1 400 000 FEET

81°00'30"

530 000 FEET

Gaston County

Unincorporated Areas

370099

522 500 FEET

35°10'00"

ZONE X

## **DATUM INFORMATION**

The projection used in the preparation of this map was the North Carolina State Plane (FIPSZONE 3200). The horizontal datum was the North American Datum of 1983, GRS80 ellipsoid. Differences in datum, ellipsoid, projection, or Universal Transverse Mercator zones used in the production of FIRMS for adjacent iurisdictions may result in slight positional differences in map features across jurisdictional boundaries. These differences do not affect the accuracy of this FIRM. All coordinates on this map are in U.S. Survey Feet, where 1 U.S. Survey Foot = 1200/3937 Meters.

Flood elevations on this map are referenced to the North American Vertical Datum of 1988 (NAVD 88). These flood elevations must be compared to structure and ground elevations referenced to the same vertical datum. An average offset between NAVD 88 and the National Geodetic Vertical Datum of 1929 (NGVD 29) has been computed for each North Carolina county. This offset was then applied to the NGVD 29 flood elevations that were not revised during the creation of this statewide format FIRM. The offsets for each county shown on this FIRM panel are shown in the vertical datum offset table below. Where a county boundary and a flooding source with unrevised NGVD 29 flood elevations are coincident, an individual offset has been calculated and applied during the creation of this statewide format FIRM. See Section 6.1 of the accompanying Flood Insurance Study report to obtain further information on the conversion of elevations between NAVD 88 and NGVD 29. To obtain current elevation, description, and/or location information for bench marks shown on this map, please contact the North Carolina Geodetic Survey at the address shown below. You may also contact the Information Services Branch of the National Geodetic Survey at (301) **713-3242**, or visit its website at <a href="http://www.ngs.noaa.gov">http://www.ngs.noaa.gov</a>.

North Carolina Geodetic Survey 121 West Jones Street Raleigh, NC 27601 (919) 733-3836 http://www.ncgs.state.nc.us

County Average	Vertical	Datum	Offset	Table
County		Vertical Da	atum Offse	t (ft)
GASTON		-	0.70	I
MECKLENBURG		-	0.74	
Example: NAVD 88 = NGVD 29 + (-0.70)				

All streams listed in the Flood Hazard Data Table below were studied by detailed methods using field survey. Other flood hazard data shown on this map may have been derived using either a coastal analysis or limited detailed Riverine analysis. More information on the flooding sources studied by these analyses is contained in the Flood Insurance Study report.

FLOOD HAZARD DATA TABLE		1% Annual Chance (100-year) Water-Surface Elevation		Floodway	Community Encroachment Line		
		Flood Discharge (cfs)		(feet.NAVD88)		Distance in Feet From Center of Stream	
	Stream Station			Existing Land Use Condition	Future Land Use Condition	to Encroachment Boundary (Looking Downstream)	
		Condition				Left / Right	Left / Right
BEAVERDA	M CREEK	•		,		-	•
006	558 <sup>1</sup>	3,372	5,144	572.8	574.2	187 / 38	216 / 58
014	1,447 1	2,372	3,811	574.9	575.9	185 / 131	200 / 154
022	2,195 1	2,372	3,811	575.9	577.1	164 / 48	187 / 69
027	2,660 <sup>1</sup>	2,372	3,811	576.9	578.2	201 / 65	230 / 101
033	3,333 1	1,040	1,862	578.9	579.8	228 / 13	273 / 13
038	3,800 1	1,040	1,862	579.1	580.1	213 / 26	271 / 69
044	4,424 1	1,040	1,862	580.4	581.4	17 / 248	19 / 313
053	5,270 1	1,040	1,862	585.5	586.3	11 / 64	11 / 101
057	5,717 1	1,040	1,862	587.9	589.0	48 / 130	91 / 172
065	6,522 <sup>1</sup>	1,040	1,862	591.9	592.7	12 / 112	12 / 179
070	7,026 1	1,040	1,862	596.7	597.9	12 / 129	14 / 138
077	7,691 1	1,040	1,862	599.7	601.0	93 / 57	112 / 79
085	8,526 1	984	1,750	603.5	604.9	41 / 44	63 / 66
093	9,337 1	984	1,750	608.5	609.8	43 / 13	55 / 14
Feet above	confluence	with Catawba River		,		-	
BEAVERDA	_	RIBUTARY					
007	654 <sup>1</sup>	1,590	2,480	578.9 <sup>2</sup>	579.8 <sup>2</sup>	16 / 176	79 / 231
013	1,251 1	1,590	2,480	578.9	579.8	30 / 79	52 / 100
020	2,023 1	1,590	2,480	582.8	583.7	27 / 57	37 / 72
026	2,596 <sup>1</sup>	1,590	2,480	584.9	585.9	18 / 176	18 / 219
032	3,242 1	1,590	2,480	588.4	589.3	69 / 15	78 / 25
041	4,140 1	1,114	1,744	591.6	592.7	72 / 14	99 / 14
049	4,923 <sup>1</sup>	762	1,159	595.3	595.8	19 / 50	34 / 64

Feet above confluence with Beaverdam Creek. <sup>2</sup> Elevation includes backwater effects

EI (	Floodw ay			
FLC		LARD DAT	1% Annual Chance	Distance in Feet From Center of Stream to
Cross Section	Stream Station <sup>1</sup>	Flood Discharge (cfs)	(100-year) Water-Surface ⊟evation	Encroachment Boundary (Looking Downstream)
	occion otation	(013)	(feet NAVD88)	Left / Right
CATAWBA	RIVER			
606	60,594	69,100	571.2	631 / 631
612	61,180	69,100	571.2	508 / 877
618	61,834	69,100	571.2	878 / 878
624	62,433	69,100	571.2	788 / 788
630	63,002	69,100	571.2	675 / 857
635	63,460	69,100	571.2	709 / 878
637	63,724	69,100	571.2	900 / 900
643	64,300	69,100	571.2	871 / 649
649	64,922	69,100	571.2	991 / 991
653	65,312	69,100	571.3	1,064 / 1,064
657	65,739	69,100	571.3	1,187 / 1,187
662	66,172	69,100	571.3	1,085 / 1,085
667	66,716	69,100	571.3	685 / 1,138
672	67,235	69,100	571.3	941 / 941
677	67,741	69,100	571.3	1,141 / 914
683	68,324	69,100	571.3	1,071 / 811
689	68,855	69,100	571.4	832 / 832
692	69,235	69,100	571.4	670 / 791
697	69,732	69,100	571.4	666 / 666
703	70,288	69,100	571.4	543 / 543
708	70,810	69,100	571.5	702 / 702

520 000 FEET 1 400 000 FEET <sup>1</sup> Feet above County line (York County, SC) perating Technical State

This digital Flood Insurance Rate Map (FIRM) was produced through a unique cooperative partnership between Charlotte-Mecklenburg, the State of North Carolina, the Federal Emergency Management Agency (FEMA), and the U.S. Army Corps of Engineers. Charlotte-Mecklenburg Storm Water Services (CMSWS) has developed a long term approach of floodplain management to decrease the costs associated with flooding. This is demonstrated by CMSWS commitment to map floodplain areas at the local level. As a part of this effort, CMSWS has joined in a Cooperating Technical Community agreement with

FEMA and a partnership with the NCFMP to produce and maintain this digital FIRM. www.ncfloodmaps.com http://stormwater.charmeck.org

This map is for use in administering the National Flood Insurance Program. It does not necessarily identify all areas subject to flooding, particularly from local drainage sources of small size. The community map repository should be consulted for possible updated or additional flood hazard

To obtain more detailed information in areas where Base Flood Elevations (BFEs) and/or floodways have been determined, users are encouraged to consult the Flood Profiles, Floodway Data, Limited Detailed Flood Hazard Data, and/or Summary of Stillwater Elevations tables contained within the Flood Insurance Study (FIS) report that accompanies this FIRM. Users should be aware that BFEs shown on the FIRM represent rounded whole-foot elevations. These BFEs are intended for flood insurance rating purposes only and should not be used as the sole source of flood elevation information. Accordingly, flood elevation data presented in the FIS report should be utilized in

conjunction with the FIRM for purposes of construction and/or floodplain management.

Boundaries of regulatory floodways shown on the FIRM for flooding sources studied by detailed methods were computed at cross sections and interpolated between cross sections. The floodways were based on hydraulic considerations with regard to requirements of the National Flood Insurance Program. Floodway widths and other pertinent floodway data for flooding sources studied by detailed methods as well as non-encroachment widths for flooding sources studied by limited detailed methods are provided in the Flood Insurance Study (FIS) report for this jurisdiction. The FIS report also provides instructions for determining a floodway using non-encroachment widths for flooding sources studied by limited detailed methods.

Certain areas not in Special Flood Hazard Areas may be protected by flood control structures. Refer to Section 4.4 "Flood Protection Measures" of the Flood Insurance Study report for information on flood control structures in this jurisdiction.

Base map information and geospatial data used to develop this FIRM were obtained from various organizations, including the participating local community(ies), state and federal agencies, and/or other sources. The primary base for this FIRM is planimetric base map information obtained from and maintained by Mecklenburg County GIS Department and is current as of 2011. Information and geospatial data supplied by the local community(ies) that met FEMA base map specifications were considered the preferred source for development of the base map. See geospatial metadata for the associated digital FIRM for additional information about base map preparation.

Base map features shown on this map, such as **corporate limits**, are based on the most up-to-date data available at the time of publication. Changes in the corporate limits may have occurred since this map was published. Map users should consult the appropriate community official or website to verify current conditions of jurisdictional boundaries and base map features. This map

may contain roads that were not considered in the hydraulic analysis of streams where no new hydraulic model was created during the production of this statewide format FIRM. This map reflects more detailed and up-to-date stream channel configurations than those shown

1 407 500 FEET

ZONE X—

80°59'00"

Mecklenburg County

Unincorporated Areas

370158

**ZONE AE** (FUTURE)

**ZONE AE** 

panels on which each community is located. If you have questions about this map, or questions concerning the National Flood Insurance

Program in general, please call 1 - 877 - FEMA MAP (1-877-336-2627) or visit the FEMA website at <a href="http://www.fema.gov/business/nfip.">http://www.fema.gov/business/nfip.</a>

An accompanying Flood Insurance Study report, Letter of Map Revision (LOMR) or Letter of Map Amendment (LOMA) revising portions of this panel, and digital versions of this FIRM may be available. Visit the North Carolina Floodplain Mapping Program website at http://www.ncfloodmaps.com, or contact the **FEMA Map Information eXchange (FMIX)** at 1 -877 - FEMA MAP (1-877-336-2627) or its website at <a href="http://www.floodmaps.fema.gov/fhm/fmx">http://www.floodmaps.fema.gov/fhm/fmx</a> main.html for information on all related products associated with this FIRM.

Refer to listing of Map Repositories on Map Index or visit <a href="http://www.ncfloodmaps.com">http://www.ncfloodmaps.com</a>. EFFECTIVE DATE OF FLOOD INSURANCE RATE MAP PANEL

**SEPTEMBER 28, 2007** EFFECTIVE DATE(S) OF REVISION(S) TO THIS PANEL

- to change Base Flood Elevations and Special Flood Hazard Areas MARCH 2, 2009<sup>1</sup> SEPTEMBER 2, 2015<sup>1</sup>

<sup>1</sup>Updated flood hazards to reflect seamless statewide mapping

For community map revision history prior to statewide mapping, refer to the Community Map History table located in the Flood Insurance Study report for this jurisdiction. To determine if flood insurance is available in this community, contact your insurance agent, the North Carolina Division of Emergency Management or the National Flood Insurance Program at the following phone numbers or

> http://stormwater.charmeck.org http://www.fema.gov/business/nfip/

520 000 FEET

1 410 000 FEET

**LEGEND** 

SPECIAL FLOOD HAZARD AREAS (SFHAs) SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD

has a 1% chance of being equaled or exceeded in any given year. The Special Flood Hazard Area is the area subject to flooding by the 1% annual chance flood. Areas of Special Flood Hazard include Zones A, AE, AH, AO, AR, A99, V, and VE. The Base Flood Elevation is the

The 1% annual chance flood (100-year flood), also known as the base flood, is the flood that

water-surface elevation of the 1% annual chance flood. **ZONE A** No Base Flood Elevation determined.

1 410 000 FEET

527 500 FEET

80°58'30"

**ZONE X** 

**ZONE X** 

**ZONE AE** 

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

Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined. For areas of alluvial fan flooding, velocities also Special Flood Hazard Area formerly protected from the 1% annual chance **ZONE AR** 

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. **ZONE A99** Areas to be protected from 1% annual chance flood by a Federal flood protection system under construction; no Base Flood Elevations determined.

Coastal flood zone with velocity hazard (wave action); Base Flood Elevations

FLOODWAY AREAS IN ZONE AE

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

COMMUNITY ENCROACHMENT AREAS (Mecklenburg County)

OTHER FLOOD AREAS

**ZONE X** 

\_\_\_\_\_\_

Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square

mile; and areas protected by levees from 1% annual chance flood.

OTHER FLOOD AREAS (Mecklenburg County) Areas of future conditions 1% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas

less than 1 square mile; and areas protected by levees from 1% annual chance flood. OTHER AREAS **ZONE X** Areas determined to be outside the 0.2% annual chance floodplain; areas outside

Areas in which flood hazards are undetermined, but possible. COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS

future conditions 1% annual chance floodplain.

OTHERWISE PROTECTED AREAS (OPAs) CBRS areas and OPAs are normally located within or adjacent to Special Flood Hazard Areas.

> 1% annual chance floodplain boundary (Mecklenburg County) 1% annual chance floodplain boundary 1% annual chance future conditions floodplain boundary (Mecklenburg County) 0.2% annual chance floodplain boundary Floodway boundary

Community encroachment boundary (Mecklenburg County) Zone D boundary CBRS and OPA boundary Boundary dividing Special Flood Hazard Area Zones and boundary

dividing Special Flood Hazard Areas of different Base Flood Elevations, flood depths or flood velocities. ~~~ 513 ~~~ Base Flood Elevation line and value; elevation in feet\* Base Flood Elevation value where uniform within zone; elevation in

(EL 987) \* Referenced to the North American Vertical Datum of 1988 Cross section line

Geographic coordinates referenced to the North American Datum of

1000-meter Universal Transverse Mercator grid ticks, zone 17 2500-foot grid values: North Carolina State Plane coordinate system 1 477 500 FEET (FIPSZONE 3200, State Plane NAD 83 feet)

> North Carolina Geodetic Survey bench mark (for more information visit <a href="http://www.ncgs.state.nc.us">http://www.ncgs.state.nc.us</a>) National Geodetic Survey bench mark (for more information visit http://www.ngs.noaa.gov) NGS-58 GPS 2-5 cm Vertical Control Marks or Contractor-Established

http://www.ncgs.state.nc.us) Mecklenburg County bench mark (for more information visit RM LSUG14 ftp://ftp1.co.mecklenburg.nc.us/luesa/stormwater/FIRM Reference Marks/) M1.5

NCFMP Bench Marks (for more information visit

MAP SCALE 1" = 500' (1:6,000)

PANEL 4502L

**FIRM** FLOOD INSURANCE RATE MAP **NORTH CAROLINA** 

**PANEL 4502** (SEE LOCATOR DIAGRAM OR MAP INDEX FOR FIRM PANEL

**CONTAINS:** COMMUNITY

CHARLOTTE, CITY OF 4502 370159

GASTON COUNTY 370099 4502 MECKLENBURG COUNTY 370158

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

MAP REVISED MAP NUMBER SEPTEMBER 2, 2015 3710450200L

Charlotte-Mecklenburg

WATER

Federal Emergency Management Agency

NOTES TO USERS

80°59'30"

contains authoritative hydraulic data) may reflect stream channel distances that differ from what is shown on this map Please refer to the separately printed Map Index for an overview map of the county showing the layout of map panels, community map repository addresses, and a Listing of Communities table containing National Flood Insurance Program dates for each community as well as a listing of the

http://www.nccrimecontrol.org/nfip

NC Division of Emergency Management National Flood Insurance Program Charlotte-Mecklenburg Storm Water Services

**JOINS PANEL 4503** 

ZONE X

**ZONE AE** 

ZONEX

**ZONE X** 

**ZONE AE** 

LILYBET LANE

ZONE AE

LAKE WYLIE

81°00'00"

1 402 500 FEET

**ZONE AE** 

**ZONE AE** 

**ZONE X** 

Mecklenburg County

Unincorporated Areas

370158

**ZONE X** 

BRACEBRIDGE COURT

ZONE X

ZONE AE

FA2514

ZONE AE

Beaverdam Creek

**ZONE AE** 

ZONE X

PROFILE BASELINE

LAKÉ WYLIE

ZONE AE

ZONE X

ZONE AE

on the previous FIRM for this jurisdiction. The floodplains and floodways that were transferred from the previous FIRM may have been adjusted to conform to these new stream channel configurations. As a result, the Flood Profiles and Floodway Data tables in the Flood Insurance Study report (which

City of Charlotte

370159

JOINS PANEL 4501