

CASFM 2018 Annual Conference

Professional Development Sessions:

Session1: The Truth About Motivation & Team Building

Emily C. Villines (Calibre Engineering, Inc.)

Session2: Wonderland Creek Construction Lessons Learned

Kurt Bauer & Robby Glenn (City of Boulder, Public Works)



The Truth About Motivation & Team Building

Emily C. Villines, MA, CPSM

Calibre Engineering, Inc.

evillines@calibre-engineering.com



13-30% of staff
actively engaged

Strong corporate
culture = 500% more
revenue growth than
an average
company

Strong corporate
culture = 765%+ net
income over 10 years

High Functioning Group Dynamics: People have to feel safe in and connected to the group



- Purposefully invest in exchanges
- Acknowledge individual value
- Actively practice an open forum of communication
- Leadership puts the team's interest ahead of everything (and everyone) else

High Functioning Group Dynamics: People have to trust each other

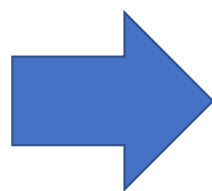
YOU CAN'T GET TO
COURAGE
WITHOUT WALKING THROUGH
VULNERABILITY
Brene Brown

- Trust comes from vulnerability
 - Leaders have to be vulnerable first
 - Use vulnerable language
- Eliminate hierarchy
 - Do the hard stuff together
 - Fight authority bias
 - Discuss issues without leaders
- Encourage a spirit of curiosity
 - Support open communication
 - Give staff a platform
 - Ask without intent to answer
 - Explore together without trying to win

High Functioning Group Dynamics: People have to be driven by a common, clarified purpose



- Develop purpose together
- Create beacons, language, priorities, and catch phrases
- Assign advocates
- Link to present and future





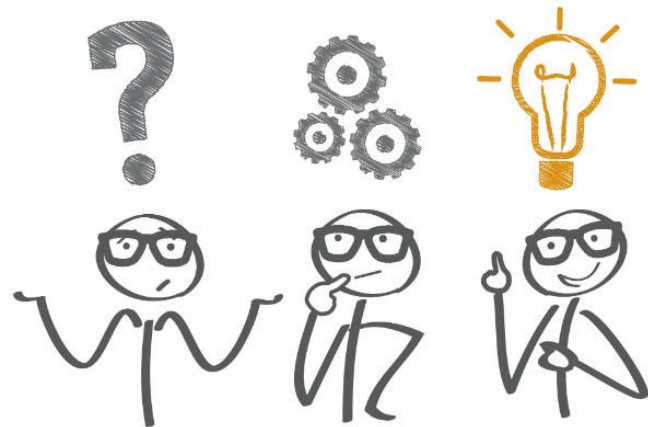
What motivates us?

The fun of mastering a challenge.



We need...

- Creativity at work
- Opportunities for quality and continual improvement
- Genuine achievement
- Opportunity to increase competence
- New and engaging intellectual challenges



Work needs to...

- Create situations for progression
- Offer opportunities for learning and improvement
- Encourage experimentation
- Encourage time devoted to enjoyable work

What motivates us?

Having control

We need a work environment in which...



- Goals are clear
- Feedback is immediate
- We are able to focus on output (our work) instead of input (our hours)
- We are able to create new domains for ourselves and processes for our work
- We are given the freedom to make decisions and manage our work

What motivates us?

Working for a bigger purpose



**Find purpose. The
means will follow.**

Mahatma Gandhi

 quote/any

- Establish a purpose
- Give to charity or non-profit causes related to work
- Take time to do non-commissioned work related to what you love



Resources

- Coyle, Daniel. The Culture Code: The Secrets of Highly Successful Groups.
- McGregor, Lindsay & Doshi, Neel. How to Motivate Frontline Employees.
- Pink, Daniel. The Surprising Truth About What Motivates Us.
- Sackstein, Starr. Educators' Powerful Role in Motivation and Engagement.
- Subat, Alex. Tips on Enhancing and Tracking Employee Motivation.
- Thompson, Sonia. 3 Science Backed Ways to Improve Your Performance.
- Zvada, Emmanuel. Management Blunders that Kill Employee Morale and Motivation.

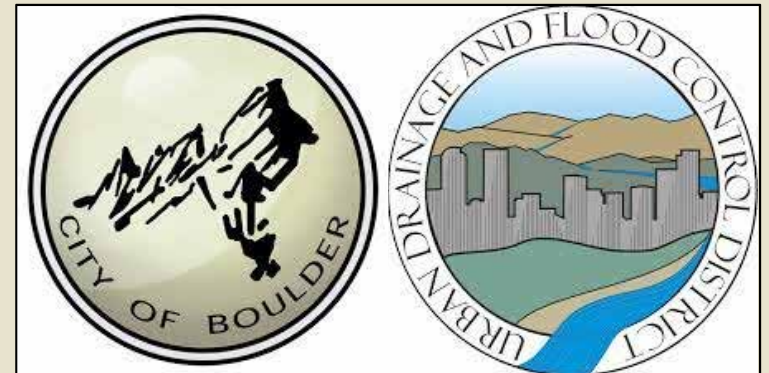
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- Quotefancy.com
- Entrepreneur.com

WONDERLAND CREEK CONSTRUCTION LESSONS LEARNED

2018 CASFM – SNOMASS, CO

Kurt Bauer & Robby Glenn
City of Boulder
Public Works



WONDERLAND CREEK PROJECT

- Nine years in the making
- 100-year channel improvements
- 450 dwelling units no longer in 100-year floodplain
- Missing Multi-use path link



2013 FLOOD EVENT



PROJECT COMPLEXITY

- BNSF Railroad
- Boulder White Rock Ditch
- Fully urbanized area
- Numerous utilities

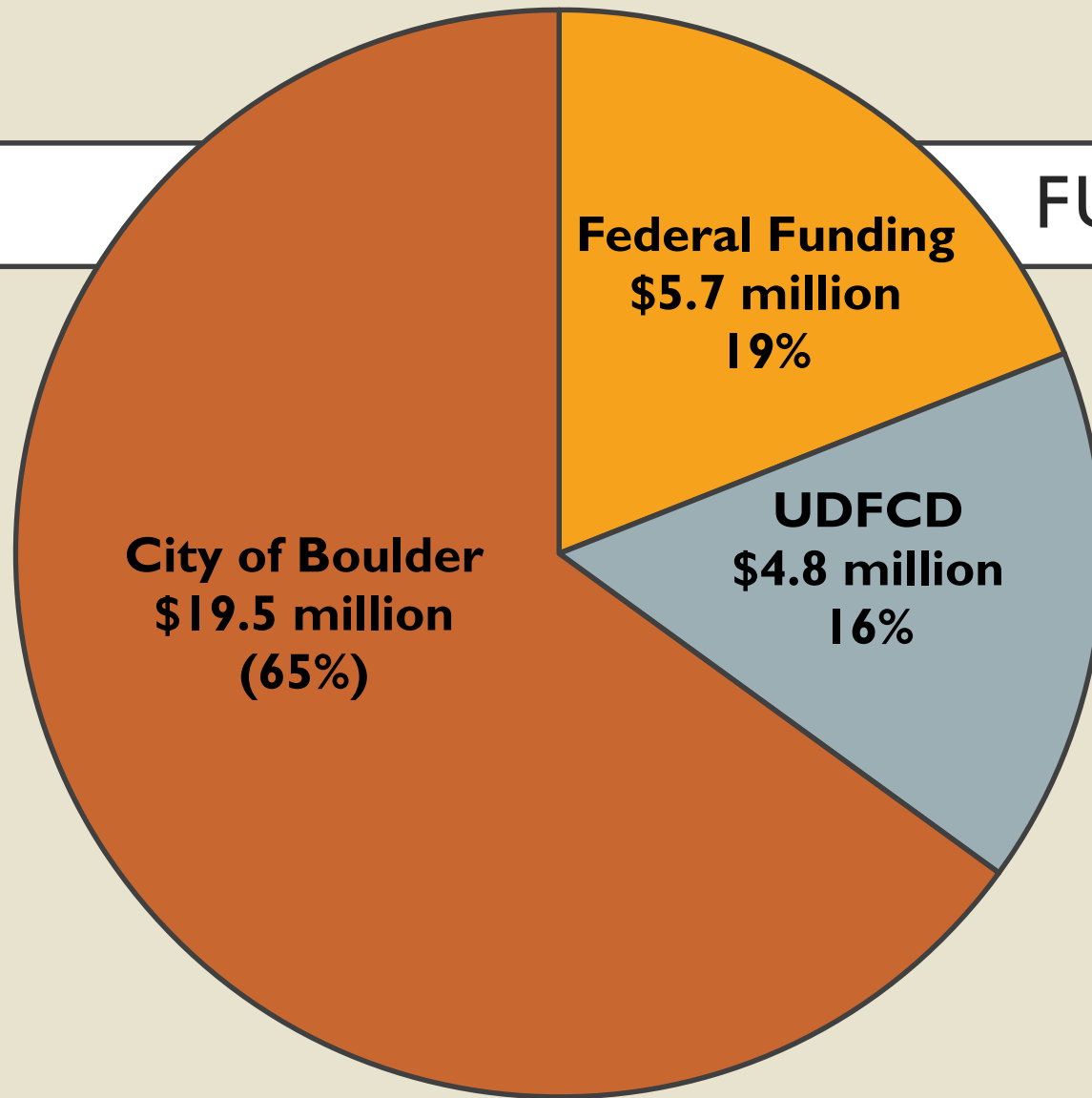


FINANCES

- \$20.3 million original bid
- \$22 million final construction cost
- \$8 million design + Construction Services
- **\$30 million total project cost**



FUNDING SOURCES



Percentage of
project using
outside funds
35%

CONSTRUCTION TIMELINE

- January 2016 construction begins
- Original Contract length 2 years
- Substantially complete June 23rd 2018 (6-month delay)
- Final Acceptance deadline October 31st, 2018





KEY LESSONS LEARNED

1. Consider consequences of grant administration
2. Utilize contractor and internal staff in design
3. Establish city-private utilities relationship

HOW MANY FULL-TIME ONSITE INSPECTORS?

(a) One

(b) Two

(c) Three

(d) Four



FEDERAL FUNDING

1. The consequences of federal funding

CDOT FORMS

- *Form 205 – Sublet Application*
- *Form 266 – Inspectors Progress Report*
- *Form 832 – Trainee Status and Evaluation Report*
- *Form 838 – On the Job Trainee/Apprentice Record*
- *Form 1391 – Contractors Annual EEO Report*
- *Form 1415 – Anticipated DBE Participation Plan*
- *Form 1418 – Monthly payment summary*
- *Form 1419 – DBE Participation Report*
- **Form 90 – Contract Modification Order (CMO) – 48 change orders on project**



MINOR CONTRACT REVISIONS

- Incorporate MCR's into bid tab.
 - 5-10% of project cost
 - Accounts for small changes
 - Can be combined into one CMO
 - Approx. 50% of our CMO could have been MCR's



CONSTRUCTION MANAGEMENT

CDOT FUNDING:

- Design engineer cannot be primary construction manager
- Project Delivery Method selection
 - Design/bid/build
 - Construction Manager/General Contractor
 - Design/Build



HUD VS. CDOT

- Davis Bacon FHWA and HUD forms are different
 - Verify prevailing wages
- Every payroll can be audited
- Underestimated administrative time



HUD & CDOT

- Expect full-time employee to administer paperwork
- ~10% of funds will likely go to administration of grant (just city)





2. CONTRACTOR AND INTERNAL REVIEW IN DESIGN

HOW MANY HOURS OF TRAFFIC
CONTROL FLAGGING ARE REQUIRED FOR
A PROJECT OF THIS SCALE?

(a) 5,000

(b) 10,000

(c) 20,000

(d) 30,000

Total Cost = \$580,000

CONSTRUCTABILITY REVIEW

Consider CM/GC option or 3rd
party contractor review

- Constructability
- Phasing





CONSTRUCTABILITY REVIEW

Consider CM/GC option or 3rd party contractor review

- Ensure Specs address complex phasing
- Consider liquidated damages





PRIVATE UTILITY CONFLICTS

3. Establish and maintain city-private utilities relationship

COORDINATION

- Include private utilities in design
- Relocation design: 4 to 6 months
- Pothole (Include in bid documents)
- Meet as frequently as needed



CONSTRUCTION

- Designated utility coordinator
- Utility relocations are contractor's responsibility
- Be involved with observation
- Be ready for unknown utilities



PROJECT COMMUNICATIONS

- Build rapport with community during design
- Identify businesses w/critical needs
- Inform public of progress & milestones
- Over deliver under promise





KEY LESSONS LEARNED

1. Consider consequences of grant administration
2. Utilize contractor and internal staff in design
3. Establish city-private utilities relationship

QUESTIONS?



BACKUP SLIDES

CONSTRUCTION STAFF AND ROLES

Are all aspects of the
project covered?



INSPECTORS

Construction
Manager

Assistant
Construction
Manager

Missing Areas

- Inadequate field staffing
- Experience with stream work
- Water Utility (pipe) inspection
- Clarity on decision making authority

EXECUTION PLAN

- Project Execution Plan (PEP)
 - Role responsibilities
 - Resource allocation
 - Organization chart



POTHOLING

- Pothole during design
- Verify tie-ins, material, elevations, and diameters
- Don't assume as-builts are correct
- Bill SB 18-167



APPROXIMATE PERCENTAGE OF TIME SPENT BY CONSTRUCTION MANAGER ON CDOT PAPERWORK?

(a) Twenty

(b) Forty

(c) Sixty

(d) Eighty

CONCLUSIONS

- Ensure all aspects of project are covered by CM team
- Verify requirements for federal funding and associated implications
- Perform a constructability review
- Coordinate as early and as often as you can with Private Utilities
- Have a construction team that can flex with whatever may happen











PROJECT LOCATION

