Floodplain Management Plan 2020 Update
Meeting No. 3 – Set Goals

Kelli Sertich, AICP, CFM – Policy, Planning & Coordination Branch Manager, *FCDMC*

Mark Fountain, PE, CFM – *Black & Veatch*

November 14, 2019

Safety Moment – Safe Travel Planning

- Label your luggage. Do not use your home address or business title.
- Be aware of airport security procedures or changes.
- Check the Apps! Verify before you leave home - changes to the flight schedule.
- Wear comfortable, practical and appropriate footwear and clothing —sandals, t-shirts and shorts won't keep you warm if you have to exit the plane in the cold. Backup gear if luggage is delayed…

Agenda

- Introduction
- Flood Thread Definition
- Summary of Flood Hazards
- Discussion of Hazards/Problems by Watershed
- - Break
- Discussion of Potential 2020 FMP Goals
- Next Steps

Introduction

- Around the Room
  - FMP Committee Alternates
  - Other Participants / Guests
- Presentation – Maricopa County Emergency Management
- Overview of FMP Meeting #2

Maricopa County Department of Emergency Management (MCDEM)

Roles and Responsibilities

JESUS A. HARO – EMERGENCY SERVICES PLANNER

FLOODPLAIN MANAGEMENT PLAN 2020 – MEETING #3

NOVEMBER 14, 2019

Mitigation, Preparedness, Response and Recovery

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.

Mitigation, Preparedness, Response and Recovery

Essential Functions of MCDEM

Provide on-going planning to prevent and prepare for large-scale emergencies in Maricopa County.

Conduct training, drills and exercises for natural, man-made, and technological threats and hazards.

Develop and maintain Emergency Operations Plans (EOPs) and Emergency Response Plans (ERPs) for Maricopa County and its cities, towns and fire districts.

Develop and maintain the Multi-Jurisdictional Hazard Mitigation Plan (MJHMP), a preventative plan to reduce the risk to people and property.

Maintain and test communications and warning systems to ensure rapid and accurate notifications.

Coordinate response and recovery activities during and after emergencies.

Mitigation, Preparedness, Response and Recovery

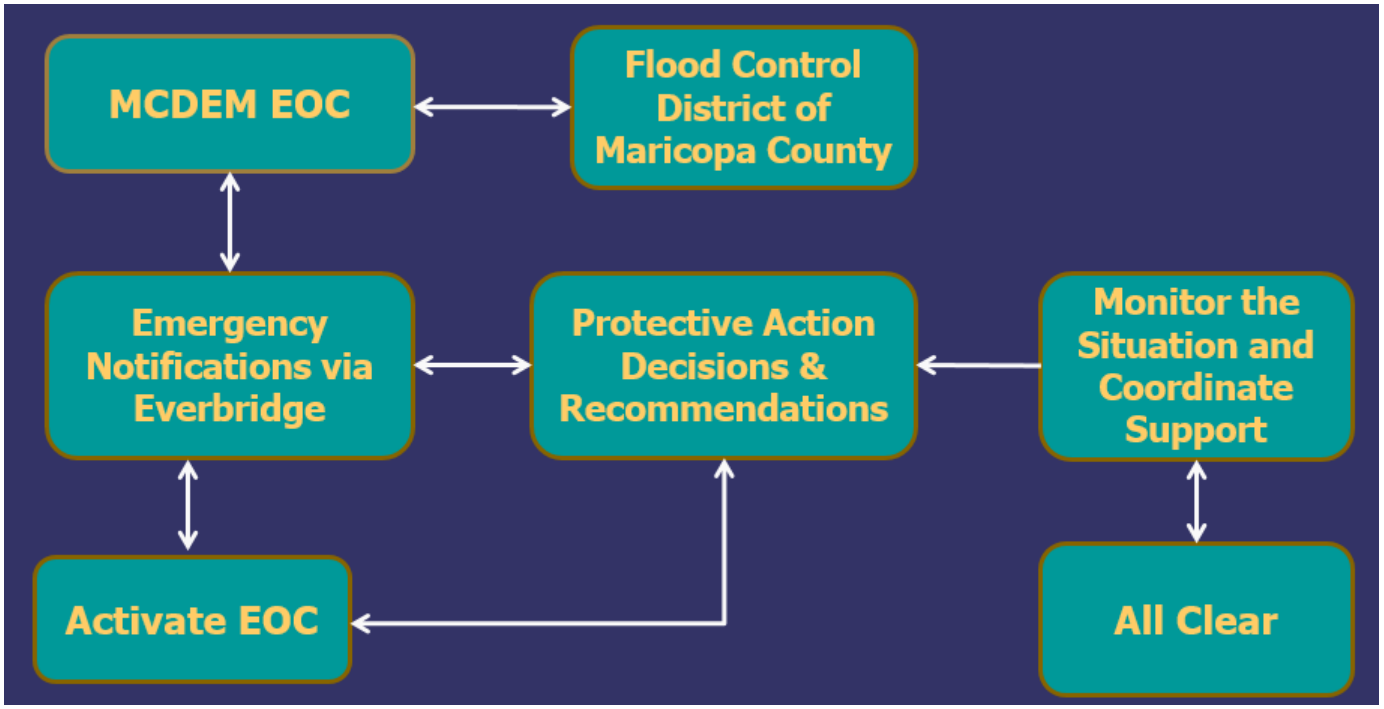
MCDEM Responsibilities

- Notify various agencies per instructions in the EAPs
- Provide evacuation maps
- Update & maintain notification list
- Help coordinate flood exercises
- Prepare after action reports

Potential Emergency Conditions

1. Reservoir pool inundation
2. Discharge from the principal outlet
3. Discharge from emergency spillway
4. Potential or actual failure of FRS embankment

Communications Flowchart



Mitigation, Preparedness, Response and Recovery

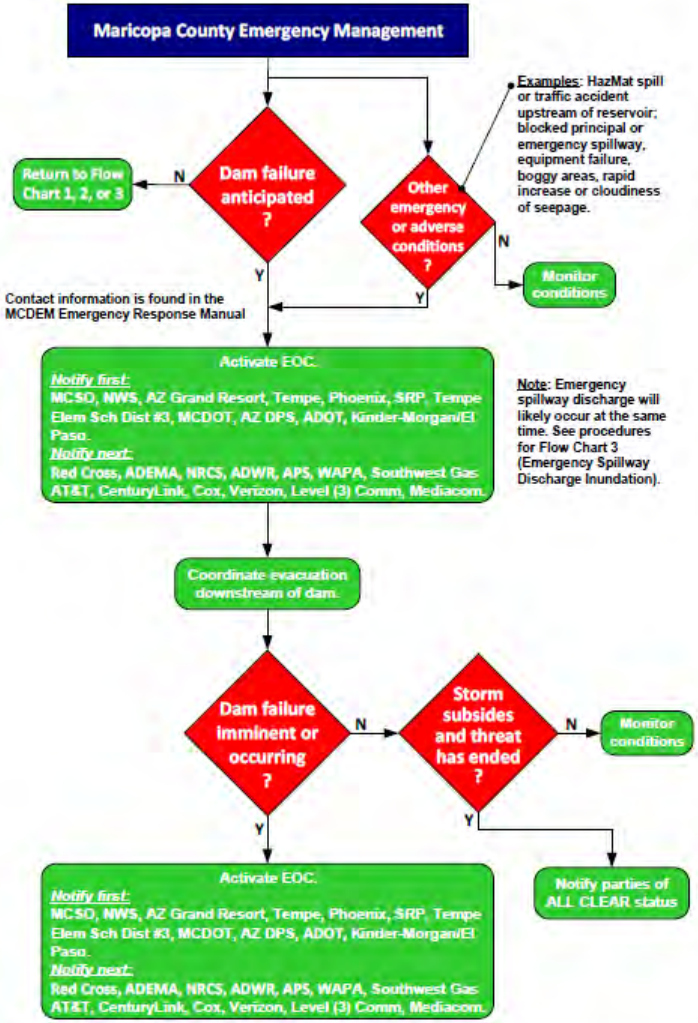
Emergency Operations Center - EOC

Location

5630 East McDowell, Phoenix, AZ. 85008 – Papago Park Military Reservation

- Emergencies, Exercises, Emergency Notifications (Everbridge, WEA, EAS)
- Incident Command System (ICS)

Mitigation, Preparedness, Response and Recovery


Maricopa County Emergency Management
Examples: HazMat spill or traffic accident upstream of reservoir; blocked principal or emergency spillway, equipment failure, boggy areas, rapid increase or cloudiness of seepage.
Return to Flow Chart 1, 2, or 3
N
Dam failure anticipated ?
Other emergency or adverse conditions ?
N
Monitor conditions
Y
Y
Contact information is found in the MCDEM Emergency Response Manual
Activate EOC.
Notify first:
MCSO, NWS, AZ Grand Resort, Tempe, Phoenix, SRP, Tempe Elem Sch Dist #3, MCDOT, AZ DPS, ADOT, Kinder-Morgan/El Paso.
Notify next:
Red Cross, ADEMA, NRCS, ADWR, APS, WAPA, Southwest Gas AT&T, CenturyLink, Cox, Verizon, Level (3) Comm, Mediacom.
Note: Emergency spillway discharge will likely occur at the same time. See procedures for Flow Chart 3 (Emergency Spillway Discharge Inundation).
Coordinate evacuation downstream of dam.
Dam failure imminent or occurring ?
N
Storm subsides and threat has ended ?
N
Monitor conditions
Y
Y
Notify parties of ALL CLEAR status
Activate EOC.
Notify first:
MCSO, NWS, AZ Grand Resort, Tempe, Phoenix, SRP, Tempe Elem Sch Dist #3, MCDOT, AZ DPS, ADOT, Kinder-Morgan/El Paso.
Notify next:
Red Cross, ADEMA, NRCS, ADWR, APS, WAPA, Southwest Gas AT&T, CenturyLink, Cox, Verizon, Level (3) Comm, Mediacom.

Everbridge Notifications

Maricopa County, AZ - Dept of Emergency (Dispatcher MCDEM)

everbridge | Dashboard | Universe | Notifications

Notifications > Edit notification template

Update Message

High priority

* Title

Use a message template

511 Guadalupe North Dam No. 1 Failure Imminent/Occurring Tier 1,2&3

Body

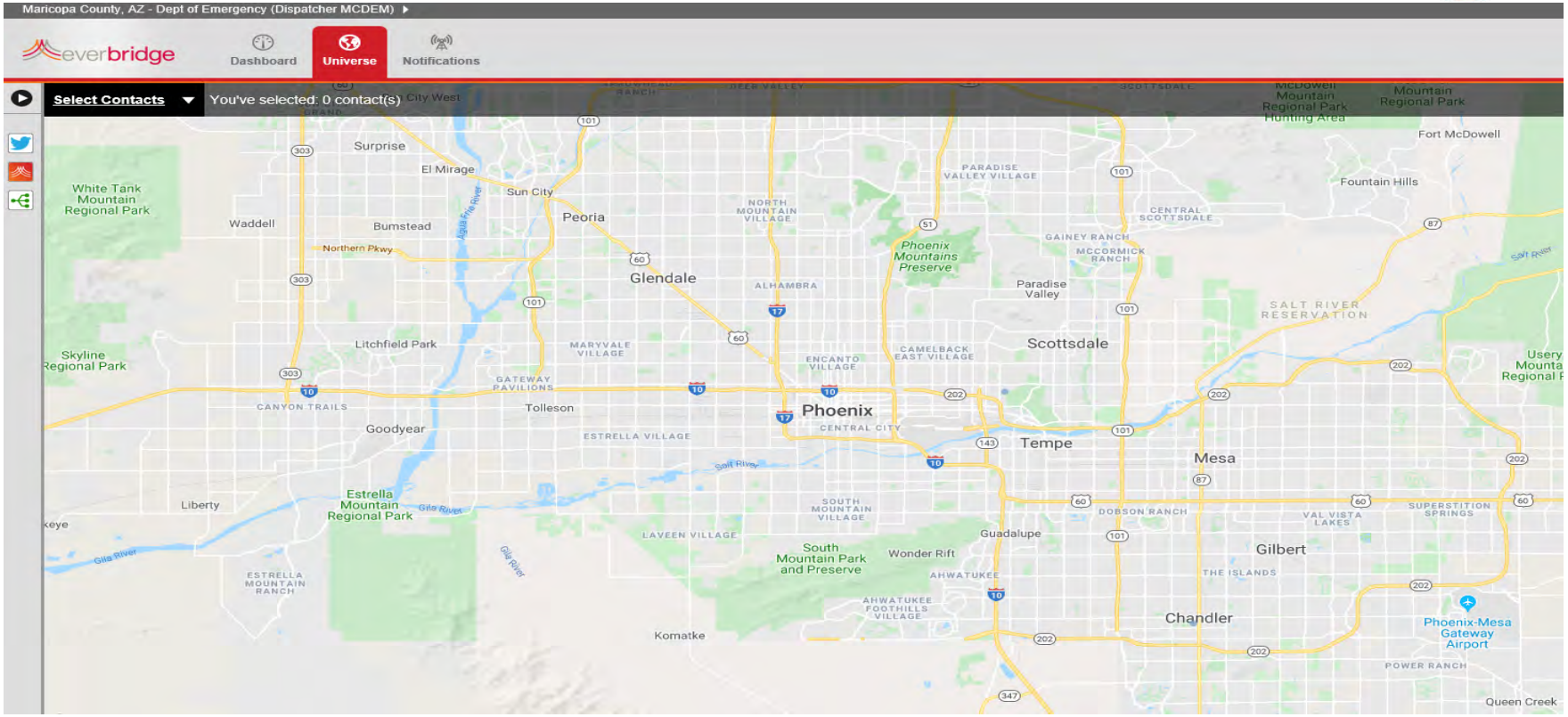
Text ☑ Include a separate message for email notifications

This message is from the Maricopa County Department of Emergency Management. The Flood Control District of Maricopa County is reporting an imminent or occurring failure of the Guadalupe Flood Retarding Structure at the north end of the dam. This will cause flooding west of Interstate 10. Evacuating the surrounding areas of Guadalupe, Tempe, Phoenix and The Arizona Grand Resort is recommended. Please review the emergency Action Plan for Guadalupe FRS. For questions please call 602-273-1411

Clear Contents | Expand

This message is from the Maricopa County Department of Emergency Management. The Flood Control District of Maricopa County is reporting an imminent or occurring failure of the Guadalupe Flood Retarding Structure at the north end of the dam. This will cause flooding west of Interstate 10. Evacuating the surrounding areas of Guadalupe, Tempe, Phoenix and The Arizona Grand Resort is recommended. Please review the emergency Action Plan for Guadalupe FRS. For questions please call 602-273-1411

Everbridge Notifications



WebEOC

2828		this is a test
Incident	Flood Drill 12.01.2015	
Username:	Planning Chief	
Position:	MCDEM EOC Planning Chief OLD	
Date/Time:	12/01/2015 11:02:43	
Event Type:		
2818		THIS IS A DRILL Kellis is closed between Hwy 60 and America St A detour is in place at Cottonwood Lane and Kellis, directing traffic northward to America Street THIS IS A DRILL
Incident	Flood Drill 12.01.2015	
Username:	MCDOT	
Position:	MCDEM EOC Ops Chief Old	
Date/Time:	12/01/2015 10:49:26	
Event Type:	Flooding	
2814		This is a Drill Contacted SW Gas and El Paso Gas, they state that at this time there is no impact to Gas Lines due to flooding This is a drill
Incident	Flood Drill 12.01.2015	
Username:	Planning Chief	
Position:	MCDEM EOC Planning Chief OLD	
Date/Time:	12/01/2015 10:31:17	
Event Type:	Flooding	
2815		THIS IS A DRILL EVACUATION AREA RECOMMENDED TO WICKENBURG INCLUDED CENTER STREET SOUTH TO PALO VERDE DRIVE Drive east to Hassayampa River. 1046 Seepage clearning, spillway at 6' and rain clearing
Incident	Flood Drill 12.01.2015	
Username:	DIRECTOR	
Position:	MCDEM Director OLD	
Date/Time:	12/01/2015 10:16:47	
Event Type:	Flooding	
2807		****THIS IS A DRILL*** Notified the following of Sunset FRS at 90% Capacity BNSF, MCSO, Red Cross, Wickenburg Evacuations downstream may be necessary Recommend BNSF halt all rail traffic IVO of Sunset FRS at Wickenburg
Incident	Flood Drill 12.01.2015	
Username:	Operations Chief	
Position:	MCDEM EOC Ops Chief Old	

Sheltering

Local

- All incidents and emergencies start and end at the local level

MCDEM

- Incident coordination, messaging and resource management

Red Cross, AZVOAD, Maricopa County COAD

- Establish congregate care as requested

Questions?

Jesus A. Haro – Emergency Services Planner

Jesus.Haro@Maricopa.gov

602-273-1411

Mitigation, Preparedness, Response and Recovery

Overview of FMP Meeting 2

- Flood Control Financial Status
- Communications and Public Outreach
- Flood Hazard Identification
- Impacts of Hazards During Storms
- Hazards and Problems by Watershed
- Next Steps

Flood Threat Definition

- Review Group Input
- Group Discussion of Definition
- Develop Consensus of Definition

Group Reporting of Flood Threat Definitions

1. 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 take action for locations with known problems.
2. Interruption of transportation and emergency service during storm events
3. Public safety – which encompasses hospitals, emergency services, water treatment facilities, airports
4. Risk to life, structures, and economic development.
5. 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.

Flood Threat Definitions

- Group 1 – Agua Fria River Watershed
  - Wildcat developments – not defined flood protection at all. “I don’t like that wash I am going to build something there to move it”

Flood Threat Definitions

- 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 go
  - 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 could help attenuate the flow
  - Adoption of GI/LID techniques throughout County

Flood Threat Definitions

- Group 3 – Gila River/Queen Creek Watershed (Part 1)
  - 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 Zone X - New homeowners do not know they are within a potential flood threat because there have never been homes there

Flood Threat Definitions

- Group 3 – Gila River/Queen Creek Watershed (Part 2)
  - 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 had 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

Flood Threat Definitions

- Group 3 – Gila River/Queen Creek Watershed (Part 3)
  - Data in the last 60 to 80 years the design standards have changed because more information has become available
  - Utilize the data we not have to determine improvements to the design standards
  - FCDMC should lead the charge for design standard changes

Flood Threat Definitions

- Group 4 – Centennial Wash and Hassayampa River Watersheds
  - Best Management Practices for flood measures

Flood Threat Definitions

- 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 can 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 ordinances and development concerns

Flood Threat Definition

- Review Group Input
- Group Discussion of Definition
- Develop Consensus of Definition

Flood Threat Definition

- Review Group Input
- Group Discussion of Definition
- Develop Consensus of Definition

Summary of Flood Hazards by Watershed

- Group 1 – **Agua Fria River Watershed**
- **Key Hazards**
  - **Alluvial Fans**
  - **Wildcat Development**
  - **CAP Canal (U/S Ponding)**
  - **Inactive Mine (New River)**
  - **Tailwater**
  - **Local / Urban Flooding**
  - **Unmaintained Drainage Facilities**

Summary of Flood Hazards by Watershed

- Group 2 – **Cave Creek/Salt River and Verde River Watersheds**
- **Key Hazards (Verde)**
  - **Repetitive losses on roadways**
  - **Head-cutting of roadways and banks**
  - **Single-lot development (hardscapes/un-natural)**
- **Key Hazards (Verde)**
  - **Street flooding**
  - **Building below street grade**
  - **Outdated infrastructure feeding canals**
  - **Multiple jurisdictions**
  - **No areas of impoundment**
  - **Hardscaped surfaces prevent infiltration**
  - **Action – Build more storm sewers**

Summary of Flood Hazards by Watershed

- Group 3 – **Gila River/Queen Creek Watersheds**
- **Key Hazards**
  - **Public safety**
    - **Hospitals / Emergency Services / Critical Facilities**
  - **Flash flooding and transportation**

Summary of Flood Hazards by Watershed

- Group 4 – **Centennial Wash and Hassayampa River Watersheds**
- **Key Hazards**
  - **Limited infrastructure**
  - **At-grade crossings contribute to transportation flooding**
  - **Large areas of development**
  - **Management of alluvial fans (Hassayampa)**

Summary of Flood Hazards by Watershed

- Group 5 – **Lower Gila River and Waterman Wash Watersheds**
- **Key Hazards**
  - **Gila Bend – areas of risk not within SFHA**
  - **Major flood events on Gila River**
  - **Split flow in Hassayampa and Centennial Tributaries**
  - **At-grade crossings**
  - **Single-lot developments**
  - **Suburban-urban interface**
  - **Tamarisk**
  - **Wildlife areas**

Summary of Flood Hazards by Watershed

- Additional Hazards – Not identified elsewhere
  - **Urban Redevelopment and Densification**
  - **Subsidence and Fissures**
  - **Block Walls / Property Fences**
  - **Fill in Washes (Vegetative / Earthen)**
  - **Flood Warning Signage**
  - **Depth Gauges**

Discussions of Hazards by Watershed

- Additional Committee Input for Flood Hazards

- Thoughts after Meeting No.2
- What was missed?

Break – 10 Minutes

Flood Control District Strategic Plan FY2017-FY2022

Mission

The Flood Control District of Maricopa County reduces risk from flooding so that property damage and loss of life is minimized, economic development is supported in a safe and responsible manner, storm water is recognized as a resource for the long-term benefit of the community and environment.

Vision

The Flood Control District of Maricopa County is a community partner working with citizens and stakeholders to reduce the risk from flooding. The District accomplishes this through exceptional customer service, technical expertise, fiscally responsible actions and multi-use projects.

Values

Public Interest First
Open and Honest
Accountable
Measure Results
Relentless Improvement
Communicate and Collaborate
All Employees Realize Their Full Potential

Discussion of 2020 FMP 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.

Discussion of 2020 FMP Goals

Review of 2015 FMP Goals:

1. ***Continue/Expand Public Outreach***

   Public education of flood hazards is essential to protecting lives and property. The District'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.

2. ***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.

Discussion of 2020 FMP Goals

Review of 2015 FMP Goals:

3. Strengthen Role as Regional Leader

The District provides floodplain regulation and management for the unincorporated portions of Maricopa County and for 14 of the 24 municipalities. The District also provides technical training and expertise, educational materials, design manuals, and flood warning services. The District's continued leadership role should further integrate with other regional planning efforts, and the District should actively seek public and private partnerships to maximize the value of infrastructure and support long-term sustainability.

4. 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. The District could improve its response to public information requests by developing pre-programmed web pages and field-ready response kits.

Discussion of 2020 FMP Goals

Review of 2015 FMP Goals:

5. Enforce/Enhance Regulatory Standards

The District 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.

Discussion of 2020 FMP Goals

Review of 2015 FMP Goals:

6. 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
- Wildlife habitat and migration corridors

Discussion of 2020 FMP Goals

Group Breakout – Define 2020 Goals

General Goals:

Watershed Specific:

Next Steps

- FMP Committee Reflection & Action Items
- FMP Committee Meeting #4 – Review Activities
  - Thursday - December 5, 2019
- FMP Committee Meeting #5 – Draft Action Plan
  - Thursday – January 16, 2020
- Public Meeting No.2
  - Thursday – February 13, 2020

  - Your participation is requested to ensure FMP success