



MEETING #3 AGENDA – SET GOALS
Floodplain Management Plan 2020 Update
Thursday, November 14, 2019
9:00 a.m. – 12:00 p.m.

OPS Building Conference Rooms - 2801 West Durango Street

1. Introduction

- Safety Moment
 - Safe Travel Planning
- Around-the-room introductions
 - New participants
 - Rudy Perez – Maricopa County Department of Emergency Management (MCDEM)
 - Sabrina Lehrke – MCDEM
- Presentations – MCDEM Roles and Responsibilities – Jesus Haro
 - MCDEM Vision
 - Emergency Management seeks to create safer, resilient communities in Maricopa County with the capacity to respond to, cope with, and recover from hazards and disasters.
 - Proactively approach emergency management and working with partner agencies to deal with disasters.
 - During response phases – need to make sure there is concurrence with what needs to be done between jurisdictions.
 - Exercise activities with partners
 - Recovery – primarily when they work with non-governmental organizations (Red Cross and others) to recover from disaster
 - Essential Functions of MCDEM
 - Interaction with flood control – collaborate on plans and emergency action plans (EAP's) (levees and dams)
 - Thorough development of EAP's – advice for execution of action plans.
 - MCDEM Responsibilities
 - Notify various agencies per instructions of EAP's.
 - Tracking who get contacted and in what order
 - Provide evacuation maps
 - Update & Maintain notification list
 - Can involve multiple notification scenarios depending on structure.
 - Help coordinate flood exercises
 - Prepare after action reports
 - Potential Emergency Conditions
 - Reservoir pool inundation
 - Discharge from principal outlet
 - Discharge from emergency spillway
 - Potential or actual failure of Flood Retarding Structure (FRS) embankment
 - Communications Flowchart
 - Conceptual idea of how communications would occur in emergency
 - Off-hours duty officer available 24-hours a day, 7-days a week, (*Holidays)
 - Notifications take place using Everbridge software

- Liaison from Flood Control District of Maricopa County (FCDMC) is critical for emergency management
- Emergency Operations Center (EOC)
 - Located at Papago Park Military Reservation
 - May need to manage up to 25 people during emergency response
 - Emergency, exercises, emergency notifications (Everbridge, WEA, EAS)
 - Incident Command System (ICS)
 - Structure a response on different structures – very organized to help manage situations
- Flow chart from EAP
 - Example provided from Guadalupe FRS – complicated FRS due to multiple points of failure which mean multiple point of notification. Example is complete failure of north dam.
 - Several agency notifications
 - Do not want to get bogged down on other actions – Keep focused on flow chart notifications
- Everbridge Notifications
 - Key to notifications – manage notification alerts with software
 - Concise messaging – notifies agency what is happening and actions that should be done
 - Wireless alerts
 - Can draw polygon for area and alerts will only go out to that area
- WebEOC
 - In-house messaging and documentation software
 - Every person that comes to the EOC has a log-in and actions are tracked within the WebEOC
- Sheltering
 - Catastrophic failure of structure(s) will likely displace people
 - All incidents and emergencies start and end at the local level
 - Some jurisdictions want to handle everything on their own
 - MCDEM
 - Incident coordination, messaging, and resource management
 - Work closely with the American Red Cross, Arizona Voluntary Organizations Active in Disasters (AZVOAD), and Maricopa County Community Organizations Active in Disasters (COAD)
- Questions
 - (Dan Nissen) How is COAD funded?
 - Depends on what the executives want to do. Usually non-profits
 - (Pete Weaver) All hazard jurisdiction plan is due in 2020 for Maricopa County. This will be updated soon, and notifications will come out. It is important to come and participate so your jurisdiction can be able to get federal funding for certain emergency management items. Short-time frame once announced. Reach out in advance to emergency manager to get information in early.
 - (Rudy) MCDEM may ask for an extension so it is not as condensed as schedule would otherwise be.
- Recap Meeting #2
 - Flood Control Financial Status
 - County has funds that are available for application to projects. Review of previous challenges with getting funding out to projects.
 - Opportunity for projects to be implemented.

- Communications and Public Outreach
 - How Maricopa County is using social media, mailers, meetings, workshops, and others to reach out to public to gather information and feedback for flooding within their neighborhoods. This aids in gathering information to develop projects.
 - Educating the public is key to what Maricopa County wants to do.
 - Managing and communicating the risk
- Flood Hazard Identification
 - What does flood hazard mean to the group?
- Impacts of Hazards During Storms
 - Each person has a different idea of what the impact on them is. Level and type of impact is created from individual experiences and knowledge.
- Hazards and Problems by Watersheds
 - Maps and identified known problem areas
 - What are the problems that need to be documented for each watershed?
 - What problems occur most often between the watersheds

2. Flood Threat Definition

- Develop consensus on definition
- Review of group reporting
 - Need to be aware of areas that flood. If you know the area floods, know how much water causes the flooding. Watch the gages to know when to act for locations with known problems.
 - Interruption of transportation and emergency service during storm events
 - Public safety – which encompasses hospitals, emergency services, water treatment facilities, airports
 - Risk to life, structures, and economic development
 - Public access and use along structures throughout county – are the risks being communicated the users and residents in the area
 - Risk from mapped and unmapped areas on structures, life, and infrastructure. Land use conversion without consideration of impacts. Mainly in areas that were historically agriculture.
- Group Definitions
 - Group 1 – Agua Fria River Watershed
 - Wildcat developments – no defined flood protection at all. “I don’t like that wash I am going to build something there to move it”
 - Group 2 – Cave Creek-Salt River and Verde River Watersheds
 - When remediation is needed after a flood event. Flowing water may be inconvenience, but damages to home is a bigger concern
 - New River - New development diverting water to where it previously did not
 - Public Information Concern – landscaping done to alter the flow of water and the people do not realize they need permits for this
 - Emphasis on Rain Harvesting – zoning issue. Rain harvesting may help attenuate the flow
 - Adoption of GI/LID techniques throughout County
 - Group 3 – Gila River and Queen Creek Watershed
 - Flood warning, flooded washes – stay out of the washes
 - Water in the street is not a flood threat, it is acceptable to a certain level
 - Flood threat is a public safety issue

- Floods are not always floodplain related
- Flooding of a home
- Property damage
- Identifying the threat before you build there. Development opportunities
- Evaluate FEMA Zone X - New homeowners do not know they are within a potential flood threat because there have never been homes there before
- When you purchase properties, identify and communicate in writing the flood threat to people. (washes, dams, levees, etc.)
- Unregulated lot splitting
- Need data – getting more gages in the right places.
- Incorrect design and elevations of homes based on markers that have subsided in the area
- Maintenance issues – a lot of time the maintenance is not done, and this is a real flood threat. Infrastructure cannot perform to its optimum potential
- Data in the last 60 to 80 years the design standards have changed because more information has become available – Example NOAA14 Atlas 2.
- Utilize the data we not have to determine improvements to the design standards
- FCDMC should lead the charge for design standard changes
- Group 4 – Centennial Wash and Hassayampa River Watersheds
 - Best Management Practices for flood measures
- Group 5 – Lower Gila River and Waterman Wash Watersheds
 - Risk to property, life, and infrastructure due to rising floodwaters
 - Having some interface with planning and zoning so there are no hard edges between where events may occur and where people are living
 - Sheet flooding that is not understood
 - Elevated home could create island effect because roadways are not elevated
 - FCDMC should consider similar approach undertaken by Pima County for updating ordinances and addressing development concerns
- Group discussion of definition
 - Want to narrow down the 21 items that were brought up in the last meeting to define what flood threat is
 - National Weather Service – any threat to life and property due to flooding
 - FCDMC Capital Improvement Program (CIP) – Structures getting flooded
 - Does not consider life
 - Want to provide FCDMC staff direction for what flood threat means to the communities
 - (Greg Monger) Start with what Jesus Haro discussed – what is MCDEM’s mission statement and approach.
 - (Jesus Haro) MCDEM deals with life safety – protection of people as opposed to structures and property. Structure protection is important but MCDEM is initially focused on life safety.
 - (Dan Nissen) What is the current definition?
 - (Kelli Sertich) There is no current definition within FCDMC documentation. Working to improve the CIP and the definition is very narrow.

- (Ray Dovalina) Tiering aspect because most everything is a threat. Can't spend what little money we have to do everything.
- (Greg Monger) Group 5 captured a solid definition
 - Risk to life, property, and infrastructure due to rising floodwaters.
- (Kelli Sertich) Like the idea of tiering.
- (Brandon Espinoza) Who are we defining this for?
 - (Kelli Sertich) Defining for FCDMC to aid in the discussions of the FMP focus over the next 5-years.
 - (Brandon Espinoza) More of the administration side versus the public side?
 - (Kelli Sertich) The definition itself.
- (Kelly Hargadin) Property and structures inundated with water.
- (Mark Fountain) A rise in floodwater changes the associated levels of risk. The risk level of property will be less than the risk to life.
- (Patti Trites) Use the word potential. There is potential for floodwater to impact your life and property.
 - (Kelli Sertich) If FCDMC included "potential threats" within Small Projects Assistance Programs (SPAP) there could be more proactive value.
- (Kelli Sertich) Probably have a broad enough statement to reword and present the definition to the group. The flood threat might be defined differently depending on programs. May have several levels to this definition.
- (Patti Trites) Property, lives, and infrastructure but this definition cannot be all encompassing.
 - (Kelli Sertich) The role of others may be directed to certain aspects of the definition.
- (Jesus Haro) Are we including critical facilities and infrastructure?
 - (Kelli Sertich) These components will be included within definition
- (Patti Trites) Can we take any thoughts from how California is managing their threats (mainly fire threat) and how we can be proactive.
 - (Ray Dovalina) Goes back to sheet flooding problem. Some properties do not realize they have a wash and start altering the wash and block them. Need to educate.
 - (Patti Trites) Education at the roots level was not there in California. Needs to be here to educate general public and management within jurisdictions. People who come from out of state and do not realize the risk.
- Team will develop a concise definition and present options for advancement at next FMP Committee Meeting

3. Summary of Flood Hazards

- Group summary of key Flood Hazards
 - Group 1 – Agua Fria River Watershed
 - Alluvial Fans
 - A problem in most watersheds within Arizona.
 - Wildcat development
 - Will continue to be a challenge.
 - Lot splitting – changes of landscape to hardscape.
 - CAP Canal (Upstream ponding)
 - Inundation upstream of the canal – delineated on maps but still building there.

- Inactive mine (New River)
 - Stores/impounds significant amount of water and takes a while to drain.
- Tailwater
 - Contributions to full washes – example in urban environment where storm sewers are undersized and cannot take in any stormwater.
- Local/Urban Flooding
 - Densification of development.
 - Low Impact Development (LID) and Green Infrastructure (GI) can help limit urban/local flooding
- Unmaintained Drainage Facilities
 - Infrastructure that is not maintained or inspected and may not successfully pass the design storm.
- Group 2 – Cave Creek-Salt River and Verde River Watersheds
 - Verde River Watershed (VERIFY)
 - Repetitive losses on roadways
 - Head-cutting of roadways and banks
 - Single-lot development (Hardscapes/un-natural)
 - Cave Creek-Salt River Watershed (VERIFY)
 - Street flooding
 - Building below street grade
 - Outdated infrastructure feeding canals
 - Multiple jurisdictions
 - No areas on impoundment
 - Hardscaped surfaces prevent infiltration
 - Action – build more storm sewers
 - (Tice Supplee) Storm drains can get overwhelmed in flash events and provide a false sense of security.
 - (Pete Weaver) Maintenance programs are frequently wiped from budgets and need to keep the thought of maintenance costs in mind when developing and building infrastructure.
- Group 3 – Gila River and Queen Creek Watershed
 - Public safety
 - Hospitals, emergency services, critical facilities
 - Flash flooding and transportation
- Group 4 – Centennial Wash and Hassayampa River Watersheds
 - Limited infrastructure
 - At-grade crossings contribute to transportation flooding
 - Large areas of development
 - Master planned communities in undeveloped desert – what comes into the community should be the same leaving the community.
 - Areas of staged development without continuity have issues with how developers and community at-large impacts the process.
 - Need additional awareness regarding development impacts the path and quantity of water within watershed
 - Management of alluvial fans (Hassayampa River Watershed)

- Group 5 – Lower Gila River and Waterman Wash Watersheds
 - Gila Bend – areas of risk not within Special Flood Hazard Area (SFHA)
 - Major flood events on Gila River
 - Split flow in Hassayampa River and Centennial Wash tributaries
 - At-grade crossings
 - Single-lot development
 - Suburban-urban interface
 - Tamarisk
 - Additional Invasive Species
 - Wildlife areas
- Other items
 - Urban redevelopment and densification
 - Subsidence and earth fissures
 - Block walls/Property fences
 - Fill within washes (vegetative and earthen)
 - (Dan Nissen) Historical flow patterns that residents ignore and revise at the local lot level.
 - Flood warning signage
 - Depth gages

4. Discussion of identified hazards/problems by watershed

- Group breakout to identify additional hazards or problems in the area
 - Revise previously provided information within problems matrix
 - Markup tabletop maps to indicate areas of additional flooding concerns

5. BREAK

6. Discussion of Potential 2020 FMP Goals

(Break into Group Discussion)

- Purpose of Goals
 - Goals are general statements concerning an aspect of the agency's desired ultimate physical, social and/or economic environment. Goals set the tone for development decisions in terms of the citizens' desired quality of life.
 - Objectives (Action Items) express the kinds of action that are necessary to achieve the stated goals without assigning responsibility to any specific action.
 - 2015 FMP Goals
 - Continue/Expand Public Outreach
 - Public education of flood hazards is essential to protecting lives and property. The FCDMC's existing program is very beneficial and should be expanded and directed to specific audiences of residents, managers of local, state, and federal agencies, and elected officials.
 - Improve Quality of Life
 - Implementing sound floodplain management practices will improve public safety and property protection and will help residents receive the full benefits of living in Maricopa County. Economic benefits of lower flood risk include reduced residential and commercial flood losses and reduced disruption of transportation and commerce due to flooding.
 - Strengthen Role as Regional Leader

- FCDMC provides floodplain regulation and management for the unincorporated portions of Maricopa County and for 14 of the 24 municipalities. FCDMC also provides technical training and expertise, educational materials, design manuals, and flood warning services. FCDMC's continued leadership role should further integrate with other regional planning efforts, and FCDMC should actively seek public and private partnerships to maximize the value of infrastructure and support long-term sustainability.
 - Develop Lists of Resources
 - Severe flooding during the 2014 monsoon season created challenges in meeting the public's requests for flood-fighting resources and post-flood site visits. FCDMC could improve its response to public information requests by developing pre-programmed web pages and field-ready response kits.
 - Enforce/Enhance Regulatory Standards
 - FCDMC is committed to enforcing floodplain regulations and identifying flood hazards. This commitment could be enhanced to incorporate emerging flood control technologies, improve technical analysis tools, and support alternate solutions such as floodproofing or acquisition of flood prone properties.
 - Protect Natural Resources
 - Floodplains serve to capture and convey runoff through and away from the county during storms. Storm drainage is one of many important benefits provide by floodplains; other values to the community include:
 - Aggregate resources needed for local development, cultural resources, recreational opportunities, visual aesthetics, water conservation opportunities, and wildlife habitat and migration corridors
- Comments/Questions
 - (Greg Monger) How many of these goals were met?
 - (Kelli Sertich) Annually there is a review that goes over what has been done. In FMP Committee Mtg 1 a packet was provided which outlines what has been done and a few items were not completed from the 2015 FMP
 - (Greg Monger) Looking back, what would you change going forward?
 - (Kelli Sertich) Coming back to the first goal, outreach and education is a goal that FCDMC has struggled with. Social media has become more prevalent to help with messaging. FCDMC needs to do more as a regional leader.
 - (Greg Monger) Is this still important? It is likely more important now.
 - (Kelli Sertich) Yes, Lance from Mesa brought up the idea of having shared resources and this is an area that needs to be strengthened.
 - (Patti Trites) Since 2014 flood, you turn off power and do not have connectivity for internet and you are taking pictures for insurance.
 - Had to call the gas company when leak was smelled but would not go to neighbors because it was a separate call. Red Cross did not show up until day 3. List of resources for residents to have so they could immediately contact people for services needed. List of

resources has to be something that can be handed to residents to they know where to go and what the costs may be. Gives residents an idea of where they can rent equipment and an approximate cost. When an agency says “it’s on the website” it isn’t because in a situation like this you cannot access it. Entellus, with assistance of a third-party company, did a survey of areas that were flooded in 2014 and issues that came up were lack of maintenance and being prepared and knowing how to handle a flood. Came up with a list for the Homeowner’s Association (HOA) for a cost of certain services and equipment (blowers and de-humidifiers). In the middle of the night, companies came around and charged people way too much to help with flooding in their homes – home insurance won’t cover it and you don’t have help to cut drywall off yourself. A list of trusted contractors and equipment could be very beneficial to your residents.

- (Kelli Sertich) Even if the website is working, the items you are looking for could be buried so deep it becomes a problem. Need to have key information available in hard copy at the appropriate locations to support emergency events. Example – Fire Stations.
- (Ed Taylor) Couldn’t this be an education piece. Putting together an emergency pack with a checklist of information because prices change so often.
 - (Patti Trites) Did this so we knew we were not getting ripped off.
- Brainstorm Goals
 - Group 1 – Agua Fria River Watershed
 - Talked about existing goals
 - Increase capital funding for infrastructure and expand funds that already exist that haven’t been spent on projects
 - Funding for Drainage Master Plans new and updates as they age, and development occurs
 - Manual on maintenance
 - HOA and citizen guide for what needs to be done for maintenance purposes and who is responsible for what.
 - Public education
 - Floodplain delineations
 - Fences and walls
 - Brochure for HOA’s for what they need to do
 - City of Peoria got a call from an HOA wanting to clear vegetation for a fire break. Responded that they couldn’t but did not have a standard to say they couldn’t.
 - (Mark Fountain) Having standards and a plan of action helps the HOA take accountability and develop financial planning for how they will maintain it. They do not know what they need to set aside for the work that will be required in the future. Not included in reserves studies.
 - (Patti Trites) Agreed, they will not put any drainage information within reserve study. That is considered an operational expense or general expenditure. Cleaning out culverts do not get included – drainage items not included.

- (Dan Nissen) Developers sometimes put something together but it is not widely done. New ordinance should be consider to require drainage maintenance plans and capital cost planning.
 - FCDMC to present about changes within guidelines and regulations (annual outreach to partners)
 - Keeping current with rule changes between agencies
 - Integrate technologies
 - Neighboring state agencies have a program where citizens get rain gages and the data is transmitted to the agency
 - Residents get rain gage sent to them and they monitor and report daily
 - Helps hydrologists and forecasters obtain data and what/where precipitation is happening – fills the gaps
 - Colorado (CoCoRAS) and Kansas are known states doing this program
- Group 2 – Cave Creek-Salt River and Verde River Watersheds
 - Outreach
 - Schools – bring home the knowledge to their parents
 - Jurisdictional communication overlaps
 - Self-sufficient for public education and outreach from local and state level
 - People need to be aware of what they should have prepared
 - Don't expect a rescue – be self-prepared!
 - Flood after fire is a real concern
 - Low water crossing mitigation
 - Bridge/culvert to provide transportation access
- Group 3 – Gila River and Queen Creek Watershed
 - Communication and Outreach Education
 - Time of crisis – county, cities, villages, HOA's and individuals
 - Non-time of crisis
 - Flo-2D and other resources
 - Lot splits and landscaping
 - Communication between County and Cities – checks and balances for Floodplain Administrator
 - Set of standards and implemented through development and planning
 - Taking the information from this group to the Cities
 - Set of standards for the Cities for floodplain management
 - Operation and maintenance manuals
 - From FCDMC to Cities to unincorporated to help educate
 - Could include private development – example modifying landscaping contracts to meet what is needed
 - Failure indicators
 - HOA maintenance and preparedness plan
 - Finished floor elevation inspection team
 - Similar to dust control
 - Spot team come out and verify elevations to make sure it is accurate – driven by FCDMC

- Group 4 – Centennial Wash and Hassayampa River Watersheds
 - Public outreach and education
 - Include agency and municipality outreach
 - Natural resources, wildlife, and habitat protection
 - Permitting and enforcement of regulations
 - (Mark Fountain) There is a challenge between the duty of the floodplain administrators and FCDMC and those issuing permits. Permits are being issued to areas clearly at risk, however without a defined FEMA floodplain it gets approved. Lack of cooperation with those approving permits. Does not remove County liability.
 - (Sami Korpelainen) This ties into the outreach goal with agencies and finished floor elevation enforcement.
- Group 5 – Lower Gila River and Waterman Wash Watersheds
 - Setting standard all organizations have to go by (County/City)
 - Outreach – mailers sent out to everyone within flood zone
 - Make it something they will actually look at – what resources are available
- Question
 - (Patti Trites) Is there any enforcement behind these goals?
 - (Kelli Sertich) The FMP is not an enforceable document. It is on the agency to police themselves because it matters to our citizens. FEMA requires updates to the goals annually.
 - (Patti Trites) Dust control can shut down projects because they are not meeting their regulations. Who checks when developers are not doing the correct things? Are their fines or any repercussions?
 - (Kelli Sertich) Not as easy as dust control. Have to take it to court to identify what was done. Cannot enforce all the time. Rely on calls and notifications. Can shut people down if there is a violation until it is remedied.
 - (Patti Trites) Someone is violating the plan and no one catches this. A flood occurs and people want to know who the developer was. Is there a library that documents who is frequently violating regulations?
 - (Kelli Sertich) Can report to Register of Contractors or Board of Technical Registration on where violations are occurring.
 - (Ray Dovalina) Goal to talk about Policies and Procedures. To address enforcement issues.
 - (Patti Trites) There has to be some teeth in what is supposed to be done. To make people know they have to go with the procedures.
 - (Ray Dovalina) The developer community is really strong with the politicians. When it comes down to making changes could be very difficult.
 - (Patti Trites) That is why shame works. Make it known that builders/developers are building, and the structures are still getting flooded.
 - (Dan Nissen) A lot of times it isn't the big developers it is the individual home developments. They do the initial inspection and then do not go back, and the homeowner makes changes after occupancy is approved.

7. Next Steps

- FMP Committee reflect on Goals developed and possible Action Items
- Meeting #4 – Review Possible Activities – Thursday, December 5, 2019
- Meeting #5 – Draft an Action Plan, will be held Thursday, January 16, 2020
- Public meeting Thursday, February 13, 2020
 - Join us at FCDMC, Adobe Conference Room from 3:00 – 6:00 PM