



**NORTH CAROLINA**  
Department of Transportation



## R-5600 – NC 107 – Sylva

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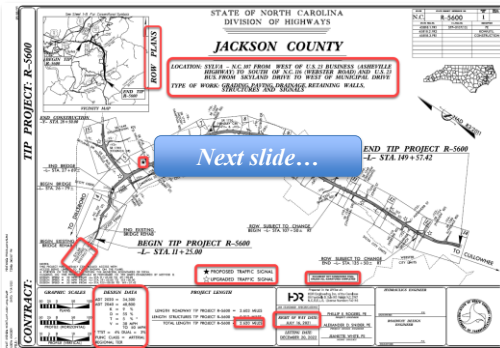
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## Project Overview

### R-5600

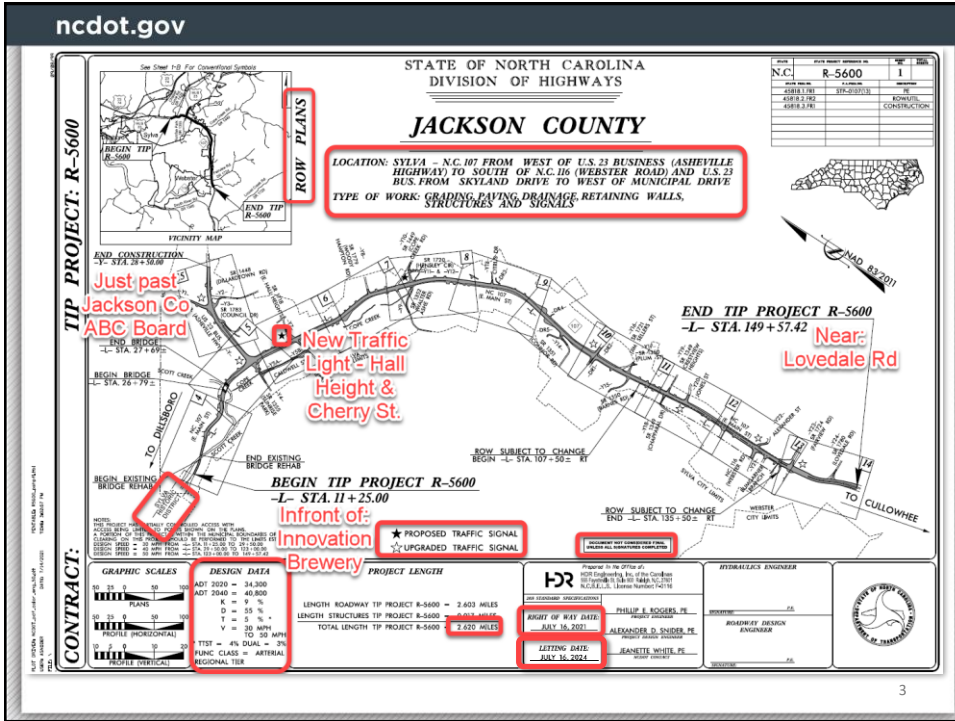
- **Name: "R-5600 NC 107"**
  - R = Rural project area
  - 5600 = State Transportation Improvements Program (STIP)
- **Project Location**
  - Jackson County (NC 107)
  - Length of road: ~ 2.6 mi.
- **Project Cost Estimate: (2021)**
  - Engineering Design - ~\$2.5 M
  - Right of Way Acquisition - ~\$52.7 M
  - Utilities - ~\$7.2M
  - Construction - ~\$56.2 M
  - **Total = ~\$118.6 M**

*(Variation to project cost – such as utilities, and upcoming design & construction of ~1700 LF Stormwater Box – Later discussed.)*



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# Project Overview

## R-5600

**Project Schedule: ...Moving forward!**

- This project was significantly impacted due to the COVID impacts on the State's Budget.
- Yet fortunately, unlike many other Statewide project, it was only delayed by ~ 2 years and is allowed to *Move-Forward!*
- **Currently:**
  - *Roadway alignment is set!*
  - From this point forward, minimal changes to the overall design.
    - With the exception of, ... The Stormwater Box Culvert (SWBC)
    - Later to be discussed. ...
  - Approximately 75% of the roadway design plans are complete.
  - Yet the plans are DRAFT – and thus, relatively small changes will occur.
  - Changes will be primarily to the generalized location between **Pizza Hut** and the first entrance to **Lowe's**.
  - A large ~ 7 FT x ~7 FT stormwater (SW) box culvert (BC), ~1750 LF must be installed.
    - Unfortunately, several structures will be impacted, yet, ...
    - The decision was based on cost & minimizing long-term impact to the community.
    - This design will allow the community to rebuild.
    - Minimizing impact is always an **absolute** priority!
- **Design In-Progress:**
  - (next slide) ...

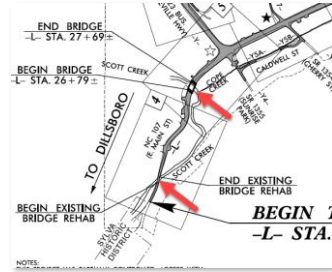
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# Project Overview

## R-5600

### Project Schedule: ...moving forward! (Cont.)

- Design In-Progress:
  - **Traffic Management Plans** – Further defining how will the project be built.
  - **Utility Phasing concepts** – How to maintain standard utility services during construction.
  - **Scott's Creek Bridges** - Bridge Replacement Design & Refurbishments to remaining bridge will be defined.
  - **Erosion Control design**
  - **Pavement design**
  - **Wall Designs** – Determining the design intent and aesthetics of ~20 wall facings.
  - **Street lighting** - ~160 streetlights along the project will be relocated.
  - **GeoEnvironmental** – A historical review of impacted properties which may have been cited for potential soil contamination concerns. Verify mitigation is complete to remove the contamination.
- Utility Relocations will Begin –  
 Soon! Before LET, July 2024.  
 (next slide) ...

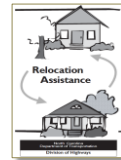


# Project Overview

## R-5600

### Project Schedule: ...moving forward! (Cont.)

- Utility relocations will begin during the remaining design
  - ROW Acquisition is for this project is scheduled to be a ~3-year process.
  - During this process, moving of dry utilities (overhead utility lines) will begin.
    - The community will soon begin to see some DRY utilities, such as power poles, begin to be relocated, back and away from the roadway, all along the corridor.
    - This is typical of most roadway projects. Thus, ROW Acquisition is moving forward as quickly as possible so this project will stay on schedule.
    - Thus, ...
- Utility Phasing:
  - The project has been subdivided along various "phases."
  - Four phases, 1-4.



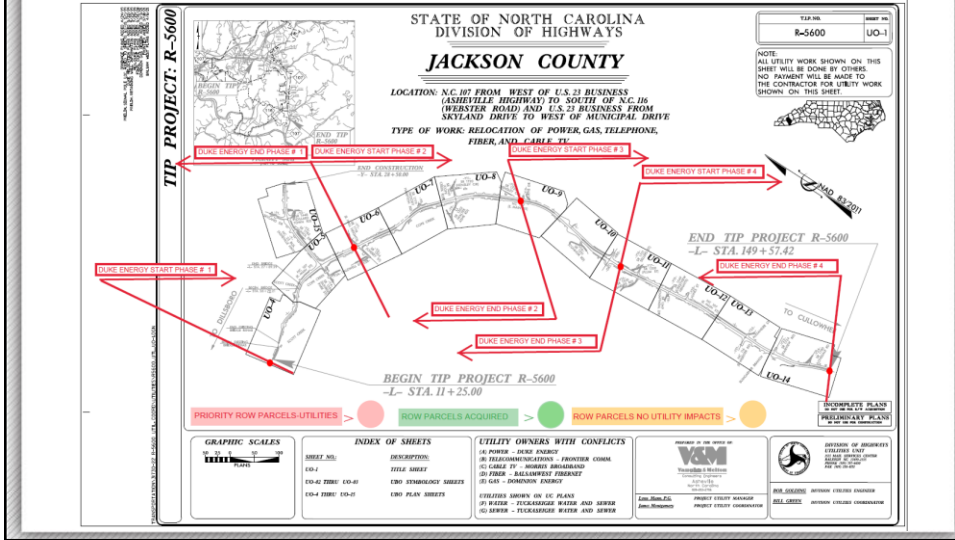
Many landowners have received the ROW handouts, as seen here.



# Project Overview

## R-5600

### Project Schedule: ...moving forward! (Cont.)



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Overall, what is being proposed with this roadway project?

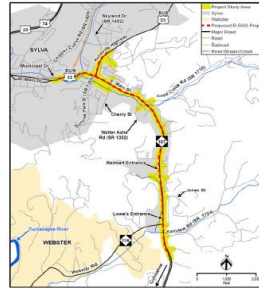
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# Project Highlights R-5600

- 1 new signalized intersection:
  - Cherry Street & East Hall Heights
- 6 new bulb-outs to allow for U-turn access points:
  - Additional to signalized intersection U-turn capabilities
- 6 upgraded traffic signals
- 23-25 walls:
  - Walls will lessen the project impact
  - Height range from a few feet tall to ~35 FT tall!
- Scott's Creek:
  - 1 Bridge replacement
  - 1 Bridge upgrade

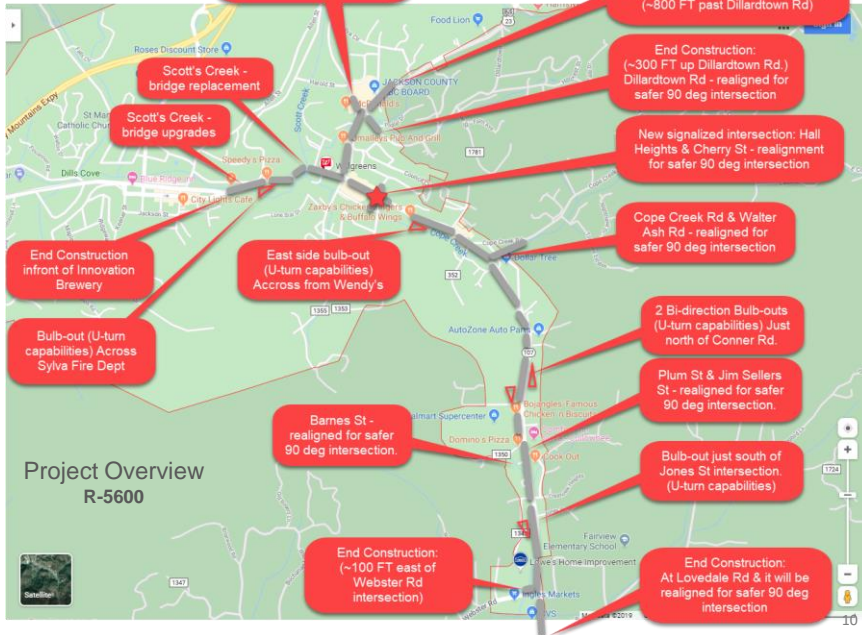
Project Extents



**New Signalized Location:**  
**Hall Heights and Cherry Street**  
**(Includes realignment of ~90 intersection - Safer Roadway)**

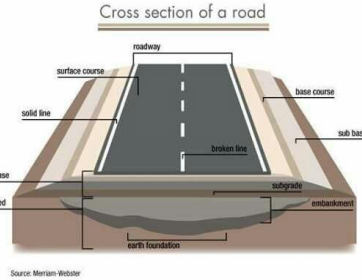


More info next slide...



## Project Overview R-5600

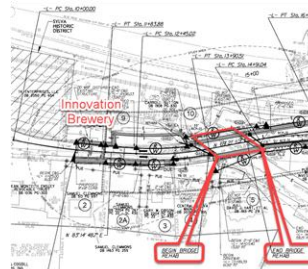
- What will the new road look like?
- Roadway cross-sections (XS):
  - A XS is a slice the road, much like a slice of bread. Lift the slice up, and view face of the bread. This sliced view identifies the depth and widths along the full length of the road as the design changes through the project.
  - Cross-sections illustrate design elements such as: lane and shoulder widths, cross slopes, sidewalks, curb and gutter, bike lanes, details of the median, and other design features.



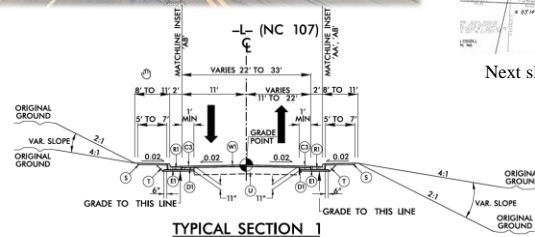
US 23 Business: Asheville Highway - southbound

## Project Overview R-5600

- What will the new road look like?
  - Beginning at Innovation Brewery... sidewalk both sides of the roadway.
  - Then, transitioning to the next cross-section near the Fire Station...

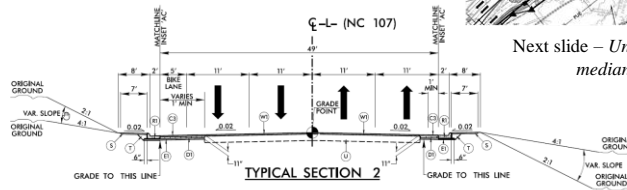
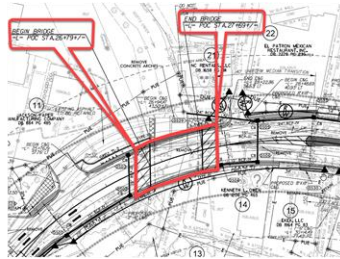


Next slide – The realigned bridge replacement



## Project Overview R-5600

- What will the new road look like?
  - Then, just past the Fire Station and near the Jackson Paper Mill... to the intersection of Asheville Hwy, and NC 107 - Bike lanes, not shown on *both* sides of the road, will begin just before the second Scott's Creek bridge crossing, the realigned/replaced bridge.



Next slide – Understanding the median widths

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## Project Overview R-5600

- What will the new road look like?
  - ...From the intersection of Asheville Hwy, and NC 107, the primary roadway cross-sections:
    1. **Small 5.5 FT concrete median that varies to 16 FT**
      1. Variation to allow for transition between middle vehicle storage lanes
      2. Concrete – grass can not be easily maintained in areas less than 5 FT wide
    2. **17.5 FT grass or concrete median:**
      1. 12 FT storage lane for left hand turns...
      2. +5.5 FT / 2 = 2.5 FT needed for lane separation and stormwater collection - curb and gutter
      3. Needed so that road does not “snake” in and out along corridor when storage for left turn movements is not needed.

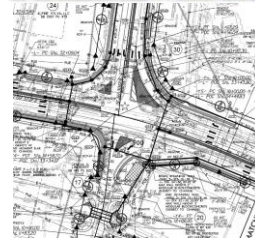
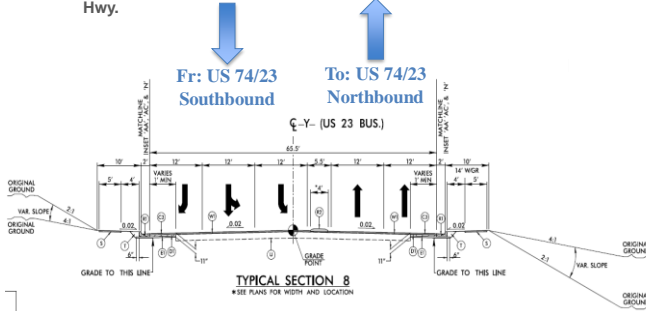


Next slide - The cross-sections...North & Southbound - Asheville Highway

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# Project Overview R-5600

- What will the new road look like?
  - Intersection of Asheville Highway and NC 107:
  - Sidewalk will be added, yet bike lanes will not be added along Asheville Hwy.

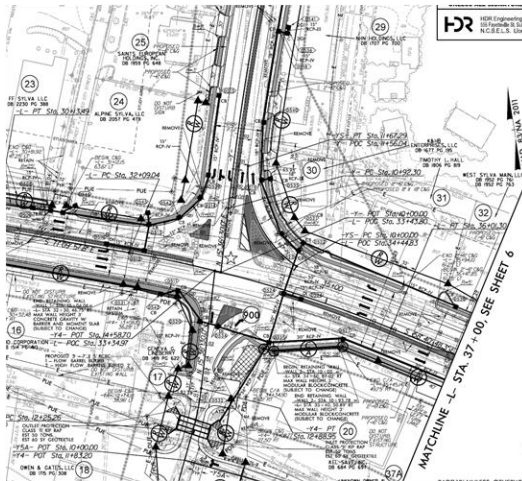


Next slide – More review of this intersection...

1. Notice SB - two left turn lanes, next to the *smaller* concrete median:
2. Here, there is ~500 FT of two-lane vehicle storage southbound arriving off Asheville Hwy
  - @ ~25 FT per vehicle, for 2-lanes, ~ 40 cars will store within these 2-left turn lanes.
  - The new traffic light will account for appropriate “green time” for left-turn movements. 15

# Project Overview R-5600

- What will the new road look like?
  - Intersection of Asheville Highway and NC 107:

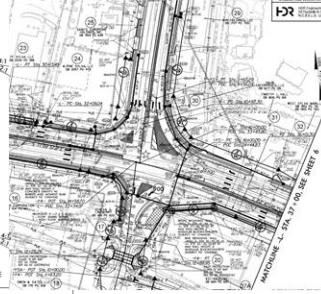
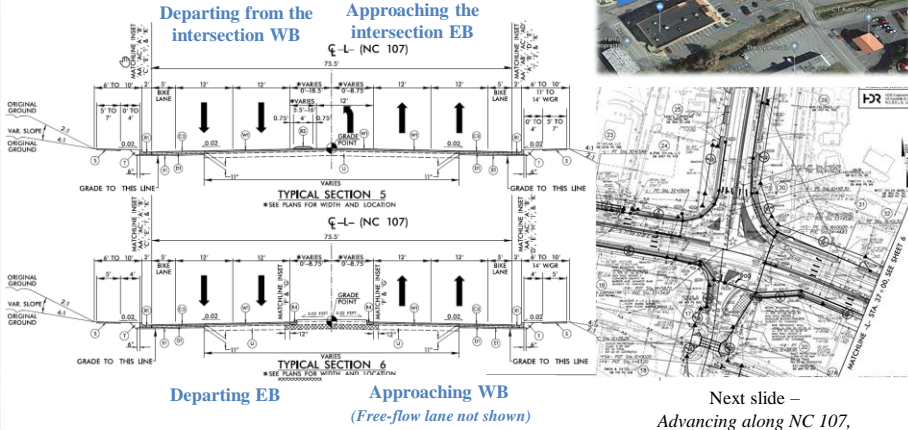


Next slide – Along NC 107, the arrival and departure XS at this intersection...



# Project Overview R-5600

- What will the new road look like? Along NC 107...



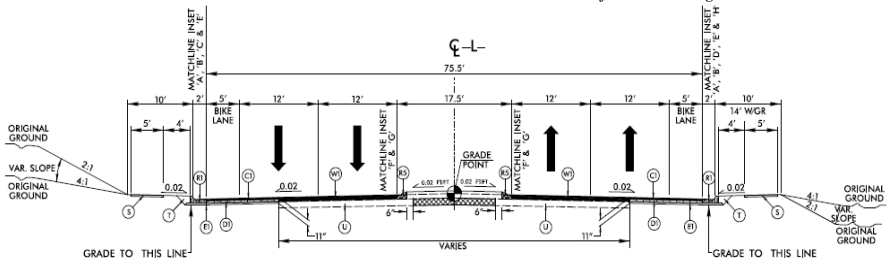
Next slide –  
Advancing along NC 107,  
the primary XS...

# Project Overview R-5600

- What will the new road look like?
  - Near O'Reilly Auto Parts, the corridor will...
  - Transition from a 17.5 concrete median to a grass median



Next slide –  
Project ends along Lovedale Road.

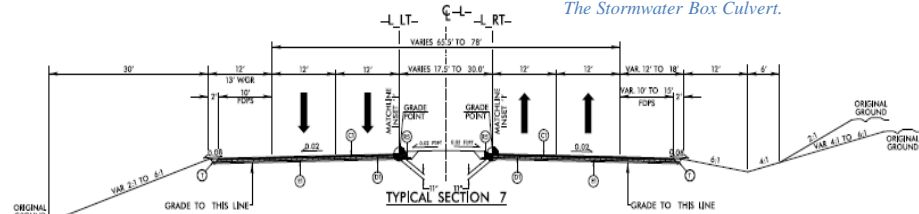


# Project Overview R-5600

- What will the new road look like?  
...End construction near Lovedale Road.



Next slide –  
*A river runs through it...  
The Stormwater Box Culvert.*



3. With the grass median – varying from 17.5 FT to 30 FT

*...A River Runs Through It!  
Mill Creek & an Unnamed Tributary*

*The Stormwater Box  
Culvert!*

## ...A River Runs Through It!

### Mill Creek & an Unnamed Tributary

**The Stormwater Box Culvert:**

Originally the plans called for 2 parallel trunk lines, with diameters of each stormwater pipe ranging from 54 IN to 84 IN (4.5 FT to 7 FT) in diameter.

**Primary Concerns – of this past design:**

1. Trunk line proximity to several buildings along the roadway  
Must maintain foundational/structural integrity of the remaining structures
2. Conflicts with other existing and proposed OH & UG utilities.  
Primarily concern – Clearance needs of heavy equipment operations, and gravity sewer connections to the 12 IN SS under centerline/median of roadway
3. Maintenance of traffic during construction  
Must maintain lanes of traffic – minimize lane closures, night work, and maintain business access during working hrs



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## ...A River Runs Through It!

### Mill Creek & an Unnamed Tributary

**The Stormwater Box Culvert:**

- 4 Design options were reviewed.
- Virtually all property owners within this section of roadway were contacted.
- Revisions in-progress from -Pizza Hut to the first entrance to Lowe's, **Mill Creek** and an **unnamed tributary** are currently piped under the roadway.
- Some areas, such in front of Cross Fit, have previously required replacement.
- Design is on-going within these two generalized points; however, its assumed, many if not all structures will need to be relocated.
- This early 1970's, nearing 50 yrs old, river piped network, must be replaced with this project.
- Although design is on-going for this section of the roadway, properties which may be affected...  
(Next Slides...)



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## ...A River Runs Through It! Mill Creek & an Unnamed Tributary

### The Stormwater Box Culvert:

- 4 Design options were reviewed.
- Virtually all property owners within this section of roadway were contacted.
- Alterations begin from about Pizza Hut to the first entrance to Lowe's, **Mill Creek** and an **unnamed tributary** are currently piped under the roadway.
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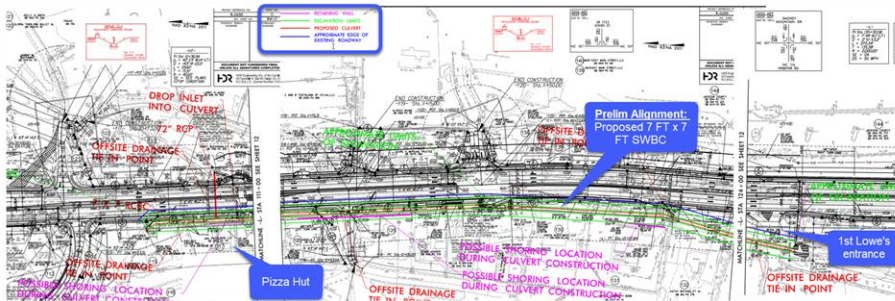
(Next Slides...)



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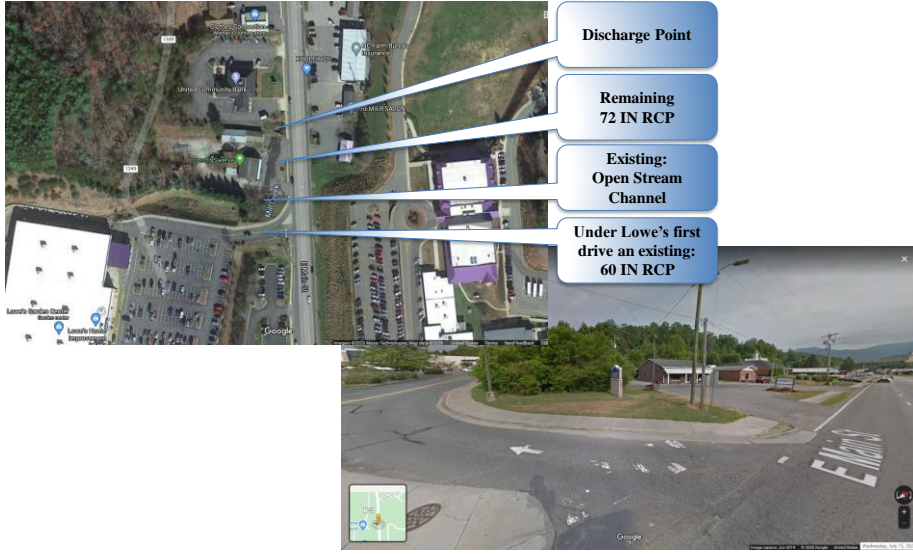
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## ...A River Runs Through It! Mill Creek & an Unnamed Tributary



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### *...A River Runs Through It!* Mill Creek & an Unnamed Tributary





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Department of Transportation



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