



# Mechanized Trail Building Options: To Pave or Not to Pave

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**Dave Coyner,  
Owner**



# About me:

- Happily Married to my best friend
- I have 6 wonderful children
- I am lucky to have 24 Grandchildren!
- I love to travel around the world
- I built my own dream home
- I sing bass in my local church choir
- I have the Best Job in the World!
- I get to work in the Most Amazing Places!





Narrow Trail System Contractor

Cuyahoga 2014

# Experience:

- Heavy construction for 36 years
- Asphalt paving for 36 years
- General Contractor for 18 years
- Owner of own business for 17 years
- Trail Building Contractor for last 15 years
- Completed 50+ Trail projects across the USA



Frazier Falls 2015



Cuyahoga 2014

**Hobble Creek Services, LLC****Government Trail Projects****2008- 2022**

<b>Project:</b>	<b>Year</b>	<b>Owner</b>	<b>Project:</b>	<b>Year</b>	<b>Owner</b>
McKinley Grove Trail reconstruction	2022	Sierra Nat. Forest	Falcon Park Trail	2016	Sandy City, Utah
Skinner Trail resurfacing	2022	BLM	Moosehorn Wildlife Reserve Accessible Trail	2016	US Fish and Wildlife
Cherry Springs Asphalt Trail	2021	Targhee Nat Forest	Windsor Park Trail	2016	Orem Utah
Rose Park Golf Course	2021	Salt Lake City, Utah	Spring Creek Trail	2016	Lehi, Utah
Clear Creek Campground	2019	Bankhead Nat. Forest	Fort Funston Costal Asphalt Trail	2015	National Park Service
Redfish Lake to Stanley Trail	2019/2020	Western Federal Highway	Moosehorn Accessible Trail	2015	US Fish and Wildlife
Utah Botanical Center	2018	Kaysville City, Utah	Abbott Lake Trail	2015	National Park Service
Mt. Rainier Asphalt Trail Overlay Project	2018	National Park Service	Frazier Falls Trail	2015	US Forest Service
Hyalite Lake Trial Reconstruction Phase II	2018	US Forest Service	Cliff Bluff Trail	2015	US Forest Service
Town Trail Phase	2018	Brian Head, Utah	Mendon City Walking Trail	2015	Mendon City Utah
Palisade Falls Trail Paving	2018	US Forest Service	Cuyahoga National Park- EEC Trail	2014	National Park Service
Theodore Roosevelt N.P. Little Mo Trail	2018	National Park Service	Fisherman's Bend Campground	2014	BLM
Memorial Boulder Trail Project	2018	US Forest Service	Mount Rainier- Paradise Trail Project	2014	National Park Service
10195 South Trail Connection	2018	Sandy City, Utah	Pipestone National Monument Trail	2014	National Park Service
Northridge Park Trail	2017	Orem Utah	Replace Asphalt walkways, Devils Tower	2013	National Park Service
Mt. Rainier Asphalt Trail Overlay Project	2017	National Park Service	Cedar Hills walking path	2010	City of Cedar Hills, Utah
Maah Dey Hey Trail	2017	US Forest Service	Guy Bradley Trail, Everglades National Park	2010	National Park Service
Mt. Rainier Asphalt Trail Overlay Project	2016	National Park Service	Towers Trail, Devils Tower	2009	National Park Service
Hyalite Lake Trial Reconstruction Phase I	2016	US Forest Service	Saddle Rock Trail Overlay, Scotts Bluff Nat. Mon	2008	National Park Service
Petrified National Forest TAWA Trail	2016	National Park Service			

# Credentials:

- UTAH DOPL#: 9394860-5501
- DUNS#: 079660799
- CAGE CODE: 7ADT1
- NAICS CODES: 237310, 237990, 238990, 115310



## Services Offered:

- Narrow Trail Systems- Design and Build
- Trail Paving- Base rock, Asphalt and Natural Stone
- Excavation- Cat 304 E2
- Material Transport- Wacker Nueson Buggy Fleet
- Automatic Grade Control- Cat 259D w/ Cat BB121
- Trail Bridges

# Narrow Trail Systems



Pipestone 2014

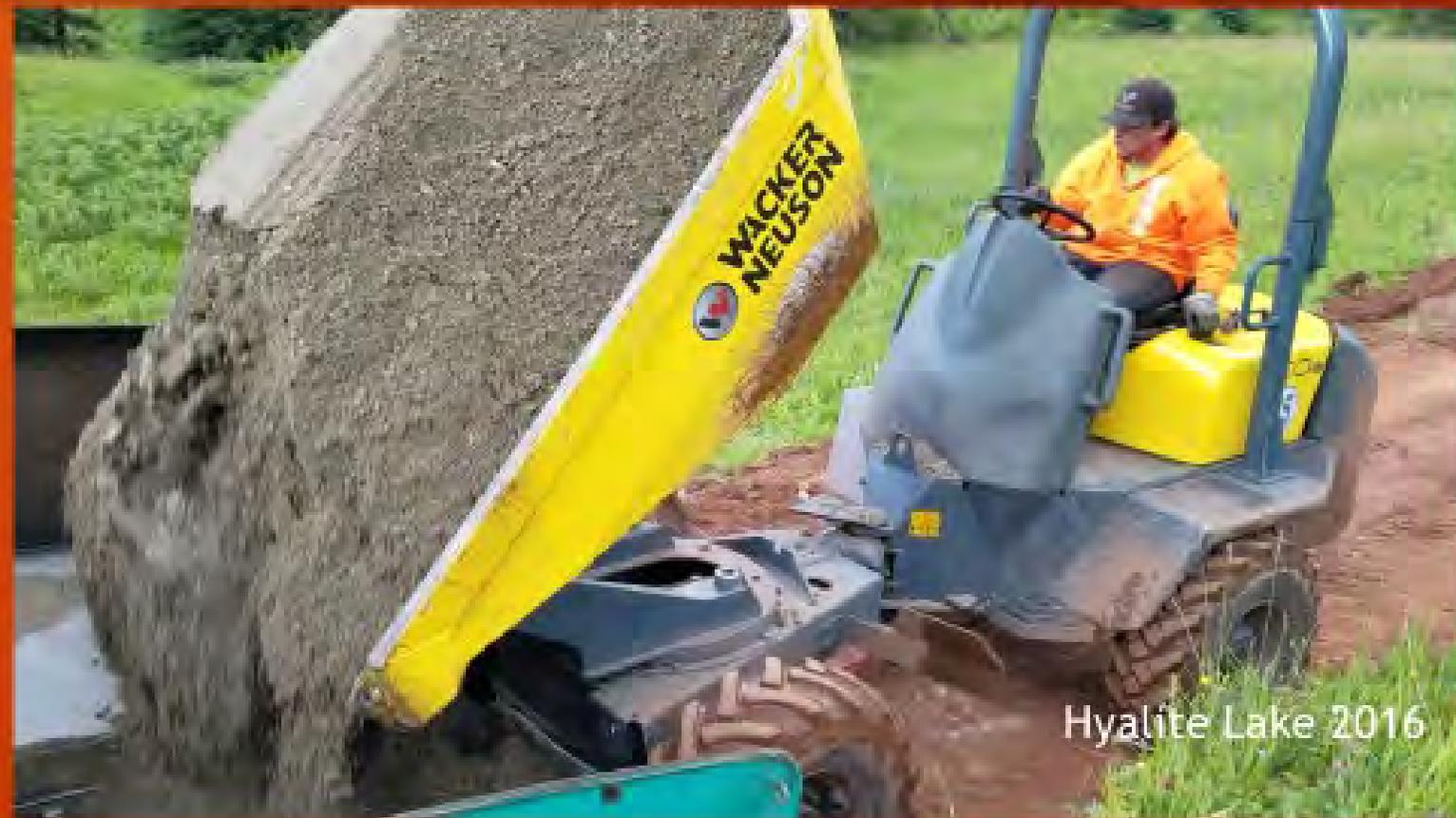


Cuyahoga 2014

# Trail Paving



Abbott Lake 2015



Hyalite Lake 2016

# Excavation

Memorial Boulder 2018



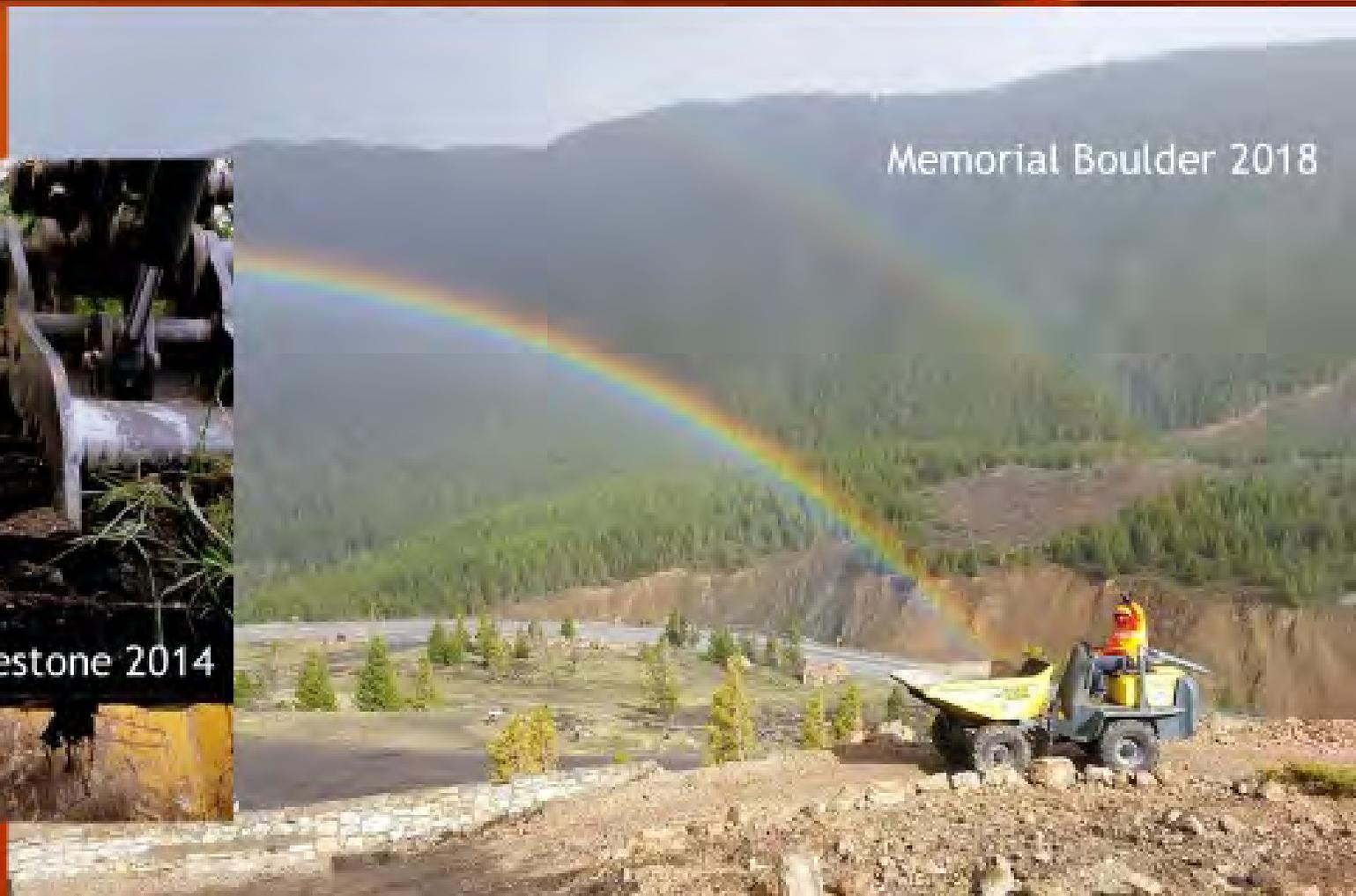
Maah Dey Hey 2017



Cuyahoga 2014



# Material Transport



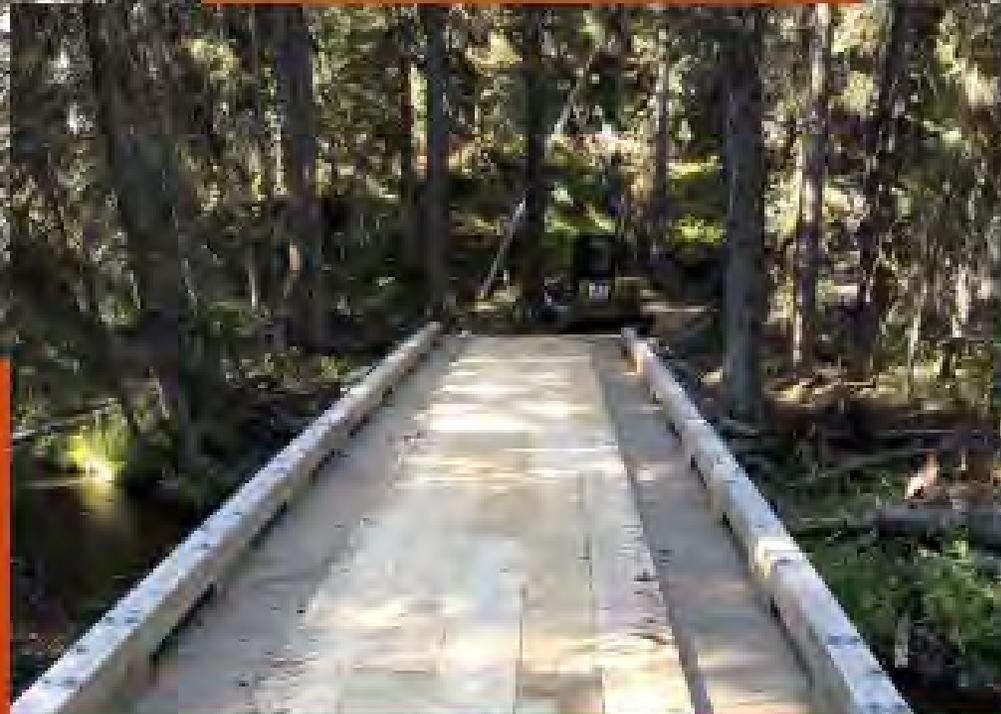


Automatic Grade Control

# Trail Bridges



Hyalite Lake Trail  
2017- 2018



## Learning Objectives:

To pave or not- Benefits of paving the surface course compared to aggregate surface course.

Options for hardened surface- There are multiple options for a hardened surface course for ADA specified trails.

Mechanized trail building- There are many options in trail building, to include trail paving machines.



# To Pave or not to pave- A good question

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Pros: Long lasting, less maintenance, ADA compliant

Cons: Cost, aesthetics,....

# What is asphalt?

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# Hot oil, hot rocks...

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Mixed at approx. 300 Degrees Fahrenheit

Lay down mix temp at 200 Degrees or more

Ambient temperature above 45 Degrees

Compaction completed above 180 Degrees

Potential complications: Mixing plant long distance from jobsite, drop/ stockpile location, transfer from stockpile to trail, compaction, joints and potential for equipment breakdowns.

# Process of paving

Mix to stockpile location

Load in transfer buggies

Discharge into paver

Laydown

Compact

Shoulder edges



# Design Questions?

How thick should the asphalt be laid?

Sub grade prep- How thick should base rock be installed?

Sub- excavation; yes or no?

Drainage?

Shouldering material on sides of new trail?

Project  
Example:  
Bankhead  
National Forest

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2.5 mile long existing trail 4' to 5' wide

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Falling apart/ trip hazards

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Total remove and rebuild

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6' wide 3" thick surface course asphalt

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6" road base

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Subgrade prep on soft spots

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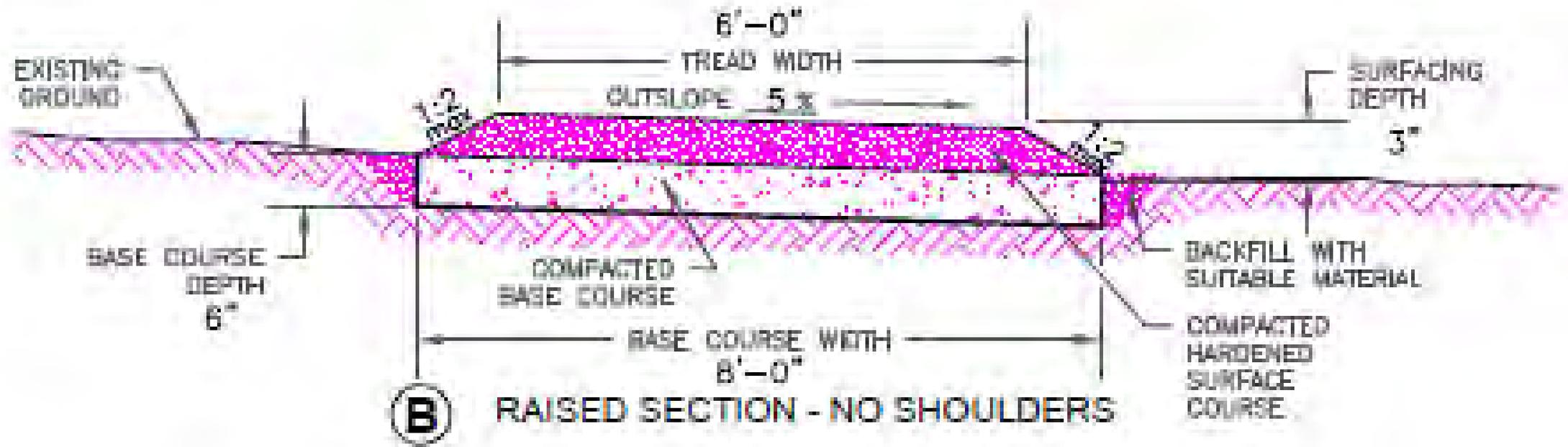
Entry points on each end

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Two bridges in the middle

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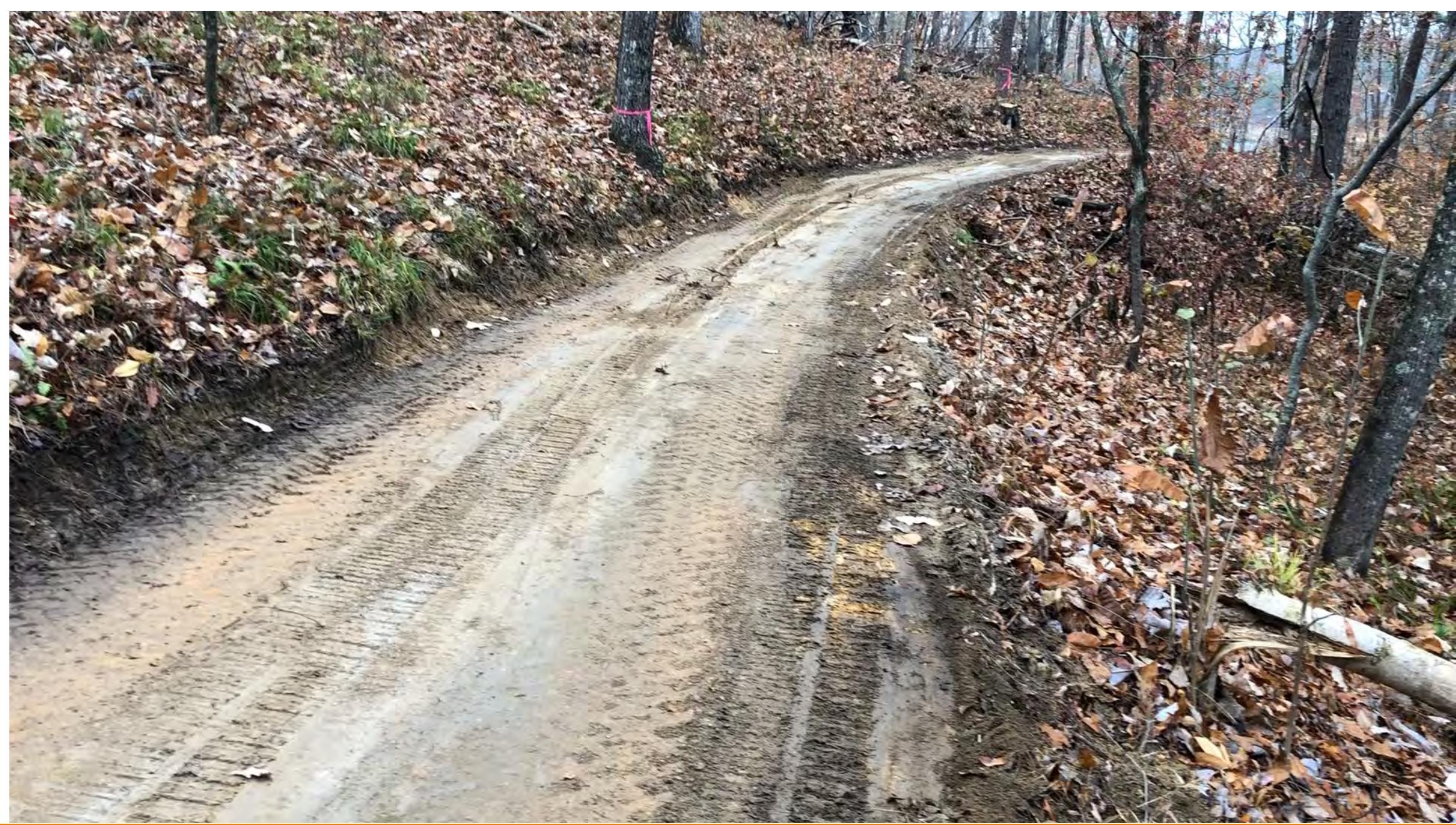
Completed November 2019



Detail Drawing examples



Sub-grade prep







Stockpile temp











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Options for hardened surface- There a multiple options for a hardened surface course for ADA specified trails.

# Crusher fines

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Pros: Cost effective, ascetics, readily available, ease of placement

Cons: Durability long term, problems with freeze thaw





# Granite Crusher fines

Project was in Maine

Extensive freeze thaw

Paved with asphalt next year





Limestone crusher fines: Salt Lake City, UT

# Warm Mix asphalt

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Pros- Greater “shelf life”, more environmentally friendly

Cons- More expensive than commercial asphalt, harder to work with

Warm asphalt:  
Frazier Falls





Before



After

# Stay Lock- Nature pave

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Pros- Aesthetically appealing, durability compared to crusher fines

Cons- Hard to work with, sticky in machines, delamination during compaction



Petrified National Forest: Arizona



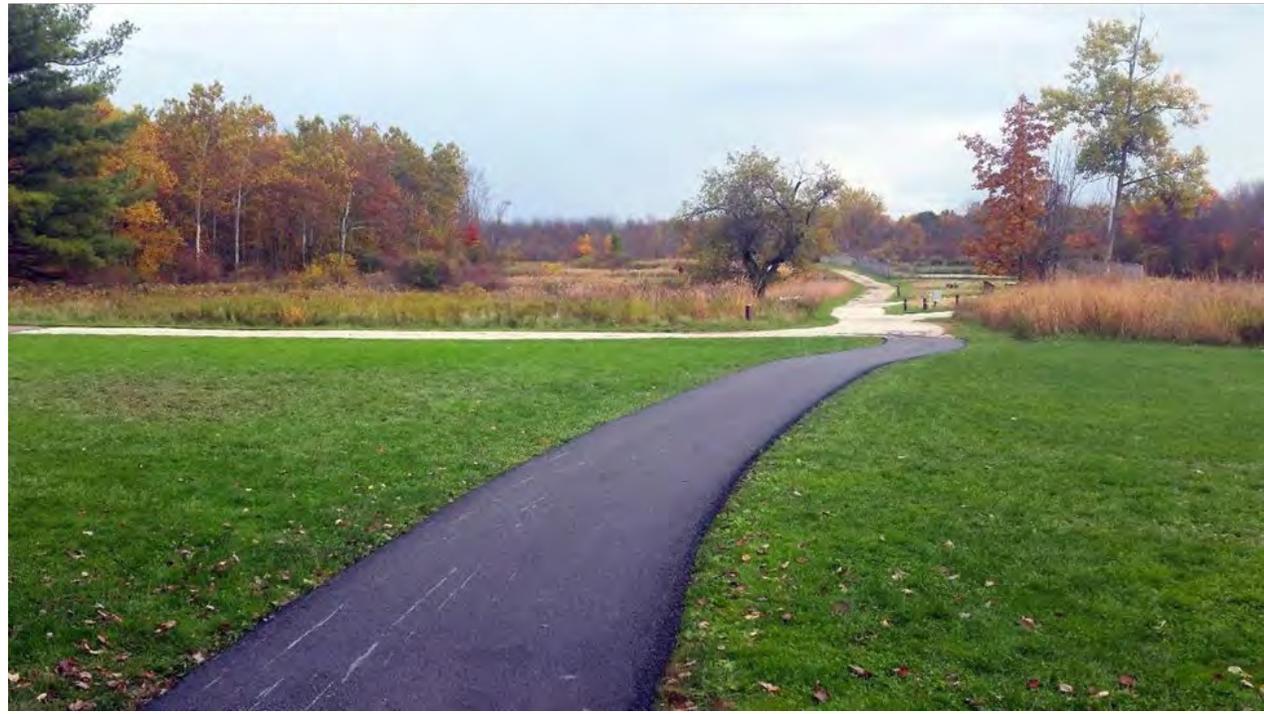
# Open Graded asphalt

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Pros- Allows drainage

Cons- Expense, harder to work with

# Cuyahoga, Ohio





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Mechanized trail building- There are many options in trail building, to include trail paving machines.











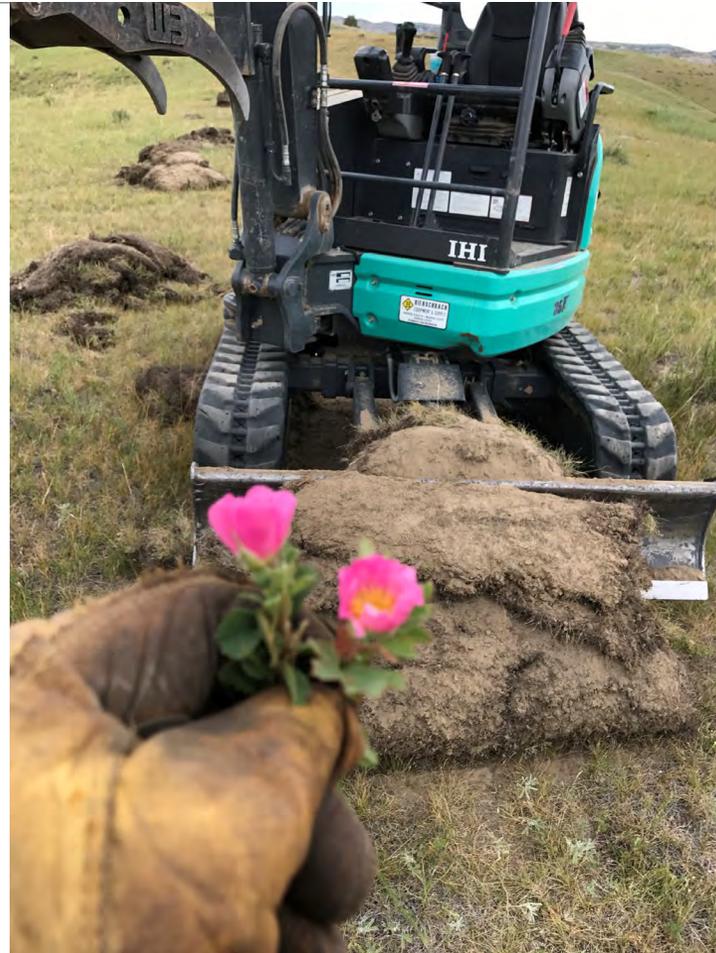
# SAFETY FIRST!

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# Take time to smell the roses!

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Thanks for your attention... Questions?

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