 309 East Market Street, NC	Smithfield	NC	27577
Town of Kenly	Kenly Town Hall, 206 West 2nd Street, NC	Kenly	NC	27542
Town of Selma	Town of Selma Planning Department, 100 North Raiford Street, NC	Selma	NC	27576
Town of Four Oaks	Four Oaks Town Hall, 304 North Main Street, NC	Four Oaks	NC	27524
Town of Pine Level	Pine Level Town Hall, 214 North Peedin Avenue, NC	Pine Level	NC	27568
Town of Benson	Benson Town Hall, Zoning Department, NC	Benson	NC	27504
Johnston County	Johnston County Planning Department, 300 East Market Street	Smithfield	NC	27577
Town of Clayton	Clayton Town Hall, Planning Department, NC	Clayton	NC	27520

9.1 Additional Information

All FIRM panels created for the State of North Carolina are produced in a seamless statewide format; however, FIS Reports are produced for individual counties.

Copies of FIRM panels are available for a nominal fee. To obtain a copy of the current flood map for a specific community, contact the FEMA Map Service Center at 1-800-358-9616. To facilitate the processing of your request, please review the current flood map on file at your local community repository and obtain the panel number in which you are interested. If necessary, users may also order a FIRM Index from the Map Service Center to determine the appropriate panel numbers. The Map Service Center also accepts orders for the Community Status Book and the Flood Insurance Manual. The FIS Report, FIRM panels, and digital data used to produce the FIRM panels are available online at www.ncfloodmaps.com.

Information concerning the data used in the preparation of this FIS, contained in an Engineering Study Data Package, may be obtained by contacting the FEMA Regional Office at the address listed on the Notice to Flood Insurance Study Users page at the front of this report.

Table 28, "Additional Information" is not applicable in Johnston County.

10.0 Appendix

10.1 Bibliography

All bibliography and reference information associated within this Flood Insurance Study are maintained and accessible within the geodatabase structure and associated metadata. Users requiring more specific information should contact the North Carolina Floodplain Mapping Program (NCFMP) at www.ncfloodmaps.com under the Contacts menu