

# **Main Street Connector Trail/Bikeway: Systematic Prioritization and Project Planning**

**Prepared for:**



**Prepared by:**



**August 2019**



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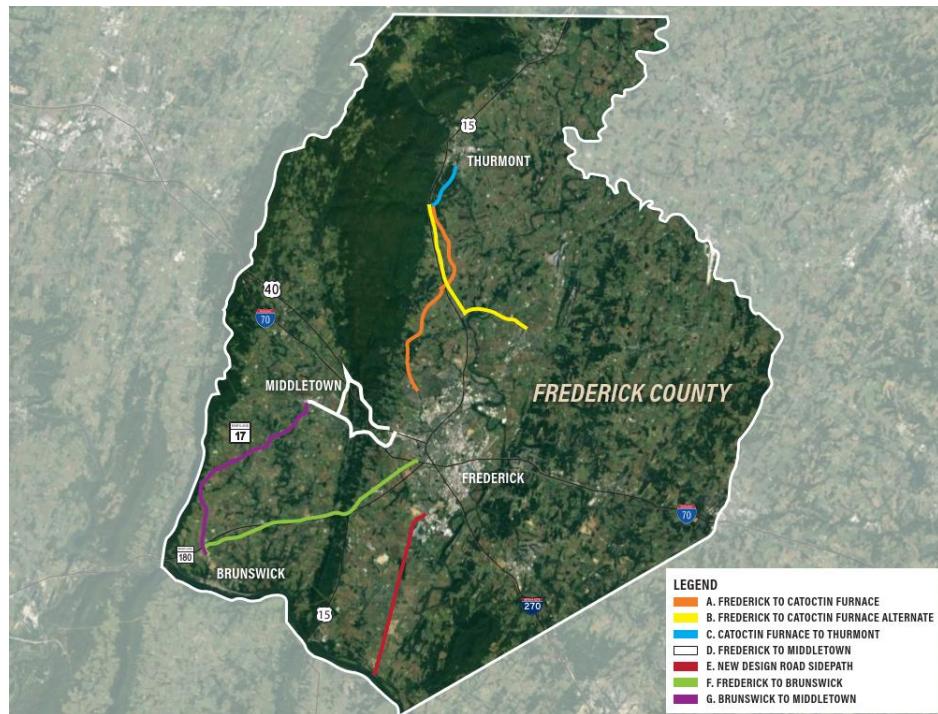
### I. INTRODUCTION

This report is written to summarize the pre-project planning-level analysis for the proposed trails and bikeways connecting the County “Main Street” communities of Brunswick, Frederick, Middletown, and Thurmont. These trails and bikeways will strive to be comfortable to casual bike riders of a range of ages. A focus of the system will be to attract economic development and increased tourism spending in all the Main Street communities. The Hagerstown and Frederick Trolley Trails would connect Thurmont with Frederick and Frederick with Middletown. Brunswick would be connected to Frederick and Middletown by on-street bikeways. In addition, a side path adjacent to New Design Road between Frederick and the C & O Canal Towpath would be included as a less direct, but more family friendly, path between Frederick and Brunswick. This study was initiated before New Market was named a Main Street community and does not consider a connection. Trail responsibility generally shifts from the County to a municipality at town or city limits. The analysis includes the following trails:

- Segment A - H & F Trail: Frederick to Catoctin Furnace
- Segment B - Frederick to Catoctin Furnace Alternate
- Segment C - H & F Trail: Catoctin Furnace to Thurmont
- Segment D - H & F Trail: Frederick to Middletown
- Segment E - New Design Road Sidepath: Frederick to Brunswick Connection
- Segment F - MD 180/17 Bikeway (5' shoulder): Frederick to Brunswick
- Segment G - MD 17 Bikeway (5' shoulder): Brunswick to Middletown

This study assesses the alternatives based on a set of evaluation criteria that includes Transportation, System Connectivity, Quality of Life Benefits, User Comfort, Agency & Public Support, Cost, and Ease of Implementation. This memorandum summarizes the study findings in an evaluation matrix that ranks the alternatives. Concept sketches of the alternatives are included in this memorandum to supplement the study findings. The study location is below.

Figure 1 – Study Location





## II. PRIORITIZATION CRITERIA

Table 1 - Frederick County Bikeways & Pedestrian Plan Project Prioritization Criteria

Criteria	Points	Maximum Score
<b>Transportation:</b> Increases the use of bicycle travel to destinations	Access to Schools: 0-3 points max Access to Employment and Retail: 0-3 Access to Parks & Recreation: 0-3 Access to Transit: 0-3 Access to Residential Neighborhoods: 0-3	15
<b>System Connectivity:</b> Provides an essential link in creating a continuous bikeways system within the study area.	Provides an essential link in the proposed network; without this link, the system could not be completed: 15-20 points Important as a 'standalone project', but not critical to the overall system: 5-15 points A long-term element and potential future link in the system: 0-5 points	20
<b>Quality of Life Benefits:</b> Project will provide quality of life benefits to the residents, visitors and businesses of Frederick County	Increases Tourism: 0-4 points max Environmental / Energy Benefits: 0-4 Potential to attract / retain businesses: 0-4 Increases Public Health / Fitness: 0-4 Improves Traffic Safety: 0-4	20
<b>User Comfort:</b> Project provides a level of comfort for all level of users	All levels and types of users (11-15 points) High comfort level using very low volume roads or separated travel path (8-11 points) Medium comfort level using low volume roads (4-7) Low comfort level using all roads (0-3)	15
<b>Agency &amp; Public Support:</b> Project is supported by the organization(s) responsible for its implementation and management	Project has full agency and public support (7-10 points) Project has potential to receive agency and public support (minimal "Cost to Readiness") (3-6) Project may be able to receive future support (0-3)	10
<b>Cost:</b> Project can be implemented within the costs provided based on identified opportunities and constraints	Project can be implemented within the following range of unit costs: Less than \$200k / mile or location (8-10 points max) \$200k - \$500k / mile or location (3-7 points) Greater than \$500k / mile or location (0-2 points) Non-Capital Projects: 0-10 points based on ability to reach the widest range of people per unit of cost required to develop policy or programs	10
<b>Ease of Implementation:</b> Project or program is ready to be advanced to implementation	Presents significant constraints (0-2 points) Requires further study but has the potential to be advanced (3-7 points) Feasible and ready for implementation (8-10 points max)	10

Note: The prioritization criteria has been provided by the Frederick County Pedestrian and Bicycle Master Plan dated July 2018.



### III. EVALUATION OF SEGMENTS

#### Segment A - H & F Trail: Frederick to Catoctin Furnace

The proposed alignment of the Hagerstown and Frederick (H&F) Trail begins in Catoctin Furnace and ends at the Carroll Creek Trail in Frederick. Refer to Figures A-1 to A-5 in the Appendix. This alignment follows along the electric utility lines using the existing Potomac Edison easement. The shared-use trail will provide a nominal width of 10 feet and be compromised of asphalt unless cost, environmental surroundings or local residents dictate otherwise. This proposed trail ties into an existing hiking trail in Catoctin Furnace that leads into Cunningham Fall State Park via a pedestrian bridge over Catoctin Mountain Highway (US 15). The overall estimated cost of this segment is \$17.9 million.

The following issues were encountered when studying this alignment:

- multiple tree impacts, floodplain impacts
- twelve (12) creek/waterway crossings
- the crossing of Catoctin Mountain Highway (US 15)
- right-of-way impacts throughout the entire length including active farmland
- steep slopes along the alignment requiring regrading to achieve ADA compliance.

#### Segment B - Frederick to Catoctin Furnace Alternate

Due to the impacts to active farmland and the right-of-way acquisition that would be required to construct Segment A - H&F Trail: Frederick to Catoctin, an alternate alignment was studied. This alternate alignment consists of a sidepath along Northbound Catoctin Mountain Highway (US 15) from Catoctin Furnace to Devilbiss Bridge Road, utilizing shoulders as separated bikes lanes along Devilbiss Bridge Road from Catoctin Mountain Highway (US 15) to Heritage Park. Refer to Figures B-1 to B-5 in the Appendix. At Heritage Park, the alternate alignment ties into the proposed F&P RR Trail, being construction by others, that leads into downtown Frederick. The use of shoulders along Devilbiss Bridge Road would make this alternate alignment less family friendly than the originally proposed trail. While the sidepath portion of the alternate alignment would be family friendly and limit impacts to farmland, there would be issues with building the path such as grading along steep slopes, water crossings and right-of-way impacts. The overall estimated cost for this segment is \$10.4 million.

#### Segment C - H & F Trail: Catoctin Furnace to Thurmont

This proposed alignment of the Hagerstown and Frederick (H&F) Trail begins just north of the intersection of Catoctin Furnace Road (MD 806) and Catoctin Hallow Road and ends at the southern edge of the Wastewater Treatment Facility property in Thurmont, where it ties in with the proposed Thurmont Trail, to be designed/constructed by others, which leads to Main Street Thurmont. Refer to Figures C-1 to C-2 in the Appendix. This alignment follows along the electric utility lines using the existing Potomac Edison easement. The shared-use trail will provide a nominal width of 10 feet and be compromised of asphalt unless cost, environmental surroundings or local residents dictate otherwise. This proposed trail will tie into an existing hiking trail in Catoctin Furnace that leads into Cunningham Fall State Park via a pedestrian bridge over US 15. The overall estimated cost for this segment is \$3.5 million.

The following issues were encountered when studying this alignment:

- multiple tree impacts
- floodplain impacts
- two (2) creek/waterway crossings
- right-of-way impacts
- steep slopes along the alignment requiring regrading to achieve ADA compliance



**Segment D - H & F Trail: Frederick to Middletown**

This proposed alignment of the Hagerstown and Frederick (H&F) Trail begins at the intersection of Mt. Philip Road and Butterfly Lane in Frederick and ends at the intersection of Middletown Parkway and E. Main Street in Middletown. Refer to Figures D-1 to D-5 in the Appendix. The proposed alignment follows along the path of the now abandoned H&F Trolley Trail System. The shared-use trail will provide a nominal width of 10 feet and be compromised of asphalt unless cost, environmental surroundings or local residents dictate otherwise. The overall estimated cost for this segment is \$7.6 million.

The following issues were encountered when studying this alignment:

- multiple tree impacts
- floodplain impacts
- four (4) creek/waterway crossings
- an aerial crossing over I-70
- numerous right-of-way impacts through Middletown
- steep slopes along the alignment requiring grading or switchbacks to achieve ADA compliance
- sharing the road in Braddock Heights

To avoid the steep slopes and aerial crossing over I-70, an alternate alignment was studied. Refer to Figure D-1 to D-5 in the Appendix. This alternate alignment begins along Rock Creek Drive at the intersection with the proposed Rock Creek Trail, to be design and constructed by others, which will lead to downtown Frederick. From the intersection with the proposed Rock Creek Trail, the proposed alternate alignment is a sidepath along Rock Creek Drive to the intersection with US 40. The alternate alignment then utilizes the existing shoulders as separated bike lanes along US 40 to the intersection with Hollow Road. From this intersection, the alternate alignment would be a sidepath along Hollow Road until the intersection with Old National Pike. The alternate alignment then follows the proposed sidepath along the abandoned H&F Trolley Trail System towards Middletown. The overall estimated cost for this alternate alignment is \$9.2 million.

**Segment E - New Design Road Sidepath: Frederick to Brunswick Connection**

The alignment begins at the intersection of New Design Road and English Muffin Way in Frederick and end at the C&O Canal Towpath. Refer to Figures E-1 to E-4 in the Appendix. The connection to the C&O Canal Tow Path provides pedestrians and bicyclists a family friendly path to access Brunswick. This alignment connects to Frederick via the Carroll Creek Trail and proposed bicycle lanes along Monocacy Boulevard and New Design Road which tie into the proposed New Design Road sidepath alignment at the intersection with English Muffin Way. The sidepath will provide a nominal width of 10 feet and be asphalt or crushed stone shared-use trail separated from the edge of road by a buffer along one side of New Design Road. The overall estimated cost for this segment is \$13.2 million.

The following issues were encountered when studying this alignment:

- multiple tree impacts
- four (4) creek/waterway crossings
- floodplain impacts
- drainage impacts
- crossing of the Baltimore and Ohio Railroad
- numerous right-of-way impacts, including a direct impact to a house
- steep side slopes adjacent to the alignment that requires grading
- utility pole impacts



- areas where the buffer between the roadway and the sidepath will need to be minimized to avoid impacts to properties
- impacts to a large stormwater pond

**Segment F - MD 180/17 Bikeway (5' shoulder): Frederick to Brunswick**

The proposed alignment begins at the intersection of Butterfly Lane and Jefferson Pike (MD 180) and ends along Potomac View Parkway where it meets the Valley Trail, which connects the alignment to Brunswick. Bicyclists will share the road along Dutchman's Creek Drive and Potomac View Parkway to reach the Valley Trail. Refer to Figures F-1 to F-6 in the Appendix. Proposed 5-foot wide shoulders provide the on-street bicycle facilities along both sides of Burkittsville Road (MD 17) from Dutchman's Creek Drive to Jefferson Pike (MD 180). From that intersection, the on-street bicycle facilities continue along both sides of Jefferson Pike (MD 180) to the intersection with Butterfly Lane. This alignment is not family friendly. The overall estimated cost for this segment is \$28.5 million.

The following issues were encountered when studying this alignment

- multiple tree impacts
- floodplain impacts
- twelve (12) creek/waterway crossings
- numerous right-of-way impacts
- drainage impacts
- steep roadway grades
- steep side slopes adjacent to the alignment that requires grading
- utility pole impacts

**Segment G - MD 17 Bikeway (5' shoulder): Brunswick to Middletown**

The proposed alignment begins along Potomac View Parkway where it meets the Valley Trail which connects this alignment to Brunswick. Refer to Figures G-1 to G-6 in the Appendix. Pedestrians and bicyclists will share the road along Dutchman's Creek Drive and Potomac View Parkway to reach the Valley Trail. The proposed alignment ends at the intersection of Burkittsville Road (MD 17) and West Main Street (Alt US 40) in Middletown. Proposed 5-foot wide shoulders provide the on-street bicycle facilities along both sides of Burkittsville Road (MD 17). This alignment is not family friendly. The overall estimated cost for this segment is \$22.4 million.

The following issues were encountered when studying this alignment:

- multiple tree impacts
- floodplain impacts
- thirteen (13) creek/waterway crossings
- numerous right-of-way impacts
- drainage impacts
- steep roadway grades
- steep side slopes adjacent to the alignment that requires grading
- utility pole impacts



Table 2 - Evaluation Matrix

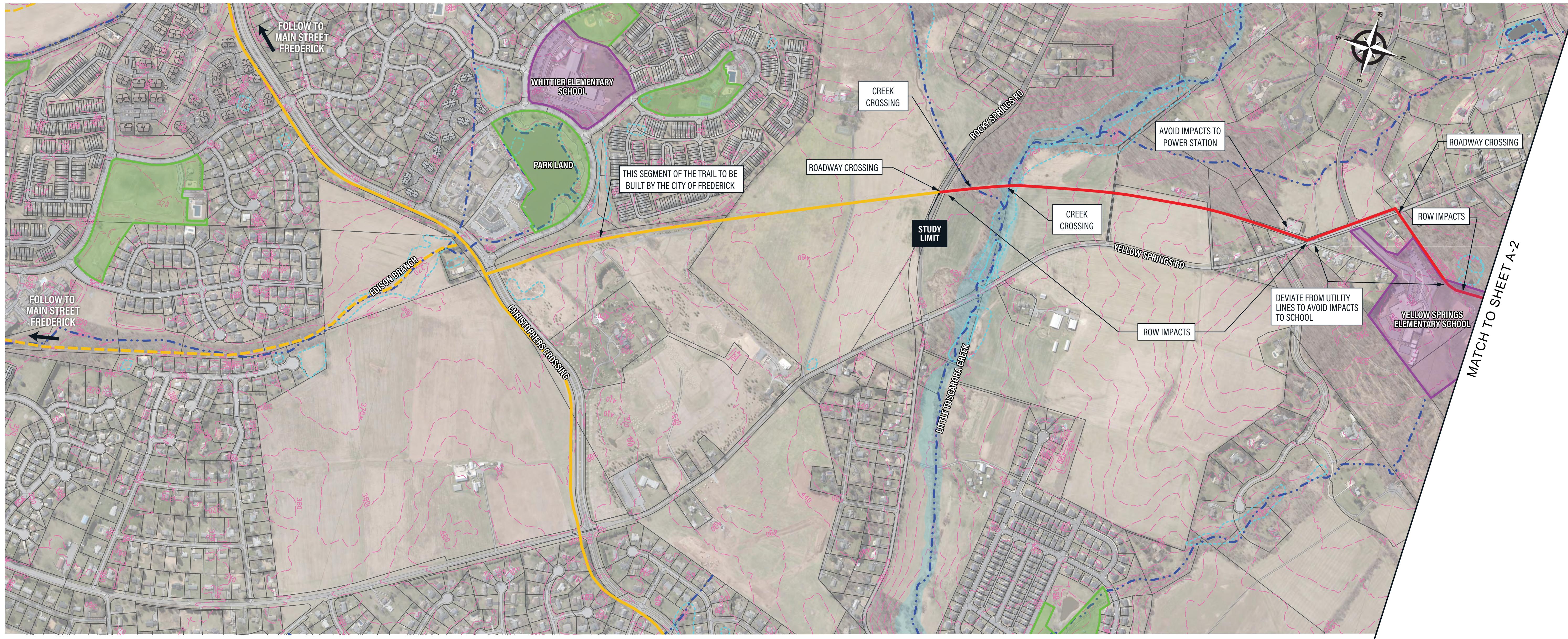
General	Alignment Name	Segment A - H&F Trail: Frederick to Catocin Furnace	Segment B - H&F Trail: Frederick to Catocin Furnace Alternate	Segment C - H&F Trail: Catocin Furnace to Thurmont	Segment D - H&F Trail: Frederick to Middletown	Segment D <sub>1</sub> : Frederick to Middletown Alternate	Segment E - New Design Road Sidepath: Frederick to Brunswick Connection	Segment F - MD 180/17 Bikeawy: Frederick to Brunswick	Segment G - MD 17 Bikeway: Brunswick to Middletown
	Beginning Point	Catocin Furnace	Catocin Furnace	Wastewater Treatment Plant	Church Street	Church Street	English Muffin Way	Butterfly Lane	Valley Trail
	Ending Point	Ex. Trail Near Warfield	Proposed F&P RR Trail	Catoctin Furnace	Rock Creek Trail	Rock Creek Trail	C&O Canal Towpath	Valley Trail	Rt 40A Main Street
	Length (miles)	10.4	8.8	2.3	5.3	8.0	8.3	12.4	12.0
Project Prioritization Criteria	<b>Transportation - Max Score 15</b>								
	Access to Schools (0-3)	3	1	1	2	2	0	2	1
	Access to Retail (0-3)	1	1	0	2	2	2	2	2
	Access to Parks (0-3)	2	2	2	1	1	2	2	2
	Access to Transit (0-3)	0	0	0	1	1	1	2	2
	Connects Neighborhoods (0-3)	3	2	3	3	3	2	3	2
	<b>System Connectivity - Max Score 20</b>								
	Provides an essential link: 15-20 points	20	18	20	18	18	20	18	17
	Important as a 'stand alone' project: 5-15 points								
	A long-term element: 0-5 points								
	<b>Quality of Life Benefits - Max Score 20</b>								
	Increase Tourism (0-4)	3	3	3	2	2	3	2	2
	Environmental/ Energy Benefits (0-4)	0	0	0	0	0	0	0	0
	Attract/ Retain Business (0-4)	1	1	2	3	3	2	1	1
	Increase Public Health/ Fitness (0-4)	4	4	4	4	4	4	2	2
	Improve Traffic Safety (0-4)	3	3	2	2	1	4	2	2
	<b>Multi-User Comfort Level - Max Score 15</b>								
	All Users (11-15)	11	9	12	4	6	11	3	3
	High Comfort (8-10)								
	Medium Comfort (4-7)								
	Low Comfort (0-3)								
	<b>Agency &amp; Public Support - Max Score 10</b>								
	Full Support: 7-10 points	6	7	8	6	6	9	3	5
	Potential to Receive Support: 3-6 points								
	May Be Able to Receive Support: 0-2 points								
	<b>Cost - Max Score 10</b>								
	Less than \$200k / mile: 8-10 points	2	5	3	2	7	6	3	3
	\$200k - \$500k / miles: 3-7 points								
	Greater than \$500k: 0-2 points								
	<b>Ease of Implementation - Max Score 10</b>								
	Significant Constraints: 0-2 points	0	5	3	1	5	6	3	5
	Requires Further Study: 3-7 points								
	Feasible and Ready: 8-10 points								
	<b>Prioritization Point Total - Max Score 100</b>	<b>59</b>	<b>61</b>	<b>63</b>	<b>51</b>	<b>61</b>	<b>72</b>	<b>48</b>	<b>49</b>
Other Impacts	<b>100 Year Floodplain Impacts</b>	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	<b>Water Crossing Structural Impacts (Approx. Number)</b>	12	12	2	4	4	4	12	13
	<b>Drainage Impacts</b>	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	<b>Right of Way Impacts (Approx. Number of Parcels)</b>	45-55	20-30	27-30	>50	>50	20-28	>40	>40
	<b>Potential Utility Pole Impacts</b>	<10	<10	>10	<10	<10	>10	>10	>10
	<b>Steep Grades Along the Alignment</b>	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes
	<b>Other Conflicts</b>	Rerouting trail around school properties, impacting active farmland, crossing of US 15	Steep slopes adjacent to edge of roadway, impacts to Leatherman Rd and Whates Ln	Impacting active farmlands	Crossing I-70	Railroad Crossing, Full Property Take, Stormwater pond impacts			



#### IV. SUMMARY AND CONCLUSIONS

The alternatives have been compared using the 2018 Frederick County Pedestrian and Bicycle Plan: Prioritization Criteria which considers Transportation, System Connectivity, Quality of Life Benefits, User Comfort, Agency & Public Support, Cost, and Ease of Implementation. The evaluation matrix summarizes the findings of the analysis. With relative scores noted and weights applied, the total scores result in Segment E - New Design Road Sidepath being scored the highest, with Segment F - H&F Trail: Frederick to Brunswick scoring the lowest; the exact ranking is below:

1. Segment E - New Design Road Sidepath: Frederick to Brunswick Connection
2. Segment C - H&F Trail: Catoctin Furnace to Thurmont
3. Segment D<sub>1</sub> - H&F Trail: Frederick to Middletown Alternate
4. Segment B - H&F Trail: Frederick to Catoctin Furnace Alternate
5. Segment A – H&F Trail: Frederick to Catoctin Furnace
6. Segment D - H&F Trail: Frederick to Middletown
7. Segment G - MD 17 Bikeway Brunswick to Middletown
8. Segment F - MD 180/17 Bikeway: Frederick to Brunswick



■ FLOODPLAIN  
■ PARKS  
■ SCHOOLS  
■ AGRICULTURAL/ENVIRONMENTAL PRESERVATION EASEMENTS

— RIVER/STREAM  
— WETLANDS  
— CONTOURS (10-FOOT)  
— EXISTING RIGHT-OF-WAY

— PROPOSED ON-STREET SHARED ROUTE/SHOULDERS  
— PROPOSED SIDEPATH  
— PROPOSED OFF STREET TRAIL

— PROPOSED PATHS BY OTHERS  
— EXISTING PATH  
— PROPOSED SEPARATED BIKE LANES



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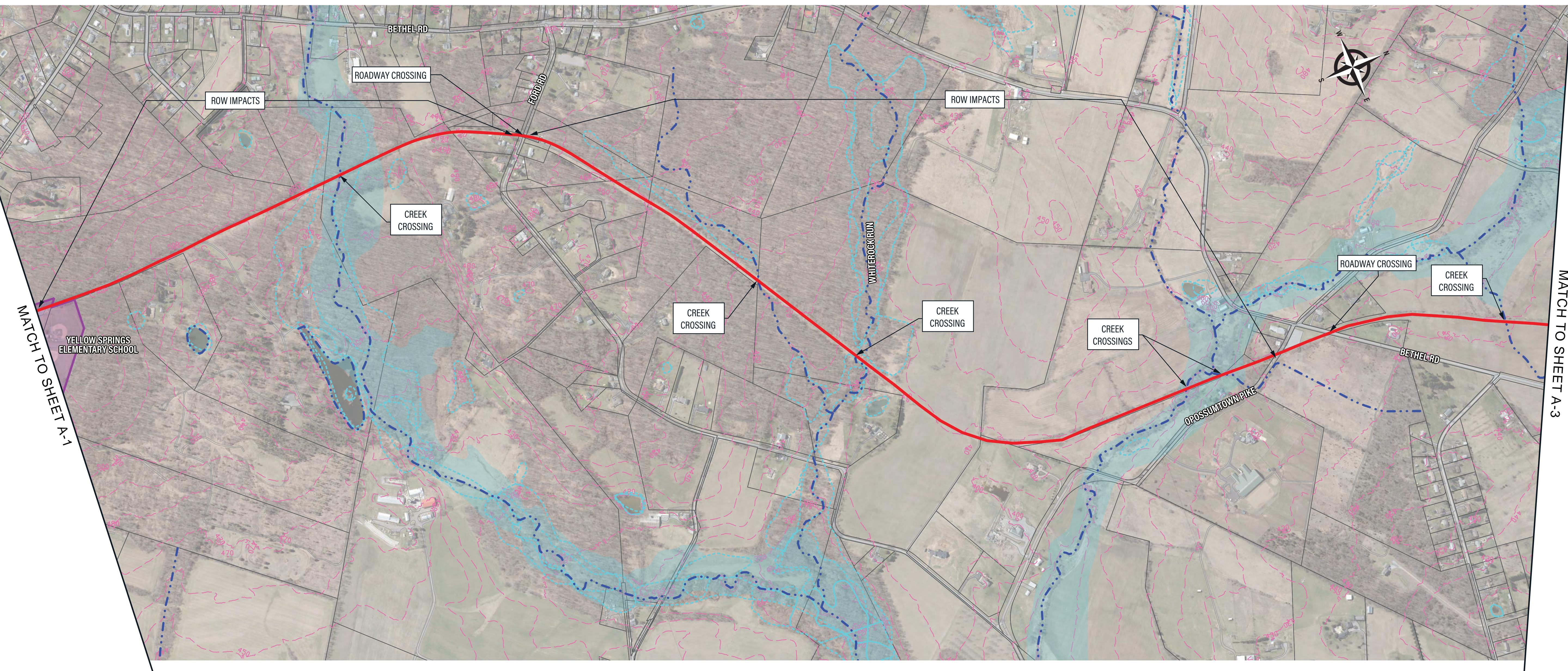
## MAIN STREET CONNECTOR TRAIL/BIKEWAY SEGMENT A: FREDERICK TO CATOCTIN FURNACE TRAIL

SHEET A-1 OF A-5

DATE: AUGUST 2019

FREDERICK COUNTY, MARYLAND





-  FLOODPLAIN
-  PARKS
-  SCHOOLS
-  AGRICULTURAL/ENVIRONMENTAL  
PRESERVATION EASEMENTS

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- PROPOSED OFF STREET TRAIL

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- EXISTING PATH
- PROPOSED SEPERATED BIKE LANES

# MAIN STREET CONNECTOR TRAIL/BIKEWAY

## SEGMENT A: FREDERICK TO CATOCTIN FURNACE TRAIL

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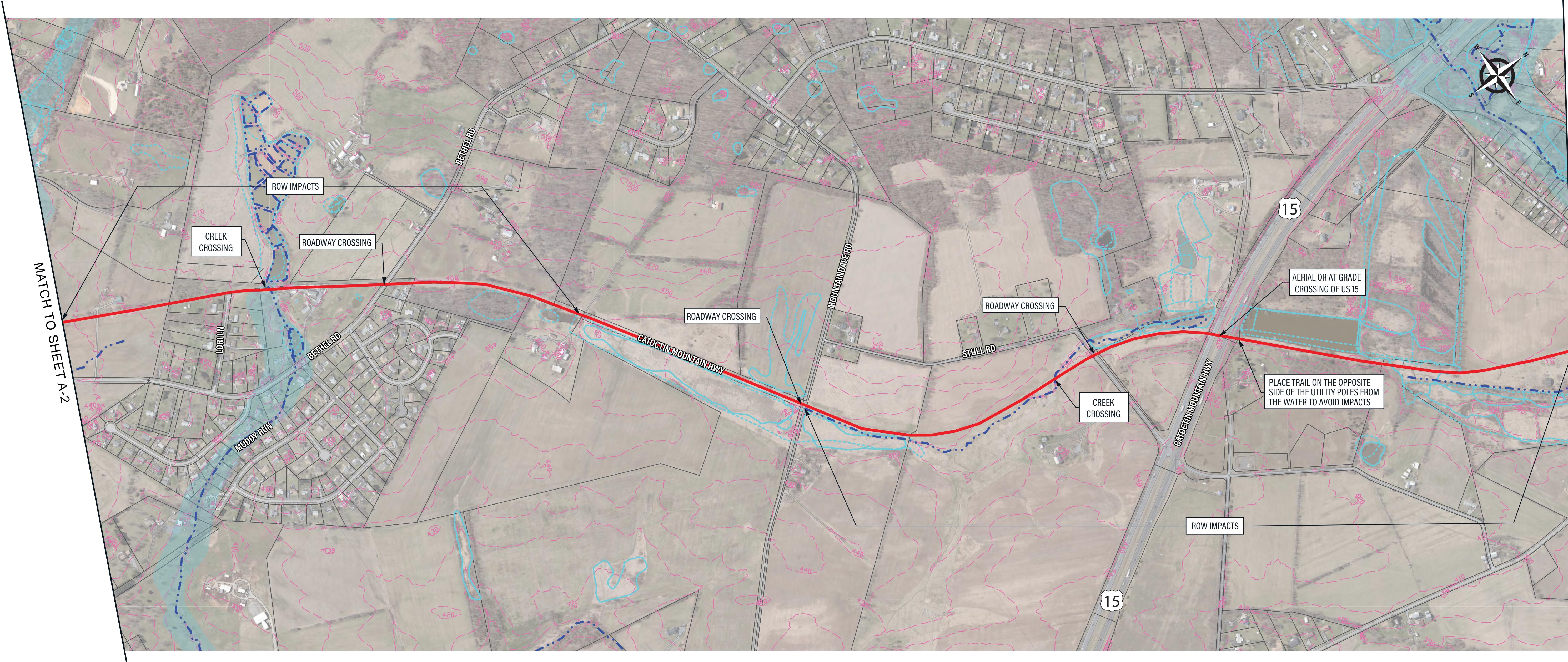
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SHEET A-2 OF A-5

DATE: AUGUST 2019

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- FLOODPLAIN
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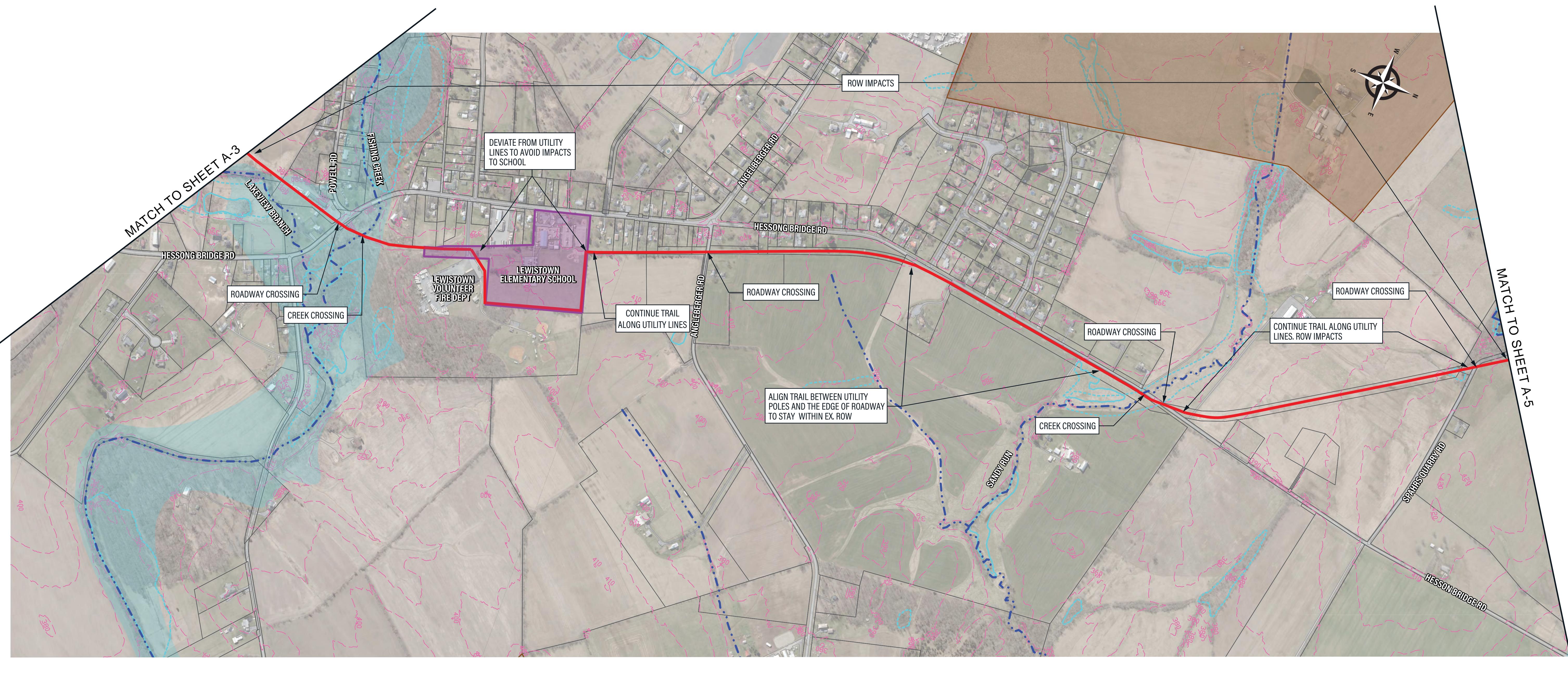
## MAIN STREET CONNECTOR TRAIL/BIKEWAY SEGMENT A: FREDERICK TO CATOCTIN FURNACE TRAIL

SHEET A-3 OF A-5

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## MAIN STREET CONNECTOR TRAIL/BIKEWAY SEGMENT A: FREDERICK TO CATOCTIN FURNACE TRAIL

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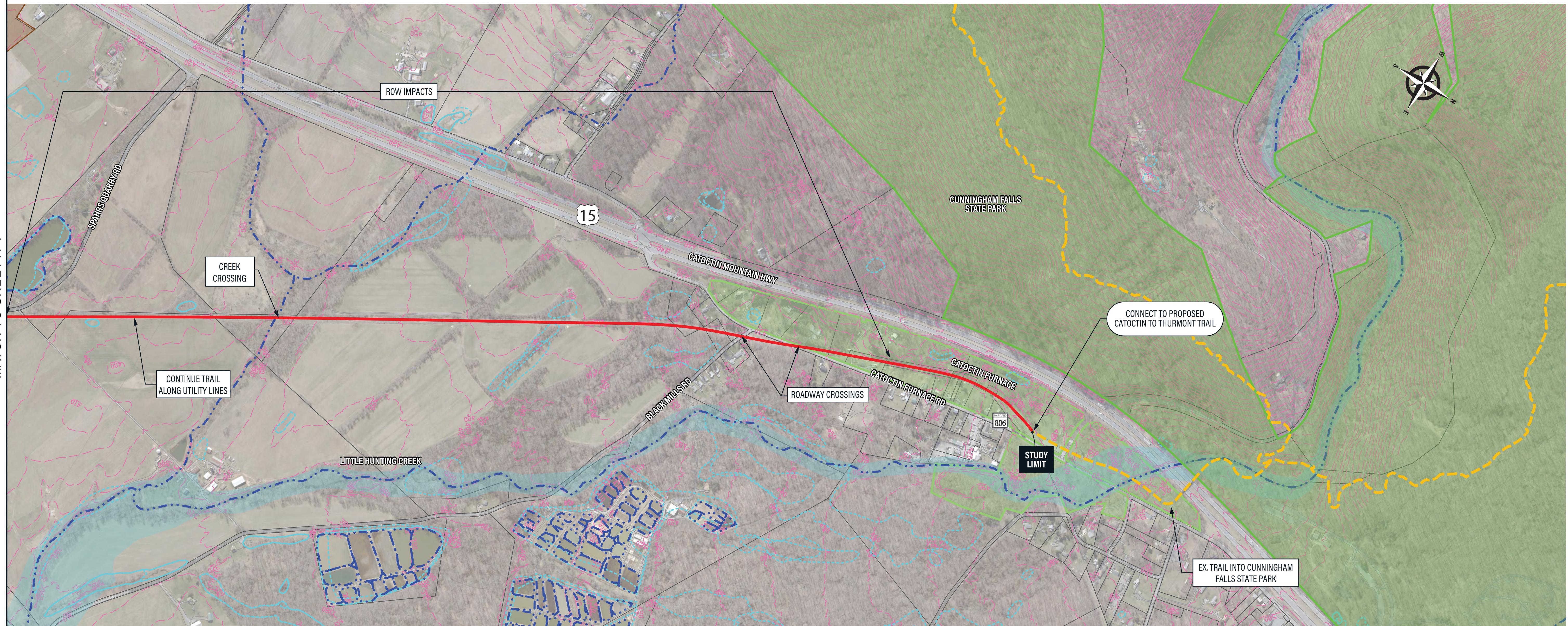
SHEET A-4 OF A-5

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FREDERICK COUNTY, MARYLAND



MATCH TO SHEET A-4



FLOODPLAIN  
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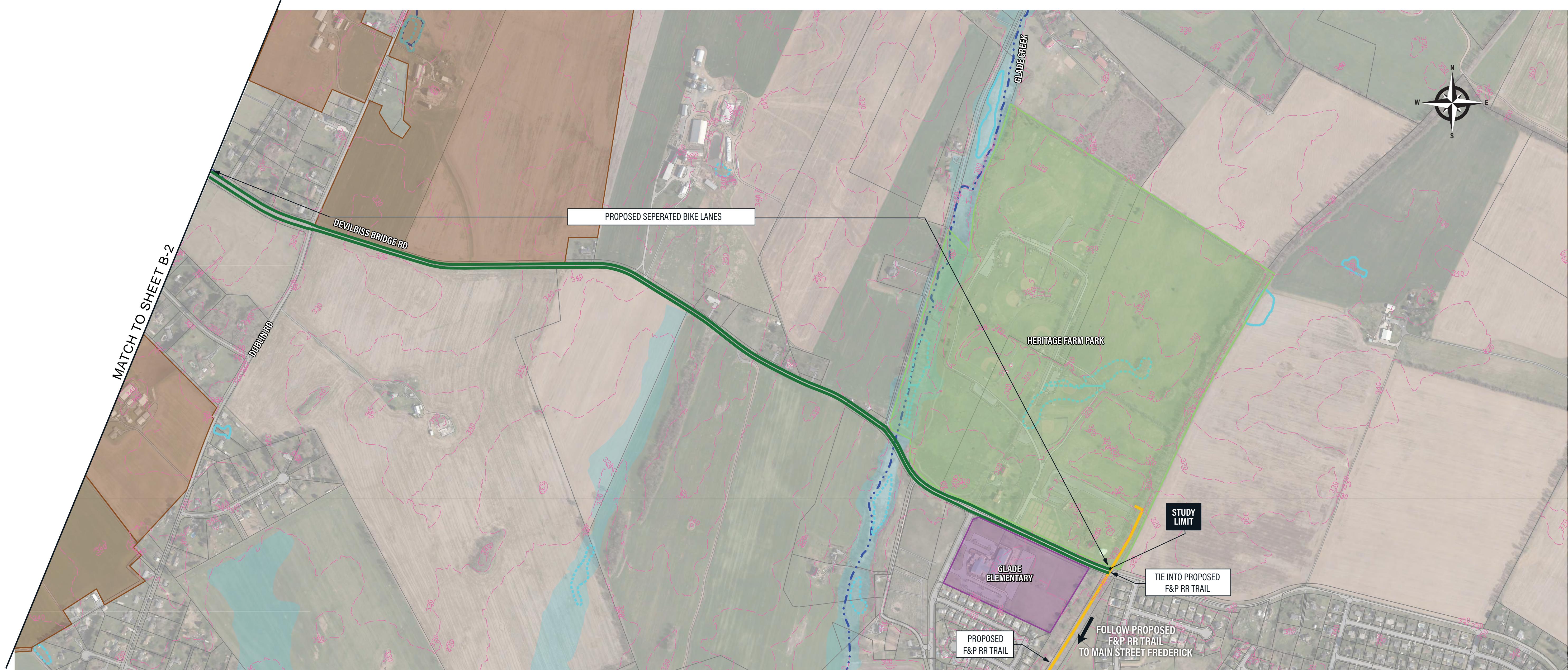
## MAIN STREET CONNECTOR TRAIL/BIKEWAY SEGMENT A: FREDERICK TO CATOCTIN FURNACE TRAIL

SHEET A-5 OF A-5

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## MAIN STREET CONNECTOR TRAIL/BIKEWAY SEGMENT B: FREDERICK TO CATOCTIN FURNACE TRAIL ALTERNATE

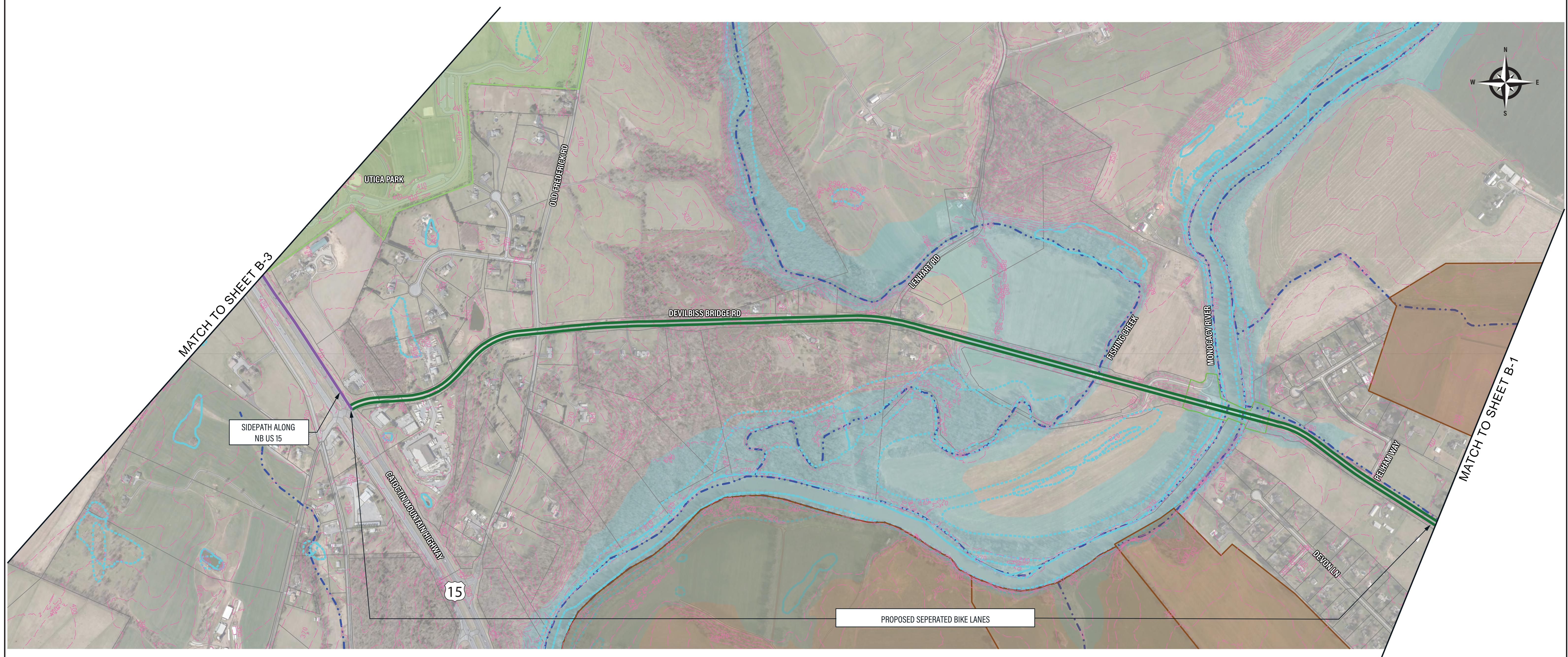
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SHEET B-1 OF B-5

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## MAIN STREET CONNECTOR TRAIL/BIKEWAY SEGMENT B: FREDERICK TO CATOCTIN FURNACE TRAIL ALTERNATE

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SHEET B-2 OF B-5

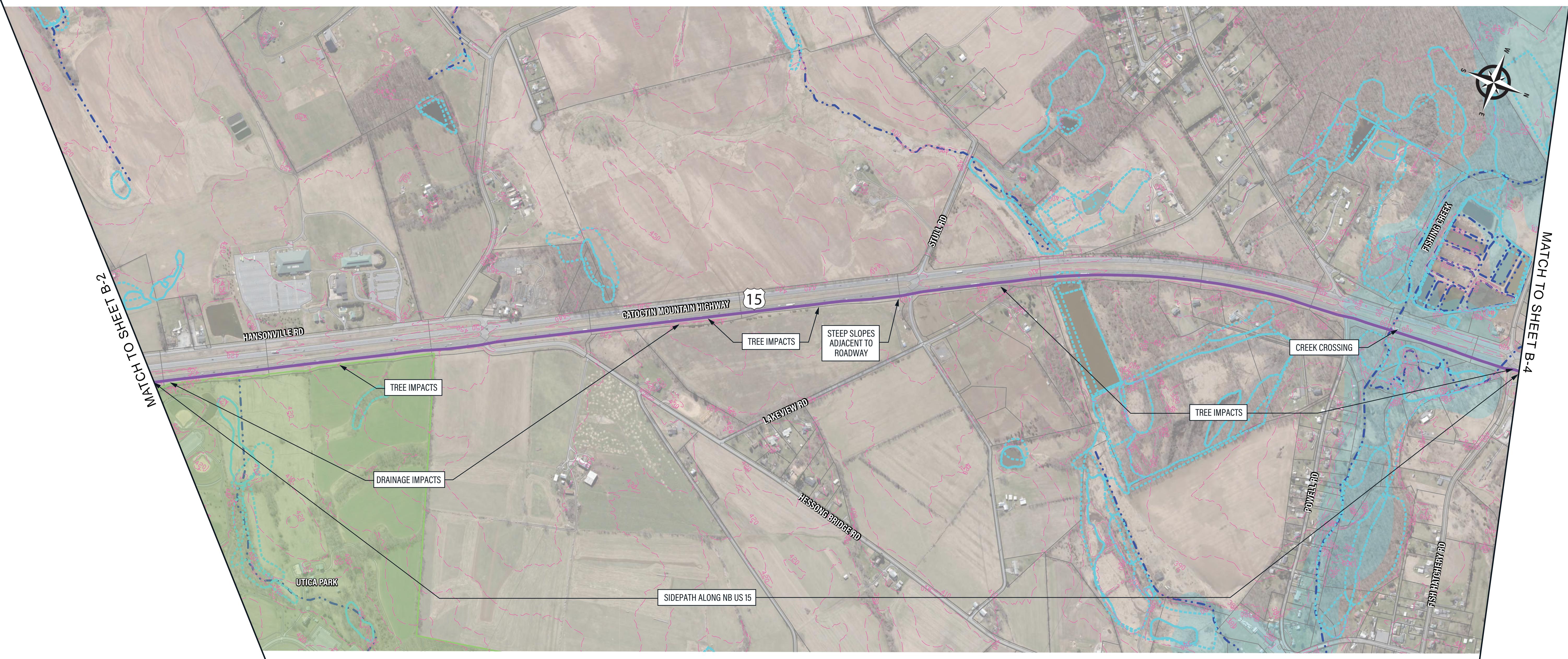
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MATCH TO SHEET B-2

MATCH TO SHEET B-4



FLOODPLAIN  
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## MAIN STREET CONNECTOR TRAIL/BIKEWAY SEGMENT B: FREDERICK TO CATOCTIN FURNACE TRAIL ALTERNATE

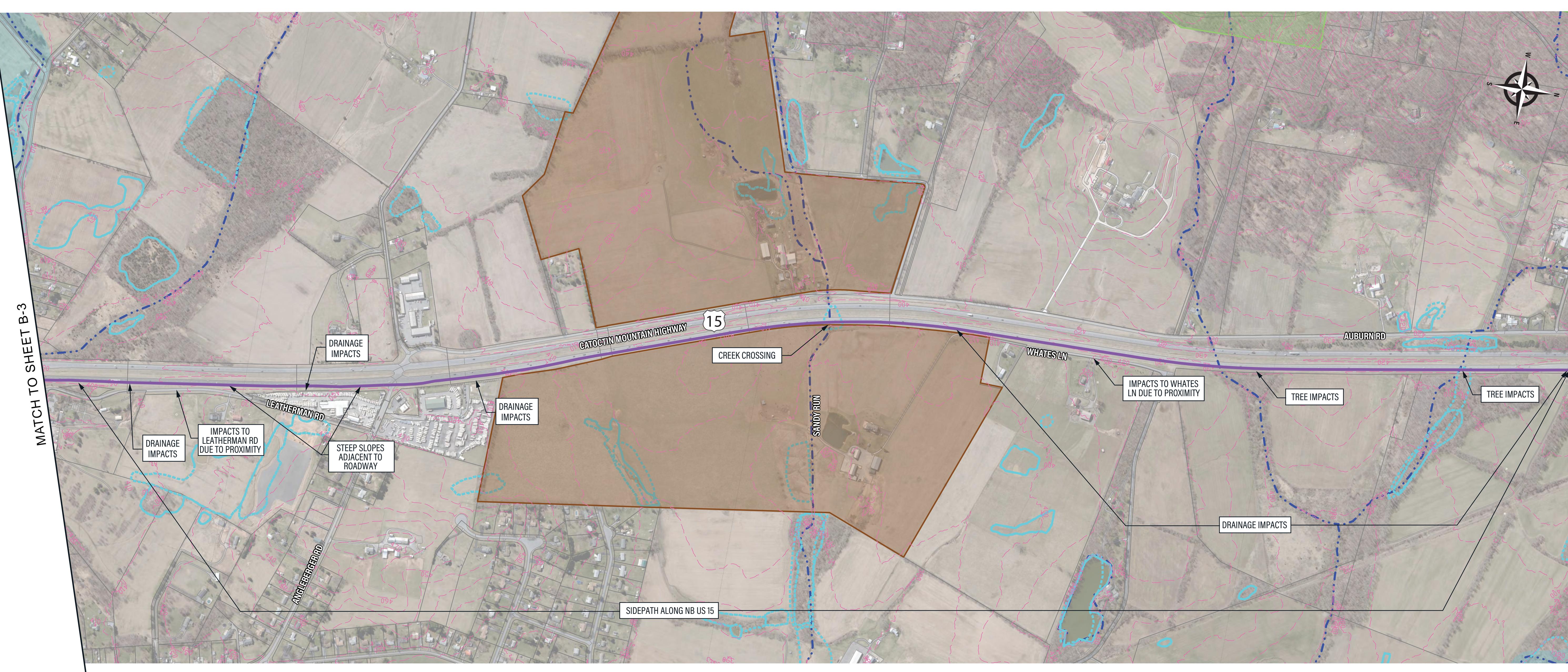
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SHEET B-3 OF B-5

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MATCH TO SHEET B-4



**FLOODPLAIN**  
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**PROPOSED SIDEPATH**  
**PROPOSED OFF STREET TRAIL**

**PROPOSED PATHS BY OTHERS**  
**EXISTING PATH**  
**PROPOSED SEPARATED BIKE LANES**



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801 South Caroline Street, Baltimore, MD 21231

## MAIN STREET CONNECTOR TRAIL/BIKEWAY SEGMENT B: FREDERICK TO CATOCTIN FURNACE TRAIL ALTERNATE

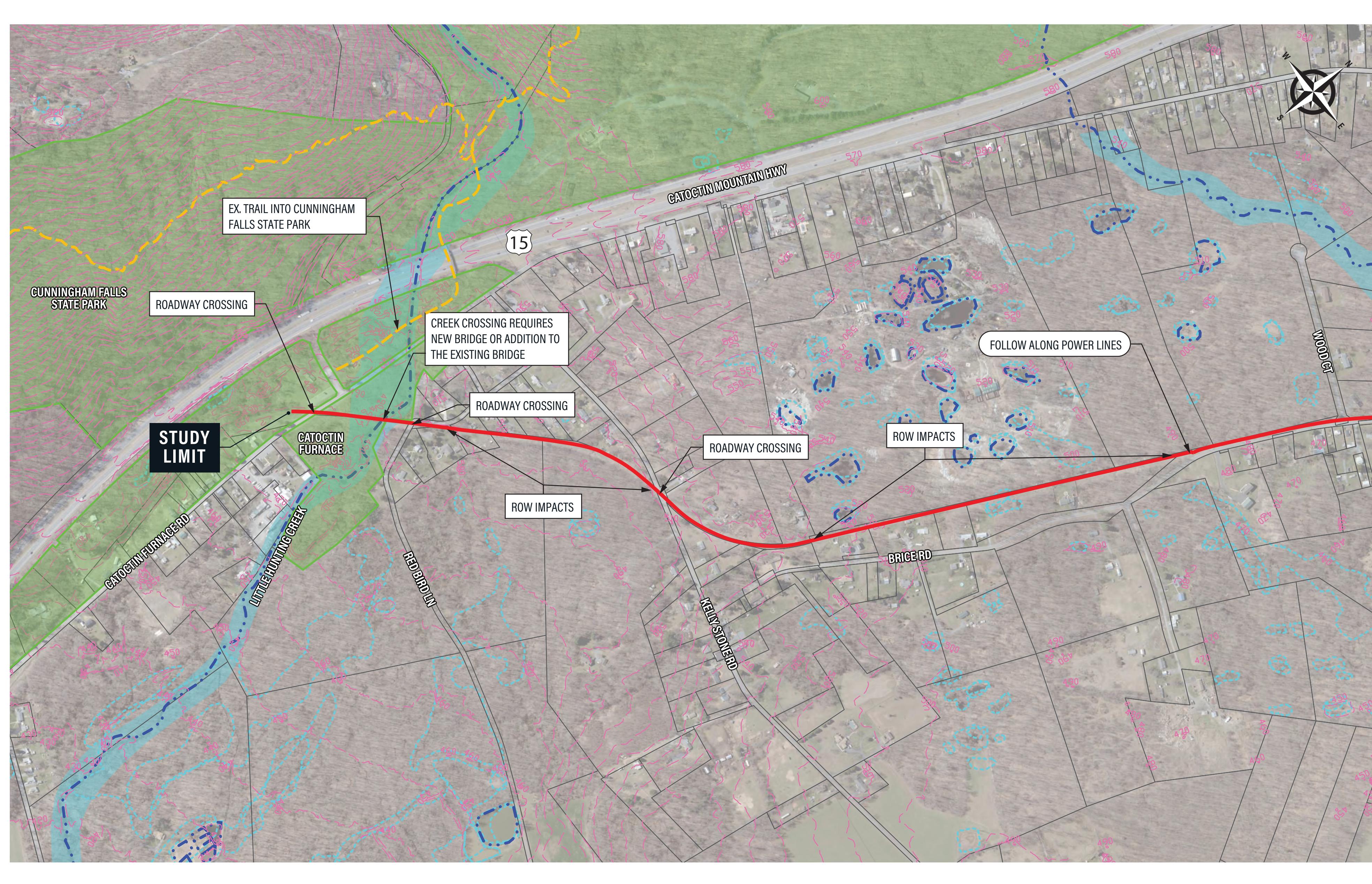
SCALE: 1" = 400'

SHEET B-5 OF B-5

DATE: AUGUST 2019

FREDERICK COUNTY, MARYLAND





FLOODPLAIN  
 PARKS  
 SCHOOLS  
 AGRICULTURAL/ENVIRONMENTAL PRESERVATION EASEMENTS

RIVER/STREAM  
 WETLANDS  
 CONTOURS (10-FOOT)  
 EXISTING RIGHT-OF-WAY

— PROPOSED ON-STREET SHARED ROUTE/SHOULDERS  
— PROPOSED SIDEPATH  
— PROPOSED OFF STREET TRAIL

— PROPOSED PATHS BY OTHERS  
— EXISTING PATH  
— PROPOSED SEPERATED BIKE LANES



Whitman, Requardt & Associates, LLP  
801 South Caroline Street, Baltimore, MD 21231

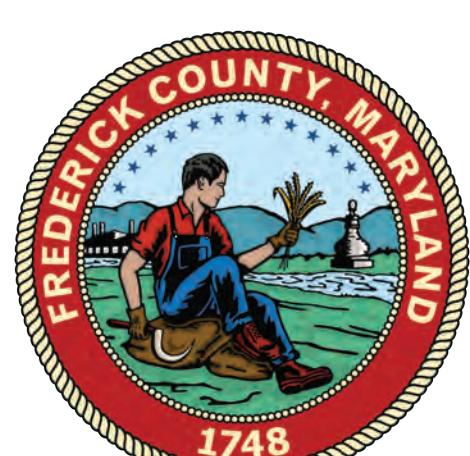
SCALE: 1" = 400'

## MAIN STREET CONNECTOR TRAIL/BIKEWAY SEGMENT C: CATOCTIN FURNACE TO THURMONT TRAIL

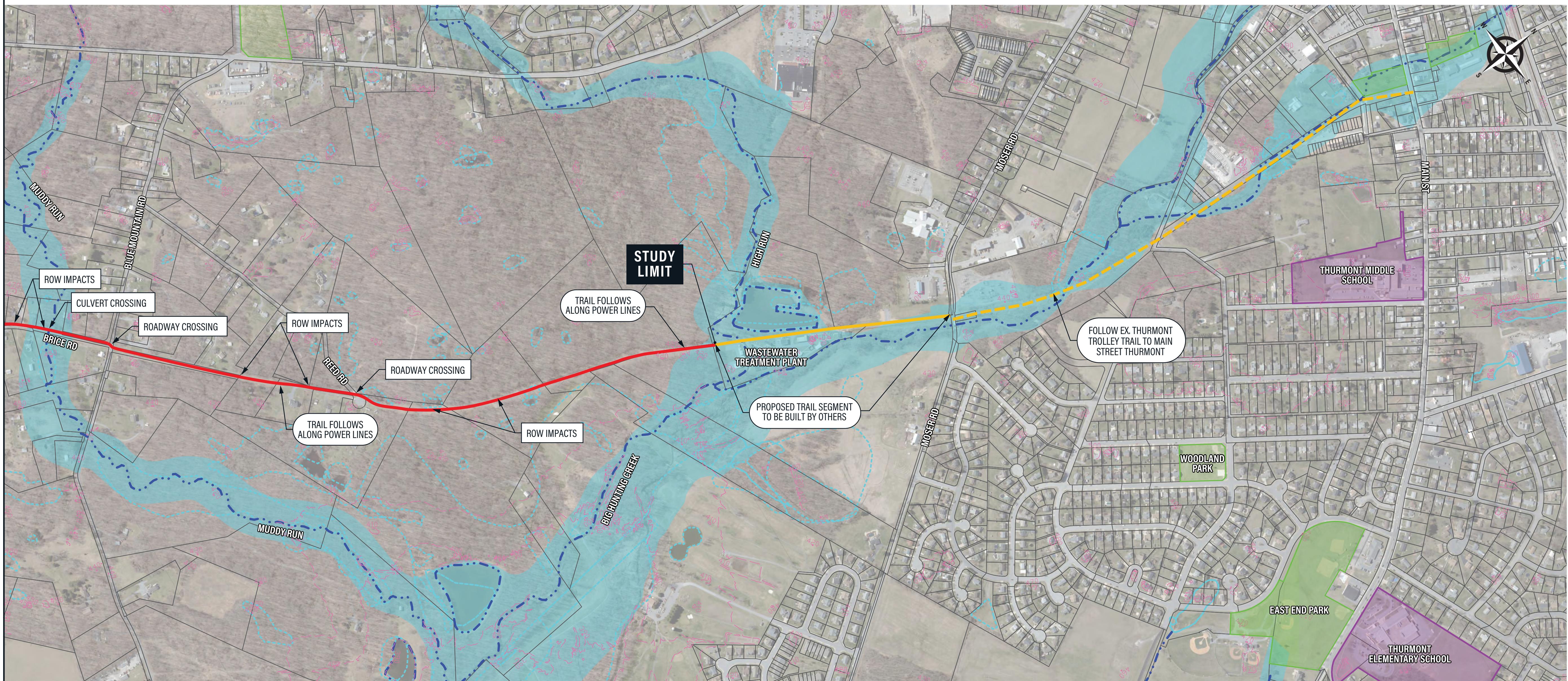
SHEET C-1 OF C-2

DATE: AUGUST 2019

FREDERICK COUNTY, MARYLAND



MATCH TO SHEET C-1



FLOODPLAIN  
PARKS  
SCHOOLS  
AGRICULTURAL/ENVIRONMENTAL  
PRESERVATION EASEMENTS

RIVER/STREAM  
WETLANDS  
CONTOURS (10-FOOT)  
EXISTING RIGHT-OF-WAY

PROPOSED ON-STREET SHARED  
ROUTE/SHOULDERS  
PROPOSED SIDEPATH  
PROPOSED OFF STREET TRAIL

PROPOSED PATHS BY OTHERS  
EXISTING PATH  
PROPOSED SEPERATED BIKE  
LANES



Whitman, Requardt & Associates, LLP  
801 South Caroline Street, Baltimore, MD 21231

SCALE: 1" = 400'

## MAIN STREET CONNECTOR TRAIL/BIKEWAY SEGMENT C: CATOCTIN FURNACE TO THURMONT TRAIL

SHEET C-2 OF C-2

DATE: AUGUST 2019

FREDERICK COUNTY, MARYLAND





FLOODPLAIN  
 PARKS  
 SCHOOLS  
 AGRICULTURAL/ENVIRONMENTAL PRESERVATION EASEMENTS

RIVER/STREAM  
 WETLANDS  
 CONTOURS (10-FOOT)  
 EXISTING RIGHT-OF-WAY

PROPOSED ON-STREET SHARED ROUTE/SHOULDERS  
 PROPOSED SIDEPATH  
 PROPOSED OFF STREET TRAIL  
 PROPOSED PATHS BY OTHERS  
 EXISTING PATH  
 PROPOSED SEPERATED BIKE LANES



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SCALE: 1" = 400'

## MAIN STREET CONNECTOR TRAIL/BIKEWAY SEGMENT D: FREDERICK TO MIDDLETOWN TRAIL

SHEET D-1 OF D-5

DATE: AUGUST 2019

FREDERICK COUNTY, MARYLAND

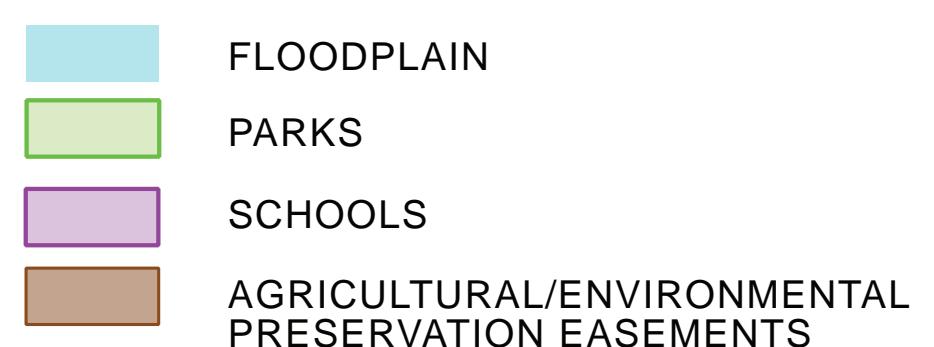
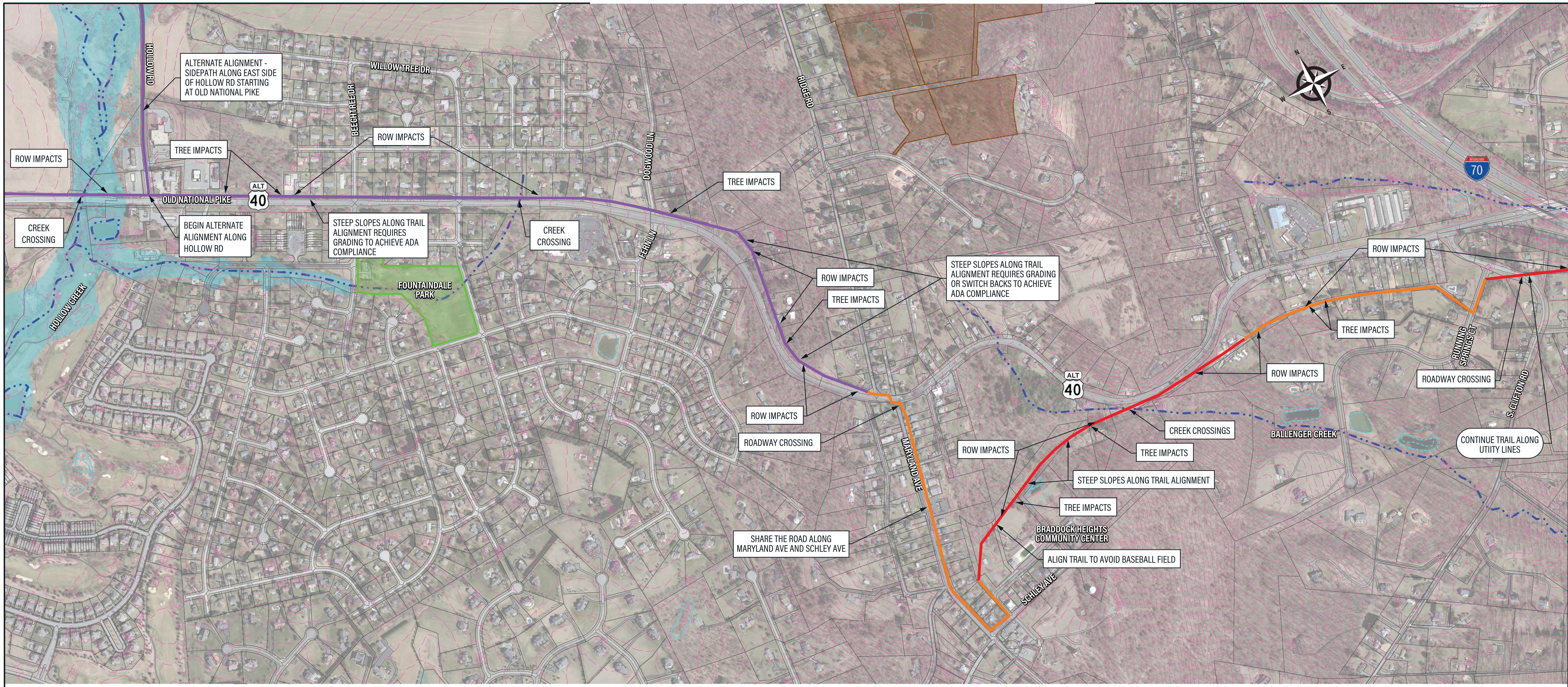


MATCH TO SHEET D-4

MATCH TO SHEET D-5

MATCH TO SHEET D-1

MATCH TO SHEET D-3



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801 South Caroline Street, Baltimore, MD 21231

SCALE: 1" = 400'

## MAIN STREET CONNECTOR TRAIL/BIKEWAY SEGMENT D: FREDERICK TO MIDDLETOWN TRAIL

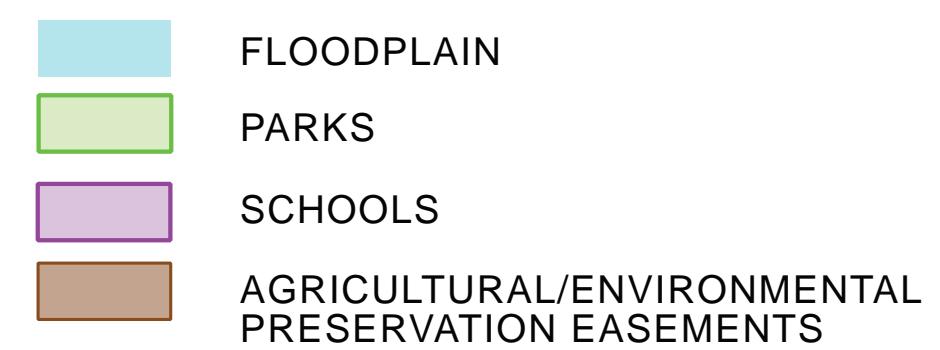
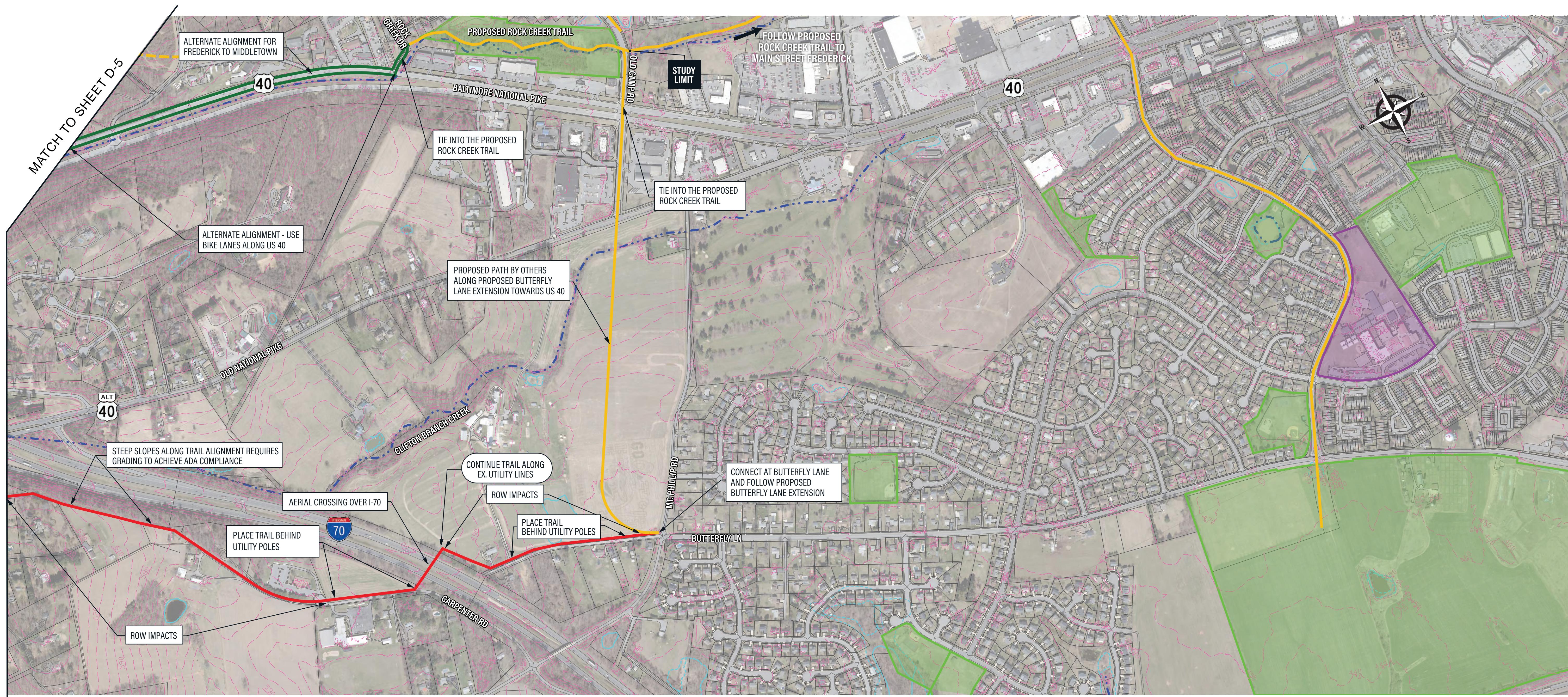
SHEET D-2 OF D-5

DATE: AUGUST 2019

FREDERICK COUNTY, MARYLAND



MATCH TO SHEET D-2



Whitman, Requardt & Associates, LLP  
801 South Caroline Street, Baltimore, MD 21231

SCALE: 1" = 400'

## MAIN STREET CONNECTOR TRAIL/BIKEWAY SEGMENT D: FREDERICK TO MIDDLETOWN TRAIL

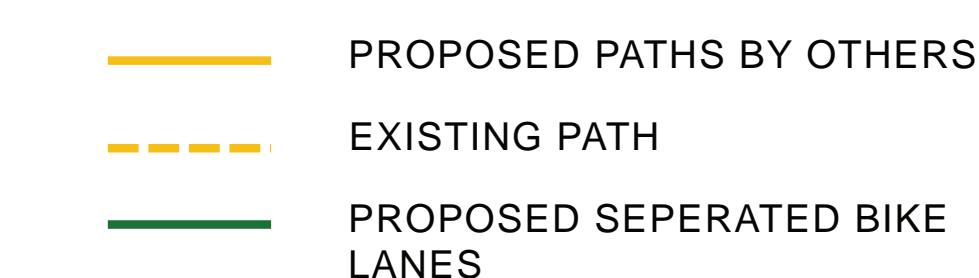
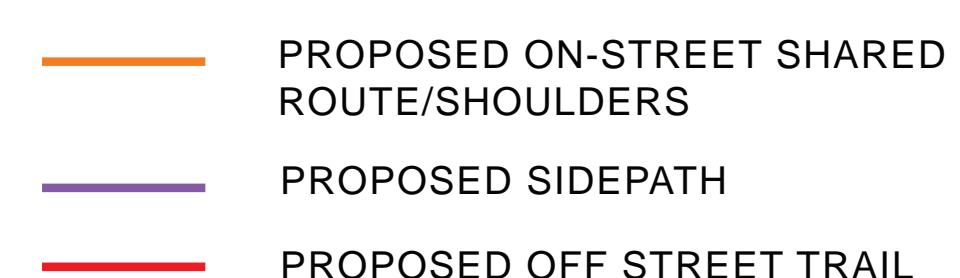
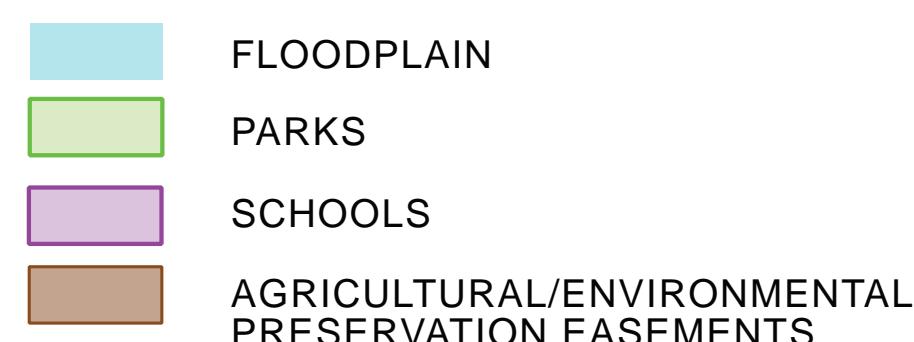
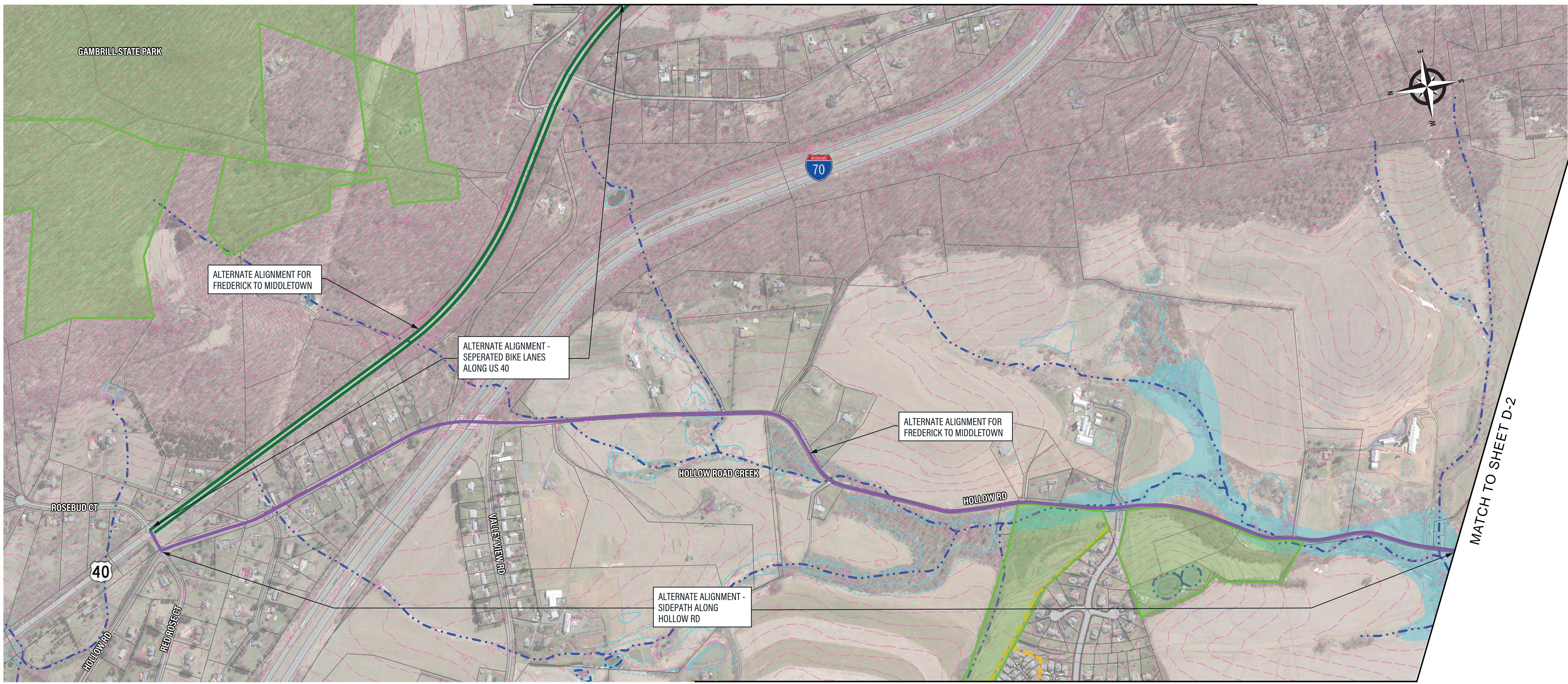
SHEET D-3 OF D-5

DATE: AUGUST 2019

FREDERICK COUNTY, MARYLAND



MATCH TO SHEET D-5



## MAIN STREET CONNECTOR TRAIL/BIKEWAY SEGMENT D: FREDERICK TO MIDDLETOWN TRAIL



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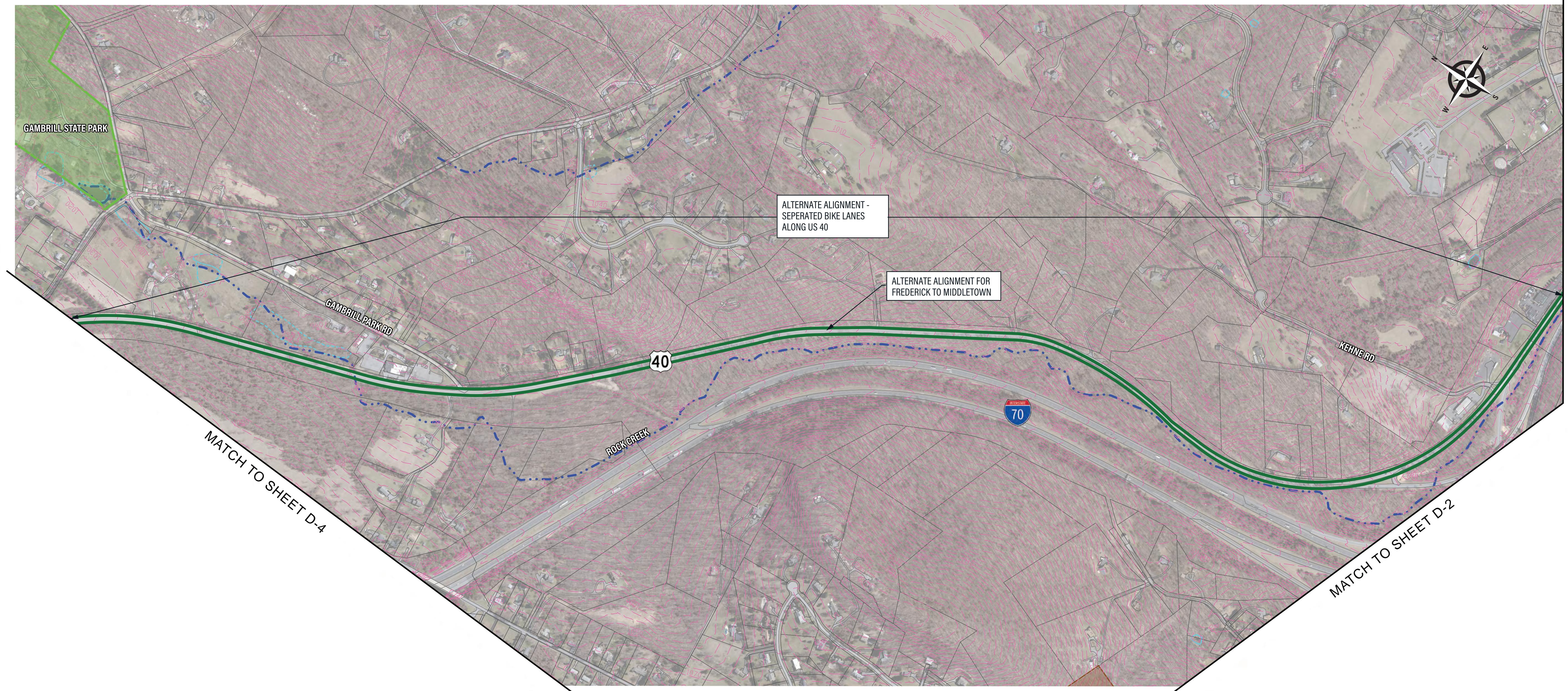
SCALE: 1" = 400'

SHEET D-4 OF D-5

DATE: AUGUST 2019

FREDERICK COUNTY, MARYLAND

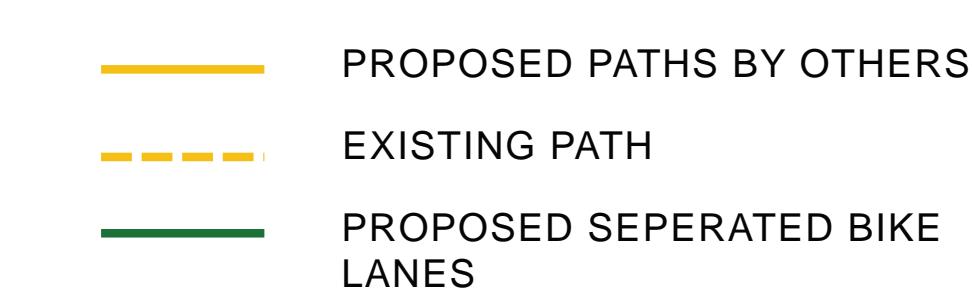
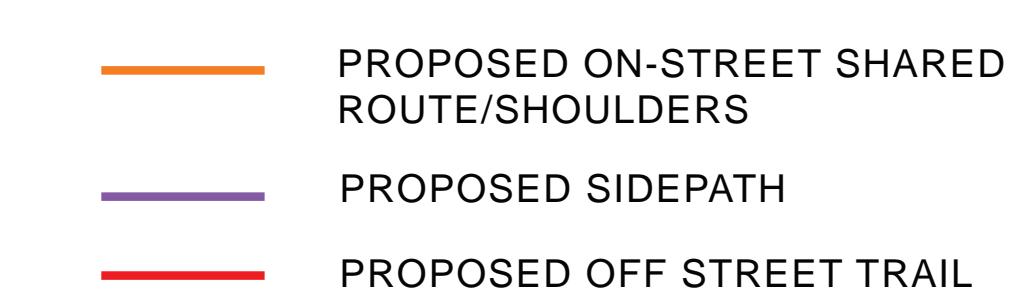
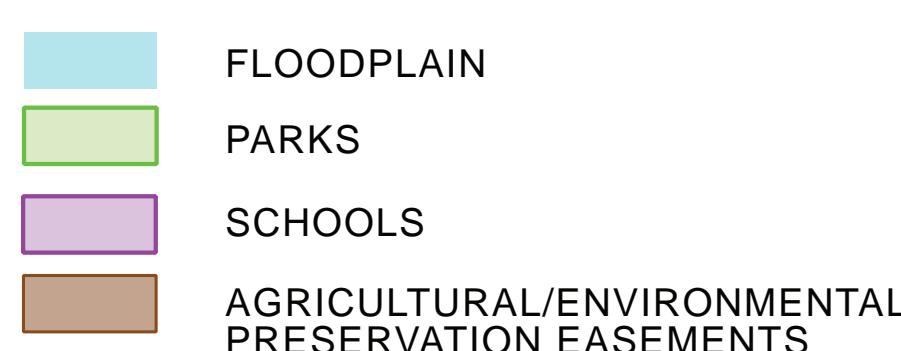




MATCH TO SHEET D-3

MATCH TO SHEET D-4

MATCH TO SHEET D-2



## MAIN STREET CONNECTOR TRAIL/BIKEWAY SEGMENT D: FREDERICK TO MIDDLETOWN TRAIL



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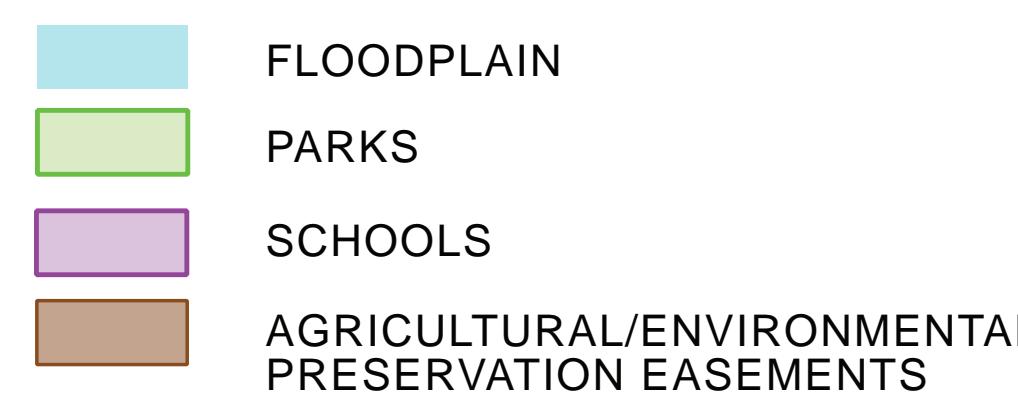
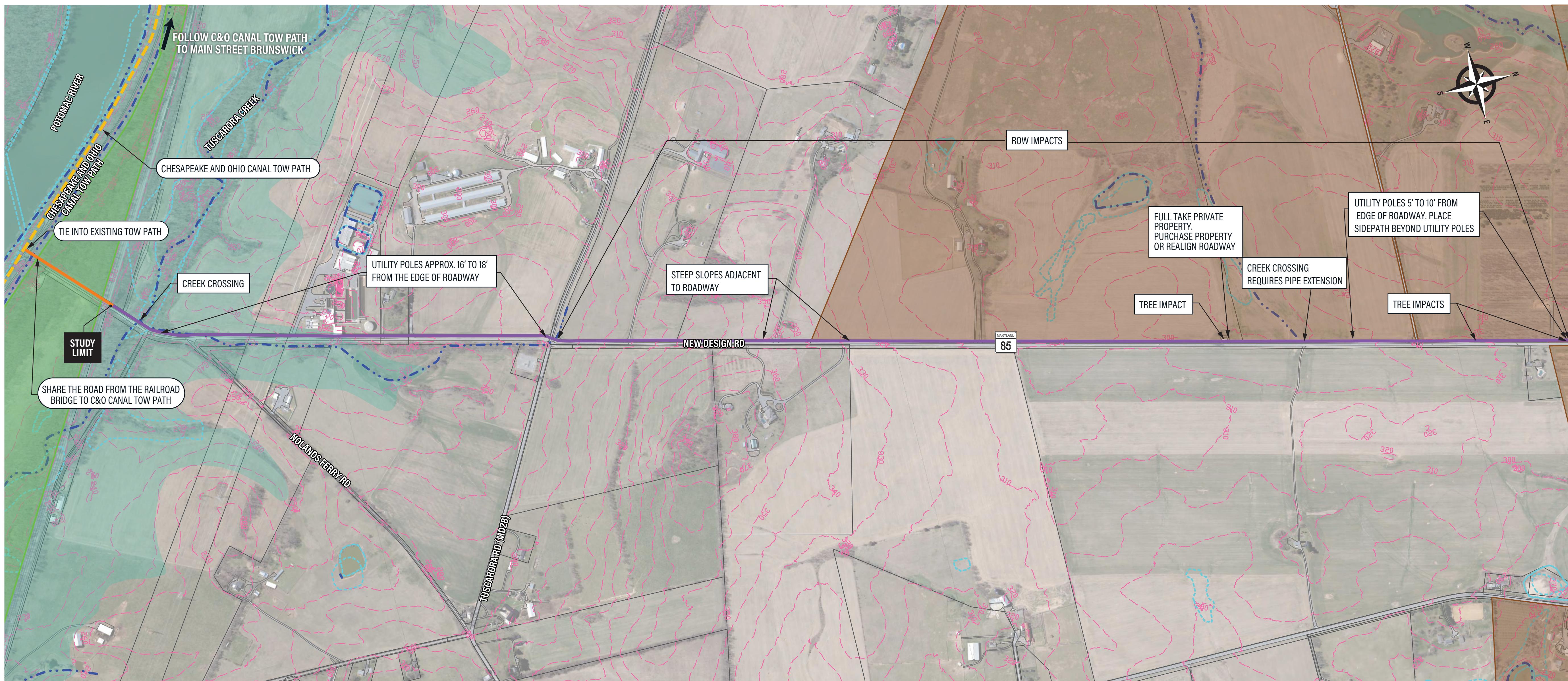
SCALE: 1" = 400'

SHEET D-5 OF D-5

DATE: AUGUST 2019

FREDERICK COUNTY, MARYLAND





## MAIN STREET CONNECTOR TRAIL/BIKEWAY SEGMENT E: NEW DESIGN ROAD SIDEPATH



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SCALE: 1" = 400'

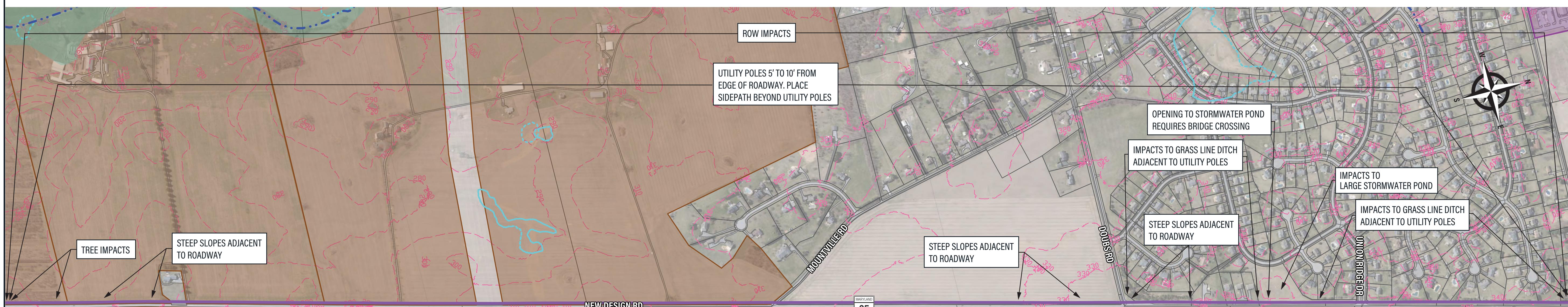
SHEET E-1 OF E-4

DATE: AUGUST 2019

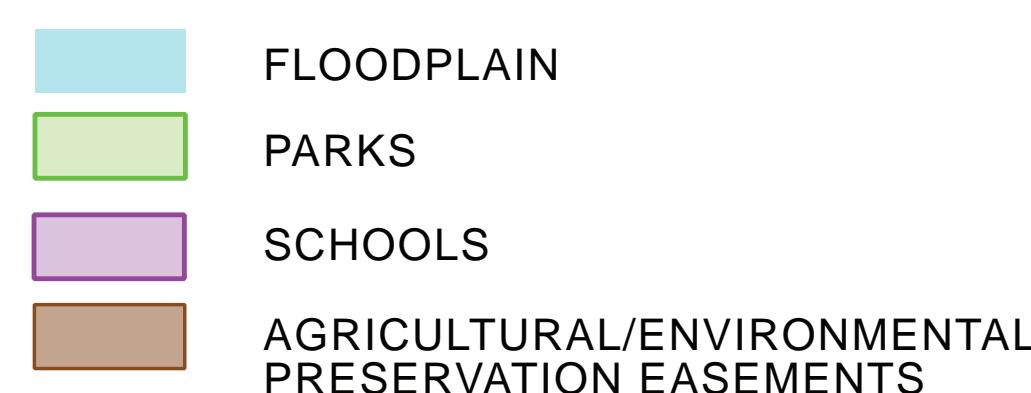
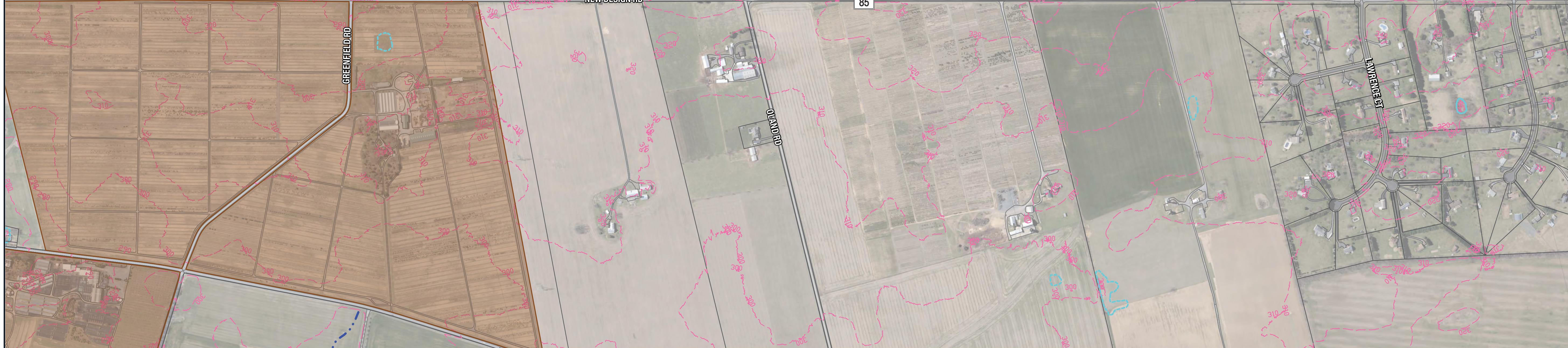
FREDERICK COUNTY, MARYLAND



MATCH TO SHEET E-1



MATCH TO SHEET E-3



## MAIN STREET CONNECTOR TRAIL/BIKEWAY SEGMENT E: NEW DESIGN ROAD SIDEPATH



Whitman, Requardt & Associates, LLP  
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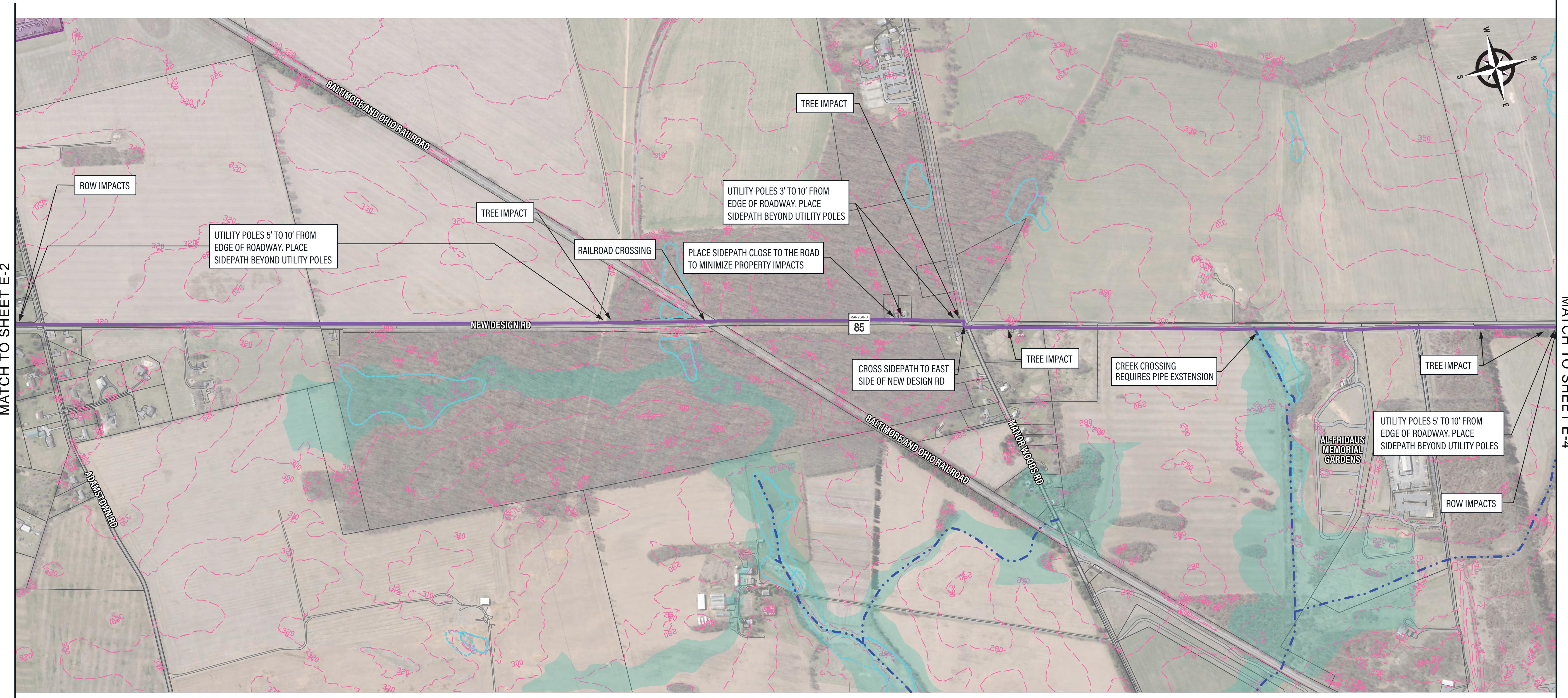
SCALE: 1" = 400'

SHEET E-2 OF E-4

DATE: AUGUST 2019

FREDERICK COUNTY, MARYLAND





-  FLOODPLAIN
-  PARKS
-  SCHOOLS
-  AGRICULTURAL/ENVIRONMENTAL  
PRESERVATION EASEMENTS

-  RIVER/STREAM
-  WETLANDS
-  CONTOURS (10-FOOT)
-  EXISTING RIGHT-OF-WAY

- PROPOSED ON-STREET SHARE ROUTE/SHOULDERS
- PROPOSED SIDEPATH
- PROPOSED OFF STREET TRAIL

- PROPOSED PATHS BY OTHERS
- EXISTING PATH
- PROPOSED SEPERATED BIKE LANES

# MAIN STREET CONNECTOR TRAIL/BIKEWAY SEGMENT E: NEW DESIGN ROAD SIDEPATH

Whitman, Requardt & Associates, LLP  
801 South Caroline Street, Baltimore, MD 21231

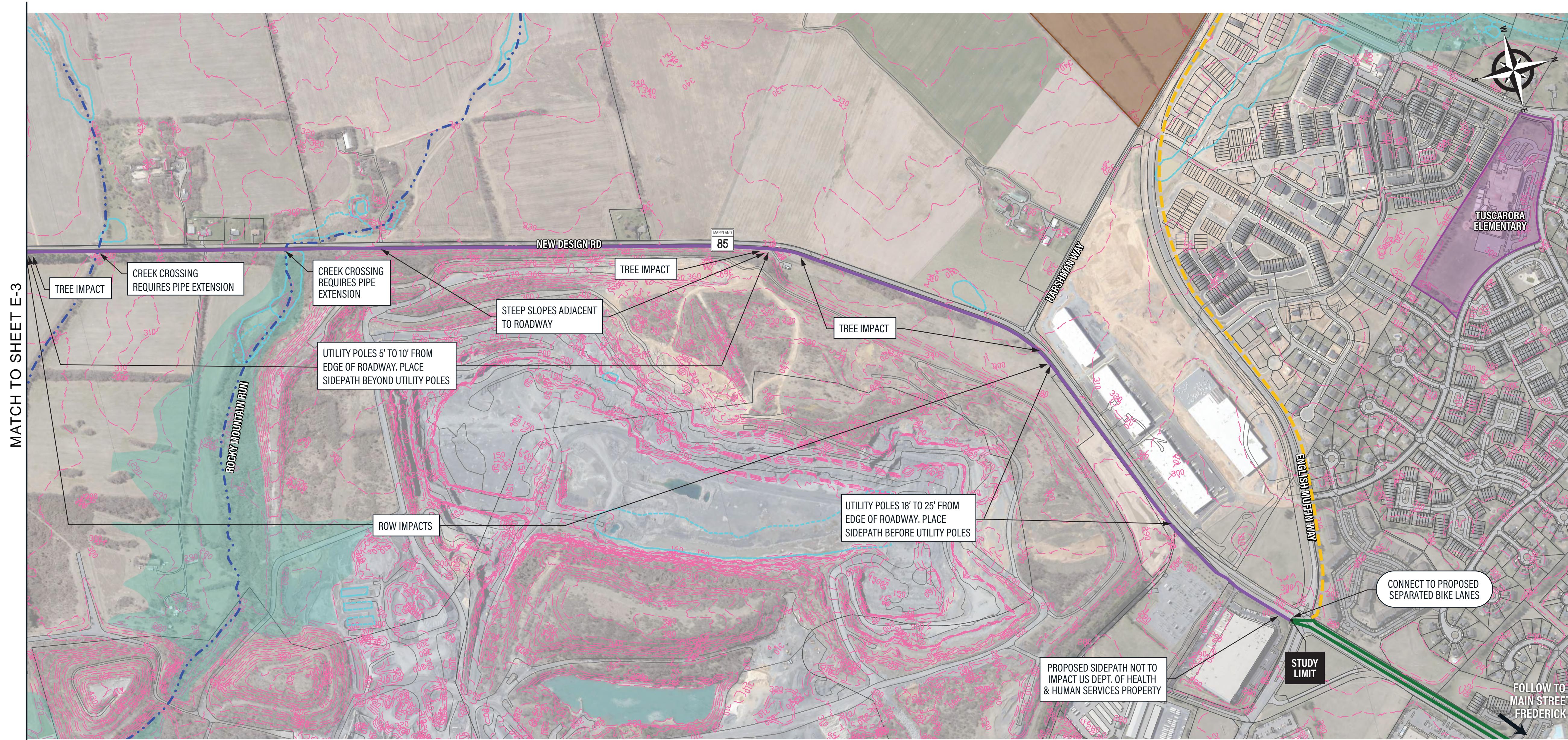
Whitman, Requardt & Associates, LLP  
801 South Caroline Street, Baltimore, MD 21231

SCALE: 1" = 400'

SHEET E-3 OF E-4

DATE: AUGUST 2019





Whitman, Requardt & Associates, LLP  
801 South Caroline Street, Baltimore, MD 21231

SCALE: 1" = 400'

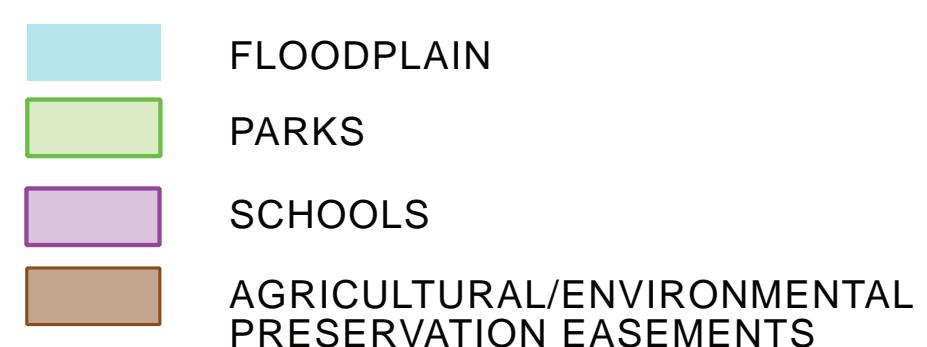
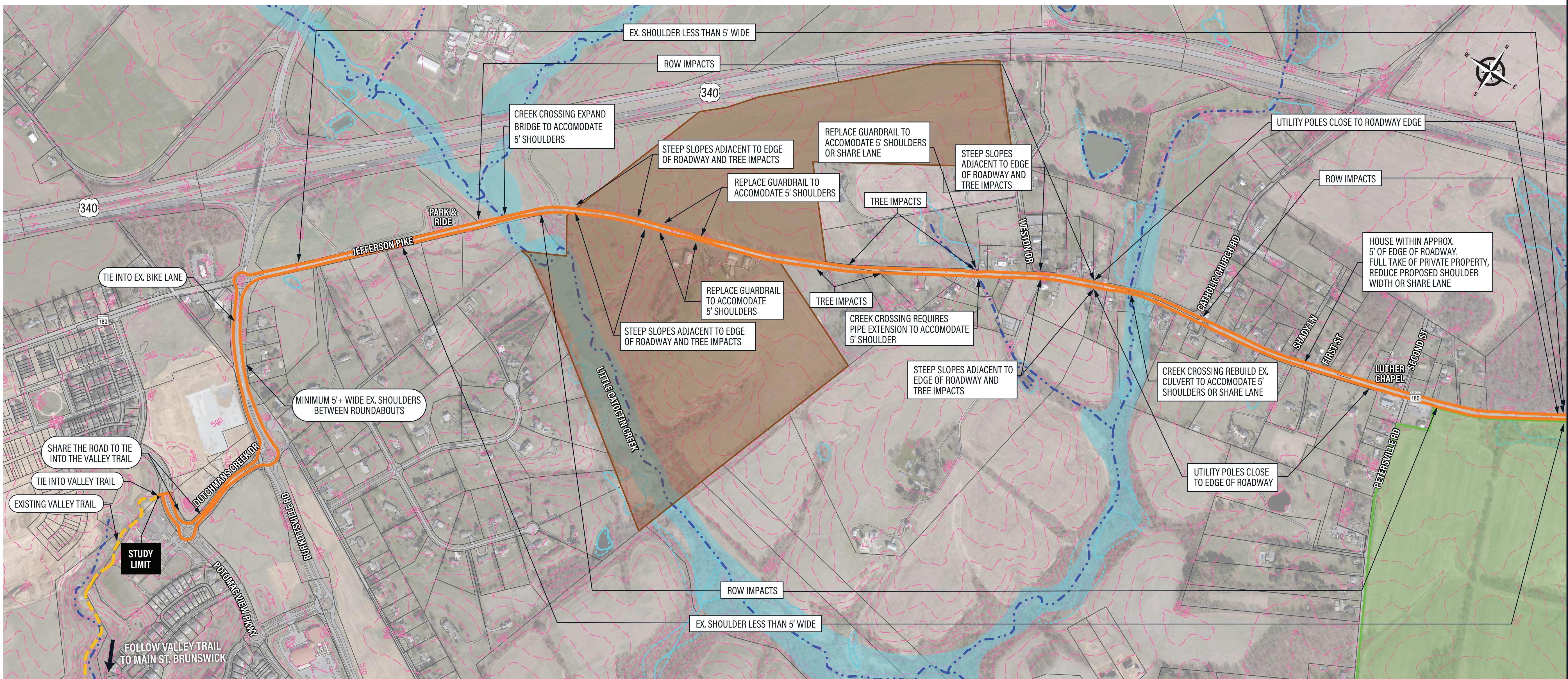
## MAIN STREET CONNECTOR TRAIL/BIKEWAY SEGMENT E: NEW DESIGN ROAD SIDEPATH

SHEET E-4 OF E-4

DATE: AUGUST 2019

FREDERICK COUNTY, MARYLAND





## MAIN STREET CONNECTOR TRAIL/BIKEWAY SEGMENT F: FREDERICK TO BRUNSWICK BIKEWAY



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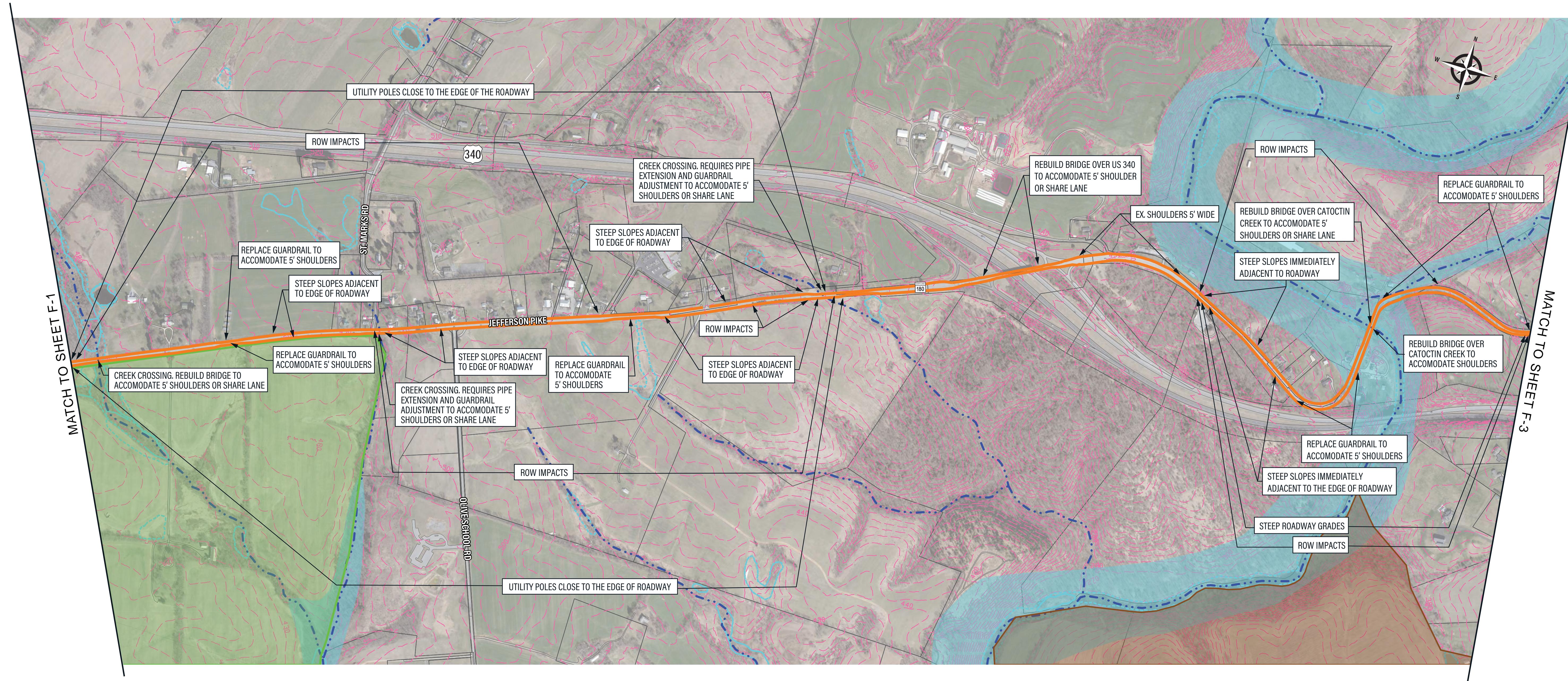
SCALE: 1" = 400'

SHEET F-1 OF F-6

DATE: AUGUST 2019

FREDERICK COUNTY, MARYLAND





Whitman, Requardt & Associates, LLP  
801 South Caroline Street, Baltimore, MD 21231

# MAIN STREET CONNECTOR TRAIL/BIKEWAY SEGMENT F: FREDERICK TO BRUNSWICK BIKEWAY

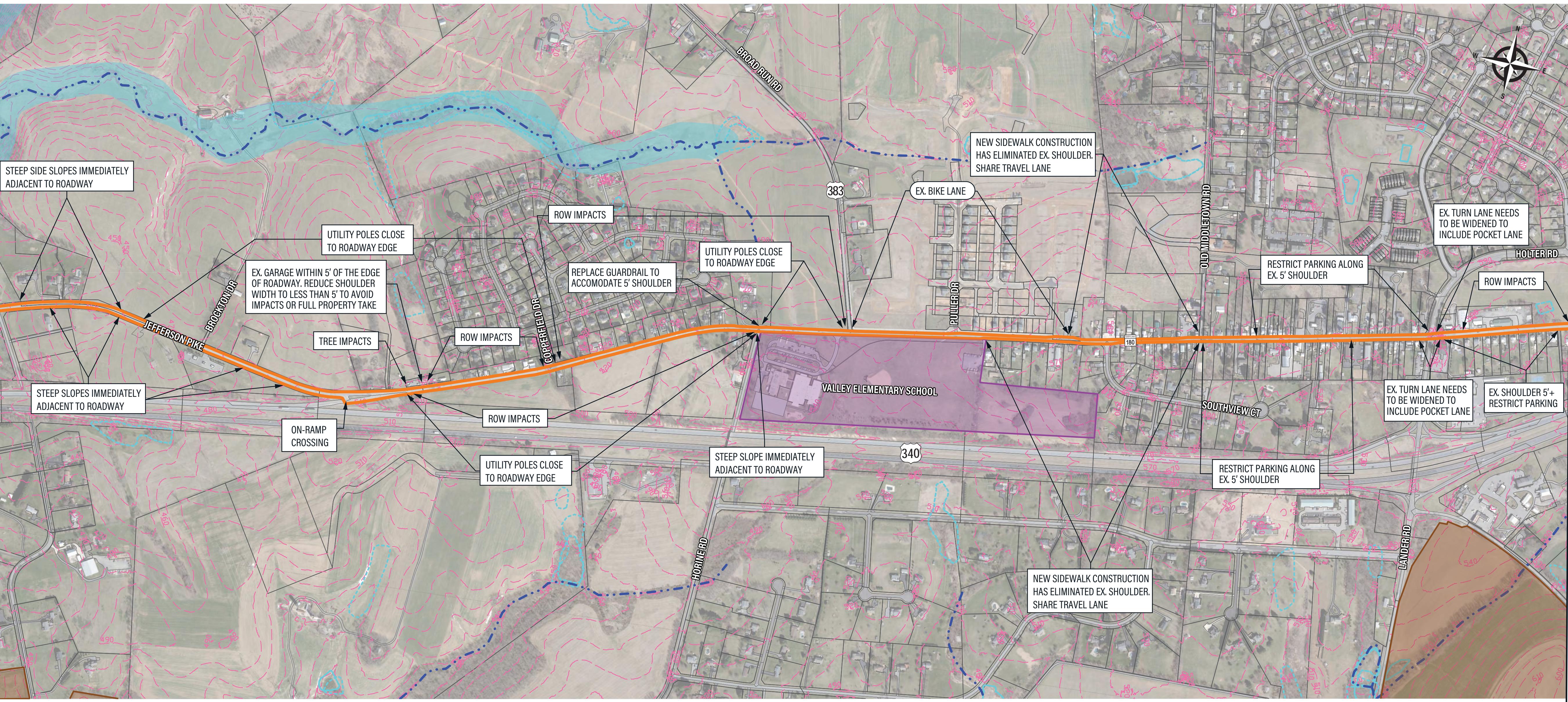
SHEET F-2 OF F-6

DATE: AUGUST 2019

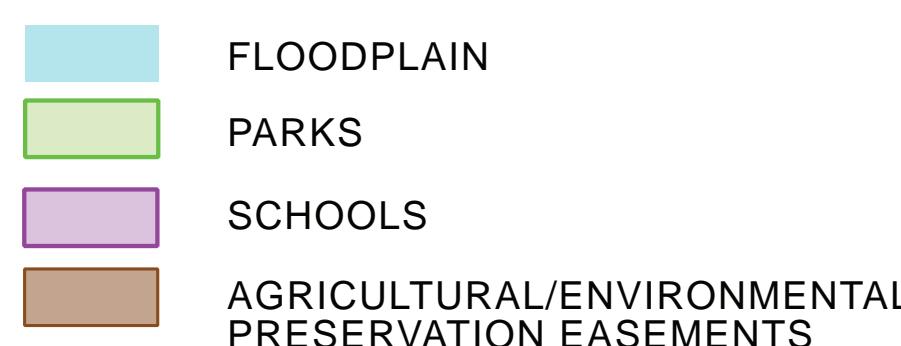
# FREDERICK COUNTY MARYLAND



MATCH TO SHEET F-2



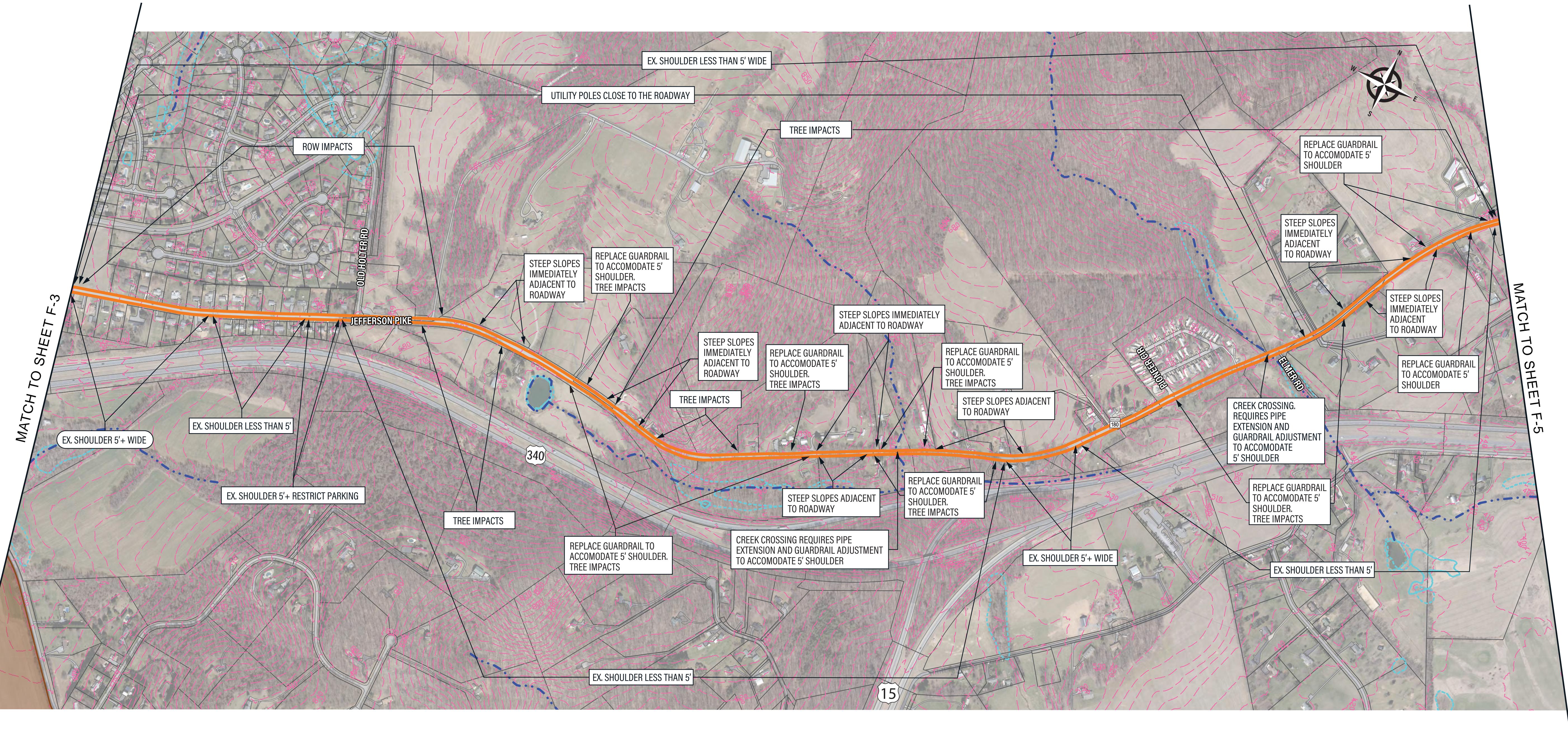
MATCH TO SHEET F-4



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## MAIN STREET CONNECTOR TRAIL/BIKEWAY SEGMENT F: FREDERICK TO BRUNSWICK BIKEWAY





FLOODPLAIN  
 PARKS  
 SCHOOLS  
 AGRICULTURAL/ENVIRONMENTAL PRESERVATION EASEMENTS

— RIVER/STREAM  
— WETLANDS  
— CONTOURS (10-FOOT)  
— EXISTING RIGHT-OF-WAY

— PROPOSED ON-STREET SHARED ROUTE/SHOULDERS  
— PROPOSED SIDEPATH  
— PROPOSED OFF STREET TRAIL

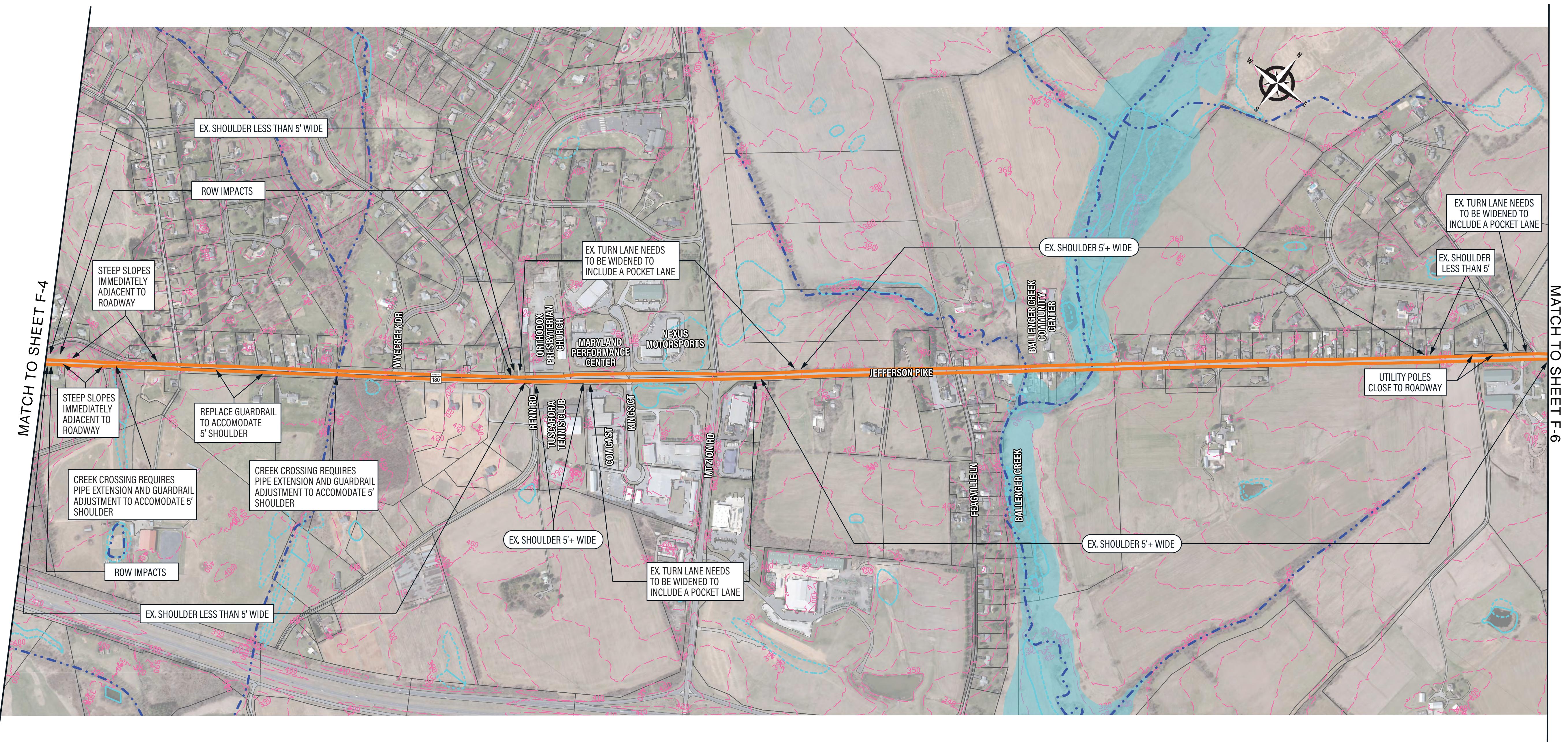
— PROPOSED PATHS BY OTHERS  
— EXISTING PATH  
— PROPOSED SEPERATED BIKE LANES



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## MAIN STREET CONNECTOR TRAIL/BIKEWAY SEGMENT F: FREDERICK TO BRUNSWICK BIKEWAY





FLOODPLAIN  
 PARKS  
 SCHOOLS  
 AGRICULTURAL/ENVIRONMENTAL PRESERVATION EASEMENTS

RIVER/STREAM  
 WETLANDS  
 CONTOURS (10-FOOT)  
 EXISTING RIGHT-OF-WAY

PROPOSED ON-STREET SHARED ROUTE/SHOULDERS  
 PROPOSED SIDEPATH  
 PROPOSED OFF STREET TRAIL

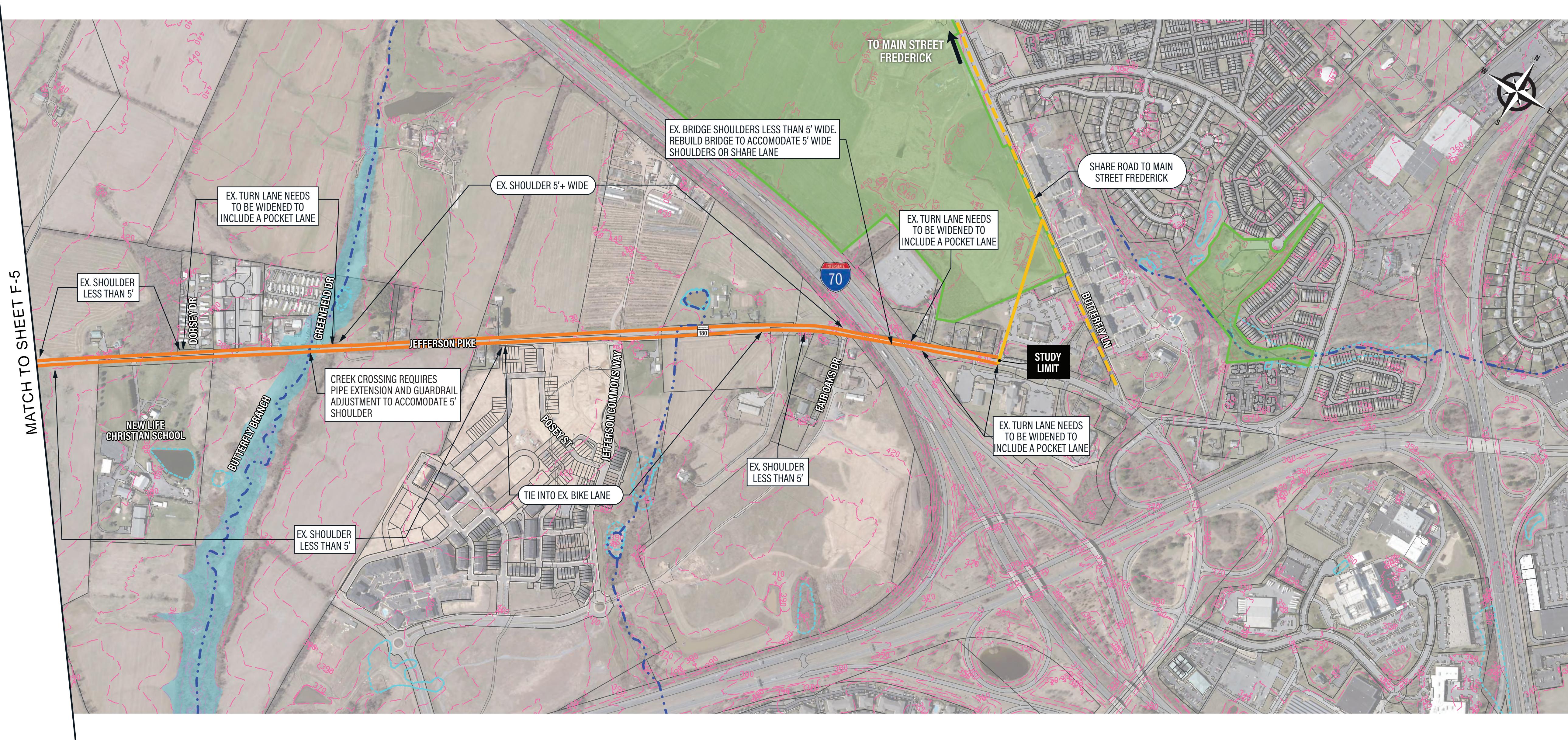
PROPOSED PATHS BY OTHERS  
 EXISTING PATH  
 PROPOSED SEPERATED BIKE LANES



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## MAIN STREET CONNECTOR TRAIL/BIKEWAY SEGMENT F: FREDERICK TO BRUNSWICK BIKEWAY





-  FLOODPLAIN
-  PARKS
-  SCHOOLS
-  AGRICULTURAL/ENVIRONMENTAL  
PRESERVATION EASEMENTS

-  RIVER/STREAM
-  WETLANDS
-  CONTOURS (10-FOOT)
-  EXISTING RIGHT-OF-WAY

- PROPOSED ON-STREET SHARED ROUTE/SHOULDERS
- PROPOSED SIDEPATH
- PROPOSED OFF STREET TRAIL

- PROPOSED PATHS BY OTHERS
- EXISTING PATH
- PROPOSED SEPERATED BIKE LANES

# MAIN STREET CONNECTOR TRAIL/BIKEWAY SEGMENT F: FREDERICK TO BRUNSWICK BIKEWAY

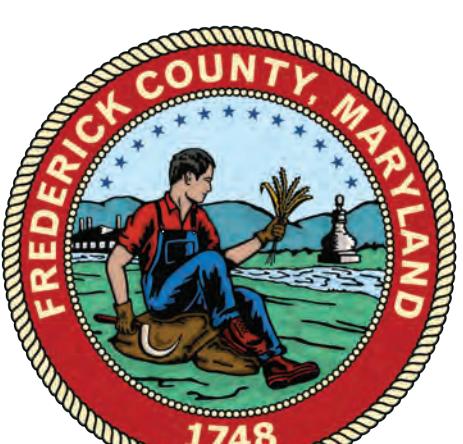
Whitman, Requardt & Associates, LLP  
801 South Caroline Street, Baltimore, MD 21231

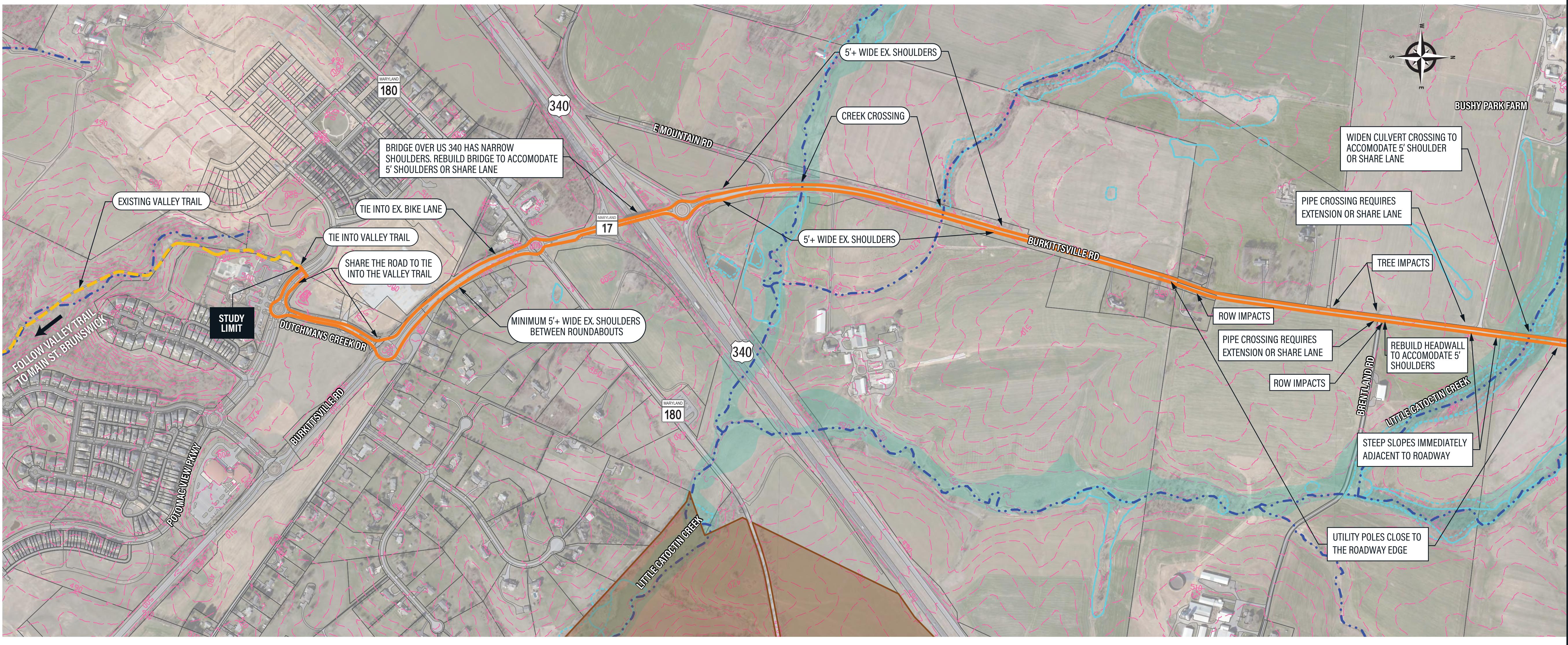
Whitman, Requardt & Associates, LLP  
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SHEET F-6 OF F-6

DATE: AUGUST 2019

# FRICK COUNTY, MARYLAND





Whitman, Requardt & Associates, LLP  
801 South Caroline Street, Baltimore, MD 21231

SCALE: 1" = 400'

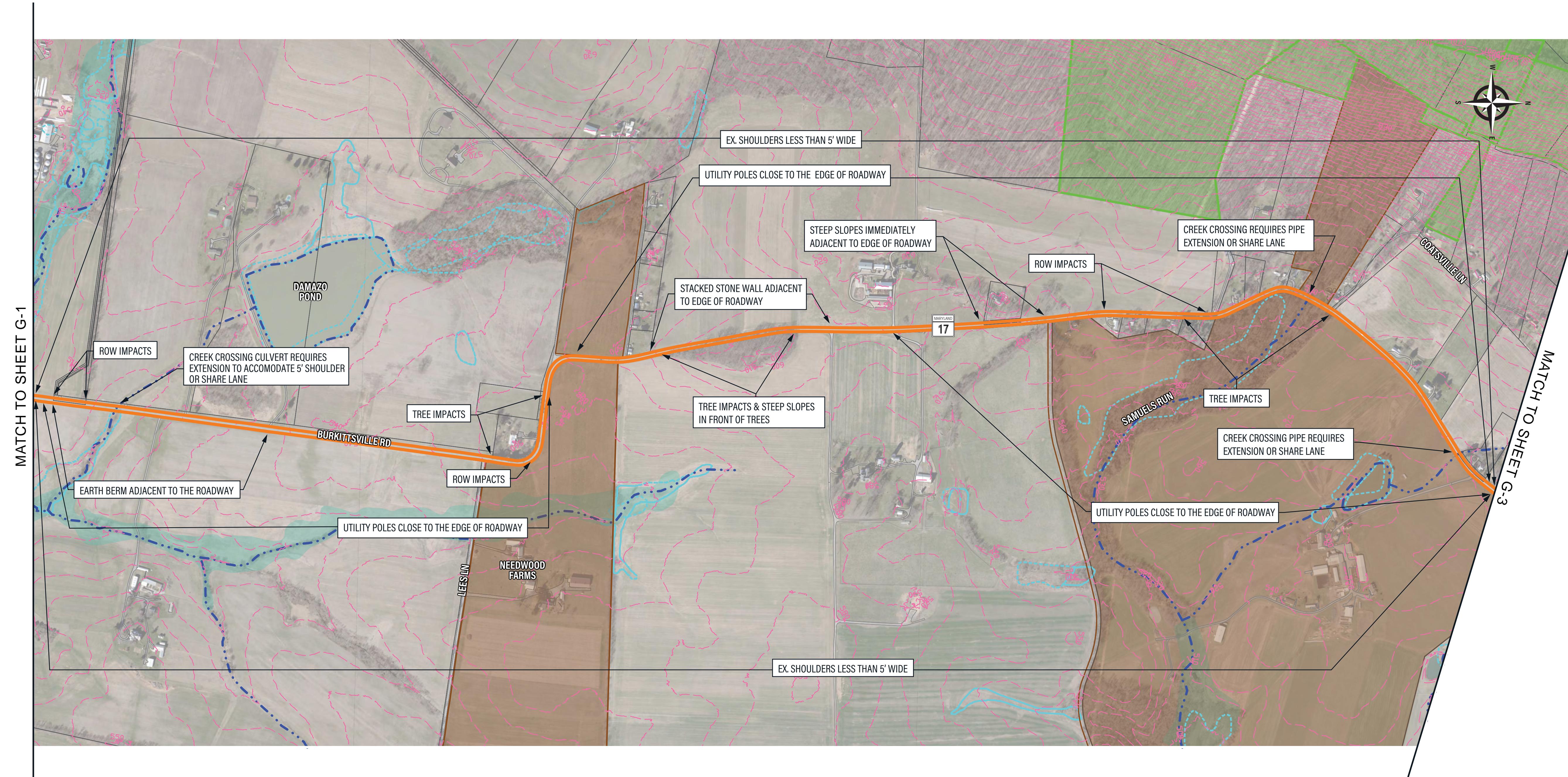
## MAIN STREET CONNECTOR TRAIL/BIKEWAY SEGMENT G: BRUNSWICK TO MIDDLETOWN BIKEWAY

SHEET G-1 OF G-6

DATE: AUGUST 2019

FREDERICK COUNTY, MARYLAND





FLOODPLAIN  
 PARKS  
 SCHOOLS  
 AGRICULTURAL/ENVIRONMENTAL PRESERVATION EASEMENTS

----- RIVER/STREAM  
----- WETLANDS  
----- CONTOURS (10-FOOT)  
----- EXISTING RIGHT-OF-WAY

— PROPOSED ON-STREET SHARED ROUTE/SHOULDERS  
— PROPOSED SIDEPATH  
— PROPOSED OFF STREET TRAIL

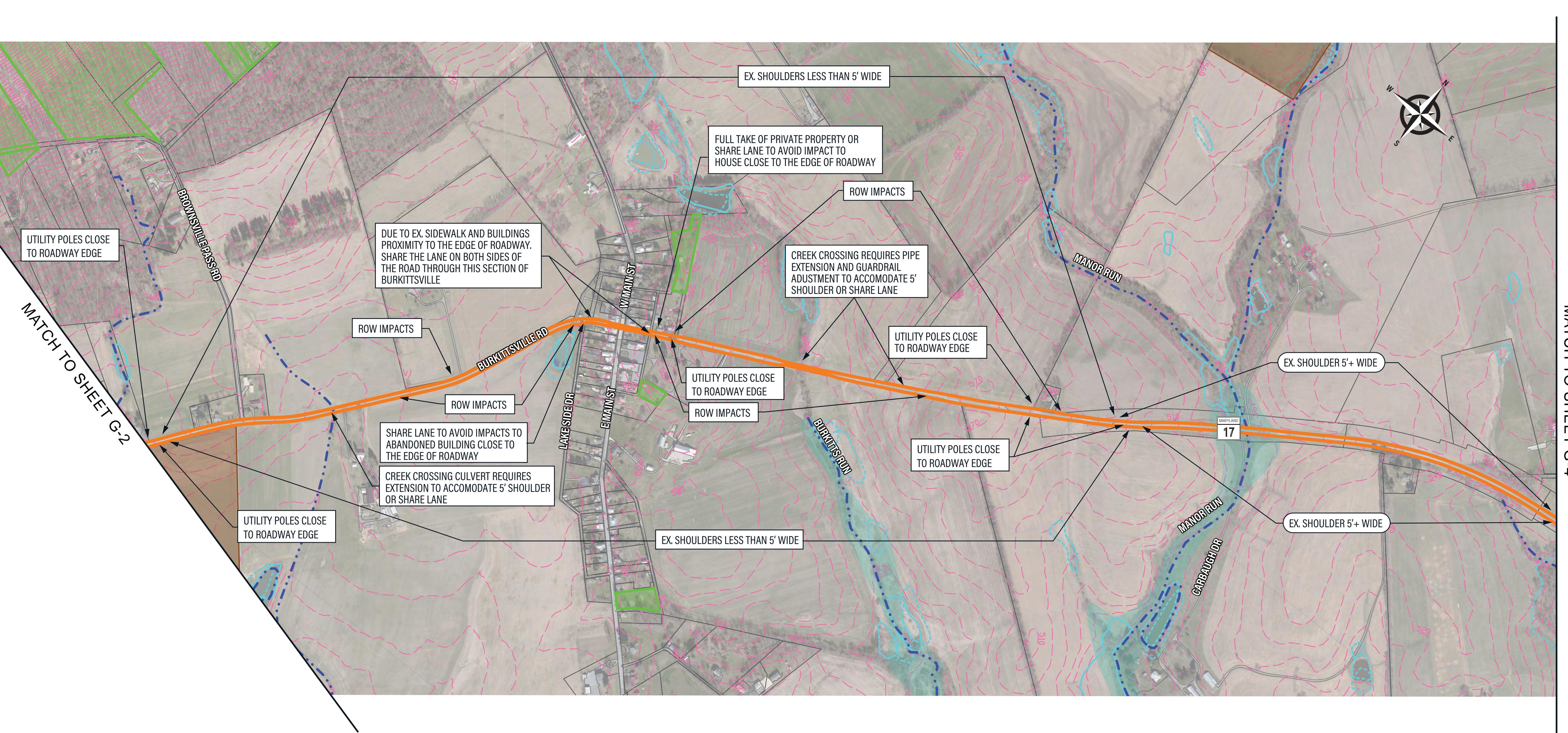
— PROPOSED PATHS BY OTHERS  
— EXISTING PATH  
— PROPOSED SEPARATED BIKE LANES



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## MAIN STREET CONNECTOR TRAIL/BIKEWAY SEGMENT G: BRUNSWICK TO MIDDLETOWN BIKEWAY





## MAIN STREET CONNECTOR TRAIL/BIKEWAY SEGMENT G: BRUNSWICK TO MIDDLETOWN BIKEWAY



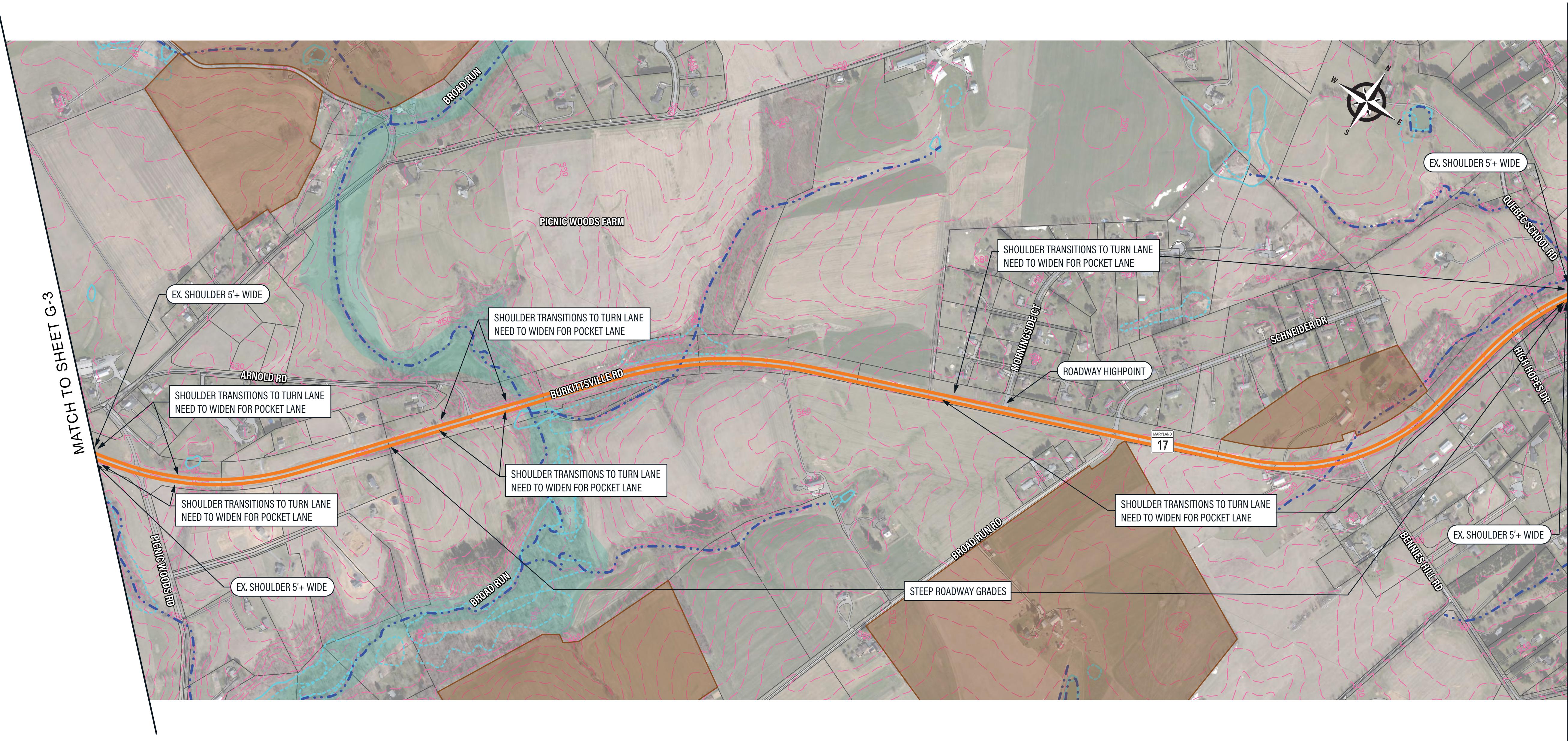
Whitman, Requardt & Associates, LLP  
801 South Caroline Street, Baltimore, MD 21231

SHEET G-3 OF G-6

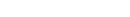
DATE: AUGUST 2019

FREDERICK COUNTY, MARYLAND





-  FLOODPLAIN
-  PARKS
-  SCHOOLS
-  AGRICULTURAL/ENVIRONMENTAL PRESERVATION FASFMNTS

-  RIVER/STREAM
-  WETLANDS
-  CONTOURS (10-FOOT)
-  EXISTING RIGHT-OF-WAY

- PROPOSED ON-STREET SHARE ROUTE/SHOULDERS
- PROPOSED SIDE PATH
- PROPOSED OFF STREET TRAIL

- PROPOSED PATHS BY OTHERS
- EXISTING PATH
- PROPOSED SEPERATED BIKE LANES

# MAIN STREET CONNECTOR TRAIL/BIKEWAY

## SEGMENT G: BRUNSWICK TO MIDDLETOWN BIKEWAY

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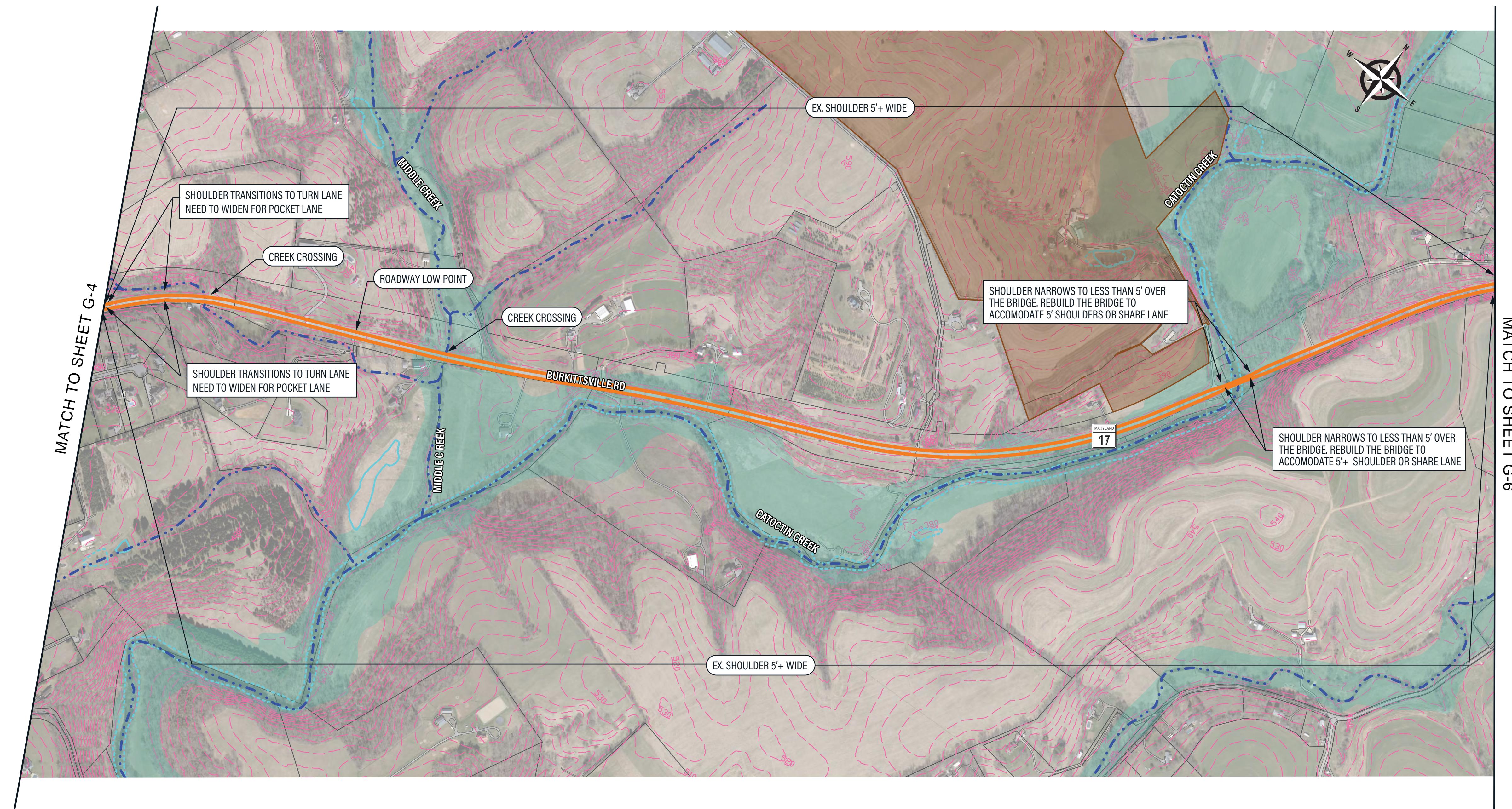
Whitman, Requardt & Associates, LLP  
801 South Caroline Street, Baltimore, MD 21231

SHEET G-4 OF G-6

DATE: AUGUST 2019

# FRFDFRICK COUNTY, MARYI AND





FLOODPLAIN  
 PARKS  
 SCHOOLS  
 AGRICULTURAL/ENVIRONMENTAL PRESERVATION EASEMENTS

— RIVER/STREAM  
— WETLANDS  
— CONTOURS (10-FOOT)  
— EXISTING RIGHT-OF-WAY

— PROPOSED ON-STREET SHARED ROUTE/SHOULDERS  
— PROPOSED SIDEPATH  
— PROPOSED OFF STREET TRAIL

— PROPOSED PATHS BY OTHERS  
— EXISTING PATH  
— PROPOSED SEPERATED BIKE LANES



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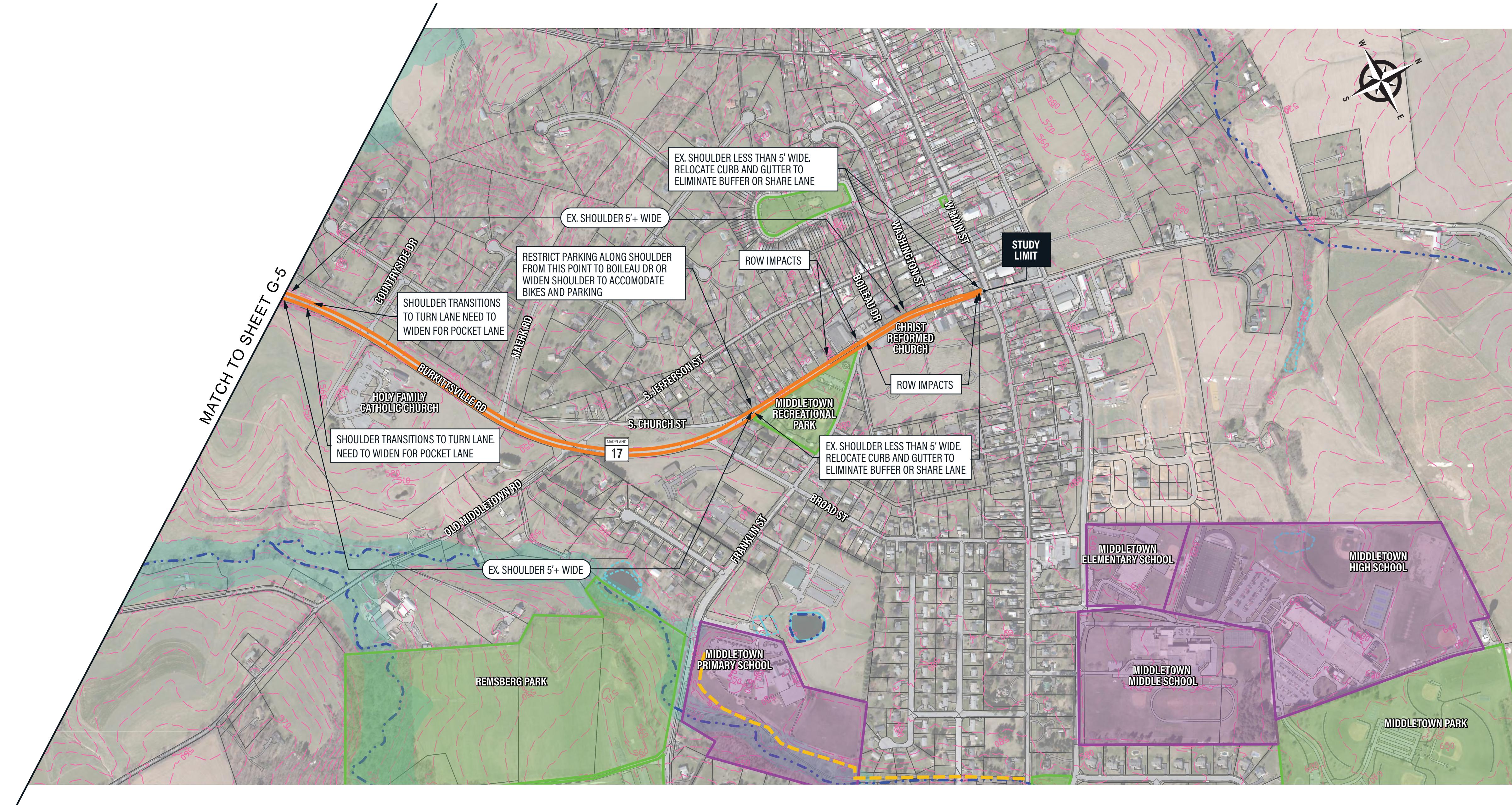
## MAIN STREET CONNECTOR TRAIL/BIKEWAY SEGMENT G: BRUNSWICK TO MIDDLETON BIKEWAY

SHEET G-5 OF G-6

DATE: AUGUST 2019

FREDERICK COUNTY, MARYLAND





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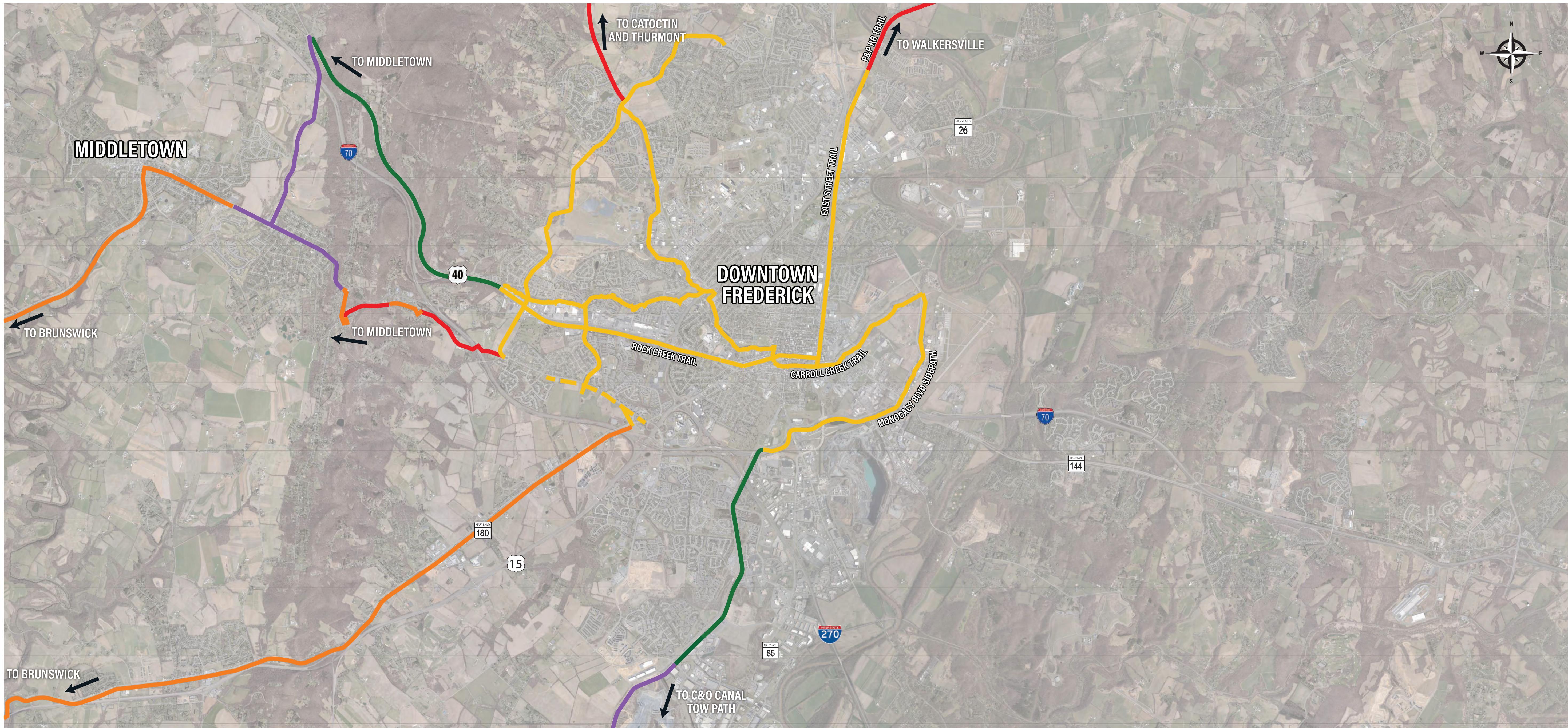
## MAIN STREET CONNECTOR TRAIL/BIKEWAY SEGMENT G: BRUNSWICK TO MIDDLETOWN BIKEWAY

SHEET G-6 OF G-6

DATE: AUGUST 2019

FREDERICK COUNTY, MARYLAND





FLOODPLAIN  
 PARKS  
 SCHOOLS  
 AGRICULTURAL/ENVIRONMENTAL PRESERVATION EASEMENTS

— RIVER/STREAM  
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— EXISTING RIGHT-OF-WAY

— PROPOSED ON-STREET SHARED ROUTE/SHOULDERS  
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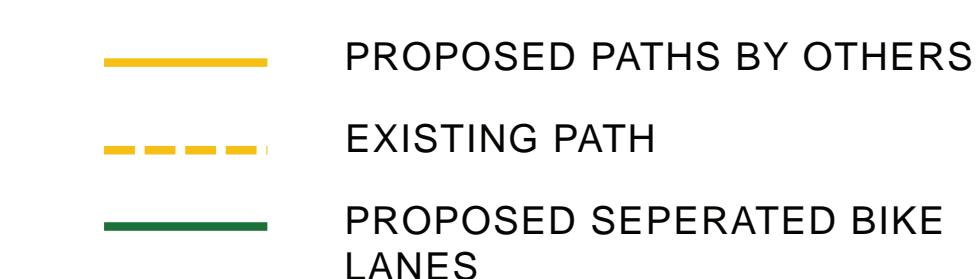
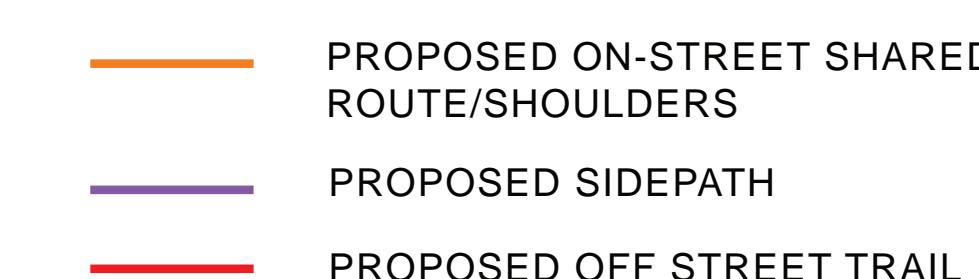
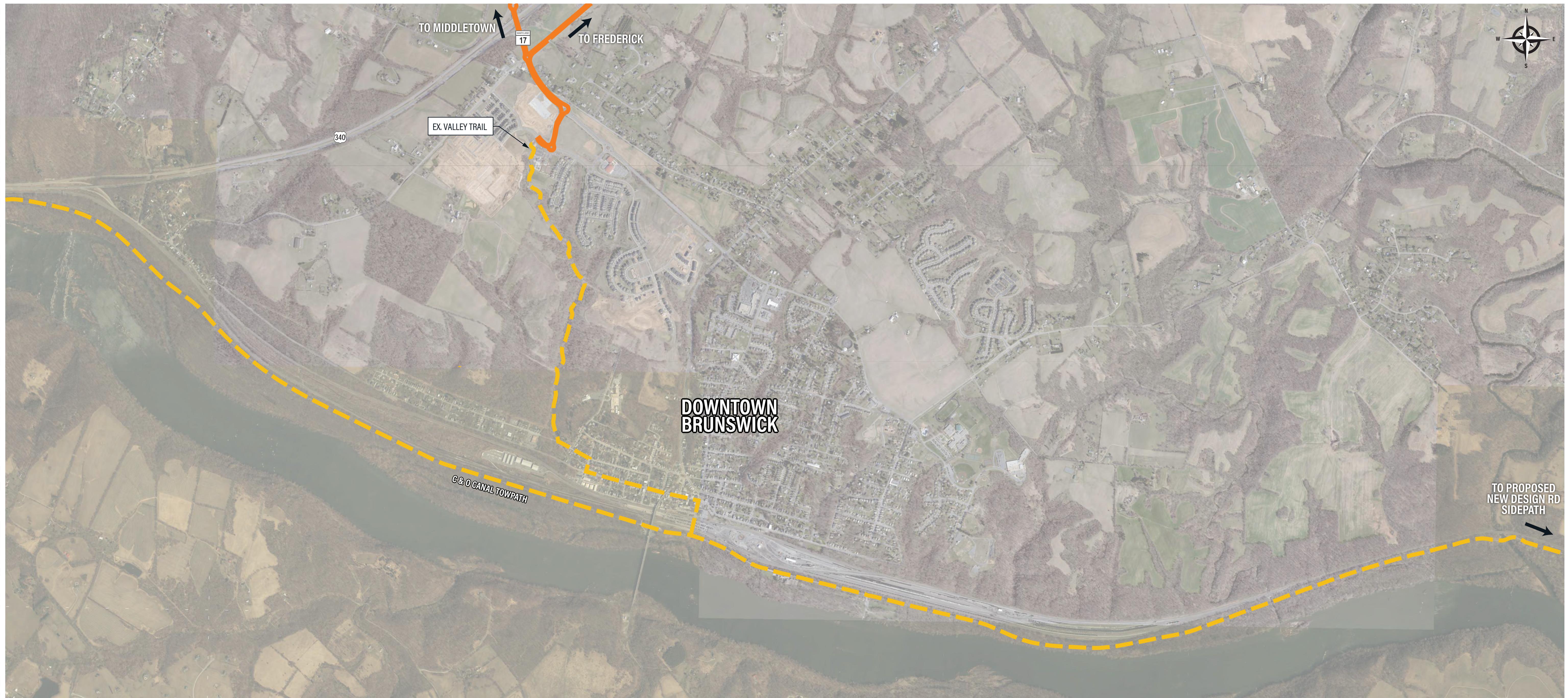
SCALE: 1" = 3,000'

## MAIN STREET CONNECTOR TRAIL/BIKEWAY MAIN STREET CONNECTIONS TO FREDERICK

DATE: AUGUST 2019

FREDERICK COUNTY, MARYLAND





## MAIN STREET CONNECTOR TRAIL/BIKEWAY MAIN STREET CONNECTIONS TO BRUNSWICK



Whitman, Requardt & Associates, LLP  
801 South Caroline Street, Baltimore, MD 21231

SCALE: 1" = 1,000'

DATE: AUGUST 2019

FREDERICK COUNTY, MARYLAND

