

A proposal for Recreational Trail Construction Standards

Joint Parks Commission Meeting
Reno – Sparks – Washoe County
May 16, 2024

How adopting regional trail standards will help

- Assist developers in creating a quality product for our residents, likely at a lower price
- Trails that meet user desires increase livability in a community
- Lessen environmental impact
- Protect our waterways

Current Problems

- Regionally, we have experienced decades of poor trail design and backlogged maintenance
- Number one issue is trails built without regard to water management
- Narrow easements from developers prevent reroutes to improve sustainability
- Sustainable trail guidelines have been around since the 90's and become very widespread by the 2010's.
- So why do our agencies continue to approve projects that don't follow sustainable design?

Current Problems

- Very simple answer - No standards or design guidelines for agencies to enforce during plan review
- The result is examples like these:

Trail grade exceeds the "half rule" (half of side slope grade). Water runs down trail.



Storm drain outlet from adjacent development



Poor infrastructure coordination
with developer

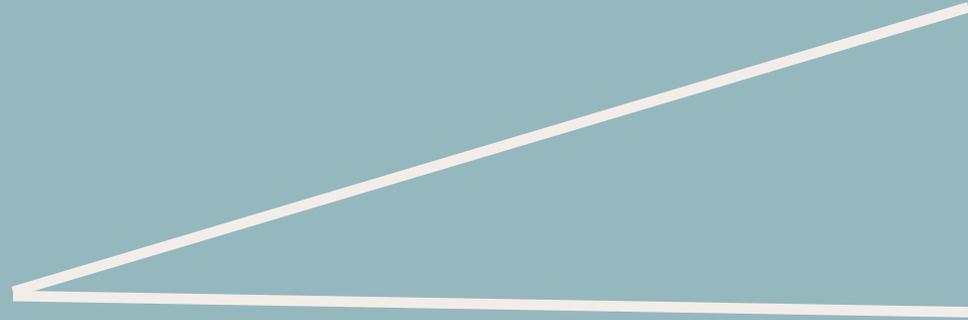


Signing old social or game trails as part of a new development. What could be a community asset barely gets enough use to stay open.

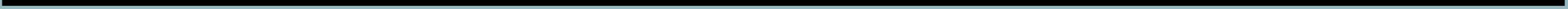


Poor turn design leads to shortcutting and skidding tires

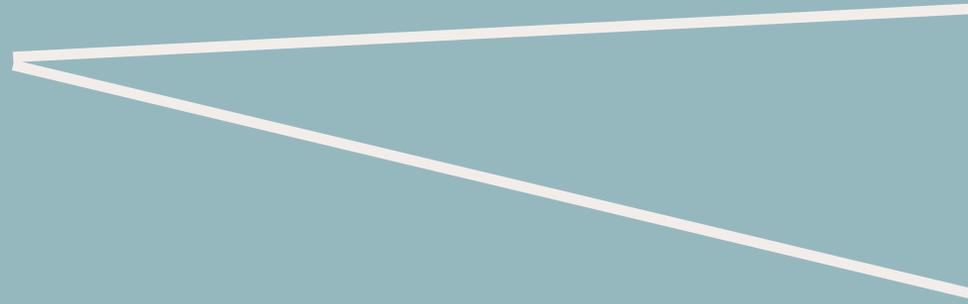
Turn Profiles



Poor Design - erosion prone



Sustainable design – soil stays in place

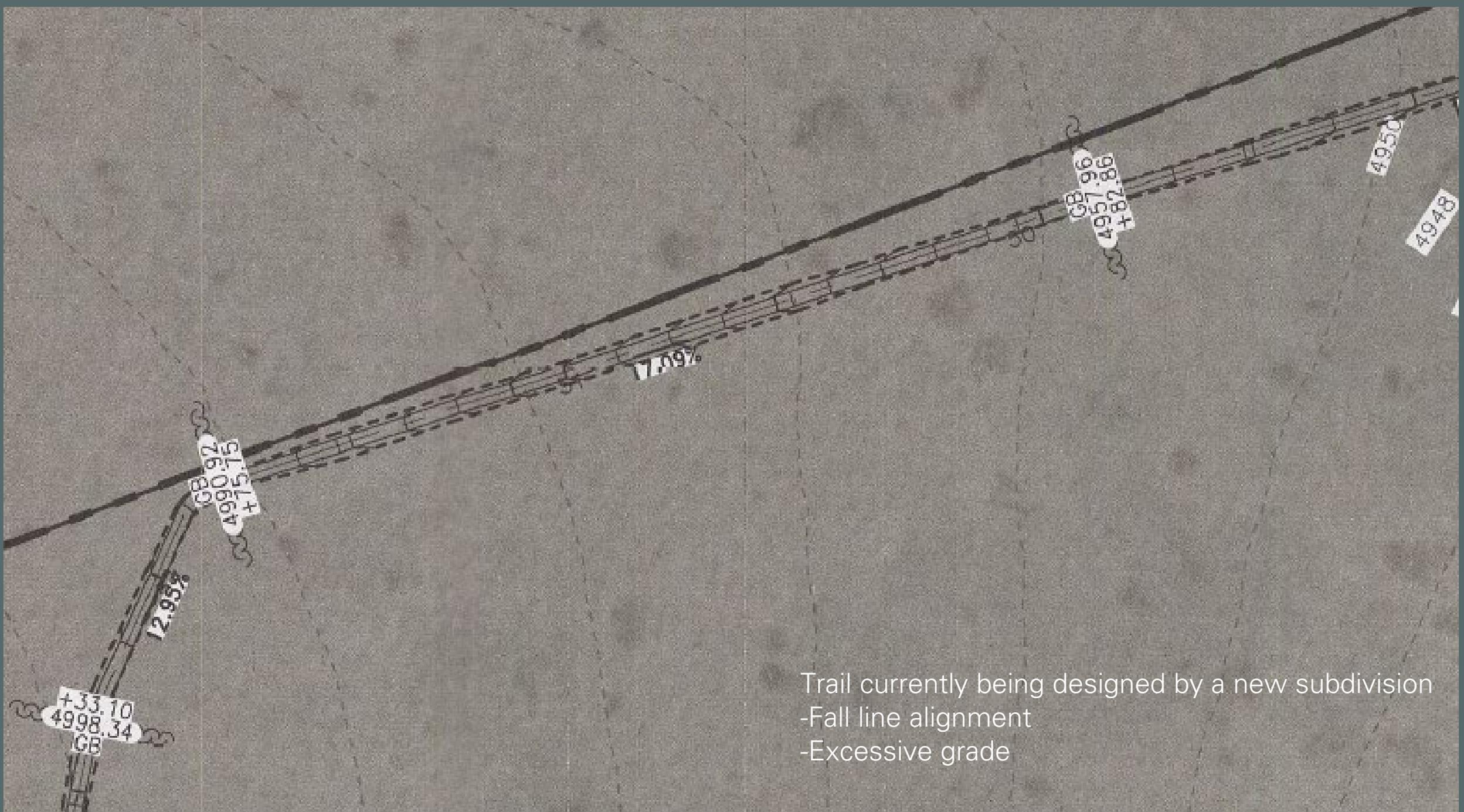




Recent development
Multiple failures and
erosion already



Recent development
Multiple failures and
erosion already



Trail currently being designed by a new subdivision
-Fall line alignment
-Excessive grade



Recent subdivision
Multiple failures and erosion already



Recent subdivision
Multiple failures and erosion already

The fix is simple

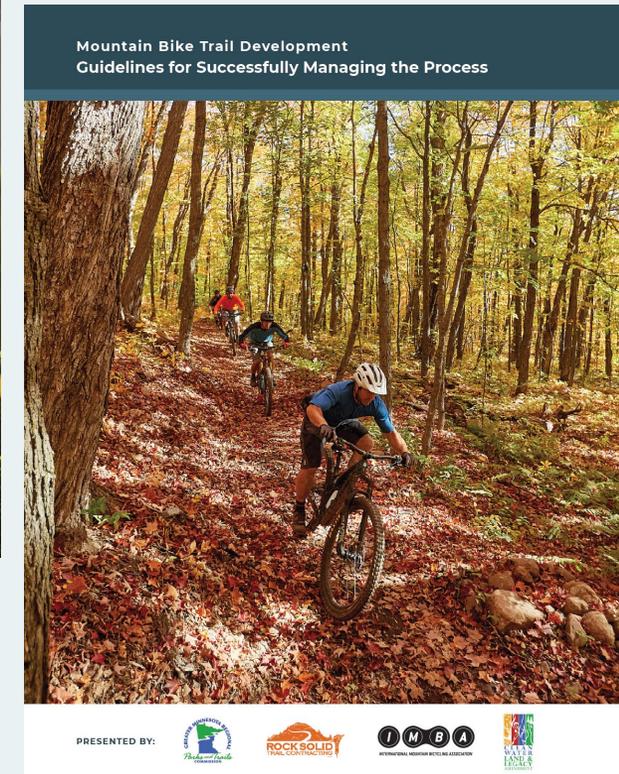
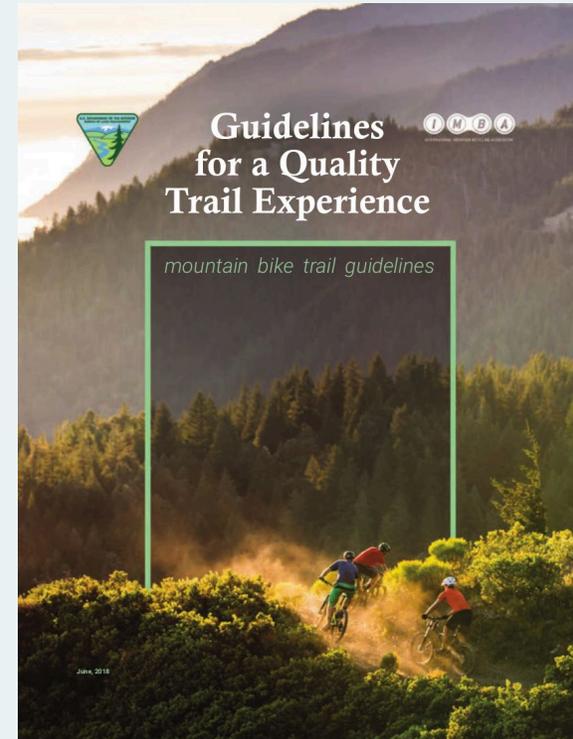
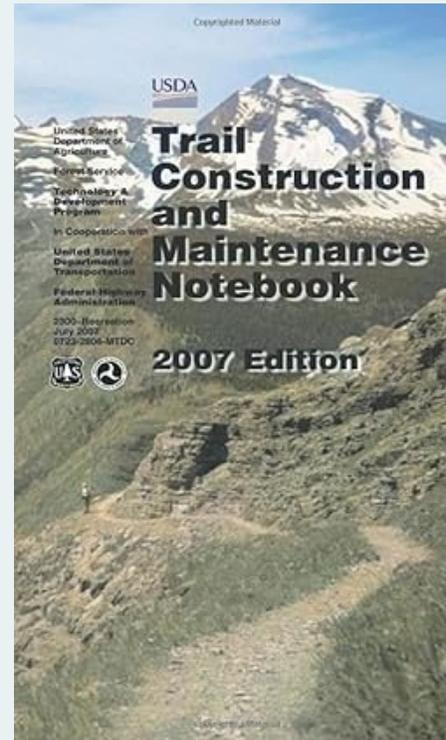
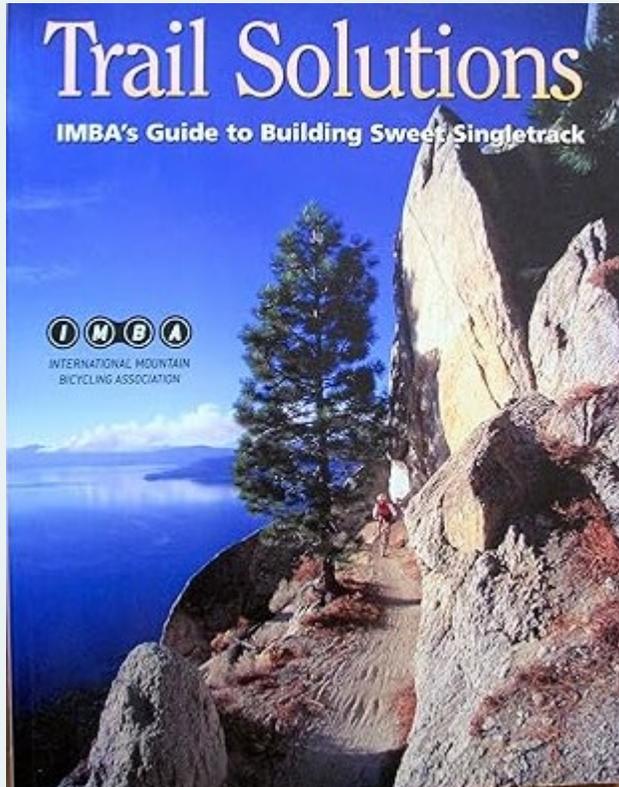


Grade reversals – undulations in the trail that allow for water to exit the tread

How do we encourage developers to build good trails?

- Education
- Guidelines and References
- Standards

Guidelines and References



Standards

- Create our own regional standard?
 - Time intensive
- Adopt other agency standards
 - USFS
 - Greater Minnesota Parks and Trails Commission
 - Boulder, CO
- Hybrid approach?

My recommendation

- Create a one or two page “standard” similar to other types of construction standards found in the “orange book” and include it in the orange book.
- List the basic trail design principles for use as boiler plate on plans such as:
 - Average Grade 5-8%
 - Maximum grade without hardening 20%
 - Grade reversals within every 100’ of trail
 - Grade reversals above and below turns
 - Trail grade should not exceed half of side slope grade
- Include links to newer guideline documents for reference
- Include a few drawings to illustrate some basic features like turns.
- Get it adopted by each agency.

Happy Trails!

