Floodplain Management Plan
2018 Progress/Evaluation Report
Introduction

Other than the last two sections of this report (“Action Items Progress Evaluation” and “Floodplain Management Plan Recommended Changes”) and associated References brackets contain changes from the FMP for future update editing purposes.

The purpose of this report is to:
1. document local flooding events since the publication of the updated 2016 Madison County Hazard Mitigation Plan (just the flooding portion),
2. evaluate progress on recommendations/action items inHMP, and
3. recommend the need for additional changes (if any) in the HMP update.

The Hazard Mitigation Plan 2016 update is available to the public at the following website:

http://www.madisoncountyema.com/Mitigation.htm

This report also plays an integral role in the City’s participation in the Federal Emergency Management Agency (FEMA) Community Rating System (CRS) program, as it relates to the City’s participation in FEMA’s National Flood Insurance Program (NFIP). The City receives points in the CRS program for, among other things, preparing and implementing a Hazard Mitigation Plan. These points total to form a rating which translates into a percentage discount that City citizens and/or property owners receive on their NFIP flood insurance policies.

The CRS Coordinators Manual (2017) states the following with regards to preparation of this report:

Credit Points for FMP Step 10
The credit for this step is the total of the following points, based on how the community monitors and evaluates its plan. (Maximum credit: 26 points)

- The plan document must describe how, when, and by whom the plan will be monitored, evaluated, and revised. It is recommended that these items be included in the adoption resolution as well.
- An annual evaluation report on progress towards plan implementation must be prepared at least once each year and submitted with the community’s annual CRS recertification. The report must be submitted to the governing body, released to the media, and made available to the public.
- If a community receives credit as a result of participation in a multi-jurisdictional plan that includes action items for each community, the annual evaluation report must cover those action items. This can be done either by a multi-jurisdictional planning committee or through separate submittals by each community. However, a community will not receive credit if it did not participate in the meeting at which the annual report was prepared. Therefore, the submittal needs to show who participated in the preparation of the report.
- The community must update the plan at least every five years. The update is due by October 1, five years after the plan was adopted (see next section).
The City is currently a Repetitive Loss Category B with a CRS Class 8 rating which translates to a 10% discount in FEMA flood insurance for citizens and/or property owners within the City limits.

This report was prepared by City staff on the Floodplain Management Plan Committee (Committee) and submitted via e-mail to other members for review and comment. The report was submitted via e-mail to the governing body including appropriate administration staff. Appropriate administration staff provided it to the local media. The report was also made available to the public at the following website: https://www.huntsvilleal.gov/environment/water/flooding/data-reports/. The websites can be checked for verification and copies of e-mails are attached for further documentation.

**Flood Events**

This section will serve as an addendum to section 4.1.3 of the FMP and documents flood events affecting the City from December 2009 (the last major event where the FMP left off) through November 2018. In order to provide continuity, the figure numbers in this section begin where the FMP left off.

**November 30, 2010**

The rainfall amount of 3.93 inches made this the all-time wettest day in November on record in Huntsville, according to the NWS. (NWS 2010) The rain caused streams and rivers to overtop their banks. Standing water in low lying areas forced several motorists to abandon their vehicles. In addition, the Huntsville-Madison County Emergency Management Agency (EMA) responded to two overnight water rescues. School systems in the area delayed or cancelled the start of school due to the road closures. Several road ways were temporarily closed and a subdivision entrance off of County Line Road was barricaded by authorities due to deep flood waters. (WAFF 2010)

![Figure 4-18. November 30, 2010 – Flooding on Caldwell Lane (located off of US 431)](image)

(Source: Huntsville Times 2010)

**January 11, 2012**

2.41 inches of rainfall was reported at the Huntsville International Airport while some areas of the Madison County reported 3-4 inches of rainfall. The rainfall peaked between 3 and 4 AM when 0.69 inches was recorded. This led to flash flooding throughout the City. The worst of the flooding occurred along Oakwood Avenue near Giles Drive and Maysville Road, where runoff overtopped the roadway, forcing the road to close. A resident on Oakwood Avenue indicated that she had lived there for 20 years and had not seen that extent of flooding previously. The EMA rescued a stranded motorist trapped in
rising water on Giles Drive. A section of pavement on Rodgers Drive buckled and broke. Part of Bob Wallace Avenue was also closed, as well as portions of Bankhead Parkway. In addition to precipitation, hail was also widespread. (AL.com 2012a and AL.com 2012b)

Figure 4-19. January 11, 2012 – Stranded Car on Giles Drive

Figure 4-20. January 11, 2012 – Flooding on Monte Sano Mountain at eastern end of Oakwood Avenue
July 4, 2013

A heavy band of showers stretched along the north and west sides of Huntsville causing standing water along roadways, fallen trees and some roadway damage. The recorded rainfall amount at Huntsville International Airport was 4.64 inches; however areas to the north and west received larger amounts. Flooding impacted the Decatur, Hartselle and the western portion of Huntsville and resulted in many road closings. Roadway flooding was reported at County Line Road, Old Railroad Bed, Capshaw Road, Huntsville Browns Ferry Road and Rock Creek Boulevard. The road shoulders along Capshaw Road washed away in some areas. (AL.com 2013 and WHNT 2013a)
October 12, 2014
On October 11, 1.29 inches of rain fell at the Huntsville International Airport. The storm event carried into October 12 where another 1.05 inches of rain was recorded. This event caused flash flooding on Washington Street. The road was closed between its intersections with Oakwood Avenue and Max Luther Drive. The road was reopened after approximately 2 hours.

October 12, 2014
On October 11, 1.29 inches of rain fell at the Huntsville International Airport. The storm event carried into October 12 where another 1.05 inches of rain was recorded. This event caused flash flooding on
Washington Street. The road was closed between its intersections with Oakwood Avenue and Max Luther Drive. The road was reopened after approximately 2 hours.

December 25-26, 2015

One automated precipitation station in Northeast Huntsville reported 0.96” of rain in just five minutes — and over four inches in an hour. Widespread flooding occurred across North Alabama which caused the Governor to declare a state of emergency. Most of North Alabama received more than 9” of rain in the span of a week with an average of just over 5” falling on December 25, 2015.

Figure 4-25. December 25, 2015 – Suffolk Drive NW Huntsville

August 10, 2017

In the early morning hours of August 10, 2017 parts of South Huntsville received upwards of 4 inches of rain in less than 2 hours which resulted in flash flooding. The USGS Rain gauge at Aldridge Creek near Farley recorded rainfall at 3.47 inches in 1 hour and 4.14 inches in less than 2 hours. Additionally, a separate storm hit Huntsville near Monte Sano from approximately 7 pm until 10 pm which resulted in flooding along Fagan Creek and Big Cove Creek where its extents were observed to be at the limits of the 1% annual chance floodplain. Estimates for rain were upwards of 5”. Photos of both events are unavailable due to occurring at night.

References


AL.com 2012b. As Huntsville Flood Waters Recede, Snow comes into Today’s Forecast (with video) http://blog.al.com/breaking/2012/01/as_huntsville_flood_waters_rec.html January 12, 2012

AL.com 2013 Huntsville-Area Law Enforcement Warns of Road Closures, Flooded Area (Updated) http://blog.al.com/breaking/2013/07/madison_county_law_enforcement_1.html July 04, 2013


**Action Items (Priority in parentheses):**

1.5.1 **Prevention** (High) Maintain a library of technical assistance and guidance materials to support the local floodplain manager.

The library materials were reviewed and updated in June 2018.

1.5.2 **Prevention Flood Plain Management Regulations** (Low) Obtain membership for local floodplain managers in the Association of State Floodplain Managers.

All City of Huntsville employees who issue Floodplain Development Permits are Certified Floodplain Managers.

1.5.3 **Prevention Flood Plain Management Regulations** (High) Evaluate the effectiveness of higher regulatory standards, such as additional building elevation and limitation of fill within floodplains, to be included in local floodplain management regulations.

Currently the City of Huntsville has 1 additional foot above the Base Flood Elevation for Finished Floor Elevations and garages.

2.2.1 **Property Protection Insurance** (High) Promote the purchase of insurance coverage for flooding, earthquake, and sinkhole damages in high-risk areas by property owners and renters.

The city distributes an annual outreach mailout detailing reasons to get flood insurance. Additionally, brochures and more detailed information is available at the City of Huntsville’s Engineering Department and the Madison County Library.
2.3.1 Property Protection Acquisition/Relocation (Low) Acquire or relocate high-risk, flood prone buildings and convert those properties to permanent open space with covenants that prevent future development. The emphasis should be buildings located within floodways, substantially damaged buildings, repetitive flood insurance loss properties, pre-FIRM buildings (constructed prior to the enactment of local floodplain regulations), and critical facilities. Where feasible, acquisition or relocation is preferred over elevating or flood proofing structures.

The city has not purchased or relocated any buildings within the last year.

2.3.2 Property Protection Acquisition/Relocation (Low) Acquire all floodway properties within the City of Huntsville and/or remove all structures from the floodway. The city has not purchased or relocated any buildings within the last year.

2.4.1 Property Protection Building Elevation (Low) Elevate buildings, where feasible, to reduce potential flood damages. The emphasis should be on certain buildings where acquisition or relocation is not feasible and on buildings not compliant with floodplain regulations. Elevating structures may be an alternative to acquisition/relocation and is preferred over flood proofing, where most feasible

The city has not elevated any buildings within the last year, but we continue to require buildings within the floodplain to be elevated or floodproofed (if non-residential) if they are substantial improvements.

2.5.1 Property Protection Flood Proofing (Low) Flood proof buildings, where feasible, to reduce potential flood damages. The emphasis should be on non-residential buildings constructed before the enactment of flood plain regulations (pre-FIRM buildings). Flood proofing should only be considered if acquisition/relocation or building elevation is not feasible.

The city continues to require elevation or floodproofing of non-residential structures for non-compliant buildings within the floodplain undergoing substantial improvements.

3.1.1 Public Education and Outreach Map Information (High) Publicize the availability of FIRM (Flood Insurance Rate Map) information to real estate agents, builders, developers, and homeowners through local trade publications and newspaper announcements.

The city conducts an annual mailout to this group detailing the availability of FIRMs as well as other floodplain management related topics.

3.4.1 Public Education and Outreach Library (High) Obtain free publications from FEMA, NWS, USGS, and other federal and state agencies and deposit these materials with local libraries.

The city has obtained a number of new and updated FEMA publications and deposited them in the Library as well as the brochure rack at the City of Huntsville, Engineering Division’s office.
3.4.2 Public Education and Outreach Library (High) Maintain local library repositories with the latest available publications.

These documents have been reviewed and updated within the past year.

4.1.1 Natural Resources Protection Open Space Easements and Acquisitions (High) Acquire open space, purchase easements, and accept donations of lands within environmentally significant and vulnerable locations through the Land Trust of Huntsville and North Alabama and other agencies.

The acquisition of these open spaces is a continual process and has expanded within the past year.

4.2.1 Natural Resources Protection River/Stream Corridor Restoration and Protection (High) Enforce dumping regulations.

The City of Huntsville continues to enforce our stream dumping regulations. Additionally, more no stream dumping signs have been posted within the last year.

4.2.2 Natural Resources Protection River/Stream Corridor Restoration and Protection (High) Enforce erosion and sedimentation control regulations.

The city is in the process of updating our MS4 permit with the Alabama Department of Environmental Management. This update process is resulting in a more complete and robust Environmental Management program.

4.3.1 Natural Resources Protection Urban Forestry Programs (High) Seek technical assistance through the Alabama Cooperative Extension System with Best Management Practices (BMP) for channel and drainage system maintenance.

The city employs an arborist who is routinely called out on site to provide technical expertise in this area.

5.1.1 Emergency Services Disaster Warning (Low) Establish a flood warning system at strategic locations in the county to cover vulnerable flood locations. Sensors should provide realtime access to stream flow, stream stage, and precipitation data, at the minimum. The system should link data into GIS with the ability to use measured and forecasted rainfall to predict potential flood levels and create real-time maps of flooded areas.

The city has conducted some trial runs of a Flood Disaster warning system along Aldridge Creek.

6.1.1 Structural Projects Drainage System Maintenance (High) Prepare and implement standard operating procedures for drainage system maintenance.
The city completed revamped the Drainage System Maintenance Standard Operation procedure and inspection within the last year.

**6.2.2 Structural Projects Flood Conveyance Improvements (High)** Evaluate, design, and implement cost effective flood control (structural) projects, including, but not limited to, channel expansions, bridge expansions, pipes and culverts, detention basins, and bridge demolitions within the City of Huntsville.

The city has conducted projects within the past year that addressed channel improvement. The largest of which was expanding the culvert at the entrance to McMullen Cove.

**6.2.3 Structural Projects Flood Conveyance Improvements (High)** Aldridge Creek and Four Mile Post Road flood control project (bridge expansion and channel improvements): engineering design and construction project to modify and expand the existing bridge opening in order to increase the hydraulic capacity of the existing bridge structure.

This project has not been completed. No change within the last year.

**6.2.4 Structural Projects Flood Conveyance Improvements (High)** Broglan Branch and Clinton Avenue flood control project (bridge expansion and channel improvements): engineering design and construction project to replace the existing undersized bridge structure in order to maximize the hydraulic capacity of the bridge.

This project has not been completed. No change within the last year.

**6.2.5 Structural Projects Flood Conveyance Improvements (High)** Broglan Branch flood control project bridge expansion and channel improvements): engineering design and construction project to increase the capacity of Broglan Branch between Holmes Avenue and Clubview Drive. Project includes channel improvements along the project limits and bridge expansion at University Drive and possible acquisition of property and homes

This project has not been completed. No change within the last year.

**6.2.6 Structural Projects Flood Conveyance Improvements (High)** Peavy Creek flood control project bridge expansion and channel improvements): engineering study, design, and construction project to decrease the peak flood discharges along Peavy Creek. Project will include acquisition of property (see mitigation measure # 2.3.2), construction of a detention/retention facility, channel improvements and replacement of existing undersized bridge structure at Little Cove Road.

This project has not been completed. No change within the last year.

**6.2.7 Structural Projects Flood Conveyance Improvements (High)** Governors Drive/U.S. Hwy 431 drainage improvements: engineering design and construction project to increase
capacity of the existing undersized drainage facilities that drain Governors Drive and convey flood waters from Governors Drive to Fagan Creek

This project has not been completed. No change within the last year.

6.2.8 Structural Projects Flood Conveyance Improvements (High) Pinhook Creek Flood Mitigation Project: flood control project in conjunction with the U.S. Army Corps of Engineers; on Pinhook Creek from Memorial Parkway north to twin RR bridge immediately north of Holmes Avenue; and in conjunction with a previous FEMA hazard mitigation grant.

This project has not been completed. No change within the last year.

6.2.9 Structural Projects Flood Conveyance Improvements (High) Dallas Branch and Pinhook Creek Flood Mitigation Project: on Pinhook Creek, from twin RR bridge immediately north of Holmes Avenue, north to confluence of Dallas Branch, and Dallas Branch, upstream to Coleman Street. The city is actively pursuing projects with both the Corps of Engineers and Alabama EMA/FEMA.

Within the last year, the city received a Hazard Mitigation Grant from FEMA to implement this project.

6.2.13 Structural Projects Flood Conveyance Improvements (High) Bradford Creek-Greenway Extension Phase II from Palmer Road to I-565

This project has not been completed. No change within the last year.

Discussion of why items were not achieved or are behind schedule:

The city of Huntsville employs a Senior Civil Engineer to oversee both Floodplain Management and Drainage Projects. The floodplain management side also includes a floodplain management analyst and the drainage projects side includes a civil engineer who oversees drainage maintenance and designs and constructs drainage improvements. For the most part, the high priority items are on schedule. Funding is unavailable to keep all of the lower priority items on schedule. The Hazard Mitigation Grant the city recently got approved for took over 12 years to get from FEMA. These outside funding sources are typically the only thing that allows the city to take on large conveyance system improvement projects with the current budget available for drainage improvements.

New projects and revised recommendations:

The city is going to discontinue the early flood warning system 5.1.1 for Aldridge creek because it was very costly and not very effective. It also serves a small population of the city compared to the cost that would be required to fully implement it. These funds have a greater impact to the overall floodplain management of the city when used for other action items.