

City Of Hanahan



Supplements and Update to
the *Berkeley County Hazard
Mitigation Plan*

for

2017-2018

Summary Report of Updates for 2017 - 2018

- I. Planning Process Description
- II. Description of Flood Events Since 2014
- III. Review of Possible Activities
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I. Planning Process Description

Background Information

The City of Hanahan, SC actively participated in the process to develop the 2015 *Berkeley County Hazard Mitigation Plan*, and its City Council adopted this plan on October 14, 2014. This plan was developed through the Berkeley-Charleston-Dorchester Council of Governments (BCDCOG) professional planning staff utilizing a multi-step process with extensive public involvement. In 2016, the City of Hanahan, in an effort to be proactive in their planning for and preparing their citizens for flood and other hazard events and to save their residents money in flood insurance premiums, determined that it would participate in the National Flood Insurance Program Community Rating System (CRS). To maximize flood insurance premium discounts for its residents under the CRS, the City of Hanahan established an additional committee to review and update its portions of the *Berkeley County Hazard Mitigation Plan* and to include a Program for Public Information (PPI) in this supplement to this plan to guide public education efforts in the City of Hanahan. The City also developed a Flood Insurance Coverage Improvement Plan as a part of this planning process. The *Berkeley County Hazard Mitigation Plan* is fully included in this document as are the items included in this document a part of the City of Hanahan's portion of the *Berkeley County Hazard Mitigation Plan*.

Step 1: Organize to Prepare the Plan

In July, 2016, the City of Hanahan created its Hazard Mitigation Plan/Program for Public Information committee to develop a Program for Public Information (PPI) and make any updates needed to its portions of the *Berkeley County Hazard Mitigation Plan* and to develop its PPI. This committee had 11 members, 4 of which were from the City of Hanahan. The City's representatives had expertise in preventive activities (building and codes), emergency services (police and fire), structural projects (building and codes), property protection (building and codes), and public information (public information officer). Others on the committee were from the general public, Blackwell and Sons Insurance, First Citizens Bank, Coldwell Banker Real Estate Agency, Blackwell True Value Store, and the Charleston Trident Homebuilders' Association. These members also added expertise in these categories. Lisa Sharrard, ANFI, CFM and Joni Rennhack, CFM, C.B.O. served as consultants for this planning process for the City and provided expertise in the Natural and Beneficial Functions of Floodplains and other categories, as needed. City staff represented 36% and non-City represented 64% of the committee. The City of Hanahan City Council formally recognized this committee on July 12, 2016 and authorized this committee to make updates/revisions to the City's plan and PPI as needed and to periodically report back to the Council on any revisions and updates. (See Table 2 for a list of the members of this committee.)

Step 2: Involve the Public

The public was heavily involved in the development of the *Berkeley County Hazard Mitigation Plan* and the City of Hanahan Supplements to this plan. Drafts of the Berkeley County plan were made available online and at the county offices. Three public meetings were also held for the general public to ask questions and provide input prior to the plan being finalized and adopted by the Governing Councils. Notice of these meetings was provided throughout the BCD region, including the City of Hanahan, via media outlets. The public also has opportunities

Table 1: Composition of the Planning Committee for the *Berkeley County Hazard Mitigation Plan* (2015 Berkeley County Hazard Mitigation Plan, p. 6)

Name	Position	Organization
Eric Greenway	Planning & Zoning Administrator.	Berkeley County Government
Tom Smith	Emergency Preparedness Director.	Berkeley County Government
Lori Kidwell	Emergency Preparedness	Berkeley County Government
Craig Nessel	GIS Analyst II	Berkeley County Government
Eric Greenway	Planning Director	Berkeley County Government
Edward Rogers	Engineer	Berkeley County Water & Sanitation Authority
Marilyn Baker		Town of Moncks Corner
Jerry Barham	Fire Department	City of Hanahan
J. Watson	Engineer	Berkeley County Water & Sanitation Authority
Eddie Plowden	Marketing Manager	Berkeley County Electric Coop
Todd Musselman		American Red Cross
Eric Shuler	Operations Manager	BCD-RTMA (dba TriCounty Link)
William Gaither	Engineer	Santee Cooper
Ken Childers		Berkeley County School District
David Miller		Town of Moncks Corner
Mike Cochran	Police Officer	City of Hanahan
Tricia Lisinski	211 Official	Trident United Way
Johnny Broome	Public Works Director	Town of St. Stephen
David Miller	Fire Chief	Town of Moncks Corner

The BCDCOG coordinated this planning process and also provided staff support and participated in committee meetings.

Table 2: Composition of the City of Hanahan, SC Hazard Mitigation Planning/Program for Public Information Committee

Name	Position	Organization
Larry Sturdivant	Building Official and Floodplain Manager	City of Hanahan
David Kornahrens	Public Information Officer	City of Hanahan
Captain Michael Fowler	Police Department	City of Hanahan
Sr. Captain Mike Langan	Fire Department	City of Hanahan
Denise Farmer	Insurance Agent	Blackwell & Sons Insurance
Samantha Kelly	Banker	First Citizens Bank
Marty Chandler	Real Estate Agent	Coldwell Banker Real Estate
Chad Chinnors	Owner	Blackwell True Value Store
Jennifer Mitchun	Resident	Hanahan
Chris Crawford	Resident	Hanahan
Daniel Kary	Builder and Member	Charleston Trident Homebuilders' Association

Lisa Sharrard, ANFI, CFM and Joni Rennhack, CFM, CBO also provided floodplain management and planning consulting services for this committee.

to provide feedback on proposed updates to this plan through plan maintenance activities. Individuals will have an opportunity to submit comments for plan updates via mail or e-mail for all future updates.

The City of Hanahan invited the public to attend a separate public hearing prior on its draft of its supplements to this plan and its separate Program for Public Information (PPI) and Flood Insurance Coverage Improvement Plan. The committee met two times to develop this supplement/update (October 13, 2016, November 15, 2016). Minutes of these meetings are in Appendix A of the *City of Hanahan Flood Insurance Coverage Assessment and Coverage Improvement Plan*, which is considered to be fully a part of this document.

Step 3: Coordinate

The BCDCOG Planning Committee members examined the current regulations, adopted plans, and other pertinent considerations for the government jurisdictions for existing capabilities to address hazard vulnerabilities and mitigation as a part of the planning process for the *Berkeley County Hazard Mitigation Plan*. For the City of Hanahan, this included its Comprehensive Plan, Regional Development Plan, Transportation Improvements, Building Code Enforcement, Zoning Ordinances, Floodplain Ordinance and Subdivision Regulations. The Berkeley County Capital Improvements Program and Water and Sewer Construction plans were also reviewed as a part of this process. Similar plans for neighboring communities (Bonneau, Goose Creek, Jamestown,

Monks Corner and St. Stephen) were also reviewed as a part of this planning process. Hanahan coordinated with these communities as a part of this planning process. Hanahan's plans are considered to be included in this document, as are applicable hazard mitigation elements in this document and the *Berkeley County Hazard Mitigation Plan* considered as included other plans in the City, as appropriate.

The City of Hanahan Hazard Mitigation Plan/PPI committee similarly examined existing flood-related studies and reports, data, technical information, existing plans, needs and goals, and hazard mitigation/public education activities for its supplements to the Hazard Mitigation Plan and its PPI and Flood Insurance Coverage Improvement Plan during its committee meetings. In addition to those coordinating members from the BCDCOG committee, the City also contacted the Charleston Office of the National Weather Service, the S.C. DHEC, the College of Charleston, local television and print media, the SC NFIP office, the U.S. Army Corps of Engineers, the NOAA Coastal Resources Ctr., the SC Department of Transportation, the Natural Resources Conservation Service, U.S. Fish & Wildlife Service, the Federal Emergency Management Agency, the S.C. Emergency Management Division, the U.S. Geological Survey, the South Carolina Aquarium, Berkeley County School District/Hanahan High School, the S.C. Association for Hazard Mitigation and neighboring cities (North Charleston) and counties (Berkeley, Charleston and Dorchester) to coordinate activities with these entities and obtain information on Public Information activities performed by these entities.

Step 4: Assess the Hazard/Public Information Needs

As a part of the planning process for the Berkeley County Hazard Mitigation Plan, the BCDCOG performed a Hazard Identification and Analysis that included a review of historical data on past hazard events, including floods, and established profiles for the respective jurisdictions, including the City of Hanahan, established profiles for the events. Flooding and Hurricanes/Tropical storm events, which often cause flooding, and eight other types of hazard events (tornadoes, winter storms, thunder storms, hail, wildfires, drought, earthquakes, and dam failure) are discussed in detail in the Hazard Identification and Analysis section of the *Berkeley County Hazard Mitigation Plan* (see pp. 55-86). Flooding events since 2014 where the BCDCOG analysis concluded were also evaluated as a part of the City of Hanahan PPI and Flood Insurance Coverage Improvement Plan development by its Hazard Mitigation Plan/PPI committee. The committee also delineated target areas within the City of Hanahan based on flooding and development conditions for public outreach initiatives. This included an assessment of current flood insurance coverage and where coverage needed improvement. This data is included in the *City of Hanahan Flood Insurance Coverage Assessment and Coverage Improvement Plan*, which is considered to be fully a part of this document. Discussion of

additional hazard events is included in Section II (Description of Flood Events Since 2014) of this document.

Step 5: Assess the Problem

The BCDCOG planning committee performed a hazard vulnerability assessment using the methodology developed by the University of South Carolina Hazards Research Lab. This assessment addresses the biophysical vulnerability and the social vulnerability for all of Berkeley County, including the City of Hanahan. Geographical, economic, demographic data and development trends are utilized to determine the characteristics of communities and how these affect vulnerability of the community to hazard events, including floods. Discussion of and maps depicting this vulnerability are included in the *Berkeley County Hazard Mitigation Plan* to which this document is a supplement. Vulnerabilities of critical facilities and major employers are also determined and discussed in this plan as determined through HAZUS analysis. Numbers of buildings that could potentially be damaged and potential dollar losses in flood, hurricane, or earthquake events are also indicated as determined through the HAZUS modeling. This plan also includes a discussion of population and development trends. (*See the Vulnerability Assessment Section, pp. 87-121, of the BCHMP for the Problem Assessment details.*)

The City of Hanahan Hazard Mitigation Plan/PPI Committee evaluated this data, along with any updates to it, as a part of its planning process for this supplementary document. The City also evaluated its own facilities for potential hazard-event related losses as a part of this planning process. Data on historical flood-related losses in the City were evaluated, including repetitive loss areas, along with flood insurance coverage in the City. This information is included in the *City of Hanahan Flood Insurance Coverage Assessment and Coverage Improvement Plan*, which is considered to be fully a part of this document. Floodplain areas within the City that perform natural and beneficial functions were also discussed.

Step 6: Set Goals

The BCDCOG planning committee considered community goals and prioritized these during their meetings for the 2015 edition of the *Berkeley County Hazard Mitigation Plan (BCHMP)*. Eleven goals were established for this plan (see pp. 12-14 of the *BCHMP*).

The City of Hanahan Hazard Mitigation Planning/PPI Committee reviewed the goals of the *BCHMP* and determined that the goals currently within the *BCHMP* addressed current public information and flood mitigation needs of the City and did not need revision at this time.

Step 7: Review of Possible Activities/Other Public Information Initiatives

The BCDCOG planning committee evaluated potential preventive activities, structural projects, emergency services activities, property protection activities, public information activities, and activities aimed at preserving natural and beneficial functions of floodplains and preserving resources (see pp. 15-17 of the *BCHMP*). The City of Hanahan Hazard Mitigation Planning/PPI Committee reviewed these activities and specifically more thoroughly evaluated currently occurring and potential public information activities for its supplements to the *BCHMP* and for its PPI and Flood Insurance Coverage Improvement Plan. These activities included but were not limited to the City's flood map information service, hazard disclosure activities by the real estate profession, the City's website, flood protection assistance service, flood insurance promotion activities, open space preservation, floodplain management planning, and drainage system maintenance. The results of this analysis are contained within section III (Review of Possible Activities) section of this document.

Step 8: Action Plan and Status Report/Formulation of Program for Public Information Messages and Identification of Outreach Projects

The City of Hanahan has a five-year action plan included in the BCDCOG *Berkeley County Hazard Mitigation Plan* (see pp. 39-43 of the *BCHMP*). This action plan includes action items for preventive activities, property protection, emergency services, and Geographic Information Systems (GIS) activities. The City of Hanahan Hazard Mitigation Planning/PPI Committee reviewed these action items and added action items for structural projects, natural and beneficial functions of floodplains/resource preservation and public information activities for its 2017 – 2018 Action Plan. The public information activities were further detailed in the City's Program for Public Information. Flood insurance coverage improvement educational activities were also included in the PPI. The other additional action plan activities are included in the 2017 - 2018 Action Plan section of this Hazard Mitigation Plan update. A status report on the *BCHMP* City of Hanahan Action Plan is also included in this document.

Step 9: Adopt the Plan

The City of Hanahan City Council adopted the 2015 *Berkeley County Hazard Mitigation Plan* by resolution on October 14, 2014. On July 12, 2016, the Hanahan City Council officially recognized the City of Hanahan Hazard Mitigation Plan/Program for Public Information committee as a continuing entity to develop and update any supplements or updates to this plan for the City of Hanahan and to report back periodically to the City Council on their actions. On April 11, 2017, the Hanahan City Council adopted by resolution the City of Hanahan Supplements to the *Berkeley County Hazard Mitigation Plan*. The City of Hanahan Program for Public Information, and the City of Hanahan Flood Insurance Coverage Improvement Plan developed by this committee were adopted by City Council on March 14, 2017. The City Council will re-adopt the *Berkeley County Hazard Mitigation Plan* and the City of Hanahan Supplements, its Program for Public Information and its Flood Insurance Coverage Improvement Plan at a minimum every five years.

Step 10: Implement, Evaluate and Revise:

This City of Hanahan Hazard Mitigation Planning/Program for Public Information Committee will continue to meet on at least an annual basis, more frequently if needed, to review progress towards the City of Hanahan Action Plan, Program for Public Information and Flood Insurance Coverage Improvement Plan and will report back to the City Council on their findings and any changes made to these documents as a result of their review. The media and public will be notified of the availability of this report on an annual basis so they are provided with opportunities to comment and/or report on the findings/progress.

The City of Hanahan will also continue to participate in the five-year update planning process for the *Berkeley County Hazard Mitigation Plan* and will coordinate their annual updates with the five-year evaluations/updates performed for this plan, so that these plans remain consistent. The public will have many opportunities to provide input into the plan as a part of this update cycle, including but not limited to, through public meetings held separately from City Council meetings to provide input on the draft updates. This five-year evaluation will include an assessment of any new flood hazard maps, annexations of flood-prone areas, repetitive loss properties, completed mitigation projects, development in the floodplain or watershed, new flood control projects, flood control projects where maintenance may be required, major floods or other hazard events that have occurred since the adoption of the plan, and any other changes in flooding conditions and/or development exposed to floods or other hazard events. Goals and action plan items will be reviewed and updated as needed, and

the City of Hanahan Governing Council will re-adopt the plan and its supplements, its Program for Public Information, and its Flood Insurance Coverage Improvement Plan on a five-year cycle.

II. Description of Flood Events Since 2014

1. On **August 31, 2015** the National Weather Service reported on <https://weather.com> (Sean Breslin 2015, August 31)) that 6.25 inches of rain fell in the Charleston metro area, including the city of Hanahan, over an 8 hour period resulting in flash flooding. This event resulted in 5 flood insurance claims in the City of Hanahan.
2. On **October 3-4, 2015** there was a historic record breaking flood event with 17.9 inches of rainfall recorded in the Charleston metro area, including the City of Hanahan, October 2-6, 2015 as a result of remnants from Hurricane Joaquim and a second storm system combining over coastal South Carolina (David Slade, 2015, October 4, *Charleston Post and Courier*, http://www.postandcourier.com/archives/once-in-a-thousand-years/article_fbb99019-45fb-57db-8453-7b679ed86512.html). This event resulted in 39 flood insurance claims in the City of Hanahan.
3. On **October 8, 2016** Hurricane Matthew made landfall in McClellanville, South Carolina (North of Hanahan) as a Category 1 hurricane with 75 mph winds. Tide levels in the Charleston Harbor peaked at the third highest level in recorded history and the highest level since Hurricane Hugo in 1989. This storm dumped 10.48 inches of rainfall on the Charleston metro area per the NOAA weather prediction center, including the City of Hanahan (<https://weather.com/storms/hurricane/news/hurricane-matthew-bahamas-florida-georgia-carolinas-forecast#!/>, 2016, October 10). The number of flood insurance claims from this event was not yet available at the time of this writing.

III. Review of Possible Activities

The City of Hanahan Hazard Mitigation Plan/Program for Public Information Committee considered the following possible activities through their deliberations for this Supplement/Update to the Berkeley County Hazard Mitigation Plan and for the City's Program for Public Information. These activities include those currently being conducted by the agencies/entities contacted as listed in Section I of this document (Step 3 – Coordinate).

A. Preventive Activities

Building Development Regulations (*general funds*): State of S.C. Building Codes, Stormwater ordinance(s)/Design Manual(s) (Counties and Cities), S. C. DHEC Environmental Quality, City Land Use, City Flood ordinance, Army Corps of Engineers and SC DHEC wetland restrictions, S.C. DHEC OCRM coastal zone setbacks

Infrastructure Regulations (*general funds*): S.C. DHEC Environmental Quality, City Land Use, Army Corps of Engineers and SC DHEC wetland restrictions, City Flood ordinance, Federal and State Department of Transportation Highway regulations

Other Preventive Activities (*general, enterprise and grant funds*): Stream dumping regulations (Berkeley County); sponsoring educational programs on construction-related codes for builders, code officials and other interested parties; developing a monitoring system for repetitively flooded areas to ensure all work is properly permitted and encourage mitigation activities; participating in a "Drainage awareness Campaign"

B. Property Protection Activities

Flood Insurance (*general funds*): Encouraging citizens to purchase/maintain flood insurance on property (Counties and Cities, FEMA, SC NFIP office, SC EMD)

Protection of Publicly Owned Assets to Higher Standards (*general, grant, and bond funds*): locating and constructing critical facilities to resist damage from floods and other hazard events (Counties and Cities); constructing infrastructure to resist damage from flood, wind and earthquake (Counties, SC DOT); retrofitting existing assets for enhanced hazard resistance (Counties and Cities); maintaining flood and other insurance on buildings (Counties and Cities)

Mitigating Existing Privately-owned Structures (*general and grant funds*): elevating/retrofitting flood damaged buildings (FEMA, SC NFIP office, SC EMD, Counties and Cities), demolishing structures in substandard condition (Counties and Cities), acquiring/relocating structures (FEMA, SC NFIP Office, SC EMD, Counties and Cities)

Other Property Protection Activities (*general and grant funds*): Educating citizens regarding hazard safe interior rooms and other measures to take to reduce hurricane/flood related losses on properties (FEMA, SC EMD, SC NFIP Office, TV Stations, newspaper, Counties, Cities); developing voluntary standards that exceed minimal building codes (Charleston County)

C. Natural and Beneficial Functions of Floodplains/Resource Preservation

Protecting Land from Development (*general, bond, enterprise and grant funds*): locating passive parks in floodplain areas (Counties and Cities); restricting land development in wetland areas (U.S. Army Corps of Engineers, SC DHEC Office of Ocean and Coastal Resource Management); historic preservation activities (SC DOT, Counties and Cities)

Water Quality- Related Activities (*general funds*): National Water Quality Assessment (USGS, U.S. Army Corps of Engineers); biological and ecological studies (USGS, U. S. Fish and Wildlife Service, U. S. Army Corps of Engineers)

Other Activities (*general, enterprise and grant funds*): Environmental Impact Statements/Environmental Assessments (S.C. DOT, U.S. Army Corps of Engineers, required for FEMA grants); riparian buffer zone education (S.C. DHEC OCRM, Counties and Cities); build-a-dune projects (Charleston County); beach renourishment projects (SC EMD, U.S. Army Corps of Engineers)

D. Structural Projects

Infrastructure Improvement Projects (*general, capital, bond, enterprise and grant funds*): Drainage improvement projects (FEMA, SC NFIP), channel dredging (US Army Corps of Engineers), road/bridge construction/repair (S.C. DOT, Counties and Cities)

Mapping and Studies (*general, capital, bond, enterprise and grant funds*): Drainage improvement studies (S.C.DOT, Counties and Cities), coastal erosion studies (S.C.DHEC OCRM), flood mapping studies (FEMA, SC NFIP); topographic mapping (USGS), stormwater master planning (Counties and Cities), hydrologic data collection (USGS, US Army Corps of Engineers),

GIS mapping (FEMA, SC NFIP office, SC DHCE OCRM, US Army Corps of Engineers, Counties and Cities)

Other Activities (*general and grant funds*): utility right-of-way permitting (SC DOT, Counties, Cities); placing electrical utility lines underground (electric companies); educating residents regarding proper generator usage (electric companies, Counties and Cities); installing signs indicating anticipated flood levels above road surface in hurricanes (SC DOT); USGS stream gauging program

E. Emergency Services

Event Response (*general and grant funds*): providing police, fire and EMS services to respond to emergencies (Counties and Cities); emergency sheltering (American Red Cross, schools); coordination of volunteer services (American Red Cross, Counties and Cities); debris removal/disposition (FEMA, SC EMD, SC DOT, US Army Corps of Engineers)

Pre-Event Activities (*general and grant funds*): training first responders on hazard event procedures (FEMA, SC EMD, Counties and Cities); Emergency Operations Center drills (SC EMD, Counties and Cities); sandbagging for flooding (Counties and Cities); weather forecasting (National Weather Service, Local TV stations); Hurricane Surge Mapping (NOAA); emergency warning systems (National Weather Service, TV Stations, Counties and Cities);

Other Activities (*general, grant, and capital funds*): retrofitting/constructing critical facilities for enhanced hazard resistance (FEMA, SC EMD, SC NFIP Office, Counties and Cities); providing transportation to emergency shelters (Counties and Cities)

F. Public Information Activities

The City of Hanahan developed a Program for Public Information following requirements for credit under the NFIP Community Rating System. Possible public information activities are detailed in this separate document, which considered to be fully included in this supplement and update to the *Berkeley County Hazard Mitigation Plan*.

IV. STATUS REPORT FOR THE CITY OF HANAHAN, SC

Following are the proposed projects to be undertaken/continued in the City of Hanahan for hazard mitigation during 2014-2016 and their status as of February, 2017:

(Abbreviations for "Type" are as follows: "PA" is Preventive Activities, "PP" is Property Protection Activities, "NB" is Natural and Beneficial Functions/Resource Preservation Activities, "ES" is Emergency Services Activities, "SP" is Structural Projects Activities, and "PI" is Public Information Activities, "GIS" is Geographic Information Systems Activities.)

<i>Type</i>	<i>Activity</i>	<i>Lead Agency</i>	<i>Funding Source</i>	<i>Goal(s) addressed</i>	<i>Priority</i> <i>(1 highest, 4 lowest)</i>	<i>Status as of February, 2017</i>
PA	Continue enforcement of the International series Building-related and Fire codes and the floodplain management regulations (including the one foot freeboard, cumulative substantial improvement clause, and/or other provisions deemed necessary to enhance Community Rating System credits) to maintain participation in the National Flood Insurance Program and the Community Rating System.	Building & Codes	General Fund	Minimize future flood damage; minimize future earthquake damage; minimize future hurricane damage; protect the lives of our citizens from natural and man-made hazards	1	2015 Intl. Code series adopted at the State level. Flood ordinance revisions in process. City is making application to the Community Rating System during 2017.
PA	Continue to provide coordination of stormwater management regulations.	Building & Codes	General Fund Stormwater Fee	Improve water quality; minimize future flood damage; reduce existing flood damage; educating citizens regarding steps to take to reduce vulnerabilities; improve hazard resistance of infrastructure; reduce vulnerability of our infrastructure to natural and man-made hazards	1	Stormwater activities were merged with Berkeley County during 2015. Berkeley County and the S.C. DOT now perform these functions.
PA	Continue enforcement of zoning regulations, Subdivision, and Land Development Regulations.	Planning	General Fund	Minimize future flood damage; preserve environmental resources; promote long-term economic prosperity; preserve open space; encourage recreational activities; minimize future hurricane damage; minimize future earthquake damage; protecting the lives of our citizens from natural and man-made hazards	1	On-going

PA	Conduct or co-sponsor training workshops regarding the International Building-related, flood, and Fire Prevention Codes and Regulations, and on sustainable construction / landscaping practices, if there is interest in these workshops	Building & Codes	General Fund/self-supporting through workshop revenues	Educating citizens regarding vulnerability to natural hazards and steps to reduce vulnerability; minimize future flood damage; minimize future earthquake damage; improve hazard resistance of infrastructure; minimize hurricane damage; preserve environmental resources	1	Building & Codes Dept. provided information on City internet site and Facebook page regarding pre- and post-event permit procedures for Hurricane Matthew.
PA	Continue providing information to citizens regarding non-structural mitigation actions.	Emergency Preparedness	General Fund and Grant Funding	Educating citizens regarding vulnerability to natural hazards and steps to reduce vulnerability; minimize future flood damage; minimize future earthquake damage;	2	Police Dept. posted information on the City internet site and Facebook page regarding non-structural safety procedures for Hurricane Matthew.
PA	Continue enforcing regulations requiring new manufactured homes brought into Hanahan to be constructed to wind zone 2 requirements as required per State law.	Building & Codes	General Fund	Minimize future hurricane damages; protecting lives of citizens from natural and man-made hazards	1	On-going
PA	Continue prohibiting new manufactured homes to be installed in "V" flood zones and requiring manufactured homes installed in "A" flood zones to be on permanent foundations.	Building & Codes	General Fund	Minimize future flood damage; minimize future earthquake damage; minimize future hurricane damage; protecting lives of citizens from natural and man-made hazards.	1	2016 Flood Insurance Maps show no "V" zones in City of Hanahan Corporate limits. On-going for "A" flood zones.
PP	Promote the use of voluntary standards for single family residences to exceed minimal building code requirements for wind and seismic design.	Building & Codes	General Fund	Minimize future flood damage; minimize future earthquake damage; minimize future hurricane damage; preserve environmental resources; educating citizens regarding vulnerability to hazards and steps to reduce vulnerability	2	With State adoption of 2015 Intl. Code Series this item is no longer necessary.
PP	Promote standards for existing homes to be retrofitted to that exceed minimal codes.	Building & Codes	General Fund	Reduce existing flood damage; preserve environmental resources; minimize future hurricane damages; minimize future earthquake damages; educating citizens regarding vulnerability to hazards and steps to reduce vulnerability	2	With State adoption of 2015 Intl. Code Series this item is no longer necessary.

PP	Continue providing information to citizens regarding hazard safe interior rooms	Building & Codes	General Fund	Minimize future tornado-related loss of life; Educating citizens regarding vulnerability to hazards and steps which may reduce vulnerability	2	FEMA brochure on safe rooms to be provided at City offices for those interested in these rooms in 2017.
PP	Work toward eliminating flooding in existing Subdivisions	Building & Codes	General Fund	Minimize Future Loss	3	City analyzed flood insurance claim data and repetitive flood loss areas to identify subdivisions that may be candidates for drainage improvement projects to be submitted for post- Hurricane Matthew grant funds.
PP	Continue demolishing structures posing a threat to public safety, considering location within the special flood hazard area as a prioritization factor.	Building & Codes	Grant Funding	Reduce existing flood damages; promote long-term economic prosperity; encourage recreational activities; minimize future hurricane damage; minimize future flood damage; reducing vulnerability of infrastructure to hazards	3	No demolitions performed.
PP	Seek funding for retrofitting, demolishing, or relocating repetitively flooded properties, if suitable candidates can be identified.	Building & Codes	Grant Funding	Reduce existing flood damage; minimize future flood damage; preserve historic building inventory; reducing vulnerability of built-environment to hazards	1	City is conducting an analysis in 2017 of properties in Repetitive Flood Loss areas as a part of its Community Rating System program, and will provide information to property owners as to possible measures to take to reduce future flood loss potential.
PP	Distribute a brochure on protecting boats from damages during hurricanes to interested citizens through expos, offices, marinas, and boat dealers.	Building & Codes	Grant Funding	Educating citizens regarding steps to take to reduce hazard vulnerability; minimize future hurricane damage; encourage recreational activities; preserve environmental resources, improve water quality	3	On-going

ES	Continue hazardous material training	Fire Department	General Fund and Grant Funding	Protecting lives of our citizens from man-made hazards; minimize future hazardous materials incidents; preserve environmental resources; improve hazard resistance of infrastructure; assessing vulnerability to man-made hazards; establishing cooperative relationships between public, private and non-profit sectors to enhance response for hazard events.	1	On-going
ES	Continue Terrorist Response Training	Police Department	General Fund	Protecting lives of our citizens from man-made hazards; minimize future terrorist activity incidents; preserve environmental resources; improve hazard resistance of infrastructure; assessing vulnerability to man-made hazards; establishing cooperative relationships between public, private and non-profit sectors to enhance response for hazard events; promote long-term economic prosperity.	1	On-going
ES	Review options to have gas stations available to service emergency services vehicles during hazard activity	Police Department	General Fund	Prepare services to respond efficiently and rapidly during and after a hazard event.	1	On-going
GIS	Develop and maintain storm drainage inventory maps and database.	Building & Codes	General Fund & Stormwater Fee	Reduce existing flood damage, minimize future flood damage and improve water quality.	2	On-going

V. ACTION PLAN FOR THE CITY OF HANAHAN, SC

Following are the proposed projects to be undertaken/continued in the City of Hanahan for hazard mitigation during 2017-2018:

(Abbreviations for "Type" are as follows: "PA" is Preventive Activities, "PP" is Property Protection Activities, "NB" is Natural and Beneficial Functions/Resource Preservation Activities, "ES" is Emergency Services Activities, "SP" is Structural Projects Activities, and "PI" is Public Information Activities, "GIS" is Geographic Information Systems Activities.)

<i>Type</i>	<i>Activity</i>	<i>Lead Agency</i>	<i>Funding Source</i>	<i>Goal(s) addressed</i>	Priority <i>(1 highest, 4 lowest)</i>
PA	Continue enforcement of the International series Building-related and Fire codes and the floodplain management regulations (including the two feet freeboard, cumulative substantial improvement clause, and/or other provisions deemed necessary to enhance Community Rating System credits) to maintain participation in the National Flood Insurance Program and the Community Rating System.	Building & Codes	General Fund	Minimize future flood damage; minimize future earthquake damage; minimize future hurricane damage; protect the lives of our citizens from natural and man-made hazards	1
PA	Continue to provide coordination of the <i>Berkeley County Stormwater Design Standards Manual</i> and the Berkeley County Stormwater Management Ordinance	Berkeley County and the S.C. Dept. of Transportation	Berkeley County and S.C. DOT General Fund	Improve water quality; minimize future flood damage; reduce existing flood damage; educating citizens regarding steps to take to reduce vulnerabilities; improve hazard resistance of infrastructure; reduce vulnerability of our infrastructure to natural and man-made hazards	1
PA	Continue enforcement of zoning regulations, Subdivision, and Land Development Regulations.	Planning	General Fund	Minimize future flood damage; preserve environmental resources; promote long-term economic prosperity; preserve open space; encourage recreational activities; minimize future hurricane damage; minimize future earthquake damage; protecting the lives of our citizens from natural and man-made hazards	1
PA	Continue enforcing regulations requiring new manufactured homes brought into Hanahan to be constructed to wind zone 2 requirements as required per State law.	Building & Codes	General Fund	Minimize future hurricane damages; protecting lives of citizens from natural and man-made hazards	1

PA	Continue requiring manufactured homes installed in “A” and “AE” flood zones to be on permanent foundations.	Building & Codes	General Fund	Minimize future flood damage; minimize future earthquake damage; minimize future hurricane damage; protecting lives of citizens from natural and man-made hazards.	1
PP	Conduct an analysis of Repetitive Flood Loss Areas and assist property owners with selecting mitigation activities, as applicable	Building & Codes	General Fund Grant Funding	Minimize future flood damage; protecting lives of citizens from natural and man-made hazards.	1
PP	Continue providing information to citizens regarding hazard safe interior rooms	Building & Codes	General Fund	Minimize future tornado-related loss of life; Educating citizens regarding vulnerability to hazards and steps which may reduce vulnerability	2
PP	Work toward eliminating flooding in existing Subdivisions	Building & Codes	General Fund	Minimize Future Loss	3
PP	Continue demolishing structures posing a threat to public safety, considering location within the special flood hazard area as a prioritization factor.	Building & Codes	Grant Funding	Reduce existing flood damages; promote long-term economic prosperity; encourage recreational activities; minimize future hurricane damage; minimize future flood damage; reducing vulnerability of infrastructure to hazards	3
PP	Seek funding for retrofitting, demolishing, or relocating repetitively flooded properties or other properties in areas of frequent flooding, if suitable candidates can be identified.	Building & Codes	Grant Funding	Reduce existing flood damage; minimize future flood damage; preserve historic building inventory; reducing vulnerability of built-environment to hazards	1
PP	Seek funding for retrofitting critical facilities or infrastructure to enhanced hazard protection, if funding sources become available.	Building & Codes	Grant Funding	Reduce vulnerability of infrastructure to natural and man-made hazards; minimize future hurricane damage; minimize future earthquake damage; reduce existing flood damage; preserve historic building inventory; promote long-term economic prosperity	1
NB	Continue maintaining permanent open space as parks.	Parks and Recreation Department	General Fund	Preserve environmental resources; promote long-term economic prosperity; encourage recreational activities; minimize future flood damages	2

NB & ES	Encourage cooperation between City departments, other government entities, interested businesses, and citizens regarding recommended sustainable practices to protect environmental quality	Building & Codes/other Departments as applicable	Grant Funding/ General Fund	Preserve environmental resources; improve water quality; improve air quality; promote long term economic prosperity	2
ES	Continue hazardous material training	Fire Department	General Fund and Grant Funding	Protecting lives of our citizens from man-made hazards; minimize future hazardous materials incidents; preserve environmental resources; improve hazard resistance of infrastructure; assessing vulnerability to man-made hazards; establishing cooperative relationships between public, private and non-profit sectors to enhance response for hazard events.	1
ES	Continue Terrorist Response Training	Police Department	General Fund	Protecting lives of our citizens from man-made hazards; minimize future terrorist activity incidents; preserve environmental resources; improve hazard resistance of infrastructure; assessing vulnerability to man-made hazards; establishing cooperative relationships between public, private and non-profit sectors to enhance response for hazard events; promote long-term economic prosperity.	1
ES	Review options to have gas stations available to service emergency services vehicles during hazard activity	Police Department	General Fund	Prepare services to respond efficiently and rapidly during and after a hazard event.	1
ES	Continue responding to hazard emergencies	Fire Department, Police Department	General Fund	Protecting lives of citizens from natural and man-made hazards; establishing cooperative relationships between public, private and non-profit sectors to enhance response for hazard events; educating citizens regarding vulnerability to hazards and steps to reduce vulnerability; preserve environmental resources; preserve historic building inventory; promote long-term economic prosperity	1

ES	Seek funding for a small boat and trailer for water rescues and for training for post-flood rescues and evacuations.	Fire Department	Grant Funds	Protect the lives of our citizens from natural hazards;	2
SP	Coordinate with Berkeley County and the S.C. DOT regarding drainage system maintenance and canal cleaning program and drainage improvement projects recommended to alleviate flooding.	Building & Codes/other Departments as applicable	General Fund	Protect the lives of our citizens from natural hazards; reduce existing flood damage; minimize future flood damage; improve water quality; improve hazard resistance of infrastructure; promote long-term economic prosperity	1
PI	Develop and implement public information activities under a Community Rating System creditable Program for Public Information. Refer to the City of Hanahan Program for Public Information (separate document) for details on these public information activities.	Building & Codes, Fire Department, Police Department, Parks & Recreation Department, Public Information Officer, Other Hazard Mitigation Plan/Program for Public Information Committee Members	General Fund Stakeholders	Protecting the lives of citizens from natural hazards; reduce existing flood damage; minimize future flood damage; minimize future hurricane damage; educating citizens regarding their vulnerability to natural hazards	1
PI	Analyze flood insurance coverage in Hanahan and promote flood insurance purchase in areas where needed	Building & Codes, Fire Department, Police Department, Parks & Recreation Department, Public Information Officer, Other Hazard Mitigation Plan/Program for Public Information Committee Member	General Fund Stakeholders	Protecting the lives of citizens from natural hazards; minimize future flood damage; minimize future hurricane damage; educating citizens regarding their vulnerability to natural hazards	1

PI	Provide hazard-related literature/information to citizens at City offices	Planning	General Fund	Protecting the lives of citizens from natural hazards; educating citizens regarding their vulnerability to natural hazards and steps to take to reduce vulnerability; minimize future flood damage; minimize future earthquake damage; minimize future tornado-related loss of life; minimize future hurricane damage; minimize future terrorist activity incidents	2
PI	Maintain a flood zone frequently asked questions page on the Hanahan web site to provide information on protecting against flood hazards to the public.	Building & Codes	General Fund	educating citizens regarding their vulnerability to natural hazards and steps to take to reduce vulnerability	2
GIS	Develop and maintain storm drainage inventory maps and database.	Building & Codes	General Fund & Stormwater Fee	Reduce existing flood damage, minimize future flood damage and improve water quality.	2

Additional Recommended Projects may be added to this project list as the Hazard Mitigation Plan/Program For Public Information Committee considers other projects and recommends these projects for implementation.

Grey shading items are in the City of Hanahan current Action Plan. Yellow shading items are recommended for Community Rating System credits. Non-shaded items are new or revised action items for 2017-2018

VI. Adopting Resolution

RESOLUTION NO. 3-2017

A RESOLUTION FOR THE ADOPTION OF THE CITY OF HANAHAN, SOUTH CAROLINA SUPPLEMENTS AND UPDATE TO THE BERKELEY COUNTY HAZARD MITIGATION PLAN FOR 2017-2018 BY THE HANAHAN, SOUTH CAROLINA CITY COUNCIL

WHEREAS the City of Hanahan has experienced the effects of natural and man-made hazard events; and

WHEREAS the City of Hanahan intends to join the National Flood Insurance Program's Community Rating System to reduce flood insurance premiums for its residents and to reduce future flood losses in the City; and

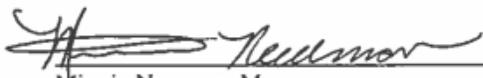
WHEREAS the City of Hanahan City Council established and recognized its Hazard Mitigation Planning/Program for Public Information Committee on July 12, 2016; and

WHEREAS the City of Hanahan's Hazard Mitigation Planning/Program for Public Information Committee supplemented and updated for 2017-2018, in accordance with National Flood Insurance Program Community Rating System requirements, the City of Hanahan's portions of the 2014 *Berkeley County Hazard Mitigation Plan*; and

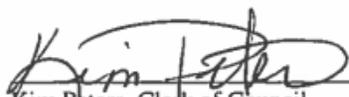
NOW THEREFORE be it resolved that

1. The *City of Hanahan, South Carolina Supplements and Update to the Berkeley County Hazard Mitigation Plan for 2017-2018* is hereby adopted as an official plan update for the City of Hanahan; and
2. The City of Hanahan Hazard Mitigation Planning/Program for Public Information Committee is recognized as a continuing entity charged with reviewing, maintaining in accordance with Community Rating System requirements, and periodically reporting on the progress towards the City of Hanahan portions of and any revisions and/or supplements for the City of Hanahan to the *Berkeley County Hazard Mitigation Plan*. This continuing committee is also recognized to review and make updates/reports on the *City of Hanahan Program for Public Information* and *The City of Hanahan Flood Insurance Coverage Assessment and Coverage Improvement Plan* and to report to City Council periodically on their progress.

Effective this 11TH Day of APRIL, 2017


Minnie Newman, Mayor

ATTEST:


Kim Peters, Clerk of Council

Resolution No. 3-2017