Update on Flood Recovery: Creek and Floodplain Planning & Modeling, Private Access Creek Crossings, and Roadway Plans

Lefthand Canyon and James Canyon Communities – June 4, 2014
Agenda

• Background
• Work Completed
• Current Work
• Funding, Next Steps, & Implementation
Changes From Flood...

- Changes to Creek Channels
  - Floodplains
- Damaged Roadways
- Damaged & Destroyed Private Accesses
Work Completed - County Infrastructure

- 30 Miles of Emergency Access Haul Roads
- 30 Miles of Winter Roads
- 3 Bridges Repaired
- 1 Retaining Wall in Construction
- 2 Bridges In Construction
- 5 Bridges & 2 Retaining Walls In-Design
- 2 Minor Structures Repaired
- $22.5 million committed/expended to-date

Longmont Dam Road – Before & After
Regulations – Why We Care

**Regulations Guide How We Move Forward:**

- Balance short-term impacts to public & private safety/infrastructure/risks vs. long-term planning/impacts to future generations
- State/Federal – Need to comply with requirements to maintain assistance eligibility ($100s of millions) and flood insurance eligibility/discounts
- Affects all unincorporated county residents/property owners:
  - Who live in/own property in vicinity of creeks/rivers
  - Who buy flood insurance
- Cost of Emergency Response & Recovery
Floodplain Regulations and Requirements

100-Year Flood/Floodplain = Foundation of Regulation (1% chance of occurring each year).
Floodplains changed during & after the flood:
• Topography - deeper/shallower/wider/narrower/steeper/flatter
• Hydrology – how much water & how fast it flows
• Location – creeks moved horizontally

Need to map/model to understand what may happen next time.
Floodplain Mapping Changes

State Initiated Efforts:

- **“Interim Maps”** with pre-flood hydrology and immediate post-flood topography
  - May not reflect current conditions due to ongoing work by county & residents
- **Updated hydrology reports** with new/different flood volume estimates for major drainages
  - Draft – Under Review
Work Completed – High Hazard Debris Removal

- High Hazard cleanup complete in James Canyon & Lefthand creeks
- Total debris removed:
  - 23,000+ cubic yards of vegetative debris
  - 33,000+ tons of mixed vegetative/sediment
Overlapping Paths

- Private Access Permitting
- Permanent Roadway Construction
- Floodplain Regulations
- Creek Planning Initiative
## County Work To-Date

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<thead>
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<tbody>
<tr>
<td><strong>Road Construction</strong></td>
<td>$3,410,000</td>
<td>$6,250,000</td>
<td>$2,260,000</td>
<td>$8,510,000</td>
<td>$11,920,000</td>
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<tr>
<td><strong>Road Repair (In-House)</strong></td>
<td>$2,690,000</td>
<td>$675,000</td>
<td>$200,000</td>
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<td><strong>Bridge Construction</strong></td>
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<td>$7,190,000</td>
<td>$7,805,000</td>
<td>$7,550,000</td>
<td>$15,355,000</td>
<td>$22,545,000</td>
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<td>$22,545,000</td>
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<tr>
<td><strong>TOTAL spent or committed</strong></td>
<td>$15,355,000</td>
<td>$22,545,000</td>
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### Upcoming Construction Projects

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<thead>
<tr>
<th>Project</th>
<th>Estimated Cost</th>
<th>Needed In</th>
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<tbody>
<tr>
<td>Flagstaff Road Repairs</td>
<td>$2,200,000</td>
<td>JUNE</td>
</tr>
<tr>
<td>Interim Paving of Winter Roads</td>
<td>$1 to 2,000,000</td>
<td>JULY</td>
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<tr>
<td>East County Line Road Bridge</td>
<td>$4,200,000</td>
<td>JULY</td>
</tr>
<tr>
<td>Pine Brook Hills Repairs</td>
<td>$2,000,000</td>
<td>JUNE</td>
</tr>
<tr>
<td>Wagonwheel Gap Culvert Upsizing</td>
<td>$300,000</td>
<td>JULY</td>
</tr>
<tr>
<td>Raymond &amp; Riverside Drive</td>
<td>$750,000</td>
<td>AUG</td>
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</tbody>
</table>

**Total Construction Thru Aug 31**

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<thead>
<tr>
<th></th>
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<tbody>
<tr>
<td><strong>Total</strong></td>
<td><strong>$10,450,000</strong></td>
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### Upcoming Design Projects

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<th>Needed In</th>
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<tbody>
<tr>
<td>Wagonwheel Gap Road</td>
<td>$300,000</td>
<td>JULY</td>
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<tr>
<td>Gold Run Road thru Salina</td>
<td>$200,000</td>
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<tr>
<td>Dillon Road at Rock Creek</td>
<td>$180,000</td>
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**Total NEEDS THRU AUG 31**

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<tr>
<td><strong>Total</strong></td>
<td><strong>$11,130,000</strong></td>
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Next Steps – Permanent Roadway Construction

Boulder County will rebuild County roadways damaged by the 2013 flood.

- Opportunity to build better roads that are safer for motorists and cyclists.
- Public process for each roadway to present designs and listen to feedback.
- Cyclists & Motorists Working Group formed
Next Steps – Permanent Roadway Construction

**Construction/Approval Process**

1. Design
2. Public Input
3. Engineering & Bid Process
4. Construction

*Must Comply with FHWA and FEMA Process/Requirements for Reimbursement Eligibility*
### ESTIMATED PERMANENT ROADWAY CONSTRUCTION SCHEDULE

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</thead>
<tbody>
<tr>
<td>Fourmile/Gold Run</td>
<td>DESIGN</td>
<td>PUBLIC</td>
<td>PROCESS</td>
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<td></td>
<td></td>
<td>CONSTRUCTION - JUNE through DECEMBER</td>
</tr>
<tr>
<td>Lefthand/Geer</td>
<td>DESIGN</td>
<td>PUBLIC</td>
<td>PROCESS</td>
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<td></td>
<td></td>
<td></td>
<td>CONSTRUCTION – START DATE TBD</td>
</tr>
<tr>
<td>Longmont Dam Road</td>
<td>DESIGN</td>
<td>PUBLIC</td>
<td>PROCESS</td>
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<td></td>
<td></td>
<td>CONSTRUCTION – START DATE TBD</td>
</tr>
<tr>
<td>Raymond/Riverside</td>
<td>DESIGN</td>
<td>PUBLIC</td>
<td>PROCESS</td>
<td>BUILD</td>
<td>FINISH</td>
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<tr>
<td>James/Balarat</td>
<td>DESIGN</td>
<td>PUBLIC</td>
<td>PROCESS</td>
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</tr>
<tr>
<td>Wagonwheel/Pinto</td>
<td>DESIGN</td>
<td>PUBLIC</td>
<td>PROCESS</td>
<td></td>
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<td></td>
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</tr>
<tr>
<td>Flagstaff Road</td>
<td>BUILD</td>
<td></td>
<td></td>
<td>FINISH</td>
<td></td>
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</tbody>
</table>

- **Fourmile/Gold Run**: Design and construction scheduled for June through December 2014.
- **Lefthand/Geer**: Design and construction start date is TBD.
- **Longmont Dam Road**: Design and construction start date is TBD.
- **Raymond/Riverside**: Design, build, and finish scheduled.
- **James/Balarat**: Design and construction start date is TBD.
- **Wagonwheel/Pinto**: Design and construction start date is TBD.
- **Flagstaff Road**: Design and construction finish scheduled.
Emergency Asphalt Overlay

Lefthand Canyon Drive, James Canyon Drive & Fourmile Canyon Drive

- Currently being designed – Will go to bid ASAP
- Overlay work will begin ASAP after bids accepted – June or July 2014
- Estimated Projected Cost = $1,000,000 to $2,000,000
Overlapping Paths

- Private Access Permitting
- Permanent Roadway Construction
- Floodplain Regulations
- Creek Planning Initiative
The Boulder County *Comprehensive Creek Planning Initiative* is a forum designed to plan the creek stabilization and restoration process, thus enabling public infrastructure reconstruction, residential rebuilding and private access restoration, and revised floodplain mapping.
Creek Planning Activities

- December – January community meetings
- 650 participants, data set
- Public information and communication

Long-Term Recovery
- Watershed Master Plans for major drainages in county

Site Specific (local) Planning
- Short-term emergency mitigation
- Threat analysis (ratings)
- High Hazard Project identification location, scope, cost
## Left Hand Coalition

- Boulder County
- City of Boulder
- City of Longmont
- Colorado Division of Parks and Wildlife
- Colorado Department of Public Health and Environment
- Colorado Division of Reclamation and Mine Safety
- Colorado Water Conservation Board
- James Creek Watershed Initiative
- Keep it Clean Partnership (Boulder County)

- Left Hand Ditch Company
- Left Hand Water District
- Left Hand Water Oversight Group
- Natural Resources Conservation Service (NRCS)
- Saint Vrain and Left Hand Conservation District
- Town of Jamestown
- Town of Ward
- USDA Forest Service, Arapaho/Roosevelt National Forest
- U.S. Environmental Protection Agency, Region 8
Left Hand Creek Master Plan

- Consultant AMEC has been selected.
- Project will begin in late June. Community meetings will be announced in early July.
- Final report will be completed in November.
- For more information contact Stacey Proctor at 303-441-1107 or sproctor@bouldercounty.org.
- Or visit www.BoulderCountyCreekPlan.org.
Overlapping Paths

Private Access Permitting

Permanent Roadway Construction

Floodplain Regulations

Creek Planning Initiative
Private Access – Culverts & Bridges

- 118 total private access crossings damaged or destroyed
- **People Needed to Get Home** - Many replaced with temporary structures
- **Created Temporary Flood Recovery Access Permits (FRAP)**
  - Access must accommodate 10-year storm event
    - Some do, some don’t
    - Some simply can’t
Private Access:
Culverts & Bridges

FRAPs Are NOT Final Permits:

- Uncertainty with new floodplain, waterway hydrology, and permanent road alignment & elevation
- Until more is known, we won’t know how large the crossing can be and where it will connect to final roadway
The Road Ahead:
Private Access Challenges & Concerns

Property Owner Compliance with:

• Floodplain Regulations & Storm Drainage Criteria
  • Connecting road & house that may already be in the floodplain
• Land Use Code, Bridge Standards, & FEMA regulations
The Road Ahead: Private Access Challenges & Concerns

Property Owner Financial Impacts

- Situations where two temporary and one permanent accesses may need to be built
  - First did not meet FRAP regulations
- Cannot afford to build a temporary access & a permanent access
The Road Ahead: Private Access Challenges & Concerns

Property Owner Uncertainty

- Unknown cost of permanent access
- Unknown location of permanent access
- Long-term decisions are difficult
- Tough to sell a property with “unknowns”
The Road Ahead: FRAP Policy Changes

FRAP Will Be Issued If:

✓ Temporary access is as large as pre-flood crossing/largest possible for stream section

✓ Bridge replaced with a culvert & the culvert passes 10-year OR is largest possible culvert for that stream section
The Road Ahead:  
FRAP Policy Changes

TEMPORARY FRAP NOW VALID UNTIL COMPLETION OF CREEK PLANNING STUDY

• Crossings must come into compliance consistent with process & timeline outlined in final plan

MAY PURSUE FINAL INDIVIDUAL ACCESS/FLOODPLAIN DEVELOPMENT PERMITS PRIOR TO CREEK STUDY COMPLETION

• Where connecting road alignment, elevation, or creek alignment is NOT anticipated to change; AND,

• Applicant proves (using current development requirements) no increase in floodplain elevation on adjacent properties.
Private Access Options

Evaluate Engineering Options/Solutions for Private Accesses in Mountain Areas:

- Low water/ mid-water crossings
- Breakaway/tethered crossings
- Other?

Evaluated for:

<table>
<thead>
<tr>
<th>1 - Effectiveness</th>
<th>2 - Cost</th>
<th>3 - Feasibility</th>
</tr>
</thead>
<tbody>
<tr>
<td>4 - Reduction in Flood Risk</td>
<td>5 - Consistency with Applicable Regulations</td>
<td></td>
</tr>
</tbody>
</table>
Overlapping Paths

- Private Access Permitting
- Permanent Roadway Construction
- Creek Planning Initiative
- Floodplain Regulations
Regulatory Mountain Access and Floodplain Regulation Review

Evaluate Applicable Regulations to:

- Identify inconsistencies & requirements that are not appropriate, effective or feasible
- Identify exceptions, variances, or changes
- Ensure consistency with FEMA/State requirements
The Road We’re On: Floodplain Regulations/Requirements

Floodplains changed during/after the flood:
  • Shape / Size / Location / Conveyance Capacity

Map/model with proposed private access crossings in order to understand what will happen the next flood event and to regulate future floodplain development.
  • Property owners will not have to map if consistent with modeling
Regulatory & Interim Mountain Floodplain Mapping

Action Items/Next Steps:

- Development of a Schedule of Work and consultant retention/Resource needs
- Select consultant to review regulations/structure requirements
- Public outreach to affected communities
Overlapping Paths

- Private Access Permitting
- Floodplain Regulations
- Permanent Roadway Construction
- Creek Planning Initiative
Funding for Flood Recovery

Community Development Block Grant for Disaster Recovery (CDBG-DR)

• $62.8M for Colorado announced Dec. 2013 – Round 1 Funding
• 80% of funds must go to Boulder, Larimer and Weld counties
• $199.3M Round 2 funding – Late Fall 2014
• More Info = Colorado’s CDBG-DR website
  • http://dola.colorado.gov/cdbg-dr/
CDBG-DR Purpose & Requirements

Intended to address “unmet need” after all federal and grant funding sources

- Two years to spend funds
- Must meet one of 3 National Objectives:
  - Serve low-to-moderate income persons (LMI)
  - Removing slum and blight
  - Urgent need
- At least 50% of funds statewide must be spent on LMI households; LMI is at or below:

<table>
<thead>
<tr>
<th># of people in household</th>
<th>1 person</th>
<th>2 person</th>
<th>3 person</th>
<th>4 person</th>
<th>5 person</th>
<th>6 person</th>
<th>7 person</th>
<th>8 person</th>
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<td>Income Limit</td>
<td>$44,750</td>
<td>$51,150</td>
<td>$57,550</td>
<td>$63,900</td>
<td>$69,050</td>
<td>$74,150</td>
<td>$79,250</td>
<td>$84,350</td>
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CDBG-DR Grant Areas & Deadlines

Housing
  • Household Assistance: County submitted May 29
  • Housing Development: Developers apply

Public Infrastructure
  • Infrastructure Projects: NOIs submitted May 16; complete applications due in July
  • Resiliency Staff/Planning: Applications due June 16

Economic Development
  • Businesses: Occurring now; apply through SBDC
  • Governments: Tourism grants through OEDIT
# Household Assistance Application

<table>
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<tr>
<th>Program</th>
<th>Amount Requested</th>
<th>Maximum Award Available</th>
<th>Service Area</th>
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<tr>
<td>Housing Repairs</td>
<td>$4,000,000</td>
<td>$4,000,000</td>
<td>Countywide except for Longmont</td>
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<tr>
<td>Temporary Rental Assistance</td>
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<td>$1,000,000</td>
<td>Countywide except for Longmont</td>
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<tr>
<td>Clearance and Demolition</td>
<td>$250,000</td>
<td>$500,000</td>
<td>Lyons and other targeted areas</td>
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<tr>
<td>Home Access Program (private roads and bridges)*</td>
<td>$2,000,000</td>
<td>$2,000,000</td>
<td>Countywide except for Longmont</td>
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<tr>
<td><strong>Total</strong></td>
<td><strong>$7,250,000</strong></td>
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*The Home Access Program is pending approval of a waiver submitted to HUD by the State. Funds will be available only if that waiver is approved.*
Household Assistance Programs: Housing Repair

- Will fund:
  - Repairs to single family residences (area within the building footprint includes driveway, bridge/culvert, well, septic)
  - Relocation of a single family or modular home to a permanent location outside the floodplain.
- Cost to repair cannot exceed 50 percent of pre-flood county appraised value.
- Maximum per household award is $100,000.
- Prioritization of funding: Persons directly impacted by the flood, persons with disabilities, seniors, and previous residents of damaged/destroyed manufactured housing.
- At least 75 percent of households served must be at or below 80% AMI.
- Second homes are not eligible.
- Reimbursement of prior expenses: under consideration.
Household Assistance Programs: Temporary Rental Assistance

- While households’ homes are repaired or they are awaiting buyout
- Priority to assist previous residents of damaged or destroyed mobile homes and persons below 30% AMI
- ALL households served must be at or below 80% AMI

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<td>8 person</td>
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</tr>
</tbody>
</table>

Household Assistance Programs:
Home Access Program

• Awaiting approval of waiver by HUD
• Funds only needed in Larimer and Boulder counties
• Will repair or replace damaged and destroyed roads, bridges and culverts that provide access to residences
• 51% of persons served through Home Access Program must be low- and moderate-income unless the national objective of urgent need can be substantiated.
Household Assistance Programs: Application Process

- Single Application (Boulder County Housing & Human Services)
  - Available July 2014
    - Intake, documentation and duplication of benefits review
    - Case management assignment and unmet needs planning
    - Program eligibility determination, project scoping
    - Assignment of a Rehabilitation Coordinator
    - Coordination with LTFRG (if project exceeds $100,000)
    - Project begins (after permitting)
How to Apply/Timing of Funds

- **For Application:**
  - Register for BC listserv: [www.BoulderCountyFlood.org](http://www.BoulderCountyFlood.org)
  - Receive flood recovery updates
- **Estimated arrival date of funds from State = July/August**
- **CDBG-DR Housing Programs Implementation Study Session with County Commissioners**
  - Tomorrow - Thursday, June 5 – 1 to 3 p.m.
  - 1325 Pearl Street - Boulder
Overlapping Paths

- Private Access Permitting
- Permanent Roadway Construction
- Floodplain Regulations
- Creek Planning Initiative
The Road Ahead
Next Steps

What we need to get all of this done…

• Continued Public Outreach & Input
• Retain Consultants for Regulatory and Structural Review
• Initiate/Coordinate Creek Planning/Modeling with Private Access and Road Reconstruction
• Develop Guidelines/Administrative Structure for CDBG-DR Private Access Assistance Program
• Coordination/Evaluation of State Hydrological & Floodplain Remapping Efforts
• Patience & Understanding
Questions? Comments?

- Private Access Permitting
- Permanent Roadway Construction
- Floodplain Regulations
- Creek Planning Initiative