

# METRO NASHVILLE-DAVIDSON COUNTY MULTI-HAZARD MITIGATION PLANNING COMMITTEE

Tuesday, October 3<sup>rd</sup>, 2017

9 A.M.-10:30 A.M.

Nashville Emergency Operations Center,  
2060 15<sup>th</sup> Ave South, Nashville, TN

## Agenda

9 am	Welcome/Introductions	OEM/Heidi Mariscal
	General Discussion	
	CRS Requirements Discussion	
	Real Events Discussion/lessons learned	
	Mitigation Strategy/Goals Review	
	Open Floor	
	Next Review Date	
10:30 am	Adjourn	

**POC:** Heidi Mariscal  
Nashville Office of Emergency Management  
615-862-8530  
[Heidi.Mariscal@nashville.gov](mailto:Heidi.Mariscal@nashville.gov)

## Annual Hazard Mitigation Planning Committee Plan Review 10/3/17

### INVITEES

Altenbern, Cathy (Belle Meade);  
Baker, Joe (Berry Hill);  
Baxter, Jack (NES);  
Becknal, Mark (Goodlettsville);  
Bell, Harry (Goodlettsville);  
Bennett, Robert (Berry Hill);  
Birdwell, Jane (Goodlettsville);  
Bradley, Mike (USGS);  
Briggs, Michael (Planning);  
Campbell, Heidi (Oak Hill)  
Campsey, Tommy (Oak Hill);  
Clawson, Jeff (Oak Hill);  
Coles, Ron (Oak Hill);  
Coombs, John (Goodlettsville);  
Deaton, Amanda (Forest Hills);  
Denton, Darrell (Ridgetop);  
Duncan, Jeff (Goodlettsville);  
Eads, Tim (Belle Meade);  
Ellis, Tim (Goodlettsville);  
Goodwin, Gary (Goodlettsville PD);  
Heilwagen, Brad (AMEC);  
Higgs, Jennifer (Planning);  
Hill, Wade (Codes);  
Hunt Sr, James (Belle Meade);  
Hunt, Michael (WS);  
Hyde III, Lanson (Forest Hills);  
Kuoppamaki, Anna (WS);  
LaRosa, James (NWS);  
Lewis, Stephen (MNPD);  
Lindsey, Roger (WS);  
Majors, Rachel (Health);  
Mariscal, Heidi (OEM);  
Morse, Brent (TEMA);  
Palko, Tom (WS);  
Popplewell, Cindy (AMEC);  
Reardon, Beth (Belle Meade);

Reeves, Kenneth (Goodlettsville);  
Rhinehart, Amanda (Forest Hills);  
Robinson, Stan (WS);  
Robinson, William (Public Works);  
Sartain, Beth (Berry Hill);  
Snyder, Jim (WS);  
Swann, William (NFD);  
Thomas, Al (NFD);  
Young, Tim (Public Works);  
Zurawski, Ronald (TGS);

Annual Plan Review Meeting Minutes

IN ATTENDANCE

Becknal, Mark (Goodlettsville Fire)  
Broome, John (Planning)  
Eads, Tim (Belle Meade PD)  
Hunt, Michael (WS)  
Kee, Paula (WS)  
Lewis, Steve (MNPd)

Mariscal, Heidi (OEM)  
Palko, Tom (WS)  
Reeves, Ken (Goodlettsville Fire)  
Robinson, William (Public Works)  
Zurawski, Ronald (TDEC)

- 
- Heidi started the meeting at 9am. Heidi explained that this is our annual review of the Nashville/Davidson County Multi-Hazard Mitigation Plan.
  - Lessons Learned the past year (Hurricane Harvey remnants):  
*Hurricane Harvey Impacts included 33 houses affected but habitable, 105 houses with minor damage (mainly Lewis St), 8 with major damage (mainly Hicks, etc.), 0 destroyed.*
    - Need better system of collecting damage information (incl. Codes/Property Assessor) – and push for centralized collection.
    - Need to ensure damage assessment info is known by all involved.
    - SAFE worked well, gave great warning and everyone worked well.
    - Discussion on the cost benefit of the more remote areas that have small streams that flash flood but then recede rapidly, before responders could even arrive on scene.
    - Look at getting a gage at Dry Creek in Goodlettsville. Cell service is spotty, so communications might be an issue (add to 1-12)
    - Public awareness program needs. Push folks to clean the tops of storm drains/crates etc. and make them free of debris so their area doesn't flood. Make contact with Metro Storm water on concerns with debris blocking creeks up etc.
      - Watershed group already does visits of watersheds, M. Hunt will make sure that debris information is noted and taken care of.
      - Make sure that safety message is included...make sure proper authorities are notified if in a major street so authorities can properly flag traffic etc.
    - Belle Meade noted that Sugartree Creek (at entrance of Belle Meade plaza, near Kroger) flooded but then receded quickly during the latest storm. Belle Meade PD is aware of this as a potential flooding area and knows to keep an eye on it. Belle Meade will let Metro Public Works know if they need assistance with a flood awareness sign at the bridge.
  - CRS requirements were discussed:
    - The CRS goes above and beyond flood mitigation with the flood program, so this gives our residences Class 8 – 10% break on their flood insurance. We currently have 6200 flood insurance policies enforced within Davidson County.

## Annual Hazard Mitigation Planning Committee Plan Review 10/3/17

- Heidi will send an email out to all CPT members to ensure they understand the importance of attending the meetings and participating in order to get the credit and ensure action items are a good representation of the entire community.
  
- In the future it was suggested to:
  - Submit an annual report to the governing body (Mayor and Council) and any progress reports including recommended changes.
  - Release this report to the media and make available to the public.
  - Schedule review meetings before October.
  - Schedule next full revision for 2019 in July 2019.
  - Within the new report:
    - Change the 'invited' list to who is a CPT committee member or a designee.
    - Change the annual report to an actual report with minutes attached.
    - Include in the report:
      - Review of each action item
      - Describe what was implemented or not implemented
      - Recommended changes to the action plan
      - Description of how the report was submitted to the governing body, released to the media, and made available to the public

### ➤ Mitigation Strategy Action Item Status Updates:

**1-1:** On-going.. July 2017, storm water fees increased so projects are continuing. MWS

**1-2:** Tom P. to update with suggestions (MWS)

**1-3:** On-going. Wolf Creek Dam Plan – OEM to do evaluation of the plan for feasibility of doing a copy for community wide plan. (OEM)

**1-4:** Most studies are completed, or scheduled. Tom P. to update. (MWS)

**1-5:** On-going. Will always be on-going. Repetitive loss is high priority. Just submitted applications for 9 properties to TEMA for funding.

**1-6:** Note for lights for creek cameras. (MWS/OEM)

**1-7:** Re-evaluating, working on adding more staff. M. Hunt suggested adding the following update:

*Since Metro started requiring stormwater management controls to mitigate the impact of development on flooding and water quality, there have been approximately 4,400 structures installed throughout Metro Nashville's jurisdiction. As such, these controls require property owners to perform routine inspection and maintenance activities, so that they will be functioning as they were designed. The Permit Group is responsible for ensuring that the necessary inspection and maintenance is performed by the property owners on all SCMs installed per Metro's stormwater management regulations, including public and privately-owned structures. One potential education effort includes requiring future developments to install permanent public education signs at certain SCM structures. As an effort to test installation, durability, and effectiveness of the signs, NPDES recently partnered with General Services to post SCM signs at the Metro Office Building. NPDES also took the opportunity to label storm drains in that area as*

## Annual Hazard Mitigation Planning Committee Plan Review 10/3/17

*“Draining to the River” so that visitors and Metro employees know that storm drains are not trash receptacles and certainly not ash trays.*

*The NPDES Permit Group is currently in the process of developing and administering program to verify public and private properties with Stormwater Control Measures (SCMs) are being inspected and maintained as defined in the Maintenance Agreement filed with the Register of Deeds. Some of the activities that will be performed by the Permit Group include the following:*

- 1. Coordinate the development and continuous updating of a database used for tracking inspection and follow-up coordination on sites regarding maintenance of SCMs.*
- 2. Inspect and coordinate with property owners on inspection and maintenance needs for SCM structures (Inspect at least 20% a year).*
- 3. Oversee department compliance with SCM Inspection and Maintenance MOUs.*
- 4. File/input into database inspection and maintenance reporting documents.*
- 5. Coordinate feedback to the Development Services Division on maintenance compliance on different types of SCMs.*
- 6. Perform various educational activities to make owners of the SCM structures much more aware of the inspection and maintenance responsibilities.*

**1-8:** Tom P. and Michael H. to update on critical lots definition. (MWS)

**1-9:** Tom P. to update. (MWS)

**1-10:** Update with new lessons learned. (MWS/OEM)

**1-11:** On-going. Personnel turnover, MWS is training new personnel. (MWS)

**1-12:** Tom P. to obtain report from Corp. of Eng. on Dry Creek. Goodlettsville stated website wasn't working for at least the past year. Michael H. followed up and stated the website is working but there have been problems with the software on how it prepares data. Tom P. will follow up on it and will come up with action plan based on results. Tom P. to check lessons learned suggested for Dry Creek gage. (MWS)

**1-13:** On-going.

**1-14:** Oak Hill was not present, but based on last discussion it was currently on hold due to lack of funding.

**1-15:** SSD is still performing water valve exercising with a consulting firm. We have limited financial resources so the overall scope of this project has been reduced; we still plan to perform future valve exercising on an annual basis as funding is available.

The Division continues to monitor excavation work near our water and sewer infrastructure. A new policy for horizontal directional drilling was posted to help reduce the potential risk during this method of utility work. (MWS)

**1-16:** On-going. All projects have engineering checklists and Clean Water Nashville projects continue to use the constraint on new electrical buildings at facilities. (MWS)

**1-17:** *(completed - close out at next revision)*

**1-18:** The Hot House and Generator Building at the K.R.Harrington WTP and The Effluent Pump station at the Central WWTP Biosolids Facility projects have been completed and were modified to elevate the facilities above the flood of record to minimize the potential impacts of future floods.

## Annual Hazard Mitigation Planning Committee Plan Review 10/3/17

In addition, The Chemical Feed Upgrades and Miscellaneous Plant Improvements project at both K.R. Harrington and Omohundro WTP's was completed in early 2017. The project raised the chemical feed systems and controls at both plants above the flood of record.

The Omohundro WTP Site Access Road Mitigation and Guard Shack Equipment Mitigation are currently in construction as part of the Omohundro Substation and Generation Facility project.

The Water Flood Mitigation project at both K.R. Harrington WTP and Omohundro WTP is nearing design completion and will be implemented in phases as funding allows.

MWS continues to pursue additional projects as approvals and funds are available. All capital projects that are designed take into consideration the flood of record as part of the planning/design phases. (MWS)

- 2-1:** Team agrees to wait for full revision to evaluate HIRA.
- 2-2:** on-going; TN NFIP Coordinator to do training for lenders/realtors. Tom P. to verify with State NFIP Coordinator. (MWS)
- 2-3:** On-going.
- 2-4:** *(completed - close out at next revision)*
- 3-1:** no change, the NWS officially changed the action levels from 35 – 30ft.
- 3-2:** no changes; review feasibility at next revision.
- 3-3:** no changes; not much activity with CPT; review feasibility at next revision.
- 3-4:** New fees increased funding. Murfreesboro Rd is an example with TDOT, PW and MWS.
- 3-5:** Submitted application this week. (MWS)

➤ Other changes submitted to be included in next revision:

1. **Section 2, page 16 (Major Utility Reach/MWS):** M. Hunt will review and advise if any changes need to be made.
2. Tom P. to supply updates on buyouts.
3. Goodlettsville and TDEC and Planning have looked into a data collector app. The CPT will meet at a later time to discuss options in more detail.

➤ Next Review Date: To be determined.

➤ Meeting adjourned at 10:30am.

# Annual Hazard Mitigation Planning Committee Plan Review 10/3/17

## 2015 Approved Original Action Plan

### ACTION PLAN

The Action Plan presents the prioritized recommendations for Metro to pursue in order to lessen the vulnerability of people, property, infrastructure, and natural and cultural resources to future disaster losses. The recommendations are presented in order of priority to the community both in terms of need and effectiveness. The recommendations are also listed under the corresponding developed goal. Each recommendation includes a cost estimate and community benefit to meet the regulatory requirements of DMA. Action items that have already been completed or that were not recommended are included at the end of this section.

Below is a summary of all the action items and the responsible agencies. Detailed information for each action item is following in this section.

Table 5-1: Mitigation Action Plan Summary

Action #	NASHVILLE/DAVIDSON COUNTY HAZARD MITIGATION ACTION PLANS SUMMARY	Responsible Agency
1-1	Based upon the priority list, the action plan recommends that Metro initiate design and construction of high priority capital improvement projects.	MWS
1-2	The CPT recommends that ordinance language to provide added protection for critical facilities and prohibit hazardous materials and public health hazards from the floodplain is drafted, circulated for review and adopted.	MWS, Planning, Codes
1-3	The Nashville Office of Emergency Management (OEM) should review the costs and benefits of preparing a detailed flood response plan that identifies specific actions to take at different flood level predictions.	OEM
1-4	The studies underway in the approximate A Zones should be completed and adopted into Metro's floodplain regulations. The studies should then be submitted to FEMA with a request to revise the FIRM.	MWS
1-5	Develop a property acquisition plan and associated policies to acquire properties in the repetitive loss areas.	MWS
1-6	Fund, acquire, and install appropriate hardware and software.	OEM
1-7	The MWS Stormwater Division should review the costs and benefits of formalizing Metro's inspection and maintenance program to include detention facilities as well as streams and ditches.	MWS
1-8	It is recommended that the definition of a critical lot be expanded to include specific geological details and defined subjectively during plat review and that the critical lot concept be used in review of other developments.	MWS, Planning, Codes
1-9	MWS Drainage Maintenance staff should make site visits in response to complaints or inquiries from property owners. Staff should be trained in retrofitting techniques and be comfortable providing retrofitting guidance during site visits.	MWS
1-10	The severe weather hazards of drought and wildfire, extreme temperatures, thunderstorms and high winds, tornadoes; and winter storms are recommended to be included in a multi-hazard, seasonal Public Awareness Program. (see Goal #2)	
1-11	It is recommended that Metro personnel participate in training in the use of the RSDE program.	MWS
1-12	The CPT recommends assisting the City of Goodlettsville with the FEMA repetitive loss buyout program and associated flood mitigation initiatives.	MWS, OEM



## Annual Hazard Mitigation Planning Committee Plan Review 10/3/17

### 2015 Approved Original Action Plan

1-13	The CPT recommends assisting local colleges and universities in obtaining outdoor early warning sirens through grant funding and connecting them to the city's existing early warning siren systems.	OEM
1-14	The satellite city of Oak Hill (located within Davidson County, TN) is aware of certain areas in their jurisdiction that have historically experienced flooding during significant rain events. In an effort to address these and any other such issues that may exist, Oak Hill has initiated a 3 Phase Drainage Study/Correction Plan (see below). It is recommended to include this project from The City of Oak Hill in this Multi-Hazard Mitigation Plan as it mirrors actions with Metro Water Services, and applies to the over goal.	City of Oak Hill
1-15	Based upon the priority list, the action plan recommends that Metro initiate design and construction of high priority capital improvement projects	MWS
1-16	The Clean Water Nashville Overflow Abatement Program (CWNOAP) Design Management Manual (Section 2.6.1) stipulates that all plan projects abide by the following flood elevation considerations.	MWS
1-17	NES has planned the construction of a joint Training and Operation Center in the northern part of the service territory to be located on Myatt Drive.	NES
1-18	In restoring MWS' water and sewer facilities from 2010 Flood impacts, site-specific flood risk mitigation was employed as possible/feasible in bringing facilities back on line. Further, it has been MWS's practice since the May 2010 flood to incorporate flood mitigation into capital projects planned for the facilities that were impacted by the flood. Since the flood, the designs were modified to elevate the facilities above the flood of record to minimize the potential impacts of future floods.	MWS
2-1	Develop and conduct a multi-hazard, seasonal Public Awareness Program that provides citizens and businesses with accurate information describing the risk and vulnerability to natural hazards, and is implemented on an annual basis.	OEM, MWS
2-2	Metro Water Services should request the state NFIP Coordinator to conduct Agent and Lender Workshops in support of the community's overall NFIP program efforts.	MWS
2-3	MWS currently sends an annual mailing to the approximate 10,000 properties located within the 100-year floodplain. It is recommended that MWS Stormwater Division continue the mailing and that the mailing be modified to include other natural hazards of concern that have been identified through the hazard mitigation planning process.	MWS
2-4	Discussions should be held with Metro website staff on the best way to post Elevation Certificate data on the website and procedures to maintain the data.	MWS
3-1	The Nashville Office of Emergency Management (OEM), with help from the MWS Stormwater Division's engineers, should review the costs and benefits of developing flood crest prediction programs for other streams with reporting gauges.	MWS, OEM
3-2	Metro officials should talk to their state legislators and Tennessee Department of Environment and Conservation staff about the feasibility of amending the State's dam safety laws.	MWS, OEM
3-3	Metro's Stormwater Division should pursue a Cooperating Technical Partner agreement with FEMA in order to get its mapping standards to better fit local conditions or make the community a higher priority for mapping support.	MWS
3-4	Develop a financial strategy to design and construct large capital improvement projects. The strategy shall incorporate a cost-sharing plan to leverage local, state, and federal funding for stormwater management activities and projects.	MWS
3-5	The CPT recommends applying annually for potentially available HMGP and FMA grants.	MWS, OEM

