

CASTLE ROCK WATER

**RESOLUTION: 2019-067
APPROVING THE FIRST
AMENDMENT OF THE PA WITH
CHERRY CREEK FOR
MCMURDO GULCH**

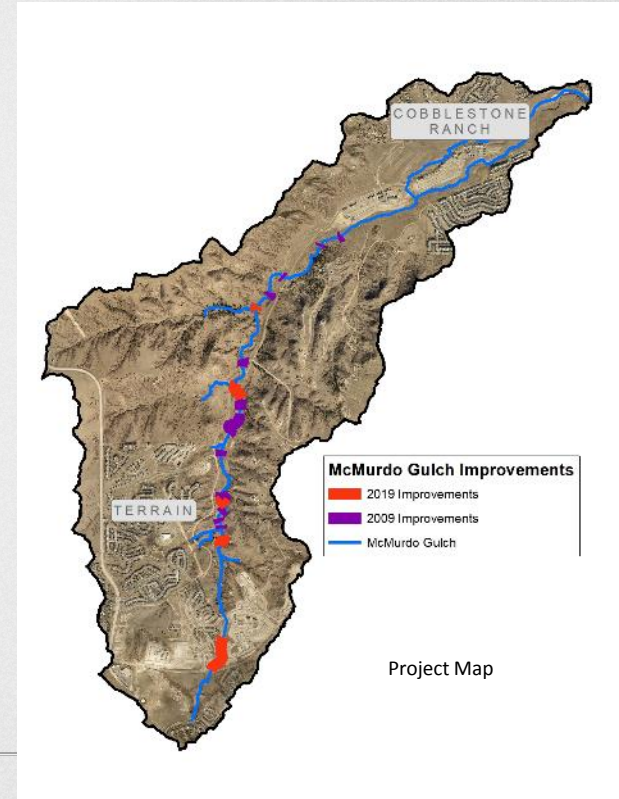
JUNE 4, 2019



MCMURDO PA AMENDMENT

BACKGROUND

- McMurdo Gulch within Cherry Creek Watershed
- 2009 Phase I Improvements
 - Addressed erosion hot spots
 - Project located between Terrain and Cobblestone Ranch covering 3 miles of Stream
 - Cherry Creek contributed \$630,000 of \$1.5 million project
 - Water quality monitoring showing positive results
- 2019 Phase II Improvements
 - Continuation of Phase I improvements



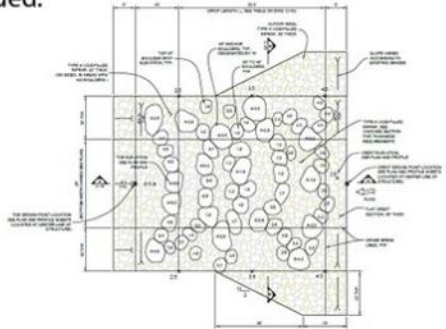
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KEY FINANCIALS

- Original 2018 agreement:
- Town share on Design: \$136,000
- Cherry Creek share on Design: \$34,000
- Total design cost: \$170,000
- First Amendment:
- Town share on Construction: \$1,121,000
- Cherry Creek share on Construction: \$386,000
- Total construction cost: \$1,507,000
- Total project cost: \$1,677,000
- Total Cherry Creek contribution: 25%
- Total project length: 2,000 lf of stream channel improvement

Reclamation Plans

Utilizing boulder cascades mimic the natural landscape. Consideration was taken for slope angle, composite of boulders, inclusion of rip rap and if additional arch structures were needed.



2011 McMurdo Gulch Improvements to carry forward into next phase

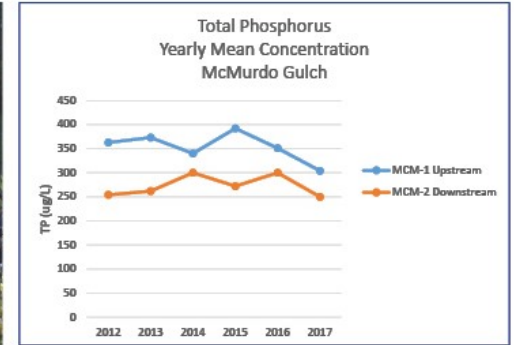
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RECOMMENDATIONS

- Staff recommends approval
- Cherry Creek Board approved and signed on April 18, 2019
- Water Commission unanimously recommends approval

Stream monitoring

The results of monitoring water quality show an average **22% reduction** in total phosphorous concentration through the project reach.



Water Quality Monitoring Results from 2011 McMurdo Gulch Improvements

MCMURDO PA AMENDMENT

NEXT STEPS

- Town to receive funds within 30 days of Council approval
- Final design approaching completion
- Staff to return with contract agreement in the fall
- Funds in excess of budget are the responsibility of the Town
- Unexpended funds to be returned upon completion

Staying ahead of the issues

With 100 year flows of 2037 cfs u/s and 4144 cfs d/s, the project looked at hot spots and extreme hydraulics in base flow and no flow areas. The proposed improvements would:

- Work with existing channel geometry
- Rely on overbanks for large storms
- Slow pace of degradation
- Reduce stream stabilization needs



Surgical Approach



THANK YOU

I MOVE TO APPROVE RESOLUTION AS PRESENTED BY
TITLE