Making Resilience our Flood Control Endgame

FMA Conference 2019
San Diego, California
“Knowledge is Power: Keeping the Lights on Floodplains, Resilience Planning and Risk Reduction”

Presented by:
Abigail Mayrena, PE, CFM
Principal Civil Engineer
Clark County Regional Flood Control District

Clark Barlow, PE, CFM
Senior Engineer, Atkins
Flood Resilience

The response and recovery of flood mitigation strategies from extreme events and changing conditions
The Key to Resilience

Plan ahead
› Master Planning
› Budgeting
› Awareness

Simple design improvements
› Extreme event analyses
› Sensitivity analyses
Clark County Regional Flood Control District

Agency Overview

District was created in 1985
Funded with ¼ of 1% sales tax

Main Programs:
- Capital Improvement Projects
  - 10-Year Construction Program
- Maintenance Work Program
- Public Information
- Flood Threat Recognition System
  - 200+ rain gauges
- Local Drainage
- Stormwater Quality Management
Smart Planning
A Key to Resilience…Plan Ahead

Master Plan Update
› Updated every 5 years
› Las Vegas Valley, Boulder City, Bunkerville, Mesquite, Clark County Outlying Areas, Muddy River
› Facilities Designed for Ultimate Condition Flow
› Right-of-Way/Easement – Reserved in planning

Ten-Year Construction Plan

- Las Vegas: 36%
- North Las Vegas: 24%
- Henderson: 7.1%
- Clark County: 28%
- Mesquite: 3%
- Boulder City: 2%
...Maintenance Work Program

Funding provided by RFCD

› Annual Plan and Budget

Maintaining/Assessing

› Asset Management Program
  › City of Henderson
    › Majority of Facilities are complete
  › Lessons Learned
A Key to Resilience...Public Awareness
Promoting awareness helps make resilient flood risk planning a collective effort

› Billboards/Public Service Announcements/Social Media
  › *Flash Flood Virtual Reality* – floodvr.com

› Annual Flood Safety News Conference – Monsoon Season – First Responders – Elected Officials

› Student Outreach
Practical Design Applications
City of Henderson
Pittman North – Interim Condition Design
City of Henderson
Pittman North – Ultimate Condition Design

Future Detention Basins:
- Pittman Southeast
- Pittman West
- Pittman Southwest
Outlying Areas MPU: Coyote Springs Alluvial Fan

CS3210 overlaps both CS130 and CS210.
Desert Inn Storm Drain Design
Mesa Boulevard Channel Project
Still more to do…

Hydrologic Criteria and Drainage Design Manual Update

› Clarification, address inconsistencies, policy changes (FEMA, USACE, etc.)
› Incorporate new or updated data, modeling programs, accommodating designs
› University research (main line-lateral confluence angle, climate change consideration)
› Common Practices – maintenance access

Remaining Facilities – another 30+ years to go

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<thead>
<tr>
<th>Conveyance Facilities (miles)</th>
<th>Debris/Detention Basins</th>
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<tbody>
<tr>
<td>847 Total on MPU</td>
<td>134 Total on MPU</td>
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<td>124</td>
<td>22</td>
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- Completed
- Proposed
- Remaining
Questions?