Agenda

- Background
- FEMA Public Assistance Process
- Rebuilding Under FEMA
- Conclusion
<table>
<thead>
<tr>
<th>Type</th>
<th>Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>Housing</td>
<td>$ .623 billion</td>
</tr>
<tr>
<td>Infrastructure</td>
<td>$1.713 billion</td>
</tr>
<tr>
<td>Economic Recovery</td>
<td>$ .556 billion</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>$2.892 billion</strong></td>
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</tbody>
</table>
INDIVIDUAL IMPACT

- 6,086 households & 100 businesses impacted
- 14% of city’s households were damaged
- Statewide:
  - 1/3 of all damaged households located in city of Boulder
  - ½ in Boulder County
- Estimated claims to-date = $30.4 million

CITY’S IMPACT

- Estimated damages = $27.6 million
- Damage to:
  - 50 city buildings/facilities
  - Water/sewer/stormwater infrastructure
  - 54 city parks & rec facilities
  - 15 drainages
  - 30 streets & sidewalks
  - 25 acres of multi-use paths
  - Hundreds of open space trails
Background
City of Boulder
FEMA Public Assistance

- Anticipated Cost: $27.6 million
- Anticipated FEMA/State Reimbursement: $14.5 million
- Expended to Date: $17 million
- 61% complete
- FEMA Reimbursements to Date: $1 million
FEMA Public Assistance

- Reimburses applicants for 75% of **eligible** expenses
  - State of Colorado contributes additional 12.5%
- State of Colorado is the grantee
  - Local governments are “applicants”
Roles and Responsibilities

**FEMA**
- Manage program
- Approve grant
- Provide technical assistance

**STATE**
- Manage program
- Educate applicants
- Support in project formulation
- Submit grant documents
- Provide grant funds
- Monitor grants
- Manage closeout

**APPLICANT**
- Submit RPA
- Attend meetings
- Prepare damage list
- Assist in project formulation
- Identify special considerations
- Maintain documentation
- Initiate closeout
- Participate in audit
Challenges to Local Governments

- High turnover within FEMA
- Colorado has limited experience with major disasters
  - Process is ever-evolving
- FEMA regulations are cumbersome
  - Procurement
  - Environmental/historical
- Challenges with eligibility and conflicting policies
- Estimates vs. actuals
Eligibility and Conflicting Policies (Floodways)
Eligibility and Conflicting Policies (Floodways)
FEMA Community Rating System (CRS)

- Component of National Flood Insurance Program
- Recognizes and encourages community floodplain management activities exceeding the minimum NFIP standards
- Incentives for improving floodplain management
FIGURE 2A – Area 2: Violet Park (Point Four 3) – Pre-flood no sediment deposit.
FIGURE 2B – Area 2: Violet Park (Point Four 3) – Post-flood sediment deposit.
The Applicant will use Force Account Labor, equipment, materials, or Contract Services to repair the following trail back to pre-disaster condition:

Repair damaged area back to pre-storm condition 902 CY's of unclassified fill material that was washed out. (507 FT L x 8 FT W x 6 FT D)

The estimated cost for repair back to pre-disaster condition (902 CY's x $35.00/CY installed) = $31,570.00
Estimates vs. Actuals
Funding to improve upon the pre-disaster design in order to prevent future damage:

- Riprap
- Retaining walls
- Soil retention blankets
- Gabions
- Geotextile fabric
- Etc.
Scope Changes

- Allows for revision of Project Worksheet for:
  - Newly discovered damage
  - Adjustments to scope
  - Cost overruns
Scope Changes (cont’d)

1. Estimate Scope
2. Plan Work
3. Complete Work
4. FEMA/State Approval
5. Identify Change
6. Apply for Change
7. FEMA/State Review
Conclusion
Floodway Recovery & Resilience
Under the FEMA Public Assistance Program
Project

- We responded to an RFP put out by the City of Boulder to provide third party inspection services in support of FEMA flood clean up and some engineering consulting services related to flood impacts.
- We were assigned Fourmile Creek which meanders through the northern part of the City, west to east. It was about a 3.5 mile long floodway.
- This river (creek) channel received a tremendous amount of sediment. The channel was entirely filled in.
- The creek flowed (and flows through) various neighborhoods, with very challenging and at times limited access.
- Most people in the area of Fourmile suffered damages and emotions were high on the homeowners’ side of things as well as on the City’s side in terms of trying to restore the channel capacities to avoid future flooding.
Project

- We provided monitoring services per FEMA Standards #327.
- The original sediment estimates were 37,300 C.Y.
- Actual sediment hauled was 28,402 C.Y.
- It was originally anticipated to only be sediment removal, but it was discovered that there was a lot of woody debris as well.

Impact Areas:
- Floodways and adjacent areas to the floodways
- This created ambiguity as to what could be considered reimbursable and what was not.

How did we define what was pre-flood contours throughout the floodway?
- LIDAR
- Physical Evidence:
  - Leaves
  - Grass
  - Tree Roots
  - Trash
  - Organic Soils
  - Anecdotal Evidence
  - Wetland Delineation Principles