Social, Economic, & Sustainable Development

Resiliency to Flooding: created by redirecting flows and other on-the-ground improvements; built for future 100-year flood protection; provide economic benefits by protecting properties & homeowners

Resiliency for the Community: multimodal transportation improvements provide connectivity for commuting; opportunities for passive & active recreation

Future Value to Engineering Profession

“Added Value” Design Elements: beautify without adding costs; providing a connection to nature

Project Examples: colored concrete retaining walls, decorative railings, custom nature-themed form liner art on walls, steel trellises to support vegetation, and a sound wall

Complexity

Partnerships: realigned Boulder & White Rock Ditch; added BNSF Railway bridge to create passage for floods and pedestrians

Floodplain Management: innovative terraced grade control structure, custom culvert & pedestrian underpass, multiple split flows

Mobility: seamlessly integrated regional trail

Uniqueness & Innovation

Floodwalls: support riparian corridors, open channel flow and water quality treatment, habitat creation

Split Flows: manage floodplain management, locate 800-ft. of open channel, integrate regional trail

Pedestrian Underpass: safe roadway crossing; including regional trail; provide 100-year flood conveyance

Cascading Boulder Drop Structures: protect from erosive forces; provide soft approach, improve ecological resources

Future Value to Engineering Profession

“Added Value” Design Elements: beautify without adding costs; providing a connection to nature

Project Examples: colored concrete retaining walls, decorative railings, custom nature-themed form liner art on walls, steel trellises to support vegetation, and a sound wall

Successful Fulfillment of Client/Owner Needs

Final: aligned with budget goals and planned completion date

Serves as a Model: for floodplain improvements within a constricted & urbanized corridor

Key Improvements:

Emergency Flood Repair
Reduced, Managed Floodplain
Protected Community, Residents
New BNSF Railway Bridge, Underpass
Trail Connectivity, Improved Recreation
Beautification, Natural Vegetation

Wonderland Creek Floodplain and Greenway Improvements | Boulder, Colorado

Clients: City of Boulder, Colorado | Mile High Flood District, Denver, Colorado
Entering Firm: Muller Engineering Company, Lakewood, Colorado