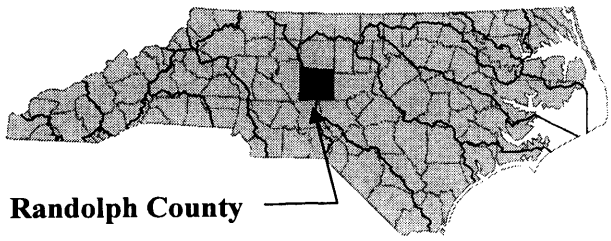
FLOOD INSURANCE STUDY

A Report of Flood Hazards in

RANDOLPH COUNTY, NORTH CAROLINA

AND INCORPORATED AREAS



Community Name	Community Number	River Basin
Archdale, City of	370273	Cape Fear/Yadkin
Asheboro, City of	370196	Cape Fear/Yadkin
Franklinville, Town of	370197	Cape Fear
Liberty, Town of	370582	Cape Fear
Ramseur, Town of	370198	Cape Fear
Randleman, City of	370199	Cape Fear/Yadkin
Randolph County (Unincorporated Areas)	370195	Cape Fear/Yadkin
Seagrove, Town of	370613	Cape Fear/Yadkin
Trinity, City of	370625	Cape Fear/Yadkin

NORTH CAROLINA Cooperating Technical State
FEMA'S COOPERATING TECHNICAL PARTNER

VOLUME 1 OF 4

January 2, 2008

Federal Emergency Management Agency
State of North Carolina

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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.

Part of this FIS may be revised by the Letter of Map Revision process, which does not involve republication or redistribution of the FIS. It is, therefore, the responsibility of the user to consult with community officials and to check the community repository to obtain the most current FIS components.

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:

January 2, 2008

This FIS has been produced as part of the North Carolina Floodplain Mapping Program. Randolph 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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Flood Profiles

Section 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/nfip/index.htm.

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 Randolph County and the jurisdictions therein (hereinafter referred to collectively as Randolph 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 Randolph County, North Carolina, including the jurisdictions listed in Table 1.

Table 1—Jurisdictions in Randolph County

Community	Included in this FIS	Not Included in this FIS	If Not Included, Location of Flood Hazard/Flood Insurance Rate Data
Archdale, City of	X		
Asheboro, City of	X		
Franklinville, Town of	X		
High Point, City of		X	Guilford County FIS
Liberty, Town of	X		
Ramseur, Town of	X		
Randleman, City of	X		
Randolph County (Unincorporated Areas)	X		
Seagrove, Town of	X		
Staley, Town of*	X		
Thomasville, City of		X	Davidson County FIS
Trinity, City of	X		

* Non-Floodprone Community

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.

Flood Insurance Rate Map

The FIRM shows 1% annual chance (100-year) and 0.2% annual chance (500-year) floodplains, using tints, screens, and symbols. Floodways, the locations of selected cross sections used in the hydraulic analyses and floodway computations, and Velocity Zones are shown where applicable. The FIRM for North Carolina has been produced digitally, and there are separate data layers that are available in the public domain via the Internet.

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.

Flood Profiles

A Flood Profile is provided for every stream studied in detail, showing the continuum of calculated flood elevations of various recurrence periods along the studied reaches. Flood Profiles are the documents that serve as a basis for determining flood insurance rate zones.

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.

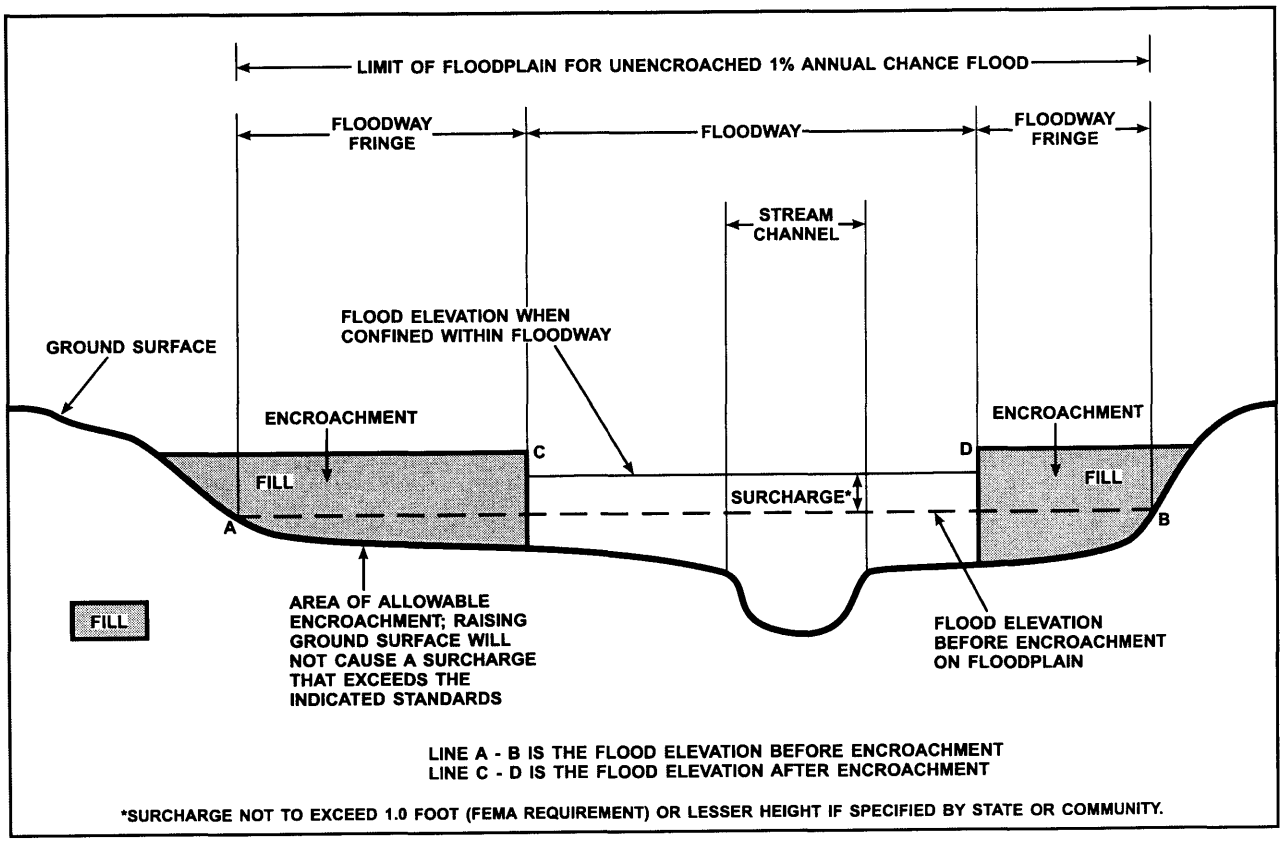

Figure 1—Floodway Schematic

2.3 Base Flood Elevations

Base Flood Elevations (BFEs) are shown on the FIRM and represent rounded, whole-foot elevations at selected locations along flooding sources that have been studied in detail. Flood Profiles in this FIS Report provide a comprehensive and definitive tool to determine specific flood elevations along a stream studied by detailed methods. In order to reduce the risk of damage from floods up to the base (1% annual chance) flood, communities are advised to consider these elevations when issuing building permits for structures.

Coastal flood elevations are provided in the Summary of Coastal Stillwater Elevations table in this report. If the elevation on the FIRM is higher than the elevation shown in this table, a wave height, wave runup and/or wave setup component likely exists, in which case, the higher elevation should be used for construction and/or floodplain management purposes.

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.

Section 3.0 – Insurance Applications

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 Zone Designations

Zone	Description
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.

Table 2—Flood Zone Designations

Zone	Description
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.
D	Zone D is the flood insurance rate zone that corresponds to unstudied areas where flood hazards are undetermined, but possible.

4.1 Basin Characteristics

Cape Fear River Basin

The Cape Fear River Basin extends from its headwaters near Greensboro and High Point in the north central Piedmont region of North Carolina to the Atlantic Ocean near Wilmington and Cape Fear. It is bordered by the Roanoke River Basin to the north, the Neuse River Basin to the north and northeast, the White Oak River Basin to the east, the Yadkin River Basin to the west, the Lumber River Basin to the southwest and south, and the Atlantic Ocean to the east. Encompassing an area of approximately 9,300 square miles, the Cape Fear River Basin is the largest river basin in North Carolina. It is also one of only four river basins located entirely within the state.

The Cape Fear River, the major waterway in the basin, begins at the confluence of the Haw and Deep Rivers, near the border of Chatham and Lee Counties. The Cape Fear River continues southeastward through a series of three locks and dams and finally enters the Atlantic Ocean. Everett Jordan Lake, a reservoir along the Haw River near its confluence with the Deep River, regulates flood flows for the entire Cape Fear River.

The Cape Fear River Basin is located in both the Coastal Plain and Piedmont regions of North Carolina. Flat terrain, slow moving streams, swampland, and estuarine areas characterize the topography of the Coastal Plain. The Piedmont region is characterized by rolling terrain and forested floodplains. More than half of the land cover in the basin is forested. Since 1982, land use identification shows an increase in developed land area and a decrease in agricultural cropland.

The basin includes approximately 6,300 miles of freshwater flooding sources, approximately 39,200 acres of estuarine waters, and numerous lakes and reservoirs. In addition to supporting many environmental habitats, which are home to many endangered and threatened species, the waters in the Cape Fear River Basin serve as valuable commercial and recreational waters.

The Cape Fear River Basin encompasses all or parts of 29 counties and 110 municipalities. Data from the 2000 census show that the population of the basin is approximately 1,498,075. The most populated areas of the basin are the Durham-Chapel Hill area, the Fayetteville area, the Wilmington area, and the Triad region, which is made up of the area containing Greensboro, Burlington, and High Point.

The economy of the Cape Fear River Basin is largely based on agriculture, forestry, and manufacturing. Pork, poultry, soybean, and tobacco production are of high agricultural significance.

Given the historical impact of hurricanes, tropical storms, and northeasters on the Coastal Plain of North Carolina, both riverine and coastal flooding are significant problems. Flooding in the Cape Fear River Basin occurs as both flooding due to rain and, in areas near the coastline, flooding due to the wave surges generated by tropical storms and hurricanes in the Atlantic Ocean.

Yadkin River Basin

The Yadkin River Basin drains from the Virginia border to South Carolina, cutting a swath through west central North Carolina. With 7,400 square miles, or 15.6% of the land area, this is the second largest drainage basin in the state. It also has the second largest number of stream

miles - 5,855. The basin originates on the eastern slopes of the Blue Ridge Mountains in Caldwell, Wilkes, and Surry Counties. A small portion of the Yadkin River headwaters originates in Virginia and flows northeasterly for about 100 miles, then flows to the southeast until it joins the Uwharrie River to form the Pee Dee River. The Pee Dee River continues flowing southeasterly through South Carolina to the Atlantic Ocean. The North Carolina portion of the basin contains approximately 5,991 miles of freshwater streams and rivers.

Forest land covers approximately 50% of the basin and 95% of that forestry is privately owned. Agriculture (including cultivated and uncultivated cropland (15.6%) and pastureland (14.1%)) covers approximately 30% of the land area, while 13% of the land is developed. The urban and built-up category comprises roughly 11% and exhibited the most dramatic change between 1982 and 1992 (38% increase). Other categories that showed substantial changes during this period were pasturelands (19% increase) and the "Other" category, which includes rural transportation (26% increase).

Both cultivated and uncultivated cropland decreased by a total of 46% in the basin between 1982 and 1992. It is likely that some of this cropland was converted to pastureland and to urban and built-up areas. Major land use activities in the basin include agriculture (crops, swine, poultry and cattle operations) and construction activities related to growth. Iredell County has the largest dairy cattle population in the state. The map below shows a general area of the Yadkin River Basin, also known as the Yadkin-Pee Dee River Basin.

There are 28 counties and over 93 municipalities in this large drainage area. The basin includes all or portions of the following counties: Alexander, Allegheny, Anson, Ashe, Cabarrus, Caldwell, Davidson, Davie, Forsyth, Guilford, Iredell, Mecklenburg, Montgomery, Randolph, Richmond, Rowan, Scotland, Stanly, Stokes, Surry, Union, Watauga, Wilkes, and Yadkin. (This Basin Plan does not include information for the following counties: Ashe, Alleghany, and Guilford. Ashe, Alleghany and Guilford are included in other Basin Plans.) This is the second most densely populated watershed, with 1,193,353 people or 17.51 % of the state's total population. Based on 1990 census data, the population of the basin was 1.2 million people.

The most populated areas are in and near Winston-Salem and Charlotte. The overall population density is 163 persons per square mile versus a statewide average of 123 persons per square mile. While much of the basin contains rural areas surrounding small towns, many of the small to large cities have high density areas. The percent population growth over the ten year period between 1980 and 1990 was 10 percent.

This region is characterized by rolling hills and geologic formations consisting of crystalline or sedimentary rocks. Because of the moderate topography, more streams drain a smaller amount of land, creating moderate drainage density.

The Yadkin Basin serves as a corridor for plants and animals migrating from the mountains to the Coastal Plain, and vice-versa. This basin contains a variety of habitat types, as well as many rare plants and animals. Sportfishes in the Yadkin River upstream of the Kerr Scott Reservoir include smallmouth bass, redbreast sunfish and bullhead catfishes. A considerable amount of white and striped bass fish exist below Idols Dam (west of Clemmons – in Forsyth County) in the spring when the fish migrate from downstream reservoirs to spawn. In addition to being important natural resources, these reservoir fisheries also help make the basin a popular place for recreation, significantly boosting the local economy.

4.2 Principal Flood Problems

Flooding on Muddy Creek, Muddy Creek-West Tributary, and Muddy Creek-East Tributary within the study area of the City of Archdale may occur during any season of the year. Across Randolph County, the most severe flooding is usually the result of heavy rains from tropical storms and local spring or summer thunderstorms. Since the flood plains of the two major rivers (Deep River and Uwharrie River) are generally flat or only slightly sloping, they are subject to periodic flooding and/or prolonged periods of wetness.

The flooding problem in the City of Archdale is complicated by the fact that High Point, a highly urbanized center, is approximately one mile north of the city. High Point discharges large volumes of runoff, directly into the headwaters of Muddy Creek. This causes serious problems with street flooding downstream in the City of Archdale. Furthermore, the inadequate drainage system in Archdale makes extensive flooding on Muddy Creek a frequent event.

A typical flood in the City of Archdale commonly results when rain totaling 3 to 5 inches falls within a span of 4 to 5 hours (approximately a 20-year recurrence interval) (U.S. Department of Commerce, 1963).

Recent floods have occurred on September 8, 1977, and April 26, 1978, when 4 to 6 inches of rain from Hurricane Babe and Tropical Storm Clara were reported throughout the county, causing inundation of some City of Archdale streets. These storms are estimated to have had a recurrence interval of greater than 10 years. The flood of record occurred on August 13, 1966, and was brought on by heavy rains totaling 9 inches in 5 hours. This event had a recurrence interval of greater than 200 years. Other floods with recurrence intervals of approximately 1 year each occurred on August 13, 1966, and July 13 through 15, 1975. River-stage data from U.S. Geological Survey gage stations on Deep River near Randleman and at Ramseur reveal that a stage of 662.46 feet near Randleman and a stage of 440.80 feet at Ramseur were reached.

In 1947, Deep River crested at 670.31 feet with a recurrence interval of approximately 50 years. The flood of record occurred on Deep River in 1945, when its crest at Ramseur attained 453.54 feet, approximately a 0.2% annual chance flood event (U.S. Department of Interior, 1977).

The flooding problem in the City of Asheboro is complicated by the fact that all areas have inadequate drainage systems. The systems were installed during the early development of the city. Urban expansion has since increased runoff and created problems where these undersized pipes are still in use.

Longtime residents of Asheboro recall that there have been a number of floods in the following streams and their tributaries: Deep River, Hasketts Creek, Penwood Branch, Vestal Creek, Little River, and Back Creek. In 1959, when the sewage disposal plant was under construction, heavy rains of several days tore through a section of the inflow pipe in the pasture west of Hub Morris Road. Water flooded the pasture up to the equipment shed. The roadbed of Hub Morris Road settled 10 to 12 inches. On August 22, 1960, heavy rains of 4 inches over 2 days, an event with approximately a 1-year recurrence interval, sent 1 foot of water over Lake Lucas spillway (fed by Back Creek), damaging pumps and transformers. On August 13, 1966, the record flood occurred when heavy rains of 9 inches in 5 hours, a greater than 200-year event, flooded Hasketts Creek as far as Buck Creek and Penwood Branch. The roadbed of Bankemeyer Road was flooded to a depth of more than 42 inches, and the sewage disposal plant was heavily flooded. On July 13 through July 15, 1975, rainfall of 6.1 inches in 2.5 days, an event with approximately a 1-year

recurrence interval, pushed precipitation 9 inches over the monthly city average and resulted in residential flooding in isolated areas. On September 8, 1977, heavy rains of 4.4 inches in 8 hours, a greater than 10-year recurrence interval, sent water over Lake Lucas Dam. On October 26, 1977, rains of 3.6 inches in 5 hours, a greater than 10-year event, caused flooding on Little River and Vestal Creek. One of the more recent floods occurred on April 26, 1978, and was estimated to have a recurrence interval of greater than 10 years (U.S. Department of Commerce, 1963).

4.3 Historic Flood Elevations

September 13, 1984 (Hurricane Diana)
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.

September 26, 1985 (Hurricane Gloria)
The landfall location of Gloria was Cape Hatteras, with 90 knot winds and a storm surge of approximately 6-8 feet.

July 12, 1996 (Hurricane Bertha)
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 Ione all hit the coast. Bertha entered North Carolina in North Topsail Beach with 105 mph gust and a storm surge of approximately 5 feet.

September 5, 1996 (Hurricane Fran)
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.

August 26, 1998 (Hurricane Bonnie)
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.

September 16, 1999 (Hurricane Floyd)
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.

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.

Table 3, "Historic Flood Elevations," lists selected flooding sources in Randolph 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 3—Historic Flood Elevations

Flooding Source	Location Description	Approximate Stream Station	Historic Peak (Feet NAVD 88)	Date	Approximate Recurrence Interval
Hurricane Fran	Brush Creek	29,407	412.68	September 1996	25-year
Hurricane Floyd	Brush Creek Tributary 1	1,292	568.27	September 1999	10-year
Hurricane Floyd	Deep River	135,106	534.06	September 1999	2-10-year
Hurricane Fran	Fork Creek	1,414	340.85	September 1996	25-year
Hurricane Floyd	Fork Creek	58,960	465.54	September 1999	10-year
Hurricane Floyd	Hasketts Creek	23,758	672.66	September 1999	2-10-year
Hurricane Fran	Sandy Creek	67,379	569.89	September 1996	100-year

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).

To provide safe flood protection and be mapped as such, FEMA specifies that all levees must: have a minimum of three feet of freeboard against the 1% annual chance flood event; be equipped with closure devices at every opening; be constructed with embankments and foundations that are certified not to fail due to erosion, seepage, or instability; and be certified against future loss of freeboard due to settling. For additional requirements, please refer to 44 CFR 65.10.

Table 4, "Flood Protection Measures," lists the flood protection measures undertaken to mitigate flood damage in Randolph County.

Table 4—Flood Protection Measures

Type of Measure	Description of Measure or Location and Description of Structure	Levee Compliant with 44 CFR 65.10?
Land Use Regulations	Land use regulations are implemented by the City of Archdale and the City of Asheboro to preclude extensive flood damage to future development.	N/A
Raw-Water-Supply Lakes	There are five raw-water-supply lakes on the Back Creek tributary system to the west of the City of Asheboro. Although they were constructed primarily for water-supply purposes, they may serve as flood protection devices for floodflows on Back Creek.	N/A
Worthville Dam	Worthville Dam is located approximately 16,500 feet upstream from NC Secondary Road 2261 on Deep River. It was designed to reduce the 1% annual chance flood elevation by 5 to 6 feet.	N/A
Randleman Reservoir	Approximately 18,200 feet upstream from Worthville Dam on Deep River, this reservoir is not expected to have any appreciable effect on the elevation of the 1% and 0.2% annual chance floods	N/A
Howards Mill Reservoir and Caraway Back Dams	Situated on the Tributaries of Uwharrie River, one each at the confluences of Caraway and Back Creeks	N/A

N/A-Not Applicable

4.5 Scope of Study

In order to determine the areas studied by detailed and limited detailed methods in this FIS, initial research and community coordination was necessary. Initial scoping meetings were held in Randolph County to present the results of initial research to the county and communities within the county and to discuss their flood mapping needs. The county and communities were asked to provide input on proposed study priorities and analysis methods. Those meetings resulted in the identification of flooding sources having a flood mapping need. 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.

Section 4.0 – Area Studied

This FIS covers the geographic area of Randolph 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 the FIRM. Please see Table 5, "Flooding Sources Studied by Detailed Methods: Revised or Newly Studied," for a list of flooding sources that were revised or newly studied by detailed methods for this FIS.

Table 5—Flooding Sources Studied by Detailed Methods: Revised or Newly Studied

Source	Riverine Sources		Affected Communities
	From	To	
Caraway Creek	Approximately 225 feet downstream of Beckerdite Road (SR 1524)	Approximately 1.6 miles upstream of Roy Farlow Road	City of Archdale, Randolph County (Unincorporated Areas)
Cedar Fork Creek	The confluence with Back Creek	Approximately 760 feet upstream of South Church Street	City of Asheboro, Randolph County (Unincorporated Areas)
Deep River	Approximately 350 feet upstream of the confluence of Reed Creek	The confluence of Hasketts Creek	City of Asheboro, Town of Franklinville. Town of Ramseur, Randolph County (Unincorporated Areas)
Hasketts Creek	The confluence of Penwood Branch	Approximately 400 feet downstream of confluence of Hasketts Creek Tributary 2	City of Asheboro, Randolph County (Unincorporated Areas)
Little Polecat Creek	The confluence with Polecat Creek	Approximately 580 feet upstream of Dam	Randolph County (Unincorporated Areas)
Little Polecat Creek Tributary 1	The confluence with Little Polecat Creek	Approximately 1.4 miles upstream of New Salem Road	Randolph County (Unincorporated Areas)
Little Polecat Creek Tributary 2	The confluence with Little Polecat Creek Tributary 1	Approximately 1.0 mile upstream of the confluence with Little Polecat Creek Tributary 1	Randolph County (Unincorporated Areas)
Little Polecat Creek Tributary 3	The confluence with Little Polecat Creek	Approximately 0.9 mile upstream of Bethel Church Road	Randolph County (Unincorporated Areas)
Little Polecat Creek Tributary 4	The confluence with Little Polecat Creek	Approximately 740 feet upstream of Hunting Lodge Road	Randolph County (Unincorporated Areas)
Little Polecat Creek Tributary 5	The confluence with Little Polecat Creek Tributary 4	Approximately 0.9 mile upstream of Hunting Lodge Road	Randolph County (Unincorporated Areas)

Table 5—Flooding Sources Studied by Detailed Methods: Revised or Newly Studied

Source	Riverine Sources		Affected Communities
	From	To	
Little Uwharrie River	Approximately 120 feet upstream of the confluence of Brier Creek	Approximately 0.4 mile upstream of North Carolina Highway 62	City of Trinity, Randolph County (Unincorporated Areas)
Long Branch	The confluence with Cedar Fork Creek	Approximately 0.5 mile upstream of Wilson Drive	City of Asheboro, Randolph County (Unincorporated Areas)
Mill Creek (into Deep River)	The confluence with Deep River	Approximately 1.0 mile upstream of Iron Mountain View Road	Randolph County (Unincorporated Areas)
Muddy Creek	Approximately 0.5 mile upstream of confluence of Taylor Branch	Approximately 200 feet upstream of Verta Avenue	Randolph County (Unincorporated Areas), City of Archdale
Muddy Creek East Tributary	The confluence with Muddy Creek	Approximately 210 feet upstream of Liberty Road	City of Archdale
Muddy Creek West Tributary	The confluence with Muddy Creek	Approximately 160 feet upstream of Playground Road	City of Archdale
Polecat Creek	The confluence with Deep River	Approximately 200 feet upstream of the County boundary	City of Randleman. Randolph County (Unincorporated Areas)
Polecat Creek Tributary 4	The confluence with Polecat Creek	Approximately 260 feet downstream of the confluence of Polecat Creek Tributary 5	Randolph County (Unincorporated Areas)
Polecat Creek Tributary 5	The confluence with Polecat Creek Tributary 4	Approximately 0.4 mile upstream of Dam	Randolph County (Unincorporated Areas)
Polecat Creek Tributary 6	The confluence with Polecat Creek	Approximately 1.3 miles upstream of the confluence with Polecat Creek	Randolph County (Unincorporated Areas)
Polecat Creek Tributary 7	The confluence with Polecat Creek	Approximately 0.8 mile upstream of the confluence with Polecat Creek	Randolph County (Unincorporated Areas)
Taylors Creek	The confluence with Caraway Creek	Approximately 3.1 miles upstream of Lassiter Mill Road	Randolph County (Unincorporated Areas)

Table 5—Flooding Sources Studied by Detailed Methods: Revised or Newly Studied

Source	Riverine Sources		Affected Communities
	From	To	
Uwharrie River	Approximately 140 feet downstream of the confluence of Uwharrie River Tributary 9	Approximately 350 feet downstream of Mendenhall Road	City of Trinity, Randolph County (Unincorporated Areas)
Uwharrie River Tributary 10	The confluence with Uwharrie River	Approximately 330 feet upstream of Pike Street	City of Trinity
Uwharrie River Tributary 11	The confluence with Uwharrie River	Approximately 0.7 mile upstream of Mendenhall Road	City of Trinity

Table 6, "Flooding Sources Studied by Detailed Methods: Redelineated," 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 6—Flooding Sources Studied by Detailed Methods: Redelineated

Source	Riverine Sources		Affected Communities
	From	To	
Hasketts Creek*	The confluence with Deep River	The confluence of Penwood Branch	City of Asheboro, Randolph County (Unincorporated Areas)
Hasketts Creek Tributary 1	The confluence with Hasketts Creek	Northwood Drive	City of Asheboro
Penwood Branch	The confluence with Hasketts Creek	Approximately 1,320 feet downstream of East Presnell Street	City of Asheboro
Penwood Branch Tributary	The confluence with Penwood Branch	Approximately 750 feet upstream of East Presnell Street	City of Asheboro
Richland Creek	Approximately 950 feet upstream of Old NC Highway 13	Approximately 260 feet downstream of confluence of Vestal Creek	Randolph County (Unincorporated Areas)
Vestal Creek	The confluence of Vestal Creek Tributary 3	Approximately 1.0 mile upstream of Confluence of Vestal Creek Tributary 1	City of Asheboro, Randolph County (Unincorporated Areas)
Vestal Creek Tributary 1	The confluence with Vestal Creek	Approximately 75 feet upstream of Foster Street	City of Asheboro

Table 6—Flooding Sources Studied by Detailed Methods: Redelineated

Source	Riverine Sources		Affected Communities
	From	To	
Vestal Creek Tributary 2	The confluence with Vestal Creek Tributary 3	Approximately 580 feet upstream of Pine Grove Drive	City of Asheboro
Vestal Creek Tributary 3	The confluence with Vestal Creek	The confluence of Vestal Creek Tributary 2	City of Asheboro

* Revised to reflect backwater effects from new detailed study

Table 7, "Flooding Sources Studied by Detailed Methods: Limited Detailed" contains a list of flooding sources that were studied by approximate methods in previous FISs but were revised using limited detailed methods for this FIS.

Table 7—Flooding Sources Studied by Detailed Methods: Limited Detailed

Source	Riverine Sources		Affected Communities
	From	To	
Asheworth Branch	The Randolph/Montgomery County boundary	Approximately 215 feet upstream of King Drive	Randolph County (Unincorporated Areas)
Bachelor Creek	The confluence with Richland Creek	Approximately 0.5 mile upstream of confluence of Bachelor Creek Tributary 5	Randolph County (Unincorporated Areas)
Bachelor Creek Tributary 1	The confluence with Bachelor Creek	Approximately 480 feet upstream of Osborn Mill Road	Randolph County (Unincorporated Areas)
Bachelor Creek Tributary 2	The confluence with Bachelor Creek	Approximately 0.7 mile upstream of confluence with Bachelor Creek	Randolph County (Unincorporated Areas)
Bachelor Creek Tributary 3	The confluence with Bachelor Creek	Approximately 0.8 mile upstream of Bachelor Creek Road	Randolph County (Unincorporated Areas)
Bachelor Creek Tributary 4	The confluence with Bachelor Creek	Approximately 0.4 mile upstream of confluence with Bachelor Creek	Randolph County (Unincorporated Areas)
Bachelor Creek Tributary 5	The confluence with Bachelor Creek	Approximately 0.5 mile upstream of confluence with Bachelor Creek	Randolph County (Unincorporated Areas)

Table 7—Flooding Sources Studied by Detailed Methods: Limited Detailed

Source	Riverine Sources		Affected Communities
	From	To	
Back Creek	The confluence with Caraway Creek	Approximately 110 feet upstream of the confluence with Back Creek Tributary 1	City of Asheboro, Randolph County (Unincorporated Areas)
Back Creek Tributary 1	The confluence with Back Creek	Approximately 0.5 mile upstream of Heath Dairy Road (SR 1511)	Randolph County (Unincorporated Areas)
Back Creek Tributary 1A	The confluence with Back Creek Tributary 1	Approximately 0.2 mile upstream of the confluence with Back Creek Tributary 1	Randolph County (Unincorporated Areas)
Betty McGees Creek	The confluence with Uwharrie River	Approximately 3.7 miles upstream of Lassiter Mill Road (SR 1107)	Randolph County (Unincorporated Areas)
Big Branch	The confluence with Little River	Approximately 0.7 mile upstream of the confluence with Little River	Randolph County (Unincorporated Areas)
Blood Run Creek	At the confluence with Brush Creek	At the Randolph/Chatham County boundary	Randolph County (Unincorporated Areas)
Boodom Creek	The confluence with Sandy Creek	Approximately 0.6 mile upstream of Unnamed Road	Randolph County (Unincorporated Areas)
Boodom Creek Tributary 1	The confluence with Boodom Creek	Approximately 2.1 miles upstream of the confluence with Boodom Creek	Randolph County (Unincorporated Areas)
Boodom Creek Tributary 2	The confluence with Boodom Creek	Approximately 480 feet upstream of Troy Estate Road	Town of Liberty Randolph County (Unincorporated Areas)
Brier Creek	The confluence with Little Uwharrie River	The Davidson/Randolph County boundary	Randolph County (Unincorporated Areas)
Brier Creek Tributary 1	The confluence with Brier Creek	Approximately 1,035 feet upstream of Hughes Grove Road (SR 1400)	Randolph County (Unincorporated Areas)
Brush Creek	The confluence with Deep River	The Randolph/Chatham County boundary	Randolph County (Unincorporated Areas)
Brush Creek Tributary 1	The confluence with Brush Creek	Approximately 630 feet upstream of Browns Crossroads Road	Randolph County (Unincorporated Areas)

Table 7—Flooding Sources Studied by Detailed Methods: Limited Detailed

Source	Riverine Sources		Affected Communities
	From	To	
Bush Creek	The confluence with Deep River	Approximately 0.4 mile upstream of Old Liberty Road	Town of Franklinville, Randolph County (Unincorporated Areas)
Bush Creek Tributary	The confluence with Bush Creek	Approximately 0.7 mile upstream of Whites Memorial Road	Randolph County (Unincorporated Areas)
Cable Creek	The confluence with Back Creek	Approximately 1.3 miles upstream of confluence with Back Creek	Randolph County (Unincorporated Areas)
Caraway Creek	The confluence with Uwharrie River	Approximately 225 feet downstream of Beckerdite Road (SR 1524)	Randolph County (Unincorporated Areas)
Caraway Creek Tributary 1	The confluence with Caraway Creek	Approximately 1.0 mile upstream of Sawyer Road	Randolph County (Unincorporated Areas)
Caraway Creek Tributary 2	The confluence with Caraway Creek	Approximately 1,300 feet upstream of Beeson Farm Road (SR 1525)	Randolph County (Unincorporated Areas)
Caraway Creek Tributary 3	The confluence with Caraway Creek	Approximately 0.4 mile upstream of the confluence with Caraway Creek	Randolph County (Unincorporated Areas)
Deep River (lower)	The Randolph/Moore County boundary	Approximately 350 feet upstream of confluence of Reed Creek	Randolph County (Unincorporated Areas)
Deep River (upper)	The confluence of Hasketts Creek	The Randolph/Guilford County boundary	City of Randleman, Randolph County (Unincorporated Areas)
Deep River Tributary 15	The confluence with Deep River	Approximately 1,160 feet upstream of US Highway 64	Town of Ramseur, Randolph County (Unincorporated Areas)
Deep River Tributary 16	The confluence with Deep River	Approximately 1.8 miles upstream of NC 22	Town of Ramseur, Randolph County (Unincorporated Areas)

Table 7—Flooding Sources Studied by Detailed Methods: Limited Detailed

Source	Riverine Sources		Affected Communities
	From	To	
Deep River Tributary 17	The confluence with Deep River	Approximately 0.9 mile upstream of US Highway 64	Town of Franklinville, Randolph County (Unincorporated Areas)
Deep River Tributary 18	The confluence with Deep River	Approximately 0.5 mile upstream of Depot Street	Town of Franklinville
Deep River Tributary 19	The confluence with Deep River Tributary 18	Approximately 0.4 mile upstream of Clark Avenue	Town of Franklinville
Deep River Tributary 20	The confluence with Deep River	Approximately 1,320 feet upstream of Worthville Street	City of Randleman
Deep River Tributary 21	The confluence with Deep River	Approximately 0.4 mile upstream of Sunset Drive	City of Randleman
Deep River Tributary 22	The confluence with Deep River Tributary 21	Approximately 0.7 mile upstream of Bowman Avenue	City of Randleman
Deep River Tributary 23	The confluence with Deep River Tributary 22	Approximately 0.2 mile upstream of Brookwood Acres Drive	City of Randleman
Deep River Tributary 24	The confluence with Deep River	Approximately 0.9 mile upstream of Business 220	City of Randleman, Randolph County (Unincorporated Areas)
Deep River Tributary 26	The confluence with Deep River	The Randolph/Guilford County boundary	Randolph County (Unincorporated Areas)
Dodsons Lake	The confluence with Sandy Creek	Approximately 0.4 mile upstream of Julian Airport Road	Randolph County (Unincorporated Areas)
Dodsons Lake 2	The confluence with Dodsons Lake	Approximately 0.3 mile upstream of confluence with Dodsons Lake	Randolph County (Unincorporated Areas)
Dodsons Lake Tributary 1	The confluence with Dodsons Lake	Approximately 420 feet upstream of Upper Three Lakes Dam	Randolph County (Unincorporated Areas)
Fork Creek	The confluence with Deep River	Approximately 2.3 miles upstream of confluence of Fork Creek Tributary 1	Randolph County (Unincorporated Areas)
Fork Creek Tributary 1	The confluence with Fork Creek	Approximately 400 feet upstream of Seagrove Plank Road	Randolph County (Unincorporated Areas)

Table 7—Flooding Sources Studied by Detailed Methods: Limited Detailed

Source	Riverine Sources		Affected Communities
	From	To	
Fork Creek Tributary 2	The confluence with Fork Creek Tributary 1	Approximately 2.0 miles upstream of Angel Fire Trail	Randolph County (Unincorporated Areas)
Fork Creek Tributary 3	The confluence with Fork Creek Tributary 1	Approximately 1.6 miles upstream of confluence with Fork Creek Tributary 1	Town of Seagrove, Randolph County (Unincorporated Areas)
Gabriels Creek	The confluence with Deep River	Approximately 480 feet upstream of Green Valley Road	City of Asheboro, Randolph County (Unincorporated Areas)
Gabriels Creek Tributary 1	The confluence with Gabriels Creek	Approximately 0.4 mile upstream of Old Cedar Falls Road	City of Asheboro, Randolph County (Unincorporated Areas)
Gabriels Creek Tributary 2	The confluence with Gabriels Creek	Approximately 0.7 mile upstream of Henley Country Road	City of Asheboro, Randolph County (Unincorporated Areas)
Hannahs Creek	The confluence with Uwharrie River	Approximately 0.6 mile upstream of the confluence of Robbins Branch	Randolph County (Unincorporated Areas)
Hasketts Creek	Approximately 400 feet downstream of confluence of Hasketts Creek Tributary 2	Approximately 1,270 feet upstream of West Presnell Street	City of Asheboro, Randolph County (Unincorporated Areas)
Hasketts Creek Tributary 1	Northwood Drive	Approximately 420 feet upstream of McKnight Street	City of Asheboro
Hasketts Creek Tributary 2	The confluence with Hasketts Creek	Approximately 50 feet upstream of Railroad Street	City of Asheboro
Jackson Creek	The confluence with Uwharrie River	Approximately 0.7 mile upstream of Jackson Creek Road (SR 1314)	Randolph County (Unincorporated Areas)
Kings Creek	The confluence with Little River	Approximately 1.4 miles upstream of the confluence with Little River	Randolph County (Unincorporated Areas)
Lakes Creek	The confluence with Uwharrie River	Approximately 0.4 mile upstream of the confluence with Uwharrie River	Randolph County (Unincorporated Areas)

Table 7—Flooding Sources Studied by Detailed Methods: Limited Detailed

Source	Riverine Sources		Affected Communities
	From	To	
Lambert Creek	The confluence with Fork Creek	Approximately 0.7 mile upstream of confluence with Fork Creek	Randolph County (Unincorporated Areas)
Laniers Creek	The confluence with Uwharrie River	Approximately 150 feet downstream of Farm Road (SR 1262)	Randolph County (Unincorporated Areas)
Little Brush Creek	The confluence with Brush Creek	The Randolph/Chatham boundary	Randolph County (Unincorporated Areas)
Little Caraway Creek	The confluence with Caraway Creek	Approximately 1.9 miles upstream of the confluence of Little Caraway Creek Tributary 1	Randolph County (Unincorporated Areas)
Little Caraway Creek Tributary 1	The confluence with Little Caraway Creek	Approximately 0.9 mile upstream of the confluence with Little Caraway Creek	Randolph County (Unincorporated Areas)
Little River	The Randolph/Montgomery County boundary	Approximately 0.5 mile upstream of Southmont Drive (SR 1145)	Randolph County (Unincorporated Areas)
Little River Tributary 2	The confluence with Little River	Approximately 0.5 mile upstream of the confluence with Little River	Randolph County (Unincorporated Areas)
Little River Tributary 3	The confluence with Little River	Approximately 0.5 mile upstream of the confluence with Little River	Randolph County (Unincorporated Areas)
Little River Tributary 4	The confluence with Little River	Approximately 1,210 feet upstream of the confluence with Little River	Randolph County (Unincorporated Areas)
Little River Tributary 5	The confluence with Little River	Approximately 1,825 feet upstream of NC Highway 134	Randolph County (Unincorporated Areas)
Little River Tributary 6	The confluence with Little River	Approximately 1,415 feet upstream of the confluence with Little River	Randolph County (Unincorporated Areas)
Little River Tributary 7	The confluence with Little River	Approximately 1,190 feet upstream of the confluence with Little River	Randolph County (Unincorporated Areas)

Table 7—Flooding Sources Studied by Detailed Methods: Limited Detailed

Source	Riverine Sources		Affected Communities
	From	To	
Little River Tributary 8	The confluence with Little River	Approximately 1,870 feet upstream of the confluence with Little River	Randolph County (Unincorporated Areas)
Little River Tributary 9	The confluence with Little River	Approximately 1,375 feet upstream of the confluence with Little River	Randolph County (Unincorporated Areas)
Little River Tributary 10	The confluence with Little River	Approximately 1,645 feet upstream of the confluence with Little River	Randolph County (Unincorporated Areas)
Little River Tributary 11	The confluence with Little River	Approximately 1,340 feet upstream of the confluence with Little River	Randolph County (Unincorporated Areas)
Little River Tributary 12	The confluence with Little River	Approximately 230 feet upstream of US 220	Randolph County (Unincorporated Areas)
Little Uwharrie River	The confluence with Uwharrie River	Approximately 120 feet upstream of the confluence of Brier Creek	Randolph County (Unincorporated Areas)
Little Uwharrie River Tributary 1	The confluence with Little Uwharrie River	Approximately 0.4 mile upstream of the confluence with Little Uwharrie River	Randolph County (Unincorporated Areas)
Little Uwharrie River Tributary 4	The confluence with Little Uwharrie River	Approximately 880 feet upstream of Courtland Drive (SR 3253)	Randolph County (Unincorporated Areas)
Little Uwharrie River Tributary 5	The confluence with Little Uwharrie River	Approximately 90 feet upstream of Refuge Church Drive	Randolph County (Unincorporated Areas)
Little Uwharrie River Tributary 6	The confluence with Little Uwharrie River	Approximately 0.7 mile upstream of the confluence with Little Uwharrie River	Randolph County (Unincorporated Areas)
Little Uwharrie River Tributary 6A	The confluence with Little Uwharrie River Tributary 6	Approximately 0.5 mile upstream of the confluence with Little Uwharrie River Tributary 6	Randolph County (Unincorporated Areas)

Table 7—Flooding Sources Studied by Detailed Methods: Limited Detailed

Source	Riverine Sources		Affected Communities
	From	To	
Little Uwharrie River Tributary 7	The confluence with Little Uwharrie River	Approximately 1,220 feet upstream of Finch Farm Road (SR 1547)	City of Trinity, Randolph County (Unincorporated Areas)
Little Uwharrie River Tributary 8	The confluence with Little Uwharrie River	Approximately 1.0 mile upstream of the confluence with Little Uwharrie River	City of Trinity, Randolph County (Unincorporated Areas)
Little Uwharrie River Tributary 8A	The confluence with Little Uwharrie River Tributary 8	Approximately 0.6 mile upstream of the confluence with Little Uwharrie River Tributary 8	City of Trinity, Randolph County (Unincorporated Areas)
Little Uwharrie River Tributary 10	The confluence with Little Uwharrie River	The Davidson/Randolph County boundary	City of Trinity, Randolph County (Unincorporated Areas)
Little Uwharrie River Tributary 10A	The confluence with Little Uwharrie River Tributary 10	Approximately 0.7 mile upstream of the confluence with Little Uwharrie River Tributary 10	City of Trinity, Randolph County (Unincorporated Areas)
Little Uwharrie River Tributary 11	The confluence with Little Uwharrie River	The Davidson/Randolph County boundary	City of Trinity
Little Uwharrie River Tributary 11A	The confluence with Little Uwharrie River Tributary 11	The Davidson/Randolph County boundary	City of Trinity
Mile Branch Tributary 1	Approximately 950 feet upstream of the confluence with Mile Branch	Approximately 1,500 feet upstream of the confluence of Mile Branch Tributary 2	City of Archdale
Mile Branch Tributary 2	At the confluence with Mile Branch Tributary 1	Approximately 1,745 feet upstream of confluence with Mile Branch Tributary 1	City of Archdale
Mill Creek (into Uwharrie River)	The confluence with Uwharrie River	Approximately 390 feet upstream of Lassiter Mill Road (SR 1107)	Randolph County (Unincorporated Areas)
Mill Creek (into Deep River)	Approximately 1.0 mile upstream of Iron Mountain View Road	Approximately 1.0 mile upstream of Iron Mountain Road	Randolph County (Unincorporated Areas)

Table 7—Flooding Sources Studied by Detailed Methods: Limited Detailed

Source	Riverine Sources		Affected Communities
	From	To	
Mill Creek Tributary 1	The confluence with Mill Creek (into Deep River)	Approximately 0.3 mile upstream of Woods Stream Lane	Randolph County (Unincorporated Areas)
Mill Creek Tributary 2	The confluence with Mill Creek (into Deep River)	Approximately 0.8 mile upstream of confluence of Mill Creek Tributary 3	Randolph County (Unincorporated Areas)
Mill Creek Tributary 3	The confluence with Mill Creek Tributary 2	Approximately 0.5 mile upstream of Dam	Randolph County (Unincorporated Areas)
Mill Creek Tributary 4	The confluence with Mill Creek (into Uwharrie River)	Approximately 0.9 mile upstream of Creekway Ridge	Randolph County (Unincorporated Areas)
Millstone Creek	The confluence with Deep River	Approximately 0.4 mile upstream of Lee Layne Road	Randolph County (Unincorporated Areas)
Mount Pleasant Creek	The confluence with Sandy Creek	Approximately 0.7 mile upstream of Land Estates Drive	Randolph County (Unincorporated Areas)
Muddy Creek	The confluence with Deep River	Approximately 0.5 mile upstream of confluence of Taylor Branch	Randolph County (Unincorporated Areas)
Muddy Creek East Tributary	Approximately 210 feet upstream of Liberty Road	Just upstream of Baker Road	City of Archdale
Muddy Creek East Tributary 2	The confluence with Muddy Creek East Tributary	Approximately 450 feet upstream of Interstate 85	City of Archdale
Muddy Creek East Tributary 3	The confluence with Muddy Creek East Tributary 2	Approximately 1,500 feet upstream of Interstate 85	City of Archdale
Muddy Creek East Tributary 4	The confluence with Muddy Creek East Tributary	Just upstream of Ashland Street	City of Archdale
Muddy Creek East Tributary 5	The confluence with Muddy Creek East Tributary 4	Approximately 1,200 feet upstream of the Randolph/Guilford County boundary	City of Archdale
Muddy Creek East Tributary 6	The confluence with Muddy Creek East Tributary 4	Approximately 1,050 feet upstream of Liberty Road	City of Archdale
Muddy Creek Tributary	The confluence with Muddy Creek	Approximately 0.7 mile upstream of Walnut Tree Lane	Randolph County (Unincorporated Areas)

Table 7—Flooding Sources Studied by Detailed Methods: Limited Detailed

Source	Riverine Sources		Affected Communities
	From	To	
Nanny Branch	The confluence with Laniers Creek	Approximately 1,275 feet upstream of the confluence with Laniers Creek	Randolph County (Unincorporated Areas)
Narrows Branch	The confluence with Uwharrie River	Approximately 0.4 mile upstream of the confluence with Uwharrie River	Randolph County (Unincorporated Areas)
North Prong Creek	The Randolph/Alamance County boundary	Approximately 1,210 feet upstream of Unnamed Road	Town of Liberty
North Prong Richland Creek	The confluence with Richland Creek	Approximately 1,430 feet upstream of Staleys Farm Road	Randolph County (Unincorporated Areas)
North Prong Richland Creek Tributary	The confluence with North Prong Richland Creek	Approximately 370 feet upstream of Tall Pine Street	Randolph County (Unincorporated Areas)
North Prong Rocky River	The Randolph/Alamance County boundary	Approximately 210 feet upstream of South Cook Street	Town of Liberty
Penwood Branch	Approximately 1,320 feet downstream of East Presnell Street	Approximately 1,690 feet upstream of Glenwood Road	City of Asheboro
Polecat Creek Tributary 4	Approximately 260 feet downstream of confluence of Polecat Creek Tributary 5	The Randolph/Guilford County boundary	Randolph County (Unincorporated Areas)
Reed Creek (into Little River)	The confluence with Little River	Approximately 0.8 miles upstream of Burney Road (SR 1127)	Randolph County (Unincorporated Areas)
Reed Creek (into Deep River)	The confluence with Deep River	Approximately 0.9 mile upstream of Wright Country Road	Town of Ramseur, Randolph County (Unincorporated Areas)
Reed Creek Tributary 1	The confluence with Reed Creek (into Deep River)	Approximately 0.8 mile upstream of confluence with Reed Creek (into Deep River	Randolph County (Unincorporated Areas)
Reed Creek Tributary 2	The confluence with Reed Creek (into Deep River)	Approximately 0.4 mile upstream of US Highway 64	Randolph County (Unincorporated Areas)
Reedy Creek	The confluence with Little River	Approximately 1,870 feet upstream of the confluence with Little River	Randolph County (Unincorporated Areas)

Table 7—Flooding Sources Studied by Detailed Methods: Limited Detailed

Source	Riverine Sources		Affected Communities
	From	To	
Reedy Fork	The confluence with Brush Creek	The Randolph/Chatham County boundary	Randolph County (Unincorporated Areas)
Richland Creek (lower)	The confluence with Deep River	Approximately 950 feet upstream of Old NC Highway 13	Randolph County (Unincorporated Areas)
Richland Creek (upper)	Approximately 260 feet downstream of confluence of Vestal Creek	The confluence of North and South Prong Richland Creek	Randolph County (Unincorporated Areas)
Robbins Branch	The confluence with Hannahs Creek	Approximately 1,345 feet upstream of the confluence with Hannahs Creek	Randolph County (Unincorporated Areas)
Rocky River	The Randolph/Chatham County boundary	Approximately 0.4 mile upstream of Dam	Town of Liberty, Randolph County (Unincorporated Areas)
Rocky River Tributary 2	The confluence with Rocky River	Approximately 1.3 miles upstream of Overman Road Dam	Town of Liberty, Randolph County (Unincorporated Areas)
Rocky River Tributary 3	The confluence with Rocky River	Approximately 790 feet upstream of Old US 421	Town of Liberty, Randolph County (Unincorporated Areas)
Rocky River Tributary 4	The confluence with Rocky River	Approximately 1,000 feet upstream of Dam	Town of Liberty
Sand Branch	The confluence with Laniers Creek	Approximately 1,490 feet upstream of the confluence with Laniers Creek	Randolph County (Unincorporated Areas)
Sandy Creek	The confluence with Deep River	Approximately 0.3 mile upstream of confluence with Sandy Creek Tributary 11	Town of Franklinville, Randolph County (Unincorporated Areas)
Sandy Creek Tributary 1	The confluence with Sandy Creek	Approximately 1.2 miles upstream of confluence with Sandy Creek	Randolph County (Unincorporated Areas)
Sandy Creek Tributary 2	The confluence with Sandy Creek	Approximately 2.0 miles upstream of US HWY 421	Town of Liberty, Randolph County (Unincorporated Areas)

Table 7—Flooding Sources Studied by Detailed Methods: Limited Detailed

Source	Riverine Sources		Affected Communities
	From	To	
Sandy Creek Tributary 3	The confluence with Sandy Creek	Approximately 1.8 miles upstream of York Martin Road	Town of Liberty, Randolph County (Unincorporated Areas)
Sandy Creek Tributary 4	The confluence with Sandy Creek Tributary 3	Approximately 1.2 miles upstream of confluence of Sandy Creek Tributary 3	Randolph County (Unincorporated Areas)
Sandy Creek Tributary 5	The confluence with Sandy Creek Tributary 3	Approximately 1.5 miles upstream of Bunton Swaim Road	Town of Liberty, Randolph County (Unincorporated Areas)
Sandy Creek Tributary 6	The confluence with Sandy Creek Tributary 5	Approximately 1,320 feet upstream of Dam	Town of Liberty, Randolph County (Unincorporated Areas)
Sandy Creek Tributary 7	The confluence with Sandy Creek	Approximately 1.7 miles upstream of Starmount Road	Randolph County (Unincorporated Areas)
Sandy Creek Tributary 8	The confluence with Sandy Creek	Approximately 2.2 miles upstream of Randolph Church Road	Randolph County (Unincorporated Areas)
Sandy Creek Tributary 9	The confluence with Sandy Creek	Approximately 1.4 miles upstream of Hollow Hill Road	Randolph County (Unincorporated Areas)
Sandy Creek Tributary 10	The confluence with Sandy Creek	Approximately 0.3 mile upstream of Greeson Country Road	Randolph County (Unincorporated Areas)
Sandy Creek Tributary 11	The confluence with Sandy Creek	Approximately 900 feet upstream of confluence with Sandy Creek	Randolph County (Unincorporated Areas)
Second Creek	The confluence with Uwharrie River	Approximately 0.8 mile upstream of the confluence of Second Creek Tributary 3	Randolph County (Unincorporated Areas)
Second Creek Tributary 1	The confluence with Second Creek	Approximately 1,530 feet upstream of the confluence with Second Creek	Randolph County (Unincorporated Areas)
Second Creek Tributary 2	The confluence with Second Creek	Approximately 0.5 mile upstream of confluence with Second Creek	Randolph County (Unincorporated Areas)
Second Creek Tributary 2A	The confluence with Second Creek Tributary 2	Approximately 1,900 feet upstream of Salem Church Road (SR 1304)	Randolph County (Unincorporated Areas)

Table 7—Flooding Sources Studied by Detailed Methods: Limited Detailed

Source	Riverine Sources		Affected Communities
	From	To	
Second Creek Tributary 3	The confluence with Second Creek	Approximately 0.2 mile upstream of Bombay School Road (SR 1178)	Randolph County (Unincorporated Areas)
Silver Run Creek	The confluence with Uwharrie River	Approximately 275 feet upstream of Lassiter Mill Road (SR 1107)	Randolph County (Unincorporated Areas)
Simmons Branch	The confluence with Deep River	Approximately 0.3 mile upstream of Old Walker Mill Road Ext	City of Randleman, Randolph County (Unincorporated Areas)
South Fork Jackson Creek	The confluence with Jackson Creek	Approximately 1.4 miles upstream of the confluence with Jackson Creek	Randolph County (Unincorporated Areas)
South Prong Little River	The confluence with Little River	Approximately 0.5 mile upstream of the confluence with Little River	Randolph County (Unincorporated Areas)
South Prong Richland Creek	The confluence with Richland Creek	Approximately 0.5 mile upstream of Ross Harris Road	Randolph County (Unincorporated Areas)
South Prong Stinking Quarter Creek	The Randolph/Guilford County boundary	Approximately 0.5 mile upstream of Redbud Lane	Town of Liberty, Randolph County (Unincorporated Areas)
Stinking Quarter Creek Tributary 3	The Randolph/Guilford County boundary	Approximately 1.0 mile upstream of Richland Church Road	Randolph County (Unincorporated Areas)
Taylor Branch	The confluence with Muddy Creek	Approximately 1,110 feet upstream of Tuttle Road	Randolph County (Unincorporated Areas)
Toms Creek	The confluence with Uwharrie River	Approximately 1.3 miles upstream of Richey Road (SR 1306)	Randolph County (Unincorporated Areas)
Twomile Branch	The confluence with Second Creek	Approximately 1,990 feet upstream of the confluence with Second Creek	Randolph County (Unincorporated Areas)
Twomile Creek	The confluence with Uwharrie River	Approximately 1,970 feet upstream of the confluence with Uwharrie River	Randolph County (Unincorporated Areas)

Table 7—Flooding Sources Studied by Detailed Methods: Limited Detailed

Source	Riverine Sources		Affected Communities
	From	To	
Uwharrie River (Downstream)	The Montgomery/Randolph County boundary	Approximately 140 feet downstream of Uwharrie River Tributary 9	City of Asheboro, City of Trinity, Randolph County (Unincorporated Areas)
Uwharrie River (Upstream)	Approximately 350 feet downstream of Mendenhall Road	Approximately 130 feet upstream of Old Mendenhall Road (SR 1616)	City of Trinity, Randolph County (Unincorporated Areas)
Uwharrie River Tributary 1	The confluence with Uwharrie River	Approximately 1,050 feet upstream of the confluence with Uwharrie River	Randolph County (Unincorporated Areas)
Uwharrie River Tributary 2	The confluence with Uwharrie River	Approximately 0.6 mile upstream of the confluence with Uwharrie River	Randolph County (Unincorporated Areas)
Uwharrie River Tributary 3	The confluence with Uwharrie River	Approximately 1,890 feet upstream of the confluence with Uwharrie River	Randolph County (Unincorporated Areas)
Uwharrie River Tributary 4	The confluence with Uwharrie River	Approximately 0.7 mile upstream of the confluence with Uwharrie River	Randolph County (Unincorporated Areas)
Uwharrie River Tributary 5	The confluence with Uwharrie River	Approximately 1,660 feet upstream of Garren Town Road (SR 1332)	Randolph County (Unincorporated Areas)
Uwharrie River Tributary 6	The confluence with Uwharrie River	Approximately 335 feet upstream of Skeens Mill Road (SR 1550)	Randolph County (Unincorporated Areas)
Uwharrie River Tributary 7	The confluence with Uwharrie River	Approximately 0.4 mile upstream of Sumner Road (SR 1546)	Randolph County (Unincorporated Areas)
Uwharrie River Tributary 8	The confluence with Uwharrie River	Approximately 190 feet upstream of Alexandria Drive	Randolph County (Unincorporated Areas)
Uwharrie River Tributary 8A	The confluence with Uwharrie River Tributary 8	Approximately 0.8 mile upstream of the confluence with Uwharrie River Tributary 8	City of Archdale, Randolph County (Unincorporated Areas)

Table 7—Flooding Sources Studied by Detailed Methods: Limited Detailed

Source	Riverine Sources		Affected Communities
	From	To	
Uwharrie River Tributary 9	The confluence with Uwharrie River	Approximately 0.9 mile upstream of Red Fox Road	City of Trinity, Randolph County (Unincorporated Areas)
Vestal Creek	The confluence with Richland Creek	The confluence of Vestal Creek Tributary 3	City of Asheboro, Randolph County (Unincorporated Areas)
Vestal Creek Tributary 3	The confluence of Vestal Creek Tributary 2	Approximately 0.7 mile upstream of Browers Chapel Road	City of Asheboro
Wagners Branch	The confluence with Little River	Approximately 290 feet upstream of Borough Avenue	Randolph County (Unincorporated Areas)
Walkers Creek	The confluence with Uwharrie River	Approximately 1,775 feet upstream of the confluence with Uwharrie River	Randolph County (Unincorporated Areas)
Wesley Dean Branch	The confluence with Little River	Approximately 0.8 mile upstream of the confluence with Little River	Randolph County (Unincorporated Areas)
West Fork Little River	The Randolph/Montgomery County boundary	Approximately 850 feet upstream of Mt. Lebanon Road (SR 1111)	Randolph County (Unincorporated Areas)
West Fork Little River Tributary 1	The confluence with West Fork Little River	Approximately 0.4 mile upstream of the confluence with West Fork Little River	Randolph County (Unincorporated Areas)
West Fork Little River Tributary 2	The confluence with West Fork Little River	Approximately 1,620 feet upstream of the confluence with West Fork Little River	Randolph County (Unincorporated Areas)
West Fork Little River Tributary 3	The confluence with West Fork Little River	Approximately 1,320 feet upstream of the confluence with West Fork Little River	Randolph County (Unincorporated Areas)
West Fork Little River Tributary 4	The confluence with West Fork Little River	Approximately 1,335 feet upstream of the confluence with West Fork Little River	Randolph County (Unincorporated Areas)

Table 7—Flooding Sources Studied by Detailed Methods: Limited Detailed

Source	Riverine Sources		Affected Communities
	From	To	
West Fork Little River Tributary 5	The confluence with West Fork Little River	Approximately 1,010 feet upstream of the confluence with West Fork Little River	Randolph County (Unincorporated Areas)

For the flooding sources studied in detail in the county, standard hydrologic and hydraulic methods were used to determine the flood hazard data required for this FIS.

5.1 Hydrologic Analyses

Hydrologic analyses were carried out to establish the peak discharge-frequency relationship for each flooding source studied in detail affecting the county.

Pre-Countywide Analyses

Each jurisdiction within Randolph County, with the exceptions of the Town of Franklinville, the Town of Liberty, the Town of Ramseur, the City of Randleman, the Town of Seagrove, and the City of Trinity, had previously printed FIS Reports describing each community's hydrologic analyses. Those analyses have been compiled from the FIS Reports and are summarized below. These analyses remain valid for those flooding sources listed in Table 6, "Flooding Sources Studied by Detailed Methods: Redelineated."

Because no onsite gage data were available for each flooding source studied in detail in Randolph County (Unincorporated Areas), the City of Archdale, and the City of Asheboro, the log-Pearson Type III method, as recommended by the U.S. Water Resources Council, was not directly applicable (U.S. Water Resources Council, 1977). However, offsite gage data in the vicinity of the study area were available for use in projecting onsite peak-flow frequency information for each flooding source. Two independent methods of projection were developed for the determination of flood discharges on Richland and Muddy Creeks.

In the first method, regional formulas for the Piedmont province of North Carolina were used in conjunction with the floodflow frequency information obtained from offiste gage data in the vicinity of the study area to develop a drainage area-unit discharge (discharge per unit acre) relationship for each flooding source (U.S. Department of the Interior, 1976).

In the second method, synthetic values of the three statistical parameters were used to define a synthetic log-Pearson Type III curve for each flooding source. As functions of the drainage area, these statistical parameters were developed from eight offsite gage stations in the surrounding area developed by the U.S. Geological Survey (Federal Insurance Administration, et. al., 1978).

Estimated values of flow-frequency curves from the above two methods were weighted to arrive at final flows of the 10%, 2%, and 1% annual chance floods for each flooding source. The 0.2% annual chance flood peak flows were obtained by plotting the 10%, 2% and 1% annual chance flood peak flows on log-probability paper and extrapolating to the 0.2% annual chance flood frequency.

Revised Analyses for Countywide FIS

The hydrologic analyses for the Cape Fear River basin, except for flooding sources with stream gages, were performed using the urban and rural regression equations developed by the USGS. The urban equations were published in "Estimation of Flood-Frequency Characteristics of Small Urban Streams in North Carolina," Water Resources Investigations Report 96-4084 (U.S. Department of the Interior, 1996). The rural equations were published in "Estimating the Magnitude and Frequency of Floods in Rural Basins in North Carolina, - Revised," Water Resources Investigations Report 01-4207 (U.S. Department of the Interior, 2001). Regression equations are mathematical formulas that relate the flow in the stream to physical factors such as the area of the basin and the percentage of the surface that is impervious (paved). A number of

basins for the detailed and limited detailed study streams in the Cape Fear portion of Randolph County, such as the City of Asheboro and the City of Randleman, contained sufficient urbanization to require application of the USGS North Carolina urban equations. Percents imperviousness for these basins were estimated using a combination of digital orthophotographic data and street centerline data. Regression equations are developed by fitting a line through the center of the points on a graph that compares flood flows to basin area. The results reflect the "statistical average" of the data. If a gage station is located on the stream being studied, data from that station can be used to adjust the regression results to more accurately estimate the flood flow. There are three separate regional regression equations that cover North Carolina. Randolph County is located in the hydrologic regions known as the Piedmont region and Coastal Plain region. The regression equation was used to estimate the 1% annual chance flow for the streams in Randolph County. Analyses of historical high-water marks obtained from interviews of county residents were used to confirm the accuracy of the regression equation estimates. The basin delineations and drainage areas were determined using a 50' x 50' grid size digital elevation model (DEM) generated from the Light Detection and Ranging (LIDAR) data collected and processed as part of the study.

A number of basins for the detail and limited detail study streams in Yadkin River Basin portion of Randolph County contained sufficient urbanization to require application of the USGS North Carolina urban equations. Percents imperviousness for these basins were estimated using a combination of digital orthophotographic data and street centerline data. The recurrence interval discharges presented in this report for streams draining these urbanized basins were computed using the USGS North Carolina urban regression equations for the Piedmont hydrologic region. The recurrence interval discharges for all other streams in Yadkin River Basin portion of Randolph County were determined using the USGS North Carolina rural regression equations for the Piedmont hydrologic area.

There are no active or discontinued USGS stream gages in Yadkin River Basin portion of Randolph County. There is, however, a USGS stream gage on the Uwharrie River in Montgomery County, downstream of Randolph County. Data from this gage was used to adjust and verify discharge estimates on the Uwharrie River in Randolph County.

Drainage areas developed using the 50' x 50' DEM often differ from published values at USGS gage locations. Such differences are usually the result of the difference in resolution of the base terrain data used to delineated drainage boundaries. In North Carolina, published USGS drainage areas have usually been determined by manual delineation using 1:24,000 or 1:62,500 scale topographic maps. Differences between computed and published drainage areas are generally less than 10% for USGS gages. In order to maintain consistency, drainage areas computed from the 50' x 50' DEM were used in all analyses in this study.

A summary of the drainage area-peak discharge relationships for the flooding sources studied by detailed methods is shown in Table 8, "Summary of Discharges."

Table 8—Summary of Discharges

Flooding Source	Location	Drainage Area *(square miles)*	Discharges *(cfs)*			
			10% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
Asheworth Branch	Randolph/ Montgomery County Boundary	2.07	*	*	1,174	*
Bachelor Creek	At the confluence with Richland Creek	10.5	*	*	3,242	*
	Approximately 0.5 mile upstream of Little Beane Store Road	10.4	*	*	3,211	*
	Approximately 1,840 feet downstream of Osborn Mill Road	9.4	*	*	3,015	*
	At the confluence of Bachelor Creek Tributary 1	8.8	*	*	2,905	*
	Approximately 940 feet downstream of Woodfern Road	7.9	*	*	2,706	*
	At the confluence of Bachelor Creek Tributary 2	6.9	*	*	2,497	*
	At the confluence of Bachelor Creek Tributary 3	6.0	*	*	2,291	*
	Approximately 0.6 mile downstream of Bachelor Creek Road	5.7	*	*	2,201	*
	Approximately 0.5 mile upstream of Bachelor Creek Road	4.8	*	*	1,976	*
	Approximately 0.9 mile downstream of Old NC Hwy 13	3.8	*	*	1,706	*
	Approximately 0.4 mile upstream of Fairview Farm Road	2.8	*	*	1,411	*
	At the confluence of Bachelor Creek Tributary 4	1.9	*	*	1,106	*
	At the confluence of Bachelor Creek Tributary 5	0.8	*	*	627	*
	Approximately 0.5 mile upstream of Bachelor Creek Tributary 5	0.3	*	*	368	*
Bachelor Creek Tributary 1	At the confluence with Bachelor Creek	0.5	*	*	504	*

Table 8—Summary of Discharges

Flooding Source	Location	Drainage Area *(square miles)*	Discharges *(cfs)*			
			10% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
Bachelor Creek Tributary 2	At the confluence with Bachelor Creek	0.8	*	*	643	*
	Approximately 0.5 mile upstream of the confluence with Bachelor Creek	0.6	*	*	544	*
Bachelor Creek Tributary 3	At the confluence with Bachelor Creek	0.7	*	*	579	*
	Approximately 130 feet upstream of Bachelor Creek Road	0.3	*	*	376	*
Bachelor Creek Tributary 4	At the confluence with Bachelor Creek	0.7	*	*	211	*
Bachelor Creek Tributary 5	At the confluence with Bachelor Creek	0.8	*	*	632	*
Back Creek	At the confluence with Caraway Creek	37.9	*	*	7,227	*
	Approximately 0.3 mile upstream of Moore Road	37.0	*	*	7,116	*
	At the confluence of Cable Creek	31.9	*	*	6,487	*
	Approximately 0.5 mile downstream of Stutte Road (SR 1326)	31.5	*	*	6,433	*
	Approximately 0.2 mile upstream of Stutte Road (SR 1326)	31.0	*	*	6,369	*
	Approximately 0.66 mile upstream of Stutte Road (SR 1326)	30.5	*	*	6,307	*
	Approximately 0.14 mile downstream of US Highway 64	28.4	*	*	6,036	*
	Approximately 0.3 mile upstream of US Highway 64	27.2	*	*	5,877	*
	Approximately 0.7 mile downstream of Back Creek Road (SR 1420)	26.5	*	*	5,773	*
	Approximately 0.24 mile downstream of Back Creek Road (SR 1420)	25.3	*	*	5,617	*

Table 8—Summary of Discharges

Flooding Source	Location	Drainage Area *(square miles)*	Discharges *(cfs)*			
			10% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
Back Creek (continued)	At the confluence of Cedar Fork Creek	16.0	*	*	4,208	*
	Approximately 0.25 mile upstream of Old Lexington Road (SR 1004)	14.8	*	*	4,012	*
	Approximately 0.58 mile downstream of Lake Lucas Road (SR 1518)	12.1	*	*	3,533	*
	Approximately 0.35 mile upstream of Lake Lucas Road (SR 1518)	9.9	*	*	3,120	*
	Approximately 0.73 mile upstream of Lake Lucas Road (SR 1518)	9.4	*	*	3,018	*
	Approximately 1.17 miles upstream of Lake Lucas Road (SR 1518)	9.0	*	*	2,949	*
	Approximately 0.92 mile downstream of Spero Road (SR 1504)	7.9	*	*	2,709	*
	Approximately 250 feet upstream of Spero Road (SR 1504)	6.0	*	*	2,282	*
	Approximately 500 feet downstream of Pineview Road	5.5	*	*	2,163	*
Back Creek Tributary 1	At the confluence with Back Creek	2.8	*	*	1,423	*
	At the confluence of Back Creek Tributary 1A	1.2	*	*	824	*
Back Creek Tributary 1A	At the confluence with Back Creek Tributary 1	1.3	*	*	878	*
Betty McGees Creek	At the confluence with Uwharrie River	8.2	*	*	2,778	*
	Approximately 0.10 mile downstream of Lassiter Mill Road (SR 1107)	7.7	*	*	2,671	*
	Approximately 1.22 miles upstream of Lassiter Mill Road (SR 1107)	7.2	*	*	2,557	*
	Approximately 1.93 miles upstream of Lassiter Mill Road (SR 1107)	6.7	*	*	2,445	*

Table 8—Summary of Discharges

Flooding Source	Location	Drainage Area *(square miles)*	Discharges *(cfs)*			
			10% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
Betty McGees Creek (continued)	Approximately 2.49 miles upstream of Lassiter Mill Road (SR 1107)	6.2	*	*	2,331	*
	Approximately 2.68 miles upstream of Lassiter Mill Road (SR 1107)	5.7	*	*	2,216	*
	Approximately 3.57 miles upstream of Lassiter Mill Road (SR 1107)	5.3	*	*	2,118	*
Big Branch	At the confluence with Little River	2.2	*	*	1,234	*
	Approximately 0.55 mile upstream of the confluence with Little River	2.1	*	*	1,188	*
Blood Run Creek	At the Chatham/Randolph County boundary	7.9	*	*	2,714	*
Boodom Creek	At the confluence with Sandy Creek	4.3	*	*	1,852	*
	At the confluence of Boodom Creek Tributary 1	3.5	*	*	1,637	*
	Approximately 1,110 feet downstream of the confluence of Boodom Creek Tributary 2	3.1	*	*	1,514	*
	At the confluence of Boodom Creek Tributary 2	2.2	*	*	1,210	*
	Approximately 950 feet downstream of Willard Road	1.8	*	*	1,088	*
	Approximately 630 feet upstream of Willard Road	0.7	*	*	586	*
	Approximately 0.7 mile upstream of Willard Road	0.4	*	*	406	*
Boodom Creek Tributary 1	At the confluence with Boodom Creek	0.6	*	*	566	*
	Approximately 1.2 miles upstream of the confluence with Boodom Creek	0.3	*	*	367	*
Boodom Creek Tributary 2	At the confluence of Boodom Creek	0.8	*	*	673	*

Table 8—Summary of Discharges

Flooding Source	Location	Drainage Area *(square miles)*	Discharges *(cfs)*			
			10% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
Boodom Creek Tributary 2 (continued)	Approximately 480 feet upstream of US 421	0.3	*	*	376	*
Brier Creek	At the confluence with Little Uwharrie River	26.0	*	*	5,702	*
Brier Creek Tributary 1	At the confluence with Brier Creek	2.8	*	*	1,410	*
	Approximately 0.4 mile downstream of Hughes Grove Road (SR 1400)	2.7	*	*	1,370	*
Brush Creek	At the confluence with Deep River	69.6	*	*	10,559	*
	Approximately 1.0 mile upstream of the confluence with Deep River	69.1	*	*	10,518	*
	Approximately 1.4 miles upstream of the confluence with Deep River	68.1	*	*	10,423	*
	Approximately 0.4 mile downstream of NC Hwy 22/ 42	67.4	*	*	10,349	*
	Approximately 1.0 mile upstream of NC Hwy 22/42	66.6	*	*	10,272	*
	Approximately 1.3 miles upstream of NC Hwy 22/42	62.7	*	*	9,899	*
	At the confluence of Little Brush Creek	42.2	*	*	7,725	*
	Approximately 1,160 feet upstream of Lambeth Mill Road	41.4	*	*	7,637	*
	Approximately 0.8 mile upstream of Lambeth Mill Road	40.1	*	*	7,483	*
	Approximately 1,280 feet upstream of Lanes Mill Road	39.2	*	*	7,373	*
	Approximately 1.0 mile upstream of Lanes Mill Road	38.5	*	*	7,291	*
	Approximately 2.0 miles upstream of Lanes Mill Road	37.5	*	*	7,175	*
	Approximately 0.6 mile downstream of Manor Rock Road	36.8	*	*	7,094	*

Table 8—Summary of Discharges

Flooding Source	Location	Drainage Area *(square miles)*	Discharges *(cfs)*			
			10% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
Brush Creek (continued)	Approximately 1,930 feet downstream of Manor Rock Road	35.1	*	*	6,881	*
	Approximately 1,880 feet downstream of the confluence of Reedy Fork	34.5	*	*	6,806	*
	Approximately 1,210 mile downstream of the confluence of Reedy Fork	32.5	*	*	6,558	*
	At the confluence of Reedy Fork	30.7	*	*	6,329	*
	Approximately 0.7 mile upstream of the confluence of Reedy Fork	30.4	*	*	6,298	*
	Approximately 0.8 mile upstream of the confluence of Reedy Fork	27.8	*	*	5,951	*
	At the confluence of Blood Run Creek	19.8	*	*	4,815	*
	Approximately 0.5 mile upstream of Moons Chapel Road	14.5	*	*	3,957	*
	Approximately 950 feet downstream of US Hwy 64E	12.3	*	*	3,580	*
	Approximately 740 feet upstream of US Hwy 64E	12.1	*	*	3,545	*
	Approximately 1,160 feet upstream of US Hwy 64E	10.0	*	*	3,143	*
	Approximately 0.7 mile upstream of US Hwy 64E	9.3	*	*	3,005	*
	At the confluence of Brush Creek Tributary 1	6.2	*	*	2,340	*
	Approximately 0.9 mile upstream of the confluence of Brush Creek Tributary 1	5.9	*	*	2,266	*
	Approximately 1,650 feet downstream of Hicks Farm Road	4.9	*	*	2,019	*

Table 8—Summary of Discharges

Flooding Source	Location	Drainage Area *(square miles)*	Discharges *(cfs)*			
			10% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
Brush Creek (continued)	Approximately 0.5 mile upstream of Browns Crossroads Road	3.9	*	*	1,738	*
Brush Creek Tributary 1	At the confluence with Brush Creek	2.2	*	*	1,210	*
	Approximately 720 feet upstream of Hicks Farm Road	1.9	*	*	1,124	*
	Approximately 90 feet upstream of Browns Crossroads Road	1.4	*	*	923	*
Bush Creek	At the confluence with Deep River	13.4	*	*	3,774	*
	Approximately 210 feet upstream of Cedar Falls Road	12.8	*	*	3,674	*
	Approximately 0.4 mile downstream of Carl Allred Road	12.0	*	*	3,528	*
	At the confluence of Bush Creek Tributary	5.6	*	*	2,181	*
	Approximately 0.7 mile downstream of Walker Store Road	5.1	*	*	2,067	*
	Approximately 360 feet upstream of Walker Store Road	4.2	*	*	1,832	*
	Approximately 0.8 mile upstream of Walker Store Road	3.3	*	*	1,578	*
	Approximately 1.4 miles downstream of Old Liberty Road	2.9	*	*	1,446	*
	Approximately 1,470 upstream of Old Liberty Road	2.1	*	*	1,196	*
Bush Creek Tributary	At the confluence with Bush Creek	5.5	*	*	2,153	*
	Approximately 420 feet upstream of Whites Memorial Road	5.0	*	*	2,038	*
	Approximately 0.5 mile upstream of Whites Memorial Road	0.8	*	*	1,549	*
Cable Creek	At the confluence with Back Creek	4.6	*	*	1,924	*
	Approximately 0.46 mile upstream of the confluence with Back Creek	4.3	*	*	1,856	*

Table 8—Summary of Discharges

Flooding Source	Location	Drainage Area *(square miles)*	Discharges *(cfs)*			
			10% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
Cable Creek (continued)	Approximately 0.7 mile upstream of the confluence of Back Creek	3.9	*	*	1,755	*
Caraway Creek	At the confluence with Uwharrie River	98.2	*	*	13,096	*
	Approximately 0.66 mile upstream of the confluence with Uwharrie River	97.7	*	*	13,057	*
	Approximately 0.22 mile downstream of the confluence of Taylors Creek	97.2	*	*	13,014	*
	At the confluence of Taylors Creek	86.9	*	*	12,134	*
	Approximately 0.72 mile downstream of SR 1193	86.5	*	*	12,103	*
	Approximately 0.11 mile upstream of SR 1193	86.1	*	*	12,065	*
	Approximately 0.40 mile upstream of SR 1193	85.6	*	*	12,021	*
	Approximately 0.23 mile downstream of Golden Meadow Road	85.1	*	*	11,975	*
	At the confluence of Back Creek	46.6	*	*	8,220	*
	Approximately 0.34 mile upstream of the confluence of Back Creek	46.3	*	*	8,191	*
	Approximately 1.19 miles upstream of the confluence of Back Creek	46.1	*	*	8,167	*
	Approximately 1.48 miles upstream of the confluence of Back Creek	45.7	*	*	8,118	*
	Approximately 1.52 miles downstream of Ridges Mountain Road	45.0	*	*	8,046	*
	Approximately 0.71 mile downstream of Ridges Mountain Road	44.6	*	*	7,998	*

Table 8—Summary of Discharges

Flooding Source	Location	Drainage Area *(square miles)*	Discharges *(cfs)*			
			10% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
Caraway Creek (continued)	Approximately 0.56 mile downstream of Ridges Mountain Road	43.4	*	*	7,865	*
	Approximately 10 feet upstream of Ridges Mountain Road	42.6	*	*	7,773	*
	Approximately 0.66 mile downstream of US Highway 64	40.1	*	*	7,484	*
	Approximately 0.15 mile downstream of US Highway 64	39.0	*	*	7,357	*
	Approximately 0.86 mile upstream of US Highway 64	37.9	*	*	7,225	*
	At the confluence of Little Caraway Creek	27.5	*	*	5,905	*
	Approximately 0.32 mile upstream of Jerico Road (SR 1412)	26.5	*	*	5,781	*
	Approximately 1.37 miles upstream of Jerico Road (SR 1412)	25.9	*	*	5,698	*
	Approximately 0.55 mile downstream of Caraway Mountain Road (SR 1004)	25.4	*	*	5,624	*
	Approximately 0.33 mile downstream of Caraway Mountain Road (SR 1004)	24.9	*	*	5,549	*
	Approximately 0.16 mile downstream of Caraway Mountain Road (SR 1004)	24.2	*	*	5,455	*
	Approximately 270 feet upstream of Caraway Mountain Road (SR 1004)	23.1	*	*	5,296	*
	At the confluence of Caraway Creek Tributary 1	17.3	*	*	4,431	*
	Approximately 0.73 mile upstream of the confluence of Caraway Creek Tributary 1	17.2	*	*	4,402	*
	Approximately 1.03 mile downstream of Beckerdite Road (SR 1524)	15.9	*	*	4,202	*

Table 8—Summary of Discharges

Flooding Source	Location	Drainage Area *(square miles)*	Discharges *(cfs)*			
			10% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
Caraway Creek (continued)	Approximately 465 feet downstream of Beckerdite Road (SR 1524)	15.4	2,041	3,417	4,115	6,066
	Approximately 70 feet upstream of the confluence of Caraway Creek Tributary 2	10.1	1,548	2,622	3,170	4,712
	Approximately 0.3 miles downstream of Beeson Farm Road (SR 1525)	9.7	1,500	2,543	3,077	4,578
	Approximately 0.3 miles upstream of Beeson Farm Road (SR 1525)	8.6	1,391	2,366	2,866	4,274
	Approximately 0.9 miles upstream of Beeson Farm Road (SR 1525)	8.3	1,351	2,299	2,786	4,159
	Approximately 1.2 miles upstream of Beeson Farm Road (SR 1525)	7.8	1,303	2,222	2,694	4,026
	Approximately 2.4 miles upstream of Beeson Farm Road (SR 1525)	7.3	1,250	2,135	2,590	3,875
	Approximately 0.5 miles downstream of Old Marlboro Road (SR 1858)	5.9	1,077	1,851	2,250	3,382
	Approximately 760 feet upstream of Old Marlboro Road(SR 1858)	5.5	1,034	1,779	2,165	3,257
	Approximately 45 feet upstream of the confluence of Caraway Creek Tributary 3	3.9	828	1,437	1,755	2,658
	Approximately 400 feet upstream of Roy Farlow Road (SR 1534)	3.1	711	1,242	1,520	2,313
	Approximately 476 feet downstream of Creekview Drive (SR 1806)	2.8	665	1,165	1,427	2,176

Table 8—Summary of Discharges

Flooding Source	Location	Drainage Area *(square miles)*	Discharges *(cfs)*			
			10% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
Caraway Creek (continued)	Approximately 0.7 miles downstream of Old Glenola Road (SR 1571)	1.5	431	769	948	1,465
	Approximately 544 feet downstream of Old Glenola Road (SR 1571)	1.1	346	623	771	1,199
Caraway Creek Tributary 1	At the confluence with Caraway Creek	5.3	*	*	2,105	*
	Approximately 0.74 mile upstream of the confluence with Caraway Creek	4.9	*	*	2,023	*
	Approximately 1.06 miles downstream of Sawyer Road (SR 1521)	4.5	*	*	1,911	*
	Approximately 0.33 mile downstream of Sawyer Road (SR 1521)	3.0	*	*	1,485	*
	Approximately 0.69 mile upstream of Sawyer Road (SR 1521)	2.5	*	*	1,336	*
Caraway Creek Tributary 2	At the confluence with Caraway Creek	5.1	*	*	2,066	*
	Approximately 0.13 mile upstream of the confluence with Caraway Creek	4.4	*	*	1,885	*
	Approximately 0.51 mile downstream of Beeson Farm Road (SR 1525)	2.9	*	*	1,449	*
Caraway Creek Tributary 3	At the confluence with Caraway Creek	1.1	*	*	777	*
	Approximately 0.23 mile upstream of the confluence with Caraway Creek	1.0	*	*	746	*
Cedar Fork Creek	At the confluence with Back Creek	8.8	1,647	2,718	3,081	4,592
	Approximately 0.7 mile upstream of the confluence with Back Creek	8.3	1,632	2,683	3,036	4,531

Table 8—Summary of Discharges

Flooding Source	Location	Drainage Area (*square miles*)	Discharges (*cfs*)			
			10% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
Cedar Fork Creek (continued)	Approximately 0.2 mile downstream of Little Lake Trail	5.3	1,390	2,268	2,552	3,348
	At the confluence of Long Branch	3.7	1,318	2,100	2,340	2,999
	Approximately 0.9 mile upstream of Cedar Creek Drive	3.3	1,300	2,058	2,287	2,912
	Approximately 1.4 miles upstream of Chamberlin Drive	2.4	1,194	1,865	2,057	2,577
	Approximately 0.7 mile downstream of US Highway 220	1.5	893	1,426	1,579	1,997
	Approximately 120 feet downstream of US Highway 220	1.3	835	1,336	1,479	1,868
	Approximately 0.1 mile upstream of East Street	0.8	634	1,027	1,137	1,438
	Approximately 200 feet downstream of South Church Street	0.3	317	541	604	779
Deep River	Approximately 1,160 feet upstream of Randolph/Moore County boundary	627.0	*	*	41,731	*
	At the confluence of Fork Creek	577.2	*	*	39,628	*
	Approximately 0.8 mile upstream of the confluence of Fork Creek	577.0	*	*	39,616	*
	Approximately 1.6 miles upstream of the confluence of Fork Creek	576.0	*	*	39,574	*
	Approximately 1.9 miles upstream of the confluence of Fork Creek	573.8	*	*	39,480	*
	Approximately 0.4 mile downstream of Bennett Road	572.7	*	*	39,435	*
	Approximately 0.2 mile upstream of Bennett Road	557.7	*	*	38,783	*
	Approximately 1.0 mile upstream of Bennett Road	557.1	*	*	38,758	*

Table 8—Summary of Discharges

Flooding Source	Location	Drainage Area *(square miles)*	Discharges *(cfs)*			
			10% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
Deep River (continued)	Approximately 1.4 miles upstream of Bennett Road	556.1	*	*	38,715	*
	Approximately 1.7 miles upstream of Bennett Road	554.4	*	*	38,642	*
	Approximately 1.6 miles downstream of the confluence of Brush Creek	549.5	*	*	38,427	*
	Approximately 1.2 miles downstream of the confluence of Brush Creek	549.4	*	*	38,421	*
	At the confluence of Brush Creek	478.8	*	*	37,235	*
	Approximately 1,580 feet upstream of the confluence of Brush Creek	478.3	*	*	37,229	*
	At the confluence of Richland Creek	411.6	*	*	36,160	*
	Approximately 0.5 mile upstream of the confluence of Richland Creek	411.2	*	*	36,152	*
	Approximately 0.9 mile upstream of the confluence of Richland Creek	410.3	*	*	36,134	*
	Approximately 1.3 miles upstream of the confluence of Richland Creek	409.4	*	*	36,115	*
	Approximately 1.5 miles upstream of the confluence of Richland Creek	408.3	*	*	36,091	*
	Approximately 0.6 mile downstream of NC Hwy 42	407.8	*	*	36,080	*
	Approximately 1,760 feet upstream of NC Hwy 42	407.0	*	*	36,063	*
	Approximately 0.5 mile upstream of NC Hwy 42	403.7	*	*	35,990	*
	Approximately 0.9 mile upstream of NC Hwy 42	401.2	*	*	35,936	*

Table 8—Summary of Discharges

Flooding Source	Location	Drainage Area *(square miles)*	Discharges *(cfs)*			
			10% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
Deep River (continued)	Approximately 0.9 mile downstream of Hinshaw Town Road	400.8	*	*	35,927	*
	Approximately 0.6 mile downstream of Hinshaw Town Road	398.1	*	*	35,864	*
	At the confluence of Millstone Creek	387.0	*	*	35,600	*
	At the confluence of Mill Creek (into Deep River)	368.8	*	*	35,120	*
	Approximately 0.8 mile upstream of the confluence of Mill Creek (into Deep River)	368.2	*	*	35,106	*
	Approximately 1.4 miles upstream of the confluence of Mill Creek (into Deep River)	367.3	*	*	35,078	*
	Approximately 2.0 miles downstream of Brooklyn Avenue	356.5	20,900	30,300	34,800	45,900
	Approximately 1.5 miles downstream of Brooklyn Avenue	355.9	20,900	30,300	34,700	45,900
	Approximately 0.5 mile downstream of Brooklyn Avenue	355.0	20,900	30,300	34,700	45,800
	Approximately 0.6 mile downstream of U.S. Highway 64	348.9	20,500	29,800	34,200	45,200
	Approximately 0.7 mile upstream of U.S. Highway 64	287.7	16,700	24,800	28,600	38,600
	Approximately 20 feet upstream of Grayson Bird Road	285.4	16,500	24,600	28,400	38,300
	Approximately 270 feet upstream of West Main Street	283.1	16,400	24,400	28,200	38,100
	Approximately 1,220 feet upstream of West Main Street	269.4	15,600	23,300	27,000	36,600
	Approximately 0.6 miles downstream of Loflin Pond Road	268.3	15,500	23,200	26,900	36,500

Table 8—Summary of Discharges

Flooding Source	Location	Drainage Area *(square miles)*	Discharges *(cfs)*			
			10% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
Deep River (continued)	Approximately 1,180 feet downstream of Loflin Pond Road	267.3	15,500	23,200	26,800	36,400
	Approximately 1,930 feet upstream of Loflin Pond Road	266.4	15,400	23,100	26,700	36,300
	Approximately 0.8 mile upstream of Loflin Pond Road	264.1	15,300	22,900	26,500	36,100
	Approximately 500 feet downstream of Franklin Road	257.1	14,800	22,300	25,900	35,300
	Approximately 1,910 feet upstream of Franklin Road	255.7	14,800	22,200	25,800	35,200
	Approximately 0.4 mile downstream of Old Liberty Road	255.5	14,700	22,200	25,800	35,100
	Approximately 1,060 feet downstream of Old Liberty Road	254.5	14,700	22,100	25,700	35,000
	Approximately 1,800 feet upstream of Old Liberty Road	253.6	14,600	22,100	25,600	34,900
	Approximately 60 feet upstream of the confluence of Hasketts Creek	241.1	*	*	24,500	*
	Approximately 0.8 mile upstream of the confluence of Hasketts Creek	239.8	*	*	24,400	*
	Approximately 1.1 miles upstream of the confluence of Hasketts Creek	238.9	*	*	24,300	*
	Approximately 1.7 miles upstream of the confluence of Hasketts Creek	236.3	*	*	24,100	*
	Approximately 1,360 feet upstream of Worthville Road	179.0	*	*	19,900	*
	Approximately 0.4 mile upstream of Worthville Road	178.9	*	*	19,800	*
	Approximately 1,340 feet upstream of East Naomi Street	177.0	*	*	19,700	*

Table 8—Summary of Discharges

Flooding Source	Location	Drainage Area *(square miles)*	Discharges *(cfs)*			
			10% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
Deep River (continued)	Approximately 1,010 feet upstream of North Main Street	174.0	*	*	19,500	*
	Approximately 1.4 miles upstream of North Main Street	172.6	*	*	19,400	*
	Approximately 1.1 miles downstream of Walker Mill Road	167.9	*	*	19,100	*
	Approximately 1,570 feet downstream of Walker Mill Road	165.8	*	*	18,900	*
	Approximately 570 feet downstream of Walker Mill Road	138.2	*	*	16,900	*
	Approximately 0.6 mile upstream of Walker Mill Road	137.1	*	*	16,800	*
	Approximately 2.2 miles upstream of Walker Mill Road	135.6	*	*	16,700	*
	Approximately 3.4 miles upstream of Walker Mill Road	133.1	*	*	16,600	*
	Approximately 1.9 miles downstream of Coltrane Mill Road	132.8	*	*	16,500	*
	Approximately 1.2 miles downstream of Coltrane Mill Road	126.6	*	*	16,100	*
	Approximately 1,020 feet downstream of Coltrane Mill Road	124.8	*	*	16,000	*
	Approximately 0.5 mile upstream of Coltrane Mill Road	123.9	*	*	15,900	*
Deep River Tributary 15	At the confluence with Deep River	0.6	*	*	760	*
	Approximately 160 feet downstream of Oak Drive	0.3	*	*	468	*
Deep River Tributary 16	At the confluence with Deep River	4.7	*	*	1,958	*
	Approximately 690 feet upstream of NC 22 North	4.5	*	*	1,917	*
	Approximately 1,170 feet upstream of NC 22 North	1.9	*	*	1,123	*

Table 8—Summary of Discharges

Flooding Source	Location	Drainage Area *(square miles)*	Discharges *(cfs)*			
			10% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
Deep River Tributary 16 (continued)	Approximately 600 feet upstream of dam	1.1	*	*	772	*
Deep River Tributary 17	At the confluence with Deep River	1.9	*	*	1,126	*
	Approximately 160 feet upstream of US Hwy 64	1.2	*	*	834	*
Deep River Tributary 18	At the confluence with Deep River	1.3	*	*	889	*
	At the confluence of Deep River Tributary 19	0.5	*	*	475	*
	Approximately 500 feet upstream of Depot Street	0.2	*	*	281	*
Deep River Tributary 19	At the confluence with Deep River Tributary 18	0.8	*	*	649	*
	Approximately 890 feet upstream of Clark Avenue	0.3	*	*	383	*
Deep River Tributary 20	At the confluence with Deep River	0.5	*	*	460	*
	Approximately 50 feet downstream of Worthville Street	0.2	*	*	297	*
Deep River Tributary 21	At the confluence with Deep River	2.3	*	*	1,240	*
	At the confluence of Deep River Tributary 22	0.7	*	*	733	*
	Approximately 950 feet upstream of Sunset Drive	0.3	*	*	412	*
Deep River Tributary 22	At the confluence with Deep River Tributary 21	1.5	*	*	948	*
	At the confluence of Deep River Tributary 23	0.5	*	*	476	*
Deep River Tributary 23	At the confluence with Deep River Tributary 22	0.9	*	*	676	*
	Approximately 110 feet downstream of Brookwood Acres Road	0.3	*	*	341	*
Deep River Tributary 24	At the confluence with Deep River	1.0	*	*	756	*

Table 8—Summary of Discharges

Flooding Source	Location	Drainage Area *(square miles)*	Discharges *(cfs)*			
			10% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
Deep River Tributary 24 (continued)	Approximately 370 feet upstream of Bus 220	0.5	*	*	552	*
Deep River Tributary 26	At the confluence with Deep River	5.0	*	*	2,042	*
	Approximately 570 feet downstream of Hockett Dairy Road	4.6	*	*	1,923	*
	Approximately 0.8 mile upstream of Hockett Dairy Road	3.6	*	*	1,648	*
	Approximately 500 feet downstream of Hubbary Lane	2.7	*	*	1,373	*
	Approximately 0.6 mile upstream of Hubbary Lane	1.7	*	*	1,044	*
Dodsons Lake	At the confluence with Sandy Creek	3.3	*	*	1,568	*
	Approximately 1,350 feet upstream of Starmount Road	3.0	*	*	1,466	*
	At the confluence of Dodsons Lake Tributary 1	2.0	*	*	1,144	*
	At the confluence of Dodsons Lake 2	1.0	*	*	724	*
Dodsons Lake 2	At the confluence with Dodsons Lake	0.4	*	*	435	*
Dodsons Lake Tributary 1	At the confluence with Dodsons Lake	0.7	*	*	586	*
Fork Creek	At the confluence with Deep River	48.7	*	*	8,448	*
	Approximately 1,850 feet upstream of the confluence with Deep River	48.4	*	*	8,412	*
	Approximately 0.5 mile downstream of Riverside Road	47.4	*	*	8,313	*
	Approximately 1,500 feet downstream of Riverside Road	46.5	*	*	8,204	*
	Approximately 840 feet upstream of Riverside Road	46.4	*	*	8,194	*
	Approximately 0.4 mile upstream of Riverside Road	42.2	*	*	7,731	*

Table 8—Summary of Discharges

Flooding Source	Location	Drainage Area *(square miles)*	Discharges *(cfs)*			
			10% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
Fork Creek (continued)	Approximately 0.6 mile downstream of Erect Road	41.3	*	*	7,627	*
	Approximately 0.5 mile downstream of Erect Road	39.2	*	*	7,382	*
	Approximately 150 feet upstream of Erect Road	31.7	*	*	6,458	*
	Approximately 1.2 miles upstream of Erect Road	30.9	*	*	6,360	*
	Approximately 2.1 miles upstream of Erect Road	30.0	*	*	6,242	*
	Approximately 2.2 miles upstream of Erect Road	24.9	*	*	5,562	*
	Approximately 2.4 miles upstream of Erect Road	22.4	*	*	5,207	*
	Approximately 1.7 miles downstream of Union Grove Church Road	21.7	*	*	5,092	*
	Approximately 1.5 miles downstream of Union Grove Church Road	14.6	*	*	3,977	*
	Approximately 1,640 feet downstream of Union Grove Church Road	14.0	*	*	3,872	*
	At the confluence of Lambert Creek	10.2	*	*	3,178	*
	Approximately 0.4 mile downstream of Fork Creek Mill Road	8.5	*	*	2,845	*
	Approximately 740 feet downstream of Fork Creek Mill Road	8.3	*	*	2,800	*
	Approximately 210 feet upstream of Bachelor Creek Road	7.4	*	*	2,606	*
	At the confluence of Fork Creek Tributary 1	2.3	*	*	1,252	*
	Approximately 0.9 mile upstream of the confluence of Fork Creek Tributary 1	1.5	*	*	979	*

Table 8—Summary of Discharges

Flooding Source	Location	Drainage Area *(square miles)*	Discharges *(cfs)*			
			10% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
Fork Creek (continued)	Approximately 1.8 miles upstream of the confluence of Fork Creek Tributary 1	0.5	*	*	511	*
Fork Creek Tributary 1	At the confluence with Fork Creek	4.1	*	*	1,813	*
	At the confluence of Fork Creek Tributary 2	2.6	*	*	1,355	*
	At the confluence of Fork Creek Tributary 3	1.1	*	*	807	*
	Approximately 1,890 feet downstream of Sea Grove Plank Road	0.5	*	*	497	*
Fork Creek Tributary 2	At the confluence with Fork Creek Tributary 1	1.5	*	*	957	*
	Approximately 0.7 mile upstream of Angel Fire Trail	0.7	*	*	606	*
Fork Creek Tributary 3	At the confluence with Fork Creek Tributary 1	1.3	*	*	879	*
	Approximately 1.2 miles upstream of the confluence with Fork Creek Tributary 1	0.6	*	*	545	*
Gabriels Creek	At the confluence with Deep River	6.9	*	*	2,485	*
	At the confluence of Gabriels Creek Tributary 1	3.5	*	*	1,616	*
	Approximately 1,210 feet upstream of Old Cedar Falls Road	2.9	*	*	1,464	*
	At the confluence of Gabriels Creek Tributary 2	1.9	*	*	1,130	*
	Approximately 0.5 mile upstream of Trogdon Hill Road	1.2	*	*	815	*
Gabriels Creek Tributary 1	At the confluence with Gabriels Creek	3.1	*	*	1,514	*
	Approximately 450 feet downstream of Cedarwood Lake Dam	3.0	*	*	1,471	*
	Approximately 1,040 feet upstream of Henley Country Road	2.0	*	*	1,143	*
	Approximately 1,080 feet downstream of Old Cedar Falls Road	1.1	*	*	768	*

Table 8—Summary of Discharges

Flooding Source	Location	Drainage Area *(square miles)*	Discharges *(cfs)*			
			10% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
Gabriels Creek Tributary 2	At the confluence with Gabriels Creek	0.4	*	*	419	*
Hannahs Creek	At the confluence with Uwharrie River	8.5	*	*	2,831	*
	Approximately 0.52 mile upstream of Lassiter Mill Road (SR 1107)	7.3	*	*	2,586	*
	At the confluence of Robbins Branch	5.9	*	*	2,262	*
	Approximately 0.53 mile upstream of the confluence of Robbins Branch	5.8	*	*	2,241	*
Hasketts Creek	At the confluence with Deep River	12.4	1,843	3,233	3,955	5,990
	North of Sewage Disposal Plant	12.0	1,797	3,157	3,902	5,950
	At the confluence of Penwood Branch	5.9	1,500	2,430	2,730	3,570
	Approximately 0.8 mile downstream of North Fayetteville Street	5.6	1,480	2,390	2,690	3,500
	At the confluence of Hasketts Creek Tributary 1	3.3	1,160	1,880	2,110	2,740
	Approximately 210 feet downstream of West Balfour Avenue	2.9	1,050	1,720	1,930	2,520
	Approximately 320 feet downstream of Vision Drive	1.9	909	1,480	1,650	2,130
	At the confluence of Hasketts Creek Tributary 2	0.4	*	*	806	*
Hasketts Creek Tributary 1	At the confluence with Hasketts Creek	1.2	393	755	933	1,485
	At Northwood Drive	1.0	337	636	809	1,280
	Approximately 1,300 feet upstream of Northwood Drive	1.3	*	*	1,010	*
Hasketts Creek Tributary 2	At the confluence with Hasketts Creek	0.7	*	*	956	*
	Approximately 1,920 upstream of Presnell Street	0.3	*	*	716	*
Jackson Creek	At the confluence with Uwharrie River	19.3	*	*	4,739	*

Table 8—Summary of Discharges

Flooding Source	Location	Drainage Area *(square miles)*	Discharges *(cfs)*			
			10% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
Jackson Creek (continued)	Approximately 1.1 miles downstream of Gallimore Dairy Road	18.8	*	*	4,665	*
	Approximately 0.6 mile downstream of Gallimore Dairy Road	18.4	*	*	4,595	*
	Approximately 0.3 mile downstream of Gallimore Dairy Road	17.9	*	*	4,521	*
	Approximately 190 feet downstream of Gallimore Dairy Road	17.4	*	*	4,443	*
	Approximately 0.7 mile upstream of Gallimore Dairy Road	16.8	*	*	4,350	*
	Approximately 1.5 miles upstream of Gallimore Dairy Road	16.2	*	*	4,250	*
	Approximately 1.7 miles downstream of Bescher Chapel Road (SR 1311)	15.5	*	*	4,134	*
	Approximately 1.5 miles downstream of Bescher Chapel Road (SR 1311)	15.1	*	*	4,071	*
	Approximately 0.7 mile downstream of Bescher Chapel Road SR (1311)	14.6	*	*	3,987	*
	At the confluence of South Fork Jackson Creek	8.8	*	*	2,893	*
	Approximately 0.20 mile upstream of Jackson Creek Road	8.5	*	*	2,845	*
Kings Creek	At the confluence with Little River	6.2	*	*	2,337	*
	Approximately 0.8 mile downstream of King View Road (SR 1123)	5.7	*	*	2,220	*
Lakes Creek	At the confluence with Uwharrie River	0.8	*	*	659	*
	Approximately 0.21 mile upstream of the confluence with Uwharrie River	0.7	*	*	567	*
Lambert Creek	At the confluence with Fork Creek	2.8	*	*	1,411	*

Table 8—Summary of Discharges

Flooding Source	Location	Drainage Area *(square miles)*	Discharges *(cfs)*			
			10% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
Lambert Creek (continued)	Approximately 0.6 mile upstream of the confluence with Fork Creek	2.6	*	*	1,339	*
Laniers Creek	At the confluence with Uwharrie River	9.8	*	*	3,096	*
	Approximately 450 feet upstream of Lou Cranford Road (SR 1179)	8.9	*	*	2,918	*
	Approximately 0.48 mile upstream of Lou Cranford Road (SR 1179)	8.7	*	*	2,886	*
	Approximately 0.28 mile downstream of the confluence of Sand Branch	7.6	*	*	2,647	*
	At the confluence of Sand Branch	6.6	*	*	2,429	*
	At the confluence of Nanny Branch	5.8	*	*	2,229	*
	Approximately 0.2 mile downstream of New Hope Road (SR 1181)	5.7	*	*	2,210	*
	Approximately 0.2 mile upstream of New Hope Road (SR 1181)	5.2	*	*	2,087	*
	Approximately 0.4 mile upstream of New Hope Road (SR 1181)	4.7	*	*	1,960	*
	Approximately 1.00 mile upstream of New Hope Road (SR 1181)	4.3	*	*	1,840	*
	Approximately 1.2 miles upstream of New Hope Road (SR 1181)	3.8	*	*	1,703	*
Little Brush Creek	At the confluence with Brush Creek	19.7	*	*	4,804	*
	Approximately 0.5 mile downstream of Lanes Mill Road	19.0	*	*	4,700	*
	Approximately 1,330 feet downstream of Lanes Mill Road	17.3	*	*	4,429	*
	Approximately 0.7 mile upstream of Lanes Mill Road	16.4	*	*	4,287	*

Table 8—Summary of Discharges

Flooding Source	Location	Drainage Area *(square miles)*	Discharges *(cfs)*			
			10% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
Little Brush Creek (continued)	Approximately 0.6 mile upstream of Jim Gilland Road	15.5	*	*	4,133	*
	Approximately 0.7 mile upstream of Jim Gilland Road	13.6	*	*	3,799	*
	Approximately 1.0 mile upstream of Jim Gilland Road	9.1	*	*	2,955	*
	Approximately 0.8 mile downstream of Airport Road	8.8	*	*	2,908	*
	Approximately 1,720 feet downstream of Airport Road	7.8	*	*	2,698	*
	Approximately 1.2 miles downstream of Airport Road	7.1	*	*	2,532	*
	Approximately 1.0 mile downstream of Airport Road	6.1	*	*	2,303	*
	Approximately 0.8 mile downstream of Airport Road	5.2	*	*	2,091	*
	Approximately 0.4 mile downstream of Airport Road	5.0	*	*	2,050	*
	Approximately 1,650 feet downstream of Airport Road	4.1	*	*	1,786	*
	Approximately 0.5 mile upstream of Airport Road	3.6	*	*	1,650	*
	Approximately 1.4 miles upstream of Airport Road	2.6	*	*	1,352	*
Little Caraway Creek	At the confluence with Caraway Creek	10.2	*	*	3,184	*
	Approximately 0.64 mile upstream of the confluence with Caraway Creek	9.4	*	*	3,021	*
	Approximately 1.06 miles upstream of the confluence with Caraway Creek	9.1	*	*	2,960	*
	Approximately 1.44 miles downstream of Earnhardt Road (SR 1539)	8.0	*	*	2,734	*

Table 8—Summary of Discharges

Flooding Source	Location	Drainage Area *(square miles)*	Discharges *(cfs)*			
			10% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
Little Caraway Creek (continued)	Approximately 0.95 mile downstream of Earnhardt Road (SR 1539)	7.1	*	*	2,539	*
	Approximately 0.89 mile downstream of Earnhardt Road (SR 1539)	6.7	*	*	2,444	*
	Approximately 220 feet downstream of Earnhardt Road (SR 1539)	5.6	*	*	2,195	*
	Approximately 0.42 mile upstream of Earnhardt Road (SR 1539)	5.2	*	*	2,078	*
	At the confluence of Little Caraway Creek Tributary 1	2.5	*	*	1,309	*
	Approximately 0.58 mile upstream of the confluence of Little Caraway Creek Tributary 1	2.0	*	*	1,148	*
	Approximately 0.31 mile downstream of Mount Gilead Church Road	1.6	*	*	981	*
Little Caraway Creek Tributary 1	At the confluence with Little Caraway Creek	2.5	*	*	1,332	*
Little Polecat Creek	At the confluence with Polecat Creek	14.0	1,915	3,214	3,874	5,722
	Approximately 0.8 mile upstream of the confluence with Polecat Creek	13.2	1,847	3,105	3,744	5,537
	Approximately 0.9 mile upstream of the confluence with Polecat Creek	12.2	1,754	2,954	3,565	5,280
	Approximately 50 feet upstream of Racine Road	11.6	1,690	2,852	3,444	5,106
	Approximately 1,670 feet upstream of Racine Road	10.6	1,595	2,697	3,260	4,842
	At the confluence of Little Polecat Creek Tributary 1	7.2	1,231	2,104	2,553	3,822

Table 8—Summary of Discharges

Flooding Source	Location	Drainage Area *(square miles)*	Discharges *(cfs)*			
			10% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
Little Polecat Creek (continued)	At the confluence of Little Polecat Creek Tributary 3	4.6	917	1,586	1,933	2,919
	At the confluence of Little Polecat Creek Tributary 4	1.7	465	828	1,019	1,571
	Approximately 590 feet downstream of dam	0.8	291	527	653	1,021
Little Polecat Creek Tributary 1	At the confluence with Little Polecat Creek	3.3	733	1,280	1,565	2,380
	Approximately 1.1 miles upstream of the confluence with Little Polecat Creek	2.6	631	1,110	1,360	2,075
	At the confluence of Little Polecat Creek Tributary 2	1.0	324	585	724	1,130
	Approximately 0.6 mile upstream of the confluence of Little Polecat Creek Tributary 2	0.4	192	355	443	701
Little Polecat Creek Tributary 2	At the confluence with Little Polecat Creek Tributary 1	0.7	253	461	573	900
	Approximately 0.6 mile upstream of the confluence with Little Polecat Creek Tributary 1	0.3	138	285	324	517
Little Polecat Creek Tributary 3	At the confluence with Little Polecat Creek	1.8	497	882	1,085	1,669
	Approximately 420 feet upstream of Unnamed Road	1.3	396	708	874	1,354
	Approximately 0.5 mile upstream of Unnamed Road	0.7	276	501	622	973
Little Polecat Creek Tributary 4	At the confluence with Little Polecat Creek	2.8	657	1,150	1,410	2,150
	At the confluence of Little Polecat Creek Tributary 5	1.6	452	805	992	1,530
	Approximately 760 feet downstream of Hunting Lodge Road	1.3	402	720	888	1,380
	Approximately 480 feet upstream of Hunting Lodge Road	0.6	243	444	552	868

Table 8—Summary of Discharges

Flooding Source	Location	Drainage Area *(square miles)*	Discharges *(cfs)*			
			10% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
Little Polecat Creek Tributary 5	At the confluence with Little Polecat Creek Tributary 4	1.2	367	659	814	1,264
	Approximately 970 feet upstream of the confluence with Little Polecat Creek Tributary 4	1.1	356	640	792	1,230
	Approximately 0.4 mile upstream of Hunting Lodge Road	0.7	272	494	614	962
	Approximately 0.8 mile upstream of Hunting Lodge Road	0.4	189	349	436	690
Little River	Randolph/Montgomery County boundary	45.9	*	*	8,147	*
	At the confluence of Little River Tributary 2	43.1	*	*	7,830	*
	At the confluence of Wagners Branch	40.7	*	*	7,556	*
	At the confluence of Little River Tributary 3	33.6	*	*	6,696	*
	At the confluence of Little River Tributary 4	32.5	*	*	6,563	*
	Approximately 190 feet downstream of State Road 1121	31.0	*	*	6,368	*
	At the confluence of Little River Tributary 5	30.1	*	*	6,251	*
	At the confluence of Reed Creek (into Little River)	25.6	*	*	5,655	*
	Approximately 0.26 mile downstream of the confluence of Little River Tributary 6	24.9	*	*	5,558	*
	At the confluence of Reedy Creek	21.5	*	*	5,071	*
	Approximately 390 feet downstream of Howard Auman Road	20.6	*	*	4,936	*
	At the confluence of Little River Tributary 7	19.5	*	*	4,767	*
	At the confluence of Little River Tributary 8	17.7	*	*	4,485	*
	At the confluence of Big Branch	15.1	*	*	4,060	*
	At the confluence of Little River Tributary 9	14.8	*	*	4,014	*

Table 8—Summary of Discharges

Flooding Source	Location	Drainage Area *(square miles)*	Discharges *(cfs)*			
			10% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
Little River (continued)	At the confluence of Little River Tributary 11	12.8	*	*	3,668	*
	At the confluence of South Prong Little River	7.9	*	*	2,706	*
	Approximately 330 feet upstream of Hopewell Friends Road (SR 1142)	6.7	*	*	2,442	*
	Approximately 350 feet downstream of Bailey Road (SR 1140)	6.3	*	*	2,357	*
	At the confluence of Little River Tributary 12	4.9	*	*	2,013	*
	Approximately 240 feet downstream of Southmont Drive (SR 1145)	4.2	*	*	1,831	*
Little River Tributary 2	At the confluence with Little River	1.3	*	*	891	*
	Approximately 0.2 mile upstream of the confluence with Little River	0.9	*	*	705	*
Little River Tributary 3	At the confluence with Little River	0.7	*	*	587	*
Little River Tributary 4	At the confluence with Little River	0.9	*	*	707	*
Little River Tributary 5	At the confluence with Little River	0.4	*	*	410	*
Little River Tributary 6	At the confluence with Little River	0.1	*	*	180	*
Little River Tributary 7	At the confluence with Little River	0.5	*	*	496	*
Little River Tributary 8	At the confluence with Little River	1.7	*	*	1,053	*
	Approximately 0.3 mile upstream of the confluence with Little River	0.6	*	*	585	*
Little River Tributary 9	At the confluence with Little River	0.2	*	*	255	*
Little River Tributary 10	At the confluence with Little River	0.5	*	*	484	*
Little River Tributary 11	At the confluence with Little River	1.4	*	*	913	*
Little River Tributary 12	At the confluence with Little River	1.1	*	*	793	*

Table 8—Summary of Discharges

Flooding Source	Location	Drainage Area *(square miles)*	Discharges *(cfs)*			
			10% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
Little River Tributary 12 (continued)	Approximately 500 feet downstream of US Highway 220	0.8	*	*	663	*
Little Uwharrie River	At the confluence with Uwharrie River	43.4	*	*	7,864	*
	Approximately 0.32 mile downstream of Tabernacle Church Road	42.9	*	*	7,804	*
	At the confluence of Little Uwharrie River Tributary 1	41.3	*	*	7,624	*
	Approximately 0.5 mile downstream of Fuller Mill Road (SR 1404)	39.9	*	*	7,454	*
	Approximately 480 feet upstream of Fuller Mill Road (SR 1404)	38.3	*	*	7,272	*
	Approximately 0.75 mile upstream of Fuller Mill Road (SR 1404)	38.0	*	*	7,232	*
	Approximately 0.14 mile downstream of the first crossing of Kennedy Farm Road (SR 1401)	36.5	*	*	7,056	*
	Approximately 0.2 mile upstream of the first crossing of Kennedy Farm Road (SR 1401)	36.4	*	*	7,049	*
	Approximately 70 feet upstream of the confluence of Brier Creek	10.4	1,574	2,603	3,219	4,782
	Approximately 0.6 miles upstream of the confluence of Brier Creek	10.0	1,535	2,600	3,144	4,675
	Approximately 0.7 miles downstream of the confluence of Little Uwharrie River Tributary 2	9.7	1,504	2,549	3,084	4,588
	At the confluence of Little Uwharrie River Tributary 2	8.3	1,357	2,310	2,799	4,177
	At the confluence of Little Uwharrie River Tributary 3	5.7	1,052	1,810	2,201	3,311

Table 8—Summary of Discharges

Flooding Source	Location	Drainage Area *(square miles)*	Discharges *(cfs)*			
			10% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
Little Uwharrie River (continued)	Approximately 0.2 miles downstream of Fuller Mill Road North (SR 1547)	5.6	1,040	1,790	2,178	3,276
	At the confluence of Little Uwharrie River Tributary 4	4.8	943	1,629	1,985	2,995
	Approximately 200 feet upstream of the confluence of Little Uwharrie River Tributary 5	4.5	909	1,572	1,916	2,895
	At the confluence of Little Uwharrie River Tributary 6	3.9	817	1,420	1,733	2,627
	Approximately 220 feet upstream of the confluence of Little Uwharrie River Tributary 7	3.0	697	1,220	1,493	2,274
	At the confluence of Little Uwharrie River Tributary 8	2.5	611	1,075	1,318	2,015
	At the confluence of Little Uwharrie River Tributary 9	2.2	556	981	1,205	1,847
	At the confluence of Little Uwharrie River Tributary 10	1.4	424	801	935	1,445
	At the confluence of Little Uwharrie River Tributary 11	1.0	336	643	753	1,173
	At Interstate 85	0.5	258	493	573	812
Little Uwharrie River Tributary 1	At the confluence with Little Uwharrie River	1.4	*	*	920	*
	Approximately 0.2 mile upstream of the confluence with Little Uwharrie River	1.3	*	*	889	*
Little Uwharrie River Tributary 4	At the confluence with Little Uwharrie River	0.4	*	*	429	*
	Approximately 320 feet upstream of Reddy Foxx Lane (SR 3172)	0.2	*	*	325	*

Table 8—Summary of Discharges

Flooding Source	Location	Drainage Area *(square miles)*	Discharges *(cfs)*			
			10% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
Little Uwharrie River Tributary 5	At the confluence with Little Uwharrie River	0.2	*	*	279	*
	Approximately 0.2 mile upstream of the confluence with Little Uwharrie River	0.1	*	*	176	*
Little Uwharrie River Tributary 6	At the confluence with Little Uwharrie River	0.4	*	*	415	*
	At the confluence of Little Uwharrie River Tributary 6A	0.2	*	*	297	*
	Approximately 0.3 mile upstream of the confluence of Little Uwharrie River Tributary 6A	0.1	*	*	161	*
Little Uwharrie River Tributary 6A	At the confluence with Little Uwharrie River Tributary 6	0.2	*	*	306	*
	Approximately 0.3 mile upstream of the confluence with Little Uwharrie River Tributary 6	0.1	*	*	240	*
Little Uwharrie River Tributary 7	At the confluence with Little Uwharrie River	0.4	*	*	401	*
	Approximately 0.1 mile downstream of Finch Farm Road (SR 1547)	0.2	*	*	276	*
Little Uwharrie River Tributary 8	At the confluence with Little Uwharrie River	0.4	*	*	443	*
	At the confluence of Little Uwharrie River Tributary 8A	0.3	*	*	336	*
	Approximately 0.7 mile upstream of the confluence of Little Uwharrie River Tributary 8A	0.2	*	*	230	*
Little Uwharrie River Tributary 8A	At the confluence with Little Uwharrie River Tributary 8	0.2	*	*	228	*
	Approximately 0.3 mile upstream of the confluence with Little Uwharrie River Tributary 8	0.1	*	*	138	*

Table 8—Summary of Discharges

Flooding Source	Location	Drainage Area *(square miles)*	Discharges *(cfs)*			
			10% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
Little Uwharrie River Tributary 10	At the confluence with Little Uwharrie River	0.7	*	*	581	*
	At the confluence of Little Uwharrie River Tributary 10A	0.4	*	*	434	*
	Approximately 0.4 mile upstream of the confluence of Little Uwharrie River Tributary 10A	0.4	*	*	389	*
Little Uwharrie River Tributary 10A	At the confluence with Little Uwharrie River Tributary 10	0.2	*	*	279	*
	Approximately 0.4 mile upstream of the confluence with Little Uwharrie River Tributary 10	0.1	*	*	217	*
Little Uwharrie River Tributary 11	At the confluence with Little Uwharrie River	0.4	*	*	461	*
	At the confluence of Little Uwharrie River Tributary 11A	0.3	*	*	318	*
Little Uwharrie River Tributary 11A	At the confluence with Little Uwharrie River Tributary 11	0.1	*	*	220	*
Long Branch	At the confluence of Cedar Fork Creek	7.8	1,305	2,225	2,697	4,030
	Approximately 0.6 miles upstream of Old Lexington Road	7.6	1,277	2,179	2,643	3,951
	Approximately 0.3 miles downstream of Wilson Drive	6.6	1,160	1,987	2,413	3,618
Mile Branch Tributary 1	At mouth	6.0	*	*	2,282	*
	Approximately 0.3 mile upstream of mouth	5.5	*	*	2,163	*
Mile Branch Tributary 2	At mouth	0.2	*	*	269	*
Mill Creek (into Deep River)	At the confluence with Deep River	17.9	2,257	3,763	4,524	6,649
	Approximately 930 feet upstream of Mill Creek Road	14.9	1,999	3,349	4,034	5,951
	Approximately 1.2 miles upstream of Mill Creek Road	14.5	1,958	3,284	3,956	5,840
	Approximately 440 feet downstream of Pleasant Ridge Road	13.5	1,871	3,144	3,790	5,602

Table 8—Summary of Discharges

Flooding Source	Location	Drainage Area *(square miles)*	Discharges *(cfs)*			
			10% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
Mill Creek (into Deep River) (continued)	Approximately 50 feet upstream of Pleasant Ridge Road	10.5	1,582	2,676	3,234	4,805
	Approximately 0.6 mile upstream of Young Road	10.0	1,536	2,601	3,145	4,677
	Approximately 700 feet downstream of Grantville Road	9.2	1,448	2,459	2,976	4,433
	Approximately 0.7 mile downstream of Foxfire Road	8.2	1,349	2,296	2,782	4,153
	Approximately 0.5 mile downstream of Foxfire Road	7.1	1,227	2,097	2,545	3,810
	At the confluence of Mill Creek Tributary 1	4.2	868	1,504	1,835	2,776
	At the confluence of Mill Creek Tributary 2	2.5	614	1,080	1,325	2,025
	Approximately 1,340 feet downstream of Iron Mountain Road	2.2	*	*	1,228	*
Mill Creek (into Uwharrie River)	At the confluence with Uwharrie River	1.3	*	*	889	*
	Approximately 0.2 mile upstream of the confluence with Uwharrie River	1.2	*	*	811	*
	At the confluence of Mill Creek Tributary 4	0.9	*	*	717	*
	Approximately 0.5 mile upstream of the confluence of Mill Creek Tributary 4	0.4	*	*	443	*
Mill Creek Tributary 1	At the confluence with Mill Creek (into Deep River)	1.8	*	*	1,085	*
	Approximately 0.4 mile downstream of Iron Mountain Road	0.8	*	*	655	*
Mill Creek Tributary 2	At the confluence with Mill Creek (into Deep River)	1.7	*	*	1,029	*
	At the confluence of Mill Creek Tributary 3	0.4	*	*	435	*
Mill Creek Tributary 3	At the confluence with Mill Creek Tributary 2	0.9	*	*	676	*
	Approximately 460 feet upstream of dam	0.4	*	*	396	*

Table 8—Summary of Discharges

Flooding Source	Location	Drainage Area *(square miles)*	Discharges *(cfs)*			
			10% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
Mill Creek Tributary 4	At the confluence with Mill Creek (into Deep River)	1.0	*	*	756	*
	Approximately 0.6 mile upstream of Creekway Ridge	0.5	*	*	469	*
Millstone Creek	At the confluence with Deep River	10.0	*	*	3,151	*
	Approximately 0.7 mile upstream of NC 22	9.3	*	*	3,000	*
	Approximately 1.2 miles upstream of NC 22	8.3	*	*	2,800	*
	Approximately 0.4 mile downstream of Old Siler City Road	7.6	*	*	2,649	*
	Approximately 720 feet upstream of Lee Layne Road	6.7	*	*	2,435	*
	Approximately 1,390 feet upstream of Lee Layne Road	3.7	*	*	1,690	*
	Approximately 0.3 mile upstream of Lee Layne Road	1.6	*	*	1,015	*
Mount Pleasant Creek	At the confluence with Sandy Creek	9.9	*	*	3,129	*
	Approximately 1.0 mile downstream of Low Bridge Road	9.3	*	*	3,002	*
	Approximately 0.5 mile downstream of Low Bridge Road	8.3	*	*	2,801	*
	Approximately 0.3 mile upstream of Ramseur Julian Road	7.4	*	*	2,594	*
	Approximately 0.4 mile upstream of Ramseur Julian Road	5.4	*	*	2,149	*
	Approximately 0.8 mile upstream of Ramseur Julian Road	4.2	*	*	1,822	*
	Approximately 0.3 mile downstream of Soapstone Mountain Road	3.4	*	*	1,615	*
	Approximately 410 feet upstream of Land Estates Road	2.5	*	*	1,311	*

Table 8—Summary of Discharges

Flooding Source	Location	Drainage Area *(square miles)*	Discharges *(cfs)*			
			10% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
Mount Pleasant Creek (continued)	Approximately 0.6 mile upstream of Land Estates Road	2.0	*	*	1,136	*
Muddy Creek	At the confluence with Deep River	26.4	*	*	5,770	*
	Approximately 0.6 mile upstream of Walker Mill Road	25.7	*	*	5,670	*
	Approximately 1.1 miles upstream of Walker Mill Road	25.0	*	*	5,110	*
	Approximately 1.3 miles upstream of Walker Mill Road	22.0	*	*	4,900	*
	Approximately 0.7 mile downstream of Brandon Davis Road	21.5	*	*	4,880	*
	Approximately 0.7 mile upstream of Brandon Davis Road	21.0	*	*	4,850	*
	Approximately 0.8 mile upstream of Brandon Davis Road	18.5	*	*	4,680	*
	Approximately 0.7 mile downstream of Cedar Square Road	17.7	*	*	4,590	*
	Approximately 0.4 mile downstream of Cedar Square Road	16.8	*	*	4,530	*
	Approximately 1,370 feet downstream of Canter Road	16.0	*	*	4,480	*
	Approximately 0.6 mile downstream of Muddy Creek Road	15.4	*	*	4,440	*
	Approximately 790 feet downstream of Muddy Creek Road	14.4	*	*	4,350	*
	At the confluence of Taylor Branch	11.7	2,360	3,680	4,110	5,290
	Approximately 1.0 mile downstream of Suits Road	10.1	2,280	3,540	3,940	5,030
	At the confluence of Muddy Creek Tributary	8.7	2,180	3,370	3,740	4,740
	At the confluence of Muddy Creek East Tributary	5.2	1,550	2,470	2,750	3,540

Table 8—Summary of Discharges

Flooding Source	Location	Drainage Area *(square miles)*	Discharges *(cfs)*			
			10% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
Muddy Creek (continued)	Approximately 920 feet upstream of South Main Street	4.3	1,430	2,270	2,530	3,240
	Approximately 1,700 feet upstream of Cheyenne Drive	3.3	1,200	1,930	2,160	2,780
	At the confluence of Muddy Creek West Tributary	1.3	628	1,080	1,220	1,620
	Approximately 230 feet downstream of Meridith Drive	0.6	434	748	844	1,110
Muddy Creek East Tributary	At the confluence with Muddy Creek	3.3	1,200	1,930	2,160	2,790
	Approximately 970 feet downstream of Huff Road	2.6	1,050	1,710	1,910	2,460
	At the confluence of Muddy Creek East Tributary 2	1.9	975	1,560	1,730	2,190
	At the confluence of Muddy Creek East Tributary 4	1.2	691	1,140	1,270	1,640
	Approximately 750 feet upstream of Rocklane Drive	0.5	423	717	802	1,040
	At the Guilford/ Randolph County boundary	0.5	*	*	802	*
Muddy Creek East Tributary 2	At the confluence with Muddy Creek East	0.3	*	*	377	*
	At the confluence of Muddy Creek East Tributary 3	0.2	*	*	274	*
	At the Guilford/Randolph County boundary	0.2	*	*	274	*
Muddy Creek East Tributary 3	At the confluence with Muddy Creek East Tributary 2	0.1	*	*	211	*
	At the Guilford/Randolph County boundary	0.1	*	*	211	*
Muddy Creek East Tributary 4	At the confluence with Muddy Creek East Tributary	0.7	*	*	988	*
	At the confluence of Muddy Creek East Tributary 5	0.3	*	*	614	*

Table 8—Summary of Discharges

Flooding Source	Location	Drainage Area *(square miles)*	Discharges *(cfs)*			
			10% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
Muddy Creek East Tributary 4 (continued)	Approximately 1,900 feet downstream of Ashland Street	0.3	*	*	614	*
Muddy Creek East Tributary 5	At the confluence with Muddy Creek East Tributary 4	0.2	*	*	395	*
Muddy Creek East Tributary 6	At the confluence with Muddy Creek East Tributary 4	0.2	*	*	440	*
Muddy Creek Tributary	At the confluence with Muddy Creek	0.9	*	*	715	*
	Approximately 1,900 feet upstream from Walnut Tree Lane	0.6	*	*	561	*
Muddy Creek West Tributary	At the confluence with Muddy Creek	1.0	623	1,030	1,160	1,490
Nanny Branch	At the confluence of Laniers Creek	0.83	*	*	661	*
Narrows Branch	At the confluence with Uwharrie River	0.58	*	*	529	*
North Prong Creek	Approximately 1.3 miles downstream of NC Hwy 49N	3.2	*	*	1,535	*
	Approximately 160 feet upstream of NC Hwy 49N	2.7	*	*	1,388	*
	Approximately 1,000 feet upstream of NC Hwy 49N	1.5	*	*	946	*
	Approximately 530 feet downstream of Private Road	1.1	*	*	803	*
North Prong Richland Creek	At the confluence with South Prong Richland Creek	4.3	*	*	1,852	*
	Approximately 0.3 mile downstream of Staleys Farm Road	3.3	*	*	1,585	*
	At the confluence of North Prong Richland Creek Tributary	1.4	*	*	924	*
	Approximately 900 feet upstream of Staleys Farm Road	0.6	*	*	564	*

Table 8—Summary of Discharges

Flooding Source	Location	Drainage Area *(square miles)*	Discharges *(cfs)*			
			10% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
North Prong Richland Creek Tributary	At the confluence with North Prong Richland Creek	1.1	*	*	802	*
	Approximately 50 feet upstream of Tall Pine Street Ext	0.7	*	*	572	*
North Prong Rocky River	Approximately 840 feet downstream of Virginia Trail	1.0	*	*	745	*
	Approximately 260 feet upstream of Virginia Trail	0.3	*	*	369	*
Penwood Branch	At the confluence with Hasketts Creek	5.2	1,022	1,842	2,301	3,550
	Approximately 530 feet downstream of Old Liberty Road	4.1	880	1,594	1,997	3,060
	Approximately 530 feet upstream of Old Liberty Road	3.4	770	1,403	1,762	2,690
	At the confluence of Penwood Branch Tributary	1.9	529	978	1,236	1,930
	Approximately 160 feet downstream of Brewer Street	1.0	*	*	1,410	*
	Approximately 50 feet downstream of Cliff Road	0.5	*	*	884	*
Penwood Branch Tributary	At the confluence with Penwood Branch	0.4	176	340	437	700
	Approximately 880 feet upstream of East Presnell Street	0.1	69	137	179	298
Polecat Creek	At the confluence with Deep River	56.2	5,370	8,090	9,030	11,600
	Approximately 970 feet downstream of Creekridge Country Road	53.4	5,330	8,010	8,920	11,500
	Approximately 0.8 mile downstream of Naomi Road	53.1	5,330	8,000	8,910	11,400
	Approximately 720 feet upstream of Naomi Road	52.1	5,310	7,960	8,870	11,400
	Approximately 1,370 feet upstream of Naomi Road	48.2	5,250	7,840	8,710	11,100

Table 8—Summary of Discharges

Flooding Source	Location	Drainage Area *(square miles)*	Discharges *(cfs)*			
			10% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
Polecat Creek (continued)	Approximately 0.8 mile downstream of New Salem Road	47.8	5,250	7,830	8,700	11,100
	Approximately 0.4 mile upstream of New Salem Road	47.0	5,230	7,790	8,650	11,000
	At the confluence of Little Polecat Creek	32.0	4,850	7,080	7,790	9,700
	Approximately 880 feet upstream of Fred Lineberry Road	31.7	4,830	7,050	7,750	9,660
	Approximately 0.3 mile upstream of Fred Lineberry Road	30.2	4,790	6,970	7,650	9,510
	Approximately 1,680 feet downstream of Providence Church Road	29.7	4,760	6,930	7,610	9,450
	At the confluence of Little Polecat Creek Tributary 4	20.8	4,510	6,420	6,980	8,470
	Approximately 0.3 mile downstream of Evans Cedar Lane	20.1	4,480	6,360	6,920	8,380
	At the confluence of Polecat Creek Tributary 6	19.1	4,410	6,250	6,790	8,210
	Approximately 1,040 feet downstream of the confluence of Polecat Creek Tributary 7	18.4	4,370	6,190	6,720	8,110
	At the confluence of Polecat Creek Tributary 7	17.5	4,300	6,080	6,600	7,940
	Approximately 0.7 mile upstream of the confluence of Polecat Creek Tributary 7	16.9	4,270	6,030	6,530	7,850
Polecat Creek Tributary 4	At the confluence with Polecat Creek	7.9	1,310	2,233	2,707	4,045
	Approximately 0.7 mile upstream of the confluence with Polecat Creek	7.1	1,226	2,096	2,544	3,808
	At the confluence of Polecat Creek Tributary 5	5.0	*	*	2,038	*
	Approximately 980 feet upstream of Whitt Hunt Road	4.5	*	*	1,912	*

Table 8—Summary of Discharges

Flooding Source	Location	Drainage Area *(square miles)*	Discharges *(cfs)*			
			10% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
Polecat Creek Tributary 4 (continued)	Approximately 1,480 feet upstream of Whitt Hunt Road	3.0	*	*	1,495	*
	Approximately 750 feet upstream of NC Hwy 62	2.7	*	*	1,383	*
Polecat Creek Tributary 5	At the confluence with Polecat Creek Tributary 4	1.6	450	802	988	1,520
	Approximately 0.4 mile upstream of Bantam Road	1.3	392	702	867	1,340
Polecat Creek Tributary 6	At the confluence with Polecat Creek	1.0	325	464	727	1,130
	Approximately 1.1 miles upstream of the confluence with Polecat Creek	0.4	176	255	407	646
Polecat Creek Tributary 7	At the confluence with Polecat Creek	0.9	311	562	696	1,090
	Approximately 0.7 mile upstream of the confluence with Polecat Creek	0.3	170	343	404	591
Reed Creek (into Deep River)	At the confluence with Deep River	10.1	*	*	3,154	*
	Approximately 210 feet downstream of NC Hwy 22 South	9.6	*	*	3,063	*
	Approximately 790 feet upstream of NC Hwy 22 South	8.6	*	*	2,860	*
	Approximately 0.4 mile upstream of Reed Creek Road	7.7	*	*	2,661	*
	Approximately 1.1 miles downstream of Lee Layne Road	7.0	*	*	2,506	*
	Approximately 1,480 feet downstream of Lee Layne Road	6.0	*	*	2,289	*
Reed Creek (into Little River)	At the confluence with Little River	4.4	*	*	1,867	*
	Approximately 340 feet downstream of Burney Road (SR 1127)	4.1	*	*	1,794	*
	At the confluence of Reed Creek Tributary 1	3.8	*	*	1,723	*

Table 8—Summary of Discharges

Flooding Source	Location	Drainage Area *(square miles)*	Discharges *(cfs)*			
			10% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
Reed Creek (into Little River) (continued)	At the confluence of Reed Creek Tributary 2	2.9	*	*	1,450	*
	Approximately 0.7 mile downstream of Wright Country Road	2.3	*	*	1,243	*
	Approximately 0.3 mile downstream of Wright Country Road	1.4	*	*	925	*
	Approximately 0.7 mile upstream of Wright Country Road	0.8	*	*	646	*
Reed Creek Tributary 1	At the confluence with Reed Creek (into Deep River)	1.6	*	*	1,003	*
	Approximately 0.7 mile upstream of the confluence with Reed Creek (into Deep River)	1.4	*	*	902	*
Reed Creek Tributary 2	At the confluence with Reed Creek (into Deep River)	0.9	*	*	704	*
Reedy Creek	At the confluence with Little River	3.2	*	*	1,544	*
Reedy Fork	At the confluence with Brush Creek	1.7	*	*	1,038	*
Richland Creek	At the confluence with Deep River	66.0	*	*	10,221	*
	Approximately 0.5 mile downstream of Riverside Road	65.2	*	*	10,140	*
	Approximately 0.6 mile upstream of Riverside Road	64.3	*	*	10,049	*
	Approximately 1.2 miles upstream of Riverside Road	63.3	*	*	9,952	*
	Approximately 0.7 mile downstream of Erect Road	62.8	*	*	9,902	*
	Approximately 1,640 feet downstream of Erect Road	58.1	*	*	9,436	*
	Approximately 1,060 feet downstream of Picketts Mill Road	57.1	*	*	9,337	*
	Approximately 0.3 mile downstream of convergence with Bachelor Creek	56.3	*	*	9,256	*

Table 8—Summary of Discharges

Flooding Source	Location	Drainage Area *(square miles)*	Discharges *(cfs)*			
			10% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
Richland Creek (continued)	At the convergence with Bachelor Creek	44.5	*	*	7,984	*
	Approximately 0.6 mile upstream from Little Beane Store Road	44.0	*	*	7,932	*
	Approximately 0.8 mile upstream from Little Beane Store Road	42.8	*	*	7,795	*
	Approximately 1.0 mile downstream of Kemp Mill Road	41.9	*	*	7,698	*
	Approximately 0.6 mile downstream of Kemp Mill Road	39.7	*	*	7,441	*
	Approximately 0.6 mile upstream of Kemp Mill Road	39.3	*	*	7,386	*
	Approximately 0.5 mile downstream of Old NC Hwy 13	36.8	*	*	7,098	*
	Near Old Humble Mill Road	27.4	3,137	5,353	6,540	9,590
	Approximately 0.7 mile downstream of Old Cox Road	19.6	*	*	4,778	*
	Approximately 650 feet downstream of Old Cox Road	10.7	*	*	3,285	*
	At Old Cox Road	10.5	*	*	3,239	*
	Approximately 0.6 mile upstream of Old Cox Road	8.9	*	*	2,926	*
Robbins Branch	At the confluence with Hannahs Creek	1.0	*	*	757	*
Rocky River	Approximately 1.9 miles downstream of Andrews Road	6.9	*	*	2,501	*
	At the confluence with Rocky River Tributary 2	4.7	*	*	1,967	*
	Approximately 1.4 miles upstream of the confluence with Rocky River	3.9	*	*	1,736	*
	At the confluence with Rocky River Tributary 3	1.8	*	*	1,088	*

Table 8—Summary of Discharges

Flooding Source	Location	Drainage Area *(square miles)*	Discharges *(cfs)*			
			10% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
Rocky River (continued)	Approximately 900 feet upstream of the confluence with Rocky River Tributary 4	1.3	*	*	868	*
	Approximately 1.4 miles upstream of the confluence with Rocky River Tributary 4	0.6	*	*	512	*
Rocky River Tributary 2	At the confluence with Rocky River	1.3	*	*	862	*
	Approximately 1.4 miles upstream of the confluence with Rocky River	0.3	*	*	340	*
Rocky River Tributary 3	At the confluence with Rocky River	1.1	*	*	771	*
	Approximately 0.4 mile downstream of Old US 421	0.3	*	*	363	*
Rocky River Tributary 4	At the confluence with Rocky River	0.3	*	*	343	*
Sand Branch	At the confluence with Laniers Creek	0.90	*	*	699	*
Sandy Creek	At the confluence with Deep River	60.0	*	*	9,626	*
	Approximately 1.1 miles downstream from Mulberry Academy Street	56.2	*	*	9,244	*
	At the confluence with Mount Pleasant Creek	45.3	*	*	8,075	*
	Approximately 0.3 mile upstream of the confluence with Mount Pleasant Creek	45.2	*	*	8,066	*
	Approximately 0.4 mile upstream of Low Bridge Road	44.2	*	*	7,954	*
	Approximately 210 feet downstream of Kidds Mill Road	43.6	*	*	7,888	*
	Approximately 790 feet upstream of Kidds Mill Road	37.9	*	*	7,224	*
	Approximately 1.0 mile upstream of Kidds Mill Road	37.5	*	*	7,179	*
	Approximately 1.2 miles upstream of Kidds Mill Road	36.2	*	*	7,021	*

Table 8—Summary of Discharges

Flooding Source	Location	Drainage Area *(square miles)*	Discharges *(cfs)*			
			10% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
Sandy Creek (continued)	Approximately 1.5 miles upstream of Kidds Mill Road	36.1	*	*	7,014	*
	Approximately 1.0 mile downstream of confluence with Sandy Creek Tributary 1	35.2	*	*	6,895	*
	Approximately 0.9 mile downstream of confluence with Sandy Creek Tributary 1	34.1	*	*	6,767	*
	At confluence with Sandy Creek Tributary 1	28.8	*	*	6,087	*
	At confluence with Boodom Creek	24.1	*	*	5,443	*
	Approximately 580 feet upstream of the confluence with Boodom Creek	23.7	*	*	5,390	*
	Approximately 1,370 feet upstream of Old Liberty Road	22.8	*	*	5,254	*
	At confluence with Sandy Creek Tributary 2	20.4	*	*	4,913	*
	At confluence with Sandy Creek Tributary 3	14.4	*	*	3,939	*
	At confluence with Sandy Creek Tributary 7	12.8	*	*	3,659	*
	At confluence with Dodsons Lake	9.4	*	*	3,018	*
	Approximately 1,480 feet upstream of US 421	9.2	*	*	2,986	*
	At confluence with Sandy Creek Tributary 8	5.3	*	*	2,112	*
	At confluence with Sandy Creek Tributary 9	3.3	*	*	1,580	*
	Approximately 530 feet downstream of Old Red Cross Road	2.4	*	*	1,302	*

Table 8—Summary of Discharges

Flooding Source	Location	Drainage Area *(square miles)*	Discharges *(cfs)*			
			10% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
Sandy Creek (continued)	At confluence with Sandy Creek Tributary 10	1.7	*	*	1,023	*
	Approximately 0.3 mile downstream from the confluence with Sandy Creek Tributary 11	1.6	*	*	999	*
	At confluence with Sandy Creek Tributary 11	0.4	*	*	426	*
Sandy Creek Tributary 1	At the confluence with Sandy Creek	4.9	*	*	2,014	*
	Approximately 0.8 mile upstream of the confluence with Sandy Creek	4.2	*	*	1,830	*
Sandy Creek Tributary 2	At the confluence with Sandy Creek	1.3	*	*	889	*
	Approximately 0.6 mile upstream of US Hwy 421	0.6	*	*	556	*
Sandy Creek Tributary 3	At the confluence with Sandy Creek	5.8	*	*	2,226	*
	Approximately 770 feet upstream of Starmount Road	5.4	*	*	2,126	*
	At the confluence of Sandy Creek Tributary 4	4.7	*	*	1,948	*
	At the confluence of Sandy Creek Tributary 5	2.7	*	*	1,373	*
	Approximately 0.3 mile downstream of York Martin Road	1.4	*	*	930	*
	Approximately 0.5 mile upstream of York Martin Road	1.1	*	*	801	*
	Approximately 1.2 miles upstream of York Martin Road	0.4	*	*	452	*
Sandy Creek Tributary 4	At the confluence with Sandy Creek Tributary 3	0.6	*	*	540	*
	Approximately 0.8 mile upstream of the confluence with Sandy Creek Tributary 3	0.3	*	*	316	*

Table 8—Summary of Discharges

Flooding Source	Location	Drainage Area *(square miles)*	Discharges *(cfs)*			
			10% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
Sandy Creek Tributary 5	At the confluence with Sandy Creek Tributary 3	1.5	*	*	961	*
	At the confluence of Sandy Creek Tributary 6	1.1	*	*	812	*
	Approximately 0.4 mile upstream of Bunton Swaim Road	1.0	*	*	775	*
	Approximately 1.0 mile upstream of Bunton Swaim Road	0.6	*	*	602	*
Sandy Creek Tributary 6	At the confluence with Sandy Creek Tributary 5	0.3	*	*	369	*
Sandy Creek Tributary 7	At the confluence with Sandy Creek	1.6	*	*	991	*
	Approximately 0.9 mile upstream of Starmount Road	1.0	*	*	764	*
Sandy Creek Tributary 8	At the confluence with Sandy Creek	2.9	*	*	1,461	*
	Approximately 80 feet upstream of Randolph Church Road	2.2	*	*	1,224	*
	Approximately 1.5 miles upstream of Randolph Church Road	1.2	*	*	841	*
	Approximately 2.1 miles upstream of Randolph Church Road	0.6	*	*	556	*
Sandy Creek Tributary 9	At the confluence with Sandy Creek	1.5	*	*	978	*
	Approximately 0.4 mile downstream of Unnamed Road	1.0	*	*	750	*
	Approximately 210 feet downstream of Unnamed Road	0.4	*	*	437	*
Sandy Creek Tributary 10	At the confluence with Sandy Creek	0.7	*	*	573	*
	Approximately 1,540 feet upstream of Greeson Country Road	0.4	*	*	399	*
Sandy Creek Tributary 11	At the confluence with Sandy Creek	0.4	*	*	436	*
Second Creek	At the confluence with Uwharrie River	16.9	*	*	4,367	*

Table 8—Summary of Discharges

Flooding Source	Location	Drainage Area *(square miles)*	Discharges *(cfs)*			
			10% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
Second Creek (continued)	At the confluence of Second Creek Tributary 1	16.5	*	*	4,288	*
	Approximately 0.4 mile downstream of Oak Grove Church Road (SR 1175)	15.7	*	*	4,168	*
	Approximately 380 feet upstream of Oak Grove Church Road (SR 1175)	15.2	*	*	4,083	*
	Approximately 0.6 mile upstream of Oak Grove Church Road (SR 1175)	14.6	*	*	3,978	*
	Approximately 0.6 mile downstream of the confluence of Twomile Branch	13.3	*	*	3,747	*
	At the confluence of Twomile Branch	11.2	*	*	3,374	*
	Approximately 350 feet upstream of NC Highway 49	10.7	*	*	3,281	*
	At the confluence of Second Creek Tributary 2	7.7	*	*	2,677	*
	Approximately 0.5 mile downstream of the confluence of Second Creek Tributary 3	7.4	*	*	2,608	*
	At the confluence of Second Creek Tributary 3	5.0	*	*	2,028	*
	Approximately 0.4 mile upstream of the confluence of Second Creek Tributary 3	4.8	*	*	1,995	*
Second Creek Tributary 1	At the confluence with Second Creek	0.4	*	*	408	*
Second Creek Tributary 2	At the confluence with Second Creek	2.6	*	*	1,364	*
	At the confluence with Second Creek Tributary 2A	1.7	*	*	1,046	*
Second Creek Tributary 2A	At the confluence with Second Creek Tributary 2	0.9	*	*	691	*
Second Creek Tributary 3	At the confluence with Second Creek	2.2	*	*	1,214	*

Table 8—Summary of Discharges

Flooding Source	Location	Drainage Area *(square miles)*	Discharges *(cfs)*			
			10% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
Second Creek Tributary 3 (continued)	Approximately 260 feet downstream of Bombay School Road (SR 1178)	1.8	*	*	1,057	*
Silver Run Creek	At the confluence with Uwharrie River	2.1	*	*	1,170	*
	Approximately 0.4 mile downstream of Lassiter Mill Road (SR 1107)	1.7	*	*	1,022	*
Simmons Branch	At the confluence with Deep River	3.2	*	*	1,552	*
	Approximately 0.4 mile downstream of Old Walker Mill Road	2.9	*	*	1,437	*
	Approximately 1,110 feet upstream of Old Walker Mill Road	2.5	*	*	1,309	*
South Fork Jackson Creek	At the confluence with Jackson Creek	5.3	*	*	2,116	*
	Approximately 0.8 mile upstream of the confluence with Jackson Creek	4.8	*	*	1,983	*
	Approximately 1.2 miles upstream of the confluence with Jackson Creek	4.3	*	*	1,851	*
South Prong Little River	At the confluence with Little River	4.6	*	*	1,936	*
South Prong Richland Creek	At the confluence with Richland Creek	4.5	*	*	1,910	*
	Approximately 340 feet upstream of Zoo Parkway	3.5	*	*	1,641	*
	Approximately 430 feet upstream of Timberwolf Trail	2.8	*	*	1,409	*
	Approximately 0.5 mile downstream of Ross Harris Road	1.8	*	*	1,087	*
	Approximately 0.4 mile upstream of Ross Harris Road	0.6	*	*	561	*
South Prong Stinking Quarter Creek	At the Chatham/Guilford County boundary	2.7	*	*	1,590	*
	Approximately 430 feet downstream of dam	1.2	*	*	965	*

Table 8—Summary of Discharges

Flooding Source	Location	Drainage Area *(square miles)*	Discharges *(cfs)*			
			10% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
South Prong Stinking Quarter Creek (continued)	Approximately 170 feet upstream of Farmhouse Road	1.0	*	*	870	*
Stinking Quarter Creek Tributary 3	At the confluence with Stinking Quarter Creek	1.3	*	*	995	*
	Approximately 50 feet upstream of Richland Church Road	1.2	*	*	953	*
Taylor Branch	At the confluence with Muddy Creek	2.5	*	*	1,329	*
	Approximately 50 feet downstream of Raymond Gray Lane	2.2	*	*	1,214	*
	Approximately 1,000 feet upstream of Tuttle Road	1.2	*	*	834	*
Taylors Creek	At the confluence of Caraway Creek	10.3	1,562	2,643	3,196	4,750
	Approximately 1.0 mile upstream of the confluence with Caraway Creek	9.8	1,516	2,569	3,108	4,623
	Approximately 0.5 mile downstream of Lassiter Mill Road (SR 1107)	9.6	1,487	2,522	3,052	4,542
	Approximately 0.3 mile upstream of Lassiter Mill Road (SR 1107)	9.0	1,433	2,434	2,946	4,390
	Approximately 1.0 mile upstream of Lassiter Mill Road (SR 1107)	7.8	1,305	2,225	2,697	4,030
	Approximately 1.6 miles upstream of Lassiter Mill Road (SR 1107)	7.6	1,277	2,179	2,643	3,951
	Approximately 2.6 miles upstream of Lassiter Mill Road (SR 1107)	6.6	1,160	1,987	2,413	3,618
	Approximately 0.5 mile downstream of Union Church Road (SR 1163)	6.2	1,112	1,908	2,319	3,481
	Approximately 0.1 mile downstream of Union Church Road (SR 1163)	5.3	1,012	1,744	2,122	3,196
Toms Creek	At the confluence with Uwharrie River	17.8	*	*	4,499	*

Table 8—Summary of Discharges

Flooding Source	Location	Drainage Area *(square miles)*	Discharges *(cfs)*			
			10% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
Toms Creek (continued)	Approximately 1.2 miles downstream of NC Highway 49	17.3	*	*	4,423	*
	Approximately 0.5 mile downstream of NC Highway 49	16.8	*	*	4,351	*
	Approximately 0.1 mile upstream of NC Highway 49	16.0	*	*	4,212	*
	Approximately 0.16 mile downstream of SR 1193	15.4	*	*	4,122	*
	Approximately 0.51 mile upstream of SR 1193	14.4	*	*	3,949	*
	Approximately 1.22 miles upstream of SR 1193	14.0	*	*	3,881	*
	Approximately 1.10 miles downstream of Richey Road (SR 1306)	13.0	*	*	3,709	*
	Approximately 0.65 mile downstream of Richey Road (SR 1306)	12.0	*	*	3,522	*
	Approximately 0.17 mile downstream of Richey Road (SR 1306)	11.7	*	*	3,470	*
	Approximately 370 feet upstream of Richey Road (SR 1306)	11.1	*	*	3,349	*
	Approximately 0.5 mile upstream of Richey Road (SR 1306)	10.5	*	*	3,239	*
	Approximately 0.8 mile upstream of Richey Road (SR 1306)	9.9	*	*	3,129	*
Twomile Branch	At the confluence with Second Creek	1.9	*	*	1,098	*
	Approximately 0.18 mile upstream of the confluence with Second Creek	1.4	*	*	931	*
Twomile Creek	At the confluence with Uwharrie River	1.0	*	*	746	*
Uwharrie River	Randolph/Montgomery County Boundary	309.1	*	*	20,407	*
	At the confluence of Narrows Branch	308.1	*	*	20,397	*
	At the confluence of Lakes Creek	307.1	*	*	20,388	*

Table 8—Summary of Discharges

Flooding Source	Location	Drainage Area *(square miles)*	Discharges *(cfs)*			
			10% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
Uwharrie River (continued)	At the confluence of Uwharrie River Tributary 1	306.9	*	*	20,386	*
	At the confluence of Walkers Creek	302.2	*	*	20,337	*
	Approximately 0.14 mile upstream of the confluence of Walkers Creek	301.6	*	*	20,330	*
	Approximately 0.81 mile upstream of the confluence of Walkers Creek	300.7	*	*	20,320	*
	Approximately 1.06 miles upstream of the confluence of Walkers Creek	300.3	*	*	20,316	*
	Approximately 1.41 miles downstream of the confluence of Mill Creek	299.8	*	*	20,311	*
	Approximately 1.21 miles downstream of the confluence of Mill Creek	299.3	*	*	20,305	*
	Approximately 0.82 mile downstream of the confluence of Mill Creek	298.6	*	*	20,296	*
	At the confluence of Mill Creek	297.0	*	*	20,278	*
	At the confluence of Laniers Creek	287.1	*	*	20,153	*
	At the confluence of Uwharrie River Tributary 2	285.8	*	*	20,135	*
	At the confluence of Uwharrie River Tributary 3	284.9	*	*	20,123	*
	Approximately 0.47 mile upstream of the confluence of Uwharrie River Tributary 3	283.9	*	*	20,109	*
	At the confluence of Hannahs Creek	275.0	*	*	19,975	*
	At the confluence of Silver Run Creek	272.7	*	*	19,938	*
	At the confluence of Twomile Creek	271.5	*	*	19,918	*

Table 8—Summary of Discharges

Flooding Source	Location	Drainage Area *(square miles)*	Discharges *(cfs)*			
			10% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
Uwharrie River (continued)	At the confluence of Second Creek	271.0	*	*	19,911	*
	Approximately 0.6 mile downstream of the confluence of Second Creek	245.7	*	*	19,424	*
	Approximately 0.2 mile upstream of Waynick Meadow Road (SR 1174)	245.2	*	*	19,411	*
	At the confluence of Toms Creek	226.9	*	*	18,973	*
	Approximately 0.4 mile upstream of the confluence of Toms Creek	224.5	*	*	18,909	*
	Approximately 1.2 miles upstream of the confluence of Toms Creek	224.1	*	*	18,897	*
	Approximately 0.7 mile downstream of NC Highway 49	223.7	*	*	18,886	*
	Approximately 0.5 mile upstream of NC Highway 49	223.2	*	*	18,873	*
	At the confluence of Caraway Creek	124.5	*	*	14,877	*
	Approximately 0.44 mile upstream of SR 1193	124.0	*	*	14,850	*
	Approximately 0.7 mile downstream of the confluence of Jackson Creek	123.5	*	*	14,822	*
	At the confluence of Jackson Creek	103.7	*	*	13,555	*
	Approximately 0.5 mile downstream of Jackson Creek Road (SR 1314)	103.3	*	*	13,518	*
	Approximately 0.5 mile upstream of Jackson Creek Road (SR 1314)	102.1	*	*	13,425	*
	Approximately 0.8 mile downstream of the confluence of Uwharrie River Tributary 4	101.8	*	*	13,392	*
	At the confluence of Uwharrie River Tributary 4	98.0	*	*	13,080	*

Table 8—Summary of Discharges

Flooding Source	Location	Drainage Area *(square miles)*	Discharges *(cfs)*			
			10% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
Uwharrie River (continued)	At the confluence of Uwharrie River Tributary 5	96.0	*	*	12,913	*
	Approximately 0.35 mile upstream of the confluence of Uwharrie River Tributary 5	95.4	*	*	12,864	*
	Approximately 0.86 mile downstream of US Highway 64	93.4	*	*	12,692	*
	Approximately 0.4 mile downstream of US Highway 64	89.2	*	*	12,337	*
	Approximately 0.14 mile upstream of US Highway 64	88.7	*	*	12,295	*
	Approximately 1.1 miles upstream of US Highway 64	85.8	*	*	12,036	*
	Approximately 1.1 miles downstream of the confluence with Little Uwharrie River	85.4	*	*	11,999	*
	Approximately 0.8 mile downstream of the confluence with Little Uwharrie River	85.1	*	*	11,975	*
	At the confluence with Little Uwharrie River	41.2	*	*	7,613	*
	At the confluence with Uwharrie River Tributary 6	38.1	*	*	7,252	*
	Approximately 0.6 mile upstream of the confluence with Uwharrie River Tributary 6	37.8	*	*	7,212	*
	Approximately 0.77 mile downstream of Snyder Country Road (SR 1548)	37.0	*	*	7,118	*
	Approximately 370 feet upstream of Snyder Country Road (SR 1548)	36.1	*	*	7,004	*
	Approximately 0.71 mile upstream of Snyder Country Road (SR 1548)	32.9	*	*	6,607	*

Table 8—Summary of Discharges

Flooding Source	Location	Drainage Area *(square miles)*	Discharges *(cfs)*			
			10% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
Uwharrie River (continued)	Approximately 0.26 mile downstream of Thayer Road (SR 1549)	32.0	*	*	6,503	*
	Approximately 0.41 mile upstream of Thayer Road (SR 1549)	30.9	*	*	6,361	*
	Approximately 0.64 mile upstream of Thayer Road (SR 1549)	30.5	*	*	6,309	*
	Approximately 1.10 miles upstream of Thayer Road (SR 1549)	30.0	*	*	6,245	*
	Approximately 1.24 miles downstream of Kennedy Road (SR 3106)	28.1	*	*	5,990	*
	Approximately 0.84 mile downstream of Kennedy Road (SR 3106)	27.4	*	*	5,896	*
	Approximately 0.2 mile downstream of Kennedy Road (SR 3106)	26.0	*	*	5,709	*
	At the confluence of Uwharrie River Tributary 7	24.1	*	*	5,446	*
	Approximately 0.2 mile downstream of Millers Mill Road (SR 1545)	23.8	*	*	5,402	*
	At the confluence of Uwharrie River Tributary 8	18.6	*	*	4,623	*
	Approximately 0.3 mile upstream of the confluence of Uwharrie River Tributary 8	17.8	*	*	4,499	*
	At the confluence of Uwharrie River Tributary 9	14.4	1,955	3,279	3,951	5,832
	Approximately 0.9 mile upstream of the confluence of Uwharrie River Tributary 9	14.0	1,917	3,218	3,879	5,729

Table 8—Summary of Discharges

Flooding Source	Location	Drainage Area *(square miles)*	Discharges *(cfs)*			
			10% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
Uwharrie River (continued)	Approximately 1.5 miles upstream of the confluence of Uwharrie River Tributary 9	12.9	1,819	3,059	3,690	5,459
	Approximately 1.1 miles downstream of Meadowbrook Drive (SR 1564)	12.5	1,780	2,997	3,617	5,354
	Approximately 0.7 mile downstream of Meadowbrook Drive (SR 1564)	12.0	1,735	2,923	3,529	5,228
	Approximately 0.4 mile downstream of Meadowbrook Drive (SR 1564)	10.9	1,622	2,740	3,311	4,915
	At Meadowbrook Drive (SR 1564)	10.8	1,611	2,724	3,292	4,887
	Approximately 1230 feet upstream of Meadowbrook Drive (SR 1564)	10.2	1,557	2,636	3,187	4,736
	At the confluence of Uwharrie River Tributary 10	6.5	1,150	1,971	2,395	3,592
	Approximately 330 feet downstream of Interstate 85	5.7	1,053	1,811	2,203	3,313
	Approximately 162 feet upstream of NC Highway 62	4.7	1,006	1,747	2,004	3,025
	At the confluence of Uwharrie River Tributary 11	3.0	690	1,207	1,478	2,251
	Approximately 0.2 mile upstream of the confluence of Uwharrie River Tributary 11	1.8	499	885	1,089	1,675
	Approximately 244 feet downstream of Mendenhall Road	1.7	*	*	1,024	*
	Approximately 0.4 mile upstream of Mendenhall Road	1.2	*	*	905	*
Uwharrie River Tributary 1	At the confluence with Uwharrie River	0.2	*	*	240	*
Uwharrie River Tributary 2	At the confluence with Uwharrie River	1.0	*	*	756	*

Table 8—Summary of Discharges

Flooding Source	Location	Drainage Area *(square miles)*	Discharges *(cfs)*			
			10% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
Uwharrie River Tributary 3	At the confluence with Uwharrie River	0.8	*	*	659	*
Uwharrie River Tributary 4	At the confluence with Uwharrie River	3.1	*	*	1,511	*
	Approximately 0.44 mile upstream of the confluence with Uwharrie River	3.0	*	*	1,466	*
Uwharrie River Tributary 5	At the confluence with Uwharrie River (SR 1332)	1.8	*	*	1,057	*
	At Garren Town Road	1.7	*	*	1,021	*
Uwharrie River Tributary 6	At the confluence with Uwharrie River	2.8	*	*	1,424	*
	Approximately 0.3 mile upstream of the confluence with Uwharrie River	1.8	*	*	1,082	*
Uwharrie River Tributary 7	At the confluence with Uwharrie River	1.6	*	*	1,015	*
	Approximately 0.2 mile upstream of Sumner Road (SR 1546)	1.1	*	*	809	*
Uwharrie River Tributary 8	At the confluence with Uwharrie River	4.9	*	*	2,015	*
	Approximately 0.8 mile downstream of SR 1566	4.5	*	*	1,907	*
	Approximately 0.35 mile downstream of SR 1566	3.9	*	*	1,735	*
	At the confluence with Uwharrie River Tributary 8A	1.5	*	*	963	*
	Approximately 0.3 mile downstream of SR 1567	1.2	*	*	842	*
	Approximately 180 feet downstream of SR 1567	1.2	*	*	821	*
Uwharrie River Tributary 8A	At the confluence with Uwharrie River Tributary 8	2.2	*	*	1,212	*
	Approximately 500 feet upstream of the confluence with Uwharrie River Tributary 8	2.1	*	*	1,188	*

Table 8—Summary of Discharges

Flooding Source	Location	Drainage Area *(square miles)*	Discharges *(cfs)*			
			10% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
Uwharrie River Tributary 9	At the confluence with Uwharrie River	2.9	*	*	1,440	*
	Approximately 0.26 mile upstream of Meadowbrook Drive (SR 1564)	2.4	*	*	1,286	*
	Approximately 0.23 mile upstream of Morris Road (SR 1557)	1.4	*	*	936	*
	Approximately 0.5 mile downstream of Rock Dam Court	0.8	*	*	666	*
	Approximately 0.5 mile upstream of Rock Dam Court	0.3	*	*	381	*
Uwharrie River Tributary 10	At the confluence of the Uwharrie River	3.6	780	1,359	1,660	2,519
	At Interstate 85	2.2	568	1,001	1,229	1,883
	Approximately 0.5 mile upstream of Surrett Drive	2.0	532	941	1,156	1,775
	Approximately 0.3 mile downstream of Pike Street	1.6	446	795	980	1,512
	Approximately 618 feet downstream of Pike Street	0.9	530	911	1,028	1,361
Uwharrie River Tributary 11	At the confluence of the Uwharrie River	1.4	584	1,019	1,161	1,564
	Approximately 546 feet downstream of Mendenhall Road	1.1	563.04	971.22	1099.94	1464.51
	Approximately 0.5 mile upstream of Mendenhall Road	0.9	530.19	910.61	1028.49	1360.82
Vestal Creek	At the confluence with Richland Creek	7.9	*	*	2,708	*
	Approximately 1,370 downstream of Pine Hill Road	6.5	*	*	2,391	*
	Approximately 0.7 mile upstream of Pine Hill Road	6.0	*	*	2,272	*
	At the confluence of Vestal Creek Tributary 3 (Upstream)	2.5	633	1,162	1,464	2,300
	At the confluence of Vestal Creek Tributary 1 (Downstream)	2.2	586	1,081	1,362	2,140

Table 8—Summary of Discharges

Flooding Source	Location	Drainage Area *(square miles)*	Discharges *(cfs)*			
			10% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
Vestal Creek (continued)	At the confluence of Vestal Creek Tributary 1 (Upstream)	1.3	406	758	962	1,500
	Approximately 1,320 feet east of Hayes Drive (Upstream End)	1.0	352	660	839	1,320
Vestal Creek Tributary 1	At the confluence with Vestal Creek	0.1	88	174	276	368
Vestal Creek Tributary 2	At the confluence with Vestal Creek Tributary 3	0.3	157	304	390	625
Vestal Creek Tributary 3	At the confluence with Vestal Creek	2.6	642	1,179	1,485	2,280
	At the confluence of Vestal Creek Tributary 2	1.7	*	*	1,054	*
Wagners Branch	At the confluence with Little River	1.8	*	*	1,062	*
	Approximately 0.2 mile upstream of Little River Road	1.4	*	*	922	*
	Approximately 400 feet downstream of US 220	0.9	*	*	672	*
	Approximately 60 feet downstream of Westwood Drive (SR 1195)	0.5	*	*	484	*
Walkers Creek	At the confluence with Uwharrie River	4.2	*	*	1,819	*
Wesley Dean Branch	At the confluence with Little River	0.7	*	*	596	*
	Approximately 0.5 mile above the confluence with Little River	0.6	*	*	536	*
West Fork Little River	At Randolph/Montgomery County boundary	13.6	*	*	3,799	*
	Approximately 820 feet upstream of the Randolph/Montgomery County boundary	12.4	*	*	3,601	*
	Approximately 525 feet downstream of Cox Mill Road (SR 1115)	10.3	*	*	3,194	*
	Approximately 1.6 miles upstream of Cox Mill Road (SR 1115)	8.7	*	*	2,878	*

Table 8—Summary of Discharges

Flooding Source	Location	Drainage Area *(square miles)*	Discharges *(cfs)*			
			10% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
West Fork Little River (continued)	Approximately 750 feet downstream of Abner Road (SR 1112)	6.6	*	*	2,414	*
	Approximately 1712 feet upstream of Abner Road (SR 1112)	6.1	*	*	2,295	*
	Approximately 506 feet downstream of Pisgah Covered Bridge Road	5.9	*	*	2,252	*
	Approximately 150 feet upstream of the confluence of West Fork Little River Tributary 3	5.1	*	*	2,060	*
	Approximately 50 upstream of the confluence of West Fork Little River Tributary 4	4.8	*	*	1,987	*
	At the confluence of West Fork Little River Tributary 5	3.7	*	*	1,694	*
West Fork Little River Tributary 1	At the confluence of West Fork Little River	1.9	*	*	1,111	*
West Fork Little River Tributary 2	At the confluence of West Fork Little River	1.3	*	*	872	*
West Fork Little River Tributary 3	At the confluence of West Fork Little River	0.5	*	*	460	*
West Fork Little River Tributary 4	At the confluence of West Fork Little River	0.3	*	*	335	*
West Fork Little River Tributary 5	At the confluence of West Fork Little River	0.8	*	*	664	*

*Data Not Available

Table 9, "Gage Information," lists the stream gages located in Randolph 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 9—Gage Information

Gage Number or Identifier	Flooding Source	Site Name	Drainage Area *(square miles)*	Period of Record	
				From	To
02099500	Deep River	Randleman, NC	125.00	1929	present
02100000	Muddy Creek	Archdale, NC	16.70	1935	1941
02100500	Deep River	Ramseur, NC	349.00	1901	present

[1]Drainage area determined during study may differ from drainage area published by U.S. Geological Survey.

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. For stream segments for which BFEs were computed, selected cross-section locations are also shown on the FIRM. Flood profiles 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 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.

Pre-Countywide Analyses

Each jurisdiction within Randolph County, with the exceptions of Town of Franklinville, the Town of Liberty, the Town of Ramseur, the City of Randleman, the Town of Seagrove, and the City of Trinity, had previously printed FIS Reports describing each community's hydraulic analyses. Those analyses have been compiled and are summarized below. These analyses remain valid for those flooding sources listed in Table 6, "Flooding Sources Studied by Detailed Methods: Redelineated."

Water-surface elevations of the 10%, 2%, 1%, and 0.2% annual chance floods of the streams studied by detailed methods were computed using the U.S. Army Corps of Engineers HEC-2 computer program. (U.S. Department of the Army, 1976).

Channel cross sections for the hydraulic analyses were determined from field survey. The overbank areas were determined using topographic maps. (U.S. Department of the Interior, 1969,

et. al.). Elevation data and structural geometry on bridges and culverts were obtained by field reconnaissance.

Starting water-surface elevations were obtained by an interative computation technique developed by Sarkar (Sarkar, 1976). This computer program, SWSE, was used to overcome the lack of data necessary to utilize the options provided by the HEC-2 program. One additional survey section at a suitable downstream location for each flooding source was taken to utilize this technique. The technique is a modified slope-area method in which the initial estimates of energy slope and water-surface elevation at the beginning cross section are successively adjusted with respect to a downstream section until the true values are arrived at for the beginning cross section within a specified limit of tolerance.

Revised Analyses for Countywide FIS

For the streams studied by detailed and limited 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 version 3.1.1 (U.S. Department of the Army, 2003) for the Cape Fear River basin. The Army Corps of Engineers' HEC-RAS step-backwater computer program version 3.0 was used to compute the recurrence intervals for the Yadkin River basin (U.S. Department of the Army, 2001). The hydraulic analyses were based on unobstructed flow. The flood elevations shown on the profiles 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. Floodway computations for detailed studied streams were run on the calibrated models using a target surcharge value of 1.0 foot.

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' 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, and delineated on USGS Orthophoto Quarter Quads (DOQQ) used for both channel and overbank areas. The channel and overbank "n" values for all of the streams studied by detailed methods are shown in Table 10, "Roughness Coefficients."

Table 10—Roughness Coefficients

Stream	Channel "n"	Overbank "n"[1]
Asheworth Branch	0.045	0.150
Bachelor Creek	0.040-0.045	0.100-0.140
Bachelor Creek Tributary 1	0.040-0.050	0.140
Bachelor Creek Tributary 2	0.040-0.045	0.100-0.140
Bachelor Creek Tributary 3	0.040-0.050	0.100-0.140
Bachelor Creek Tributary 4	0.040-0.045	0.100-0.140

Table 10—Roughness Coefficients

Stream	Channel "n"	Overbank "n"[1]
Bachelor Creek Tributary 5	0.040-0.045	0.140-0.150
Back Creek	0.040-0.050	0.110-0.150
Back Creek Tributary 1	0.045-0.050	0.110-0.150
Back Creek Tributary 1A	0.040-0.045	0.100-0.130
Betty McGees Creek	0.040-0.050	0.110-0.150
Big Branch	0.045-0.050	0.100-0.150
Blood Run Creek	0.045-0.050	0.110-0.150
Boodom Creek	0.040-0.050	0.100-0.150
Boodom Creek Tributary 1	0.040-0.050	0.100-0.140
Boodom Creek Tributary 2	0.040-0.050	0.070-0.150
Brier Creek	0.045-0.050	0.110-0.150
Brier Creek Tributary 1	0.050	0.100-0.150
Brush Creek	0.050	0.100-0.150
Brush Creek Tributary 1	0.040-0.050	0.100-0.200
Bush Creek	0.040-0.050	0.110-0.150
Bush Creek Tributary	0.040-0.050	0.100-0.150
Cable Creek	0.045	0.110-0.150
Caraway Creek	0.048-0.055	0.060-0.150
Caraway Creek Tributary 1	0.040-0.045	0.110-0.150
Caraway Creek Tributary 2	0.040-0.045	0.100-0.150
Caraway Creek Tributary 3	0.045-0.050	0.100-0.130
Cedar Fork Creek	0.050	0.080-0.150
Deep River	0.040-0.055	0.100-0.200
Deep River Tributary 15	0.040-0.045	0.120-0.140
Deep River Tributary 16	0.040-0.045	0.120-0.140
Deep River Tributary 17	0.045-0.050	0.140-0.150
Deep River Tributary 18	0.040-0.045	0.110-0.140
Deep River Tributary 19	0.040-0.045	0.120-0.140
Deep River Tributary 20	0.040-0.045	0.110-0.140
Deep River Tributary 21	0.040-0.045	0.120-0.140
Deep River Tributary 22	0.015-0.045	0.110-0.140
Deep River Tributary 23	0.040-0.045	0.110-0.140
Deep River Tributary 24	0.050	0.120-0.150
Deep River Tributary 26	0.050	0.110-0.150
Dodsons Lake	0.045-0.050	0.100-0.150
Dodsons Lake 2	0.045-0.050	0.100-0.150
Dodsons Lake Tributary 1	0.045-0.050	0.140
Fork Creek	0.040-0.050	0.100-0.150
Fork Creek Tributary 1	0.040-0.045	0.110-0.140
Fork Creek Tributary 2	0.040-0.050	0.120-0.140

Table 10—Roughness Coefficients

Stream	Channel "n"	Overbank "n"[1]
Fork Creek Tributary 3	0.040-0.050	0.100-0.150
Gabriels Creek	0.040-0.050	0.100-0.150
Gabriels Creek Tributary 1	0.045-0.050	0.100-0.150
Gabriels Creek Tributary 2	0.040-0.050	0.100-0.140
Hannahs Creek	0.040-0.045	0.110-0.150
Hasketts Creek	0.045-0.061	0.108-0.200
Hasketts Creek Tributary 1	0.049-0.061	0.108-0.150
Hasketts Creek Tributary 2	0.050	0.130-0.150
Jackson Creek	0.040-0.045	0.100-0.150
Kings Creek	0.045-0.050	0.110-0.150
Lakes Creek	0.040	0.150
Lambert Creek	0.040-0.045	0.100-0.140
Laniers Creek	0.040-0.045	0.110-0.150
Little Brush Creek	0.040-0.050	0.110-0.150
Little Caraway Creek	0.040-0.050	0.120-0.150
Little Caraway Creek Tributary 1	0.045-0.050	0.120-0.140
Little Polecat Creek	0.050	0.110-0.140
Little Polecat Creek Tributary 1	0.045	0.100-0.140
Little Polecat Creek Tributary 2	0.045	0.140
Little Polecat Creek Tributary 3	0.050	0.140
Little Polecat Creek Tributary 4	0.050	0.110-0.140
Little Polecat Creek Tributary 5	0.050	0.110-0.140
Little River	0.040-0.045	0.110-0.150
Little River Tributary 2	0.040-0.045	0.120-0.150
Little River Tributary 3	0.040-0.045	0.150
Little River Tributary 4	0.040-0.045	0.150
Little River Tributary 5	0.040-0.045	0.150
Little River Tributary 6	0.040-0.045	0.150
Little River Tributary 7	0.040-0.045	0.150
Little River Tributary 8	0.040-0.045	0.150
Little River Tributary 9	0.040-0.045	0.150
Little River Tributary 10	0.040-0.045	0.110-0.150
Little River Tributary 11	0.040-0.045	0.120-0.150
Little River Tributary 12	0.040-0.045	0.150
Little Uwharrie River	0.035-0.055	0.045-0.150
Little Uwharrie River Tributary 1	0.045	0.150
Little Uwharrie River Tributary 4	0.045-0.050	0.120-0.150
Little Uwharrie River Tributary 5	0.045	0.110-0.150
Little Uwharrie River Tributary 6	0.045-0.055	0.100-0.150
Little Uwharrie River Tributary 6A	0.045-0.050	0.120-0.140
Little Uwharrie River Tributary 7	0.045	0.100-0.150
Little Uwharrie River Tributary 8	0.045-0.050	0.130-0.140
Little Uwharrie River Tributary 8A	0.040	0.100-0.130

Table 10—Roughness Coefficients

Stream	Channel "n"	Overbank "n"[1]
Little Uwharrie River Tributary 10	0.045-0.050	0.120-0.150
Little Uwharrie River Tributary 10A	0.045-0.050	0.120-0.150
Little Uwharrie River Tributary 11	0.040-0.050	0.110-0.140
Little Uwharrie River Tributary 11A	0.045-0.050	0.120-0.130
Long Branch	0.051	0.080-0.140
Mile Branch Tributary 1	0.045	0.130
Mile Branch Tributary 2	0.050	0.150
Mill Creek (into Deep River)	0.040-0.050	0.100-0.140
Mill Creek (into Uwharrie River)	0.045-0.050	0.100-0.140
Mill Creek Tributary 1	0.040-0.050	0.110-0.150
Mill Creek Tributary 2	0.040-0.050	0.100-0.200
Mill Creek Tributary 3	0.040-0.050	0.100-0.200
Mill Creek Tributary 4	0.040-0.045	0.140
Millstone Creek	0.040-0.050	0.100-0.140
Mount Pleasant Creek	0.040-0.050	0.100-0.140
Muddy Creek	0.045-0.053	0.100-0.150
Muddy Creek East Tributary	0.040-0.050	0.110-0.200
Muddy Creek East Tributary 2	0.050	0.150
Muddy Creek East Tributary 3	0.040-0.045	0.100-0.140
Muddy Creek East Tributary 4	0.040-0.045	0.100-0.140
Muddy Creek East Tributary 5	0.040-0.045	0.120-0.140
Muddy Creek East Tributary 6	0.040-0.045	0.120-0.200
Muddy Creek Tributary	0.040-0.045	0.110-0.150
Muddy Creek West Tributary	0.045-0.050	0.120-0.140
Nanny Branch	0.045	0.130-0.150
Narrows Branch	0.045-0.050	0.140
North Prong Creek	0.050	0.110-0.150
North Prong Richland Creek	0.040-0.050	0.120-0.150
North Prong Richland Creek Tributary	0.040-0.045	0.130-0.140
North Prong Rocky River	0.050	0.100-0.150
Penwood Branch	0.040-0.061	0.108-0.200
Penwood Branch Tributary	0.049-0.061	0.108-0.136
Polecat Creek	0.045-0.055	0.110-0.170
Polecat Creek Tributary 4	0.040-0.050	0.100-0.140
Polecat Creek Tributary 5	0.050	0.100-0.150
Polecat Creek Tributary 6	0.045	0.100-0.140
Polecat Creek Tributary 7	0.045	0.140
Reed Creek (into Deep River)	0.050	0.100-0.150
Reed Creek (into Little River)	0.040-0.045	0.120-0.140

Table 10—Roughness Coefficients

Stream	Channel "n"	Overbank "n"[1]
Reed Creek Tributary 1	0.050	0.140-0.150
Reed Creek Tributary 2	0.045-0.050	0.140-0.150
Reedy Creek	0.040-0.045	0.120-0.140
Reedy Fork	0.045-0.050	0.110-0.150
Richland Creek	0.040-0.061	0.108-0.150
Robbins Branch	0.045-0.050	0.140-0.150
Rocky River	0.050	0.100-0.150
Rocky River Tributary 2	0.040-0.050	0.100-0.150
Rocky River Tributary 3	0.045	0.100-0.140
Rocky River Tributary 4	0.040-0.050	0.100-0.150
Sand Branch	0.040	0.150
Sandy Creek	0.050	0.100-0.150
Sandy Creek Tributary 1	0.040-0.045	0.110-0.140
Sandy Creek Tributary 2	0.050	0.110-0.150
Sandy Creek Tributary 3	0.050	0.120-0.150
Sandy Creek Tributary 4	0.040-0.045	0.120-0.140
Sandy Creek Tributary 5	0.040-0.045	0.140
Sandy Creek Tributary 6	0.040-0.045	0.040-0.150
Sandy Creek Tributary 7	0.040-0.045	0.100-0.140
Sandy Creek Tributary 8	0.050	0.120-0.150
Sandy Creek Tributary 9	0.040-0.050	0.100-0.150
Sandy Creek Tributary 10	0.050	0.120-0.200
Sandy Creek Tributary 11	0.050	0.130-0.150
Second Creek	0.040-0.050	0.110-0.150
Second Creek Tributary 1	0.040-0.045	0.130-0.150
Second Creek Tributary 2	0.045	0.130-0.150
Second Creek Tributary 2A	0.040-0.045	0.150
Second Creek Tributary 3	0.040-0.045	0.110-0.140
Silver Run Creek	0.045-0.050	0.100-0.150
Simmons Branch	0.050	0.110-0.150
South Fork Jackson Creek	0.040-0.050	0.110-0.150
South Prong Little River	0.040-0.045	0.140
South Prong Richland Creek	0.050	0.110-0.150
South Prong Stinking Quarter Creek	0.035-0.05	0.145-0.150
Stinking Quarter Creek Tributary 3	0.045	0.145
Taylor Branch	0.050	0.120-0.150
Taylors Creek	0.048-0.051	0.080-0.130
Toms Creek	0.045-0.050	0.110-0.150
Twomile Branch	0.040-0.045	0.130-0.140
Twomile Creek	0.045-0.050	0.140
Uwharrie River	0.040-0.051	0.050-0.150

Table 10—Roughness Coefficients

Stream	Channel "n"	Overbank "n"[1]
Uwharrie River Tributary 1	0.045	0.150
Uwharrie River Tributary 2	0.040	0.110-0.150
Uwharrie River Tributary 3	0.040	0.130-0.150
Uwharrie River Tributary 4	0.040-0.045	0.110-0.150
Uwharrie River Tributary 5	0.040-0.045	0.150
Uwharrie River Tributary 6	0.040-0.045	0.120-0.150
Uwharrie River Tributary 7	0.045	0.100-0.150
Uwharrie River Tributary 8	0.045-0.050	0.110-0.150
Uwharrie River Tributary 8A	0.045-0.050	0.110-0.150
Uwharrie River Tributary 9	0.040-0.045	0.100-0.150
Uwharrie River Tributary 10	0.049-0.051	0.080-0.140
Uwharrie River Tributary 11	0.050-0.051	0.070-0.150
Vestal Creek	0.045-0.061	0.108-0.150
Vestal Creek Tributary 1	0.049-0.061	0.108-0.136
Vestal Creek Tributary 2	0.049-0.061	0.108-0.136
Vestal Creek Tributary 3	0.045-0.061	0.108-0.150
Wagners Branch	0.045-0.050	0.110-0.150
Walkers Creek	0.045	0.150
Wesley Dean Branch	0.045-0.050	0.130-0.150
West Fork Little River	0.040-0.050	0.110-0.150
West Fork Little River Tributary 1	0.040-0.045	0.100-0.150
West Fork Little River Tributary 2	0.040-0.045	0.140
West Fork Little River Tributary 3	0.040-0.045	0.100-0.140
West Fork Little River Tributary 4	0.040-0.045	0.120-0.140
West Fork Little River Tributary 5	0.040-0.045	0.140-0.150

[1] Does not include ineffective flow areas where n = 1.0 or 10.0

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 11, "Limited Detailed Flood Hazard Data"). Flood Profiles have not been 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 11. 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 should 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 11. FEMA's current (as of August 2001) map revision structure exempts submittal fees for map revision requests based solely on the submission of more detailed data.

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. Until recently, the standard vertical datum in use for newly created or revised FISs was the National Geodetic Vertical Datum of 1929 (NGVD 29). With the finalization of the North American Vertical Datum of 1988 (NAVD 88), many FISs are being prepared using NAVD 88 as the referenced vertical datum.

All flood elevations shown on the FIRM for Randolph 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 may be referenced to NGVD 29. This may result in BFE differences across political boundaries between the communities.

Prior versions of this FIS were referenced to NGVD 29. When a datum conversion is effected for an FIS, the Flood Profiles, BFEs, and bench marks reflect the new datum values. To compare structural and ground elevations to 1% annual chance flood elevations shown in this FIS, the subject structural and ground elevations must be referenced to the new datum values.

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 Randolph County is -0.76 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 12, "Datum Conversion Locations and Values," is shown below.

Table 12—Datum Conversion Locations and Values

Latitude	Longitude	Conversion from NGVD 29 to NAVD 88 (feet)
35.875	80.000	-0.75
35.875	79.875	-0.75
35.875	79.750	-0.72
35.875	79.625	-0.72
35.875	79.500	-0.74
35.750	80.000	-0.81
35.750	79.875	-0.79
35.750	79.750	-0.78
35.750	79.625	-0.69
35.625	80.000	-0.83
35.625	79.875	-0.77
35.625	79.750	-0.77
35.625	79.625	-0.72
35.500	80.000	-0.84
35.500	79.875	-0.78

Table 12—Datum Conversion Locations and Values

Latitude	Longitude	Conversion from NGVD 29 to NAVD 88 (feet)
35.500	79.750	-0.78
35.500	79.625	-0.76
Average conversion in Randolph County from NGVD 29 to NAVD 88 = -0.76 feet		

The 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 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 Randolph 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)

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/datasheet.html, 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 20910-3282
(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

County orthophotos, based on 1998 aerial photography, are used as the base maps for digital FIRM production for the Cape Fear River Basin portion of Randolph County. County orthophotos, based on 2004 aerial photography, are used as the base maps for digital FIRM production for the Yadkin River Basin portion of Randolph County. The base maps are supplemented with stream centerlines, shoreline, and political boundaries, and road name data from other sources; this includes locally available GIS data.

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.

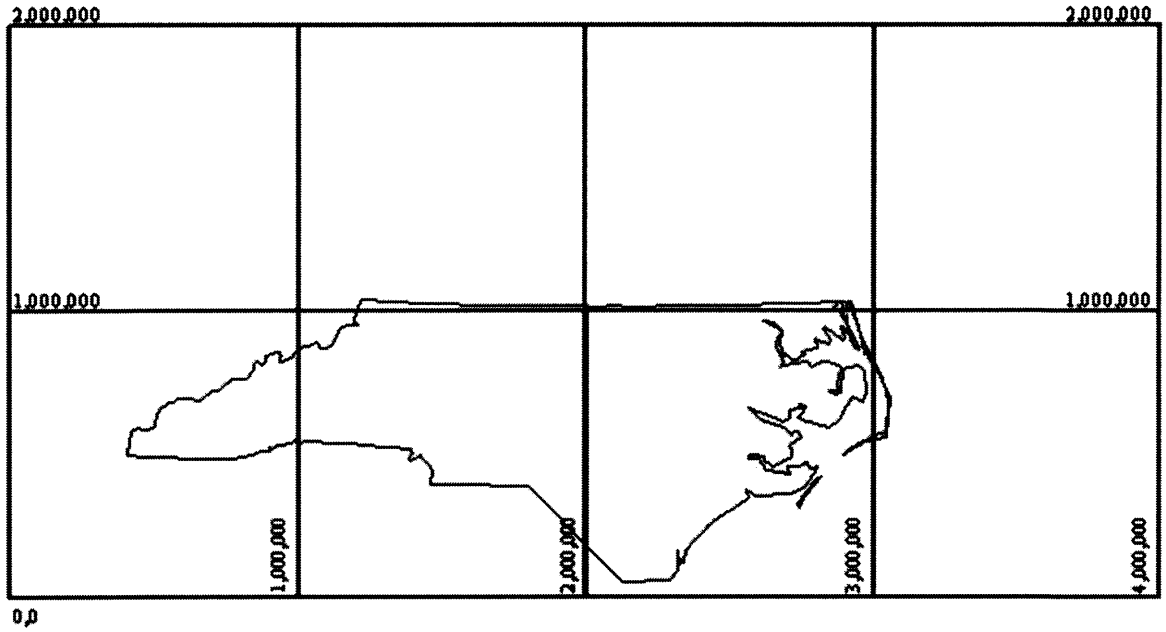

Figure 2—North Carolina's State Plane Coordinate System

6.3 Floodplain and Floodway Delineation

Floodplain Delineation

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 winter 2002-2003 flying season for the Yadkin River Basin, and during the winter 2000-2001 flying season for the Cape Fear River Basin.

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 13, "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.

This FIS is based on the most up-to-date data available to FEMA or the State at the time of production; however, flood hazard conditions change over time. Communities or private parties may request flood map revisions at any time; certain types of revisions will require the submission of supporting data. FEMA or the State may also initiate a revision. FIS revisions may take several forms; these include Letters of Map Amendment (LOMAs), Letters of Map Revision - based on Fill (LOMR-Fs), Letters of Map Revision (LOMRs), Physical Map Revisions (PMRs), and FEMA or the State-contracted restudies.

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 Assistance Center 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 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 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 before construction takes place. This assures communities participating in the NFIP that proposed projects meet minimum NFIP requirements. The result of FEMA's review 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).

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 Assistance Center 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.

7.4 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 more information regarding FEMA-contracted restudies, please contact the FEMA Map Assistance Center 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 Randolph 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 January 2, 2008, North Carolina Statewide FIRM, which includes Randolph County, are presented in Table 14, "Community Map History."

Information pertaining to revised and unrevised flood hazards for each jurisdiction within Randolph 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 Randolph County.

Table 14—Community Map History

Community Name	Initial Identification Date	FHBM Revision Date	FIRM Effective Date	FIRM Revision Date
City of Archdale	March 1, 1974	June 10, 1977	July 16, 1981	January 2, 2008
City of Asheboro	March 15, 1974	October 15, 1976	July 16, 1981	January 2, 2008
Town of Franklinville	February 22, 1974	July 2, 1976	July 1, 1987	January 2, 2008
Town of Liberty	January 2, 2008	NONE	January 2, 2008	
Town of Ramseur	February 15, 1974	July 30, 1976	March 1, 1987	January 2, 2008
City of Randleman	November 22, 1974	NONE	July 1, 1987	January 2, 2008
Randolph County (Unincorporated Areas)	January 3, 1975	August 18, 1978	July 16, 1981	January 2, 2008
Town of Seagrove	January 2, 2008	NONE	January 2, 2008	
City of Trinity	January 3, 1975[1]	August 18, 1978[1]	July 16, 1981[1]	January 2, 2008

[1] This community did not have its own FIRM prior to this countywide FIS. The land area for this community was previously shown on the FIRM for the unincorporated areas of Randolph County, but was not identified as a separate NFIP community. Therefore, the dates for this community were taken from the FIRM for Randolph County.

Section 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 previous FISs for the geographic area of Randolph County. Table 15, "Authority and Acknowledgments," includes information for the single-jurisdiction FISs published for each community included in this countywide FIS, with the exceptions of the Town of Franklinville, the Town of Liberty, the Town of Ramseur, the City of Randleman, the Town of Seagrove, and the City of Trinity, as compiled from their previously printed FIS Reports. The table also includes information for this revision.

Table 15—Authority and Acknowledgments

Community	FIS Dated	Study Contracted by	Data Source *(Study Contractor or Source of Data)*	Contract or Inter-Agency Agreement (IAA) Number	Work Completed in *(month and/or year)*
Randolph County and Incorporated Areas	January 2, 2008	FEMA	North Carolina Floodplain Mapping Program	N/A	May 2005
Randolph County (Unincorporated Areas)	January 16, 1981	Federal Insurance Administration	H.D. Nottingham & Associates, Inc., and Moorman, Litle & Kizer, Inc.	H-4580	June 1979
City of Archdale	January 16, 1981	Federal Insurance Administration	H.D. Nottingham & Associates, Inc., and Moorman, Litle & Kizer, Inc.	H-4580	June 1979
City of Asheboro	January 16, 1981	Federal Insurance Administration	H.D. Nottingham & Associates, Inc., and Moorman, Litle & Kizer, Inc.	H-4580	June 1979

N/A – Not Applicable

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 were produced by Watershed Concepts, under contract with the State of North Carolina.

In August 2000, the North Carolina General Assembly allocated $23 million to Phase I of the Program. FEMA has contributed an additional $10.0 million towards the Program, as well as in-kind contributions of engineering, mapping, and program management services.

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.

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

The dates of the initial and final CCO meetings held for Randolph County were compiled from their previous FIS Reports and are shown in Table 16, "Consultation Coordination Officer's Meetings." Dates are not shown for the Town of Franklinville, the Town of Liberty, the Town of Ramseur, the City of Randleman, the Town of Seagrove, the Town of Staley, and the City of Trinity because these communities never had previously printed FISs.

Table 16—Consultation Coordination Officer's Meetings

Community Name	For FIS Dated	Initial CCO Date	Attended by	Final CCO Date	Attended by
City of Archdale	January 16, 1981	July 1977	Representatives of the study contractor, the Federal Insurance Administration, Randolph County, and the Cities of Archdale and Asheboro	August 14, 1980	Representatives of the Federal Insurance Administration, the study contractor, and the City of Archdale

Table 16—Consultation Coordination Officer's Meetings

Community Name	For FIS Dated	Initial CCO Date	Attended by	Final CCO Date	Attended by
City of Asheboro	January 16, 1981	July 1977	Representatives of the study contractor, the Federal Insurance Administration, Randolph County, and the Cities of Archdale and Asheboro	August 13, 1980	Representatives of the Federal Insurance Administration, the study contractor, and the City of Asheboro
Randolph County (Unincorporated Areas)	January 16, 1981	July 1977	Representatives of the study contractor, the Federal Insurance Administration, Randolph County, and the Cities of Archdale and Asheboro	August 14, 1980	Representatives of the Federal Insurance Administration, the study contractor, and the county

*Data Not Available

A Preliminary Meeting was held in Randolph County, North Carolina on August 25, 2005 to disseminate and review the FIS Report and FIRM panels for the Cape Fear River Basin portion of Randolph County, and on January 10, 2007 to disseminate and review the FIS Report and FIRM panels for the Yadkin River Basin portion of Randolph County. This meeting was attended by community officials from Randolph County and the Incorporated Communities, along with representatitves from the State of North Carolina, FEMA, Dewberry, and Watershed Concepts. A Public Participation Meeting was held on September 22, 2005 to review and discuss the FIS Report and FIRM panels for the Cape Fear River Basin of Randolph County in a public setting. A Public Participation Meeting was held on February 13, 2007 to review and discuss the FIS Report and FIRM panels for the Yadkin River Basin of Randolph County in a public setting.

The dates of the Initial and Final Scoping Meetings held for Randolph County are shown in Table 17, "Scoping Meetings."

Table 17—Scoping Meetings

Community Name	Basin	Initial Scoping Date	Attended by	Final Scoping Date	Attended by
Randolph County (Unincorporated Areas)	Cape Fear	December 6, 2000	Representatives of the State, FEMA, North Carolina Emergency Management, USDA, Dewberry, and Randolph County	March 6, 2001	Representatives of the State, FEMA, North Carolina Emergency Management, Dewberry, Greenhorne & O'Mara, and Randolph County
Town of Franklinville	Cape Fear	December 6, 2000	Representatives of the State, FEMA, North Carolina Emergency Management, USDA, Dewberry, and Randolph County	March 6, 2001	Representatives of the State, FEMA, North Carolina Emergency Management, Dewberry, Greenhorne & O'Mara, and Randolph County
Town of Liberty	Cape Fear	December 6, 2000	Representatives of the State, FEMA, North Carolina Emergency Management, USDA, Dewberry, and Randolph County	March 6, 2001	Representatives of the State, FEMA, North Carolina Emergency Management, Dewberry, Greenhorne & O'Mara, and Randolph County
Town of Ramseur	Cape Fear	December 6, 2000	Representatives of the State, FEMA, North Carolina Emergency Management, USDA, Dewberry, and Randolph County	March 6, 2001	Representatives of the State, FEMA, North Carolina Emergency Management, Dewberry, Greenhorne & O'Mara, and Randolph County

Table 17—Scoping Meetings

Community Name	Basin	Initial Scoping Date	Attended by	Final Scoping Date	Attended by
City of Randleman	Cape Fear	December 6, 2000	Representatives of the State, FEMA, North Carolina Emergency Management, USDA, Dewberry, and Randolph County	March 6, 2001	Representatives of the State, FEMA, North Carolina Emergency Management, Dewberry, Greenhorne & O'Mara, and Randolph County
Town of Seagrove	Cape Fear	December 6, 2000	Representatives of the State, FEMA, North Carolina Emergency Management, USDA, Dewberry, and Randolph County	March 6, 2001	Representatives of the State, FEMA, North Carolina Emergency Management, Dewberry, Greenhorne & O'Mara, and Randolph County
Town of Staley	Cape Fear	December 6, 2000	Representatives of the State, FEMA, North Carolina Emergency Management, USDA, Dewberry, and Randolph County	March 6, 2001	Representatives of the State, FEMA, North Carolina Emergency Management, Dewberry, Greenhorne & O'Mara, and Randolph County
City of Trinity	Cape Fear	December 6, 2000	Representatives of the State, FEMA, North Carolina Emergency Management, USDA, Dewberry, and Randolph County	March 6, 2001	Representatives of the State, FEMA, North Carolina Emergency Management, Dewberry, Greenhorne & O'Mara, and Randolph County

Table 17—Scoping Meetings

Community Name	Basin	Initial Scoping Date	Attended by	Final Scoping Date	Attended by
City of Randleman	Yadkin	November 17, 2003	Representatives of the State, FEMA, North Carolina Emergency Management, USDA, Dewberry, and Randolph County	January 17, 2006	Representatives of the State, FEMA, North Carolina Emergency Management, Dewberry, Watershed Concepts, and Randolph County
Town of Trinity	Yadkin	November 17, 2003	Representatives of the State, FEMA, North Carolina Emergency Management, USDA, Dewberry, and Randolph County	January 17, 2006	Representatives of the State, FEMA, North Carolina Emergency Management, Dewberry, Watershed Concepts, and Randolph County
Randolph County (Unincorporated Areas)	Yadkin	November 17, 2003	Representatives of the State, FEMA, North Carolina Emergency Management, USDA, Dewberry, and Randolph County	January 17, 2006	Representatives of the State, FEMA, North Carolina Emergency Management, Dewberry, Watershed Concepts, and Randolph County

*Data Not Available

Section 9.0 – Guide to Additional Information

This is a multivolume FIS. Each volume may be revised separately, in which case it supersedes the previously printed volume. Users should refer to the Table of Contents in Volume 1 for the current date of each volume; volumes bearing these dates contain the most up-to-date flood hazard data.

FISs have been prepared for Alamance County and Incorporated Areas (FEMA, 2007) and Moore County and Incorporated Areas (FEMA, 2007), Chatham County and Incorporated Areas (FEMA, 2007), Guilford County and Incorporated Areas (FEMA, 2007), and Montgomery County and Incorporated Areas (FEMA, 2008). Countywide FISs to accompany the Statewide FIRM are being prepared for Davidson County and Incorporated Areas (FEMA, 2000). 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 18, "Additional Information," contains useful contact information regarding this FIS, the FIRM, and data.

Table 18—Additional Information

FEMA and the NFIP	
FEMA website	www.fema.gov
NFIP Internet website	www.fema.gov/nfip/
Other Federal Agencies	
USGS website	www.usgs.gov/
Hydraulic Engineering Center website	www.hec.usace.army.mil/
State Agencies and Organizations	
CGIA website	www.cgia.state.nc.us/cgia/
NCGS website	www.ncgs.state.nc.us/
NCFMP website	www.ncfloodmaps.com

Section 10.0 – Bibliography and References

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