Navigating the Permitting Process



Charles Mack Citizen Center 215 North Main Street | Mooresville, NC



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A Blue Ridge Conservancy Project

Introduction

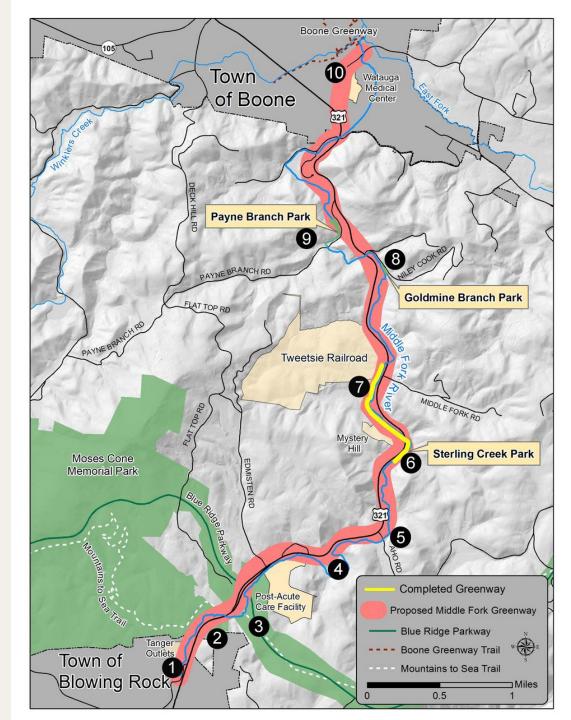
- Mecklenburg County
- New River Engineering, PLLC
- Middle Fork Greenway
- Floodplain Permitting
- Lessons Learned and Unwritten Rules
- First Contract 2017







- Multi-use recreational trail developed to connect Blowing Rock to Boone in Watauga County, NC.
- Around 6.5 miles. It will connect with the existing Boone Greenway, creating over 15 miles of contiguous trail.





Where it all began... 2017





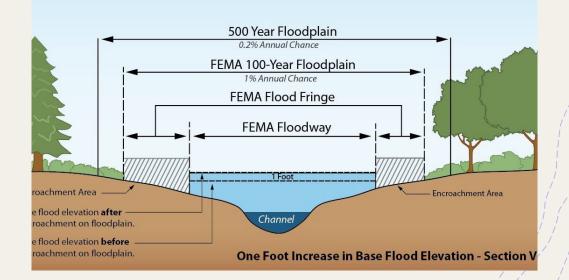


FEMA, NCDOT, and NCDPS

A "Regulatory Floodway" means the channel of a river or other watercourse and the adjacent land areas that must be reserved in order to discharge the base flood without cumulatively increasing the water surface elevation more than a designated height.

HREAD TRAIL

A little bit of floodplain 101



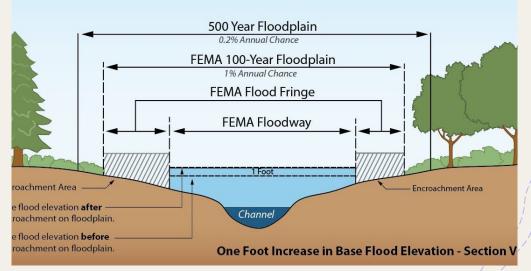


FEMA, NCDOT, and NCDPS

- Construction in a regulated floodway requires either a "No-Rise" Floodstudy **or** a Conditional Letter of Map Revision (CLOMR).
- A "No-Rise" Floodstudy is a technical document showing that a project will not increase Base Flood Elevations by more than 0.00 feet.

ΓΗREAD TRAIL

A little bit of floodplain 101



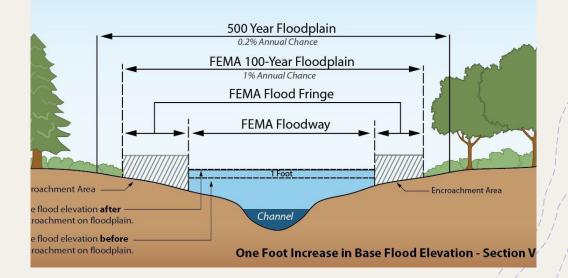


FEMA, NCDOT, and NCDPS

- A Conditional Letter of Map Revision (CLOMR) documents proposed conditions.
- A Letter of Map Revision (LOMR) must be completed within six months of project completion.

ΓΗREAD TRAIL

A little bit of floodplain 101



On January 17, 2012, a No-Rise floodstudy for a greenway through the US321 culvert at Mystery Hill was submitted. The No-Rise was approved, and the greenway was constructed through the culvert and down to and across the existing Tweetsie Railroad parking lot.

The 2012 floodstudy used the sediment in the culvert as an obstruction in the model.

Therefore, the 2012 floodstudy was used as a template for the Tweetsie Railroad crossing.

THREAD TRAIL



Existing Mystery Hill Culvert (Upstream)







Existing Mystery Hill Culvert (Downstream)





Existing Tweetsie Culvert







Existing Tweetsie Culvert



Middle Culvert – Note Cobble Sized Substrate

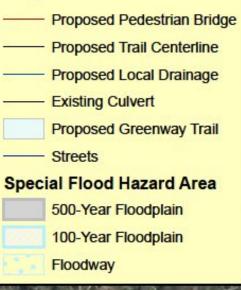
CAR?LINA

THREAD TRAIL

- CATAWBA

Right Side Culvert – Note Sandy Substrate





Proposed Greenway Improvements to the Middle Fork Greenway Watauga County, NC

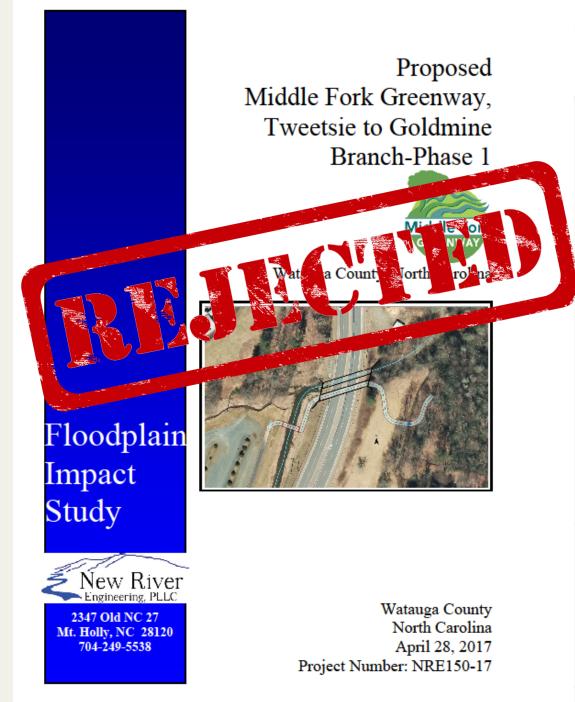
Figure Special Flood Hazard Area

Aerial Photograph (2014) and HEC-RAS Sections

US 221

"No-Rise" Floodstudy

A new floodstudy was developed based upon the Mystery Hill floodstudy. The floodstudy was submitted in April of **2017**. The new No-Rise floodstudy was not accepted.





Unwritten Rule:

NCDOT requires modeling culverts as constructed, i.e. without sediment.

A scour analysis was suggested. Based on the stable substrate in the culvert, a scour analysis could show that the substrate does not move in storm events. However, this idea was withdrawn. The model would have to calculate base flood elevations with the culverts "as designed".



Written Rule:

National Flood Insurance Program (NFIP) states that a project cannot be constructed if it will cause increased flooding on an existing structure.

Base Flood Elevations can be increased on vacant property if the CLOMR/LOMR process is followed.









Existing House in the Floodplain just upstream of the proposed Tweetsie Culvert crossing on Leon Coffee Road.

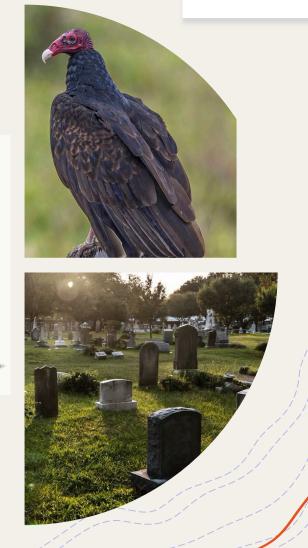
ΉΡΕΔΟ ΤΡΔΙΙ



Options?

- Letter of Map Revision (LOMR) to change from urban hydrology to rural hydrology
- Street Level Crossing
- Additional Relief Culvert
- Scour Analysis
- Buyout Structure on Leon Coffee Road
- Politicians and Attorneys
- Elevated Greenway Platform





Options? • Elevated Platform









- CATAWBA -

Critcher Trailhead and greenway downstream of Tweetsie constructed in 2019.

> CAR9LINA THREAD TRAIL



Critcher Trailhead





S. New River

21



If the proposed Greenway Trail through the Tweetsie Railroad US321 culvert was not complicated enough...





2019...

 In 2019, the existing Tweetsie Railroad Parking lot bridge was replaced with a culvert and new greenway.





In 2020, something changed...

- Preliminary data and modeling for the Middle Fork in Watauga County is issued.
- Preliminary data, models, and mapping will not be effective until late 2024 or 2025.





Unwritten Rule:

Letters of Map Change (LOMC) must be based on effective data and not on preliminary data.







2022...

- In early 2022, stakeholders and regulatory agencies began having discussions about using the preliminary information to develop a CLOMR for the Tweetsie Railroad Culvert.
- NCDPS and NCDOT agreed to move forward with a CLOMR using the preliminary data.







Final CLOMR Model





CLOMR is Submitted.

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THREAD TRAIL

- CATAWBA -

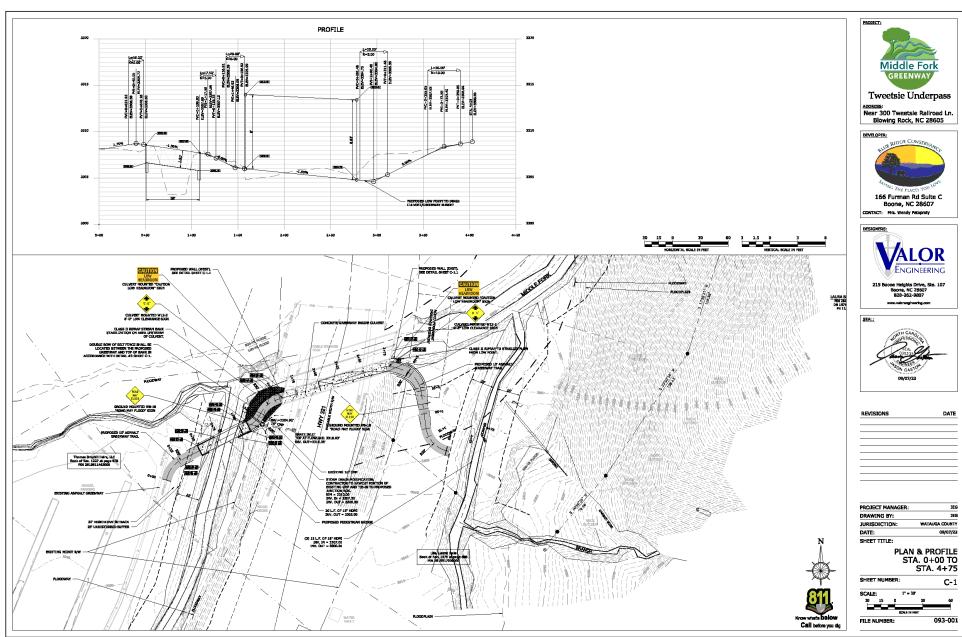
LANDS CONSERVANCY





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Final Plans



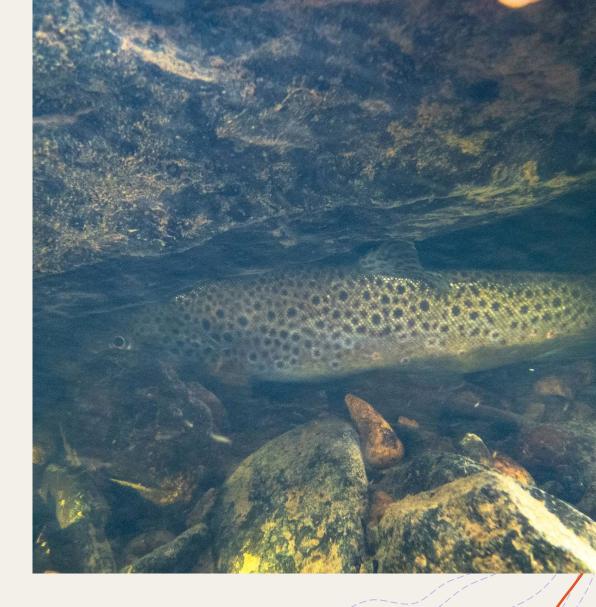


JEG

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Construction in spring of 2024...Nope!

- Middle Fork is a regulated trout water stream/river.
 - Construction was delayed
 - No buffer/stream disturbing activity shall take place within the trout buffer zone during the trout spawning period of October 15 – April 15.
- There is also a 25-foot Trout Buffer



Construction in summer of 2024



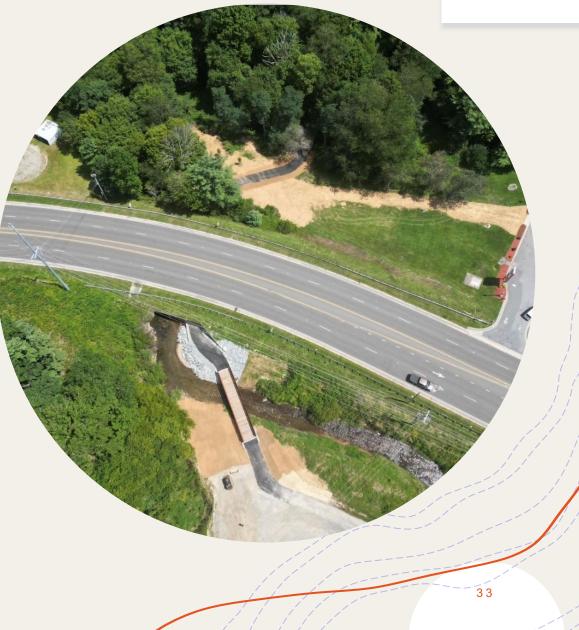




Middle Fork Greenway at Tweetsie Railroad Parking Lot

> CAR9LINA THREAD TRAIL





New Pedestrian Bridge





New Trail Through the US321 Culvert







Hurricane Helene

- - Hurricane Helene hit Western North Carolina on September 27, 2024, causing widespread damage to the region, including Watauga County and the Middle Fork Greenway.



Hurricane Helene





Hurricane Helene



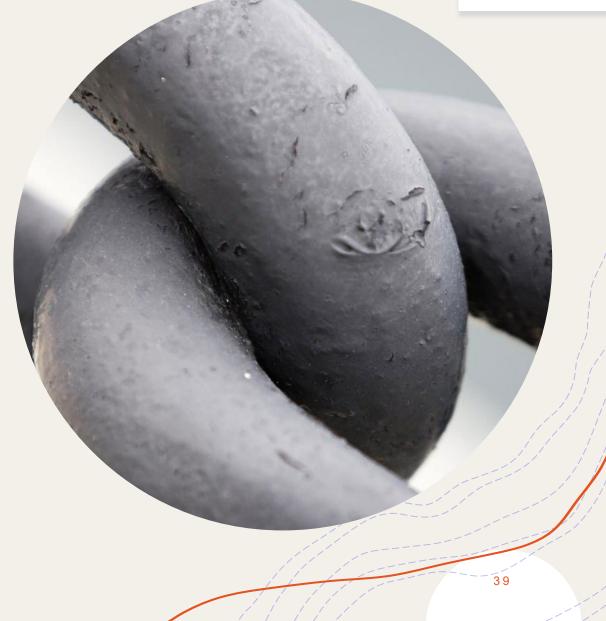




Summary

ΓΗREAD ΤRAII

- A small ribbon of asphalt through the woods cannot be that complicated – wrong!
- Floodplain permitting is always tedious and cumbersome.
- Not all hydraulic engineers understand the FEMA process.
- Questions to ask your consultant:
 - How many "No-Rise" flood studies have you preformed, how many Letters of Map Changes (LOMC)?





Thank You

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