# REQUEST FOR BOARD ACTION

## HENDERSON COUNTY
## BOARD OF COMMISSIONERS

**MEETING DATE:** September 15, 2021

**SUBJECT:** Oklawaha Greenway Flooding Remediation

**PRESENTER:** Marcus Jones, PE, County Engineer

**ATTACHMENTS:** Yes
1. WGLA Presentation

**SUMMARY OF REQUEST:**

During the Board's February 17, 2021 meeting, staff was directed to perform a preliminary design for a boardwalk to replace the flood prone section of the Oklawaha greenway. In addition to the preliminary design, staff was directed to apply for the Land and Water Conservation Fund (LWCF) grant to fund the project. The grant requires a 50% match and would use the $173,000 committed by the City for a portion of the local match. The grant application is due October 1, 2021 and more information can be found at this link: https://rrs.cnr.ncsu.edu/lwcf/. From the link, "A local government can request up to $500,000 with each application. The matching grants can be used to acquire new park properties or renovate/replace amenities at an existing park."

Will Buie of WGLA Engineer will present the attached presentation of their preliminary design which concluded that raising the trail on the existing alignment was the best option. Based on this design and cost estimate of $645,750, the LWCF grant would be allocated as follows:

| | |
|---|---|
| Land and Water Conservation Fund grant: | $322,875 |
| City of Hendersonville | $173,000 |
| County of Henderson | $149,875 |
| | $645,750 |

**BOARD ACTION REQUESTED:**

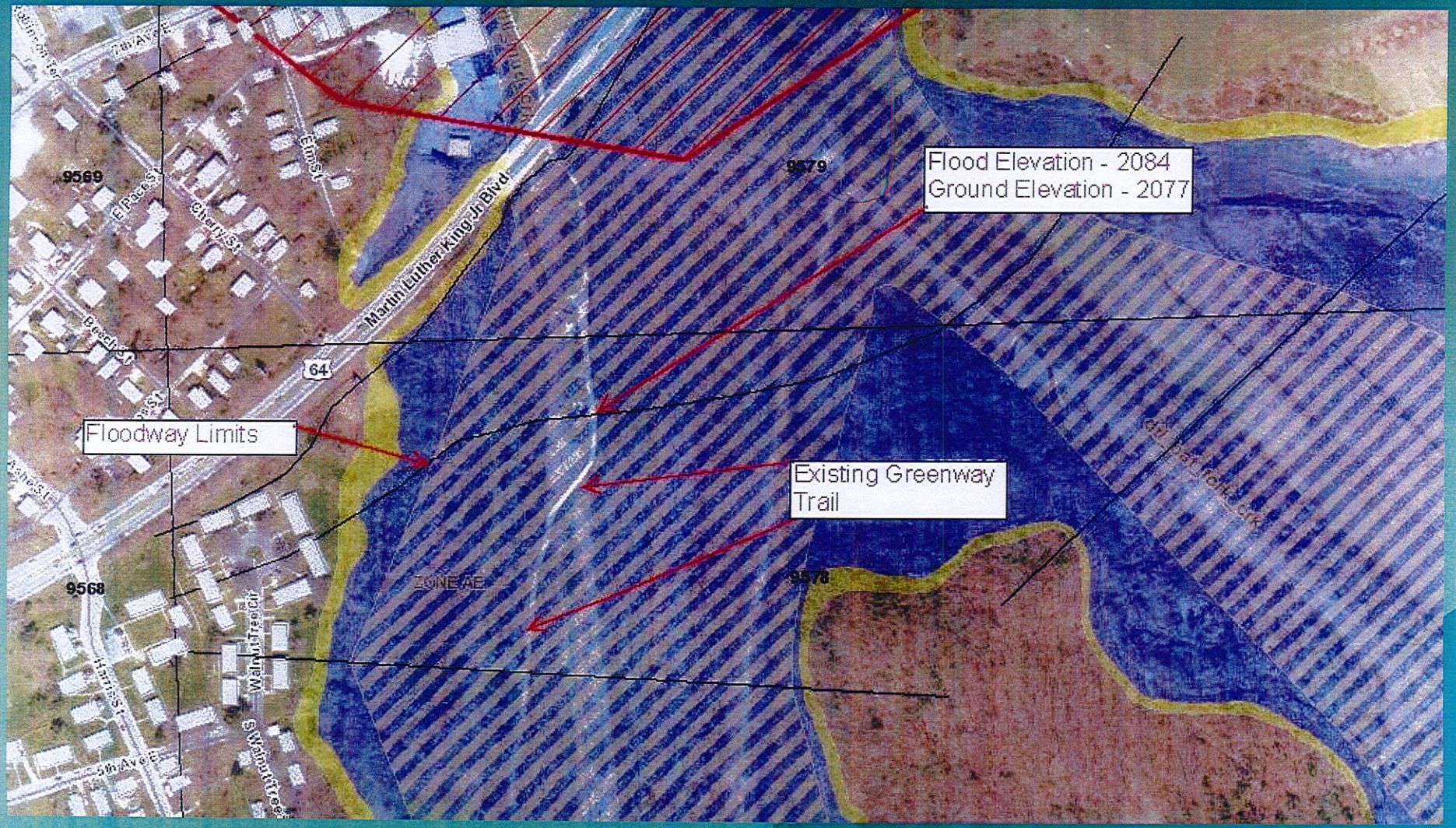
The Board is requested to authorize staff to apply for the Land and Water Conservation Fund grant. Should the grant be awarded, the Board would be requested to allocate $149,875, with the additional required $173,000 committed by the City of Hendersonville.

**Suggested Motion:**

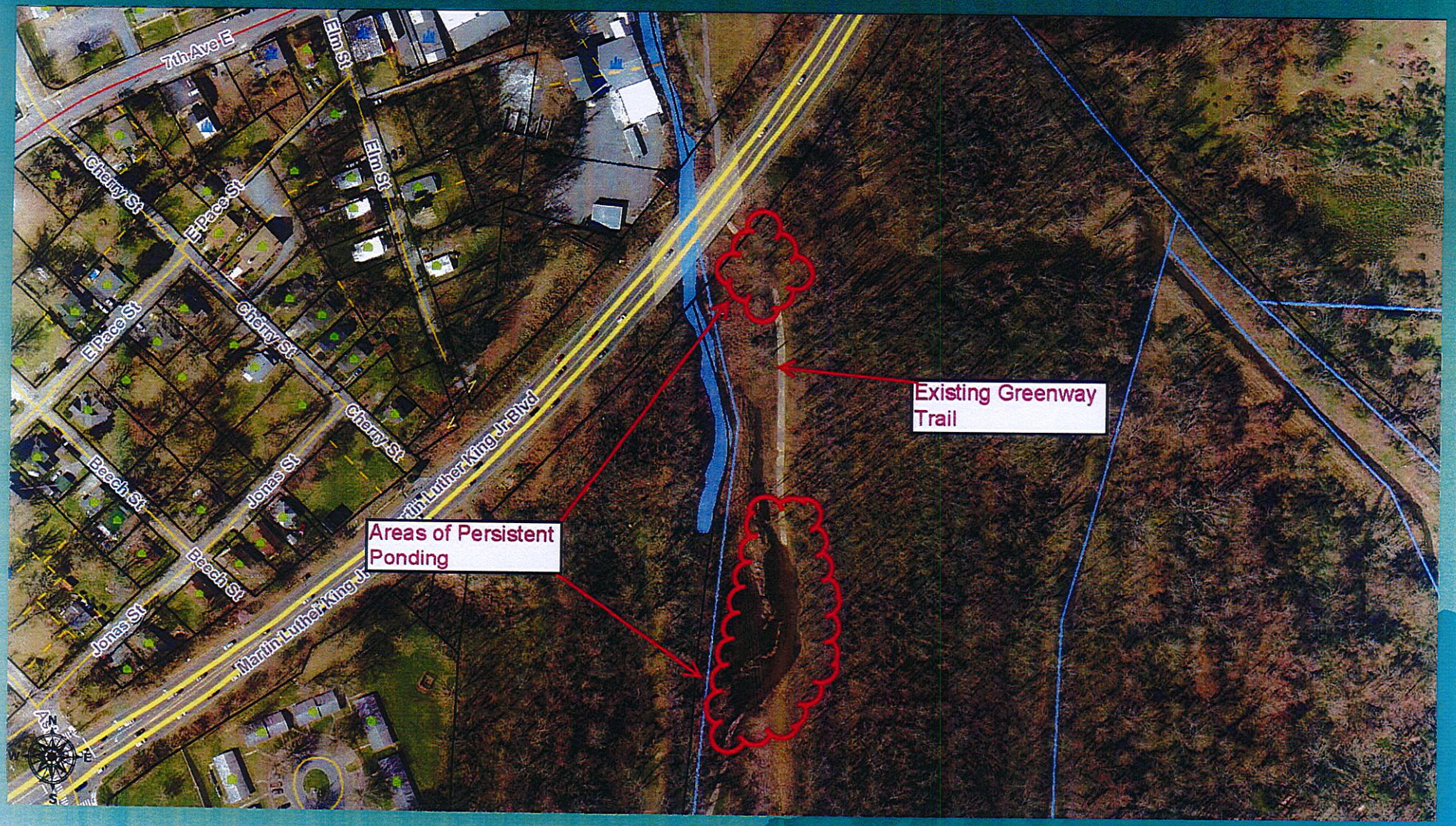
*I move the Board authorize staff to apply for the Land and Water Conservation Fund grant, allocating $149,875 to add to the City's $173,000 for the local match.*

# Oklawaha Greenway Trail
# Jackson Park

# Oklawaha Greenway Trail
# Jackson Park

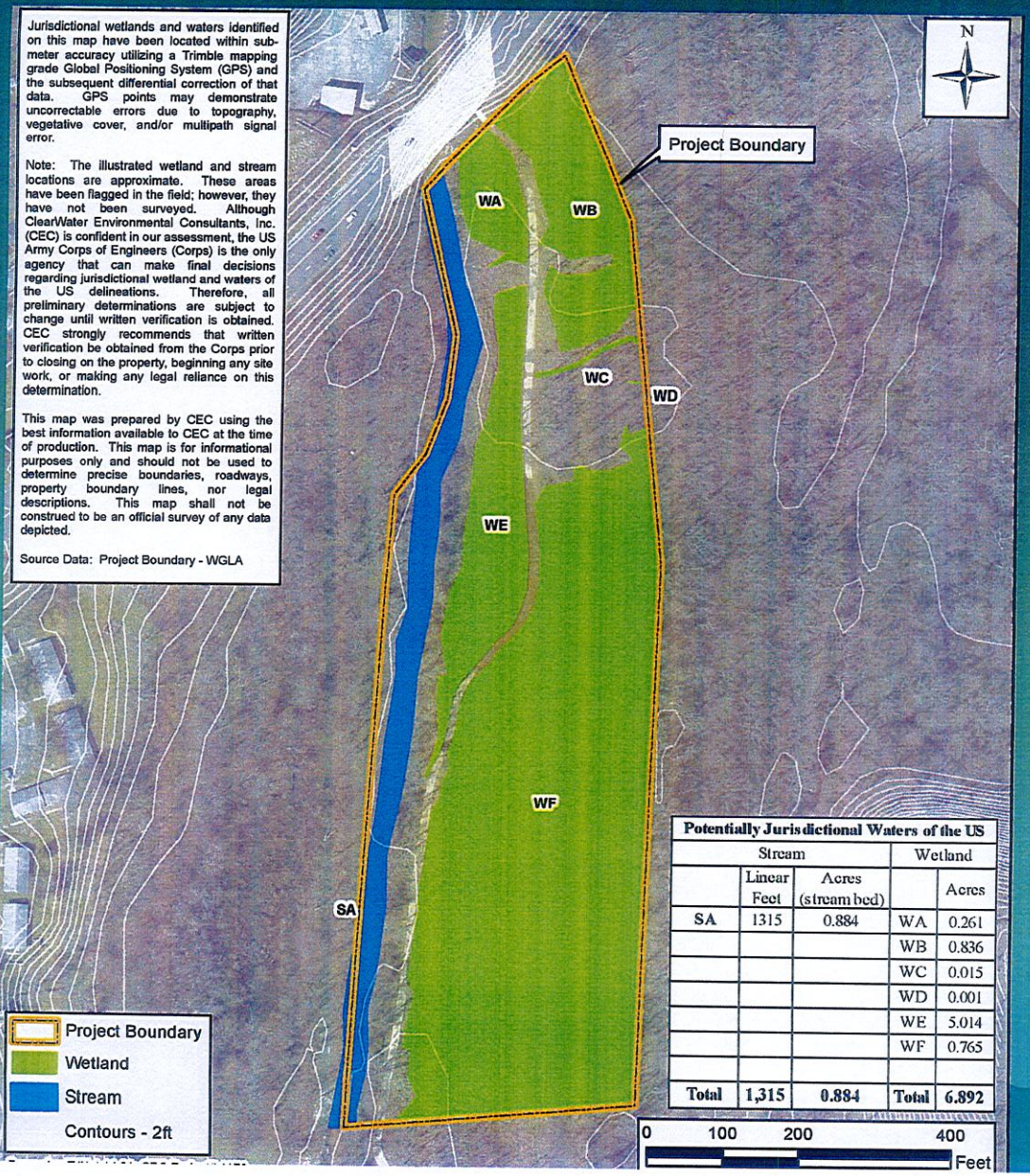


# Oklawaha Greenway Trail
# Areas of Constant Flooding



# Oklawaha Greenway Trail
# Photo of Areas Typically Flooded

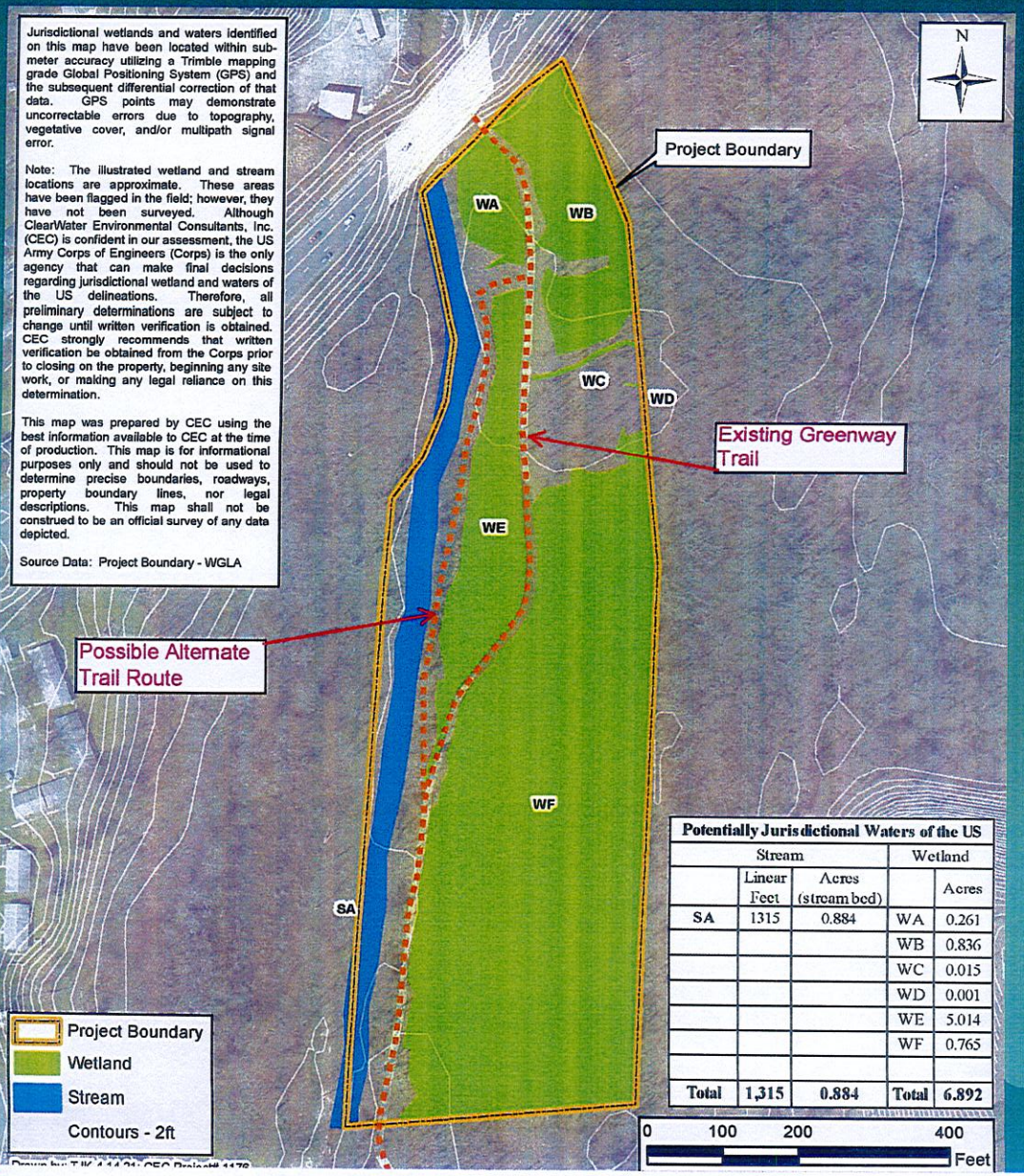
# Stream & Wetland Delineation




**Potentially Jurisdictional Waters of the US**

| Stream | | | Wetland | |
|---|---|---|---|---|
| | Linear Feet | Acres (stream bed) | | Acres |
| SA | 1315 | 0.884 | WA | 0.261 |
| | | | WB | 0.836 |
| | | | WC | 0.015 |
| | | | WD | 0.001 |
| | | | WE | 5.014 |
| | | | WF | 0.765 |
| | | | | |
| **Total** | **1,315** | **0.884** | **Total** | **6.892** |

# Stream & Wetland Delineation

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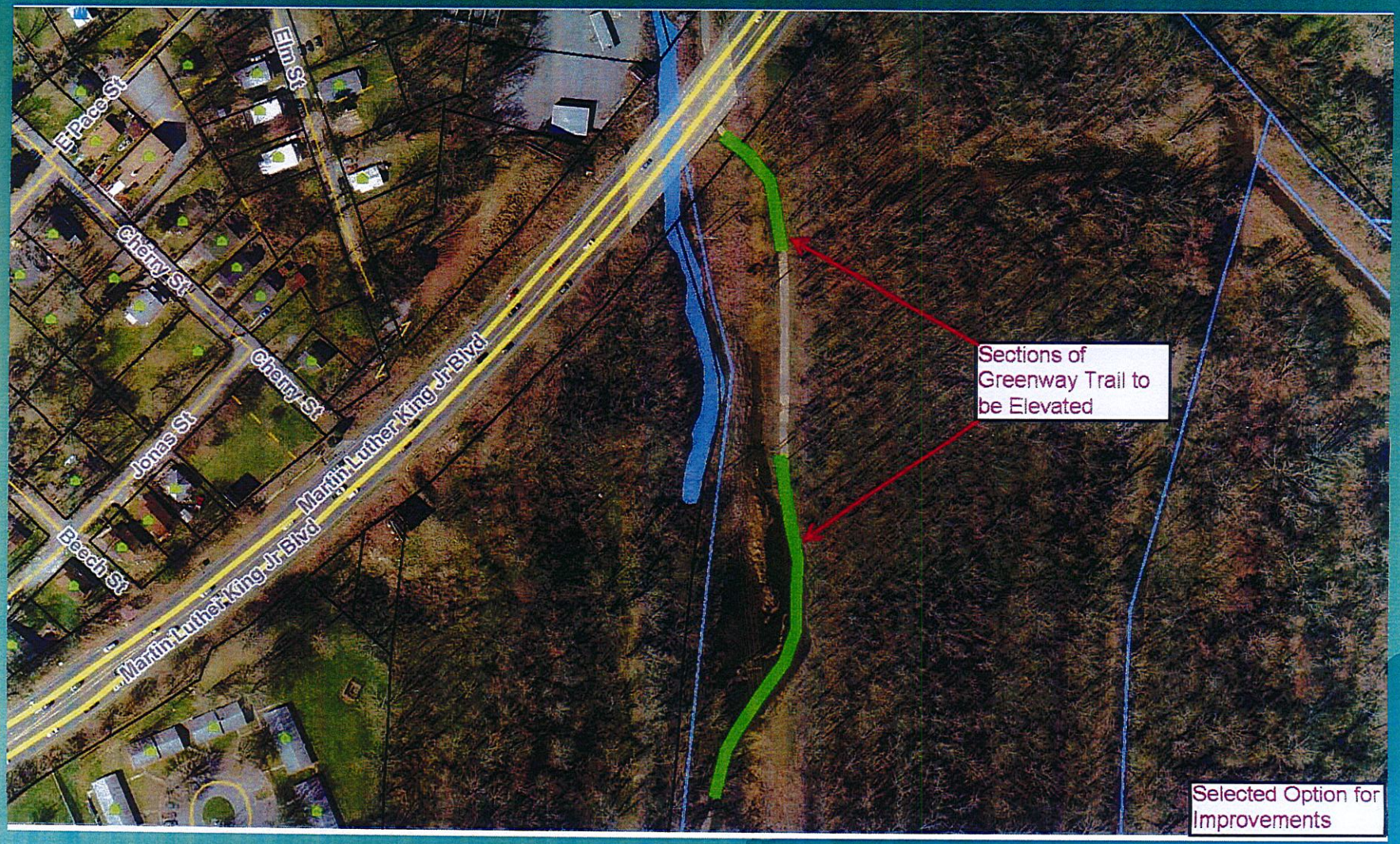
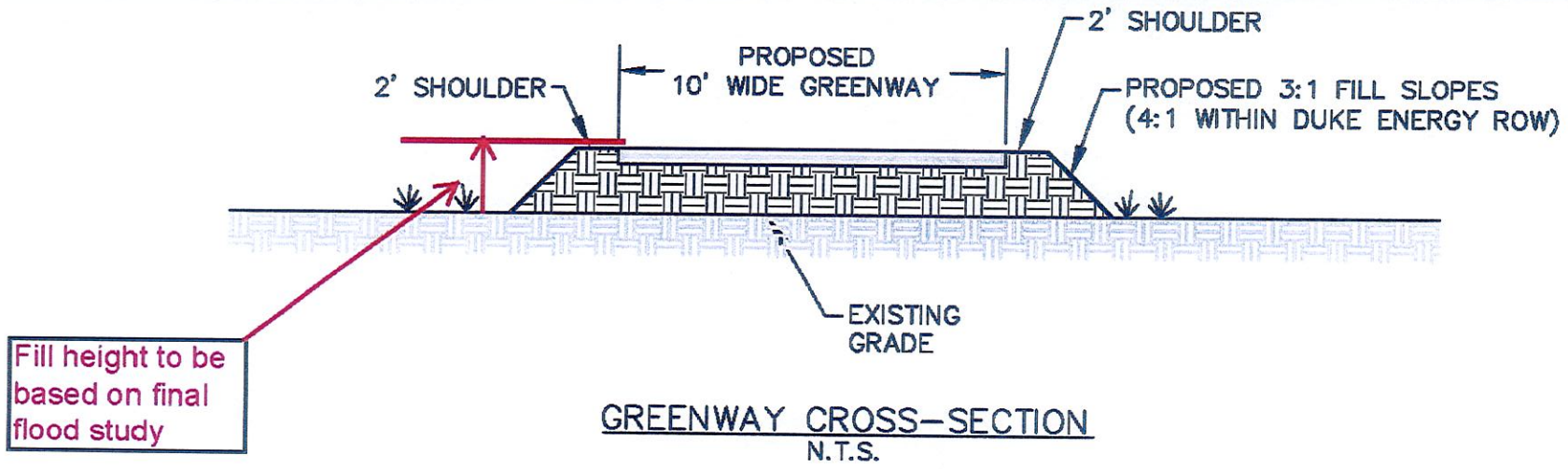
# Oklawaha Greenway Trail
# Existing Trail Section

# Oklawaha Greenway Trail
# Sections of Trail to be Raised



# Oklawaha Greenway Trail
# Proposed Trail Section in Area to be Raised




GREENWAY CROSS–SECTION
N.T.S.

# Oklawaha Greenway Trail
# Estimated Cost for Improvements

WGLA Engineering

## WGLA Engineering, PLLC

Consulting Engineers and Land Planners

**Preliminary Cost Estimate**
**Oklawaha Greenway Improvements**

**Date: 04/26/21** **Project #: 21119**

| Item | Quan. | Unit | Unit Price | Total Price |
|---|---|---|---|---|
| Clearing and Grubbing | 1 | LS | $40,000.00 | $40,000.00 |
| Import Fill Material | 3,500 | CY | $35.00 | $122,500.00 |
| Stone Base | 600 | TN | $35.00 | $21,000.00 |
| Asphalt Pavement (2" S9.5B) | 1,350 | SY | $25.00 | $33,750.00 |
| Repair and Overlay Existing Greenway | 850 | SY | $25.00 | $21,250.00 |
| Storm Drainage Piping (elliptical Cross Pipes) | 400 | LF | $110.00 | $44,000.00 |
| Geogrid for Stabilization | 1,000 | SY | $15.00 | $15,000.00 |
| Stone for Stabilization | 1,500 | TN | $35.00 | $52,500.00 |
| Erosion Control Measures | 1 | LS | $25,000.00 | $25,000.00 |
| Matting and Final Stabilization | 1 | LS | $30,000.00 | $30,000.00 |
| Interpretive Signage | 1 | LS | $30,000.00 | $30,000.00 |
| Haul Off of Unsuitable Materials | 1,000 | CY | $20.00 | $20,000.00 |
| **TOTAL ESTIMATED CONSTRUCTION COST** | | | | **$455,000.00** |
| Contingency (5%) | | | | $22,750.00 |
| Surveying | | | | $5,000.00 |
| Engineering, Design & Permitting | | | | $25,500.00 |
| Bidding Assistance & Construction Observation | | | | $12,500.00 |
| 401/404 Permitting | | | | $40,000.00 |
| Mitigation for Wetland Impacts | | | | $65,000.00 |
| Hydraulic & Flood Studies | | | | $20,000.00 |
| **TOTAL ESTIMATED PROJECT COST** | | | | **$645,750.00** |

# Summary/Wrap Up

- Greenway will always flood based on location in flood way.
- Goal should be to improve Greenway so that it is not the lowest point.
- Flood hazard areas and wetlands limit ability to relocate trail.
- Raising trail along existing alignment appears to be most reasonable option.
- Project will require through NC Floodplain Mapping/FEMA.
- Project will likely require Corps/NCDEQ permitting.
- Improvements will allow for use of Greenway more often following heavy rain events.