TOWN OF BLACK MOUNTAIN
TOWN COUNCIL

August 10, 2026 | **REGULAR SESSION AGENDA** | **Time: 6:00 PM**

Town Hall Council Chambers | 160 Midland Avenue, Black Mountain, NC 28711

Agendas and agenda packets may be accessed electronically from your laptop or smartphone. Visit the Town's website at www.townofblackmountain.org. **Click** on **Government** and select **Town Council** to access agenda materials for Town Council meetings. You can also scan this QR code with your smartphone to access agenda materials.

Conserve Resources; print only when necessary.

The Town of Black Mountain is committed to providing accessible facilities, programs, and services for all people in compliance with the American with Disabilities Act (ADA). Hearing assistive devices are available at the door. Should you need other assistance or accommodation for this meeting, please contact Town Clerk Wesley Barker at: town.clerk@tobm.org, or **(828) 419-9300 / TDD (800) 735-2962**

1. CALL TO ORDER

1.A. Welcome

1.B. Pledge of Allegiance

1.C. Moment of Silence

1.D. Announcements

1.E. Ethics Statement

In accordance with the Code of Ethics adopted by the Council, all Council Members have a duty to conduct the affairs of the governing board in an open and public manner free of conflicts of interest. Is there any item on the agenda the outcome of which will have a direct, substantial, and readily identifiable financial impact for any Council Member, his or her family or close business associates? Does any Council Member have a financial interest in any public contract coming before this Council today? There being none, all Council

Members have a duty and obligation to vote.

2. PROCLAMATIONS, AWARDS, RECOGNITIONS, SPECIAL RESOLUTIONS

3. COMMUNICATIONS FROM STAFF, COUNCILS, COMMISSIONS & AGENCIES

3.A. Presentation from NCDOT Division 13 Representative(s) on Projects

4. CITIZEN COMMENTS

Individuals wishing to address the Council are asked to sign in at the entrance to the board room, indicating the topic(s) or agenda item(s) you wish to discuss, so that the chair may group speakers according to topic. The chair will recognize individuals requesting to address the Council. **Comments by any one speaker shall be limited to three (3) minutes.** If the topic you wish to discuss pertains to a public hearing scheduled for this meeting, please reserve your comment for the applicable public hearing. Note: Council will not respond during the citizen comment period.

5. COMMUNICATION FROM MAYOR AND TOWN COUNCIL

6. COMMUNICATION FROM TOWN ATTORNEY & TOWN MANAGER

7. CONSENT AGENDA

All items on the consent agenda are considered routine, to be enacted by one motion without discussion. If a member of the governing body requests discussion of an item, the item will be removed from the consent agenda and considered separately.

7.A. Resolution in Support of the Leonard Antonelli and Jacob Hill Bicycle Safety Zone Act of 2025 ("Lennie's Law") - Michael Sobol, Mayor

Motion: Motion to approve the resolution as presented.

7.B. Adoption of Meeting Minutes: June 8, 11, 15, 30 and July 9, 13, 2026. - Wesley Barker, Town Clerk

Motion: Motion to approve the meeting minutes as presented.

7.C. Monthly Tax Collector Report - Laurel Mabery, Accountant

Motion: Approve the tax collection report as presented.

7.D. Call for Public Hearing for Text Amendments to Chapter 2, Section 2.3, Flood Damage Prevention Ordinance - Michelle Kennedy, Planning Director

Motion: To call for a public hearing to amend Chapter 2, Section 2.3, Flood Damage Prevention Ordinance, of the Land Use Code, to be held on Monday, September 14, 2026, at 6:00 p.m. in the Council Room of Town Hall, 160 Midland Avenue, N.C. or as soon thereafter as possible.

7.E. Call for Public Hearing for Amendments to Chapter 8, Section 8.2, The Phase II Stormwater Ordinance and Chapter 20, Article X, Illicit Discharge - Michelle Kennedy, Planning Director

Motion: To call for a public hearing to amend Chapter 8, Section 8.2, The Phase II Stormwater Ordinance, of the Land Use Code, and Chapter 20, Article X, Illicit Discharge, of the Code of Ordinances, to be held on Monday, September 14, 2026, at 6:00 p.m. in the Council Room of Town Hall, 160 Midland Avenue, N.C. or as soon thereafter as possible.

7.F. Call for Public Hearing to Amend Chapter 48, Article VI, Division 2, Stormwater Management Enterprise Fund - Michelle Kennedy, Planning Director

Motion: To call for a public hearing to amend Chapter 48, Article VI, Division 2, Stormwater Management Enterprise Fund, of the Code of Ordinances, to be held on Monday, September 14, 2026, at 6:00 p.m. in the Council Room of Town Hall, 160 Midland Avenue, Black Mountain, N.C. or as soon thereafter as possible.

7.G. Appointment of Council Member Lawrence Lytle to the Land of Sky Regional Council Board of Directors as Primary Delegate & Council Member Larry Harris as Alternate Delegate - Wesley Barker, Town Clerk

Motion: Motion to appoint Lawrence Lytle as primary delegate, and Larry Harris as alternate delegate, to the Land of Sky Regional Council Board of Directors for the Town of Black Mountain.

7.H. Acceptance of Donation to the Dr. John Wilson Community Garden from Bounty & Soul - Jacob Guiot, Recreation & Parks Director

Motion: Motion to accept the donation to the Community Garden as presented.

7.I. Annual Property Tax Settlement for Fiscal Year 2026 & Adoption of the Order of Collection of Taxes for Fiscal Year 2027 - Richard Hicks, Interim Town Manager

Motion: Motion to approve the Property Tax Settlement for FY25-26 and adoption of the Order of Collection of Taxes for FY26-27.

7.J. Art in the Afternoon Lease Renewal - Richard Hicks, Interim Town Manager

Motion: Motion to renew the Art in the Afternoon lease for a one-year term expiring August 31, 2027.

8. PUBLIC HEARING

The chair will recognize individuals requesting to address the Council regarding the specific topic of the public hearing. **Public hearing comments by any one speaker shall be limited to ten (10) minutes.** The Mayor reserves the right to alter time limits and other rules of procedure at the beginning of each public hearing.

8.A. Public Hearing for One-Year Moratorium for Street Dedications to the Town - Michelle Kennedy, Planning Director

Motion: Motion to approve the one-year moratorium for street dedications to the Town of Black Mountain.

9. CITIZEN COMMENTS

Individuals wishing to address the Council are asked to sign in at the entrance to the board room, indicating the topic(s) or agenda item(s) you wish to discuss, so that the chair may group speakers according to topic. The chair will recognize individuals requesting to address the Council. **Comments by any one speaker shall be limited to three (3) minutes.** If the topic you wish to discuss pertains to a public hearing scheduled for this meeting, please reserve your comment for the applicable public hearing. Note: Council will not respond during the citizen comment period.

10. UNFINISHED BUSINESS

10.A. Consideration of Easement Request with Duke Energy (along Golf Course property) - Richard Hicks, Interim Town Manager

Motion: I move that Council authorize the Interim Town Manager to Execute the Requested Utility Easement with Duke Energy on the Town of Black Mountain Golf Course Property.

11. NEW BUSINESS

11.A. Consideration of Easement Request with Duke Energy (Richard Lane) - Richard Hicks, Interim Town Manager

Motion: I move that Council authorize the Town Manager to Execute a Utility Easement With Duke Energy on Town Property located on Richard Lane.

11.B. Presentation and Adoption of Equivalent Residential Unit (ERU) Rate Study - Anne Phillip, Stormwater Technician

Motion: I move we adopt the Equivalent Residential Unit (ERU) Rate Study as presented and allow time to explore the options available and direct staff as to which option would be best suited for the Town to bring back for approval.

11.C. Adoption of Town of Black Mountain Stormwater Master Plan (SWMP) - Michelle Kennedy, Planning Director

Motion: I move we adopt the Town of Black Mountain Stormwater Master Plan as presented by WK Dickson, LLC in January 2025.

11.D. Amendment to Town Purchasing Policy on Purchase/Credit Cards - Richard Hicks, Interim Town Manager

Motion: I move that Council adopt the proposed amendment to the Town's Purchasing Policy on Purchase/Credit Cards.

11.E. State of NC Purchasing Card Program Discussion - Greta Gibson, Customer Service & Revenue Supervisor

Motion: Staff recommends enrollment in the State of NC Purchasing Card Program presented.

11.F. **Discussion of RFP's for Town Banking Services** - Richard Hicks, Interim Town Manager

Motion: n/a

11.G. **Resolution Approving Financing Terms for Vehicle Purchases- Police Department** - Greta Gibson, Customer Service & Revenue Supervisor

Motion: Motion to approve the resolution approving finance terms for Police Department vehicle purchases as presented.

11.H. **Acceptance of Drinking Water System Resiliency Improvement Funds From The State Revolving Fund Supplemental Appropriations for Hurricane Helene.** - Richard Hicks, Interim Town Manager

Motion: I move that the Interim Town Manager be authorized to execute the Acceptance Documents for the Water Resiliency Improvement Funds from the State Revolving Fund Supplemental Appropriations for Hurricane Helene.

11.I. **A Resolution Authorizing the Task Order with Kimley-Horn and Associates, Inc. for Professional Engineering & Design Services for the Flat Creek Flood Mitigation Project.** - Matt Begley, Recovery & Capital Programs Director

Motion: Motion to approve the resolution as presented.

11.J. **Proposed Contract for 2027 July 4th Fireworks Show** - Richard Hicks, Interim Town Manager

Motion: I move that Council authorize the Interim Town Manager to Execute the Contract for the 2027 July 4th Fireworks Show.

11.K. **Ordinance to Amend the Fiscal Year 2026-27 Town Budget** - Richard Hicks, Interim Town Manager

Motion: I move that Council adopt the Ordinance to Amend the FY26-27 Budget.

11.L. **Ordinance To Amend The Highway 70 Waterline Replacement Fund** - Richard Hicks, Interim Town Manager

Motion: I move that Council adopt the Ordinance to amend the Highway 70 Waterline Replacement Fund Budget as presented.

11.M. **Ordinance to Amend the Ninth Street Bridge Project** - Richard Hicks, Interim Town Manager

Motion: I move that Council adopt the Ordinance to amend the 9^{TH} Street Bridge Capital Project Ordinance as presented.

12. CLOSED SESSION - NCGS 143-318.11 (A)(3) CONSULT WITH ATTORNEY, ATTORNEY-CLIENT PRIVILEGE; AND NCGS 143-318.11(A)(6) PERSONNEL-RELATED.

13. ADJOURNMENT

TOWN OF BLACK MOUNTAIN

AGENDA ITEM SUMMARY

SUBMITTER:	Richard Hicks, Interim Town Manager	**MEETING DATE:**	August 10, 2026
AGENDA SECTION:	Communications from Staff, Councils, Commissions & Agencies	**DEPARTMENT:**	Administration

TITLE OF ITEM: Presentation from NCDOT Division 13 Representative(s) on Projects

SUGGESTED MOTION(S):
n/a- presentation only.

SUMMARY:

Brendan Merithew, P.E., Division Project Team Lead with NCDOT Division 13 will provide some updates to the Council on current/upcoming projects. Tristan Winkler, Transportation Planner/French Broad MPO Director, with the Land of Sky Regional Council will also be in attendance to provide information.

BUDGET IMPACT:

Is this expenditure approved in the current fiscal year budget? n/a

If no, describe how it will be funded. n/a

ATTACHMENTS:

1. NCDOT Presentation on Blue Ridge Rd. Interchange & Bridge Repair
2. French Broad River MPO Presentation
3. Bicycle & Pedestrian Improvement Plan_EB-5547A
4. Bicycle & Pedestrian Improvement Plan_EB-5547B
5. Bicycle & Ped Plans_EB-5547A&B Funding

NORTH CAROLINA
Department of Transportation

I-4409A & I-4409B Update

Bridge replacement on Blue Ridge Rd. and New Interchange on I-40 in Black Mountain, Buncombe County

August 10, 2026

Connecting people, products and places safely and efficiently with customer focus, accountability and environmental sensitivity to enhance the economy and vitality of North Carolina

Current Schedule:

I-4409A, replace bridge over the Swannanoa on Blue Ridge Rd.

Right of way acquisition underway

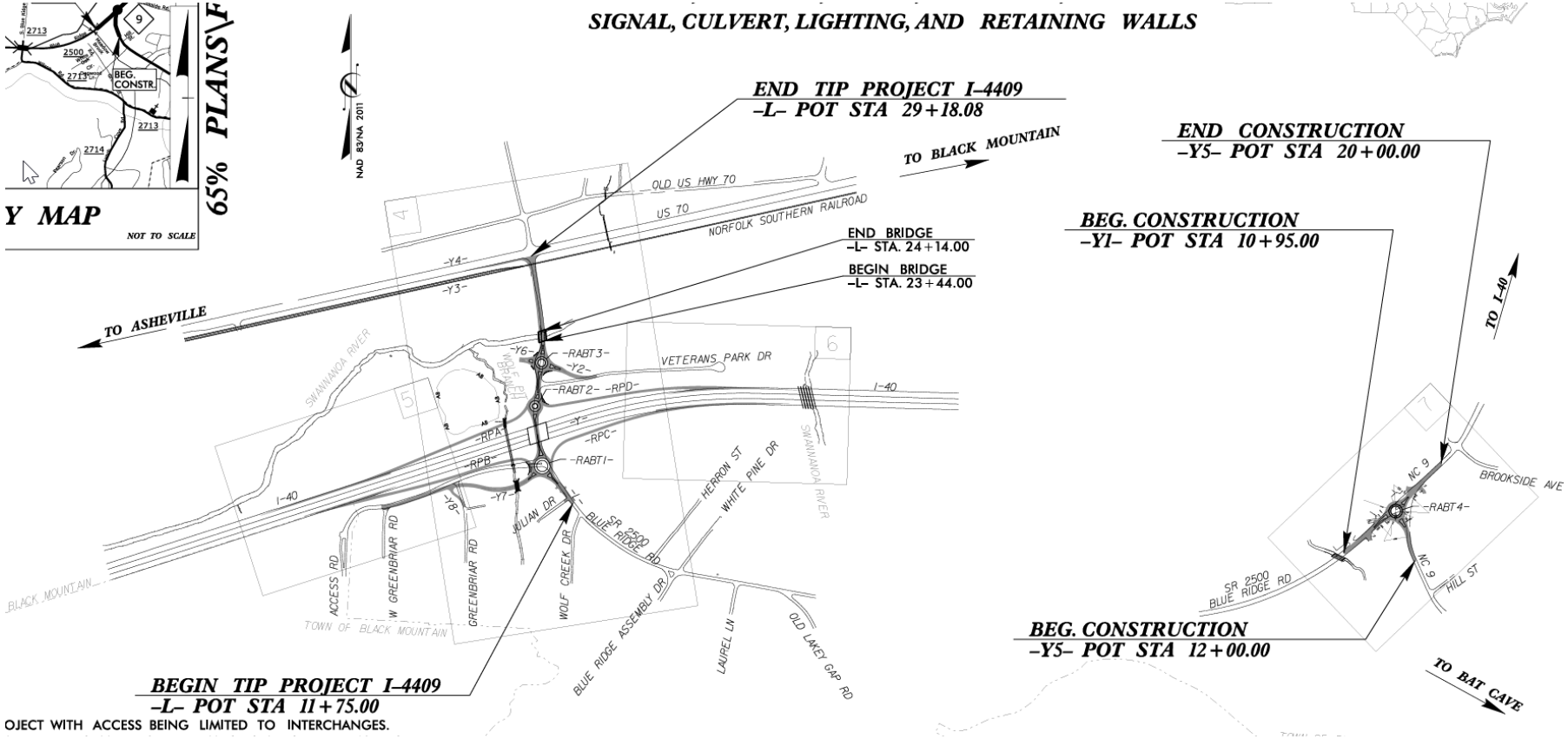
Construction, December 2026

I-4409B, new interchange on I-40

Right of way funds authorized, design nearly complete

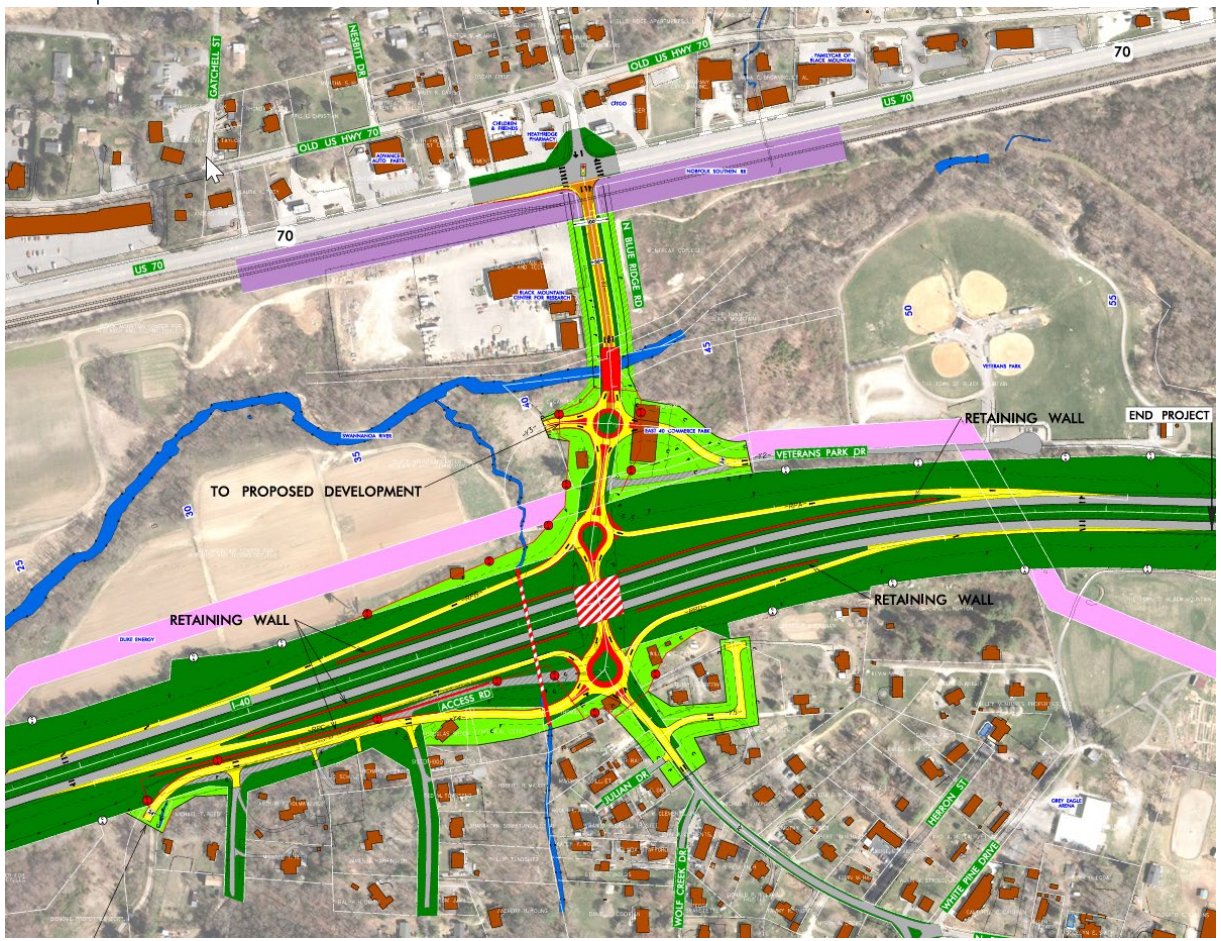
Construction, December 2027

NORTH CAROLINA
Department of Transportation



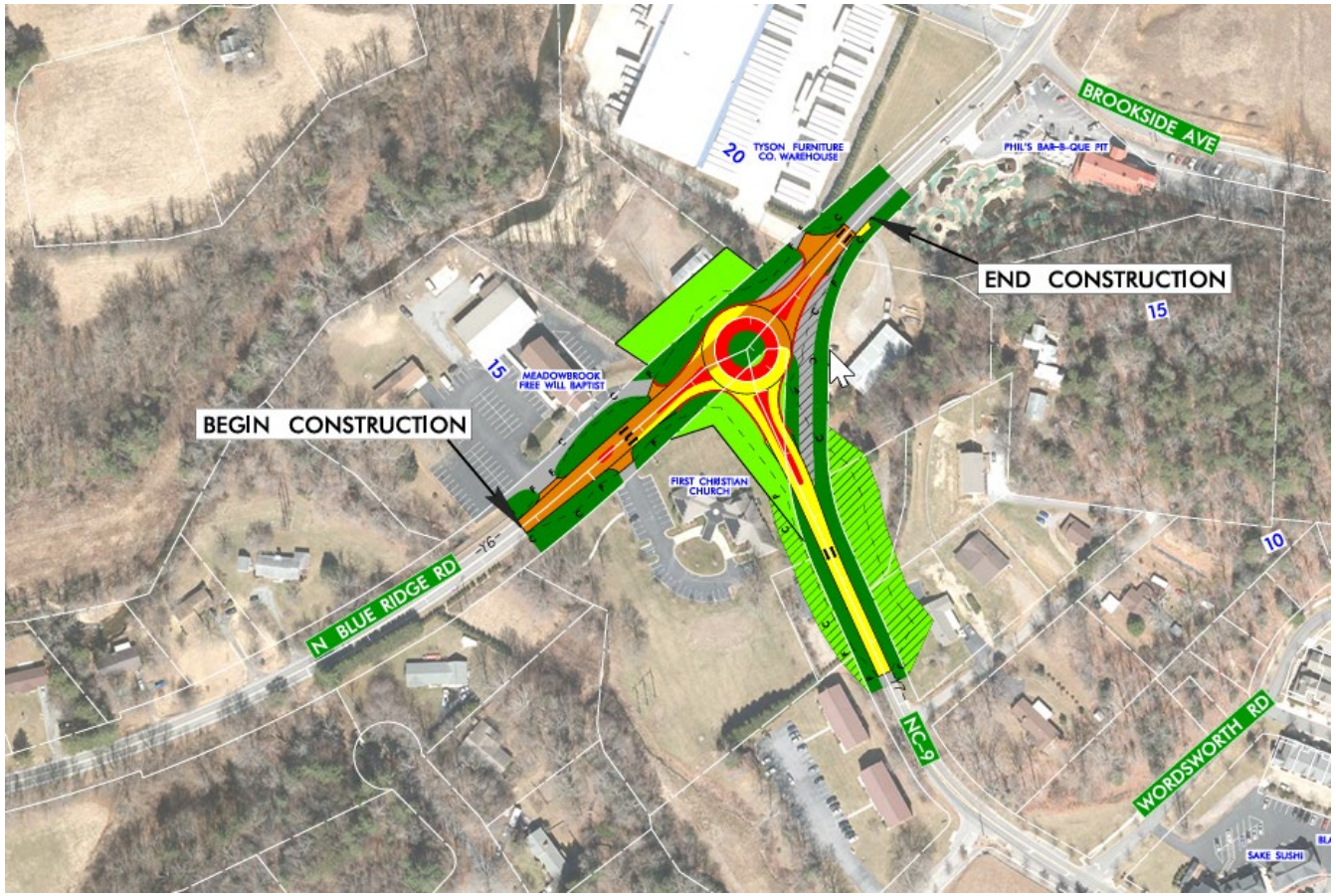
Connecting people, products and places safely and efficiently with customer focus, accountability and environmental sensitivity to enhance the economy and vitality of North Carolina

NORTH CAROLINA
Department of Transportation



Connecting people, products and places safely and efficiently with customer focus, accountability and environmental sensitivity to enhance the economy and vitality of North Carolina

NORTH CAROLINA
Department of Transportation



Connecting people, products and places safely and efficiently with customer focus, accountability and environmental sensitivity to enhance the economy and vitality of North Carolina

NORTH CAROLINA
Department of Transportation

Contact:

Brendan Merithew, PE
NCDOT Division 13
Project Team Lead Engineer
bwmerithew@ncdot.gov
828-250-3000

French Broad River MPO Update

August 10, 2026

a program of Land of Sky
FRENCH BROAD RIVER
METROPOLITAN PLANNING ORGANIZATION

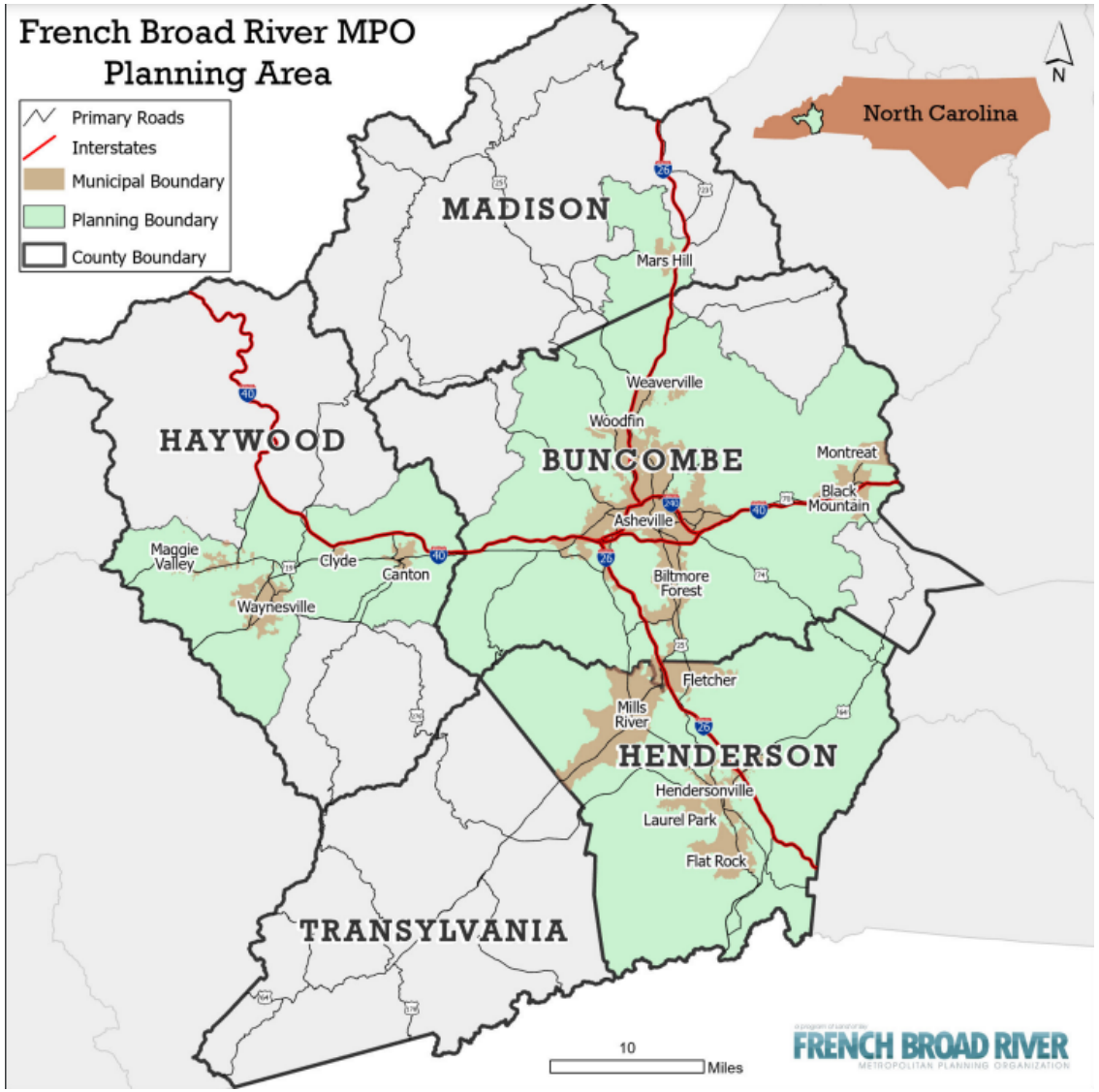
What is a Metropolitan Planning Organization?

"The forum for cooperative transportation decision making for the metropolitan planning area"

Source: 23 CFR Part 450.104

FRENCH BROAD RIVER MPO PLANNING AREA

- Centered around the Asheville Urban Area
- Grew to include Henderson & Haywood in 2000, Madison and a (tiny bit of) Transylvania in 2010
- Lost Transylvania in 2020



Primary Services for Black Mountain

1. Planning

2. Prioritizing Projects

3. Providing Funding

Planning

In-House

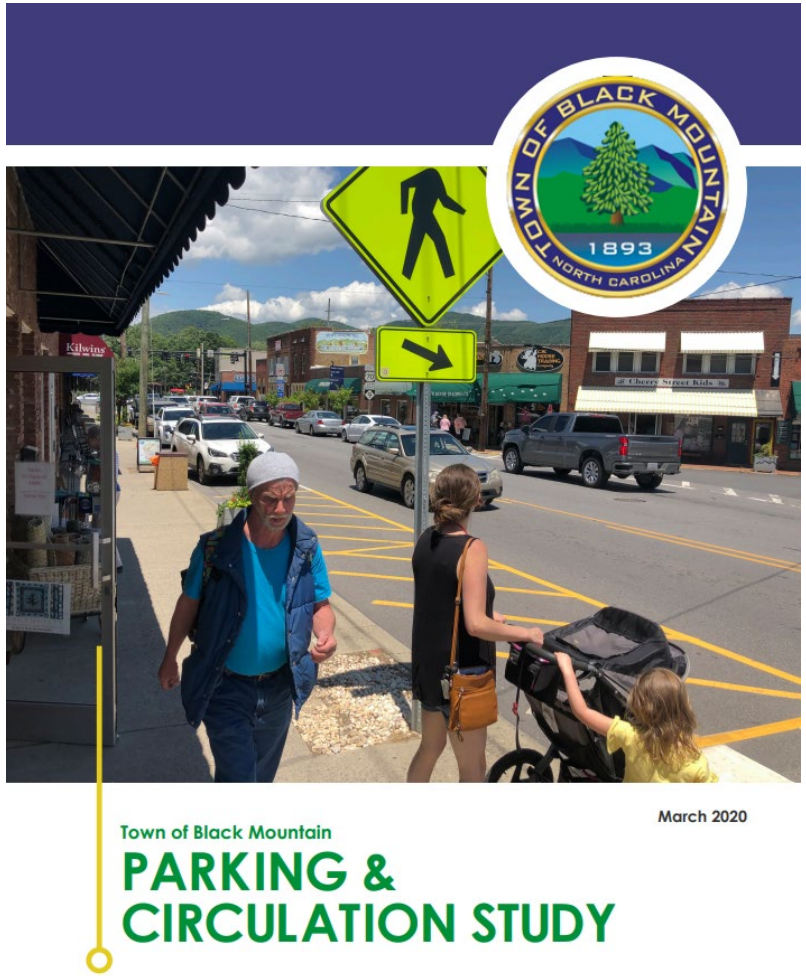
The MPO provides long-range planning for the region in accordance with federal requirements

Grants Provided

The MPO makes federal planning funds available to member governments roughly annually – grants cover 80% of eligible expenses

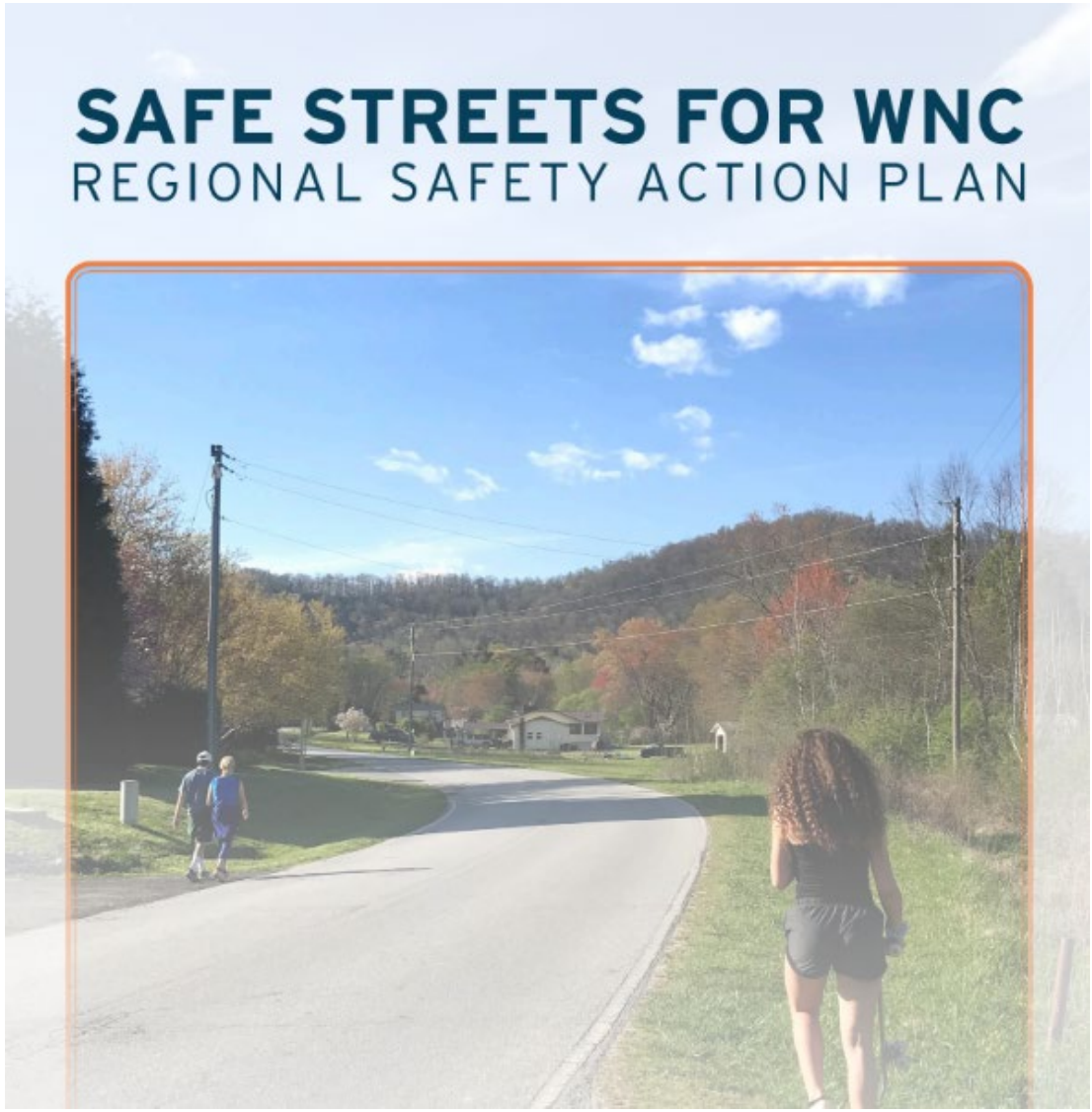
The Town of Black Mountain has received two planning grants since 2019

- Downtown Parking & Circulator Study
- Ridgecrest Trail Feasibility Study



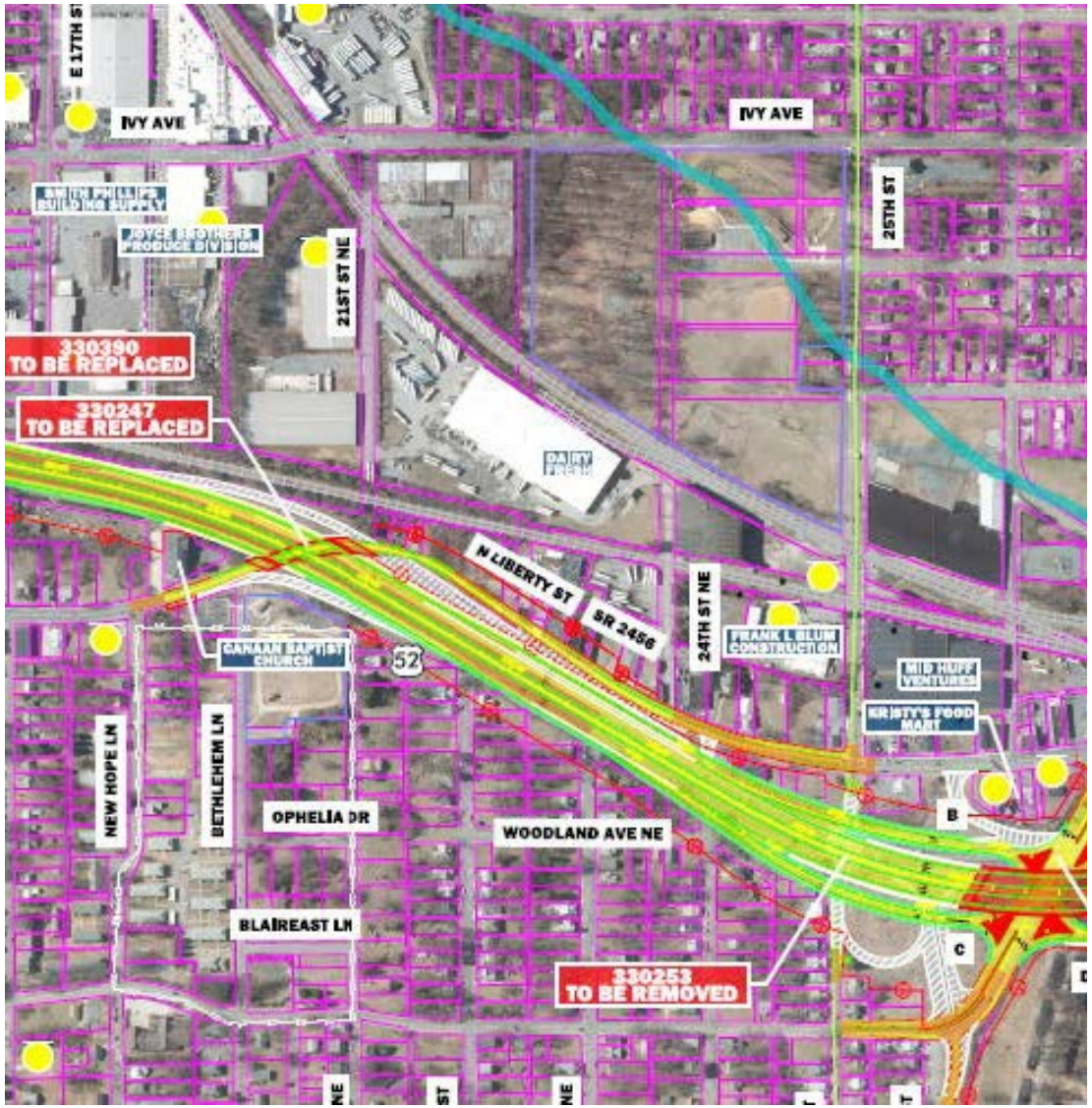
Safe Streets for WNC

- Completed in 2025
- Identifies Areas With Disproportionate Crashes and Risk
- Enables Every Member Government of the MPO to Apply for Safety Funds Through USDOT



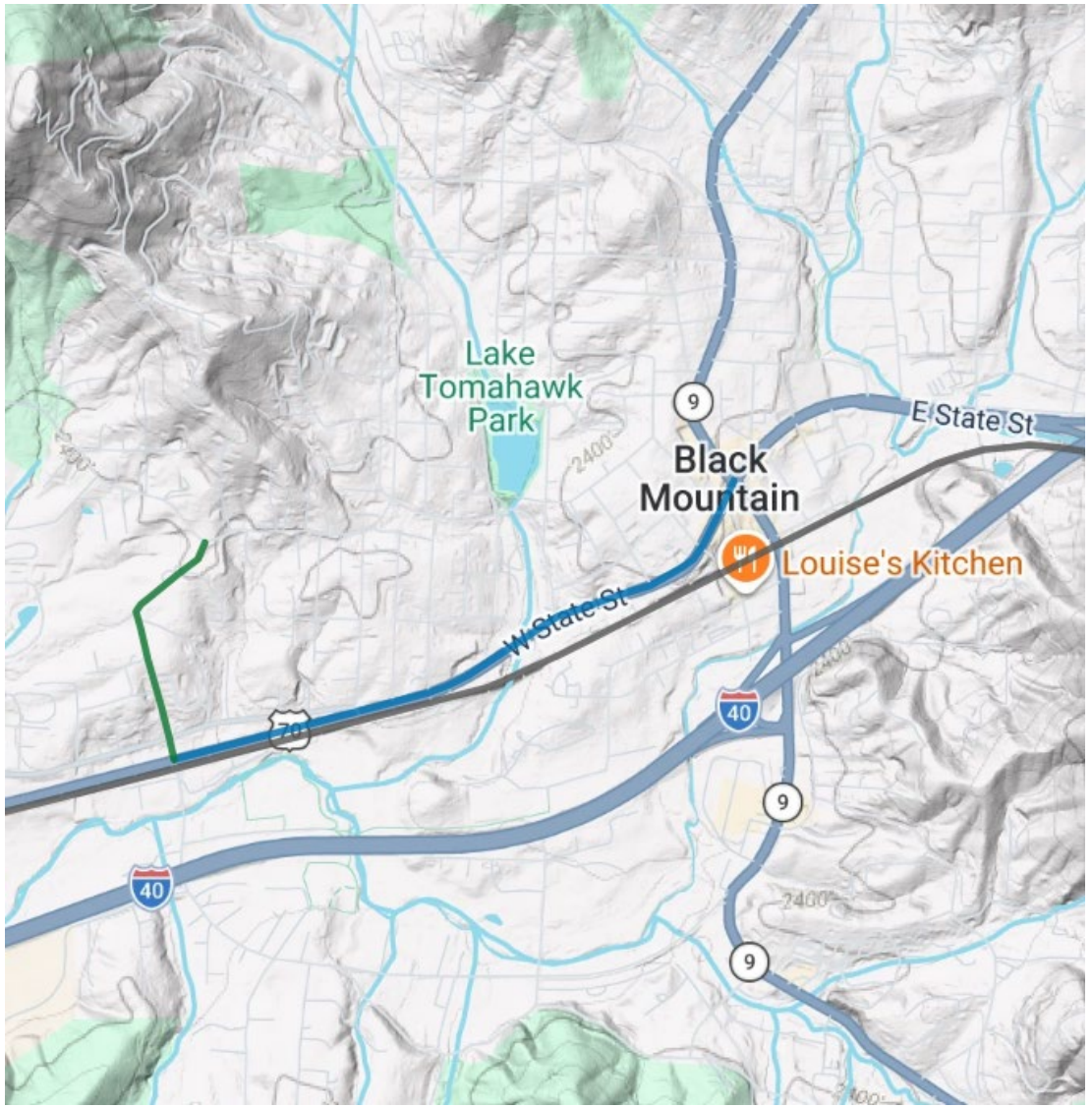
Planning

- Express Designs
  - Quick Designs on Projects in Prioritization (or considered for submitting)
  - Enables a Better Idea of Scope, Costs, and Constraints for Planned Projects
  - Expected to be a Requirement in 2027 for projects to pursue funding
  - The MPO assigns roughly five (5) express designs per year



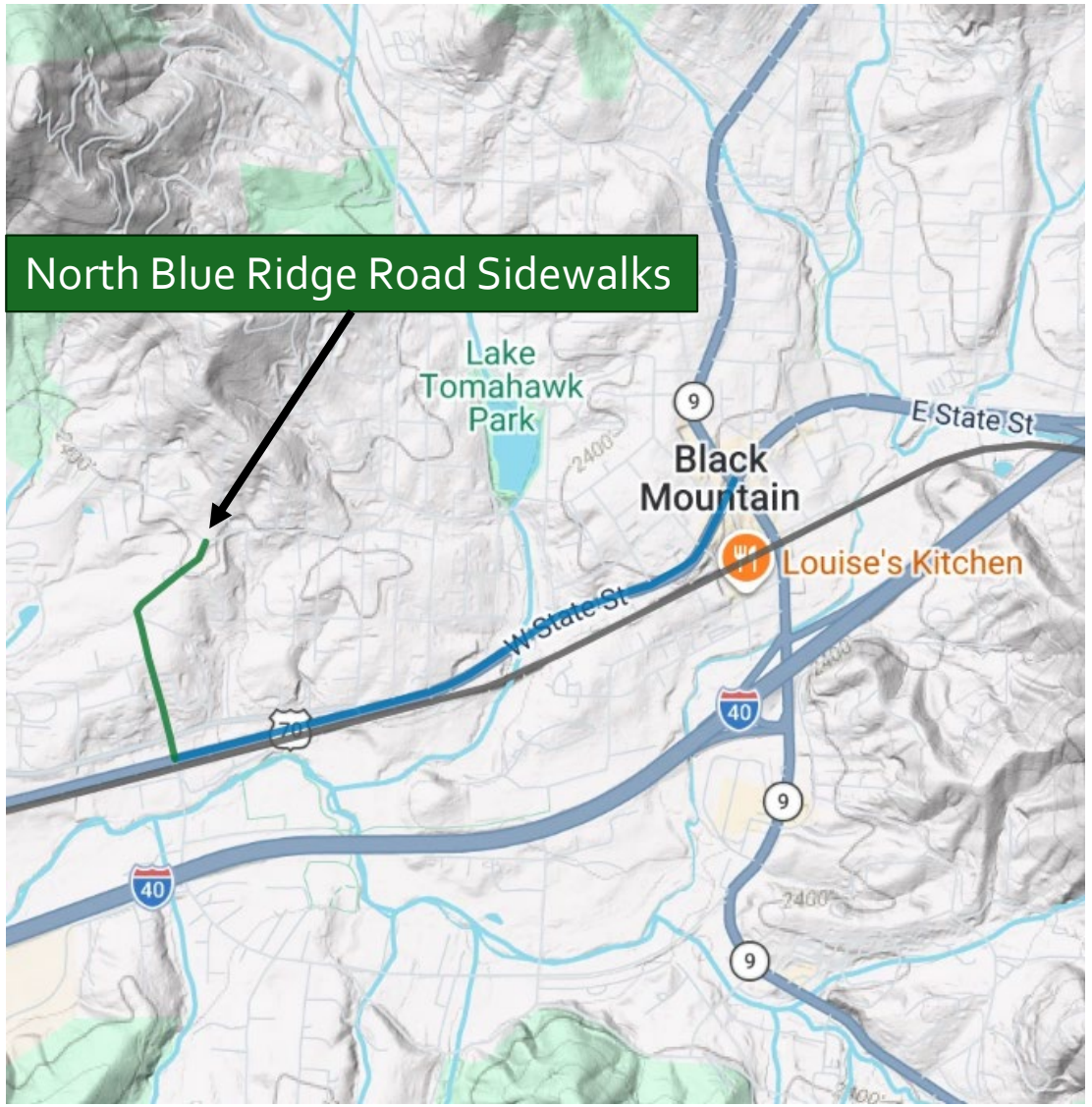
Prioritization

- The MPO submits local & regional transportation priorities into the Prioritization process on behalf of local governments and prioritizes projects to improve their chances of being funded
- Special Thanks: Vice Member Pertiller for serving on the Prioritization Subcommittee!!!



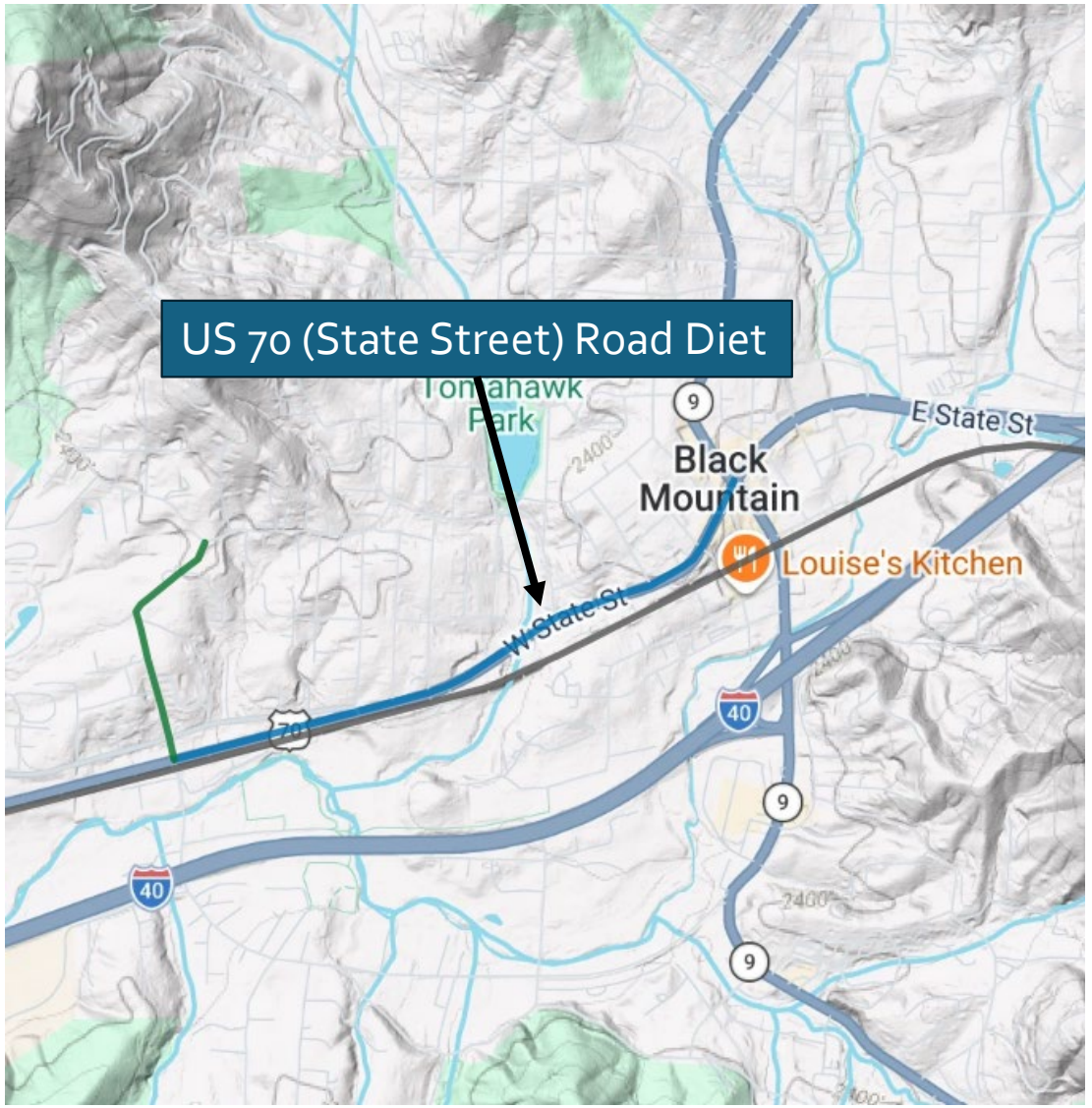
Prioritization

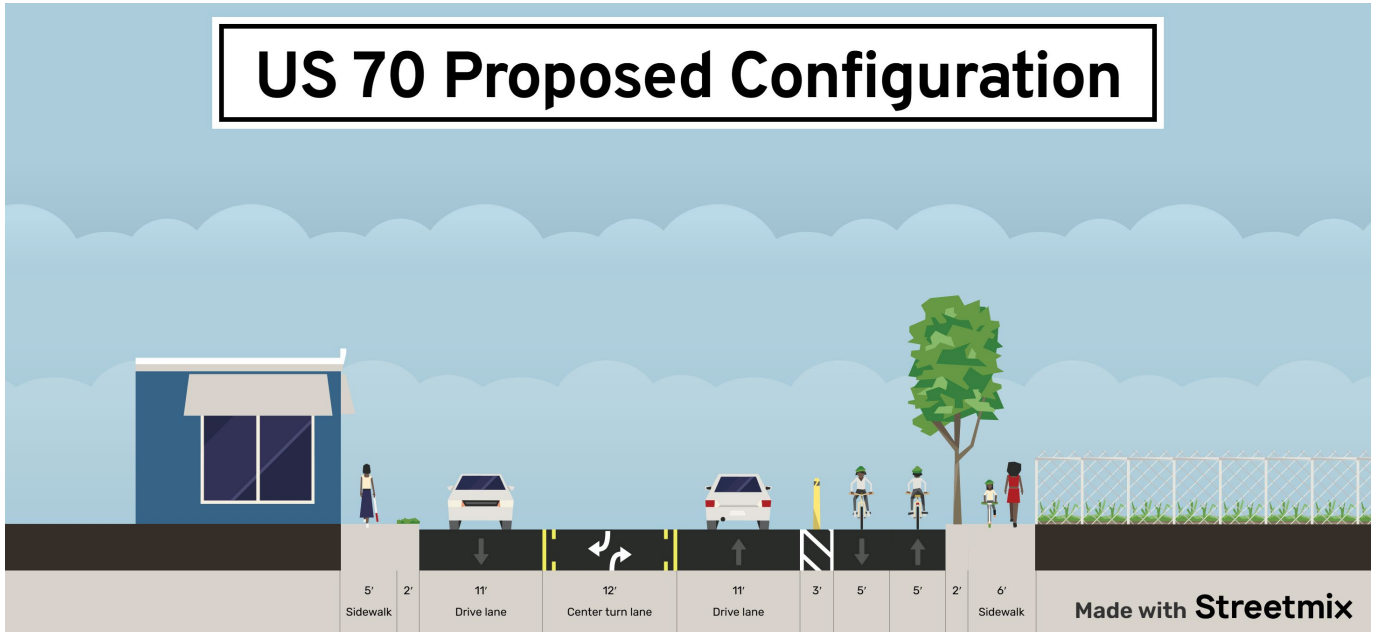
- The MPO submits local & regional transportation priorities into the Prioritization process on behalf of local governments and prioritizes projects to improve their chances of being funded
- Special Thanks: Vice Member Pertiller for serving on the Prioritization Subcommittee!!!



Prioritization

- The MPO submits local & regional transportation priorities into the Prioritization process on behalf of local governments and prioritizes projects to improve their chances of being funded
- Special Thanks: Vice Member Pertiller for serving on the Prioritization Subcommittee!!!



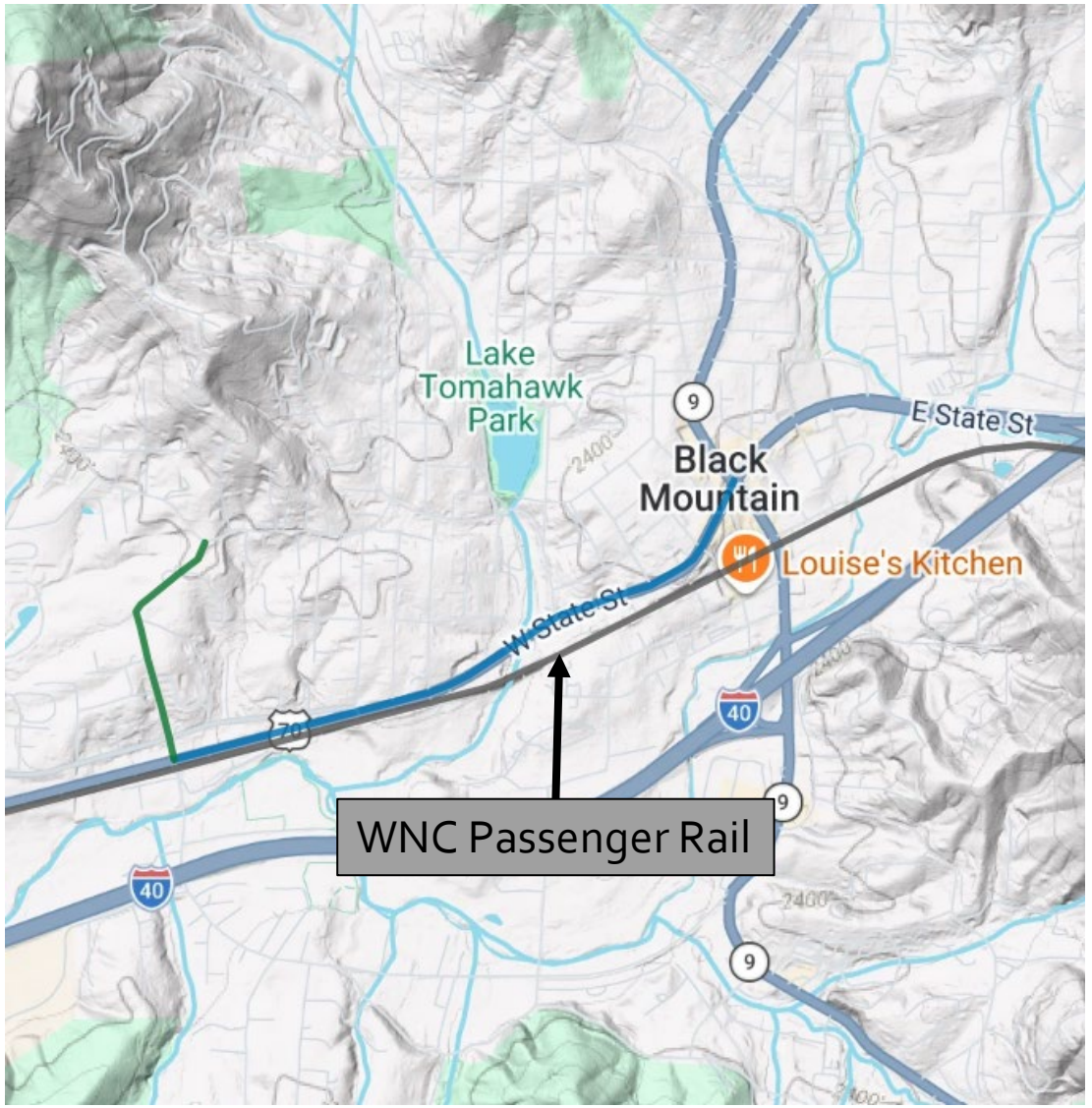


Prioritization

- Reduces crashes by 19-47%
- Reduces average speeds
- Provides a multimodal link (Fonta Flora/Hellbender)

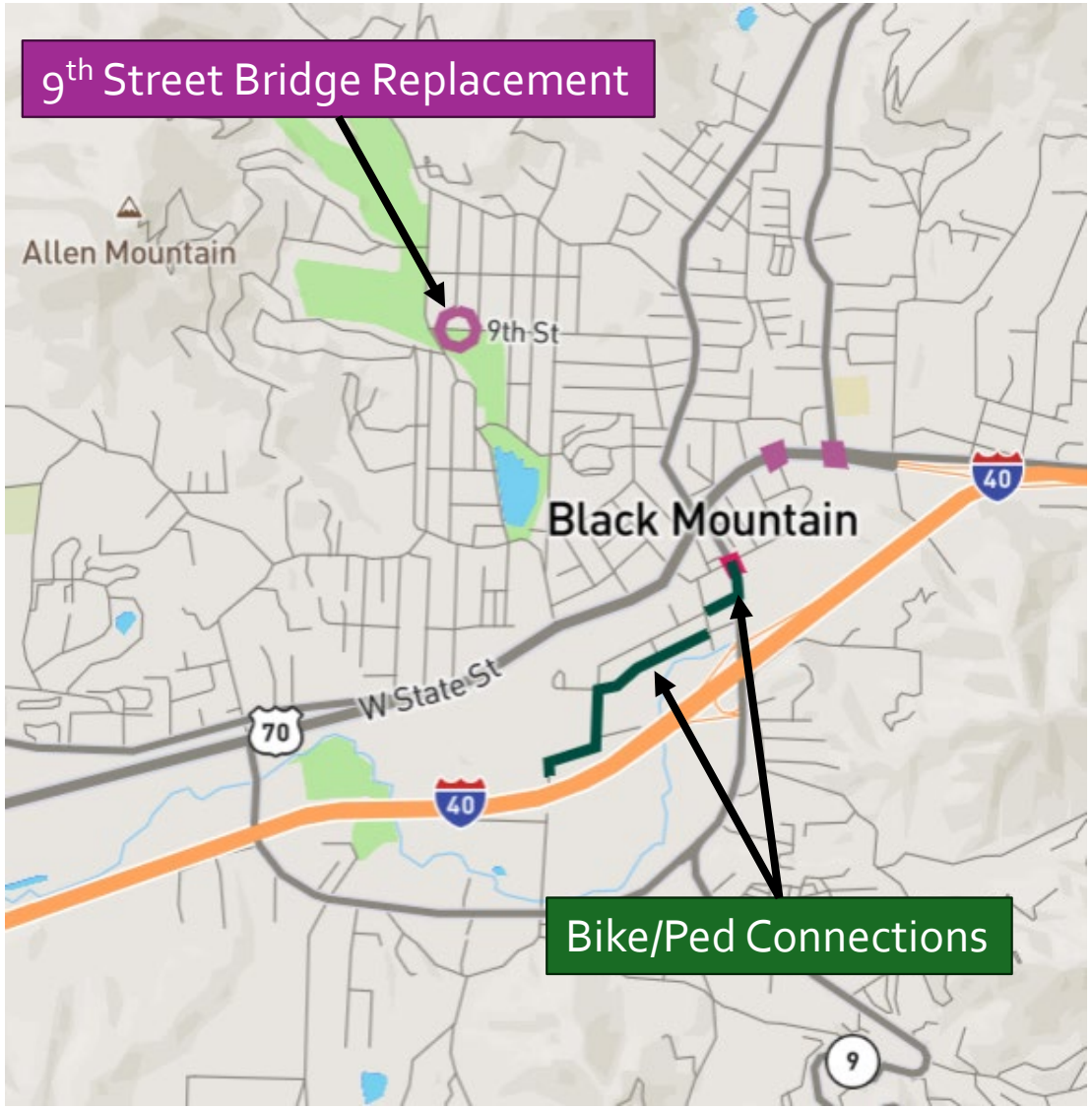
Prioritization

- The MPO submits local & regional transportation priorities into the Prioritization process on behalf of local governments and prioritizes projects to improve their chances of being funded
- Special Thanks: Vice Member Pertiller for serving on the Prioritization Subcommittee!!!



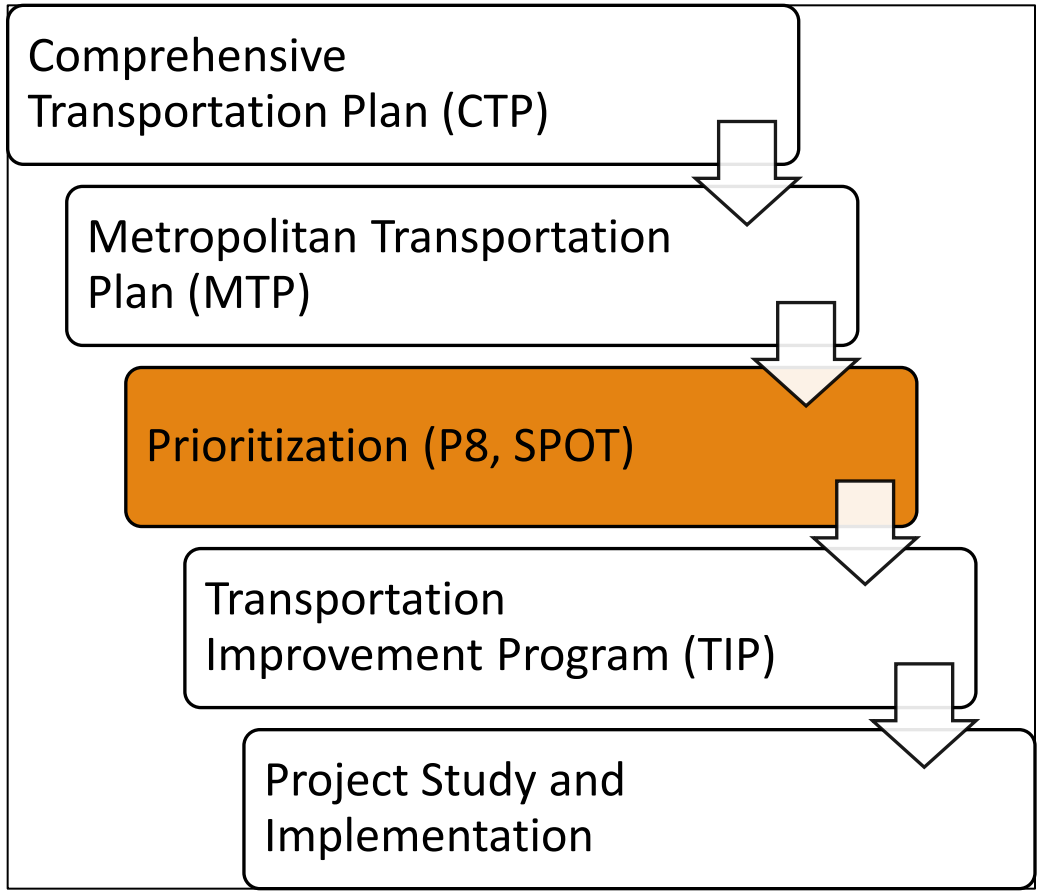
Funding

- MPO-Awarded Projects
- The MPO receives roughly $6.5 million/year in federal transportation funds to be awarded at the discretion of the MPO Board
- More than $4 million in MPO-Awarded Projects has been programmed to:
  - "The Project Formerly Known as Riverwalk Greenway"
  - 9th Street Bridge Replacement



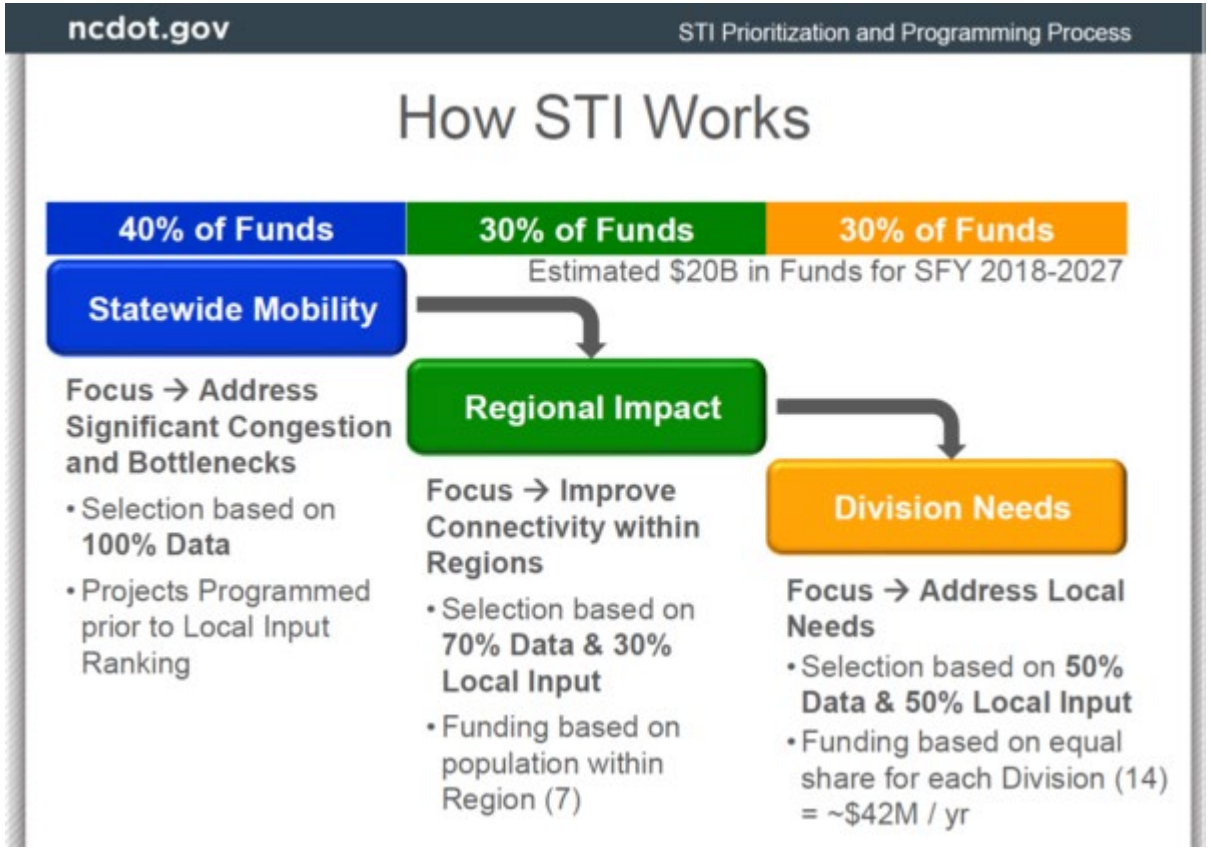
Reference Slides

P 8 Background



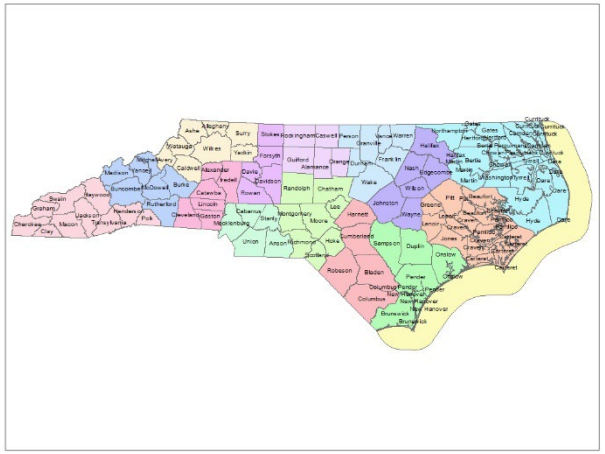
- Process North Carolina uses to determine where the majority of funding for capital improvements go
- Governed by the Strategic Highway Investments Act of 2012
- “Data-Driven & Transparent” process to select projects (also complicated)

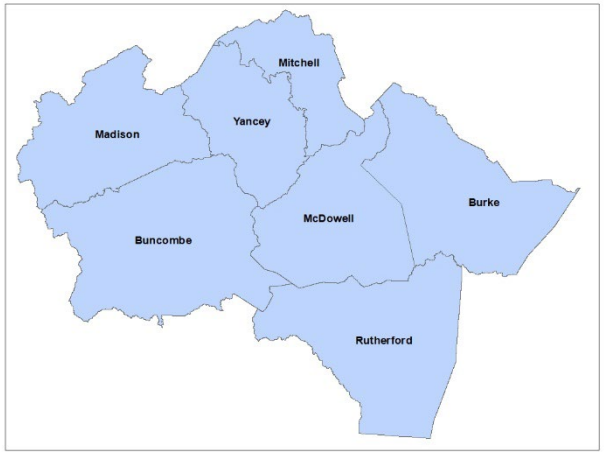
P 8 Basics


ncdot.gov
STI Prioritization and Programming Process
How STI Works
40% of Funds
30% of Funds
30% of Funds
Estimated $20B in Funds for SFY 2018-2027
Statewide Mobility
Regional Impact
Division Needs
Focus → Address Significant Congestion and Bottlenecks
• Selection based on 100% Data
• Projects Programmed prior to Local Input Ranking
Focus → Improve Connectivity within Regions
• Selection based on 70% Data & 30% Local Input
• Funding based on population within Region (7)
Focus → Address Local Needs
• Selection based on 50% Data & 50% Local Input
• Funding based on equal share for each Division (14) = ~$42M / yr

P 8 Basics

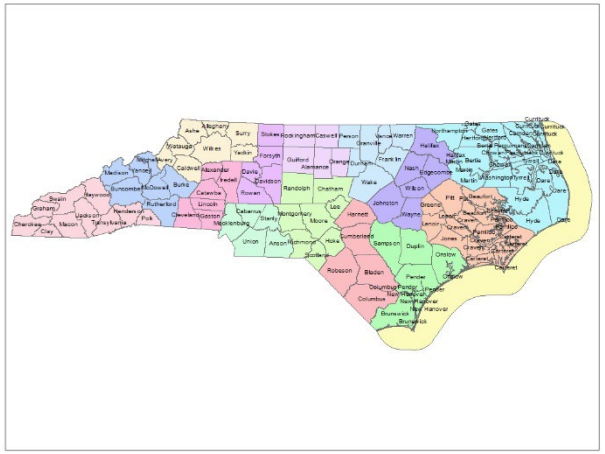
40%	30%	30%
Statewide Mobility	Regional Impact	Division Needs
Projects Selected Across the State By Quantitative Score	Funding Distributed to 7 Regions By Population (8.6% for Region G)	Funding Distributed to 14 Divisions Equally (7.14% to Divisions 13 & 14)

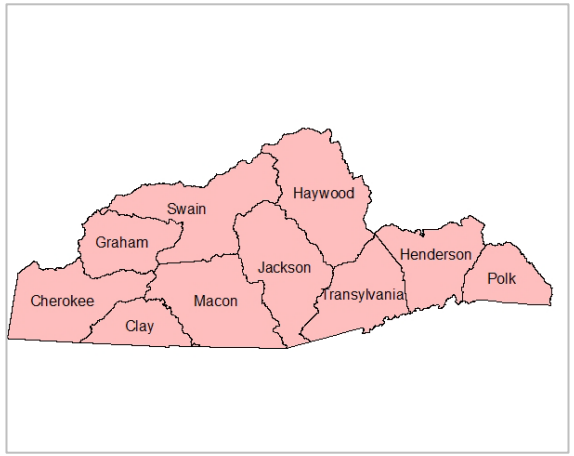




P 8 Basics

40%	30%	30%
Statewide Mobility	Regional Impact	Division Needs
Projects Selected Across the State By Quantitative Score	Funding Distributed to 7 Regions By Population (8.6% for Region G)	Funding Distributed to 14 Divisions Equally (7.14% to Divisions 13 & 14)

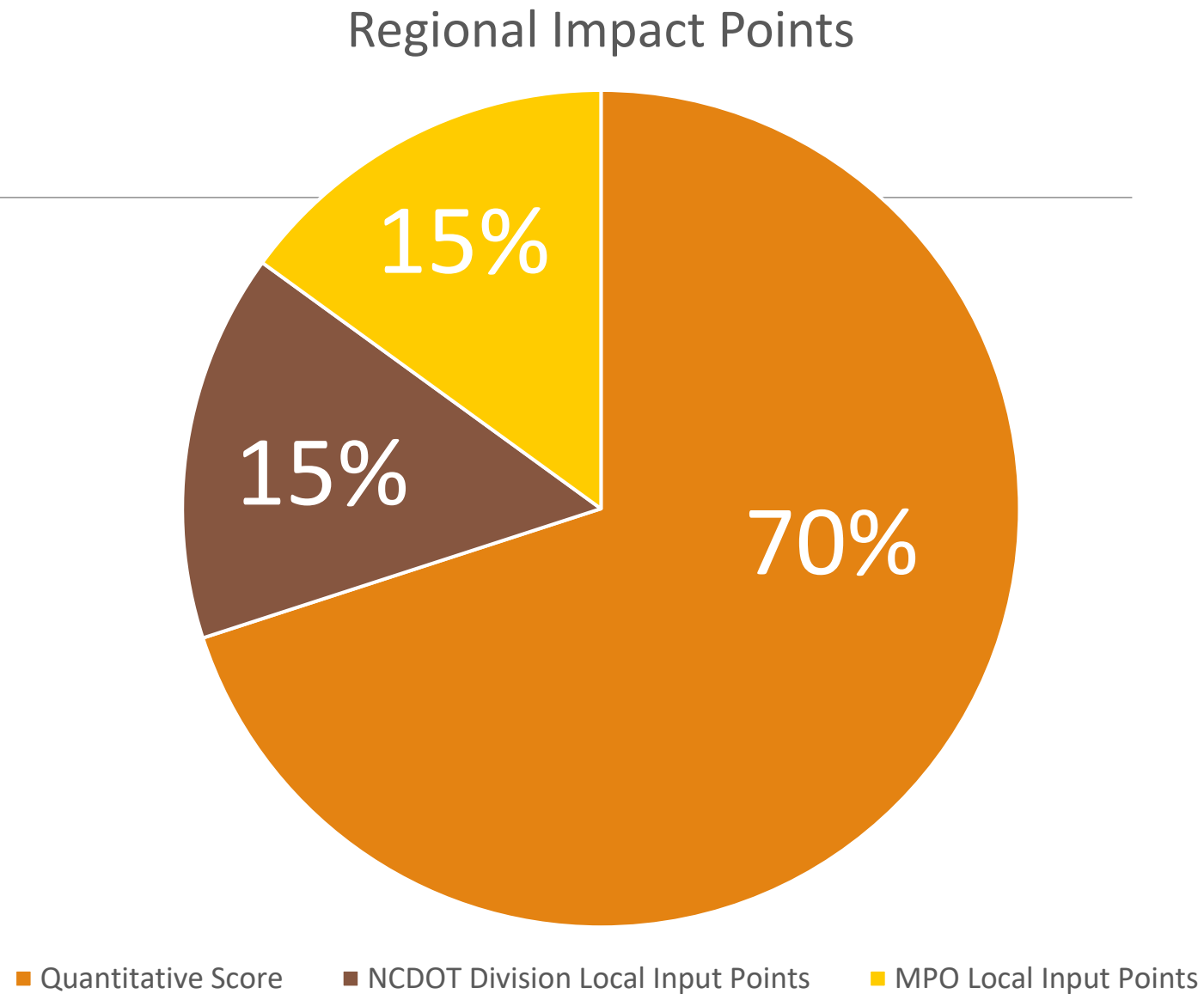




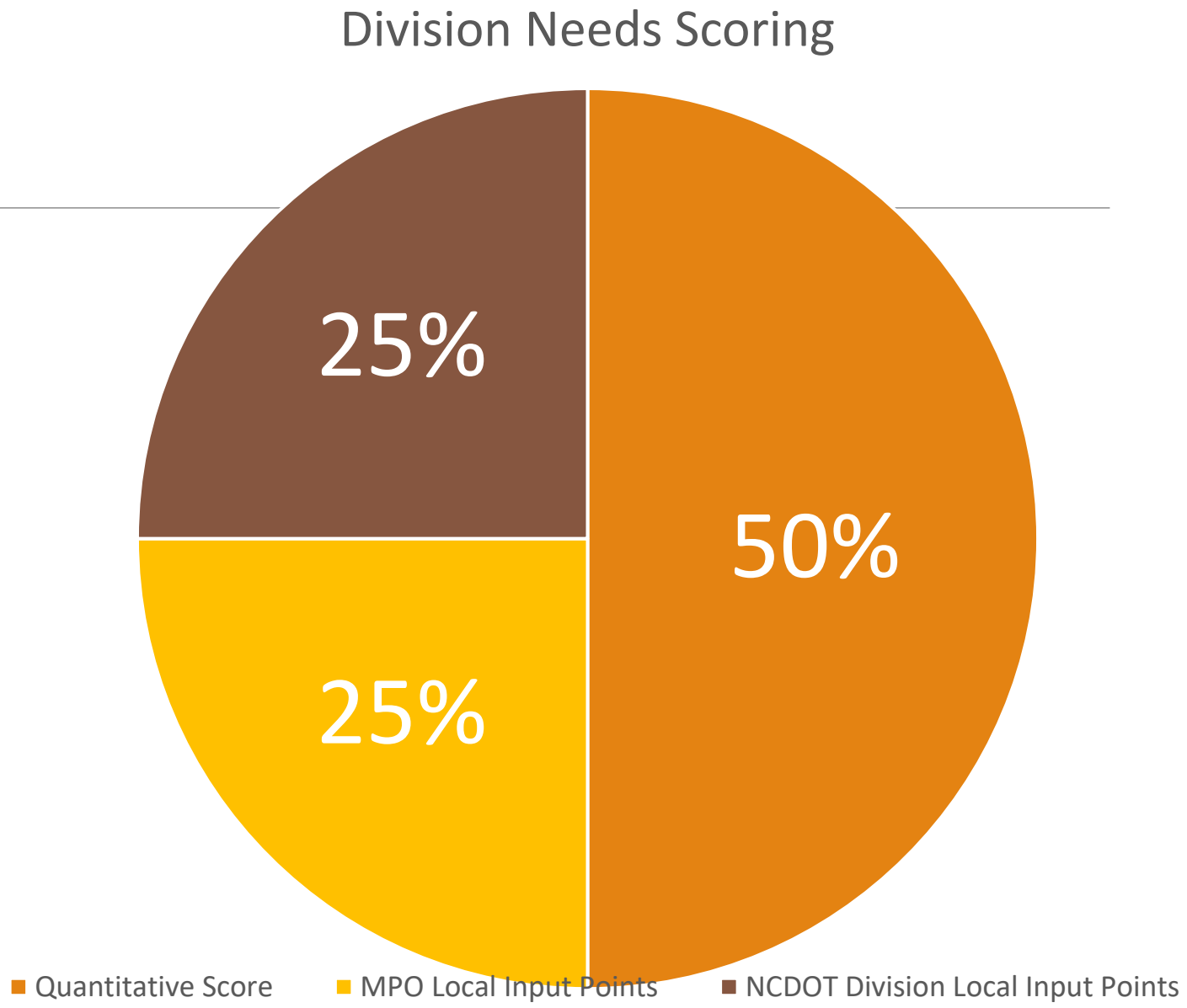
P 8 Basics

Mode	Statewide Mobility	Regional Impact	Division Needs
Highway	• Interstates • STRAHNET • National Highway System • Designated Toll Facilities	• US Highways • NC Highway	• All Secondary Roads • Federal-Aid Eligible Local Roads
Aviation	• Large Airports (Including AVL)	• Other Commercial Service Airports	• Airports Without Commercial Service
Bicycle/Pedestrian	• NA	• NA	• All Projects
Public Transportation	• NA	• Service Spanning Multiple Counties	• All Other Service
Rail	• Freight Service on Class I	• Rail Service Spanning Two or More Counties	• All Other Service, Including Terminals and Stations
Ferries	• NA	• Vessel or Infrastructure Expansion	• Replacement Vessels

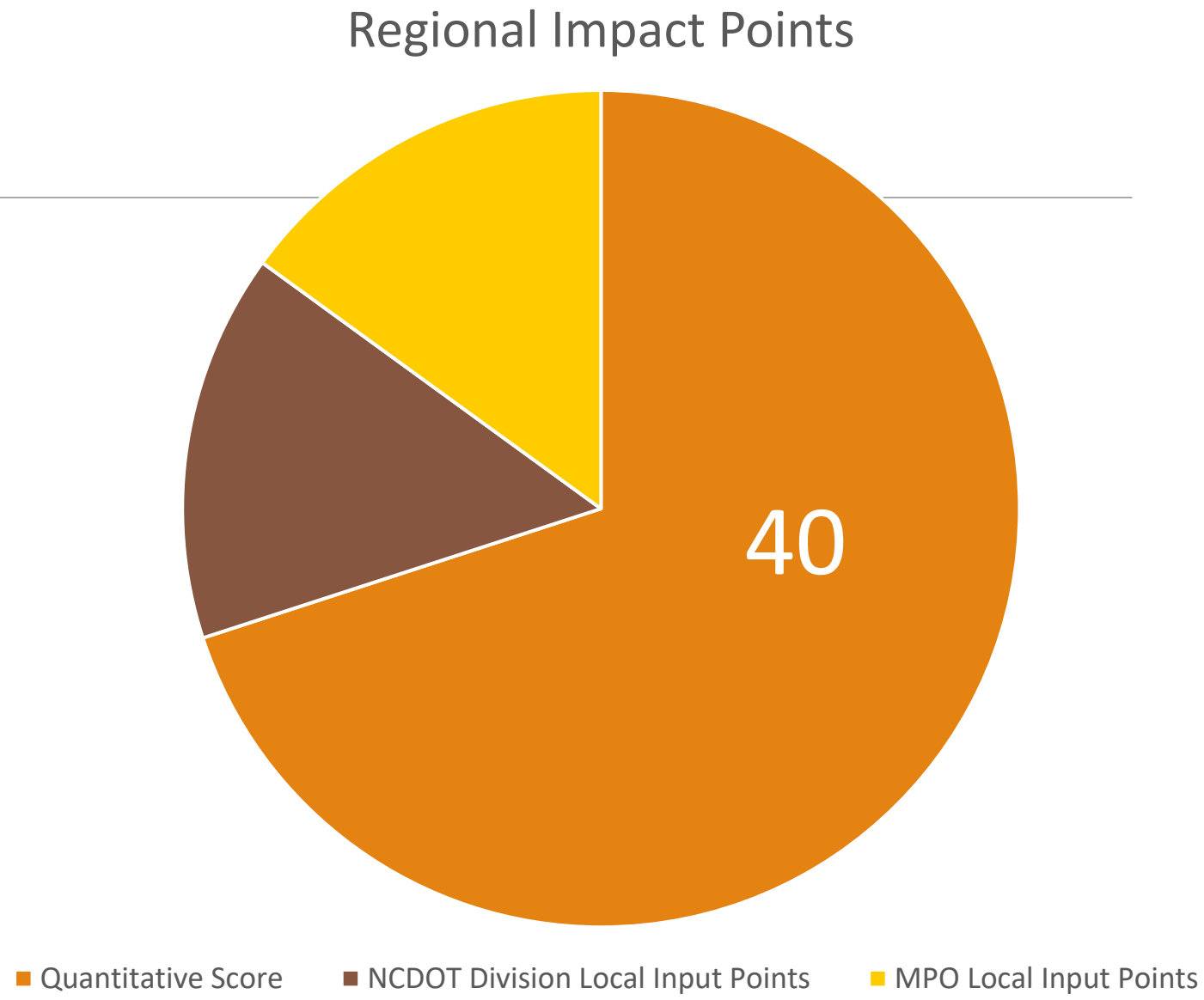
Regional Impact Scores



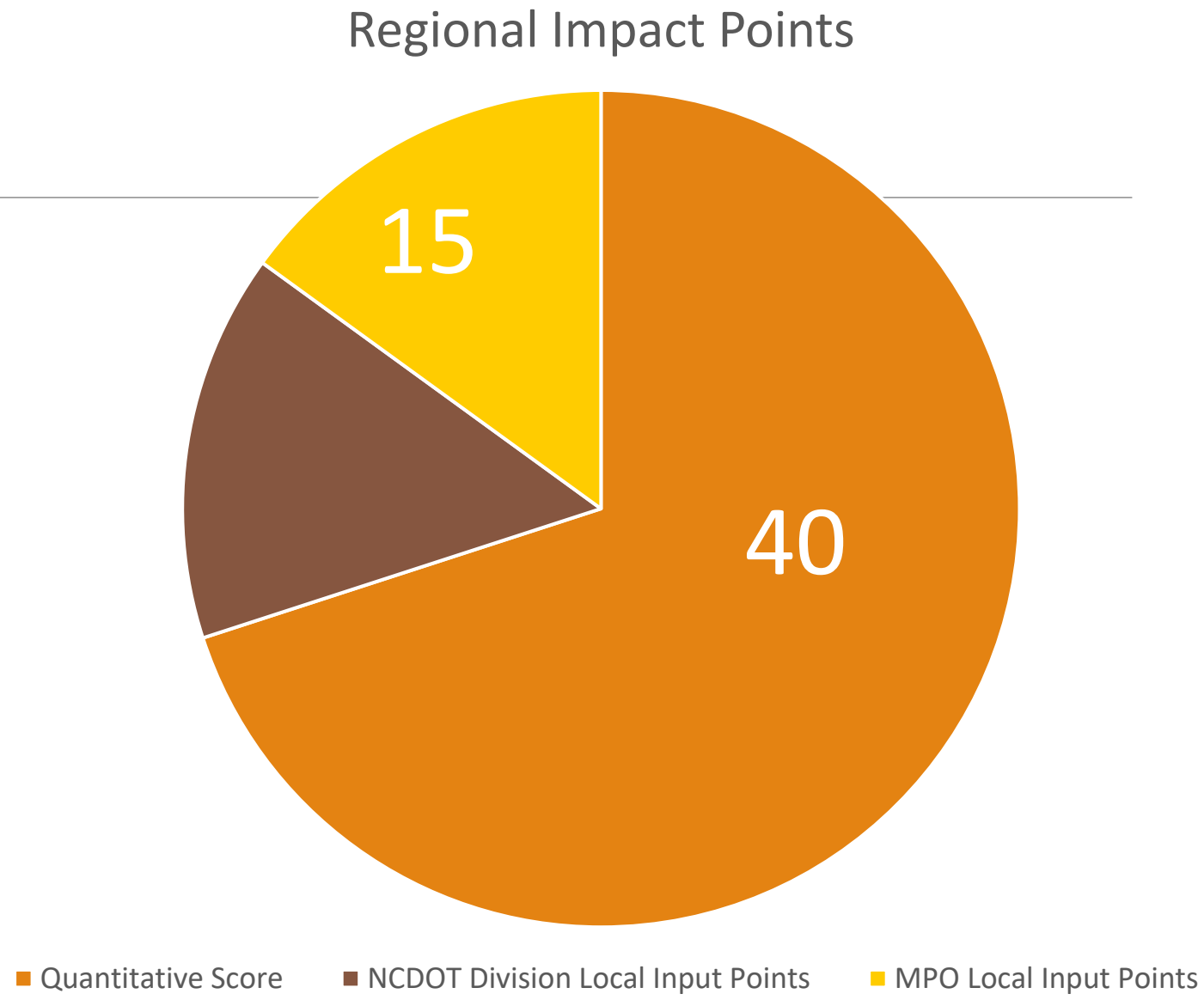
Division Needs Scores



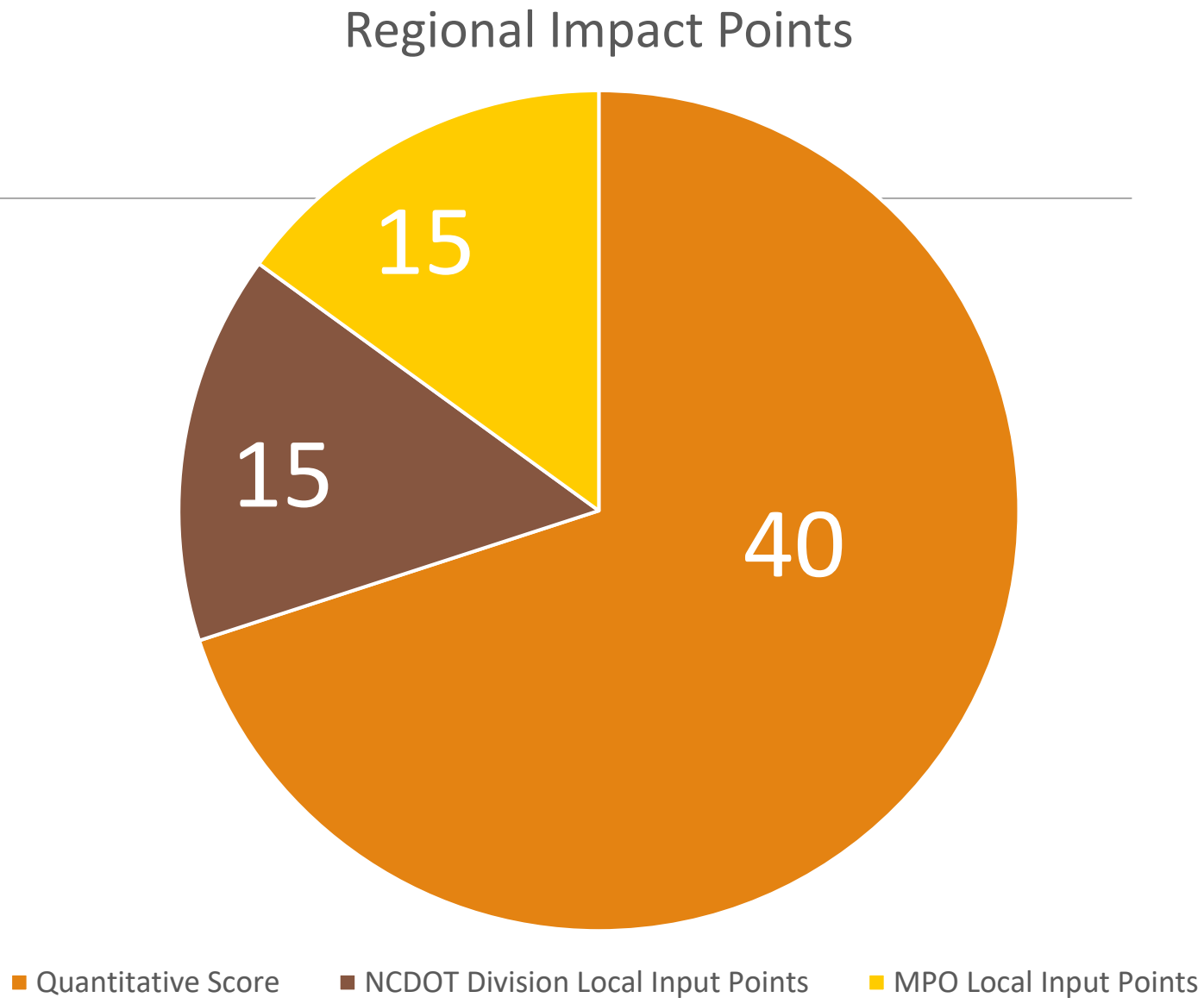
Regional Impact Scores



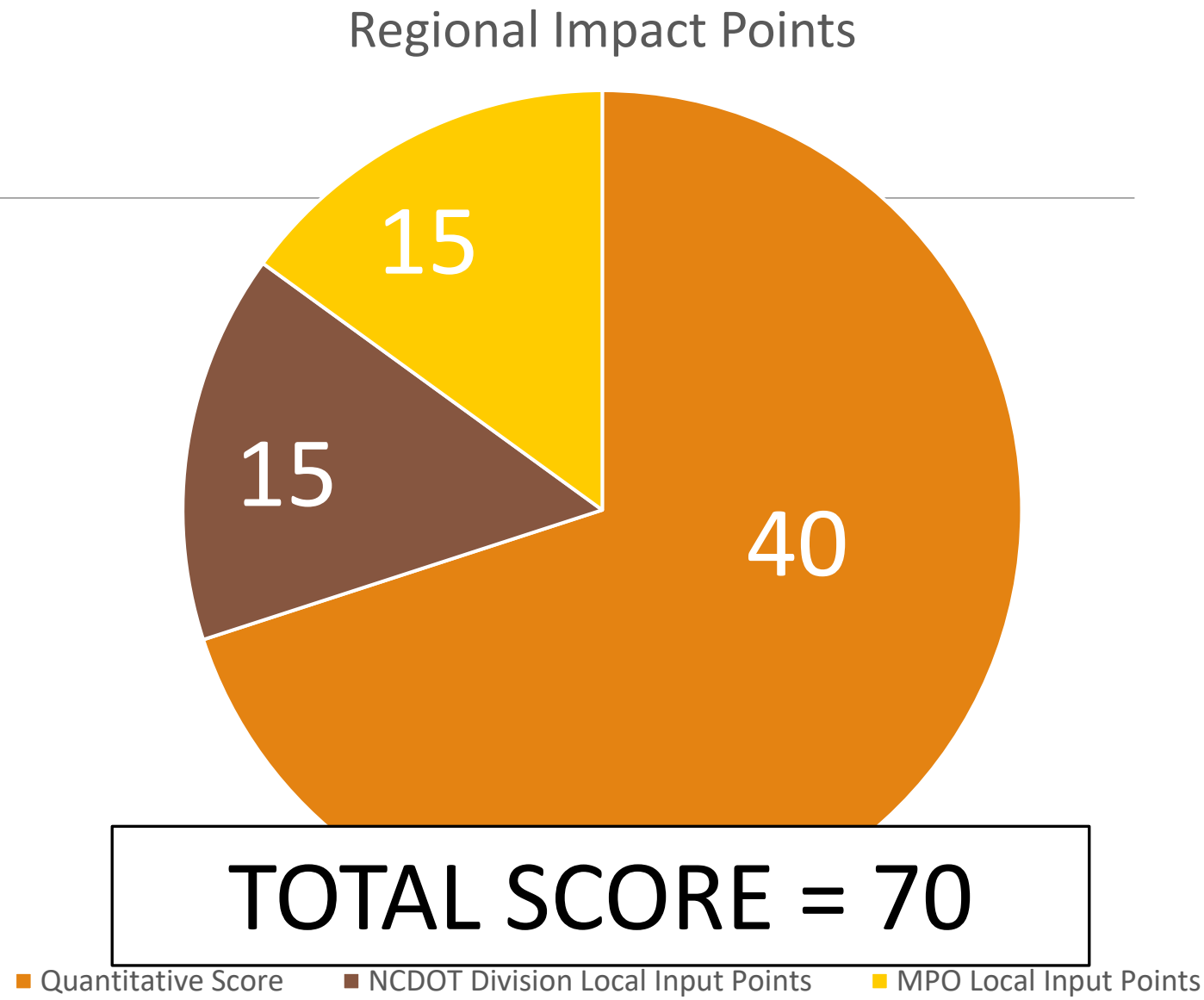
Regional Impact Scores



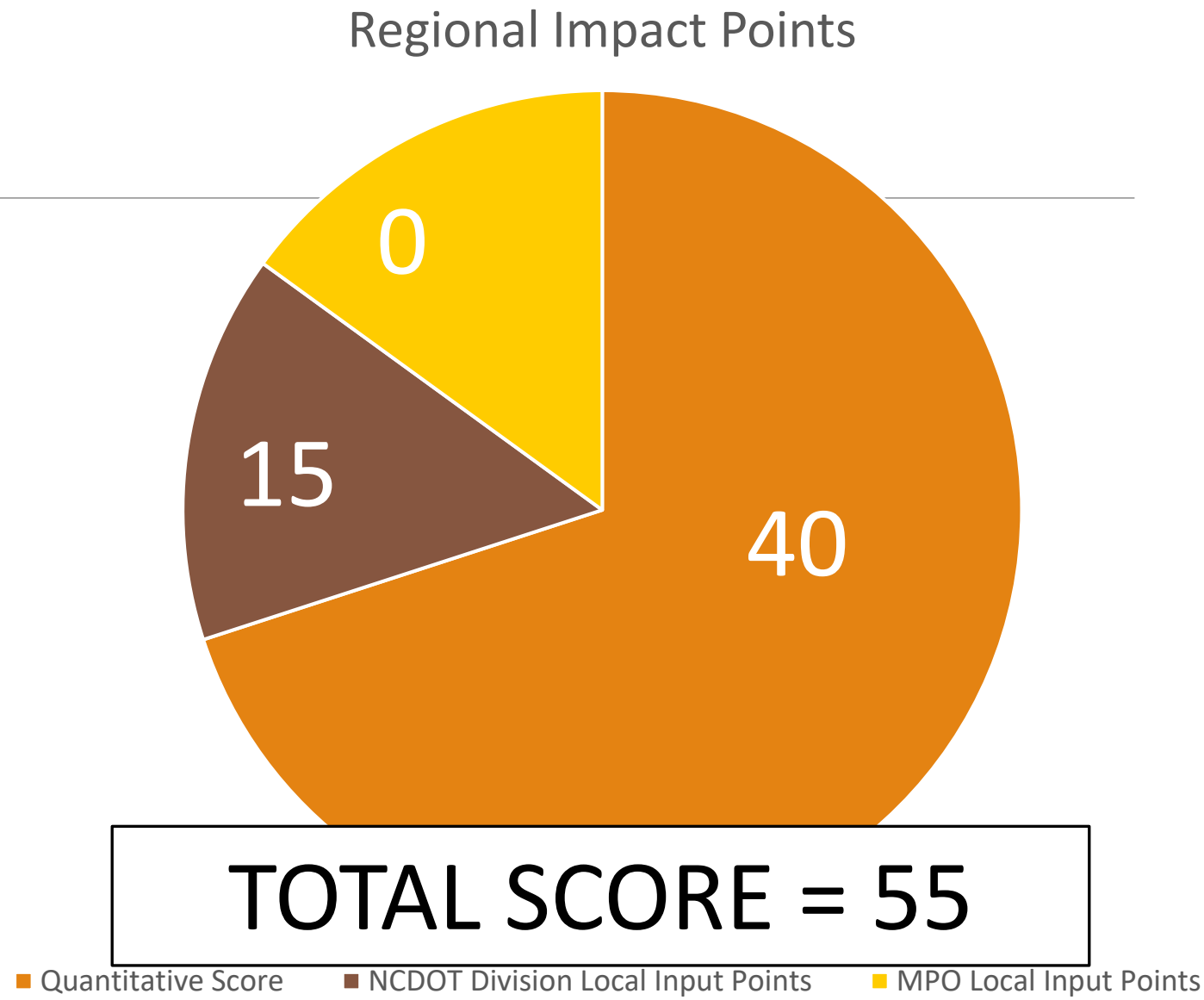
Regional Impact Scores

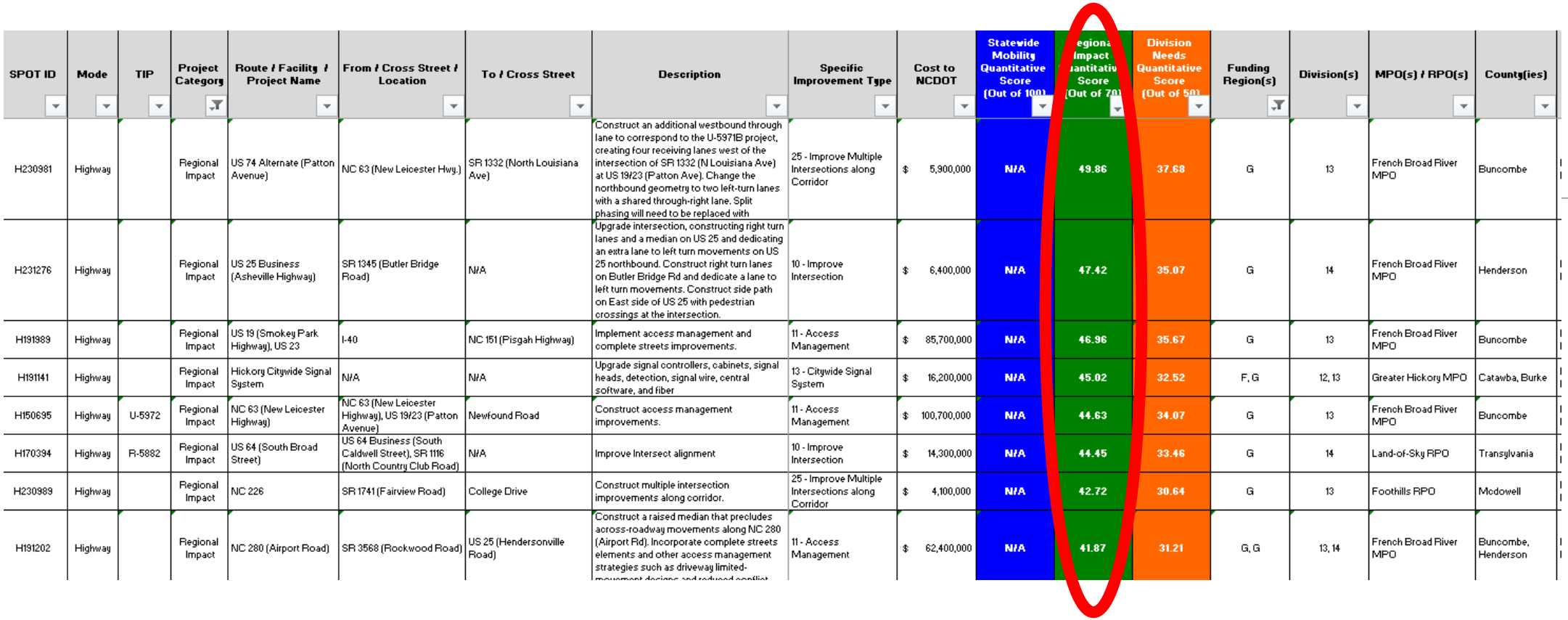


Regional Impact Scores



Regional Impact Scores





SPOT ID	Mode	TIP	Project Category	Route / Facility / Project Name	From / Cross Street / Location	To / Cross Street	Description	Specific Improvement Type	Cost to NCDOT	Statewide Mobility Quantitative Score (Out of 100)	Regional Impact Quantitative Score (Out of 70)	Division Needs Quantitative Score (Out of 50)	Funding Region(s)	Division(s)	MPO(s) / RPO(s)	County(ies)
H230981	Highway		Regional Impact	US 74 Alternate (Patton Avenue)	NC 63 (New Leicester Hwy.)	SR 1332 (North Louisiana Ave)	Construct an additional westbound through lane to correspond to the U-5971B project, creating four receiving lanes west of the intersection of SR 1332 (N Louisiana Ave) at US 19/23 (Patton Ave). Change the northbound geometry to two left-turn lanes with a shared through-right lane. Split phasing will need to be replaced with	25 - Improve Multiple Intersections along Corridor	$ 5,900,000	N/A	49.86	37.68	G	13	French Broad River MPO	Buncombe
H231276	Highway		Regional Impact	US 25 Business (Asheville Highway)	SR 1345 (Butler Bridge Road)	N/A	Upgrade intersection, constructing right turn lanes and a median on US 25 and dedicating an extra lane to left turn movements on US 25 northbound. Construct right turn lanes on Butler Bridge Rd and dedicate a lane to left turn movements. Construct side path on East side of US 25 with pedestrian crossings at the intersection.	10 - Improve Intersection	$ 6,400,000	N/A	47.42	35.07	G	14	French Broad River MPO	Henderson
H191989	Highway		Regional Impact	US 19 (Smokey Park Highway), US 23	I-40	NC 151 (Pisgah Highway)	Implement access management and complete streets improvements.	11 - Access Management	$ 85,700,000	N/A	46.96	35.67	G	13	French Broad River MPO	Buncombe
H191141	Highway		Regional Impact	Hickory Citywide Signal System	N/A	N/A	Upgrade signal controllers, cabinets, signal heads, detection, signal wire, central software, and fiber	13 - Citywide Signal System	$ 16,200,000	N/A	45.02	32.52	F, G	12, 13	Greater Hickory MPO	Catawba, Burke
H150695	Highway	U-5972	Regional Impact	NC 63 (New Leicester Highway)	NC 63 (New Leicester Highway), US 19/23 (Patton Avenue)	Newfound Road	Construct access management improvements.	11 - Access Management	$ 100,700,000	N/A	44.63	34.07	G	13	French Broad River MPO	Buncombe
H170394	Highway	R-5882	Regional Impact	US 64 (South Broad Street)	US 64 Business (South Caldwell Street), SR 1116 (North Country Club Road)	N/A	Improve Intersect alignment	10 - Improve Intersection	$ 14,300,000	N/A	44.45	33.46	G	14	Land-of-Sky RPO	Transylvania
H230989	Highway		Regional Impact	NC 226	SR 1741 (Fairview Road)	College Drive	Construct multiple intersection improvements along corridor.	25 - Improve Multiple Intersections along Corridor	$ 4,100,000	N/A	42.72	30.64	G	13	Foothills RPO	Mcdowell
H191202	Highway		Regional Impact	NC 280 (Airport Road)	SR 3568 (Rockwood Road)	US 25 (Hendersonville Road)	Construct a raised median that precludes across-roadway movements along NC 280 (Airport Rd). Incorporate complete streets elements and other access management strategies such as driveway limited-	11 - Access Management	$ 62,400,000	N/A	41.87	31.21	G, G	13, 14	French Broad River MPO	Buncombe, Henderson

Higher SPOT Score = More Likely to Be Funded

Draft 2028-2037 STIP Estimated Funding Availability for Selecting Projects from Prioritization 8.0
As of May 28, 2026

STI Funding Category	Funding Availability
Region A (Divisions 1 & 4)	**$100M**
Region B (Divisions 2 & 3)	**$150M**
Region C (Divisions 5 & 6)	**$551M**
Region D (Divisions 7 & 9)	**$236M**
Region E (Divisions 8 & 10)	**$246M**
Region F (Divisions 11 & 12)	**$432M**
Region G (Divisions 13 & 14)	**$122M**
Division 1	**$228M**
Division 2	**$159M**
Division 3	**$31M**
Division 4	**$29M**
Division 5	**$125M**
Division 6	**$186M**
Division 7	**$106M**
Division 8	**-$21M**
Division 9	**$80M**
Division 10	**$97M**
Division 11	**$15M**
Division 12	**$47M**
Division 13	**$190M**
Division 14	**$257M**

There Is Funding?!

NCDOT TIP: EB- 5547 A

VICINITY MAP
NOT TO SCALE

OWNER:
TOWN OF BLACK MOUNTAIN
160 MIDLAND AVE
BLACK MOUNTAIN, NC 28711
ANGELA REECE
angela.reece@tobm.org
(828) 419-9300 x 315

ENGINEER:
MICHAEL BAKER ENGINEERING, INC.
979 HAYWOOD ROAD, SUITE 201
ASHEVILLE, NC 28806

PROJECT MANAGER:
TODD BUCKNER
8000 REGENCY PARKWAY
SUITE 600
CARY, NC 27518
Todd.Buckner@mbakerintl.com
919-481-5710

SURVEYOR:
WES COLE SURVEYING AND DESGN
549 ELK PARK DR, SUITE #707
ASHEVILLE, NC 28804
(828) 251-7025

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

BUNCOMBE COUNTY

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	EB-5547 A	1	

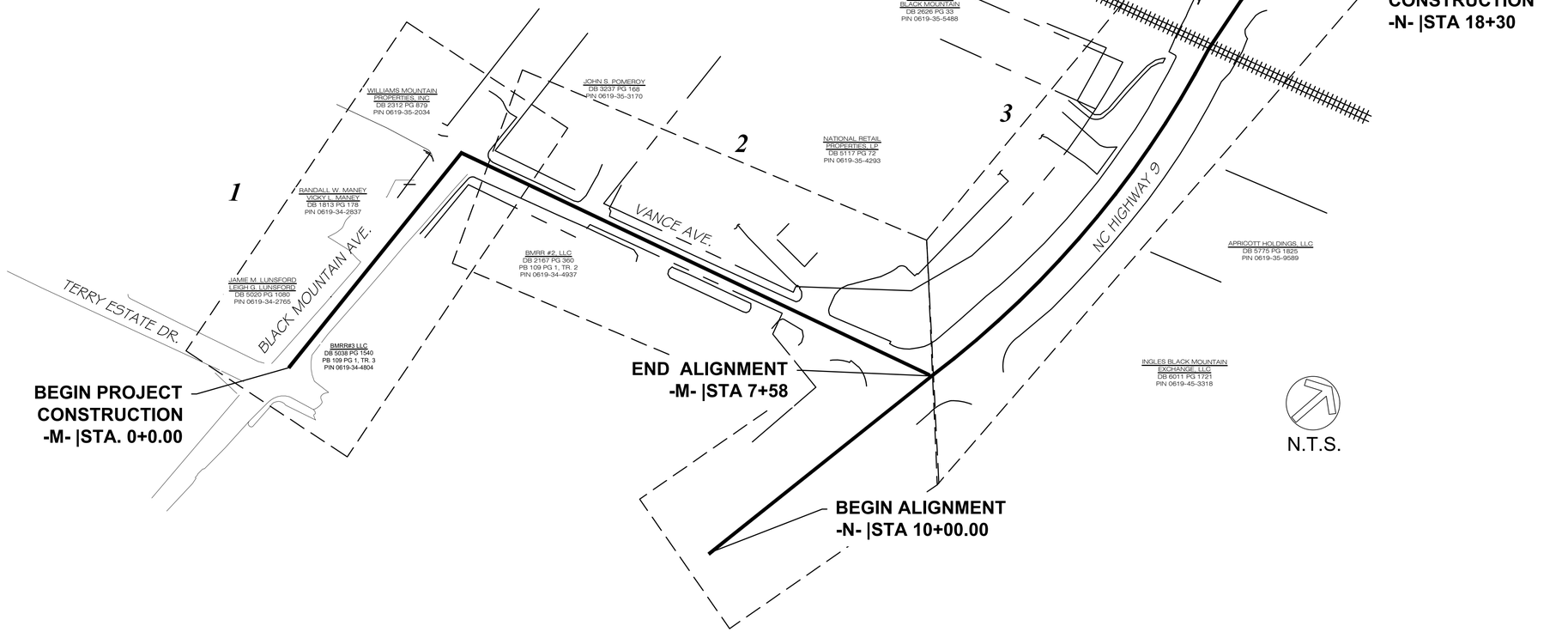
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION
51045.1.3	1302108	P.E.
51045.2.3	1302108	R/W & UTILITY
51045.3.3	1302108	CONSTRUCTION

LOCATION: BLACK MOUNTAIN BICYCLE, PEDESTRIAN IMPROVEMENTS, AND SIDEWALK IMPROVEMENTS STARTING AT BLACK MOUNTAIN AVE TO THE INTERSECTION OF VANCE AVE. AND NC HIGHWAY 9 AND ENDING AT SUTTON AVE.

TYPE OF WORK: ROAD DIET, PAVEMENT MARKINGS, CROSSWALK IMPROVEMENTS, RE-SURFACING, SIGNALIZATION/ INTERSECTION IMPROVEMENTS, SIGNING, AND SIDEWALKS.

BLACK MOUNTAIN EB-5547 A

90% REVISED PRELIMINARY ENGINEERING SUBMITTAL



GRAPHIC SCALES

1" = 40'
40 20 0 40 80
PLANS

1" = 20'
20 10 0 20 40
PLANS

PROJECT LENGTH

TOTAL LENGTH OF PROJECT = 0.029 MILES
TOTAL LIMITS OF DISTURBANCE = 58,510 SF / 1.34 AC.

DATE

AUGUST 2026

PLANS PREPARED FOR THE TOWN OF BLACK MOUNTAIN BY:

Michael Baker INTERNATIONAL

NC Eng License F-1084
8000 Regency Parkway, Suite 600
Cary, North Carolina 27518
Phone: 919.463.5488
Fax: 919.463.5490

2024 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
N/A

LETTING DATE:
TBD

FRED GROGAN, ASLA/PLA
PROJECT LANDSCAPE ARCHITECT

TODD BUCKNER, P.E.
PROJECT MANAGER

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

TOWN OF BLACK MOUNTAIN 1893 NORTH CAROLINA

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

INDEX OF SHEETS	
SHEET NO.	DESCRIPTION
1	TITLE SHEET
1A	SHEET INDEX & GENERAL NOTES
1B	CONVENTIONAL SYMBOLS
2A	EXISTING CONDITIONS SURVEY
3A	TYPICAL SECTIONS
3B-1-3B-3	NCDOT DETAILS
4A-1	DEMOLITION & PLANTING PLAN
4A-2	PLANTING DETAILS
5-7	SIDEWALK,SHARED ROAD, PEDESTRIAN IMPROVEMENTS & UTILITIES PLANS
TMP	TRAFFIC MANAGEMENT PLAN
PMP	SIGNING & PAVEMENT MARKING PLAN
SIG-1	SIGNAL MODIFICATION DESIGN (PENDING)
SIG-2	ELECTRICAL DETAILS (PENDING)
SIG-3	ELECTRICAL DETAILS (PENDING)

LIST OF ROADWAY STANDARD DRAWINGS

THE FOLLOWING ROADWAY STANDARDS AS APPEAR IN "ROADWAY STANDARD DRAWINGS" HIGHWAY DESIGN BRANCH-N C. DEPARTMENT OF TRANSPORTATION-RALEIGH, N.C., DATED JANUARY 2024 ARE APPLICABLE TO THIS PROJECT AND BY REFERENCE HEREBY ARE CONSIDERED A PART OF THESE PLANS:

STD NO.	DESCRIPTION
DIVISION 7 - CONCRETE PAVEMENTS AND SHOULDERS	
700.01	CONCRETE PAVEMENT JOINTS - CONSTRUCTION AND CONTRACTION JOINTS
DIVISION 8 - INCIDENTALS (PART 2)	
848.06	CURB RAMP - EXISTING CURB & GUTTER
848.06	CURB RAMP - TRUNCATED DOME
848.06	CURB RAMP- PARALLEL RAMPS
848.06	CURB RAMP- DIRECTIONAL RAMP
DIVISION 12- PAVEMENT MARKINGS, MARKERS AND DELINEATION	
1205.01	PAVEMENT MARKINGS- LINE TYPES AND OFFSETS
1205.07	PAVEMENT MARKINGS- PEDESTRIAN CROSSWALKS
1205.07	PAVEMENT MARKINGS- FACILITY TRANSITIONS
1205.08	PAVEMENT MARKINGS- SYMBOLS AND WORD MESSAGES
1205.16	BICYCLE FACILITIES- SYMBOLS AND DETAILS

SITE NOTES

ALL DIMENSIONS ARE IN RADII, EDGE OF PAVEMENT, TO CENTERLINE,CENTER TO CENTER ON STRIPES, UNLESS OTHERWISE NOTED

PROVIDE CONSTRUCTION JOINTS IN CONCRETE WALKWAYS EVERY 10' MAXIMUM WHEN WALKS ARE 10' WIDE. MATCH WIDTH UNDER 10'.

CONCRETE PADS AND WALKWAYS; UNLESS OTHERWISE NOTED, ARE 3000 PSI, OF 4" THICKNESS.

ALL SIGNS AND PAVEMENT MARKINGS ARE TO MEET MUTCD (MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES) AND NCDOT STANDARDS.

CONTRACTOR TO GRADE FILL SLOPES AROUND SEWER MANHOLES TO AVOID PONDING.

UTILITY NOTES

CONTRACTOR SHALL NOTIFY "NORTH CAROLINA ONE CALL" (TELEPHONE1-800-632-4949) AT LEAST 48 HOURS PRIOR TO BEGINNING CONSTRUCTION OR EXCAVATION TO HAVE EXISTING UTILITIES LOCATED. CONTRACTOR TO CONTACT LOCAL UTILITIES THAT PROVIDE THEIR OWN LOCATOR SERVICES INDEPENDENT OF "NORTH CAROLINA ONE CALL."

THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE LOCATION OF ALL EXISTING UTILITIES IN COORDINATION WITH THE APPROPRIATE UTILITY AGENCY, OR COMPANY.

THE CONTRACTOR SHALL VERIFY FIELD CONDITIONS PRIOR TO BEGINNING RELATED CONSTRUCTION. ANY DISCREPANCIES SHALL BE REPORTED TO THE OWNER'S REPRESENTATIVE IMMEDIATELY.

ALL UTILITIES THAT ARE LOCATED WITHIN LIMITS OF DISTURBANCE SHALL BE SET SO THAT TOPS/RIMS ARE FLUSH WITH FINISHED GRADE UNLESS OTHERWISE NOTED ON PLANS.

EXISTING UTILITIES AND STRUCTURES SHOWN, BOTH UNDERGROUND AND ABOVE, ARE BASED ON A FIELD SURVEY PERFORMED BY WES COLE LAND SURVEYING PA AND AVAILABLE RECORD DRAWINGS. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR FIELD LOCATING ALL UTILITIES PRIOR TO CONSTRUCTION AND FOR DAMAGES RESULTING FROM FAILURE TO DO SO.

CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING WITH THE TOWN FOR ANY ADDITIONAL INFORMATION ON EXISTING WATER AND SEWER UTILITIES.

LOCATIONS OF EXISTING UTILITIES ARE APPROXIMATE. CONTRACTOR SHALL BE RESPONSIBLE FOR FIELD VERIFYING EXACT LOCATION, ORIENTATION, AND ELEVATION OF EXISTING UTILITIES PRIOR TO BEGINNING CONSTRUCTION OR ORDERING MATERIALS.

ALL UTILITIES TO REMAIN SHALL BE PROTECTED BY THE CONTRACTOR. ANY UTILITIES DAMAGED DURING CONSTRUCTION SHALL BE REPAIRED BY CONTRACTOR AT HIS EXPENSE.

CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY SHOULD ANY FIELD CONDITIONS BE ENCOUNTERED THAT VARY FROM THE INFORMATION PROVIDED IN THE CONTRACT DOCUMENTS.

GENERAL NOTES

STATEMENT OF CONSTRUCTION

THIS PROJECT GENERALLY CONSISTS OF ROAD DIET, PAVEMENT MARKINGS, CROSSWALK IMPROVEMENTS, RE-SURFACING, SIGNALIZATION/ INTERSECTION IMPROVEMENTS, SIGNING, AND SIDEWALKS.

THE CONTRACTOR SHALL PERFORM ALL CONSTRUCTION ACTIVITIES IN ACCORDANCE WITH THE APPLICABLE REQUIREMENTS OF THE JANUARY 2024 NCDOT STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES.

DEMOLITION NOTES

CONTACT THE TOWN OF BLACK MOUNTAIN PUBLIC WORKS DEPARTMENT AND NCDOT TO SET UP A PRE-CONSTRUCTION MEETING PRIOR TO LAND DISTURBANCE. TREE PROTECTION FENCING CAN AND SHOULD BE INSTALLED PRIOR TO PRE- CONSTRUCTION.

THE CONTRACTOR SHALL NOTIFY THE TOWN OF BLACK MOUNTAIN INSPECTOR AND NCDOT PRIOR TO STARTING WORK. CONTACT INFORMATION WILL BE PROVIDED AT THE PRE-CONSTRUCTION CONFERENCE.

THE CONTRACTOR SHALL NOT MAKE ANY LANE CLOSURES OR CHANGES TO THE EXISTING TRAVEL PATTERNS ON ANY PUBLIC STREET WITHOUT PRIOR APPROVAL FROM THE TOWN OF BLACK MOUNTAIN.

ALL DEMOLITION SHALL BE APPROVED BY THE TOWN OF BLACK MOUNTAIN AND NCDOT (IF WITHIN RIGHT OF WAY).

ALL DEMOLITION WORK WILL BE COORDINATED BY THE CONTRACTOR.

THE CONTRACTOR IS RESPONSIBLE FOR CONFORMING TO ALL LOCAL, STATE, AND FEDERAL REQUIREMENTS REGARDING REMOVAL AND DISPOSAL OF MATERIALS AND DEBRIS.

ALL DEMOLITION AND SUBSEQUENT CONSTRUCTION TO BE IN ACCORDANCE WITH PERMITS ISSUED AND APPLICABLE STATE, COUNTY, AND LOCAL CODES.

THE CONTRACTOR SHALL OBTAIN AND PAY FOR ALL INSPECTIONS, CERTIFICATIONS, PERMITS, EQUIPMENT, ETC. THAT MAY BE REQUIRED.

RELOCATION OF EXISTING UTILITIES TO BE COORDINATED WITH THE LOCAL UTILITY PROVIDER(S).

CLEANOUTS LOCATED IN AREAS OF DEMOLITION OR SUBSEQUENT CONSTRUCTION THAT ARE TO REMAIN, SHALL BE PROTECTED FROM DAMAGE AND RAISED TO FLUSH WITH NEW GRADE. ALL ITEMS DESIGNATED TO BE REMOVED SHALL BE DISPOSED OF LEGALLY OFFSITE UNLESS OTHERWISE NOTED ON THIS PLAN.

ALL TREES AND VEGETATION NOTED TO BE REMOVED SHALL BE STOCKPILED FOR FUTURE USE.

TREE PROTECTION MEASURES SHALL BE PROVIDED DURING CONSTRUCTION PER APPLICABLE PERMITS AND THE BID DOCUMENTS.

ANY TREE PROTECTION FENCING SHALL BE INSTALLED PRIOR TO LAND DISTURBANCE OPERATIONS INCLUDING TREE REMOVAL, IN SUCH A MANNER AS TO CLEARLY AND ADEQUATELY SEPARATE ALL TREES TO BE REMOVED FROM REMAINING VEGETATION.

ALL PAVEMENT MARKINGS USED FOR PROJECT SHALL BE NCDOT STANDARD THERMOPLASTIC PAVEMENT MARKINGS.

ALL WORK MUST BE COMPLETED WITHIN EASEMENTS AND CONSTRUCTION LIMITS SHOWN.

CONTRACTOR SHALL RESTORE THE LAY-DOWN AND STAGING AREA TO ORIGINAL CONDITIONS AND TO THE SATISFACTION OF THE OWNER, PRIOR TO DEMOBILIZATION AT THE CONCLUSION OF THE PROJECT.

ALL ITEMS DESIGNATED TO BE REMOVED SHALL BE REMOVED COMPLETELY INCLUDING ALL SUBGRADE MATERIALS DIRECTLY ASSOCIATED WITH ITEMS TO BE REMOVED INCLUDING STUMP GRINDING.

CLEAN SOILS SHALL BE UTILIZED FOR BACKFILL COMPACTION OF THESE SOILS PERFORMED IN ACCORDANCE WITH SPECIFICATIONS AND DRAWINGS.

ANY EXCAVATION MUST BE FILLED IN AND TAMPED AT THE CONCLUSION OF EACH WORK PERIOD, AND EQUIPMENT AND SUPPLIES RETURNED TO THE CONSTRUCTION STAGING AREA.

SHEET NOTES

ALL DEMOLITION, AND ANY SUBSEQUENT CONSTRUCTION, SHALL BE PERFORMED IN ACCORDANCE WITH THESE PLANS AND SPECIFICATIONS SET FORTH AND APPROVED BY THE TOWN OF BLACK MOUNTAIN AND NCDOT. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL REQUIRED PERMITS. ALL TREE PROTECTION FENCING SHALL REMAIN IN PLACE DURING CONSTRUCTION.

TRAFFIC CONTROLS FOR ANY WORK WITHIN THE PUBLIC RIGHT OF WAY SHALL BE PERFORMED IN COMPLIANCE WITH STANDARDS OF THE NCDOT STD. DRAWINGS AND THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD). ENGINEER AND/OR OWNER DISCLAIM ANY ROLE IN THE CONSTRUCTION MEANS AND/OR METHODS ASSOCIATED WITH THE PROJECT AS SET FORTH IN THESE PLANS.

CONTRACTOR SHALL MAINTAIN AN "AS BUILT" SET OF DRAWINGS TO RECORD THE ACTUAL LOCATION OF ALL PIPING PRIOR TO CONCEALMENT. DRAWINGS SHALL BE GIVEN TO THE ENGINEER AT REGULAR INTERVALS THROUGHOUT THE PROJECT FOR RECORD KEEPING.

THE CONTRACTOR SHALL, AT ALL TIMES, KEEP THE PREMISES FREE FROM ACCUMULATIONS OF WASTE MATERIALS OR RUBBISH CAUSED BY HIM, HIS EMPLOYEES OR HIS WORK. ALL DEBRIS SHALL BE REMOVED FROM THE PROJECT SITE ON A DAILY BASIS.

IF DEPARTURES FROM THE DRAWINGS OR SPECIFICATIONS ARE DEEMED NECESSARY BY THE CONTRACTOR, DETAILS OF SUCH DEPARTURES AND REASONS THEREOF SHALL BE SUBMITTED TO THE OWNER FOR REVIEW. NO DEPARTURES FROM THE CONTRACT DOCUMENTS SHALL BE MADE WITHOUT THE EXPRESS WRITTEN PERMISSION OF THE OWNER.

THE CONTRACTOR IS RESPONSIBLE FOR FIELD VERIFYING THE ACTUAL AND EXACT LOCATION, SIZE AND MATERIAL COMPOSITION OF ANY EXISTING WATER OR SEWER SERVICE PROPOSED FOR CONNECTION OR USE ON THIS PROJECT.

ALL SIGNS SHALL BE MOUNTED WITH SIGN EDGE AND TO BE LOCATED A MINIMUM OF 3 FEET FROM EDGE OF TRAIL.

BASE INFORMATION:

1. A SURVEY OF PROJECT AREA CONDUCTED BY WES COLE LAND SURVEYING, PA , FINALIZED ON 1/6/2017.
2. LIDAR DATA WAS COMBINED WITH FIELD SHOT SURVEY DATA TO PROVIDE COMPREHENSIVE GRADING. THE BOUNDARY OF THIS FIELD SHOT SURVEY IS DELINEATED ON THE PLANS.
3. ALL EXISTING BASE INFORMATION WAS COMPILED BY THE SURVEYOR UNLESS NOTED BELOW.
4. AERIAL IMAGERY AVAILABLE FROM BUNCOMBE COUNTY (2015).

ACCESSIBILITY CRITERIA:

5. ACCESSIBILITY DESIGN IS IN ACCORDANCE WITH THE AMERICANS WITH DISABILITIES ACT (ADA).
6. LONGITUDINAL SLOPE (TRAIL GRADE) CRITERIA:
   - 6.1. LONGITUDINAL SLOPE (TRAIL GRADE) MEETS ONE OR MORE OF THE FOLLOWING:
   - 6.2. 5% OR LESS FOR ANY DISTANCE.
   - 6.3. UP TO 8.33% FOR 200' MAX. RESTING INTERVALS NO MORE THAN 200' APART.
   - 6.4. UP TO10% FOR 30' MAX. RESTING INTERVALS 30'
   - 6.5. UP TO 12.5% FOR 10' MAX. RESTING INTERVALS 10'.
   - 6.6. NO MORE THAN 30% OF THE TOTAL TRAIL LENGTH MAY EXCEED A RUNNING SLOPE OF 8.33%.
7. CROSS SLOPE CRITERIA:
   - 7.1. MAXIMUM CROSS SLOPE: 2% UNLESS OTHERWISE NOTED (EXCEPTIONS UP TO 5% TO MEET EXISTING CONDITIONS)
8. RAMP CRITERIA:
   - 8.1. THE MAXIMUM SLOPE OF A RAMP IS 1:12, THE MAXIMUM RISE FOR ANY RUN IS 30 INCHES, WITH 5'-0" LEVEL LANDINGS LEVEL REQUIRED AT TOP AND BOTTOM OF EACH RAMP RUN.

DESIGN CRITERIA:

9. DESIGN IN ACCORDANCE WITH THE GUIDE FOR THE DEVELOPMENT OF BICYCLE FACILITIES, 5TH EDITION, AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS (AASHTO 2024; "GREENBOOK" (AASHTO 2018).
10. PROPOSED PAVEMENT SHALL MEET EXISTING PAVEMENT FLUSH.
11. GRADE SIDE SLOPES AND ADJACENT TERRAIN FOR POSITIVE DRAINAGE. ENSURE THAT THERE IS NO STANDING WATER ON THE UPHILL SIDE OF THE TRAIL. INSTALL DIVERSION DITCH AS NEEDED TO DIRECT WATER TO CULVERTS.

UTILITIES & UTILITY EASEMENTS:

12. MSD EASEMENT ASSUMED TO BE 15' FROM SEWER LINE, EACH SIDE (TOTAL 30' WIDE EASEMENT), UNLESS IDENTIFIED OTHERWISE IN SURVEY.
13. THE EDGES OF PAVED TRAILS SHALL HAVE A MINIMUM CLEARANCE ZONE OF 4' TO THE EDGE OF RAISED MANHOLES. WHERE MANHOLES ARE WITHIN THE PAVED TRAIL THEY SHOULD BE FLUSH WITH THE FINISHED TRAIL SURFACE AND NO CLOSER THAN 4" FROM THE EDGE OF THE PAVEMENT.

EXISTING INFRASTRUCTURE :

WHEN THE TRAIL INTERSECTS WITH A ROAD CROSSING THERE SHALL BE A 10' APRON (OR AS SPECIFIED ON THE PLAN) OF CONCRETE STARTING AT THE EDGE OF ROAD.

TOTAL DISTURBED AREA: APPROXIMATELY 2.19 ACRES

SEQUENCE OF CONSTRUCTION ACTIVITIES:

1. A PRECONSTRUCTION CONFERENCE MUST BE HELD PRIOR TO THE START OF ANY CONSTRUCTION ACTIVITIES.
2. INSTALL CONSTRUCTION ENTRANCES AS NEEDED AT LOCATIONS SHOWN ON APPROVED PLANS. STAGING AREAS WILL NEED TO BE DISCUSSED WITH THE TOWN OF BLACK MOUNTAIN PRIOR TO THE START OF CONSTRUCTION.
3. DETERMINE AND MARK LIMITS OF DISTURBANCE.
4. INSTALL TREE PROTECTION FENCING, SILT FENCE, SILT FENCE OUTLETS. SILT FENCE OUTLETS SHALL BE INSTALLED PER FIELD LOCATED LOW POINTS AND AS SHOWN ON APPROVED PLANS.
5. CLEAR ONLY AS NECESSARY TO INSTALL THESE DEVICES. CALL FOR ON SITE INSPECTION BY ENVIRONMENTAL INSPECTOR AND OBTAIN CERTIFICATE OF COMPLIANCE.
6. IF TOPSOIL IS ALLOWED TO BE STORED ON SITE, STORAGE AREAS SHALL BE CONTAINED WITHIN THE PROPOSED LIMITS OF DISTURBANCE. TOPSOIL STORAGE AREAS WILL NEED TO BE DISCUSSED WITH THE TOWN OF BLACK MOUNTAIN PRIOR TO THE START OF CONSTRUCTION.
7. BEGIN CLEARING AND GRUBBING ACTIVITIES. INSTALL AND MAINTAIN DEVICES AS NEEDED.
8. ROUGH GRADE SITE AND INSURE THAT SEDIMENT LADEN WATER IS DIRECTED TO SEDIMENT CONTROL DEVICES.
9. INSPECT AND MAINTAIN ALL EROSION CONTROL MEASURES EVERY 7 DAYS AND AFTER EACH SIGNIFICANT RAINFALL (0.5 INCHES OR GREATER) OR AS MORE STRINGENT REQUIREMENTS MAY APPLY AND DOCUMENT WITH INSPECTION REPORTS.
10. CULVERTS ARE TO BE CONSTRUCTED IN THE DRY. CONTRACTOR IS TO COORDINATE WITH EROSION CONTROL INSPECTOR.
11. AS AREAS ARE BOUGHT UP TO FINISH GRADE SPREAD TOPSOIL OVER ALL AREAS TO RECEIVE TURF OR LANDSCAPING. SEED ALL AREAS WITHIN NCDENR STABILIZATION TIMEFRAMES. PERMANENT GRASS SHALL BE INSTALLED FOR ALL AREAS AT FINAL GRADE AN IN SEASON. FERTILIZE, WATER AND RESEED AS REQUIRED TO ESTABLISH AND MAINTAIN A VIGOROUS STAND OF GRASS.
12. AFTER COMPLETION OF CONSTRUCTION AND THE SITE IS STABILIZED, REMOVE ALL ACCUMULATED SEDIMENT FROM SEDIMENT TRAPPING MEASURES AND SPREAD EVENLY ACROSS THE SITE. ALL APPLICABLE E&S CONTROL MEASURES ARE TO REMAIN AND BE PROPERLY MAINTAINED UNTIL PERMANENT VEGETATION IS ESTABLISHED. USE NPDES TABLE FOR ESTABLISHMENT OF VEGETATION.
13. WHEN VEGETATION HAS BECOME ESTABLISHED, REMOVE TEMPORARY EROSION AND SEDIMENTATION CONTROL MEASURES. CALL FOR FINAL SITE INSPECTION BY ENVIRONMENTAL OFFICER. OBTAIN CERTIFICATE OF COMPLIANCE.

UTILITIES

DUKE ENERGY**
DISTRIBUTION POWER
CORY HAMLIN, 704-996-9403
cory.hamlin@duke-energy.com

AT&T
TELECOMMUNICATIONS
JANSEN CASELL, 828-275-6513
jc6701@att.com

ERC BROADBAND**
TELECOMMUNICATIONS
LEWIS LANCE, 828-350-2415
llance@ercbroadband.com

SEGRA
TELECOMMUNICATIONS
ROBERT ROBINSON, 704-579-7897
Robert.robinson@segra.com

MCNC
TELECOMMUNICATIONS
WESTON SUGGS, 336-460-8328
wsuggs@mcnc.org

CHARTER COMMUNICATIONS
TELECOMMUNICATIONS
TRAVIS BANKS, 828-337-5825
travis.banks@charter.com

ENBRIDGE
GAS
BLAKE ALLISON, 704-810-3233
blake.allison@dominionenergy.com

TOWN OF BLACK MOUNTAIN**
WATER
JAMEY MATTHEWS, 828-419-9300 (EXT. 652)
jamey.matthews@tobm.org

METROPOLITAN SEWERAGE**
SEWER
OWEN HERBERT, 828-254-9646
owenh@msdbc.org

**KNOWN UTILITY CONFLICTS
PLEASE NOTE, NOT ALL UTILITIES IDENTIFIED WILL BE IMPACTED BY THE PROJECT.

90% PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

TOWN OF BLACK MOUNTAIN 1893 NORTH CAROLINA

NCDOT TIP: EB-5547A
BLACK MOUNTAIN EB-5547A
BUNCOMBE COUNTY, NC

90% PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

SHARED ROAD DESIGN

SHEET INDEX & GENERAL NOTES

Michael Baker INTERNATIONAL
NC Eng License F-1084
8000 Regency Parkway
Suite 600
Cary, North Carolina 27518
Phone: 919.463.5488
Fax: 919.463.5490

DATE: AUGUST 2026

REVISIONS:

NO.	DATE:

VERTICAL SCALE: N/A

HORIZONTAL SCALE: N/A

PROJECT NO.: 197482

SHEET NO. 1A

11/14/23

Note: Not to Scale

STATE OF NORTH CAROLINA, DIVISION OF HIGHWAYS
CONVENTIONAL PLAN SHEET SYMBOLS

5547A 1B

BOUNDARIES AND PROPERTY:

- State Line
- County Line
- Township Line
- City Line
- Reservation Line
- Property Line
- Existing Iron Pin (EIP)
- Computed Property Corner
- Existing Concrete Monument (ECM) — ECM
- Parcel / Sequence Number — 123
- Existing Fence Line
- Proposed Woven Wire Fence
- Proposed Chain Link Fence
- Proposed Barbed Wire Fence
- Existing Wetland Boundary — WLB
- Proposed Wetland Boundary — WLB
- Existing Endangered Animal Boundary — EAB
- Existing Endangered Plant Boundary — EPB
- Existing Historic Property Boundary — HPB
- Known Contamination Area: Soil
- Potential Contamination Area: Soil
- Known Contamination Area: Water
- Potential Contamination Area: Water
- Contaminated Site: Known or Potential

BUILDINGS AND OTHER CULTURE:

- Gas Pump Vent or U/G Tank Cap
- Sign
- Well — W
- Small Mine — M
- Foundation
- Area Outline
- Cemetery
- Building
- School
- Church
- Dam

HYDROLOGY:

- Stream or Body of Water
- Hydro, Pool or Reservoir
- Jurisdictional Stream — JS
- Buffer Zone 1 — BZ 1
- Buffer Zone 2 — BZ 2
- Flow Arrow
- Disappearing Stream
- Spring
- Wetland — K
- Proposed Lateral, Tail, Head Ditch — FLOW
- False Sump

RAILROADS:

- Standard Gauge — CSX TRANSPORTATION
- RR Signal Milepost — S MILEPOST 35
- Switch — SWITCH
- RR Abandoned
- RR Dismantled

RIGHT OF WAY & PROJECT CONTROL:

- Primary Horiz Control Point
- Primary Horiz and Vert Control Point
- Secondary Horiz and Vert Control Point
- Vertical Benchmark
- Existing Right of Way Monument
- Proposed Right of Way Monument (Rebar and Cap)
- Proposed Right of Way Monument (Concrete)
- Existing Permanent Easement Monument
- Proposed Permanent Easement Monument (Rebar and Cap)
- Existing C/A Monument
- Proposed C/A Monument (Rebar and Cap)
- Proposed C/A Monument (Concrete)
- Existing Right of Way Line
- Proposed Right of Way Line — RW
- Existing Control of Access Line — CA
- Proposed Control of Access Line — CA
- Proposed ROW and CA Line — RW CA
- Existing Easement Line — E
- Proposed Temporary Construction Easement — E
- Proposed Temporary Drainage Easement — TDE
- Proposed Permanent Drainage Easement — PDE
- Proposed Permanent Drainage/Utility Easement — DUE
- Proposed Permanent Utility Easement — PUE
- Proposed Temporary Utility Easement — TUE
- Proposed Aerial Utility Easement — AUE

ROADS AND RELATED FEATURES:

- Existing Edge of Pavement
- Existing Curb
- Proposed Slope Stakes Cut — C
- Proposed Slope Stakes Fill — F
- Proposed Curb Ramp — CR
- Existing Metal Guardrail
- Proposed Guardrail
- Existing Cable Guiderail
- Proposed Cable Guiderail
- Equality Symbol
- Pavement Removal

VEGETATION:

- Single Tree — X
- Single Shrub — Y
- Hedge

- Woods Line
- Orchard
- Vineyard — Vineyard

EXISTING STRUCTURES:

MAJOR:

- Bridge, Tunnel or Box Culvert — CONC
- Bridge Wing Wall, Head Wall and End Wall — CONC WW

MINOR:

- Head and End Wall — CONC HW
- Pipe Culvert
- Footbridge
- Drainage Box: Catch Basin, DI or JB — CB
- Paved Ditch Gutter
- Storm Sewer Manhole — m
- Storm Sewer — S

UTILITIES:

** SUE - Subsurface Utility Engineering*
LOS - Level of Service - A,B,C or D (Accuracy)

POWER:

- Existing Power Pole — P
- Proposed Power Pole
- Existing Joint Use Pole — R
- Proposed Joint Use Pole
- Power Manhole — P
- Power Line Tower
- Power Transformer
- U/G Power Cable Hand Hole
- H-Frame Pole
- U/G Power Line Test Hole (SUE - LOS A)*
- U/G Power Line (SUE - LOS B)* — P
- U/G Power Line (SUE - LOS C)* — P
- U/G Power Line (SUE - LOS D)* — P

TELEPHONE:

- Existing Telephone Pole — Q
- Proposed Telephone Pole
- Telephone Manhole — T
- Telephone Pedestal
- Telephone Cell Tower
- U/G Telephone Cable Hand Hole
- U/G Telephone Test Hole (SUE - LOS A)*
- U/G Telephone Cable (SUE - LOS B)* — T
- U/G Telephone Cable (SUE - LOS C)* — T
- U/G Telephone Cable (SUE - LOS D)* — T
- U/G Telephone Conduit (SUE - LOS B)* — TC
- U/G Telephone Conduit (SUE - LOS C)* — TC
- U/G Telephone Conduit (SUE - LOS D)* — TC
- U/G Fiber Optics Cable (SUE - LOS B)* — T FO
- U/G Fiber Optics Cable (SUE - LOS C)* — T FO
- U/G Fiber Optics Cable (SUE - LOS D)* — T FO

WATER:

- Water Manhole — 4
- Water Meter
- Water Valve — I
- Water Hydrant — H
- U/G Water Line Test Hole (SUE - LOS A)*
- U/G Water Line (SUE - LOS B)* — W
- U/G Water Line (SUE - LOS C)* — W
- U/G Water Line (SUE - LOS D)* — W
- Above Ground Water Line — A/G Water

TV:

- TV Pedestal
- TV Tower
- U/G TV Cable Hand Hole
- U/G TV Test Hole (SUE - LOS A)*
- U/G TV Cable (SUE - LOS B)* — TV
- U/G TV Cable (SUE - LOS C)* — TV
- U/G TV Cable (SUE - LOS D)* — TV
- U/G Fiber Optic Cable (SUE - LOS B)* — TV FO
- U/G Fiber Optic Cable (SUE - LOS C)* — TV FO
- U/G Fiber Optic Cable (SUE - LOS D)* — TV FO

GAS:

- Gas Valve — G
- Gas Meter
- U/G Gas Line Test Hole (SUE - LOS A)*
- U/G Gas Line (SUE - LOS B)* — G
- U/G Gas Line (SUE - LOS C)* — G
- U/G Gas Line (SUE - LOS D)* — G
- Above Ground Gas Line — A/G Gas

SANITARY SEWER:

- Sanitary Sewer Manhole — d
- Sanitary Sewer Cleanout — o
- U/G Sanitary Sewer Line — SS
- Above Ground Sanitary Sewer — A/G Sanitary Sewer
- SS Force Main Line Test Hole (SUE - LOS A)*
- SS Force Main Line (SUE - LOS B)* — FSS
- SS Force Main Line (SUE - LOS C)* — FSS
- SS Force Main Line (SUE - LOS D)* — FSS

MISCELLANEOUS:

- Utility Pole
- Utility Pole with Base — F
- Utility Located Object — S
- Utility Traffic Signal Box — 3
- Utility Unknown U/G Line (SUE - LOS B)* — PUTL
- U/G Tank; Water, Gas, Oil
- Underground Storage Tank, Approx. Loc. — UST
- A/G Tank; Water, Gas, Oil
- Geoenvironmental Boring
- Abandoned According to Utility Records — AATUR
- End of Information — E.O.I.

CHANGES IN THE PLANS: Limits of Work — LIMITS

90% PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

TOWN OF BLACK MOUNTAIN 1893 NORTH CAROLINA

NCDOT TIP: EB-5547A
BLACK MOUNTAIN EB-5547A
BUNCOMBE COUNTY, NC

90% PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

SHARED ROAD DESIGN

SYMBOLS
CONVENTIONAL SYMBOLS

Michael Baker INTERNATIONAL
NC Eng License: F-1084
8000 Regency Parkway
Suite 600
Cary, North Carolina 27518
Phone: 919.463.5488
Fax: 919.463.5490

DATE: AUGUST 2026

REVISIONS:

NO.	DATE:

VERTICAL SCALE: N/A

HORIZONTAL SCALE: N/A

PROJECT NO.: 197482

SHEET NO. 1B

LEGEND:

- EXISTING IRON REBAR (EIR) OR EXISTING MAG NAIL (EMN)
- EXISTING IRON PIPE (EIP)
- EXISTING CONCRETE MONUMENT (R/W MON)
- O.S.D.TRAVERSE STATION
- SANITARY SEWER MANHOLE (SMH)
- SANITARY SEWER CLEAN-OUT (CO)
- WATER METER (WM)
- WATER VALVE (WV)
- UTILITY POLE
- LIGHT POLE
- CABLE TELEVISION RISER
- TELEPHONE PEDESTAL (TPED)
- TELEPHONE MANHOLE (TMH)
- TRAFFIC CONTROL CABINET (TCC)
- GUY WIRE
- SIGN
- STORMWATER JUNCTION BOX (JB)
- CURB INLET (CI)
- DROP INLET (DI)
- YARD INLET
- SPOT ELEVATION
- DECIDUOUS TREE (SIZE AND TYPE AS NOTED)
- CONIFEROUS TREE (SIZE AND TYPE AS NOTED)
- MONITORING WELL (MW)
- GAS METER (GM)
- GAS VALVE (GV)
- GAS TEST STATION (GTS)
- BOUNDARY LINE PER SURVEY/DEEDS
- RIGHT-OF-WAY LINE
- SANITARY SEWER LINE (APPROXIMATE)
- RAILROAD R/W LINE (APPROXIMATE)
- EASEMENT LINE
- EDGE OF RIVER / CREEK
- C/L STORM DITCH
- OVERHEAD UTILITY LINE
- CHAIN LINK FENCELINE
- BOARD FENCELINE
- METAL GUARD RAIL
- INDEX CONTOUR LINE (GROUND SURVEYED)
- INTERIM CONTOUR LINE (GROUND SURVEYED)
- LIDAR CONTOUR INDEX LINE (NOT SURVEYED)
- LIDAR CONTOUR INTERIM LINE (NOT SURVEYED)
- MARKED FIBER OPTIC (APPROXIMATE)
- MARKED TELEVISION LINE (APPROXIMATE)
- MARKED GAS LINE (APPROXIMATE)
- MARKED WATER LINE (APPROXIMATE)
- MARKED ELECTRIC LINE (APPROXIMATE)
- MARKED UNKNOWN UTILITY LINE (APPROXIMATE)

TREE ABBREVIATIONS:

APP...APPLE
CHR...CHERRY
B.W...BASSWOOD
BCH...BEECH
B.G...BLACK GUM
BIR...BIRCH
BCK..BUCKEYE
CAT...CATALPA
CED...CEDAR
CMY...CRAPE MYRTLE
C.O...CHESTNUT OAK
C.A...CRAB APPLE
D.T...DEAD TREE
D.W...DOGWOOD
HEM...HEMLOCK
HIC...HICKORY
HOL...HOLLY
J.M...JAPANESE MAPLE
LOC...LOCUST
MAG...MAGNOLIA
MAP...MAPLE
MIM...MIMOSA
ORN...ORNAMENTAL
PER...PERSIMMON
POP...POPLAR
R.O...RED OAK
S.G...SWEET GUM
SPR...SPRUCE
S.W...SOURWOOD
SYC...SYCAMORE
U.T...UNIDENTIFIED TREE
WAL...WALNUT
W.O...WHITE OAK
W.P...WHITE PINE
WIL...WILLOW
CHN...CHESTNUT
S.M...SILVER MAPLE
B.O...BLACK OAK
LC...LEYLAND CYPRESS

ABBREVIATIONS:

NTS...NOT TO SCALE
(T)...TOTAL
DB...DEED BOOK
PB...PLAT BOOK
PG...PAGE
EOM...END OF MARKINGS
S/W...SIDEWALK
ST ID...STREET IDENTIFICATION
CI...CAST IRON
TYP...TYPICAL
C&G...CURB AND GUTTER
CONC...CONCRETE
D/L...DITCH LINE
R/W...RIGHT OF WAY
C/A...CONTROLLED ACCESS
GRVL...GRAVEL
BOT...BOTTOM
HW...HEADWALL
EW...EDGE OF WATER
GM...GAS MARKER POST
UNK...UNKNOWN
TBM...TEMPORARY BENCH MARK
P.A.I. ...PER AERIAL IMAGERY
NCDOT...NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
PIN...PARCEL IDENTIFICATION NUMBER
NAD...NORTH AMERICAN DATUM
NAVD...NORTH AMERICAN VERTICAL DATUM
NSRS...NATIONAL SPATIAL REFERENCE SYSTEM
N...NORTHING
E...EASTING
Z...ELEVATION
ELEV...ELEVATION
AG...ABOVE GRADE
BG...BELOW GRADE
TT...TOP OF RAILROAD TIMBER
TR...TOP OF RAILROAD RAIL
TB...TOP OF BANK

NOTES

1. THIS PROPERTY IS SUBJECT TO ANY EASEMENTS OR RIGHTS OF WAY (WRITTEN OR UNWRITTEN).
2. THE PROPERTY OR PROPERTIES DISPLAYED WERE SURVEYED WITHOUT THE BENEFIT OF A TITLE SEARCH AND MAY NOT SHOW ALL EASEMENTS, RIGHTS OF WAY, RESTRICTIONS, ENCUMBRANCES, ETC. THAT WOULD BE REVEALED BY A CURRENT AND THOROUGH EXAMINATION OF TITLE BY A NC LICENSED ATTORNEY-AT-LAW. THIS SURVEY SHALL NOT BE CONSIDERED A CERTIFICATION OF OWNERSHIP, ZONING, TITLE, OR GUARANTEE THAT THE SUBJECT IS FREE FROM ENCUMBRANCES.
3. DEED REFERENCES: SEE PLAT. ADJOINING PROPERTY OWNER INFORMATION TAKEN FROM THE BUNCOMBE COUNTY GIS WEBSITE AND DEEDS AND PLATS OF RECORD AS NOTED.
4. AREA SHOWN HEREON WAS COMPUTED BY THE COORDINATE METHOD.
5. ALL DISTANCES ARE HORIZONTAL GRID DISTANCES IN US FEET UNLESS OTHERWISE NOTED. TO OBTAIN GROUND LENGTHS DIVIDE DISTANCES BY 0.99978448.
6. BY GRAPHICAL LOCATION, PROPERTY IS SHOWN AS LYING FLOOD ZONE AE, AN AREA DETERMINED TO BE INSIDE THE 1% ANNUAL CHANGE FLOODPLAIN PER FEMA FIRM MAP NO. 3710061900J, EFFECTIVE DATE 1/6/2010.
7. THIS SURVEY IS SUBJECT TO ANY AND ALL UNDERGROUND UTILITIES THAT MAY EXIST. UNDERGROUND UTILITIES SHOWN HEREON ARE BASED SOLELY ON ABOVE GROUND STRUCTURES AND APPURTENANCES. THIS SURVEYOR MAKES NO CERTIFICATION TO THE EXISTENCE/NON-EXISTENCE OF UNDERGROUND UTILITIES, STORAGE FACILITIES, OR OTHER UNDERGROUND STRUCTURES AND LINES. DIAL 811 BEFORE DIGGING.
8. ANY STREAMS, CREEKS, PONDS, LAKES, WETLANDS, ETC. LOCATED ON THIS PROPERTY, SHOWN OR NOT SHOWN HEREON, MAY BE SUBJECT TO BUFFER AREAS. IT IS THE OWNER/DESIGNERS RESPONSIBILITY TO HAVE THE AREAS DESIGNATED BY PROFESSIONALS AUTHORIZED BY THE PROPER AUTHORITIES TO MAKE THESE DETERMINATIONS.
9. NO MISSING CORNERS SET.
10. NCDOT RIGHT OF WAY INFORMATION TAKEN FROM PLANS FOR PROJECT #8.190887 & #8.1909402 (INTERSTATE 40, NC HWY #9 (BROADWAY ST), AND BLACK MOUNTAIN AVE.
11. VERTICAL DATUM IS NAVD 88 (GEOID 12) USING NGS MONUMENTS "FIRST UNION" & "M-180".
12. CONTOUR INTERVAL IS 2 FOOT.
13. THIS PLAT ADDS ADDITIONAL TOPO AND LOCATION AREAS, AS NOTED ON PLAT. THIS PLAT ALSO UPDATES THE LIDAR CONTOUR LINES (NOT SURVEYED) WITH UPDATED DATA FROM FRIS.NC.GOV. NO OTHER CHANGES OR INSPECTIONS MADE.
14. LIDAR ELEVATION DATA TAKEN FROM NC SPATIAL DATA DOWNLOAD WEBSITE. THIS DATA IS NOT CERTIFIED.
15. NOT ALL SERVICE LINES FOR UNDERGROUND UTILITIES ARE SHOWN. LINES THAT ARE SHOWN ARE APPROXIMATE.

NC GRID NORTH - NAD 83 (NSRS 2011)

CONTOURS SHOWN AS SOLID LINES ARE GENERATED BY USING LIDAR DATA TAKEN FROM THE NC SPATIAL DATA DOWNLOAD WEBSITE. THESE SOLID CONTOUR LINES ARE NOT CERTIFIED AND HAVE NOT BEEN GROUND VERIFIED. LIDAR DATA IS BASED UPON NC GRID COORDINATES. NO SCALING HAS BEEN PERFORMED.

COLE SURVEYING & DESIGN, PA
549 ELK PARK DRIVE, SUITE 707
ASHEVILLE, NC 28804
PHONE: 828-251-7025
NC FIRM #C-3106 | SC COA #4052

TOPOGRAPHIC AND LOCATION SURVEY FOR:

MICHAEL BAKER INTERNATIONAL

(BLACK MOUNTAIN RIVERWALK)

TOWN OF BLACK MOUNTAIN, BUNCOMBE COUNTY, NC

DATE: 1-15-20	REVISIONS			
PROJECT NO.: 16-029	NO.	DATE	DESC.	BY
FIELD WORK: BF/BB	1	02/06/24	SEE NOTE #13	RJC
DRAWN BY: RJC				
SCALE: 1" = 50'				

TOWN OF BLACK MOUNTAIN 1893 NORTH CAROLINA

NCDOT TIP: EB-5547A
BLACK MOUNTAIN EB-5547A

BUNCOMBE COUNTY, NC

90% PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

SURVEY

Michael Baker INTERNATIONAL
NC Eng License: P-1084
8000 Regency Parkway
Suite 600
Cary, North Carolina 27518
Phone: 919.463.5488
Fax: 919.463.5490

DATE: AUGUST 2026

REVISIONS:

NO.	DATE:

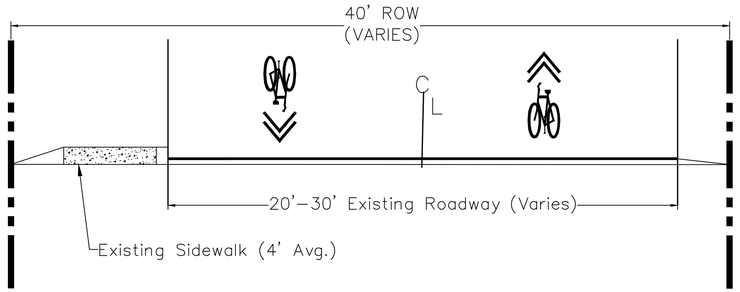
VERTICAL SCALE: N/A

HORIZONTAL SCALE: 1"=50'

PROJECT NO.: 197482

SHEET NO. 2A

BLACK MOUNTAIN AVENUE

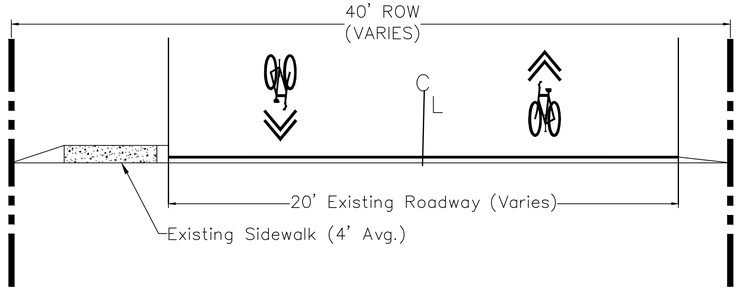


TYPOLOGY APPLIES TO THE FOLLOWING LOCATIONS

CHAIN	BEGIN STATION	END STATION	
M	0+00.00	2+81.80	A 1T

NOTE:
NO RESURFACING IS INCLUDED IN TYPICAL SECTIONS A AND B. ALL NEW PAVEMENT MARKINGS SHALL BE APPLIED DIRECTLY TO THE EXISTING ROAD SURFACE AS SPECIFIED IN THE PLANS. CONFLICTING AND DAMAGED EXISTING MARKINGS SHALL BE REMOVED PRIOR TO THE NEW APPLICATION.

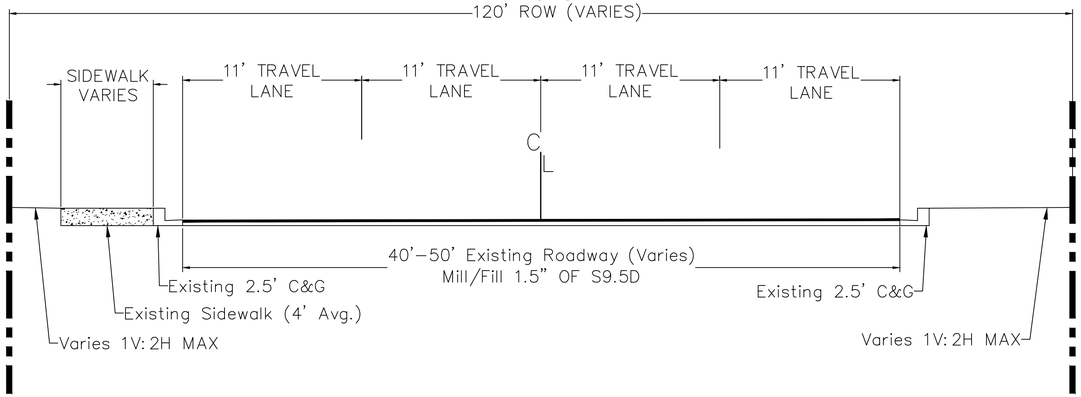
VANCE AVENUE



TYPOLOGY APPLIES TO THE FOLLOWING LOCATIONS

CHAIN	BEGIN STATION	END STATION	
M	2+81.80	7+57.60	B 1T

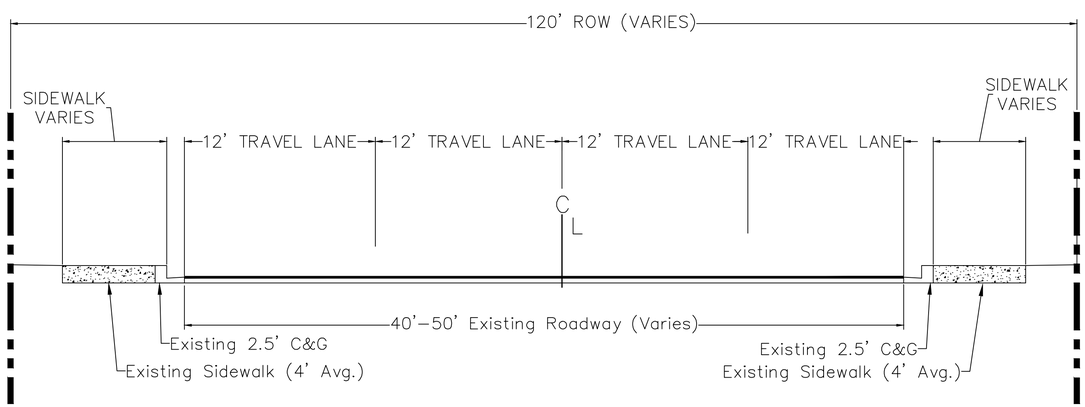
NC HIGHWAY 9
PROPOSED



TYPOLOGY APPLIES TO THE FOLLOWING LOCATIONS

CHAIN	BEGIN STATION	END STATION	
N	10+00.00	12+27.29	C 1T

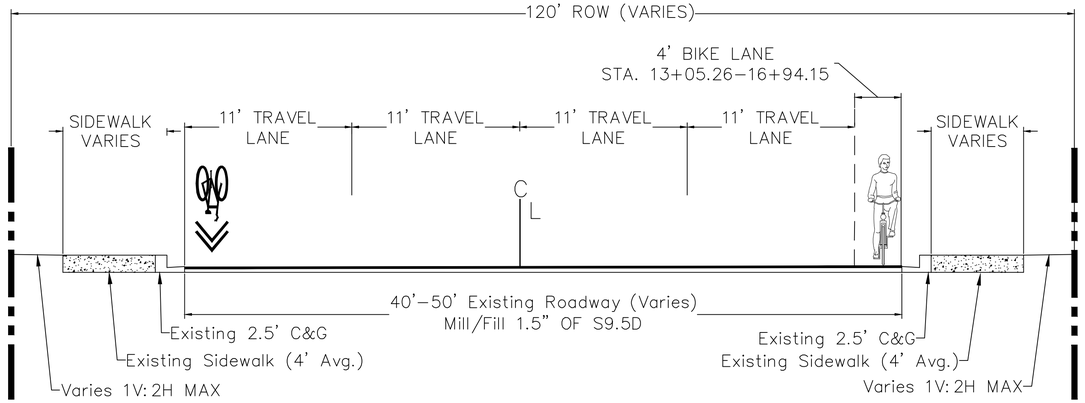
NC HIGHWAY 9
EXISTING CONDITIONS



TYPOLOGY APPLIES TO THE FOLLOWING LOCATIONS

CHAIN	BEGIN STATION	END STATION	
N	12+93.78	18+30.42	D 1T

NC HIGHWAY 9
PROPOSED



TYPOLOGY APPLIES TO THE FOLLOWING LOCATIONS

CHAIN	BEGIN STATION	END STATION	
N	12+93.78	18+30.42	D 1T

TOWN OF BLACK MOUNTAIN 1893 NORTH CAROLINA

NCDOT TIP: EB-5547A
BLACK MOUNTAIN EB-5547A
BUNCOMBE COUNTY, NC

60% PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

SHARED ROAD DESIGN

TYPICAL SECTIONS

Michael Baker INTERNATIONAL
NC Eng License F-1084
7337 Haywood Road, Suite 201
Asheville, North Carolina 28806
Phone: 828.350.1408
Fax: 828.350.1409

DATE: AUGUST 2026

REVISIONS:

NO.	DATE:

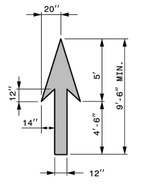
VERTICAL SCALE: N/A

HORIZONTAL SCALE: N/A

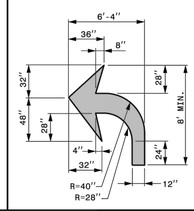
PROJECT NO.: 197482

SHEET NO. 3A

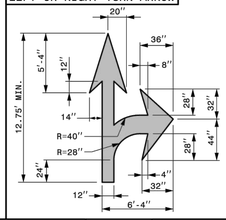
STRAIGHT ARROW



RIGHT OR LEFT TURN ARROW



COMBINATION STRAIGHT AND LEFT OR RIGHT TURN ARROW



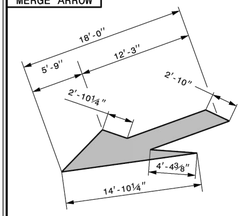
COMBINATION LEFT AND RIGHT TURN ARROW

SAME DIMENSIONS APPLY AS FOR THE LEFT/RIGHT TURN ARROW

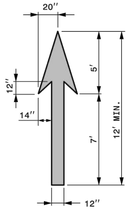
COMBINATION LEFT AND STRAIGHT AND RIGHT TURN ARROW

SAME DIMENSIONS APPLY AS FOR THE COMBINATION STRAIGHT AND LEFT/RIGHT TURN ARROW

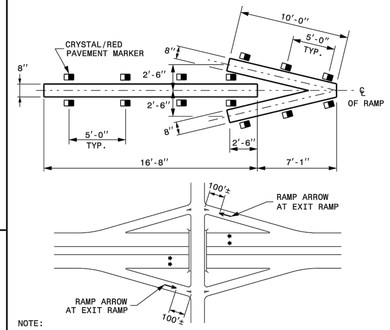
MERGE ARROW



ELONGATED STRAIGHT ARROW



WRONG-WAY RAMP ARROW



NOTE:

1- WHEN INSTALLING COLD APPLIED PLASTIC ON CONCRETE, IT IS RECOMMENDED TO USE COLD APPLIED PLASTIC WITH A BLACK CONTRASTING BOLDER.

GENERAL NOTES:

1- USE THE COLOR WHITE FOR ALL PAVEMENT MARKING SYMBOLS.

2- DO NOT LOCATE PAVEMENT MARKING SYMBOLS AS TO ENCROACH INTO INTERSECTION AREAS.

3- DO NOT PLACE SYMBOLS ACROSS TRANSVERSE EXPANSION JOINTS ON PORTLAND CEMENT CONCRETE PAVEMENTS, UNLESS APPROVED BY THE ENGINEER.

4- CONFORM ALL SYMBOLS TO THE FHWA "STANDARD HIGHWAY SIGNS" MANUAL WHICH INCLUDES PAVEMENT MARKINGS AND STANDARD ALPHABETS (REFER TO SHEETS 6 THRU 9). DIMENSIONS CAN VARY AMONG MANUFACTURERS, THEREFORE SLIGHT VARIANCES ARE ACCEPTABLE. HOWEVER, ALL SYMBOLS ARE REQUIRED TO BE APPROVED BY THE DEPARTMENT.

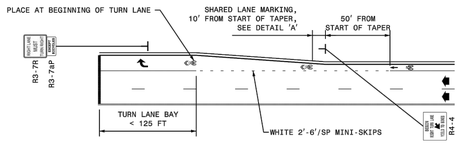
STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

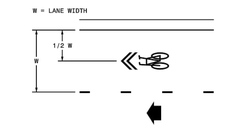
1-24

ROADWAY STANDARD DRAWING FOR
PAVEMENT MARKINGS
SYMBOLS AND WORD MESSAGES

SHEET 1 OF 9
1205.08

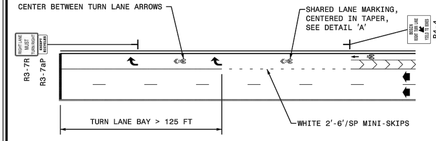
STANDARD BICYCLE LANE TO SHARED TURN LANE



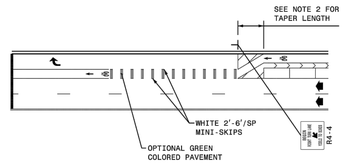


DETAIL 'A' - SHARED LANE MARKING PLACEMENT

BUFFERED/SEPARATED BICYCLE LANE TO SHARED TURN LANE



BUFFERED/SEPARATED BICYCLE LANE TO STANDARD BICYCLE LANE



GENERAL NOTES:

1- REFER TO ROADWAY STANDARD DRAWINGS 1205.01, 1205.02, 1205.05, 1205.08, AND 1205.09 FOR ADDITIONAL PAVEMENT MARKING GUIDANCE.

2- THE LENGTH OF THE BICYCLE LANE TRANSITION TAPER VARIES BY BICYCLE DESIGN SPEED. REFER TO THE LATEST VERSION OF THE AASHTO "GUIDE FOR THE DEVELOPMENT OF BICYCLE FACILITIES" FOR GUIDANCE.

STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

1-24

ROADWAY STANDARD DRAWING FOR
BICYCLE FACILITIES
FACILITY TRANSITIONS

SHEET 8 OF 9
1205.16

CONTINUOUS LINES

EDGE LINE — YELLOW OR WHITE — 4''/6''

LANE LINE — WHITE — 4''/6''

CENTER LINE — YELLOW — 4''/6''

GORE LINE — WHITE — 8''/12''

DIAGONAL LINE — YELLOW OR WHITE — 12'' 45 MPH OR HIGHER; 8'' LESS THAN 45 MPH

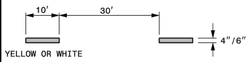
CROSSWALK LINE — WHITE — 8'' TRANSVERSE, 24'' LONGITUDINAL

RxR LINE — WHITE — 16''

STOP OR TRANSVERSE BAR — WHITE — 24''

10'-30'/SP SKIP LINE

UNLESS OTHERWISED SHOWN, USE 10'-30'/SP SKIPS FOR SKIP LANE LINES AND SKIP CENTER LINES.

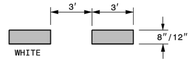


2'-6'/SP MINI-SKIP LINE

UNLESS OTHERWISED SHOWN, USE 2'-6'/SP WINI-SKIPS FOR LANE LINE EXTENSIONS THROUGH INTERSECTIONS, EDGE LINE EXTENSIONS THROUGH INTERSECTIONS AND BICYCLE LANE EXTENSIONS.

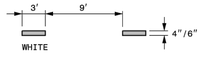
3'-3'/SP MINI-SKIP LINE

UNLESS OTHERWISED SHOWN, USE 3'-3'/SP MINI-SKIPS FOR THE WHITE EDGE LINE EXTENSIONS AT ROUNDABOUTS.



3'-9'/SP MINI-SKIP LINE

UNLESS OTHERWISED SHOWN, USE 3'-9'/SP WINI-SKIPS FOR MINI-SKIP LANE LINES, LINE EXTENSIONS THROUGH TAPERS, AND WINI-SKIPS USED FOR BICYCLE LANE LINES.



GENERAL NOTES:

1- USE 6" LANE, EDGE, AND CENTER LINES ON ALL FULL CONTROL OF ACCESS FACILITIES AND OTHER ROUTES AS DIRECTED BY THE ENGINEER.

2- LANE LINES INDICATED AS "WIDE" ON THE ROADWAY STANDARD DRAWINGS SHALL BE AT LEAST TWICE THE WIDTH OF THE NORMAL LINE.

3- GORE LINES SHALL BE TWICE THE WIDTH OF THE NORMAL LINE.

STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

1-24

ROADWAY STANDARD DRAWING FOR
PAVEMENT MARKINGS
LINE TYPES AND OFFSETS

SHEET 1 OF 2
1205.01

EDGE LINE OFFSET DETAIL

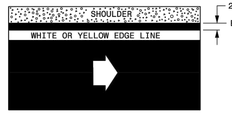
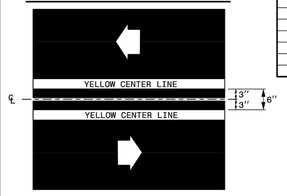


TABLE 1

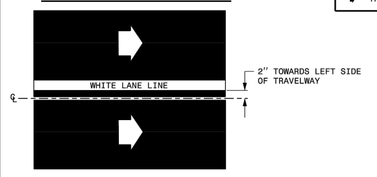
EDGE LINE OFFSETS FOR 2-LANE, 2-WAY ROADWAYS WITH UN-PAVED SHOULDERS

WIDTH (W) OF TRAVEL PAVEMENT	MAX. EDGE LINE OFFSET FROM E.O.T.	MINIMUM LANE WIDTH (W)
16' - 18'	2''	8' - 9'
19'	4''	9'
20'	6''	9.5'
21'	8''	10'
22'	10''	10'
23'	10''	10.5'
24'	1'	11'
26'	2'	11'
28'	2'	12'
30'	3'	12'
32'	4'	12'

CENTER LINE OFFSET DETAIL



LANE LINE OFFSET DETAIL



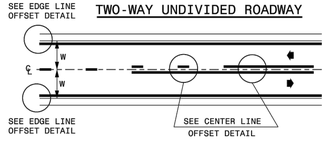
LEGEND

W = WIDTH OF TRAVEL LANE

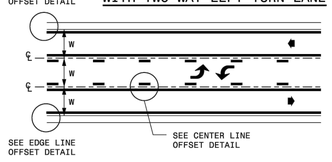
E.O.T.= EDGE OF TRAVEL

DIRECTION OF TRAFFIC FLOW

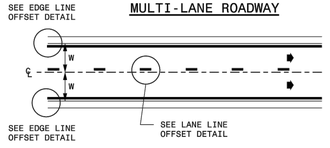
TWO-WAY UNDIVIDED ROADWAY



TWO-WAY UNDIVIDED ROADWAY WITH TWO-WAY LEFT TURN LANE



MULTI-LANE ROADWAY



STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

1-24

ROADWAY STANDARD DRAWING FOR
PAVEMENT MARKINGS
LINE TYPES AND OFFSETS

SHEET 2 OF 2
1205.01

NCDOT TIP: EB-5547A
BLACK MOUNTAIN EB-5547A
BUNCOMBE COUNTY, NC

90% PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

SHARED ROAD DESIGN
DO NOT USE FOR RIGHT OF WAY ACQUISITION

NCDOT DETAILS

Michael Baker INTERNATIONAL
NC Eng License F-1084
8000 Regency Parkway
Suite 600
Cary, North Carolina 27518
Phone: 919.463.5488
Fax: 919.463.5490

DATE: AUGUST 2026

REVISIONS:

NO.	DATE:

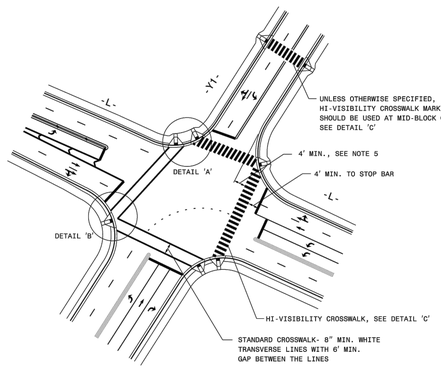
VERTICAL SCALE: N/A

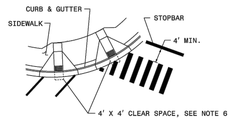
HORIZONTAL SCALE: N/A

PROJECT NO.: 197482

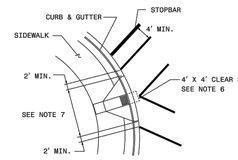
SHEET NO. 3B-1

CROSSWALK PLACEMENT GUIDANCE

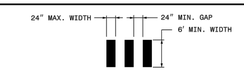




DETAIL 'A'- DUAL CURB RAMPS



DETAIL 'B'- SINGLE DIAGONAL CURB RAMP



DETAIL 'C'- HI-VISIBILITY CROSSWALK

GENERAL NOTES:

1- USE THE DETAILS ABOVE AND THE FOLLOWING NOTES FOR GUIDANCE IN PLACING CROSSWALK MARKINGS. REFER TO NCDOT ROADWAY STANDARD DRAWINGS, MUTCD AND ADA STANDARDS FOR ADDITIONAL GUIDANCE.

2- THE LOCATION AND TYPE OF CROSSWALK MARKINGS SHOWN ON THE ABOVE DETAILS ARE FOR REFERENCE ONLY. LOCATE CROSSWALK MARKINGS AS SHOWN ON THE PROJECT DETAIL SHEETS OR AS DIRECTED BY THE ENGINEER. THE CROSSWALK MARKING TYPE, STANDARD OR HI-VISIBILITY, SHALL BE INSTALLED AS SPECIFIED ON THE PROJECT DETAIL SHEETS OR AS DIRECTED BY THE ENGINEER.

3- THE STANDARD CROSSWALK IS TWO WHITE 8" MIN. TRANSVERSE LINES WITH A 6' MIN. GAP BETWEEN THE LINES. THE HI-VISIBILITY CROSSWALK IS WHITE 24" MAX. WIDE LONGITUDINAL LINES WITH 24" MIN. GAPS BETWEEN LINES, SEE DETAIL 'C'. HI-VISIBILITY CROSSWALKS SHOULD BE A MINIMUM OF 6' WIDE. CURB RAMPS SHALL BE WHOLLY CONTAINED WITHIN THE MARKINGS, EXCLUDING ANY FLARES.

4- STOP BARS SHOULD BE PLACED A 4' MIN. IN ADVANCE OF NEAREST CROSSWALK LINE.

5- SET BACK DISTANCE FROM INSIDE CROSSWALK MARKING TO NEAREST EDGE OF TRAVEL IS 4' MIN.

6- BEYOND THE BOTTOM GRADE BREAK, A CLEAR SPACE OF 4' X 4' MIN. SHALL BE PROVIDED WITHIN THE MARKINGS.

7- SINGLE DIAGONAL CURB RAMPS WITH FLARED SIDES SHALL HAVE A SEGMENT OF CURB 2' MIN. LONG LOCATED ON EACH SIDE OF THE CURB RAMP AND WITHIN THE MARKED CROSSING, SEE DETAIL 'B'.

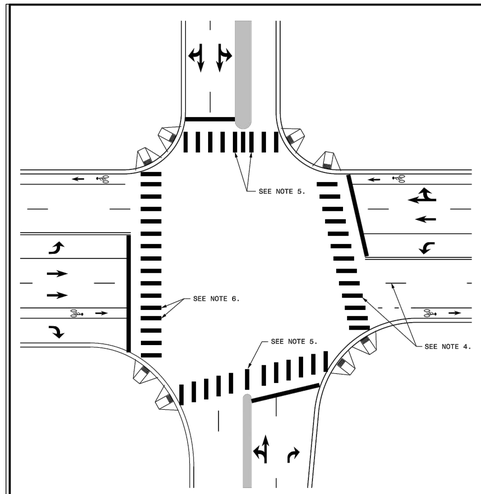
8- CURB RAMPS SHALL BE CONSTRUCTED IN ACCORDANCE TO THE LATEST NCDOT ROADWAY STANDARD DRAWINGS. CURB RAMPS THROUGH MEDIAN ISLANDS, SINGLE RAMPS AT DUAL CROSSWALKS OR LIMITED R/W SITUATIONS, WILL BE HANDLED BY SPECIAL DETAILS. CONTACT THE CONTRACT STANDARDS AND DEVELOPMENT UNIT FOR DETAILS OR A SPECIAL DESIGN.

STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

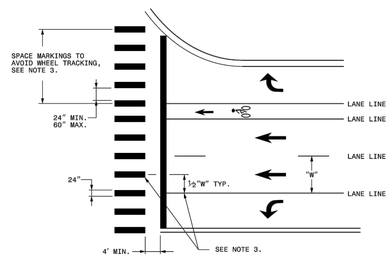
1-24

ROADWAY STANDARD DRAWING FOR
PAVEMENT MARKINGS
PEDESTRIAN CROSSWALKS

SHEET 1 OF 2
1205.07



CROSSWALK INTERSECTION DETAIL



CROSSWALK MARKING DETAIL

GENERAL NOTES:

1- THE GUIDANCE IN THIS DETAIL IS TO BE USED WHEN NO-TRACK SPACING OF HI-VISIBILITY MARKINGS IS REQUESTED.

2- USE THE GUIDANCE SHOWN ON THE ABOVE DETAILS IN CONJUNCTION WITH PAVEMENT MARKING GUIDANCE SHOWN ON ROADWAY STANDARD DRAWINGS 1205.01 AND 1205.07.

3- PLACE MARKINGS TO AVOID WHEELPATH OF VEHICLES. MARKINGS TYPICALLY WILL BE LOCATED CENTERED AT THE LANE LINES AND EDGE LINES WITH ONE ADDITIONAL MARKING CENTERED IN THE MIDDLE OF THE LANE. AT WIDE LANE WIDTHS DUE TO TAPERS AND LARGE RADII, LOCATE MARKINGS AT BEST SPACING TO AVOID WHEEL TRACKING. THE SPACE BETWEEN MARKINGS SHALL NOT BE LESS THAN 24 INCHES OR GREATER THAN 60 INCHES.

4- WHERE THE CROSSWALK IS SKEWED TO THE LANE LINES, THE MARKINGS SHOULD BE PARALLEL TO THE LANE LINES.

5- PLACE MARKINGS ON BOTH EDGES OF THE NOSE OF A MEDIAN. FOR NARROW MEDIANS LESS THAN 4 FEET, A SINGLE MARKING MAY BE USED. FOR WIDE MEDIANS, INSTALL ADDITIONAL MARKINGS IN THE MEDIAN AREA. THE SPACE BETWEEN THE MARKINGS SHALL NOT TO BE LESS THAN 24 INCHES OR GREATER THAN 60 INCHES.

6- LOCATE MARKINGS CENTERED ON BICYCLE LANE LINES. MARKINGS SHALL NOT BE LOCATED IN THE CENTER OF THE BICYCLE PATH.

STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

1-24

ROADWAY STANDARD DRAWING FOR
PAVEMENT MARKINGS
HI-VISIBILITY CROSSWALKS
NO-TRACK MARKING GUIDANCE

SHEET 2 OF 2
1205.07

GENERAL NOTES:

1- USE THE NOTES AND DETAILS SHOWN ON THE FOLLOWING SHEETS IN CONJUNCTION WITH SIGNING AND PAVEMENT MARKING GUIDANCE SHOWN IN DIVISIONS 9 AND 12 OF THE NCDOT ROADWAY STANDARD DRAWINGS AND THE MUTCD.

2- THE SHARED LANE MARKING IS OPTIONAL AND MAY BE USED TO ALERT ROAD USERS OF THE PRESENCE OF BICYCLISTS, ENCOURAGE SAFE PASSING OF BICYCLISTS BY MOTORISTS, AND REDUCE THE INCIDENCE OF WRONG-WAY BICYCLING. SHARED LANE MARKING LIMITATIONS INCLUDE:

A- SHOULD NOT BE USED ON ROADWAYS WHERE THE SPEED LIMIT IS 40 MPH OR MORE.

B- SHALL NOT BE USED IN SHOULDERS, BICYCLE LANES, OR BICYCLE LANE EXTENSIONS, TRAVEL LANE SHARED WITH LIGHT RAIL TRANSIT, TRANSITION AREA TO AN EXCLUSIVE TURN LANE WHERE THE MOTOR VEHICLE MUST WEAVE ACROSS BICYCLE TRAFFIC IN BICYCLE LANES, TWO-STAGE TURN BOXES, BICYCLE BOXES, SHARED-USE PATHS, SHARED-USE PATH CROSSINGS, AND PHYSICALLY SEPARATED BIKEWAYS.

C- SHOULD NOT BE USED IN THE CIRCULATORY ROADWAY OF A MULTI-LANE ROUNDABOUT.

D- GREEN COLORED PAVEMENT SHALL NOT BE APPLIED AS A BACKGROUND.

3- BICYCLE LANES SHOULD BE DELINEATED FROM THE VEHICLE TRAVEL LANES WITH A 4" WIDE SOLID WHITE LINE. MARKINGS MAY BE INCREASED TO 6" WIDE IF EMPHASIS IS NEEDED TO DISTINGUISH BICYCLE LANES FROM OTHER LANE OR EDGE LINE MARKINGS.

4- BICYCLE LANE WIDTHS ARE TYPICALLY 5 TO 7 FEET OF PAVEMENT. THE GUTTER PAN ON AN URBAN STREET IS NOT TO BE CONSIDERED PART OF THE BICYCLE LANE. SEE NCDOT ROADWAY DESIGN MANUAL AND NCDOT COMPLETE STREETS RESOURCES FOR MORE GUIDANCE ON BICYCLE LANE DIMENSIONS.

5- BICYCLE LANE LINES CAN BE SOLID, MINI-SKIPS OR DISCONTINUED DEPENDENT ON THE LOCATION. MINI-SKIPS SHOULD BE USED AT LOCATIONS WHERE THERE ARE FREQUENT MOTORIST TURNING MOVEMENTS AND WHERE THERE IS MERGING BY BICYCLISTS AND MOTORISTS. REVIEW THE PLANS TO IDENTIFY CONFLICT AREAS. ALL BICYCLE LANE EXTENSION MINI-SKIP LINES SHALL BE 2'-6" SPACING PER ROADWAY STANDARD DRAWING 1205.01 AND MATCH THE WIDTH OF THE LINE IT IS EXTENDING. ENGINEERING JUDGEMENT SHOULD BE USED TO DECIDE WHAT MARKING TYPE TO BE USED, BUT GENERALLY, BICYCLE LANES SHOULD BE MARKED AS FOLLOWS:

A- AT DRIVEWAYS AND ALLEY ENTRANCES, BICYCLE LANES SHOULD REMAIN SOLID.

B- AT STREET OR COMMERCIAL ENTRANCES, BICYCLE LANES SHOULD BE MARKED WITH MINI-SKIPS.

C- AT INTERSECTIONS THAT DO NOT HAVE A DEDICATED RIGHT TURN LANE, MINI-SKIPS SHOULD BE USED AT THE APPROACH OF SIGNALIZED AND MINOR INTERSECTIONS AND AT THE APPROACH OF STREET AND COMMERCIAL ENTRANCES WITH HEAVY RIGHT TURN VOLUMES. MINI-SKIPS SHOULD BE PLACED 50-200 FEET IN ADVANCE OF THE INTERSECTION OR ENTRANCE.

D- BICYCLE MINI-SKIP LANE EXTENSION LINES MAY BE PLACED ACROSS INTERSECTIONS TO INDICATE LEFT TURN MOVEMENTS OR FOR GUIDANCE THROUGH LONG, SKEWED, OR CURVED INTERSECTIONS. DO NOT EXTEND THE LINES THROUGH MARKED CROSSWALKS.

E- MINI-SKIPS SHOULD BE USED AT THE END OF A BICYCLE LANE THAT MERGES THE BICYCLIST BACK INTO THE TRAVEL LANE.

F- MINI-SKIPS SHOULD BE USED AT BUS STOPS, BUS BAYS, AND BULB OUTS.

6- BICYCLE MARKINGS SHALL CONSIST OF A SYMBOL AND ARROW. DUE TO THE COMPLEXITY OF URBAN STREETS, USE BEST ENGINEERING JUDGEMENT IN THEIR PLACEMENT TO REMIND MOTORISTS OF THE PRESENCE OF BICYCLISTS. PLACE MARKINGS ALONG THE BICYCLE LANE AS FOLLOWS:

A- AT THE BEGINNING OF THE BICYCLE LANE.

B- IN URBAN AREAS, AT THE FAR SIDE OF ALL INTERSECTIONS AND MAJOR STREET ENTRANCES. IF THERE ARE MULTIPLE STREETS WITHIN THE BLOCK, PLACE BETWEEN GROUPS OF ENTRANCES. ADDITIONAL MARKINGS MAY BE PLACED AT THE INTERSECTION APPROACH (PRIOR TO A CROSSWALK). TRY NOT TO OVER PLACE IF THE APPROACH LENGTH IS SHORT.

C- IN SUBURBAN AND RURAL AREAS, PLACE AFTER MAJOR INTERSECTIONS. WHERE INTERSECTIONS ARE SPACED FAR APART, PLACE IN INTERVALS NOT TO EXCEED 1/4 MILE IN SUBURBAN AREAS AND 1/2 MILE IN RURAL AREAS.

D- BEFORE THE START OF THE TAPER OF A THROUGH BICYCLE LANE. IF IT IS A LONG TAPER OR LONG EXTENSION OF THE MINI-SKIPS, PLACE ANOTHER MARKING WHERE THE SOLID BICYCLE LANE LINE RESUMES TO REMIND MOTORISTS OF THE PRESENCE OF THE BICYCLE LANE.

E- ADDITIONAL MARKINGS SHOULD BE PLACED IN POCKET BICYCLE LANES LONGER THAN 250 FEET.

F- ADDITIONAL MARKINGS MAY BE PLACED AT HEAVY TRAFFIC CONFLICT AREAS TO REMIND MOTORIST OF POTENTIAL PRESENCE OF BICYCLISTS. EXAMPLES WOULD BE BEFORE A MERGE AREA OR ALONG A BICYCLE LANE ADJACENT TO ON-STREET PARKING. AVOID PLACING MARKINGS IN AREAS WHERE MOTORISTS WOULD TRACK THROUGH THE MARKINGS SUCH AS MERGE AREAS, DRIVEWAY ENTRANCES OR WITHIN THE TURNING RADIUS OF AN INTERSECTION.

7- BICYCLE SIGNING SUPPLEMENTS BICYCLE LANE MARKINGS. TYPICAL SIGNING FOR BICYCLE LANES IS AS FOLLOWS:

A- THE STANDARD "BIKE LANE" (R3-17) SIGN WITH "AHEAD" (R3-17AP) PLAQUE SHOULD BE PLACED IN ADVANCE OF THE START OF A BICYCLE LANE. THE "BIKE LANE" WITH THE "ENDS" (R3-17BP) PLAQUE SHOULD BE PLACED AT A SUFFICIENT DISTANCE TO GIVE WARNING THAT THE BICYCLE LANE IS ENDING. THE "BIKE LANE ENDS" SIGN ASSEMBLY SHOULD NOT BE USED WHERE A BICYCLE LANE IS DROPPED ON THE APPROACH TO AN INTERSECTION AND RESUMES IMMEDIATELY AFTER THE INTERSECTION OR FOR OTHER TEMPORARY INTERRUPTIONS.

B- USING ENGINEERING JUDGEMENT, "BIKE LANE" (R3-17) SIGNS MAY BE PLACED AT PERIODIC INTERVALS ALONG A BICYCLE LANE, ADJACENT TO A BICYCLE PAVEMENT MARKING.

C- WHERE THE BICYCLE LANE ENDS AND TRANSITIONS TO TYPICAL ROADWAY, THE "SHARE THE ROAD" (W11-1) SIGN AND OPTIONAL "SHARE THE ROAD" (W16-1P) PLAQUE MAY BE USED TO REMIND MOTORISTS THAT THE LANE MUST BE SHARED WITH BICYCLISTS.

8- BUFFER WIDTHS FOR BUFFERED BICYCLE LANES ARE TYPICALLY 2 TO 3 FEET WIDE. BUFFER MARKINGS ARE SPACED A MINIMUM OF TEN FEET APART AND TYPICALLY EQUAL IN FEET TO THE POSTED SPEED LIMIT. SEE ROADWAY STANDARD DRAWING 1205.16, SHEET 4 OF 9 FOR DETAIL ON MARKINGS AND PLACEMENT WITHIN BUFFER AREA. USE ENGINEERING JUDGEMENT FOR PLACEMENT OF BUFFER BETWEEN BICYCLE LANE AND HIGH TURNOVER PARKING AREAS AND HIGHER SPEED MOTOR VEHICLE TRAVEL LANES. SEE NCDOT ROADWAY DESIGN MANUAL AND NCDOT COMPLETE STREETS RESOURCES FOR MORE GUIDANCE ON BUFFER WIDTH DIMENSIONS.

9- GREEN COLORED PAVEMENT IS OPTIONAL FOR BICYCLE LANES, BICYCLE LANE EXTENSION LINES THROUGH INTERSECTIONS, EXTENSIONS THROUGH EXCLUSIVE MOTOR VEHICLE TURN LANES, BICYCLE BOXES, TWO-STAGE TURN BOXES, BICYCLE DETECTOR SYMBOLS, AND SEPARATED BICYCLE LANES. SEE ROADWAY STANDARD DRAWING 1205.16, SHEET 2 OF 8 FOR SYMBOLS & DETAILS GUIDANCE. USE ENGINEERING JUDGEMENT FOR PLACEMENT OF GREEN COLORED PAINT AT CONFLICT AREAS.

STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

1-24

ROADWAY STANDARD DRAWING FOR
BICYCLE FACILITIES
GENERAL NOTES

SHEET 1 OF 9
1205.16

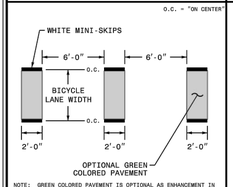
GENERAL NOTES:

1- USE THE COLOR WHITE FOR ALL PAVEMENT MARKING SYMBOLS.

2- DO NOT LOCATE PAVEMENT MARKING SYMBOLS WITHIN INTERSECTION AREAS.

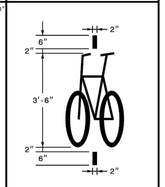
3- DO NOT PLACE SYMBOLS ACROSS TRANSVERSE EXPANSION JOINTS ON PORTLAND CEMENT CONCRETE PAVEMENTS, UNLESS APPROVED BY THE ENGINEER.

BICYCLE LANE EXTENSION MARKINGS



NOTE: GREEN COLORED PAVEMENT IS OPTIONAL AS ENHANCEMENT IN AREAS BETWEEN MINI-SKIP PAIRS AND SHALL MATCH THE MINI-SKIP PATTERN.

BICYCLE DETECTOR SYMBOL



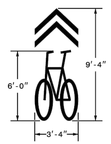
NOTES:

1- "WAIT HERE FOR GREEN" WORD MARKINGS ARE OPTIONAL AND MAY BE PLACED ON THE PAVEMENT IMMEDIATELY BELOW THE SYMBOL.

2- A R10-22 SIGN MAY BE INSTALLED TO SUPPLEMENT THE SYMBOL, AND IT SHOULD BE PLACED ROADSIDE ADJACENT TO THE SYMBOL.

3- GREEN COLORED PAVEMENT IS OPTIONAL AS A BACKGROUND ENHANCEMENT.

SHARED LANE SYMBOL

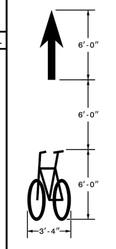


NOTES:

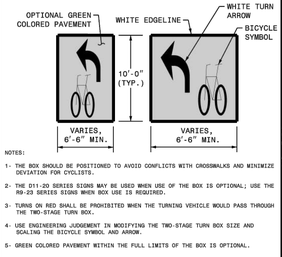
1- IF USED, THE SHARED LANE SYMBOL SHOULD BE SPACED AT INTERVALS NOT LESS THAN 50 FEET AND NOT GREATER THAN 250 FEET AT NON-INTERSECTION LOCATIONS.

2- THE FIRST SHARED LANE SYMBOL DOWNSTREAM FROM AN INTERSECTION SHOULD BE PLACED NO MORE THAN 50 FEET FROM THE INTERSECTION.

BICYCLE LANE SYMBOLS



TWO-STAGE BICYCLE TURN BOX



NOTES:

1- THE BOX SHOULD BE POSITIONED TO AVOID CONFLICTS WITH CROSSWALKS AND MINIMIZE DEVIATION FOR CYCLISTS.

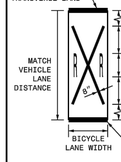
2- THE D11-2O SERIES SIGNS MAY BE USED WHEN USE OF THE BOX IS OPTIONAL; USE THE R9-23 SERIES SIGNS WHEN BOX USE IS REQUIRED.

3- TURNS ON RED SHALL BE PROHIBITED WHEN THE TURNING VEHICLE WOULD PASS THROUGH THE TWO-STAGE TURN BOX.

4- USE ENGINEERING JUDGEMENT IN MODIFYING THE TWO-STAGE TURN BOX SIZE AND SCALING THE BICYCLE SYMBOL AND ARROW.

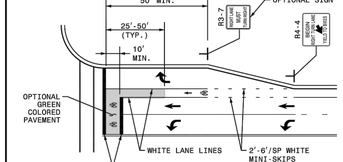
5- GREEN COLORED PAVEMENT WITHIN THE FULL LIMITS OF THE BOX IS OPTIONAL.

BICYCLE RXR SYMBOL



NOTE: REFER TO ROADWAY STANDARD DRAWING 1205.08 FOR MORE RAILROAD RXR SYMBOL GUIDANCE.

BICYCLE BOX



NOTES:

1- WHERE A BICYCLE BOX IS PROVIDED ACROSS MULTIPLE LANES OF AN APPROACH, COUNTDOWN PEDESTRIAN SIGNALS SHALL BE PROVIDED FOR THE CROSSWALK ACROSS THE APPROACH ON WHICH THE BICYCLE BOX IS LOCATED.

2- TURNS ON RED SHALL BE PROHIBITED FROM THE LANE IN WHICH A BICYCLE BOX IS LOCATED.

3- AT LEAST ONE BICYCLE SYMBOL MARKING SHALL BE USED IN THE BICYCLE BOX.

STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

1-24

ROADWAY STANDARD DRAWING FOR
BICYCLE FACILITIES
SYMBOLS AND DETAILS

SHEET 2 OF 9
1205.16

TOWN OF BLACK MOUNTAIN 1893 NORTH CAROLINA

NCDOT TIP: EB-5547A
BLACK MOUNTAIN EB-5547A

BUNCOMBE COUNTY, NC

90% PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

SHARED ROAD DESIGN
DO NOT USE FOR RIGHT OF WAY ACQUISITION

NCDOT DETAILS

Michael Baker INTERNATIONAL
NC Firm Licerse F-1084
8000 Regency Parkway
Suite 600
Cary, North Carolina 27518
Phone: 919.463.5488
Fax: 919.463.5490

DATE: AUGUST 2026

REVISIONS:

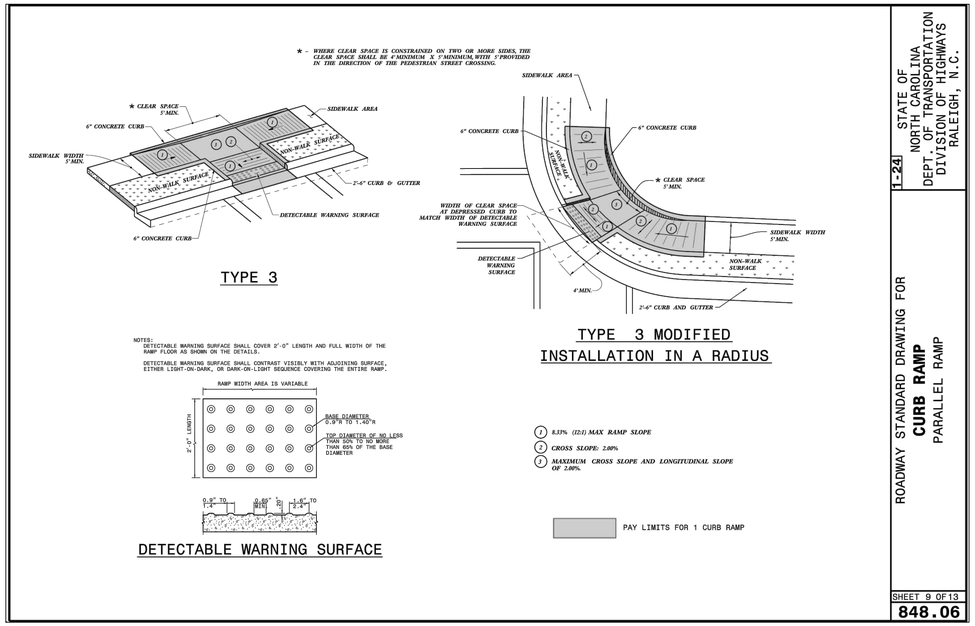
NO.	DATE:

VERTICAL SCALE:
N/A

HORIZONTAL SCALE:
N/A

PROJECT NO.:
197482

SHEET NO.
3B-2

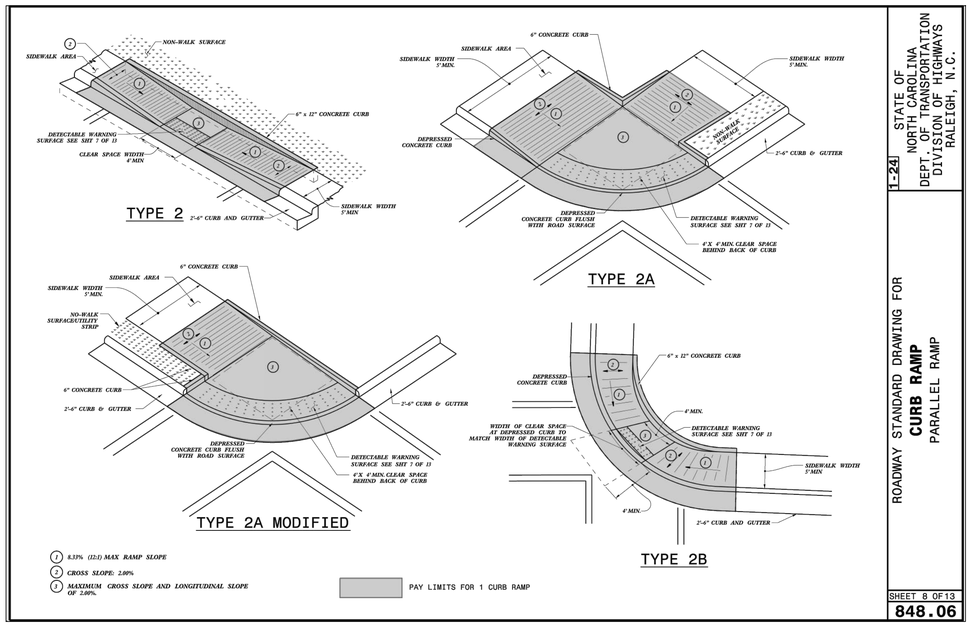


STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

1-24

ROADWAY STANDARD DRAWING FOR
CURB RAMP
PARALLEL RAMP

SHEET 9 OF13
848.06

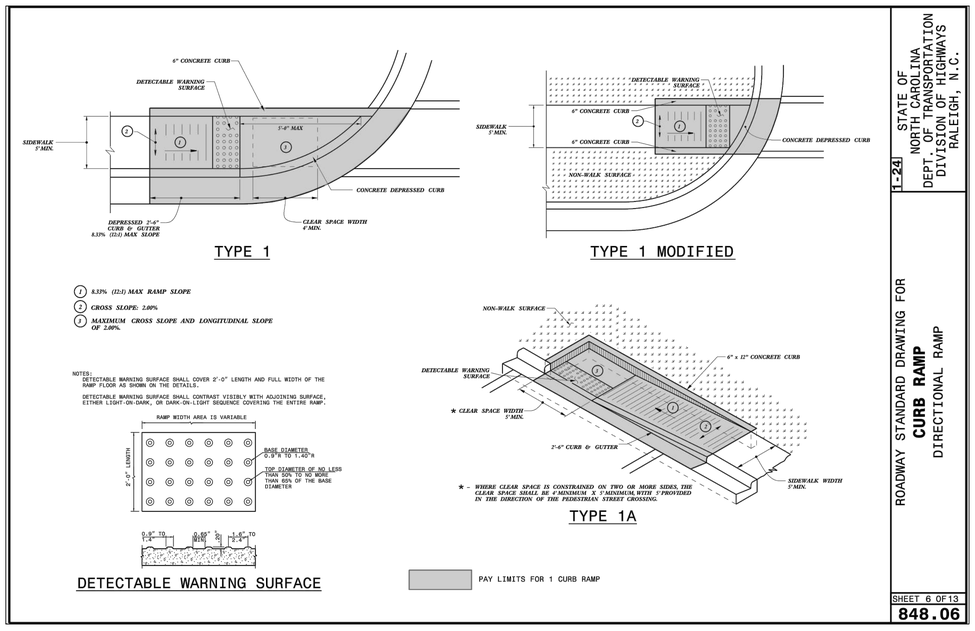


STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

1-24

ROADWAY STANDARD DRAWING FOR
CURB RAMP
PARALLEL RAMP

SHEET 8 OF13
848.06

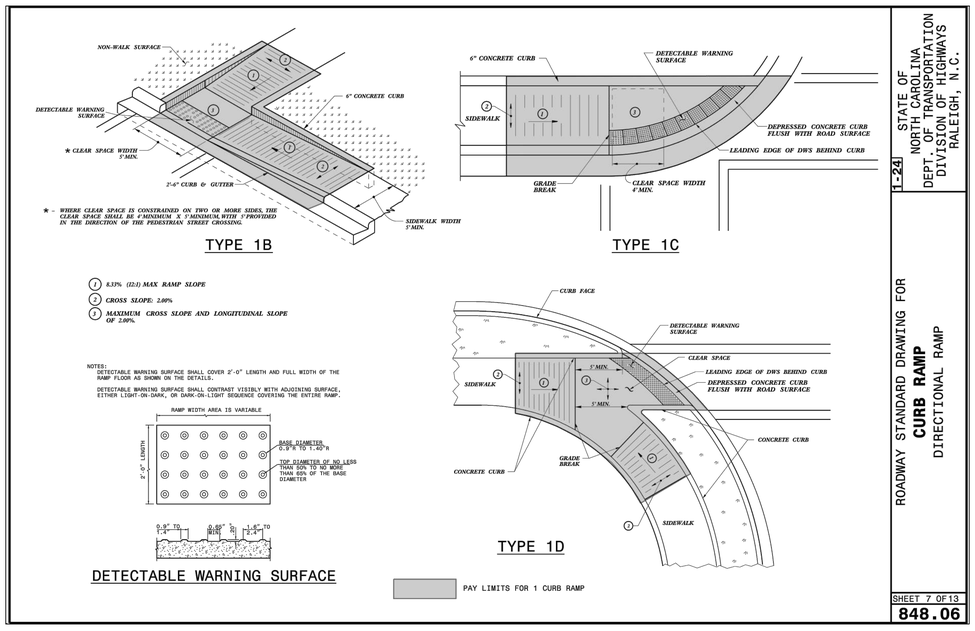


STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

1-24

ROADWAY STANDARD DRAWING FOR
CURB RAMP
DIRECTIONAL RAMP

SHEET 6 OF13
848.06



STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

1-24

ROADWAY STANDARD DRAWING FOR
CURB RAMP
DIRECTIONAL RAMP

SHEET 7 OF13
848.06

TOWN OF BLACK MOUNTAIN 1893 NORTH CAROLINA

NCDOT TIP: EB-5547A
BLACK MOUNTAIN EB-5547A

BUNCOMBE COUNTY, NC

90% PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

SHARED ROAD DESIGN
DO NOT USE FOR RIGHT OF WAY ACQUISITION

NCDOT DETAILS

Michael Baker INTERNATIONAL
NC Eng Licens: F-1084
8000 Regency Parkway
Suite 600
Cary, North Carolina 27518
Phone: 919.463.5488
Fax: 919.463.5490

DATE: AUGUST 2026

REVISIONS:

NO.	DATE:

VERTICAL SCALE: N/A

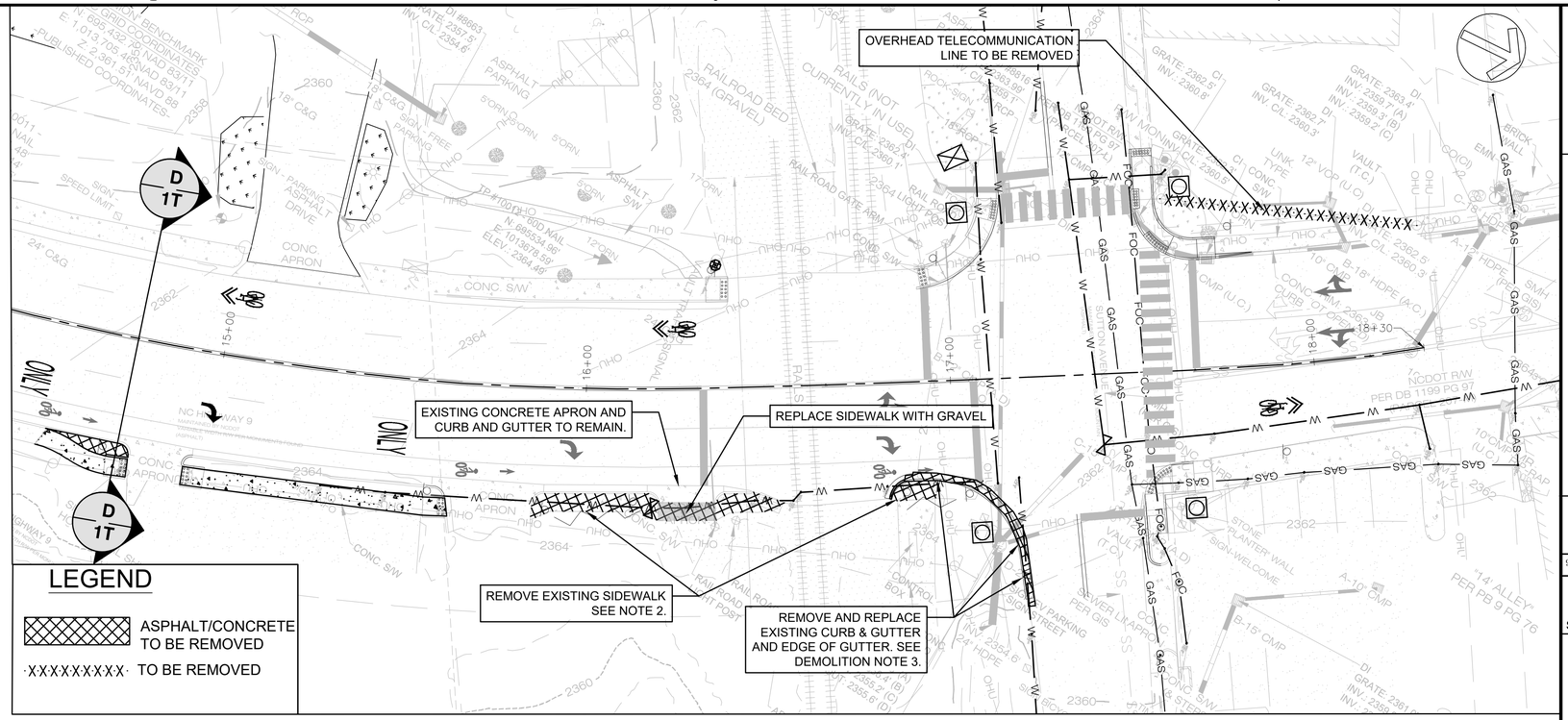
HORIZONTAL SCALE: N/A

PROJECT NO.: 197482

SHEET NO. 3B-3

DEMOLITION NOTES:

1. ALL PROPOSED DEMOLITION SHALL BE COMPLETED PRIOR TO PLANT INSTALLATION.
2. REPLACE DEMOLISHED SIDEWALKS AND ASSOCIATED BASE COURSE WITH TOPSOIL UNLESS OTHERWISE NOTED.
3. DEMOLISH EXISTING CURB & GUTTER AND ASPHALT OVERLAY (RAIL ROAD APPROACH RAMP) AND REPLACE IN-KIND.



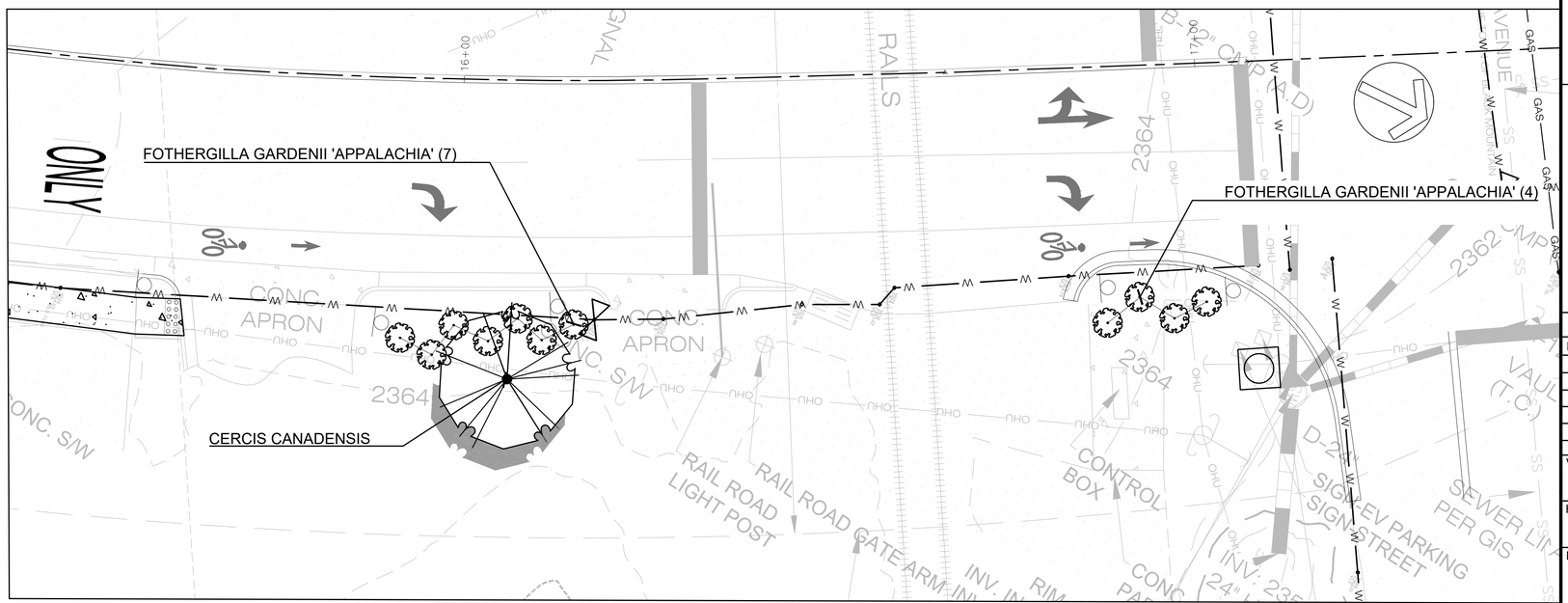
DEMO PLAN

SCALE: 1"=20'

PLANT SCHEDULE					
SYMBOL	CODE	BOTANICAL / COMMON NAME	SIZE	CONTAINER	QTY
TREES					
	CER	Cercis canadensis / Eastern Redbud Specimen quality, Strong Central Leader	2" Cal.	B&B	1
SHRUBS					
	FOT	Fothergilla gardenii 'Appalachia' / Appalachia Dwarf Fothergilla	1 gal.	Pot	11

PLANTING NOTES:

1. SEE SHEET 4A-2 FOR PLANTING DETAILS AND SPECIFICATIONS.



PLANTING PLAN

SCALE: 1"=10'

GRAPHIC SCALE @ 22x34 (IN FEET) 0 10 20 30

GRAPHIC SCALE @ 22x34 (IN FEET) 0 20 40 60

TOWN OF BLACK MOUNTAIN 1893 NORTH CAROLINA

NCDOT TIP: EB-5547A
BLACK MOUNTAIN EB-5547A
BUNCOMBE COUNTY, NC

90% PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

SHARED ROAD DESIGN

DEMOLITION & PLANTING PLAN

Michael Baker INTERNATIONAL
NC Eng License F-1084
737 Haywood Road, Suite 201
Asheville, North Carolina 28806
Phone: 828.350.1408
Fax: 828.350.1409

DATE: AUGUST 2026

REVISIONS:

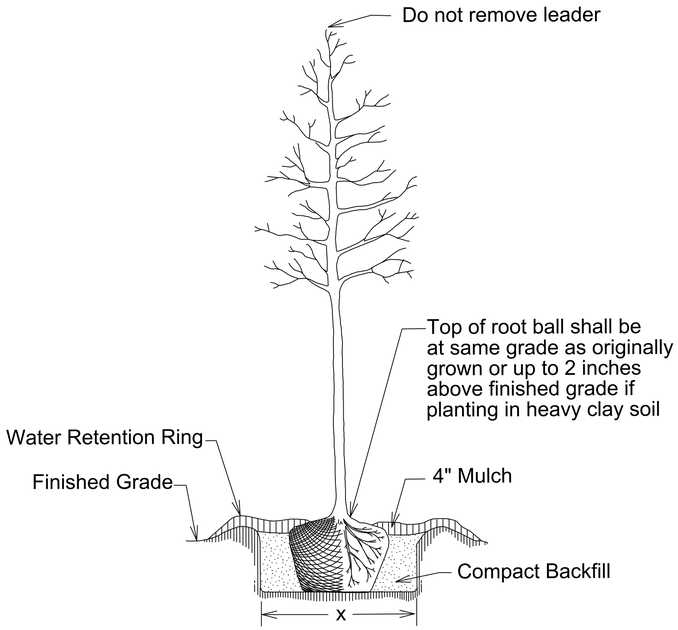
NO.	DATE:

VERTICAL SCALE: N/A

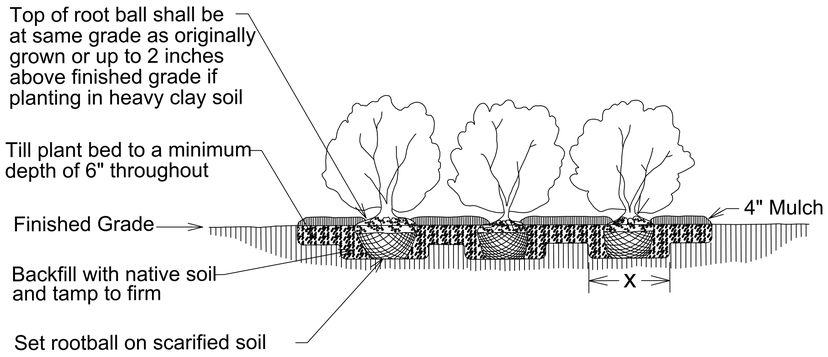
HORIZONTAL SCALE: VARIES

PROJECT NO.: 197482

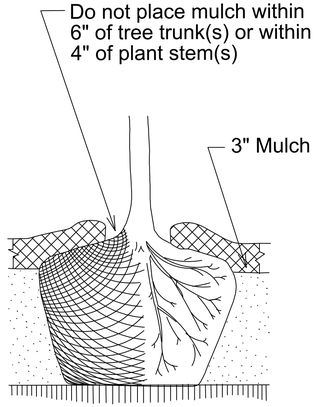
SHEET NO. 4A-1



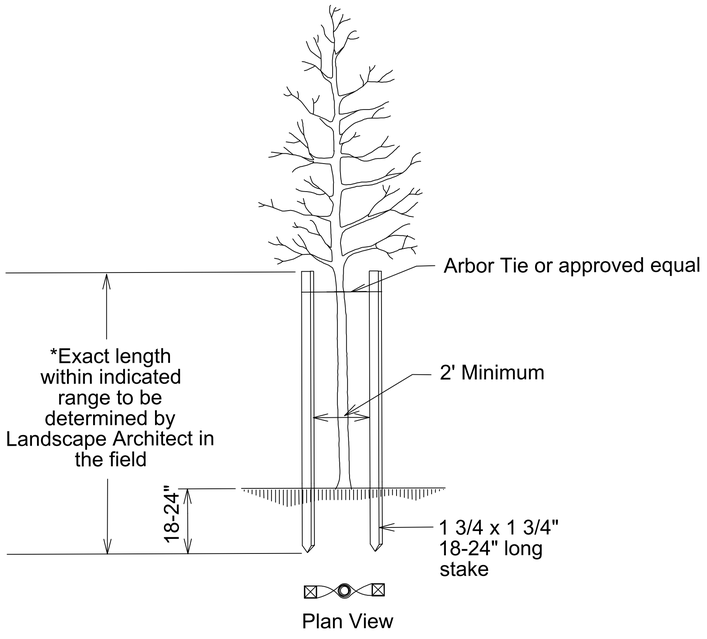
Tree or Shrub Planting Detail (Level Ground)



Bed Planting Detail



Mulch Detail



Staking Detail (for trees 6' to 10')

* Utilize staking detail only if requested by the Engineer.

Planting Detail Notes:

- See Standard Specifications for Plant Bed preparation and herbicidal treatment
- Plant Hole: X = 2 times the diameter of the container or the root ball. Depth of plant hole shall be equal to depth of root ball. Root ball shall be set on undisturbed soil and top of root ball shall be set at same grade as was grown.
- Fertilizer shall be applied at time of planting. Fertilizer shall be a slow release pellet or tablet. Formulation shall be approved by engineer in field. Rates shall be per manufacturer's recommendations and approved by engineer in field. Thouroughly mix with backfill, topsoil or scarified soil.
- Backfill plant hole with native soil unless soil is determined to be unacceptable. Remove rocks greater than 3 inches, foreign materials and construction debris from backfill material. If native soil cannot be used, use soil with properties similar to that in the area.
- Cut and remove wire basket and remove burlap around top of root ball to expose root collar before backfilling. Set root ball at grade or slightly above as directed by the Engineer depending on soil type at installation site. Do not place mulch within 6" of tree trunk or 4" of shrub trunk.
- Any pruning necessary shall follow current standard arboricultural practices and International Society of Arboriculture recommendations
- Tree guying or staking materials manufactured specifically for this purpose may be substituted for the wire and staking materials shown in this detail. Any substitutions of material or method must be approved by the Engineer prior to installation.
- Do not attempt to straighten a tree that has been planted at an angle with the use of staking or guying. Dig tree and reset root ball to achieve an upright, plumb position.
- All staking and guying materials as well as plant material tags from the nursery shall be removed form the plants upon final acceptance of the project or at the end of the establishment period.

TOWN OF BLACK MOUNTAIN 1893 NORTH CAROLINA

NCDOT TIP: EB-5547A
BLACK MOUNTAIN EB-5547A
BUNCOMBE COUNTY, NC

90% PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

SHARED ROAD DESIGN

PLANTING DETAILS

Michael Baker INTERNATIONAL
NC Eng License F-1084
737 Haywood Road, Suite 201
Asheville, North Carolina 28806
Phone: 828.350.1408
Fax: 828.350.1409

DATE: AUGUST 2026

REVISIONS:

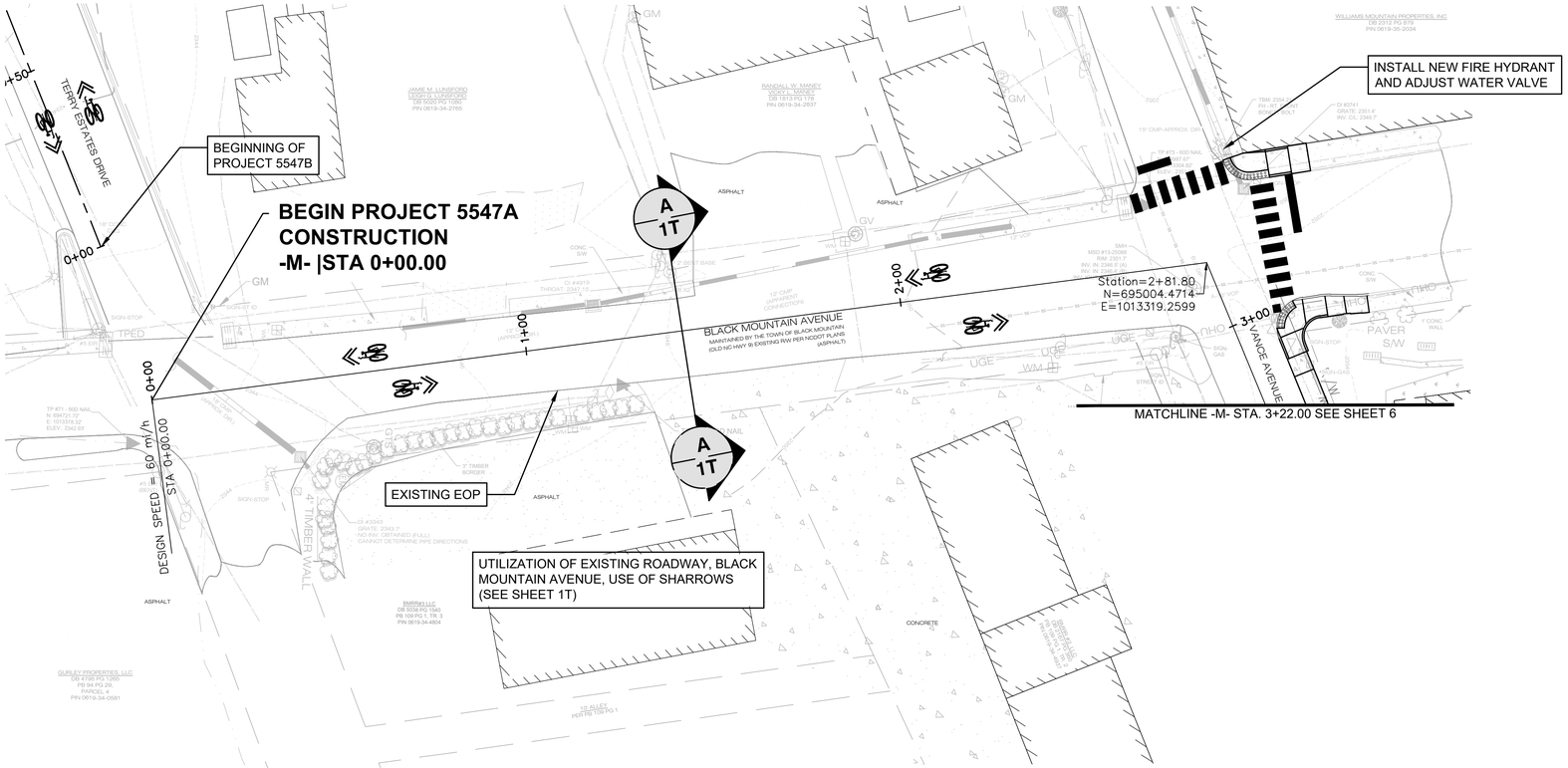
NO.	DATE:

VERTICAL SCALE: N/A

HORIZONTAL SCALE: 1"=20'

PROJECT NO.: 197482

SHEET NO. 4A-2



PLAN VIEW

NOTES:
1. SEE PMP SHEETS FOR THE PROPOSED PAVEMENT MARKING SCHEDULE AND SIGNS SCHEDULE.
2. SEE SHEET SIG-1 FOR SIGNAL MODIFICATION DESIGN.
3. ALL MARKINGS SHALL BE THERMOPLASTIC PER THE PAVEMENT MARKING SCHEDULE.
4. TIE PROPOSED PAVEMENT MARKING LINES TO EXISTING PAVEMENT MARKING LINES.
5. REMOVE AND/OR REPLACE ANY CONFLICTING PAVEMENT MARKINGS OR MARKERS.
6. STOP BAR LOCATIONS AT UNSIGNALIZED INTERSECTIONS MAY BE ADJUSTED AS DIRECTED BY THE ENGINEER.
7. CONTRACTOR SHALL REMOVE FOUR TIMBER POLES, SPAN WIRE, SIGNAL HEADS, AND OTHER EXISTING SIGNAL EQUIPMENT AFTER NEW SIGNAL ASSEMBLY IS ACTIVATED.
8. ALL MANHOLES ARE TO BE ADJUSTED WHERE ROADWAY IS TO BE MILLED/FILLED.

0 20 40 60
GRAPHIC SCALE @ 22x34 (IN FEET)

TOWN OF BLACK MOUNTAIN 1893 NORTH CAROLINA

NCDOT TIP: EB-5547A
BLACK MOUNTAIN EB-5547A
BUNCOMBE COUNTY, NC

90% PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

SHARED ROAD DESIGN

SIDEWALK, SHARED ROAD, PEDESTRIAN IMPROVEMENTS & UTILITIES PLANS

Michael Baker INTERNATIONAL
NC Eng License F-1084
737 Haywood Road, Suite 201
Asheville, North Carolina 28806
Phone: 828.350.1408
Fax: 828.350.1409

DATE: AUGUST 2026

REVISIONS:

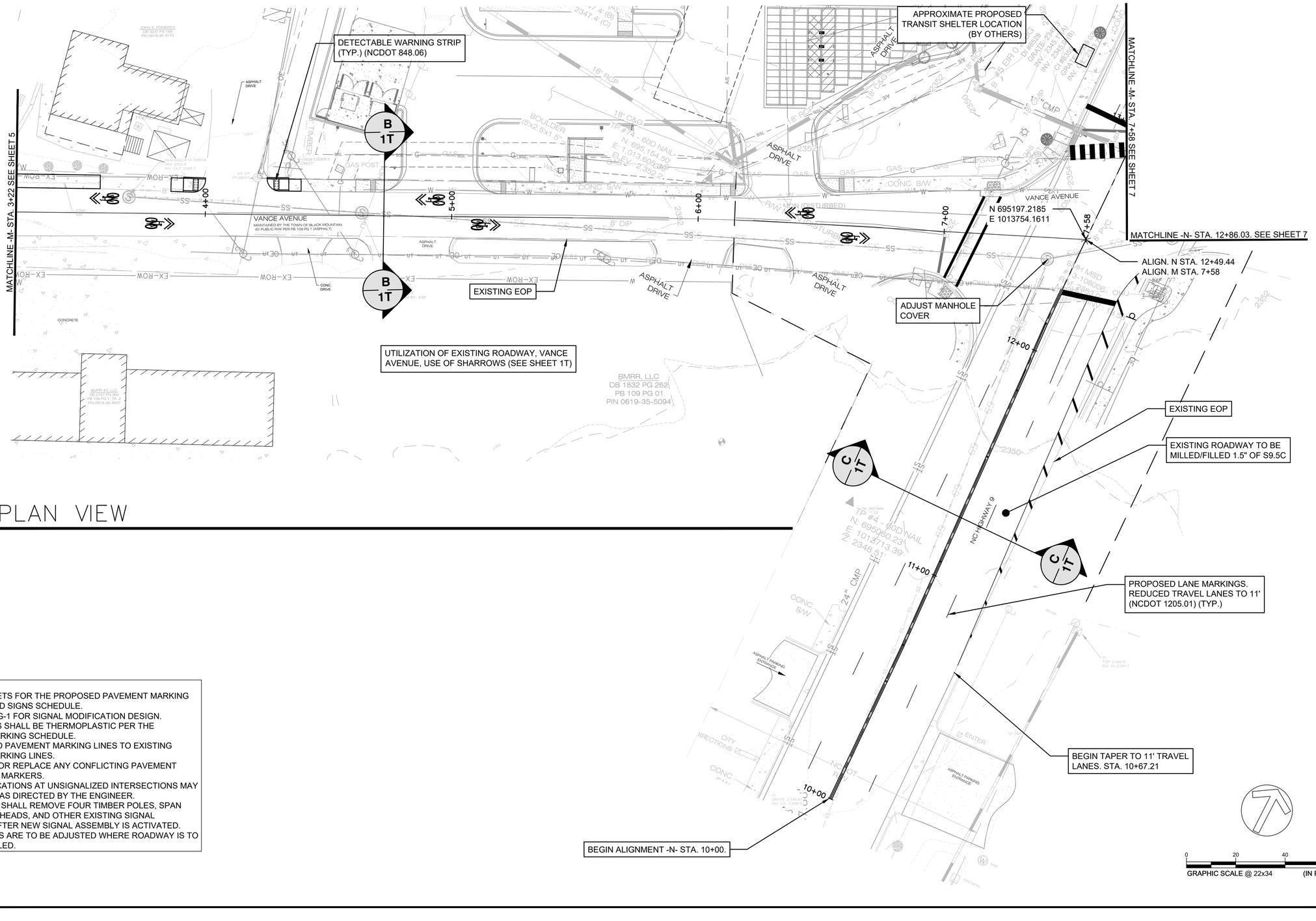
NO.	DATE:

VERTICAL SCALE: N/A

HORIZONTAL SCALE: 1"=20'

PROJECT NO.: 197482

SHEET NO. 5



PLAN VIEW

NOTES:
1. SEE PMP SHEETS FOR THE PROPOSED PAVEMENT MARKING SCHEDULE AND SIGNS SCHEDULE.
2. SEE SHEET SIG-1 FOR SIGNAL MODIFICATION DESIGN.
3. ALL MARKINGS SHALL BE THERMOPLASTIC PER THE PAVEMENT MARKING SCHEDULE.
4. TIE PROPOSED PAVEMENT MARKING LINES TO EXISTING PAVEMENT MARKING LINES.
5. REMOVE AND/OR REPLACE ANY CONFLICTING PAVEMENT MARKINGS OR MARKERS.
6. STOP BAR LOCATIONS AT UNSIGNALIZED INTERSECTIONS MAY BE ADJUSTED AS DIRECTED BY THE ENGINEER.
7. CONTRACTOR SHALL REMOVE FOUR TIMBER POLES, SPAN WIRE, SIGNAL HEADS, AND OTHER EXISTING SIGNAL EQUIPMENT AFTER NEW SIGNAL ASSEMBLY IS ACTIVATED.
8. ALL MANHOLES ARE TO BE ADJUSTED WHERE ROADWAY IS TO BE MILLED/FILLED.

TOWN OF BLACK MOUNTAIN 1893 NORTH CAROLINA

NCDOT TIP: EB-5547A
BLACK MOUNTAIN EB-5547A
BUNCOMBE COUNTY, NC

90% PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

SHARED ROAD DESIGN

SIDEWALK,SHARED ROAD, PEDESTRIAN IMPROVEMENTS & UTILITIES PLANS

Michael Baker INTERNATIONAL
NC Eng License F-1084
7597 Haywood Road, Suite 201
Arlington, North Carolina 28806
Phone: 828.350.1408
Fax: 828.350.1409

DATE: AUGUST 2026

REVISIONS:

NO.	DATE:

VERTICAL SCALE: N/A

HORIZONTAL SCALE: 1"=20'

PROJECT NO.: 197482

SHEET NO. 6

NOTES:
1. SEE PMP SHEETS FOR THE PROPOSED PAVEMENT MARKING SCHEDULE AND SIGNS SCHEDULE.
2. SEE SHEET SIG-1 FOR SIGNAL MODIFICATION DESIGN.
3. ALL MARKINGS SHALL BE THERMOPLASTIC PER THE PAVEMENT MARKING SCHEDULE.
4. TIE PROPOSED PAVEMENT MARKING LINES TO EXISTING PAVEMENT MARKING LINES.
5. REMOVE AND/OR REPLACE ANY CONFLICTING PAVEMENT MARKINGS OR MARKERS.
6. STOP BAR LOCATIONS AT UNSIGNALIZED INTERSECTIONS MAY BE ADJUSTED AS DIRECTED BY THE ENGINEER.
7. CONTRACTOR SHALL REMOVE FOUR TIMBER POLES, SPAN WIRE, SIGNAL HEADS, AND OTHER EXISTING SIGNAL EQUIPMENT AFTER NEW SIGNAL ASSEMBLY IS ACTIVATED.
8. ALL MANHOLES ARE TO BE ADJUSTED WHERE ROADWAY IS TO BE MILLED/FILLED.

END PROJECT 5547A
CONSTRUCTION
-N- |STA 18+30

PROPOSED SIGNAL POLES (TYP.). SEE SHEET SIG-1 FOR THE SIGNAL MODIFICATION PLAN.

PROPOSED SIGNAL CABINET (TYP.). SEE SHEET SIG-1 FOR THE SIGNAL MODIFICATION PLAN.

PROPOSED SIDEWALK INSTALLATION TO REPAIR EXISTING CONCRETE SIDEWALK. (UTILITIES TO BE RELOCATED BY OTHERS AS NEEDED)

DO NOT DISTURB POWER POLE

DETECTABLE WARNING STRIP (TYP.)(NCDOT 848.06)

ADJUST MANHOLE COVER

EXISTING ROADWAY TO BE MILLED/FILLED 1.5" OF S9.5C

PROPOSED LANE MARKINGS. REDUCED TRAVEL LANES TO 11' (NCDOT 1205.01) (TYP.)

4' BIKE LANE (NCDOT 1205.08) (TYP.)

DO NOT DISTURB SPAN GUY, SIGN/GARDEN BOX, AND POWER POLE.

REMOVE AND RESET EXISTING SIGN.

EXISTING EOP

PROPOSED PLANTINGS. SEE SHEETS 4A-1 AND 4A-2.

APPROXIMATE NCDOT R/W LINE PER PLAN #8.1909402

EXISTING EOP

REPLACE DEP POLE WITH TALLER POLE

EXISTING POLE LOCATION NOT SURVEYED

ADJUST MANHOLE COVER

MATCHLINE -M- STA. 7+58 SEE SHEET 6

MATCHLINE -N- STA. 12+86.03 SEE SHEET 6

PLAN VIEW

0 20 40 60
GRAPHIC SCALE @ 22x34 (IN FEET)

TOWN OF BLACK MOUNTAIN
DB 2626 PG 33
PIN 0619-35-5488

NATIONAL RETAIL PROPERTIES, LP
DB 5117 PG 72
PIN 0619-35-4293

APRICOTT HOLDINGS, LLC
DB 5775 PG 1825
PIN 0619-35-9589

200' RAILROAD R/W PER NORFOLK SOUTHERN STATION MAP (STATION 6547+20 TO STATION 6600+00) DATED DEC. 31, 1927 *SEEK LEGAL COUNSEL FOR ACTUAL R/W WIDTH*

NCDOT R/W PER DB 1199 PG 97 (PARCEL 207-L)

NCDOT R/W PER DB 1199 PG 97 (PARCEL 207-M)

NC HIGHWAY 9 MAINTAINED BY NCDOT VARIABLE WIDTH 3"ASPHALT

NGS "FIRST UNION" BENCHMARK
NC GRID COORDINATES
N: 695,432.79 NAD 83/11
E: 1,013,705.46 NAD 83/11
Z: 2,361.51 NAVD 88
-PUBLISHED COORDINATES-

TP #10011 - 60D NAIL
N: 695371.48'
E: 1013719.44'
ELEV.: 2360.35'

TP #10013 - 60D NAIL
N: 695663.55'
E: 1013711.10'
ELEV.: 2361.85'

TP #13 - 60D NAIL
N: 695690.41'
E: 1013763.76'
ELEV.: 2359.63'

TP #10014 - 60D NAIL
N: 695715.24'
E: 1013806.56'
ELEV.: 2358.53'

TP #10010 - 60D NAIL
N: 695534.96'
E: 1013678.59'
ELEV.: 2364.49'

Michael Baker INTERNATIONAL
NC Eng License F-1084
797 Haywood Road, Suite 201
Asheville, North Carolina 28806
Phone: 828.350.1408
Fax: 828.350.1409

NCDOT TIP: EB-5547A
BLACK MOUNTAIN EB-5547A
BUNCOMBE COUNTY, NC

90% PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

SHARED ROAD DESIGN

SIDEWALK,SHARED ROAD, PEDESTRIAN IMPROVEMENTS & UTILITIES PLANS

DATE: AUGUST 2026

REVISIONS:

NO.	DATE:

VERTICAL SCALE: N/A

HORIZONTAL SCALE: 1"=20'

PROJECT NO.: 197482

SHEET NO. 7

GENERAL NOTES

GRADE LINE:
GRADING AND SURFACING OR RESURFACING AND WIDENING:

THE GRADE LINES SHOWN DENOTE THE FINISHED ELEVATION OF THE PROPOSED SURFACING AT GRADE POINTS SHOWN ON THE TYPICAL SECTIONS. WHERE NO GRADE LINES ARE SHOWN, THE PROFILES SHOWN DENOTE THE TOP ELEVATION OF THE EXISTING PAVEMENT ALONG THE CENTER LINE OF SURVEY ON WHICH THE PROPOSED RESURFACING WILL BE PLACED. GRADE LINES MAY BE ADJUSTED BY THE ENGINEER IN ORDER TO SECURE A PROPER TIE-IN.

CLEARING:

CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD II.

SHOULDER CONSTRUCTION:

ASPHALT, EARTH, AND CONCRETE SHOULDER CONSTRUCTION ON THE HIGH SIDE OF SUPERELEVATED CURVES SHALL BE IN ACCORDANCE WITH STD. NO. 560.01.

SIDE ROADS:

THE CONTRACTOR WILL BE REQUIRED TO DO ALL NECESSARY WORK TO PROVIDE SUITABLE CONNECTIONS WITH ALL ROADS, STREETS, AND DRIVES ENTERING THIS PROJECT. THIS WORK WILL BE PAID FOR AT THE CONTRACT UNIT PRICE FOR THE PARTICULAR ITEMS INVOLVED.

DRIVEWAYS:

DRIVEWAYS SHALL BE CONSTRUCTED IN ACCORDANCE WITH TOWN OF HUNTERSVILLE DETAIL 108.1 FOR CURB DROP TAPER AND NCDOT STD. 848.03 FOR GRADES AS SHOWN ON THE PLANS. LOCATIONS OF DRIVES WILL BE AS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER. ADDITIONAL 5 FEET OF CONCRETE DRIVEWAY TO EXTEND BEHIND SIDEWALK.

UTILITIES:

UTILITY OWNERS ON THIS PROJECT ARE: DUKE ENERGY, AT&T, ERC BROADBAND, SEGRA, CHARTER COMMUNICATIONS , DOMINION ENERGY, TOWN OF BLACK MOUNTAIN WATER, & METROPOLITAN SEWEAGE DISTRICT.

ANY RELOCATION OF EXISTING UTILITIES WILL BE ACCOMPLISHED BY OTHERS, EXCEPT AS SHOWN ON THE PLANS.

RIGHT-OF-WAY MARKERS:

ALL RIGHT-OF-WAY MARKERS ON THIS PROJECT SHALL BE PLACED BY OTHERS. CONTRACTOR RESPONSIBLE FOR PROTECTING MARKERS AND REPLACING ANY MARKERS DAMAGED DURING CONSTRUCTION AT THE CONTRACTOR'S EXPENSE.

STANDARD DRAWINGS

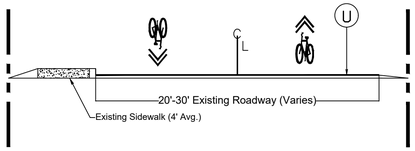
2024 ROADWAY ENGLISH STANDARD DRAWINGS

THE FOLLOWING ROADWAY STANDARDS AS APPEAR IN "ROADWAY STANDARD DRAWINGS" HIGHWAY DESIGN BRANCH - N. C. DEPARTMENT OF TRANSPORTATION - RALEIGH, N. C., DATED JANUARY, 2024 ARE APPLICABLE TO THIS PROJECT AND BY REFERENCE HEREBY ARE CONSIDERED A PART OF THESE PLANS:

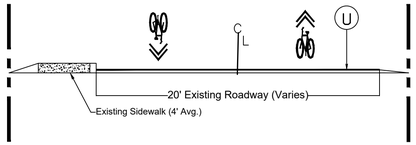
STD.NO.	TITLE
DIVISION 2 - EARTHWORK	
200.02	METHOD OF CLEARING - METHOD II
225.02	GUIDE FOR GRADING SUBGRADE - SECONDARY AND LOCAL
DIVISION 3 - PIPE CULVERTS	
300.01	METHOD OF PIPE INSTALLATION
310.02	PARALLEL PIPE END SECTION - PRECAST CONCRETE SECTION FOR 15" TO 24" PIPE
310.10	DRIVEWAY PIPE CONSTRUCTION
DIVISION 6 - ASPHALT BASES AND PAVEMENTS	
654.01	PAVEMENT REPAIRS
DIVISION 8 - INCIDENTALS	
846.01	CONCRETE CURB, GUTTER AND CURB & GUTTER
848.01	CONCRETE SIDEWALK
848.03	DRIVEWAY TURNOUT
876.02	GUIDE FOR RIP RAP AT PIPE OUTLETS
DIVISION 12 - PAVEMENT MARKINGS, MARKERS AND DELINEATION	
1205.07	PAVEMENT MARKINGS- PEDESTRIAN CROSSWALK
1205.16	BICYCLE FACILITIES SYMBOLS & DETAILS

TYPICAL SECTIONS

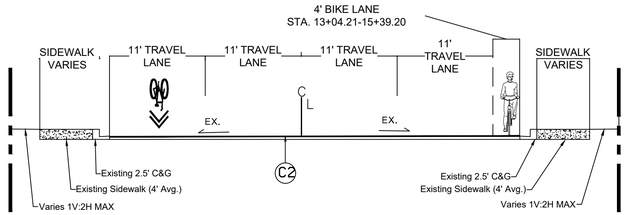
PAVEMENT SCHEDULE	
C2	PROP. APPROX. 1 1/2" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 165 LBS. PER SQ. YD.
U	EXISTING PAVEMENT.



BLACK MOUNTAIN AVENUE TYPICAL SECTION NO. 1
USE -M- 0+00.00 TO 2+81.76



VANCE AVENUE TYPICAL SECTION NO. 2
USE -M- 2+81.76 TO 7+16.31



NC HIGHWAY 9 TYPICAL SECTION NO. 3
USE -N- 13+05.26 TO 16+94.15

TRANSPORTATION MANAGEMENT

ROAD CLOSURE DAY AND TIME RESTRICTIONS

A) DO NOT CLOSE OR NARROW TRAVEL LANES AS FOLLOWS:

ROAD NAME	DAY AND TIME RESTRICTIONS
BLACK MOUNTAIN AVENUE	MONDAY THRU FRIDAY, 6:00 A.M. TO 9:00 A.M. MONDAY THRU FRIDAY, 4:00 P.M. TO 6:00 P.M.
ROAD NAME	DAY AND TIME RESTRICTIONS
VANCE AVENUE	MONDAY THRU FRIDAY, 6:00 A.M. TO 9:00 A.M. MONDAY THRU FRIDAY, 4:00 P.M. TO 6:00 P.M.
ROAD NAME	DAY AND TIME RESTRICTIONS
NC HIGHWAY 9	MONDAY THRU FRIDAY, 6:00 A.M. TO 9:00 A.M. MONDAY THRU FRIDAY, 4:00 P.M. TO 6:00 P.M.

B) DO NOT CLOSE OR NARROW TRAVEL LANES DURING HOLIDAYS AND SPECIAL EVENTS AS FOLLOWS:

HOLIDAY

1. FOR ANY UNEXPECTED OCCURENCE THAT CREATES UNUSUALLY HIGH TRAFFIC VOLUMES, AS DIRECTED BY THE ENGINEER.

2. FOR NEW YEAR'S, BETWEEN THE HOURS OF 6:00 A.M. DECEMBER 31st TO 8:00 P.M. JANUARY 2nd. IF NEW YEAR'S DAY IS ON A FRIDAY, SATURDAY, SUNDAY, OR MONDAY THEN UNTIL 8:00 P.M. THE FOLLOWING TUESDAY.

3. FOR EASTER, BETWEEN THE HOURS OF 6:00 A.M. THURSDAY AND 8:00 P.M. MONDAY.

4. FOR MEMORIAL DAY, BETWEEN THE HOURS OF 6:00 A.M. THURSDAY AND 8:00 P.M. MONDAY.

5. FOR INDEPENDENCE DAY, BETWEEN THE HOURS OF 6:00 A.M. THE DAY BEFORE INDEPENDENCE DAY AND 8:00 P.M. THE DAY AFTER INDEPENDENCE DAY.

IF INDEPENDENCE DAY IS ON A FRIDAY, SATURDAY, SUNDAY OR MONDAY THEN BETWEEN THE HOURS OF 6:00 A.M. THE THURSDAY BEFORE INDEPENDENCE DAY AND 8:00 P.M. THE TUESDAY AFTER INDEPENDENCE DAY.

6. FOR LABOR DAY, BETWEEN THE HOURS OF 6:00 A.M. FRIDAY AND 8:00 P.M. TUESDAY.

7. FOR THANKSGIVING DAY, BETWEEN THE HOURS OF 6:00 A.M. TUESDAY TO 8:00 P.M. MONDAY.

8. FOR CHRISTMAS, BETWEEN THE HOURS OF 6:00 A.M. THE FRIDAY BEFORE THE WEEK OF CHRISTMAS DAY AND 8:00 P.M. THE FOLLOWING TUESDAY AFTER THE WEEK OF CHRISTMAS.

9. COORDINATE SPECIAL EVENTS OR HOLIDAY SCHEDULES WITH THE TOWN OF BLACK MOUNTAIN PRIOR TO ANY NARROWING OR ROAD CLOSURES.

TEMPORARY LANE AND SHOULDER CLOSURE REQUIREMENTS

A) REMOVE LANE CLOSURE DEVICES FROM THE LANE WHEN WORK IS NOT BEING PERFORMED BEHIND THE LANE CLOSURE OR WHEN A LANE CLOSURE IS NO LONGER NEEDED, OR AS DIRECTED BY THE ENGINEER.

B) WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING WITHIN 15 FT OF AN OPEN TRAVEL LANE, CLOSE THE NEAREST OPEN SHOULDER USING ROADWAY STANDARD DRAWING NO. 1101.04, UNLESS THE WORK AREA IS PROTECTED BY BARRIER OR GUARDRAIL OR A LANE CLOSURE IS INSTALLED.

C) WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING ON THE SHOULDER ADJACENT TO AN UNDIVIDED FACILITY AND WITHIN 5 FT OF AN OPEN TRAVEL LANE, CLOSE THE NEAREST OPEN TRAVEL LANE USING ROADWAY STANDARD DRAWING NO. 1101.02 UNLESS THE WORK AREA IS PROTECTED BY BARRIER OR GUARDRAIL.

D) WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING WITHIN A TRAVEL LANE, CLOSE THE LANE ACCORDING TO THE TRAFFIC CONTROL PLANS, ROADWAY STANDARD DRAWINGS, OR AS DIRECTED BY THE ENGINEER. CONDUCT THE WORK SO THAT ALL PERSONNEL AND/OR EQUIPMENT REMAIN WITHIN THE CLOSED TRAVEL LANE.

E) DO NOT WORK SIMULTANEOUSLY WITHIN 15 FT ON BOTH SIDES OF AN OPEN TRAVELWAY, WITHIN THE SAME LOCATION, UNLESS PROTECTED BY BARRIER OR GUARDRAIL.

F) WHEN LANE CLOSURES ARE NOT IN EFFECT SPACE CHANNELIZING DEVICES IN WORK AREAS NO GREATER IN FEET THAN TWICE THE POSTED SPEED LIMIT (MPH) EXCEPT, 10 FT ON-CENTER IN RADII, AND 3 FT OFF THE EDGE OF AN OPEN TRAVELWAY. REFER TO STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES SECTIONS 1130 (DRUMS), 1135 (CONES) AND 1180 (SKINNY DRUMS) FOR ADDITIONAL REQUIREMENTS.

G) ENSURE ALL NECESSARY TRAFFIC CONTROL DEVICES, SIGNS, BARRICADES, MARKINGS,ETC ARE IN PLACE PRIOR TO ALTERING ANY TRAFFIC PATTERN.

H) INSTALL BLACK ON ORANGE "DIP" SIGNS (W8-2) AND/OR "BUMP" SIGNS (W8-1) H) 500 FT IN ADVANCE OF UNEVEN AREA, AS DIRECTED BY THE ENGINEER.

PAVEMENT EDGE DROP OFF PROTECTION REQUIREMENTS

L) BACKFILL AT A 6:1 SLOPE UP TO THE EDGE AND ELEVATION OF EXISTING PAVEMENT ANY AREAS ADJACENT TO AN OPEN TRAVEL LANE THAT HAVE AN EDGE OF PAVEMENT DROP-OFF AS FOLLOWS:

BACKFILL DROP-OFFS THAT EXCEED 2 INCHES ON ROADWAYS WITH POSTED SPEED LIMITS OF 45 MPH OR GREATER.

BACKFILL DROP-OFFS THAT EXCEED 3 INCHES ON ROADWAYS WITH POSTED SPEED LIMITS LESS THAN 45 MPH.

BACKFILL WITH SUITABLE COMPACTED MATERIAL, AS APPROVED BY THE ENGINEER, AT NO EXPENSE TO THE DEPARTMENT.

PEDESTRIAN REQUIREMENTS

M) MAINTAIN ALL NEW SIDEWALKS CLOSED USING BARRICADES AND SIDEWALK CLOSED SIGNS R9-9, UNTIL DIRECTED BY THE ENGINEER TO OPEN.

MISCELLANEOUS

N) LAW ENFORCEMENT MAY BE USED TO MAINTAIN TRAFFIC THROUGH THE WORK AREA AND/OR INTERSECTIONS AS DIRECTED BY THE ENGINEER DURING SIGNAL INSTALLATION.

SIGNING

INSTALL ADVANCE WORK ZONE WARNING SIGNS WHEN WORK IS WITHIN 40FT FROM THE EDGE OF TRAVEL LANE AND NO MORE THAN THREE (3) DAYS PRIOR TO THE BEGINNING OF CONSTRUCTION.

PHASING

IF WORK IS NOT PURSUED WITHIN 3 DAYS OF SIGN INSTALLATION, THE WORK ZONE ADVANCE WARNING SIGNS SHALL BE COVERED OR REMOVED IN A METHOD APPROVED BY ENGINEER. THESE COVERINGS SHALL BE MADE IN ACCORDANCE WITH SECTION 1110 OF THE NCDOT SPECIFICATIONS.

ACCORDANCE WITH SECTION 1110 OF THE NCDOT SPECIFICATIONS.

STEP 1:

PRIOR TO ANY CONSTRUCTION ACTIVITY, INSTALL ALL ADVANCE WORK ZONE WARNING SIGNS IN ACCORDANCE WITH NCDOT RSD 1101.01.

STEP 2:

USING RSD 1101.02, SHEET 1 OF 15, PERFORM THE FOLLOWING:

AT THE END OF EACH WORK PERIOD, RETURN TRAFFIC TO THE EXISTING PATTERN. CONSTRUCT THE PROPOSED IMPROVEMENTS USING RSD 1101.02, SHEET 1 OF 14. WHEN PLACING DRAINAGE STRUCTURES AND PIPE SYSTEMS ADJACENT TO TRAVEL LANES: AT THE END OF EACH WORK PERIOD COVER ANY INCOMPLETE CONSTRUCTION WITH TRAFFIC BEARING STEEL PLATE(S) AND RETURN TRAFFIC TO EXISTING PATTERN.

INSTALL THE FINAL PAVEMENT MARKINGS, SIDEWALK, AND SIGNAL AT BROADWAY AVENUE AND SUTTON AVENUE. PLACE SIGNALS IN FINAL CONFIGURATION. COVER SIGNAL HEADS AS NEEDED.

REMOVE ALL TRAFFIC CONTROL DEVICES.

90% PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

TOWN OF BLACK MOUNTAIN 1893 NORTH CAROLINA

NCDOT TIP: EB-5547A
BLACK MOUNTAIN EB-5547A
BUNCOMBE COUNTY, NC

90% PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

SIDEWALK DESIGN

TRAFFIC MANAGEMENT PLAN

Michael Baker INTERNATIONAL
NC Firm Licens Se F-1084
8000 Regency Parkway
Suite 600
Cary, North Carolina 27518
Phone: 919.463.5488
Fax: 919.463.5490

DATE: AUGUST 2026

REVISIONS:

NO.	DATE:

VERTICAL SCALE: ###

HORIZONTAL SCALE: ###

PROJECT NO.: 197482

SHEET NO. TMP

FINAL PAVEMENT MARKING SCHEDULE

SYMBOL	MATERIAL	DESCRIPTION
T2	THERMOPLASTIC	WHITE SOLID LANE LINE (4", 90 MIL)
T3	THERMOPLASTIC	10 FT. WHITE SKIP (4", 90 MIL)
T13	THERMOPLASTIC	YELLOW DOUBLE CENTER (4", 90 MIL)
T46	THERMOPLASTIC	WHITE VISIBILITY CROSSWALK (8", 90MIL)
T51	THERMOPLASTIC	WHITE DIAGONAL (12", 90 MIL)
T61	THERMOPLASTIC	WHITE STOPBAR (24", 90 MIL)
T62	THERMOPLASTIC	WHITE VISIBILITY CROSSWALK (24", 90 MIL)
T71	THERMOPLASTIC	RIGHT TURN ARROW (90 MIL)
T73	THERMOPLASTIC	COMBO. LEFT/STRAIGHT ARROW (90 MIL)
T74	THERMOPLASTIC	COMBO. RIGHT/STRAIGHT ARROW (90 MIL)

ROADWAY STANDARD DRAWING

THE FOLLOWING ROADWAY STANDARDS AS APPEAR IN "ROADWAY STANDARD DRAWINGS" - PROJECT SERVICES UNIT - N.C. DEPARTMENT OF TRANSPORTATION - RALEIGH, N.C., DATED JANUARY 2024 ARE APPLICABLE TO THIS PROJECT AND BY REFERENCE HEREBY ARE CONSIDERED A PART OF THESE PLANS:

STD. NO.	TITLE
1205.01	PAVEMENT MARKINGS - LINE TYPES AND OFFSETS
1205.02	PAVEMENT MARKINGS - TWO-LANE AND MULTILANE ROADWAYS
1205.04	PAVEMENT MARKINGS - INTERSECTIONS
1205.05	PAVEMENT MARKINGS - TURN LANES
1205.08	PAVEMENT MARKINGS - SYMBOLS AND WORD MESSAGES
1205.09	PAVEMENT MARKINGS - PAINTED ISLANDS
1205.16	PAVEMENT MARKINGS - PAVEMENT MARKINGS- BICYCLE FACILITIES

PAVEMENT MARKING SYMBOLS SCHEDULE

PAVEMENT MARKING SYMBOLS SCHEDULE		
SYMBOL	DESCRIPTION	QUANTITY
THERMOPLASTIC PAVEMENT MARKINGS SYMBOLS (90 MILS)		
T60	WHITE LINE, RR X (16")	2 EA
T90	BICYCLE SYMBOL, HEATED IN PLACE	6 EA
T91	BICYCLE STRAIGHT ARROW, HEATED IN PLACE	4 EA
T94	SHARROW, HEATED IN PLACE	12 EA

SIGNS SCHEDULE

MAY USE FULL LANE	R4-11	30"X30"	QTY: 6
BIKE LANE	R3-17	24"X18"	QTY: 3
AHEAD	R3-17a	24"X8"	QTY: 1
ENDS	R3-17b	24"X8"	QTY: 1
RIGHT LANE MUST TURN RIGHT	R3-7r	30"X30"	QTY: 3
DO NOT STOP ON TRACKS	R8-8	24"X30"	QTY: 2
INTERSTATE 40	M1-1	24"X24"	QTY: 1
R R	W10-1	36" DIA.	QTY: 1
	M6-3	21"X15"	QTY: 1
TO	M4-5	24"X12"	QTY: 1

GENERAL NOTES

THE FOLLOWING GENERAL NOTES APPLY AT ALL TIMES FOR THE DURATION OF THE CONSTRUCTION PROJECT, EXCEPT WHEN OTHERWISE NOTED IN THE PLAN, OR DIRECTED BY THE ENGINEER.

A) INSTALL PAVEMENT MARKINGS AND PAVEMENT MARKERS ON THE FINAL SURFACE AS FOLLOWS:

ROAD NAME	MARKING	MARKER
ALL ROADS	THERMOPLASTIC	RAISED
BRIDGE DECKS	COLD APPLIED PLASTIC	RAISED

B) TIE PROPOSED PAVEMENT MARKING LINES TO EXISTING PAVEMENT MARKING LINES.

C) REMOVE/REPLACE ANY CONFLICTING/DAMAGED PAVEMENT MARKINGS AND MARKERS.

D) STOP BAR LOCATION AT NON-SIGNALIZED INTERSECTIONS MAY BE ADJUSTED AS DIRECTED BY THE ENGINEER.

E) UNLESS OTHERWISE SPECIFIED, HEATED-IN-PLACE THERMOPLASTIC MAY BE USED IN LIEU OF EXTRUDED THERMOPLASTIC FOR STOP BARS, SYMBOLS, CHARACTERS AND DIAGONALS. IF HEATED-IN-PLACE IS USED, IT SHALL BE PAID FOR USING THE EXTRUDED THERMOPLASTIC PAY ITEM.

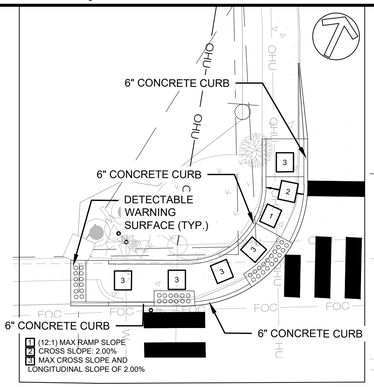
F) UNLESS OTHERWISE SPECIFIED, HEATED-IN-PLACE THERMOPLASTIC MAY BE USED IN LIEU OF COLD APPLIED PLASTIC FOR STOP BARS, SYMBOLS, CHARACTERS AND DIAGONALS ON ASPHALT OR CONCRETE ROADWAYS. IF HEATED-IN-PLACE IS USED, IT SHALL BE PAID FOR USING THE COLD APPLIED PAY ITEM.

G) TYPE III COLD APPLIED PLASTIC MAY BE USED IN LIEU OF TYPE II COLD APPLIED PLASTIC. IF TYPE III COLD APPLIED PLASTIC IS USED, IT SHALL BE PAID FOR USING THE TYPE II COLD APPLIED PLASTIC PAY ITEM.

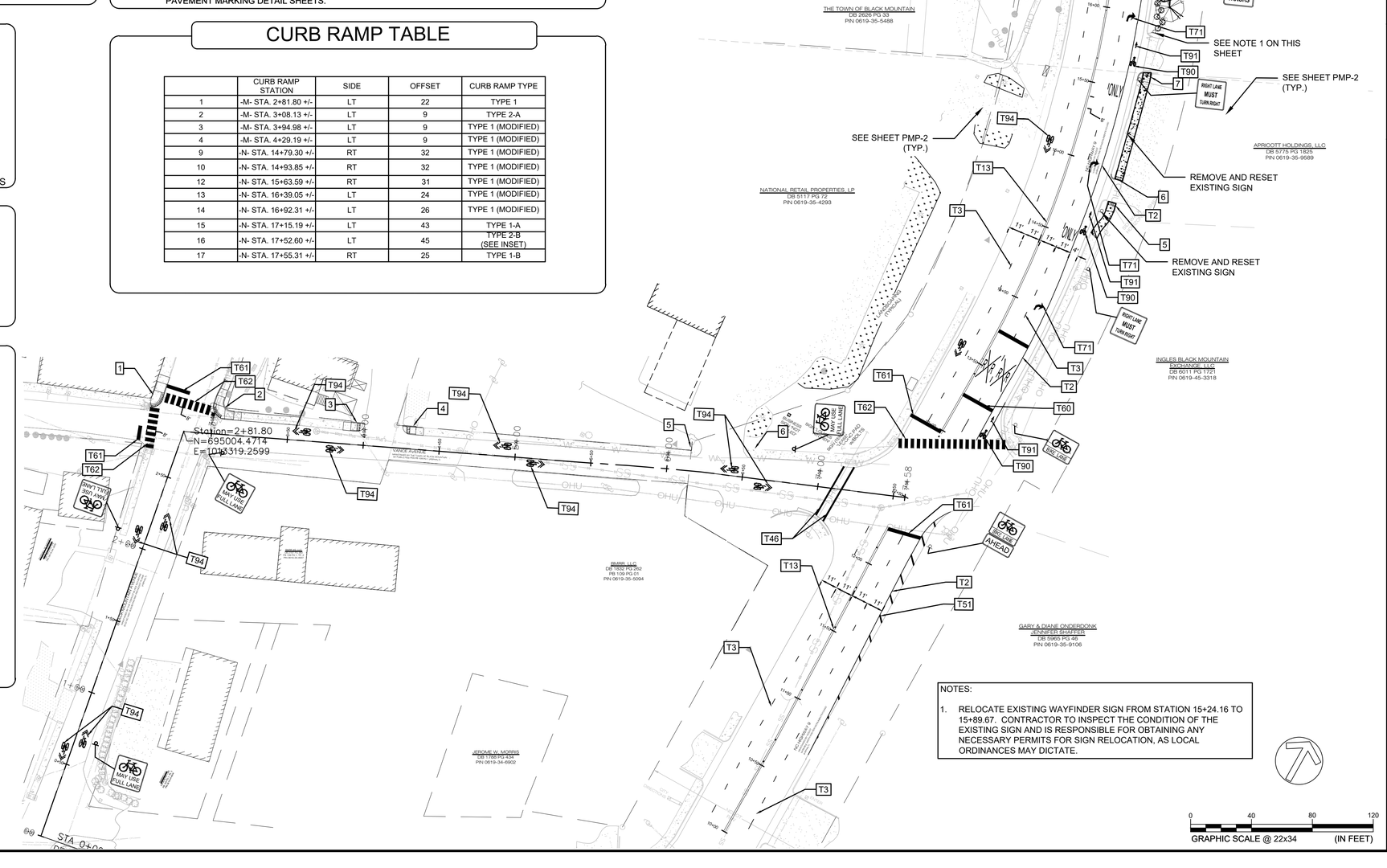
H) SEE ROADWAY PLANS FOR ALTERNATE CURB RAMP DESIGNS WHEN INDICATED ON PAVEMENT MARKING DETAIL SHEETS.

CURB RAMP TABLE

	CURB RAMP STATION	SIDE	OFFSET	CURB RAMP TYPE
1	-M- STA. 2+81.80 +/-	LT	22	TYPE 1
2	-M- STA. 3+08.13 +/-	LT	9	TYPE 2-A
3	-M- STA. 3+94.98 +/-	LT	9	TYPE 1 (MODIFIED)
4	-M- STA. 4+29.19 +/-	LT	9	TYPE 1 (MODIFIED)
9	-N- STA. 14+79.30 +/-	RT	32	TYPE 1 (MODIFIED)
10	-N- STA. 14+93.85 +/-	RT	32	TYPE 1 (MODIFIED)
12	-N- STA. 15+63.59 +/-	RT	31	TYPE 1 (MODIFIED)
13	-N- STA. 16+39.05 +/-	LT	24	TYPE 1 (MODIFIED)
14	-N- STA. 16+92.31 +/-	LT	26	TYPE 1 (MODIFIED)
15	-N- STA. 17+15.19 +/-	LT	43	TYPE 1-A
16	-N- STA. 17+52.60 +/-	LT	45	TYPE 2-B (SEE INSET)
17	-N- STA. 17+55.31 +/-	RT	25	TYPE 1-B



CURB RAMP 11
SCALE: 1"=10'



NOTES:

1. RELOCATE EXISTING WAYFINDER SIGN FROM STATION 15+24.16 TO 15+89.67. CONTRACTOR TO INSPECT THE CONDITION OF THE EXISTING SIGN AND IS RESPONSIBLE FOR OBTAINING ANY NECESSARY PERMITS FOR SIGN RELOCATION, AS LOCAL ORDINANCES MAY DICTATE.

TOWN OF BLACK MOUNTAIN NORTH CAROLINA 1893

NCDOT TIP: EB-5547A
BLACK MOUNTAIN EB-5547A

BUNCOMBE COUNTY, NC

90% PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

SHARED ROAD DESIGN

Michael Baker INTERNATIONAL
NC Eng License F-1084
737 Haywood Road, Suite 201
Asheville, North Carolina 28806
Phone: 828.350.1408
Fax: 828.350.1409

DATE: AUGUST 2026

REVISIONS:

NO.	DATE:

VERTICAL SCALE: N/A

HORIZONTAL SCALE: 1"=20'

PROJECT NO.: 197482

SHEET NO.: PMP

NCDOT TIP: EB- 5547 B

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	EB-5547 B	1	

STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION
51045.1.3	1302108	P.E.
51045.2.3	1302108	R/W & UTILITY
51045.3.3	1302108	CONSTRUCTION

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

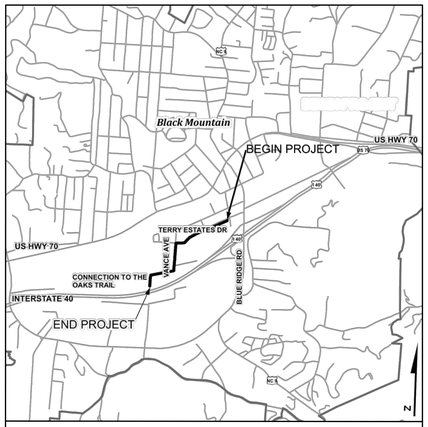
BUNCOMBE COUNTY

LOCATION: BLACK MOUNTAIN BICYCLE AND PEDESTRIAN IMPROVEMENTS STARTING AT THE INTERSECTION OF BLACK MOUNTAIN AVENUE AND TERRY ESTATES DRIVE AND ENDING NORTH OF INTERSTATE 40 ON VANCE AVENUE AT THE OAKS TRAIL

TYPE OF WORK: GRADING, DRAINAGE, SIGNING, AND SIDEWALKS

BLACK MOUNTAIN EB-5547 B

FINAL ENGINEERING SUBMITTAL



VICINITY MAP

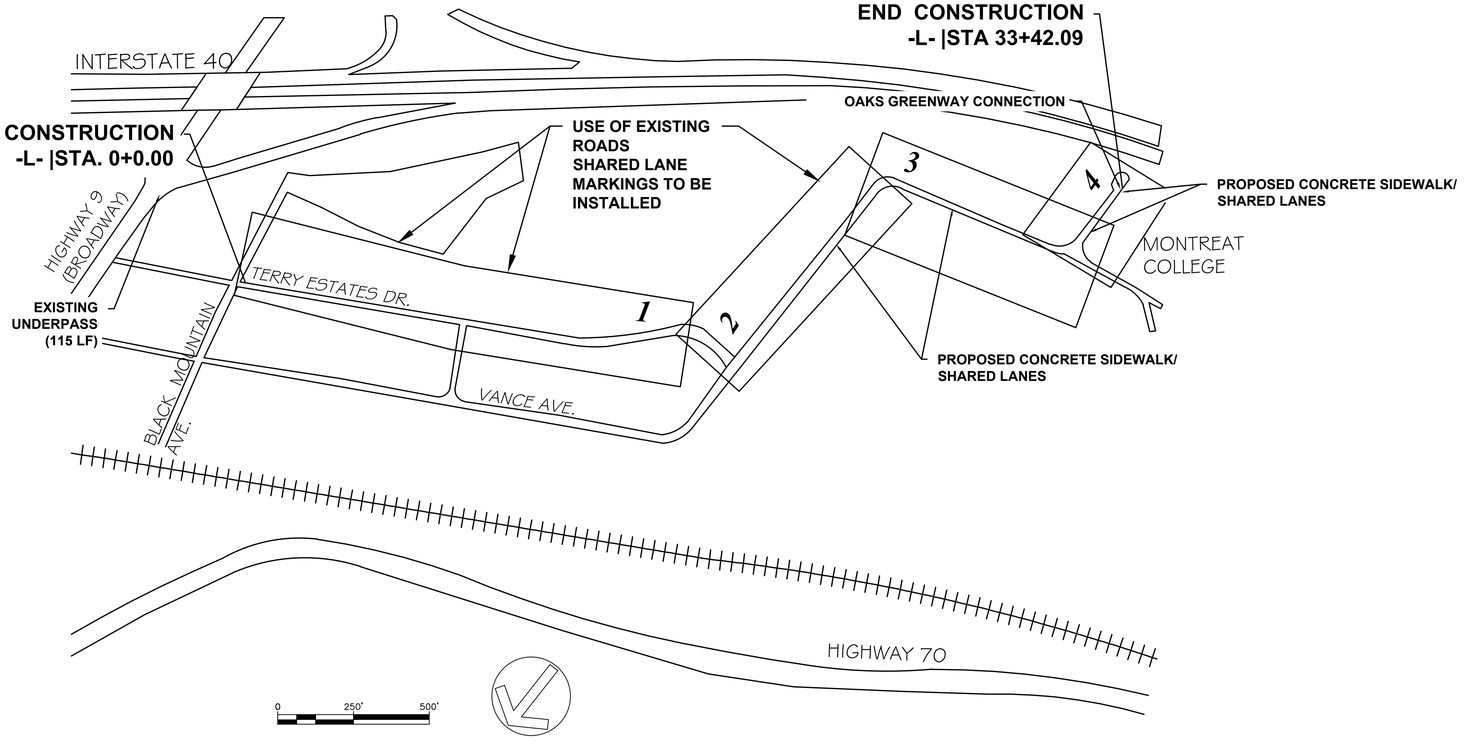
NOT TO SCALE

OWNER:
TOWN OF BLACK MOUNTAIN
160 MIDLAND AVE
BLACK MOUNTAIN, NC 28711
ANGLE REECE
angela.reece@tobm.org
(828) 419-9300 x 315

ENGINEER:
MICHAEL BAKER ENGINEERING, INC.
979 HAYWOOD ROAD, SUITE 201
ASHEVILLE, NC 28806

PROJECT MANAGER:
TODD BUCKNER
8000 REGENCY PARKWAY
SUITE 600
CARY, NC 27518
Todd.Buckner@mbakerintl.com
919-481-5710

SURVEYOR:
WES COLE SURVEYING AND DESGN
549 ELK PARK DR, SUITE #707
ASHEVILLE, NC 28804
(828) 251-7025



GRAPHIC SCALES

1" = 20'
20 10 0 20 40
PLANS

1" = 30'
30 15 0 30 60
PLANS

1" = 20'
20 10 0 20 40
PROFILE (HORIZONTAL)

1" = 5'
5 2.5 0 5 10
PROFILE (VERTICAL)

PROJECT LENGTH

LENGTH OF NEW SIDEWALKS = 1202 LINEAR FEET
TOTAL LENGTH OF PROJECT = 0.22 MILES

DATE

AUGUST 2026

PLANS PREPARED FOR THE TOWN OF BLACK MOUNTAIN BY:

Michael Baker INTERNATIONAL

NC Eng License F-1084
8000 Regency Parkway, Suite 600
Cary, North Carolina 27518
Phone: 919.463.5488
Fax: 919.463.5490

2024 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
N/A

LETTING DATE:
TBD

FRED GROGAN, ASLA/PLA
PROJECT LANDSCAPE ARCHITECT

TODD BUCKNER, P.E.
PROJECT MANAGER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

LIST OF ROADWAY STANDARD DRAWINGS

THE FOLLOWING ROADWAY STANDARDS AS APPEAR IN "ROADWAY STANDARD DRAWINGS" HIGHWAY DESIGN BRANCH-N.C. DEPARTMENT OF TRANSPORTATION-RALEIGH, N.C., DATED JANUARY 2024 ARE APPLICABLE TO THIS PROJECT AND BY REFERENCE HEREBY ARE CONSIDERED A PART OF THESE PLANS:

STD NO.	DESCRIPTION
DIVISION 2 - EARTHWORK	
200.03	METHOD OF CLEARING - METHOD III
225.02	GUIDE FOR GRADING SUBGRADE - SECONDARY AND LOCAL
225.06	METHOD OF GRADING SIGHT DISTANCE AT INTERSECTIONS
240.01	GUIDE FOR BERM DITCH CONSTRUCTION
DIVISION 3 - PIPE CULVERTS	
300.01	METHOD OF PIPE INSTALLATION
310.03	CROSS PIPE END SECTION - PRECAST CONCRETE SECTION FOR 18" TO 30" PIPE
DIVISION 7 - CONCRETE PAVEMENTS AND SHOULDERS	
700.01	CONCRETE PAVEMENT JOINTS - CONSTRUCTION AND CONTRACTION JOINTS
700.02	EXPANSION JOINT LAYOUT - FOR RIGID DOWELED PAVEMENT AT BRIDGES
700.03	DOWEL ASSEMBLY
DIVISION 8 - INCIDENTALS	
838.01	CONCRETE ENDWALL FOR SINGLE AND DOUBLE PIPE CULVERTS - 15" THRU 48" PIPE 90 SKEW
840.00	CONCRETE BASE PAD FOR DRAINAGE STRUCTURES
840.45	PRECAST DRAINAGE STRUCTURE
848.01	CONCRETE SIDEWALK
848.03	DRIVEWAY TURNOUT
848.06	CURB RAMP - EXISTING CURB & GUTTER
848.06	CURB RAMP-- DIRECTIONAL RAMP
848.05	CURB RAMP - TRUNCATED DOME
DIVISION 12- PAVEMENT MARKINGS	
1205.07	PAVEMENT MARKINGS- PEDESTRIAN CROSSWALKS
1205.16	BICYCLE FACILITIES- SYMBOLS AND DETAILS

SITE NOTES

ALL DIMENSIONS ARE IN RADII, EDGE OF PAVEMENT, TO CENTERLINE,CENTER TO CENTER ON STRIPES, UNLESS OTHERWISE NOTED

PROVIDE CONSTRUCTION JOINTS IN CONCRETE WALKWAYS EVERY 10' MAXIMUM WHEN WALKS ARE 10' WIDE. MATCH WIDTH UNDER 10'.

CONCRETE PADS AND WALKWAYS; UNLESS OTHERWISE NOTED, ARE 3000 PSI, OF 4" THICKNESS.

ALL SIGNS AND PAVEMENT MARKINGS ARE TO MEET MUTCD (MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES) AND NCDOT STANDARDS.

CONTRACTOR TO GRADE FILL SLOPES AROUND SEWER MANHOLES TO AVOID PONDING.

UTILITY NOTES

CONTRACTOR SHALL NOTIFY "NORTH CAROLINA ONE CALL" (TELEPHONE1-800-632-4949) AT LEAST 48 HOURS PRIOR TO BEGINNING CONSTRUCTION OR EXCAVATION TO HAVE EXISTING UTILITIES LOCATED. CONTRACTOR TO CONTACT LOCAL UTILITIES THAT PROVIDE THEIR OWN LOCATOR SERVICES INDEPENDENT OF "NORTH CAROLINA ONE CALL."

THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE LOCATION OF ALL EXISTING UTILITIES IN COORDINATION WITH THE APPROPRIATE UTILITY AGENCY, OR COMPANY.

THE CONTRACTOR SHALL VERIFY FIELD CONDITIONS PRIOR TO BEGINNING RELATED CONSTRUCTION. ANY DISCREPANCIES SHALL BE REPORTED TO THE OWNER'S REPRESENTATIVE IMMEDIATELY.

ALL UTILITIES THAT ARE LOCATED WITHIN LIMITS OF DISTURBANCE SHALL BE SET SO THAT TOPS/RIMS ARE FLUSH WITH FINISHED GRADE UNLESS OTHERWISE NOTED ON PLANS.

EXISTING UTILITIES AND STRUCTURES SHOWN, BOTH UNDERGROUND AND ABOVE, ARE BASED ON A FIELD SURVEY PERFORMED BY WES COLE LAND SURVEYING PA AND AVAILABLE RECORD DRAWINGS. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR FIELD LOCATING ALL UTILITIES PRIOR TO CONSTRUCTION AND FOR DAMAGES RESULTING FROM FAILURE TO DO SO.

CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING WITH THE TOWN FOR ANY ADDITIONAL INFORMATION ON EXISTING WATER AND SEWER UTILITIES.

LOCATIONS OF EXISTING UTILITIES ARE APPROXIMATE. CONTRACTOR SHALL BE RESPONSIBLE FOR FIELD VERIFYING EXACT LOCATION, ORIENTATION, AND ELEVATION OF EXISTING UTILITIES PRIOR TO BEGINNING CONSTRUCTION OR ORDERING MATERIALS.

ALL UTILITIES TO REMAIN SHALL BE PROTECTED BY THE CONTRACTOR. ANY UTILITIES DAMAGED DURING CONSTRUCTION SHALL BE REPAIRED BY CONTRACTOR AT HIS EXPENSE.

CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY SHOULD ANY FIELD CONDITIONS BE ENCOUNTERED THAT VARY FROM THE INFORMATION PROVIDED IN THE CONTRACT DOCUMENTS.

GENERAL NOTES

STATEMENT OF CONSTRUCTION

THIS PROJECT GENERALLY CONSISTS OF THE CONSTRUCTION OF SHARED ROAD PAVEMENT MARKINGS AND SIDEWALK EXTENSIONS.

THE CONTRACTOR SHALL PERFORM ALL CONSTRUCTION ACTIVITIES IN ACCORDANCE WITH THE APPLICABLE REQUIREMENTS OF THE JANUARY 2018 NCDOT STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES.

GRADE LINE:

THE GRADE LINES SHOWN DENOTE THE FINISHED ELEVATION OF THE PROPOSED SURFACING AT GRADE POINTS SHOWN ON THE TYPICAL SECTIONS. GRADE LINES MAY BE ADJUSTED AT THEIR BEGINNING AND ENDING AND AT STRUCTURES AS DIRECTED BY THE ENGINEER IN ORDER TO SECURE A PROPER TIE-IN.

DEMOLITION NOTES

CONTACT THE TOWN OF BLACK MOUNTAIN PUBLIC WORKS DEPARTMENT AND NCDOT TO SET UP A PRE-CONSTRUCTION MEETING PRIOR TO LAND DISTURBANCE. TREE PROTECTION FENCING CAN AND SHOULD BE INSTALLED PRIOR TO PRE- CONSTRUCTION.

THE CONTRACTOR SHALL NOTIFY THE TOWN OF BLACK MOUNTAIN INSPECTOR AND NCDOT PRIOR TO STARTING WORK. CONTACT INFORMATION WILL BE PROVIDED AT THE PRE-CONSTRUCTION CONFERENCE.

THE CONTRACTOR SHALL NOT MAKE ANY LANE CLOSURES OR CHANGES TO THE EXISTING TRAVEL PATTERNS ON ANY PUBLIC STREET WITHOUT PRIOR APPROVAL FROM THE TOWN OF BLACK MOUNTAIN.

ALL DEMOLITION SHALL BE APPROVED BY THE TOWN OF BLACK MOUNTAIN AND NCDOT (IF WITHIN RIGHT OF WAY).

ALL DEMOLITION WORK WILL BE COORDINATED BY THE CONTRACTOR.

THE CONTRACTOR IS RESPONSIBLE FOR CONFORMING TO ALL LOCAL, STATE, AND FEDERAL REQUIREMENTS REGARDING REMOVAL AND DISPOSAL OF MATERIALS AND DEBRIS.

ALL DEMOLITION AND SUBSEQUENT CONSTRUCTION TO BE IN ACCORDANCE WITH PERMITS ISSUED AND APPLICABLE STATE, COUNTY, AND LOCAL CODES.

THE CONTRACTOR SHALL OBTAIN AND PAY FOR ALL INSPECTIONS, CERTIFICATIONS, PERMITS, EQUIPMENT, ETC. THAT MAY BE REQUIRED.

RELOCATION OF EXISTING UTILITIES TO BE COORDINATED WITH THE LOCAL UTILITY PROVIDER(S).

CLEANOUTS LOCATED IN AREAS OF DEMOLITION OR SUBSEQUENT CONSTRUCTION THAT ARE TO REMAIN, SHALL BE PROTECTED FROM DAMAGE AND RAISED TO FLUSH WITH NEW GRADE. ALL ITEMS DESIGNATED TO BE REMOVED SHALL BE DISPOSED OF LEGALLY OFFSITE UNLESS OTHERWISE NOTED ON THIS PLAN.

ALL TREES AND VEGETATION NOTED TO BE REMOVED SHALL BE STOCKPILED FOR FUTURE USE.

TREE PROTECTION MEASURES SHALL BE PROVIDED DURING CONSTRUCTION PER APPLICABLE PERMITS AND THE BID DOCUMENTS.

ANY TREE PROTECTION FENCING SHALL BE INSTALLED PRIOR TO LAND DISTURBANCE OPERATIONS INCLUDING TREE REMOVAL, IN SUCH A MANNER AS TO CLEARLY AND ADEQUATELY SEPARATE ALL TREES TO BE REMOVED FROM REMAINING VEGETATION.

ALL PAVEMENT MARKINGS USED FOR PROJECT SHALL BE NCDOT STANDARD THERMOPLASTIC PAVEMENT MARKINGS.

ALL WORK MUST BE COMPLETED WITHIN EASEMENTS AND CONSTRUCTION LIMITS SHOWN.

CONTRACTOR SHALL RESTORE THE LAY-DOWN AND STAGING AREA TO ORIGINAL CONDITIONS AND TO THE SATISFACTION OF THE OWNER, PRIOR TO DEMOBILIZATION AT THE CONCLUSION OF THE PROJECT.

ALL ITEMS DESIGNATED TO BE REMOVED SHALL BE REMOVED COMPLETELY INCLUDING ALL SUBGRADE MATERIALS DIRECTLY ASSOCIATED WITH ITEMS TO BE REMOVED INCLUDING STUMP GRINDING.

CLEAN SOILS SHALL BE UTILIZED FOR BACKFILL COMPACTION OF THESE SOILS PERFORMED IN ACCORDANCE WITH SPECIFICATIONS AND DRAWINGS.

ANY EXCAVATION MUST BE FILLED IN AND TAMPED AT THE CONCLUSION OF EACH WORK PERIOD, AND EQUIPMENT AND SUPPLIES RETURNED TO THE CONSTRUCTION STAGING AREA.

SHEET NOTES

ALL DEMOLITION, AND ANY SUBSEQUENT CONSTRUCTION, SHALL BE PERFORMED IN ACCORDANCE WITH THESE PLANS AND SPECIFICATIONS SET FORTH AND APPROVED BY THE TOWN OF BLACK MOUNTAIN AND NCDOT. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL REQUIRED PERMITS. ALL TREE PROTECTION FENCING SHALL REMAIN IN PLACE DURING CONSTRUCTION.

TRAFFIC CONTROLS FOR ANY WORK WITHIN THE PUBLIC RIGHT OF WAY SHALL BE PERFORMED IN COMPLIANCE WITH STANDARDS OF THE NCDOT STD. DRAWINGS AND THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD). ENGINEER AND/OR OWNER DISCLAIM ANY ROLE IN THE CONSTRUCTION MEANS AND/OR METHODS ASSOCIATED WITH THE PROJECT AS SET FORTH IN THESE PLANS.

CONTRACTOR SHALL MAINTAIN AN "AS BUILT" SET OF DRAWINGS TO RECORD THE ACTUAL LOCATION OF ALL PIPING PRIOR TO CONCEALMENT. DRAWINGS SHALL BE GIVEN TO THE ENGINEER AT REGULAR INTERVALS THROUGHOUT THE PROJECT FOR RECORD KEEPING.

THE CONTRACTOR SHALL, AT ALL TIMES, KEEP THE PREMISES FREE FROM ACCUMULATIONS OF WASTE MATERIALS OR RUBBISH CAUSED BY HIM, HIS EMPLOYEES OR HIS WORK. ALL DEBRIS SHALL BE REMOVED FROM THE PROJECT SITE ON A DAILY BASIS.

IF DEPARTURES FROM THE DRAWINGS OR SPECIFICATIONS ARE DEEMED NECESSARY BY THE CONTRACTOR, DETAILS OF SUCH DEPARTURES AND REASONS THEREOF SHALL BE SUBMITTED TO THE OWNER FOR REVIEW. NO DEPARTURES FROM THE CONTRACT DOCUMENTS SHALL BE MADE WITHOUT THE EXPRESS WRITTEN PERMISSION OF THE OWNER.

THE CONTRACTOR IS RESPONSIBLE FOR FIELD VERIFYING THE ACTUAL AND EXACT LOCATION, SIZE AND MATERIAL COMPOSITION OF ANY EXISTING WATER OR SEWER SERVICE PROPOSED FOR CONNECTION OR USE ON THIS PROJECT.

ALL SIGNS SHALL BE MOUNTED WITH SIGN EDGE AND TO BE LOCATED A MINIMUM OF 3 FEET FROM EDGE OF TRAIL.

BASE INFORMATION:

1. A SURVEY OF PROJECT AREA CONDUCTED BY WES COLE LAND SURVEYING, PA , FINALIZED ON 1/6/2017.
2. LIDAR DATA WAS COMBINED WITH FIELD SHOT SURVEY DATA TO PROVIDE COMPREHENSIVE GRADING. THE BOUNDARY OF THIS FIELD SHOT SURVEY IS DELINEATED ON THE PLANS.
3. ALL EXISTING BASE INFORMATION WAS COMPILED BY THE SURVEYOR UNLESS NOTED BELOW.
4. AERIAL IMAGERY AVAILABLE FROM BUNCOMBE COUNTY (2015).

ACCESSIBILITY CRITERIA:

5. ACCESSIBILITY DESIGN IS IN ACCORDANCE WITH THE AMERICANS WITH DISABILITIES ACT (ADA).
6. LONGITUDINAL SLOPE (TRAIL GRADE) CRITERIA:
   - 6.1. LONGITUDINAL SLOPE (TRAIL GRADE) MEETS ONE OR MORE OF THE FOLLOWING:
   - 6.2. 5% OR LESS FOR ANY DISTANCE.
   - 6.3. UP TO 8.33% FOR 200' MAX. RESTING INTERVALS NO MORE THAN 200' APART.
   - 6.4. UP TO10% FOR 30' MAX. RESTING INTERVALS 30'
   - 6.5. UP TO 12.5% FOR 10' MAX. RESTING INTERVALS 10'.
   - 6.6. NO MORE THAN 30% OF THE TOTAL TRAIL LENGTH MAY EXCEED A RUNNING SLOPE OF 8.33%.
7. CROSS SLOPE CRITERIA:
   - 7.1. MAXIMUM CROSS SLOPE: 2% UNLESS OTHERWISE NOTED (EXCEPTIONS UP TO 5% TO MEET EXISTING CONDITIONS)
8. RAMP CRITERIA:
   - 8.1. THE MAXIMUM SLOPE OF A RAMP IS 1:12, THE MAXIMUM RISE FOR ANY RUN IS 30 INCHES, WITH 5'-0" LEVEL LANDINGS LEVEL REQUIRED AT TOP AND BOTTOM OF EACH RAMP RUN.

DESIGN CRITERIA:

9. DESIGN IN ACCORDANCE WITH THE GUIDE FOR THE DEVELOPMENT OF BICYCLE FACILITIES, 5TH EDITION, AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS (AASHTO 2024; "GREEN BOOK" (AASHTO 2018).
10. ALL MEASUREMENTS AND ANGLES MEASURED OFF GREENWAY CENTERLINE UNLESS OTHERWISE NOTED.
11. GREENWAY WIDTH IS 10'-0" TYPICAL, SURFACE TO BE ASPHALT, UNLESS OTHERWISE NOTED.
12. ALL TRAILS, REGARDLESS OF WIDTH SHALL MAINTAIN A 2'-0" WIDE GRAVEL SHOULDER WITH A 4% CROSS SLOPE. AN EXCEPTION TO THIS ARE EXTENDED GRAVEL SHOULDERS ADJACENT TO RETAINING WALLS OR WITHIN CULVERTS - SEE PLAN FOR WALL LOCATIONS.
13. PROPOSED PAVEMENT SHALL MEET EXISTING PAVEMENT FLUSH.
14. GRADE SIDE SLOPES AND ADJACENT TERRAIN FOR POSITIVE DRAINAGE. CONTRACTOR TO ENSURE THAT THERE IS NO STANDING WATER ON THE UPHILL SIDE OF THE TRAIL. INSTALL DIVERSION DITCH AS NEEDED TO DIRECT WATER TO CULVERTS.

UTILITIES & UTILITY EASEMENTS:

15. MSD EASEMENT ASSUMED TO BE 15' FROM SEWER LINE, EACH SIDE (TOTAL 30' WIDE EASEMENT), UNLESS IDENTIFIED OTHERWISE IN SURVEY.
16. THE EDGES OF PAVED TRAILS SHALL HAVE A MINIMUM CLEARANCE ZONE OF 4' TO THE EDGE OF RAISED MANHOLES. WHERE MANHOLES ARE WITHIN THE PAVED TRAIL THEY SHOULD BE FLUSH WITH THE FINISHED TRAIL SURFACE AND NO CLOSER THAN 4" FROM THE EDGE OF THE PAVEMENT.

EXISTING INFRASTRUCTURE :

WHEN THE TRAIL INTERSECTS WITH A ROAD CROSSING THERE SHALL BE A 10' APRON (OR AS SPECIFIED ON THE PLAN) OF CONCRETE STARTING AT THE EDGE OF ROAD.

TOTAL DISTURBED AREA: APPROXIMATELY .35 ACRES

SEQUENCE OF CONSTRUCTION ACTIVITIES:

1. A PRECONSTRUCTION CONFERENCE MUST BE HELD PRIOR TO THE START OF ANY CONSTRUCTION ACTIVITIES.
2. INSTALL CONSTRUCTION ENTRANCES AS NEEDED AT LOCATIONS SHOWN ON APPROVED PLANS. STAGING AREAS WILL NEED TO BE DISCUSSED WITH THE TOWN OF BLACK MOUNTAIN PRIOR TO THE START OF CONSTRUCTION.
3. DETERMINE AND MARK LIMITS OF DISTURBANCE.
4. INSTALL TREE PROTECTION FENCING, SILT FENCE, SILT FENCE OUTLETS. SILT FENCE OUTLETS SHALL BE INSTALLED PER FIELD LOCATED LOW POINTS AND AS SHOWN ON APPROVED PLANS.
5. CLEAR ONLY AS NECESSARY TO INSTALL THESE DEVICES. CALL FOR ON SITE INSPECTION BY ENVIRONMENTAL INSPECTOR AND OBTAIN CERTIFICATE OF COMPLIANCE.
6. IF TOPSOIL IS ALLOWED TO BE STORED ON SITE, STORAGE AREAS SHALL BE CONTAINED WITHIN THE PROPOSED LIMITS OF DISTURBANCE. TOPSOIL STORAGE AREAS WILL NEED TO BE DISCUSSED WITH THE TOWN OF BLACK MOUNTAIN PRIOR TO THE START OF CONSTRUCTION.
7. BEGIN CLEARING AND GRUBBING ACTIVITIES. INSTALL AND MAINTAIN DEVICES AS NEEDED.
8. ROUGH GRADE SITE AND INSURE THAT SEDIMENT LADEN WATER IS DIRECTED TO SEDIMENT CONTROL DEVICES.
9. INSPECT AND MAINTAIN ALL EROSION CONTROL MEASURES EVERY 7 DAYS AND AFTER EACH SIGNIFICANT RAINFALL (0.5 INCHES OR GREATER) OR AS MORE STRINGENT REQUIREMENTS MAY APPLY AND DOCUMENT WITH INSPECTION REPORTS.
10. CULVERTS ARE TO BE CONSTRUCTED IN THE DRY. CONTRACTOR IS TO COORDINATE WITH EROSION CONTROL INSPECTOR.
11. AS AREAS ARE BOUGHT UP TO FINISH GRADE SPREAD TOPSOIL OVER ALL AREAS TO RECEIVE TURF OR LANDSCAPING. SEED ALL AREAS WITHIN NCDENR STABILIZATION TIMEFRAMES. PERMANENT GRASS SHALL BE INSTALLED FOR ALL AREAS AT FINAL GRADE AN IN SEASON. FERTILIZE, WATER AND RESEED AS REQUIRED TO ESTABLISH AND MAINTAIN A VIGOROUS STAND OF GRASS.
12. AFTER COMPLETION OF CONSTRUCTION AND THE SITE IS STABILIZED, REMOVE ALL ACCUMULATED SEDIMENT FROM SEDIMENT TRAPPING MEASURES AND SPREAD EVENLY ACROSS THE SITE. ALL APPLICABLE E&S CONTROL MEASURES ARE TO REMAIN AND BE PROPERLY MAINTAINED UNTIL PERMANENT VEGETATION IS ESTABLISHED. USE NPDES TABLE FOR ESTABLISHMENT OF VEGETATION.
13. WHEN VEGETATION HAS BECOME ESTABLISHED, REMOVE TEMPORARY EROSION AND SEDIMENTATION CONTROL MEASURES. CALL FOR FINAL SITE INSPECTION BY ENVIRONMENTAL OFFICER. OBTAIN CERTIFICATE OF COMPLIANCE.

UTILITIES

PLEASE NOTE, NOT ALL UTILITIES IDENTIFIED WILL BE IMPACTED BY THE PROJECT.

1. DUKE ENERGY- DISTRIBUTION POWER
2. AT&T- TELECOMMUNICATIONS
3. ERC BROADBAND- TELECOMMUNICATIONS
4. SEGRA- TELECOMMUNICATIONS
5. CHARTER COMMUNICATIONS- TELECOMMUNICATIONS
6. DOMINION ENERGY- GAS
7. TOWN OF BLACK MOUNTAIN- WATER
8. METROPOLITAN SEWERAGE- SEWER

INDEX OF SHEETS

SHEET NO.	DESCRIPTION
1	TITLE SHEET
1A	GENERAL NOTES
1B	CONVENTIONAL SYMBOLS
1C	TRAFFIC MANAGEMENT PLAN
1EX - 4EX	EXISTING CONDITIONS SURVEY
1EC	EROSION CONTROL & DEMO PLAN
2EC	NCDOT EROSION CONTROL DETAILS
1T	TYPICAL SECTIONS
PMP-1	SIGNING AND PAVEMENT MARKING PLAN
PMP-2	SIGNING AND PAVEMENT MARKING PLAN
DT1	SITE DETAILS
1D-4D	SIDEWALK & SHARED ROAD PLAN
5D	NCDOT PIPE SUMMARY

PRELIMINARY SYMBOL LEGEND

- P# — PIPES
- ◇ — DITCHES
- # — SIGNS
- # / PAGE — DETAILS

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

TOWN OF BLACK MOUNTAIN 1893 NORTH CAROLINA

NCDOT TIP: EB-5547B
BLACK MOUNTAIN EB-5547B
BUNCOMBE COUNTY, NC

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

SIDEWALK DESIGN

SHEET INDEX & GENERAL NOTES

Michael Baker INTERNATIONAL
NC Eng License F-1084
9000 Regency Parkway
Suite 600
Cary, North Carolina 27518
Phone: 919.463.5488
Fax: 919.463.5490

DATE: AUGUST 2026

REVISIONS:

NO.	DATE:

VERTICAL SCALE: N/A

HORIZONTAL SCALE: N/A

PROJECT NO.: 197480

SHEET NO. 1A

11/14/23

Note: Not to Scale

STATE OF NORTH CAROLINA, DIVISION OF HIGHWAYS
CONVENTIONAL PLAN SHEET SYMBOLS

5547B 1B

BOUNDARIES AND PROPERTY:

- State Line
- County Line
- Township Line
- City Line
- Reservation Line
- Property Line
- Existing Iron Pin (EIP)
- Computed Property Corner
- Existing Concrete Monument (ECM) — ECM
- Parcel / Sequence Number — 123
- Existing Fence Line
- Proposed Woven Wire Fence
- Proposed Chain Link Fence
- Proposed Barbed Wire Fence
- Existing Wetland Boundary — WLB
- Proposed Wetland Boundary — WLB
- Existing Endangered Animal Boundary — EAB
- Existing Endangered Plant Boundary — EPB
- Existing Historic Property Boundary — HPB
- Known Contamination Area: Soil
- Potential Contamination Area: Soil
- Known Contamination Area: Water
- Potential Contamination Area: Water
- Contaminated Site: Known or Potential

BUILDINGS AND OTHER CULTURE:

- Gas Pump Vent or U/G Tank Cap
- Sign — S
- Well — W
- Small Mine — M
- Foundation
- Area Outline
- Cemetery — y
- Building
- School — x
- Church
- Dam

HYDROLOGY:

- Stream or Body of Water
- Hydro, Pool or Reservoir
- Jurisdictional Stream — JS
- Buffer Zone 1 — BZ 1
- Buffer Zone 2 — BZ 2
- Flow Arrow
- Disappearing Stream
- Spring
- Wetland — K
- Proposed Lateral, Tail, Head Ditch — FLOW
- False Sump

RAILROADS:

- Standard Gauge — CSX TRANSPORTATION
- RR Signal Milepost — S, MILEPOST 35
- Switch — SWITCH
- RR Abandoned
- RR Dismantled

RIGHT OF WAY & PROJECT CONTROL:

- Primary Horiz Control Point
- Primary Horiz and Vert Control Point
- Secondary Horiz and Vert Control Point
- Vertical Benchmark
- Existing Right of Way Monument — h
- Proposed Right of Way Monument (Rebar and Cap)
- Proposed Right of Way Monument (Concrete)
- Existing Permanent Easement Monument
- Proposed Permanent Easement Monument (Rebar and Cap)
- Existing C/A Monument
- Proposed C/A Monument (Rebar and Cap)
- Proposed C/A Monument (Concrete)
- Existing Right of Way Line
- Proposed Right of Way Line — RW
- Existing Control of Access Line — g
- Proposed Control of Access Line — CA
- Proposed ROW and CA Line — RW CA
- Existing Easement Line — E
- Proposed Temporary Construction Easement — E
- Proposed Temporary Drainage Easement — TDE
- Proposed Permanent Drainage Easement — PDE
- Proposed Permanent Drainage/Utility Easement — DUE
- Proposed Permanent Utility Easement — PUE
- Proposed Temporary Utility Easement — TUE
- Proposed Aerial Utility Easement — AUE

ROADS AND RELATED FEATURES:

- Existing Edge of Pavement
- Existing Curb
- Proposed Slope Stakes Cut — C
- Proposed Slope Stakes Fill — F
- Proposed Curb Ramp — CR
- Existing Metal Guardrail
- Proposed Guardrail
- Existing Cable Guiderail
- Proposed Cable Guiderail
- Equality Symbol
- Pavement Removal

VEGETATION:

- Single Tree — X
- Single Shrub — Y
- Hedge
- Woods Line
- Orchard
- Vineyard — Vineyard

EXISTING STRUCTURES:

MAJOR:

- Bridge, Tunnel or Box Culvert — CONC
- Bridge Wing Wall, Head Wall and End Wall — CONC WW

MINOR:

- Head and End Wall — CONC HW
- Pipe Culvert
- Footbridge
- Drainage Box: Catch Basin, DI or JB — CB
- Paved Ditch Gutter
- Storm Sewer Manhole — m
- Storm Sewer — S

UTILITIES:

** SUE - Subsurface Utility Engineering*
LOS - Level of Service - A,B,C or D (Accuracy)

POWER:

- Existing Power Pole — P
- Proposed Power Pole
- Existing Joint Use Pole — R
- Proposed Joint Use Pole
- Power Manhole — P
- Power Line Tower
- Power Transformer
- U/G Power Cable Hand Hole
- H-Frame Pole
- U/G Power Line Test Hole (SUE - LOS A)*
- U/G Power Line (SUE - LOS B)* — P
- U/G Power Line (SUE - LOS C)* — P
- U/G Power Line (SUE - LOS D)* — P

TELEPHONE:

- Existing Telephone Pole — Q
- Proposed Telephone Pole
- Telephone Manhole — T
- Telephone Pedestal — b
- Telephone Cell Tower
- U/G Telephone Cable Hand Hole
- U/G Telephone Test Hole (SUE - LOS A)*
- U/G Telephone Cable (SUE - LOS B)* — T
- U/G Telephone Cable (SUE - LOS C)* — T
- U/G Telephone Cable (SUE - LOS D)* — T
- U/G Telephone Conduit (SUE - LOS B)* — TC
- U/G Telephone Conduit (SUE - LOS C)* — TC
- U/G Telephone Conduit (SUE - LOS D)* — TC
- U/G Fiber Optics Cable (SUE - LOS B)* — T FO
- U/G Fiber Optics Cable (SUE - LOS C)* — T FO
- U/G Fiber Optics Cable (SUE - LOS D)* — T FO

WATER:

- Water Manhole — 4
- Water Meter — a
- Water Valve — I
- Water Hydrant — H
- U/G Water Line Test Hole (SUE - LOS A)*
- U/G Water Line (SUE - LOS B)* — W
- U/G Water Line (SUE - LOS C)* — W
- U/G Water Line (SUE - LOS D)* — W
- Above Ground Water Line — A/G Water

TV:

- TV Pedestal — :
- TV Tower — I
- U/G TV Cable Hand Hole —]
- U/G TV Test Hole (SUE - LOS A)*
- U/G TV Cable (SUE - LOS B)* — TV
- U/G TV Cable (SUE - LOS C)* — TV
- U/G TV Cable (SUE - LOS D)* — TV
- U/G Fiber Optic Cable (SUE - LOS B)* — TV FO
- U/G Fiber Optic Cable (SUE - LOS C)* — TV FO
- U/G Fiber Optic Cable (SUE - LOS D)* — TV FO

GAS:

- Gas Valve — C
- Gas Meter — n
- U/G Gas Line Test Hole (SUE - LOS A)*
- U/G Gas Line (SUE - LOS B)* — G
- U/G Gas Line (SUE - LOS C)* — G
- U/G Gas Line (SUE - LOS D)* — G
- Above Ground Gas Line — A/G Gas

SANITARY SEWER:

- Sanitary Sewer Manhole — d
- Sanitary Sewer Cleanout — o
- U/G Sanitary Sewer Line — SS
- Above Ground Sanitary Sewer — A/G Sanitary Sewer
- SS Force Main Line Test Hole (SUE - LOS A)*
- SS Force Main Line (SUE - LOS B)* — FSS
- SS Force Main Line (SUE - LOS C)* — FSS
- SS Force Main Line (SUE - LOS D)* — FSS

MISCELLANEOUS:

- Utility Pole
- Utility Pole with Base — F
- Utility Located Object — S
- Utility Traffic Signal Box — 3
- Utility Unknown U/G Line (SUE - LOS B)* — PUTL
- U/G Tank; Water, Gas, Oil
- Underground Storage Tank, Approx. Loc. — UST
- A/G Tank; Water, Gas, Oil
- Geoenvironmental Boring
- Abandoned According to Utility Records — AATUR
- End of Information — E.O.I.

CHANGES IN THE PLANS: Limits of Work — LIMITS

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

TOWN OF BLACK MOUNTAIN 1893 NORTH CAROLINA

NCDOT TIP: EB-5547B
BLACK MOUNTAIN EB-5547B
BUNCOMBE COUNTY, NC

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

SIDEWALK DESIGN

CONVENTIONAL SYMBOLS

Michael Baker INTERNATIONAL
NC Firm Licens P-1084
8000 Regency Parkway
Suite 600
Cary, North Carolina 27518
Phone: 919.463.5488
Fax: 919.463.5490

DATE: AUGUST 2026

REVISIONS:

NO.	DATE:

VERTICAL SCALE: N/A

HORIZONTAL SCALE: N/A

PROJECT NO.: 197480

SHEET NO. 1B

GENERAL NOTES

GRADE LINE:
GRADING AND SURFACING OR RESURFACING AND WIDENING:

THE GRADE LINES SHOWN DENOTE THE FINISHED ELEVATION OF THE PROPOSED SURFACING AT GRADE POINTS SHOWN ON THE TYPICAL SECTIONS. WHERE NO GRADE LINES ARE SHOWN, THE PROFILES SHOWN DENOTE THE TOP ELEVATION OF THE EXISTING PAVEMENT ALONG THE CENTER LINE OF SURVEY ON WHICH THE PROPOSED RESURFACING WILL BE PLACED. GRADE LINES MAY BE ADJUSTED BY THE ENGINEER IN ORDER TO SECURE A PROPER TIE-IN.

CLEARING:

CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD II.

SHOULDER CONSTRUCTION:

ASPHALT, EARTH, AND CONCRETE SHOULDER CONSTRUCTION ON THE HIGH SIDE OF SUPERELEVATED CURVES SHALL BE IN ACCORDANCE WITH STD. NO. 560.01.

SIDE ROADS:

THE CONTRACTOR WILL BE REQUIRED TO DO ALL NECESSARY WORK TO PROVIDE SUITABLE CONNECTIONS WITH ALL ROADS, STREETS, AND DRIVES ENTERING THIS PROJECT. THIS WORK WILL BE PAID FOR AT THE CONTRACT UNIT PRICE FOR THE PARTICULAR ITEMS INVOLVED.

DRIVEWAYS:

DRIVEWAYS SHALL BE CONSTRUCTED IN ACCORDANCE WITH TOWN OF HUNTERSVILLE DETAIL 108.1 FOR CURB DROP TAPER AND NCDOT STD. 848.03 FOR GRADES AS SHOWN ON THE PLANS. LOCATIONS OF DRIVES WILL BE AS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER. ADDITIONAL 5 FEET OF CONCRETE DRIVEWAY TO EXTEND BEHIND SIDEWALK.

UTILITIES:

UTILITY OWNERS ON THIS PROJECT ARE: DUKE ENERGY, AT&T, ERC BROADBAND, SEGRA, CHARTER COMMUNICATIONS, DOMINION ENERGY, TOWN OF BLACK MOUNTAIN WATER, & METROPOLITAN SEWEAGE DISTRICT.

ANY RELOCATION OF EXISTING UTILITIES WILL BE ACCOMPLISHED BY OTHERS, EXCEPT AS SHOWN ON THE PLANS.

RIGHT-OF-WAY MARKERS:

ALL RIGHT-OF-WAY MARKERS ON THIS PROJECT SHALL BE PLACED BY OTHERS. CONTRACTOR RESPONSIBLE FOR PROTECTING MARKERS AND REPLACING ANY MARKERS DAMAGED DURING CONSTRUCTION AT THE CONTRACTOR'S EXPENSE.

STANDARD DRAWINGS

2024 ROADWAY ENGLISH STANDARD DRAWINGS

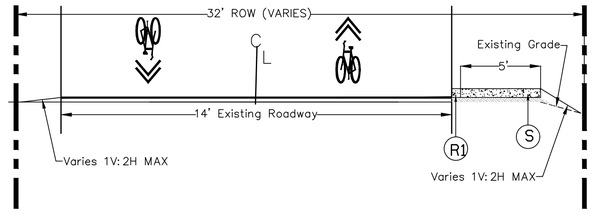
THE FOLLOWING ROADWAY STANDARDS AS APPEAR IN 'ROADWAY STANDARD DRAWINGS' HIGHWAY DESIGN BRANCH - N. C. DEPARTMENT OF TRANSPORTATION - RALEIGH, N. C., DATED JANUARY, 2024
ARE APPLICABLE TO THIS PROJECT AND BY REFERENCE HEREBY ARE CONSIDERED A PART OF THESE PLANS:

STD.NO.	TITLE
DIVISION 2 - EARTHWORK	
200.02	METHOD OF CLEARING - METHOD II
225.02	GUIDE FOR GRADING SUBGRADE - SECONDARY AND LOCAL
DIVISION 3 - PIPE CULVERTS	
300.01	METHOD OF PIPE INSTALLATION
310.02	PARALLEL PIPE END SECTION - PRECAST CONCRETE SECTION FOR 15" TO 24" PIPE
310.10	DRIVEWAY PIPE CONSTRUCTION
DIVISION 6 - ASPHALT BASES AND PAVEMENTS	
654.01	PAVEMENT REPAIRS
DIVISION 8 - INCIDENTALS	
846.01	CONCRETE CURB, GUTTER AND CURB & GUTTER
848.01	CONCRETE SIDEWALK
848.03	DRIVEWAY TURNOUT
876.02	GUIDE FOR RIP RAP AT PIPE OUTLETS
DIVISION 12 - PAVEMENT MARKINGS, MARKERS AND DELINEATION	
1205.07	PAVEMENT MARKINGS- PEDESTRIAN CROSSWALK
1205.16	BICYCLE FACILITIES SYMBOLS & DETAILS

TYPICAL SECTIONS

PAVEMENT SCHEDULE	
R1	6" CONCRETE CURB
S	4" CONCRETE SIDEWALK.

VANCE AVENUE SIDEWALKS



TRANSPORTATION MANAGEMENT

ROAD CLOSURE DAY AND TIME RESTRICTIONS

A) DO NOT CLOSE OR NARROW TRAVEL LANES AS FOLLOWS:

ROAD NAME	DAY AND TIME RESTRICTIONS
VANCE AVENUE	MONDAY THRU FRIDAY, 6:00 A.M. TO 9:00 A.M. MONDAY THRU FRIDAY, 4:00 P.M. TO 6:00 P.M.

ROAD NAME	DAY AND TIME RESTRICTIONS
TERRY ESTATES DRIVE	MONDAY THRU FRIDAY, 6:00 A.M. TO 9:00 A.M. MONDAY THRU FRIDAY, 4:00 P.M. TO 6:00 P.M.

B) DO NOT CLOSE OR NARROW TRAVEL LANES DURING HOLIDAYS AND SPECIAL EVENTS AS FOLLOWS:

ROAD NAME

VANCE AVENUE

HOLIDAY

1. FOR ANY UNEXPECTED OCCURENCE THAT CREATES UNUSUALLY HIGH TRAFFIC VOLUMES, AS DIRECTED BY THE ENGINEER.

2. FOR NEW YEAR'S, BETWEEN THE HOURS OF 6:00 A.M. DECEMBER 31st TO 8:00 P.M. JANUARY 2nd. IF NEW YEAR'S DAY IS ON A FRIDAY, SATURDAY, SUNDAY, OR MONDAY THEN UNTIL 8:00 P.M. THE FOLLOWING TUESDAY.

3. FOR EASTER, BETWEEN THE HOURS OF 6:00 A.M. THURSDAY AND 8:00 P.M. MONDAY.

4. FOR MEMORIAL DAY, BETWEEN THE HOURS OF 6:00 A.M. THURSDAY AND 8:00 P.M. MONDAY.

5. FOR INDEPENDENCE DAY, BETWEEN THE HOURS OF 6:00 A.M. THE DAY BEFORE INDEPENDENCE DAY AND 8:00 P.M. THE DAY AFTER INDEPENDENCE DAY.

IF INDEPENDENCE DAY IS ON A FRIDAY, SATURDAY, SUNDAY OR MONDAY THEN BETWEEN THE HOURS OF 6:00 A.M. THE THURSDAY BEFORE INDEPENDENCE DAY AND 8:00 P.M. THE TUESDAY AFTER INDEPENDENCE DAY.

6. FOR LABOR DAY, BETWEEN THE HOURS OF 6:00 A.M. FRIDAY AND 8:00 P.M. TUESDAY.

7. FOR THANKSGIVING DAY, BETWEEN THE HOURS OF 6:00 A.M. TUESDAY TO 8:00 P.M. MONDAY.

8. FOR CHRISTMAS, BETWEEN THE HOURS OF 6:00 A.M. THE FRIDAY BEFORE THE WEEK OF CHRISTMAS DAY AND 8:00 P.M. THE FOLLOWING TUESDAY AFTER THE WEEK OF CHRISTMAS.

9. COORDINATE SPECIAL EVENTS OR HOLIDAY SCHEDULES WITH THE TOWN OF BLACK MOUNTAIN PRIOR TO ANY NARROWING OR ROAD CLOSURES SUCH AS: SOURWOOD FESTIVAL, HOLLY JOLLY, CHRISTMAS PARADE, VALENTINE FUN RUN, AND GREENWAY CHALLENGE 10K. DATES VARY PER CALENDAR YEAR.

TEMPORARY LANE AND SHOULDER CLOSURE REQUIREMENTS

A) REMOVE LANE CLOSURE DEVICES FROM THE LANE WHEN WORK IS NOT BEING PERFORMED BEHIND THE LANE CLOSURE OR WHEN A LANE CLOSURE IS NO LONGER NEEDED, OR AS DIRECTED BY THE ENGINEER.

B) WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING WITHIN 15 FT OF AN OPEN TRAVEL LANE, CLOSE THE NEAREST OPEN SHOULDER USING ROADWAY STANDARD DRAWING NO. 1101.04, UNLESS THE WORK AREA IS PROTECTED BY BARRIER OR GUARDRAIL OR A LANE CLOSURE IS INSTALLED.

C) WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING ON THE SHOULDER ADJACENT TO AN UNDIVIDED FACILITY AND WITHIN 5 FT OF AN OPEN TRAVEL LANE, CLOSE THE NEAREST OPEN TRAVEL LANE USING ROADWAY STANDARD DRAWING NO. 1101.02 UNLESS THE WORK AREA IS PROTECTED BY BARRIER OR GUARDRAIL.

D) WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING WITHIN A TRAVEL LANE, CLOSE THE LANE ACCORDING TO THE TRAFFIC CONTROL PLANS, ROADWAY STANDARD DRAWINGS, OR AS DIRECTED BY THE ENGINEER. CONDUCT THE WORK SO THAT ALL PERSONNEL AND/OR EQUIPMENT REMAIN WITHIN THE CLOSED TRAVEL LANE.

E) DO NOT WORK SIMULTANEOUSLY WITHIN 15 FT ON BOTH SIDES OF AN OPEN TRAVELWAY, WITHIN THE SAME LOCATION, UNLESS PROTECTED BY BARRIER OR GUARDRAIL.

F) WHEN LANE CLOSURES ARE NOT IN EFFECT SPACE CHANNELIZING DEVICES IN WORK AREAS NO GREATER IN FEET THAN TWICE THE POSTED SPEED LIMIT (MPH) EXCEPT, 10 FT ON-CENTER IN RADII, AND 3 FT OFF THE EDGE OF AN OPEN TRAVELWAY. REFER TO STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES SECTIONS 1130 (DRUMS), 1135 (CONES) AND 1180 (SKINNY DRUMS) FOR ADDITIONAL REQUIREMENTS.

G) ENSURE ALL NECESSARY TRAFFIC CONTROL DEVICES, SIGNS, BARRICADES, MARKINGS, ETC ARE IN PLACE PRIOR TO ALTERING ANY TRAFFIC PATTERN.

H) INSTALL BLACK ON ORANGE 'DIP' SIGNS (W8-2) AND/OR 'BUMP' SIGNS (W8-1) 500 FT IN ADVANCE OF UNEVEN AREA, AS DIRECTED BY THE ENGINEER.

PAVEMENT EDGE DROP OFF PROTECTION REQUIREMENTS

I) BACKFILL AT A 6:1 SLOPE UP TO THE EDGE AND ELEVATION OF EXISTING PAVEMENT ANY AREAS ADJACENT TO AN OPEN TRAVEL LANE THAT HAVE AN EDGE OF PAVEMENT DROP-OFF AS FOLLOWS:

BACKFILL DROP-OFFS THAT EXCEED 2 INCHES ON ROADWAYS WITH POSTED SPEED LIMITS OF 45 MPH OR GREATER.

BACKFILL DROP-OFFS THAT EXCEED 3 INCHES ON ROADWAYS WITH POSTED SPEED LIMITS LESS THAN 45 MPH.

BACKFILL WITH SUITABLE COMPACTED MATERIAL, AS APPROVED BY THE ENGINEER, AT NO EXPENSE TO THE DEPARTMENT.

PEDESTRIAN REQUIREMENTS

J) MAINTAIN ALL NEW SIDEWALKS CLOSED USING BARRICADES AND SIDEWALK CLOSED SIGNS R9-9, UNTIL DIRECTED BY THE ENGINEER TO OPEN.

SIGNING

INSTALL ADVANCE WORK ZONE WARNING SIGNS WHEN WORK IS WITHIN 40FT FROM THE EDGE OF TRAVEL LANE AND NO MORE THAN THREE (3) DAYS PRIOR TO THE BEGINNING OF CONSTRUCTION.

PHASING

IF WORK IS NOT PURSUED WITHIN 3 DAYS OF SIGN INSTALLATION, THE WORK ZONE ADVANCE WARNING SIGNS SHALL BE COVERED OR REMOVED IN A METHOD APPROVED BY ENGINEER. THESE COVERINGS SHALL BE MADE IN ACCORDANCE WITH SECTION 1110 OF THE NCDOT SPECIFICATIONS.

ACCORDANCE WITH SECTION 1110 OF THE NCDOT SPECIFICATIONS.

STEP 1:

PRIOR TO ANY CONSTRUCTION ACTIVITY, INSTALL ALL ADVANCE WORK ZONE WARNING SIGNS IN ACCORDANCE WITH NCDOT RSD 1101.01.

STEP 2:

USING RSD 1101.02, SHEET 1 OF 15, PERFORM THE FOLLOWING:

AT THE END OF EACH WORK PERIOD, RETURN TRAFFIC TO THE EXISTING PATTERN. CONSTRUCT THE PROPOSED IMPROVEMENTS USING RSD 1101.02, SHEET 1 OF 14. WHEN PLACING DRAINAGE STRUCTURES AND PIPE SYSTEMS ADJACENT TO TRAVEL LANES: AT THE END OF EACH WORK PERIOD COVER ANY INCOMPLETE CONSTRUCTION WITH TRAFFIC BEARING STEEL PLATE(S) AND RETURN TRAFFIC TO EXISTING PATTERN.

INSTALL THE PAVEMENT MARKINGS, SIDEWALK, AND REMOVE ALL TRAFFIC CONTROL DEVICES.

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

TOWN OF BLACK MOUNTAIN 1893 NORTH CAROLINA

NCDOT TIP: EB-5547B
BLACK MOUNTAIN EB-5547B
BUNCOMBE COUNTY, NC

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

SIDEWALK DESIGN

TRAFFIC MANAGEMENT PLAN

Michael Baker INTERNATIONAL
NC Firm License P-1084
8000 Regency Parkway
Suite 600
Cary, North Carolina 27518
Phone: 919.463.5488
Fax: 919.463.5490

DATE: AUGUST 2026

REVISIONS:

NO.	DATE:

VERTICAL SCALE: N/A

HORIZONTAL SCALE: 1"=40'

PROJECT NO.: 197480

SHEET NO. 1C

EB 5547-A

LEGEND:

- EXISTING IRON REBAR (EIR) OR EXISTING MAG NAIL (EMN)
- EXISTING IRON PIPE (EIP)
- EXISTING CONCRETE MONUMENT (R/W MON)
- C.S.D.TRAVERSE STATION
- SANITARY SEWER MANHOLE (SMH)
- SANITARY SEWER CLEAN-OUT (CO)
- WATER METER (WM)
- WATER VALVE (WV)
- UTILITY POLE
- LIGHT POLE
- CABLE TELEVISION RISER
- TELEPHONE PEDESTAL (TPED)
- TELEPHONE MANHOLE (TMH)
- GUY WIRE
- SIGN
- STORMWATER JUNCTION BOX (JB)
- CURB INLET (CI)
- DROP INLET (DI)
- YARD INLET
- SPOT ELEVATION
- DECIDUOUS TREE (SIZE AND TYPE AS NOTED)
- CONIFEROUS TREE (SIZE AND TYPE AS NOTED)
- MONITORING WELL (MW)
- GAS METER (GM)
- GAS VALVE (GV)
- GAS TEST STATION (GTS)
- BOUNDARY LINE PER SURVEY/DEEDS
- RIGHT-OF-WAY LINE
- SANITARY SEWER LINE (APPROXIMATE)
- EASEMENT LINE
- EDGE OF RIVER / CREEK
- C/L STORM DITCH
- OVERHEAD UTILITY LINE
- CHAIN LINK FENCELINE
- BOARD FENCELINE
- METAL GUARD RAIL
- FEMA FLOODLINE
- INDEX CONTOUR LINE (GROUND SURVEYED)
- INTERIM CONTOUR LINE (GROUND SURVEYED)
- LIDAR CONTOUR INDEX LINE (NOT SURVEYED)
- LIDAR CONTOUR INTERIM LINE (NOT SURVEYED)
- MARKED FIBER OPTIC (APPROXIMATE)
- MARKED TELEVISION LINE (APPROXIMATE)
- MARKED GAS LINE (APPROXIMATE)
- MARKED WATER LINE (APPROXIMATE)
- MARKED ELECTRIC LINE (APPROXIMATE)
- MARKED UNKNOWN UTILITY LINE (APPROXIMATE)

TREE ABBREVIATIONS:

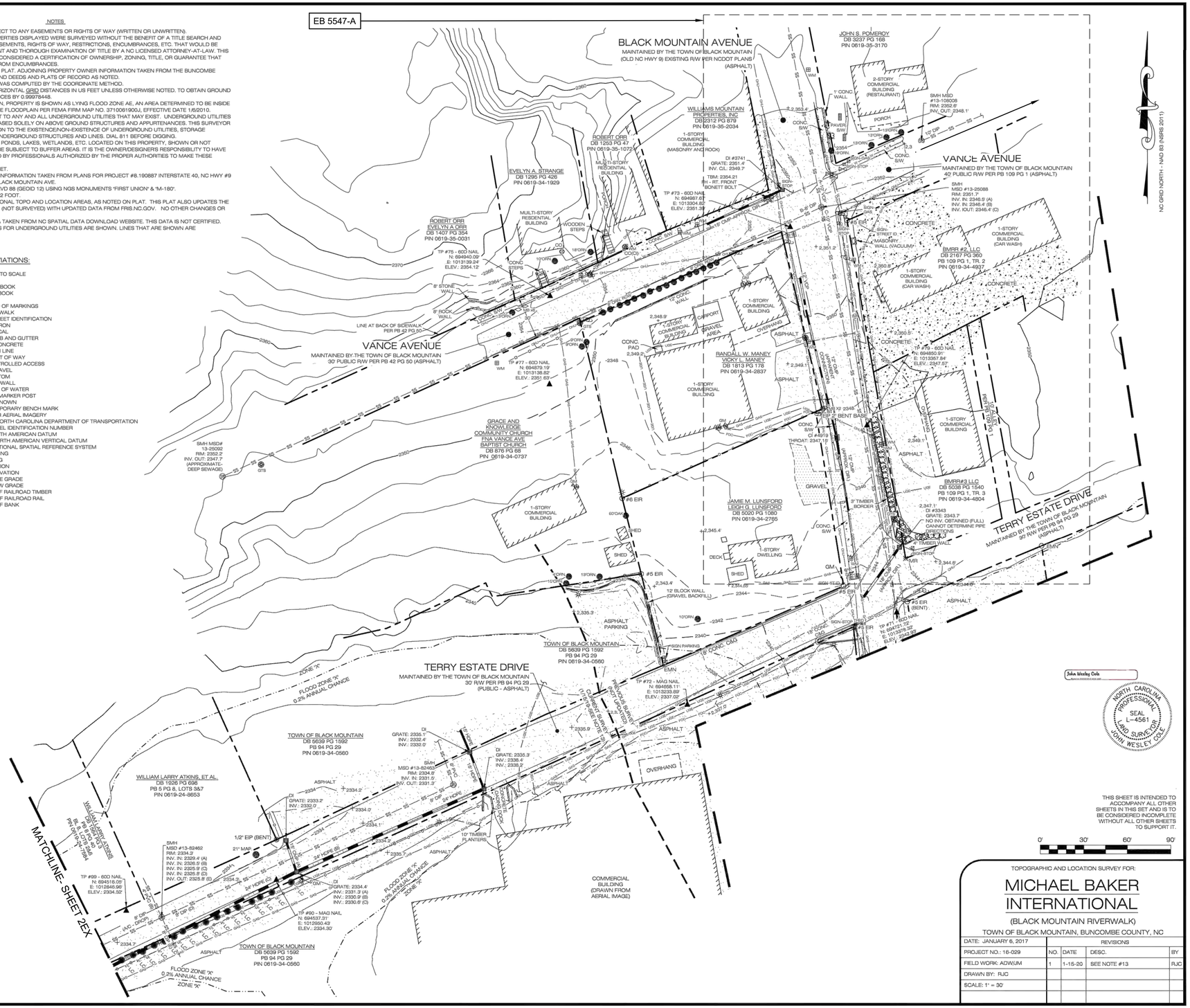
APP...APPLE
CHR...CHERRY
B.W...BABSWOOD
BCH...BEECH
B.G...BLACK GUM
BIR...BIRCH
BCK...BUCKEYE
CAT...CATALPA
CED...CEDAR
CMY...CRAPE MYRTLE
C.O...CHESTNUT OAK
C.A...CRAB APPLE
D.T...DEAD TREE
D.W...DOGWOOD
HEM...HEMLOCK
HIC...HICKORY
HOL...HOLLY
J.M...JAPANESE MAPLE
LOC...LOCUST
MAG...MAGNOLIA
MAP...MAPLE
MIM...MIMOSA
ORN...ORNAMENTAL
PER...PERSIMMON
POP...POPLAR
R.O...RED OAK
S.G...SWEET GUM
SPR...SPRUCE
S.W...SOURWOOD
SYC...SYCAMORE
U.T...UNIDENTIFIED TREE
WAL...WALNUT
W.O...WHITE OAK
W.P...WHITE PINE
WIL...WILLOW
CHN...CHESTNUT
S.M...SILVER MAPLE
B.O...BLACK OAK
LC...LEYLAND CYPRESS

NOTES

1. THIS PROPERTY IS SUBJECT TO ANY EASEMENTS OR RIGHTS OF WAY (WRITTEN OR UNWRITTEN).
2. THE PROPERTY OR PROPERTIES DISPLAYED WERE SURVEYED WITHOUT THE BENEFIT OF A TITLE SEARCH AND MAY NOT SHOW ALL EASEMENTS, RIGHTS OF WAY, RESTRICTIONS, ENCUMBRANCES, ETC. THAT WOULD BE REVEALED BY A CURRENT AND THOROUGH EXAMINATION OF TITLE BY A NC LICENSED ATTORNEY-AT-LAW. THIS SURVEY SHALL NOT BE CONSIDERED A CERTIFICATION OF OWNERSHIP, ZONING, TITLE, OR GUARANTEE THAT THE SUBJECT IS FREE FROM ENCUMBRANCES.
3. DEED REFERENCES: SEE PLAT. ADJOINING PROPERTY OWNER INFORMATION TAKEN FROM THE BUNCOMBE COUNTY GIS WEBSITE AND DEEDS AND PLATS OF RECORD AS NOTED.
4. AREA SHOWN HEREON WAS COMPUTED BY THE COORDINATE METHOD.
5. ALL DISTANCES ARE HORIZONTAL GRID DISTANCES IN US FEET UNLESS OTHERWISE NOTED. TO OBTAIN GROUND LENGTHS DIVIDE DISTANCES BY 0.99978448.
6. BY GRAPHICAL LOCATION, PROPERTY IS SHOWN AS LYING FLOOD ZONE AE, AN AREA DETERMINED TO BE INSIDE THE 1% ANNUAL CHANCE FLOODPLAIN PER FEMA FIRM MAP NO. 3710061900J, EFFECTIVE DATE 1/6/2010.
7. THIS SURVEY IS SUBJECT TO ANY AND ALL UNDERGROUND UTILITIES THAT MAY EXIST. UNDERGROUND UTILITIES SHOWN HEREON ARE BASED SOLELY ON ABOVE GROUND STRUCTURES AND APPURTENANCES. THIS SURVEYOR MAKES NO CERTIFICATION TO THE EXISTENCE/NON-EXISTENCE OF UNDERGROUND UTILITIES, STORAGE FACILITIES, OR OTHER UNDERGROUND STRUCTURES AND LINES. DIAL 811 BEFORE DIGGING.
8. ANY STREAMS, CREEKS, PONDS, LAKES, WETLANDS, ETC. LOCATED ON THIS PROPERTY, SHOWN OR NOT SHOWN HEREON, MAY BE SUBJECT TO BUFFER AREAS. IT IS THE OWNER/DESIGNERS RESPONSIBILITY TO HAVE THE AREAS DESIGNATED BY PROFESSIONALS AUTHORIZED BY THE PROPER AUTHORITIES TO MAKE THESE DETERMINATIONS.
9. NO MISSING CORNERS SET.
10. NCDOT RIGHT OF WAY INFORMATION TAKEN FROM PLANS FOR PROJECT #8.190887 INTERSTATE 40, NC HWY #9 (BROADWAY ST), AND BLACK MOUNTAIN AVE.
11. VERTICAL DATUM IS NAVD 88 (GEOID 12) USING NGS MONUMENTS "FIRST UNION" & "M-180".
12. CONTOUR INTERVAL IS 2 FOOT.
13. THIS PLAT ADDS ADDITIONAL TOPO AND LOCATION AREAS, AS NOTED ON PLAT. THIS PLAT ALSO UPDATES THE LIDAR CONTOUR LINES (NOT SURVEYED) WITH UPDATED DATA FROM FRIS.NC.GOV. NO OTHER CHANGES OR INSPECTIONS MADE.
14. LIDAR ELEVATION DATA TAKEN FROM NC SPATIAL DATA DOWNLOAD WEBSITE. THIS DATA IS NOT CERTIFIED.
15. NOT ALL SERVICE LINES FOR UNDERGROUND UTILITIES ARE SHOWN. LINES THAT ARE SHOWN ARE APPROXIMATE.

ABBREVIATIONS:

NTS...NOT TO SCALE
(T)...TOTAL
DB...DEED BOOK
PB...PLAT BOOK
PG...PAGE
EOM...END OF MARKINGS
S/W...SIDEWALK
ST ID...STREET IDENTIFICATION
CI...CAST IRON
TYP...TYPICAL
C&G...CURB AND GUTTER
CONC...CONCRETE
D/L...DITCH LINE
R/W...RIGHT OF WAY
C/A...CONTROLLED ACCESS
GRVL...GRAVEL
BOT...BOTTOM
HW...HEADWALL
EW...EDGE OF WATER
GM...GAS MARKER POST
UNK...UNKNOWN
TBM...TEMPORARY BENCH MARK
P.A.I....PER AERIAL IMAGERY
NCDOT...NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
PIN...PARCEL IDENTIFICATION NUMBER
NAD...NORTH AMERICAN DATUM
NAVD...NORTH AMERICAN VERTICAL DATUM
NSRS...NATIONAL SPATIAL REFERENCE SYSTEM
N...NORTHING
E...EASTING
Z...ELEVATION
ELEV...ELEVATION
AG...ABOVE GRADE
BG...BELOW GRADE
TT...TOP OF RAILROAD TIMBER
TR...TOP OF RAILROAD RAIL
TB...TOP OF BANK



THIS SHEET IS INTENDED TO ACCOMPANY ALL OTHER SHEETS IN THIS SET AND IS TO BE CONSIDERED INCOMPLETE WITHOUT ALL OTHER SHEETS TO SUPPORT IT.

TOPOGRAPHIC AND LOCATION SURVEY FOR:

MICHAEL BAKER INTERNATIONAL

(BLACK MOUNTAIN RIVERWALK)

TOWN OF BLACK MOUNTAIN, BUNCOMBE COUNTY, NC

DATE: JANUARY 6, 2017	REVISIONS			
PROJECT NO.: 16-029	NO.	DATE	DESC.	BY
FIELD WORK: ADW,IJM	1	1-15-20	SEE NOTE #13	RJC
DRAWN BY: RJC				
SCALE: 1" = 30'				

COLE SURVEYING & DESIGN, PA
549 ELK PARK DRIVE, SUITE 707
ASHEVILLE, NC 28804
PHONE: 828-251-7025
NC FIRM #C-3106 | SC COA #4052

John Wesley Cole
NORTH CAROLINA PROFESSIONAL SEAL L-4561 LAND SURVEYOR JOHN WESLEY COLE

TOWN OF BLACK MOUNTAIN 1893 NORTH CAROLINA

NCDOT TIP: EB-5547B
BLACK MOUNTAIN EB-5547B

BUNCOMBE COUNTY, NC

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

SIDEWALK DESIGN

EXISTING CONDITIONS SURVEY

Michael Baker INTERNATIONAL
NC Eng License F-1084
8000 Regency Parkway
Suite 600
Cary, North Carolina 27518
Phone: 919.463.5488
Fax: 919.463.5490

DATE: AUGUST 2026

REVISIONS:

NO.	DATE:

VERTICAL SCALE: N/A

HORIZONTAL SCALE: 1"=30'

PROJECT NO.: 197480

SHEET NO. 1EX

COLE SURVEYING & DESIGN, PA
549 ELK PARK DRIVE, SUITE 707
ASHEVILLE, NC 28804
PHONE: 828-251-7025
NC FIRM #C-3106 | SC COA #4052

TOPOGRAPHIC AND LOCATION SURVEY FOR:

MICHAEL BAKER INTERNATIONAL

(BLACK MOUNTAIN RIVERWALK)

TOWN OF BLACK MOUNTAIN, BUNCOMBE COUNTY, NC

DATE: JANUARY 6, 2017	REVISIONS			
PROJECT NO.: 16-029	NO.	DATE	DESC.	BY
FIELD WORK: ADW/JM	1	1-15-20	SEE NOTE #13	RJC
DRAWN BY: RJC				
SCALE: 1" = 30'				

THIS SHEET IS INTENDED TO ACCOMPANY ALL OTHER SHEETS IN THIS SET AND IS TO BE CONSIDERED INCOMPLETE WITHOUT ALL OTHER SHEETS TO SUPPORT IT.

John Wesley Cole

NORTH CAROLINA PROFESSIONAL SEAL L-4561 LAND SURVEYOR JOHN WESLEY COLE

TOWN OF BLACK MOUNTAIN 1893 NORTH CAROLINA

NCDOT TIP: EB-5547B
BLACK MOUNTAIN EB-5547B

BUNCOMBE COUNTY, NC

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

SIDEWALK DESIGN

EXISTING CONDITIONS SURVEY

Michael Baker INTERNATIONAL
NC Eng. Licensing: F-1084
8000 Regency Parkway
Suite 600
Cary, North Carolina 27518
Phone: 919.463.5488
Fax: 919.463.5490

DATE: AUGUST 2026

REVISIONS:

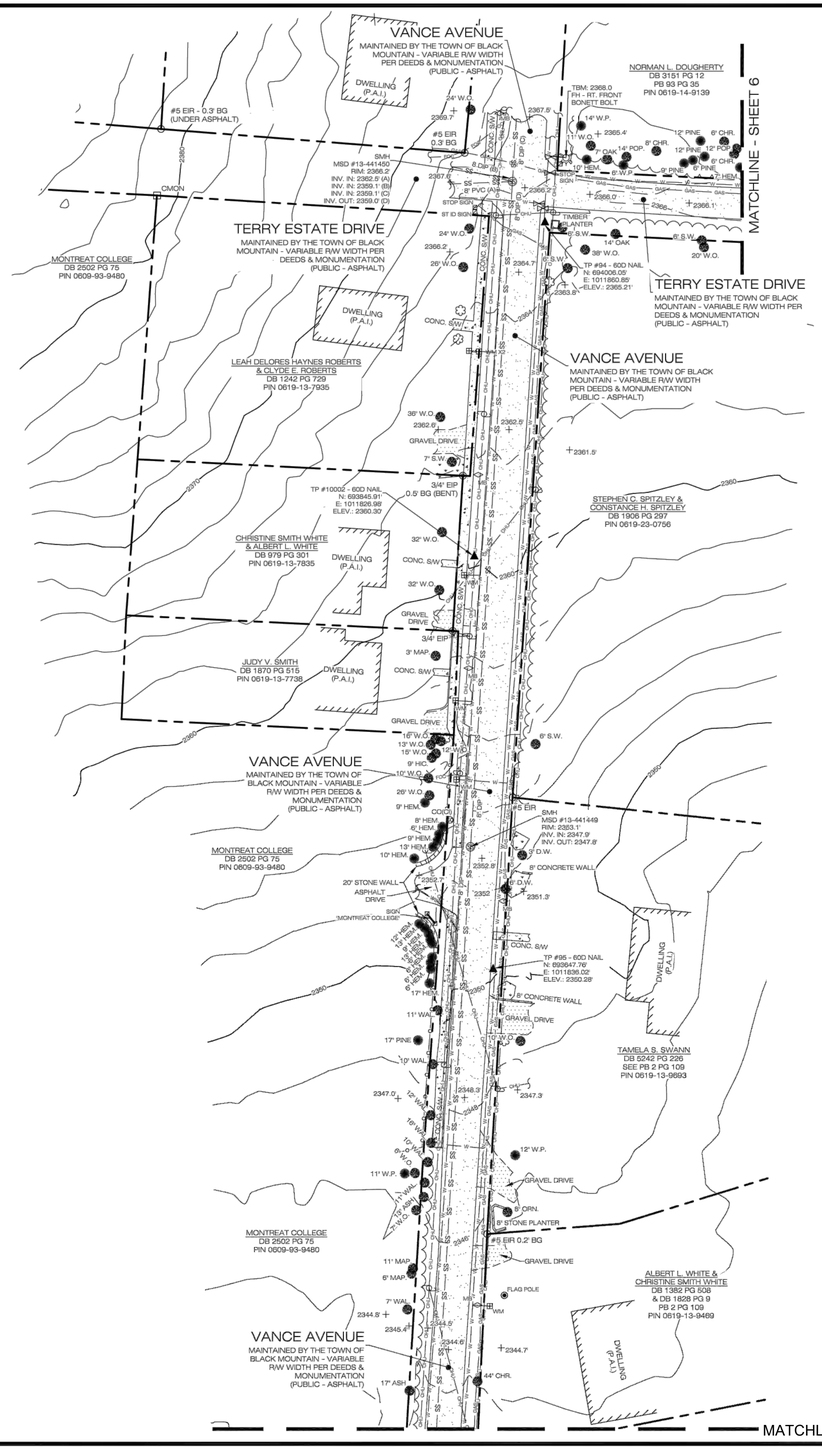
NO.	DATE:

VERTICAL SCALE: N/A

HORIZONTAL SCALE: 1"=30'

PROJECT NO.: 197480

SHEET NO. 2EX



COLE SURVEYING & DESIGN, PA
549 ELK PARK DRIVE, SUITE 707
ASHEVILLE, NC 28804
PHONE: 828-251-7025
NC FIRM #C-3106 | SC COA #4052

THIS SHEET IS INTENDED TO ACCOMPANY ALL OTHER SHEETS IN THIS SET AND IS TO BE CONSIDERED INCOMPLETE WITHOUT ALL OTHER SHEETS TO SUPPORT IT.

TOPOGRAPHIC AND LOCATION SURVEY FOR:

MICHAEL BAKER INTERNATIONAL

(BLACK MOUNTAIN RIVERWALK)

TOWN OF BLACK MOUNTAIN, BUNCOMBE COUNTY, NC

DATE: JANUARY 6, 2017	REVISIONS			
PROJECT NO.: 16-029	NO.	DATE	DESC.	BY
FIELD WORK: ADW/JM	1	1-15-20	SEE NOTE #13	FJC
DRAWN BY: FJC				
SCALE: 1" = 30'				

John Wesley Cole
NORTH CAROLINA PROFESSIONAL SEAL L-4561 LAND SURVEYOR JOHN WESLEY COLE

TOWN OF BLACK MOUNTAIN 1893 NORTH CAROLINA

NCDOT TIP: EB-5547B
BLACK MOUNTAIN EB-5547B
BUNCOMBE COUNTY, NC

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

SIDEWALK DESIGN

EXISTING CONDITIONS SURVEY

Michael Baker INTERNATIONAL
NC Firm License F-1084
8000 Regency Parkway
Suite 600
Cary, North Carolina 27518
Phone: 919.463.5488
Fax: 919.463.5490

DATE: AUGUST 2026

REVISIONS:

NO.	DATE:

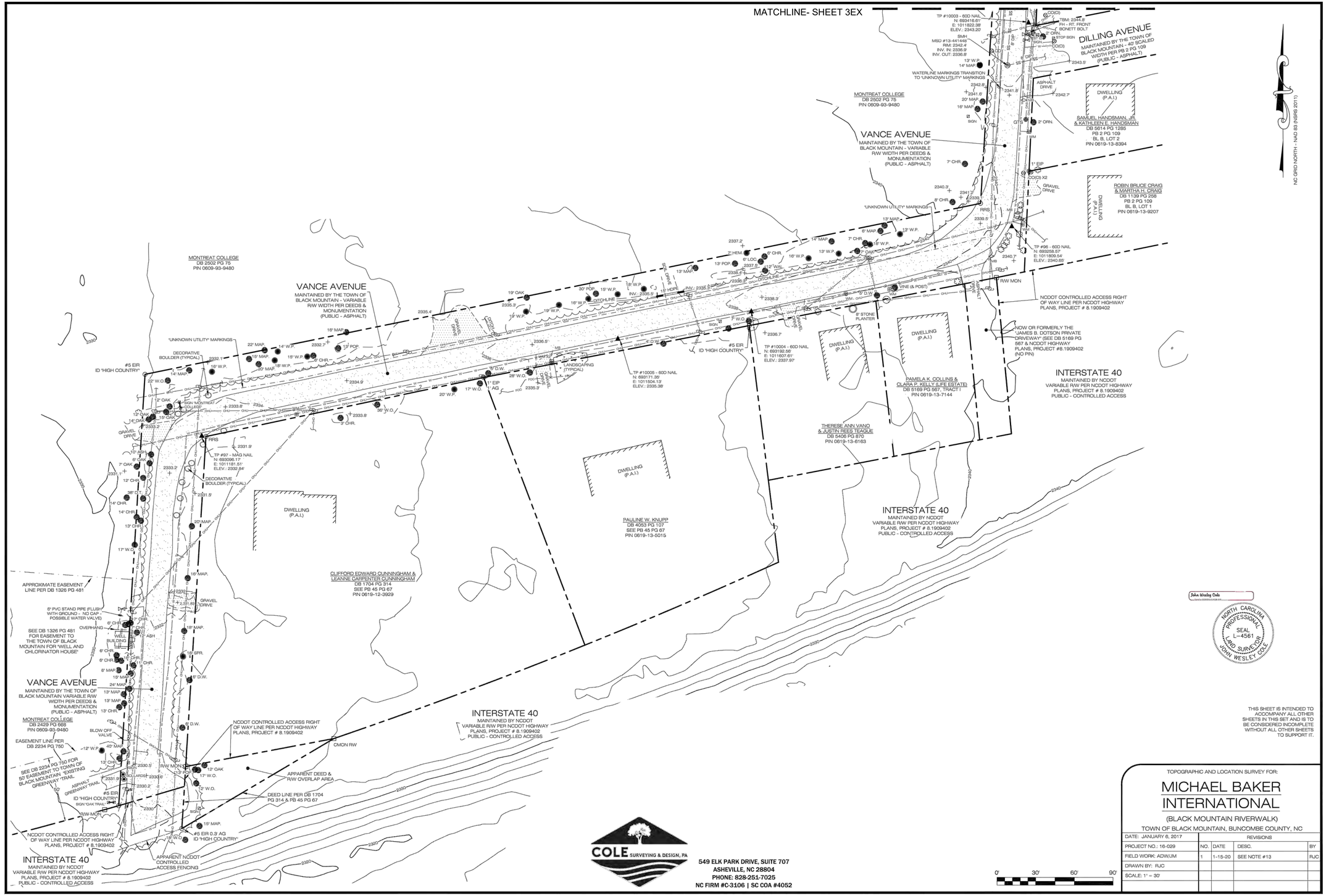
VERTICAL SCALE: N/A

HORIZONTAL SCALE: 1"=30'

PROJECT NO.: 197480

SHEET NO. 3EX

MATCHLINE- SHEET 3EX



COLE SURVEYING & DESIGN, PA
549 ELK PARK DRIVE, SUITE 707
ASHEVILLE, NC 28804
PHONE: 828-251-7025
NC FIRM #C-3106 | SC COA #4052

0' 30' 60' 90'

THIS SHEET IS INTENDED TO ACCOMPANY ALL OTHER SHEETS IN THIS SET AND IS TO BE CONSIDERED INCOMPLETE WITHOUT ALL OTHER SHEETS TO SUPPORT IT.

TOPOGRAPHIC AND LOCATION SURVEY FOR:

MICHAEL BAKER INTERNATIONAL

(BLACK MOUNTAIN RIVERWALK)

TOWN OF BLACK MOUNTAIN, BUNCOMBE COUNTY, NC

DATE: JANUARY 6, 2017	REVISIONS			
PROJECT NO.: 16-029	NO.	DATE	DESC.	BY
FIELD WORK: ADW/JM	1	1-15-20	SEE NOTE #13	RJC
DRAWN BY: RJC				
SCALE: 1" = 30'				

NCDOT TIP: EB-5547B
BLACK MOUNTAIN EB-5547B

BUNCOMBE COUNTY, NC

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

SIDEWALK DESIGN

EXISTING CONDITIONS SURVEY

Michael Baker INTERNATIONAL
NC Eng. License: F-1084
8000 Regency Parkway
Suite 600
Cary, North Carolina 27518
Phone: 919.463.5488
Fax: 919.463.5490

DATE: AUGUST 2026

REVISIONS:

NO.	DATE:

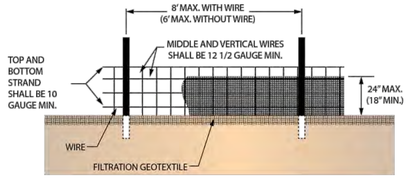
VERTICAL SCALE: N/A

HORIZONTAL SCALE: 1"=30'

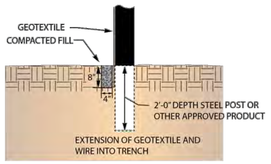
PROJECT NO.: 197480

SHEET NO. 4EX

4.3.1 Temporary Silt Fence (1605.01)



FRONT VIEW



CROSS SECTION

4.3.1 Temporary Silt Fence (1605.01)

Material Specifications

Filtration Geotextile: Type 3

- The geotextile shall meet the requirements of Section 1056 of the Standard Specifications for Type 3 Geotextile.
- Posts shall be steel, or other approved product, and have a minimum length of 5 feet.
- Posts, woven wire and wire staples shall meet the requirements of Section 1605-2 of the Standard Specifications.
- Geotextile shall be a minimum of 36-inches wide.
- Proper geotextile certifications are required to assure adherence to Section 1056 of the Standard Specifications.
- Woven wire shall be a minimum of 32 inches in height and with a minimum of 5 horizontal wires with 12-inch stay spacing.
- Top and bottom strands of woven wire shall be a minimum of 10 gauge, and middle and vertical wires shall be a minimum of 12 ½ gauge.

Construction Specifications

Geotextile	• The geotextile shall be buried a minimum 8 inches deep and 4 inches laterally. Soil should be firmly tamped. • Geotextile should be installed a maximum of 18 inches above the ground surface for mechanical slicing method of installation. • The geotextile shall be attached to posts and woven wire by wire or other acceptable means. • The geotextile shall be overlapped a minimum of 18 inches at all splice joints. • The height of the geotextile should not exceed 24 inches above the ground surface. • Each end of the silt fence shall be cut upgradient in a "J" pattern to prevent release of untreated storm flows.
Posts	• Post spacing should be a maximum of 6 feet without woven wire backing and 8 feet with woven wire. • Posts shall be installed so that no more than 3 feet extends above the ground.

Temporary silt fence interrupts sheet flows, reduces velocities and allows suspended sediment particles to settle.

4.3.1 Temporary Silt Fence (1605.01)

Material Specifications

Filtration Geotextile: Type 3

- The geotextile shall meet the requirements of Section 1056 of the Standard Specifications for Type 3 Geotextile.
- Posts shall be steel, or other approved product, and have a minimum length of 5 feet.
- Posts, woven wire and wire staples shall meet the requirements of Section 1605-2 of the Standard Specifications.
- Geotextile shall be a minimum of 36-inches wide.
- Proper geotextile certifications are required to assure adherence to Section 1056 of the Standard Specifications.
- Woven wire shall be a minimum of 32 inches in height and with a minimum of 5 horizontal wires with 12-inch stay spacing.
- Top and bottom strands of woven wire shall be a minimum of 10 gauge, and middle and vertical wires shall be a minimum of 12 ½ gauge.

Construction Specifications

Geotextile	• The geotextile shall be buried a minimum 8 inches deep and 4 inches laterally. Soil should be firmly tamped. • Geotextile should be installed a maximum of 18 inches above the ground surface for mechanical slicing method of installation. • The geotextile shall be attached to posts and woven wire by wire or other acceptable means. • The geotextile shall be overlapped a minimum of 18 inches at all splice joints. • The height of the geotextile should not exceed 24 inches above the ground surface. • Each end of the silt fence shall be cut upgradient in a "J" pattern to prevent release of untreated storm flows.
Posts	• Post spacing should be a maximum of 6 feet without woven wire backing and 8 feet with woven wire. • Posts shall be installed so that no more than 3 feet extends above the ground.

Temporary silt fence interrupts sheet flows, reduces velocities and allows suspended sediment particles to settle.

4.5.4 Temporary Rock Silt Check - Type B (1633.02)

Practical Tips

- A rule of thumb for placing Type B Temporary Rock Silt Checks is to place them where the base of the upstream dam is not higher than the top of the downstream dam.

Definition

A Temporary Rock Silt Check Type - B (TRSC-B), also referred to as a check dam, is a small dam with a distinguishable weir. The primary purpose of this device is to reduce erosion in a drainage ditch by restricting the velocity of flow in the channel. They are constructed of Class B stone and typically used in ditches during construction where the grade meets or exceeds 2.5%.

Areas of Use

Install TRSC-B's in drainage ditches to reduce runoff velocity. TRSC-B's can be applied at the following:

- In channels, roadside ditches, temporary silt ditches and temporary diversions
- In temporary channels that are susceptible to erosion but where permanent stabilization is impractical due to their limited duration of use
- In eroding channels where construction delays or weather conditions prevent timely installation of non-erosive liners
- In conjunction with Type B silt basin

Design Criteria

- The drainage area shall be limited to ½ acre or less to each TRSC-B in a ditch line.
- TRSC-B spacing should be (2.5 ÷ % of ditch grade) x 100 feet.

4.6.2 Rock Pipe Inlet Sediment Trap Types A and B (1635.01 & 1635.02)

Practical Tips

- Water should flow through the stone and not around the device.
- To function properly, the device needs to be clear of debris.

Definition

Rock Pipe Inlet Sediment Traps (PIST) are horseshoe-shaped devices with built-in sediment storage areas that are placed around the outside perimeter of pipe inlets to provide sediment containment and protection for the water flowing to the pipe inlet. There are two different types of Rock Pipe Inlet Sediment Traps: Types A and B.

Areas of Use

Rock Pipe Inlet Sediment Trap - Type A (PIST-A)

- At pipe inlets no larger than 36 inches in diameter where flow is received from several directions
- At least 30 feet from a vehicular travel lane in order to prevent a safety hazard in order to provide a clear recovery zone for motorists
- In areas where a BMP can be cleaned and maintained on a regular basis

Rock PISTs reduce water velocity and provide sediment storage.

Rock Pipe Inlet Sediment Trap - Type B (PIST-B)

- At pipe inlets no larger than 24 inches in diameter where flow is received from several directions
- At locations where a PIST-A would be unsafe due to adjacent traffic
- In areas where a BMP can be cleaned and maintained on a regular basis

4.6.2 Rock Pipe Inlet Sediment Trap Types A and B (1635.01 & 1635.02)

Design Criteria

Type A

- The drainage area should not exceed 5 acres.
- The sediment basin should provide a storage volume of 3,600 cubic feet per acre of disturbed area and a surface area of 435 square feet per cfs of Q10 or Q25 peak inflow.
- The stone dam should be a minimum of 18 inches high.
- The top of the PIST-A shall be a minimum of 1 foot below the top of the fill over the pipe.
- To provide additional storage volume, additional erosion and sediment control measures may be installed up or down gradient to meet the volume requirements.
- Because of the larger size of the Class B stone, the PIST-A should be placed at locations that will not create a safety hazard to traffic.

Do NOT place PIST-A at outlets with greater than 1 acre of drainage area.

Type B

- The drainage area should not exceed 1 acre.
- The sediment trap should provide a storage volume of 3,600 cubic feet per acre of disturbed area and a surface area of 435 square feet per cfs of Q10 or Q25 peak inflow.
- The stone dam should be a minimum of 18 inches high.
- The top shall be a minimum of 1 foot below the top of the fill over the pipe.
- Some of the required volume may be provided by up gradient or down gradient controls.

If required, a sediment storage pit may be designed for both Types A and B following the same design guidelines for a Silt Basin - Type B.

NCDOT TIP: EB-5547B
BLACK MOUNTAIN EB-5547B
BUNCOMBE COUNTY, NC

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

SIDEWALK DESIGN

NCDOT EROSION CONTROL DETAILS

Michael Baker INTERNATIONAL
NC Eng License F-1084
8000 Regency Parkway
Suite 600
Cary, North Carolina 27518
Phone: 919.463.5488
Fax: 919.463.5490

DATE: AUGUST 2026

REVISIONS:

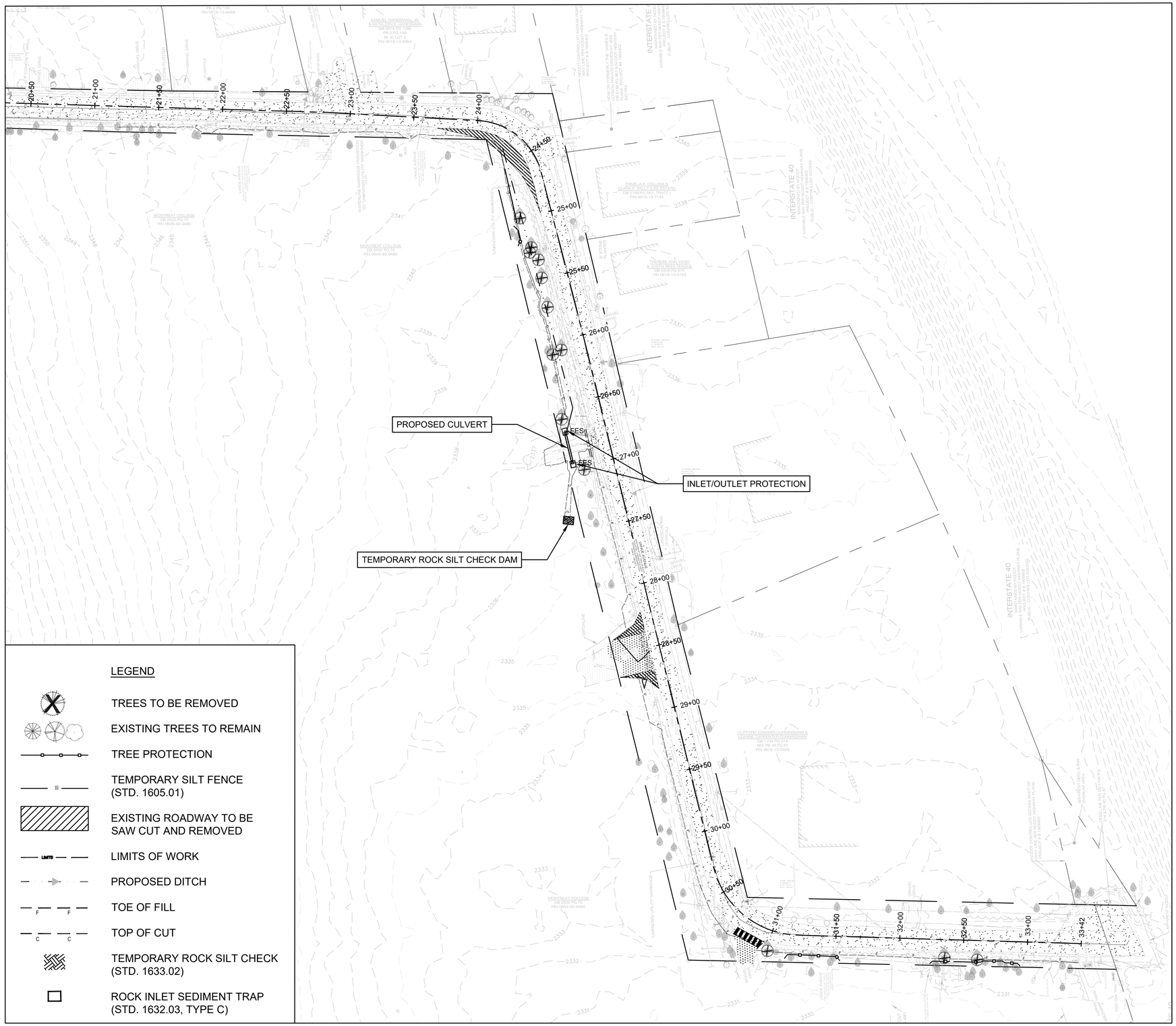
NO.	DATE:

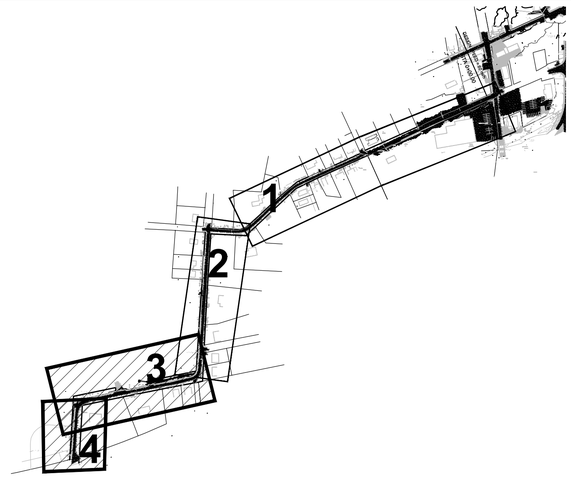
VERTICAL SCALE: N/A

HORIZONTAL SCALE: N/A

PROJECT NO.: 197480

SHEET NO.: 2EC





VICINITY MAP

SCALE: 1"=400'

0 40' 80'

TOWN OF BLACK MOUNTAIN 1893 NORTH CAROLINA

NCDOT TIP: EB-5547B
BLACK MOUNTAIN EB-5547B

BUNCOMBE COUNTY, NC

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

SIDEWALK DESIGN

EROSION CONTROL & DEMO PLAN

Michael Baker INTERNATIONAL
NC Eng License F-1084
8000 Regency Parkway
Suite 600
Cary, North Carolina 27518
Phone: 919.463.5488
Fax: 919.463.5490

DATE: AUGUST 2026

REVISIONS:

NO.	DATE:

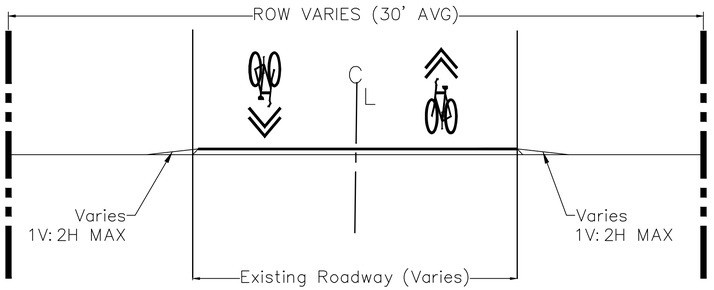
VERTICAL SCALE: N/A

HORIZONTAL SCALE: 1"=40'

PROJECT NO.: 197480

SHEET NO. 1EC

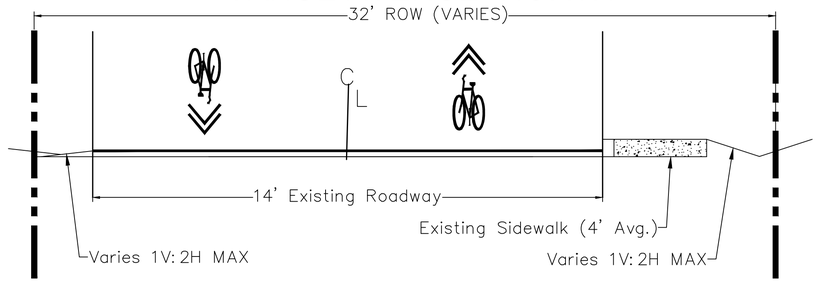
TERRY ESTATES



TYPOLOGY APPLIES TO THE FOLLOWING LOCATIONS

CHAIN	BEGIN STATION	END STATION	
L	0+00.00	16+60.21	A 1T

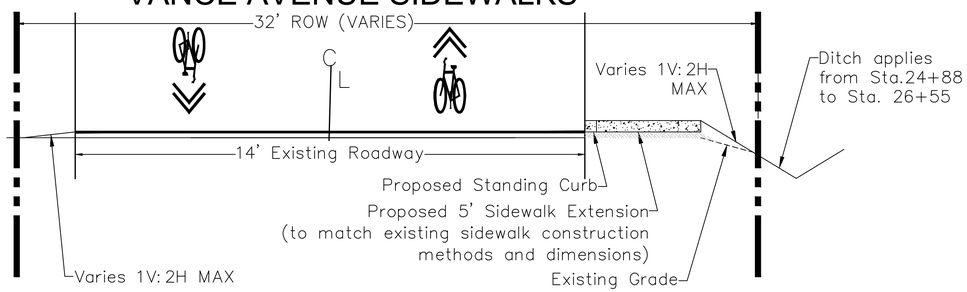
VANCE AVENUE "NORTH"



TYPOLOGY APPLIES TO THE FOLLOWING LOCATIONS

CHAIN	BEGIN STATION	END STATION	
L	16+60.21	21+19.60	B 1T

VANCE AVENUE SIDEWALKS



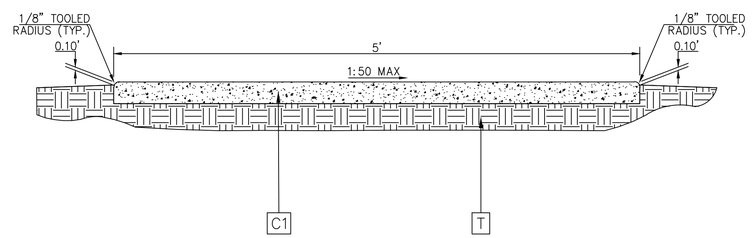
TYPOLOGY APPLIES TO THE FOLLOWING LOCATIONS

CHAIN	BEGIN STATION	END STATION	
L	21+20.22	30+77.85	C 1T
L	30+94.30	33+42.09	

SIDEWALK PAVEMENT SCHEDULE	
C1	PROPOSED 5" CONCRETE
T	EARTH MATERIAL. COMPACTED TO A DENSITY OF NO LESS THAN 95%.

NOTES:

1. CROSS SLOPE DIRECTION VARIES. SEE PLAN VIEW AND CROSS SECTIONS FOR DIRECTION OF SLOPE.
2. SHOULDERS TO MATCH CROSS SLOPE OF SIDEWALK.
3. CONTRACTOR IS RESPONSIBLE FOR RE-ESTABLISHING ALL SLOPES DISTRIBUTED BY CONSTRUCTION.
4. CONSTRUCT STANDARD SIDEWALK 4' WIDE AND 4" THICK UNLESS OTHERWISE DENOTED ON PLANS.
5. PLACE A GROOVE JOINT 1" DEEP WITH 1/8" RADII IN THE CONCRETE SIDEWALK AT 5' INTERVALS. ONE 1/2" EXPANSION JOINT WILL BE REQUIRED AT 50' INTERVALS. A 1/2" EXPANSION JOINT WILL BE REQUIRED WHERE THE SIDEWALK JOINS ANY RIGID STRUCTURE.



SIDEWALK PAVEMENT SCHEDULE

TOWN OF BLACK MOUNTAIN 1893 NORTH CAROLINA

NCDOT TIP: EB-5547B
BLACK MOUNTAIN EB-5547B
BUNCOMBE COUNTY, NC

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

SIDEWALK DESIGN

TYPICAL SECTIONS

Michael Baker INTERNATIONAL
NC Eng. License F-1084
8000 Regency Parkway
Suite 800
Cary, North Carolina 27518
Phone: 919.463.5488
Fax: 919.463.5490

DATE: AUGUST 2026

REVISIONS:

NO.	DATE:

VERTICAL SCALE: N/A

HORIZONTAL SCALE: N/A

PROJECT NO.: 197480

SHEET NO. 1T

FINAL PAVEMENT MARKING SCHEDULE

SYMBOL	MATERIAL	DESCRIPTION
T61	THERMOPLASTIC	WHITE STOPBAR (24", 120 MIL)
T62	THERMOPLASTIC	HIGH VISIBILITY CROSSWALK (24", 120 MIL)

ROADWAY STANDARD DRAWING

THE FOLLOWING ROADWAY STANDARDS AS APPEAR IN "ROADWAY STANDARD DRAWINGS" - PROJECT SERVICES UNIT - N.C. DEPARTMENT OF TRANSPORTATION - RALEIGH, N.C., DATED JANUARY 2024 ARE APPLICABLE TO THIS PROJECT AND BY REFERENCE HEREBY ARE CONSIDERED A PART OF THESE PLANS:

STD. NO.	TITLE
1205.16	PAVEMENT MARKINGS - PAVEMENT MARKINGS- BICYCLE FACILITIES
1205.16	PAVEMENT MARKINGS - PAVEMENT MARKINGS- BICYCLE FACILITIES

PAVEMENT MARKING SYMBOLS SCHEDULE

PAVEMENT MARKING SYMBOLS SCHEDULE		
SYMBOL	DESCRIPTION	QUANTITY
THERMOPLASTIC PAVEMENT MARKINGS SYMBOLS (90 MILS)		
T94	SHARROW, HEATED IN PLACE	34 EA

GENERAL NOTES

THE FOLLOWING GENERAL NOTES APPLY AT ALL TIMES FOR THE DURATION OF THE CONSTRUCTION PROJECT, EXCEPT WHEN OTHERWISE NOTED IN THE PLAN, OR DIRECTED BY THE ENGINEER.

A) INSTALL PAVEMENT MARKINGS AND PAVEMENT MARKERS ON THE FINAL SURFACE AS FOLLOWS:

ROAD NAME	MARKING
ALL ROADS	THERMOPLASTIC

B) TIE PROPOSED PAVEMENT MARKING LINES TO EXISTING PAVEMENT MARKING LINES.

C) REMOVE/REPLACE ANY CONFLICTING/DAMAGED PAVEMENT MARKINGS AND MARKERS.

D) STOP BAR LOCATION AT NON-SIGNALIZED INTERSECTIONS MAY BE ADJUSTED AS DIRECTED BY THE ENGINEER.

E) UNLESS OTHERWISE SPECIFIED, HEATED-IN-PLACE THERMOPLASTIC MAY BE USED IN LIEU OF EXTRUDED THERMOPLASTIC FOR STOP BARS, SYMBOLS, CHARACTERS AND DIAGONALS. IF HEATED-IN-PLACE IS USED, IT SHALL BE PAID FOR USING THE EXTRUDED THERMOPLASTIC PAY ITEM.

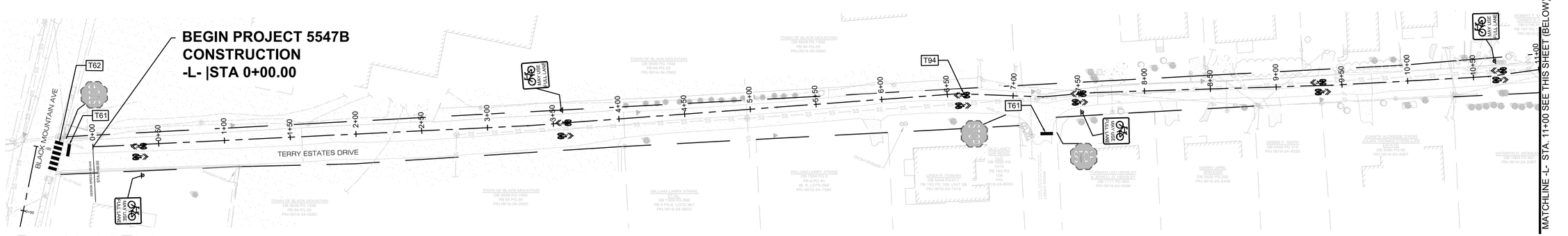
F) UNLESS OTHERWISE SPECIFIED, HEATED-IN-PLACE THERMOPLASTIC MAY BE USED IN LIEU OF COLD APPLIED PLASTIC FOR STOP BARS, SYMBOLS, CHARACTERS AND DIAGONALS ON ASPHALT OR CONCRETE ROADWAYS. IF HEATED-IN-PLACE IS USED, IT SHALL BE PAID FOR USING THE COLD APPLIED PAY ITEM.

G) TYPE III COLD APPLIED PLASTIC MAY BE USED IN LIEU OF TYPE II COLD APPLIED PLASTIC. IF TYPE III COLD APPLIED PLASTIC IS USED, IT SHALL BE PAID FOR USING THE TYPE II COLD APPLIED PLASTIC PAY ITEM.

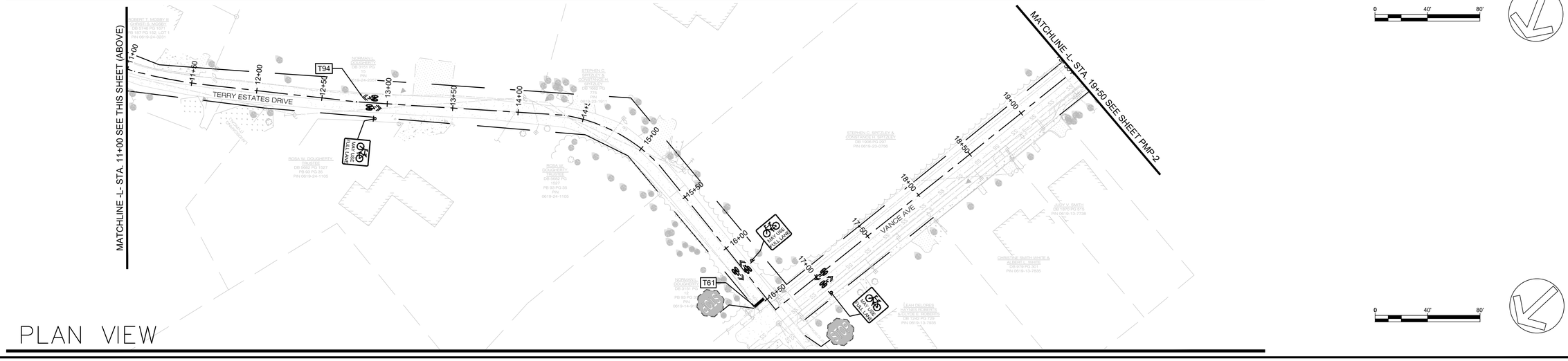
H) SEE ROADWAY PLANS FOR ALTERNATE CURB RAMP DESIGNS WHEN INDICATED ON PAVEMENT MARKING DETAIL SHEETS.

SIGNS SCHEDULE

	R4-11	30"X30"	QTY: 13
	W1-2L	24"X24"	QTY: 1
	W1-2R	24"X24"	QTY: 1
	OM4-1	18"X18"	QTY: 3



PLAN VIEW



PLAN VIEW

0 40' 80'

0 40' 80'

NCDOT TIP: EB-5547B
BLACK MOUNTAIN EB-5547B
BUNCOMBE COUNTY, NC

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

SHARED ROAD DESIGN

SIGNING AND PAVEMENT MARKING PLAN

Michael Baker INTERNATIONAL
NC Eng License F-1084
737 Haywood Road, Suite 201
Asheville, North Carolina 28806
Phone: 828.350.1408
Fax: 828.350.1409

DATE: AUGUST 2026

REVISIONS:

NO.	DATE:

VERTICAL SCALE: 1"=40'

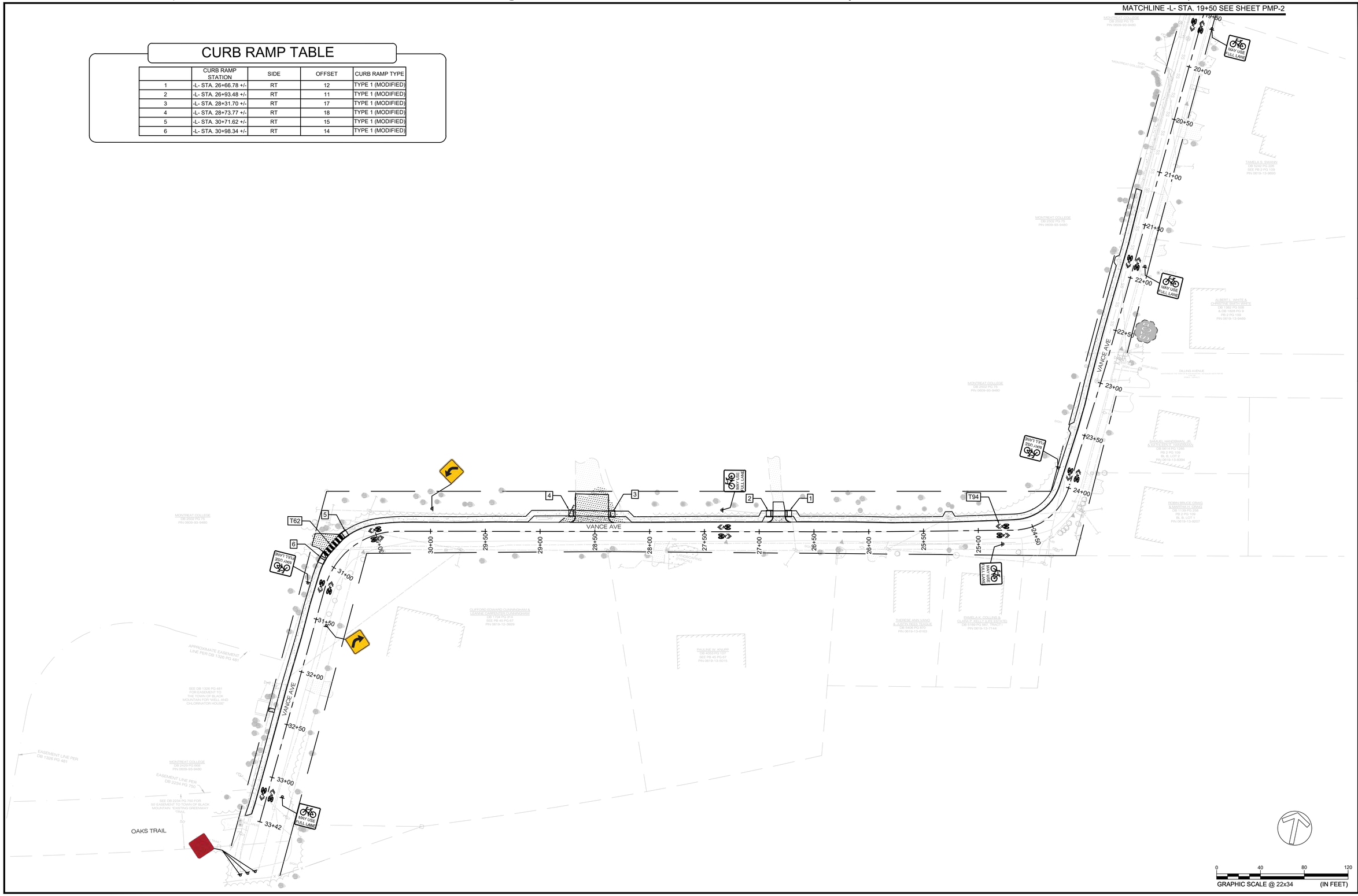
HORIZONTAL SCALE: N/A

PROJECT NO.: 197480

SHEET NO. PMP-1

CURB RAMP TABLE

	CURB RAMP STATION	SIDE	OFFSET	CURB RAMP TYPE
1	-L- STA. 26+66.78 +/-	RT	12	TYPE 1 (MODIFIED)
2	-L- STA. 26+93.48 +/-	RT	11	TYPE 1 (MODIFIED)
3	-L- STA. 28+31.70 +/-	RT	17	TYPE 1 (MODIFIED)
4	-L- STA. 28+73.77 +/-	RT	18	TYPE 1 (MODIFIED)
5	-L- STA. 30+71.62 +/-	RT	15	TYPE 1 (MODIFIED)
6	-L- STA. 30+98.34 +/-	RT	14	TYPE 1 (MODIFIED)



TOWN OF BLACK MOUNTAIN 1893 NORTH CAROLINA

NCDOT TIP: EB-5547B
BLACK MOUNTAIN EB-5547B
BUNCOMBE COUNTY, NC

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

SHARED ROAD DESIGN

SIGNING AND PAVEMENT MARKING PLAN

Michael Baker INTERNATIONAL
NC Eng License F-1084
797 Haywood Road, Suite 201
Asheville, North Carolina 28806
Phone: 828.350.1408
Fax: 828.350.1409

DATE: AUGUST 2026

REVISIONS:

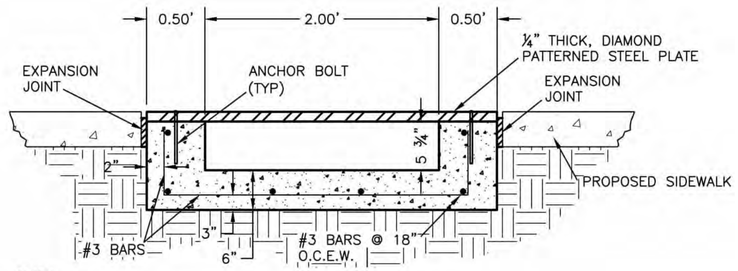
NO.	DATE:

VERTICAL SCALE: N/A

HORIZONTAL SCALE: 1"=40'

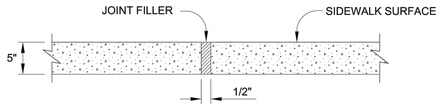
PROJECT NO.: 197480

SHEET NO. PMP-2



NOTE:
1. ¼"x4" ANCHOR BOLTS TO BE PLACED WITH CONCRETE AND FLUSH WITH TOP OF PLATE. BOLTS TO BE SPACED 12" ON CENTER.
2. CONCRETE SHALL BE "CLASS A".

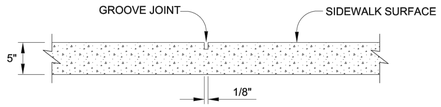
CONCRETE DRAINAGE FLUME UNDER PROPOSED SIDEWALK 01 DT1



TRANSVERSE EXPANSION JOINT

NOTE:

1. TRANSVERSE EXPANSION JOINTS TO BE A MAXIMUM OF 40 FEET.

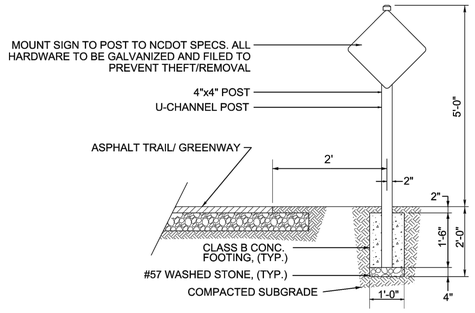


GROOVE JOINT

NOTE:

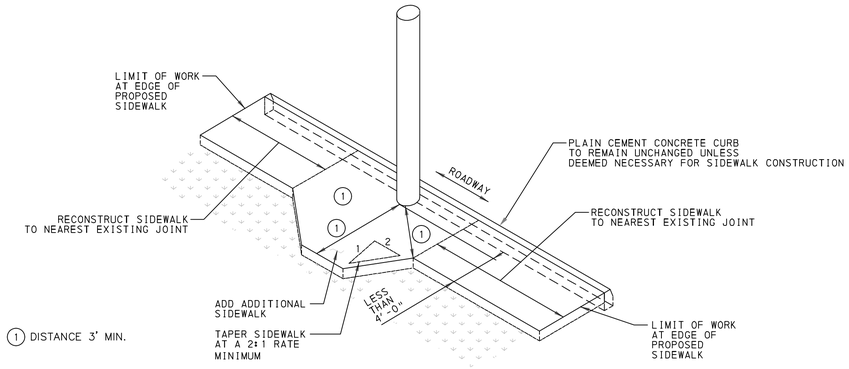
1. PLACE GROOVE JOINTS EVERY 10'.

CONCRETE JOINTS 02 DT1



NOTES:
1. SEE PLANS FOR SIGN TYPE AND SIZE.
2.SIGNS ASSOCIATED WITH VEHICULAR TRAFFIC AND SIGNS ALONG ROADWAYS SHALL MEET NCDOT AND MUTCD SIGN REQUIREMENTS, AND BE INSTALLED PER NCDOT STANDARD DRAWING 904.50

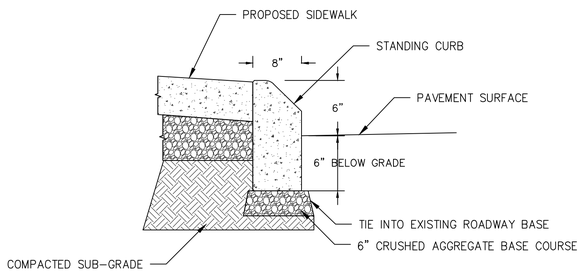
TYPICAL GREENWAY SIGN INSTALLATION 03 DT1



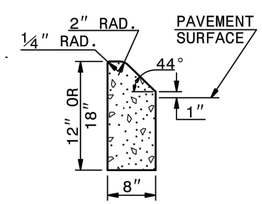
(1) DISTANCE 3' MIN.

NOT TO SCALE

SIDEWALK BUMPOUT DUE TO OBSTRUCTION 04 DT1



STANDING CURB 05 DT1



8" X 12" OR 18" CONCRETE CURB

REFERENCE NCDOT DETAIL 846.01

NCDOT TIP: EB-5547B
BLACK MOUNTAIN EB-5547B
BUNCOMBE COUNTY, NC

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

SIDEWALK DESIGN

SITE DETAILS

Michael Baker INTERNATIONAL
NC Firm License F-1084
8000 Regency Parkway
Suite 600
Cary, North Carolina 27518
Phone: 919.463.5488
Fax: 919.463.5490

DATE: AUGUST 2026

REVISIONS:

NO.	DATE:

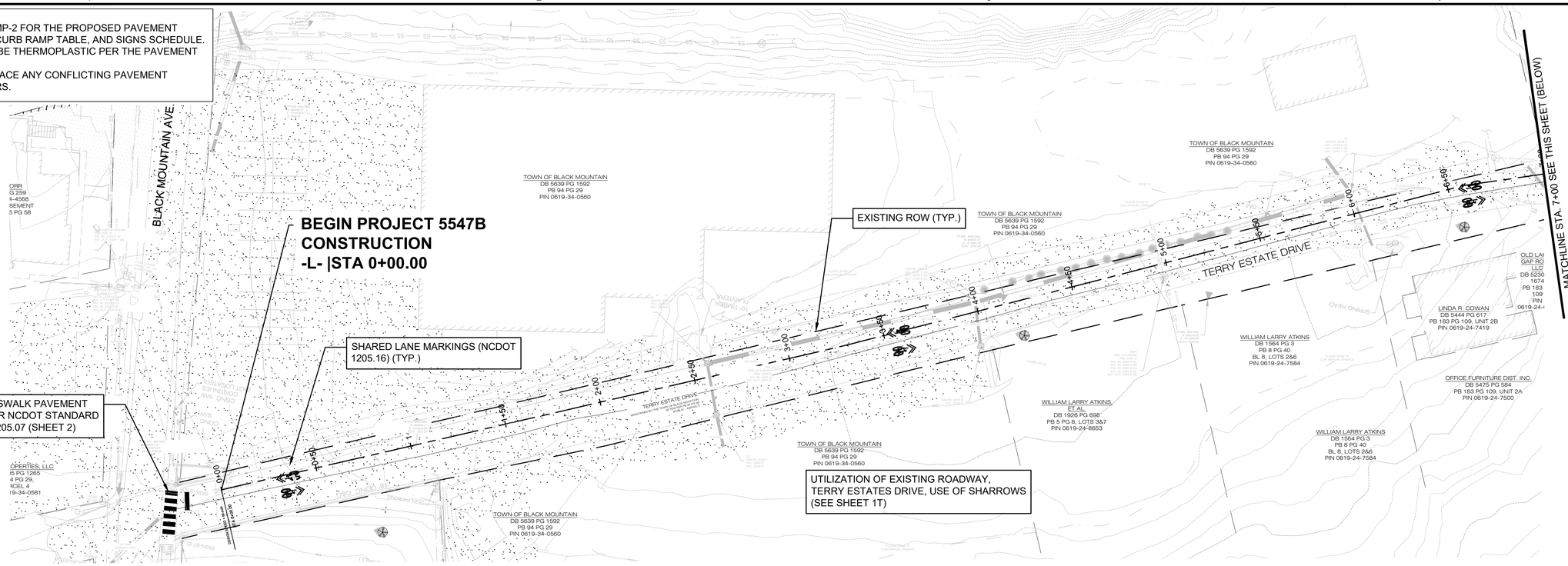
VERTICAL SCALE: N/A

HORIZONTAL SCALE: N/A

PROJECT NO.: 197480

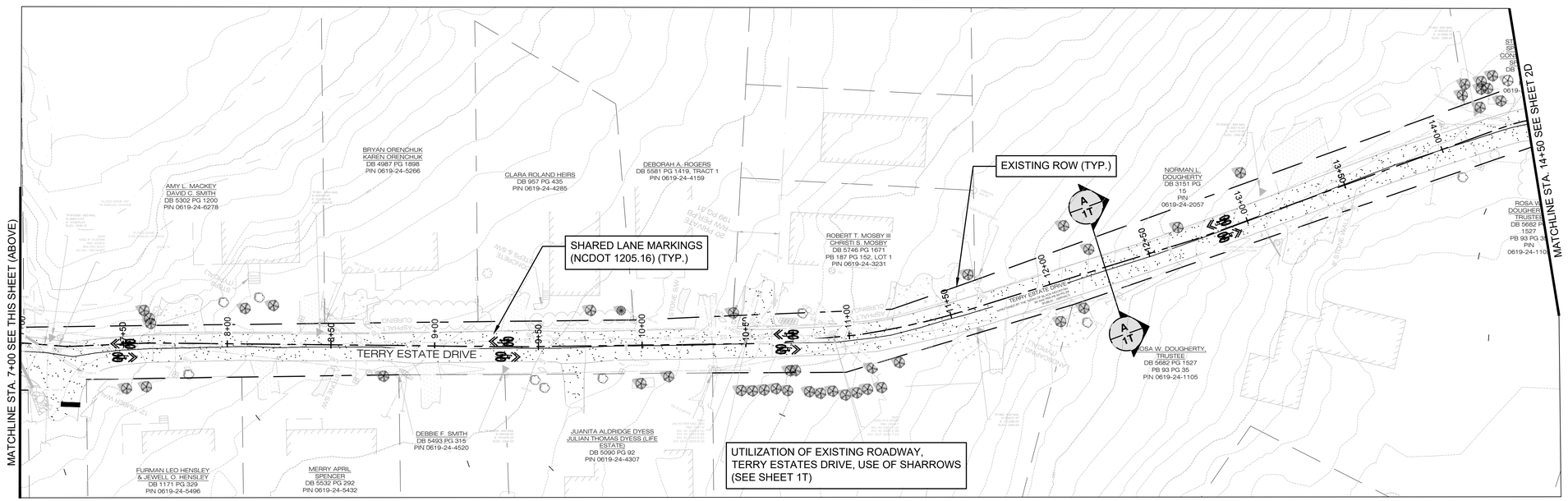
SHEET NO.: DT1

NOTES:
1. SEE SHEET PMP-1 & PMP-2 FOR THE PROPOSED PAVEMENT MARKING SCHEDULE, CURB RAMP TABLE, AND SIGNS SCHEDULE.
2. ALL MARKINGS SHALL BE THERMOPLASTIC PER THE PAVEMENT MARKING SCHEDULE.
3. REMOVE AND/OR REPLACE ANY CONFLICTING PAVEMENT MARKINGS OR MARKERS.



PLAN VIEW

0 30' 60'



PLAN VIEW

0 30' 60'

NCDOT TIP: EB-5547B BLACK MOUNTAIN EB-5547B	BUNCOMBE COUNTY, NC
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	
SIDEWALK DESIGN	
SIDEWALK & SHARED ROAD PLAN	

Michael Baker INTERNATIONAL
NC Eng License F-1084
797 Haywood Road, Suite 201
Asheville, North Carolina 28806
Phone: 828.350.1408
Fax: 828.350.1409

DATE: AUGUST 2026

REVISIONS:

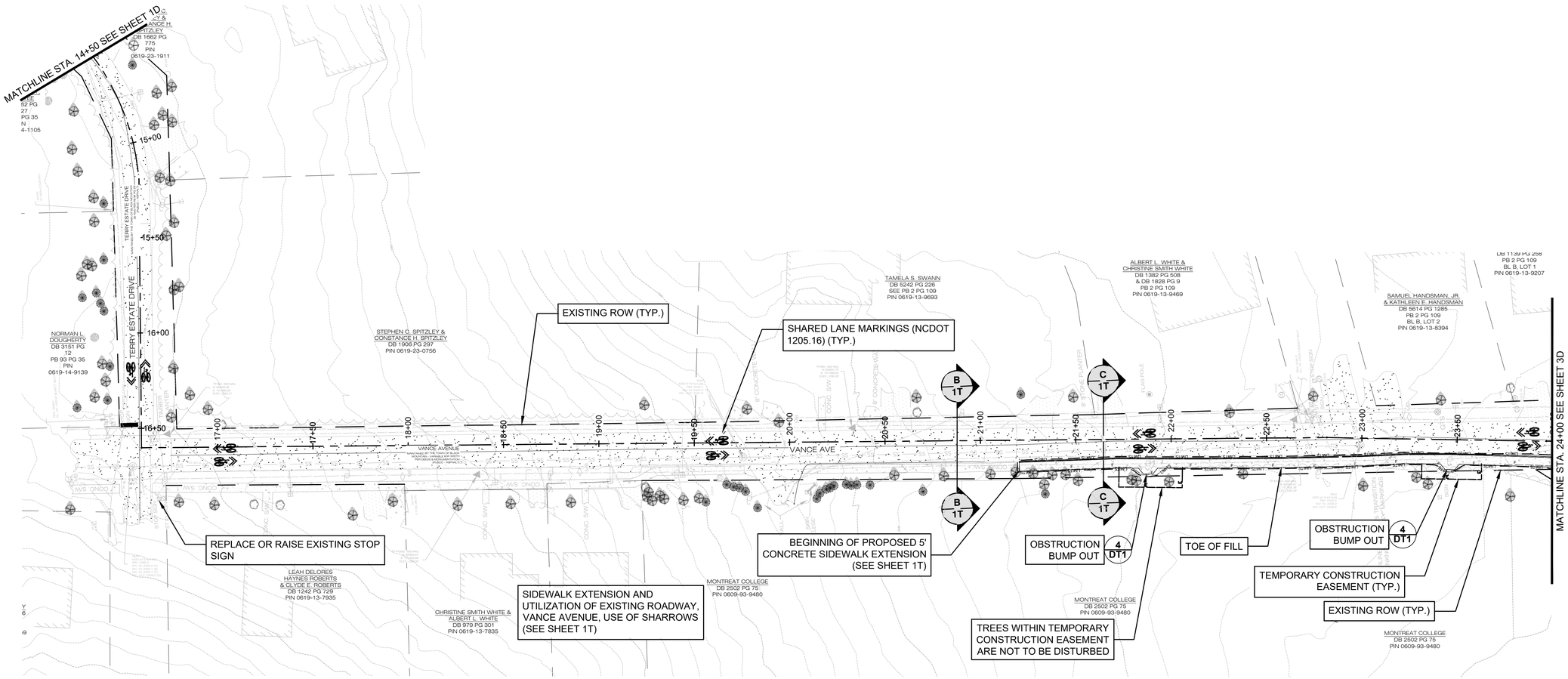
NO.	DATE:

VERTICAL SCALE: ---

HORIZONTAL SCALE: 1"=30'

PROJECT NO.: 197480

SHEET NO. 1D



PLAN VIEW

0 30' 60'

TERRY ESTATES AND VANCE AVENUE INTERSECTION

NOTES:
1. SEE SHEET PMP-1 & PMP-2 FOR THE PROPOSED PAVEMENT MARKING SCHEDULE, CURB RAMP TABLE, AND SIGNS SCHEDULE.
2. ALL MARKINGS SHALL BE THERMOPLASTIC PER THE PAVEMENT MARKING SCHEDULE.
3. REMOVE AND/OR REPLACE ANY CONFLICTING PAVEMENT MARKINGS OR MARKERS.

TOWN OF BLACK MOUNTAIN 1893 NORTH CAROLINA

NCDOT TIP: EB-5547B
BLACK MOUNTAIN EB-5547B
BUNCOMBE COUNTY, NC

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

SIDEWALK DESIGN

SIDEWALK & SHARED ROAD PLAN

Michael Baker INTERNATIONAL
NC Eng License F-1084
797 Haywood Road, Suite 201
Asheville, North Carolina 28806
Phone: 828.350.1408
Fax: 828.350.1409

DATE: AUGUST 2026

REVISIONS:

NO.	DATE:

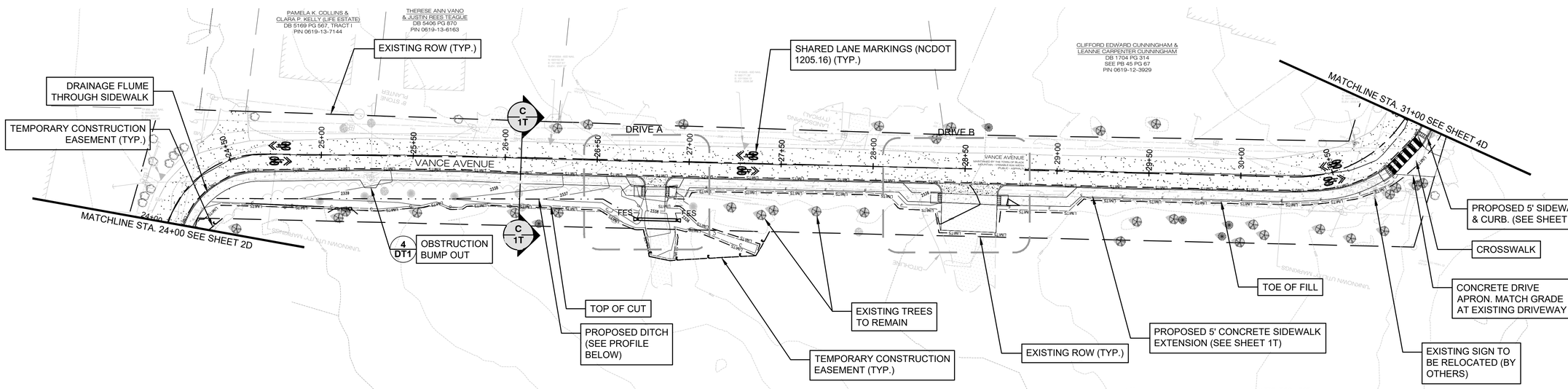
VERTICAL SCALE: ---

HORIZONTAL SCALE: 1"=30'

PROJECT NO.: 197480

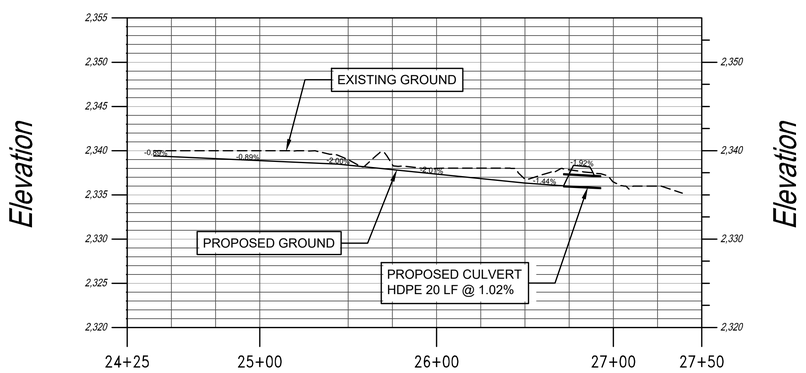
SHEET NO. 2D

NOTES:
1. SEE SHEET PMP-1 & PMP-2 FOR THE PROPOSED PAVEMENT MARKING SCHEDULE, CURB RAMP TABLE, AND SIGNS SCHEDULE.
2. ALL MARKINGS SHALL BE THERMOPLASTIC PER THE PAVEMENT MARKING SCHEDULE.
3. REMOVE AND/OR REPLACE ANY CONFLICTING PAVEMENT MARKINGS OR MARKERS.



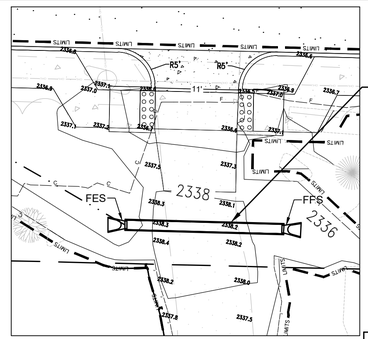
PLAN VIEW

0 30' 60'



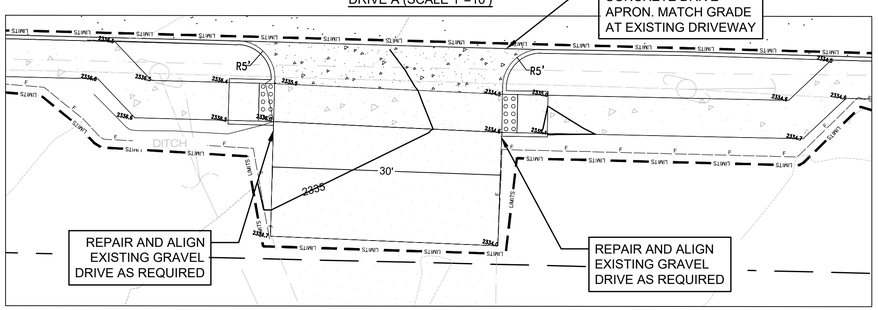
DITCH PROFILE VIEW

0 30 60 90 GRAPHIC SCALE @ 22x34 (IN FEET)
0 5 10 15 GRAPHIC SCALE @ 22x34 (VERT.)



DRIVE A (SCALE 1"=10')

REPLACE EXISTING 15" HDPE WITH 20 LF OF 15" HDPE AND REPAIR NATURAL SURFACE DRIVEWAY AS REQUIRED.



CONCRETE DRIVE APRON. MATCH GRADE AT EXISTING DRIVEWAY

DRIVE B (SCALE 1"=10')

TOWN OF BLACK MOUNTAIN 1893 NORTH CAROLINA

NCDOT TIP: EB-5547B
BLACK MOUNTAIN EB-5547B
BUNCOMBE COUNTY, NC

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

SIDEWALK DESIGN

SIDEWALK & SHARED ROAD PLAN

Michael Baker INTERNATIONAL
NC Eng License F-1084
797 Haywood Road, Suite 201
Asheville, North Carolina 28806
Phone: 828.350.1408
Fax: 828.350.1409

DATE: AUGUST 2026

REVISIONS:

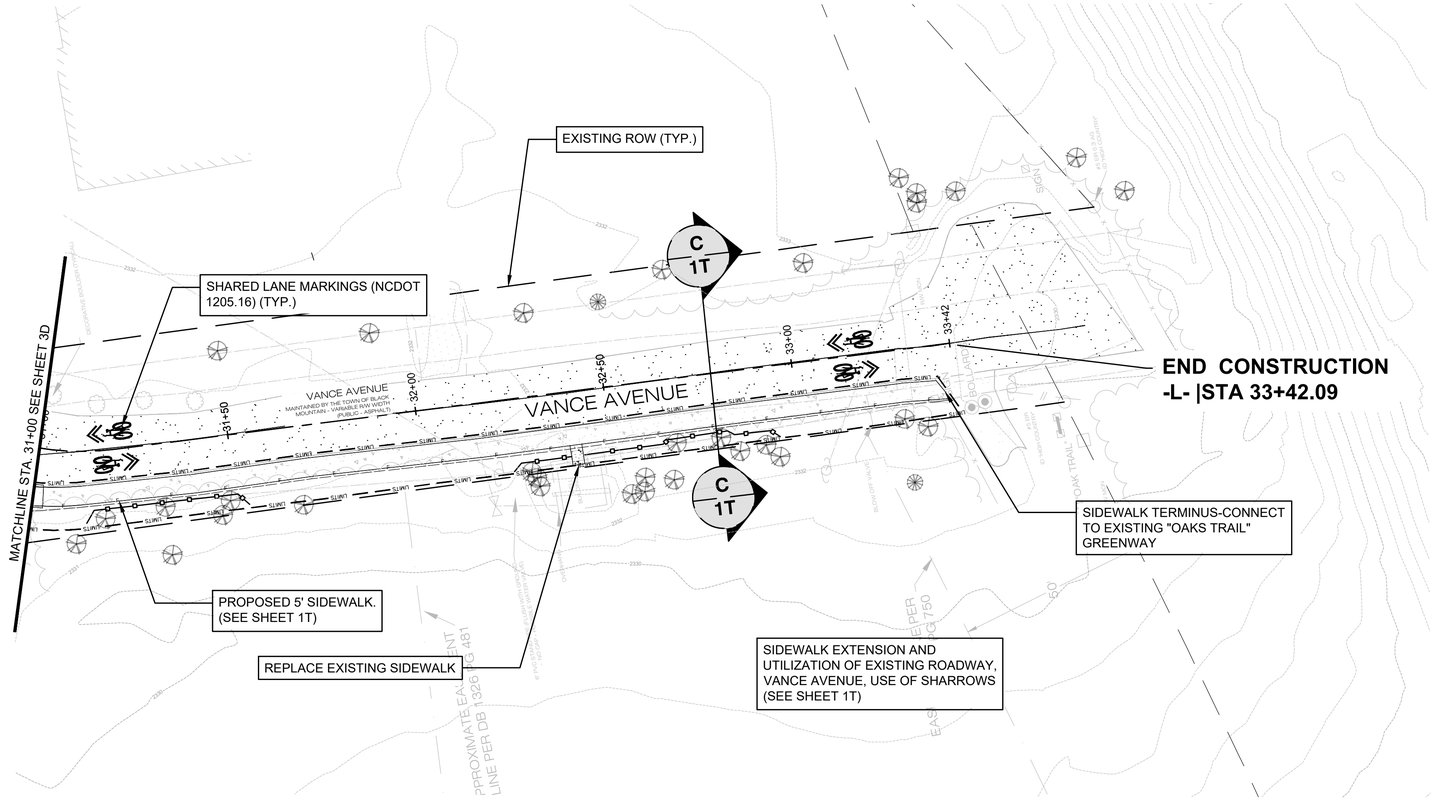
NO.	DATE:

VERTICAL SCALE: 1"=5'

HORIZONTAL SCALE: 1"=30'

PROJECT NO.: 197480

SHEET NO. 3D



PLAN VIEW

VANCE AVENUE SOUTH

NOTES:
1. SEE SHEET PMP-1 & PMP-2 FOR THE PROPOSED PAVEMENT MARKING SCHEDULE, CURB RAMP TABLE, AND SIGNS SCHEDULE.
2. ALL MARKINGS SHALL BE THERMOPLASTIC PER THE PAVEMENT MARKING SCHEDULE.
3. REMOVE AND/OR REPLACE ANY CONFLICTING PAVEMENT MARKINGS OR MARKERS.

TOWN OF BLACK MOUNTAIN 1893 NORTH CAROLINA

NCDOT TIP: EB-5547B
BLACK MOUNTAIN EB-5547B
BUNCOMBE COUNTY, NC

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

SIDEWALK DESIGN

SIDEWALK & SHARED ROAD PLAN

Michael Baker INTERNATIONAL
NC Eng License F-1084
797 Haywood Road, Suite 201
Asheville, North Carolina 28806
Phone: 828.350.1408
Fax: 828.350.1409

DATE: AUGUST 2026

REVISIONS:

NO.	DATE:

VERTICAL SCALE: ---

HORIZONTAL SCALE: 1"=30'

PROJECT NO.: 197480

SHEET NO. 4D

COMPUTED BY: SWT DATE: 12/1/2023

CHECKED BY: DATE:

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

PROJECT NO.	SHEET NO.
EB-5547B	1D

Note: Invert Elevations indicated are for Bid Purposes only and shall not be used for project construction stakeout.
See "Standard Specifications For Roads and Structures, Section 300-5".

LIST OF PIPES, ENDWALLS, ETC. (FOR PIPES 48 INCHES & UNDER)

| STATION | LOCATION (LT, RT, OR CL)* | STRUCTURE NO. FROM | STRUCTURE NO. TO | TOP ELEVATION | INVERT ELEVATION (IN) | INVERT ELEVATION (OUT) | SLOPE CRITICAL | SIDE DRAIN PIPE (RCP, CSP, CAAP, HDPE, or PVC) SIZE 12" | 15" | 18" | 24" | 30" | 36" | 42" | 48" | DO NOT USE RCP | DO NOT USE CSP | DO NOT USE CAAP | DO NOT USE HDPE | C.S. PIPE SIZE 12" | 15" | 18" | 24" | 30" | 36" | 42" | 48" | C.S. PIPE THICKNESS OR GAUGE .064 | .064 | .064 | .064 | .079 | .079 | .109 | .109 | R.C. PIPE CLASS III SIZE 12" | 15" | 18" | 24" | 30" | 36" | 42" | 48" | R.C. PIPE CLASS IV SIZE 12" | 15" | 18" | 24" | 30" | 36" | 42" | 48" | ** R.C. PIPE (CLASS V) | *** RC PIPE CULVERTS, CONTRACTOR DESIGN | **** RC PIPE CULVERTS, CONTRACTOR DESIGN | 15" SIDE DRAIN PIPE | 18" SIDE DRAIN PIPE | ENDWALLS STD. 838.01 838.11 OR STD. 838.80 (UNLESS NOTED OTHERWISE) CU. YARDS R.C.P. | ENDWALLS STD. 838.01 838.11 OR STD. 838.80 (UNLESS NOTED OTHERWISE) CU. YARDS C.S.P. | QUANTITIES FOR DRAINAGE STRUCTURES PER EACH (0' THRU 5.0') | QUANTITIES FOR DRAINAGE STRUCTURES LIN. FT. A 5.0' THRU 10.0' | QUANTITIES FOR DRAINAGE STRUCTURES LIN. FT. B 10.0' AND ABOVE | *TOTAL L.F. FOR PAY QUANTITY SHALL BE COL. 'A' + (1.3 X COL. 'B') | C.B. STD. 840.01 OR STD. 840.02 | FRAME, GRATES, AND HOOD STANDARD 840.03 TYPE OF GRATE E | F | G | CONCRETE TRANSITIONAL SECTION DROP INLET | CATCH BASIN | D.I. STD. 840.14 OR STD. 840.15 | D.I. FRAME WITH TWO GRATES STD. 840.16 | G.D.I. TYPE "A" STD. 840.17 OR 840.26 | G.D.I. TYPE "B" STD. 840.18 OR 840.27 | G.D.I. TYPE "D" STD. 840.19 OR 840.28 | G.D.I. FRAME WITH GRATE STD. 840.20 | G.D.I. FRAME WITH TWO GRATES STD. 840.22 | G.D.I. (N.S.) FRAME WITH GRATE STD. 840.24 | G.D.I. (N.S.) FRAME WITH TWO GRATES STD. 840.24 | J.B. STD. 840.31 OR 840.32 | SIDE DRAIN PIPE ELBOWS NO. & SIZE | CONC. & BRICK PIPE PLUG, C.Y. STD. 840.71 | CONC. COLLARS CL. "B" C.Y. STD. 840.72 | PIPE REMOVAL LIN. FT. | REMARKS |
|---|---|---

FUNDING DESCRIPTION	EB-5547A	EB-5547A PE Contract Costs	EB-5547B	EB-5547B PE Contract Costs	ToBM CURRENT COSTS IF ALL FUNDS AUTHORIZED AND EXPENDED	EB-5547A - CURRENT CONST EST.	EB-5547B - CURRENT CONST. EST.	ToBM CURRENT COSTS BASED ON CURRENT CONST. ESTIMATES
PE PHASE FUNDING (AUTHORIZED)-NOT COMPLETE								
TOTAL FUNDING (FED + LOCAL)	$ 293,168.75	$ 289,811.69	$ 200,000.00	$ 184,232.79				
AUTH FED FUNDING (80% UNTIL FUNDING EXHAUSTED)	$ 234,535.00		$ 160,000.00					
LOCAL FUNDING (MATCH=20%)	$ 58,633.75		$ 40,000.00		$ 98,633.75			$ 98,633.75
FEDERAL FUNDS EXPENDED TO DATE (IF THERE ARE ANY OUTSTANDING REIMBURSEMENT REQUESTS FROM THE CITY THESE NUMBERS MAY NOT BE ACCURATE)	$ 231,728.97		$ 168,993.07					PE IS NOT COMPLETE COULD CHANGE COSTS TO TOWN.
REMAINING FEDERAL AUTHORIZED FUNDS	$ 2,806.03		$ (8,993.07)		$ 8,993.07			$ 8,993.07
ROW/UTILITY PHASE FUNDING (AUTHORIZED) - NOT COMPLETE								
TOTAL FUNDING (FED + LOCAL)	$ 40,000.00		$ 20,000.00					
AUTH FED FUNDING (80% UNTIL FUNDING EXHAUSTED)	$ 32,000.00		$ 16,000.00					
LOCAL FUNDING (MATCH=20%)	$ 8,000.00		$ 4,000.00		$ 12,000.00			$ 12,000.00
FEDERAL FUNDS EXPENDED TO DATE	$ -		$ 3,254.47					
REMAINING FEDERAL AUTHORIZED FUNDS	$ 32,000.00		$ 12,745.53					UTILITIES ARE NOT COMPLETE ON EB-5547A, SO ADDITIONAL COSTS WILL LIKEY BE INCURRED
CONSTRUCTION PHASE FUNDING (NOT AUTHORIZED YET)								
TOTAL FUNDING (FED + LOCAL)	$ 1,435,831.25		$ 1,750,000.00			$ 1,032,962.20	$ 703,744.47	
FED FUNDING (80% UNTIL FUNDING EXHAUSTED)	$ 1,148,665.00		$ 1,400,000.00			$ 826,369.76	$ 562,995.58	
LOCAL FUNDING (MATCH=20%)	$ 287,166.25		$ 350,000.00		$ 637,166.25	$ 206,592.44	$ 140,748.89	$ 347,341.33
FEDERAL FUNDS EXPENDED TO DATE	$ -		$ -					
TOTAL FUNDING ALL PHASES (FED + LOCAL)- MATCHES AGREEMENTS	$ 1,769,000.00		$ 1,970,000.00					
FED FUNDING (80% UNTIL FUNDING EXHAUSTED)	$ 1,415,200.00		$ 1,576,000.00					
LOCAL FUNDING (MATCH=20%)	$ 353,800.00		$ 394,000.00					
				TOTAL	**$ 756,793.07**			**$ 466,968.15**

TOWN OF BLACK MOUNTAIN

AGENDA ITEM SUMMARY

SUBMITTER:	Michael Sobol, Mayor	**MEETING DATE:**	August 10, 2026
AGENDA SECTION:	Consent Agenda	**DEPARTMENT:**	Administration
TITLE OF ITEM:	Resolution in Support of the Leonard Antonelli and Jacob Hill Bicycle Safety Zone Act of 2025 ("Lennie's Law")		

SUGGESTED MOTION(S):
Motion to approve the resolution as presented.

SUMMARY:

Leonard Antonelli and Jacob Hill Bicycle Safety Zone Act of 2025, Aka: Lennie's Law: To honor the lives of Leonard Antonelli (Lennie, 27) and Jacob Hill (Jake, 32) - who tragically lost their lives on July 1st, 2025 when a commercial vehicle crossed the center line on a weekly group cycling ride near Asheville, NC on a popular cycling route - this bill proposes a simple solution to encourage and enforce stricter adherence to posted speed limits on popular cycling routes in North Carolina. Similar to school zones with reduced speed limits and higher penalties for speeding, Lennie's Law proposes to designate certain popular cycling routes as Bicycle Safety Zones with higher penalties for speeding. Local and State officials shall make road designations based on data of cycling related accidents and feedback from cycling groups in communities. Once a stretch of road is designated as a Bicycle Safety Zone, new signage should be put up along the route utilizing the existing "share the road" sign with this additional signage: **Bicycle Safety Zone, Fines Higher for Speeding, Next 15 Miles.** Council will consider this resolution of support.

BUDGET IMPACT:

None.

ATTACHMENTS:

1. R-26-61_Resolution in Support of Lennie's Law__2026.08.10
2. Lennie's Law Summary

Council Member _____ made a motion to approve the following resolution. A vote of _____.

TOWN OF BLACK MOUNTATIN
RESOLUTION IN SUPPORT OF THE LEONARD ANTONELLI AND JACOB HILL BICYCLE SAFETY ZONE ACT OF 2025 ("LENNIE'S LAW")

RESOLUTION NO. # R-26-61

WHEREAS, the Town of Black Mountain is committed to promoting the safety, health, and well-being of all residents and visitors, including those who utilize public roadways for cycling and other forms of active transportation; and

WHEREAS, Western North Carolina is home to a vibrant and growing cycling community, with many roadways—particularly in and around Black Mountain—serving as popular and heavily trafficked cycling routes; and

WHEREAS, on July 1, 2025, Leonard Antonelli ("Lennie", age 27) and Jacob Hill ("Jake", age 32) were tragically killed, while Griffin Tichenor was injured, when a commercial vehicle crossed the center line and struck them during a weekly group cycling ride near Woodfin, North Carolina; and

WHEREAS, this tragic crash underscores the urgent need for enhanced roadway safety measures to protect cyclists and prevent future loss of life; and

WHEREAS, the proposed Leonard Antonelli and Jacob Hill Bicycle Safety Zone Act of 2025, also known as "Lennie's Law," seeks to establish designated Bicycle Safety Zones on popular cycling routes across North Carolina, where stricter enforcement of posted speed limits and increased penalties for violations would apply; and

WHEREAS, "Lennie's Law" proposes a practical, cost-effective approach—modeled after school zone safety measures—that is non-invasive to private property owners and existing roadways, including the installation of clear signage designating bicycle safety zones to increase driver awareness and accountability; and

WHEREAS, data consistently identify excessive speed as a leading contributing factor in vehicle-cyclist collisions, and enhanced enforcement mechanisms can play a critical role in reducing such crashes; and

WHEREAS, local leaders and advocates have expressed support for the concept of bicyclist safety zones as a proactive step toward improving roadway safety; and

WHEREAS, regional partners, including the French Broad Metropolitan Planning Organization and the North Carolina Department of Transportation, are actively evaluating strategies to improve safety along key corridors further demonstrating the need for coordinated action; and

WHEREAS, the Town of Black Mountain recognizes that safer roadways benefit all users, including motorists, cyclists, and pedestrians, and contribute to a more livable, connected, and resilient community;

NOW, THEREFORE, BE IT RESOLVED by the Town Council of the Town of Black Mountain that:

1. The Town of Black Mountain formally expresses its strong support for the establishment of a law that increases awareness and consequences for speeding on designated roadways that meet prescribed criteria for bicycle safety; and
2. The Town supports collaboration with state and regional agencies to identify and designate appropriate Bicycle Safety Zones within and near Black Mountain, based on data, community input, and demonstrated need; and
3. The Town encourages the North Carolina General Assembly to adopt this legislation to enhance cyclist safety through the establishment of Bicycle Safety Zones and increased penalties for speeding violations within those zones; and
4. The Town honors the memory of Leonard Antonelli and Jacob Hill and recognizes this legislation as a meaningful step toward preventing future tragedies.

This resolution shall become effective upon adoption.

Adopted this the 10th day of August 2026.

_____ Attest: _____

C. Michael Sobol — Wesley M. Barker

Mayor — Town Clerk

Leonard Antonelli and Jacob Hill Bicycle Safety Zone Act of 2025
Aka: *Lennie's Law*

To honor the lives of Leonard Antonelli (Lennie, 27) and Jacob Hill (Jake, 32) - who tragically lost their lives on July 1st, 2025 when a commercial vehicle crossed the center line on a weekly group cycling ride near Asheville, NC on a popular cycling route - this bill proposes a simple solution to encourage and enforce stricter adherence to posted speed limits on popular cycling routes in North Carolina.

Similar to school zones with reduced speed limits and higher penalties for speeding, **Lennie's Law** proposes to designate certain popular cycling routes as **Bicycle Safety Zones** with higher penalties for speeding.

Local and State officials shall make road designations based on data of cycling related accidents and feedback from cycling groups in communities. Once a stretch of road is designated as a Bicycle Safety Zone, new signage should be put up along the route utilizing the existing "share the road" sign with this additional signage:

Bicycle Safety Zone
Fines Higher for Speeding
Next 15 Miles

This simple, cost effective measure will raise awareness of cyclists on the road and impose a greater penalty for disobeying posted speed limits - a leading cause of cyclist/vehicle related accidents.

It's time we had safer places to ride in Western North Carolina, and Lennie's Law is one easy piece of legislation that will move us further down the road in honor of two young cyclists who should still be riding today.

TOWN OF BLACK MOUNTAIN

AGENDA ITEM SUMMARY

SUBMITTER: Wesley Barker, Town Clerk **MEETING DATE:** August 10, 2026

AGENDA SECTION: Consent Agenda **DEPARTMENT:** Administration

TITLE OF ITEM: Adoption of Meeting Minutes: June 8, 11, 15, 30 and July 9, 13, 2026.

SUGGESTED MOTION(S):
Motion to approve the meeting minutes as presented.

SUMMARY:

The following Town Council meeting minutes are ready for review and approval by the Council: June 8, 2026 Regular Meeting; June 11, 2026 Special Meeting & Budget Work Session; June 15, 2026 Budget Public Hearing Meeting; June 30, 2026 Special Meeting; July 9, 2026 Special Meeting & Agenda Review; July 13, 2026 Regular Meeting.

BUDGET IMPACT:

Is this expenditure approved in the current fiscal year budget? n/a

If no, describe how it will be funded. n/a

ATTACHMENTS:

1. June 8, 2026 Town Council Meeting _Minutes_Draft
2. June 11, 2026 Special Meeting + Budget Work Session_Minutes_Draft
3. June 15, 2026 Budget Public Hearing Meeting Minutes_Draft
4. June 30, 2026 Special Called Council Meeting Agenda _Minutes_DRAFT
5. July 9, 2026 Special Called Meeting _Minutes_Draft
6. July 13, 2026 Town Council Meeting Agenda _Minutes_Draft

BLACK MOUNTAIN TOWN COUNCIL MINUTES

June 8, 2026 | Regular Session Agenda | Time: 6:00 PM

Town Hall Council Chambers | 160 Midland Avenue, Black Mountain, NC 28711

Black Mountain Town Council held their regular session agenda on Monday, June 8, 2026, at 6:00 PM in the Council Chambers of Town Hall, 160 Midland Avenue, Black Mountain, NC 28711.

1. CALL TO ORDER

Mayor C. Michael Sobol called the meeting to order at 6:00 p.m. with the following Council Members in attendance: Vice Mayor Archie Pertiller, Town Council Member Alice Berry, Council Member Larry Harris, Council Member Ryan Stone. *Council Member Doug Hay was absent.*

The following staff members were present: Brian Gulden, Attorney; Richard Hicks, Interim Town Manager; Scott Buffkin, Interim Assistant Town Manager; Wesley Barker, Town Clerk; Steve Parker, Police Chief; John Coffey, Fire Chief; Jamey Matthews, Public Works Director; Jacob Guiot, Recreation & Parks Director; Matt Begley, Budget Analyst; Chad Goins, Interim Project Manager; Greta Gibson, Revenue & Customer Service Supervisor.

Mayor Sobol led those in attendance in the pledge of allegiance and a moment of silence, then read the ethics statement.

2. PROCLAMATIONS, AWARDS, RECOGNITIONS, SPECIAL RESOLUTIONS- none.

3. COMMUNICATIONS FROM STAFF, COUNCILS, COMMISSIONS & AGENCIES

3.A. Active Mobility Commission (AMC) Presentation on Pedestrian Path Proposal

Jeremy Claeys, Active Mobility Commission (AMC) member, spoke to Council on a proposal that includes creating a pedestrian path from the Ingles sidewalk that is located along Hwy 9, up to Cheshire Village and was seeking Council support. Discussion ensued, and AMC members would begin talks with property owners along the proposed route. Council was in consensus for AMC to move forward with this proposal.

3.B. Golf Maintenance Building Presentation by McGill Associates

Representatives from McGill Associates and Moseley gave a presentation to the Town Council on preliminary design concepts, layout, and estimated cost for a replacement golf maintenance building. The recommendation from staff is the placement of this facility off Tomahawk Ave. near Ross Dr. The building size would be approximately 3,700 square feet, noting that the building that was destroyed during Helene was around 5,000 square feet. A

grant application has been submitted to Buncombe TDA for funds to go toward this project in the amount of $1.5 million and $1 million from a state grant has been awarded. Further discussion ensued between Council, staff, and consultants. The next step in the process would be to start the actual design of the building, with estimated cost per square foot at $270. ***Council Member Larry Harris made a motion to proceed with moving forward with building design as recommended. After further discussion on gathering firm numbers and the status of the TDA grant award, Council Member Harris withdrew his motion. No action taken.***

****

4. CITIZEN COMMENTS

- Melinda Hester, 404 Kerlee Heights Rd., spoke about the recent public meeting about black bears and was in favor of town ordinances that would enforce and penalize those who feed bears and do not secure their trash. Ms. Hester also expressed support for the Fire Department.
- Mary Merritt, Llama Way, the Chairwoman of the local Fraternal Order of Police and expressed appreciation of all public services agencies in the Town and spoke on importance of a safe space for BMPD employees/officers to work, and for citizens who need assistance to have secure spaces for evidence, and an overall need of support for the BMPD.
- David Galloway, 103 Brookhaven Dr., spoke on Brookhaven Drive's street acceptance request stating it was properly constructed and encouraged the Council to approve acceptance of this street.
- Lisa Raleigh, 21 Dyer Dr., spoke about the Town, the perks of living here and what is offered, and encouraged everyone to embrace the Town, bringing people together and not tearing them apart.
- Weston Hall, 100 Portmanvilla Dr., spoke about the Fire Department and Police, referencing their dedication during COVID and showing up for the community. Mr. Hall also spoke in favor of compensation for the BMFD employees.
- John Richardson, 111 Church St., spoke and stated he was delivering a second lawsuit against the Town for a complaint for damages to his local business by town staff (and former staff), and spoke about payment amounts to Town attorneys for legal services. He also spoke about restoring trust and accountability and bringing people together.
- Frank Cappelli, 1120 Montreat Rd., stated he was in support of the Fire Department. He also spoke on comments he provided last month with concerns from the Planning Department. He called on Town Council to authorize an independent third-party audit of employees' email metadata and draft folders.

****

5. COMMUNICATION FROM MAYOR AND TOWN COUNCIL- Mayor Sobol read a statement on the FY26/27 budget process. No other comments provided by Council.

****

6. COMMUNICATION FROM TOWN ATTORNEY & TOWN MANAGER- None.

****

7. CONSENT AGENDA. After discussion of the consent agenda, ***Council Member Larry Harris made a motion to amend the consent agenda and remove the item entitled "Consideration of Oak Tree Planting at Lake Tomahawk." A vote of 4-0 in favor. Council Member Doug Hay was absent.***

7.A. Monthly Tax Collector Report. ***Vice Mayor Archie Pertiller made a motion to approve the tax collector report as presented. A vote of 4-0 in favor. Council Member Doug Hay was absent.***

7.B. WNC Passenger Rail Service Appropriation Resolution of Support.
The Land of Sky Regional Council has requested local governments to send letters of support to legislators to help support a proposed State Budget appropriation for $28 million to develop the WNC Passenger Rail Service. The Town Council is being asked to consider approving a resolution of support for a proposed $28 million state appropriation for the expansion of passenger rail service between Salisbury and Asheville. Governor Josh Stein has included this funding request in the State's FY 2026-2027 budget proposal as part of ongoing efforts to extend passenger rail service into Western North Carolina. The proposed funding would represent a significant step toward advancing the Asheville-to-Salisbury passenger rail corridor and would strengthen North Carolina's ability to secure additional federal funding through the Federal Railroad Administration (FRA). The state investment could help leverage more than $530 million in potential federal grant funding for the project.

Vice Mayor Archie Pertiller made a motion to approve the resolution of support for WNC Passenger Rail Service appropriation as presented. A vote of 4-0 in favor. Council Member Doug Hay was absent.

A RESOLUTION OF THE TOWN COUNCIL OF THE TOWN OF BLACK MOUNTAIN SUPPORTING STATE FUNDING FOR THE WESTERN NORTH CAROLINA PASSENGER RAIL CORRIDOR

RESOLUTION NO. R-26-46

WHEREAS, the Town of Black Mountain recognizes the importance of a safe, efficient, and connected transportation network that serves residents, businesses, and visitors throughout North Carolina; and

WHEREAS, the Governor's proposed Fiscal Year 2026-2027 budget includes $28 million as the first installment of the State's required matching funds to advance passenger rail service between Salisbury and Asheville; and

DRAFT

WHEREAS, the proposed Western North Carolina passenger rail corridor would connect Asheville and surrounding communities to Salisbury and North Carolina's existing passenger rail network, providing access to destinations throughout the Southeast and beyond; and

WHEREAS, this initial state investment would position North Carolina to leverage approximately $532 million in federal funding through the Federal Railroad Administration, resulting in an estimated return of four federal dollars for every one state dollar invested; and

WHEREAS, without the required state matching funds, North Carolina would be unable to access these significant federal transportation investments; and

WHEREAS, communities throughout Western North Carolina have long supported expanded passenger rail service as an important component of a multimodal transportation system that enhances mobility, economic development, workforce access, tourism, and regional connectivity; and

WHEREAS, existing passenger rail service in North Carolina has demonstrated increasing public demand while supporting downtown revitalization, economic activity, and sustainable transportation options; and

WHEREAS, Western North Carolina destinations have consistently ranked among the most requested expansion opportunities identified by NC By Train customers; and

WHEREAS, investment in the Western North Carolina passenger rail corridor represents a strategic opportunity to strengthen transportation connections, expand travel choices, support economic growth, and reinforce North Carolina's statewide passenger rail network; and

WHEREAS, the Town Council appreciates the continued leadership of the North Carolina Department of Transportation in advancing passenger rail initiatives and aligning transportation investments with the needs of communities across the state.

NOW, THEREFORE, BE IT RESOLVED by the Town Council of the Town of Black Mountain that:

1. The Town of Black Mountain hereby expresses its strong support for the Governor's proposed Fiscal Year 2026-2027 funding of $28 million to advance passenger rail service along the Western North Carolina corridor between Salisbury and Asheville.
2. The Town Council encourages the North Carolina General Assembly to approve the proposed funding and continue supporting investments necessary to expand passenger rail service throughout North Carolina.
3. The Town Council recognizes the significant transportation, economic, tourism, and regional connectivity benefits that expanded passenger rail service would provide to Western North Carolina and the State as a whole.
4. The Town Clerk is directed to transmit a copy of this Resolution to members of the North Carolina General Assembly representing the region, and other appropriate officials.

ADOPTED this 8th day of June, 2026.

****

7.C. Consideration of Budget Amendment for BMPD Donations Received.
The Black Mountain Police Department (BMPD) received donations in the amount of $8,500.00 and a budget amendment is needed to recognize and move these funds from the contributions/donations line item, 235-0000-47070, to the community outreach/public relations expense line item, 235-4510-55023.

Vice Mayor Archie Pertiller made a motion to approve the budget amendment as presented and recommended. A vote of 4-0 in favor. Council Member Doug Hay was absent.

A RESOLUTION TO AMEND THE FISCAL YEAR 2025–2026 BUDGET FOR BMPD DONATIONS

RESOLUTION NO. R-26-47

WHEREAS, the Black Mountain Police Department has received donations totaling $8,500.00; and

WHEREAS, the donations received are recommended to be moved to the Community Outreach/Public Relations Expense line item; and

WHEREAS, the Fiscal Year 2025–2026 budget should be amended to recognize and appropriate the funds.

NOW, THEREFORE, BE IT RESOLVED by the Town Council of the Town of Black Mountain, North Carolina, that the following amendments be made to the annual budget for the fiscal year ending June 30, 2026:

Section 1. Budget Amendments

The following accounts are hereby amended as follows:

Account Number	Account Description	Increase	Decrease
235-0000-47070	Contributions/Donations	-	$8,500.00
235-4510-55023	Community Outreach/Public Relations Expense	$8,500.00	-

Section 2. Effective Date

This resolution shall become effective upon adoption.

Adopted this the 8th day of June 2026.

****

7.D. Consideration of an Oak Tree Planting at Lake Tomahawk. *The item was removed from the Consent Agenda.*

****

7.E. Renewal of Shared Use Agreement for Parking Facilities at 101 West Street.

A current shared use agreement for parking facilities at 101 West Street was approved on July 8, 2024 by the Town Council for a two-year term which will expire on July 10, 2026. The parking area at this address represents 14 parking spaces and is available for public parking after 5:00 p.m. Monday through Friday, and on Saturday and Sunday. Council will consider renewing this shared use agreement for an additional two years and under the same guidelines as the current lease agreement, which would expire July 10, 2028.

Vice Mayor Archie Pertiller made a motion to approve the shared use agreement for parking facilities at 101 West St. as presented. A vote of 4-0 in favor. Council Member Doug Hay was absent.

****

7.F. Acceptance of Water Line Infrastructure within Sweet Birch Commons for Public (Town) Ownership & Maintenance.

This item was presented at the May 11, 2026 Council meeting but was tabled for further review. The purpose of this item is for Town Council to consider acceptance of ownership and maintenance responsibility of the completed water line infrastructure located within the Sweet Birch Commons Subdivision. The water system has been designed and constructed in accordance with all applicable municipal standards, engineering specifications, and regulatory requirements. All required inspections have been successfully completed, and the infrastructure has been assessed to ensure proper operation, safety, and compliance. Staff recommends that Council approve the acceptance of the water line infrastructure, thereby transferring ownership and ongoing maintenance responsibilities to the municipality.

Vice Mayor Archie Pertiller made a motion to approve the acceptance of water line infrastructure within Sweet Birch Commons for Town Ownership as recommended. A vote of 4-0 in favor. Council Member Doug Hay was absent.

****

8. PUBLIC HEARING – NONE

****

9. CITIZEN COMMENTS

- Jill Bielawski, 64 Melissa Dr., spoke to the Council stating she is one of the leaders of the newly formed Black Mountain BearWise Community committee. She spoke about the creation of a recognized BearWise Community here in Black Mountain which would involve the creation of ordinances, fines, enforcement, and education. A community meeting will be held on June 23, 2026 at 6:00 pm about the BearWise program and encouraged citizens to visit the Black Mountain BearWise community Facebook page.

****

10. UNFINISHED BUSINESS

10.A. Adoption of Revised Street Dedication Application and Policy.

Staff have made the requested changes from the May 11, 2026 Council meeting. This includes the following: a sentence has been added that the final decision of acceptance rests with Town Council and a checklist has been added for the Public Works Director and Fire Marshal to confirm items have been met and recommend the dedication or not. Council will consider the application and policy based on the amendments made and vote to adopt. Discussion ensued with the Town Attorney on language clarifications.

Town Council Member Alice Berry made a motion to adopt the revised street dedication application and policy. A vote of 4-0 in favor. Council Member Doug Hay was absent.
A copy of this policy is included at the end of these minutes as Appendix A.

****

10.B. Petition to Dedicate Brookhaven Drive.

The owners of the residences on Brookhaven Drive have filed a petition to dedicate Brookhaven Drive and the subsequent sidewalk to the Town for maintenance and ownership. Public Works and the Fire Marshal have inspected the road and are recommending that the Town take over this road and sidewalk with one provision: A No Parking sign to be installed at the end of the turn-around.

The mileage is approximately .12 miles. Dedication and acceptance of this road and sidewalk will include accepting all maintenance of both the street and the sidewalk to include paving, snow removal, and any general maintenance of said street and sidewalk within the 20-foot right-of-way.

The following statement was submitted by Council Member Doug Hay and read aloud by Council Member Berry: *Good evening, Council. I apologize for being unable to attend tonight's meeting but wanted to weigh in on the dedication request for Brookhaven Drive. After multiple rounds of discussion, I would encourage us to accept the request and take over Brookhaven Drive as a town road. I'm fully aware of the long-term costs that come with accepting new roads, and I believe we should discuss a formal moratorium on future acceptances. However, we have not done that yet, and in fact have accepted all petitions over the past few years. The residents of Brookhaven Drive built the road to our standards,*

passed town inspections, and submitted this request months ago. I believe that it would not be right to arbitrarily make them the first denial. We should set any new policy or moratorium so that it applies to future applicants only. Please consider these thoughts when voting on tonight's motion. Thank you, Doug Hay, Town Councilmember.

Discussion ensued among Council and staff that also included discussion of a moratorium on street dedications for one year. Council asked staff to consult with the Attorney on a possible moratorium.

Vice Mayor Archie Pertiller made a motion to accept Brookhaven Drive and the subsequent sidewalk into the Town for maintenance and public use. A vote of 4-0 in favor. Council Member Doug Hay was absent.

RESOLUTION TO ACCEPT AND DEDICATE BROOKHAVEN DRIVE TO THE TOWN'S STREET SYSTEM

RESOLUTION NO #: R-26-48

WHEREAS, North Carolina General Statute 160A-296 grants municipalities general authority and control over all public streets within its corporate limits; and

WHEREAS, including a street on a town map does not provide any evidence of intent to accept the street for public use; and

WHEREAS, the Town Council has been petitioned to accept the following street and sidewalk for Town maintenance, and as recorded on the Plat "Chapman's Cove" with the Buncombe County Register of Deeds Office in Book 192, Page 87, dated September 18, 2018; and

Street	**Pavement Width**	**Right-of-Way Width**	**Sidewalk Width**
Brookhaven Drive	20'	20' (10' on each side)	5' (included in the 10' right-of-way)

WHEREAS, a copy of the aforementioned Plat accompanies this resolution as "Exhibit A;" and

WHEREAS, a copy of the aforementioned petition accompanies this resolution as "Exhibit B;" and

WHEREAS, if accepted and dedicated as Town Streets, the Town will be responsible for the road and sidewalk maintenance within the designated road and right-of-way to include paving and snow removal; and

WHEREAS, in accordance with the Street Dedication Policy, the Public Works Director and the Fire Marshal have reviewed and do recommend the dedication; and

WHEREAS, the Fire Marshal requires a "No Parking" sign in the turn-around; and

NOW, THEREFORE, BE IT RESOLVED that the Black Mountain Town Council hereby accept Brookhaven Drive and dedicates to the Town's street system.

APPROVED AND ADOPTED by the Black Mountain Town Council this the 8th day of June 2026.

****

10.C. Proposal for Black Mountain Ave. & Sutton Ave. Intersection Safety Study.

Safety issues surrounding the intersection of Black Mountain Avenue and Sutton Avenue have been expressed by citizens and discussed by Council. At the January 12, 2026 Council meeting, Council discussed and unanimously voted to pursue a traffic safety study at this intersection with a cost not to exceed $10,000. The Town has received a proposal from J.M. Teague Engineering and Planning in the amount of $4,500 to complete the safety study. Council discussed this proposal with staff as well as a staff recommendation to instead have Public Works make improvements to the intersection that includes new signage and line painting and not proceed with the safety study. ***Vice Mayor Archie Pertiller made a motion to proceed with staff recommendations of improvements at this intersection instead of pursing the safety study. A vote of 4-0 in favor. Council Member Doug Hay was absent.***

****

10.D. Discussion of Lower Watershed Dam.

Council heard from Town staff about the Lower Watershed Dam project and discussed potential courses of action regarding the repair, breach, or inaction on the Lower Watershed Dam. Prior discussion outlined the engineering and regulatory considerations for this decision, but further discussion is warranted due to emerging information around budgetary and FEMA considerations. An alternative proposal from S&ME was presented. After discussion, ***Council Member Larry Harris made a motion to instruct staff to continue exploring decommissioning of lower watershed dam and reporting back to Council. A vote of 4-0 in favor. Council Member Doug Hay was absent.***

****

11. NEW BUSINESS

11.A. Discussion of Possible Bear-Related Action Plans.

Mayor Sobol discussed action plans due to recent heavy bear activity in Black Mountain neighborhoods. A public meeting was held on May 20, 2026 at the Black Mountain Library with a representative from NC Wildlife providing information to those in attendance. According to BearWise.org, which is a resource that NC Wildlife utilizes, there are action plans available for communities in bear country. These include switching to bear-resistant trash containers and implementing effective ordinances and/or by-laws. Many towns, HOAs and communities have drafted and passed ordinances / regulations that support BearWise behavior. The ordinances can address such issues as wildlife-resistant trash storage, pet food storage, securing attractants, and feeding wildlife. The Planning

Department was asked to draft some ordinances based on other community examples.

****

11.B. Authorization for Staff to Pursue an Order of Abatement and Recovery of Fines for 19 Timber Park Drive for Failure to Correct Zoning Violation.

Planning Director Michelle Kennedy explained that a courtesy letter was issued to 19 Timber Park Drive for illegal storage containers in July of 2025. From July to September of 2025, no actions were taken to correct the violation, and a notice of violation was issued. The owners appealed the zoning violation with the Board of Adjustment in January of 2026, and the Board of Adjustment upheld the zoning violation. The owners provided an update in early March of 2026 that they had secured a place to move the storage containers to and would keep staff updated. As of March 17, 2026, no actions had been taken to correct the violation and notice of violation and citation were sent to the property owner. Fines began accumulating and a notice of fines due was sent to the property owner on May 6, 2026. As of this time, the property owner has taken no action to address the violation or pay the fines. Per Section 1.11.8 (Court Injunctions or Order of Abatement) within the Town's Land Use Code, staff is asking Council to authorize applying to Superior Court for a mandatory injunction to comply with the Board of Adjustment order and applying for an order of abatement for removal of the storage containers. Per Section 1.11.10 (Civil Penalties) within the Town's Land Use Code, staff is asking Council to authorize recovering the penalties (fines) of $500 in the nature of debt collection.

Vice Mayor Archie Pertiller made a motion to authorize staff to proceed with obtaining an order of abatement to remove the illegal storage containers and to collect the incurred fines through debt collection for 19 Timber Park Dr., pursuant to Town's Land Use Code Section 1.11. A vote of 4-0 in favor. Council Member Doug Hay was absent.

****

11.C. Bid Proposal Acceptance from CES Engineers Group.

This proposal recommends acceptance of a comprehensive Lead and Copper Inventory project to ensure the Town’s drinking water system complies with current and forthcoming state and federal regulatory requirements, including EPA’s Lead and Copper Rule Revisions. The inventory will identify the material composition of all service lines-public and private-within the water system, with a specific focus on locating any lead or galvanized service lines requiring replacement. Completing this work now will help avoid future enforcement actions, ensure regulatory compliance by mandated deadlines, and support transparent communication with residents regarding drinking water safety.
Council Member Larry Harris made a motion to accept the bid proposal from CES Engineers Group to perform lead & copper line inventory for the Town and to gather information on how to proceed with the other 2/3 homes this does not cover. A vote of 4-0 in favor. Council Member Doug Hay was absent.

****

11.D. Consideration of Contract Extension with McAdams Company, Inc. (Traffic Planning and Design, Inc. (TPD)).

The original professional services agreement, executed on January 4, 2024, includes an option for the Town and the Contractor to mutually renew the contract for an additional three-year term through a written renewal agreement. Since the execution of the original contract, Traffic Planning & Design, Inc. (TPD) has been acquired by The John R. McAdams Company, Inc. The proposed contract extension would renew the agreement through June 30, 2029. All terms and conditions contained in the January 4, 2024 agreement will remain in effect, along with an added dispute resolution provision requiring the parties to first attempt to resolve disputes through informal negotiations. If a resolution cannot be reached, any legal action must be filed in the courts of Buncombe County, North Carolina. ***Council Member Larry Harris made a motion to approve the contract extension with McAdams for on-call services for an additional term of three years. A vote of 4-0 in favor. Council Member Doug Hay was absent.***

****

11.E. Discussion of Planning Board Member Terms for UDO Completion.

At the May 2026 Planning Board meeting, Town Attorney Craig Justus suggested that the Planning Board members who are due to rotate off the Planning Board in July 2026 consider staying one (1) more year, pending Council approval. The following members stated they would be willing to stay on another year: Pam Norton, Lauronda Teeple and Chris Collins. Originally, Chris Collins had not wanted to be reappointed but had since changed his mind. Council Members Berry & Stone were present at the May Planning Board meeting and were in favor of members serving one more year and suggested the full Council discuss. Planning staff recommends these members remain on for another year so as not to have to have a whole new group of new members who have not been working on the UDO. Council should discuss extending these members' terms for an additional one (1) year. After a quick discussion, ***Council Member Larry Harris made a motion to re-appoint Chris Collins, Pam Norton, and Lauronda Teeple to the Planning Board for one additional year term, expiring in July 2027. A vote of 4-0 in favor. Council Member Doug Hay was absent.***

****

11.F. Partnership Proposal with Development Finance Initiative (DFI).

The Development Finance Initiative (DFI) has offered to partner with the Town of Black Mountain to provide economic development and community research services as part of a grant NC DEQ awarded them to perform feasibility analyses on Helene-affected properties. Planning Director Michelle Kennedy presented this information to the Council.

Council Member Larry Harris made a motion to endorse the partnership proposal with Development Finance Initiative (DFI). A vote of 4-0 in favor. Council Member Doug Hay was absent.

****

12. CLOSED SESSION

The Town Council would now enter into closed session pursuant to N.C.G.S. § 143-318.11 (a)(6): To consider the qualifications, competence, performance, character, fitness, conditions of appointment, or conditions of initial employment of an individual public officer or employee or prospective public

officer or employee; or to hear or investigate a complaint, charge, or grievance by or against an individual public officer or employee. ***Town Council Member Alice Berry made a motion to go into closed session pursuant to the G.S. referenced above. A vote of 4-0 in favor. Council Member Doug Hay was absent. The time was 8:08 p.m.***

****

13. ADJOURNMENT

Council returned to open session at 8:40 p.m. With no further business to be discussed, Mayor C. Michael Sobol adjourned the meeting.

_____
C. Michael Sobol, Mayor

Attest: _____
Wesley M. Barker, Town Clerk

DRAFT

BLACK MOUNTAIN TOWN COUNCIL MINUTES

June 11, 2026 | Special Meeting + Budget Work Session Agenda | Time: 8:30 AM

Town Hall Council Chambers | 160 Midland Avenue, Black Mountain, NC 28711

Black Mountain Town Council held their special meeting + budget work session agenda on Thursday, June 11, 2026, at 8:30 AM in the Council Chambers of Town Hall, 160 Midland Avenue, Black Mountain, NC 28711.

1. CALL TO ORDER.

Mayor C. Michael Sobol called the meeting to order at 8:30 a.m. with the following members in attendance: Vice Mayor Archie Pertiller, Town Council Member Alice Berry, Council Member Larry Harris, Town Council Member Doug Hay, Town Council Member Ryan Stone,

The following staff members were present: Interim Town Manager Richard Hicks; Interim Assistant Town Manager Scott Buffkin; Town Clerk Wesley Barker; Police Chief Steve Parker; Fire Chief John Coffey; Public Works Director Jamey Matthews; Customer Service & Revenue Supervisor Greta Gibson; Assistant Public Works Director Tausha Millwood; Budget Analyst Matt Begley; Golf Course Manager Brent Miller; Senior Admin Jennifer Tipton.

The Mayor stated he would like to add Citizen Comment to this meeting agenda. The Council was in consensus to add Citizen Comment to the agenda.

****

2. UNFINISHED BUSINESS.

2.A. Consideration of an Oak Tree Planting at Lake Tomahawk.

This item was tabled at the June 8, 2026 Town Council meeting but will be discussed at this meeting with more information to be provided by staff on questions raised by Council. The Swannanoa Valley Tree Alliance (SVTA), in partnership with Swannanoa Valley WILD, would like to plant one Shumard Oak Tree (approx. 3' 5" tall) at Lake Tomahawk Park, near the picnic pavilion. This tree coincides with the storybook "GROW Trail" (Greenway Read Outloud Walking Trail) around Lake Tomahawk, and a new book installation will also take place entitled "Thank you, Old Oak" by Britt Crow-Miller. Public Works has identified that this is a suitable location for the tree, away from any water lines, and there are no other utilities in this area that would interfere. If approved, a special tree planting community event is planned for Sunday, June 14th at Lake Tomahawk.

After some Council discussion on locations, ***Town Council Member Doug Hay made a motion to place this oak tree around the playground at Lake Tomahawk and if this option is not good, an alternative option is the north-east corner of the pavilion, nearest the walkway, per the map view indicated below. A vote of 5-0 in favor.***

****

3. NEW BUSINESS.

3.A. Consideration of Public Safety Temporary Triple Wide Modular Units Placement

Over the past several weeks, staff has continued working diligently on options to address the displacement of public safety personnel. We have successfully purchased the triple-wide modular unit from Hendersonville and are now moving into the planning and set-up phase, which involves a few logistical considerations. Police Chief Steve Parker provided Council with the options that have been discussed, along with the benefits and challenges associated with each location.

Option 1: Lower Parking Lot (State Street/Richardson Boulevard).

- Benefits:
  - Flat site, which significantly simplifies installation.
  - Close proximity to electrical service, reducing infrastructure costs and installation time.
  - Allows Honeycutt Street to remain open for parking, Splash Pad access, and public safety vehicle ingress and egress.

- Maintains efficient access for Fire, Police, and EMS operations.

➢ Challenges:
- Loss of parking spaces.
- Visual and aesthetic concerns due to the modular unit's visibility in the lower lot.

Option 2: Honeycutt Street Location.

➢ Benefits:
- Close proximity to existing water and sewer infrastructure.
- Preserves parking availability in the lower lot.

➢ Challenges:
- Significant slope creates additional site preparation requirements and costs.
- May hamper ingress and egress for larger fire apparatus and other emergency vehicles.
- Electrical service is further away, requiring additional infrastructure and expense.

From an operational standpoint, Public Safety personnel would prefer the lower parking lot option due to ease of installation, lower overall costs, and reduced impact on emergency response operations. However, we recognize that visual perception and community aesthetics are important considerations. Council members and staff discussed these options and also discussed an options of placement of a unit near Station 2 on White Pine Dr. which could be used as a future substation for the BMPD later on. This item will be researched some more and brought back to the Council at an upcoming meeting.

The Mayor then discussed status of the Public Safety building, core samples, engineers, and

reporting.

CITIZEN COMMENTS.

- Janice Johnston from The Settings spoke about offering services of the Civil Engineer who works with The Settings to assist with the core samples at the Public Safety Building, stating they would take care of the cost of him coming to look at the building.
- Don Collins, 80 Camp Branch Rd., spoke about garbage fees, stating when his area was annexed into the Town they were promised free garbage pickup, and he also spoke about the proposed rate increase for FY27 and suggested instead to start charging a higher tax rate in order to balance the budget.

****

4. BUDGET WORK SESSION FOR FY26-27.

Interim Town Manager Richard Hicks led the Council through the next budget work session. First, he spoke on the status of the tax revaluation item in the General Assembly stating the bill passed the House last night and would probably be going to the Governor's office for signature soon. The first budget item discussed was the contributions to local community organizations/non-profits and leaving the $24,000 amount in the proposed budget. The Mayor spoke about the savings in each department once the budget was adopted and rewarding staff if they were able to eliminate certain expenses. Mr. Hicks then spoke about the positions that would be frozen, or eliminated, in the FY27 budget. These included a one-year freeze on the Assistant Town Manager position and Project Manager position; elimination of the Public Information Officer position, elimination of position 1 (currently filled and not disclosed for protection of the staff member), elimination of position 2 (currently filled and not disclosed for protection of the staff member), one year freeze on vacant BMPD position and one year freeze on the vacant Public Works position. Mr. Hicks stated department heads are encouraged to, within 30 days, instead of 60, find $124,000 in additional expenses to cut, but that it may take longer than 30 days.

Mr. Hicks then discussed the proposed tax increase, stating it is sufficient to cover the Town's expenses, so the Town is not in the same position next budget year, or the next. Mr. Hicks discussed the FEMA funds that are still due to be coming in over the next FY and the Fund Balance increases.

The water fund was next to be discussed. The current agreement with Ridgecrest for water has been for about fifteen years and the Town should negotiate a revised agreement, especially as it relates to water rate fees. Revenue would be coming in with the electronic processing fees that will become effective July 1, 2026.

The Fire Department items included a transfer of $100,000 to general fund to cover administrative expenses, reduction of part-time salaries by $80,240 and removal of the drone purchase. Proposed salary adjustments for competitiveness in the Fire Department included the following:

- 15 Firefighters/Engineers - $10,000 increase each
- 6 Lieutenants- $5,000 increase each
- 3 Battalion Chiefs 3% salary increase each
- Chief, Deputy Chief, Fire Inspector- 3% salary increase each

Mr. Hicks also spoke on the Buncombe County match for Fire Department at 41%.

Mr. Hicks asked the Council to consider adopting the budget on June 30th, 2026, not June 15th after the public hearing to allow for more time to finalize the budget. A special meeting is already set for June 30th, 2026 at 8:30 a.m. at Town Hall.

The next item was concerning the Maintenance Building Design at the Golf Course. ***Council Member Larry Harris made a motion to amend the agenda for discussion of the Golf Course Maintenance Building design item. A vote of 5-0 in favor.***

Discussion ensued from Golf Course Manager Brent Miller, Mr. Hicks, and the Council. Items discussed included the location site(s), surveying and geotechnical. Moving forward on this project and not delaying was mentioned. The location of Byrd Inman Ln. was discussed, which was the previous site of the other building.

After additional Council discussion, Council Member Larry Harris made a motion to amend the agenda for discussion of the Golf Course Maintenance Building design item. A vote of 4-1 in favor. Council Member Alice Berry opposed.

****

5. **CLOSED SESSION- N.C.G.S. 143-318.11 (A)(6).**
The Town Council would now enter into closed session pursuant to N.C.G.S. § 143-318.11 (a)(6): To consider the qualifications, competence, performance, character, fitness, conditions of appointment, or conditions of initial employment of an individual public officer or employee or prospective public officer or employee; or to hear or investigate a complaint, charge, or grievance by or against an individual public officer or employee. **Town Council Member Alice Berry made a motion to enter Closed Session pursuant to NCGS 143-318.11(a)(6) after a five-minute recess. A vote of 5-0 in favor. The time was 10:02 a.m.**

****

6. **ADJOURNMENT.** The Council returned from Closed Session at 10:30 a.m. With no further business to be discussed, Mayor C. Michael Sobol adjourned the meeting.

_____
C. Michael Sobol, Mayor

Attest: _____
Wesley M. Barker, Town Clerk

BLACK MOUNTAIN TOWN COUNCIL MINUTES

June 15, 2026 | FY26-27 Budget Public Hearing | Time: 6:00 PM

Town Hall Council Chambers | 160 Midland Avenue, Black Mountain, NC 28711

Black Mountain Town Council held a Fiscal Year 2026-27 Budget Public Hearing meeting on Monday, June 15, 2026, at 6:00 PM in the Council Chambers of Town Hall, 160 Midland Avenue, Black Mountain, NC 28711.

1. CALL TO ORDER.

Mayor C. Michael Sobol called the meeting to order at 6:00 p.m. with the following Council members in attendance: Vice Mayor Archie Pertiller, Town Council Member Alice Berry, Council Member Larry Harris, Town Council Member Doug Hay, Town Council Member Ryan Stone.

The following staff members were present: Interim Town Manager Richard Hicks; Interim Assistant Town Manager Scott Buffkin; Police Chief Steve Parker; Fire Chief John Coffey; Public Works Director Jamey Matthews; Recreation & Parks Director Jacob Guiot, Customer Service & Revenue Supervisor Greta Gibson; Budget Analyst Matt Begley; Senior Admin Jennifer Tipton.

****

2. PUBLIC HEARING FY26-27 BUDGET.

Interim Assistant Town Manager Scott Buffkin presented the FY26-27 proposed budget. ***A copy of this presentation is included at the end of these minutes.***

Council Member Larry Harris had Scott Buffkin confirm that the Town has no choice in the rate increases for health insurance and retirement. Scott mentioned that it would be very hard to extricate the Town from the State Health Care Plan and said that is not an option at this time. Scott stated the new rate of retirement is 22% and the estimate for insurance increases is 10%, but we won't know for sure until November. Mayor Sobol sked for a list of the exact numbers.

Council Member Doug Hay explained to the audience that the tax rate increase is based on the old valuation numbers on the probability that the Governor will sign SB 889. This is the most conservative if the bill is signed. If the bill is vetoed and not overridden, the rates will have to change, but the revenue will stay the same.

The loan for the lead & copper requirement is a loan that has to be paid back. It will only cover about 1/3 of the water customers for identifying their line material.

Asheville is increasing their water rates by 32%. The Town currently receives about 60% of our water from Asheville. Council Member Harris noted that when the numbers were compared of

buying from Asheville, versus adding more wells, the difference was only about $60,000. Mayor Sobol said that we have 8 wells that produce water and we have 2 additional wells that were closed in 2023, that could be reopened and increase our production by 20%.

Council Member Alice Berry made the motion to open the public hearing for the FY26-27 Budget. A vote of 5-0 in favor.

Tony Sola – 21 Fates Overlook Loop – asked for no cuts to BMFD or BMPD as they are essential services and need to have competitive pay – offered to create a volunteer committee of citizens who have experience that could help come up with a solution for a permanent home for BMFD and BMPD – suggested raising sanitation rates, golf rates, and water rates to cover 100% - thinks raising the base rate for water is unfair and should increase the usage rate more – recognized need to tax rate increase.

Glen Rechtine – 190 Settings Blvd – said he has had 10 years of experience with BMPD and BMFD (time he has lived here) and that they are highly skilled – said to keep level of service – mentioned that morale was low because BMFD and BMPD are homeless, working overtime that they are not getting paid for, and earning comp time but can't take any time off – agrees that sanitation, water, and golf should be charged to cover 100% - likes the idea of a volunteer committee.

Leanne Cunningham – 250 Vance Avenue – said 1 need is BMFD salaries – it will be difficult to keep ours if we don't pay at least what the County pays – will lose good, well-trained professionals and it will be harder to retain – mentioned that we can't rely on the Forest Service if we have a wildfire because they have been cut severely – asked if we can lobby the State for help.

Don Collins – 80 Camp Branch Road – said that he and others were promised free garbage pickup when they were annexed into the town – mentioned his time on the board and as mayor and that they lowered dept and at one point had a $7.5 million cushion – said other boards have run the Town into debt – said we need to make up the fees from somewhere else other than garbage – mentioned that we were once the laughingstock and that SOG used videos of our council meetings to show others how not to behave and how not to run a meeting – mentioned that during his time on the board, they voted to suspend their pay to help pay for a position that was needed – said the garbage fee is not right and that we are getting enough taxes from having annexed them – mentioned that Raleigh put an end to involuntary annexation – said he and a previous board had eliminated the garbage tax – asked to respect previous boards of offering free garbage pickup.

Kathy Phillips – 26 Hi View Drive – said that if the council has to choose with community group to fund, she recommends Swannanoa Valley Christian Ministry since they offer help to the entire community – rescinded the tree committee's request for $4,000 and said that they could find money elsewhere.

Angela Levine – 172 Settings Blvd – told a story about her mom falling and getting great care from emergency services – said that our community will not get speedy care if BMFD and BMPD are not funded – asked that there be no cuts and that the Council approve the raises – asked that a hiring freeze not be implemented and that the Town look at a 5% vacancy rate instead – said that sanitation, water, and golf should be funded by the people who use them and should be self-

sustaining – supported establishing a citizen committee to look for ideas for a permanent house for BMPD and BMFD.

Vice Mayor Archie Pertiller made a motion to close the public hearing. A vote of 5-0 in favor.

Interim Town Manager Richard Hicks stated that the increase in the golf course fees will cover 100% of operations and should also allow for a small profit.

Richard said that BMPD had discussed a vacancy rate but preferred to freeze the position. Richard said that BMFD is fully staffed at this time, but with the jump in competitive salaries, we will have to keep that up with the increases from other communities.

Council Member Haris mentioned that staff will have 30 days to find additional cuts that total $100,000.

Mayor Sobol stated that over the last ten years the population has grown 12%, employees have increased 50% and the budget has increased 100%.

Council Member Harris noted that in years past the Town didn't have a sanitation department and that it required additional employees, and that there were other positions to BMFD and BMPD. Mr. Harris also noted that grant funds are included in the budget and that is some of the increase as well. He also said that there are more recovery funds to receive over the next 3-5 years and that funds that are currently in the Helene fund will go back to the general fund.

Further, Mr. Harris said that the general fund has not changed much because there are still the taxes, utilities, etc., so it will look very similar. He noted that the grant funds are only for certain projects and that there has been an increase in growth and sales tax. He also said this budget is following on the heels of a tough year and we can't use Fund Balance to operate.

Council Member Hay noted that the increases are also from deferred maintenance to buildings and equipment and the Town is having to play catchup. Mayor Sobol noted that future boards will have to find ways to increase revenue.

Council Member Harris spoke about sanitation tipping fees and that we have no choice on that cost. It is based on tonnage and currently is about $250,000 and goes up $50,000 to $100,000 each year. Mr. Harris also noted that Givens Highland Farms does not pay property taxes but does pay fees. The Council asked for clarity on what fees Givens Highland Farms pays and asked that they have that before June 30th.

The Council asked for clarity on why BMPD preferred freezing a position.

Mayor Sobol said that just because the budget and departments are questioned does not mean that there is non-support for that department.

Council Member Harris briefly spoke about unfunded mandates that come from the Federal level and the State.

****

3. CLOSED SESSION- N.C.G.S. 143-318.11 (A)(6).

The Town Council would now enter into closed session pursuant to NCGS 143-318.11 (a)(3): To consult with an attorney employed or retained by the public body in order to preserve the attorney-client privilege between the attorney and the public body, which privilege is hereby acknowledged, which privilege is hereby acknowledged; and NCGS 143-318.11 (a)(6) To consider the qualifications, competence, performance, character, fitness, conditions of appointment, or conditions of initial employment of an individual public officer or employee or prospective public officer or employee; or to hear or investigate a complaint, charge, or grievance by or against an individual public officer or employee.

Town Council Member Ryan Stone made a motion to enter Closed Session pursuant to NCGS 143-318.11(a)(6). A vote of 5-0 in favor.

****

4. ADJOURNMENT. The Council returned from Closed Session at 7:14 p.m. With no further business to be discussed, Mayor C. Michael Sobol adjourned the meeting.

_____
C. Michael Sobol, Mayor

Attest: _____
Wesley M. Barker, Town Clerk

DRAFT

BLACK MOUNTAIN TOWN COUNCIL MINUTES

June 30, 2026 | Special Called Meeting Agenda | Time: 8:30 AM

Town Hall Council Chambers | 160 Midland Avenue, Black Mountain, NC 28711

Black Mountain Town Council held a special called meeting agenda on Tuesday, June 30, 2026, at 8:30 AM in the Council Chambers of Town Hall, 160 Midland Avenue, Black Mountain, NC 28711.

1. CALL TO ORDER

Mayor C. Michael Sobol called the meeting to order at 8:30 a.m. with the following members in attendance: Vice Mayor Archie Pertiller, Town Council Member Alice Berry, Town Council Member Doug Hay, Council Member Larry Harris, Town Council Member Ryan Stone.

The following staff members were present: Richard Hicks, Interim Town Manager; Wesley Barker, Town Clerk; Steve Parker, Police Chief; John Coffey, Fire Chief, Jamey Matthews, Public Works Director; Jacob Guiot, Recreation & Parks Director; Chris Kuhn, Deputy Police Chief; Jim Bingham, Deputy Fire Chief; Tausha Millwood, Assistant Public Works Director; Greta Gibson, Revenue & Customer Service Supervisor; Laurel Mabery, Accountant.

****

2. NEW BUSINESS

2.A. Approval of June 30, 2026 Special Meeting Agenda.

Town Council Member Alice Berry made a motion to approve the agenda as presented, but to move the USDA Grant item to the first item on the agenda as 2.B. and shift other items down. A vote of 5-0 in favor.

****

2.B. Approval of USDA Disaster Assistance Funding Grant for Replacing Helene-Damaged Vehicles.

Josh Carswell, Community Programs Specialist, with USDA Rural Development gave a presentation to the Council about the USDA Disaster Assistance Funding Grant for Replacing Helene-Damaged Vehicles.

Town Council was presented with information regarding a United States Department of

Agriculture (USDA) Rural Development Community Facilities Grant awarded to the Town of Black Mountain through Disaster Assistance Funding (DAF). The grant will provide funding for the purchase of replacement public works and police vehicles to support essential municipal

operations, including public safety, emergency response, sanitation services, and other critical public services provided to Town residents. This is not strictly limited to just vehicle replacement as equipment replacement is also eligible. The USDA has identified grant funding not to exceed $548,400 for the project. If project costs exceed estimates after procurement or bid receipt, the Town may be responsible for covering additional project costs beyond the grant award amount. Some requirements of this grant would be quarterly performance and financial monitoring reporting and quarterly performance reporting.

Council Member Larry Harris made a motion to approve the following resolution accepting the letter of conditions & grant agreement 3570-3 & Supplemental Grant Agreement. A vote of 5-0 in favor.

RESOLUTION OF THE TOWN COUNCIL, TOWN OF BLACK MOUNTAIN, NC ACCEPTING THE CONDITIONS SET FORTH IN THE LETTER CONDITIONS AND GRANT AGREEMENT 3570-3 & SUPPLEMENTAL GRANT AGREEMENT FOR A USDA COMMUNITY FACILITIES GRANT (DAF - VEHICLE REPLACEMENT & REIMBURSMENTS)

Resolution No. # R-26-51

BE IT RESOLVED: That the Town of Black Mountain hereby accepts the conditions set forth in the Letter Conditions and Grant Agreement 3570-3 & Supplemental Grant Agreement once executed.

That the Town Manager and Town Clerk be authorized to execute all forms necessary to obtain a loan from Rural Development, including but not limited to the following forms:

Form RD 1942-46	Letter of Intent to Meet Conditions
Form RD 1940-1	Request for Obligation of Funds
Form RD 3570-3	3570-3 Grant Agreement
	Supplemental Grant Agreement
Form RD 400-4	Assurance Agreement
RD Instruction 1940-Q	Certification for Contracts, Grants and Loans

This resolution is to become a part of the official minutes for the Town of Black Mountain Council meeting held on 06/30/2026.

A copy of the USDA-RD – DAF Grant Documents are included at the end of these minutes as Appendix A.

****

2.C. Adoption of Fiscal Year (FY) 2026-27 Budget Ordinance & Schedule of Fees.

Interim Town Manager Richard Hicks reviewed the proposed Budget Ordinance for Fiscal Year 2026-27 with the Town Council, reviewing each fund revenues and appropriations. Mr. Hicks also reviewed the proposed tax rate in this ordinance ($0.3565 on each one hundred dollars ($100) valuation of taxable property) but also discussed the legislation at the General Assembly that would impact the tax valuations in Buncombe County and discussed what the new tax rate would be ($0.249), if this piece of legislation passed and was signed by the Governor, which was suspected to happen any day. Mr. Hicks then reviewed the proposed Schedule of Fees for Fiscal Year 2026-27, noting the changes to fees indicated in red text on the fee schedule. These include changes to Golf Course fees and membership fees, water rates (for both inside and outside Town limits), increase to the System Development Fee cost of capacity, and an increase of Sanitation Waste Reduction Fee to $12.00. As part of budget adoption, there is a Council direction for staff to present a budget amendment reducing expenditures by $125,000 that will zero out the Fund Balance Appropriation by August 10, 2026. Mr. Hicks recommended that with the motion adopting the Budget Ordinance, include the proposed tax rate of $0.3565, and the new value of $0.249, which would apply if the tax valuation legislation was passed.

Council Member Larry Harris made a motion to adopt the Fiscal Year 2026-27 Budget Ordinance and Schedule of Fees, and the current tax rate of $0.3565 per $100 valuation, or tax rate of $0.249 based on the new values, if passed by the General Assembly and signed by Governor. A vote of 5-0 in favor.

A copy of the approved Budget Ordinance for Fiscal Year 2026-27 and Schedule of Fees is included at the end of these minutes as Appendix B.

****

2.D. Consideration of Adoption of Budget Amendments to Fiscal Year (FY) 2025-26 Budget.

Interim Town Manager Richard Hicks explained that Town Council should first consider a resolution to correct prior budget amendments associated with the North Carolina Department of Environmental Quality (NC DEQ) Bridge Loan Program after staff identified duplicate budget appropriations related to previously approved project funding.

The resolution to correct will address prior adoption of **Resolution Nos. R-25-100 and R-25-101**, which inadvertently duplicated budgeted loan revenues and expenditures that had already been included in the Town's Fiscal Year 2025–2026 budget through an existing **$3,000,000 NC DEQ Bridge Loan** carried forward from Fiscal Year 2024–2025. The resolution authorize the following corrective actions:

- **Resolution R-25-100:** Reverse an incorrectly budgeted **$1,125,000** in **Fund 425** related to the **Oconeechee Sinkhole Project**, as existing budget authority from Fund 450 should have been transferred rather than creating new budget authority.
- **Resolution R-25-101:** Reverse a duplicate **$1,043,290.32** budget appropriation in **Fund 450** related to the **Water System Recovery Project**, which had already been included in the adopted budget.

The corrections eliminate duplicate appropriations totaling **$2,168,290.32** and restore the **NC DEQ Bridge Loan budget to its correct total of $3,000,000**.

Council Member Larry Harris made a motion to approve the resolution that will rescind Resolution Nos. R-25-100 and R-25-101 as recommended. . A vote of 5-0 in favor.

A RESOLUTION TO CORRECT PRIOR BUDGET AMENDMENTS RELATED TO THE NC DEQ BRIDGE LOAN (Repeal of Resolution Nos. R-25-100 and R-25-101)

Resolution No. # R-26-52

WHEREAS, the Town Council previously adopted Resolution Nos. R-25-100 and R-25-101 to amend the Fiscal Year 2025–2026 budget for projects funded by the North Carolina Department of Environmental Quality (NC DEQ) Bridge Loan Program;

WHEREAS, subsequent review determined that the original $3,000,000 NC DEQ Bridge Loan was budgeted during Fiscal Year 2024–2025 and properly carried forward into Fiscal Year 2025–2026 on July 1, 2025;

WHEREAS, Resolution No. R-25-100 budgeted an additional $1,125,000 in Fund 425 for the Oconeechee Sinkhole Project; however, because the bridge loan proceeds had already been budgeted, only a transfer of existing budget authority from Fund 450 to Fund 425 was necessary;

WHEREAS, Resolution No. R-25-101 budgeted an additional $1,043,290.32 in Fund 450 for the Water System Recovery Project, resulting in duplicate recognition of revenues and expenditures already included in the adopted budget;

WHEREAS, as a result of these actions, the budget for the NC DEQ Bridge Loan in Fund 450 totals $4,043,290.32 rather than the intended $3,000,000;

NOW, THEREFORE, BE IT RESOLVED by the Town Council of the Town of Black Mountain, North Carolina, that:

Section 1. Purpose
The purpose of this resolution is to correct duplicate budget appropriations associated with the NC DEQ Bridge Loan Program and restore the adopted Fiscal Year 2025–2026 budget to its intended amounts.

Section 2. Budget Correction

Resolution	Action	Amount
R-25-100	Reverse budget amendment recorded in Fund 425 (budget authority to be transferred from existing Fund 450 budget rather than new loan proceeds).	$1,125,000.00
R-25-101	Reverse duplicate budgeted NC DEQ Bridge Loan revenues and expenditures in Fund 450.	$1,043,290.32

Following these reversals, the NC DEQ Bridge Loan budget in Fund 450 will return to the correct total of $3,000,000, with project expenditures funded through the existing bridge loan budget and appropriate budget transfers.

Section 3. Authorization
The Town Manager and Finance Director are authorized to make the necessary accounting entries and budget amendments to implement this resolution.

Section 4. Effective Date
This resolution shall become effective upon adoption.

Adopted this 30th day of June 2026.

****

Council then considered adoption of end-of-year budget amendments to the FY 2025-26 Budget Ordinance for Fiscal Year ending June 30, 2026. Interim Town Manager Richard Hicks reviewed the budget amendments with the Council.

Council Member Larry Harris made a motion to approve the budget amendment ordinance to the Fiscal Year 2025-26 budget as presented. A vote of 5-0 in favor.

A copy of this budget amendment ordinance is included at the end of these minutes as Appendix C.

2.E. Discussion of Golf Course Bridges.
A brief discussion on the status of the Golf Course Bridge Project took place. No action taken.

****

3. **CLOSED SESSION- N.C.G.S. 143-318.11 (A)(6): TO CONSIDER THE QUALIFICATIONS, COMPETENCE, PERFORMANCE, CHARACTER, FITNESS, CONDITIONS OF APPOINTMENT, OR CONDITIONS OF INITIAL EMPLOYMENT OF AN INDIVIDUAL PUBLIC OFFICER OR EMPLOYEE OR PROSPECTIVE PUBLIC OFFICER OR EMPLOYEE; OR TO HEAR OR INVESTIGATE A COMPLAINT, CHARGE, OR GRIEVANCE BY OR AGAINST AN INDIVIDUAL PUBLIC OFFICER OR EMPLOYEE.**

Before Council was to enter closed session, Council Member Doug Hay read a statement aloud to which he gave his resignation from the Town Council, effective immediately. After the statement was read, Doug then left the meeting.

The Town Council would now into closed session pursuant to N.C.G.S. § 143-318.11 (a)(6): To consider the qualifications, competence, performance, character, fitness, conditions of appointment, or conditions of initial employment of an individual public officer or employee or prospective public officer or employee; or to hear or investigate a complaint, charge, or grievance by or against an individual public officer or employee.

Vice Mayor Archie Pertiller made a motion to enter closed session pursuant to NCGS 143-318.11 (A)(6). A vote of 4-0 in favor. The time was 9:25 am.

****

4. **ADJOURNMENT.**

Council returned from closed session at 10:10 a.m. With no further business to be discussed, Mayor C. Michael Sobol adjourned the meeting.

_____ _____

C. Michael Sobol, Mayor Wesley M. Barker, Town Clerk

DRAFT

BLACK MOUNTAIN TOWN COUNCIL MINUTES

July 9, 2026 | Special Meeting Agenda | Time: 5:00 PM

Town Hall Council Chambers | 160 Midland Avenue, Black Mountain, NC 28711

Black Mountain Town Council held their special meeting agenda on Thursday, July 9, 2026, at 5:00 PM in the Council Chambers of Town Hall, 160 Midland Avenue, Black Mountain, NC 28711.

1. CALL TO ORDER

Mayor C. Michael Sobol called the meeting to order at 5:01 p.m. with the following members in attendance: Town Council Member Alice Berry, Council Member Larry Harris, Town Council Member Ryan Stone. Vice Mayor Archie Pertiller was absent.

The following staff members were present: Interim Town Manager Richard Hicks; Town Clerk Wesley Barker; Fire Chief John Coffey; Recovery & Capital Programs Director Matt Begley. Land of Sky Regional Council Recovery Project Manager Clarity Collins was also present.

2. PUBLIC HEARING

2.A. Submission of an Application to the US Dept. of Housing & Urban Development (HUD) Community Development Block Grant Disaster Recovery (CDBG-DR) Program for Restoring and Repairing the Black Mountain Center for the Arts Building.

The Town of Black Mountain will hold a public hearing to receive public comments on a proposed application for Community Development Block Grant – Disaster Recovery (CDBG-DR) funding. The Town's intent to submit a CDBG-DR application for restoring and repairing the Black Mountain Center for the Arts building. This public hearing is to satisfy requirements for this grant submission process. The public comment period has been open from June 25, 2026, through July 9, 2026, and notice of this hearing was published in the Black Mountain News on June 25, 2026.

Town Council Member Ryan Stone made a motion to open the public hearing for public comment on the proposed CDBG-DR funding application submission. A vote of 3-0 in favor. Vice Mayor Archie Pertiller was absent. The time was 5:02 p.m. No public comments were given. Council Member Larry Harris made a motion to close the public hearing on the proposed CDBG-DR funding application submission. A vote of 3-0 in favor.

The Council is to consider a resolution authorizing the submission of an application to the US Department of Housing and Urban Development (HUD) Community Development Block Grant Disaster Recovery (CDBG-DR) competitive grant program for restoring and

repairing the Black Mountain Center for the Arts building. The proposed amount for the application is $3,780,000. Recovery & Capital Programs Director Matt Begley and to close the public hearing on the proposed CDBG-DR funding application submission.

Town Council Member Larry Harris made a motion to approve the submission of the application for the HUD CDBG-DR grant program as presented and recommended. A vote of 3-0 in favor. Vice Mayor Archie Pertiller was absent.

A RESOLUTION AUTHORIZING TOWN STAFF TO SUBMIT AN APPLICATION FOR THE UNITED STATES DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT (HUD) COMMUNITY DEVELOPMENT BLOCK GRANT DISASTER RECOVERY (CDBG-DR) GRANT PROGRAM FOR THE BLACK MOUNTAIN CENTER FOR THE ARTS

RESOLUTION NO. # R-26-53

WHEREAS, Tropical Storm Helene caused extensive damage to Town of Black Mountain properties; and

WHEREAS, the Black Mountain Center for the Arts building experienced extensive flooding during Helene; and

WHEREAS, the building has several issues limiting the use and accessibility of the building, including damage to its elevator; and

WHEREAS, the project to repair and floodproof the building falls within the eligibility of the CDBG-DR program; and

WHEREAS, the Land of Sky Regional Council has offered to assist the Town of Black Mountain with this application; and

WHEREAS, the Town has received a Preliminary Architecture Report detailing estimated construction costs; and

WHEREAS, the Town is in discussion with the architects about further items which may need to be added or removed; and

WHEREAS, the initial costs provided did not include design costs, document preparation, construction management, or administrative costs; and

WHEREAS, the Town expects these components to add further costs to the project which will be included in the CDBG-DR grant application; and

WHEREAS, Town expects the total project costs to be roughly $3,780,000 for the Black Mountain Center for the Arts building and activities associated with the repairs;

DRAFT

NOW, THEREFORE, BE IT RESOLVED BY THE TOWN COUNCIL OF THE TOWN OF BLACK MOUNTAIN:

1. That the Town of Black Mountain is authorized to submit a formal application to the CDBG-DR grant program for repairing the Black Mountain Center for the Arts building.
2. That the Town Manager (or designee) is authorized to execute and file the application, including all assurances and agreements required, on behalf of the Town of Black Mountain.

This Resolution shall take effect immediately upon its adoption.

Approved this the 9th day of July 2026.

****

3. NEW BUSINESS

3.A. Consideration of Submission of a Sub-application to FEMA Building Resilient Infrastructure and Communities (BRIC) Grant Program for a Replacement Public Safety Building.

The Town Council will consider a resolution authorizing the submission of a sub-application to the FEMA Building Resilient Infrastructure and Communities (BRIC) FY2024-25 competitive grant program for construction of a new combined fire, police, and EMS facility at a donated state parcel on North Fork Road. The resolution also commits non-federal match funds from identified local sources as required by the grant program.

Matt Begley, Town Recovery and Capital Programs Director, and Clarity Collins, Recovery Project Manager with the Land of Sky Regional Council, presented this item to Council and answered questions. Ms. Collins gave a brief overview of the BRIC program and also explained what the engineers have concluded about the current public safety building as it related to Hurricane Helene damage, noting that the entire building's current state was not caused solely by the storm, rather, the pipe underneath was impacted by the significant rainfall and was in need of replacement, which exasperated the building's structural state. Ms. Collins stated that BRIC's program is to reduce risks from natural hazards, and the Town would be asking FEMA for relocation of the public safety building due to geological issues where the current building is located and that it is deemed a hazard. Ms. Collins emphasized this is a mitigation, not a recovery grant. Further discussion ensued and staff indicated this application submittal is preliminary, and the Town may not even receive it, but it gives the Town options to explore if it is received. Mr. Begley noted that this is the last year for the BRIC program and is a one-time opportunity to pursue these funds for this project. The use of engineering firms was briefly discussed.

DRAFT

Council Member Larry Harris made a motion to authorize staff to submit an application for the FEMA BRIC Grant Program for a replacement Public Safety facility as presented. A vote of 3-0 in favor. Vice Mayor Archie Pertiller was absent.

A RESOLUTION AUTHORIZING TOWN STAFF TO SUBMIT AN APPLICATION FOR THE FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA) BUILDING RESILIENT INFRASTRUCTURE AND COMMUNITIES (BRIC) GRANT PROGRAM FOR A REPLACEMENT PUBLIC SAFETY FACILITY

RESOLUTION NO. # R-26-54

WHEREAS, Tropical Storm Helene caused extensive damage to the Town of Black Mountain Public Safety Building; and

WHEREAS, the Town is currently appealing the denial determination from FEMA Public Assistance for the building; and

WHEREAS, even if successful, FEMA PA funding will not cover the majority of funding needed to adequately repair or replace the current facility; and

WHEREAS, the State has donated property on North Fork Road to the Town restricted to public safety uses; and

WHEREAS, the Land of Sky Regional Council has offered to assist the Town of Black Mountain with this application; and

WHEREAS, the BRIC program requires local and State matching funds (25% of total project costs – estimated to be approximately $5M), which the Town intends to be sourced from a combination of the value of the parcel proposed as the intended site, NC OSBM grant funding, future departmental allocations, fund balance in the Helene Recovery Fund, and any other appropriate state funding; and

WHEREAS, the Town Council wishes to pursue a formal application to cover costs associated with engineering, construction, site preparation, and other activities associated with constructing a replacement facility for Town of Black Mountain Public Safety services;

NOW, THEREFORE, BE IT RESOLVED BY THE TOWN COUNCIL OF THE TOWN OF BLACK MOUNTAIN:

1. That Land of Sky on behalf of the Town of Black Mountain is authorized to develop and submit a formal application to the FEMA BRIC program for funding a replacement public safety facility.
2. That the Town Manager (or designee) is authorized to execute and file the application, including all assurances and agreements required, on behalf of the Town of Black Mountain.

This Resolution shall take effect immediately upon its adoption.

Approved this the 9th day of July 2026.

****

3.B. Agenda Review for the July 13, 2026 Monthly Council Meeting.

Interim Town Manager Richard Hicks reviewed the proposed agenda items for the July 13, 2026 monthly Council meeting with the Town Council. With no changes, ***Town Council Member Ryan Stone made a motion to approve the July 13, 2026 Town Council meeting agenda as presented. A vote of 3-0 in favor. Vice Mayor Archie Pertiller was absent.***

****

4. ADJOURNMENT

With no further business to be discussed, Mayor C. Michael Sobol adjourned the meeting at 5:40 p.m.

_____
C. Michael Sobol, Mayor

Attest: _____
Wesley M. Barker, Town Clerk

DRAFT

BLACK MOUNTAIN TOWN COUNCIL MINUTES

July 13, 2026 | Regular Session Agenda | Time: 6:00 PM

Town Hall Council Chambers | 160 Midland Avenue, Black Mountain, NC 28711

Black Mountain Town Council held their regular session agenda on Monday, July 13, 2026, at 6:00 PM in the Council Chambers of Town Hall, 160 Midland Avenue, Black Mountain, NC 28711.

1. CALL TO ORDER

Mayor C. Michael Sobol called the meeting to order at 6:00 p.m. with the following members in attendance: Vice Mayor Archie Pertiller, Town Council Member Alice Berry, Council Member Larry Harris, Council Member Lawrence Lytle (joined after he was officially sworn in at the organizational meeting), Town Council Member Ryan Stone.

The following staff members were present: Interim Town Manager Richard Hicks; Town Clerk Wesley Barker; Fire Chief John Coffey; Deputy Police Chief Chris Kuhn; Recreation & Parks Director Jacob Guiot; Planning Director Michelle Kennedy; Recovery & Capital Programs Director Matt Begley; Planner & Zoning Administrator Russell Cate; Stormwater Technician & Floodplain Administrator Anne Phillip; Senior Admin Jennifer Tipton; Interim Project Manager Chad Goins.

Mayor Sobol led those in attendance in the pledge of allegiance and a moment of silence, then read the ethics statement.

Council Member Alice Berry announced she had a conflict with item number 12.E. on the agenda entitled "Concur with NCDOT Award of Bid for Ninth Street Bridge Project," and would excuse herself when this item was discussed.

2. ORGANIZATIONAL MEETING

2.A. Appointment to Fill the Vacant Seat on the Town Council

The Council began with an Organizational Meeting to appoint and fill the vacant seat on the Town Council that was vacated by Doug Hay who resigned from the Town Council on June 30, 2026.

The Town Charter states: “If the elected mayor or an elected councilmember shall fail or refuse to be qualified, or if the holder of any elective office is unable to discharge the duties of such office, or if a vacancy shall otherwise occur in any elective office, such vacancy shall be filled by the remaining members of the council. In the event such vacancy occurs within 135 days of the next general election, the person appointed by the council to fill the vacancy shall serve the

remainder of the unexpired term. Otherwise, a successor shall be elected at the next general election and the person appointed to fill the vacancy shall serve only until the elected successor takes office. The elected successor shall then serve the remainder of the unexpired term."

**based on the charter and the date when the council vacancy occurred (6/30/26) until the next general election (11/3/26), the number of days was within 135 days of the next general election, therefore the person appointed to fill this vacancy shall serve the remainder of this unexpired term which expires December 2028.

Previously, when a vacancy occurred on the Council, the remaining Council members decided to advertise the vacant seat and invited interested citizens to apply for this vacant seat. The only three requirements for appointing an individual for a Council seat are that they must be 1) a registered voter in Buncombe County, 2) live in the municipal limits of Black Mountain, and 3) be 21 years of age or older. Once the applications were received, Council would review and, in an open meeting, the applicant would be chosen by nomination, or via ballot voting method, with the majority vote being the nominee for appointment.

The Town Council directed the Town Clerk to advertise for this vacancy and seek interested applicants, with the application period open from June 30th through July 10th, 2026. The following citizens submitted an application, or those who applied for the vacant seat in May 2026, requested their application to be considered once again (in alphabetical order): Paul Haynes, Shane Lunsford, Lawrence Lytle, Debra Norman, Cheryl Milton, Lisa Raleigh, John Richardson, Michael Roberts, Sharon Tabor, Brittany Williams.

Council then proceeded to vote via ballot for the vacant seat. The Town Clerk reported that there was no consensus on a majority after the first round of votes with the following applicants receiving a vote: Lawrence Lytle, Cheryl Milton, Lisa Raleigh, Brittany Williams. The Town Attorney advised that the Council should vote again to see if a consensus could be reached. After the second round of votes, a majority vote prevailed with the following applicants receiving votes: Lawrence Lytle (3 votes) and Lisa Raleigh (1 vote). **A copy of the ballots are included at the end of these minutes as Appendix A.**

****

2.B. Administration of the Oath of Office to the Appointed Council Member

Mr. Lawrence Lytle was then called up to be issued the oath of office as Town Council member by the Town Clerk. Council Member Lytle then took a seat at the dais.

2.C. Appointment to the Black Mountain-Swannanoa Chamber of Commerce Executive Board- Primary Member

Former Council Member Doug Hay was the Town Council's appointed primary delegate for the Black Mountain-Swannanoa Chamber of Commerce's Executive Board. Council Member Alice Berry is the current alternate delegate. Council discussed appointing a

member as the primary delegate. ***Council Member Larry Harris made a motion to appoint Lawrence Lytle as the primary delegate to the Black Mountain-Swannanoa Chamber of Commerce Board. A vote of 5-0 in favor.***

2.D. Appointment to Land of Sky Regional Council Board of Directors - Alternate Delegate

Former Council Member Doug Hay served as the alternate delegate to the Land of Sky Regional Council Board of Directors. At the May 11, 2026 Council meeting, Council Member Larry Harris was appointed as the primary delegate to this board. Council considered an alternate delegate appointment who would attend the meeting if Council Member Harris were unable. ***Vice Mayor Archie Pertiller made a motion to appoint Lawrence Lytle to the Land of Sky Regional Council Board of Directors as the alternate delegate. A vote of 5-0 in favor.***

2.E. Appointment to the Friends of Fonta Flora State Trail Board of Directors - Alternate Delegate

Former Council Member Doug Hay served as an alternate delegate to the Friends of the Fonta Flora State Trail Board. Mayor Sobol is the current primary delegate to this board. Council discussed an alternate delegate to attend these meetings for the Town, if Mayor Sobol is unable to. ***Council Member Larry Harris made a motion to appoint Lawrence Lytle to the Friends of Fonta Flora State Trail Board of Directors as the alternate delegate. A vote of 5-0 in favor.***

****

3. PROCLAMATIONS, AWARDS, RECOGNITIONS, SPECIAL RESOLUTIONS

3.A. Resolution Recognizing Doug Hay for his service to the Town of Black Mountain.

Council Member Alice Berry read a resolution recognizing Doug Hay for his service to the Town as a Council Member.

Council Member Larry Harris made a motion to approve the resolution as presented and read. A vote of 5-0 in favor.

A RESOLUTION OF THE TOWN COUNCIL RECOGNIZING DOUG HAY FOR HIS SERVICE TO THE TOWN OF BLACK MOUNTAIN
RESOLUTION NO. # R-26-57

WHEREAS, Doug Hay faithfully served the citizens of the Town of Black Mountain as a member of the Town Council from December 2020 through June 2026; and

WHEREAS, throughout his tenure, Doug demonstrated a steadfast commitment to public service through thoughtful leadership, careful consideration of issues, and informed decision-making in the best interests of the Town, its citizens, and staff; and

WHEREAS, Doug's passion for recreation and public safety, together with his dedicated leadership during the Town's response to Hurricane Helene, particularly in supporting Town services, residents, and employees, exemplified his commitment to the Black Mountain community; and

WHEREAS, Doug represented the Town with distinction through his service on the Black Mountain-Swannanoa Chamber of Commerce Board, the Land of Sky Regional Council Board of Delegates, and the Friends of Fonta Flora State Trail Board; and

WHEREAS, the Town Council wishes to formally recognize and express its sincere appreciation for Doug's commitment, service, and contributions to the Town of Black Mountain and its citizens;

NOW, THEREFORE, BE IT RESOLVED that the Black Mountain Town Council hereby wishes to formally recognize and express our gratitude and appreciation to Doug Hay for his dedicated service and sends best wishes all future endeavors.

ADOPTED by the Black Mountain Town Council this 13th day of July 2026.

****

4. COMMUNICATIONS FROM STAFF, COUNCILS, COMMISSIONS & AGENCIES

4.A. Salvation Army of Buncombe County Presentation.

Captain Sherrie Stokes, Corps Officer with The Salvation Army North & South Carolina Division, Asheville Corps, and her husband, Phillip Stokes, provided a presentation to the Council about the Salvation Army's presence in Buncombe County, with regard to Social Services, Financial Assistance, Prevention of Homelessness, the Center of Hope, Community Center, and Community Care (visitation to local shut-ins & nursing home facilities).

****

4.B. Update on the BearWise Recognized Community Program.

Planning Director Michelle Kennedy and Jill Bielawski spoke to the Council on the BearWise Program for Black Mountain. Ms. Kennedy stated that Town staff has implemented the following initial steps:

- **Citizen Engagement** - Black Mountain has for many years had a voluntary group of residents utilizing BearWise best practices. Members of that group have now become the inaugural Town BearWise advisory group. This group will work alongside Town staff to establish a community action plan that includes community based educational programming, outreach materials, establishment of a bear sighting/encounter protocol and other BearWise practices. It is the goal of the

advisory group to work with Town staff in helping Black Mountain become a Recognized Bear Wise Community.

- **BearWise Ordinances** – After discussion with NC Wildlife Resources Commission staff, the Planning Department recommends establishing ordinances that are consistent with existing ordinances in the City of Asheville and Buncombe County. These ordinances include trash regulations, nuisance and wildlife feeding ordinances. We anticipate final ordinance recommendations to Council for the August 2026 meeting, to include:
    - Bear resistant trash container requirements
    - Time restrictions on placement of trash placed on curb for collection
    - Construction site trash containment
    - Wildlife feeding protocols
    - Progressive fines – beginning with education and warnings and progressing to fines for repeat violations

****

4.C. Presentation on the Fairway Dr. / Tomahawk Ave. Stormwater Project.

Matt Begley, Recovery & Capital Programs Director and Anne Phillip, Stormwater Technician & Floodplain Administrator, presented on the Fairway Dr./Tomahawk Ave. stormwater project giving an overview of, and the status of, the project.

****

5. CITIZEN COMMENTS

- Matthew Deforest spoke in support of the proposed bear ordinances, noting the issues when trash is left out for the bears to get into.
- Ken Floyd, President of the Black Mountain-Swannanoa Chamber, spoke about a recent Chamber business survey that was conducted with Black Mountain businesses.
- Cheryl Pitt, spoke in support of bear ordinances.
- Paul Langston and Richard Weeks both spoke about the Baptists on Mission organization and their Black Mountain location on Montreat Rd.
- Frank Cappelli spoke about continued concerns with Town staff.
- Cheryl Hyde, Black Mountain-Swannanoa Chamber Director, spoke about small businesses and the need for more communication from elected officials to these business owners.
- John Richardson spoke about the continued challenges with Town staff and his business.

****

6. COMMUNICATION FROM MAYOR AND TOWN COUNCIL- none.

7. COMMUNICATION FROM TOWN ATTORNEY & TOWN MANAGER

Town Attorney Craig Justus provided a brief update on the State's adopted budget and

some new legislative rules that would impact off-street parking rules and requirements for communities.

****

8. CONSENT AGENDA

8.A. Adoption of Meeting Minutes: May 7, 11, 20, 21, 27, 28, 2026 and June 1, 4, 2026.

Vice Mayor Archie Pertiller made a motion to approve the meeting minutes as presented. A vote of 5-0 in favor.

****

8.B. Monthly Tax Collector Report.

Vice Mayor Archie Pertiller made a motion to approve the tax collector report as presented. A vote of 5-0 in favor.

****

8.C. Resolution to Adopt 2026 Buncombe Madison Hazard Mitigation Plan.

State and Federal requirements state that Buncombe County, Madison County, and the jurisdictions within those counties adopt the new Regional Hazard Mitigation Plan in order for the plan to be approved and considered "in force" with NCEM and FEMA. This is critical to the ability to request funding after a hazard of significance occurs. Below is an outline which provides a summary of changes and enhancements from the 2021 plan.

1. **Comprehensive Hurricane Helene integration throughout the plan**: Recovery impacts, lessons learned, and observed damages were incorporated into the planning process, risk assessment, capability assessment, and mitigation strategy.
2. **Integration of recovery data, planning and resilience initiatives**: Mitigation actions were cross-referenced with local recovery efforts, including Envision Buncombe, the Helene Recovery Plan, MARC, Rebuild Hot Springs, Marshall Relief Alliances, and other regional recovery initiatives. Added an Appendix that documents some of the post-Helene assessments and recovery efforts that are used in (or used to inform) the plan update.
3. **New linkage between mitigation actions and recovery priorities**: Each mitigation action was reviewed for alignment with recovery goals, resilience objectives, and ongoing implementation efforts.
4. **Updated community engagement approach**: Public and stakeholder outreach methods were adapted to account for ongoing Helene recovery, emphasizing flexible and accessible participation opportunities coordinated closely with ongoing local outreach efforts.
5. **Addition of Substantial Damage Estimates (SDE) procedures**: New FEMA requirements/guidance were implemented, including substantial damage determination

processes and post-disaster floodplain management capabilities.
6. **Changes to summary conclusions on hazard risk**: Hurricanes/coastal hazards, wildfires and excessive heat increase from moderate risk to high-risk hazards based on findings from hazard profiles and input received from the hazard mitigation planning committee. Radiological emergencies and terrorism hazards increased to moderate risk from previous low-risk designation. Added two new hazards: food emergencies (moderate risk) and civil disturbance (low risk).

Vice Mayor Archie Pertiller made a motion to approve the resolution to adopt the 2026 Buncombe-Madison Hazard Mitigation Plan as presented. A vote of 5-0 in favor.

RESOLUTION TO ADOPT THE 2026 BUNCOMBE MADISON REGIONAL HAZARD MITIGATION PLAN

RESOLUTION NO. # R-26-59

WHEREAS, Buncombe County and Madison County are vulnerable to an array of hazards that can cause loss of life and damages to public and private property; and

WHEREAS, the Town of Black Mountain, along with both counties, desires to work together and seek ways to mitigate situations that may aggravate such circumstances; and

WHEREAS, the development and implementation of a hazard mitigation plan can result in actions that reduce the long-term risk to life and property from natural hazards; and

WHEREAS, it is the intent of this Council to protect its citizens and property from the effects of natural hazards by preparing and maintaining a local hazard mitigation plan; and

WHEREAS, it is also the intent of this Council to fulfill its obligation under North Carolina General Statutes, Chapter 166A: North Carolina Emergency Management Act and Section 322: Mitigation Planning, of the Robert T. Stafford Disaster Relief and Emergency Assistance Act to remain eligible to receive state and federal assistance in the event of a declared disaster affecting the Town of Black Mountain; and

WHEREAS, the Town of Black Mountain, in coordination with Buncombe County, Madison County and the other participating municipalities within those counties, has prepared a multi-jurisdictional hazard mitigation plan with input from the appropriate local and state officials; and

WHEREAS, the North Carolina Emergency Management and Federal Emergency Management Agency have reviewed the Buncombe Madison Regional Hazard Mitigation Plan for legislative compliance and has approved the plan pending the completion of local adoption procedures.

NOW, THEREFORE, BE IT RESOLVED by the Black Mountain Town Council as follows:

1. That this Council hereby adopts the 2026 Buncombe Madison Regional Hazard Mitigation Plan.

2. That this Council agrees to take such other official action as may be reasonably necessary to carry out the proposed action of the Plan.
3. That this resolution shall be effective upon its adoption.

APPROVED AND ADOPTED by the Black Mountain Town Council this the 13th day of July 2026.

****

8.D. Call for Public Hearing for One-Year Moratorium for Street Dedications to the Town.

The Town Council asked staff to draft language to impose a one-year moratorium on street dedications to the town due to current budget constraints and potential staffing concerns that would potentially be required for maintenance of extra public streets.
Council will call for a public hearing to be held on Monday, August 10th, 2025 at 6:00 p.m. to hear any public comments on this proposed one-year moratorium. ***Vice Mayor Archie Pertiller made a motion to call for a public hearing on Monday, August 10, 2026 at 6:00 p.m. at Town Hall on amending Ch. 3, Sec. 3.6.3 of the Land Use Code to impose a one-year moratorium on dedication of streets to the Town. A vote of 5-0 in favor.***

****

8.E. Resolution to Award Town Drinking Water Resiliency Improvements Project A&E to McGill Associates.

Town Council will consider a resolution to approve the award of the Drinking Water Resiliency Improvements Project design and engineering to McGill Associates, Inc. and authorize Town staff to enter into contract negotiations with McGill Associates, Inc.

Vice Mayor Archie Pertiller made a motion to approve the following resolution. A vote of 5-0 in favor.

A RESOLUTION TO AWARD THE TOWN DRINKING WATER RESILIENCY IMPROVEMENTS PROJECT DESIGN & ENGINEERING TO MCGILL & ASSOCIATES, INC.

RESOLUTION NO. # R-26-56

WHEREAS, the Town is undergoing the approval process for a State Revolving Fund (SRF) loan through the North Carolina Division of Water Infrastructure (DWI) to modernize and repair the Town's water system; and

WHEREAS, this project will be referenced as the Drinking Water Resiliency Improvements SRF Project; and

WHEREAS, the first requested amount for this program is $4,886,922.00; and

WHEREAS, the first $5M of SRF loan funding is considered a 100% forgivable loan; and
WHEREAS, Town staff have scored the statements of qualification for the project submitted by engineering firms interested in performing design and engineering services for the project; and

WHEREAS, the most qualified firm was determined to be McGill & Associates, Inc; and

WHEREAS, the Town intends to pursue this grant-funded project to modernize and repair the Town's water system.

NOW, THEREFORE, BE IT RESOLVED BY THE TOWN COUNCIL OF THE TOWN OF BLACK MOUNTAIN THAT:

1. The Town Council of the Town of Black Mountain affirms that McGill & Associates, Inc. is the most qualified firm for designing and engineering the Drinking Water Resiliency Improvements project.

2. The Interim Town Manager, and/or a designee(s) thereof, is authorized to enter into contract negotiations with McGill & Associates, Inc. to design and engineer the Town's Drinking Water Resiliency Improvements Project, which will be brought before Town Council for subsequent consideration.

This Resolution shall take effect immediately upon its adoption.

ADOPTED this 13th day of July 2026.

****

8.F. Resolution Authorizing Town Staff to Pursue the Design for Decommissioning the Lower Watershed Dam.

The Town Council will consider a resolution authorizing staff to pursue the option to decommission the Lower Watershed Design. S&ME, the Engineers on the project, estimate the cost of decommissioning will be lower than the obligated amount from FEMA PA for the project. FEMA will make a decision on whether decommissioning is an approved alternate project based on the designs. However, initial conversations around the concept have shown signs of being a good option. Any cost savings on the actual cost of the project below the obligated amount may be used on other small projects (FEMA PA projects under $1M) or on improvements in the area around the footprint of the project. The design costs for the project fall within the schedule and fees Council has previously approved for the project, so no budgetary changes are required.

Vice Mayor Archie Pertiller made a motion to approve the following resolution. A vote of 5-0 in favor.

A RESOLUTION AUTHORIZING TOWN STAFF TO PURSUE THE DESIGN FOR DECOMISSIONING THE LOWER WATERSHED DAM

RESOLUTION NO. # R-26-58

WHEREAS, Tropical Storm Helene caused extensive damage to the Lower Watershed Dam; and

WHEREAS, FEMA Public Assistance has obligated $217,153.12 for the project; and

WHEREAS, the Lower Watershed Dam does not have an apparent value for the Town's water or stormwater infrastructure; and

WHEREAS, decommissioning the Lower Watershed Dam would decrease future financial liabilities for the Town to maintain the dam infrastructure and allow for a natural flow of the stream; and

WHEREAS, the Town and the engineers for the project have determined the Lower Watershed Dam is below the regulatory threshold volume for the US Army Corp of Engineers; and

WHEREAS, the engineers for the project have estimated the cost for decommissioning the dam would be lower than the obligated amount; and

WHEREAS, cost savings on FEMA PA small projects (under $IM) can be allocated to other FEMA PA small projects or improvements around the footprint of the project.

NOW, THEREFORE, BE IT RESOLVED BY THE TOWN COUNCIL OF THE TOWN OF BLACK MOUNTAIN:

1. That the Town of Black Mountain is authorized to direct engineers to initiate the design of the decommissioning of the Lower Watershed Dam.

2. That the Town Manager (or designee) is authorized to execute and file the task order and any other assurances and agreements required to authorize the design of the Lower Watershed Dam decommissioning, on behalf of the Town of Black Mountain.

This Resolution shall take effect immediately upon its adoption.

Approved this the 13th day of July 2026.

****

9. PUBLIC HEARING – NONE

Council took a five-minute recess at 7:47 p.m.

10. CITIZEN COMMENTS

- Frank Cappelli spoke about the 1114 Montreat Rd. extension of temporary use emergency housing and his concerns with the tenants and his family's privacy.

- Will Troxler, owner of Camp Meri-Mac, provided comments about the 1114 Montreat Rd. property.
- Richard Weeks, NC Baptist on a Mission provided comments about the extension of the temporary use emergency housing.

****

11. UNFINISHED BUSINESS – NONE

****

12. NEW BUSINESS

12.A. Request from Baptist on Mission for One-Year Extension of Temporary Use Emergency Housing at 1114 Montreat Road.

Planning Director Michelle Kennedy and Zoning Administrator Russell Cate spoke on this item. The temporary use of emergency housing ordinance, item C in Section 5.18.2 (General Provisions) of Section 5.18 (Emergency Housing) of the Land Use Code, was adopted on January 13, 2025 by Council, and was created after Hurricane Helene to help groups, organizations, and individuals who wish to provide housing or need housing. Within the text, the provision was added to allow for a one-year extension that could be granted by the Zoning Administrator. However, no criteria was added to aid that decision. In light of that, staff would like the Council to discuss the one-year extension.
Staff will look at possible language for a future text amendment to correct this oversight. Discussion ensued between Council and staff, and Council would not be approving this extension, as the text states that decision lies with the Zoning Administrator, staff just wanted to receive any guidance from the Council.

****

12.B. Consideration of Resolution Approving the Financing Terms for the Purchase of a Fire Truck.

Interim Town Manager Richard Hicks stated the Town Council approved the purchase of a 1500 GPM Mini Pumper Fire Truck from Custom Fire Apparatus, Inc. in 2025. Staff anticipates the truck being delivered in September, 2026. Before his departure, Scott Buffkin, Interim Assistant Town Manager, reached out to several financial institutions to obtain quotes on the financing of the vehicle. The submitted rates were as follows:

- First Bank 5.31% (Subject to Change at Closing).
- Civic Federal Credit Union 5.32%.
- Pinnacle Financial Partners 4.65%.

The loan amount requested was $450,000 for 59 months. Funds are included in the FY 26/27 to cover the costs of the loan payments. Council Member Stone spoke on the need for a vehicle fleet inventory which would be beneficial for current and future Council members.

Council Member Larry Harris made a motion to approve the resolution approving the financing terms for the purchasing of the fire truck as presented and recommended. A vote of 5-0 in favor.

TOWN OF BLACK MOUNTAIN, NORTH CAORLINA
RESOLUTION APPROVING FINANCING TERMS FOR VEHICLE PURCHASE

RESOLUTION NO. # R-26-55

WHEREAS: The TOWN OF BLACK MOUNTAIN ("Borrower") has previously determined to undertake a project for the financing of a **1500 GPM (gallons per minute) Mini-Pumper Fire Truck**, and the Finance Officer has now presented a proposal for the financing of such Project.

BE IT THEREFORE RESOLVED, as follows:

1. The Borrower hereby determines to finance the Project through **Pinnacle Financial Partners ("Lender")** in accordance with the proposal dated June 9, 2026. **The amount financed shall not exceed $450,000, the annual interest rate (in the absence of default or change in tax status) shall not exceed 4.65% and the financing term shall not exceed fifty-nine (59) months from closing.**

2. All financing contracts and all related documents for the closing of the financing (the "Financing Documents") shall be consistent with the foregoing terms. All officers and employees of the Borrower are hereby authorized and directed to execute and deliver any Financing Documents, and to take all such further action as they may consider necessary or desirable, to carry out the financing of the Project as contemplated by the proposal and this resolution.

3. The Finance Officer is hereby authorized and directed to hold executed copies of the Financing Documents until the conditions for the delivery of the Financing Documents have been completed to such officer's satisfaction. The Finance Officer is authorized to approve changes to any Financing Documents previously signed by Borrower officers or employees, provided that such changes shall not substantially alter the intent of such documents or certificates from the intent expressed in the forms executed by such officers. The Financing Documents shall be in such final forms as the Finance Officer shall approve, with the Finance Officer's release of any Financing Document for delivery constituting conclusive evidence of such officer's final approval of the Document's final form. **The Interim Town Manager is hereby authorized to execute any and all loan documents.**

4. The Borrower shall not take or omit to take any action the taking or omission of which shall cause its interest payments on this financing to be includable in the gross income for federal income tax purposes of the registered owners of the interest payment obligations. Borrower hereby designates its obligations to make principal and interest payments under the Financing Documents as "qualified tax-exempt obligations" for the purpose of Internal Revenue Code Section 265(b)(3).

5. The Borrower intends that the adoption of this resolution will be a declaration of the Borrower's official intent to reimburse expenditures for the Project that are to be financed from the proceeds of the Lender financing described above. The Borrower intends that funds that have been advanced, or that may be advanced, from the Borrower's general fund or any other Borrower fund related to the Project, for project costs may be reimbursed from the financing proceeds.

6. All prior actions of Borrower officers in furtherance of the purposes of this resolution are hereby ratified, approved and confirmed. All other resolutions (or parts thereof) in conflict with this resolution are hereby repealed, to the extent of the conflict. This resolution shall take effect immediately.

APPROVED this the 13th day of July 2026.

****

12.C. Technical Response Regrading Alleged Use of Email Draft Folders to Avoid Public Records Request.

Interim Town Manager Hicks reported that, following a citizen allegation regarding the possible use of email draft folders to avoid public records requests, the Town's IT provider recommended a limited Microsoft 365 configuration and audit review at a quoted cost of $2,300.50. Advanced Data & Network Solutions concluded that routine covert communication through draft folders appears technically unlikely but noted that a limited review could identify suspicious indicators and help determine whether a broader independent forensic review is warranted.

Discussion between Council and staff ensued. When called for a vote, no motion was made to move forward with this technical review.

****

12.D. Consideration of Award of Bid for Highway 70 Waterline Project.

In November of 2022, the Council appropriated $500,000 for the Highway 70 Waterline Project. The funds were originally appropriated from the Town's ARPA funds. I believe the Town ultimately obligated all of the remaining ARPA funds by reimbursing the Town for salaries. Based on current and projected expenditures, staff recommends the following budget:

- Civil Design Concepts (Current Expenditures) $ 93,191.00
- Land of Sky Regional Council (Current Expenditures) $ 11,450.00
- Cooper Construction Co., Inc. $ 796,345.00
- Contract Administration $ 9,000.00
- Construction Observation/Inspection $ 17,500.00
- Closeouts $ 5,000.00

- Contingency $ 50,000.00
- Local Project Management $ 7,500.00

Total Cost: $989,986.00

This leaves a balance of $489,986 that will need to be appropriated. Within the next few weeks, FEMA will be reimbursing the water fund just over $900,000 for expenses the town incurred after Helene. My recommendation would be to use a portion of those funds to cover the balance of $489,986. Staff will prepare a formal budget amendment for your approval at the August meeting. With the award of the bids, the contractor can begin getting their payment and performance bonds in place, execute the contract and other necessary documents. All of this will probably take 30-60 days to complete and will give staff time to prepare the budget amendments.

Council Member Larry Harris made a motion to award the bids for the Highway 70 waterline project to Cooper Construction Company, Inc. in the amount of $796,345. A vote of 5-0 in favor.

****

12.E. Concur with NCDOT Award of Bid for Ninth Street Bridge Project.

Council Member Berry recused herself from the Ninth Street Bridge Project discussion due to a conflict. Interim Town Manager Hicks reviewed updated project costs totaling **$1,957,367**, with the Town's 20% match estimated at **$391,527**. After accounting for a prior **$136,000** appropriation, the Town would need an additional **$255,527**, with possible funding sources including the General Fund Capital Reserve and Powell Bill funds. Hicks noted that some previously paid costs may be reimbursable if the project proceeds, but reimbursement and additional engineering obligations were uncertain if the project is canceled. Additional federal funds have been secured, and canceling the project could affect future funding requests. If Council proceeds, staff can bring a budget amendment in August, while NCDOT must award bids by **July 15, 2026**.

Council Member Larry Harris made a motion that Council concurs with the award of bids on the Ninth Street Bridge Project to Kemp Sigmon Construction in the amount of $1,184,032 and to come back with budget amendment based on three options in August 2026. A vote of 5-0 in favor.

****

12.F. Update on Reactivating Town Wells.

Staff reached out to Rachael Kramer with KACE Environmental, Inc., regarding the steps necessary to reactivate the 2 wells that were turned off several years ago. She has been handling the Town's water samples for years. She did recall that Well #1 at the Golf Course had a fairly consistent detection of herbicides and a hit and miss detection of pesticides.

Based on this information, the initial first year cost for both wells would be $91,694.Staff reported that reactivating the two inactive wells would require State approval, new testing protocols, and replacement equipment. Initial testing would cost **$20,510**, with first-year testing and equipment costs bringing the estimated total first-year cost to **$91,694**. Staff also noted prior herbicide and pesticide detections at Well #1, potential ongoing monitoring or treatment requirements, and public perception concerns related to any detected contaminants.

Council Member Larry Harris made a motion to approve initial testing of the two inactive wells and let the Town Manager work through the formal bids/quotes. A vote of 4-1 in favor. Council Member Alice Berry opposed.

****

12.G. Advisory Boards & Commissions Appointments.

1) **ABC Board Appointment & ABC Board Chair Appointment.**

The Black Mountain ABC Board is composed of three members who are appointed by the Town Council. Each member serves three-year terms. Larry Harris served on the ABC Board, but his term has now expired (July 2026). Larry does not wish to seek a second term on the ABC Board, which leaves a vacant seat. One application was received for the ABC Board from Melisa Pressley, and that application is attached. Council should review and choose to appoint Melisa or continue advertising for more applicants. The appointed member's term will expire in July 2029. Council will also need to appoint an ABC Board member as chair as Larry Harris was the previous chair. Appointment and organization of local ABC Boards are governed under NC General Statutes §18B-700. ***Council Member Larry Harris made a motion to appoint Melisa Pressley to the ABC Board for a three-year term to expire July 2029. A vote of 5-0 in favor. Council Member Larry Harris made a motion to appoint Sharon Tabor as the ABC Board Chair. A vote of 5-0 in favor.***

2) **Planning Board Appointment.**

The Black Mountain Planning Board consists of seven (7) members each serving three-year staggered terms. Over the last couple years, some of the Planning Board members' terms have been extended by one-year at a time by the Council while the Unified Development Ordinance (UDO) process was underway, with the intent of these members remaining on the Board to see the UDO through to adoption. At the May 2026 Planning Board meeting, Town Attorney Craig Justus suggested that the Planning Board members who are due to rotate off of the Planning Board in July 2026 consider staying one (1) more year, pending Council approval. The following members stated they would be willing to stay on another year: Pam Norton, Lauronda Teeple and Chris Collins. Council Members Berry & Stone were present at the Planning Board members and were in favor of members serving one more year and suggested the full Council discuss at the June 8, 2026 meeting. At the June 8, 2026 Council meeting, Council voted in favor of extending these named members' terms for an additional one (1) year, expiring July 2027. Rick Earley resigned from the Planning Board in May 2026, which leaves an open seat on the Planning Board. This vacant seat's term would have expired in July 2026, so whoever is appointed will serve a full three-year term, expiring July 2029. Two applications were received who chose the Planning Board as their primary preference. These applicants are Alan Simmons and Angela Levine.

Town Council Member Alice Berry made a motion to appoint Angela Levine to the Planning Board for a three-year term to expire July 2029. A vote of 5-0 in favor.

3) **Board of Adjustment Appointments.**

The Board of Adjustment consists of 5 members each serving a 3-year term, and 3 alternate members without expiring terms. The Town Council appoints this membership. When a vacancy occurs within the regular membership, alternate members move forward from the alternate seats (in which their 3-year terms begin), and any new membership is appointed to the alternate seats. Having alternate appointments, ensures the Board of Adjustment can have quorums to conduct business if a regular member is absent. Currently, the Board of Adjustment's regular membership is full, but 2 alternate seats are available. One application was received that indicated the Board of Adjustment as a primary preference. This was from Mary Kyryk. Application attached. Additionally, an application submitted by Alan Simmons indicated the Board of Adjustment as a secondary preference (Planning Board primary preference), so if Alan Simmons is not appointed to the Planning Board, he can be considered to fill the other alternate seat on Board of Adjustment. It is recommended that Council appoint Mary Kyryk to the Alternate #2 seat. Then, ***if*** Alan Simmons is not appointed to the Planning Board, it is recommended he be appointed to the Alternate #3 seat. ***Vice Mayor Archie Pertiller made a motion to appoint Mary Kyryk and Alan Simmons to the Board of Adjustment as Alternate #2 and #3, respectively, as presented and recommended. A vote of 5-0 in favor.***

4) **Active Mobility Commission Appointments.**

The Active Mobility Commission (AMC) consists of seven (7) members each serving three-year terms. Currently, two seats on the AMC are expiring and there is one vacant seat. One of these current members has reapplied to serve a second three-year term, while the other member chose not to serve a second three-year term. Two applications were submitted by citizens who indicated the AMC as their primary preference. These were Kristie Bergna (applying for re-appointment) and Edwin Aaronson (new applicant). These applications are attached, and both are eligible to serve. Council should review and make these 2 appointments to the AMC. There will still be one vacancy on the AMC, and recruitment will continue. ***Town Council Member Ryan Stone made a motion to appoint Edwin Aaronson and re-appoint Kristie Bergna to the Active Mobility Commission for three-year terms, both expiring in July 2029, as recommended. A vote of 5-0 in favor.***

5) **Historic Preservation Commission Appointment.**

The Historic Preservation Commission consists of 5 members each serving a 3-year term. Debra Norman's term is expiring on the HPC. She has served one full three-year term, but is eligible and interested in serving a second three-year term. Additionally, two other applications were submitted, and noted HPC as their primary preference. These applicants were Paul Clark and Mary Soyenova. ***Vice Mayor Archie Pertiller made a motion to re-appoint Debra Norman to a second three-year term on the Historic Preservation Commission as recommended, expiring July 2029. A vote of 5-0 in favor.***

****

13. CLOSED SESSION - NC GENERAL STATUTE 143-318.11(A)(3) TO CONSULT WITH AN ATTORNEY EMPLOYED OR RETAINED BY THE PUBLIC BODY IN ORDER TO PRESERVE THE ATTORNEY-CLIENT PRIVILEGE BETWEEN THE ATTORNEY AND THE PUBLIC BODY, WHICH PRIVILEGE IS HEREBY ACKNOWLEDGED., AND N.C.G.S. 143-318.11 (A)(6): TO CONSIDER THE QUALIFICATIONS, COMPETENCE, PERFORMANCE, CHARACTER, FITNESS, CONDITIONS OF APPOINTMENT, OR CONDITIONS OF INITIAL EMPLOYMENT OF AN INDIVIDUAL PUBLIC OFFICER.

The Town Council would now enter into closed session pursuant to N.C.G.S. §143-318.11 (a)(3): To consult with an attorney employed or retained by the public body in order to preserve the attorney-client privilege between the attorney and the public body, which privilege is hereby acknowledged; and §143-318.11 (a)(6): To consider the qualifications, competence, performance, character, fitness, conditions of appointment, or conditions of initial employment of an individual public officer or employee or prospective public officer or employee; or to hear or investigate a complaint, charge, or grievance by or against an individual public officer or employee. ***Council Member Larry Harris made a motion to enter into Closed Session pursuant to NCGS 143-318.11(a)(3) and (a)(6). A vote of 5-0 in favor. The time was 8:51 p.m.***

14. ADJOURNMENT

The Council returned from Closed Session into Open Session at 9:21 p.m.

Town Council Member Alice Berry made a motion to continue (renew) the contract with Wilkerson Justus as the Town Attorney, Craig Justus, for Fiscal Year 26-27. A vote of 5-0 in favor.

Town Council Member Ryan Stone made a motion to approve the amended employment contract with Richard Hicks to serve as Interim Town Manager through December 31, 2026. A vote of 5-0 in favor.

With no further business to be discussed, Mayor C. Michael Sobol adjourned the meeting at 9:24 p.m.

_____

C. Michael Sobol, Mayor

ATTEST:

_____

Wesley M. Barker, Town Clerk

TOWN OF BLACK MOUNTAIN

AGENDA ITEM SUMMARY

SUBMITTER:	Laurel Mabery, Accountant	**MEETING DATE:**	August 10, 2026
AGENDA SECTION:	Consent Agenda	**DEPARTMENT:**	Finance
TITLE OF ITEM:	Monthly Tax Collector Report		

SUGGESTED MOTION(S):
Approve the tax collection report as presented.

SUMMARY:

Monthly Tax Collector Report

BUDGET IMPACT:

Is this expenditure approved in the current fiscal year budget?

If no, describe how it will be funded.

ATTACHMENTS:

1. Monthly Council Report -June 2026

TOWN OF BLACK MOUNTAIN TAX COLLECTOR'S REPORT

TO: Black Mountain Board of Commissioners

FROM: Laurel Mabery, Municipal Tax Collector

DATE: Monday, August 10, 2026

SUBJECT: June 2026 Tax Collector Report

According to GS 105-350(7) it is the duty of the tax collector to submit to the governing body at each of its regular meetings a report of the amount collected on each year's taxes with which is charged, the amount remaining uncollected, and the steps taken to encourage or enforce payment of uncollected taxes.
Below is the month end report for collections (current and prior years), provided by the Buncombe County Tax Collector. The tax department is using all collection remedies as provided by general statute to collect delinquent taxes including but not limited to garnishments, attachments, and NC Debt Setoff.

CURRENT YEAR TAX -ADVALOREM TAXES

Billed	$	5,448,018.88
Collected	$	5,438,262.64
Adjustments and Releases	$	4,681.39
Outstanding real and personal property taxes	**$**	**14,437.63**

TAX COLLECTION PERCENTAGE FOR CURRENT TAX YEAR 99.74%

PRIOR YEAR TAXE(S) COLLECTED WITHIN THE MONTH

Collected	$	1,950.82
Adjustments and Releases		

Per NCGS 105-381(b) the Tax Collector is reporting tax releases/refunds within the current period:

Ad Valorem	$ 96.25
Motor Vehicle	$ 1,035.42

TOWN OF BLACK MOUNTAIN

AGENDA ITEM SUMMARY

SUBMITTER:	Michelle Kennedy, Planning Director	**MEETING DATE:**	August 10, 2026
AGENDA SECTION:	Consent Agenda	**DEPARTMENT:**	Planning & Development Services

TITLE OF ITEM: Call for Public Hearing for Text Amendments to Chapter 2, Section 2.3, Flood Damage Prevention Ordinance

SUGGESTED MOTION(S):

To call for a public hearing to amend Chapter 2, Section 2.3, Flood Damage Prevention Ordinance, of the Land Use Code, to be held on Monday, September 14, 2026, at 6:00 p.m. in the Council Room of Town Hall, 160 Midland Avenue, N.C. or as soon thereafter as possible.

SUMMARY:

The Hazard Mitigation Section of the North Carolina Department of Emergency Management published a new model flood damage prevention ordinance in 2025. The new model ordinance removes the coastal regulations and also adds some regulations from lessons learned from Tropical Storm Helene. Staff reviewed the new model ordinance against the current ordinance and made amendments to better align with the model ordinance. The proposed amendments have been reviewed by Planning Board and will also be reviewed by the National Flood Insurance Program (NFIP).

BUDGET IMPACT:

Is this expenditure approved in the current fiscal year budget? n/a

If no, describe how it will be funded. n/a

ATTACHMENTS:

1. LEGAL_NOTICE_FLOODPLAIN

LEGAL NOTICE

BLACK MOUNTAIN TOWN COUNCIL

PUBLIC HEARING

Monday, September 14, 2026, at 6:00 p.m.

The Black Mountain Town Council will meet on **Monday, September 14, 2026, at 6:00 p.m**. in the Council Room of Town Hall, 160 Midland Avenue, Black Mountain, NC. The purpose of this meeting is to hold a public hearing for amendments to Chapter 2, Section 2.3, Flood Damage Prevention Ordinance.

The meeting is open to the public.

Wesley M. Barker
Town Clerk

The Town of Black Mountain is committed to providing accessible facilities, programs and services for all people in compliance with the Americans with Disabilities Act (ADA). Should you need assistance or a particular accommodation for this meeting please contact, Wesley Barker, Town Clerk at 419-9310 or by email at townclerk@townofblackmountain.org.

Posted to the Town Bulletin Board 08/13/2026
Published in the Black Mountain News 08/20/2026 and 08/27/2026
www.townofblackmountain.org

TOWN OF BLACK MOUNTAIN

AGENDA ITEM SUMMARY

SUBMITTER:	Michelle Kennedy, Planning Director	**MEETING DATE:**	August 10, 2026
AGENDA SECTION:	Consent Agenda	**DEPARTMENT:**	Planning & Development Services

TITLE OF ITEM: Call for Public Hearing for Amendments to Chapter 8, Section 8.2, The Phase II Stormwater Ordinance and Chapter 20, Article X, Illicit Discharge

SUGGESTED MOTION(S):

To call for a public hearing to amend Chapter 8, Section 8.2, The Phase II Stormwater Ordinance, of the Land Use Code, and Chapter 20, Article X, Illicit Discharge, of the Code of Ordinances, to be held on Monday, September 14, 2026, at 6:00 p.m. in the Council Room of Town Hall, 160 Midland Avenue, N.C. or as soon thereafter as possible.

SUMMARY:

Staff compared the current ordinance to the model ordinance and proposed amendments that would make the ordinance easier to understand and follow. Additional definitions have been proposed and the illicit discharge section will move from the Environment Chapter of the Code of Ordinances to the Phase II Stormwater Ordinance. Planning Board has reviewed the amendments.

BUDGET IMPACT:

Is this expenditure approved in the current fiscal year budget? n/a

If no, describe how it will be funded. n/a

ATTACHMENTS:

1. LEGAL_NOTICE_PHASE_II_STORMWATER

LEGAL NOTICE

BLACK MOUNTAIN TOWN COUNCIL

PUBLIC HEARING

Monday, September 14, 2026, at 6:00 p.m.

The Black Mountain Town Council will meet on **Monday, September 14, 2026, at 6:00 p.m**. in the Council Room of Town Hall, 160 Midland Avenue, Black Mountain, NC. The purpose of this meeting is to hold a public hearing for amendments to Chapter 8, Section 8.2, The Phase II Stormwater Ordinance and Chapter 20, Article X, Illicit Discharge.

The meeting is open to the public.

Wesley M. Barker
Town Clerk

The Town of Black Mountain is committed to providing accessible facilities, programs and services for all people in compliance with the Americans with Disabilities Act (ADA). Should you need assistance or a particular accommodation for this meeting please contact, Wesley Barker, Town Clerk at 419-9310 or by email at townclerk@townofblackmountain.org.

Posted to the Town Bulletin Board 08/13/2026
Published in the Black Mountain News 08/20/2026 and 08/27/2026
www.townofblackmountain.org

TOWN OF BLACK MOUNTAIN

AGENDA ITEM SUMMARY

SUBMITTER:	Michelle Kennedy, Planning Director	**MEETING DATE:**	August 10, 2026
AGENDA SECTION:	Consent Agenda	**DEPARTMENT:**	Planning & Development Services

TITLE OF ITEM: Call for Public Hearing to Amend Chapter 48, Article VI, Division 2, Stormwater Management Enterprise Fund

SUGGESTED MOTION(S):

To call for a public hearing to amend Chapter 48, Article VI, Division 2, Stormwater Management Enterprise Fund, of the Code of Ordinances, to be held on Monday, September 14, 2026, at 6:00 p.m. in the Council Room of Town Hall, 160 Midland Avenue, Black Mountain, N.C. or as soon thereafter as possible.

SUMMARY:

The current ordinance does not specify that the property owner is the one responsible for the utility bill as is required by law. The amendments will remove any mention of tenants and move the responsibility of the utility bill to property owners.

BUDGET IMPACT:

Is this expenditure approved in the current fiscal year budget? n/a

If no, describe how it will be funded. n/a

ATTACHMENTS:

1. LEGAL_NOTICE_STORMWATER

LEGAL NOTICE

BLACK MOUNTAIN TOWN COUNCIL

PUBLIC HEARING

Monday, September 14, 2026, at 6:00 p.m.

The Black Mountain Town Council will meet on **Monday, September 14, 2026, at 6:00 p.m**. in the Council Room of Town Hall, 160 Midland Avenue, Black Mountain, NC. The purpose of this meeting is to hold a public hearing for amendments to Chapter 48, Article VI, Stormwater Management Enterprise Fund, Division 2, Stormwater Service Charges.

The meeting is open to the public.

Wesley M. Barker
Town Clerk

The Town of Black Mountain is committed to providing accessible facilities, programs and services for all people in compliance with the Americans with Disabilities Act (ADA). Should you need assistance or a particular accommodation for this meeting please contact, Wesley Barker, Town Clerk at 419-9310 or by email at townclerk@townofblackmountain.org.

Posted to the Town Bulletin Board 08/13/2026
Published in the Black Mountain News 08/20/2026 and 08/27/2026
www.townofblackmountain.org

TOWN OF BLACK MOUNTAIN

AGENDA ITEM SUMMARY

SUBMITTER:	Wesley Barker, Town Clerk	**MEETING DATE:**	August 10, 2026
AGENDA SECTION:	Consent Agenda	**DEPARTMENT:**	Administration

TITLE OF ITEM: Appointment of Council Member Lawrence Lytle to the Land of Sky Regional Council Board of Directors as Primary Delegate & Council Member Larry Harris as Alternate Delegate

SUGGESTED MOTION(S):

Motion to appoint Lawrence Lytle as primary delegate, and Larry Harris as alternate delegate, to the Land of Sky Regional Council Board of Directors for the Town of Black Mountain.

SUMMARY:

At the May 11, 2026, Council meeting, Council Member Larry Harris was appointed as the primary delegate to the LOSRC Board of Directors for the Town of Black Mountain. At the July 13, 2026 Council meeting, newly appointed Council member Lawrence Lytle was appointed as the alternate delegate to the LOSRC Board. Council Member Harris has requested that Council Member Lytle switch places with him and become the primary delegate to the LOSRC Board, and for Council Member Harris to be the alternate delegate. If in agreement of this delegate swap, Council will vote to formally approve.

BUDGET IMPACT:

Is this expenditure approved in the current fiscal year budget? n/a

If no, describe how it will be funded. n/a

ATTACHMENTS:

None

TOWN OF BLACK MOUNTAIN

AGENDA ITEM SUMMARY

SUBMITTER:	Jacob Guiot, Recreation & Parks Director	**MEETING DATE:**	August 10, 2026
AGENDA SECTION:	Consent Agenda	**DEPARTMENT:**	Recreation & Parks
TITLE OF ITEM:	Acceptance of Donation to the Dr. John Wilson Community Garden from Bounty & Soul		

SUGGESTED MOTION(S):
Motion to accept the donation to the Community Garden as presented.

SUMMARY:

The Dr. John Wilson Community Garden has been offered a donated shipping container that has been retrofitted into a walk-in cooler by Bounty & Soul. The cooler will enhance the Garden's Grow for Donation program by extending the storage life of harvested vegetables and improving produce quality prior to distribution. Installation and site preparation costs will be funded through grant funds that were accepted and approved in the previous year. Acceptance of this donation will offer the garden produce storage that will strengthen community food distribution efforts.

BUDGET IMPACT:

Is this expenditure approved in the current fiscal year budget? n/a

If no, describe how it will be funded. n/a

ATTACHMENTS:

1. Resolution to Accept Donation from Bounty and Soul to the Community Garden for walk-in cooler_2026.08.10

Council Member _____ made a motion to approve the following resolution. A vote of ____

A RESOLUTION ACCEPTING A DONATION FROM BOUNTY & SOUL FOR THE DR. JOHN WILSON COMMUNITY GARDEN

RESOLUTION NO. R-26-XX

WHEREAS, Bounty & Soul has generously offered to donate a retrofitted shipping container designed as a walk-in cooler for use at the Dr. John Wilson Community Garden; and

WHEREAS, the walk-in cooler will support the Garden's Grow for Donation program by extending the storage life of harvested produce and improving produce quality prior to distribution to community members; and

WHEREAS, installation and site preparation costs will be funded through previously accepted and approved grant funds, resulting in no additional cost to the Town; and

WHEREAS, acceptance of this donation will enhance the Garden's ability to support local food distribution efforts and benefit the community.

NOW, THEREFORE, BE IT RESOLVED by the Town Council of the Town of Black Mountain that the donation of the retrofitted walk-in cooler from Bounty & Soul is hereby accepted with appreciation, and the Town Manager is authorized to take all actions necessary to facilitate its installation and use at the Dr. John Wilson

_____

ATTEST: C. Michael Sobol, Mayor

_____

Wesley M. Barker, Town Clerk

TOWN OF BLACK MOUNTAIN

AGENDA ITEM SUMMARY

SUBMITTER:	Richard Hicks, Interim Town Manager	**MEETING DATE:**	August 10, 2026
AGENDA SECTION:	Consent Agenda	**DEPARTMENT:**	Finance
TITLE OF ITEM:	Annual Property Tax Settlement for Fiscal Year 2026 & Adoption of the Order of Collection of Taxes for Fiscal Year 2027		

SUGGESTED MOTION(S):

Motion to approve the Property Tax Settlement for FY25-26 and adoption of the Order of Collection of Taxes for FY26-27.

SUMMARY:

Annual Property Tax Settlement

Pursuant to N.C.G.S. § 105-373, After July 1, and before being charged with taxes for the current fiscal year, the tax collector must provide an annual settlement of current and delinquent property tax collected in the previous fiscal year for approval. The annual settlement provides in detail the tax collection of The Town of Black Mountain's Real Property, Personal Property, and Motor Vehicles. This report also includes the details regarding collection of the East Buncombe Fire District tax collections.

Order of Collection

Also, Pursuant to NCGS § 105-321, Following the approval of the Tax Collector's Annual Statement of the preceding year, the governing board shall adopt an order of collection directing the tax collector to collect the taxes charged in the tax records and receipts. The order of Collection authorizes the collection of current fiscal year property taxes and charging the tax collector with the obligation to "employ all lawful means" to collect taxes.

Copies of the annual property tax settlement documents are included in the packet from the Buncombe County tax office for Fiscal Year 2025-26. A copy of the Order of Collection of taxes for Black Mountain for Fiscal Year 2026-27 is also attached for Council approval.

BUDGET IMPACT:

Is this expenditure approved in the current fiscal year budget? n/a

If no, describe how it will be funded. n/a

ATTACHMENTS:

1. Blk Mtn FY2026-27 Tax Collection Order
2. FY2026 Black Mtn Tax Settlement
3. FY26 Fire Protection and Ambulance_Rescue Svc Dist Tax Report
4. FY26 County Motor Vehicle Tax Report

Pursuant to NCGS § 105-321, ORDER OF COLLECTION

State of North Carolina
Town of Black Mountain

To the Tax Collector of Town of Black Mountain and by delegated authority, the Tax Collector for Buncombe County:

You are hereby authorized, empowered, and commanded to collect the taxes set forth in the tax records filed in the office of the Buncombe County Tax Department and the Information Technology Office and in the tax receipts herewith delivered to you, in the amounts and from the taxpayers likewise therein set forth. Such taxes are hereby declared to be a first lien upon all real property of the respective taxpayers in the Town of Black Mountain, and this order shall be a full and sufficient authority to direct, require, and enable you to levy on and sell any real or personal property of such taxpayers, for and on account thereof, in accordance with law. Tax records for the Town of Black Mountain are delivered to you for collection. You are further authorized to call upon the Sheriff to levy upon and sell personal property under execution for the payment of taxes.

Witness my hand and official seal, this 10th day of August, 2026

_____(Seal)
Richard Hicks, Interim Town Manager
Town of Black Mountain

Attest:

_____
Wesley Barker, Clerk
Town of Black Mountain

Black Mountain

Fiscal Year 2026 Property Tax

Net Levy	Collected	Uncollected	Percent Collected
$5,452,700.27	$5,438,262.64	$14,437.63	99.74%

Regular Levy Prior Year Collections in Fiscal Year 2026

Tax Year	Levy Due	Collected	Uncollected
2024	21,139.07	14,397.92	6,741.15
2023	5,430.48	1,374.06	4,056.42
2022	2,624.65	120.30	2,504.35
2021	2,289.61	38.61	2,251.00
2020	1,725.26	12.57	1,712.69
2019	621.13	31.72	589.41
2018	498.31	4.26	494.05
2017	259.98	-	259.98
2016	105.53	-	105.53
2015	101.15	-	101.15

Regular Levy 2026 Prepaid Amount Collected: $ 304.04

Fire Protection & Ambulance and Rescue Service Districts Fiscal Year 2026

Fire Protection & Service District		Net Levy	Collected	Uncollected	Percent Collected
Asheville Special	**FAS**	$ 122,299.22	$ 122,168.91	$ 130.31	99.89%
Asheville Suburban	**FSB**	$ 274,381.31	$ 274,342.32	$ 38.99	99.99%
Barnardsville	**FBA**	$ 1,008,497.92	$ 999,173.60	$ 9,324.32	99.08%
Broad River	**FBR**	$ 374,184.42	$ 370,692.23	$ 3,492.19	99.07%
East Buncombe	**FEB**	$ 1,057,249.50	$ 1,054,478.17	$ 2,771.33	99.74%
Enka-Candler	**FEC**	$ 4,770,948.17	$ 4,741,990.59	$ 28,957.58	99.39%
Fairview	**FFA**	$ 3,571,479.51	$ 3,557,413.31	$ 14,066.20	99.61%
French Broad	**FFB**	$ 908,438.04	$ 903,995.39	$ 4,442.65	99.51%
Garren Creek	**FGC**	$ 279,706.89	$ 278,287.34	$ 1,419.55	99.49%
Jupiter	**FJU**	$ 1,090,570.08	$ 1,084,691.84	$ 5,878.24	99.46%
Leicester	**FLE**	$ 1,578,148.24	$ 1,564,876.38	$ 13,271.86	99.16%
North Buncombe	**FNB**	$ 1,578,000.92	$ 1,570,803.81	$ 7,197.11	99.54%
Reems Creek/Beaverdam	**FRC**	$ 1,626,956.03	$ 1,624,010.62	$ 2,945.41	99.82%
Reynolds	**FRE**	$ 1,242,192.12	$ 1,239,095.55	$ 3,096.57	99.75%
Riceville	**FRI**	$ 1,610,627.36	$ 1,604,401.50	$ 6,225.86	99.61%
Skyland	**FSK**	$ 6,607,978.26	$ 6,593,722.32	$ 14,255.94	99.78%
Swannanoa	**FSW**	$ 1,834,037.95	$ 1,824,604.52	$ 9,433.43	99.49%
Upper Hominy	**FUH**	$ 1,123,740.15	$ 1,113,015.50	$ 10,724.65	99.05%
West Buncombe	**FWB**	$ 2,784,437.90	$ 2,762,446.32	$ 21,991.58	99.21%
Woodfin	**FWO**	$ 1,131,694.21	$ 1,128,754.60	$ 2,939.61	99.74%
TOTAL		**$ 34,575,568.20**	**$ 34,412,964.82**	**$ 162,603.38**	**99.53%**

North Carolina Vehicle Tax System

County Finance Report

Fiscal Year To Date

Jurisdiction	Nbr Vehicles	Billing Information: Renewal/LRP /Issue Net Values	Renew/Issue Levy (Tax)	Renew/Issue Levy (VehicleFee)	LRP Levy (Tax)	LRP Levy (VehicleFee)	Gross Levy (Tax)	Gross Levy (VehicleFee)	Collections: Renew/Issue Collections (Tax)	Renew/Issue Collections (VehicleFee)	LRP Collections (Tax)	LRP Collections (VehicleFee)	Net Collections (Tax)	Net Collections (VehicleFee)	% Collected	Credit/Debit Card Cost Allocation: Billing Cost %	Total Collection By Credit Card	Credit Card %	Total Collection by Debit Card	Debit Card %	Total Collections/Uncollected: Interest Collected	Total Net Collections	LRP Uncollected	DMV Refund
BUN	247,538	$3,945,973,609	$18,548,613.60	$0.00	$2,858,814.97	$0.00	$21,407,428.57	$0.00	$18,478,546.12	$0.00	$2,838,842.59	$0.00	$21,317,388.71	$0.00	99.91%	63.42%	$15,194,762.10	63.22%	$1,256,056.82	67.40%	$172,182.84	$21,489,571.59	$19,972.38	$33.87
CAS	70,626	$1,146,802,866	$4,336,518.79	$1,926,660.00	$679,511.34	$156,270.00	$5,016,030.13	$2,082,930.00	$4,314,312.83	$1,922,550.00	$672,832.31	$154,980.00	$4,987,145.14	$2,077,530.00	99.89%	21.02%	$5,125,052.72	21.32%	$289,894.23	15.56%	$41,305.03	$7,105,980.17	$7,969.03	$0.00
CBF	1,542	$45,439,748	$134,254.60	$0.00	$23,774.83	$0.00	$158,029.43	$0.00	$133,733.70	$0.00	$23,211.49	$0.00	$156,945.19	$0.00	99.64%	0.47%	$106,151.38	0.44%	$1,319.57	0.07%	$854.72	$157,799.91	$563.34	$0.00
CBM	7,596	$114,380,288	$326,465.01	$35,390.00	$43,198.80	$2,195.00	$369,663.81	$37,585.00	$325,017.29	$35,320.00	$42,990.08	$2,190.00	$368,007.37	$37,510.00	99.95%	1.21%	$290,162.80	1.21%	$6,375.96	0.34%	$2,349.74	$407,867.11	$213.72	$0.00
CMT	465	$8,293,119	$30,427.73	$0.00	$5,395.71	$0.00	$35,823.44	$0.00	$30,379.70	$0.00	$5,280.91	$0.00	$35,660.61	$0.00	99.68%	0.11%	$24,856.03	0.10%	$144.82	0.01%	$188.50	$35,849.11	$114.80	$0.00
CRA	0	$0	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	0.00%	0.00%	$0.00	0.00%	$0.00	0.00%	$0.00	$0.00	$0.00	$0.00
CWO	6,515	$104,156,653	$297,640.42	$0.00	$47,639.06	$0.00	$345,279.48	$0.00	$296,792.20	$0.00	$46,728.85	$0.00	$343,521.05	$0.00	99.74%	1.02%	$242,948.03	1.01%	$22,045.28	1.18%	$2,481.51	$346,002.56	$910.21	$0.00
CWV	5,231	$86,019,632	$281,992.23	$0.00	$40,139.44	$0.00	$322,131.67	$0.00	$281,653.91	$0.00	$39,796.59	$0.00	$321,450.50	$0.00	99.89%	0.96%	$231,809.67	0.96%	$15,999.31	0.86%	$2,249.96	$323,700.46	$342.85	$0.00
DBA	0	$0	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	0.00%	0.00%	$0.00	0.00%	$0.00	0.00%	$0.00	$0.00	$0.00	$0.00
DBE	0	$0	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	0.00%	0.00%	$0.00	0.00%	$0.00	0.00%	$0.00	$0.00	$0.00	$0.00
DHA	0	$0	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	0.00%	0.00%	$0.00	0.00%	$0.00	0.00%	$0.00	$0.00	$0.00	$0.00
DHC	0	$0	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	0.00%	0.00%	$0.00	0.00%	$0.00	0.00%	$0.00	$0.00	$0.00	$0.00
DHI	0	$0	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	0.00%	0.00%	$0.00	0.00%	$0.00	0.00%	$0.00	$0.00	$0.00	$0.00
DLE	0	$0	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	0.00%	0.00%	$0.00	0.00%	$0.00	0.00%	$0.00	$0.00	$0.00	$0.00
DNB	0	$0	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	0.00%	0.00%	$0.00	0.00%	$0.00	0.00%	$0.00	$0.00	$0.00	$0.00
DNN	0	$0	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	0.00%	0.00%	$0.00	0.00%	$0.00	0.00%	$0.00	$0.00	$0.00	$0.00
DNR	0	$0	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	0.00%	0.00%	$0.00	0.00%	$0.00	0.00%	$0.00	$0.00	$0.00	$0.00
DRC	0	$0	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	0.00%	0.00%	$0.00	0.00%	$0.00	0.00%	$0.00	$0.00	$0.00	$0.00
DSK	0	$0	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	0.00%	0.00%	$0.00	0.00%	$0.00	0.00%	$0.00	$0.00	$0.00	$0.00
DUH	0	$0	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	0.00%	0.00%	$0.00	0.00%	$0.00	0.00%	$0.00	$0.00	$0.00	$0.00
DWB	0	$0	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	0.00%	0.00%	$0.00	0.00%	$0.00	0.00%	$0.00	$0.00	$0.00	$0.00
DWO	0	$0	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	0.00%	0.00%	$0.00	0.00%	$0.00	0.00%	$0.00	$0.00	$0.00	$0.00
FAS	663	$11,892,711	$8,600.49	$0.00	$1,360.19	$0.00	$9,960.68	$0.00	$8,578.89	$0.00	$1,360.19	$0.00	$9,939.08	$0.00	100.00%	0.03%	$7,669.89	0.03%	$225.64	0.01%	$66.43	$10,005.51	$0.00	$0.00
FBA	3,992	$52,399,850	$99,716.79	$0.00	$15,719.01	$0.00	$115,435.80	$0.00	$99,603.01	$0.00	$15,719.01	$0.00	$115,322.02	$0.00	100.00%	0.34%	$78,798.76	0.33%	$11,461.33	0.62%	$1,035.32	$116,357.34	$0.00	$0.00
FBE	0	$0	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	0.00%	0.00%	$0.00	0.00%	$0.00	0.00%	$0.00	$0.00	$0.00	$0.00
FBR	1,062	$14,005,396	$20,140.49	$0.00	$2,318.78	$0.00	$22,459.27	$0.00	$20,085.45	$0.00	$2,318.78	$0.00	$22,404.23	$0.00	100.00%	0.07%	$16,521.67	0.07%	$1,198.37	0.06%	$164.57	$22,568.80	$0.00	$0.00
FBU	0	$0	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	0.00%	0.00%	$0.00	0.00%	$0.00	0.00%	$0.00	$0.00	$0.00	$0.00
FEB	4,567	$64,293,728	$60,591.33	$0.00	$8,529.25	$0.00	$69,120.58	$0.00	$60,375.49	$0.00	$8,376.40	$0.00	$68,751.89	$0.00	99.78%	0.20%	$50,988.79	0.21%	$1,388.84	0.07%	$481.32	$69,233.21	$152.85	$0.00
FEC	25,231	$398,085,713	$453,430.36	$0.00	$72,917.65	$0.00	$526,348.01	$0.00	$452,420.03	$0.00	$72,650.27	$0.00	$525,070.30	$0.00	99.95%	1.56%	$345,663.55	1.44%	$63,122.66	3.39%	$4,483.09	$529,553.39	$267.38	$0.00
FFA	12,384	$222,136,249	$308,079.00	$0.00	$47,775.31	$0.00	$355,854.31	$0.00	$307,063.54	$0.00	$47,555.54	$0.00	$354,619.08	$0.00	99.94%	1.06%	$278,100.28	1.16%	$7,098.49	0.38%	$2,792.53	$357,411.61	$219.77	$0.00
FFB	3,347	$47,659,631	$92,657.88	$0.00	$15,201.79	$0.00	$107,859.67	$0.00	$92,433.41	$0.00	$15,201.79	$0.00	$107,635.20	$0.00	100.00%	0.32%	$69,921.86	0.29%	$13,277.38	0.71%	$952.92	$108,588.12	$0.00	$0.00
FFL	0	$0	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	0.00%	0.00%	$0.00	0.00%	$0.00	0.00%	$0.00	$0.00	$0.00	$0.00
FGC	1,226	$17,986,007	$21,935.08	$0.00	$3,051.21	$0.00	$24,986.29	$0.00	$21,876.93	$0.00	$2,998.06	$0.00	$24,874.99	$0.00	99.79%	0.07%	$19,500.47	0.08%	$656.14	0.04%	$245.83	$25,120.82	$53.15	$0.00
FJU	7,363	$107,870,256	$119,041.46	$0.00	$18,677.03	$0.00	$137,718.49	$0.00	$118,801.06	$0.00	$18,591.67	$0.00	$137,392.73	$0.00	99.94%	0.41%	$93,540.56	0.39%	$13,877.20	0.74%	$1,077.56	$138,470.29	$85.36	$0.00
FLE	10,442	$142,734,030	$171,355.98	$0.00	$29,117.62	$0.00	$200,473.60	$0.00	$171,159.65	$0.00	$28,992.74	$0.00	$200,152.39	$0.00	99.94%	0.60%	$124,483.64	0.52%	$25,205.57	1.35%	$1,933.09	$202,085.48	$124.88	$0.00
FNB	8,723	$137,026,920	$145,764.42	$0.00	$22,394.94	$0.00	$168,159.36	$0.00	$145,583.66	$0.00	$22,374.09	$0.00	$167,957.75	$0.00	99.99%	0.50%	$116,716.15	0.49%	$11,010.95	0.59%	$1,177.23	$169,134.98	$20.85	$0.00
FRC	4,276	$74,866,324	$98,298.37	$0.00	$14,646.70	$0.00	$112,945.07	$0.00	$98,177.07	$0.00	$14,646.70	$0.00	$112,823.77	$0.00	100.00%	0.34%	$79,927.82	0.33%	$4,942.61	0.27%	$672.84	$113,496.61	$0.00	$0.00
FRE	5,231	$84,167,025	$93,777.53	$0.00	$14,237.57	$0.00	$108,015.10	$0.00	$92,783.19	$0.00	$14,215.20	$0.00	$106,998.39	$0.00	99.98%	0.32%	$83,383.53	0.35%	$1,498.95	0.08%	$818.61	$107,817.00	$22.37	$0.00
FRI	5,533	$82,497,259	$122,655.66	$0.00	$14,686.75	$0.00	$137,342.41	$0.00	$122,274.36	$0.00	$14,501.97	$0.00	$136,776.33	$0.00	99.87%	0.41%	$102,271.07	0.43%	$3,615.77	0.19%	$996.01	$137,772.34	$184.78	$0.00
FSB	301	$6,216,708	$4,655.41	$0.00	$920.95	$0.00	$5,576.36	$0.00	$4,621.49	$0.00	$920.95	$0.00	$5,542.44	$0.00	100.00%	0.02%	$4,905.21	0.02%	$102.23	0.01%	$64.34	$5,606.78	$0.00	$0.00
FSK	25,527	$489,817,156	$415,766.71	$0.00	$65,353.21	$0.00	$481,119.92	$0.00	$414,286.82	$0.00	$65,088.81	$0.00	$479,375.63	$0.00	99.94%	1.43%	$362,251.32	1.51%	$10,966.01	0.59%	$3,687.15	$483,062.78	$264.40	$0.00
FSW	9,241	$135,565,754	$176,451.88	$0.00	$24,725.79	$0.00	$201,177.67	$0.00	$175,779.35	$0.00	$24,501.95	$0.00	$200,281.30	$0.00	99.89%	0.60%	$148,452.22	0.62%	$5,388.01	0.29%	$1,659.22	$201,940.52	$223.84	$0.00
FUH	5,692	$71,866,777	$123,007.68	$0.00	$22,823.87	$0.00	$145,831.55	$0.00	$122,740.87	$0.00	$22,823.87	$0.00	$145,564.74	$0.00	100.00%	0.43%	$91,012.93	0.38%	$23,862.96	1.28%	$1,517.96	$147,082.70	$0.00	$0.00
FWB	16,957	$232,548,326	$295,036.53	$0.00	$47,274.94	$0.00	$342,311.47	$0.00	$293,477.25	$0.00	$47,257.53	$0.00	$340,734.78	$0.00	99.99%	1.01%	$216,859.98	0.90%	$49,153.65	2.64%	$3,008.88	$343,743.66	$17.41	$0.00
FWO	5,361	$83,807,425	$77,291.20	$0.00	$11,928.06	$0.00	$89,219.26	$0.00	$77,170.45	$0.00	$11,635.96	$0.00	$88,806.41	$0.00	99.67%	0.26%	$62,208.24	0.26%	$4,974.32	0.27%	$675.93	$89,482.34	$292.10	$0.00
IAD	1,501	$31,112,157	$22,863.14	$0.00	$4,628.17	$0.00	$27,491.31	$0.00	$22,772.73	$0.00	$4,628.17	$0.00	$27,400.90	$0.00	100.00%	0.08%	$19,491.46	0.08%	$467.50	0.03%	$188.58	$27,589.48	$0.00	$0.00
SAS	32,180	$539,579,720	$515,531.73	$0.00	$78,026.75	$0.00	$593,558.48	$0.00	$511,792.74	$0.00	$77,406.97	$0.00	$589,199.71	$0.00	99.89%	1.75%	$446,372.76	1.86%	$18,183.35	0.98%	$4,759.98	$593,959.69	$619.78	$0.00
SCC	0	$0	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	0.00%	0.00%	$0.00	0.00%	$0.00	0.00%	$0.00	$0.00	$0.00	$0.00
SEN	0	$0	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	0.00%	0.00%	$0.00	0.00%	$0.00	0.00%	$0.00	$0.00	$0.00	$0.00
SWF	0	$0	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	0.00%	0.00%	$0.00	0.00%	$0.00	0.00%	$0.00	$0.00	$0.00	$0.00
Totals			**$27,402,561.50**	**$1,962,050.00**	**$4,234,789.69**	**$158,465.00**	**$31,637,351.19**	**$2,120,515.00**	**$27,294,293.19**	**$1957870.00**	**$4,203,449.44**	**$157170.00**	**$31,497,742.63**	**$2115040.00**	**99.57%**	**100.00%**	**$24,034,784.89**	**100.00%**	**$1,863,513.92**	**100.00%**	**$254,071.69**	**$33,866,854.32**	**$32,635.25**	**$33.87**

TOWN OF BLACK MOUNTAIN

AGENDA ITEM SUMMARY

SUBMITTER:	Richard Hicks, Interim Town Manager	**MEETING DATE:**	August 10, 2026
AGENDA SECTION:	Consent Agenda	**DEPARTMENT:**	Administration
TITLE OF ITEM:	Art in the Afternoon Lease Renewal		

SUGGESTED MOTION(S):
Motion to renew the Art in the Afternoon lease for a one-year term expiring August 31, 2027.

SUMMARY:

The Art in the Afternoon lease expires August 31, 2026. Currently, Art in the Afternoon uses the building at 101 Carver Ave, commonly referred to as the Annex, which is approximately 2,577 square feet. The current rent is $1,000 per month. A copy of the current lease is attached. Council should review the current lease agreement and rent rate, and consider renewal for an additional year which would run from September 1, 2026 through August 31, 2027. Stephanie Bly, tenant, has indicated her interest in continuing the lease.

BUDGET IMPACT:

Is this expenditure approved in the current fiscal year budget? n/a

If no, describe how it will be funded. n/a

ATTACHMENTS:

1. Art in the Afternoon Lease - 2026-27_expires 8-31-2027

LEASE AGREEMENT

STATE OF NORTH CAROLINA
BUNCOMBE COUNTY

Prepared by & return to: Craig D. Justus
P.O. Box 54
Asheville, NC 28802

THIS LEASE AGREEMENT (the "Lease") is made and entered into this **10th day of August 2026**, by and between THE TOWN OF BLACK MOUNTAIN, a North Carolina Municipal Corporation, the "Landlord" or "Town"), and STEPHANIE BLY, (the "Tenant").

WITNESSETH:

WHEREAS, Landlord desires to let and lease to Tenant, and Tenant desires to let and lease from Landlord, upon the terms and conditions hereinafter set forth, that certain real property being that portion of the Carver Center located at 101 Carver Avenue in Black Mountain, Buncombe County, North Carolina, commonly referred to as the "Annex" (the "Property").

NOW, THEREFORE, FOR AND IN CONSIDERATION of the rents, covenants, agreements and stipulations hereinafter mentioned, reserved and contained, to be paid, kept and performed by the Tenant, Landlord has leased and rented, and by these presents does lease and rent, unto the Tenant who hereby agrees to lease from the Landlord, upon the terms and conditions which are hereinafter contained, the Property:

1. **Description.** Landlord does hereby lease to Tenant the Property, together with any and all rights, easements and appurtenances pertaining thereto running in favor of Landlord with respect to the Property, and all improvements, including, without limitation, that portion of the building at 101 Carver Avenue commonly referred to as the Annex, being approximately 2,577 square feet.

2. **Term.** The initial term of this Lease shall commence September 1, 2025 (the "Commencement Date"), and shall expire August 31, 2026.

3. **Rent.** The Rent shall be $1,000.00 per month, paid in advance at the beginning of each month beginning September 1, 2025.

4. **Tenant's Insurance.** Beginning on the Lease Commencement Date, Tenant, at her own expense, shall provide and maintain a general liability insurance policy naming the Landlord, its agents and its managers as additional insureds, in the amount of $100,000.00 per occurrence and $500,000.00 in aggregate.

5. **Damage or Destruction.** In the event the buildings or improvements located on the Property shall be damaged or destroyed by fire or other disaster, Landlord may in its sole discretion determine whether such damage shall be repaired. If the Landlord decides to repair, the Tenant's duty to pay rent shall abate until such time as the repairs are completed and Tenant can resume use of the premises.

In order to insure the Landlord's ability to repair or rebuild the damaged or destroyed buildings or improvements located on the Property, Landlord shall maintain fire and extended insurance coverage or so-called "all-risk" insurance for the full replacement value of the buildings and other improvements located on the Property.

Tenant understands and agrees that the insurance which is to be obtained and maintained by the Landlord will not cover any items of personal property owned by the Tenant and kept on the property, including merchandise, inventory, furniture, equipment or trade fixtures. If Tenant desires to have such property protected by insurance, he will be responsible for obtaining hazard insurance for that purpose.

6. **Maintenance and Repairs.** Landlord, at its sole cost and expense, shall maintain and repair the load bearing structural walls, roof structural, foundation, and plumbing and electrical up to the metering devices serving the Property. Landlord shall also maintain and repair all interior items including but not limited to walls, plumbing, electrical, doors, windows and HVAC. Tenant shall maintain and repair all property and improvements it brings into the classroom, including cabinets, furniture, chalkboards, etc. All supplies needed by the Tenant will be provided by the Tenant, including bathroom supplies and cleaning materials. Tenant shall be responsible for all cleaning.

7. **Right of Entry.** Landlord reserves the right during the term of this Lease to enter and inspect the Property at reasonable hours and in such a manner as to not interfere with the business activity conducted thereon. No inspections shall be conducted unless an authorized representative of Tenant is present.

8. **Assignment and Subletting.** Tenant may not assign any interest in this Lease, or sublet any portion of the leased premises, without the written consent of the Landlord.

9. **Remedies upon Default.** If Tenant should fail to promptly pay the Rent herein stipulated or any other sum for which Tenant is liable under the terms of this Lease within fifteen (15) days after Tenant's receipt of notice from Landlord of such delinquency, Tenant shall owe a late payment penalty of five percent (5%) of the past due rental amount. If Tenant shall fail to pay the monthly amount due within thirty days of the due date, or

should the Tenant breach any of its covenants under this Lease and not cure the same within thirty (30) days after the receipt of notice from Landlord designating such breach, the Landlord may, at his option, terminate this Lease and take possession of the Property. The foregoing rights of the Landlord shall be in addition to any rights which the Landlord may have under law or in equity.

Notwithstanding any other provision of this Lease, where the curing of an alleged default requires more than the payment of money and the work of curing said default cannot be reasonably accomplished within the time otherwise permitted herein, and where Tenant has commenced upon curing said default and is diligently pursuing same, then Tenant shall be entitled to reasonable time extensions to permit the completion of curing said default as a condition precedent to any reentry by Landlord or termination of this Lease by Landlord, and any default that is cured shall not thereafter be grounds for reentry or termination.

10. **Use of the Property.** The Property shall be continuously used, throughout the term of the Lease, solely for the purposes of providing an art program for school age children and an arts based summer camp program.

11. **Removal of Equipment. Fixtures and Merchandise.** Landlord acknowledges that Landlord has no interest in any personal property or equipment or furniture or any trade fixtures which may be installed by Tenant upon the Property, and Landlord agrees in the future to furnish Tenant, upon request, with such waiver or similar documents as may be reasonably required by any lender or equipment lessor in connection with Tenant's acquisition or financing respecting such personal property, equipment, furniture and fixtures. All personal property, furniture, equipment, and trade fixtures, including, but not limited to, specialty equipment, shelves, cabinets, counters and signs, which are installed or placed on the Property by or at the expense of Tenant shall remain the property of the Tenant, and Tenant shall have the right at all times to remove such personal property, furniture, equipment, and trade fixtures from the Property. Landlord shall not be responsible for the condition or safety of the furniture, fixtures, equipment, trade fixtures, inventory or other personal property used or stored on the Property, and Tenant shall indemnify and hold the Landlord harmless from any claims others might make on damage to any personal property used or stored on the Property.

12. **Covenant of Quiet Enjoyment.** Landlord covenants and warrants to Tenant that: (i) Landlord has full right and lawful authority to enter into and perform Landlord's obligations under this Lease for the entire lease term including any extensions thereof, and has good and marketable title to the Property in fee simple, free and clear of all contracts, leases, tenancies, agreements, restrictions, violations, encumbrances or defects in title of any nature whatsoever, (ii) this Lease is not and shall not be subject or subordinate to any mortgage of Landlord; (iii) upon Tenant's compliance with the terms of this Lease, Tenant shall quietly and peaceably hold, possess and enjoy the Property for the full term of this Lease without any hindrance or molestation by any party, and Landlord will defend the title to the Property and the use and occupancy of the same by the Tenant against the claims of all persons, whomsoever, except those claiming by or

though the Tenant.

13. **Waiver of Breach.** It is hereby covenanted and agreed that no waiver of a breach of any of the covenants of this Lease shall be construed to be a waiver of any succeeding breach of the same or any other covenant.

14. **Holding Over.** In the event of Tenant's continued occupancy of the Property after the expiration of the term of this Lease or any renewal or extension thereof, or any earlier termination provided or permitted in this Lease, Tenant shall be deemed to be a tenant from month-to-month. All other covenants, provisions, obligations and conditions of this Lease shall remain in full force and effect during such month-to-month tenancy.

15. **Notices.** All notices to be given to either party by the other shall be in writing, and shall be deemed to have been given when the same is either (i) personally delivered (including delivery by any "overnight mail service"), or (ii) deposited in the United States mail, postage prepaid by certified or registered mail, return receipt requested and properly addressed to the respective party; it being specifically agreed and understood that all cure or grace periods for compliance established under the terms and provisions of this Lease shall not be deemed to have commenced until such time as notice shall have been received by the party to whom it shall have been directed, or until such time as delivery of such notice shall have been refused. All notices to be given shall be sent as follows, unless the party to receive notice has notified the other in writing of a change:

    To Landlord:
    Town of Black Mountain
    160 Midland Avenue
    Black Mountain, NC 28711

    To Tenant:
    Stephanie Bly 205 Ruby Ave.
    Black Mountain, NC 28711

16. Miscellaneous.

A. The captions in this Lease are for convenience only and shall not in any way limit or be deemed to construe or interpret the terms and provisions hereof.

B. Time is of the essence of the Lease and of all provisions hereof.

C. This Lease shall be construed and enforced in accordance with the laws of the State of North Carolina.
D. This Lease may be executed in several counterparts, each of which shall be an original and all collectively shall constitute one lease.

IN WITNESS WHEREOF, Landlord has executed this Lease and Tenant has caused this Lease

to be executed on its behalf and through it duly authorized officers, all as of the day and year first above written.

Date: _____ TOWN OF BLACK MOUNTAIN, Landlord

By: _____
Richard Hicks, Interim Town Manager

Date: _____ _____
Stephanie Bly, Tenant

TOWN OF BLACK MOUNTAIN

AGENDA ITEM SUMMARY

SUBMITTER:	Michelle Kennedy, Planning Director	**MEETING DATE:**	August 10, 2026
AGENDA SECTION:	Public Hearing	**DEPARTMENT:**	Planning & Development Services
TITLE OF ITEM:	Public Hearing for One-Year Moratorium for Street Dedications to the Town		

SUGGESTED MOTION(S):

Motion to approve the one-year moratorium for street dedications to the Town of Black Mountain.

SUMMARY:

The Town Council has asked that staff to draft language to impose a one-year moratorium on street dedications to the town due to current budget constraints, and potential staffing concerns that would potentially be required for maintenance of extra public streets. At the July 13, 2026 Town Council meeting, Council members voted to call for a public hearing to amend Ch. 3, Section 3.6.3, of the Land Use Code to impose a one-year moratorium on the dedication of streets to the town, to be held on Monday, August 10, 2026. Town Council will now hold this public hearing to hear any comments from the public. Following the public hearing, Council members will discuss the approval of this one-year moratorium on street dedication, and vote.

BUDGET IMPACT:

Is this expenditure approved in the current fiscal year budget? n/a

If no, describe how it will be funded. n/a

ATTACHMENTS:

1. 26_08_10_ORDINANCE_MORATORIUM_STREET_DEDICATION

ORDINANCE #

AN ORDINANCE TO IMPOSE A TEMPORARY MORATORIUM ON STREET DEDICATION PETITIONS

WHEREAS, North Carolina General Statute 160D-107(a) authorizes cities to adopt a temporary moratorium on development approvals of reasonable duration;

NOW, THEREFORE BE IT ORDAINED by the Town Council of the Town of Black Mountain that:

Section 1
A temporary moratorium is hereby imposed commencing August 10, 2026, and expiring no later than August 9, 2027, on the acceptance of street dedication petitions within the Town of Black Mountain. This moratorium shall apply to any new street dedication petition.

Section 2
In compliance with the requirements of North Carolina General Statute 160D-107(d), the following statements are included in this ordinance:

(1) The problems or conditions necessitating the moratorium are those attendant to the severe budget constraints seen by the Town of Black Mountain.

The Town has adopted an approved budget for FY26-27, however, due to the severe shortfall in funds, funds for street maintenance were not increased and no additional staff were added.

The funds already allocated along with the funds received from Powell Bill are not enough to maintain the current amount of streets the Town maintains.

The Town finds that it is not appropriate at this time to consider any additional street dedication petitions.

(2) The development approvals subject to the moratorium are street dedication petitions. The moratorium will allow the Town of Black Mountain to address the state problems or conditions by providing time to analyze costs of taking on additional streets for maintenance and appropriate staffing needed.

(3) The moratorium will terminate no later than August 9, 2027. The duration of the moratorium is reasonably necessary to address the problems or conditions leading to imposition of the moratorium, in that it will provide sufficient time for the Town of Black Mountain to analyze additional funds needed for additional street maintenance and where those funds might be found and to analyze if additional staffing will be needed and how to fund those positions that will be incorporated in the next fiscal year budget.

(4) During the duration of the moratorium, the following actions are proposed to be taken by the Town to address the problems or conditions leading to the imposition of the moratorium: Phase 1 (up to twelve months): (a) determine amount of funding that would be needed to maintain additional streets; (b) determine how many streets may request for takeover for maintenance (this will include looking at new subdivisions); (c) determine if any new staff would be needed and if so, how many, and what salaries would be; and (d) draft budgetary recommendations for FY27-28 budget.

Section 3
The moratorium will terminate no sooner than August 9, 2027, upon the approval of funds and staffing in the FY27-28 budget, after the adoption of the budget, which will allocate funding and staffing for additional street maintenance.

Section 4
Notwithstanding anything herein to the contrary, the moratorium may be subsequently renewed or extended in accordance with the provisions of North Carolina General Statute 160D-107(e).

Section 5
All ordinances or parts of ordinances in conflict herewith are hereby repealed to the extent of such conflict.

Section 6
Any part of the provision of this ordinance found by a court of competent jurisdiction to be in violation of the Constitution or laws of the United States or North Carolina is hereby deemed severable and shall not affect the validity of the remaining provisions of this ordinance.

Section 7
This ordinance shall be in full force and effect on the date of adoption.

READ, APPROVED AND ADOPTED, by a vote of _____ to _____ on this the 10th day of August 2026.

_____
C. Michael Sobol, Mayor

ATTEST:

_____
Wesley M. Barker, Town Clerk

TOWN OF BLACK MOUNTAIN

AGENDA ITEM SUMMARY

SUBMITTER:	Richard Hicks, Interim Town Manager	**MEETING DATE:**	August 10, 2026
AGENDA SECTION:	Unfinished Business	**DEPARTMENT:**	Administration
TITLE OF ITEM:	Consideration of Easement Request with Duke Energy (along Golf Course property)		

SUGGESTED MOTION(S):

I move that Council authorize the Interim Town Manager to Execute the Requested Utility Easement with Duke Energy on the Town of Black Mountain Golf Course Property.

SUMMARY:

Duke Energy has requested that the Town grant them an easement along the Golf Course. They need to run an underground line for customer reliability and resiliency measures. They would bore approximately 1500 feet of 3 phase primary cable along the edge of Hole #12 of the Golf Course, which runs along North Fork Road and Greene Drive. They would need to place 3 new UG enclosures along the path at the turns and midspan as seen in the attached right-of-way map (P2, P3 and P4). In addition to the underground they need to replace one pole and add another pole along Greene Drive. Some tree work would be necessary along Greene Drive for the pole installations. The underground line would run along the row of white pines that follow the 12th hole. This circuit tie would provide increased reliability by allowing their system to back feed between the circuits. This would help reduce the duration and number of customers affected during an outage.

Attached for your review and information is a copy of the proposed easement, a sketch of the proposed easement and an example of the utility boxes that would be installed along the easement. Mayor Sobol and I met with representatives from Duke Energy a few weeks ago to review their request.

This item was first discussed at the March 9, 2026 Town Council meeting, and Council asked a representative from Duke Energy to attend a future Town Council meeting to answer some additional questions. Duke Energy representative(s) will be attending the Council meeting to answer any questions from Council.

BUDGET IMPACT:

Is this expenditure approved in the current fiscal year budget? n/a

If no, describe how it will be funded. n/a

ATTACHMENTS:

1. 1. TOWN OF BLACK MTN ESMT - Golf Course
2. Golf Course Easement EXHIBIT A
3. Golf Course Easement - Transformer Box

Prepared by: Duke Energy Progress, LLC
Return to: Duke Energy Progress, LLC
Attn: Southeastern Land Company
PO Box 71059
Myrtle Beach, SC 29572

Parcel # 070090116500000

EASEMENT

State of North Carolina
County of Buncombe

THIS EASEMENT ("**Easement**") is made this _____ day of _____ 20____, from **TOWN OF BLACK MOUNTAIN**, a North Carolina Municipal Corporation ("**Grantor**", whether one or more), to **DUKE ENERGY PROGRESS, LLC**, a North Carolina limited liability company ("**Grantee**").

Grantor, for and in consideration of the sum of One and 00/100 Dollar ($1.00) and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, does hereby grant unto Grantee a perpetual and non-exclusive easement, to construct, reconstruct, operate, patrol, maintain, repair, replace, relocate, add to, modify, and remove electric and communication lines including, but not limited to, all necessary supporting structures, and all other appurtenant apparatus and equipment for the transmission and distribution of electrical energy, and for technological purposes related to the operation of the electric facilities and for the communication purposes of Incumbent Local Exchange Carriers (collectively, "**Facilities**").

Grantor is the owner of that certain property described in that instrument recorded in **Deed Book 1035, Page 347**, Buncombe County Register of Deeds ("**Property**").

The Facilities may be both overhead and underground and located in, upon, over, along, under, through, and across a portion of the Property within an easement area described as follows:

A strip of land thirty feet (30') in uniform width for the overhead portion of said Facilities and a strip of land twenty feet (20') in uniform width for the underground portion of said Facilities, lying equidistant on both sides of a centerline, which centerline shall be established by the center of the Facilities as installed, along with an area ten feet (10') wide on all sides of the foundation of any Grantee enclosure/transformer, vault and/or manhole, (hereinafter referred to as the "Easement Area").

The rights granted herein include, but are not limited to, the following:

1. Grantee shall have the right of ingress and egress over the Easement Area, Property, and any adjoining lands now owned or hereinafter acquired by Grantor (using lanes, driveways, and adjoining public roads where practical as determined by Grantee).
2. Grantee shall have the right to trim, cut down, and remove from the Easement Area, at any time or times and using safe and generally accepted arboricultural practices, trees, limbs, undergrowth, other vegetation, and obstructions.
3. Grantee shall have the right to trim, cut down, and remove from the Property, at any time or times and using safe and generally accepted arboricultural practices, dead, diseased, weak, dying, or leaning trees or limbs, which, in the opinion of Grantee, might fall upon the Easement Area or interfere with the safe and reliable operation of the Facilities.
4. Grantee shall have the right to install necessary guy wires and anchors extending beyond the boundaries of the Easement Area.
5. Grantee shall have the right to relocate the Facilities and Easement Area on the Property to conform to any future highway or street relocation, widening, or alterations.
6. Grantor shall not place, or permit the placement of, any structures, improvements, facilities, or obstructions, within or adjacent to the Easement Area, which may interfere with the exercise of the rights granted herein to Grantee. Grantee shall have the right to remove any such structure, improvement, facility, or obstruction at the expense of Grantor.
7. Excluding the removal of vegetation, structures, improvements, facilities, and obstructions as provided herein, Grantee shall promptly repair or cause to be repaired any physical damage to the surface area of the Easement Area and Property resulting from the exercise of the rights granted herein to Grantee. Such repair shall be to a condition which is reasonably close to the condition prior to the damage, and shall only be to the extent such damage was caused by Grantee or its contractors or employees.
8. Notwithstanding anything to the contrary above, the general location of the Facilities is shown on the sketch attached hereto as Exhibit A and incorporated herein by reference. The final and definitive location of the Easement Area shall become established by and upon the final installation and erection of the Facilities by Grantee in substantial compliance with Exhibit A.
9. All other rights and privileges reasonably necessary, in Grantee's sole discretion, for the safe, reliable, and efficient installation, operation, and maintenance of the Facilities.

The terms Grantor and Grantee shall include the respective heirs, successors, and assigns of Grantor and Grantee. The failure of Grantee to exercise or continue to exercise or enforce any of the rights herein granted shall not be construed as a waiver or abandonment of the right thereafter at any time, or from time to time, to exercise any and all such rights.

TO HAVE AND TO HOLD said rights, privilege, and easement unto Grantee, its successors, licensees, and assigns, forever. Grantor warrants and covenants that Grantor has the full right and authority to convey to Grantee this perpetual Easement, and that Grantee shall have quiet and peaceful possession, use and enjoyment of the same.

IN WITNESS WHEREOF, Grantor has signed this Easement under seal effective this ____ day of _____, 20_____.

TOWN OF BLACK MOUNTAIN
a North Carolina a body politic and corporate of the state of x

_____ (SEAL)
Richard Hicks, City Manager

Attest:

_____
Wesley Barker, City Clerk

STATE OF _____

COUNTY OF _____

I, _____, a Notary Public of _____ County, State of _____, certify that Richard Hicks personally appeared before me this day and acknowledged that he/she is City Clerk of TOWN OF BLACK MOUNTAIN, a North Carolina Municipal Corporation, and that by authority duly given and as the act of said a Municipal Corporation, the foregoing EASEMENT was signed in its name by its City Manager, sealed with its official seal, and attested by herself/himself as its City Clerk.

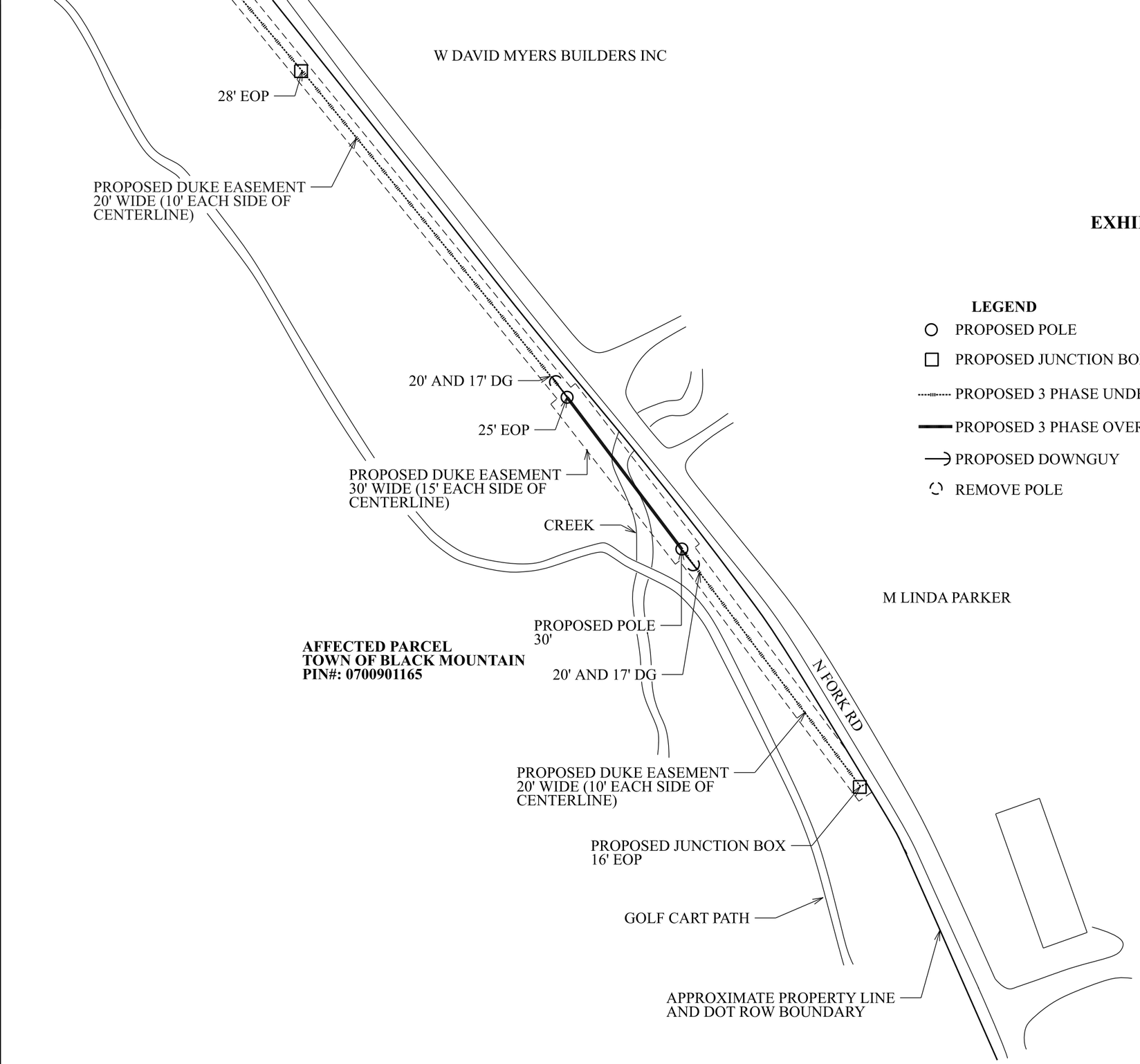
Witness my hand and notarial seal, this ____ day of _____, 20_____.

Notary Public: _____

Commission expires: _____

(Notary Seal)

For Grantee's Internal Use:
Work Order #: 62846955-20



AFFECTED PARCEL
TOWN OF BLACK MOUNTAIN
PIN#: 0700901165

EXHIBIT A

NOT TO SCALE

LEGEND

- PROPOSED POLE
- PROPOSED JUNCTION BOX
- PROPOSED 3 PHASE UNDERGROUND
- PROPOSED 3 PHASE OVERHEAD
- PROPOSED DOWNGUY
- REMOVE POLE

N

Work Order Number	57906022
Customer/Contact	
Contact Phone	
Job Site Address	
City	BLACK MOUNTAIN
County	BUNCOMBE
State, Zip	NC, 28711
Designer	Shawn Keene
Designer Phone	
Circuit ID	
Primary Voltage	
Permit Required	Yes __ No_ _
Permit Type No.	
Permit type/No. 2	
Permit Type/No. 3	
Revision Date	

Sheet: 1 of 2
Scale: NTS

THIS MAP MAY NOT BE A CERTIFIED SURVEY AND HAS NOT BEEN REVIEWED BY LOCAL GOVERNMENT AGENCY FOR COMPLIANCE WITH ANY APPLICABLE LAND DEVELOPMENT REGULATIONS AND HAS NOT BEEN REVIEWED FOR COMPLIANCE WITH RECORDING REQUIREMENTS FOR PLAT

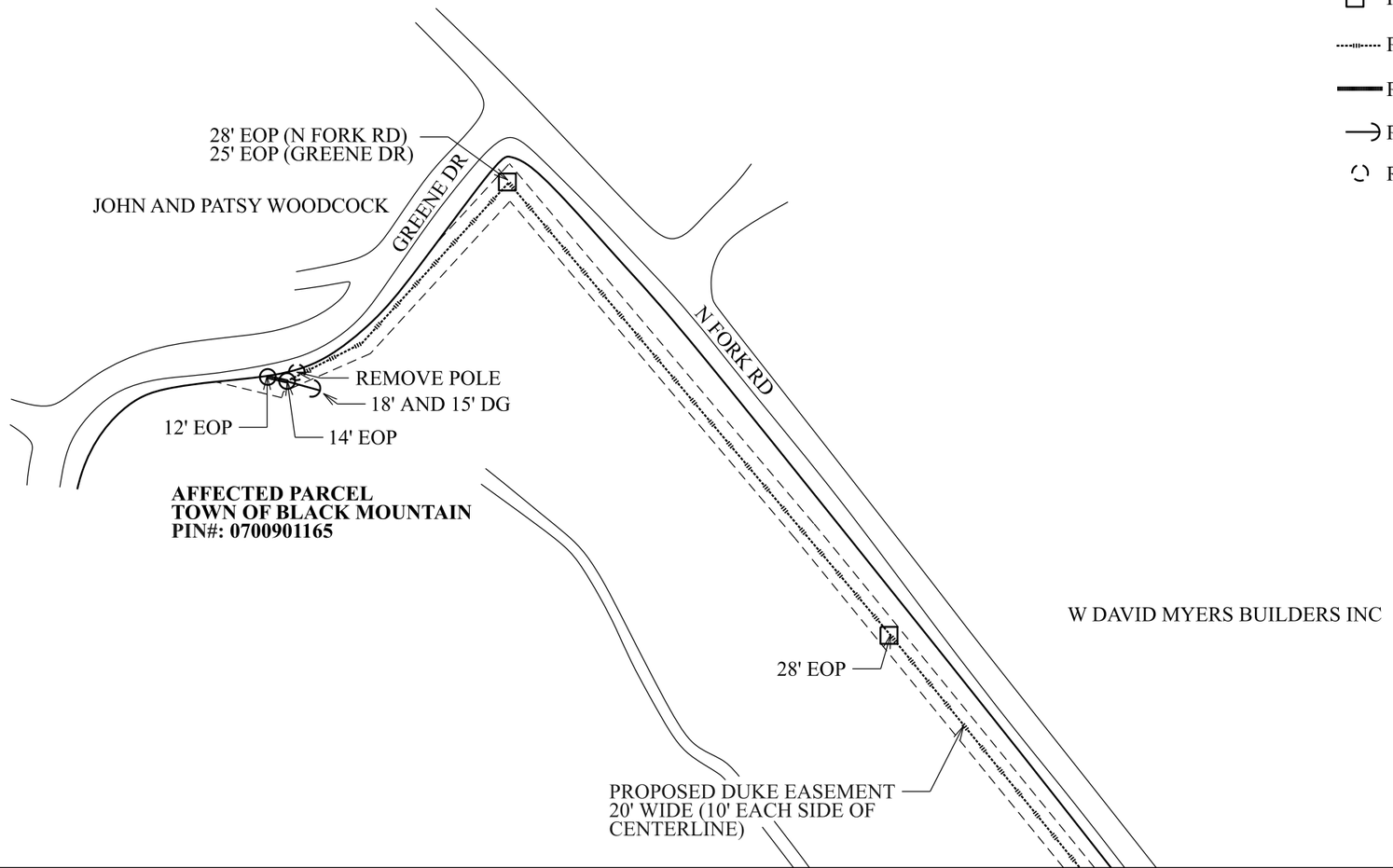
N

EXHIBIT A

DRAWING NOT TO SCALE

LEGEND

- PROPOSED POLE
- PROPOSED JUNCTION BOX
- PROPOSED 3 PHASE UNDERGROUND
- PROPOSED 3 PHASE OVERHEAD
- PROPOSED DOWNGUY
- REMOVE POLE



Work Order Number	57906022
Customer/Contact	
Contact Phone	
Job Site Address	
City	BLACK MOUNTAIN
County	BUNCOMBE
State, Zip	NC, 28711
Designer	Shawn Keene
Designer Phone	
Circuit ID	
Primary Voltage	
Permit Required	Yes __ No_ _
Permit Type No.	
Permit type/No. 2	
Permit Type/No. 3	
Revision Date	

2MLR42
WARNING

TOWN OF BLACK MOUNTAIN

AGENDA ITEM SUMMARY

SUBMITTER:	Richard Hicks, Interim Town Manager	**MEETING DATE:**	August 10, 2026
AGENDA SECTION:	New Business	**DEPARTMENT:**	Administration

TITLE OF ITEM: Consideration of Easement Request with Duke Energy (Richard Lane)

SUGGESTED MOTION(S):

I move that Council authorize the Town Manager to Execute a Utility Easement With Duke Energy on Town Property located on Richard Lane.

SUMMARY:

The Town has received a request from Duke Energy for a utility easement across property owned by the Town on Richard Lane. Duke Energy has received a request from the adjoining property owner for service, and needs to cross the Town's property in order to provide the service requested. A copy of the proposed easement, as well as a map showing the location of the property is attached for your review and consideration.

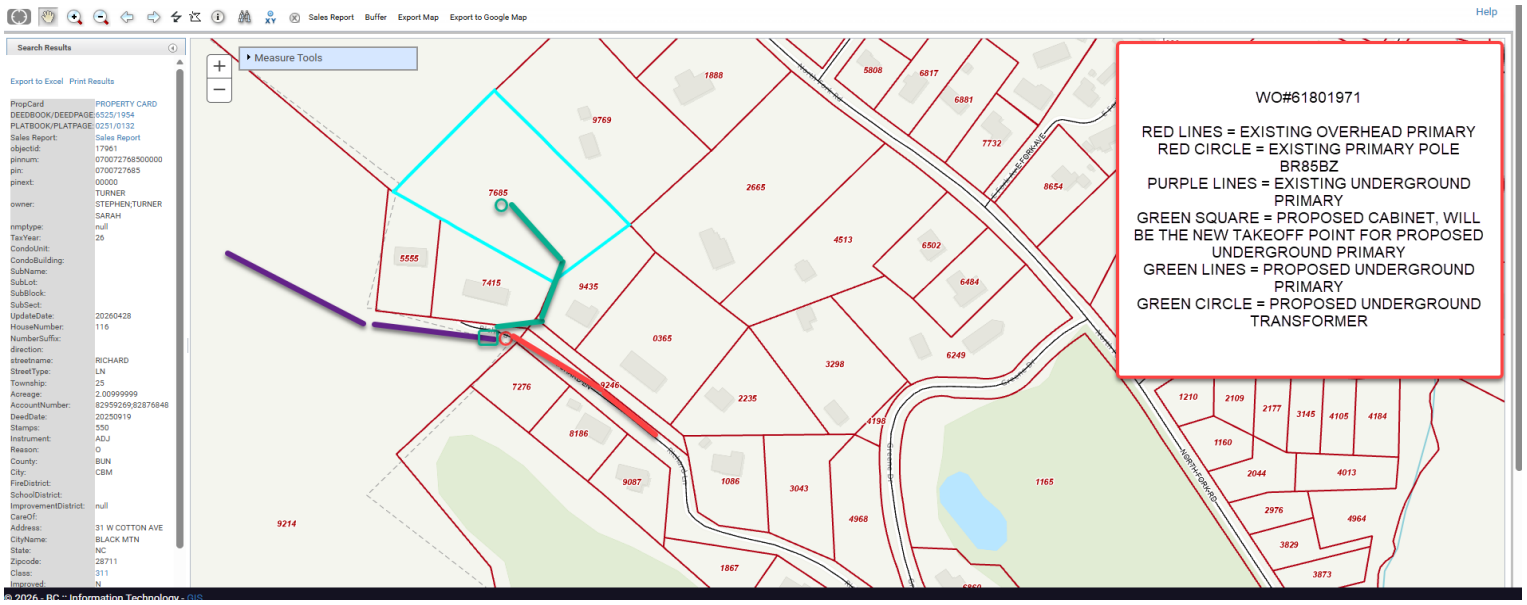
BUDGET IMPACT:

Is this expenditure approved in the current fiscal year budget? n/a

If no, describe how it will be funded. n/a

ATTACHMENTS:

1. Duke Easment Map Richard Lane
2. Duke Energy Easement Richard Lane
3. Duke Energy- Richard Lane Easement Request


Sales Report
Buffer
Export Map
Export to Google Map
Help
Search Results
Export to Excel
Print Results
Measure Tools
WO#61801971
RED LINES = EXISTING OVERHEAD PRIMARY
RED CIRCLE = EXISTING PRIMARY POLE BR85BZ
PURPLE LINES = EXISTING UNDERGROUND PRIMARY
GREEN SQUARE = PROPOSED CABINET, WILL BE THE NEW TAKEOFF POINT FOR PROPOSED UNDERGROUND PRIMARY
GREEN LINES = PROPOSED UNDERGROUND PRIMARY
GREEN CIRCLE = PROPOSED UNDERGROUND TRANSFORMER

Prepared by: Duke Energy Progress, LLC
Return to: Duke Energy Progress, LLC
Attn: Staci Watkins
PO Box 6318
High Point, NC 27262

Parcel # 070072924600000

EASEMENT

State of North Carolina
County of Buncombe

THIS EASEMENT ("**Easement**") is made this _____ day of _____ 20_____, from **TOWN OF BLACK MOUNTAIN**, a municipal corporation of North Carolina ("**Grantor**", whether one or more), to **DUKE ENERGY PROGRESS, LLC**, a North Carolina limited liability company ("**Grantee**").

Grantor, for and in consideration of the sum of One and 00/100 Dollar ($1.00) and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, does hereby grant unto Grantee a perpetual and non-exclusive easement, to construct, reconstruct, operate, patrol, maintain, repair, replace, relocate, add to, modify, and remove electric and communication lines including, but not limited to, all necessary supporting structures, and all other appurtenant apparatus and equipment for the transmission and distribution of electrical energy, and for technological purposes related to the operation of the electric facilities and for the communication purposes of Incumbent Local Exchange Carriers (collectively, "**Facilities**").

Grantor is the owner of that certain property described in that instrument recorded in **Deed Book 1296, Page 787**, Buncombe County Register of Deeds ("**Property**").

The Facilities may be both overhead and underground and located in, upon, over, along, under, through, and across a portion of the Property within an easement area described as follows:

A strip of land thirty feet (30') in uniform width for the overhead portion of said Facilities and a strip of land twenty feet (20') in uniform width for the underground portion of said Facilities, lying equidistant on both sides of a centerline, which centerline shall be established by the center of the Facilities as installed, along with an area ten feet (10') wide on all sides of the foundation of any Grantee enclosure/transformer, vault and/or manhole, (hereinafter referred to as the "Easement Area").

The rights granted herein include, but are not limited to, the following:

1. Grantee shall have the right of ingress and egress over the Easement Area, Property, and any adjoining lands now owned or hereinafter acquired by Grantor (using lanes, driveways, and adjoining public roads where practical as determined by Grantee).
2. Grantee shall have the right to trim, cut down, and remove from the Easement Area, at any time or times and using safe and generally accepted arboricultural practices, trees, limbs, undergrowth, other vegetation, and obstructions.
3. Grantee shall have the right to trim, cut down, and remove from the Property, at any time or times and using safe and generally accepted arboricultural practices, dead, diseased, weak, dying, or leaning trees or limbs, which, in the opinion of Grantee, might fall upon the Easement Area or interfere with the safe and reliable operation of the Facilities.
4. Grantee shall have the right to install necessary guy wires and anchors extending beyond the boundaries of the Easement Area.
5. Grantee shall have the right to relocate the Facilities and Easement Area on the Property to conform to any future highway or street relocation, widening, or alterations.
6. Grantor shall not place, or permit the placement of, any structures, improvements, facilities, or obstructions, within or adjacent to the Easement Area, which may interfere with the exercise of the rights granted herein to Grantee. Grantee shall have the right to remove any such structure, improvement, facility, or obstruction at the expense of Grantor.
7. Excluding the removal of vegetation, structures, improvements, facilities, and obstructions as provided herein, Grantee shall promptly repair or cause to be repaired any physical damage to the surface area of the Easement Area and Property resulting from the exercise of the rights granted herein to Grantee. Such repair shall be to a condition which is reasonably close to the condition prior to the damage, and shall only be to the extent such damage was caused by Grantee or its contractors or employees.
8. The rights granted in this Easement include the right to install Facilities wherever needed on the Property to serve future development on the Property and adjoining lands. Portions of the Facilities may be installed immediately and other portions may be installed in the future as the need develops. Facilities installed in the future shall be installed at locations mutually agreeable to the parties hereto if they are to be located outside of the Easement Area. Upon any future installations of Facilities at mutually agreed locations, the Easement Area shall be deemed to include such future locations.
9. All other rights and privileges reasonably necessary, in Grantee's sole discretion, for the safe, reliable, and efficient installation, operation, and maintenance of the Facilities.

The terms Grantor and Grantee shall include the respective heirs, successors, and assigns of Grantor and Grantee. The failure of Grantee to exercise or continue to exercise or enforce any of the rights herein granted shall not be construed as a waiver or abandonment of the right thereafter at any time, or from time to time, to exercise any and all such rights.

TO HAVE AND TO HOLD said rights, privilege, and easement unto Grantee, its successors, licensees, and assigns, forever. Grantor warrants and covenants that Grantor has the full right and authority to convey to Grantee this perpetual Easement, and that Grantee shall have quiet and peaceful possession, use and enjoyment of the same.

IN WITNESS WHEREOF, Grantor has signed this Easement under seal effective this ____ day of _____, 20_____.

TOWN OF BLACK MOUNTAIN
a municipal corporation of North Carolina
_____ (SEAL)
_____

STATE OF _____

COUNTY OF _____

I, _____, a Notary Public of _____ County, State of _____, certify that _____, as _____ of **TOWN OF BLACK MOUNTAIN**, a North Carolina a body politic and corporate of the state of x, personally appeared before me this day and acknowledged the due execution of the foregoing EASEMENT.

Witness my hand and notarial seal, this ____ day of _____, 20_____.

(Notary Seal)

Notary Public: _____

Commission expires: _____

For Grantee's Internal Use:
Work Order #: 61892825-50

May 13, 2026

Attn: Town of Black Mountain
C/O – Richard Hicks
Mailing Address: 160 Midland Avenue
Black Mountain, NC 28711

RE: Duke Energy Easement: Richard Lane Black Mountain, NC 28711 PIN#: 070072924600000

Duke Energy Carolinas has received a request for service to the property adjacent/near your property. To provide service to the requesting customer, Duke Energy will need to obtain a new easement agreement from you to install facilities on your property located at **Richard Lane Black Mountain, NC 28711**.

An easement is needed by you to allow Duke Energy to install, maintain and access the facilities. I have provided a sketch showing how we are proposing to run the new service on your property to serve your neighbor.

Please feel free to let me know if any additional information or supporting materials would be helpful as you complete your review. Should you have no questions please use the guidelines below when signing and notarizing the easement document.

- Easement must be signed by **all parties** as shown on the easement document(s).
- Easement must be signed and sealed before a notary.
- For Individuals: Spouses who are not reflected on the property title but have a marital interest in the property must also sign on page two in the signature space provided. Notary requirements will apply to all signatures.
- For Businesses: Easement must be signed before a notary by an authorized signer for the LLC (signer must be the authorized member/manager for the LLC who is authorized to sign for real estate documents).
  Easement must be signed before a notary by an authorized signer for the corporation (signer must be an officer of the corporation who is authorized to sign for real estate documents).
- Name(s) should be legible and signed in blue or black ink.
- Name(s) should be signed on the signature line(s) and listed in the notary section exactly as they appear in the beginning of the easement document(s).
- Notary stamp must be legible and stamped over the notary seal area on the easement. Be mindful of 1/2-inch side margin recording requirements. Signatures, notary stamps, etc. that extend into the 1/2-inch side margins or top margin will be rejected.
- Do not alter the easement document. Any changes, additions or deletions to the language will render the easement null and void.

I am a certified notary and can meet you at your convenience free of charge if needed.

Please send the executed easement to me by email. Also, **mail the original notarized easement to the highlighted address below.** If you will, please call me at the below number to confirm receipt of this letter and to discuss the proposed design and easement document. **If you have any questions, or need assistance with notary services, contact me at (828) 280.3799 or staci.watkins@duke-energy.com**. Thank you in advance for working with Duke Energy. Your time and consideration are greatly appreciated.

Sincerely,

Staci Watkins

Staci Watkins, Contractor Land Representative for Duke Energy
Real Estate Broker – NC#323250
https://www.ncrec.gov/Brochures/WWREABrochure.pdf
https://www.ncrec.gov/Forms/WWREA/WWREADisclosureForm.pdf
PO Box 6318

TOWN OF BLACK MOUNTAIN

AGENDA ITEM SUMMARY

SUBMITTER:	Anne Phillip, Stormwater Technician	**MEETING DATE:**	August 10, 2026
AGENDA SECTION:	New Business	**DEPARTMENT:**	Stormwater

TITLE OF ITEM: Presentation and Adoption of Equivalent Residential Unit (ERU) Rate Study

SUGGESTED MOTION(S):

I move we adopt the Equivalent Residential Unit (ERU) Rate Study as presented and allow time to explore the options available and direct staff as to which option would be best suited for the Town to bring back for approval.

SUMMARY:

In 2024, the Town of Black Mountain engaged Raftelis as a sub to WK Dickson, an Ardurra Company, to evaluate a potential stormwater fee rate structure change as part of the Stormwater Master Plan Update funded by a Local Assistance for Stormwater Infrastructure Investments Program (LASII) grant. This analysis included determining an Equivalent Residential Unit (ERU), development of units of service based on measured impervious area, and calculation of rate ranges under a new rate structure alternative.

Raftelis was taxed with evaluating the Town's current tiered stormwater rate structure and providing alternative rate structures for the Town to consider. The Town is considering a change in its stormwater rate structure to one based on impervious area in an effort to utilize a rate structure that more accurately and equitably charges properties based on the demand they place on the stormwater system. Ratetelis provided the methodology and recommendations associated with the consideration of a new stormwater rate structure, but discussion on specific rates, financial planning considerations, and customer impacts will require further analysis and consideration by the Town before moving forward with the implementation of a new rate structure.

BUDGET IMPACT:

Is this expenditure approved in the current fiscal year budget? n/a

If no, describe how it will be funded. n/a

ATTACHMENTS:

1. 2026.04.17_BlackMtn_RateModel_Memo_DRAFT
2. 2024.09_Black Mtn_ERU_Memo_DRAFT
3. Stormwater ERU Analysis Presentation

RAFTELIS

Town of Black Mountain, North Carolina
Stormwater Rate Model
April 17, 2026

In 2024, the Town of Black Mountain (Town) engaged Raftelis as a sub to WK Dickson, an Ardurra Company, to evaluate a potential stormwater fee rate structure change as part Stormwater Master Plan. This analysis included determining an Equivalent Residential Unit (ERU), development of units of service based on measured impervious area, and calculation of rate ranges under a new rate structure alternative. Raftelis presented findings on the ERU analysis and rate structure alternatives including estimated units of service, to the Town in the September 2024 "Stormwater ERU Analysis" memorandum.

This memorandum addresses the stormwater financial planning and rate ranges associated with the potential new rate structure alternative. Included in this memorandum is a summary of the methodology Raftelis used to develop the Stormwater Rate Model and details the model's findings regarding projected financial performance and customer impacts.

Project Background

The Town of Black Mountain is in the process of developing a Stormwater Master Plan to define the capital investments necessary to sustain its desired level of service (LOS) related to their stormwater system and management. Recent regional weather events and a changing climate have underscored the importance of municipal preparedness and the need for robust stormwater infrastructure. Such investments are necessary to prevent unnecessary property damage and ensure public safety.

As the Town seeks to bolster its system's reliability, it must evaluate the fiscal impacts of increased revenue requirements on its residents. The goal of this analysis is to determine the sustainable funding levels required to achieve the Town's desired LOS and evaluate customer impacts associated with cost recovery through a standardized ERU-based fee should the Town decide to update their stormwater fee rate structure.

Inputs and Assumptions

Raftelis obtained necessary data from WK Dickson, an Ardurra Company, online resources, and internal documentation. Capital costs were derived from WK Dickson, an Ardurra Company's SWMP, Operations and maintenance (O&M) and debt service costs (DSC) were obtained through the Town's Adopted Budgets, and units of service information was sourced from Raftelis' September 2024 "Stormwater ERU Analysis." The total revenues generated under the current rate structure were captured from the Town's FY2024 Annual Comprehensive Financial Report.

As noted in the "Stormwater ERU Analysis" memorandum, two impervious area rate structure alternatives were discussed with Town staff, a flat rate residential rate structure where each residential property would be charged one ERU and all other properties would be charged in increments of ERUs based on measured impervious area, and a residential tiered rate structure where each residential property would be charged one of three flat rates based on estimated or measured impervious area and all other properties would be charged in multiples of ERUs based on measured impervious area. In these discussions, a simple and easy to maintain rate structure was a high priority for Town staff. As a result, a flat rate residential rate structure was

recommended for the Town and this is the rate structure used to determine the units of service in the rate model discussed in this memorandum.

Based on the above-described materials, Raftelis generated a stormwater rate model describing overall costs and revenue recovery through a 10-year planning period. Raftelis first computed the total revenue requirement resulting from the established capital and O&M costs, as well as any other costs expected to be incurred by the Town's stormwater fund. Raftelis then produced three alternative funding models designed around various CIP funding constraints.

O&M Costs

Raftelis developed the 10-year schedule of O&M costs by escalating costs from the Town's Adopted Budgets through FY2036. All O&M costs were categorized as Personnel-, Operating-, or Capital Outlay-related costs, and annual escalation factors for each category were assumed at 3%, 2%, and 4%, respectively. See Table 1 for annual O&M costs.

Table 1. Projected Annual O&M Expense for FY 2026 through FY 2036

Category	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031	FY 2032	FY 2033	FY 2034	FY 2035	FY 2036
Personnel	286,600	295,100	304,000	313,100	322,500	332,200	342,200	352,400	363,000	373,900	385,100
Operating	82,600	84,300	85,900	87,700	89,400	91,200	93,000	94,900	96,800	98,700	100,700
Capital Outlay	-	-	-	-	-	-	-	-	-	-	-
Total	***369,200***	***379,400***	***389,900***	***400,800***	***411,900***	***423,400***	***435,200***	***447,300***	***459,800***	***472,600***	***485,800***

Capital Costs

Raftelis developed a 10-year CIP from WK Dickson, an Ardurra Comapny's SWMP, with project timings derived from the provided prioritization scores and project phasing. Project spending was escalated using the Engineering News Record Construction Cost Index (ENR CCI, 3.1%). See Table 2 for baseline annual CIP needs for FY 2026 through FY 2036.

Table 2. Projected Annual CIP Expense for FY 2026 through FY 2036

Category	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031	FY 2032	FY 2033	FY 2034	FY 2035	FY 2036
Non-Escalated	-	1.54 M	3.39 M	3.74 M	3.88 M	3.67 M	3.74 M	3.70 M	3.95 M	3.80 M	3.78 M
Escalated	-	1.58 M	3.61 M	4.10 M	4.38 M	4.27 M	4.49 M	4.58 M	5.04 M	5.00 M	5.12 M
PayGo %	-	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%

Units of Service

Raftelis based units of service from its 2024 stormwater ERU analysis for the Town. This analysis suggested 3,516 residential ERUs and 5,811 non-residential ERUs. We applied annual growth rates of 0% for residential and 1% for non-residential ERUs to obtain projected ERUs during the planning period. See Table 3 for projected annual units of service for FY 2026 through FY 2036.

Table 3. Projected Units of Service for FY 2026 through FY 2036

Category	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031	FY 2032	FY 2033	FY 2034	FY 2035	FY 2036
Non-Escalated	3,516	3,516	3,516	3,516	3,516	3,516	3,516	3,516	3,516	3,516	3,516
Escalated	5,870	5,929	5,989	6,049	6,110	6,172	6,234	6,297	6,360	6,424	6,489
Total	***9,386***	***9,445***	***9,505***	***9,565***	***9,626***	***9,688***	***9,750***	***9,813***	***9,876***	***9,940***	***10,005***

Revenue Requirement

The overall revenue requirement represents the total revenues required to fully fund the stormwater utility each year. This incorporates all costs, including O&M, PayGo capital costs, debt service costs, transfers, and any other source of expense. To obtain the overall revenue requirement, Raftelis summed the projected operating costs, PayGo capital costs, existing debt service obligations, and any outward transfers. See Table 4 for the projected revenue requirement in each year of the planning period.

Table 4. Projected Revenue Requirement for FY 2026 through FY 2036

Category	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031	FY 2032	FY 2033	FY 2034	FY 2035	FY 2036
O&M	369,200	379,400	389,900	400,800	411,900	423,400	435,200	447,300	459,800	472,600	485,800
PayGo CIP	-	1.58 M	3.61 M	4.10 M	4.38 M	4.27 M	4.49 M	4.58 M	5.04 M	5.00 M	5.12 M
Debt Service	9,500	9,500	9,500	9,500	9,500	9,500	9,500	9,500	9,500	9,500	9,500
Transfers Out	-	-	-	-	-	-	-	-	-	-	-
Total	**0.38 M**	**1.97 M**	**4.01 M**	**4.51 M**	**4.81 M**	**4.70 M**	**4.94 M**	**5.04 M**	**5.51 M**	**5.48 M**	**5.62 M**

Rate Calculation and Customer Impacts

Using the overall revenue requirement and projected units of service, Raftelis estimated the necessary annual rates to fully fund the utility and its CIP within the 10-year planning period. In the model, rates are prohibited from going up in one year and down the next. Note that the rate calculation includes any other revenue sources, such as inbound transfers, grants, and investment earnings, before determining the necessary rate. See Table 5 for the proposed annual rates to fully fund the program within the 10-year planning period (this is the "Baseline CIP" scenario).

Table 5. Projected Monthly Per-ERU Rate for FY 2026 through FY 2036

Category	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031	FY 2032	FY 2033	FY 2034	FY 2035	FY 2036
Revenue Req.	$0.38 M	$1.97 M	$4.01 M	$4.51 M	$4.81 M	$4.70 M	$4.94 M	$5.04 M	$5.51 M	$5.48 M	$5.62 M
Units of Serv.	*9,386*	*9,445*	*9,505*	*9,565*	*9,626*	*9,688*	*9,750*	*9,813*	*9,876*	*9,940*	*10,005*
Monthly Rate (per ERU)	**-**	**$17.92**	**$36.17**	**$40.50**	**$42.92**	**$42.92**	**$43.50**	**$44.08**	**$47.92**	**$47.92**	**$48.25**

Alternative CIP Funding Scenarios

Acknowledging the Town likely cannot deliver the entire SWMP CIP within the 10-year planning period and recognizing that the projected rates are very high, Raftelis generated three additional CIP funding scenarios. As the CIP comprises the bulk of annualized revenue requirements, CIP funding scenarios heavily affect the severity of customer impacts. See below for a summary of each alternative scenario.

- **Scenario 1**: $1 million annual CIP spending. This scenario is intended to fund most high-priority projects over the 10-year planning period.
- **Scenario 2**: $3.5 million annual CIP spending. This scenario is intended to fund the top 70+ projects over the 10-year planning period.
- **Scenario 3**: $700 thousand to $1.5 million annual CIP spending. This scenario is intended to moderate rate impacts while funding most high-priority projects over the 10-year planning period.

See Table 6 for annual CIP expenditures under each scenario. See Table 7 for calculated rates under each scenario.

Table 6. Annual CIP Expense Scenario Comparison ($ Millions)

Category	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031	FY 2032	FY 2033	FY 2034	FY 2035	FY 2036
Scenario 1	-	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Scenario 2	-	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
Scenario 3	-	0.70	0.77	0.84	0.92	1.01	1.10	1.20	1.30	1.42	1.55
Baseline CIP	-	1.58	3.61	4.10	4.38	4.27	4.49	4.58	5.04	5.00	5.12

Table 7. Projected Monthly Per-ERU Rates by Scenario

Category	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031	FY 2032	FY 2033	FY 2034	FY 2035	FY 2036
Scenario 1	-	$12.67	$12.67	$12.67	$12.67	$12.67	$12.75	$12.75	$12.75	$12.83	$12.83
Scenario 2	-	$35.33	$35.33	$35.33	$35.33	$35.33	$35.33	$35.33	$35.33	$35.33	$35.33
Scenario 3	-	$9.92	$10.58	$11.25	$12.00	$12.75	$13.58	$14.50	$15.42	$16.42	$17.58
Baseline CIP	-	$17.92	$36.17	$40.50	$42.92	$42.92	$43.50	$44.08	$47.92	$47.92	$48.25

Next Steps

To implement rates presented in this memorandum, the Town must first formally adopt the ERU based rate structure. This will require updates to the Town's stormwater fee ordinance to reflect the updated rate structure. The Town will need to present the proposed rate structure to Council for consideration and approval. Updated rates associated with the updated rate structure can be captured in the Town's rate schedule adopted annually with the Town's budget. Successful adoption will depend on clear communication of the need for rate adjustments, including the rationale for the rate structure change and the proposed rates and the relationship between level of service and required revenues.

RAFTELIS

Town of Black Mountain, North Carolina
Stormwater ERU Analysis
September 2024

The following analysis and results were prepared by Raftelis in support of Task 1 of the Stormwater Fee Rate Study project between WK Dickson and the Town of Black Mountain (Town). This task includes the consideration of stormwater fee rate structure alternatives and the development of an Equivalent Residential Unit (ERU) for the Town. This memo includes a recommendation for a new stormwater fee rate structure for the Town to consider as well as documentation of the ERU development process.

As a subconsultant to WK Dickson, Raftelis was tasked with evaluating the Town's current tiered stormwater rate structure and providing alternative rate structures for the Town to consider. The Town is considering a change in its stormwater rate structure to one based on impervious area in an effort to utilize a rate structure that more accurately and equitably charges properties based on the demand they place on the stormwater system. The methodology and recommendations associated with the consideration of a new stormwater rate structure are provided in this memo, but discussion on specific rates, financial planning considerations, and customer impacts will require further analysis and consideration by the Town before moving forward with the implementation of a new rate structure.

Rate Structure Alternatives

Included in this task is the evaluation of the Town's current tiered rate structure and provision of alternative rate structures for the Town to consider. The Town's current rate structure is a tiered rate structure based on property land use characteristics, specifically residential, commercial and institutional, undeveloped, exempt governmental, and industrial with only residential, commercial and institutional, and industrial properties charged the stormwater fee.

The Town charges all residential properties in tier 1 and charges all other types of properties in tiers 2-5 based on the property's respective land use and the demand for stormwater service that similarly defined properties place on the stormwater system. As such, the Town's current stormwater fee rate structure is shown in the table below.

Tier	Tier Description	Monthly Fee
Tier 1	Residential	$6.00
Tier 2	Commercial and Institutional	$20.00
Tier 3	Undeveloped	$0.00
Tier 4	Exempt Government Properties	$0.00
Tier 5	Industrial	$100.00

Impervious area-based rate structures are the industry standard for stormwater fees. Impervious area is the most common basis of rate determination among those communities with stormwater fees because it is considered a good measure of a ratepayer's demand for stormwater service[1]. In general, properties with more impervious area place greater demand on a utility for stormwater management services because runoff rates and volumes are higher than from pervious surfaces. Under the Town's current rate structure, properties that have the same land use classification but significantly different amounts of impervious area are charged the same amount for stormwater management.

The shift to an impervious area-based rate structure would enhance equity in the stormwater rate structure by ensuring that customers that place a similar demand for stormwater service, as determined by impervious area, pay similar stormwater fees.

Many stormwater utilities with an impervious area-based rate structure use ERUs as the billing unit for the stormwater fee. The ERU is a community specific unit that reflects the amount of impervious area found on a typical single-family residential (SFR) parcel within a specific jurisdiction. The use of an ERU as the unit of charge for stormwater fees facilitates the consideration of stormwater fee rate structures that include simplified billing for the largest customer group – single-family properties.

As a result, two impervious area rate structure alternatives were discussed with Town staff, a flat rate residential rate structure where each residential property would be charged one ERU and all other properties would be charged in increments of ERUs based on measured impervious area, and a residential tiered rate structure where each residential property would be charged one of three flat rates based on estimated or measured impervious area and all other properties would be charged in multiples of ERUs based on measured impervious area.

Both rate structure alternatives utilize the ERU as the unit of charge and rely on the delineation of impervious area for all non-single family residential (NSFR) properties. The development of the ERU and delineation of impervious area for all NSFR properties is discussed in the sections below.

Data

Raftelis' analysis was based on 2023 aerial imagery publicly available from NC OneMap and geographic tax parcels found in the Buncombe County Open Data Explorer.

Methodology

A Raftelis GIS analyst generated a random sample of 400 Single Family Residential (SFR) class parcels from Black Mountain's total parcel dataset. Town class categories that represent the SFR class, the count in the sample, and the total number of parcels within each class are shown in the table below:

[1] Black and Veatch Management Consulting, 2021 Stormwater Utility Survey Report. https://webassets.bv.com/2021-03/2021%20Stormwater%20Utility%20Report%20WEB%20FINAL.pdf

Land Use Class	Land Use Class Description	Count in Sample	Total Parcel Count
100	Residential (0-3 Acres)	340	2,904
101	Residential (>3 Acres)	2	34
121	Townhome	29	273
170	MFG Homesite	29	218
	Total	**400**	**3,429**

Duplexes, townhomes, manufactured homes, and single-family attached property types are included in the SFR class along with single family property types. In the Town, duplexes, townhomes, manufactured homes, and single-family attached properties have impervious area measurements and overall development patterns substantially similar to single-family properties and therefore were included in the SFR customer class.

The sample size of 400 parcels was selected to provide 95% statistical confidence that the ERU value is within 5% of true value (margin of error) and is statistically representative of the Town's SFR properties. Raftelis also performed a visual and tabular review of the sampled properties to verify that they encompassed a representative range of geography, structure age, and housing type. In some cases, a randomly selected sample property was obscured by vegetation and could not be accurately measured. In those cases, the obscured parcel was removed from the sample and manually replaced with another nearby parcel with similar characteristics as the obscured parcel. The final sample list is attached as Appendix A, and a map of the final, measured sample parcels throughout the Town is shown below in Figure 1, with the SFR property types highlighted in red and the other parcels outlined in blue.

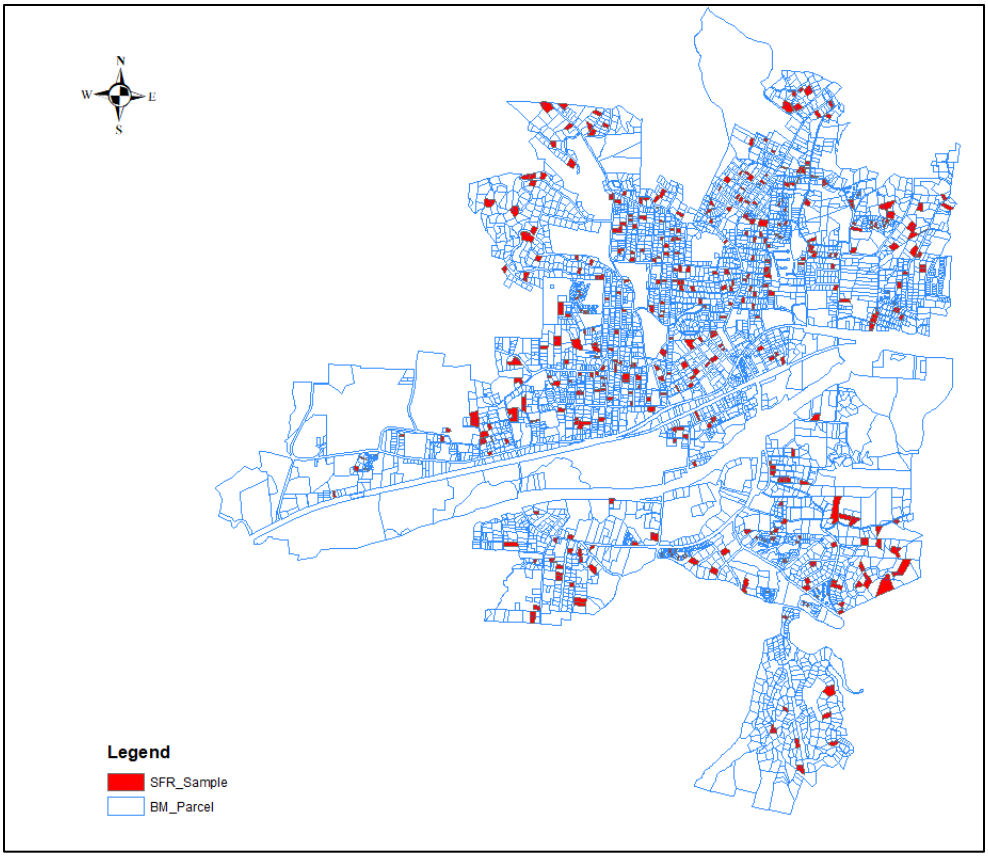


Figure 1. Town of Black Mountain Sample Distribution

Using ArcGIS and overlaying parcels on top of 2023 aerial imagery, new spatial features were created to represent the impervious area on each property based on visual assessment of the property features. Impervious area, as defined in Sec. 48-254 of the Black Mountain Code of Ordinances, is “a developed area of land that prevents or significantly impedes the infiltration of stormwater into the soil.” Examples of impervious surface include rooftops, driveways, patios, private sidewalks, parking lots and compacted gravel. The water surface of swimming pools and other open water bodies, such as ponds and lakes, as well as railroad ballast, open-graded aggregate and landscaping gravel are not considered impervious surfaces.

Figure 2 provides an example of digitized SFR property types. The property boundary is outlined in yellow and the delineated impervious area features are shown in translucent orange. Per the impervious surface definition above, swimming pool water surfaces and landscaped areas are excluded, and outbuildings, if any, are included.

Figure 2. Example of SFR Properties' Impervious Area Digitization (photos not at the same scale)

ERU Results

As expected, the 400 sampled parcels had a wide range of impervious area amounts, from a minimum of 575 square feet to a maximum of 15,168 square feet. Typically, the median value of impervious area for the SFR sample is identified as the ERU. Compared with the mean (average) impervious area, the median is more statistically robust, and less sensitive to outliers, and is therefore considered an accurate representation of the impervious area associated with a typical SFR property within the Town. Based on the median value, the ERU value for Black Mountain is 3,161 square feet of impervious area. The distribution of sampled impervious area, with the median demarcated, is shown in Figure 3 below.

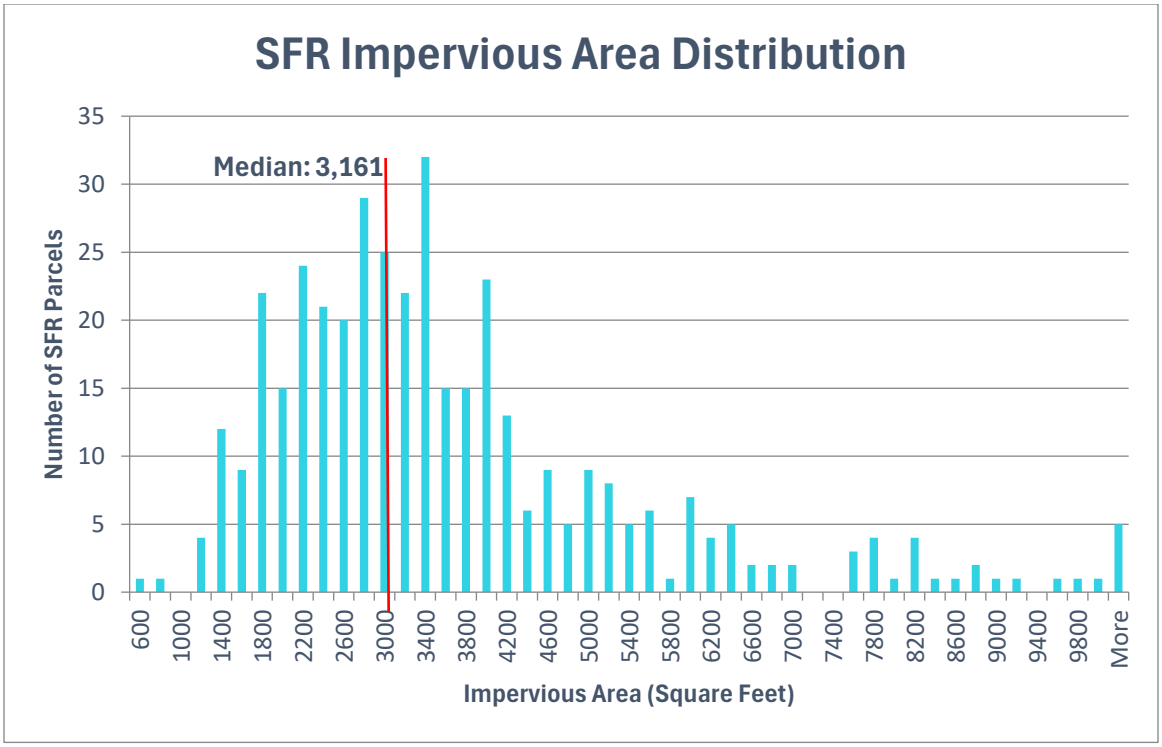


Figure 3. Impervious Area Distribution for SFR Properties in the Black Mountain ERU Sample

Benchmarking

ERU values are community specific and depend on development patterns within the specific community. More densely developed communities typically have smaller ERU values while less densely developed communities have larger ERU values. To better understand how the Town's development patterns compared to other peer communities, Raftelis compared the Black Mountain ERU to the ERU values for other similarly sized stormwater utilities in the State of North Carolina. Those values in comparison to the Town's ERU value are provided in Figure 4 below.

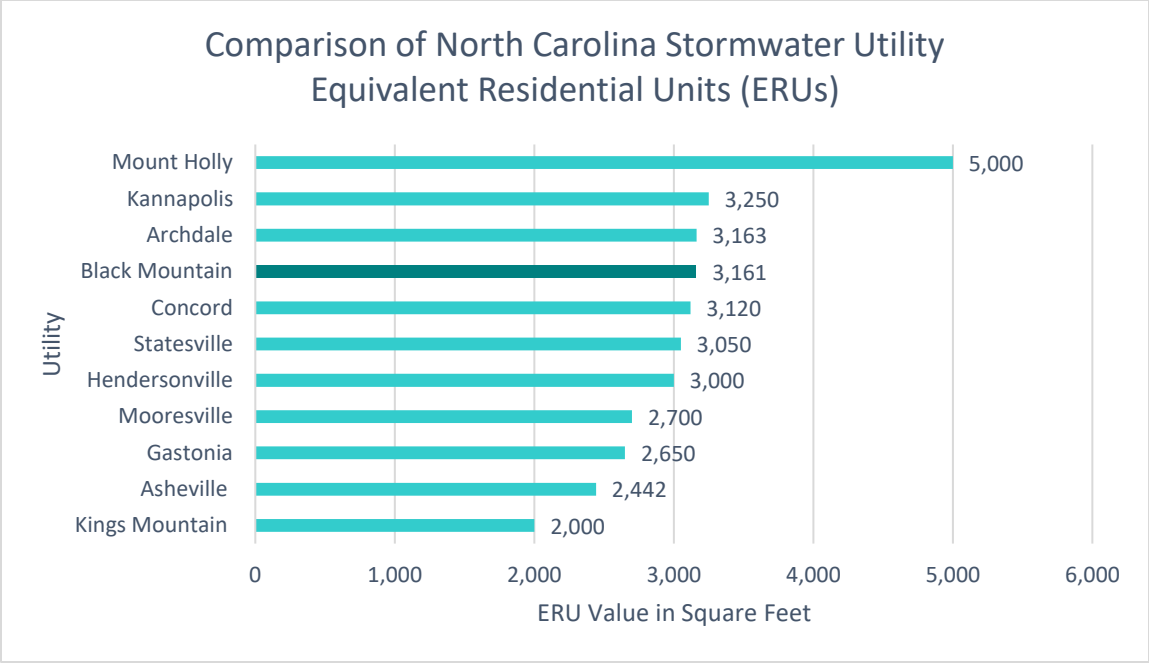


Figure 4. Comparison of ERU Values in North Carolina Stormwater Utilities

NSFR Impervious Area Delineation

The next phase of rate structure analysis was to delineate impervious area for all NSFR properties in the Town and determine the number of billing units NSFR properties using the newly derived ERU value.

Raftelis digitized the impervious area on every NSFR parcel in ArcMap, totaling 947 parcels that were not vacant or did not have an SFR parcel classification. Figure 5 below provides an example of a digitized NSFR property. The property boundary is outlined in yellow and the delineated impervious area features are shown in translucent orange.

Figure 5. Example of NSFR Property Impervious Area Digitization

To compute the units of charge for each NSFR property, the impervious area measurement for each NSFR parcel was divided by the ERU value of 3,161 square feet to determine the number of billing units that a parcel would be charged. For example, if a NSFR property had 9,000 square feet of impervious area it would be charged for 3 ERUs (9,000/3,161 = 2.85 (rounded up to 3)). The NSFR impervious area delineation resulted in a wide range of impervious area amounts, from a minimum of 11 square feet to a maximum of 1,991,108 square feet. The total number of units for the NSFR property class was 6,081.5 ERUs.

Rate Structure Recommendation

Details on the flat rate residential rate structure and tiered residential rate structure were discussed with Town staff including data development and data maintenance requirements and customer outreach and communication considerations. A simple and easy to maintain rate structure was a high priority for Town staff. As a result, a flat rate residential rate structure is recommended for the Town.

The recommended rate structure will charge one ERU for each SFR property and all NSFR properties will be charged in increments of ERUs or part thereof based on measured impervious area. A flat rate residential rate structure will minimize data maintenance cost and effort since the largest customer class, residential, will all be charged the same amount. The use of integer values in the computation of ERUs for NSFR properties is considered fair, additionally minimizes data maintenance costs, and is common industry practice. The estimated total number of billing units

for both SFR and NSFR properties under the recommended rate structure are detailed in the table below.

Bill Class	# of Billing Units	# of ERUs
SFR	3,516	3,516
NSFR	5,811	6,081.5
Total	*9,327*	*9,597.5*

Revenue generated under this rate structure will depend on the rates eventually established by the Town. As with any rate structure change, some customers may experience an increase in their stormwater charge, while others may experience a decrease in their stormwater charge. Generally, under the recommended rate structure, a higher percentage of stormwater fee revenue will be generated from the NSFR properties than from the SFR properties compared to the current rate structure. Specific customer impacts will not be known until financial planning, rate setting, and development of any rate structure modifiers, like stormwater fee credits, are completed and finalized in the next phase of the project scope.

Appendix A
Final SFR Sample Parcel ID Number and Class Code

PIN	Class
061977634100000	100
070070120200000	100
071040698400000	170
060987537900000	100
061952082100000	100
061909389000000	100
061942585800000	100
061924458300000	100
061918137200000	100
061909297900000	100
071040593400000	170
061915289000000	100
071041932100000	170
071030798100000	121
061988252900000	100
061918916000000	100
061967804600000	100
060985824900000	100
071020927800000	100
061939933900000	100
061967828200000	100
060980876300000	100
060978796400000	100
061959201900000	100
071000556000000	100
071031227400000	100
071030159900000	100
061910572900000	121
061969985500000	100
061947190700000	100
071030258200000	100
061920799500000	100
061970498200000	100
071043952000000	100
060984386200000	100
060995592700000	100
061941833200000	100
060996742600000	100

PIN	Class
060923728500000	100
071000956400000	100
061919204600000	100
071000750500000	100
061971051400000	100
061971477400000	100
061904883200000	100
071080134000000	100
060979664900000	100
070070691800000	100
061846019200000	100
061969471000000	100
061979965700000	100
061908136200000	100
071020424300000	100
061859926900000	100
070060445300000	100
060995894700000	100
061961919500000	100
070071910800000	100
061938599400000	100
061949255500000	100
060998280200000	100
071040429500000	121
071051506000000	100
060933027000000	121
061845804300000	100
061937661100000	100
061855774000000	100
071043743000000	100
061954256800000	100
061979299100000	100
061949383300000	100
071030417200000	121
061910964700000	100
061938967100000	100
061958895900000	170
061960406500000	100
071060239500000	100
061978518700000	100
060984747700000	100
061949023500000	100

PIN	Class
071000600400000	100
061977544800000	100
061918031000000	100
061849956200000	121
060923953300000	170
061905226700000	170
061845776200000	100
071010612300000	100
061919225700000	100
061909011300000	100
060954320700000	100
060997040800000	100
061926513800000	100
061906209500000	100
061943667300000	100
061959207100000	100
061926305500000	100
060984757700000	100
060978441400000	100
060997682300000	100
061948080100000	100
060979457300000	100
071080851700000	100
060964217700000	100
061918469100000	100
071010164700000	100
061918615300000	100
060879648400000	100
061859893900000	100
061958815100000	100
061946411400000	100
060988867100000	100
060985923500000	100
060995543900000	100
071050048400000	170
060964407300000	100
060998447100000	100
061915849700000	100
071000208900000	100
060995532700000	170
061952803800000	101
060961919600000	100

PIN	Class
061943034700000	100
061979424200000	100
070092650600000	100
071060570000000	121
061970106200000	101
061979195500000	100
071052388300000	100
070083000500000	100
061942380900000	100
060987881500000	100
061918627700000	100
061913496700000	100
061915964800000	100
061859045800000	121
061914539000000	100
071060247600000	170
061908392100000	100
061905449500000	100
061989103000000	100
061910386500000	121
061859947700000	100
071043506300000	100
070071411600000	100
061915125400000	100
061979178800000	100
061914705900000	100
060986267900000	100
071031918700000	100
061938447400000	100
061938513000000	100
061917142900000	100
061937732200000	100
060997995900000	100
060981129700000	100
060995271600000	100
060980228400000	100
061967931300000	100
061917174200000	100
061969314200000	100
061949580800000	100
060996814400000	100
061961611900000	100

PIN	Class
061938025500000	100
061939889800000	100
071030646000000	100
061941124900000	100
061846463400000	100
071053143700000	100
071030445400000	100
061948040500000	170
071000939100000	100
061928858600000	100
060975261400000	100
061910785600000	121
060988890600000	100
061969874400000	100
070090765200000	100
070092387900000	100
060992732300000	100
061931636200000	100
060985662000000	100
061942485900000	100
071070305700000	100
061919546600000	100
060922158400000	100
060974654300000	100
060985076100000	100
061979295200000	100
061950015300000	100
060995335300000	100
061977464900000	121
061925084500000	100
061936749700000	100
071030383200000	100
060996091200000	100
061910089600000	121
071080839100000	100
060986860100000	170
061919568800000	100
061918661500000	100
061859370100000	121
061904297900000	170
061927268100000	100
071030403300000	100

PIN	Class
061915532800000	100
061937694400000	100
060995710200000	100
061908981800000	100
070071611800000	100
061928557300000	100
071021900500000	100
061941047400000	100
071041803400000	170
061931442800000	100
071031426200000	100
060889866300000	100
061959701000000	100
061905467900000	100
060964431600000	100
060976950200000	100
061907150300000	100
061946120000000	100
061927830300000	100
061859577400000	121
060980351500000	100
061948080600000	100
061969386500000	100
061959240100000	100
060954103400000	100
061923030300000	100
071000171000000	100
061979909800000	170
061941250200000	100
061931920400000	121
061901839600000	100
061927177600000	100
060980171200000	100
071032507900000	100
061938336400000	100
061917132700000	100
070092158100000	100
071043804400000	100
061940467900000	100
060987355900000	100
061905999400000	100
060980603600000	100

PIN	Class
061943120300000	100
060981633700000	100
071052676900000	170
061948998100000	100
061926177200000	100
061939463100000	100
061905162000000	100
071041186300000	100
061914423700000	100
071020780200000	100
061918437200000	100
061967170700000	100
061959119900000	100
060970673100000	100
061926581300000	100
061918863300000	100
061929497400000	100
061919502700000	100
070092232600000	100
061978754100000	100
061948972600000	100
061970640500000	100
061910498800000	121
061969976600000	100
061928811200000	100
060889855300000	100
061909303900000	100
061924430700000	100
060980896200000	100
061951717200000	100
061938000900000	100
060944013400000	100
061907853600000	100
061969884700000	100
061915067500000	170
061961374900000	100
060996320700000	121
061950718100000	100
060997044800000	100
061919142700000	100
061941718900000	100
061961088700000	100

PIN	Class
061859299000000	121
061920540200000	100
061941471600000	100
061937373900000	170
071050597300000	100
061924068200000	100
061910391800000	121
060980239500000	100
060999973100000	100
060985250500000	170
061967948000000	100
061960618000000	100
071053712300000	100
070081657200000	100
061856546600000	100
061918095500000	100
061905715000000	100
060987990400000	100
061946233100000	100
070082108600000	100
060964051800000	100
061942387900000	100
061977456100000	100
060972608200000	100
061926752600000	100
061958768900000	100
061901316700000	170
060991109800000	170
061859091500000	100
060980599800000	100
061940461900000	100
071032918200000	170
071060467400000	121
061849415500000	100
061906305400000	100
061939852700000	100
060998345200000	100
060996919000000	170
060996269000000	170
061910687100000	121
071030898900000	100
060986512300000	100

PIN	Class
061919442500000	100
061927969800000	100
060996329500000	121
060976111600000	100
061949347900000	100
061924554600000	100
060933351900000	121
061909086700000	170
071041435900000	100
060879516800000	100
060997142800000	100
061931821800000	121
060968864500000	100
061938914700000	100
061857612500000	100
061919471100000	100
071020448300000	100
060995385100000	100
060996343800000	100
071070235400000	100
061941039000000	100
060974075100000	100
061916869100000	100
060988806400000	100
061943100800000	100
061950261000000	100
071031515100000	170
061916703300000	100
060984948600000	100
061926749600000	100
070082650200000	100
061839397100000	100
060987942900000	100
070090942800000	100
071051150200000	170
060997204000000	100
061926593200000	100
061909519400000	170
061916134600000	100
061939644200000	100
061939599200000	100
061960552200000	100

PIN	Class
071040451000000	121
060963899600000	100
061929836800000	100
060990149900000	100
071051034700000	170
060963462400000	100
061918528800000	100
061916377500000	100
061966892600000	100
061905173200000	100
061988263900000	100
060996898300000	100
070083406800000	100
060923929400000	121
060974395900000	100
061977296700000	121
071051218400000	170
060963293700000	100
060985877800000	100
071040342000000	121
061919192300000	100
061839984500000	100
060994456400000	100
060995564700000	100
061942324400000	100
060933043800000	121

Stormwater ERU Analysis: Raftelis Memos

Sept 2024, April 2026

Anne Phillip

Stormwater Technician & Floodplain Administrator

08/10/2026

Project Funding and Timeline

- 2023: TOBM received **$5.4 million** in grants through North Carolina's **Local Assistance for Stormwater Infrastructure Investments (LASII)** program
- **$5 million** – for the **Swannanoa Floodplain Project**
- **$400,000** – planning grant for **asset mapping and capital planning** of the town's stormwater system
  - WK Dickson, an Ardurra Company, subcontracted ERU Analysis and Rate Modeling to Raftelis
- Raftelis analysis included determining an Equivalent Residential Unit (ERU), development of units of service based on measured impervious area, and calculation of rate ranges under a new rate structure alternative.

Objective

Determine an Equivalent Residential Unit (ERU) for the Town of Black Mountain and calculate rate ranges under new rate structure

- Change stormwater rate structure to one based on impervious area to utilize a rate structure that more accurately and equitably charges properties based on the demand they place on the stormwater system
- TOBM currently has a tiered rate structure based on property land use characteristics
- I am discussing the proposal of the ERU structure today
- Rate changes will be discussed later, after rate models have been updated to include corrected Stormwater Fund budget information

Current Stormwater Utility Rates

Tier	Tier Description	Monthly Fee
1	Minimal Impact (e.g., SFR)	$6
2	Moderate Impact (e.g., retail, professional services)	$20
3	Undeveloped	$0
4	Exempt (e.g., government-owned)	$0
5	Significant Impact (e.g., strip retail, grocery store, industrial facility)	$100

Why use ERUs?

- Impervious area-based rate structures are the industry standard for stormwater fees.
- They are considered a good measure of a ratepayer's demand for stormwater service. In general, properties with more impervious area place greater demand on a utility for stormwater management services because runoff rates and volumes are higher than from pervious surfaces.
- Under the Town's current rate structure, properties that have the same land use classification, but significantly different amounts of impervious area are charged the same amount for stormwater management.
- The shift to an impervious area-based rate structure would enhance equity in the stormwater rate structure by ensuring that customers that place a similar demand for stormwater service, as determined by impervious area, pay similar stormwater fees.

Why use ERUs?

- Many stormwater utilities with an impervious area-based rate structure use ERUs as the billing unit for the stormwater fee.
- **The ERU is a community specific unit that reflects the amount of impervious area found on a typical single-family residential (SFR) parcel within a specific jurisdiction.**
- The use of an ERU as the unit of charge for stormwater fees facilitates the consideration of stormwater fee rate structures that include simplified billing for the largest customer group – single-family properties.

Finding the ERU

- Imagery: 2023 aerial imagery publicly available from NC OneMap and geographic tax parcels found in the Buncombe County Open Data Explorer
- Random sample of 400 SFR parcels
- The sample size of 400 parcels was selected to provide 95% statistical confidence that the ERU value is within 5% of true value (margin of error) and is statistically representative of the Town's SFR properties.
- Using ArcGIS and overlaying parcels on top of 2023 aerial imagery, new spatial features were created to represent the impervious area on each property based on visual assessment of the property features.

Figure 1. Town of Black Mountain Sample Distribution

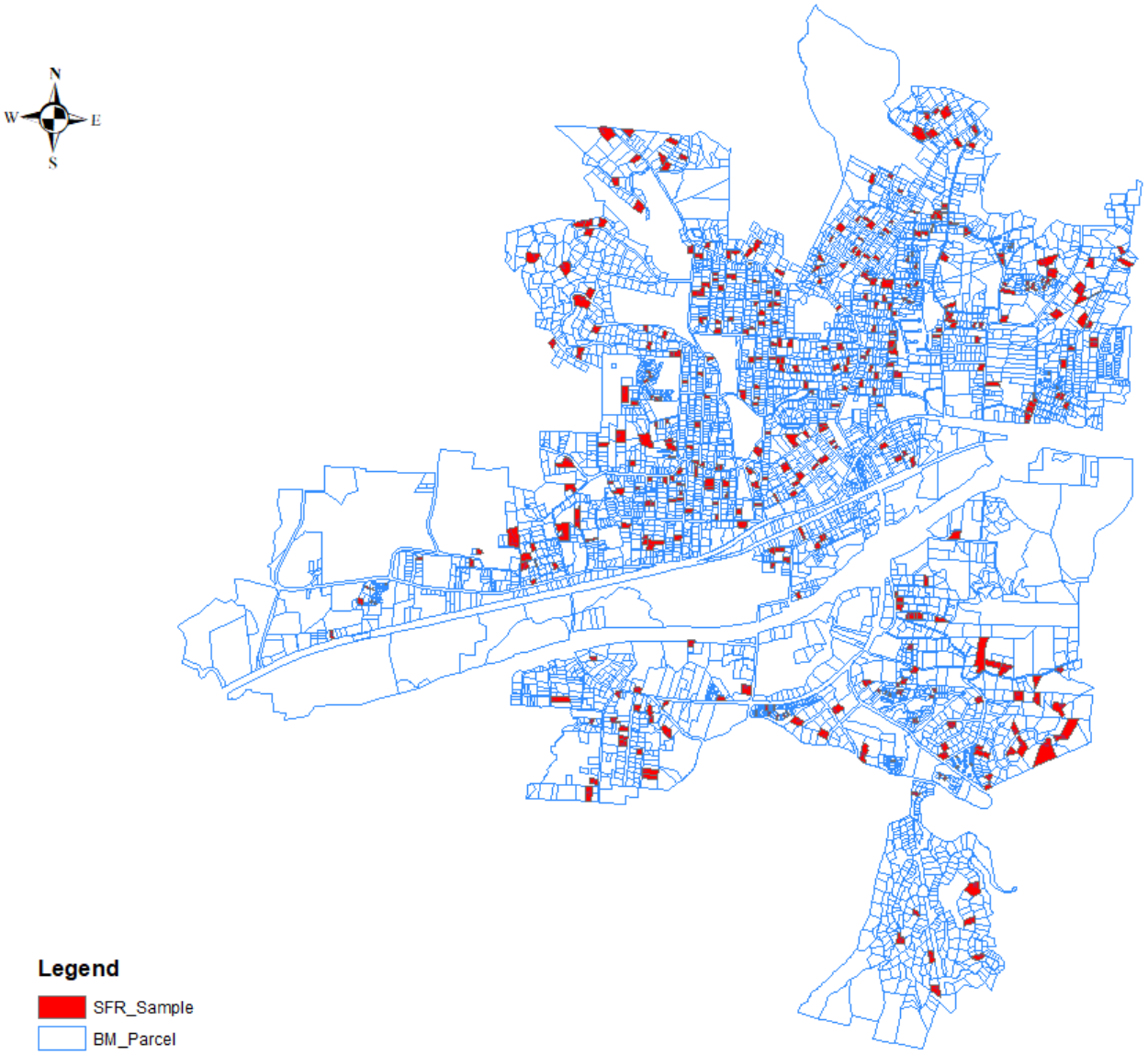


Figure 2. Example of SFR Properties' Impervious Area Digitization (photos not at the same scale)

ERU results

- The 400 sampled parcels had a wide range of impervious area amounts
- Typically, the median value of impervious area for the SFR sample is identified as the ERU. Compared with the mean (average) impervious area, the median is more statistically robust, and less sensitive to outliers, and is therefore considered an accurate representation of the impervious area associated with a typical SFR property within the Town.
- Median- a value in an ordered set of values below and above which there is an equal number of values or which is the arithmetic mean of the two middle values if there is no one middle number (MEDIAN Definition & Meaning - Merriam-Webster)

Based on the median value, the ERU value for Black Mountain is 3,161 square feet of impervious area. The distribution of sampled impervious area, with the median demarcated, is shown in Figure 3 below

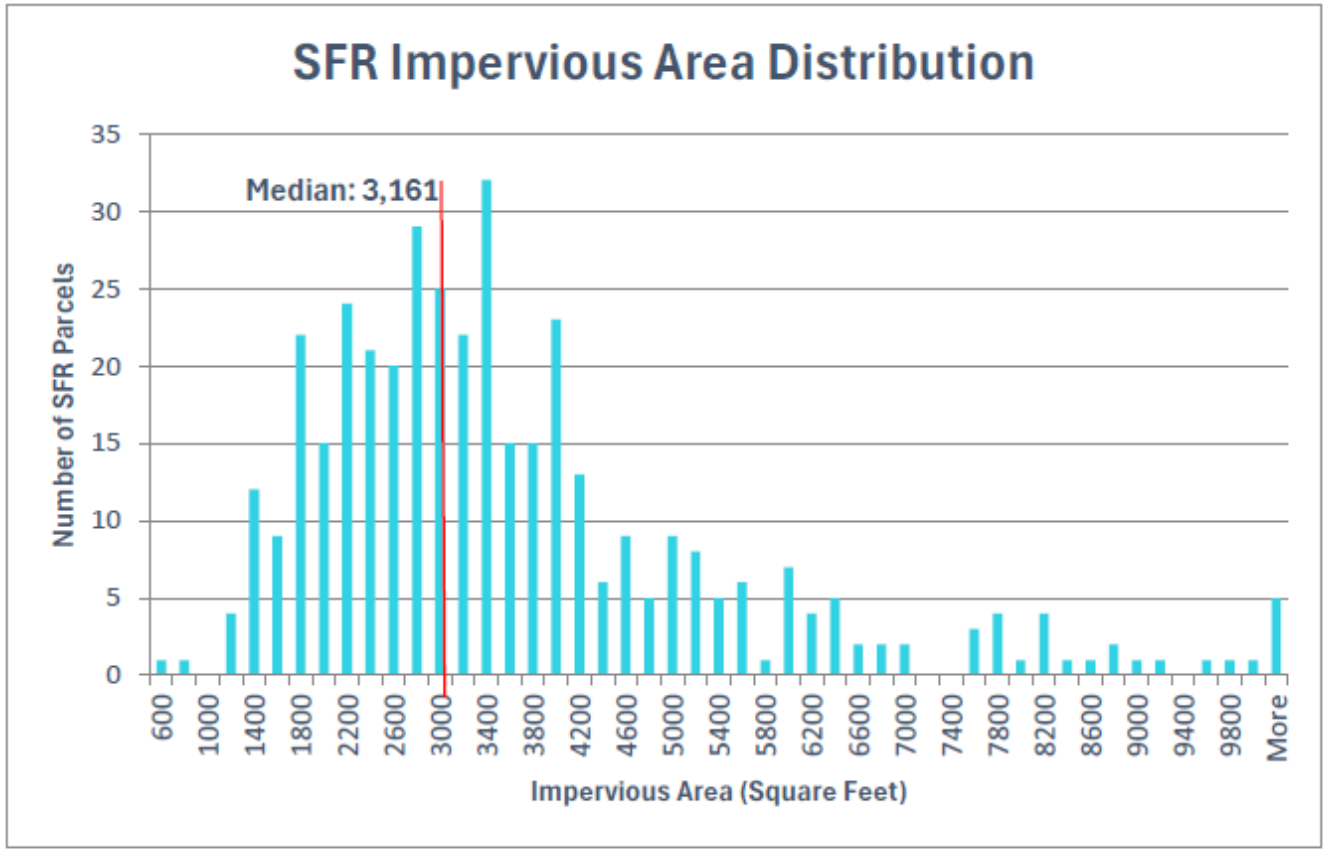


Figure 3. Impervious Area Distribution for SFR Properties in the Black Mountain ERU Sample

ERU Comparison to other Municipalities

- ERU values are community specific and depend on development patterns within the specific community.
- More densely developed communities typically have smaller ERU values while less densely developed communities have larger ERU values.
- To better understand how the Town's development patterns compared to other peer communities, Raftelis compared the Black Mountain ERU to the ERU values for other similarly sized stormwater utilities in the State of North Carolina.

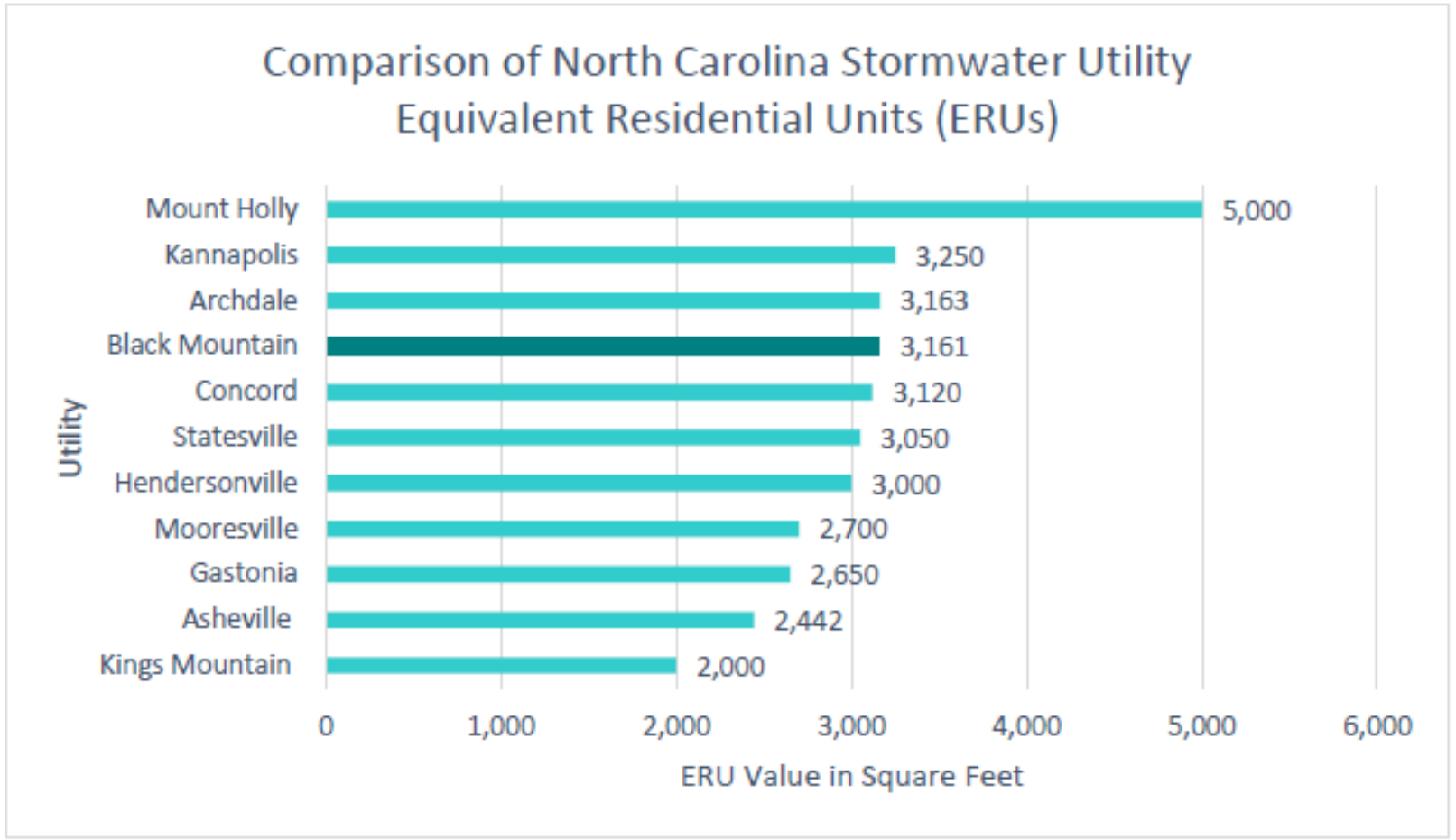


Figure 4. Comparison of ERU Values in North Carolina Stormwater Utilities

NSFR Impervious Area Delineation

- The next phase of rate structure analysis was to delineate impervious area for all NSFR properties in the Town and determine the number of billing units NSFR properties using the newly derived ERU value.
- Raftelis digitized the impervious area on every NSFR parcel in ArcMap, totaling 947 parcels that were not vacant or did not have an SFR parcel classification.

NSFR Impervious Area Delineation

- To compute the units of charge for each NSFR property, the impervious area measurement for each NSFR parcel was divided by the ERU value of 3,161 square feet to determine the number of billing units that a parcel would be charged.
- For example, a NSFR property with 9,000 square feet of impervious area would be charged for 3 ERUs (9,000/3,161 = 2.85 (rounded up to 3)).
- The NSFR impervious area delineation resulted in a wide range of impervious area amounts, from a minimum of 11 square feet to a maximum of 1,991,108 square feet.

Rate Structure Recommendation

- A simple and easy to maintain rate structure was a high priority for Town staff. As a result, a flat rate residential rate structure is recommended for the Town.
- The recommended rate structure will charge one ERU for each SFR property and all NSFR properties will be charged in increments of ERUs or part thereof based on measured impervious area.
- A flat rate residential rate structure will minimize data maintenance cost and effort since the largest customer class, residential, will all be charged the same amount.
- The use of integer values in the computation of ERUs for NSFR properties is considered fair, additionally minimizes data maintenance costs, and is common industry practice.

The estimated total number of billing units for both SFR and NSFR properties under the recommended rate structure are detailed in the table below.

Bill Class	# of Billing Units	# of ERUs
SFR	3,516	3,516
NSFR	5,811	6,081.5
Total	*9,327*	*9,597.5*

ERU Rate Structure Effects

- Revenue generated under this rate structure will depend on the rates eventually established by the Town.
- As with any rate structure change, some customers may experience an increase in their stormwater charge, while others may experience a decrease in their stormwater charge.
- Generally, under the recommended rate structure, a higher percentage of stormwater fee revenue will be generated from the NSFR properties than from the SFR properties compared to the current rate structure.
- Specific customer impacts will not be known until financial planning, rate setting, and development of any rate structure modifiers, like stormwater fee credits, are completed and finalized in the next phase of the project scope.

TOWN OF BLACK MOUNTAIN

AGENDA ITEM SUMMARY

SUBMITTER:	Michelle Kennedy, Planning Director	**MEETING DATE:**	August 10, 2026
AGENDA SECTION:	New Business	**DEPARTMENT:**	Planning & Development Services

TITLE OF ITEM: Adoption of Town of Black Mountain Stormwater Master Plan (SWMP)

SUGGESTED MOTION(S):

I move we adopt the Town of Black Mountain Stormwater Master Plan as presented by WK Dickson, LLC in January 2025.

SUMMARY:

The Town of Black Mountain Stormwater Master Plan was funded by a Local Assistance for Stormater Infrastructure Investments (LASII) from the Amercian Rescue Plan Act (ARPA). The purpose of the SWMP is to develop a GIS map of the Town's stormwater system, identify flooding issues, assess the existing conveyance system capacity and infrastructure condition, develop and prioritize flood reduction projects, and establish an implementation stragey for the recommended capital infrastructure projects.

The SWMP was presented to Town Council on January 8, 2026, but was not adopted.

The only action at this time is to adopt the SWMP so that staff can begin looking for potential funding for the projects proposed in the SWMP.

BUDGET IMPACT:

Is this expenditure approved in the current fiscal year budget?

If no, describe how it will be funded.

ATTACHMENTS:

1. stormwater_asset_mapping_report

WK DICKSON

AN ARDURRA COMPANY

TOWN OF BLACK MOUNTAIN

BLACK MOUNTAIN STORMWATER MASTER PLAN

Executive Summary | December 2025

DRAFT

TOWN OF BLACK MOUNTAIN

STORMWATER MASTER PLAN

EXECUTIVE SUMMARY

WK Dickson/Ardurra Project No. 20230691.00.GV

December 2025

Prepared for:
Town of Black Mountain
160 Midland Avenue
Black Mountain, North Carolina 28711

Prepared by:
WK Dickson LLC dba Ardurra Group North Carolina
720 Corporate Center Drive
Raleigh, North Carolina 27607
919-782-0495
NC License Number F-0374

TABLE OF CONTENTS

Table of Contents 1
List of Figures 1
List of Tables 1
Executive Summary 1
ES.1 Existing Stormwater Infrastructure 3
ES.2 Infrastructure Criticality Analysis 3
ES.3 Stormwater Capital Improvement Projects 6
ES.4 Prioritization and Recommendations 6

List of Figures

Figure ES-1 Location Map 2
Figure ES-2 Obstructed Stormwater Structures 4
Figure ES-3 Criticality Analysis – Stormwater Pipes 5
Figure ES-4 Proposed Capital Stormwater Improvement Projects 7
Figure ES-5 Proposed Stormwater Improvement Projects – Downtown 9
Figure ES-6 Proposed Stormwater Improvement Projects – Tomahawk Branch 44
Figure ES-7 Proposed Stormwater Improvement Projects – Flat Creek 51
Figure ES-8 Proposed Stormwater Improvement Projects – Tributary 35 / Avena Rd 60

List of Tables

TABLE ES.1. Proposed CIP Planning Cost and Prioritization Summary 8

EXECUTIVE SUMMARY

The Town of Black Mountain (Town) Stormwater Master Plan (SWMP) is funded by a Local Assistance for Stormwater Infrastructure Investments (LASII) from the American Rescue Plan Act (ARPA). The purpose of the SWMP is to develop a GIS map of the Town's stormwater system, identify flooding issues, assess the existing conveyance system capacity and infrastructure condition, develop and prioritize flood reduction projects, and establish an implementation strategy for the recommended capital infrastructure projects.

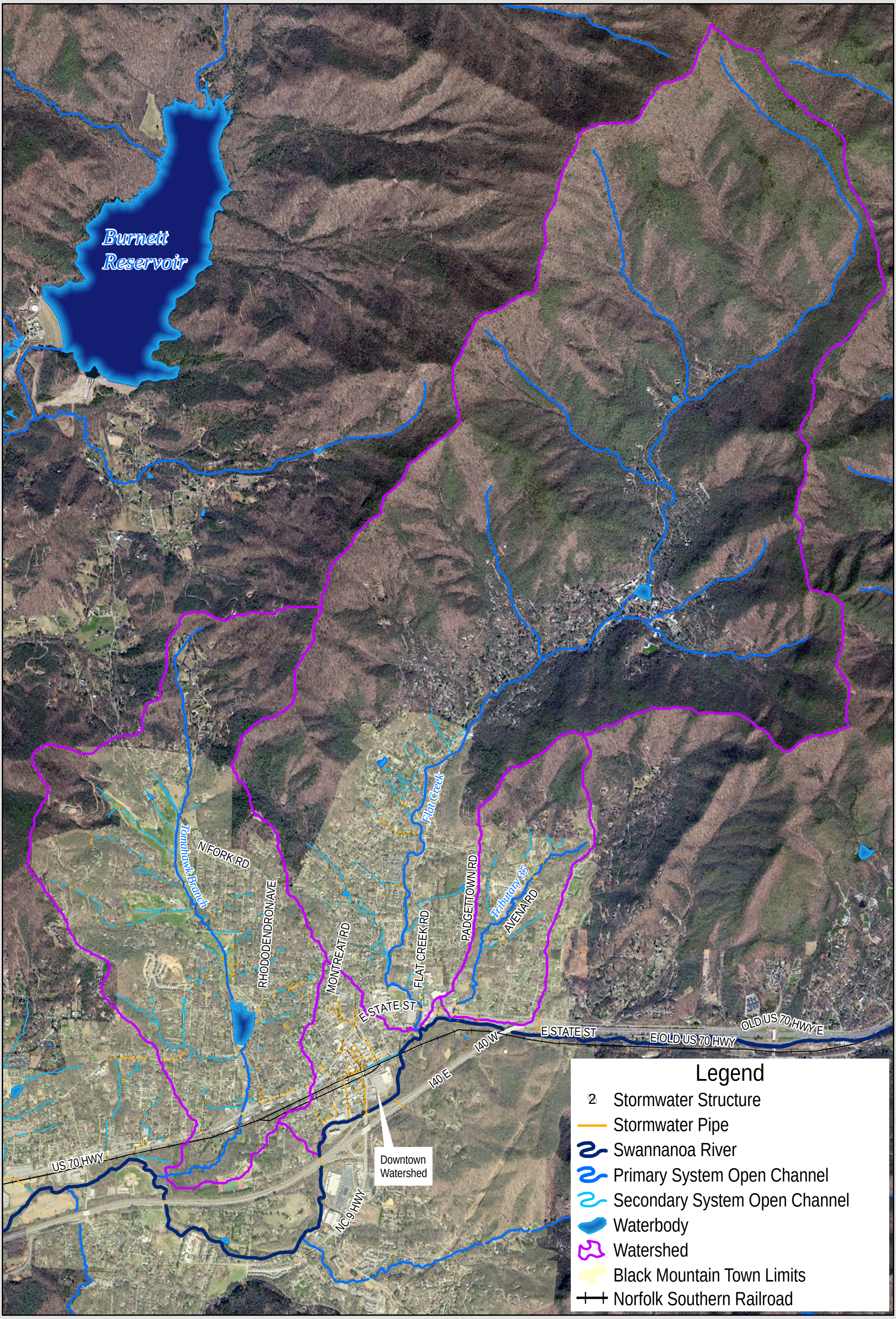
The Study Area for the SWMP includes the following:

- Secondary stormwater conveyance system in the Downtown corridor,
- Tomahawk Branch watershed, both the primary system culvert crossings and the secondary stormwater conveyance system located in the surrounding residential areas of Lake Tomahawk,
- Flat Creek Tributary 1 primary system culvert crossings in the vicinity of Portmanvilla, Sixth, and Seventh Street roads, and
- Tributary 35 (of the Swannanoa River) primary system culvert crossings in the vicinity of Avena and Padgettown roads.

The watersheds within the Town are all tributary to the Swannanoa River. In some cases, the closed system stormwater outfalls are located very closely to or directly into the Swannanoa River.

Based on historical records obtained from the National Oceanic and Atmospheric Administration (NOAA) online national climate data service[1], Hurricane Helene brought over 14 inches of rainfall in a span of three days to the mountains in September 2024, resulting in catastrophic flooding along the Swannanoa River corridor. Many roadways and bridges within the Town of Black Mountain were impacted. As a result, the Town desired to develop projects that would meet the 50-year level of service (LOS) where feasible. All proposed projects were evaluated and developed with this goal. However, there are a few areas where downstream hydraulic conditions and/or available cover prevent this level of flood reduction.

The Study Area for the Town's SWMP is shown in Figure ES-1.



WK DICKSON
AN ARDURRA COMPANY

Figure ES-1: Project Location
TOWN OF BLACK MOUNTAIN, NC
Town of Black Mountain Stormwater Master Plan

0 1,000 2,000
Feet
1 in = 2,000 ft

ES.1 Existing Stormwater Infrastructure

The Town manages an extensive stormwater conveyance system, including streams, roadside ditches and swales, and nearly nine (9) miles of closed pipe conveyance. Privately-owned stormwater infrastructure and private ponds also impact the Town's stormwater system. This SWMP includes assessment of the Town's stormwater conveyance system and includes multiple objectives: (1) reduce street and property flooding, (2) develop solutions to remove pipes presently located underneath commercial and government structures, (3) evaluate stormwater assets for maintenance and criticality, and (4) provide options to achieve a high level of service for roadways.

The stormwater inventory conducted for this SWMP determined that approximately 13 percent of the Town's evaluated structures are partially obstructed at 50% or less and require maintenance/debris removal. Approximately six (6) percent of the evaluated structures were severely obstructed (over 75 percent) at the time of assessment. The remaining 81 percent of evaluated structures were found to be clear of debris. Based on the results of the field assessments, four high-priority maintenance areas were identified and are shown in Figure ES-2. Beyond these four areas, it is recommended that the Town begin a systematic maintenance program to clear obstructions, beginning with the stormwater assets located in the Tomahawk Branch Watershed.

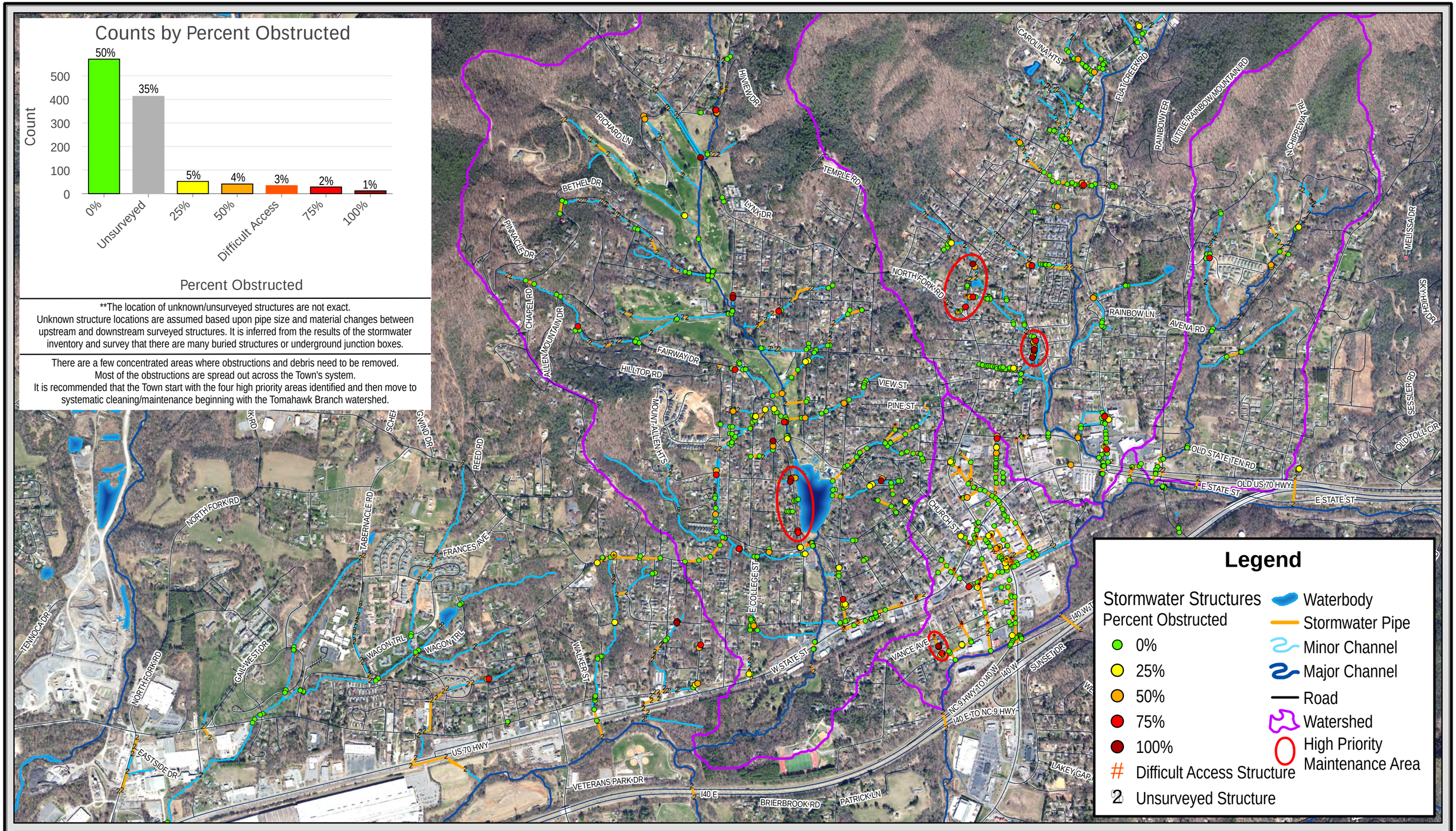
ES.2 Infrastructure Criticality Analysis

As part of the Town of Black Mountain Stormwater Master Plan, a preliminary condition assessment was completed to identify high-priority areas for detailed CCTV and/or maintenance needs. Prioritization is based on the likelihood of asset failure, as well as the consequence of asset failure. By evaluating the likelihood of asset failure in relation to the consequence of asset failure, a combined criticality score is then developed for each asset. This criticality score can enable the Town to more strategically evaluate which assets to focus capital improvement resources on for repair, rehabilitation, or further condition assessments. Of the pipes evaluated, 20% scored in Level 4 or 5, indicating the highest need for stormwater rehabilitation efforts. Within the structures evaluated, 21% scored in Level 4 or 5, indicating the highest need for stormwater structure rehabilitation efforts.

Because the data in the GIS database are dynamic, the results of the prioritization tool are a static representation based upon when the tool is run. As data are updated in the database, the tool can be utilized, and the results of the prioritization process can be updated easily. Typically, a jurisdiction may use a prioritization tool such as this on an annual or semi-annual basis as budgets are developed and capital plans and O&M plans are revised. A valuable component of this dynamic prioritization tool is the ability to quickly perform different scenario analyses to determine the relative benefit of capital and operation and maintenance (O&M) projects. The Town can determine if the at-risk score of a particular component can be dramatically reduced by improvement. In some cases, the consequence of failure score is so high that an improved asset will always remain in the high-risk category. These assets can be monitored on a frequent basis to consistently check their condition and proactively work to prevent a failure. Conversely, assets with the greatest likelihood of failure scores are often the target of initial condition assessment and rehabilitation programs. Town staff can perform scenario analyses to determine where condition assessment and rehabilitation programs can most reduce the at-risk scores of critical assets. The criticality of the Town's stormwater pipes are shown in Figure ES-3.

**The location of unknown/unsurveyed structures are not exact.
Unknown structure locations are assumed based upon pipe size and material changes between upstream and downstream surveyed structures. It is inferred from the results of the stormwater inventory and survey that there are many buried structures or underground junction boxes.

There are a few concentrated areas where obstructions and debris need to be removed.
Most of the obstructions are spread out across the Town's system.
It is recommended that the Town start with the four high priority areas identified and then move to systematic cleaning/maintenance beginning with the Tomahawk Branch watershed.



Legend

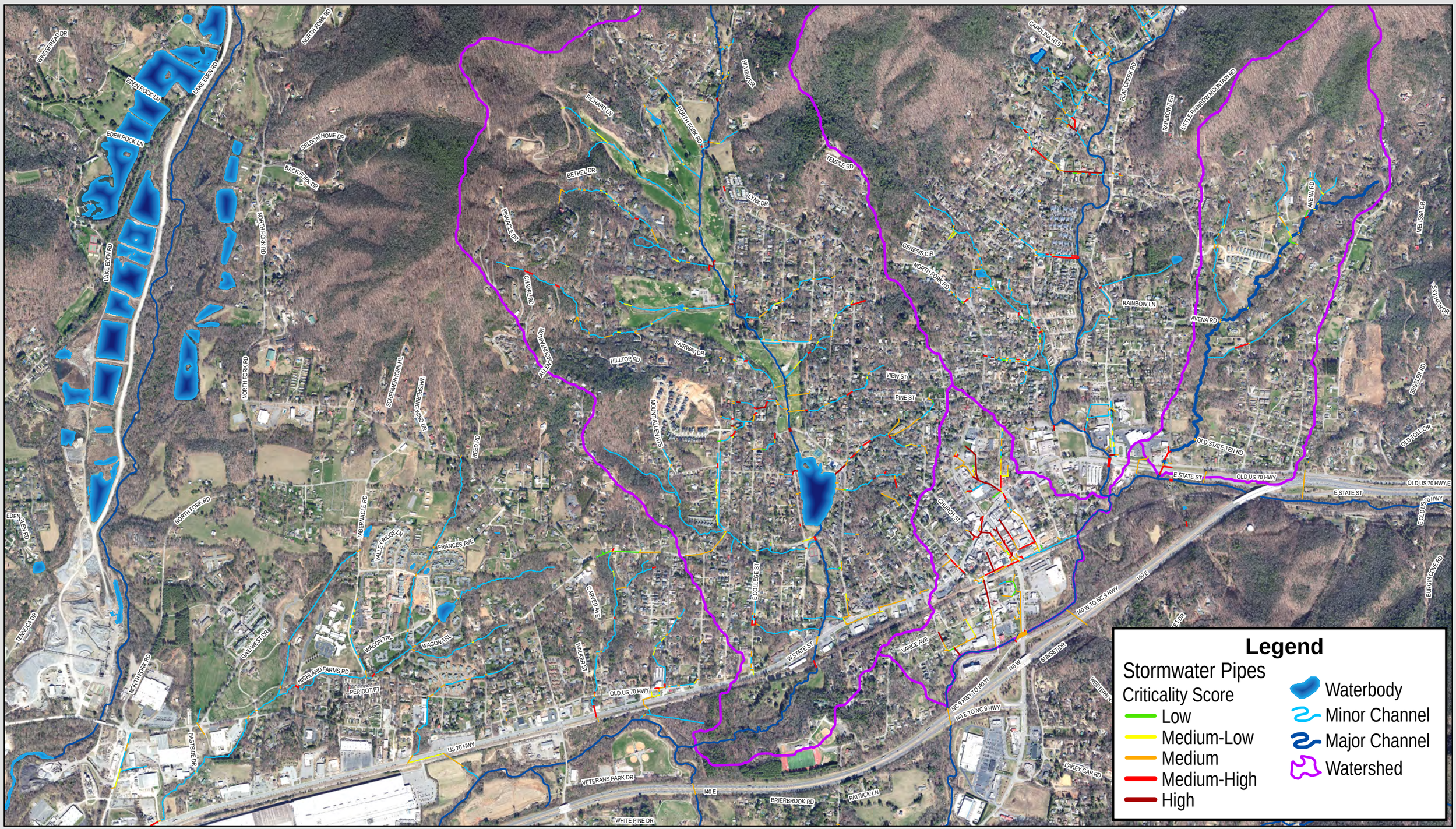
Stormwater Structures
Percent Obstructed
- 0%
- 25%
- 50%
- 75%
- 100%
- # Difficult Access Structure
- 2 Unsurveyed Structure

- Waterbody
- Stormwater Pipe
- Minor Channel
- Major Channel
- Road
- Watershed
- High Priority Maintenance Area

WK DICKSON
AN ARDURRA COMPANY

Figure ES-2: High Priority Maintenance Areas
TOWN OF BLACK MOUNTAIN, NC
Town of Black Mountain Stormwater Master Plan

0 1,250 2,500 Feet
1 in = 1,250 ft



WK DICKSON
AN ARDURRA COMPANY

Figure ES-3: Criticality Analysis Results - Stormwater Pipes
TOWN OF BLACK MOUNTAIN, NC
Town of Black Mountain Stormwater Master Plan

0 1,250 2,500 Feet

1 in = 1,250 ft

ES.3 Stormwater Capital Improvement Projects

Developing flood mitigation alternatives in an urban environment is a complex process based on limitations imposed by the constraints within the environment, such as floodplain encroachments, increased peak flows due to impervious areas, public and private utilities, and private property. Improvements in this portion of the study were identified through an iterative process of infrastructure improvements, open channel improvements, floodplain benching, and detention options where feasible. As previously noted, the Town desired to focus the stormwater capital projects towards achieving a goal of a 50-YR LOS. In some cases, existing conditions limit options to plan for the desired LOS. Options for providing a high LOS are presented herein.

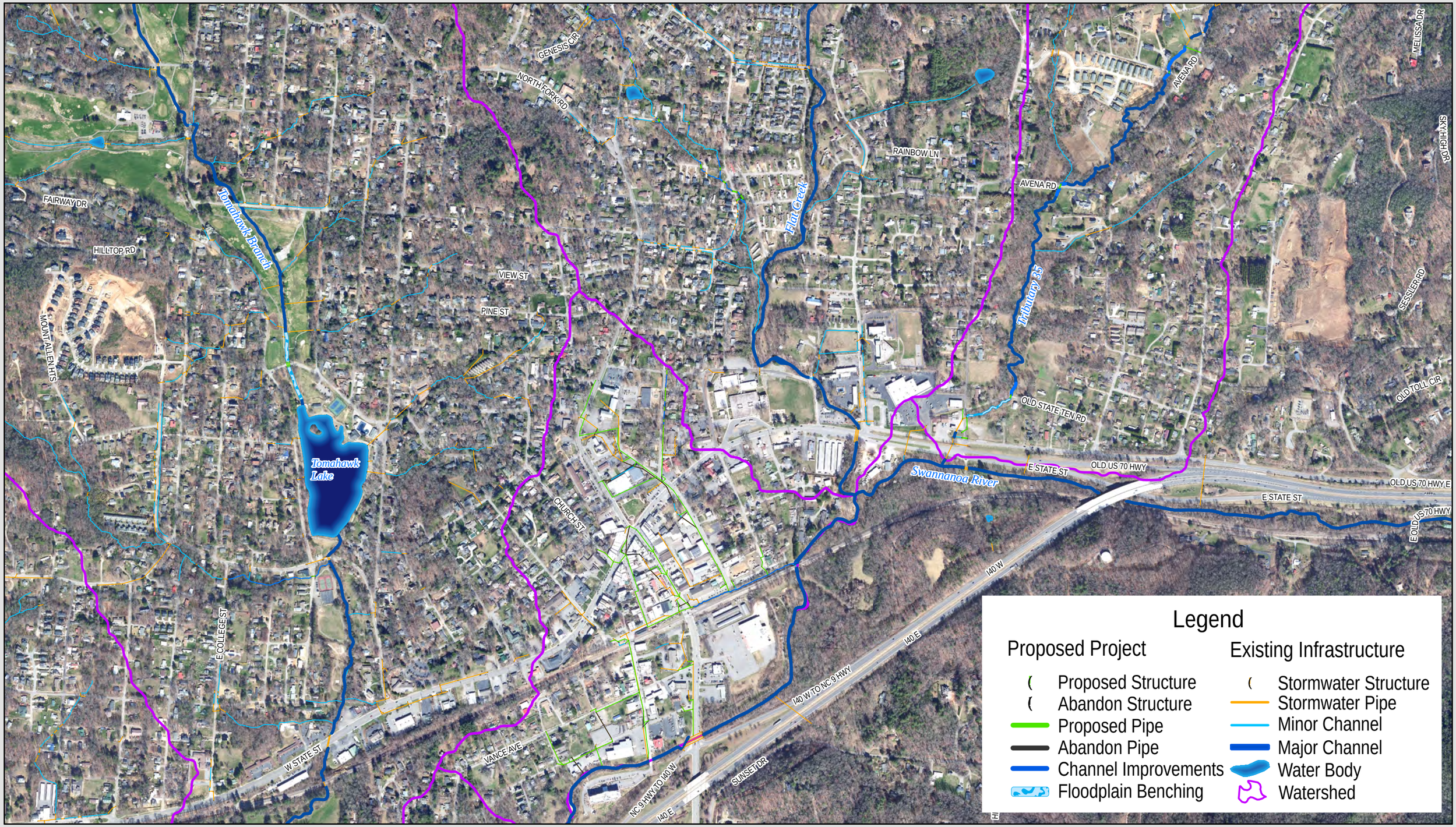
1D PCSWMM models were developed to analysis the Town's existing stormwater system, including the downtown secondary system and the culvert crossings along the three major tributaries to the Swannanoa River running through Town: Tomahawk Branch, Flat Creek, and Tributary 35. The results of the existing system capacity analysis indicated that much of the Town's stormwater system does meet a 10-year LOS and in the downtown area does not meet a 2-year LOS. The models were then used to develop planning level capital improvement projects to meet the Town's desired 50-year LOS. Twenty-nine (29) stormwater improvement capital projects were identified in phases to address the Town's goals within the SWMP. Each stormwater project is identified by watershed and a project ID. Downtown projects are additionally designated by the outfall locations for Sutton Avenue, Black Mountain Avenue, Terry Estates Drive, and NC9. The proposed projects are shown in Figure ES-4.

ES.4 Prioritization and Recommendations

To appropriately allocate Town resources, the flood reduction projects listed above were prioritized based on the following categories:

- Utility Conflicts
- Severity of Street Flooding
- Land or Right-of-Way Ownership
- Effect of Improvements
- Cost Effectiveness
- Bonus Points for Grant Funding Eligibility
- Bonus Points for Criticality Analysis

In some instances, project prioritization will be impacted by the required sequencing to provide the highest possible flood reduction benefits and to reduce or negate any downstream impacts for the proposed projects. Table ES.1 shows the proposed prioritizations and planning level cost estimates for the proposed capital stormwater improvement projects. The total cost for stormwater improvements in the Downtown corridor is approximately $27 Million, and the total cost to provide improvements along primary stream culvert crossings in Tomahawk Branch, Flat Creek, and Tributary 35 (Avena Rd area) is approximately $8 Million. Proposed project sheet summaries and planning level cost estimates are provided following Table ES.1.



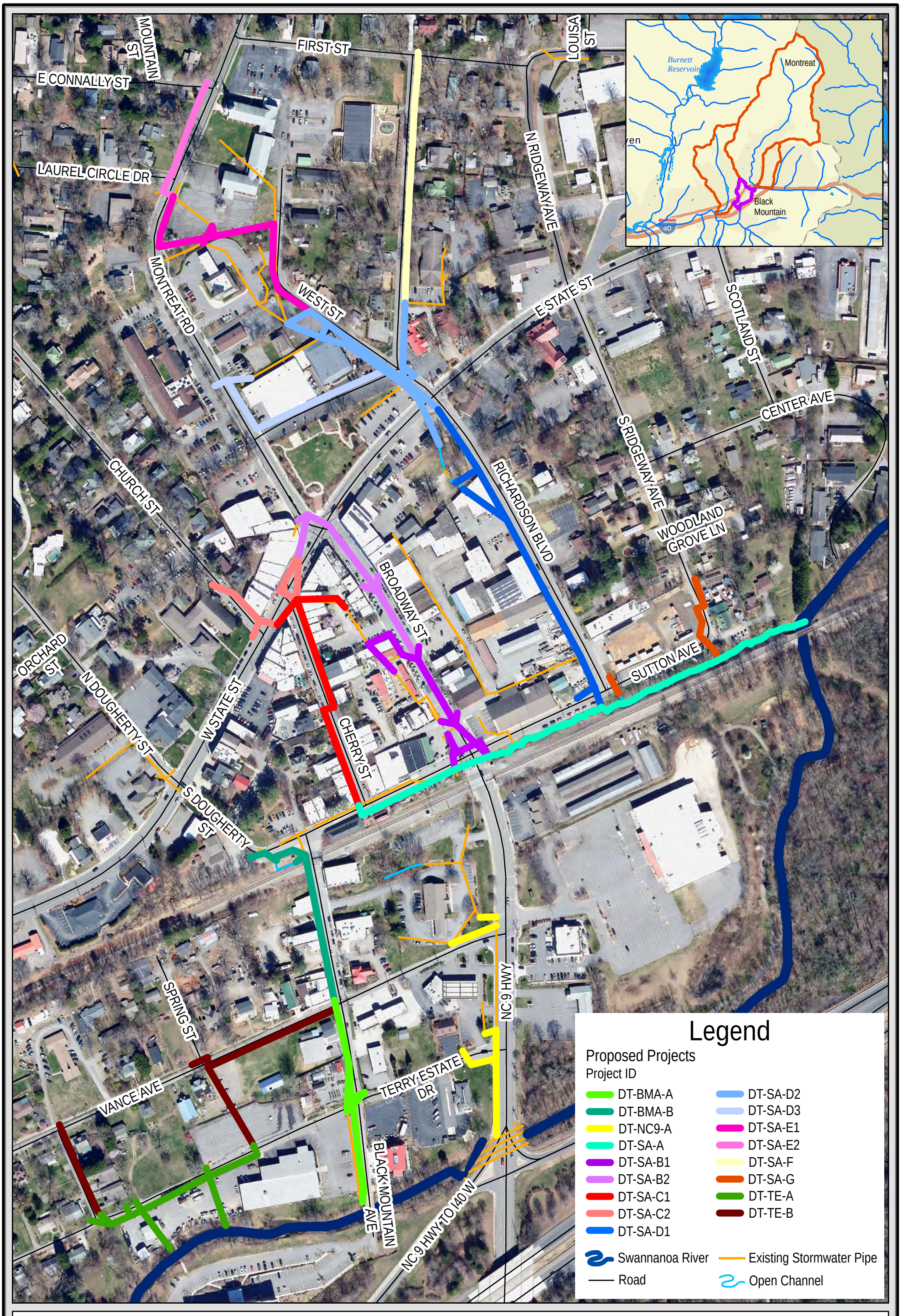
WK DICKSON
AN ARDURRA COMPANY

Figure ES-4: Proposed Projects
TOWN OF BLACK MOUNTAIN, NC
Town of Black Mountain Stormwater Master Plan

0 700 1,400 Feet
1 in = 700 ft

TABLE ES.1. PROPOSED CIP PLANNING COST AND PRIORITIZATION SUMMARY

PROPOSED STORMWATER IMPROVEMENT PROJECT		PROJECT PLANNING LEVEL OPINION OF COST	PRIORITIZATION SCORE
DOWNTOWN SYSTEM			
DT-SA-A	Sutton Ave	$ 2,250,000	88
DT-SA-B1	Broadway St Phase I	$ 2,029,000	83
DT-SA-B2	Broadway St Phase II	$ 1,292,000	88
DT-SA-C1	Cherry St Phase I	$ 1,510,000	75
DT-SA-C2	Cherry St Phase II	$ 1,021,000	88
DT-SA-D1	Police Station/Post Office Phase I	$ 4,303,000	71
DT-SA-D2	Police Station/Post Office Phase II	$ 1,932,000	87
DT-SA-D3	Police Station/Post Office Phase III	$ 923,000	81
DT-SA-E1	West St to Montreat Rd	$ 1,228,000	76
DT-SA-E2	Montreat Rd at Laurel Circle Dr	$ 797,000	49
DT-SA-F	Midland Ave	$ 1,121,000	82
DT-SA-G	S. Ridgeway Ave	$ 827,000	76
DT-BMA-A	Black Mountain Ave Phase I	$ 1,880,000	82
DT-BMA-B	Black Mountain Ave Phase II	$ 1,308,000	88
DT-TE-A	Terry Estate Dr Phase I	$ 1,963,000	61
DT-TE-B	Terry Estate Dr Phase II	$ 1,380,000	78
DT-NC9-A	NC 9	$ 1,335,000	68
TOMAHAWK BRANCH PRIMARY SYSTEM			
TB-A1	Laurel Circle Culvert Replacement	$ 760,000	58
TB-A2	Golf Course Floodplain Benching	$ 690,000	53
TB-B	Swannanoa Ave Culvert	$ 430,000	77
FLAT CREEK PRIMARY SYSTEM			
FC-TRIB1-A	Portmanvilla Rd	$ 900,000	87
FC-TRIB1-B	6th St	$ 633,000	78
FC-TRIB1-C	7th St	$ 405,000	87
FC-TRIB1-D	Montreat Rd	$ 546,000	88
TRIBUTARY 35 PRIMARY SYSTEM			
TR35-A	Padgettown Rd	$ 1,422,000	62
TR35-B1	Old State 10 Rd	$ 608,000	77
TR35-B2	Tributary 35 Floodplain Benching	$ 425,000	66
TR35-C	Avena Rd	$ 438,000	85
TR35-D	Bellgrove Rd / Avena Rd	$ 824,000	83



WK DICKSON
AN ARDURRA COMPANY

Figure ES-5: Proposed Stormwater Improvement Projects
DOWNTOWN DRAINAGE SYSTEM
Town of Black Mountain Stormwater Master Plan

0 100 200 Feet
1 in = 200 ft

PROJECT NAME: **Sutton Ave and Open Channel Stormwater Improvements** PROJECT ID: **DT-SA-A**

PROJECT INFORMATION

LOCATION: Sutton Ave: Cherry St to Broadway St outfall
WATERSHED: Downtown
STORMWATER PROJECT TYPE: Stormwater Drainage
DRAINAGE IMPROVEMENTS (LF): 1360

PROJECT DESCRIPTION

To improve level of service for surrounding roadways and reduce flood risk to nearby property owners:

- Install 25 LF of new 42" RCP across Sutton Ave at Cherry St.
- Replace existing pipe on south side of Sutton Ave with 280 LF of 42" RCP.
- Replace existing pipe in the Broadway St/SuttonAve intersection with 100 LF of 48" RCP.
- Replace exising outfall pipe with 20 LF of 60" RCP.
- Install 940 LF of channel improvements from the outfall to the confluence with the Swannanoa River.*

PROJECT PRIORITIZATION and LEVEL OF SERVICE

CRITERIA	TOTAL SCORE
Utility Conflict	8
Street Flooding	32
Public or Privately-Owned Land	8
Effect of Improvements	20
Cost Effectiveness	15
Grant Bonus	3
Criticality Bonus	2
FINAL PROJECT SCORE:	**88**

KEY CROSSING	LEVEL OF SERVICE EXISTING	LEVEL OF SERVICE PROPOSED	% REDUCTION 50 YR
Sutton Ave at Cherry St	< 2-YR	50-YR	100
Sutton Ave at Broadway St	< 2-YR	50-YR	100
Future Outfall Projects*	< 2-YR	50-YR	100

**Open Channel improvements along existing roadside channel from outfall at Broadway St to the confluence with the Swannanoa River provide capacity for future outfall improvements at Richardson Blvd and S. Ridgeway Ave.*

PLANNING LEVEL OPINION OF COST

Construction estimate includes 30% contingency for planning. Design and permitting includes environmental permitting estimates. Proposed project footprints are based on GIS and modeling analyses. Detailed planning level costs are provided separately.

ITEM	COST OPINION
Construction	$ 1,394,000
Design and Permitting	$ 493,800
Other Project Costs	$ 362,200
Total Project	**$ 2,250,000**

PROJECT AREA MAP

PROJECT NAME **Sutton Ave and Open Channel Stormwater Improvements** PROJECT ID: **DT-SA-A**

PROJECT TYPE: Stormwater Drainage WATERSHED: Downtown

PLANNING LEVEL COST ESTIMATE

Construction cost includes 30% contingency for planning. Improvements (LF): 420
Proposed project footprints are based on GIS and modeling analyses.
Real estate, if privately-owned land, is estimated based on property value.

CONSTRUCTION COST:

ITEM DESCRIPTION	QUANTITY	UNIT	UNIT COST	AMOUNT
Mobilization	1	LS	$ 51,060.00	$ 51,100.00
Erosion Control	1	LS	$ 41,850.00	$ 41,900.00
Traffic Control	1	LS	$ 16,740.00	$ 16,700.00
Moderate Utility Conflict	1	LS	$ 125,550.00	$ 125,600.00
Unclassified Excavation/Hauling	500	CY	$ 72.00	$ 36,000.00
Infrastructure Removal and Disposal	400	LF	$ 115.00	$ 46,000.00
Structure Removal and Disposal	6	EA	$ 6,800.00	$ 40,800.00
Standard Structure	-	EA	$ 8,600.00	-
Large Structure or Headwall	6	EA	$ 12,000.00	$ 72,000.00
New Pipe: 18-inch to 24-inch	-	LF	$ 390.00	-
New Pipe: 30-inch to 36-inch	-	LF	$ 535.00	-
New Pipe: 42-inch to 54-inch	400	LF	$ 670.00	$ 268,000.00
New Pipe: 60-inch	20	LF	$ 875.00	$ 17,500.00
Arch Pipe (22.5" - 31.3")	-	LF	$ 500.00	-
Large RCBC	-	LF	$ 1,700.00	-
Rip Rap	25	TN	$ 50.00	$ 1,300.00
Open Channel Improvements	940	LF	$ 350.00	$ 329,000.00
Roadway/Sidewalk Replacement	240	SY	$ 110.00	$ 26,400.00
New Concrete Curb and Gutter	-	LF	$ 110.00	-
Replace Driveway Culvert Pipe	-	LF	$ 300.00	-
Replace Existing Concrete Driveway	-	SY	$ 120.00	-
			Construction Contingency (30%):	$ 322,000.00
			PLANNING LEVEL OPINION OF CONSTRUCTION COST:	**$ 1,394,000.00**

PROJECT COST:

PROJECT BUDGET ITEM	% of CONSTRUCTION	AMOUNT
Survey	5%	$ 69,700.00
Design and Permitting	20%	$ 278,800.00
Environmental Permitting	-	$ 65,000.00
Railroad Permitting/Coordination	-	$ 150,000.00
Geotechnical Investigation	1%	$ 13,900.00
Structural Evaluation	1%	$ 13,900.00
Real Estate	2%	$ 27,900.00
Utility Relocation	2%	$ 27,900.00
Project Maintenance (3yr)	5%	$ 69,700.00
Construction Inspections	10%	$ 139,400.00
Construction	100%	$ 1,394,000.00
PLANNING LEVEL OPINION OF TOTAL PROJECT COST:		$ 2,250,000.00

PROJECT NAME: **Broadway St Stormwater Improvements Phase I** PROJECT ID: **DT-SA-B1**

PROJECT INFORMATION

LOCATION: Broadway St in Downtown Business District
WATERSHED: Downtown
STORMWATER PROJECT TYPE: Stormwater Drainage
DRAINAGE IMPROVEMENTS (LF): 700

PROJECT DESCRIPTION

To improve level of service for surrounding roadways and reduce flood risk to nearby property owners:

- Replace existing 24" pipe in Broadway St with 325 LF of 42-inch RCP.
- Replace existing catch basins and connecting pipes along Broadway with larger pipes.
- Re-route private system to proposed Broadway system and remove pipe under structure.
- Install upsized and new crossings and connections at Montreat Rd and Sutton Ave.

PROJECT PRIORITIZATION and LEVEL OF SERVICE

CRITERIA	TOTAL SCORE
Utility Conflict	4
Street Flooding	32
Public or Privately-Owned Land	8
Effect of Improvements	20
Cost Effectiveness	15
Grant Bonus	2
Criticality Bonus	2
FINAL PROJECT SCORE:	**83**

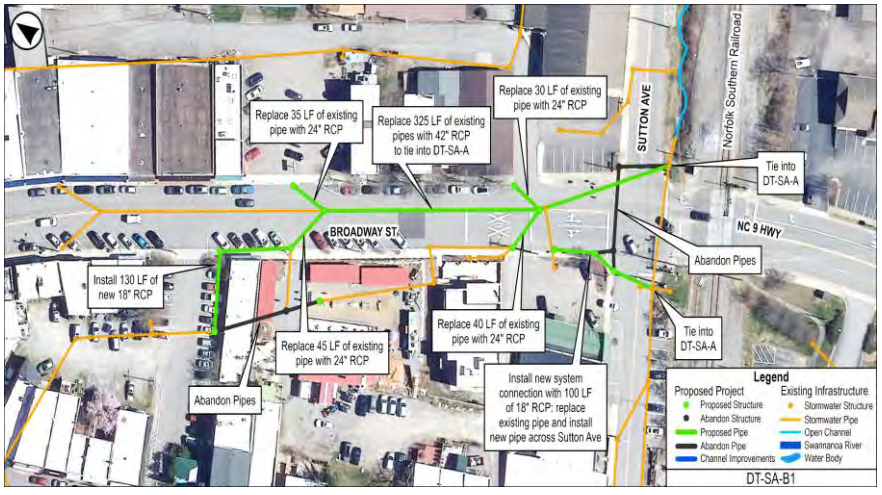
KEY CROSSING	LEVEL OF SERVICE EXISTING	LEVEL OF SERVICE PROPOSED	% REDUCTION 50 YR
Broadway St at Sutton Ave	< 2-YR	50-YR	100
Side system along Broadway	< 2-YR	50-YR	100

PLANNING LEVEL OPINION OF COST

Construction estimate includes 30% contingency for planning. Design and permitting includes environmental permitting estimates. Proposed project footprints are based on GIS and modeling analyses. Detailed planning level costs are provided separately.

ITEM	COST OPINION
Construction	$ 1,390,000
Design and Permitting	$ 278,000
Other Project Costs	$ 361,000
Total Project	**$ 2,029,000**

PROJECT AREA MAP



PROJECT NAME **Broadway St Stormwater Improvements Phase I** PROJECT ID: **DT-SA-B1**

PROJECT TYPE: Stormwater Drainage WATERSHED: Downtown

PLANNING LEVEL COST ESTIMATE

Construction cost includes 30% contingency for planning. Improvements (LF): 700
Proposed project footprints are based on GIS and modeling analyses.
Real estate, if privately-owned land, is estimated based on property value.

CONSTRUCTION COST:

ITEM DESCRIPTION	QUANTITY	UNIT	UNIT COST	AMOUNT
Mobilization	1	LS	$ 50,915.00	$ 50,900.00
Erosion Control	1	LS	$ 37,160.00	$ 37,200.00
Traffic Control	1	LS	$ 14,864.00	$ 14,900.00
Major Utility Conflict	1	LS	$ 222,960.00	$ 223,000.00
Unclassified Excavation/Hauling	500	CY	$ 72.00	$ 36,000.00
Infrastructure Removal and Disposal	720	LF	$ 115.00	$ 82,800.00
Structure Removal and Disposal	15	EA	$ 6,800.00	$ 102,000.00
Standard Structure	9	EA	$ 8,600.00	$ 77,400.00
Large Structure or Headwall	2	EA	$ 12,000.00	$ 24,000.00
New Pipe: 18-inch to 24-inch	375	LF	$ 390.00	$ 146,300.00
New Pipe: 30-inch to 36-inch	-	LF	$ 535.00	-
New Pipe: 42-inch to 54-inch	325	LF	$ 670.00	$ 217,800.00
New Pipe: 60-inch	-	LF	$ 875.00	-
Arch Pipe (22.5" - 31.3")	-	LF	$ 500.00	-
Large RCBC	-	LF	$ 1,700.00	-
Rip Rap	25	TN	$ 50.00	$ 1,300.00
Open Channel Improvements	-	LF	$ 350.00	-
Roadway/Sidewalk Replacement	380	SY	$ 110.00	$ 41,800.00
New Concrete Curb and Gutter	125	LF	$ 110.00	$ 13,800.00
Replace Driveway Culvert Pipe	-	LF	$ 300.00	-
Replace Existing Concrete Driveway	-	SY	$ 120.00	-
			Construction Contingency (30%):	$ 321,000.00
			PLANNING LEVEL OPINION OF CONSTRUCTION COST:	**$ 1,390,000.00**

PROJECT COST:

PROJECT BUDGET ITEM	% of CONSTRUCTION	AMOUNT
Survey	5%	$ 69,500.00
Design and Permitting	20%	$ 278,000.00
Environmental Permitting	-	$ -
Railroad Permitting/Coordination	-	$ -
Geotechnical Investigation	1%	$ 13,900.00
Structural Evaluation	1%	$ 13,900.00
Real Estate	2%	$ 27,800.00
Utility Relocation	2%	$ 27,800.00
Project Maintenance (3yr)	5%	$ 69,500.00
Construction Inspections	10%	$ 139,000.00
Construction	100%	$ 1,390,000.00
PLANNING LEVEL OPINION OF TOTAL PROJECT COST:		$ 2,029,000.00

PROJECT NAME: **Broadway St Stormwater Improvements Phase II** PROJECT ID: **DT-SA-B2**

PROJECT INFORMATION

LOCATION: Broadway St north to Montreat Rd
WATERSHED: Downtown
STORMWATER PROJECT TYPE: Stormwater Drainage
DRAINAGE IMPROVEMENTS (LF): 615

PROJECT DESCRIPTION

To improve level of service for surrounding roadways and reduce flood risk to nearby property owners:

- Replace existing 24" pipe in Broadway St with 210 LF of 36-inch RCP.
- Install 285 LF of new 30-inch RCP from 36-inch RCP in Broadway St across E State St.
- Replace 30 LF of existing pipe across Montreat Rd at E State St with 30-inch RCP.
- Remove pipe across Montreat flowing to first catch basin on W. State St.

PROJECT PRIORITIZATION and LEVEL OF SERVICE

CRITERIA	TOTAL SCORE
Utility Conflict	8
Street Flooding	32
Public or Privately-Owned Land	4
Effect of Improvements	20
Cost Effectiveness	20
Grant Bonus	2
Criticality Bonus	2
FINAL PROJECT SCORE:	**88**

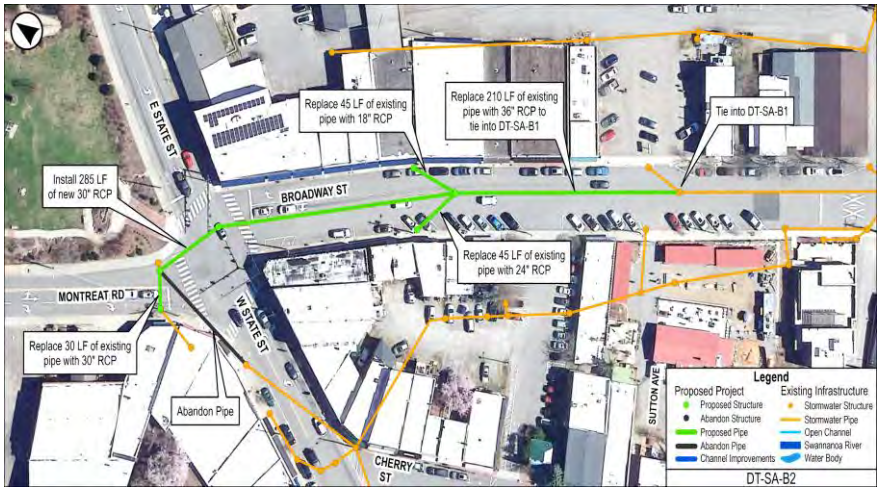
KEY CROSSING	LEVEL OF SERVICE EXISTING	LEVEL OF SERVICE PROPOSED	% REDUCTION 50 YR
E State St at Broadway St	NA	50-YR	New Crossing
Montreat Rd at E State St	< 2-YR	50-YR	100

PLANNING LEVEL OPINION OF COST

Construction estimate includes 30% contingency for planning. Design and permitting includes environmental permitting estimates. Proposed project footprints are based on GIS and modeling analyses. Detailed planning level costs are provided separately.

ITEM	COST OPINION
Construction	$ 885,000
Design and Permitting	$ 177,000
Other Project Costs	$ 230,000
Total Project	**$ 1,292,000**

PROJECT AREA MAP



PROJECT NAME **Broadway St Stormwater Improvements Phase II** PROJECT ID: **DT-SA-B2**

PROJECT TYPE: Stormwater Drainage WATERSHED: Downtown

PLANNING LEVEL COST ESTIMATE

Construction cost includes 30% contingency for planning. Improvements (LF): 615
Proposed project footprints are based on GIS and modeling analyses.
Real estate, if privately-owned land, is estimated based on property value.

CONSTRUCTION COST:

ITEM DESCRIPTION	QUANTITY	UNIT	UNIT COST	AMOUNT
Mobilization	1	LS	$ 32,425.00	$ 32,400.00
Erosion Control	1	LS	$ 26,580.00	$ 26,600.00
Traffic Control	1	LS	$ 10,632.00	$ 10,600.00
Moderate Utility Conflict	1	LS	$ 79,740.00	$ 79,700.00
Unclassified Excavation/Hauling	620	CY	$ 72.00	$ 44,600.00
Infrastructure Removal and Disposal	435	LF	$ 115.00	$ 50,000.00
Structure Removal and Disposal	5	EA	$ 6,800.00	$ 34,000.00
Standard Structure	6	EA	$ 8,600.00	$ 51,600.00
Large Structure or Headwall	-	EA	$ 12,000.00	-
New Pipe: 18-inch to 24-inch	90	LF	$ 390.00	$ 35,100.00
New Pipe: 30-inch to 36-inch	525	LF	$ 535.00	$ 280,900.00
New Pipe: 42-inch to 54-inch	-	LF	$ 670.00	-
New Pipe: 60-inch	-	LF	$ 875.00	-
Arch Pipe (22.5" - 31.3")	-	LF	$ 500.00	-
Large RCBC	-	LF	$ 1,700.00	-
Rip Rap	25	TN	$ 50.00	$ 1,300.00
Open Channel Improvements	-	LF	$ 350.00	-
Roadway/Sidewalk Replacement	310	SY	$ 110.00	$ 34,100.00
New Concrete Curb and Gutter	-	LF	$ 110.00	-
Replace Driveway Culvert Pipe	-	LF	$ 300.00	-
Replace Existing Concrete Driveway	-	SY	$ 120.00	-
			Construction Contingency (30%):	$ 204,000.00
			PLANNING LEVEL OPINION OF CONSTRUCTION COST:	**$ 885,000.00**

PROJECT COST:

PROJECT BUDGET ITEM	% of CONSTRUCTION	AMOUNT
Survey	5%	$ 44,300.00
Design and Permitting	20%	$ 177,000.00
Environmental Permitting	-	$ -
Railroad Permitting/Coordination	-	$ -
Geotechnical Investigation	1%	$ 8,900.00
Structural Evaluation	1%	$ 8,900.00
Real Estate	2%	$ 17,700.00
Utility Relocation	2%	$ 17,700.00
Project Maintenance (3yr)	5%	$ 44,300.00
Construction Inspections	10%	$ 88,500.00
Construction	100%	$ 885,000.00
PLANNING LEVEL OPINION OF TOTAL PROJECT COST:		**$ 1,292,000.00**

PROJECT NAME: **Cherry St Stormwater Improvements Phase I** PROJECT ID: **DT-SA-C1**

PROJECT INFORMATION

LOCATION: Cherry St from W State St to Sutton Ave
WATERSHED: Downtown
STORMWATER PROJECT TYPE: Stormwater Drainage
DRAINAGE IMPROVEMENTS (LF): 690

PROJECT DESCRIPTION

To improve level of service for surrounding roadways and reduce flood risk to nearby property owners:

- Replace existing pipe on Cherry St with 270 LF of 36-inch RCP and tie into 42-inch RCP at Sutton Ave.
- Install 330 LF of new 36-inch RCP along Cherry St. from W. State St.
- Replace existing pipe crossing Cherry St at W State St with 85 LF of 36-inch RCP.
- Remove pipe under structure at corner of W State St and Cherry St. to re-route flow to right-of-way.

PROJECT PRIORITIZATION and LEVEL OF SERVICE

CRITERIA	TOTAL SCORE
Utility Conflict	8
Street Flooding	24
Public or Privately-Owned Land	4
Effect of Improvements	20
Cost Effectiveness	15
Grant Bonus	2
Criticality Bonus	2
FINAL PROJECT SCORE:	**75**

KEY CROSSING	LEVEL OF SERVICE EXISTING	LEVEL OF SERVICE PROPOSED	% REDUCTION 50 YR
Cherry St at W State St	< 2-YR	50-YR	100
Cherry St at Sutton Ave	< 2-YR	50-YR	100

PLANNING LEVEL OPINION OF COST

Construction estimate includes 30% contingency for planning. Design and permitting includes environmental permitting estimates. Proposed project footprints are based on GIS and modeling analyses. Detailed planning level costs are provided separately.

ITEM	COST OPINION
Construction	$ 1,034,000
Design and Permitting	$ 206,800
Other Project Costs	$ 269,200
Total Project	**$ 1,510,000**

PROJECT AREA MAP

PROJECT NAME **Cherry St Stormwater Improvements Phase I** PROJECT ID: **DT-SA-C1**

PROJECT TYPE: Stormwater Drainage WATERSHED: Downtown

PLANNING LEVEL COST ESTIMATE

Construction cost includes 30% contingency for planning. Improvements (LF): 690
Proposed project footprints are based on GIS and modeling analyses.
Real estate, if privately-owned land, is estimated based on property value.

CONSTRUCTION COST:

ITEM DESCRIPTION	QUANTITY	UNIT	UNIT COST	AMOUNT
Mobilization	1	LS	$ 37,855.00	$ 37,900.00
Erosion Control	1	LS	$ 31,030.00	$ 31,000.00
Traffic Control	1	LS	$ 12,412.00	$ 12,400.00
Moderate Utility Conflict	1	LS	$ 93,090.00	$ 93,100.00
Unclassified Excavation/Hauling	860	CY	$ 72.00	$ 61,900.00
Infrastructure Removal and Disposal	500	LF	$ 115.00	$ 57,500.00
Structure Removal and Disposal	3	EA	$ 6,800.00	$ 20,400.00
Standard Structure	4	EA	$ 8,600.00	$ 34,400.00
Large Structure or Headwall	-	EA	$ 12,000.00	-
New Pipe: 18-inch to 24-inch	-	LF	$ 390.00	-
New Pipe: 30-inch to 36-inch	690	LF	$ 535.00	$ 369,200.00
New Pipe: 42-inch to 54-inch	-	LF	$ 670.00	-
New Pipe: 60-inch	-	LF	$ 875.00	-
Arch Pipe (22.5" - 31.3")	-	LF	$ 500.00	-
Large RCBC	-	LF	$ 1,700.00	-
Rip Rap	25	TN	$ 50.00	$ 1,300.00
Open Channel Improvements	-	LF	$ 350.00	-
Roadway/Sidewalk Replacement	390	SY	$ 110.00	$ 42,900.00
New Concrete Curb and Gutter	300	LF	$ 110.00	$ 33,000.00
Replace Driveway Culvert Pipe	-	LF	$ 300.00	-
Replace Existing Concrete Driveway	-	SY	$ 120.00	-
			Construction Contingency (30%):	$ 239,000.00
			PLANNING LEVEL OPINION OF CONSTRUCTION COST:	**$ 1,034,000.00**

PROJECT COST:

PROJECT BUDGET ITEM	% of CONSTRUCTION	AMOUNT
Survey	5%	$ 51,700.00
Design and Permitting	20%	$ 206,800.00
Environmental Permitting	-	$ -
Railroad Permitting/Coordination	-	$ -
Geotechnical Investigation	1%	$ 10,300.00
Structural Evaluation	1%	$ 10,300.00
Real Estate	2%	$ 20,700.00
Utility Relocation	2%	$ 20,700.00
Project Maintenance (3yr)	5%	$ 51,700.00
Construction Inspections	10%	$ 103,400.00
Construction	100%	$ 1,034,000.00
PLANNING LEVEL OPINION OF TOTAL PROJECT COST:		$ 1,510,000.00

PROJECT NAME: **Cherry St Stormwater Improvements Phase II** PROJECT ID: **DT-SA-C2**

PROJECT INFORMATION

LOCATION: Church St and W State St
WATERSHED: Downtown
STORMWATER PROJECT TYPE: Stormwater Drainage
DRAINAGE IMPROVEMENTS (LF): 420

PROJECT DESCRIPTION

To improve level of service for surrounding roadways and reduce flood risk to nearby property owners:

- Replace existing crossings at Church St and W State St with 50 LF of 30-inch RCP and 50 LF of 36-inch RCP.
- Replace existing pipe along Church St with 24-inch RCP and connect to new system at W. State St/Cherry St.
- Install 160 LF of 18-inch RCP along W. State St to redirect flow to proposed Cherry St system.
- Remove remaining connection between Montreat Rd and Cherry St.

PROJECT PRIORITIZATION and LEVEL OF SERVICE

CRITERIA	TOTAL SCORE
Utility Conflict	8
Street Flooding	32
Public or Privately-Owned Land	4
Effect of Improvements	20
Cost Effectiveness	20
Grant Bonus	2
Criticality Bonus	2
FINAL PROJECT SCORE:	**88**

KEY CROSSING	LEVEL OF SERVICE EXISTING	LEVEL OF SERVICE PROPOSED	% REDUCTION 50 YR
W State St at Church St	< 2-YR	50-YR	100
W State St east of Cherry St	2-YR	50-YR	100
Church St at W State St	< 2-YR	50-YR	100

PLANNING LEVEL OPINION OF COST

Construction estimate includes 30% contingency for planning. Design and permitting includes environmental permitting estimates. Proposed project footprints are based on GIS and modeling analyses. Detailed planning level costs are provided separately.

ITEM	COST OPINION
Construction	$ 699,000
Design and Permitting	$ 139,800
Other Project Costs	$ 182,200
Total Project	**$ 1,021,000**

PROJECT AREA MAP

PROJECT NAME **Cherry St Stormwater Improvements Phase II** PROJECT ID: **DT-SA-C2**

PROJECT TYPE: Stormwater Drainage WATERSHED: Downtown

PLANNING LEVEL COST ESTIMATE

Construction cost includes 30% contingency for planning.
Proposed project footprints are based on GIS and modeling analyses.
Real estate, if privately-owned land, is estimated based on property value.

Improvements (LF): 420

CONSTRUCTION COST:

ITEM DESCRIPTION	QUANTITY	UNIT	UNIT COST	AMOUNT
Mobilization	1	LS	$ 25,635.00	$ 25,600.00
Erosion Control	1	LS	$ 21,015.00	$ 21,000.00
Traffic Control	1	LS	$ 8,406.00	$ 8,400.00
Moderate Utility Conflict	1	LS	$ 63,045.00	$ 63,000.00
Unclassified Excavation/Hauling	340	CY	$ 72.00	$ 24,500.00
Infrastructure Removal and Disposal	440	LF	$ 115.00	$ 50,600.00
Structure Removal and Disposal	8	EA	$ 6,800.00	$ 54,400.00
Standard Structure	7	EA	$ 8,600.00	$ 60,200.00
Large Structure or Headwall	-	EA	$ 12,000.00	-
New Pipe: 18-inch to 24-inch	325	LF	$ 390.00	$ 126,800.00
New Pipe: 30-inch to 36-inch	95	LF	$ 535.00	$ 50,800.00
New Pipe: 42-inch to 54-inch	-	LF	$ 670.00	-
New Pipe: 60-inch	-	LF	$ 875.00	-
Arch Pipe (22.5" - 31.3")	-	LF	$ 500.00	-
Large RCBC	-	LF	$ 1,700.00	-
Rip Rap	25	TN	$ 50.00	$ 1,300.00
Open Channel Improvements	-	LF	$ 350.00	-
Roadway/Sidewalk Replacement	260	SY	$ 110.00	$ 28,600.00
New Concrete Curb and Gutter	210	LF	$ 110.00	$ 23,100.00
Replace Driveway Culvert Pipe	-	LF	$ 300.00	-
Replace Existing Concrete Driveway	-	SY	$ 120.00	-
			Construction Contingency (30%):	$ 161,000.00
			PLANNING LEVEL OPINION OF CONSTRUCTION COST:	**$ 699,000.00**

PROJECT COST:

PROJECT BUDGET ITEM	% of CONSTRUCTION	AMOUNT
Survey	5%	$ 35,000.00
Design and Permitting	20%	$ 139,800.00
Environmental Permitting	-	$ -
Railroad Permitting/Coordination	-	$ -
Geotechnical Investigation	1%	$ 7,000.00
Structural Evaluation	1%	$ 7,000.00
Real Estate	2%	$ 14,000.00
Utility Relocation	2%	$ 14,000.00
Project Maintenance (3yr)	5%	$ 35,000.00
Construction Inspections	10%	$ 69,900.00
Construction	100%	$ 699,000.00
PLANNING LEVEL OPINION OF TOTAL PROJECT COST:		$ 1,021,000.00

PROJECT NAME: **Police Station / Post Office Stormwater Improvements Phase I** PROJECT ID: **DT-SA-D1**

PROJECT INFORMATION

LOCATION: Richardson Blvd / Post Office
WATERSHED: Downtown
STORMWATER PROJECT TYPE: Stormwater Drainage
DRAINAGE IMPROVEMENTS (LF): 1600

PROJECT DESCRIPTION

To improve level of service for surrounding roadways and reduce flood risk to nearby property owners:

- Install 150 LF of 3' x 7' RCBC along Richardson Blvd to the outfall in the open channel along Sutton Ave.
- Install 570 LF of twin 42-inch RCP north along Richardson Blvd to the post office.
- Install 190 LF of 42-inch pipe to the intersection with E State St.
- Install 70 LF of new 36-inch RCP adjacent to the post office to reroute flow to the right-of-way.
- Project allows for stormwater improvements upstream at Police Station.

PROJECT PRIORITIZATION and LEVEL OF SERVICE

CRITERIA	TOTAL SCORE
Utility Conflict	8
Street Flooding	32
Public or Privately-Owned Land	8
Effect of Improvements	20
Cost Effectiveness	0
Grant Bonus	2
Criticality Bonus	1
FINAL PROJECT SCORE:	**71**

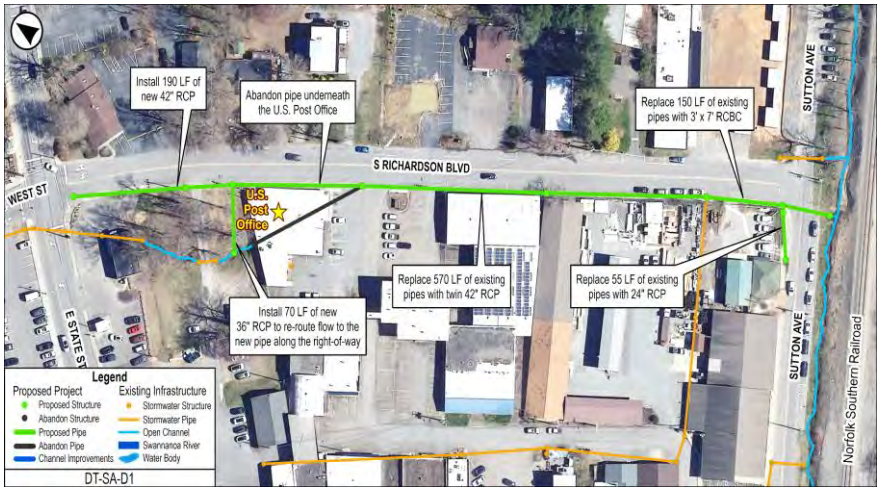
KEY CROSSING	LEVEL OF SERVICE EXISTING	LEVEL OF SERVICE PROPOSED	% REDUCTION 50 YR
Sutton Ave at Richardson	< 2-YR	50-YR	100
Post Office Infrastructure	2-YR	50-YR	100

PLANNING LEVEL OPINION OF COST

Construction estimate includes 30% contingency for planning. Design and permitting includes environmental permitting estimates. Proposed project footprints are based on GIS and modeling analyses. Detailed planning level costs are provided separately.

ITEM	COST OPINION
Construction	$ 2,913,000
Design and Permitting	$ 632,600
Other Project Costs	$ 757,400
Total Project	**$ 4,303,000**

PROJECT AREA MAP



PROJECT NAME **Police Station / Post Office Stormwater Improvements Phase I** PROJECT ID: **DT-SA-D1**

PROJECT TYPE: Stormwater Drainage WATERSHED: Downtown

PLANNING LEVEL COST ESTIMATE

Construction cost includes 30% contingency for planning. Improvements (LF): 1600
Proposed project footprints are based on GIS and modeling analyses.
Real estate, if privately-owned land, is estimated based on property value.

CONSTRUCTION COST:

ITEM DESCRIPTION	QUANTITY	UNIT	UNIT COST	AMOUNT
Mobilization	1	LS	$ 106,720.00	$ 106,700.00
Erosion Control	1	LS	$ 87,475.00	$ 87,500.00
Traffic Control	1	LS	$ 34,990.00	$ 35,000.00
Moderate Utility Conflict	1	LS	$ 262,425.00	$ 262,400.00
Unclassified Excavation/Hauling	2310	CY	$ 72.00	$ 166,300.00
Infrastructure Removal and Disposal	760	LF	$ 115.00	$ 87,400.00
Structure Removal and Disposal	6	EA	$ 6,800.00	$ 40,800.00
Standard Structure	3	EA	$ 8,600.00	$ 25,800.00
Large Structure or Headwall	8	EA	$ 12,000.00	$ 96,000.00
New Pipe: 18-inch to 24-inch	50	LF	$ 390.00	$ 19,500.00
New Pipe: 30-inch to 36-inch	70	LF	$ 535.00	$ 37,500.00
New Pipe: 42-inch to 54-inch	1330	LF	$ 670.00	$ 891,100.00
New Pipe: 60-inch	-	LF	$ 875.00	-
Arch Pipe (22.5" - 31.3")	-	LF	$ 500.00	-
Large RCBC	150	LF	$ 1,700.00	$ 255,000.00
Rip Rap	50	TN	$ 50.00	$ 2,500.00
Open Channel Improvements	-	LF	$ 350.00	-
Roadway/Sidewalk Replacement	610	SY	$ 110.00	$ 67,100.00
New Concrete Curb and Gutter	550	LF	$ 110.00	$ 60,500.00
Replace Driveway Culvert Pipe	-	LF	$ 300.00	-
Replace Existing Concrete Driveway	-	SY	$ 120.00	-
			Construction Contingency (30%):	$ 672,000.00
			PLANNING LEVEL OPINION OF CONSTRUCTION COST:	**$ 2,913,000.00**

PROJECT COST:

PROJECT BUDGET ITEM	% of CONSTRUCTION	AMOUNT
Survey	5%	$ 145,700.00
Design and Permitting	20%	$ 582,600.00
Environmental Permitting	-	$ 50,000.00
Railroad Permitting/Coordination	-	$ -
Geotechnical Investigation	1%	$ 29,100.00
Structural Evaluation	1%	$ 29,100.00
Real Estate	2%	$ 58,300.00
Utility Relocation	2%	$ 58,300.00
Project Maintenance (3yr)	5%	$ 145,700.00
Construction Inspections	10%	$ 291,300.00
Construction	100%	$ 2,913,000.00
PLANNING LEVEL OPINION OF TOTAL PROJECT COST:		$ 4,303,000.00

PROJECT NAME: **Police Station / Post Office Stormwater Improvements Phase II** PROJECT ID: **DT-SA-D2**

PROJECT INFORMATION

LOCATION: West St at E State St / Police Station
WATERSHED: Downtown
STORMWATER PROJECT TYPE: Stormwater Drainage
DRAINAGE IMPROVEMENTS (LF): 775

PROJECT DESCRIPTION

To improve level of service for surrounding roadways and reduce flood risk to nearby property owners:

- Install 170 LF of new 42-inch RCP from Honeycutt St crossing E State St to tie-into proposed project DT-SA-D1.
- Install 55 LF of new 24-inch RCP and 200 LF of new 36-inch RCP in a new alignment along West St.
- Install new connecting pipes north of the police station to re-route flow to the right-of-way.
- Remove/abandon in place stormwater system running underneath police station to south of E State St.
- Install 235 LF of 24-inch RCP at the West/Midland intersection.

PROJECT PRIORITIZATION and LEVEL OF SERVICE

CRITERIA	TOTAL SCORE
Utility Conflict	8
Street Flooding	32
Public or Privately-Owned Land	8
Effect of Improvements	20
Cost Effectiveness	15
Grant Bonus	2
Criticality Bonus	2
FINAL PROJECT SCORE:	**87**

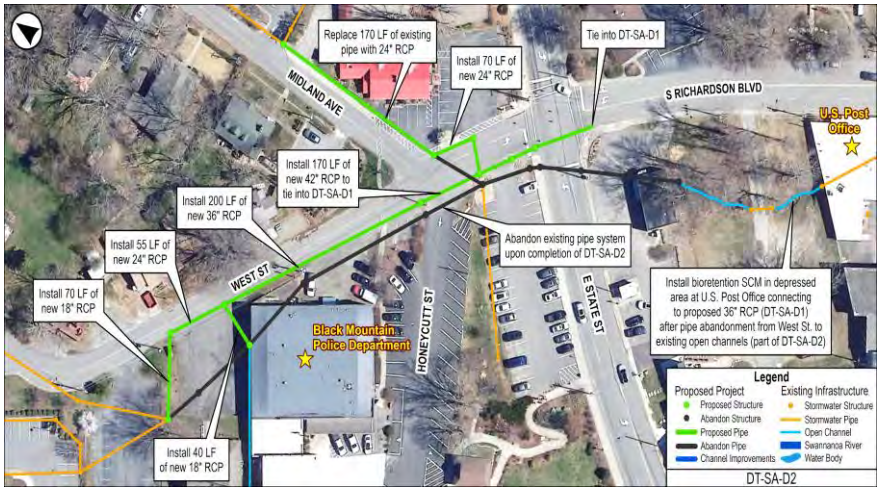
KEY CROSSING	LEVEL OF SERVICE EXISTING	LEVEL OF SERVICE PROPOSED	% REDUCTION 50 YR
E State St/Richardson INT	< 2-YR	50-YR	100
West/Midland INT	< 2-YR	50-YR	100
Police Station Infrastructure	< 2-YR	50-YR	100

PLANNING LEVEL OPINION OF COST

Construction estimate includes 30% contingency for planning. Design and permitting includes environmental permitting estimates. Proposed project footprints are based on GIS and modeling analyses. Detailed planning level costs are provided separately.

ITEM	COST OPINION
Construction	$ 1,323,000
Design and Permitting	$ 264,600
Other Project Costs	$ 344,400
Total Project	**$ 1,932,000**

PROJECT AREA MAP



PROJECT NAME **Police Station / Post Office Stormwater Improvements Phase II** PROJECT ID: **DT-SA-D2**

PROJECT TYPE: Stormwater Drainage WATERSHED: Downtown

PLANNING LEVEL COST ESTIMATE

Construction cost includes 30% contingency for planning. Improvements (LF): 775
Proposed project footprints are based on GIS and modeling analyses.
Real estate, if privately-owned land, is estimated based on property value.

CONSTRUCTION COST:

ITEM DESCRIPTION	QUANTITY	UNIT	UNIT COST	AMOUNT
Mobilization	1	LS	$ 48,475.00	$ 48,500.00
Erosion Control	1	LS	$ 39,735.00	$ 39,700.00
Traffic Control	1	LS	$ 15,894.00	$ 15,900.00
Moderate Utility Conflict	1	LS	$ 119,205.00	$ 119,200.00
Unclassified Excavation/Hauling	940	CY	$ 72.00	$ 67,700.00
Infrastructure Removal and Disposal	710	LF	$ 115.00	$ 81,700.00
Structure Removal and Disposal	10	EA	$ 6,800.00	$ 68,000.00
Standard Structure	7	EA	$ 8,600.00	$ 60,200.00
Large Structure or Headwall	4	EA	$ 12,000.00	$ 48,000.00
New Pipe: 18-inch to 24-inch	400	LF	$ 390.00	$ 156,000.00
New Pipe: 30-inch to 36-inch	200	LF	$ 535.00	$ 107,000.00
New Pipe: 42-inch to 54-inch	175	LF	$ 670.00	$ 117,300.00
New Pipe: 60-inch	-	LF	$ 875.00	-
Arch Pipe (22.5" - 31.3")	-	LF	$ 500.00	-
Large RCBC	-	LF	$ 1,700.00	-
Rip Rap	25	TN	$ 50.00	$ 1,300.00
Open Channel Improvements	-	LF	$ 350.00	-
Roadway/Sidewalk Replacement	370	SY	$ 110.00	$ 40,700.00
New Concrete Curb and Gutter	425	LF	$ 110.00	$ 46,800.00
Replace Driveway Culvert Pipe	-	LF	$ 300.00	-
Replace Existing Concrete Driveway	-	SY	$ 120.00	-
			Construction Contingency (30%):	$ 305,000.00
			PLANNING LEVEL OPINION OF CONSTRUCTION COST:	**$ 1,323,000.00**

PROJECT COST:

PROJECT BUDGET ITEM	% of CONSTRUCTION	AMOUNT
Survey	5%	$ 66,200.00
Design and Permitting	20%	$ 264,600.00
Environmental Permitting	-	$ -
Railroad Permitting/Coordination	-	$ -
Geotechnical Investigation	1%	$ 13,200.00
Structural Evaluation	1%	$ 13,200.00
Real Estate	2%	$ 26,500.00
Utility Relocation	2%	$ 26,500.00
Project Maintenance (3yr)	5%	$ 66,200.00
Construction Inspections	10%	$ 132,300.00
Construction	100%	$ 1,323,000.00
PLANNING LEVEL OPINION OF TOTAL PROJECT COST:		$ 1,932,000.00

PROJECT NAME: **Police Station / Post Office Stormwater Improvements Phase III** PROJECT ID: **DT-SA-D3**

PROJECT INFORMATION

LOCATION: Montreat Rd and Honeycutt St
WATERSHED: Downtown
STORMWATER PROJECT TYPE: Stormwater Drainage
DRAINAGE IMPROVEMENTS (LF): 575

PROJECT DESCRIPTION

To improve level of service for surrounding roadways and reduce flood risk to nearby property owners:

- Replace existing pipe with paved over inlet across Montreat Rd at Fire Station with 35 LF of 24-inch RCP.
- Install 540 LF of new 24-inch RCP along Montreat Rd to Honeycutt St connecting to 42-inch RCP at West St.
- Remove existing pipe directing public water onto private property just north of the Fire Station.

PROJECT PRIORITIZATION and LEVEL OF SERVICE

CRITERIA	TOTAL SCORE
Utility Conflict	8
Street Flooding	32
Public or Privately-Owned Land	4
Effect of Improvements	15
Cost Effectiveness	20
Grant Bonus	2
Criticality Bonus	0
FINAL PROJECT SCORE:	**81**

KEY CROSSING	LEVEL OF SERVICE EXISTING	LEVEL OF SERVICE PROPOSED	% REDUCTION 50 YR
Montreat Rd at Fire Station	< 2-YR	50-YR	100
Honeycutt St	NA	50-YR	New System

PLANNING LEVEL OPINION OF COST

Construction estimate includes 30% contingency for planning. Design and permitting includes environmental permitting estimates. Proposed project footprints are based on GIS and modeling analyses. Detailed planning level costs are provided separately.

ITEM	COST OPINION
Construction	$ 632,000
Design and Permitting	$ 126,400
Other Project Costs	$ 164,600
Total Project	**$ 923,000**

PROJECT AREA MAP

PROJECT NAME **Police Station / Post Office Stormwater Improvements Phase III** PROJECT ID: **DT-SA-D3**

PROJECT TYPE: Stormwater Drainage WATERSHED: Downtown

PLANNING LEVEL COST ESTIMATE

Construction cost includes 30% contingency for planning. Improvements (LF): 575
Proposed project footprints are based on GIS and modeling analyses.
Real estate, if privately-owned land, is estimated based on property value.

CONSTRUCTION COST:

ITEM DESCRIPTION	QUANTITY	UNIT	UNIT COST	AMOUNT
Mobilization	1	LS	$ 23,135.00	$ 23,100.00
Erosion Control	1	LS	$ 18,960.00	$ 19,000.00
Traffic Control	1	LS	$ 7,584.00	$ 7,600.00
Moderate Utility Conflict	1	LS	$ 56,880.00	$ 56,900.00
Unclassified Excavation/Hauling	510	CY	$ 72.00	$ 36,700.00
Infrastructure Removal and Disposal	100	LF	$ 115.00	$ 11,500.00
Structure Removal and Disposal	3	EA	$ 6,800.00	$ 20,400.00
Standard Structure	4	EA	$ 8,600.00	$ 34,400.00
Large Structure or Headwall	-	EA	$ 12,000.00	-
New Pipe: 18-inch to 24-inch	575	LF	$ 390.00	$ 224,300.00
New Pipe: 30-inch to 36-inch	-	LF	$ 535.00	-
New Pipe: 42-inch to 54-inch	-	LF	$ 670.00	-
New Pipe: 60-inch	-	LF	$ 875.00	-
Arch Pipe (22.5" - 31.3")	-	LF	$ 500.00	-
Large RCBC	-	LF	$ 1,700.00	-
Rip Rap	25	TN	$ 50.00	$ 1,300.00
Open Channel Improvements	-	LF	$ 350.00	-
Roadway/Sidewalk Replacement	310	SY	$ 110.00	$ 34,100.00
New Concrete Curb and Gutter	150	LF	$ 110.00	$ 16,500.00
Replace Driveway Culvert Pipe	-	LF	$ 300.00	-
Replace Existing Concrete Driveway	-	SY	$ 120.00	-
			Construction Contingency (30%):	$ 146,000.00
			PLANNING LEVEL OPINION OF CONSTRUCTION COST:	**$ 632,000.00**

PROJECT COST:

PROJECT BUDGET ITEM	% of CONSTRUCTION	AMOUNT
Survey	5%	$ 31,600.00
Design and Permitting	20%	$ 126,400.00
Environmental Permitting	-	$ -
Railroad Permitting/Coordination	-	$ -
Geotechnical Investigation	1%	$ 6,300.00
Structural Evaluation	1%	$ 6,300.00
Real Estate	2%	$ 12,600.00
Utility Relocation	2%	$ 12,600.00
Project Maintenance (3yr)	5%	$ 31,600.00
Construction Inspections	10%	$ 63,200.00
Construction	100%	$ 632,000.00
PLANNING LEVEL OPINION OF TOTAL PROJECT COST:		$ 923,000.00

PROJECT NAME: **West St to Montreat Rd Stormwater Improvements** PROJECT ID: **DT-SA-E1**

PROJECT INFORMATION

LOCATION: West St to Montreat Rd
WATERSHED: Downtown
STORMWATER PROJECT TYPE: Stormwater Drainage
DRAINAGE IMPROVEMENTS (LF): 760

PROJECT DESCRIPTION

To improve level of service for surrounding roadways and reduce flood risk to nearby property owners:

- Install 735 LF of new 24-inch system along Montreat Rd and West St to connect to Proposed Project DT-SA-D2.
- This requires a permanent easement along the property line with the bank and church.
- Install 575 LF of new 24-inch system along Montreat Rd at Fire Station and Honeycutt Rd.
- Proposed project re-routes flow away from private property into the right-of-way.

PROJECT PRIORITIZATION and LEVEL OF SERVICE

CRITERIA	TOTAL SCORE
Utility Conflict	8
Street Flooding	32
Public or Privately-Owned Land	8
Effect of Improvements	10
Cost Effectiveness	15
Grant Bonus	2
Criticality Bonus	1
FINAL PROJECT SCORE:	**76**

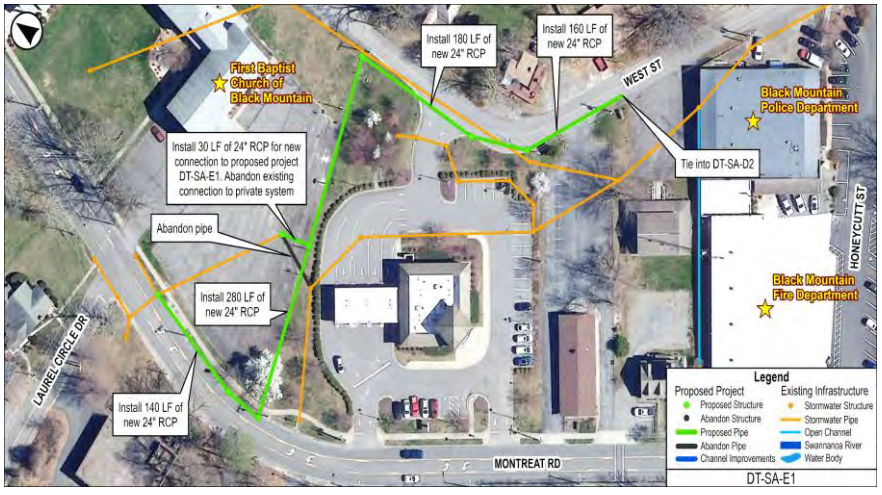
KEY CROSSING	LEVEL OF SERVICE EXISTING	LEVEL OF SERVICE PROPOSED	% REDUCTION 50 YR
Montreat Rd at the Church	NA	50-YR	New System
West St behind Bank	NA	50-YR	New System

PLANNING LEVEL OPINION OF COST

Construction estimate includes 30% contingency for planning. Design and permitting includes environmental permitting estimates. Proposed project footprints are based on GIS and modeling analyses. Detailed planning level costs are provided separately.

ITEM	COST OPINION
Construction	$ 841,000
Design and Permitting	$ 168,200
Other Project Costs	$ 218,800
Total Project	**$ 1,228,000**

PROJECT AREA MAP



PROJECT NAME **West St to Montreat Rd Stormwater Improvements** PROJECT ID: **DT-SA-E1**

PROJECT TYPE: Stormwater Drainage WATERSHED: Downtown

PLANNING LEVEL COST ESTIMATE

Construction cost includes 30% contingency for planning. Improvements (LF): 760
Proposed project footprints are based on GIS and modeling analyses.
Real estate, if privately-owned land, is estimated based on property value.

CONSTRUCTION COST:

ITEM DESCRIPTION	QUANTITY	UNIT	UNIT COST	AMOUNT
Mobilization	1	LS	$ 30,820.00	$ 30,800.00
Erosion Control	1	LS	$ 25,260.00	$ 25,300.00
Traffic Control	1	LS	$ 10,104.00	$ 10,100.00
Moderate Utility Conflict	1	LS	$ 75,780.00	$ 75,800.00
Unclassified Excavation/Hauling	910	CY	$ 72.00	$ 65,500.00
Infrastructure Removal and Disposal	30	LF	$ 115.00	$ 3,500.00
Structure Removal and Disposal	2	EA	$ 6,800.00	$ 13,600.00
Standard Structure	8	EA	$ 8,600.00	$ 68,800.00
Large Structure or Headwall	-	EA	$ 12,000.00	-
New Pipe: 18-inch to 24-inch	760	LF	$ 390.00	$ 296,400.00
New Pipe: 30-inch to 36-inch	-	LF	$ 535.00	-
New Pipe: 42-inch to 54-inch	-	LF	$ 670.00	-
New Pipe: 60-inch	-	LF	$ 875.00	-
Arch Pipe (22.5" - 31.3")	-	LF	$ 500.00	-
Large RCBC	-	LF	$ 1,700.00	-
Rip Rap	25	TN	$ 50.00	$ 1,300.00
Open Channel Improvements	-	LF	$ 350.00	-
Roadway/Sidewalk Replacement	210	SY	$ 110.00	$ 23,100.00
New Concrete Curb and Gutter	300	LF	$ 110.00	$ 33,000.00
Replace Driveway Culvert Pipe	-	LF	$ 300.00	-
Replace Existing Concrete Driveway	-	SY	$ 120.00	-
			Construction Contingency (30%):	$ 194,000.00
			PLANNING LEVEL OPINION OF CONSTRUCTION COST:	**$ 841,000.00**

PROJECT COST:

PROJECT BUDGET ITEM	% of CONSTRUCTION	AMOUNT
Survey	5%	$ 42,100.00
Design and Permitting	20%	$ 168,200.00
Environmental Permitting	-	$ -
Railroad Permitting/Coordination	-	$ -
Geotechnical Investigation	1%	$ 8,400.00
Structural Evaluation	1%	$ 8,400.00
Real Estate	2%	$ 16,800.00
Utility Relocation	2%	$ 16,800.00
Project Maintenance (3yr)	5%	$ 42,100.00
Construction Inspections	10%	$ 84,100.00
Construction	100%	$ 841,000.00
PLANNING LEVEL OPINION OF TOTAL PROJECT COST:		$ 1,228,000.00

PROJECT NAME: **Montreat Rd at Laurel Circle Dr Stormwater Improvements** PROJECT ID: **DT-SA-E2**

PROJECT INFORMATION

LOCATION:	Montreat Rd: E. Connally St to Laurel Circle Dr	STORMWATER PROJECT TYPE:	Stormwater Drainage
WATERSHED:	Downtown	DRAINAGE IMPROVEMENTS (LF):	350

PROJECT DESCRIPTION

To improve level of service for surrounding roadways and reduce flood risk to nearby property owners:

- Install 260 LF of new 24-inch RCP along Montreat Rd from E. Connally St to Laurel Circle Dr.
- Replace 90 LF of existing pipe with 24-inch RCP across Laurel Circle Dr to tie-into proposed project DT-SA-E1.

PROJECT PRIORITIZATION and LEVEL OF SERVICE

CRITERIA	TOTAL SCORE
Utility Conflict	4
Street Flooding	8
Public or Privately-Owned Land	4
Effect of Improvements	15
Cost Effectiveness	15
Grant Bonus	2
Criticality Bonus	1
FINAL PROJECT SCORE:	**49**

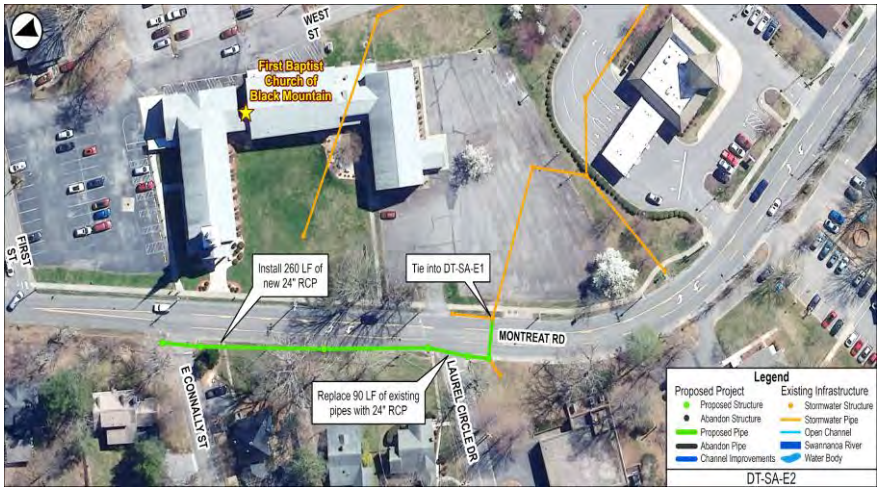
KEY CROSSING	LEVEL OF SERVICE EXISTING	LEVEL OF SERVICE PROPOSED	% REDUCTION 50 YR
Laurel Circle Dr	< 2-YR	25-YR	45
E Connally St at Montreat Rd	NA	25-YR	New Crossing

PLANNING LEVEL OPINION OF COST

Construction estimate includes 30% contingency for planning. Design and permitting includes environmental permitting estimates. Proposed project footprints are based on GIS and modeling analyses. Detailed planning level costs are provided separately.

ITEM	COST OPINION
Construction	$ 546,000
Design and Permitting	$ 109,200
Other Project Costs	$ 141,800
Total Project	**$ 797,000**

PROJECT AREA MAP



PROJECT NAME **Montreat Rd at Laurel Circle Dr Stormwater Improvements** PROJECT ID: **DT-SA-E2**

PROJECT TYPE: Stormwater Drainage WATERSHED: Downtown

PLANNING LEVEL COST ESTIMATE

Construction cost includes 30% contingency for planning. Improvements (LF): 350
Proposed project footprints are based on GIS and modeling analyses.
Real estate, if privately-owned land, is estimated based on property value.

CONSTRUCTION COST:

ITEM DESCRIPTION	QUANTITY	UNIT	UNIT COST	AMOUNT
Mobilization	1	LS	$ 19,975.00	$ 20,000.00
Erosion Control	1	LS	$ 14,580.00	$ 14,600.00
Traffic Control	1	LS	$ 5,832.00	$ 5,800.00
Major Utility Conflict	1	LS	$ 87,480.00	$ 87,500.00
Unclassified Excavation/Hauling	300	CY	$ 72.00	$ 21,600.00
Infrastructure Removal and Disposal	95	LF	$ 115.00	$ 10,900.00
Structure Removal and Disposal	3	EA	$ 6,800.00	$ 20,400.00
Standard Structure	6	EA	$ 8,600.00	$ 51,600.00
Large Structure or Headwall	-	EA	$ 12,000.00	-
New Pipe: 18-inch to 24-inch	350	LF	$ 390.00	$ 136,500.00
New Pipe: 30-inch to 36-inch	-	LF	$ 535.00	-
New Pipe: 42-inch to 54-inch	-	LF	$ 670.00	-
New Pipe: 60-inch	-	LF	$ 875.00	-
Arch Pipe (22.5" - 31.3")	-	LF	$ 500.00	-
Large RCBC	-	LF	$ 1,700.00	-
Rip Rap	25	TN	$ 50.00	$ 1,300.00
Open Channel Improvements	-	LF	$ 350.00	-
Roadway/Sidewalk Replacement	110	SY	$ 110.00	$ 12,100.00
New Concrete Curb and Gutter	240	LF	$ 110.00	$ 26,400.00
Replace Driveway Culvert Pipe	30	LF	$ 300.00	$ 9,000.00
Replace Existing Concrete Driveway	15	SY	$ 120.00	$ 1,800.00
			Construction Contingency (30%):	$ 126,000.00
			PLANNING LEVEL OPINION OF CONSTRUCTION COST:	**$ 546,000.00**

PROJECT COST:

PROJECT BUDGET ITEM	% of CONSTRUCTION	AMOUNT
Survey	5%	$ 27,300.00
Design and Permitting	20%	$ 109,200.00
Environmental Permitting	-	$ -
Railroad Permitting/Coordination	-	$ -
Geotechnical Investigation	1%	$ 5,500.00
Structural Evaluation	1%	$ 5,500.00
Real Estate	2%	$ 10,900.00
Utility Relocation	2%	$ 10,900.00
Project Maintenance (3yr)	5%	$ 27,300.00
Construction Inspections	10%	$ 54,600.00
Construction	100%	$ 546,000.00
PLANNING LEVEL OPINION OF TOTAL PROJECT COST:		$ 797,000.00

PROJECT NAME: **Midland Ave Stormwater Improvements** PROJECT ID: **DT-SA-F**

PROJECT INFORMATION

LOCATION: Midland Ave
WATERSHED: Downtown
STORMWATER PROJECT TYPE: Stormwater Drainage
DRAINAGE IMPROVEMENTS (LF): 675

PROJECT DESCRIPTION

To improve level of service for surrounding roadways and reduce flood risk to nearby property owners:

- Replace existing culvert crossing at First St and Midland Ave with 30 LF of 24-inch RCP.
- Replace existing pipe and open channel system along Midland Ave with 24-inch RCP.
- Tie-into 24-inch RCP (part of proposed project DT-SA-D2) at Town Hall.

PROJECT PRIORITIZATION and LEVEL OF SERVICE

CRITERIA	TOTAL SCORE
Utility Conflict	12
Street Flooding	24
Public or Privately-Owned Land	8
Effect of Improvements	15
Cost Effectiveness	20
Grant Bonus	2
Criticality Bonus	1
FINAL PROJECT SCORE:	**82**

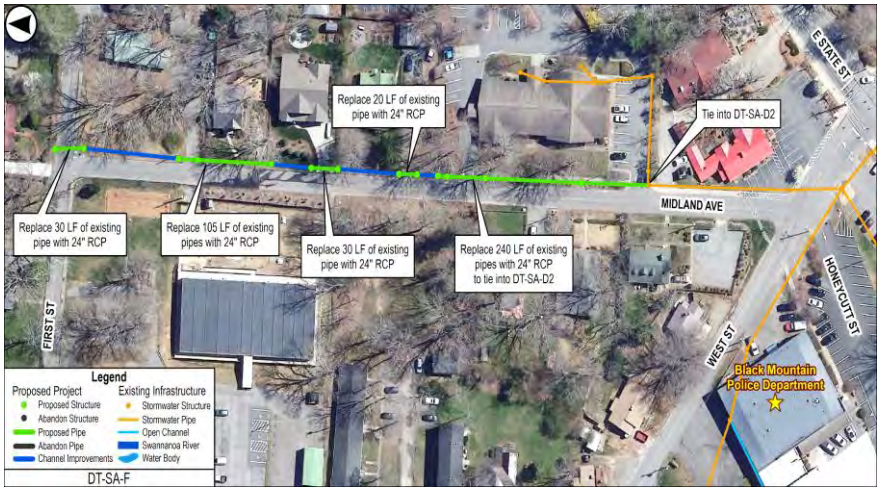
KEY CROSSING	LEVEL OF SERVICE EXISTING	LEVEL OF SERVICE PROPOSED	% REDUCTION 50 YR
First St at Midland Ave	2-YR	50-YR	100
System at Town Hall	2-YR	50-YR	100

PLANNING LEVEL OPINION OF COST

Construction estimate includes 30% contingency for planning. Design and permitting includes environmental permitting estimates. Proposed project footprints are based on GIS and modeling analyses. Detailed planning level costs are provided separately.

ITEM	COST OPINION
Construction	$ 768,000
Design and Permitting	$ 153,600
Other Project Costs	$ 199,400
Total Project	**$ 1,121,000**

PROJECT AREA MAP



PROJECT NAME **Midland Ave Stormwater Improvements** PROJECT ID: **DT-SA-F**

PROJECT TYPE: Stormwater Drainage WATERSHED: Downtown

PLANNING LEVEL COST ESTIMATE

Construction cost includes 30% contingency for planning. Improvements (LF): 425
Proposed project footprints are based on GIS and modeling analyses.
Real estate, if privately-owned land, is estimated based on property value.

CONSTRUCTION COST:

ITEM DESCRIPTION	QUANTITY	UNIT	UNIT COST	AMOUNT
Mobilization	1	LS	$ 28,125.00	$ 28,100.00
Erosion Control	1	LS	$ 25,115.00	$ 25,100.00
Traffic Control	1	LS	$ 10,046.00	$ 10,000.00
Minor Utility Conflict	1	LS	$ 25,115.00	$ 25,100.00
Unclassified Excavation/Hauling	210	CY	$ 72.00	$ 15,100.00
Infrastructure Removal and Disposal	425	LF	$ 115.00	$ 48,900.00
Structure Removal and Disposal	5	EA	$ 6,800.00	$ 34,000.00
Standard Structure	13	EA	$ 8,600.00	$ 111,800.00
Large Structure or Headwall	-	EA	$ 12,000.00	-
New Pipe: 18-inch to 24-inch	425	LF	$ 390.00	$ 165,800.00
New Pipe: 30-inch to 36-inch	-	LF	$ 535.00	-
New Pipe: 42-inch to 54-inch	-	LF	$ 670.00	-
New Pipe: 60-inch	-	LF	$ 875.00	-
Arch Pipe (22.5" - 31.3")	-	LF	$ 500.00	-
Large RCBC	-	LF	$ 1,700.00	-
Rip Rap	25	TN	$ 50.00	$ 1,300.00
Open Channel Improvements	250	LF	$ 350.00	$ 87,500.00
Roadway/Sidewalk Replacement	110	SY	$ 110.00	$ 12,100.00
New Concrete Curb and Gutter	-	LF	$ 110.00	-
Replace Driveway Culvert Pipe	70	LF	$ 300.00	$ 21,000.00
Replace Existing Concrete Driveway	40	SY	$ 120.00	$ 4,800.00
			Construction Contingency (30%):	$ 177,000.00
			PLANNING LEVEL OPINION OF CONSTRUCTION COST:	**$ 768,000.00**

PROJECT COST:

PROJECT BUDGET ITEM	% of CONSTRUCTION	AMOUNT
Survey	5%	$ 38,400.00
Design and Permitting	20%	$ 153,600.00
Environmental Permitting	-	$ -
Railroad Permitting/Coordination	-	$ -
Geotechnical Investigation	1%	$ 7,700.00
Structural Evaluation	1%	$ 7,700.00
Real Estate	2%	$ 15,400.00
Utility Relocation	2%	$ 15,400.00
Project Maintenance (3yr)	5%	$ 38,400.00
Construction Inspections	10%	$ 76,800.00
Construction	100%	$ 768,000.00
PLANNING LEVEL OPINION OF TOTAL PROJECT COST:		$ 1,121,000.00

PROJECT NAME: **S. Ridgeway Ave Stormwater Improvements** PROJECT ID: **DT-SA-G**

PROJECT INFORMATION

LOCATION:	Sutton Ave at S. Ridgway Ave	STORMWATER PROJECT TYPE:	Stormwater Drainage
WATERSHED:	Downtown	DRAINAGE IMPROVEMENTS (LF):	310

PROJECT DESCRIPTION

To improve level of service for surrounding roadways and reduce flood risk to nearby property owners:

- Replace existing pipe with 50 LF of 30-inch RCP across Sutton Ave on east side of Richardson Blvd.
- Install 80 LF of new 18-inch RCP and 100 LF of new 24-inch RCP along S. Ridgeway Ave.
- Replace existing pipe with 85 LF of 36-inch RCP to outfall at the open channel along Sutton Ave.

PROJECT PRIORITIZATION and LEVEL OF SERVICE

CRITERIA	TOTAL SCORE
Utility Conflict	4
Street Flooding	32
Public or Privately-Owned Land	8
Effect of Improvements	10
Cost Effectiveness	20
Grant Bonus	2
Criticality Bonus	0
FINAL PROJECT SCORE:	**76**

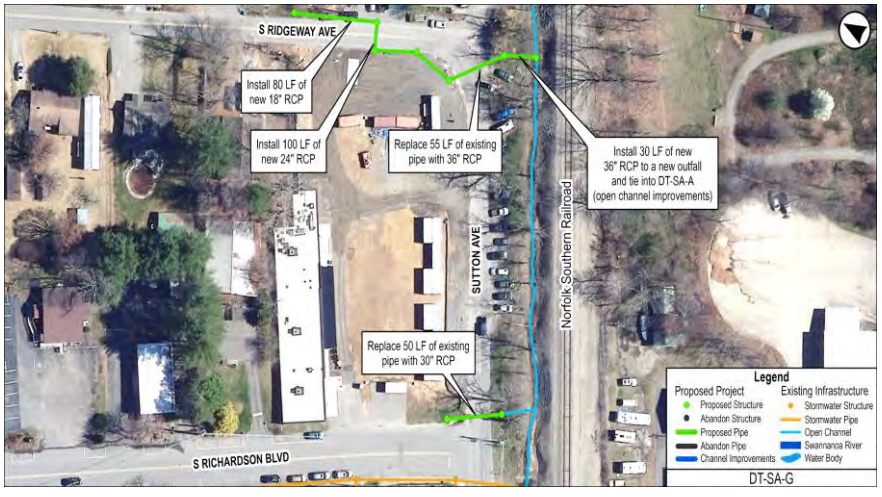
KEY CROSSING	LEVEL OF SERVICE EXISTING	LEVEL OF SERVICE PROPOSED	% REDUCTION 50 YR
Sutton Ave at Richardson	< 2-YR	50-YR	100
Sutton Ave at Ridgeway Ave	< 2-YR	50-YR	100

PLANNING LEVEL OPINION OF COST

Construction estimate includes 30% contingency for planning. Design and permitting includes environmental permitting estimates. Proposed project footprints are based on GIS and modeling analyses. Detailed planning level costs are provided separately.

ITEM	COST OPINION
Construction	$ 532,000
Design and Permitting	$ 156,400
Other Project Costs	$ 138,600
Total Project	**$ 827,000**

PROJECT AREA MAP



PROJECT NAME **S. Ridgeway Ave Stormwater Improvements** PROJECT ID: **DT-SA-G**

PROJECT TYPE: Stormwater Drainage WATERSHED: Downtown

PLANNING LEVEL COST ESTIMATE

Construction cost includes 30% contingency for planning. Improvements (LF): 310
Proposed project footprints are based on GIS and modeling analyses.
Real estate, if privately-owned land, is estimated based on property value.

CONSTRUCTION COST:

ITEM DESCRIPTION	QUANTITY	UNIT	UNIT COST	AMOUNT
Mobilization	1	LS	$ 19,475.00	$ 19,500.00
Erosion Control	1	LS	$ 14,215.00	$ 14,200.00
Traffic Control	1	LS	$ 5,686.00	$ 5,700.00
Major Utility Conflict	1	LS	$ 85,290.00	$ 85,300.00
Unclassified Excavation/Hauling	170	CY	$ 72.00	$ 12,200.00
Infrastructure Removal and Disposal	105	LF	$ 115.00	$ 12,100.00
Structure Removal and Disposal	3	EA	$ 6,800.00	$ 20,400.00
Standard Structure	9	EA	$ 8,600.00	$ 77,400.00
Large Structure or Headwall	-	EA	$ 12,000.00	-
New Pipe: 18-inch to 24-inch	175	LF	$ 390.00	$ 68,300.00
New Pipe: 30-inch to 36-inch	135	LF	$ 535.00	$ 72,200.00
New Pipe: 42-inch to 54-inch	-	LF	$ 670.00	-
New Pipe: 60-inch	-	LF	$ 875.00	-
Arch Pipe (22.5" - 31.3")	-	LF	$ 500.00	-
Large RCBC	-	LF	$ 1,700.00	-
Rip Rap	25	TN	$ 50.00	$ 1,300.00
Open Channel Improvements	-	LF	$ 350.00	-
Roadway/Sidewalk Replacement	110	SY	$ 110.00	$ 12,100.00
New Concrete Curb and Gutter	75	LF	$ 110.00	$ 8,300.00
Replace Driveway Culvert Pipe	-	LF	$ 300.00	-
Replace Existing Concrete Driveway	-	SY	$ 120.00	-
			Construction Contingency (30%):	$ 123,000.00
			PLANNING LEVEL OPINION OF CONSTRUCTION COST:	**$ 532,000.00**

PROJECT COST:

PROJECT BUDGET ITEM	% of CONSTRUCTION	AMOUNT
Survey	5%	$ 26,600.00
Design and Permitting	20%	$ 106,400.00
Environmental Permitting	-	$ 50,000.00
Railroad Permitting/Coordination	-	$ -
Geotechnical Investigation	1%	$ 5,300.00
Structural Evaluation	1%	$ 5,300.00
Real Estate	2%	$ 10,600.00
Utility Relocation	2%	$ 10,600.00
Project Maintenance (3yr)	5%	$ 26,600.00
Construction Inspections	10%	$ 53,200.00
Construction	100%	$ 532,000.00
PLANNING LEVEL OPINION OF TOTAL PROJECT COST:		$ 827,000.00

PROJECT NAME: **Black Mountain Ave Stormwater Improvements Phase I** PROJECT ID: **DT-BMA-A**

PROJECT INFORMATION

LOCATION: Vance Ave to the Swannanoa River
WATERSHED: Downtown
STORMWATER PROJECT TYPE: Stormwater Drainage
DRAINAGE IMPROVEMENTS (LF): 585

PROJECT DESCRIPTION

To improve level of service for surrounding roadways and reduce flood risk to nearby property owners:

- Install 85 LF of 30" RCP across Vance St at Black Mountain Ave.
- Replace 175 LF of existing pipe with 30" RCP and 36" RCP at Vance Ave intersection and moving south.
- Install 370 LF of new 36" RCP just north of the Terry Estate Dr intersection to the outfall.
- Install 40 LF of new 24" RCP across Black Mountain Ave at Terry Estate Dr.
- Remove 195 LF of existing pipe from service at Terry Estate Dr/Black Mountain Ave intersection.

PROJECT PRIORITIZATION and LEVEL OF SERVICE

CRITERIA	TOTAL SCORE
Utility Conflict	8
Street Flooding	32
Public or Privately-Owned Land	4
Effect of Improvements	20
Cost Effectiveness	15
Grant Bonus	2
Criticality Bonus	1
FINAL PROJECT SCORE:	**82**

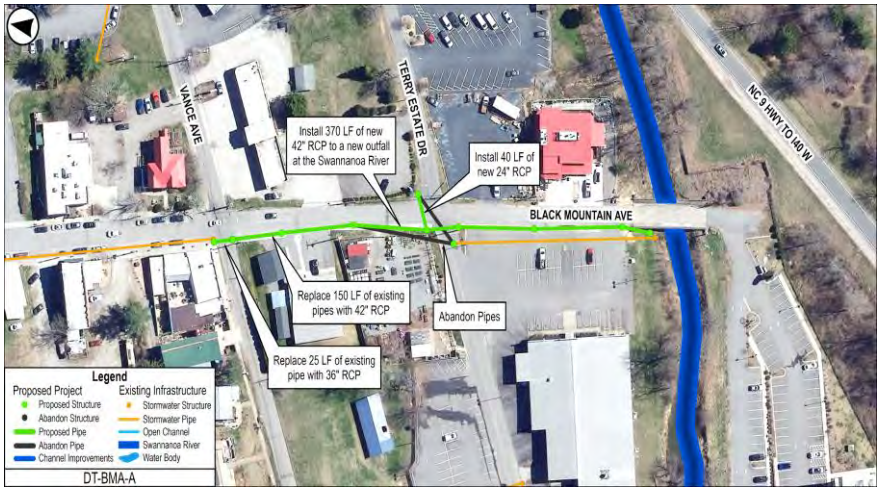
KEY CROSSING	LEVEL OF SERVICE EXISTING	LEVEL OF SERVICE PROPOSED	% REDUCTION 50 YR
Terry Estate at Black Mtn Ave	< 2-YR	50-YR	100
Vance Ave at Black Mtn Ave	< 2-YR	25-YR	100

PLANNING LEVEL OPINION OF COST

Construction estimate includes 30% contingency for planning. Design and permitting includes environmental permitting estimates. Proposed project footprints are based on GIS and modeling analyses. Detailed planning level costs are provided separately.

ITEM	COST OPINION
Construction	$ 1,253,000
Design and Permitting	$ 300,600
Other Project Costs	$ 326,400
Total Project	**$ 1,880,000**

PROJECT AREA MAP



PROJECT NAME **Black Mountain Ave Stormwater Improvements Phase I** PROJECT ID: **DT-BMA-A**

PROJECT TYPE: Stormwater Drainage WATERSHED: Downtown

PLANNING LEVEL COST ESTIMATE

Construction cost includes 30% contingency for planning. Improvements (LF): 585
Proposed project footprints are based on GIS and modeling analyses.
Real estate, if privately-owned land, is estimated based on property value.

CONSTRUCTION COST:

ITEM DESCRIPTION	QUANTITY	UNIT	UNIT COST	AMOUNT
Mobilization	1	LS	$ 45,910.00	$ 45,900.00
Erosion Control	1	LS	$ 37,630.00	$ 37,600.00
Traffic Control	1	LS	$ 15,052.00	$ 15,100.00
Moderate Utility Conflict	1	LS	$ 112,890.00	$ 112,900.00
Unclassified Excavation/Hauling	860	CY	$ 72.00	$ 61,900.00
Infrastructure Removal and Disposal	370	LF	$ 115.00	$ 42,600.00
Structure Removal and Disposal	4	EA	$ 6,800.00	$ 27,200.00
Standard Structure	3	EA	$ 8,600.00	$ 25,800.00
Large Structure or Headwall	8	EA	$ 12,000.00	$ 96,000.00
New Pipe: 18-inch to 24-inch	40	LF	$ 390.00	$ 15,600.00
New Pipe: 30-inch to 36-inch	25	LF	$ 535.00	$ 13,400.00
New Pipe: 42-inch to 54-inch	520	LF	$ 670.00	$ 348,400.00
New Pipe: 60-inch	-	LF	$ 875.00	-
Arch Pipe (22.5" - 31.3")	-	LF	$ 500.00	-
Large RCBC	-	LF	$ 1,700.00	-
Rip Rap	25	TN	$ 50.00	$ 1,300.00
Open Channel Improvements	-	LF	$ 350.00	-
Roadway/Sidewalk Replacement	560	SY	$ 110.00	$ 61,600.00
New Concrete Curb and Gutter	450	LF	$ 110.00	$ 49,500.00
Replace Driveway Culvert Pipe	25	LF	$ 300.00	$ 7,500.00
Replace Existing Concrete Driveway	15	SY	$ 120.00	$ 1,800.00
			Construction Contingency (30%):	$ 289,000.00
			PLANNING LEVEL OPINION OF CONSTRUCTION COST:	**$ 1,253,000.00**

PROJECT COST:

PROJECT BUDGET ITEM	% of CONSTRUCTION	AMOUNT
Survey	5%	$ 62,700.00
Design and Permitting	20%	$ 250,600.00
Environmental Permitting	-	$ 50,000.00
Railroad Permitting/Coordination	-	$ -
Geotechnical Investigation	1%	$ 12,500.00
Structural Evaluation	1%	$ 12,500.00
Real Estate	2%	$ 25,100.00
Utility Relocation	2%	$ 25,100.00
Project Maintenance (3yr)	5%	$ 62,700.00
Construction Inspections	10%	$ 125,300.00
Construction	100%	$ 1,253,000.00
PLANNING LEVEL OPINION OF TOTAL PROJECT COST:		$ 1,880,000.00

PROJECT NAME: **Black Mountain Ave Stormwater Improvements Phase II** PROJECT ID: **DT-BMA-B**

PROJECT INFORMATION

LOCATION:	S. Doughtery St to Vance Ave	STORMWATER PROJECT TYPE:	Stormwater Drainage
WATERSHED:	Downtown	DRAINAGE IMPROVEMENTS (LF):	585

PROJECT DESCRIPTION

To improve level of service for surrounding roadways and reduce flood risk to nearby property owners:

- Replace nearly 400 LF of existing pipe along Black Mountain Ave from S. Doughtery St to Vance Ave.
- Install 160 LF of new 24" RCP at S. Doughtery St. to Black Mountain Ave.
- Replace existing culvert adjacent to the railroad tracks with 30 LF of 18" RCP.
- Install 50 LF of stormwater channel improvements as needed.

PROJECT PRIORITIZATION and LEVEL OF SERVICE

CRITERIA	TOTAL SCORE
Utility Conflict	12
Street Flooding	24
Public or Privately-Owned Land	8
Effect of Improvements	20
Cost Effectiveness	20
Grant Bonus	2
Criticality Bonus	2
FINAL PROJECT SCORE:	**88**

KEY CROSSING	LEVEL OF SERVICE EXISTING	LEVEL OF SERVICE PROPOSED	% REDUCTION 50 YR
Black Mountain Ave at RR	< 2-YR	50-YR	100
S. Dougherty St Bend	< 2-YR	50-YR	100

PLANNING LEVEL OPINION OF COST

Construction estimate includes 30% contingency for planning. Design and permitting includes environmental permitting estimates. Proposed project footprints are based on GIS and modeling analyses. Detailed planning level costs are provided separately.

ITEM	COST OPINION
Construction	$ 862,000
Design and Permitting	$ 222,400
Other Project Costs	$ 223,600
Total Project	**$ 1,308,000**

PROJECT AREA MAP

PROJECT NAME **Black Mountain Ave Stormwater Improvements Phase II** PROJECT ID: **DT-BMA-B**

PROJECT TYPE: Stormwater Drainage WATERSHED: Downtown

PLANNING LEVEL COST ESTIMATE

Construction cost includes 30% contingency for planning. Improvements (LF): 585
Proposed project footprints are based on GIS and modeling analyses.
Real estate, if privately-owned land, is estimated based on property value.

CONSTRUCTION COST:

ITEM DESCRIPTION	QUANTITY	UNIT	UNIT COST	AMOUNT
Mobilization	1	LS	$ 31,570.00	$ 31,600.00
Erosion Control	1	LS	$ 28,185.00	$ 28,200.00
Traffic Control	1	LS	$ 11,274.00	$ 11,300.00
Minor Utility Conflict	1	LS	$ 28,185.00	$ 28,200.00
Unclassified Excavation/Hauling	550	CY	$ 72.00	$ 39,600.00
Infrastructure Removal and Disposal	500	LF	$ 115.00	$ 57,500.00
Structure Removal and Disposal	4	EA	$ 6,800.00	$ 27,200.00
Standard Structure	6	EA	$ 8,600.00	$ 51,600.00
Large Structure or Headwall	-	EA	$ 12,000.00	-
New Pipe: 18-inch to 24-inch	190	LF	$ 390.00	$ 74,100.00
New Pipe: 30-inch to 36-inch	395	LF	$ 535.00	$ 211,300.00
New Pipe: 42-inch to 54-inch	-	LF	$ 670.00	-
New Pipe: 60-inch	-	LF	$ 875.00	-
Arch Pipe (22.5" - 31.3")	-	LF	$ 500.00	-
Large RCBC	-	LF	$ 1,700.00	-
Rip Rap	25	TN	$ 50.00	$ 1,300.00
Open Channel Improvements	-	LF	$ 350.00	-
Roadway/Sidewalk Replacement	350	SY	$ 110.00	$ 38,500.00
New Concrete Curb and Gutter	400	LF	$ 110.00	$ 44,000.00
Replace Driveway Culvert Pipe	50	LF	$ 300.00	$ 15,000.00
Replace Existing Concrete Driveway	30	SY	$ 120.00	$ 3,600.00
			Construction Contingency (30%):	$ 199,000.00
			PLANNING LEVEL OPINION OF CONSTRUCTION COST:	**$ 862,000.00**

PROJECT COST:

PROJECT BUDGET ITEM	% of CONSTRUCTION	AMOUNT
Survey	5%	$ 43,100.00
Design and Permitting	20%	$ 172,400.00
Environmental Permitting	-	$ -
Railroad Permitting/Coordination	-	$ 50,000.00
Geotechnical Investigation	1%	$ 8,600.00
Structural Evaluation	1%	$ 8,600.00
Real Estate	2%	$ 17,200.00
Utility Relocation	2%	$ 17,200.00
Project Maintenance (3yr)	5%	$ 43,100.00
Construction Inspections	10%	$ 86,200.00
Construction	100%	$ 862,000.00
PLANNING LEVEL OPINION OF TOTAL PROJECT COST:		$ 1,308,000.00

PROJECT NAME: **Terry Estate Dr Stormwater Improvements Phase I** PROJECT ID: **DT-TE-A**

PROJECT INFORMATION

LOCATION: Terry Estate Drive
WATERSHED: Downtown
STORMWATER PROJECT TYPE: Stormwater Drainage
DRAINAGE IMPROVEMENTS (LF): 745

PROJECT DESCRIPTION

To improve level of service for surrounding roadways and reduce flood risk to nearby property owners:

- Replace existing pipes across Terry Estate Dr in 5 locations with larger pipes.
- Replace the existing pipe on the south side of Terry Estate Dr with 55 LF of 30-inch and 400 LF of 36-inch RCP.
- Install a new 42-inch outfall pipe across the parking lot to the Swannanoa River.

PROJECT PRIORITIZATION and LEVEL OF SERVICE

CRITERIA	TOTAL SCORE
Utility Conflict	4
Street Flooding	24
Public or Privately-Owned Land	4
Effect of Improvements	15
Cost Effectiveness	10
Grant Bonus	2
Criticality Bonus	2
FINAL PROJECT SCORE:	**61**

KEY CROSSING	LEVEL OF SERVICE EXISTING	LEVEL OF SERVICE PROPOSED	% REDUCTION 50 YR
Terry Estate Dr at Bridge St	< 2-YR	50-YR	100
Terry Estate Dr	< 2-YR	25-YR	96

PLANNING LEVEL OPINION OF COST

Construction estimate includes 30% contingency for planning. Design and permitting includes environmental permitting estimates. Proposed project footprints are based on GIS and modeling analyses. Detailed planning level costs are provided separately.

ITEM	COST OPINION
Construction	$ 1,310,000
Design and Permitting	$ 312,000
Other Project Costs	$ 341,000
Total Project	**$ 1,963,000**

PROJECT AREA MAP

PROJECT NAME **Terry Estate Dr Stormwater Improvements Phase I** PROJECT ID: **DT-TE-A**

PROJECT TYPE: Stormwater Drainage WATERSHED: Downtown

PLANNING LEVEL COST ESTIMATE

Construction cost includes 30% contingency for planning. Improvements (LF): 745
Proposed project footprints are based on GIS and modeling analyses.
Real estate, if privately-owned land, is estimated based on property value.

CONSTRUCTION COST:

ITEM DESCRIPTION	QUANTITY	UNIT	UNIT COST	AMOUNT
Mobilization	1	LS	$ 48,010.00	$ 48,000.00
Erosion Control	1	LS	$ 35,045.00	$ 35,000.00
Traffic Control	1	LS	$ 14,018.00	$ 14,000.00
Major Utility Conflict	1	LS	$ 210,270.00	$ 210,300.00
Unclassified Excavation/Hauling	630	CY	$ 72.00	$ 45,400.00
Infrastructure Removal and Disposal	730	LF	$ 115.00	$ 84,000.00
Structure Removal and Disposal	7	EA	$ 6,800.00	$ 47,600.00
Standard Structure	9	EA	$ 8,600.00	$ 77,400.00
Large Structure or Headwall	-	EA	$ 12,000.00	-
New Pipe: 18-inch to 24-inch	120	LF	$ 390.00	$ 46,800.00
New Pipe: 30-inch to 36-inch	485	LF	$ 535.00	$ 259,500.00
New Pipe: 42-inch to 54-inch	140	LF	$ 670.00	$ 93,800.00
New Pipe: 60-inch	-	LF	$ 875.00	-
Arch Pipe (22.5" - 31.3")	-	LF	$ 500.00	-
Large RCBC	-	LF	$ 1,700.00	-
Rip Rap	25	TN	$ 50.00	$ 1,300.00
Open Channel Improvements	-	LF	$ 350.00	-
Roadway/Sidewalk Replacement	410	SY	$ 110.00	$ 45,100.00
New Concrete Curb and Gutter	-	LF	$ 110.00	-
Replace Driveway Culvert Pipe	-	LF	$ 300.00	-
Replace Existing Concrete Driveway	-	SY	$ 120.00	-
			Construction Contingency (30%):	$ 302,000.00
			PLANNING LEVEL OPINION OF CONSTRUCTION COST:	**$ 1,310,000.00**

PROJECT COST:

PROJECT BUDGET ITEM	% of CONSTRUCTION	AMOUNT
Survey	5%	$ 65,500.00
Design and Permitting	20%	$ 262,000.00
Environmental Permitting	-	$ 50,000.00
Railroad Permitting/Coordination	-	$ -
Geotechnical Investigation	1%	$ 13,100.00
Structural Evaluation	1%	$ 13,100.00
Real Estate	2%	$ 26,200.00
Utility Relocation	2%	$ 26,200.00
Project Maintenance (3yr)	5%	$ 65,500.00
Construction Inspections	10%	$ 131,000.00
Construction	100%	$ 1,310,000.00
PLANNING LEVEL OPINION OF TOTAL PROJECT COST:		$ 1,963,000.00

PROJECT NAME: **Terry Estate Dr Stormwater Improvements Phase II** PROJECT ID: **DT-TE-B**

PROJECT INFORMATION

LOCATION: Vance Ave at Bridge St and Spring St
WATERSHED: Downtown
STORMWATER PROJECT TYPE: Stormwater Drainage
DRAINAGE IMPROVEMENTS (LF): 715

PROJECT DESCRIPTION

To improve level of service for surrounding roadways and reduce flood risk to nearby property owners:

- Replace existing pipe and stormwater roadside ditches along Bridge St with 260 LF of 24-inch RCP.
- Replace existing pipe crossing Spring St and Vance St with 70 LF of 24-inch RCP.
- Install 375 LF of new 24-inch RCP to re-route flow to Vance Ave and Black Mountain Ave rights-of-way.
- Remove/abandon in place stormwater pipe running south to Terry Estate Dr through private property.

PROJECT PRIORITIZATION and LEVEL OF SERVICE

CRITERIA	TOTAL SCORE
Utility Conflict	8
Street Flooding	24
Public or Privately-Owned Land	8
Effect of Improvements	20
Cost Effectiveness	15
Grant Bonus	2
Criticality Bonus	1
FINAL PROJECT SCORE:	**78**

KEY CROSSING	LEVEL OF SERVICE EXISTING	LEVEL OF SERVICE PROPOSED	% REDUCTION 50 YR
Vance Ave at Bridge St	10-YR	50-YR	100
Vance Ave/Spring St INT	< 2-YR	50-YR	100

PLANNING LEVEL OPINION OF COST

Construction estimate includes 30% contingency for planning. Design and permitting includes environmental permitting estimates. Proposed project footprints are based on GIS and modeling analyses. Detailed planning level costs are provided separately.

ITEM	COST OPINION
Construction	$ 945,000
Design and Permitting	$ 189,000
Other Project Costs	$ 246,000
Total Project	**$ 1,380,000**

PROJECT AREA MAP

PROJECT NAME **Terry Estate Dr Stormwater Improvements Phase II** PROJECT ID: **DT-TE-B**

PROJECT TYPE: Stormwater Drainage WATERSHED: Downtown

PLANNING LEVEL COST ESTIMATE

Construction cost includes 30% contingency for planning. Improvements (LF): 715
Proposed project footprints are based on GIS and modeling analyses.
Real estate, if privately-owned land, is estimated based on property value.

CONSTRUCTION COST:

ITEM DESCRIPTION	QUANTITY	UNIT	UNIT COST	AMOUNT
Mobilization	1	LS	$ 34,625.00	$ 34,600.00
Erosion Control	1	LS	$ 28,380.00	$ 28,400.00
Traffic Control	1	LS	$ 11,352.00	$ 11,400.00
Moderate Utility Conflict	1	LS	$ 85,140.00	$ 85,100.00
Unclassified Excavation/Hauling	590	CY	$ 72.00	$ 42,500.00
Infrastructure Removal and Disposal	580	LF	$ 115.00	$ 66,700.00
Structure Removal and Disposal	4	EA	$ 6,800.00	$ 27,200.00
Standard Structure	7	EA	$ 8,600.00	$ 60,200.00
Large Structure or Headwall	-	EA	$ 12,000.00	-
New Pipe: 18-inch to 24-inch	265	LF	$ 390.00	$ 103,400.00
New Pipe: 30-inch to 36-inch	450	LF	$ 535.00	$ 240,800.00
New Pipe: 42-inch to 54-inch	-	LF	$ 670.00	-
New Pipe: 60-inch	-	LF	$ 875.00	-
Arch Pipe (22.5" - 31.3")	-	LF	$ 500.00	-
Large RCBC	-	LF	$ 1,700.00	-
Rip Rap	25	TN	$ 50.00	$ 1,300.00
Open Channel Improvements	-	LF	$ 350.00	-
Roadway/Sidewalk Replacement	180	SY	$ 110.00	$ 19,800.00
New Concrete Curb and Gutter	-	LF	$ 110.00	-
Replace Driveway Culvert Pipe	15	LF	$ 300.00	$ 4,500.00
Replace Existing Concrete Driveway	10	SY	$ 120.00	$ 1,200.00
			Construction Contingency (30%):	$ 218,000.00
			PLANNING LEVEL OPINION OF CONSTRUCTION COST:	**$ 945,000.00**

PROJECT COST:

PROJECT BUDGET ITEM	% of CONSTRUCTION	AMOUNT
Survey	5%	$ 47,300.00
Design and Permitting	20%	$ 189,000.00
Environmental Permitting	-	$ -
Railroad Permitting/Coordination	-	$ -
Geotechnical Investigation	1%	$ 9,500.00
Structural Evaluation	1%	$ 9,500.00
Real Estate	2%	$ 18,900.00
Utility Relocation	2%	$ 18,900.00
Project Maintenance (3yr)	5%	$ 47,300.00
Construction Inspections	10%	$ 94,500.00
Construction	100%	$ 945,000.00
PLANNING LEVEL OPINION OF TOTAL PROJECT COST:		$ 1,380,000.00

PROJECT NAME: **NC 9 Stormwater Improvements** PROJECT ID: **DT-NC9-A**

PROJECT INFORMATION

LOCATION: Vance Ave to outfall at Swannanoa River
WATERSHED: Downtown
STORMWATER PROJECT TYPE: Stormwater Drainage
DRAINAGE IMPROVEMENTS (LF): 595

PROJECT DESCRIPTION

To improve level of service for surrounding roadways and reduce flood risk to nearby property owners:

- Replace existing pipe along NC 9 with 280 LF of 36-inch RCP and tie-into culvert at Swannanaoa River.
- Replace existing pipe along Terry Estate Dr with 24-inch RCP and tie into proposed 36-inch pipe at NC 9.
- Install 130 LF of new 24-inch RCP to route flow along the Vance Ave right-of -way to tie into the NC 9 system.

PROJECT PRIORITIZATION and LEVEL OF SERVICE

CRITERIA	TOTAL SCORE
Utility Conflict	8
Street Flooding	24
Public or Privately-Owned Land	8
Effect of Improvements	10
Cost Effectiveness	15
Grant Bonus	2
Criticality Bonus	1
FINAL PROJECT SCORE:	**68**

KEY CROSSING	LEVEL OF SERVICE EXISTING	LEVEL OF SERVICE PROPOSED	% REDUCTION 50 YR
Terry Estate Dr west of NC9	< 2-YR	50-YR	100
Terry Estate Dr at NC9	25-YR	50-YR	100
Vance Ave at NC9	25-YR	50-YR	100
Vance Ave west of NC 9	2-YR	50-YR	100

PLANNING LEVEL OPINION OF COST

Construction estimate includes 30% contingency for planning. Design and permitting includes environmental permitting estimates. Proposed project footprints are based on GIS and modeling analyses. Detailed planning level costs are provided separately.

ITEM	COST OPINION
Construction	$ 880,000
Design and Permitting	$ 226,000
Other Project Costs	$ 229,000
Total Project	**$ 1,335,000**

PROJECT AREA MAP

PROJECT NAME **NC 9 Stormwater Improvements** PROJECT ID: **DT-NC9-A**

PROJECT TYPE: Stormwater Drainage WATERSHED: Downtown

PLANNING LEVEL COST ESTIMATE

Construction cost includes 30% contingency for planning. Improvements (LF): 595
Proposed project footprints are based on GIS and modeling analyses.
Real estate, if privately-owned land, is estimated based on property value.

CONSTRUCTION COST:

ITEM DESCRIPTION	QUANTITY	UNIT	UNIT COST	AMOUNT
Mobilization	1	LS	$ 32,250.00	$ 32,300.00
Erosion Control	1	LS	$ 26,435.00	$ 26,400.00
Traffic Control	1	LS	$ 10,574.00	$ 10,600.00
Moderate Utility Conflict	1	LS	$ 79,305.00	$ 79,300.00
Unclassified Excavation/Hauling	540	CY	$ 72.00	$ 38,900.00
Infrastructure Removal and Disposal	470	LF	$ 115.00	$ 54,100.00
Structure Removal and Disposal	7	EA	$ 6,800.00	$ 47,600.00
Standard Structure	7	EA	$ 8,600.00	$ 60,200.00
Large Structure or Headwall	-	EA	$ 12,000.00	-
New Pipe: 18-inch to 24-inch	315	LF	$ 390.00	$ 122,900.00
New Pipe: 30-inch to 36-inch	280	LF	$ 535.00	$ 149,800.00
New Pipe: 42-inch to 54-inch	-	LF	$ 670.00	-
New Pipe: 60-inch	-	LF	$ 875.00	-
Arch Pipe (22.5" - 31.3")	-	LF	$ 500.00	-
Large RCBC	-	LF	$ 1,700.00	-
Rip Rap	25	TN	$ 50.00	$ 1,300.00
Open Channel Improvements	-	LF	$ 350.00	-
Roadway/Sidewalk Replacement	270	SY	$ 110.00	$ 29,700.00
New Concrete Curb and Gutter	220	LF	$ 110.00	$ 24,200.00
Replace Driveway Culvert Pipe	-	LF	$ 300.00	-
Replace Existing Concrete Driveway	-	SY	$ 120.00	-
			Construction Contingency (30%):	$ 203,000.00
			PLANNING LEVEL OPINION OF CONSTRUCTION COST:	**$ 880,000.00**

PROJECT COST:

PROJECT BUDGET ITEM	% of CONSTRUCTION	AMOUNT
Survey	5%	$ 44,000.00
Design and Permitting	20%	$ 176,000.00
Environmental Permitting	-	$ 50,000.00
Railroad Permitting/Coordination	-	$ -
Geotechnical Investigation	1%	$ 8,800.00
Structural Evaluation	1%	$ 8,800.00
Real Estate	2%	$ 17,600.00
Utility Relocation	2%	$ 17,600.00
Project Maintenance (3yr)	5%	$ 44,000.00
Construction Inspections	10%	$ 88,000.00
Construction	100%	$ 880,000.00
PLANNING LEVEL OPINION OF TOTAL PROJECT COST:		$ 1,335,000.00

WK DICKSON
AN ARDURRA COMPANY

Figure ES-6: Proposed Stormwater Improvement Projects
TOMAHAWK BRANCH PRIMARY SYSTEM
Town of Black Mountain Stormwater Master Plan

0 100 200
Feet
1 in = 200 ft

PROJECT NAME: **Laurel Circle Culvert Replacement (Tomahawk Branch)** PROJECT ID: **TB-A1**

PROJECT INFORMATION

LOCATION:	Laurel Circle Dr north of Lake Tomahawk	STORMWATER PROJECT TYPE:	Stormwater Drainage
WATERSHED:	Tomahawk Branch	DRAINAGE IMPROVEMENTS (LF):	220

PROJECT DESCRIPTION

To improve level of service for surrounding roadways and reduce flood risk to nearby property owners:

- Replace existing arch culverts with 40 LF of triple 5' x 9' RCBC.
- Install floodplain benching upstream/downstream of proposed culvert (documented separately).
- Tomahawk Lake analysis is required to determine any additional measures to improve the level of service.

PROJECT PRIORITIZATION and LEVEL OF SERVICE

CRITERIA	TOTAL SCORE
Utility Conflict	12
Street Flooding	8
Public or Privately-Owned Land	8
Effect of Improvements	10
Cost Effectiveness	15
Grant Bonus	3
Criticality Bonus	2
FINAL PROJECT SCORE:	**58**

KEY CROSSING	LEVEL OF SERVICE EXISTING	LEVEL OF SERVICE PROPOSED	% REDUCTION 50 YR
Laurel Circle Drive	< 2-YR	10-YR	0

PLANNING LEVEL OPINION OF COST

Construction estimate includes 30% contingency for planning. Design and permitting includes environmental permitting estimates. Proposed project footprints are based on GIS and modeling analyses. Detailed planning level costs are provided separately.

ITEM	COST OPINION
Construction	$ 455,000
Design and Permitting	$ 186,000
Other Project Costs	$ 119,000
Total Project	**$ 760,000**

PROJECT AREA MAP

PROJECT NAME **Laurel Circle Culvert Replacement (Tomahawk Branch)** PROJECT ID: **TB-A1**

PROJECT TYPE: Stormwater Drainage WATERSHED: Tomahawk B

PLANNING LEVEL COST ESTIMATE

Construction cost includes 30% contingency for planning. Improvements (LF): 120
Proposed project footprints are based on GIS and modeling analyses.
Real estate, if privately-owned land, is estimated based on property value.

CONSTRUCTION COST:

ITEM DESCRIPTION	QUANTITY	UNIT	UNIT COST	AMOUNT
Mobilization	1	LS	$ 16,650.00	$ 16,700.00
Erosion Control	1	LS	$ 14,865.00	$ 14,900.00
Traffic Control	1	LS	$ 5,946.00	$ 5,900.00
Minor Utility Conflict	1	LS	$ 14,865.00	$ 14,900.00
Unclassified Excavation/Hauling	190	CY	$ 72.00	$ 13,700.00
Infrastructure Removal and Disposal	120	LF	$ 115.00	$ 13,800.00
Structure Removal and Disposal	-	EA	$ 6,800.00	-
Standard Structure	-	EA	$ 8,600.00	-
Large Structure or Headwall	2	EA	$ 12,000.00	$ 24,000.00
New Pipe: 18-inch to 24-inch	-	LF	$ 390.00	-
New Pipe: 30-inch to 36-inch	-	LF	$ 535.00	-
New Pipe: 42-inch to 54-inch	-	LF	$ 670.00	-
New Pipe: 60-inch	-	LF	$ 875.00	-
Arch Pipe (22.5" - 31.3")	-	LF	$ 500.00	-
Large RCBC	120	LF	$ 1,700.00	$ 204,000.00
Rip Rap	25	TN	$ 50.00	$ 1,300.00
Open Channel Improvements	100	LF	$ 350.00	$ 35,000.00
Roadway/Sidewalk Replacement	50	SY	$ 110.00	$ 5,500.00
New Concrete Curb and Gutter	-	LF	$ 110.00	-
Replace Driveway Culvert Pipe	-	LF	$ 300.00	-
Replace Existing Concrete Driveway	-	SY	$ 120.00	-
			Construction Contingency (30%):	$ 105,000.00
			PLANNING LEVEL OPINION OF CONSTRUCTION COST:	**$ 455,000.00**

PROJECT COST:

PROJECT BUDGET ITEM	% of CONSTRUCTION	AMOUNT
Survey	5%	$ 22,800.00
Design and Permitting	20%	$ 91,000.00
Environmental Permitting	-	$ 95,000.00
Railroad Permitting/Coordination	-	$ -
Geotechnical Investigation	1%	$ 4,600.00
Structural Evaluation	1%	$ 4,600.00
Real Estate	2%	$ 9,100.00
Utility Relocation	2%	$ 9,100.00
Project Maintenance (3yr)	5%	$ 22,800.00
Construction Inspections	10%	$ 45,500.00
Construction	100%	$ 455,000.00
PLANNING LEVEL OPINION OF TOTAL PROJECT COST:		$ 760,000.00

PROJECT NAME: **Tomahawk Branch Floodplain Benching at Golf Course** PROJECT ID: **TB-A2**

PROJECT INFORMATION

LOCATION:	Laurel Circle Dr north of Lake Tomahawk	STORMWATER PROJECT TYPE:	Floodplain Benching
WATERSHED:	Tomahawk Branch	DRAINAGE IMPROVEMENTS (LF):	500

PROJECT DESCRIPTION

To improve level of service for surrounding roadways and reduce flood risk to nearby property owners:

- Install approximately 500 LF of channel improvements with floodplain benching to lower WSELs.
- Floodplain benching improvements are located up and downstream of the proposed RCBC in project TB-A1.

PROJECT PRIORITIZATION AND PROPERTY REQUIREMENTS

CRITERIA	TOTAL SCORE
Utility Conflict	12
Street Flooding	8
Public or Privately-Owned Land	4
Effect of Improvements	10
Cost Effectiveness	15
Grant Bonus	3
Criticality Bonus	1
FINAL PROJECT SCORE:	**53**

KEY CROSSING	LEVEL OF SERVICE EXISTING	LEVEL OF SERVICE PROPOSED	% REDUCTION 50 YR
Laurel Circle Drive	< 2-YR	10-YR	0

PLANNING LEVEL OPINION OF COST

Construction estimate includes 30% contingency for planning. Design and permitting includes environmental permitting estimates. Proposed project footprints are based on GIS and modeling analyses. Detailed planning level costs are provided separately.

ITEM	COST OPINION
Construction	$ 406,000
Design and Permitting	$ 146,200
Other Project Costs	$ 137,800
Total Project	**$ 690,000**

PROJECT AREA MAP

PROJECT NAME: **Tomahawk Branch Floodplain Benching at Golf C** PROJECT ID: **TB-A2**

PROJECT TYPE: Floodplain Benching WATERSHED: Tomahawk Branch

PLANNING LEVEL COST ESTIMATE

- Construction estimate includes 30% contingency for planning.
- Proposed project footprints are based on GIS and modeling analyses.
- Real estate, if privately-owned land, is estimated based on property value.

CONSTRUCTION COST:

ITEM DESCRIPTION	QUANTITY	UNIT	UNIT COST	AMOUNT
Mobilization	1	LS	$ 15,660.00	$ 15,700.00
Erosion Control	1	LS	$ 13,980.00	$ 14,000.00
Traffic Control	1	LS	$ 5,592.00	$ 5,600.00
Minor Utility Conflict	1	LS	$ 13,980.00	$ 14,000.00
Clearing and Grubbing	1110	SY	$ 5.50	$ 6,100.00
Earthwork	370	CY	$ 90.00	$ 33,300.00
Fine Grading	1110	SY	$ 18.00	$ 20,000.00
Structure Removal and Disposal	-	EA	$ 6,800.00	-
Infrastructure Removal and Disposal	-	LF	$ 115.00	-
Stone, Class B	125	TN	$ 92.00	$ 11,500.00
Filter Fabric/Geotextiles	2780	SY	$ 35.00	$ 97,300.00
Plantings	1110	SY	$ 7.00	$ 7,800.00
3-gallon Container Plants	135	EA	$ 70.00	$ 9,500.00
Riffle Grade Control	2	EA	$ 4,025.00	$ 8,100.00
Floodplain Tree Removal	1	LS	$ 15,000.00	$ 15,000.00
Log Grade Control Structure	-	EA	$ 4,000.00	-
Pump Around Operation	1	LS	$ 46,000.00	$ 46,000.00
Golf Course Bridge	1	LS	$ 25,000.00	$ 25,000.00
			Construction Contingency (30%):	$ 77,000.00
			PLANNING LEVEL OPINION OF CONSTRUCTION COST:	**$ 406,000.00**

PROJECT COST:

PROJECT BUDGET ITEM	% of CONSTRUCTION	AMOUNT
Survey	5%	$ 20,300.00
Design and Permitting	20%	$ 81,200.00
Environmental Permitting	-	$ 65,000.00
Railroad Permitting/Coordination	-	$ -
Geotechnical Investigation	1%	$ 4,100.00
Structural Evaluation	1%	$ 4,100.00
Real Estate	10%	$ 40,600.00
Utility Relocation	2%	$ 8,100.00
Project Maintenance (3yr)	5%	$ 20,300.00
Construction Inspections	10%	$ 40,600.00
Construction	100%	$ 406,000.00
PLANNING LEVEL OPINION OF TOTAL PROJECT COST:		$ 690,000.00

PROJECT NAME: **Swannanoa Ave Culvert Replacement and Stream Stabilization** PROJECT ID: **TB-B**

PROJECT INFORMATION

LOCATION:	Swannanoa Ave near Cragmont Rd	STORMWATER PROJECT TYPE:	Stormwater Drainage
WATERSHED:	Tomahawk Branch	DRAINAGE IMPROVEMENTS (LF):	355

PROJECT DESCRIPTION

To improve level of service for surrounding roadways and reduce flood risk to nearby property owners:

- Replace existing culvert with 30 LF of 48-inch RCP.
- Install approximately 200 LF of stream stabilization measures.

PROJECT PRIORITIZATION and LEVEL OF SERVICE

CRITERIA	TOTAL SCORE
Utility Conflict	12
Street Flooding	24
Public or Privately-Owned Land	8
Effect of Improvements	10
Cost Effectiveness	20
Grant Bonus	2
Criticality Bonus	1
FINAL PROJECT SCORE:	**77**

KEY CROSSING	LEVEL OF SERVICE EXISTING	LEVEL OF SERVICE PROPOSED	% REDUCTION 50 YR
Swannanoa Ave	2-YR	25-YR	50

PLANNING LEVEL OPINION OF COST

Construction estimate includes 30% contingency for planning. Design and permitting includes environmental permitting estimates. Proposed project footprints are based on GIS and modeling analyses. Detailed planning level costs are provided separately.

ITEM	COST OPINION
Construction	$ 250,000
Design and Permitting	$ 115,000
Other Project Costs	$ 65,000
Total Project	**$ 430,000**

PROJECT AREA MAP

PROJECT NAME **Swannanoa Ave Culvert Replacement and Stream Stabilization** PROJECT ID: **TB-B**

PROJECT TYPE: Stormwater Drainage WATERSHED: Tomahawk B

PLANNING LEVEL COST ESTIMATE

Construction cost includes 30% contingency for planning. Improvements (LF): 35
Proposed project footprints are based on GIS and modeling analyses.
Real estate, if privately-owned land, is estimated based on property value.

CONSTRUCTION COST:

ITEM DESCRIPTION	QUANTITY	UNIT	UNIT COST	AMOUNT
Mobilization	1	LS	$ 9,140.00	$ 9,100.00
Erosion Control	1	LS	$ 8,155.00	$ 8,200.00
Traffic Control	1	LS	$ 3,262.00	$ 3,300.00
Minor Utility Conflict	1	LS	$ 8,155.00	$ 8,200.00
Unclassified Excavation/Hauling	40	CY	$ 72.00	$ 2,900.00
Infrastructure Removal and Disposal	35	LF	$ 115.00	$ 4,000.00
Structure Removal and Disposal	-	EA	$ 6,800.00	-
Standard Structure	2	EA	$ 8,600.00	$ 17,200.00
Large Structure or Headwall	-	EA	$ 12,000.00	-
New Pipe: 18-inch to 24-inch	-	LF	$ 390.00	-
New Pipe: 30-inch to 36-inch	-	LF	$ 535.00	-
New Pipe: 42-inch to 54-inch	35	LF	$ 670.00	$ 23,500.00
New Pipe: 60-inch	-	LF	$ 875.00	-
Arch Pipe (22.5" - 31.3")	-	LF	$ 500.00	-
Large RCBC	-	LF	$ 1,700.00	-
Rip Rap	25	TN	$ 50.00	$ 1,300.00
Open Channel Improvements	320	LF	$ 350.00	$ 112,000.00
Roadway/Sidewalk Replacement	20	SY	$ 110.00	$ 2,200.00
New Concrete Curb and Gutter	-	LF	$ 110.00	-
Replace Driveway Culvert Pipe	-	LF	$ 300.00	-
Replace Existing Concrete Driveway	-	SY	$ 120.00	-
			Construction Contingency (30%):	$ 58,000.00
			PLANNING LEVEL OPINION OF CONSTRUCTION COST:	**$ 250,000.00**

PROJECT COST:

PROJECT BUDGET ITEM	% of CONSTRUCTION	AMOUNT
Survey	5%	$ 12,500.00
Design and Permitting	20%	$ 50,000.00
Environmental Permitting	-	$ 65,000.00
Railroad Permitting/Coordination	-	$ -
Geotechnical Investigation	1%	$ 2,500.00
Structural Evaluation	1%	$ 2,500.00
Real Estate	2%	$ 5,000.00
Utility Relocation	2%	$ 5,000.00
Project Maintenance (3yr)	5%	$ 12,500.00
Construction Inspections	10%	$ 25,000.00
Construction	100%	$ 250,000.00
PLANNING LEVEL OPINION OF TOTAL PROJECT COST:		$ 430,000.00

PROJECT NAME: **Padgettown Rd Stormwater Improvements** PROJECT ID: **TR35-A**

PROJECT INFORMATION

LOCATION: Padgettown Rd/US Hwy 70E Intersection
WATERSHED: Tributary 35
STORMWATER PROJECT TYPE: Stormwater Drainage
DRAINAGE IMPROVEMENTS (LF): 460

PROJECT DESCRIPTION

To improve level of service for surrounding roadways and reduce flood risk to nearby property owners:

- Install 145 LF of twin 60-inch RCP by-pass system to depression area south of the gas station.
- Replace existing pipe across Padgettown Road at Old US 70E with twin 48" RCP.
- Excavate and enlarge existing open channel and outfall area downstream of gas station.
- Existing conditions severly limit options to provide desired LOS. An option is presented herein.
- Additional survey and engineering investigation required to determine constructability and achievable LOS.

PROJECT PRIORITIZATION and LEVEL OF SERVICE

CRITERIA	TOTAL SCORE
Utility Conflict	4
Street Flooding	16
Public or Privately-Owned Land	8
Effect of Improvements	15
Cost Effectiveness	15
Grant Bonus	3
Criticality Bonus	1
FINAL PROJECT SCORE:	**62**

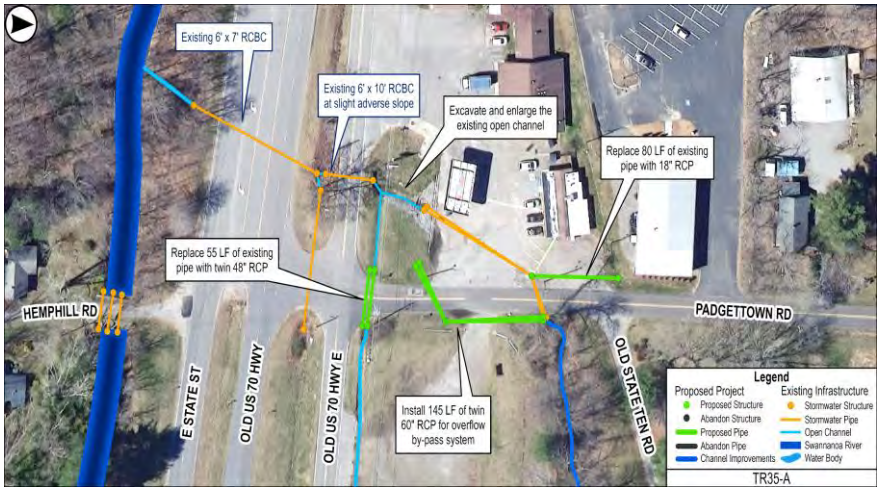
KEY CROSSING	LEVEL OF SERVICE EXISTING	LEVEL OF SERVICE PROPOSED	% REDUCTION 50 YR
Padgettown at Old US70E	2-YR	25-YR	80
Gas Station (Twin 36")	2-YR	10-YR	76
Padgettown Rd (Twin 36")	< 2-YR	10-YR	68
Padgettown Rd (Twin 60")	NA	25-YR	New Crossing

PLANNING LEVEL OPINION OF COST

Construction estimate includes 30% contingency for planning. Design and permitting includes environmental permitting estimates. Proposed project footprints are based on GIS and modeling analyses. Detailed planning level costs are provided separately.

ITEM	COST OPINION
Construction	$ 909,000
Design and Permitting	$ 276,800
Other Project Costs	$ 236,200
Total Project	**$ 1,422,000**

PROJECT AREA MAP



PROJECT NAME **Padgettown Rd Stormwater Improvements** PROJECT ID: **TR35-A**

PROJECT TYPE: Stormwater Drainage WATERSHED: Tributary 35

PLANNING LEVEL COST ESTIMATE

Construction cost includes 30% contingency for planning. Improvements (LF): 460
Proposed project footprints are based on GIS and modeling analyses.
Real estate, if privately-owned land, is estimated based on property value.

CONSTRUCTION COST:

ITEM DESCRIPTION	QUANTITY	UNIT	UNIT COST	AMOUNT
Mobilization	1	LS	$ 33,290.00	$ 33,300.00
Erosion Control	1	LS	$ 24,300.00	$ 24,300.00
Traffic Control	1	LS	$ 9,720.00	$ 9,700.00
Major Utility Conflict	1	LS	$ 145,800.00	$ 145,800.00
Unclassified Excavation/Hauling	770	CY	$ 72.00	$ 55,400.00
Infrastructure Removal and Disposal	125	LF	$ 115.00	$ 14,400.00
Structure Removal and Disposal	-	EA	$ 6,800.00	-
Standard Structure	1	EA	$ 8,600.00	$ 8,600.00
Large Structure or Headwall	5	EA	$ 12,000.00	$ 60,000.00
New Pipe: 18-inch to 24-inch	-	LF	$ 390.00	-
New Pipe: 30-inch to 36-inch	-	LF	$ 535.00	-
New Pipe: 42-inch to 54-inch	90	LF	$ 670.00	$ 60,300.00
New Pipe: 60-inch	290	LF	$ 875.00	$ 253,800.00
Arch Pipe (22.5" - 31.3")	-	LF	$ 500.00	-
Large RCBC	-	LF	$ 1,700.00	-
Rip Rap	25	TN	$ 50.00	$ 1,300.00
Open Channel Improvements	-	LF	$ 350.00	-
Roadway/Sidewalk Replacement	100	SY	$ 110.00	$ 11,000.00
Earthwork	105	CY	$ 90.00	$ 9,500.00
Fine Grading	550	SY	$ 18.00	$ 9,900.00
Plantings	250	SY	$ 7.00	$ 1,800.00
			Construction Contingency (30%):	$ 210,000.00
			PLANNING LEVEL OPINION OF CONSTRUCTION COST:	**$ 909,000.00**

PROJECT COST:

PROJECT BUDGET ITEM	% of CONSTRUCTION	AMOUNT
Survey	5%	$ 45,500.00
Design and Permitting	20%	$ 181,800.00
Environmental Permitting	-	$ 95,000.00
Railroad Permitting/Coordination	-	$ -
Geotechnical Investigation	1%	$ 9,100.00
Structural Evaluation	1%	$ 9,100.00
Real Estate	2%	$ 18,200.00
Utility Relocation	2%	$ 18,200.00
Project Maintenance (3yr)	5%	$ 45,500.00
Construction Inspections	10%	$ 90,900.00
Construction	100%	$ 909,000.00
PLANNING LEVEL OPINION OF TOTAL PROJECT COST:		$ 1,422,000.00

PROJECT NAME: **Old State 10 Rd Culvert Replacement and Stream Stabilization** PROJECT ID: **TR35-B1**

PROJECT INFORMATION

LOCATION:	Old State 10 Rd Culvert Crossing	STORMWATER PROJECT TYPE:	Stormwater Drainage
WATERSHED:	Tributary 35	DRAINAGE IMPROVEMENTS (LF):	160

PROJECT DESCRIPTION

To improve level of service for surrounding roadways and reduce flood risk to nearby property owners:

- Replace existing pipe with 30 LF of twin 4'x6' RCBC under Old State 10 Rd.
- Install 100 LF of upstream channel improvements to accommodate flow into new RCBC.

PROJECT PRIORITIZATION and LEVEL OF SERVICE

CRITERIA	TOTAL SCORE
Utility Conflict	4
Street Flooding	32
Public or Privately-Owned Land	8
Effect of Improvements	10
Cost Effectiveness	20
Grant Bonus	2
Criticality Bonus	1
FINAL PROJECT SCORE:	**77**

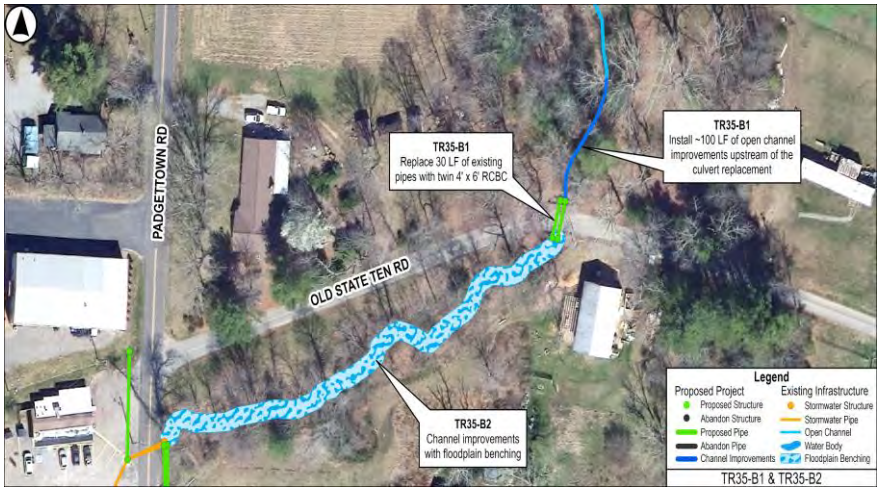
KEY CROSSING	LEVEL OF SERVICE EXISTING	LEVEL OF SERVICE PROPOSED	% REDUCTION 50 YR
Old State 10 Road (Twin 36")	2-YR	25-YR	91

PLANNING LEVEL OPINION OF COST

Construction estimate includes 30% contingency for planning. Design and permitting includes environmental permitting estimates. Proposed project footprints are based on GIS and modeling analyses. Detailed planning level costs are provided separately.

ITEM	COST OPINION
Construction	$ 351,000
Design and Permitting	$ 165,200
Other Project Costs	$ 91,800
Total Project	**$ 608,000**

PROJECT AREA MAP



PROJECT NAME **Old State 10 Rd Culvert Replacement and Stream Stabilization** PROJECT ID: **TR35-B1**

PROJECT TYPE: Stormwater Drainage WATERSHED: Tributary 35

PLANNING LEVEL COST ESTIMATE

Construction cost includes 30% contingency for planning. Improvements (LF): 60
Proposed project footprints are based on GIS and modeling analyses.
Real estate, if privately-owned land, is estimated based on property value.

CONSTRUCTION COST:

ITEM DESCRIPTION	QUANTITY	UNIT	UNIT COST	AMOUNT
Mobilization	1	LS	$ 12,860.00	$ 12,900.00
Erosion Control	1	LS	$ 9,385.00	$ 9,400.00
Traffic Control	1	LS	$ 3,754.00	$ 3,800.00
Major Utility Conflict	1	LS	$ 56,310.00	$ 56,300.00
Unclassified Excavation/Hauling	70	CY	$ 72.00	$ 5,000.00
Infrastructure Removal and Disposal	30	LF	$ 115.00	$ 3,500.00
Structure Removal and Disposal	2	EA	$ 6,800.00	$ 13,600.00
Standard Structure	-	EA	$ 8,600.00	-
Large Structure or Headwall	2	EA	$ 12,000.00	$ 24,000.00
New Pipe: 18-inch to 24-inch	-	LF	$ 390.00	-
New Pipe: 30-inch to 36-inch	-	LF	$ 535.00	-
New Pipe: 42-inch to 54-inch	-	LF	$ 670.00	-
New Pipe: 60-inch	-	LF	$ 875.00	-
Arch Pipe (22.5" - 31.3")	-	LF	$ 500.00	-
Large RCBC	60	LF	$ 1,700.00	$ 102,000.00
Rip Rap	25	TN	$ 50.00	$ 1,300.00
Open Channel Improvements	100	LF	$ 350.00	$ 35,000.00
Roadway/Sidewalk Replacement	30	SY	$ 110.00	$ 3,300.00
New Concrete Curb and Gutter	-	LF	$ 110.00	-
Replace Driveway Culvert Pipe	-	LF	$ 300.00	-
Replace Existing Concrete Driveway	-	SY	$ 120.00	-
			Construction Contingency (30%):	$ 81,000.00
			PLANNING LEVEL OPINION OF CONSTRUCTION COST:	**$ 351,000.00**

PROJECT COST:

PROJECT BUDGET ITEM	% of CONSTRUCTION	AMOUNT
Survey	5%	$ 17,600.00
Design and Permitting	20%	$ 70,200.00
Environmental Permitting	-	$ 95,000.00
Railroad Permitting/Coordination	-	$ -
Geotechnical Investigation	1%	$ 3,500.00
Structural Evaluation	1%	$ 3,500.00
Real Estate	2%	$ 7,000.00
Utility Relocation	2%	$ 7,000.00
Project Maintenance (3yr)	5%	$ 17,600.00
Construction Inspections	10%	$ 35,100.00
Construction	100%	$ 351,000.00
PLANNING LEVEL OPINION OF TOTAL PROJECT COST:		$ 608,000.00

PROJECT NAME: **Tributary 35 Floodplain Benching at Old State 10 Rd** PROJECT ID: **TR35-B2**

PROJECT INFORMATION

LOCATION: Old State 10 Road near Padgettown Rd
WATERSHED: Tributary 35
STORMWATER PROJECT TYPE: Floodplain Benching
DRAINAGE IMPROVEMENTS (LF): 350

PROJECT DESCRIPTION

To improve level of service for surrounding roadways and reduce flood risk to nearby property owners:

- Install approximately 350 LF of channel improvements with floodplain benching to lower WSELs.
- Floodplain benching improvements are located downstream of the proposed RCBC in project TR35-B1.

PROJECT PRIORITIZATION AND PROPERTY REQUIREMENTS

CRITERIA	TOTAL SCORE
Utility Conflict	12
Street Flooding	16
Public or Privately-Owned Land	4
Effect of Improvements	10
Cost Effectiveness	20
Grant Bonus	3
Criticality Bonus	1
FINAL PROJECT SCORE:	**66**

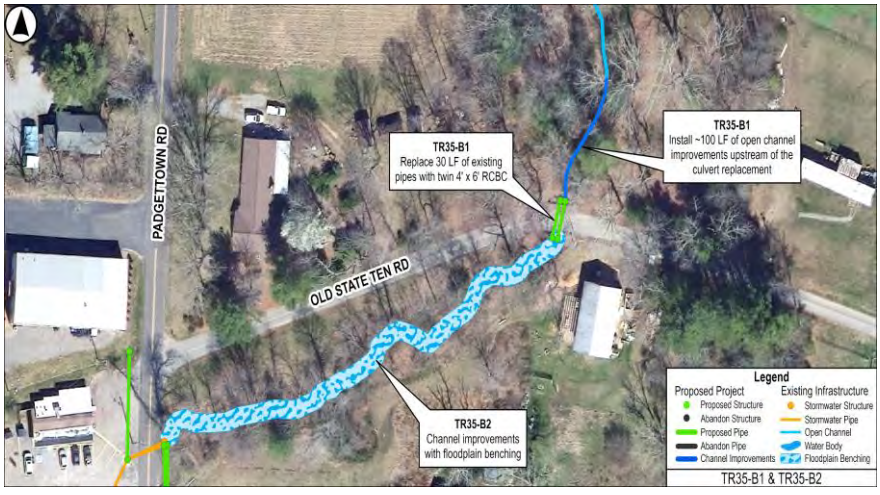
KEY CROSSING	LEVEL OF SERVICE EXISTING	LEVEL OF SERVICE PROPOSED	% REDUCTION 50 YR
Padgettown Rd (Twin 36")	< 2-YR	10-YR	68
Old State 10 Road (Twin 36")	2-YR	25-YR	91

PLANNING LEVEL OPINION OF COST

Construction estimate includes 30% contingency for planning. Design and permitting includes environmental permitting estimates. Proposed project footprints are based on GIS and modeling analyses. Detailed planning level costs are provided separately.

ITEM	COST OPINION
Construction	$ 234,000
Design and Permitting	$ 111,800
Other Project Costs	$ 79,200
Total Project	**$ 425,000**

PROJECT AREA MAP



PROJECT NAME: **Tributary 35 Floodplain Benching at Old State 10** PROJECT ID: **TR35-B2**

PROJECT TYPE: Floodplain Benching WATERSHED: Tributary 35

PLANNING LEVEL COST ESTIMATE

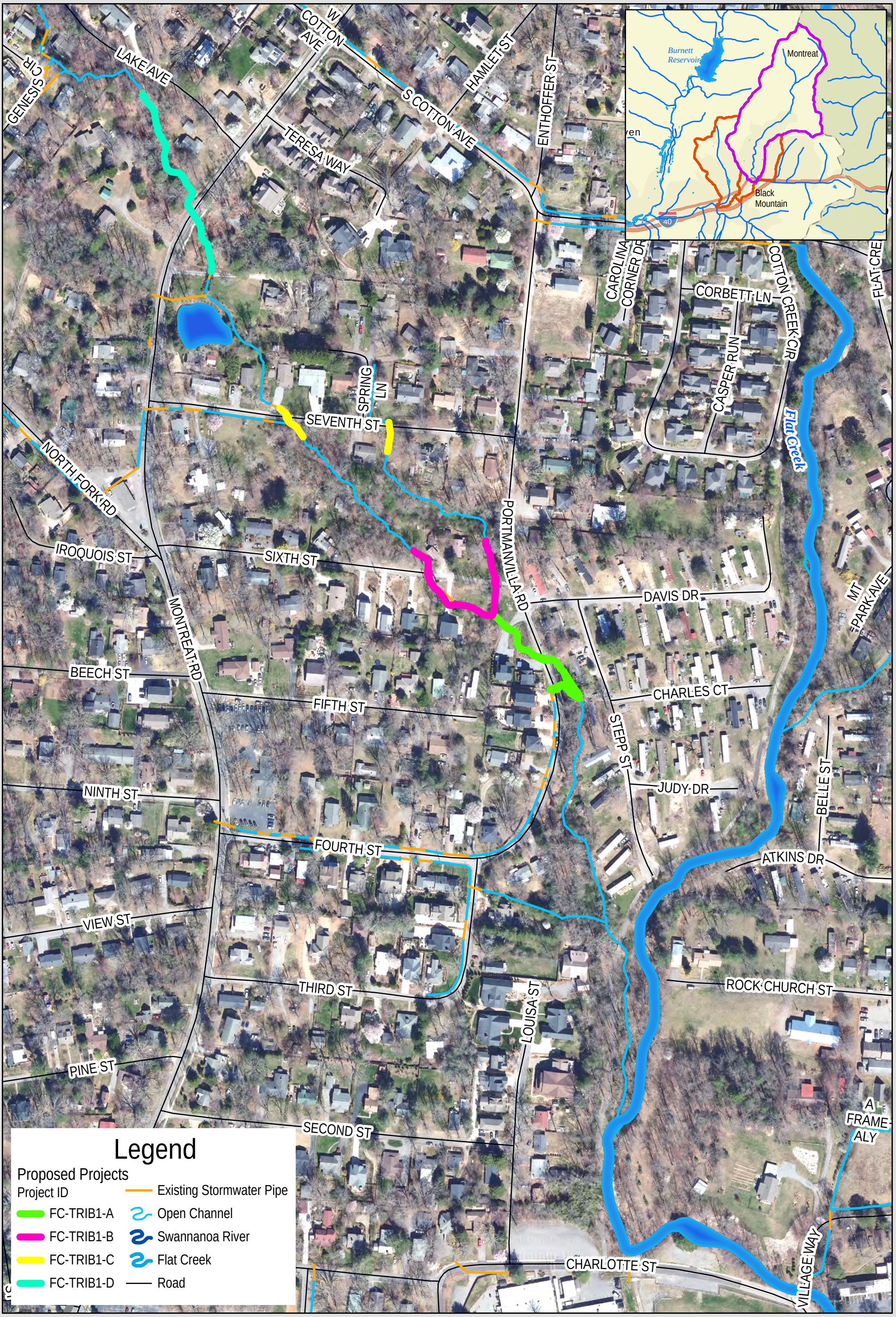
- Construction estimate includes 30% contingency for planning.
- Proposed project footprints are based on GIS and modeling analyses.
- Real estate, if privately-owned land, is estimated based on property value.

CONSTRUCTION COST:

ITEM DESCRIPTION	QUANTITY	UNIT	UNIT COST	AMOUNT
Mobilization	1	LS	$ 9,090.00	$ 9,100.00
Erosion Control	1	LS	$ 8,120.00	$ 8,100.00
Traffic Control	1	LS	$ 3,248.00	$ 3,200.00
Minor Utility Conflict	1	LS	$ 8,120.00	$ 8,100.00
Clearing and Grubbing	390	SY	$ 5.50	$ 2,100.00
Earthwork	0	CY	$ 90.00	$ -
Fine Grading	390	SY	$ 18.00	$ 7,000.00
Structure Removal and Disposal	-	EA	$ 6,800.00	-
Infrastructure Removal and Disposal	-	LF	$ 115.00	-
Stone, Class B	75	TN	$ 92.00	$ 6,900.00
Filter Fabric/Geotextiles	1940	SY	$ 35.00	$ 67,900.00
Plantings	390	SY	$ 7.00	$ 2,700.00
3-gallon Container Plants	95	EA	$ 70.00	$ 6,700.00
Riffle Grade Control	2	EA	$ 4,025.00	$ 8,100.00
Floodplain Tree Removal	1	LS	$ 15,000.00	$ 15,000.00
Log Grade Control Structure	-	EA	$ 4,000.00	-
Pump Around Operation	1	LS	$ 46,000.00	$ 46,000.00
			Construction Contingency (30%):	$ 43,000.00
			PLANNING LEVEL OPINION OF CONSTRUCTION COST:	**$ 234,000.00**

PROJECT COST:

PROJECT BUDGET ITEM	% of CONSTRUCTION	AMOUNT
Survey	5%	$ 11,700.00
Design and Permitting	20%	$ 46,800.00
Environmental Permitting	-	$ 65,000.00
Railroad Permitting/Coordination	-	$ -
Geotechnical Investigation	1%	$ 2,300.00
Structural Evaluation	1%	$ 2,300.00
Real Estate	10%	$ 23,400.00
Utility Relocation	2%	$ 4,700.00
Project Maintenance (3yr)	5%	$ 11,700.00
Construction Inspections	10%	$ 23,400.00
Construction	100%	$ 234,000.00
PLANNING LEVEL OPINION OF TOTAL PROJECT COST:		$ 425,000.00



WK DICKSON
AN ARDURRA COMPANY

Figure ES-7: Proposed Stormwater Improvement Projects
FLAT CREEK TRIBUTARY 1 PRIMARY SYSTEM
Town of Black Mountain Stormwater Master Plan

0 100 200 Feet
1 in = 200 ft

PROJECT NAME: **Portmanvilla Rd Stormwater Improvements** PROJECT ID: **FC-TRIB1-A**

PROJECT INFORMATION

LOCATION: Portmanvilla Rd near Davis Dr
WATERSHED: Flat Creek
STORMWATER PROJECT TYPE: Stormwater Drainage
DRAINAGE IMPROVEMENTS (LF): 540

PROJECT DESCRIPTION

To improve level of service for surrounding roadways and reduce flood risk to nearby property owners:

- Replace existing 15-inch CMP with 35 LF of twin 22.5" x 36.25" (30" Eq) Concrete Arch Pipe.
- Replace existing 30-inch CMP with 45 LF of twin 31.31" x 51.13" (42" Eq) Concrete Arch Pipe.
- Replace existing upstream private pipe with 25 LF of twin 31.31" x 51.13" (42" Eq) Concrete Arch Pipe.
- Replace existing downstream private pipe with 40 LF of twin 31.31" x 51.13" (42" Eq) Concrete Arch Pipe.
- Install approximately 250 LF of stream stabilization measures.

PROJECT PRIORITIZATION and LEVEL OF SERVICE

CRITERIA	TOTAL SCORE
Utility Conflict	8
Street Flooding	32
Public or Privately-Owned Land	8
Effect of Improvements	15
Cost Effectiveness	20
Grant Bonus	2
Criticality Bonus	2
FINAL PROJECT SCORE:	**87**

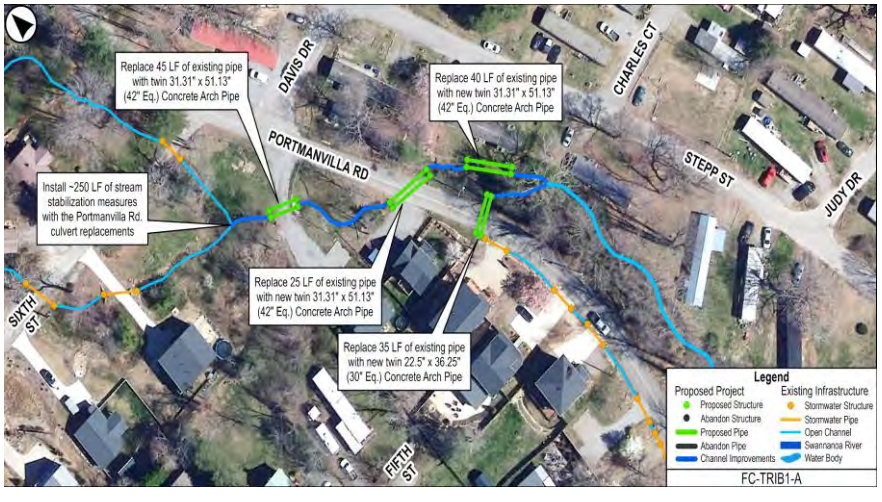
KEY CROSSING	LEVEL OF SERVICE EXISTING	LEVEL OF SERVICE PROPOSED	% REDUCTION 50 YR
Portmanvilla Rd (15" CMP)	< 2-YR	50-YR	100
Portmanvilla Rd (30" RCP)	2-YR	50-YR	100

PLANNING LEVEL OPINION OF COST

Construction estimate includes 30% contingency for planning. Design and permitting includes environmental permitting estimates. Proposed project footprints are based on GIS and modeling analyses. Detailed planning level costs are provided separately.

ITEM	COST OPINION
Construction	$ 572,000
Design and Permitting	$ 179,400
Other Project Costs	$ 148,600
Total Project	**$ 900,000**

PROJECT AREA MAP



PROJECT NAME **Portmanvilla Rd Stormwater Improvements** PROJECT ID: **FC-TRIB1-A**

PROJECT TYPE: Stormwater Drainage WATERSHED: Flat Creek

PLANNING LEVEL COST ESTIMATE

Construction cost includes 30% contingency for planning. Improvements (LF): 290
Proposed project footprints are based on GIS and modeling analyses.
Real estate, if privately-owned land, is estimated based on property value.

CONSTRUCTION COST:

ITEM DESCRIPTION	QUANTITY	UNIT	UNIT COST	AMOUNT
Mobilization	1	LS	$ 20,940.00	$ 20,900.00
Erosion Control	1	LS	$ 17,160.00	$ 17,200.00
Traffic Control	1	LS	$ 6,864.00	$ 6,900.00
Moderate Utility Conflict	1	LS	$ 51,480.00	$ 51,500.00
Unclassified Excavation/Hauling	270	CY	$ 72.00	$ 19,400.00
Infrastructure Removal and Disposal	140	LF	$ 115.00	$ 16,100.00
Structure Removal and Disposal	2	EA	$ 6,800.00	$ 13,600.00
Standard Structure	-	EA	$ 8,600.00	-
Large Structure or Headwall	4	EA	$ 12,000.00	$ 48,000.00
New Pipe: 18-inch to 24-inch	-	LF	$ 390.00	-
New Pipe: 30-inch to 36-inch	-	LF	$ 535.00	-
New Pipe: 42-inch to 54-inch	-	LF	$ 670.00	-
New Pipe: 60-inch	-	LF	$ 875.00	-
Arch Pipe (22.5" - 31.3")	290	LF	$ 500.00	$ 145,000.00
Large RCBC	-	LF	$ 1,700.00	-
Rip Rap	25	TN	$ 50.00	$ 1,300.00
Open Channel Improvements	250	LF	$ 350.00	$ 87,500.00
Roadway/Sidewalk Replacement	60	SY	$ 110.00	$ 6,600.00
New Concrete Curb and Gutter	-	LF	$ 110.00	-
Replace Driveway Culvert Pipe	15	LF	$ 300.00	$ 4,500.00
Replace Existing Concrete Driveway	10	SY	$ 120.00	$ 1,200.00
			Construction Contingency (30%):	$ 132,000.00
			PLANNING LEVEL OPINION OF CONSTRUCTION COST:	**$ 572,000.00**

PROJECT COST:

PROJECT BUDGET ITEM	% of CONSTRUCTION	AMOUNT
Survey	5%	$ 28,600.00
Design and Permitting	20%	$ 114,400.00
Environmental Permitting	-	$ 65,000.00
Railroad Permitting/Coordination	-	$ -
Geotechnical Investigation	1%	$ 5,700.00
Structural Evaluation	1%	$ 5,700.00
Real Estate	2%	$ 11,400.00
Utility Relocation	2%	$ 11,400.00
Project Maintenance (3yr)	5%	$ 28,600.00
Construction Inspections	10%	$ 57,200.00
Construction	100%	$ 572,000.00
PLANNING LEVEL OPINION OF TOTAL PROJECT COST:		$ 900,000.00

PROJECT NAME: **6th Street Culvert Replacements and Stream Stabilization** PROJECT ID: **FC-TRIB1-B**

PROJECT INFORMATION

LOCATION:	6th St near Portmanvilla Rd	STORMWATER PROJECT TYPE:	Stormwater Drainage
WATERSHED:	Flat Creek	DRAINAGE IMPROVEMENTS (LF):	500

PROJECT DESCRIPTION

To improve level of service for surrounding roadways and reduce flood risk to nearby property owners:

- Replace existing 15-inch CMP with 20 LF of twin 22.5" x 36.25" (30" Eq) Concrete Arch Pipe.
- Replace existing 42-inch CMP with 30 LF of twin 26.625" x 43.75" (36" Eq) Concrete Arch Pipe.
- Install approximately 150 LF of stream stabilization measures upstream of the proposed culverts.
- Install approximately 250 LF of stream stabilization measures downstream of the proposed culverts.

PROJECT PRIORITIZATION and LEVEL OF SERVICE

CRITERIA	TOTAL SCORE
Utility Conflict	12
Street Flooding	24
Public or Privately-Owned Land	8
Effect of Improvements	10
Cost Effectiveness	20
Grant Bonus	2
Criticality Bonus	2
FINAL PROJECT SCORE:	**78**

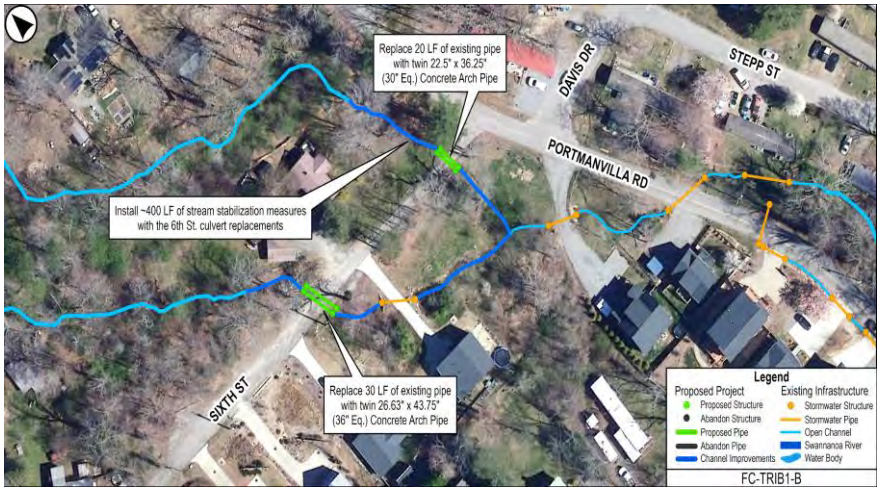
KEY CROSSING	LEVEL OF SERVICE EXISTING	LEVEL OF SERVICE PROPOSED	% REDUCTION 50 YR
6th St at Portmanvilla Rd	< 2-YR	50-YR	100
6th Street	10-YR	50-YR	100

PLANNING LEVEL OPINION OF COST

Construction estimate includes 30% contingency for planning. Design and permitting includes environmental permitting estimates. Proposed project footprints are based on GIS and modeling analyses. Detailed planning level costs are provided separately.

ITEM	COST OPINION
Construction	$ 389,000
Design and Permitting	$ 142,800
Other Project Costs	$ 101,200
Total Project	**$ 633,000**

PROJECT AREA MAP



PROJECT NAME **6th Street Culvert Replacements and Stream Stabilization** PROJECT ID: **FC-TRIB1-B**

PROJECT TYPE: Stormwater Drainage WATERSHED: Flat Creek

PLANNING LEVEL COST ESTIMATE

Construction cost includes 30% contingency for planning. Improvements (LF): 100
Proposed project footprints are based on GIS and modeling analyses.
Real estate, if privately-owned land, is estimated based on property value.

CONSTRUCTION COST:

ITEM DESCRIPTION	QUANTITY	UNIT	UNIT COST	AMOUNT
Mobilization	1	LS	$ 14,250.00	$ 14,300.00
Erosion Control	1	LS	$ 12,725.00	$ 12,700.00
Traffic Control	1	LS	$ 5,090.00	$ 5,100.00
Minor Utility Conflict	1	LS	$ 12,725.00	$ 12,700.00
Unclassified Excavation/Hauling	70	CY	$ 72.00	$ 5,000.00
Infrastructure Removal and Disposal	50	LF	$ 115.00	$ 5,800.00
Structure Removal and Disposal	-	EA	$ 6,800.00	-
Standard Structure	2	EA	$ 8,600.00	$ 17,200.00
Large Structure or Headwall	2	EA	$ 12,000.00	$ 24,000.00
New Pipe: 18-inch to 24-inch	-	LF	$ 390.00	-
New Pipe: 30-inch to 36-inch	-	LF	$ 535.00	-
New Pipe: 42-inch to 54-inch	-	LF	$ 670.00	-
New Pipe: 60-inch	-	LF	$ 875.00	-
Arch Pipe (22.5" - 31.3")	100	LF	$ 500.00	$ 50,000.00
Large RCBC	-	LF	$ 1,700.00	-
Rip Rap	25	TN	$ 50.00	$ 1,300.00
Open Channel Improvements	400	LF	$ 350.00	$ 140,000.00
Roadway/Sidewalk Replacement	50	SY	$ 110.00	$ 5,500.00
New Concrete Curb and Gutter	-	LF	$ 110.00	-
Replace Driveway Culvert Pipe	15	LF	$ 300.00	$ 4,500.00
Replace Existing Concrete Driveway	10	SY	$ 120.00	$ 1,200.00
			Construction Contingency (30%):	$ 90,000.00
			PLANNING LEVEL OPINION OF CONSTRUCTION COST:	**$ 389,000.00**

PROJECT COST:

PROJECT BUDGET ITEM	% of CONSTRUCTION	AMOUNT
Survey	5%	$ 19,500.00
Design and Permitting	20%	$ 77,800.00
Environmental Permitting	-	$ 65,000.00
Railroad Permitting/Coordination	-	$ -
Geotechnical Investigation	1%	$ 3,900.00
Structural Evaluation	1%	$ 3,900.00
Real Estate	2%	$ 7,800.00
Utility Relocation	2%	$ 7,800.00
Project Maintenance (3yr)	5%	$ 19,500.00
Construction Inspections	10%	$ 38,900.00
Construction	100%	$ 389,000.00
PLANNING LEVEL OPINION OF TOTAL PROJECT COST:		$ 633,000.00

PROJECT NAME: **7th Street Culvert Replacements and Stream Stabilization** PROJECT ID: **FC-TRIB1-C**

PROJECT INFORMATION

LOCATION: 7th St near Portmanvilla Rd
WATERSHED: Flat Creek
STORMWATER PROJECT TYPE: Stormwater Drainage
DRAINAGE IMPROVEMENTS (LF): 210

PROJECT DESCRIPTION

To improve level of service for surrounding roadways and reduce flood risk to nearby property owners:

- Replace existing 15-inch CPP with 25 LF of 22.5" x 36.25" (30" Eq) Concrete Arch Pipe.
- Replace existing triple 24-inch CMP with 25 LF of twin 22.5" x 36.25" (30" Eq) Concrete Arch Pipe.
- Install approximately 110 LF of stream stabilization measures.

PROJECT PRIORITIZATION and LEVEL OF SERVICE

CRITERIA	TOTAL SCORE
Utility Conflict	12
Street Flooding	24
Public or Privately-Owned Land	8
Effect of Improvements	20
Cost Effectiveness	20
Grant Bonus	2
Criticality Bonus	1
FINAL PROJECT SCORE:	**87**

KEY CROSSING	LEVEL OF SERVICE EXISTING	LEVEL OF SERVICE PROPOSED	% REDUCTION 50 YR
7th St at Portmanvilla Rd	< 2-YR	50-YR	100
7th Street	2-YR	25-YR	78

PLANNING LEVEL OPINION OF COST

Construction estimate includes 30% contingency for planning. Design and permitting includes environmental permitting estimates. Proposed project footprints are based on GIS and modeling analyses. Detailed planning level costs are provided separately.

ITEM	COST OPINION
Construction	$ 233,000
Design and Permitting	$ 111,600
Other Project Costs	$ 60,400
Total Project	**$ 405,000**

PROJECT AREA MAP

PROJECT NAME **7th Street Culvert Replacements and Stream Stabilization** PROJECT ID: **FC-TRIB1-C**

PROJECT TYPE: Stormwater Drainage WATERSHED: Flat Creek

PLANNING LEVEL COST ESTIMATE

Construction cost includes 30% contingency for planning. Improvements (LF): 100
Proposed project footprints are based on GIS and modeling analyses.
Real estate, if privately-owned land, is estimated based on property value.

CONSTRUCTION COST:

ITEM DESCRIPTION	QUANTITY	UNIT	UNIT COST	AMOUNT
Mobilization	1	LS	$ 8,525.00	$ 8,500.00
Erosion Control	1	LS	$ 7,615.00	$ 7,600.00
Traffic Control	1	LS	$ 3,046.00	$ 3,000.00
Minor Utility Conflict	1	LS	$ 7,615.00	$ 7,600.00
Unclassified Excavation/Hauling	60	CY	$ 72.00	$ 4,300.00
Infrastructure Removal and Disposal	100	LF	$ 115.00	$ 11,500.00
Structure Removal and Disposal	-	EA	$ 6,800.00	-
Standard Structure	2	EA	$ 8,600.00	$ 17,200.00
Large Structure or Headwall	2	EA	$ 12,000.00	$ 24,000.00
New Pipe: 18-inch to 24-inch	-	LF	$ 390.00	-
New Pipe: 30-inch to 36-inch	-	LF	$ 535.00	-
New Pipe: 42-inch to 54-inch	-	LF	$ 670.00	-
New Pipe: 60-inch	-	LF	$ 875.00	-
Arch Pipe (22.5" - 31.3")	100	LF	$ 500.00	$ 50,000.00
Large RCBC	-	LF	$ 1,700.00	-
Rip Rap	25	TN	$ 50.00	$ 1,300.00
Open Channel Improvements	110	LF	$ 350.00	$ 38,500.00
Roadway/Sidewalk Replacement	50	SY	$ 110.00	$ 5,500.00
New Concrete Curb and Gutter	-	LF	$ 110.00	-
Replace Driveway Culvert Pipe	-	LF	$ 300.00	-
Replace Existing Concrete Driveway	-	SY	$ 120.00	-
			Construction Contingency (30%):	$ 54,000.00
			PLANNING LEVEL OPINION OF CONSTRUCTION COST:	**$ 233,000.00**

PROJECT COST:

PROJECT BUDGET ITEM	% of CONSTRUCTION	AMOUNT
Survey	5%	$ 11,700.00
Design and Permitting	20%	$ 46,600.00
Environmental Permitting	-	$ 65,000.00
Railroad Permitting/Coordination	-	$ -
Geotechnical Investigation	1%	$ 2,300.00
Structural Evaluation	1%	$ 2,300.00
Real Estate	2%	$ 4,700.00
Utility Relocation	2%	$ 4,700.00
Project Maintenance (3yr)	5%	$ 11,700.00
Construction Inspections	10%	$ 23,300.00
Construction	100%	$ 233,000.00
PLANNING LEVEL OPINION OF TOTAL PROJECT COST:		$ 405,000.00

PROJECT NAME: **Montreat Road Culvert Replacement (Flat Creek)** PROJECT ID: **FC-TRIB1-D**

PROJECT INFORMATION

LOCATION:	Montreat Rd near Lake Ave	STORMWATER PROJECT TYPE:	Stormwater Drainage
WATERSHED:	Tomahawk Branch	DRAINAGE IMPROVEMENTS (LF):	350

PROJECT DESCRIPTION

To improve level of service for surrounding roadways and reduce flood risk to nearby property owners:

- Replace existing 24-inch CMP with 50 LF of 42-inch RCP.
- Install approximately 200 LF of stream stabilization measures upstream.
- Install approximately 100 LF of stream stabilization measures downstream of the proposed culvert.

PROJECT PRIORITIZATION and LEVEL OF SERVICE

CRITERIA	TOTAL SCORE
Utility Conflict	4
Street Flooding	32
Public or Privately-Owned Land	8
Effect of Improvements	20
Cost Effectiveness	20
Grant Bonus	3
Criticality Bonus	1
FINAL PROJECT SCORE:	**88**

KEY CROSSING	LEVEL OF SERVICE EXISTING	LEVEL OF SERVICE PROPOSED	% REDUCTION 50 YR
Montreat Rd near Lake Ave	2-YR	50-YR	100

PLANNING LEVEL OPINION OF COST

Construction estimate includes 30% contingency for planning. Design and permitting includes environmental permitting estimates. Proposed project footprints are based on GIS and modeling analyses. Detailed planning level costs are provided separately.

ITEM	COST OPINION
Construction	$ 329,000
Design and Permitting	$ 130,800
Other Project Costs	$ 86,200
Total Project	**$ 546,000**

PROJECT AREA MAP

PROJECT NAME **Montreat Road Culvert Replacement (Flat Creek)** PROJECT ID: **FC-TRIB1-D**

PROJECT TYPE: Stormwater Drainage WATERSHED: Tomahawk B

PLANNING LEVEL COST ESTIMATE

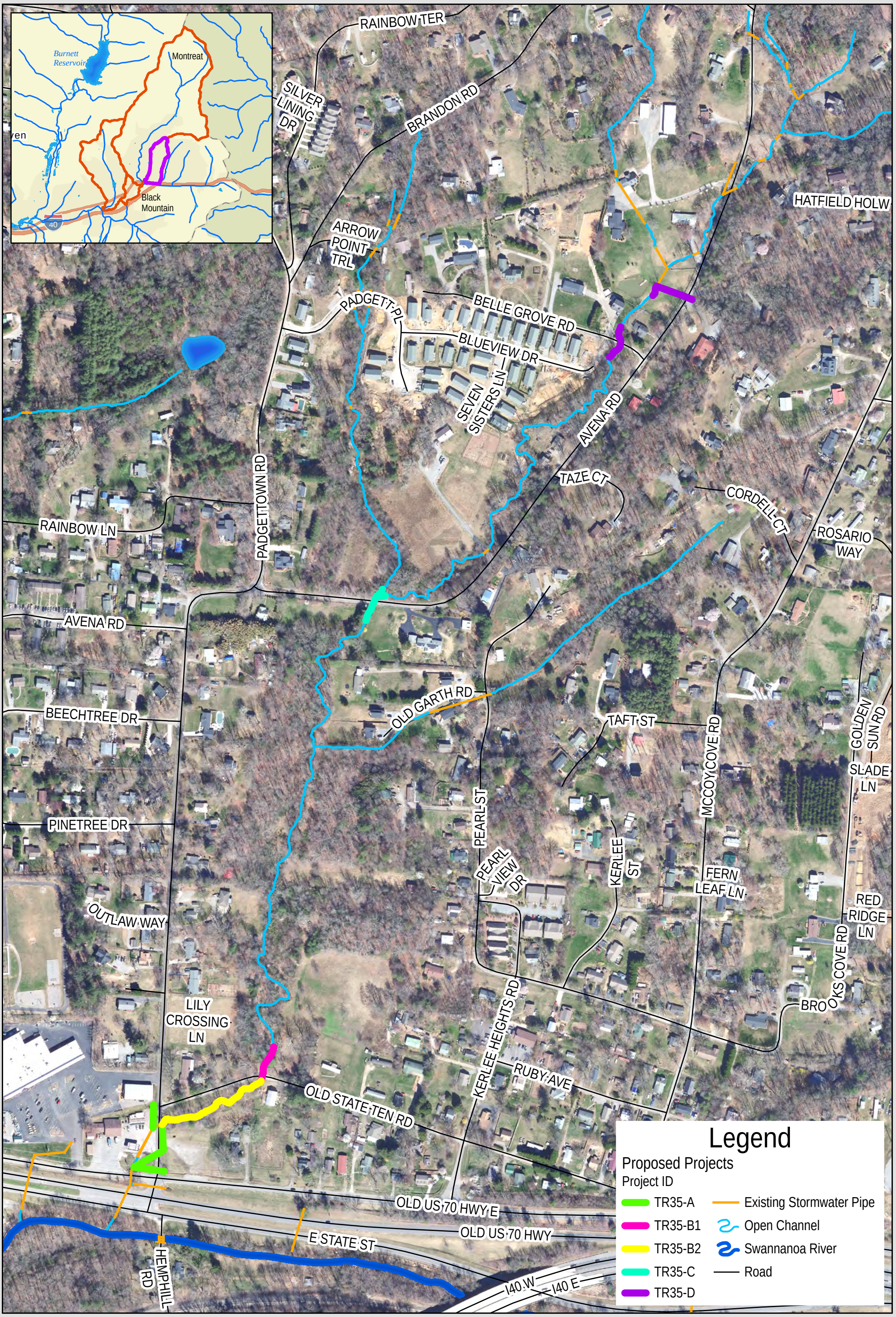
Construction cost includes 30% contingency for planning. Improvements (LF): 50
Proposed project footprints are based on GIS and modeling analyses.
Real estate, if privately-owned land, is estimated based on property value.

CONSTRUCTION COST:

ITEM DESCRIPTION	QUANTITY	UNIT	UNIT COST	AMOUNT
Mobilization	1	LS	$ 12,060.00	$ 12,100.00
Erosion Control	1	LS	$ 8,805.00	$ 8,800.00
Traffic Control	1	LS	$ 3,522.00	$ 3,500.00
Major Utility Conflict	1	LS	$ 52,830.00	$ 52,800.00
Unclassified Excavation/Hauling	60	CY	$ 72.00	$ 4,300.00
Infrastructure Removal and Disposal	50	LF	$ 115.00	$ 5,800.00
Structure Removal and Disposal	-	EA	$ 6,800.00	-
Standard Structure	-	EA	$ 8,600.00	-
Large Structure or Headwall	2	EA	$ 12,000.00	$ 24,000.00
New Pipe: 18-inch to 24-inch	-	LF	$ 390.00	-
New Pipe: 30-inch to 36-inch	-	LF	$ 535.00	-
New Pipe: 42-inch to 54-inch	50	LF	$ 670.00	$ 33,500.00
New Pipe: 60-inch	-	LF	$ 875.00	-
Arch Pipe (22.5" - 31.3")	-	LF	$ 500.00	-
Large RCBC	-	LF	$ 1,700.00	-
Rip Rap	25	TN	$ 50.00	$ 1,300.00
Open Channel Improvements	300	LF	$ 350.00	$ 105,000.00
Roadway/Sidewalk Replacement	20	SY	$ 110.00	$ 2,200.00
New Concrete Curb and Gutter	-	LF	$ 110.00	-
Replace Driveway Culvert Pipe	-	LF	$ 300.00	-
Replace Existing Concrete Driveway	-	SY	$ 120.00	-
			Construction Contingency (30%):	$ 76,000.00
			PLANNING LEVEL OPINION OF CONSTRUCTION COST:	**$ 329,000.00**

PROJECT COST:

PROJECT BUDGET ITEM	% of CONSTRUCTION	AMOUNT
Survey	5%	$ 16,500.00
Design and Permitting	20%	$ 65,800.00
Environmental Permitting	-	$ 65,000.00
Railroad Permitting/Coordination	-	$ -
Geotechnical Investigation	1%	$ 3,300.00
Structural Evaluation	1%	$ 3,300.00
Real Estate	2%	$ 6,600.00
Utility Relocation	2%	$ 6,600.00
Project Maintenance (3yr)	5%	$ 16,500.00
Construction Inspections	10%	$ 32,900.00
Construction	100%	$ 329,000.00
PLANNING LEVEL OPINION OF TOTAL PROJECT COST:		$ 546,000.00



WK DICKSON
AN ARDURRA COMPANY

Figure ES-8: Proposed Stormwater Improvement Projects
AVENA ROAD/TRIBUTARY 35 PRIMARY SYSTEM
Town of Black Mountain Stormwater Master Plan

0 150 300
Feet
1 in = 300 ft

PROJECT NAME: **Padgettown Rd Stormwater Improvements** PROJECT ID: **TR35-A**

PROJECT INFORMATION

LOCATION: Padgettown Rd/US Hwy 70E Intersection
WATERSHED: Tributary 35
STORMWATER PROJECT TYPE: Stormwater Drainage
DRAINAGE IMPROVEMENTS (LF): 460

PROJECT DESCRIPTION

To improve level of service for surrounding roadways and reduce flood risk to nearby property owners:

- Install 145 LF of twin 60-inch RCP by-pass system to depression area south of the gas station.
- Replace existing pipe across Padgettown Road at Old US 70E with twin 48" RCP.
- Excavate and enlarge existing open channel and outfall area downstream of gas station.
- Existing conditions severly limit options to provide desired LOS. An option is presented herein.
- Additional survey and engineering investigation required to determine constructability and achievable LOS.

PROJECT PRIORITIZATION and LEVEL OF SERVICE

CRITERIA	TOTAL SCORE
Utility Conflict	4
Street Flooding	16
Public or Privately-Owned Land	8
Effect of Improvements	15
Cost Effectiveness	15
Grant Bonus	3
Criticality Bonus	1
FINAL PROJECT SCORE:	**62**

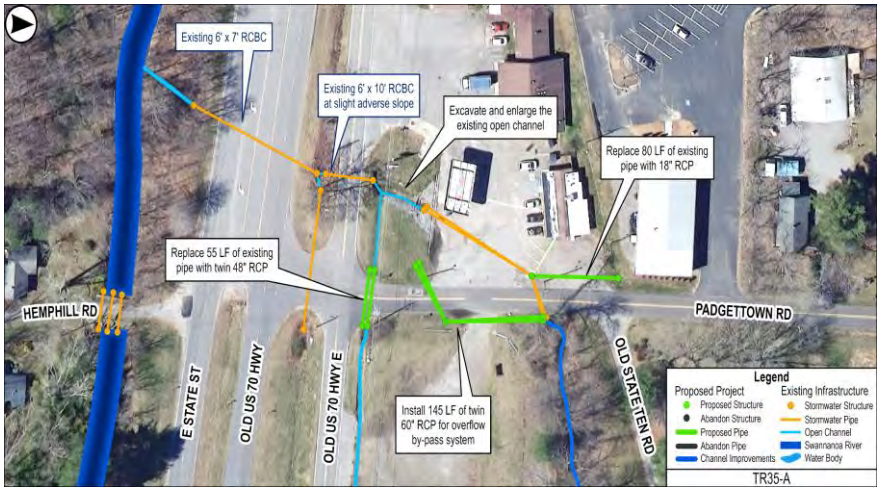
KEY CROSSING	LEVEL OF SERVICE EXISTING	LEVEL OF SERVICE PROPOSED	% REDUCTION 50 YR
Padgettown at Old US70E	2-YR	25-YR	80
Gas Station (Twin 36")	2-YR	10-YR	76
Padgettown Rd (Twin 36")	< 2-YR	10-YR	68
Padgettown Rd (Twin 60")	NA	25-YR	New Crossing

PLANNING LEVEL OPINION OF COST

Construction estimate includes 30% contingency for planning. Design and permitting includes environmental permitting estimates. Proposed project footprints are based on GIS and modeling analyses. Detailed planning level costs are provided separately.

ITEM	COST OPINION
Construction	$ 909,000
Design and Permitting	$ 276,800
Other Project Costs	$ 236,200
Total Project	**$ 1,422,000**

PROJECT AREA MAP



PROJECT NAME **Padgettown Rd Stormwater Improvements** PROJECT ID: **TR35-A**

PROJECT TYPE: Stormwater Drainage WATERSHED: Tributary 35

PLANNING LEVEL COST ESTIMATE

Construction cost includes 30% contingency for planning. Improvements (LF): 460
Proposed project footprints are based on GIS and modeling analyses.
Real estate, if privately-owned land, is estimated based on property value.

CONSTRUCTION COST:

ITEM DESCRIPTION	QUANTITY	UNIT	UNIT COST	AMOUNT
Mobilization	1	LS	$ 33,290.00	$ 33,300.00
Erosion Control	1	LS	$ 24,300.00	$ 24,300.00
Traffic Control	1	LS	$ 9,720.00	$ 9,700.00
Major Utility Conflict	1	LS	$ 145,800.00	$ 145,800.00
Unclassified Excavation/Hauling	770	CY	$ 72.00	$ 55,400.00
Infrastructure Removal and Disposal	125	LF	$ 115.00	$ 14,400.00
Structure Removal and Disposal	-	EA	$ 6,800.00	-
Standard Structure	1	EA	$ 8,600.00	$ 8,600.00
Large Structure or Headwall	5	EA	$ 12,000.00	$ 60,000.00
New Pipe: 18-inch to 24-inch	-	LF	$ 390.00	-
New Pipe: 30-inch to 36-inch	-	LF	$ 535.00	-
New Pipe: 42-inch to 54-inch	90	LF	$ 670.00	$ 60,300.00
New Pipe: 60-inch	290	LF	$ 875.00	$ 253,800.00
Arch Pipe (22.5" - 31.3")	-	LF	$ 500.00	-
Large RCBC	-	LF	$ 1,700.00	-
Rip Rap	25	TN	$ 50.00	$ 1,300.00
Open Channel Improvements	-	LF	$ 350.00	-
Roadway/Sidewalk Replacement	100	SY	$ 110.00	$ 11,000.00
Earthwork	105	CY	$ 90.00	$ 9,500.00
Fine Grading	550	SY	$ 18.00	$ 9,900.00
Plantings	250	SY	$ 7.00	$ 1,800.00
			Construction Contingency (30%):	$ 210,000.00
			PLANNING LEVEL OPINION OF CONSTRUCTION COST:	**$ 909,000.00**

PROJECT COST:

PROJECT BUDGET ITEM	% of CONSTRUCTION	AMOUNT
Survey	5%	$ 45,500.00
Design and Permitting	20%	$ 181,800.00
Environmental Permitting	-	$ 95,000.00
Railroad Permitting/Coordination	-	$ -
Geotechnical Investigation	1%	$ 9,100.00
Structural Evaluation	1%	$ 9,100.00
Real Estate	2%	$ 18,200.00
Utility Relocation	2%	$ 18,200.00
Project Maintenance (3yr)	5%	$ 45,500.00
Construction Inspections	10%	$ 90,900.00
Construction	100%	$ 909,000.00
PLANNING LEVEL OPINION OF TOTAL PROJECT COST:		$ 1,422,000.00

PROJECT NAME: **Old State 10 Rd Culvert Replacement and Stream Stabilization** PROJECT ID: **TR35-B1**

PROJECT INFORMATION

LOCATION: Old State 10 Rd Culvert Crossing
WATERSHED: Tributary 35
STORMWATER PROJECT TYPE: Stormwater Drainage
DRAINAGE IMPROVEMENTS (LF): 160

PROJECT DESCRIPTION

To improve level of service for surrounding roadways and reduce flood risk to nearby property owners:

- Replace existing pipe with 30 LF of twin 4'x6' RCBC under Old State 10 Rd.
- Install 100 LF of upstream channel improvements to accommodate flow into new RCBC.

PROJECT PRIORITIZATION and LEVEL OF SERVICE

CRITERIA	TOTAL SCORE
Utility Conflict	4
Street Flooding	32
Public or Privately-Owned Land	8
Effect of Improvements	10
Cost Effectiveness	20
Grant Bonus	2
Criticality Bonus	1
FINAL PROJECT SCORE:	**77**

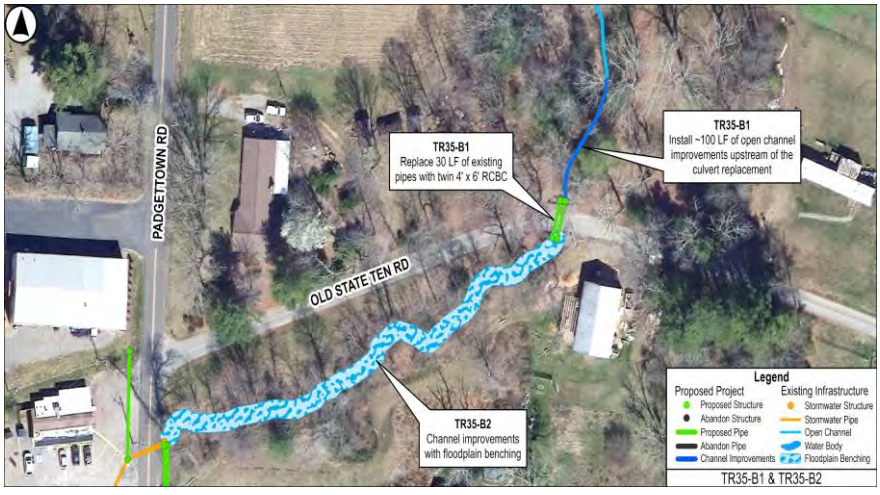
KEY CROSSING	LEVEL OF SERVICE EXISTING	LEVEL OF SERVICE PROPOSED	% REDUCTION 50 YR
Old State 10 Road (Twin 36")	2-YR	25-YR	91

PLANNING LEVEL OPINION OF COST

Construction estimate includes 30% contingency for planning. Design and permitting includes environmental permitting estimates. Proposed project footprints are based on GIS and modeling analyses. Detailed planning level costs are provided separately.

ITEM	COST OPINION
Construction	$ 351,000
Design and Permitting	$ 165,200
Other Project Costs	$ 91,800
Total Project	**$ 608,000**

PROJECT AREA MAP



PROJECT NAME **Old State 10 Rd Culvert Replacement and Stream Stabilization** PROJECT ID: **TR35-B1**

PROJECT TYPE: Stormwater Drainage WATERSHED: Tributary 35

PLANNING LEVEL COST ESTIMATE

Construction cost includes 30% contingency for planning. Improvements (LF): 60
Proposed project footprints are based on GIS and modeling analyses.
Real estate, if privately-owned land, is estimated based on property value.

CONSTRUCTION COST:

ITEM DESCRIPTION	QUANTITY	UNIT	UNIT COST	AMOUNT
Mobilization	1	LS	$ 12,860.00	$ 12,900.00
Erosion Control	1	LS	$ 9,385.00	$ 9,400.00
Traffic Control	1	LS	$ 3,754.00	$ 3,800.00
Major Utility Conflict	1	LS	$ 56,310.00	$ 56,300.00
Unclassified Excavation/Hauling	70	CY	$ 72.00	$ 5,000.00
Infrastructure Removal and Disposal	30	LF	$ 115.00	$ 3,500.00
Structure Removal and Disposal	2	EA	$ 6,800.00	$ 13,600.00
Standard Structure	-	EA	$ 8,600.00	-
Large Structure or Headwall	2	EA	$ 12,000.00	$ 24,000.00
New Pipe: 18-inch to 24-inch	-	LF	$ 390.00	-
New Pipe: 30-inch to 36-inch	-	LF	$ 535.00	-
New Pipe: 42-inch to 54-inch	-	LF	$ 670.00	-
New Pipe: 60-inch	-	LF	$ 875.00	-
Arch Pipe (22.5" - 31.3")	-	LF	$ 500.00	-
Large RCBC	60	LF	$ 1,700.00	$ 102,000.00
Rip Rap	25	TN	$ 50.00	$ 1,300.00
Open Channel Improvements	100	LF	$ 350.00	$ 35,000.00
Roadway/Sidewalk Replacement	30	SY	$ 110.00	$ 3,300.00
New Concrete Curb and Gutter	-	LF	$ 110.00	-
Replace Driveway Culvert Pipe	-	LF	$ 300.00	-
Replace Existing Concrete Driveway	-	SY	$ 120.00	-
			Construction Contingency (30%):	$ 81,000.00
			PLANNING LEVEL OPINION OF CONSTRUCTION COST:	**$ 351,000.00**

PROJECT COST:

PROJECT BUDGET ITEM	% of CONSTRUCTION	AMOUNT
Survey	5%	$ 17,600.00
Design and Permitting	20%	$ 70,200.00
Environmental Permitting	-	$ 95,000.00
Railroad Permitting/Coordination	-	$ -
Geotechnical Investigation	1%	$ 3,500.00
Structural Evaluation	1%	$ 3,500.00
Real Estate	2%	$ 7,000.00
Utility Relocation	2%	$ 7,000.00
Project Maintenance (3yr)	5%	$ 17,600.00
Construction Inspections	10%	$ 35,100.00
Construction	100%	$ 351,000.00
PLANNING LEVEL OPINION OF TOTAL PROJECT COST:		$ 608,000.00

PROJECT NAME: **Tributary 35 Floodplain Benching at Old State 10 Rd** PROJECT ID: **TR35-B2**

PROJECT INFORMATION

LOCATION:	Old State 10 Road near Padgettown Rd	STORMWATER PROJECT TYPE:	Floodplain Benching
WATERSHED:	Tributary 35	DRAINAGE IMPROVEMENTS (LF):	350

PROJECT DESCRIPTION

To improve level of service for surrounding roadways and reduce flood risk to nearby property owners:

- Install approximately 350 LF of channel improvements with floodplain benching to lower WSELs.
- Floodplain benching improvements are located downstream of the proposed RCBC in project TR35-B1.

PROJECT PRIORITIZATION AND PROPERTY REQUIREMENTS

CRITERIA	TOTAL SCORE
Utility Conflict	12
Street Flooding	16
Public or Privately-Owned Land	4
Effect of Improvements	10
Cost Effectiveness	20
Grant Bonus	3
Criticality Bonus	1
FINAL PROJECT SCORE:	**66**

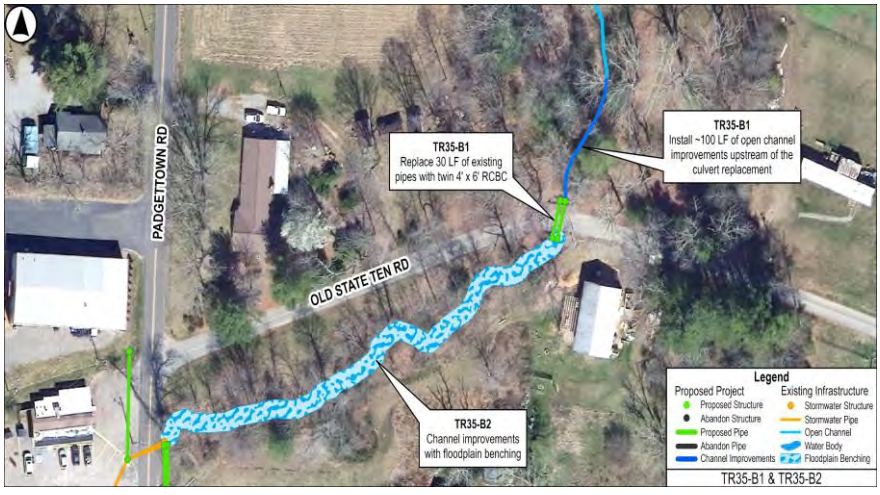
KEY CROSSING	LEVEL OF SERVICE EXISTING	LEVEL OF SERVICE PROPOSED	% REDUCTION 50 YR
Padgettown Rd (Twin 36")	< 2-YR	10-YR	68
Old State 10 Road (Twin 36")	2-YR	25-YR	91

PLANNING LEVEL OPINION OF COST

Construction estimate includes 30% contingency for planning. Design and permitting includes environmental permitting estimates. Proposed project footprints are based on GIS and modeling analyses. Detailed planning level costs are provided separately.

ITEM	COST OPINION
Construction	$ 234,000
Design and Permitting	$ 111,800
Other Project Costs	$ 79,200
Total Project	**$ 425,000**

PROJECT AREA MAP



PROJECT NAME: **Tributary 35 Floodplain Benching at Old State 10** PROJECT ID: **TR35-B2**

PROJECT TYPE: Floodplain Benching WATERSHED: Tributary 35

PLANNING LEVEL COST ESTIMATE

- Construction estimate includes 30% contingency for planning.
- Proposed project footprints are based on GIS and modeling analyses.
- Real estate, if privately-owned land, is estimated based on property value.

CONSTRUCTION COST:

ITEM DESCRIPTION	QUANTITY	UNIT	UNIT COST	AMOUNT
Mobilization	1	LS	$ 9,090.00	$ 9,100.00
Erosion Control	1	LS	$ 8,120.00	$ 8,100.00
Traffic Control	1	LS	$ 3,248.00	$ 3,200.00
Minor Utility Conflict	1	LS	$ 8,120.00	$ 8,100.00
Clearing and Grubbing	390	SY	$ 5.50	$ 2,100.00
Earthwork	0	CY	$ 90.00	$ -
Fine Grading	390	SY	$ 18.00	$ 7,000.00
Structure Removal and Disposal	-	EA	$ 6,800.00	-
Infrastructure Removal and Disposal	-	LF	$ 115.00	-
Stone, Class B	75	TN	$ 92.00	$ 6,900.00
Filter Fabric/Geotextiles	1940	SY	$ 35.00	$ 67,900.00
Plantings	390	SY	$ 7.00	$ 2,700.00
3-gallon Container Plants	95	EA	$ 70.00	$ 6,700.00
Riffle Grade Control	2	EA	$ 4,025.00	$ 8,100.00
Floodplain Tree Removal	1	LS	$ 15,000.00	$ 15,000.00
Log Grade Control Structure	-	EA	$ 4,000.00	-
Pump Around Operation	1	LS	$ 46,000.00	$ 46,000.00
			Construction Contingency (30%):	$ 43,000.00
			PLANNING LEVEL OPINION OF CONSTRUCTION COST:	**$ 234,000.00**

PROJECT COST:

PROJECT BUDGET ITEM	% of CONSTRUCTION	AMOUNT
Survey	5%	$ 11,700.00
Design and Permitting	20%	$ 46,800.00
Environmental Permitting	-	$ 65,000.00
Railroad Permitting/Coordination	-	$ -
Geotechnical Investigation	1%	$ 2,300.00
Structural Evaluation	1%	$ 2,300.00
Real Estate	10%	$ 23,400.00
Utility Relocation	2%	$ 4,700.00
Project Maintenance (3yr)	5%	$ 11,700.00
Construction Inspections	10%	$ 23,400.00
Construction	100%	$ 234,000.00
PLANNING LEVEL OPINION OF TOTAL PROJECT COST:		$ 425,000.00

PROJECT NAME: **Avena Road Culvert Replacement and Stream Stabilizaton** PROJECT ID: **TR35-C**

PROJECT INFORMATION

LOCATION:	Avena Road near Padgettown Rd	STORMWATER PROJECT TYPE:	Stormwater Drainage
WATERSHED:	Tributary 35	DRAINAGE IMPROVEMENTS (LF):	230

PROJECT DESCRIPTION

To improve level of service for surrounding roadways and reduce flood risk to nearby property owners:

- Replace existing pipe with 40 LF of twin 48" RCP across Avena Rd.
- Install approximately 120 LF of stream stabilization measures.

PROJECT PRIORITIZATION and LEVEL OF SERVICE

CRITERIA	TOTAL SCORE
Utility Conflict	12
Street Flooding	32
Public or Privately-Owned Land	8
Effect of Improvements	10
Cost Effectiveness	20
Grant Bonus	2
Criticality Bonus	1
FINAL PROJECT SCORE:	**85**

KEY CROSSING	LEVEL OF SERVICE EXISTING	LEVEL OF SERVICE PROPOSED	% REDUCTION 50 YR
Avena Road	2-YR	25-YR	97

PLANNING LEVEL OPINION OF COST

Construction estimate includes 30% contingency for planning. Design and permitting includes environmental permitting estimates. Proposed project footprints are based on GIS and modeling analyses. Detailed planning level costs are provided separately.

ITEM	COST OPINION
Construction	$ 235,000
Design and Permitting	$ 142,000
Other Project Costs	$ 61,000
Total Project	**$ 438,000**

PROJECT AREA MAP

PROJECT NAME **Avena Road Culvert Replacement and Stream Stabilizaton** PROJECT ID: **TR35-C**

PROJECT TYPE: Stormwater Drainage WATERSHED: Tributary 35

PLANNING LEVEL COST ESTIMATE

Construction cost includes 30% contingency for planning. Improvements (LF): 80
Proposed project footprints are based on GIS and modeling analyses.
Real estate, if privately-owned land, is estimated based on property value.

CONSTRUCTION COST:

ITEM DESCRIPTION	QUANTITY	UNIT	UNIT COST	AMOUNT
Mobilization	1	LS	$ 8,605.00	$ 8,600.00
Erosion Control	1	LS	$ 7,680.00	$ 7,700.00
Traffic Control	1	LS	$ 3,072.00	$ 3,100.00
Minor Utility Conflict	1	LS	$ 7,680.00	$ 7,700.00
Unclassified Excavation/Hauling	120	CY	$ 72.00	$ 8,600.00
Infrastructure Removal and Disposal	40	LF	$ 115.00	$ 4,600.00
Structure Removal and Disposal	1	EA	$ 6,800.00	$ 6,800.00
Standard Structure	-	EA	$ 8,600.00	-
Large Structure or Headwall	2	EA	$ 12,000.00	$ 24,000.00
New Pipe: 18-inch to 24-inch	-	LF	$ 390.00	-
New Pipe: 30-inch to 36-inch	-	LF	$ 535.00	-
New Pipe: 42-inch to 54-inch	80	LF	$ 670.00	$ 53,600.00
New Pipe: 60-inch	-	LF	$ 875.00	-
Arch Pipe (22.5" - 31.3")	-	LF	$ 500.00	-
Large RCBC	-	LF	$ 1,700.00	-
Rip Rap	25	TN	$ 50.00	$ 1,300.00
Open Channel Improvements	150	LF	$ 350.00	$ 52,500.00
Roadway/Sidewalk Replacement	20	SY	$ 110.00	$ 2,200.00
New Concrete Curb and Gutter	-	LF	$ 110.00	-
Replace Driveway Culvert Pipe	-	LF	$ 300.00	-
Replace Existing Concrete Driveway	-	SY	$ 120.00	-
			Construction Contingency (30%):	$ 54,000.00
			PLANNING LEVEL OPINION OF CONSTRUCTION COST:	**$ 235,000.00**

PROJECT COST:

PROJECT BUDGET ITEM	% of CONSTRUCTION	AMOUNT
Survey	5%	$ 11,800.00
Design and Permitting	20%	$ 47,000.00
Environmental Permitting	-	$ 95,000.00
Railroad Permitting/Coordination	-	$ -
Geotechnical Investigation	1%	$ 2,400.00
Structural Evaluation	1%	$ 2,400.00
Real Estate	2%	$ 4,700.00
Utility Relocation	2%	$ 4,700.00
Project Maintenance (3yr)	5%	$ 11,800.00
Construction Inspections	10%	$ 23,500.00
Construction	100%	$ 235,000.00
PLANNING LEVEL OPINION OF TOTAL PROJECT COST:		$ 438,000.00

PROJECT NAME: **Bellgrove Road/Avena Road Stormwater Improvements** PROJECT ID: **TR35-D**

PROJECT INFORMATION

LOCATION: Bellegrove Rd and Avena Rd Culvert Crossings
WATERSHED: Tributary 35
STORMWATER PROJECT TYPE: Stormwater Drainage
DRAINAGE IMPROVEMENTS (LF): 475

PROJECT DESCRIPTION

To improve level of service for surrounding roadways and reduce flood risk to nearby property owners:

- Replace existing pipe with 20 LF of twin 48" RCP under Bellegrove Rd.
- Install approximately 140 LF of stream stabilization measures with the Bellgrove culvert.
- Replace existing pipe with 135 LF of 30" RCP under Avena Rd.
- Install 35 LF of channel improvements downstream of 30" RCP.

PROJECT PRIORITIZATION and LEVEL OF SERVICE

CRITERIA	TOTAL SCORE
Utility Conflict	8
Street Flooding	24
Public or Privately-Owned Land	8
Effect of Improvements	20
Cost Effectiveness	20
Grant Bonus	2
Criticality Bonus	1
FINAL PROJECT SCORE:	**83**

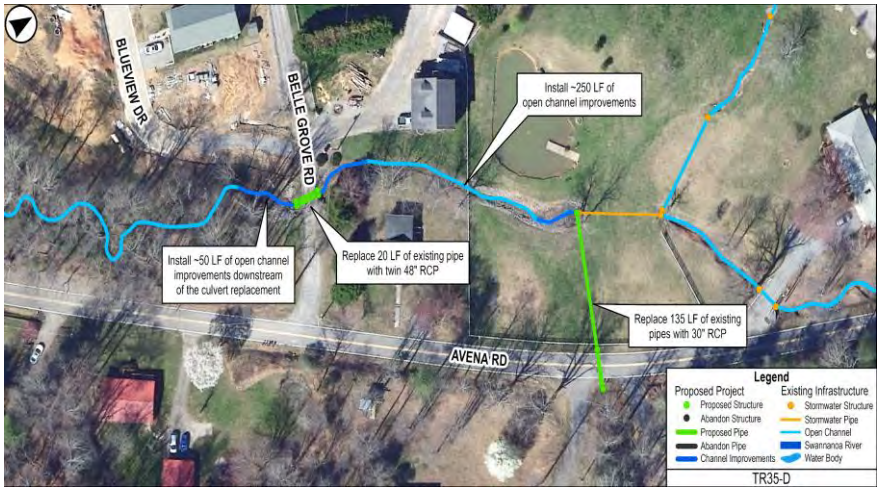
KEY CROSSING	LEVEL OF SERVICE EXISTING	LEVEL OF SERVICE PROPOSED	% REDUCTION 50 YR
Bellegrove Road	2-YR	50-YR	100
Avena Road	2-YR	50-YR	100

PLANNING LEVEL OPINION OF COST

Construction estimate includes 30% contingency for planning. Design and permitting includes environmental permitting estimates. Proposed project footprints are based on GIS and modeling analyses. Detailed planning level costs are provided separately.

ITEM	COST OPINION
Construction	$ 499,000
Design and Permitting	$ 194,800
Other Project Costs	$ 130,200
Total Project	**$ 824,000**

PROJECT AREA MAP



PROJECT NAME **Bellgrove Road/Avena Road Stormwater Improvements** PROJECT ID: **TR35-D**

PROJECT TYPE: Stormwater Drainage WATERSHED: Tributary 35

PLANNING LEVEL COST ESTIMATE

Construction cost includes 30% contingency for planning. Improvements (LF): 175
Proposed project footprints are based on GIS and modeling analyses.
Real estate, if privately-owned land, is estimated based on property value.

CONSTRUCTION COST:

ITEM DESCRIPTION	QUANTITY	UNIT	UNIT COST	AMOUNT
Mobilization	1	LS	$ 18,295.00	$ 18,300.00
Erosion Control	1	LS	$ 14,995.00	$ 15,000.00
Traffic Control	1	LS	$ 5,998.00	$ 6,000.00
Moderate Utility Conflict	1	LS	$ 44,985.00	$ 45,000.00
Unclassified Excavation/Hauling	180	CY	$ 72.00	$ 13,000.00
Infrastructure Removal and Disposal	155	LF	$ 115.00	$ 17,800.00
Structure Removal and Disposal	3	EA	$ 6,800.00	$ 20,400.00
Standard Structure	2	EA	$ 8,600.00	$ 17,200.00
Large Structure or Headwall	2	EA	$ 12,000.00	$ 24,000.00
New Pipe: 18-inch to 24-inch	-	LF	$ 390.00	-
New Pipe: 30-inch to 36-inch	135	LF	$ 535.00	$ 72,200.00
New Pipe: 42-inch to 54-inch	40	LF	$ 670.00	$ 26,800.00
New Pipe: 60-inch	-	LF	$ 875.00	-
Arch Pipe (22.5" - 31.3")	-	LF	$ 500.00	-
Large RCBC	-	LF	$ 1,700.00	-
Rip Rap	25	TN	$ 50.00	$ 1,300.00
Open Channel Improvements	300	LF	$ 350.00	$ 105,000.00
Roadway/Sidewalk Replacement	20	SY	$ 110.00	$ 2,200.00
New Concrete Curb and Gutter	-	LF	$ 110.00	-
Replace Driveway Culvert Pipe	-	LF	$ 300.00	-
Replace Existing Concrete Driveway	-	SY	$ 120.00	-
			Construction Contingency (30%):	$ 115,000.00
			PLANNING LEVEL OPINION OF CONSTRUCTION COST:	**$ 499,000.00**

PROJECT COST:

PROJECT BUDGET ITEM	% of CONSTRUCTION	AMOUNT
Survey	5%	$ 25,000.00
Design and Permitting	20%	$ 99,800.00
Environmental Permitting	-	$ 95,000.00
Railroad Permitting/Coordination	-	$ -
Geotechnical Investigation	1%	$ 5,000.00
Structural Evaluation	1%	$ 5,000.00
Real Estate	2%	$ 10,000.00
Utility Relocation	2%	$ 10,000.00
Project Maintenance (3yr)	5%	$ 25,000.00
Construction Inspections	10%	$ 49,900.00
Construction	100%	$ 499,000.00
PLANNING LEVEL OPINION OF TOTAL PROJECT COST:		$ 824,000.00

WK DICKSON

AN ARDURRA COMPANY

TOWN OF BLACK MOUNTAIN

BLACK MOUNTAIN STORMWATER MASTER PLAN

Draft Report | December 2025

DRAFT

TOWN OF BLACK MOUNTAIN

STORMWATER MASTER PLAN

WK Dickson/Ardurra Project No. 20230691.00.GV

December 2025

Prepared for:
Town of Black Mountain
160 Midland Avenue
Black Mountain, North Carolina 28711

Prepared by:
WK Dickson LLC dba Ardurra Group North Carolina
720 Corporate Center Drive
Raleigh, North Carolina 27607
919-782-0495
NC License Number F-0374

TABLE OF CONTENTS

Table of Contents i
List of Figures ii
List of Tables iii
List of Appendices iii
1. Introduction 1-1
2. Existing Watershed Conditions 2-1
2.1. Existing Conditions Survey and Field Data Collection 2-1
2.2. Hydrology and Flood Zones 2-4
2.3. NOAA Precipitation 2-4
2.4. Land Use and Soils 2-4
3. Existing Stormwater System Analysis 3-1
3.1. Downtown System 3-1
3.2. Tomahawk Branch Watershed 3-5
3.2.1 Primary System 3-5
3.2.2 Secondary System 3-5
3.3. Flat Creek Watershed 3-10
3.4. Tributary 35 / Avena Road Watershed 3-10
3.5. Intense Storm Analyses and Hurricane Helene 3-15
4. Criticality Analysis 4-1
4.1. Project Background 4-1
4.2. Criticality Analysis 4-1
4.3. Operations and Maintenance Recommendations 4-4
4.4. Criticality Analysis as an Ongoing Process 4-4
5. Proposed Capital Improvement Plan 5-1
5.1. Downtown System 5-1
5.2. Tomahawk Branch Watershed 5-5
5.2.1 Primary System 5-5
5.2.2 Secondary System 5-5
5.3. Flat Creek Watershed 5-8
5.4. Tributary 35 / Avena Road Watershed 5-11
5.5. Intense Storm Analysis 5-14
6. Anticipated Permitting 6-1
6.1. NCDEQ Division of Water Resources 401 Water Quality Certification and USACE 404 6-1
NWP#3 – Maintenance 6-1
NWP #13 – Bank Stabilization 6-2
NWP #27 – Stream and Wetland Restoration Activities 6-2
6.2. Individual Permits 6-3
6.3. Federal Emergency Management Agency (FEMA) 6-3
6.4. Erosion and Sedimentation Control 6-3
7. Prioritization and Recommendations 7-1
7.1. Infrastructure Project Prioritization 7-1

7.2. Planning Level Cost Estimates 7-3
7.3. Project Recommendations 7-3
8. Funding Opportunities 8-1
8.1. Clean Water State Revolving Fund (CWSRF) 8-1
8.2. Water Resources Development Grant – State and Local Projects 8-1
8.3. Golden Leaf Flood Mitigation Grant 8-3
8.4. North Carolina Water and Land Fund 8-3
8.5. Environmental Enhancement Grant (EEG) 8-3
8.6. Emergency Watershed Protection 8-3
8.7. Streamflow Rehabilitation Assistance Program 8-4
8.8. Federal Emergency Management Agency (FEMA) 8-4
Building Resilient Infrastructure and Communities (BRIC) 8-4
FEMA Hazard Mitigation Grant (HMGP) 8-4
Flood Mitigation Assistance (Floodplain Buyouts) 8-5
9. References 9-1

List of Figures

Figure 1-1 Project Location Map 1-2
Figure 2-1 Overall Inventory Map 2-2
Figure 2-2 Overall Obstructed Structures Map 2-3
Figure 2-3 Hydrologic Map 2-6
Figure 3-1 Downtown Secondary System 3-2
Figure 3-2 Downtown Existing Conditions Level of Service – North of Railroad 3-3
Figure 3-3 Downtown Existing Conditions Level of Service – South of Railroad 3-4
Figure 3-4 Tomahawk Branch Primary System 3-6
Figure 3-5 Tomahawk Branch Primary System Existing Conditions Level of Service 3-7
Figure 3-6 Tomahawk Branch Secondary System 3-8
Figure 3-7 Tomahawk Branch Secondary System Existing Conditions Level of Service 3-9
Figure 3-8 Flat Creek Primary System 3-11
Figure 3-9 Flat Creek Primary System Existing Conditions Level of Service 3-12
Figure 3-10 Tributary 35/Avena Rd Primary System 3-13
Figure 3-11 Tributary 35/Avena Rd Primary System Existing Conditions Level of Service 3-14
Figure 4-1 Downtown Secondary System – Criticality Analysis Stormwater Pipes 4-5
Figure 4-2 Tomahawk Branch Primary System – Criticality Analysis Stormwater Pipes 4-6
Figure 4-3 Flat Creek Primary System – Criticality Analysis Stormwater Pipes 4-7
Figure 4-4 Tributary 35 / Avena Rd Primary System – Criticality Analysis Stormwater Pipes 4-8
Figure 5-1 Downtown Secondary System Proposed Projects 5-2
Figure 5-2 Downtown Proposed Conditions Level of Service – North of Railroad 5-3
Figure 5-3 Downtown Proposed Conditions Level of Service – South of Railroad 5-4
Figure 5-4 Tomahawk Branch Primary System Proposed Projects 5-6

Figure 5-5 Tomahawk Branch Primary System Proposed Conditions Level of Service 5-7
Figure 5-6 Flat Creek Primary System Proposed Projects 5-9
Figure 5-7 Flat Creek Primary System Proposed Conditions Level of Service 5-10
Figure 5-8 Tributary 35/Avena Rd Primary System Proposed Projects 5-12
Figure 5-9 Tributary 35/Avena Rd Primary System Proposed Conditions Level of Service 5-13

List of Tables

Table 2.1: Inventory Summary – Closed System Structures 2-1
Table 2.2: Inventory Summary – Pipes 2-1
Table 2.3: NOAA Rainfall Depths 2-4
Table 2.4: Watershed Characteristics Summary 2-5
Table 3.1: Downtown Secondary System - Existing Conditions Level Of Service 3-1
Table 3.2: Tomahawk Primary System - Existing Conditions Level Of Service 3-5
Table 3.3: Tomahawk Secondary System - Existing Conditions Level Of Service 3-5
Table 3.4: Flat Creek Primary System - Existing Conditions Level Of Service 3-10
Table 3.5: Tributary 35 Primary System - Existing Conditions Level Of Service 3-10
Table 3.6: NOAA Rainfall Depths - 6 Hr Storms 3-15
Table 4-1: Stormwater Pipes Scoring Summary And Distribution 4-2
Table 4.2: Stormwater Structures Scoring Summary And Distribution 4-3
Table 5.1: Downtown Secondary System - Proposed Level Of Service 5-1
Table 5.2: Tomahawk Primary System - Existing Conditions Level Of Service 5-5
Table 5.3: Tomahawk Secondary System Recommended Improvement Areas 5-5
Table 5.4: Flat Creek Primary System - Proposed Level Of Service 5-8
Table 5.5: Tributary 35 Primary System - Proposed Level Of Service 5-11
Table 6.1: Anticipated Permitting Matrix For Proposed Projects 6-4
Table 7.3. Proposed Cip Planning Cost And Prioritization Summary 7-4
Table 8.1. Funding Opportunities 8-2

List of Appendices

Appendix A Obstructed Structures and Inventory Maps
Appendix B Hydrologic Analysis
Appendix C Hydraulic Analysis
Appendix D Criticality Analysis
Appendix E Proposed Project Cut Sheets/Planning Costs

1. INTRODUCTION

The Town of Black Mountain (Town) Stormwater Master Plan (SWMP) is funded by a Local Assistance for Stormwater Infrastructure Investments (LASII) from the American Rescue Plan Act (ARPA). The purpose of the SWMP is to develop a GIS map of the Town's stormwater system, identify flooding issues, assess the existing conveyance system capacity and infrastructure condition, develop and prioritize flood reduction projects, and establish an implementation strategy for the recommended capital infrastructure projects.

The Study Area for the SWMP includes the following:

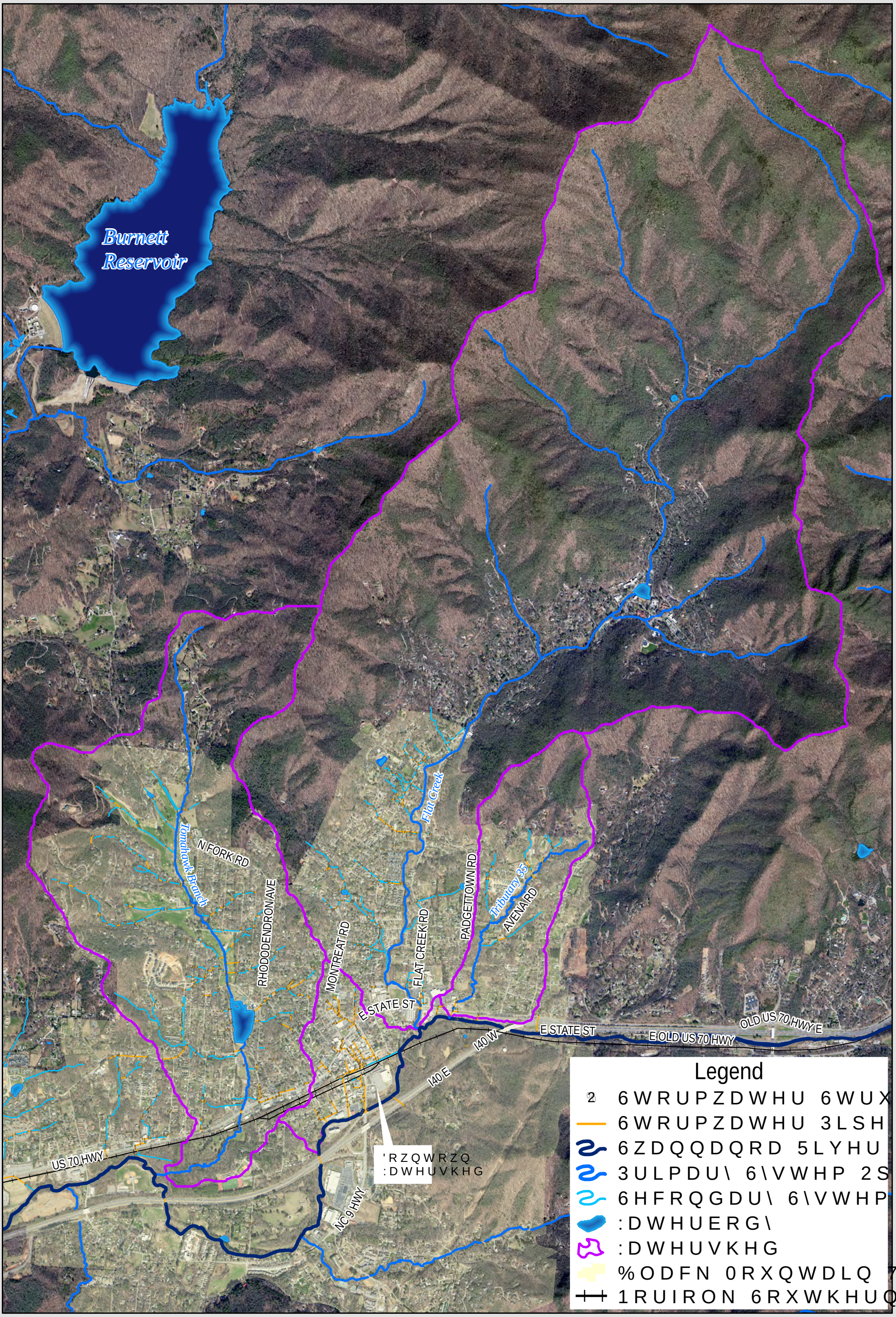
- Secondary stormwater conveyance system in the Downtown corridor,
- Tomahawk Branch watershed, both the primary system culvert crossings and the secondary stormwater conveyance system located in the surrounding residential areas of Lake Tomahawk,
- Flat Creek Tributary 1 primary system culvert crossings in the vicinity of Portmanvilla, Sixth, and Seventh Street roads, and
- Tributary 35 (of the Swannanoa River) primary system culvert crossings in the vicinity of Avena and Padgettown roads.

The watersheds within the Town are all tributary to the Swannanoa River. In some cases, the closed system stormwater outfalls are located very closely to or directly into the Swannanoa River. As shown in Exhibit 1, the main outfall for the downtown commercial area from Broadway Street and westward is a corrugated plastic 18-inch pipe outfall to an open channel. This open channel runs parallel to Sutton Avenue from Broadway Street down to its confluence with the Swannanoa River, collecting runoff from the downtown corridor north of the railroad via four additional outfalls.

Exhibit 1
18-inch CPP outlet to Sutton Ave Open Channel

Based on historical records obtained from the National Oceanic and Atmospheric Administration (NOAA) online national climate data service[1], Hurricane Helene brought over 14 inches of rainfall in a span of three days to the mountains in September 2024, resulting in catastrophic flooding along the Swannanoa River corridor. Many roadways and bridges within the Town of Black Mountain were impacted. As a result, the Town desired to develop projects that would meet the 50-year level of service where feasible. All proposed projects were evaluated and developed with this goal. However, there are a few areas where downstream hydraulic conditions and/or available cover prevent this level of flood reduction.

The Study Area for the Town's SWMP is shown in Figure 1-1.



)LJXUH 3URMHFW /RFDWLRQ

72:1 2) %/$&. 02817$,1 1&)HHW

7RZQ RI %ODFN 0RXQWDLQ 6WRUPZDWHU 0DS

2. EXISTING WATERSHED CONDITIONS

2.1. Existing Conditions Survey and Field Data Collection

Stormwater utility infrastructure throughout the Town was collected by Kee Mapping and Survey (Kee) personnel to compile a GIS stormwater inventory database for the Town. This was accomplished by using survey-grade Global Positioning Systems (GPS) as the primary means of data capture to locate the x, y, and z coordinates of each visible stormwater system structure. Conventional surveying techniques were used to obtain attributes, including but not limited to size, material, slope, and length. All coordinate system data were collected using horizontal datum NAD 1983 and vertical datum NAVD 1988. A total of 1195 closed system structures were surveyed and/or inventoried. Figure 2-1 shows the Town's surveyed and inventoried stormwater system. A summary of closed system structures is noted in Table 2.1.

TABLE 2.1: INVENTORY SUMMARY – CLOSED SYSTEM STRUCTURES

STRUCTURE TYPE	NUMBER SURVEYED
Culvert Pipe Ends	505
Closed System Pipe Ends	126
Inlets	247
Junction Boxes	52
Manholes	14
Unknown Structures	251

As noted in Table 2.1, there are a significant number of unknown structures. These were included when field crews found different pipe sizes and/or materials between surveyed stormwater structures. CCTV will be required to obtain additional information on stormwater systems with unknown structures prior to any project design and construction.

Additionally, numerous structures were found to be obstructed with sediment and/or debris during the field data collection. These are identified in the stormwater inventory GIS geodatabase provided to the Town and are also shown in Figure 2-2. Obstructed structures by watershed are provided in Appendix A.

Over 46,500 linear feet of pipe were also collected as part of the Town's infrastructure inventory. Unknown pipe sizes were documented because of difficult access or obstructed structures. A summary of the Town's infrastructure is noted in Table 2.2 and shown in Figure 2-1.

TABLE 2.2: INVENTORY SUMMARY – PIPES

PIPE DIAMETER	% OF INVENTORY
<= 15-inch	28%
18- to 24-inch	30%
30- to 36-inch	10%
42- to 90-inch	3%
Pipe Size Unknown	29%

An additional 108,000 linear feet of open channel are included in the Town inventory as identified by the survey or in GIS for connectivity.

Tomahawk Branch
Flat Creek
Tributary 35
MONTREAT RD
OLD US 70 HWY E
E STATE ST
W STATE ST
OLD US 70 HWY
US 70 HWY
I40 W
NC 9 HWY TO I40 W
I40 E
NC 9 HWY

Legend

Stormwater Structures
- Inlet
- Junction Box
- Manhole
- Pipe End
- Unsurveyed Structure

Stormwater Pipe
Swannanoa River
Primary System Open Channel
Secondary System Open Channel
Waterbody
Watershed
Norfolk Southern Railroad

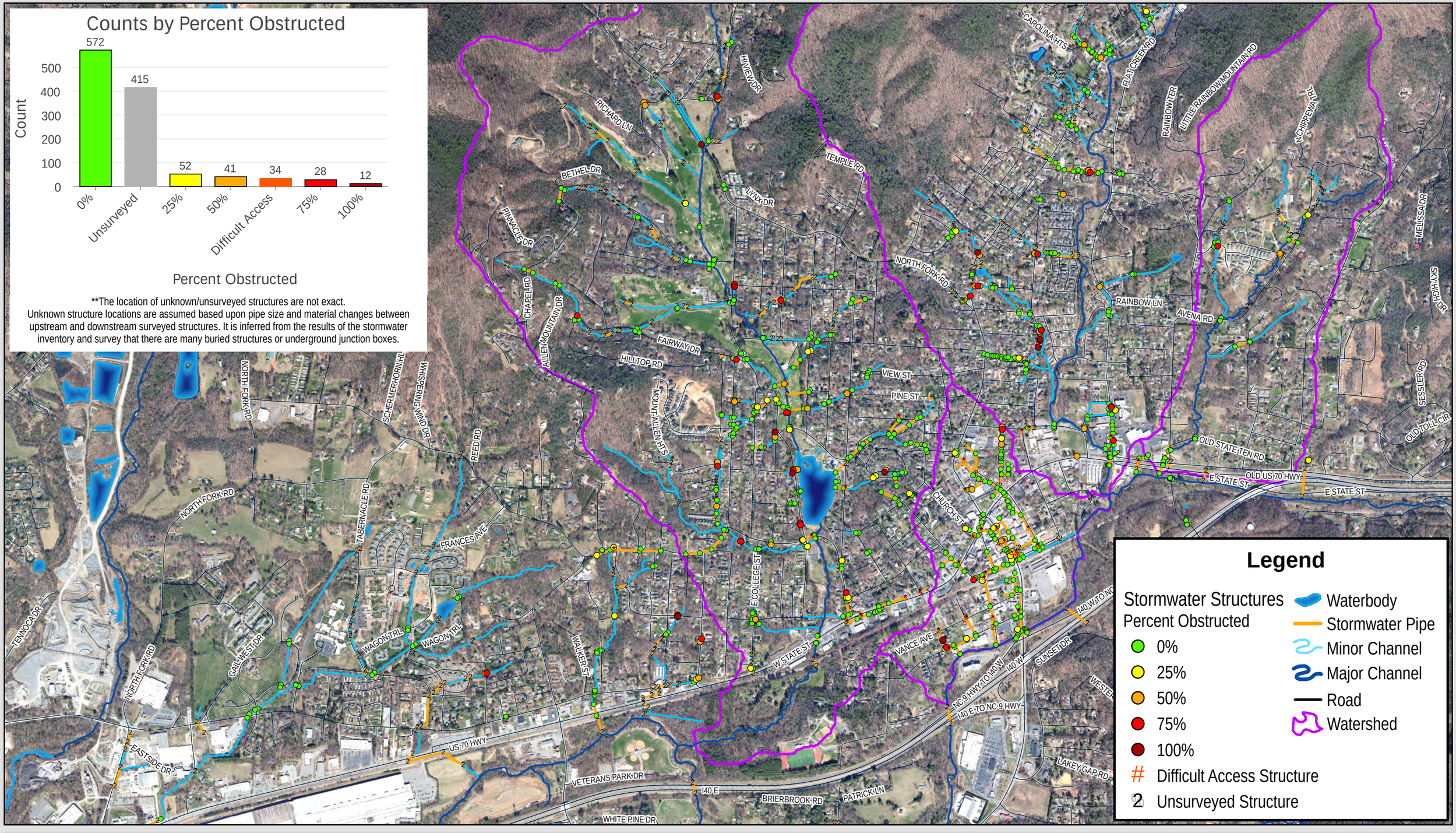
WK DICKSON
AN ARDURRA COMPANY

Figure 2-1: Stormwater Inventory
TOWN OF BLACK MOUNTAIN, NC
Town of Black Mountain Stormwater Master Plan

0 600 1,200
Feet
1 in = 1,200 ft

N
W E
S

**The location of unknown/unsurveyed structures are not exact.
Unknown structure locations are assumed based upon pipe size and material changes between upstream and downstream surveyed structures. It is inferred from the results of the stormwater inventory and survey that there are many buried structures or underground junction boxes.



Legend

Stormwater Structures
Percent Obstructed
- 0%
- 25%
- 50%
- 75%
- 100%
- # Difficult Access Structure
- 2 Unsurveyed Structure

- Waterbody
- Stormwater Pipe
- Minor Channel
- Major Channel
- Road
- Watershed

WK DICKSON
AN ARDURRA COMPANY

TOWN OF BLACK MOUNTAIN 1893 NORTH CAROLINA

Figure 2-2: Obstructed & Difficult Access Stormwater Structures
TOWN OF BLACK MOUNTAIN, NC
Town of Black Mountain Stormwater Master Plan

0 1,250 2,500 Feet

1 in = 1,250 ft

N

2.2. Hydrology and Flood Zones

The Town is generally located north of I-40 and the Swannanoa River. The Town primarily encompasses three tributaries to the Swannanoa River: Tomahawk Branch, Flat Creek, and Tributary 35 (of the Swannanoa River), as identified by Federal Emergency Management Agency (FEMA). Known flooding locations from the Town's 2022 Stormwater Master Plan Update[2] and meetings with Town staff were used to identify areas to model and evaluate the Town's existing stormwater conveyance system.

Additionally, FEMA models for Tomahawk Branch, Flat Creek, Tributary 35, and the Swannanoa River were downloaded from the North Carolina Flood Risk Information System (FRIS)[3] system and the bridge data and water surface elevations were used in modeling and evaluating the primary open channel systems.

The hydrologic make-up of the Town is shown in Figure 2-3.

2.3. NOAA Precipitation

Precipitation data were obtained from National Oceanic and Atmospheric Administration (NOAA). 24-hour precipitation depths as shown in Table 2.2 were obtained from NOAA Atlas 14, Volume 2, Version 3 for the Town's North Fork 2 Station (Station ID 31-6236)[4]. This station was chosen as the basis for the storm events as it is located at a high elevation in the mountains and is representative of the intensity and depth of rainfall coming off the mountains and draining down to the Town proper.

TABLE 2.3: NOAA RAINFALL DEPTHS

RECURRENCE INTERVAL	ANNUAL EXCEEDANCE PROBABILITY	NOAA 24-HOUR RAINFALL DEPTH (in)
2-YR, 24HR	5%	3.39
10-YR, 24HR	10%	5.00
25-YR, 24HR	4%	5.98
50-YR, 24HR	2%	6.76
100-YR, 24HR	1%	7.57

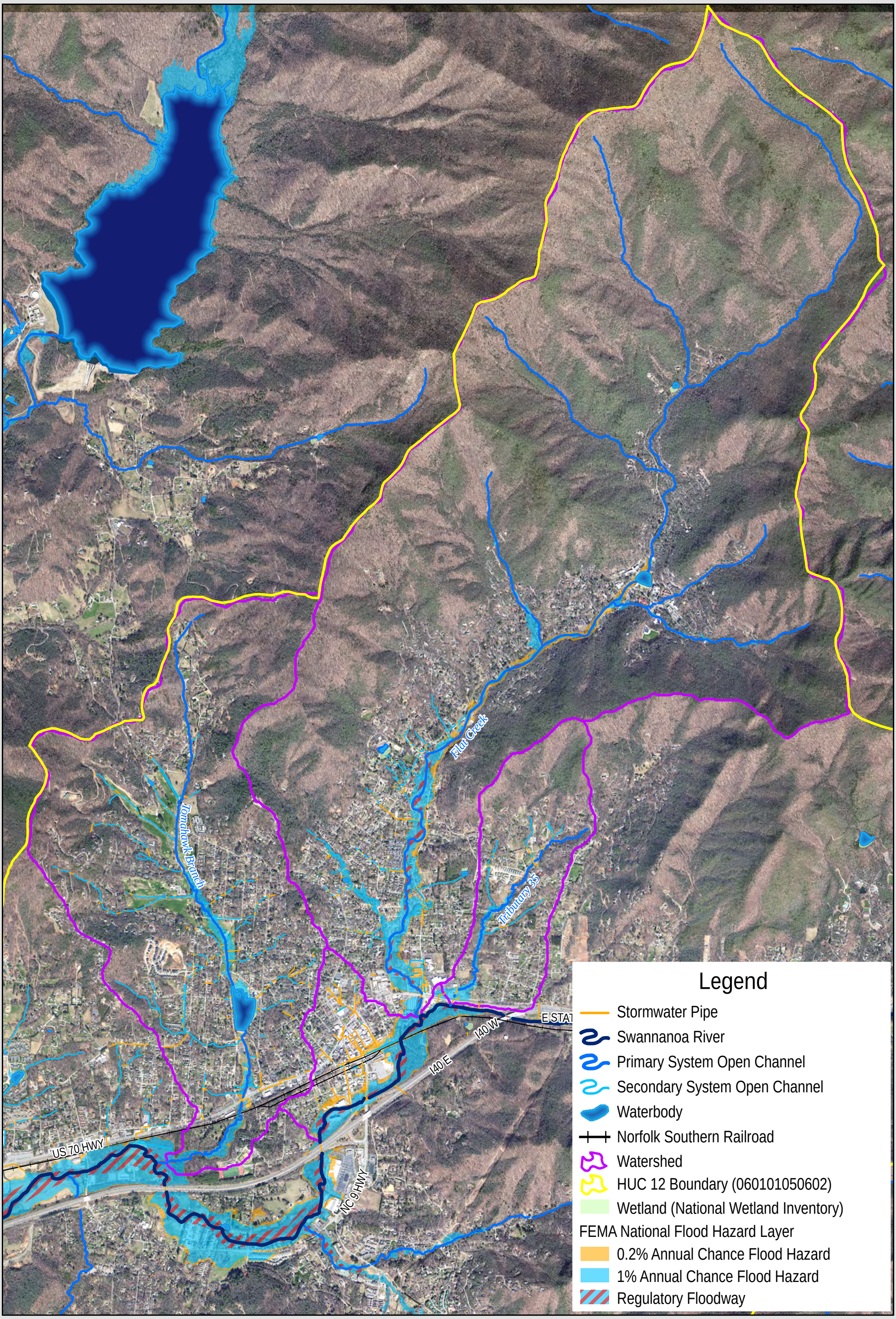
2.4. Land Use and Soils

The Town has a mix of land uses, including substantial low intensity residential development, forested areas in the upper parts of Flat Creek, and significant commercial development in the downtown corridor. There are some on-going residential developments in the upper parts of the Tomahawk Branch and Tributary 35 watersheds. These developments were included as existing land use for the watershed characterization. For example, the Tudorcroft development in Tomahawk Branch was incorporated into the existing land use data set. The Town has a very well-developed impervious land cover dataset provided by Raftelis that was also incorporated into the watershed characterization. For the purposes of the modeled watersheds, the current land use was assumed to be the future land use.

General characteristics of the modeled watersheds are noted in Table 2.2. Overall land use and soils maps for the Town as well as additional detail on the hydrologic parameterization[5,6] of the watershed models is provided in Appendix B.

TABLE 2.4: WATERSHED CHARACTERISTICS SUMMARY

WATERSHED	DRAINAGE AREA (SQ MI)	PRIMARY LAND USE	WATERSHED PERCENT IMPERVIOUSNESS	PRIMARY HYDROLOGIC SOIL GROUP
Study Area	8.68	Forest	9.4%	B
Downtown	0.23	Impervious	52.6%	B and D
Tomahawk Branch	1.93	Low Intensity Residential	15.3%	B
Flat Creek	6.04	Deciduous Forest	5.9%	B and A
Tributary 35	0.48	Low Intensity Residential	12.4%	B



WK DICKSON
AN ARDURRA COMPANY

Figure 2-3: Hydrology
TOWN OF BLACK MOUNTAIN, NC
Town of Black Mountain Stormwater Master Plan

0 1,000 2,000 Feet

1 in = 2,000 ft

N
W E
S

3. EXISTING STORMWATER SYSTEM ANALYSIS

The purpose of the stormwater system analysis is to determine the existing level of service for the Town's mapped stormwater conveyance system and to develop proposed solutions to mitigate flooding. The Town's stormwater system was modeled in 1D PCSWMM. PCSWMM analyzes both the hydrologic watershed conditions and the conveyance hydraulics. Bridge data for primary systems was imported from corresponding FEMA models. Additional information on the hydraulic analyses and input data[7] is provided in Appendix C. A hard copy of the PCSWMM input/output is available upon request. A summary of the existing conditions for each watershed is noted below.

3.1. Downtown System

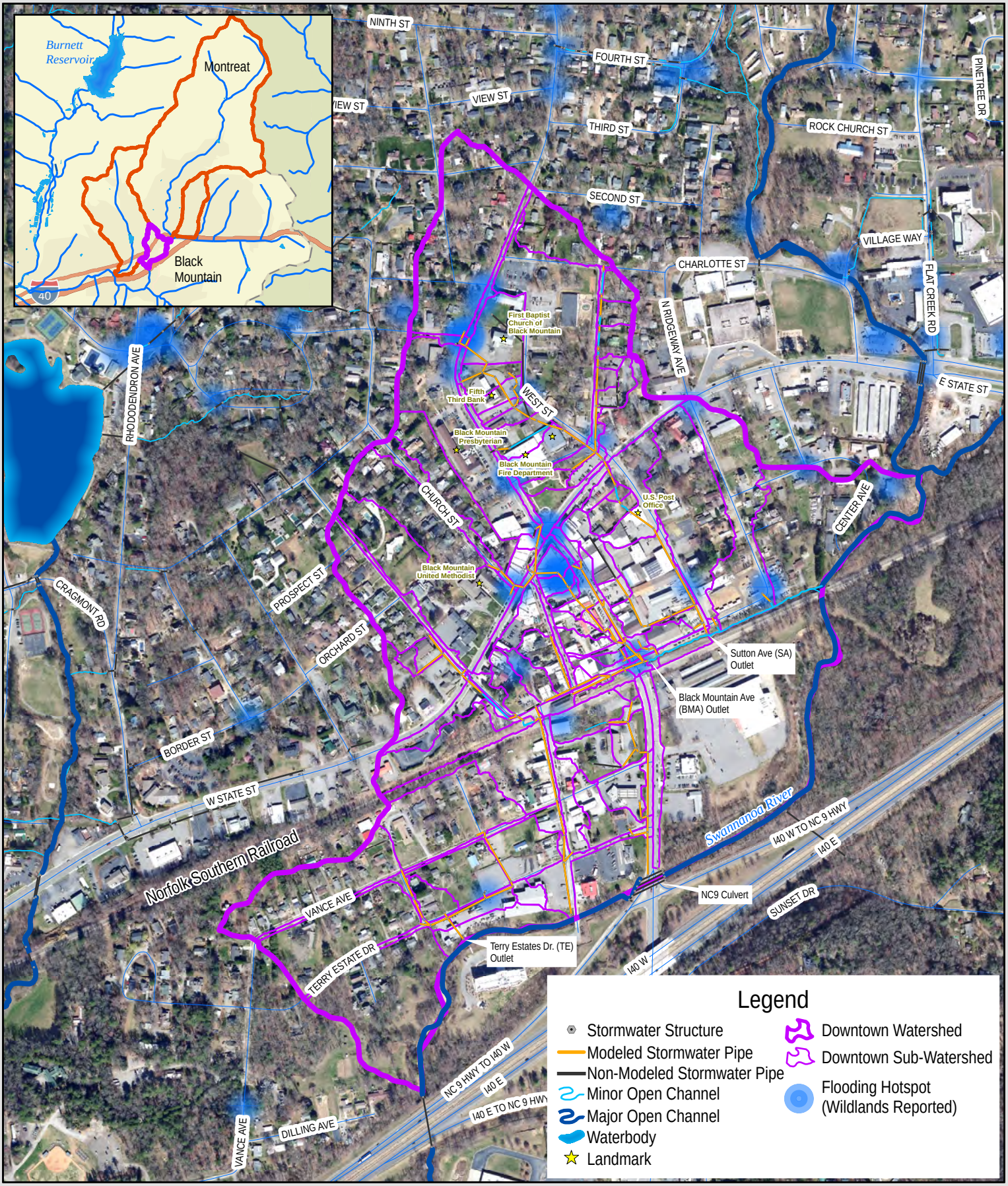
The downtown stormwater conveyance system consists of a significant amount of aged infrastructure that runs between public and private property. Several systems have pipes that convey public water underneath commercial and government buildings. The existing downtown stormwater, shown in Figure 3-1, has four primary outlets (three direct to the Swannanoa River and one to an open channel paralleling the railroad and Sutton Ave to the Swannanoa River). These are noted as the Sutton Ave outlet (SA), NC Highway 9 outlet (NC9), Black Mountain Ave outlet (BMA), and Terry Estates Drive outlet (TE).

Figure 3-1 also indicates locations of previously documented flooding issues at the intersection of Broadway and Sutton and along the following roads: W State St, West St, Montreat Rd, Richardson Blvd, Midland Ave, and Terry Estates Dr.

Model results for the existing system level of service are noted in Figures 3-2 and 3-3. The level of service for key locations in the downtown corridor is noted in Table 3.1.

TABLE 3.1: DOWNTOWN SECONDARY SYSTEM - EXISTING CONDITIONS LEVEL OF SERVICE

ROADWAY CROSSING	EXISTING PIPE	EXISTING SYSTEM LEVEL OF SERVICE
NORTH OF RAILROAD		
Sutton Ave (east of Cherry St)	15" RCP	< 2-YR
Sutton Ave (at Broadway St)	15" CMP	< 2-YR
Broadway St (north of Sutton Ave)	24" RCP	2-YR
Richardson Blvd (2 crossings at Sutton Ave)	30" RCP / 15" HDPE	< 2-YR
S. Ridgeway Dr (at Sutton Ave)	15" HDPE	< 2-YR
W. State St (at Church St)	18" RCP	< 2-YR
W. State St (at Cherry St)	18" VCP and PVC	< 2-YR
Cherry St (at W. State St)	18" RCP	< 2-YR
W. State St (at Broadway St)	18" and 24" RCP	2-YR
E. State St (at Richardson Blvd)	15" VCP	< 2-YR
Police Station (pipe under building)	15" RCP	< 2-YR
SOUTH OF RAILROAD		
Railroad Crossing - S. Dougherty St	12" VCP	< 2-YR
Black Mountain Ave (at Terry Estates Dr)	12" CMP	< 2-YR
Terry Estates Dr (5 crossings)	12" and 15" CPP	< 2-YR



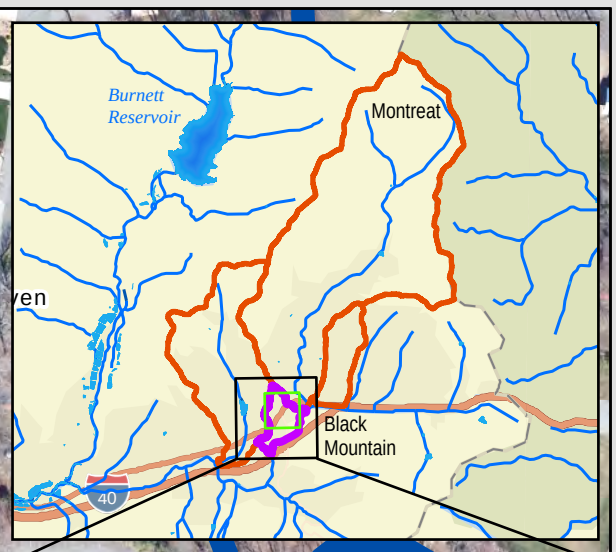
WK DICKSON
AN ARDURRA COMPANY

Figure 3-1: Downtown Secondary System
Town of Black Mountain Stormwater Master Plan

0 300 600 Feet
1 inch = 600 feet

N
W E
S

Sutton Avenue / Richardson Boulevard Outfall Systems	
ROADWAY	LEVEL OF SERVICE
Sutton Ave at S. Ridgeway Ave	< 2-YR
2 Sutton Ave at Richardson Blvd Crossings	< 2-YR
East State St at Richardson Blvd	< 2-YR
System between Montreat Rd and West St	2-YR
System along West Street at the Police Station	< 2-YR
Laurel Circle Dr at Montreat Rd	< 2-YR
West Street at Midland Ave	2-YR
First St at Midland Ave	2-YR
Sutton Ave east of NC 9	25-YR
Sutton Ave and Broadway St intersection	< 2-YR
Cherry St at Sutton Ave	< 2-YR
System along west side of Broadway St	< 2-YR
Cherry St at West State St	2-YR
West State St at Church St	< 2-YR
Church St at West State St	< 2-YR
Church St	< 2-YR
Montreat Rd at East State St	< 2-YR
24" System in Broadway to Cherry St	2-YR
24" System in Broadway north of Cherry St	25-YR



SECOND ST
N RIDGEWAY AVE
LAUREL CIRCLE DR
WEST ST
Police Station
HONEYCUTT ST
MONTREAT RD
CHURCH ST
BROADWAY ST
E STATE ST
U.S. Post Office
S RICHARDSON BLVD
S RIDGEWAY AVE
SCOTLAND ST
CENTER AVE
W STATE ST
CHERRY ST
SUTTON AVE
NC 9 HWY
Modeled as overland flow between pipes. No defined channel.
Norfolk Southern Railway

Legend

Stormwater Pipe Level of Service

- <2-YR
- 2-YR
- 10-YR
- 25-YR
- Modeled Open Channel
- Non-Modeled Pipe*
- Non-Modeled Swannanoa NC9 HWY Culvert

Stormwater Structures

- Pipe End
- Inlet
- Assumed Underground Junction Box
- Manhole
- Unsurveyed Structure
- Swannanoa River
- Norfolk Southern Railway

Evidence of pipe in the field; survey/inventory data not sufficient enough to model

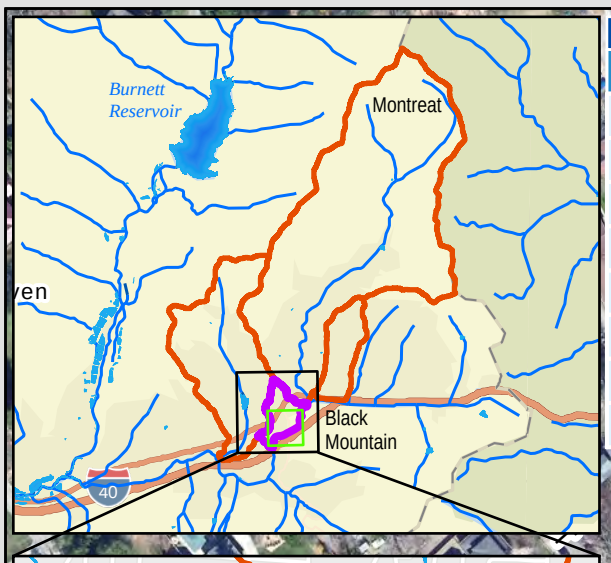
WK DICKSON
AN ARDURRA COMPANY

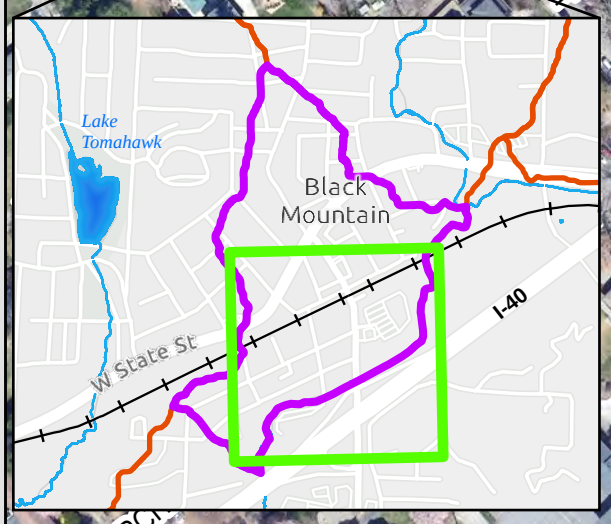
Figure 3-2: Existing Conditions Level of Service
DOWNTOWN (NORTH) DRAINAGE SYSTEM
Town of Black Mountain Stormwater Master Plan

0 100 200 Feet

1 in = 200 ft

N
W E
S





Black Mountain Avenue Outfall System	
ROADWAY	LEVEL OF SERVICE
Terry Estate Dr at Black Mtn Ave	< 2-YR
Black Mountain Ave at Terry Estate Dr	< 2-YR
Vance Ave at Black Mtn Ave	< 2-YR
Railroad Tracks at Black Mtn Ave	< 2-YR
S. Dougherty St at Black Mtn Ave	25-YR
S. Dougherty St Bend	< 2-YR
West State St (US 70)	25-YR
N. Dougherty St at West State St	25-YR

NC 9 Outfall System	
ROADWAY	LEVEL OF SERVICE
Terry Estate Dr west of NC 9	< 2-YR
Terry Estate Dr at NC 9	25-YR
Vance Ave at NC 9	25-YR
Vance Ave west of NC 9	2-YR

Bridge Street / Terry Estate Outfall System	
ROADWAY	LEVEL OF SERVICE
3 Terry Estate Dr Crossings near Bridge St	< 2-YR
2 Terry Estate Dr Crossings east of Bridge St	< 2-YR
Vance Ave at Bridge St	10-YR
Vance Ave near Spring St	2-YR

Modeled as overland flow between pipes. No defined channel.

Legend

Stormwater Pipe Level of Service

- <2-YR
- 2-YR
- 10-YR
- 25-YR
- Modeled Open Channel
- Non-Modeled Pipe*
- Non-Modeled Swannanoa NC9 HWY Culvert

Stormwater Structures

- Pipe End
- Inlet
- Assumed Underground Junction Box
- Manhole
- Unsurveyed Structure
- Swannanoa River
- Norfolk Southern Railway

*Evidence of pipe in the field; survey/inventory data not sufficient enough to model

WK DICKSON
AN ARDURRA COMPANY

Figure 3-3: Existing Conditions Level of Service
DOWNTOWN (SOUTH) DRAINAGE SYSTEM
Town of Black Mountain Stormwater Master Plan

0 100 200 Feet
1 in = 200 ft

3.2. Tomahawk Branch Watershed

3.2.1 Primary System

Tomahawk Branch watershed is 1.93 square miles and encompasses several residential developments around Tomahawk Lake as shown in Figure 3-4. Known flooding locations along the primary system are concentrated at Laurel Circle Dr and Hiawassee Ave. Model results for the existing system level of service are noted in Figure 3-5. The level of service for key locations is noted in Table 3.2.

TABLE 3.2: TOMAHAWK PRIMARY SYSTEM - EXISTING CONDITIONS LEVEL OF SERVICE

ROADWAY CROSSING	EXISTING PIPE	EXISTING SYSTEM LEVEL OF SERVICE
Laurel Circle Dr (north of Lake Tomahawk)	Triple Arch CMP Culvert	< 2-YR
Cragmont Rd (south of Lake Tomahawk)	Twin 90" CMP Culvert	50-YR
W. State St	Twin 7' x 10' RCBC*	50-YR
Swannanoa Ave (south of Cragmont Rd)	30" CMP / 48" CMP	2-YR

**Reinforced Concrete Box Culvert*

3.2.2 Secondary System

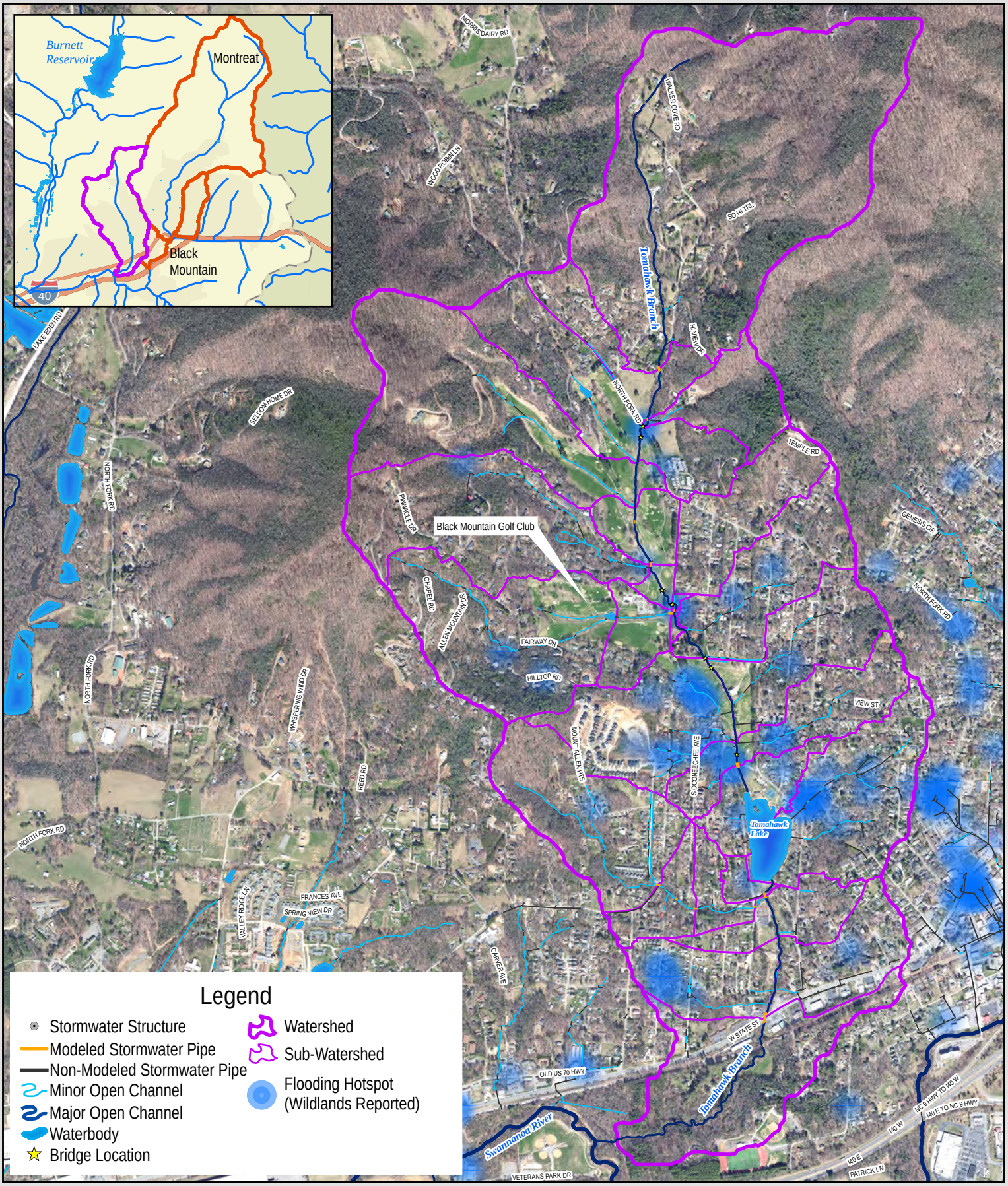
There are multiple secondary systems that drain to Tomahawk Branch north of Tomahawk Lake and directly to the lake itself as noted in Figure 3-6. 0.3 square miles of secondary system drainage area was modeled with seven (7) outfalls to Tomahawk Branch upstream of the lake and four (4) outfalls directly to Tomahawk Lake. One small system across Walnut St at Tomahawk Ave was also included in the secondary system model with an outlet to an open channel on the west side of Tomahawk Ave.

Runoff from the Tudorcroft residential development in the upper parts of the watershed have been a concern for downstream residents. Previously documented flooding locations are shown in Figure 3-6.

Model results for the existing system level of service are noted in Figure 3-7. The level of service for key locations is noted in Table 3.3.

TABLE 3.3: TOMAHAWK SECONDARY SYSTEM - EXISTING CONDITIONS LEVEL OF SERVICE

ROADWAY CROSSING	EXISTING PIPE	EXISTING SYSTEM LEVEL OF SERVICE
Stream crossing Byrd Rd, Hiawassee Ave, and S. Oconeechee Ave	18" and 24" CMP	< 2-YR
Tomahawk Ave (downstream of above system)	36" CMP	2-YR
Hiawassee Ave at Fairway Dr	18" CMP/HDPE	< 2-YR
Tomahawk Ave (just north of Fairway Dr)	18" CPP	2-YR
Tomahawk Ave and Hickory St	15" CPP/18" CMP	2-YR
Rhododendron Ave (at Eighth St)	24" CMP	2-YR
Rhododendron Ave (at Laurel Circle Dr to Lake)	24" CMP	< 2-YR
Azalea Ave (north of Ninth St)	18" CPP	< 2-YR
9th St (west of Azalea Ave)	18" CPP	< 2-YR
Laurel Ave (south of 9th St)	36" CMP	2-YR

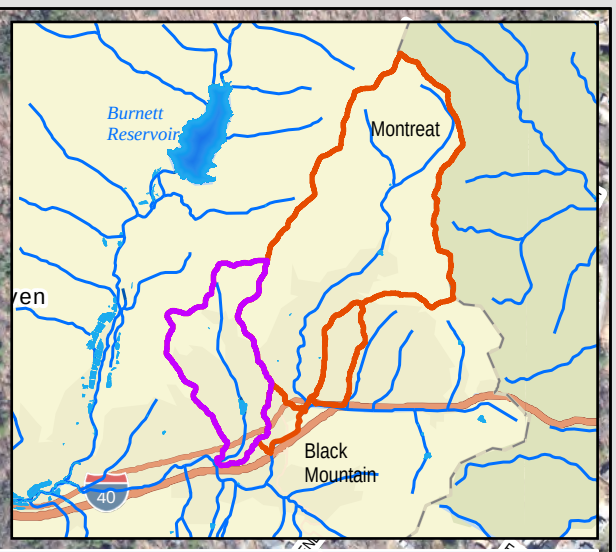


WK DICKSON
AN ARDURRA COMPANY

Figure 3-4: Tomahawk Branch Primary System
Town of Black Mountain Stormwater Master Plan

0 750 1,500 Feet
1 in = 1,500 ft

N
W E
S



CULVERT CROSSING	LEVEL OF SERVICE
W State St (Hwy 70)	50-YR
Cragmont Rd	50-YR
Laurel Circle Dr	<2-YR
9th St Bridge	25-YR
Hiawassee Ave Bridge	25-YR
Chapel Rd	25-YR
Walker Cove Rd	50-YR
Hiawassee Ave (South of Ross Dr)	50-YR
Swannanoa Ave	2-YR
E College St	50-YR
Cragmont Rd (Secondary Crossing)	25-YR

Legend

Stormwater Pipe Level of Service

- <2-YR
- 2-YR
- 10-YR
- 25-YR
- 50-YR
- Modeled Open Channel
- Non-Modeled Open Channel
- Non-Modeled Pipe*
- Bridge Location

Stormwater Structures

- Pipe End
- Inlet
- Assumed Underground Junction Box
- Manhole
- Unsurveyed Structure
- Tomahawk Branch
- Tomahawk Lake

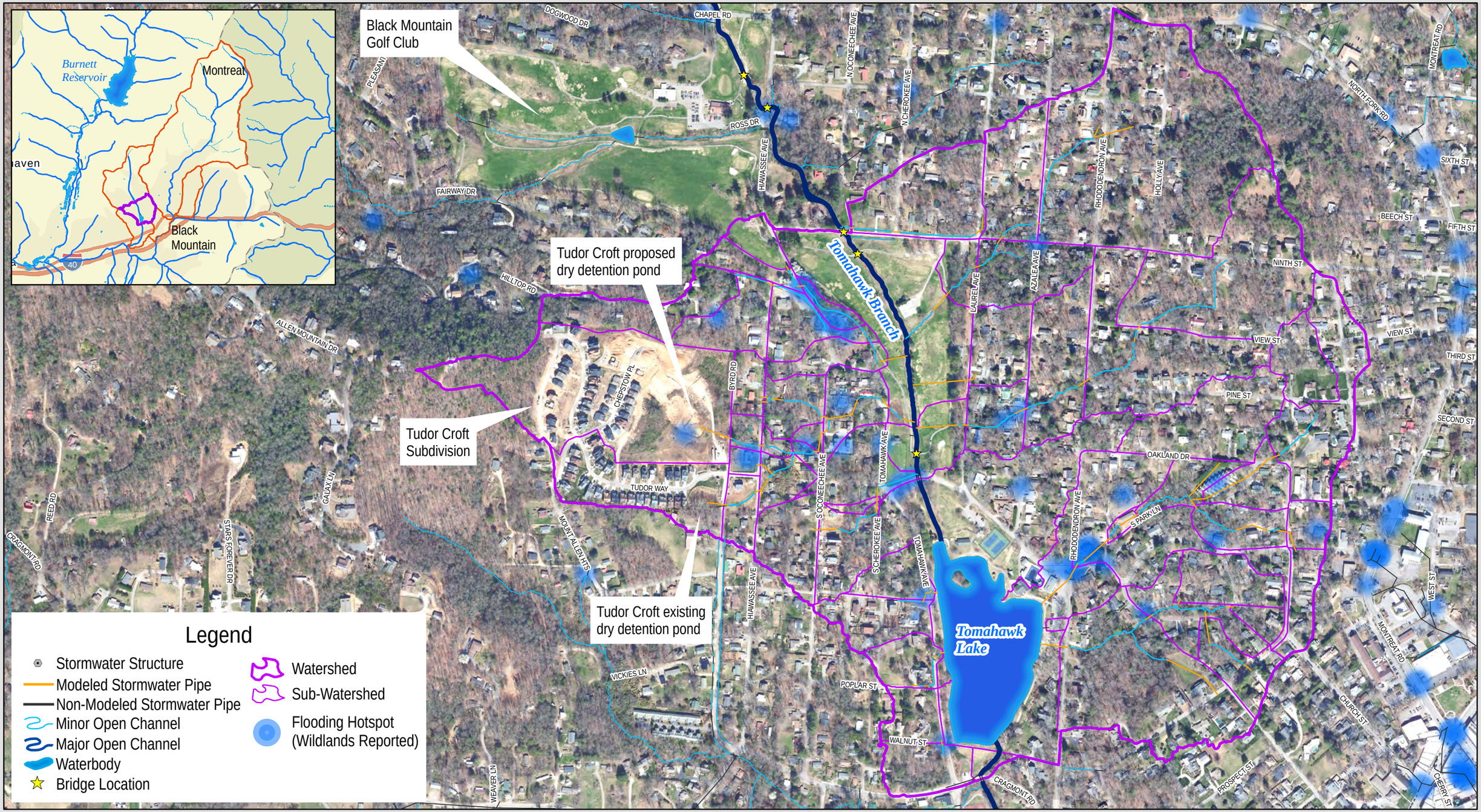
*Evidence of pipe in the field; survey/inventory data not sufficient enough to model

WK DICKSON
AN ARDURRA COMPANY

Figure 3-5: Existing Conditions Level of Service
TOMAHAWK BRANCH PRIMARY SYSTEM
Town of Black Mountain Stormwater Master Plan

0 250 500 Feet
1 in = 500 ft

N W E S



WK DICKSON
AN ARDURRA COMPANY

Figure 3-6: Tomahawk Branch Secondary System
Town of Black Mountain Stormwater Master Plan

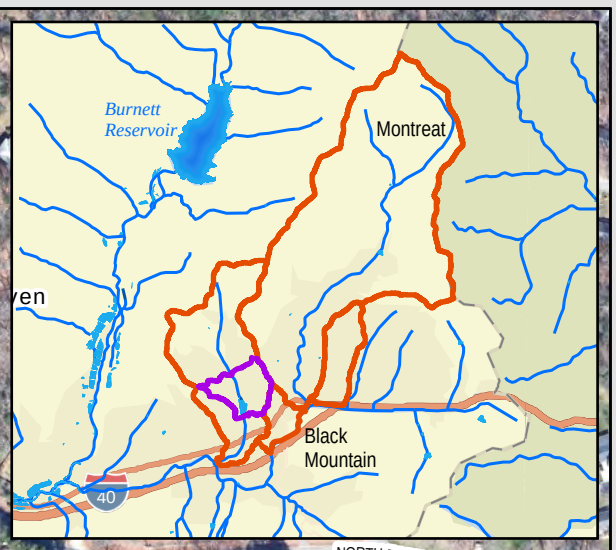
0 500 1,000 Feet

1 in = 500 ft

N
W E
S

East of Tomahawk Branch / Tomahawk Lake	
ROADWAY	LEVEL OF SERVICE
N. Cherokee Ave at 9th St	< 2-YR
Laurel Ave (north of 9th St)	25-YR
Laurel Ave (south of 9th St)	2-YR
9th Street	< 2-YR
Azalea Ave (north of 9th St)	< 2-YR
Rhododendron Ave (south of 10th St)	10-YR
Laurel Ave at 8th St	25-YR
8th St at Laurel Ave	2-YR
Laurel Ave (south of 8th St)	< 2-YR
Azalea Ave (south of 8th St)	< 2-YR
Rhododendron Ave (south of View St)	2-YR
View St	< 2-YR
Rhododendron Ave at Laurel Circle Dr	< 2-YR
N. Park Ln	2-YR
Oakland Dr	10-YR
S. Park Ln	25-YR
Church St	< 2-YR
Laurel Circle Dr at Church St	25-YR
Rhododendron Ave	10-YR
S Laurel Circle (west)	2-YR
Circle Ln	25-YR
S Laurel Circle (central)	25-YR
S Laurel Circle (east)	25-YR
Connally St (east of N Dougherty St)	25-YR
Connally St (west of N Dougherty St)	10-YR

West of Tomahawk Branch / Tomahawk Lake	
ROADWAY	LEVEL OF SERVICE
Fairway Dr at Hiawassee Ave	< 2-YR
Tomahawk Ave (north of Fairway Dr)	2-YR
Hiawassee Ave (parallel north)	25-YR
Hiawassee Ave (parallel south)	25-YR
S. Oconeechee Ave (north)	25-YR
Byrd Rd (north)	< 2-YR
Hiawassee Ave (north central)	< 2-YR
Hiawassee Ave (south central)	10-YR
Byrd Rd (south)	10-YR
Hiawassee Ave (south)	10-YR
S. Oconeechee Ave (central)	< 2-YR
Tomawhawk Ave	2-YR
S. Oconeechee Ave (south)	25-YR
Hickory St at Tomahawk Ave	2-YR
Tomahawk Ave north of Hickory Dr	2-YR
Tomahawk Ave south of Hickory Dr	2-YR
Walnut St at Tomahawk Ave	2-YR



Intersection of Fairway Dr and Tomahawk Ave and further south on Tomahawk Ave are known flooding locations. There is no stormwater infrastructure in this area. Runoff overflows the stormwater ditches flowing down Tomahawk Ave and across properties towards Tomahawk Branch.

Intersection of Laurel Circle Dr and Tomahawk Ave is a known flooding location. There is no stormwater infrastructure in this area. The pipes along S. Cherokee Ave end and runoff overflows into the intersection towards Tomahawk Branch.

Legend

Stormwater Pipe Level of Service

- <2-YR
- 2-YR
- 10-YR
- 25-YR
- Modeled Open Channel
- Non-Modeled Open Channel
- Non-Modeled Pipe*
- Primary System Culvert**

Stormwater Structures

- Pipe End
- Inlet
- Assumed Underground Junction Box
- Manhole
- Unsurveyed Structure
- Tomahawk Branch
- Tomahawk Lake

*Evidence of pipe in the field; survey/inventory data not sufficient enough to model
**Level of Service for Primary System Culverts provided on a separate map

WK DICKSON
AN ARDURRA COMPANY

Figure 3-7: Existing Conditions Level of Service
TOMAHAWK BRANCH SECONDARY SYSTEM
Town of Black Mountain Stormwater Master Plan

0 300 600 Feet

1 in = 300 ft

3.3. Flat Creek Watershed

The Flat Creek watershed is six (6) square miles, including the 0.35 square mile Flat Creek Tributary 1 watershed. Most of the primary road crossings along Flat Creek are bridges, which were modeled using FEMA data as shown in Figure 3-8. The most downstream Flat Creek crossing prior to confluence with the Swannanoa River is at US 70 East and is a triple 11' x 10' Reinforced Concrete Box Culvert (RCBC). Known flooding concerns are primarily located along Flat Creek Tributary 1 from Portmanvilla Rd upstream to Montreat Rd.

Model results for the existing system level of service are noted in Figure 3-9. The level of service for key locations along Flat Creek Tributary 1 is noted in Table 3.4.

TABLE 3.4: FLAT CREEK PRIMARY SYSTEM - EXISTING CONDITIONS LEVEL OF SERVICE

ROADWAY CROSSING	EXISTING PIPE	EXISTING SYSTEM LEVEL OF SERVICE
Montreat Rd (NC 9)	24" CMP	2-YR
Seventh St	Triple 24" CMP	2-YR
Seventh St (west of Portmanvilla Rd)	15" PVC	< 2-YR
Sixth St	42" CMP	10-YR
Sixth St (west of Portmanvilla Rd)	15" CMP	< 2-YR
Portmanvilla Rd	30" CMP	2-YR
Portmanvilla Rd	15" CMP	< 2-YR
US 70 (E. State St)	Triple 11' x 10' RCBC	50-YR

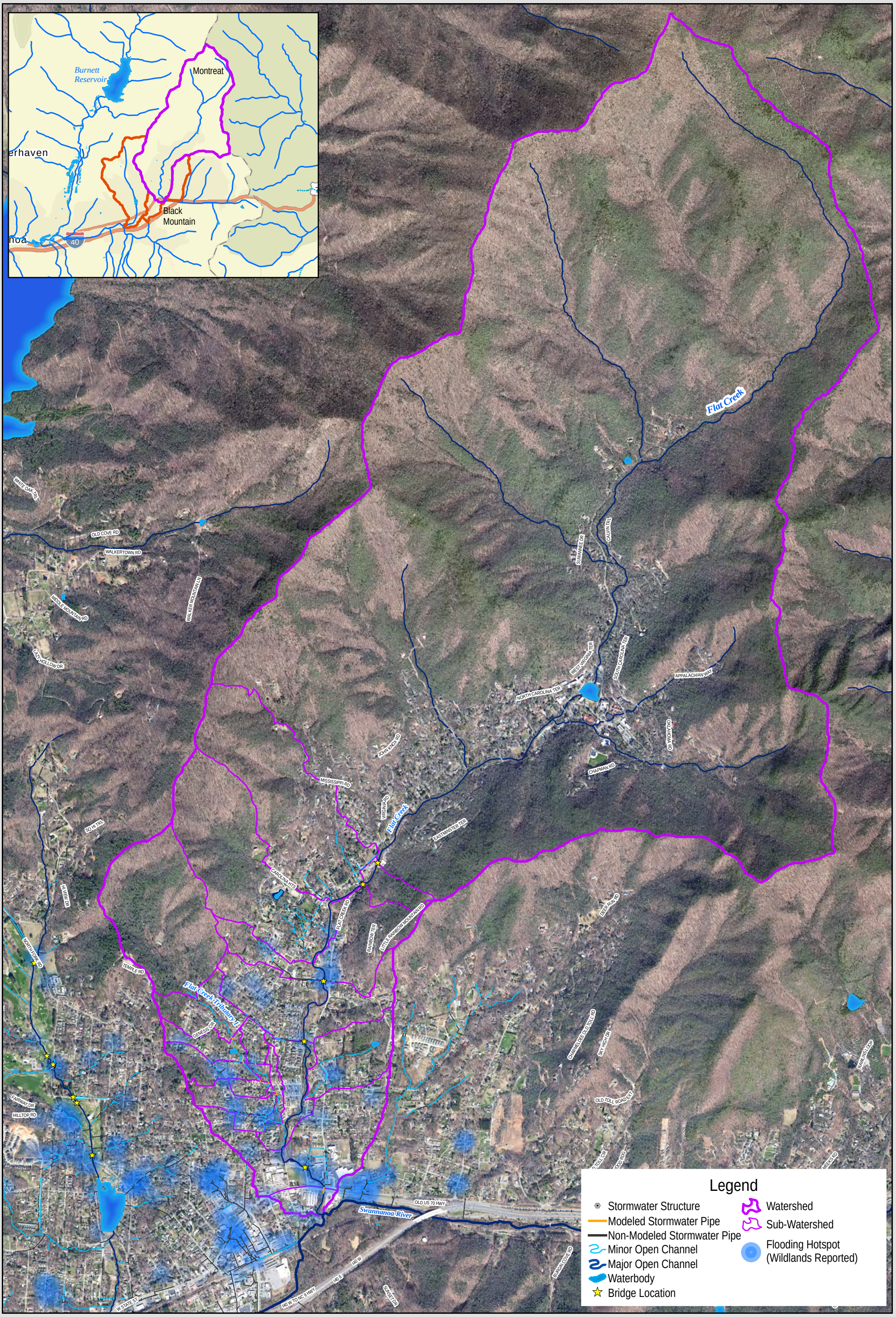
3.4. Tributary 35 / Avena Road Watershed

The Tributary 35 (of the Swannanoa River) watershed encompasses approximately 0.48 square miles and includes two primary thoroughfares: Avena Road and Padgettown Road. The stormwater conveyance system is comprised of open channel, culvert crossings, and outfalls to the Swannanoa River via a 6' x 7' RCBC underneath US 70 as shown in Figure 3-10. Primary flooding concerns within this watershed include the crossing at Old State 10 Rd and Padegettown Rd from Old State 10 Rd to Old US 70E.

Model results for the existing system level of service are shown in Figure 3-11 and noted in Table 3.5.

TABLE 3.5: TRIBUTARY 35 PRIMARY SYSTEM - EXISTING CONDITIONS LEVEL OF SERVICE

ROADWAY CROSSING	EXISTING PIPE	EXISTING SYSTEM LEVEL OF SERVICE
Avena Rd (near Bellgrove Rd)	48" CMP	2-YR
Bellgrove Rd	Twin 36" CMP	2-YR
Avena Rd	48" CMP	10-YR
Old State 10 Rd	Twin 36" HDPE/CPP	2-YR
Padgettown Rd (north of Old US 70 E)	Twin 36" CMP	< 2-YR
Old US 70 East	6' x 10' RCBC	25-YR
US 70 (E. State St)	6' x 7' RCBC	50-YR



Legend

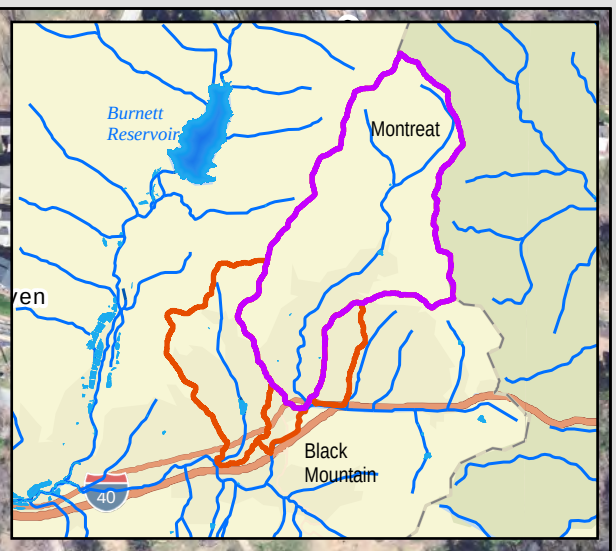
- Stormwater Structure
- Modeled Stormwater Pipe
- Non-Modeled Stormwater Pipe
- Minor Open Channel
- Major Open Channel
- Waterbody
- Bridge Location
- Watershed
- Sub-Watershed
- Flooding Hotspot (Wildlands Reported)

WK DICKSON
AN ARDURRA COMPANY

Figure 3-8: Flat Creek Tributary 1 Primary System
Town of Black Mountain Stormwater Master Plan

0 750 1,500 Feet
1 in = 1,500 ft

N W E S



CUVLERT CROSSING	LEVEL OF SERVICE
US 70 (Triple 11'x10' RCBC)	50-YR
Flat Creek Tributary 1 Culverts	
Portmanvilla Rd (15" CMP)	< 2-YR
Portmanvilla Rd (30" CMP)	2-YR
6th Street near Portmanvilla Rd (15" CMP)	<2-YR
6th Street (42" CMP)	10-YR
7th Street near Portmanvilla Rd (15" CPP)	< 2-YR
7th Street (Triple 24" CMP)	2-YR
Montreat Rd (24" CMP)	2-YR

Legend

Stormwater Pipe Level of Service

- <2-YR
- 2-YR
- 10-YR
- 25-YR
- 50-YR
- Modeled Open Channel
- Non-Modeled Open Channel
- Non-Modeled Pipe*

Stormwater Structures

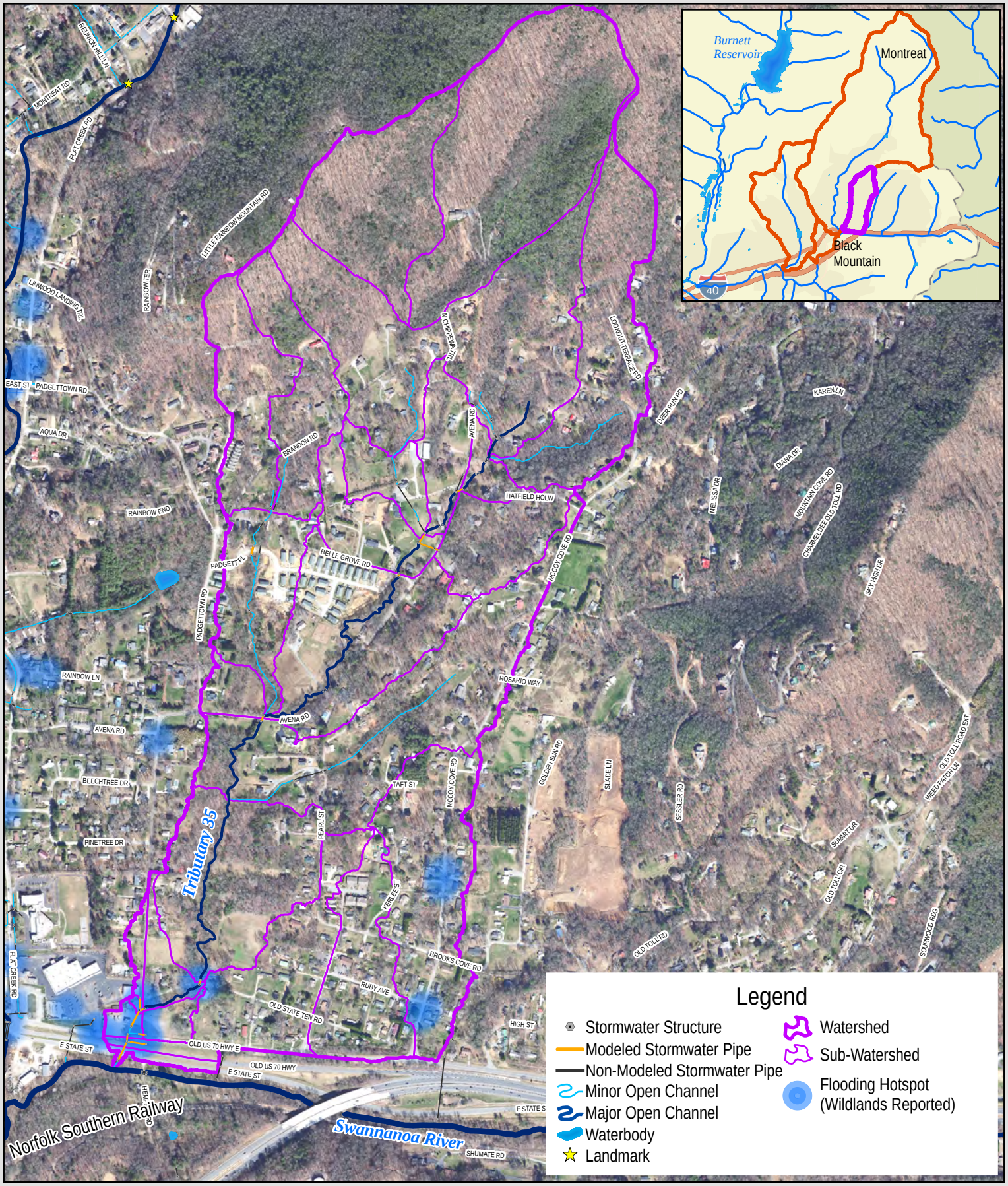
- Pipe End
- Inlet
- Assumed Underground Junction Box
- Manhole
- Unsurveyed Structure
- Swannanoa River
- Flat Creek
- Bridge Location

Evidence of pipe in the field; survey/inventory data not sufficient enough to model

WK DICKSON
AN ARDURRA COMPANY

Figure 3-9: Existing Conditions Level of Service
FLAT CREEK TRIBUTARY 1 PRIMARY SYSTEM
Town of Black Mountain Stormwater Master Plan

0 125 250 Feet
1 in = 250 ft

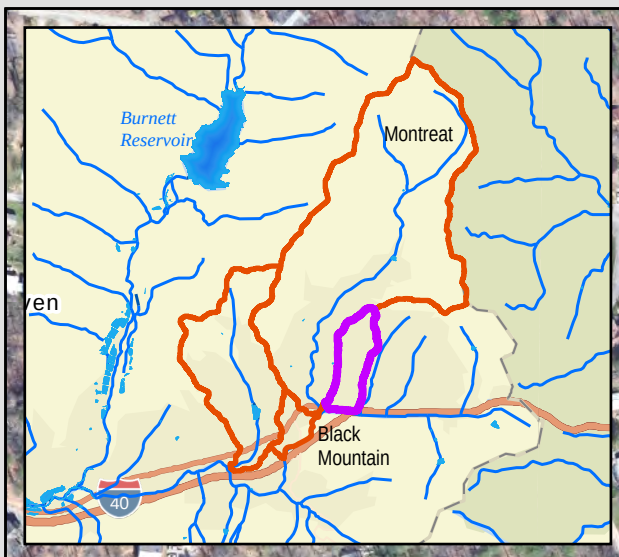


WK DICKSON
AN ARDURRA COMPANY

Figure 3-10: Avena Rd./Tributary 35 Primary System
Town of Black Mountain Stormwater Master Plan

0 400 800 Feet
1 in = 800 ft

N
W E
S



CULVERT CROSSING	LEVEL OF SERVICE
US-70 (6'x7' RCBC)	50-YR
Old US-70 (6' x10' RCBC)	25-YR
Parking Lot (Twin 36" CMP)	2-YR
Padgettown Rd (Twin 36" CMP)	< 2-YR
Padgettown Rd (24" CMP)	2-YR
Old State Ten Rd (Twin 36" CPP)	2-YR
Avena Rd (48" CPP)	2-YR
Padgett Place (Twin 36" CPP)	50-YR
Belle Grove Rd (Twin 36" CPP)	2-YR
Avena Rd (24" CMP)	2-YR
Avena Rd (48" CMP)	50-YR

Legend

Stormwater Pipe Level of Service

- <2-YR
- 2-YR
- 10-YR
- 25-YR
- 50-YR
- Modeled Open Channel
- Non-Modeled Open Channel
- Non-Modeled Pipe*

Stormwater Structures

- Pipe End
- Inlet
- Assumed Underground Junction Box
- Manhole
- Unsurveyed Structure
- Swannanoa River

*Evidence of pipe in the field; survey/inventory data not sufficient enough to model

LOS results at US-70 include the use of the depression area between Old US-70 and US-70 as a storage area.

WK DICKSON
AN ARDURRA COMPANY

Figure 3-11: Existing Conditions Level of Service
AVENA ROAD/TRIBUTARY 35 PRIMARY SYSTEM
Town of Black Mountain Stormwater Master Plan

0 150 300 Feet

1 in = 300 ft

N W E S

3.5. Intense Storm Analyses

The 2-yr and 5-yr, 6-hr storm events were also modeled as SCS Type II storm events to simulate high-intensity rainfall events for the purpose of developing projects more resilient to climate change. Storm events, in general, are becoming more frequent with higher intensity. These types of rainfall events tend to lead towards generating more runoff rather than less intense rains leading to more infiltration. The shorter rainfall events were modeled to evaluate the impact on the Town's infrastructure of a more frequent, higher-peaked storm event to assess the system's capacity to handle intense events that may generate more runoff than infiltration.

The rainfall depths are noted in Table 3.6 were obtained from NOAA Atlas 14, Volume 2, Version 3 for the Town's North Fork 2 Station (Station ID 31-6236).[4]

TABLE 3.6: NOAA RAINFALL DEPTHS - 6 HR STORMS[4]

RECURRENCE INTERVAL	NOAA 6-HOUR RAINFALL DEPTH (in)
2-YR, 6HR	2.23
5-YR, 6HR	2.79

In the Downtown corridor, the model results indicated that the level of service (LOS) for roadways in the 5-yr, 6-hr storm event mirrored that of the 2-yr, 24-hr storm. For a high-intensity rainfall, the existing system shows significant flooding across major roadways in and around Downtown. In the Tomahawk Branch secondary system, most roadways meet a level of service sufficient to handle the modeled 5-yr, 6-hr storm event.

As indicated by the modeling results, the following culverts along primary systems in the Tomahawk Branch, Flat Creek Tributary 1, and Tributary 35 / Avena Rd watersheds, do not provide a level of service to handle the 5-yr, 6-hr storm event:

- Sixth Street near Portmanvilla Road
- Portmanvilla Road
- Padgettown Road just south Old State 10 Road

4. CRITICALITY ANALYSIS

As part of the Town of Black Mountain Stormwater Master Plan, a preliminary condition assessment was completed to identify high priority areas for detailed CCTV and/or maintenance needs. Prioritization is based on the likelihood of asset failure, as well as the consequence of asset failure. By evaluating the likelihood of asset failure in relation to the consequence of asset failure, a combined criticality score is then developed for each asset. This criticality score can enable the Town to more strategically evaluate which assets to focus capital improvement resources on for repair, rehabilitation, or further condition assessments. This section summarizes the results of a GIS audit and the scoring criteria and methodology used in developing the condition assessment.

4.1. Project Background

WK Dickson (An Ardurra Company) collected and analyzed the stormwater infrastructure data which included GIS stormwater data, building and transportation locations, and geographic features. This data was audited to determine the availability of necessary attribute information to conduct the criticality analysis. Upon resolution of the identified data gaps, WK Dickson performed a criticality assessment by running the criticality toolset to generate results. The results of this prioritization are included in this report as the findings of asset criticality within the Town of Black Mountain. The detailed methodology for customizing the prioritization tool for the Town can be found in Appendix D.

4.2. Criticality Analysis

After the scoring criteria and attribute analysis was completed, the pipe and structure matrices were populated and the asset criticality analysis was run. As a result, the highest scoring assets indicate the most critical assets in terms of overall risk due to consequence and likelihood of failure. Since there are a different number of assets for each utility system grouping, the distribution range differs.

Table 4.1 summarizes the number of stormwater pipe assets falling into each scoring category. A single pipe asset is defined as a section of pipe between either two (2) structures or between a structure and an outfall. The table presents the total criticality score as well as the likelihood and consequence scores.

When reviewing the table, it is noticeable that the class ranges are not uniform. The data was evaluated and confirmed that the criticality analysis followed a normal distribution. In an effort to highlight the infrastructure at both ends of the spectrum, the following class ranges were devised based on a modified bell curve: the top and bottom 5% of total scores were classified as ‘High’ and ‘Low’, the middle 63% as ‘Medium’, and the remaining 13.5% on either side of the middle as ‘Medium-High’ and ‘Medium-Low’. The purpose of these class ranges is to assign a criticality level to each asset, which informs overall scoring for rehabilitation projects. Assets rated at criticality levels 4 or 5 are typically the highest priority for rehabilitation.

Table 4.1 also shows the criticality levels for stormwater pipes. Of the pipes evaluated, 20% scored in Level 4 or 5, indicating the highest need for stormwater rehabilitation efforts. Exhibit 4.1 shows the distribution graphically.

TABLE 4-1: STORMWATER PIPES SCORING SUMMARY AND DISTRIBUTION

CATEGORIES ASSIGNED					
	Low (1)	Medium-Low (2)	Medium (3)	Medium-High (4)	High (5)
TOTAL CRITICALITY SCORE DISTRIBUTION					
	40-180	181-220	221-390	391-480	481-700
Stormwater Pipes	46	121	405	126	45
LIKELIHOOD SCORE DISTRIBUTION					
	20-108	109-196	197-284	285-372	373-460
Stormwater Pipes	82	288	256	103	14
CONSEQUENCE SCORE DISTRIBUTION					
	0-88	89-176	177-264	265-352	353-440
Stormwater Pipes	266	333	128	13	3

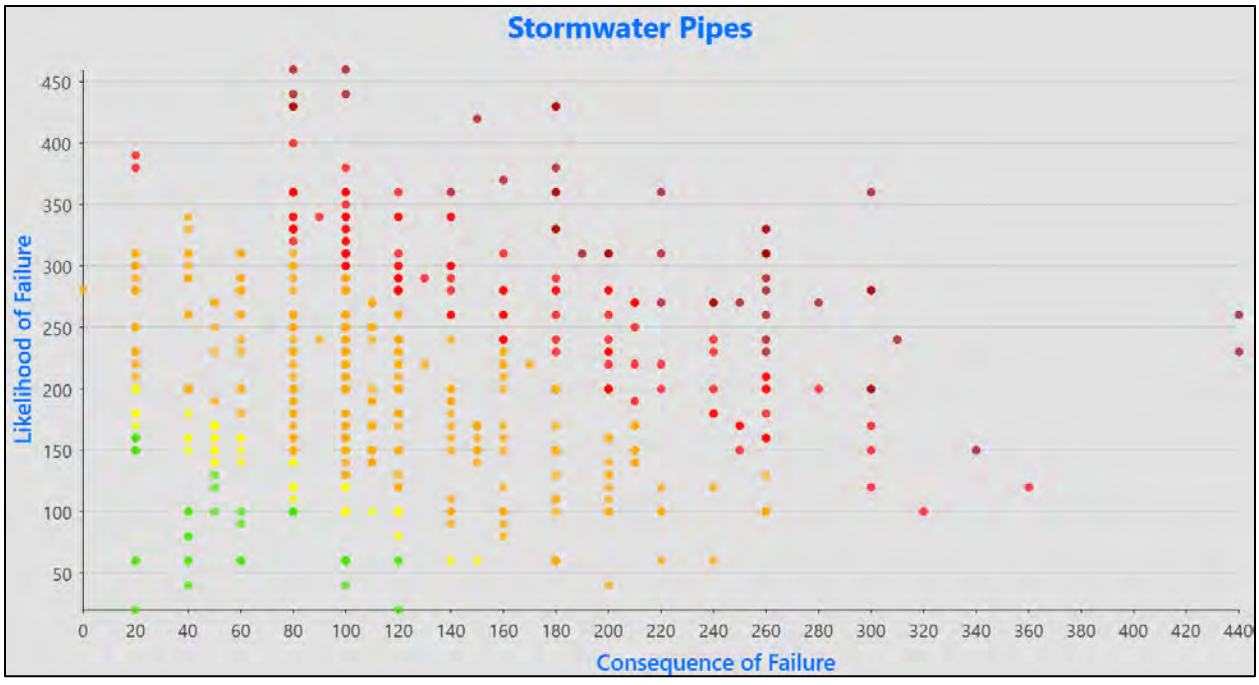


Exhibit 4.1
Stormwater Pipe Scoring Results

Table 4.2 shows the criticality levels for stormwater structures. Within the structures evaluated, 21% scored in Level 4 or 5, indicating the highest need for stormwater structure rehabilitation efforts. Exhibit 4.2 shows the distribution graphically.

TABLE 4.2: STORMWATER STRUCTURES SCORING SUMMARY AND DISTRIBUTION

CATEGORIES ASSIGNED					
	Low (1)	Medium-Low (2)	Medium (3)	Medium-High (4)	High (5)
TOTAL CRITICALITY SCORE DISTRIBUTION					
	60-155	**156-185**	**186-315**	**316-400**	**401-585**
Stormwater Structures	48	180	719	190	57
LIKELIHOOD SCORE DISTRIBUTION					
	20-98	**99-176**	**177-254**	**255-332**	**333-410**
Stormwater Structures	77	767	252	78	20
CONSEQUENCE SCORE DISTRIBUTION					
	0-62	**63-124**	**125-186**	**187-248**	**249-310**
Stormwater Structures	593	370	182	40	9

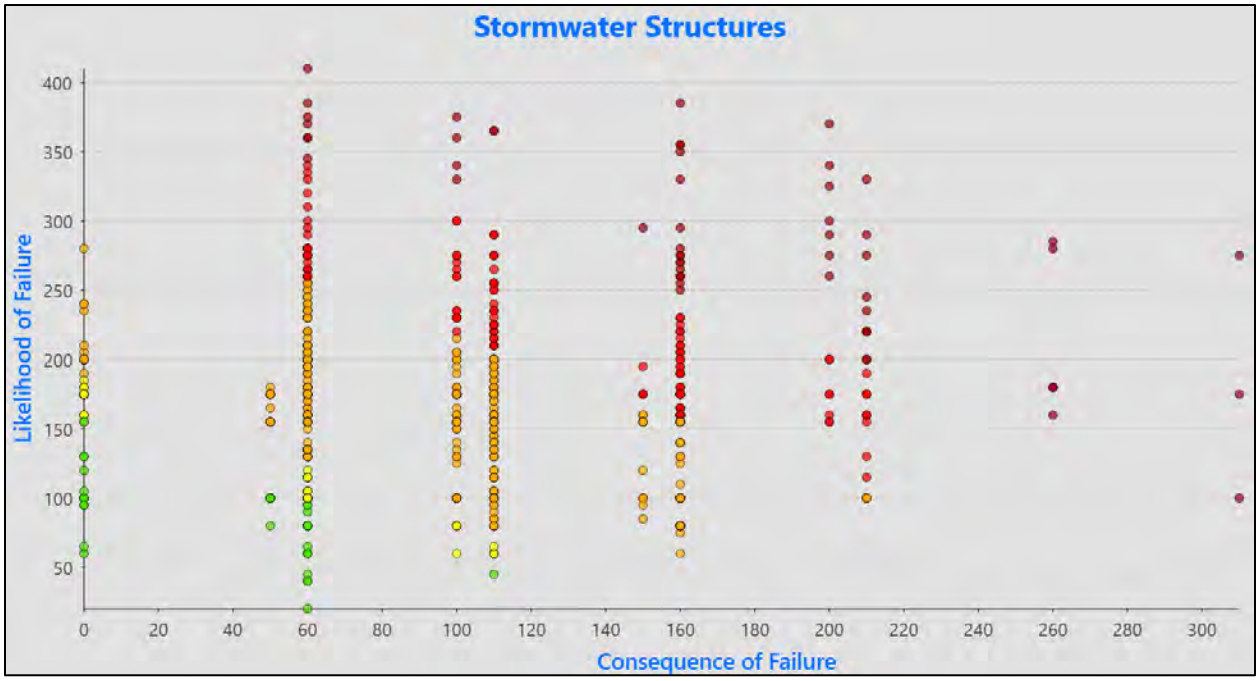


Exhibit 4.2
Stormwater Structure Scoring Results

4.3. Operations and Maintenance Recommendations

The stormwater drainage systems evaluated in this report are composed of a series of culverts, closed drainage systems, and open channels. It is recommended that properly scheduled maintenance be conducted at routine intervals to prolong system life and to identify and address system failures in a timely manner.

The condition assessment evaluated pipes and structures based on likelihood and consequence of failure. It is recommended that the Town prioritize the areas with high-risk infrastructure shown in red and dark red in Figures 4-1 through 4-4 for repair, rehabilitation, or further conditions assessment.

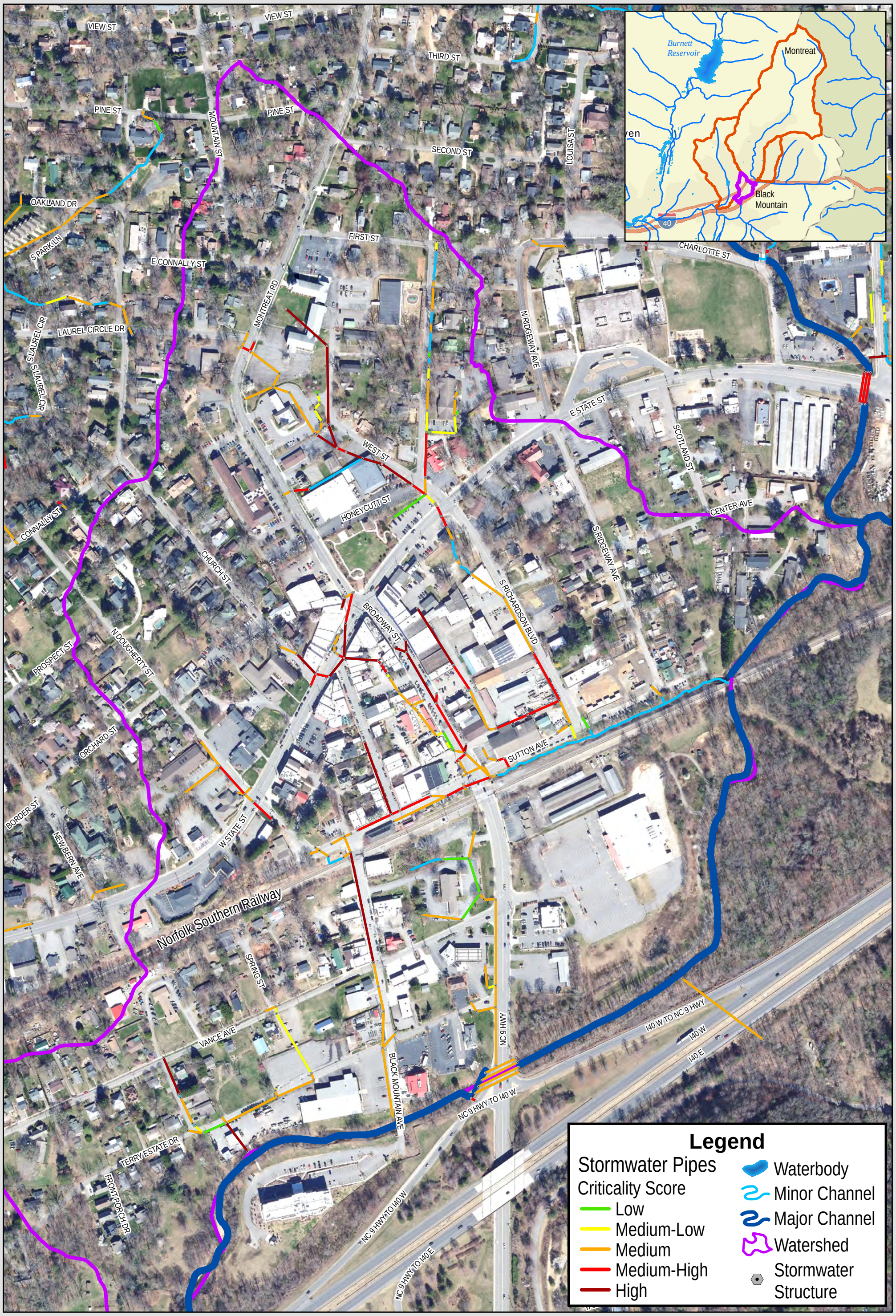
Stormwater structure result maps indicating high-risk structures are provided in Appendix D. Additional detail on the scoring criteria is also provided in Appendix D.

4.4. Criticality Analysis as an Ongoing Process

Because the data in the GIS database are dynamic, the results of the prioritization tool are a static representation based upon when the tool is run. As data are updated in the database, the tool can be utilized, and the results of the prioritization process can be updated easily. Typically, a jurisdiction may use a prioritization tool such as this on an annual or semi-annual basis as budgets are developed and capital plans and O&M plans are revised.

It should be noted that the criticality rating system will always generate assets that are rated as high-risk components. The rating system is a relative one, where the risk of a particular asset is rated relative to the other assets that are also evaluated. Therefore, the Town will always have assets that rank in the Level 4 or Level 5 risk category. As these assets are rehabilitated, replaced or repaired their likelihood of failure score will improve and their total risk rating can be reduced. Meanwhile, lower at-risk components will age and deteriorate over time and their risk scores will increase.

A valuable component of this dynamic prioritization tool is the ability to quickly perform different scenario analyses to determine the relative benefit of capital and operation and maintenance (O&M) projects. The Town can determine if the at-risk score of a particular component can be dramatically reduced by improvement. In some cases, the consequence of failure score is so high that an improved asset will always remain in the high-risk category. These assets can be monitored on a frequent basis to consistently check their condition and proactively work to prevent a failure. Conversely, assets with the greatest likelihood of failure scores are often the target of initial condition assessment and rehabilitation programs. Town staff can perform scenario analyses to determine where condition assessment and rehabilitation programs can most reduce the at-risk scores of critical assets.



WK DICKSON
AN ARDURRA COMPANY

Figure 4-1: Criticality Analysis Results - Stormwater Pipes
DOWNTOWN SYSTEM
Town of Black Mountain Stormwater Master Plan

0 150 300 Feet
1 in = 300 ft

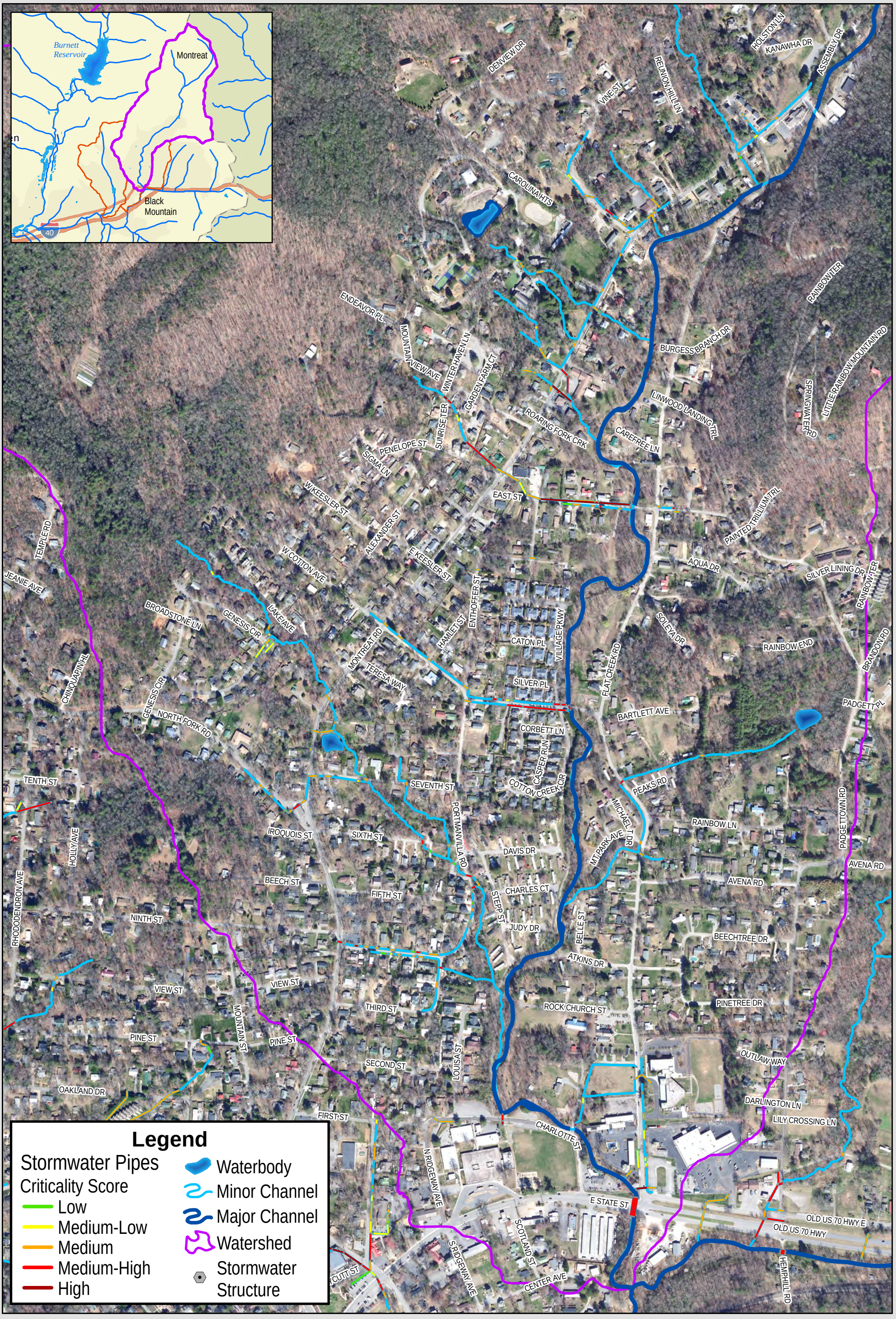
N
W E
S

WK DICKSON
AN ARDURRA COMPANY

Figure 4-2: Criticality Analysis Results - Stormwater Pipes
TOMAHAWK BRANCH PRIMARY SYSTEM
Town of Black Mountain Stormwater Master Plan

0 300 600 Feet
1 in = 600 ft

N W E S



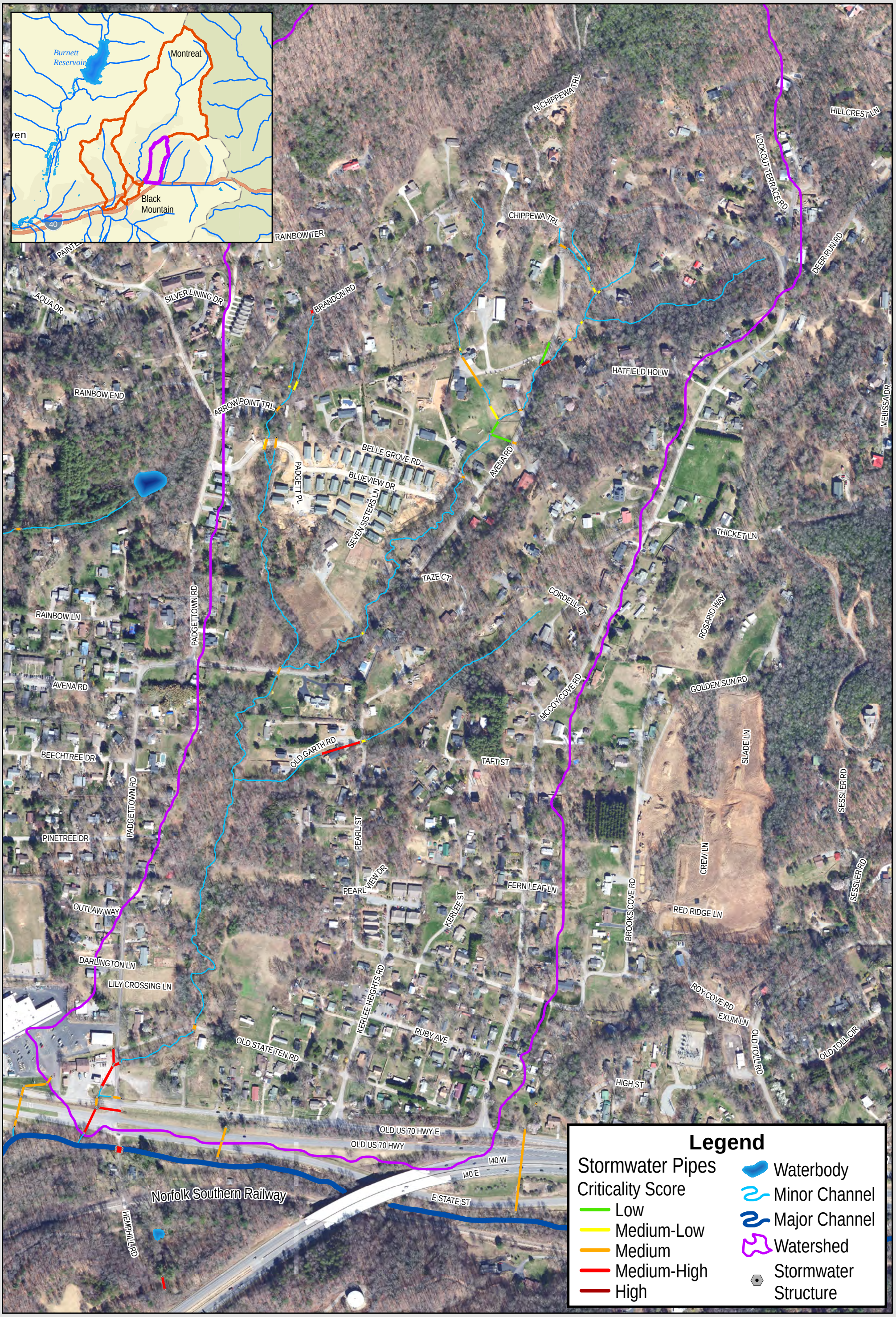
WK DICKSON
AN ARDURRA COMPANY

Figure 4-3: Criticality Analysis Results - Stormwater Pipes
FLAT CREEK TRIBUTARY 1 PRIMARY SYSTEM
Town of Black Mountain Stormwater Master Plan

0 250 500 Feet

1 in = 500 ft

N W E S



WK DICKSON
AN ARDURRA COMPANY

Figure 4-4: Criticality Analysis Results - Stormwater Pipes
AVENA ROAD/TRIBUTARY 35 WATERSHED
Town of Black Mountain Stormwater Master Plan

0 200 400 Feet
1 in = 400 ft

N
W E
S

5. PROPOSED CAPITAL IMPROVEMENT PLAN

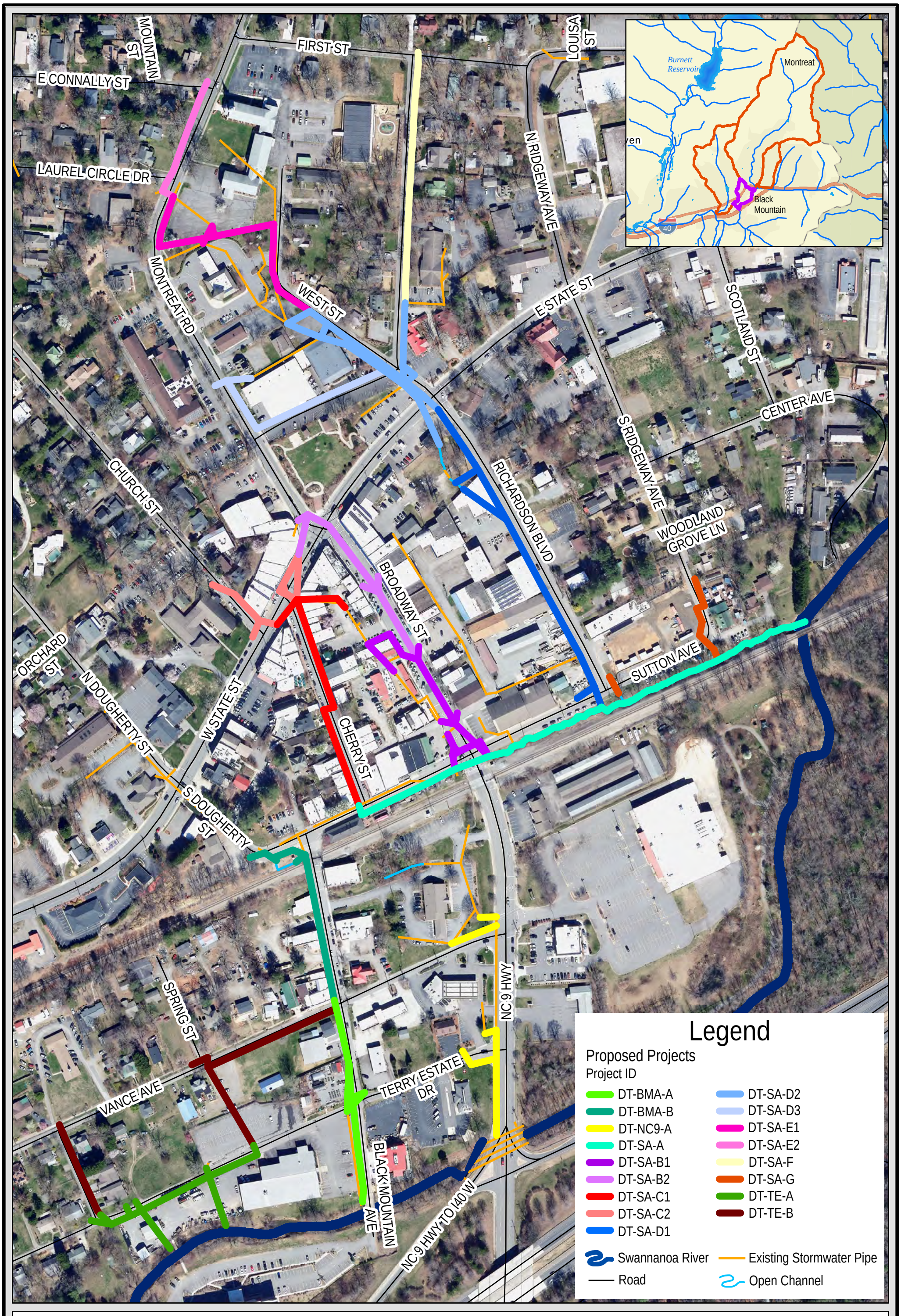
Developing flood mitigation alternatives in an urban environment is a complex process based on limitations imposed by the constraints within the environment, such as floodplain encroachments, increased peak flows due to impervious areas, public and private utilities, and private property. Improvements in this portion of the study were identified through an iterative process of infrastructure improvements, open channel improvements, floodplain benching, and detention options where feasible. As previously noted, the Town desired to focus the stormwater capital projects towards achieving a goal of a 50-YR LOS. In some cases, existing conditions limit options to plan for the desired LOS. Options for providing a high LOS are presented herein.

5.1. Downtown System

The Downtown system is a complex network of pipes in a limited space, combined with nearby utilities, businesses, and the railroad. Much of the Downtown stormwater conveyance system currently runs through private property, with several stormwater pipes located under commercial and critical Town facilities. The proposed improvements focused on re-aligning stormwater infrastructure to the public right-of-way, removal of public water from private systems where feasible, removing pipes underneath structures, providing a greater LOS for roadways, and providing flood reduction to nearby businesses and property owners. The proposed projects are shown in Figure 5-1. The proposed LOS for the Downtown corridor is shown in Figures 5-2 and 5-3 for areas north and south of the railroad. A summary of the proposed stormwater improvements and proposed LOS is provided in Table 5.1.

TABLE 5.1: DOWNTOWN SECONDARY SYSTEM - PROPOSED LEVEL OF SERVICE

ROADWAY CROSSING	PROPOSED PIPE	EXISTING SYSTEM LEVEL OF SERVICE	PROPOSED SYSTEM LEVEL OF SERVICE
NORTH OF RAILROAD			
Sutton Ave (east of Cherry St)	42" RCP	< 2-YR	50-YR
Sutton Ave (at Broadway St)	48" RCP	< 2-YR	50-YR
Broadway St (north of Sutton Ave)	42" RCP	2-YR	50-YR
Richardson Blvd (2 crossings at Sutton Ave)	3' x 7' RCBC / 30" RCP	< 2-YR	50-YR
S. Ridgeway Dr (at Sutton Ave)	36" RCP	< 2-YR	50-YR
W. State St (at Church St)	36" RCP	< 2-YR	50-YR
W. State St (at Cherry St)	18" RCP	< 2-YR	50-YR
Cherry St (at W. State St)	36" RCP	< 2-YR	50-YR
W. State St (at Broadway St)	30" RCP	2-YR	50-YR
E. State St (at Richardson Blvd)	42" RCP	< 2-YR	50-YR
Police Station (pipe under building)	36" RCP	< 2-YR	50-YR
SOUTH OF RAILROAD			
Railroad Crossing - S. Dougherty St	30" RCP	< 2-YR	50-YR
Black Mountain Ave (at Terry Ests.)	42" RCP	< 2-YR	50-YR
Terry Estates Dr (5 crossings)	24", 30", 36" RCP	< 2-YR	25-YR / 50-YR



WK DICKSON
AN ARDURRA COMPANY

Figure 5-1: Proposed Stormwater Improvement Projects
DOWNTOWN DRAINAGE SYSTEM
Town of Black Mountain Stormwater Master Plan

0 100 200
Feet
1 in = 200 ft

Sutton Avenue / Richardson Boulevard Outfall Systems	
ROADWAY	LEVEL OF SERVICE
Sutton Ave at S. Ridgeway Ave	50-YR
2 Sutton Ave at Richardson Blvd Crossings	50-YR
East State St at Richardson Blvd	50-YR
System between Montreat Rd and West St	50-YR
System along West Street at the Police Station	50-YR
Laurel Circle Dr at Montreat Rd	25-YR
West Street at Midland Ave	50-YR
First St at Midland Ave	50-YR
Sutton Ave east of NC 9	50-YR
Sutton Ave and Broadway St intersection	50-YR
Cherry St at Sutton Ave	50-YR
System along west side of Broadway St	50-YR
Cherry St at West State St	50-YR
West State St at Church St	50-YR
Church St at West State St	50-YR
Church St	50-YR
Montreat Rd at East State St	50-YR
24" System in Broadway to Cherry St	50-YR
24" System in Broadway north of Cherry St	50-YR

Legend

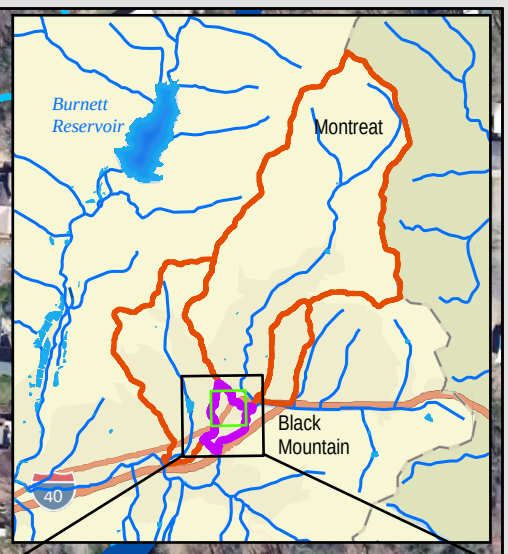
Stormwater Pipe Level of Service

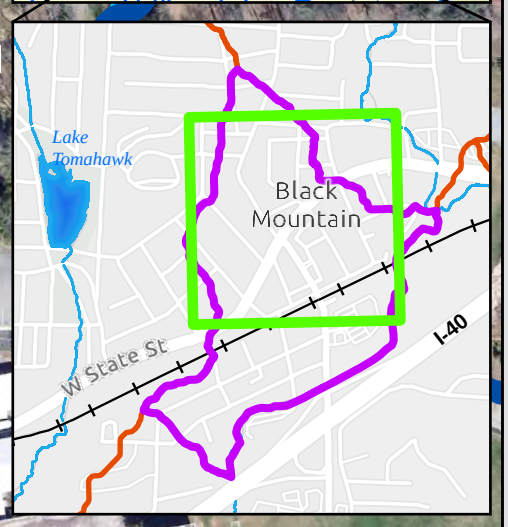
- <2-YR
- 2-YR
- 10-YR
- 25-YR
- 50-YR
- Proposed Pipe Abandonment
- Non-Modeled Swannanoa NC9 HWY Culvert
- Non-Modeled Pipe*

Stormwater Structures

- Existing Structure
- Proposed Structure
- Proposed Structure Abandonment
- Proposed Channel Improvements
- Existing Open Channel
- Swannanoa River
- Norfolk Southern Railway

*Evidence of pipe in the field; survey/inventory data not sufficient enough to model





WK DICKSON
AN ARDURRA COMPANY

Figure 5-2:Proposed Conditions Level of Service
DOWNTOWN (NORTH) DRAINAGE SYSTEM
Town of Black Mountain Stormwater Master Plan

0 100 200 Feet

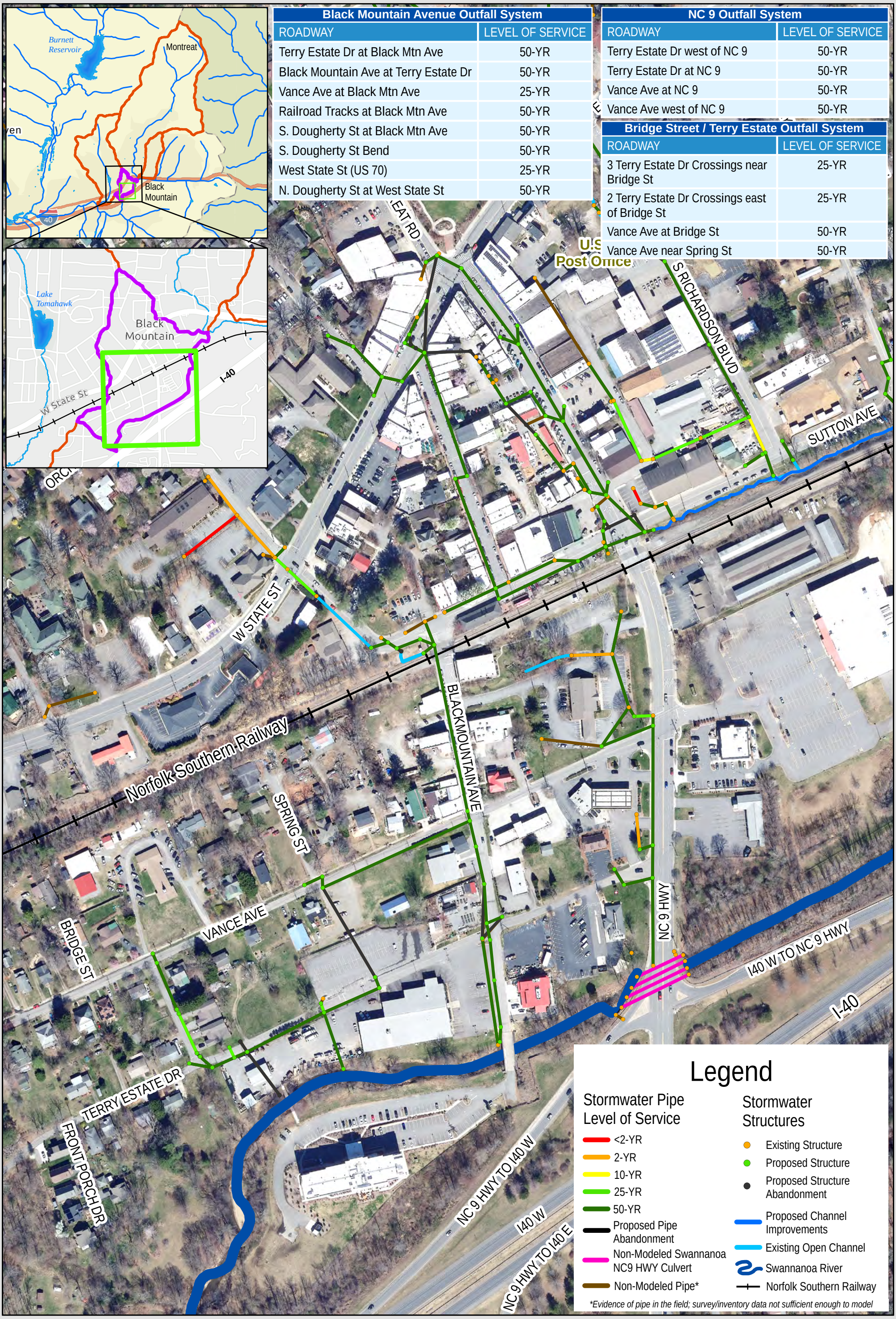
1 in = 200 ft

N W E S

Black Mountain Avenue Outfall System	
ROADWAY	LEVEL OF SERVICE
Terry Estate Dr at Black Mtn Ave	50-YR
Black Mountain Ave at Terry Estate Dr	50-YR
Vance Ave at Black Mtn Ave	25-YR
Railroad Tracks at Black Mtn Ave	50-YR
S. Dougherty St at Black Mtn Ave	50-YR
S. Dougherty St Bend	50-YR
West State St (US 70)	25-YR
N. Dougherty St at West State St	50-YR

NC 9 Outfall System	
ROADWAY	LEVEL OF SERVICE
Terry Estate Dr west of NC 9	50-YR
Terry Estate Dr at NC 9	50-YR
Vance Ave at NC 9	50-YR
Vance Ave west of NC 9	50-YR

Bridge Street / Terry Estate Outfall System	
ROADWAY	LEVEL OF SERVICE
3 Terry Estate Dr Crossings near Bridge St	25-YR
2 Terry Estate Dr Crossings east of Bridge St	25-YR
Vance Ave at Bridge St	50-YR
Vance Ave near Spring St	50-YR



Legend

Stormwater Pipe Level of Service

- <2-YR
- 2-YR
- 10-YR
- 25-YR
- 50-YR
- Proposed Pipe Abandonment
- Non-Modeled Swannanoa NC9 HWY Culvert
- Non-Modeled Pipe*

Stormwater Structures

- Existing Structure
- Proposed Structure
- Proposed Structure Abandonment
- Proposed Channel Improvements
- Existing Open Channel
- Swannanoa River
- Norfolk Southern Railway

*Evidence of pipe in the field; survey/inventory data not sufficient enough to model

WK DICKSON
AN ARDURRA COMPANY

Figure 5-3: Proposed Conditions Level of Service
DOWNTOWN (SOUTH) DRAINAGE SYSTEM
Town of Black Mountain Stormwater Master Plan

0 100 200 Feet
1 in = 200 ft

N W E S

5.2. Tomahawk Branch Watershed

5.2.1 Primary System

Improvements along Tomahawk Branch focused on the Laurel Circle Drive culvert. Based on observed field conditions, the culvert is in a low spot in the roadway, making it difficult to significantly increase the culvert size due to cover limitations. With upstream and downstream floodplain benching along the golf course for additional storage area and replacing the existing arch pipes with a triple barrel 5' x 9' RCBC, the Town may achieve a 10-yr LOS at this location. Proposed projects and proposed LOS are shown in Figures 5-5 and 5-5. Recommended infrastructure improvements are noted below in Table 5.2.

TABLE 5.2: TOMAHAWK PRIMARY SYSTEM - EXISTING CONDITIONS LEVEL OF SERVICE

ROADWAY CROSSING	PROPOSED PIPE	EXISTING SYSTEM LEVEL OF SERVICE	PROPOSED SYSTEM LEVEL OF SERVICE
Laurel Circle Dr (north of Lake Tomahawk)	Triple RCBC	< 2-YR	10-YR
Cragmont Rd (south of Lake Tomahawk)	NA	50-YR	50-YR
W. State St (US 70)	NA	50-YR	50-YR
Swannanoa Ave (south of Cragmont Rd)	48" RCP	2-YR	25-YR

5.2.2 Secondary System

The Town is currently completing projects to improve the stormwater drainage system on Tomahawk Ave at Fairway Dr. This includes upsizing the existing culvert that drains from the right-of-way on Tomahawk Ave to the golf course from a 15" to 24" culvert, establishing swales along both sides of Tomahawk Ave and along the west side of the golf course pathway, and routing the stormwater to a new bioretention facility on the golf course.

Secondary system improvements located within the Tomahawk Lake watershed should be coordinated with the Town's maintenance plan and infrastructure criticality improvements. It is also recommended that the Town conduct additional, detailed evaluation of the stormwater systems draining to Lake Tomahawk as well as evaluating the lake itself for additional storage capacity. Key stormwater conveyance crossings that are both under capacity and have been designated as high-risk infrastructure (as determined by the criticality analysis) are noted in Table 5.3 below.

TABLE 5.3: TOMAHAWK SECONDARY SYSTEM RECOMMENDED IMPROVEMENT AREAS

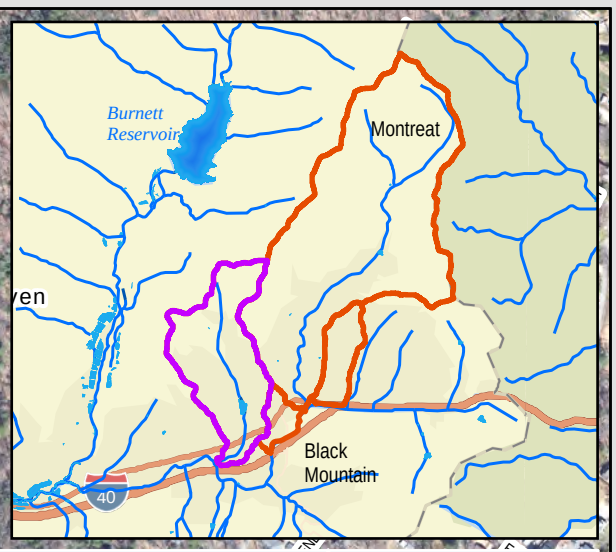
ROADWAY CROSSING	EXISTING LEVEL OF SERVICE	CRITICALITY ASSESSMENT
Rhododendron Ave (south of Tenth St)	10-YR	Medium-High
Rhododendron Ave (near Eighth St)	2-YR	Medium-High
Rhododendron Ave (Laurel Circle Dr to Lake)	< 2-YR	Medium / High
S. Laurel Circle (near Circle Dr)	2-YR	High
Tomahawk Ave (just north of Fairway Dr)	2-YR	Medium-High
Hiawassee Ave (north of Tudor Way)	< 2-YR	Medium-High
S. Oconeechee Ave (downstream of noted Hiawassee Ave crossing)	< 2-YR	Medium-High
Hickory St / Tomahawk Ave to Lake	2-YR	Medium-High / High

WK DICKSON
AN ARDURRA COMPANY

Figure 5-4: Proposed Stormwater Improvement Projects
TOMAHAWK BRANCH PRIMARY SYSTEM
Town of Black Mountain Stormwater Master Plan

0 100 200 Feet
1 in = 200 ft

N W E S



CULVERT CROSSING	LEVEL OF SERVICE
W State St (Hwy 70)	50-YR
Cragmont Rd.	50-YR
Laurel Circle Dr.	10-YR
9th St Bridge	25-YR
Hiawassee Ave Bridge	25-YR
Chapel Rd.	25-YR
Golf Course Bridge	2-YR
North Fork Rd. Bridge	50-YR
Private Dr.	50-YR
Walker Cove Rd.	50-YR
Hiawassee Ave (South of Ross Dr.)	50-YR
Swannanoa Ave	25-YR
E College St.	50-YR
Cragmont Rd. (Secondary Crossing)	25-YR

Legend

Stormwater Pipe Level of Service

- <2-YR
- 2-YR
- 10-YR
- 25-YR
- 50-YR
- Modeled Open Channel
- Non-Modeled Open Channel
- Non-Modeled Pipe*
- Bridge Location

Stormwater Structures

- Pipe End
- Inlet
- Assumed Underground Junction Box
- Manhole
- Unsurveyed Structure
- Tomahawk Branch
- Tomahawk Lake

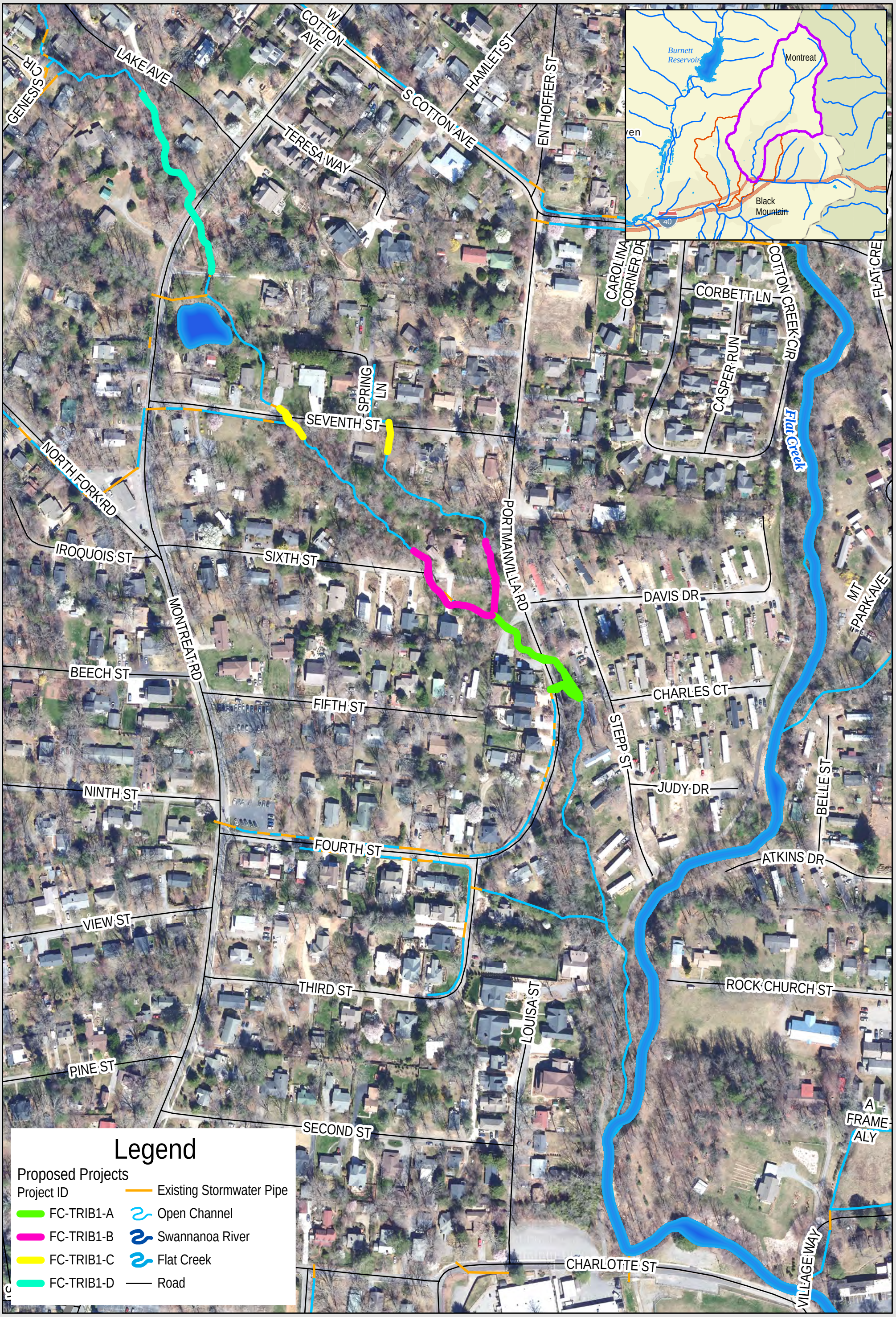
*Evidence of pipe in the field; survey/inventory data not sufficient enough to model

WK DICKSON
AN ARDURRA COMPANY

Figure 5-5: Proposed Conditions Level of Service
TOMAHAWK BRANCH PRIMARY SYSTEM
Town of Black Mountain Stormwater Master Plan

0 250 500 Feet
1 in = 500 ft

N W E S



Legend

Proposed Projects

Project ID

- FC-TRIB1-A
- FC-TRIB1-B
- FC-TRIB1-C
- FC-TRIB1-D

- Existing Stormwater Pipe
- Open Channel
- Swannanoa River
- Flat Creek
- Road

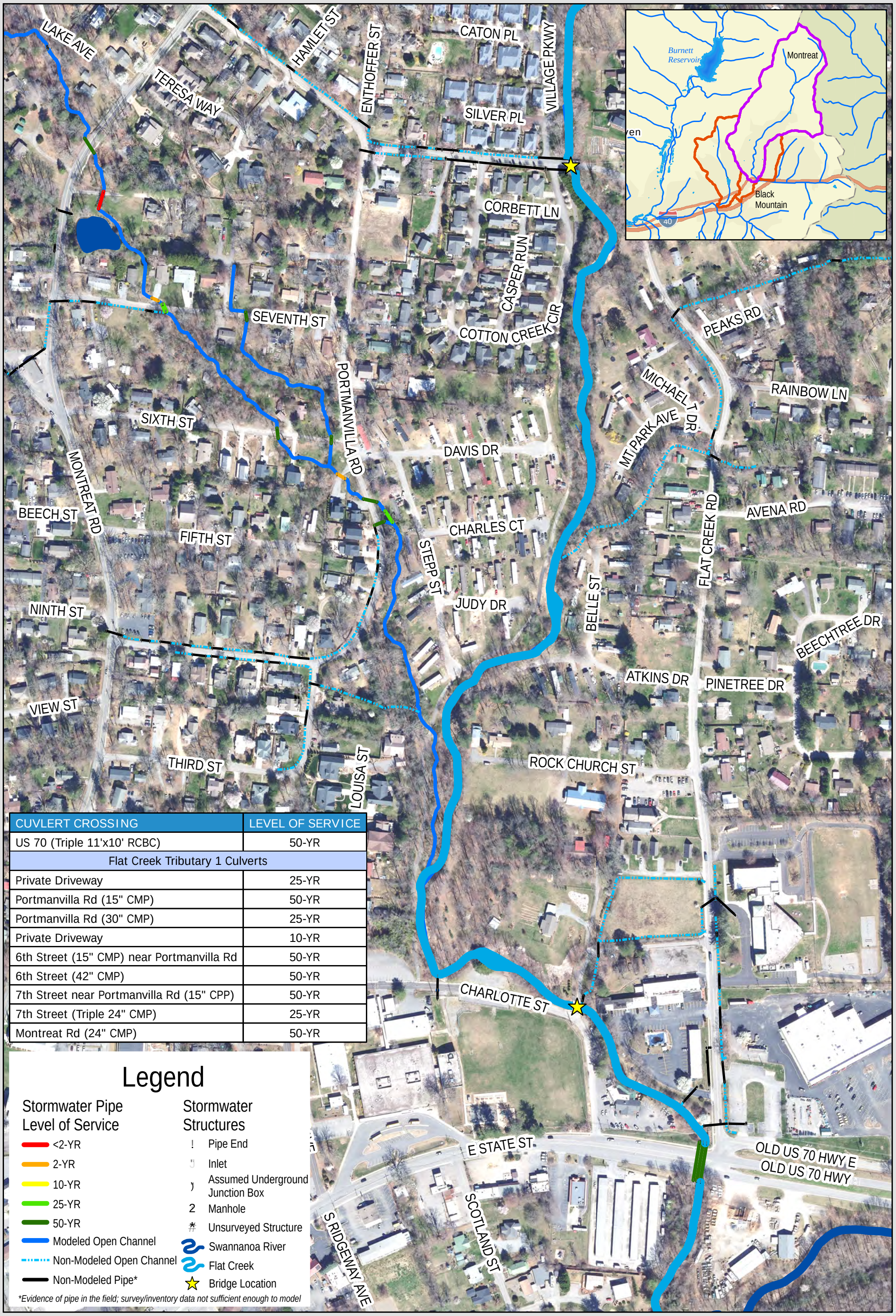
WK DICKSON
AN ARDURRA COMPANY

Figure 5-6: Proposed Stormwater Improvement Projects
FLAT CREEK TRIBUTARY 1 PRIMARY SYSTEM
Town of Black Mountain Stormwater Master Plan

0 100 200 Feet

1 in = 200 ft

N
W E
S



CUVLERT CROSSING	LEVEL OF SERVICE
US 70 (Triple 11'x10' RCBC)	50-YR
Flat Creek Tributary 1 Culverts	
Private Driveway	25-YR
Portmanvilla Rd (15" CMP)	50-YR
Portmanvilla Rd (30" CMP)	25-YR
Private Driveway	10-YR
6th Street (15" CMP) near Portmanvilla Rd	50-YR
6th Street (42" CMP)	50-YR
7th Street near Portmanvilla Rd (15" CPP)	50-YR
7th Street (Triple 24" CMP)	25-YR
Montreat Rd (24" CMP)	50-YR

Legend

Stormwater Pipe Level of Service

- <2-YR
- 2-YR
- 10-YR
- 25-YR
- 50-YR
- Modeled Open Channel
- Non-Modeled Open Channel
- Non-Modeled Pipe*

Stormwater Structures

- Pipe End
- Inlet
- Assumed Underground Junction Box
- Manhole
- Unsurveyed Structure
- Swannanoa River
- Flat Creek
- Bridge Location

Evidence of pipe in the field; survey/inventory data not sufficient enough to model

WK DICKSON
AN ARDURRA COMPANY

Figure 5-7: Proposed Conditions Level of Service
FLAT CREEK TRIBUTARY 1 PRIMARY SYSTEM
Town of Black Mountain Stormwater Master Plan

0 125 250 Feet
1 in = 250 ft

5.3. Flat Creek Watershed

Proposed improvements focused on the known flooding concerns located along Flat Creek Tributary 1 from Portmanvilla Rd upstream to Montreat Rd. Except for the NC DOT large RCBC culvert at US 70, the primary stream crossings along Flat Creek within the Town are bridges. As previously noted, these were modeled using FEMA data. Bridge improvements were not included as part of the SWMP.

Proposed improvements along Flat Creek Tributary 1 are shown in Figure 5-6 and the proposed level of service is provided in Figure 5-7. The proposed LOS for key roadway crossings is noted in Table 5.4.

TABLE 5.4: FLAT CREEK PRIMARY SYSTEM - PROPOSED LEVEL OF SERVICE

ROADWAY CROSSING	PROPOSED PIPE	EXISTING SYSTEM LEVEL OF SERVICE	PROPOSED SYSTEM LEVEL OF SERVICE
Montreat Rd (NC 9)	42" RCP	2-YR	50-YR
Seventh St	Triple 22.5" x 36.25" Arch (30" Eq)	2-YR	25-YR
Seventh St (west of Portmanvilla Rd)	22.5" x 36.25" Arch (30" Eq)	< 2-YR	50-YR
Sixth St	Twin 26.63" x 43.75" Arch (36" Eq)	10-YR	50-YR
Sixth St (west of Portmanvilla Rd)	Twin 22.5" x 36.25" Arch (30" Eq)	< 2-YR	50-YR
Portmanvilla Rd (existing 30" CMP)	Twin 31.31" x 51.13" Arch (42" Eq)	2-YR	50-YR
Portmanvilla Rd (existing 15" CMP)	Twin 22.5" x 36.25" Arch (30" Eq)	< 2-YR	50-YR
US 70 (E. State St)	NA	50-YR	50-YR

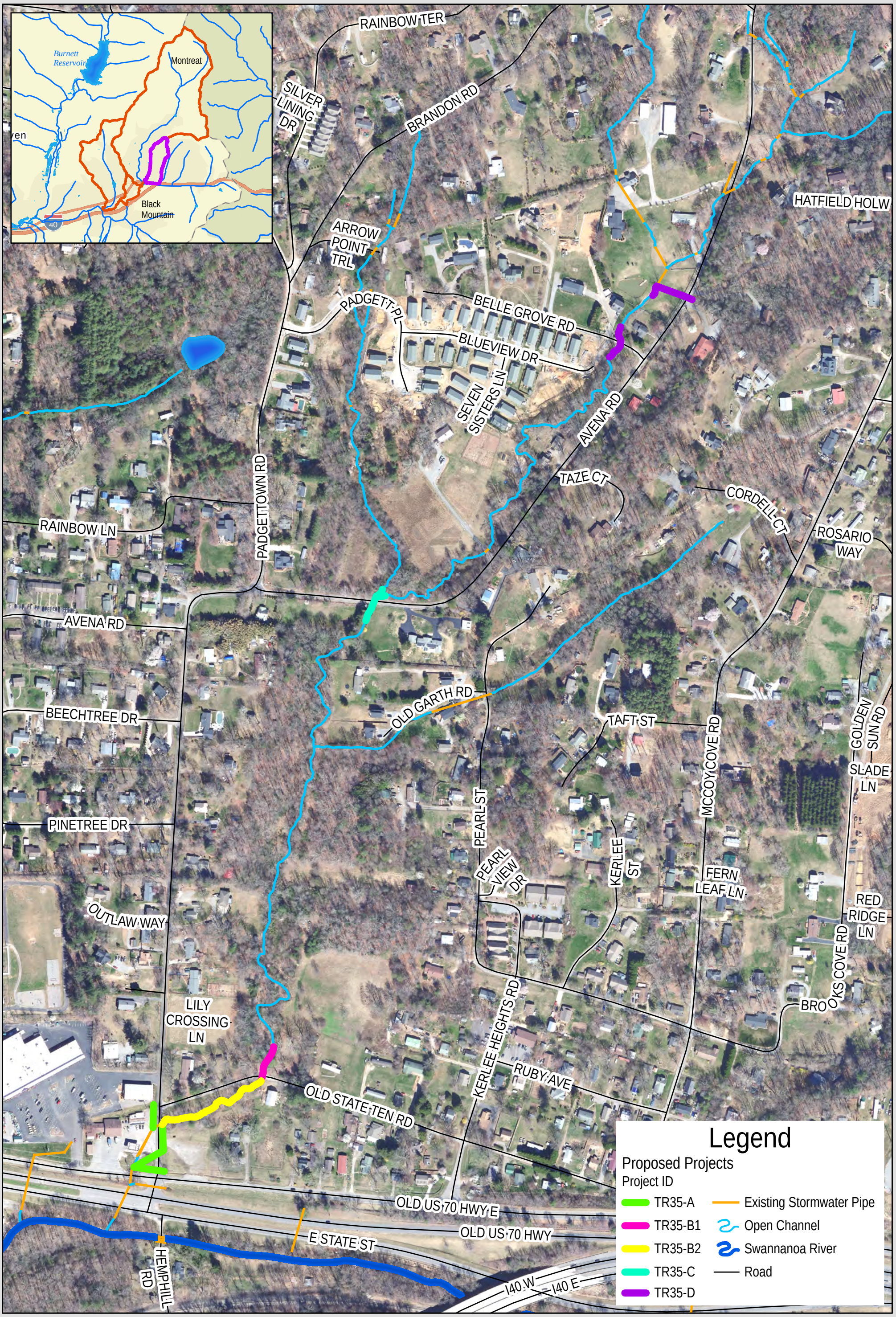
5.4. Tributary 35 / Avena Road Watershed

Tributary 35 of the Swannanoa River is located on the eastern edge of the Town. Historical flooding has been noted along Old State 10 Rd and Padegettown Rd. New development is underway near Bellgrove Rd and Avena Rd in the upper part of the watershed. The primary system consists of open channel and culverts. Infrastructure improvements focused on providing the Town's desired level of service along main roadways, allowing for emergency vehicle access.

Proposed projects are shown in Figure 5-8 and the resulting proposed LOS is provided in Figure 5-9. Proposed LOS for the primary system crossings are also noted below in Table 5.5. It should be noted that the existing conditions around Padgettown Road and Old US 70 East limit the amount of flood reduction achievable in this area.

TABLE 5.5: TRIBUTARY 35 PRIMARY SYSTEM - PROPOSED LEVEL OF SERVICE

ROADWAY CROSSING	PROPOSED PIPE	EXISTING SYSTEM LEVEL OF SERVICE	PROPOSED SYSTEM LEVEL OF SERVICE
Avena Rd (near Bellgrove Rd)	30" RCP	2-YR	50-YR
Bellgrove Rd	Twin 48" RCP	2-YR	50-YR
Avena Rd	Twin 48" RCP	10-YR	25-YR
Old State 10 Rd	Twin 4' x 6' RCBC	2-YR	25-YR
Padgettown Rd (north of Old US 70 E) New Bypass System	Twin 60" RCP	< 2-YR	10-YR
Old US 70 East	6' x 10' RCBC	25-YR	25-YR
US 70 (E. State St)	6' x 7' RCBC	50-YR	50-YR

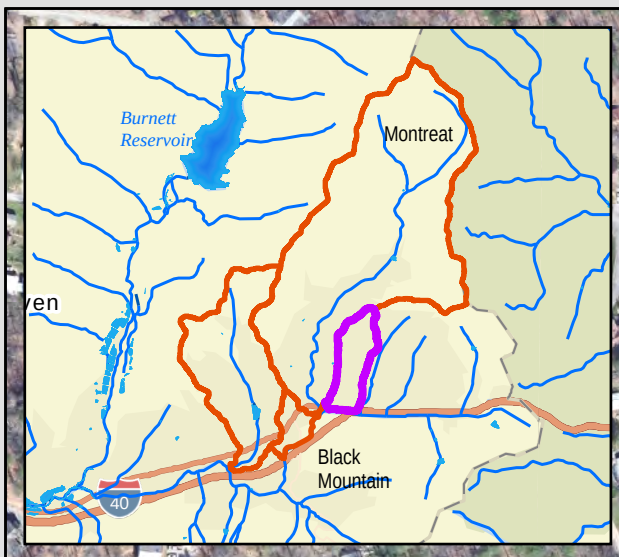


WK DICKSON
AN ARDURRA COMPANY

Figure 5-8: Proposed Stormwater Improvement Projects
AVENA ROAD/TRIBUTARY 35 PRIMARY SYSTEM
Town of Black Mountain Stormwater Master Plan

0 150 300 Feet
1 in = 300 ft

N
W E
S



CULVERT CROSSING	LEVEL OF SERVICE
US-70 (6'x7' RCBC)	100-YR
Old US-70 (6' x10' RCBC)	50-YR
Padgettown Rd (15" CMP)	50-YR
Parking Lot (Twin 36" CMP)	10-YR
Parking Lot (12" CMP)	100-YR
Padgettown Rd (Twin 36" CMP)	10-YR
Unimproved property	10-YR
Padgettown Rd (24" CMP)	25-YR
Old State Ten Rd (Twin 36" CPP)	25-YR
Avena Rd (48" CMP)	25-YR
Padgett Place (Twin 36" CPP)	100-YR
Belle Grove Rd (Twin 36" CMP)	50-YR
Avena Rd (24" CMP+18" CMP)	50-YR
Avena Rd (48" CMP)	100-YR

Legend

Stormwater Pipe Level of Service

- <2-YR
- 2-YR
- 10-YR
- 25-YR
- 50-YR
- Modeled Open Channel
- Non-Modeled Open Channel
- Non-Modeled Pipe*

Stormwater Structures

- Pipe End
- Inlet
- Assumed Underground Junction Box
- Manhole
- Unsurveyed Structure
- Swannanoa River

*Evidence of pipe in the field; survey/inventory data not sufficient enough to model

LOS results at US-70 include the use of the depression area between Old US-70 and US70 as a storage area.

WK DICKSON
AN ARDURRA COMPANY

Figure 5-9: Proposed Conditions Level of Service
AVENA ROAD/TRIBUTARY 35 PRIMARY SYSTEM
Town of Black Mountain Stormwater Master Plan

0 150 300 Feet
1 in = 300 ft

N W E S

5.5. Intense Storm Analysis

As noted in Section 3.5, the 2-yr and 5-yr, 6-hr storm events were modeled to simulate high-intensity rainfall events for the purpose of developing projects more resilient to climate change. These storm events were also modeled with the proposed stormwater improvement projects for each watershed. The modeling results indicate that the proposed capital projects would provide carrying capacity to prevent roadway overtopping during an intense storm event.

6. ANTICIPATED PERMITTING

The proposed improvements described in Sections 5 and 7 may require local, State, and/or Federal permits or approvals prior to the onset of construction. Based on the types of projects identified within the Town, permits or approvals may be required for any of the following reasons:

- Stream, riparian buffer, and/or wetland impacts;
- FEMA floodway and floodplain impacts;
- Land disturbance; and
- Potable water and sewer line adjustments.

The permitting matrix in Table 6-1 shows the different types of permits that are anticipated for each of the proposed projects. Riparian buffer requirements may apply to projects located within fifty (50) feet of a streambank. Coordination with the North Carolina Department of Environmental Quality (NCDEQ) is recommended to determine if buffer impacts are exempt or allowable with mitigation.

The types of 404/401 permits are described below and may vary based on the length of stream impacts and/or acreage of wetland impacts. Wetlands will need to be delineated to determine the acreage of impacts. Permit requirements for a given project may change based on the final design and any changes to the existing regulations. The appropriate permitting agencies should be contacted during the design process to determine if permits will be required.

6.1. NCDEQ Division of Water Resources 401 Water Quality Certification and USACE 404

Proposed improvements must adhere to the requirements set forth in Section 401 and 404 of the Clean Water Act. Required permitting can range from activities that are pre-authorized to those requiring pre-construction notification (PCN) for a Nationwide Permit (NWP) to those requiring an Individual Permit (IP). Individual permits may be required for projects with stream impacts greater than 300 feet and wetland impacts greater than 0.5 acres. It is anticipated that NWP #3 (Maintenance) and NWP #13 (Bank Stabilization) may be required to support the projects that include work within channels that are claimed jurisdictional by the US Army Corps of Engineers (USACE). More detailed explanations of the types of 404 permits are provided below.

NWP#3 – Maintenance

This permit authorizes the repair, replacement, or rehabilitation of any previously permitted or currently serviceable structure. A PCN is not required for minor deviations in the structure's configuration or filled area that occur because of changes in materials, construction techniques, or safety standards necessary to make repair or replacement, provided environmental impacts are minimal. A PCN to the USACE is required if a significant amount of sediment is excavated/filled within the channel. The NCDEQ Division of Water Resources (DWR) does not typically require a PCN for NWP #3 but usually receives one as a courtesy. A general water quality certification (WQC) is conditionally authorized under a NWP #3. If an activity does not meet the general WQC conditions, an individual WQC from DWR will be required.

Other provisions imposed by the State of North Carolina require that culvert inverts must be buried a minimum of 1-foot below the streambed for culverts greater than or equal to 48 inches in diameter to allow low flow passage of water and aquatic life. Culverts less than 48 inches in diameter should be buried to a depth of 20% or greater of the culvert's diameter.

NWP #13 – Bank Stabilization

This permit authorizes the reshaping of channel banks or bank stabilization activities that are necessary for erosion prevention. The placement of material is prohibited in any special aquatic site in a manner that may impede surface water flow into or out of a wetland area, or in a manner that will be eroded during normal or high flows. The activity must be part of a single and complete project and cannot exceed one cubic yard per running foot placed below the high-water mark line. If stabilization activities exceed 500 linear feet, then a PCN is required for both the USACE and DWR. DWR must also be notified and should fill be placed within the streambed. A WQC is conditionally authorized under a NWP #13. If an activity does not meet the general WQC conditions, an individual WQC from DWR will be required.

NWP #27 – Stream and Wetland Restoration Activities

This permit authorizes stream enhancement, stream restoration, and channel relocation for restoration purposes that provide gains in aquatic functions. Stream channelization and the conversion of streams to other aquatic uses such as impoundments or waterfowl habitat are not authorized. A PCN to the USACE is required for any restoration activities occurring on private or public lands. DWR requires a PCN if impacts are proposed for greater than 500 feet of stream bank or if in-stream structures are used.

Impacts proposed to the streams may need evaluation under the State Environmental Policy Act (SEPA). An Environmental Assessment (EA) is required under SEPA if greater than 500 linear feet of perennial stream is disturbed, and stream restoration or enhancement is not performed. Channel disturbances are defined as activities that remove or degrade stream uses such as channelization, culvert placement, riprap, and other hard structures. A list of some other conditions that should be followed under regulations provided by the USACE and DWR include the following:

- Soil erosion and sediment controls must be used and maintained in effective operating conditions during construction, and all exposed soil and fills should be stabilized at the earliest possible date.
- No activity is authorized under any NWP that is likely to jeopardize the existence of a threatened or endangered species, or which will destroy or adversely modify the habitat of such species.
- No activity is authorized that may affect historic properties listed or eligible for listing in the National Register of Historic Places.
- More than one NWP used for a single and complete project is prohibited.
- Impacts to the waters of the US should be avoided and minimized to the greatest extent practicable.
- Mitigation in all its forms will be required to the extent necessary to ensure that the adverse effects to the aquatic environment are minimal.
- Hardening techniques should be avoided and minimized to the greatest practicable extent.

6.2. Individual Permits

Individual permits are required when stream or wetland impacts do not meet the conditions of a nationwide permit. Permit applications may be reviewed by multiple agencies including but not limited to USACE, DWR, EPA, State Historic Preservation Office (SHPO), North Carolina Wildlife Resources Commission (NCWRC), and United States Fish and Wildlife Service (USFWS). The application is also made available for public review. There is no defined timeline for review of the application for an IP; therefore, the permitting process for an IP is typically significantly longer than the review time for a NWP. Typically, 404 and 401 Individual Permits are applied for jointly and their review is concurrent. There are no anticipated individual permit requirements for proposed projects as part of the Town's Proposed Capital Improvement Plan.

6.3. Federal Emergency Management Agency (FEMA)

Streams with a drainage area greater than one (1) square mile are typically modelled and mapped by FEMA for flood insurance purposes. The 100-year floodway and floodplain have been mapped for the watersheds included in the Town's SWMP (Tomahawk Branch, Flat Creek, Tributary 35 of the Swannanoa River, and the Swannanoa River). Any proposed projects that will include grading within a FEMA defined floodway will require a Conditional Letter of Map Revision (CLOMR) submitted to FEMA for pre-approval purposes and a Letter of Map Revision (LOMR) upon completion of construction.

6.4. Erosion and Sedimentation Control

The NCDEQ Division of Energy, Mineral, and Land Resources (DEMLR) is another agency that requires notification before proposed activities are constructed. DEMLR requires that an erosion and sedimentation control plan be submitted to the for approval before the start of construction for any disturbance greater than one (1) acre.

TABLE 6.1: ANTICIPATED PERMITTING MATRIX FOR PROPOSED PROJECTS

PROPOSED STORMWATER IMPROVEMENT PROJECT		FEMA	NCDEQ /NPDES	404/401 (NWP)	404/401 (IP)	NC DOT	Railroad
DOWNTOWN SYSTEM							
DT-SA-A	Sutton Ave	x		x		x	x
DT-SA-B	Broadway St			x		x	
DT-SA-C	Cherry St					x	
DT-SA-D1	Police Station/Post Office Phase I	x		x			
DT-SA-D2	Police Station/Post Office Phase II					x	
DT-SA-E	West St / Honeycutt St					x	
DT-SA-F	Montreat Rd / Midland Ave					x	
DT-SA-G	S. Ridgeway Ave	x		x			
DT-BMR-A	Black Mountain Ave Phase I			x			
DT-BMR-B	Black Mountain Ave Phase II						x
DT-TE-A	Terry Estate Dr Phase I	x		x			
DT-TE-B	Terry Estate Dr Phase II						
DT-NC9-A	NC 9	x		x		x	
TOMAHAWK BRANCH PRIMARY SYSTEM							
TB-A1	Laurel Circle	x		x			
TB-A2	Golf Course Floodplain Benching	x		x			
TB-B	Swannanoa Ave	x		x			
FLAT CREEK TRIBUTARY 1 PRIMARY SYSTEM							
FC-TRIB1-A	Portmanvilla Rd	x		x			
FC-TRIB1-B	6th St	x		x			
FC-TRIB1-C	7th St	x		x			
FC-TRIB1-D	Montreat Rd	x		x		x	
TRIBUTARY 35 / AVENA ROAD PRIMARY SYSTEM							
TR35-A	Padgettown Rd	x		x		x	
TR35-B1	Old State 10 Rd	x		x			
TR35-B2	Tributary 35 Floodplain Benching	x		x			
TR35-C	Avena Rd	x		x		x	
TR35-D	Bellgrove Rd / Avena Rd			x		x	

7. PRIORITIZATION AND RECOMMENDATIONS

Infrastructure capital projects are proposed in areas where historic flooding has been reported, where infrastructure has been determined to be high risk, and in general where the desired level of service for stormwater conveyance is not provided.

7.1. Infrastructure Project Prioritization

After completing the assessments and modeling documented in this Report, conceptual solutions were developed to address stormwater quantity and protecting and restoring natural stream corridors where possible. The recommended solutions begin with projects that reduce flooding, which was identified as a priority for the Town.

The initial conceptual analysis of each proposed project was evaluated through a prioritization process based on utility conflicts, level of street flooding, property ownership, effect of improvements, and cost effectiveness. A summary of the prioritization criteria used in the initial evaluation is noted below and documented in Table 7.1.

1. **Utility Conflicts**: The number and type of sanitary sewer conflicts and/or stream crossings within the proposed project footprint.
2. **Street Flooding:** Improvements to help meet the LOS across major and minor public streets.
3. **Public or Private Land:** Location of the proposed project and whether it is situated on Town, NCDOT, or privately-owned land.
4. **Effect of Improvements**: Flood reduction risk to a property by 0.5’ or greater and the number of properties experiencing the flood reduction risk.
5. **Cost Effectiveness**: Ratio of total project cost to project benefits.

Bonus points were awarded for projects that may be eligible for grant funding and stormwater systems with medium-high and high criticality scores.

TABLE 7.1. INFRASTRUCTURE PRIORITIZATION CRITERIA

CATEGORY	RATING	DESCRIPTION
Utility Conflicts	3	Minimal Utility Conflicts
	2	Stream Crossing, Water Main Conflict, and/or Minor Sewer Conflict
	1	Potential Re-Alignment of Sewer
Street Flooding	4	Improvements Help Meet LOS for Principal Arterial and Major Collector
	3	Improvements Help Meet LOS for Minor Arterial and Other Public Streets
	2	Project Improves Los for Public Roads at Primary System Crossings, but Desired Los Not Met
	1	LOS Improved for Secondary Systems, but Desired Los Not Met
Publicly Or Privately-Owned Land	4	Town
	3	County
	2	Public and Private
	1	NCDOT
	1	1 Private Landowner
	0	2+ Private Landowners
Effects Of Improvements*	4	Reduces Flood Risk > 5 Properties
	3	Reduces Flood Risk At 2-5 Properties and Potential Structural Flooding
	2	Reduces Flood Risk At 2-5 Properties
	1	Reduces Flood Risk < 2 Properties
Cost Effectiveness	4	Cost/Benefit Ratio < $20,000
	3	Cost/Benefit Ratio: $20,000 - $30,000
	2	Cost/Benefit Ratio: $30,001 - $40,000
	1	Cost/Benefit Ratio: $40,001 - $50,000
	0	Cost/Benefit Ratio > $50,000
Grant Bonus Points	1	Project May Be Eligible for 1 Grant
	2	Project May Be Eligible for 2 Grants
	3	Project May Be Eligible for 3 or More Grants
Criticality Bonus Points	1	Project Aligns with Infrastructure in the Medium Category
	2	Project Aligns with Infrastructure in the Medium-High and High Categories

**Flood risk defined as reduction of 0.5' or greater*

Weighting factors for infrastructure improvement projects placed emphasis on the primary goal of reducing street flooding. The weighting factors, which standardize the final project scores on a 100-point scale, are shown in Table 7.2.

TABLE 7.2. INFRASTRUCTURE WEIGHTING FACTORS

CRITERIA	WEIGHTING FACTOR
Utility Conflicts	4
Street Flooding	8
Publicly Or Privately-Owned Land	4
Effect Of Improvements	5
Cost Effectiveness	5

7.2. Planning Level Cost Estimates

The opinions on project costs have been prepared to assist Town staff in making planning level decisions and prioritizing improvements. The costs presented herein are not final design cost estimates. The preliminary project cost estimates were developed using recent bid tabulations from other communities within North Carolina. They include easement acquisitions, environmental permitting, surveying, engineering, legal, and administrative costs.

The cost estimates are planning-level costs based on current information. Costs are subject to change based on local factors, materials, delivery, construction, and other influences. A detailed breakdown of estimated capital and project costs per proposed stormwater improvement project is in Appendix E.

7.3. Project Recommendations

The recommended projects are focused on improving the Town's stormwater conveyance system. System upgrades to replace aging infrastructure, improve carrying capacity, and reduce flooding are presented herein. The Town should continue to promote nature-based solutions and green infrastructure in redevelopment and future development projects to reduce stormwater runoff.

Table 7-3, on the next page shows the total prioritization score of each proposed stormwater capital improvement project. Opinions of total project cost are also provided in Table 7-3. The planning costs presented are based on the infrastructure necessary to meet the Town's 50-year desired level of service where feasible.

Projects were also evaluated based on the prioritization criteria noted in Section 7.1. As noted in Table 7-3, there are several instances where a phase II or upstream project has a higher priority score. However, the downstream project should be constructed first to provide the capacity for implementing stormwater improvements upstream.

The Town should re-visit the prioritization lists annually to determine if the priorities should change. Project sheets and detailed cost estimates for each proposed project are provided in Appendix E.

TABLE 7.3. PROPOSED CIP PLANNING COST AND PRIORITIZATION SUMMARY

PROPOSED STORMWATER IMPROVEMENT PROJECT		PROJECT PLANNING LEVEL OPINION OF COST	PRIORITIZATION SCORE
DOWNTOWN SYSTEM			
DT-SA-A	Sutton Ave	$ 2,250,000	88
DT-SA-B1	Broadway St Phase I	$ 2,029,000	83
DT-SA-B2	Broadway St Phase II	$ 1,292,000	88
DT-SA-C1	Cherry St Phase I	$ 1,510,000	75
DT-SA-C2	Cherry St Phase II	$ 1,021,000	88
DT-SA-D1	Police Station/Post Office Phase I	$ 4,303,000	71
DT-SA-D2	Police Station/Post Office Phase II	$ 1,932,000	87
DT-SA-D3	Police Station/Post Office Phase III	$ 923,000	81
DT-SA-E1	West St to Montreat Rd	$ 1,228,000	76
DT-SA-E2	Montreat Rd at Laurel Circle Dr	$ 797,000	49
DT-SA-F	Midland Ave	$ 1,121,000	82
DT-SA-G	S. Ridgeway Ave	$ 827,000	76
DT-BMA-A	Black Mountain Ave Phase I	$ 1,880,000	82
DT-BMA-B	Black Mountain Ave Phase II	$ 1,308,000	88
DT-TE-A	Terry Estate Dr Phase I	$ 1,963,000	61
DT-TE-B	Terry Estate Dr Phase II	$ 1,380,000	78
DT-NC9-A	NC 9	$ 1,335,000	68
TOMAHAWK BRANCH PRIMARY SYSTEM			
TB-A1	Laurel Circle Culvert Replacement	$ 760,000	58
TB-A2	Golf Course Floodplain Benching	$ 690,000	53
TB-B	Swannanoa Ave Culvert	$ 430,000	77
FLAT CREEK PRIMARY SYSTEM			
FC-TRIB1-A	Portmanvilla Rd	$ 900,000	87
FC-TRIB1-B	6th St	$ 633,000	78
FC-TRIB1-C	7th St	$ 405,000	87
FC-TRIB1-D	Montreat Rd	$ 546,000	88
TRIBUTARY 35 PRIMARY SYSTEM			
TR35-A	Padgettown Rd	$ 1,422,000	62
TR35-B1	Old State 10 Rd	$ 608,000	77
TR35-B2	Tributary 35 Floodplain Benching	$ 425,000	66
TR35-C	Avena Rd	$ 438,000	85
TR35-D	Bellgrove Rd / Avena Rd	$ 824,000	83

8. FUNDING OPPORTUNITIES

There have been substantial changes in the North Carolina stormwater funding landscape over the last five (5) years that have enabled new capital investment in stormwater infrastructure by communities large and small. Available funding, and thus competitiveness for each grant or loan program changes year-to-year as priorities fluctuate at the state and federal level. Keeping up to date on these changes and leveraging one funding source to gain access to another are both crucial elements to developing a successful funding strategy for a given project.

As the Town navigates the current and future opportunities, the key will be to evaluate each funding program, the selection criteria, application deadlines, and funding timelines to estimate compatibility with the Town's project goals and timeline.

Multiple federal and state agencies provide funding opportunities for municipalities and organizations to implement watershed management projects. As the Town of Black Mountain explores opportunities to fully fund or partially fund this Capital Improvement Plan, additional investigation will be needed to determine complete project eligibility and competitiveness for each funding program identified.

The financial resource summary provided below is informational and are current grant programs available at the time this SWMP was prepared. A summary of key points for each one is provided in Table 10.1.

8.1. Clean Water State Revolving Fund (CWSRF)

Administered through the NCDEQ Division of Water Infrastructure, the Clean Water State Revolving Fund (CWSRF) program funds construction projects related to wastewater treatment, wastewater collection, reclaimed water, stormwater control measures (SCMs), stream restoration, and energy efficient projects. These projects may be funded by low-interest loans or Principal Forgiveness (PF) and any local government can apply for this funding. Additional information can be found here: CWSRF | NCDEQ

8.2. Water Resources Development Grant – State and Local Projects

Through the NCDEQ Division of Water Resources, the Water Resources Development Grant (WRDG) provided funding to local governments to support technical assistance (planning, engineering, and design) and implementation of water-related projects. The seven eligible projects include: general navigation, recreational navigation, water management, stream restoration, water-based recreation, the NRCS Environmental Quality Incentives Program (EQIP) (stream restoration), and feasibility/engineering studies. Relevant to the Town of Black Mountain, the non-navigation/coastal projects are referred to as State and Local Projects (S&L) and will fund up to a 50% cost-share. The maximum award for constructions projects is $200,000 and the maximum award for feasibility/engineering studies is $50,000. The applicant must be a local government entity. Further information on can be found here: WRDG | NCDEQ-DWR

TABLE 8.1. FUNDING OPPORTUNITIES

FUNDING AGENCY	PROGRAM	POTENTIAL PROJECT TYPES	TENTATIVE APPLICATION DEADLINE
NCDEQ-DWI	Clean Water State Revolving Fund (CWSRF)	Stormwater SCMs, Stream Restoration	March/April & Sept. 2025 Cycles
NCDEQ-DWR	Water Resources Development Grant (WRDG)	Stormwater SCMs, Watershed Planning, Engineering Study, Stream/Wetland/Floodplain Restoration, Bank Stabilization, Dam Removal, Trails/River Access, Land Acquisition, NRCS EQIP Projects	June 30, 2025 & Dec. 31, 2025
NCDEQ-DWR	205(j) WQ Management Planning Grant*	Water Quality Planning, Stormwater Infrastructure Mapping, Stormwater SCMs, Watershed Assessment	Sept 19, 2025
GOLDEN LEAF FOUNDATION	Flood Mitigation Grant	Stormwater Management, Engineering/ Planning, Stormwater System Mapping, Flood Mitigation	Oct. 24. 2024 Dec. 26, 2024 Feb. 20, 2025
NCLWF	NC Land and Water Fund Grants	Stream/Wetland Restoration, Land Acquisition, Innovative Stormwater Management, Planning	March 1, 2025
NCDOJ	Environmental Enhancement Grant (EEG)	Stormwater Management, Stream/Wetland Restoration, Planning, Land Acquisition, Research	LOI: March 1, 2025 Due: April 4, 2025
USDA - NRCS	Emergency Watershed Protection (EWP)	Stream Debris Removal, Stream/Erosion Stabilization, Repair Stormwater Infrastructure/Flood Management Structures, Conservation Practices, Purchase EWP Buyouts	Submit Application With 60 Days of Declared Disaster
NCDA&CS	Streamflow Rehabilitation Assistance Program (StRAP)	Stream Debris Removal, Stream Stabilization, Stream Restoration, Repair to Impoundment Structures	Spring 2025
FEMA	Building Resilient Infrastructure and Communities (BRIC)**	Mitigate Impacts to Infrastructure due to Natural Hazards, Flood Control, Stormwater Infrastructure, Stream Stabilization/Restoration, Capability and Capacity Building Projects	LOI: TBD Sub-App: TBD Final App: TBD
FEMA	Hazard Mitigation Grant Program (HMGP)	Disaster Specific Funding to Support Recovery and Mitigation Efforts	Based On Date of Declared Disaster
FEMA	Flood Mitigation Assistance (FMA)	Floodplain Property Buyouts due to Repetitive Loss, Individual and Localized Flood Reduction Projects, Capability and Capacity Building Projects	LOI: Dec 20, 2024 Sub-App: TBD Final App: TBD

**Grant applicant must be a Council of Government*

***Projects outside of a declared disaster area compete at the national level.*

8.3. Golden Leaf Flood Mitigation Grant

As an annual appropriation from the North Carolina General Assembly, the Golden LEAF Foundation administers the Flood Mitigation Program (FMP) grant that awards funding for flood mitigation projects to local units of government. The program will fund construction of improvements to or the addition of new publicly owned stormwater infrastructure, including natural drainage ways, streams, green infrastructure stormwater control measures (SCMs), flood controls, and grey infrastructure. Improvements must mitigate flooding impacts for the future. Funds can also be used to cover planning or engineering studies related to flood mitigation solutions. The maximum grant award request is $2M, although most projects do not exceed $1M. Applications are reviewed twice a year. There is no financial match requirement. Learn more about the program here: FMP | Golden LEAF

8.4. North Carolina Water and Land Fund

Funded through the NC General Assembly, the North Carolina Water and Land Fund (NCWLF) (formerly known as the Clean Water Management Trust Fund) funds projects focused on conservation, ecological restoration, and water quality improvements throughout the state. Grants are available for Acquisition, Restoration, Innovative Stormwater, and Planning activities. Most appropriate for the Town to consider, the Restoration grant funds stream restoration and stabilization, wetland restoration and creation, dam removal and fish-passage culvert replacement, and other projects that improve surface water quality, including stormwater green infrastructure facilities and removal of infrastructure from floodplains.

Local units of government and non-profit organizations are eligible to apply. While the max funding request is not capped, recent awards have generally ranged from $150,000 to $900,000. The availability of funding varies year to year based on General Assembly priorities. No cost-share is required, however matching funds is a major component of project scoring. For stream projects, NCLWF requires a conservation easement to be established to protect a 50’ wide vegetated riparian buffer on both sides of the stream (100’ in total). To learn more about the Restoration grant program or any of the other NCLWF programs visit this website: NCLWF

8.5. Environmental Enhancement Grant (EEG)

Resulting from a legal settlement between the NC Attorney General and Smithfield Foods, the Environmental Enhancement Grant (EEG) was established to support projects that improve North Carolina’s air, water, and quality. Non-profit, academic, and governmental entities are eligible to apply, and awards generally range from $5,000 to $500,000. Eligible projects include land acquisition, remediation, restoration, planning, education, research, and construction activities. Projects that provide benefits to underserved or overburdened communities and address environmental justice issues. A financial match is not required but is advantageous. More information on scoring criteria and the application process can be found here: EEG | NCDOJ

8.6. Emergency Watershed Protection

The Emergency Watershed Protection (EWP) Program provides emergency federal recovery assistance to communities impacted by natural disasters. The program is administered through the USDA and NRCS and offers technical and financial assistance. In the absence of a federal or state disaster declaration, the NRSC State Conservationist can declare a local watershed emergency to open access to the EWP program.

Eligible projects include stream debris removal, stream bank and land erosion stabilization, repair or replacement of drainage facilities, repair of flood control structures, repair some conservation practices, and purchase EWP Buyouts. Projects must provide protection from future flooding, reduce threats to life and property, and restore hydraulic capacity to the natural environment. The program applicant/sponsor must be a local governmental entity and there is a 25% cost-share required. More detail about the program can be found here: EWP | USDA

8.7. Streamflow Rehabilitation Assistance Program

Under the North Carolina Department of Agriculture and Consumer Services (NCDA&CS), the Streamflow Rehabilitation Assistance Program (StRAP) funds projects that reduce flooding, improve streams through bank stabilization, stream debris removal, and stream restoration activities, and protect or improve drainage infrastructure (e.g., principal spillway, emergency spillway, and impoundment maintenance). Local governmental entities and non-profit organizations are eligible to apply, and awards can range from <$100,000 to $1M. More information can be found here: StRAP | NCDACS

8.8. Federal Emergency Management Agency (FEMA)

The Federal Emergency Management Agency (FEMA) provides multiple avenues for financial assistance, some of which are managed by the NC Department of Public Safety Division of Emergency Management. Additional information on these programs can be found at these links: Hazard Mitigation Assistance Grants | FEMA.gov and North Carolina Department of Public Safety's Division of Emergency Management.

Building Resilient Infrastructure and Communities (BRIC)

FEMA has several hazard mitigation programs that are particularly well-suited for stormwater projects. The newest of these programs is a retooling of the former Pre-Disaster Mitigation Program (PDM), known as the Building Resilient Infrastructure and Communities (BRIC) grant program. It represents a significant shift in the way FEMA conducts pre-disaster mitigation funding. It is a standard Stafford Act program with a 25% local match required. Applications are accepted in the fall of each year through the state emergency management agency, which is NCDPS. This program focuses on projects that have multi-layer benefits for the community and those that employ nature-based solutions. These can include flood control, water, sewer, or infrastructure construction projects or plans and studies to help develop future projects called Capability & Capacity Building (C&CB) proposals. The request amount is capped at $50M.

Eligible project types include shovel-ready (construction) projects, phased projects, and C&CB projects (planning and design). C&CB planning projects will be selected at the state level and awarded sooner than construction projects that will be scored and compete at the national level. It is important to note that applications are conducted through NCDPS, and that FEMA requires a minimum Benefit Cost Analysis (BCA) score for all non-planning projects. Currently, the BRIC program has not received funding, but it could be a source if the program is reinstated. More information can be found here: BRIC | NCDPS.

FEMA Hazard Mitigation Grant (HMGP)

FEMA's Hazard Mitigation Grant Program (HMGP) also funds stormwater projects that are designed to reduce flooding impacts. It is different from the BRIC and HMA programs in that it is not pre-disaster funding. HMGP funds are made available to areas that were covered under a federal disaster declaration. The need for the project submitted does not have to be a result of the disaster but must align with the

area's FEMA-approved Hazard Mitigation Plan. Pre-applications are normally due to NCDPS within 6 months after the declaration. Read further about the program here: HMGP | NCDPS

Flood Mitigation Assistance (Floodplain Buyouts)

Another program under the FEMA mitigation umbrella is the Flood Mitigation Assistance (FMA) grant program. The focus of this program is to fund projects that reduce or eliminate repetitive flood damage to buildings or structures insured by the National Flood Insurance Program (NFIP). The primary purpose of the FMA is to support individual floodplain property buyouts in NFIP communities. The program can also fund C&CB activities and localized flood rick reduction projects. As with the BRIC program, FEMA prioritizes projects that integrate nature-based solutions. Applications for this program follow the same process and general timeframe as BRIC program. Learn more about this program here: BRIC | NCDPS

9. REFERENCES

1. NOAA National Climate Data for Hurricane Helene: Daily Summaries Station Details: ASHEVILLE, NC US, GHCND:USW00013872 | Climate Data Online (CDO) | National Climatic Data Center (NCDC)
2. Town of Black Mountain Stormwater Master Plan Update (2022), Wildlands Engineering.
3. FEMA Models downloaded from the North Carolina Flood Risk Information System (FRIS): NCEM FRIS
4. NOAA National Weather Service ATLAS 14: https://hdsc.nws.noaa.gov/pfds/
5. Urban Hydrology for Small Watersheds, United States Department of Agriculture, Natural Resources Conservation Service, Conservation Engineering Division, Technical Release 55, June 1986.
6. USACE HEC-HMS Land Cover Curve Numbers: Curve Numbers | HEC-HMS | USACE
7. Environmental Protection Agency: Storm Water Management Model (SWMM) | US EPA
8. References for Anticipated Permits and Funding Opportunities are provided within Sections 6 and 8, respectively.

WK DICKSON

AN ARDURRA COMPANY

TOWN OF BLACK MOUNTAIN

BLACK MOUNTAIN STORMWATER MASTER PLAN

Appendix | December 2025

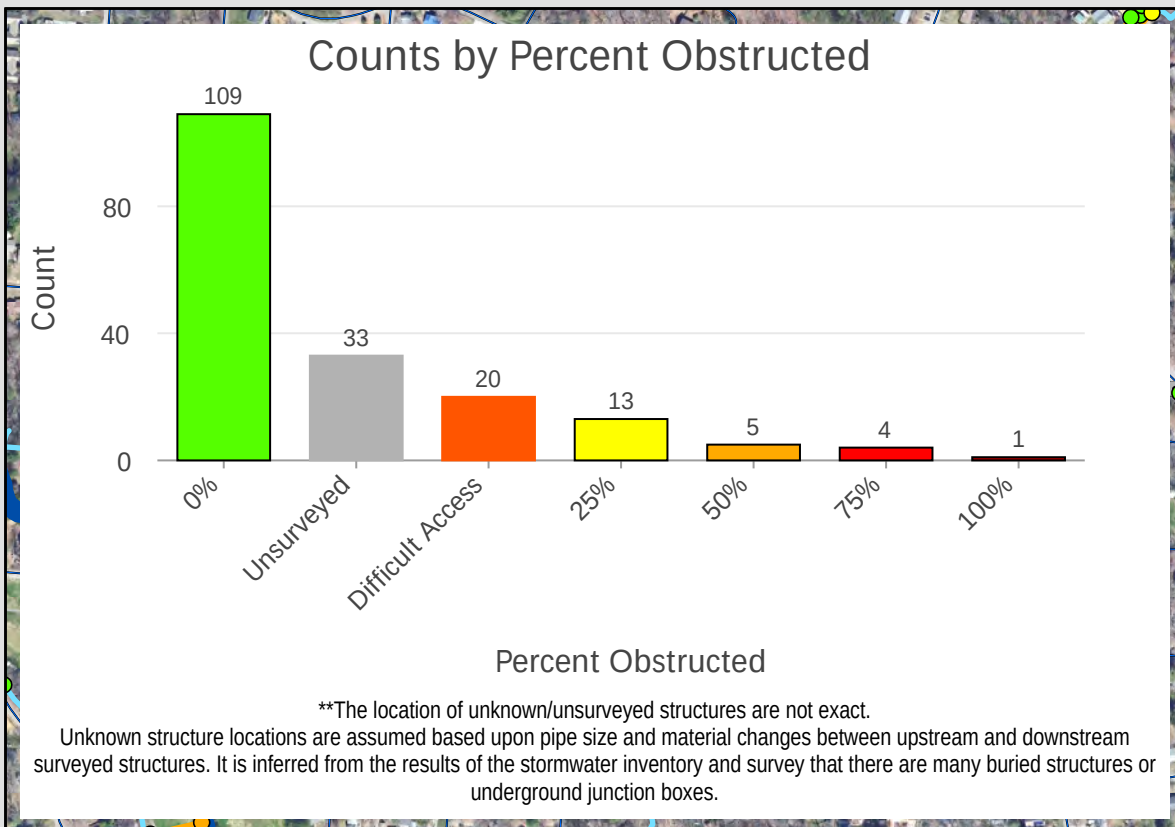
APPENDIX A
MAPS

Figure A-1 Downtown Obstructed Structures

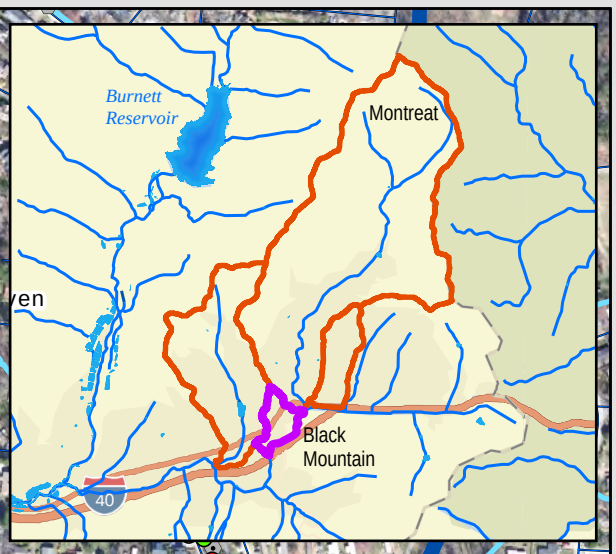
Figure A-2 Tomahawk Branch Obstructed Structures

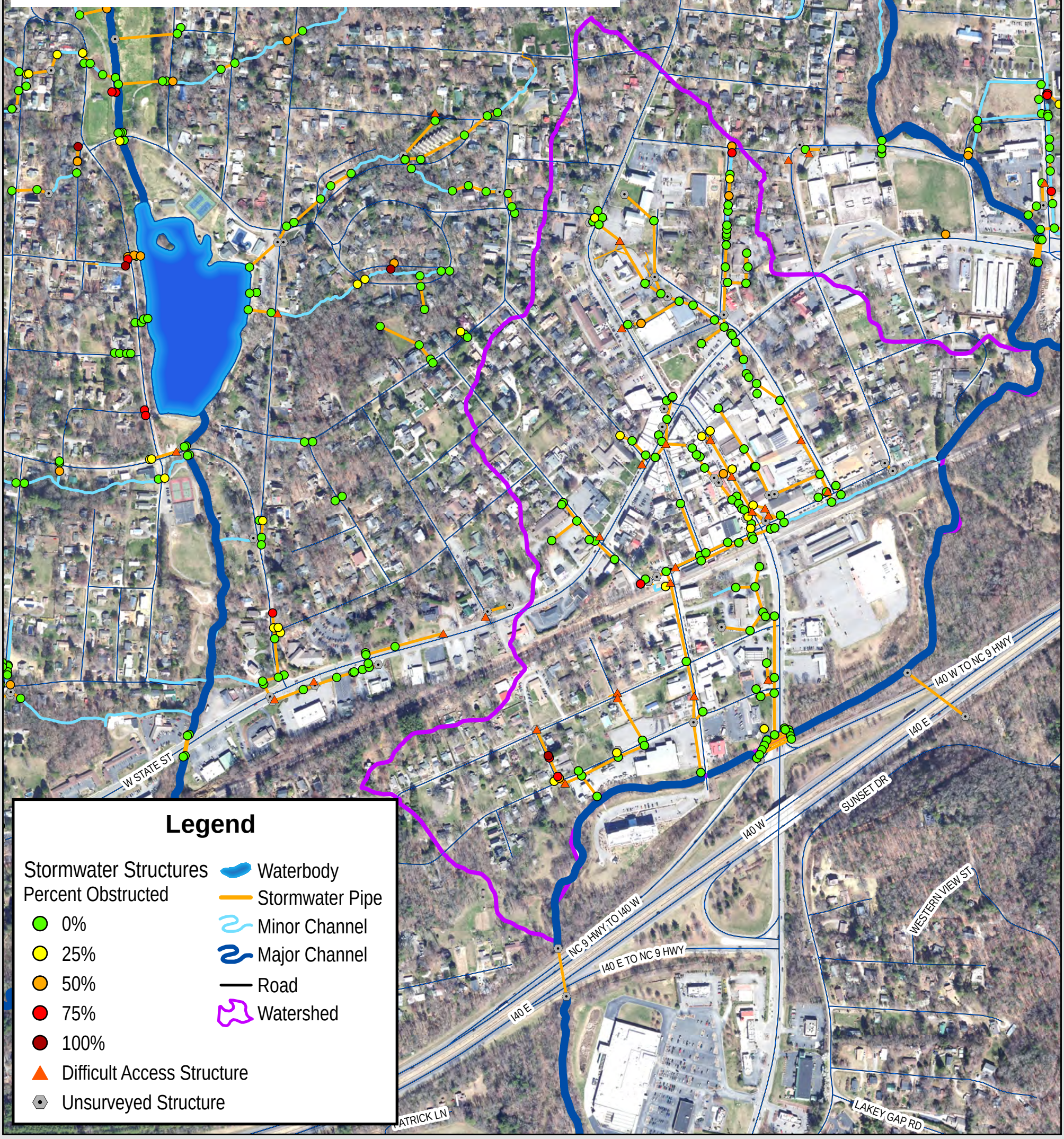
Figure A-3 Flat Creek Obstructed Structures

Figure A-4 Tributary 35 / Avena Rd Obstructed Structures



**The location of unknown/unsurveyed structures are not exact.
Unknown structure locations are assumed based upon pipe size and material changes between upstream and downstream surveyed structures. It is inferred from the results of the stormwater inventory and survey that there are many buried structures or underground junction boxes.





Legend

Stormwater Structures
Percent Obstructed
- 0%
- 25%
- 50%
- 75%
- 100%
- Difficult Access Structure
- Unsurveyed Structure

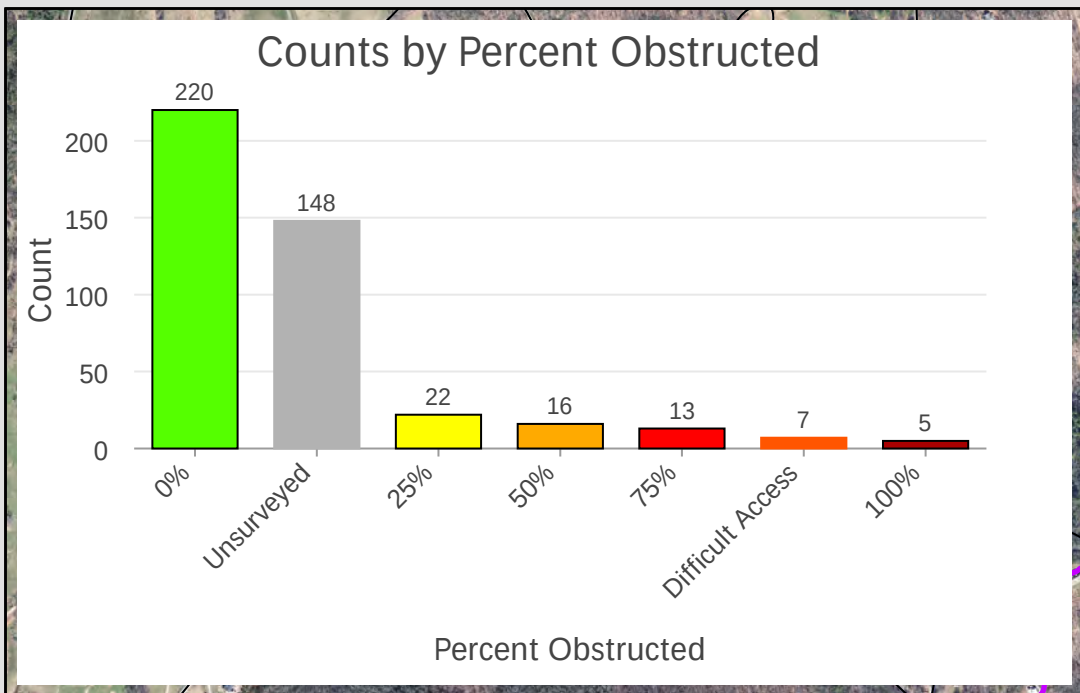
- Waterbody
- Stormwater Pipe
- Minor Channel
- Major Channel
- Road
- Watershed

WK DICKSON
AN ARDURRA COMPANY

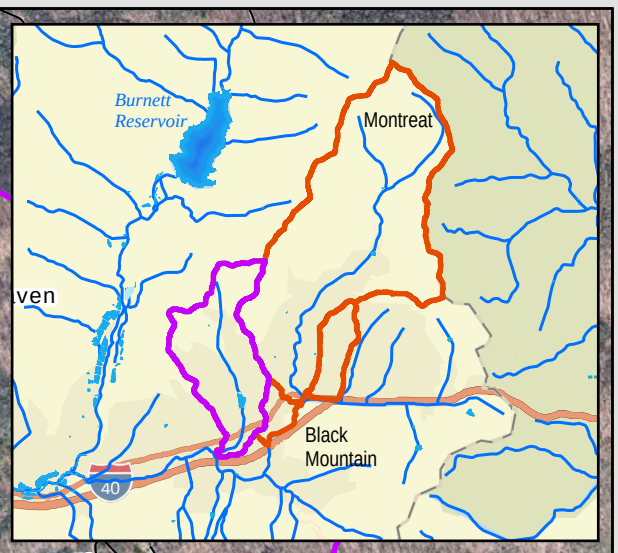
Figure A-1: Obstructed & Difficult Access Stormwater Structures
DOWNTOWN DRAINAGE SYSTEM
Town of Black Mountain Stormwater Master Plan

0 250 500 Feet
1 in = 500 ft

N W E S



**The location of unknown/unsurveyed structures are not exact.
Unkown structure locations are assumed based upon pipe size and material changes between upstream and downstream surveyed structures. It is inferred from the results of the stormwater inventory and survey that there are many buried structures or underground junction boxes.



SELDOM HOME DR
PINNACLE DR
CHAPEL RD
ALLEN MOUNTAIN DR
WHISPERING WIND DR
REED RD
VALLEY RIDGE LN
FRANCES AVE
CARVER AVE
SO HI TRL
HI VIEW DR
TEMPLE RD
NORTH FORK RD
FAIRWAY DR
HILLTOP RD
MOUNT ALLEN HTS
VIEW ST
W STATE ST
NC 9 HWY; TO I40 W
VETERANS PARK DR
I40 W
I40 E
BRIERBROOK RD
PATRICK LN
WHITE PINE DR

Legend

Stormwater Structures
Percent Obstructed
- 0%
- 25%
- 50%
- 75%
- 100%
- Difficult Access Structure
- Unsurveyed Structure

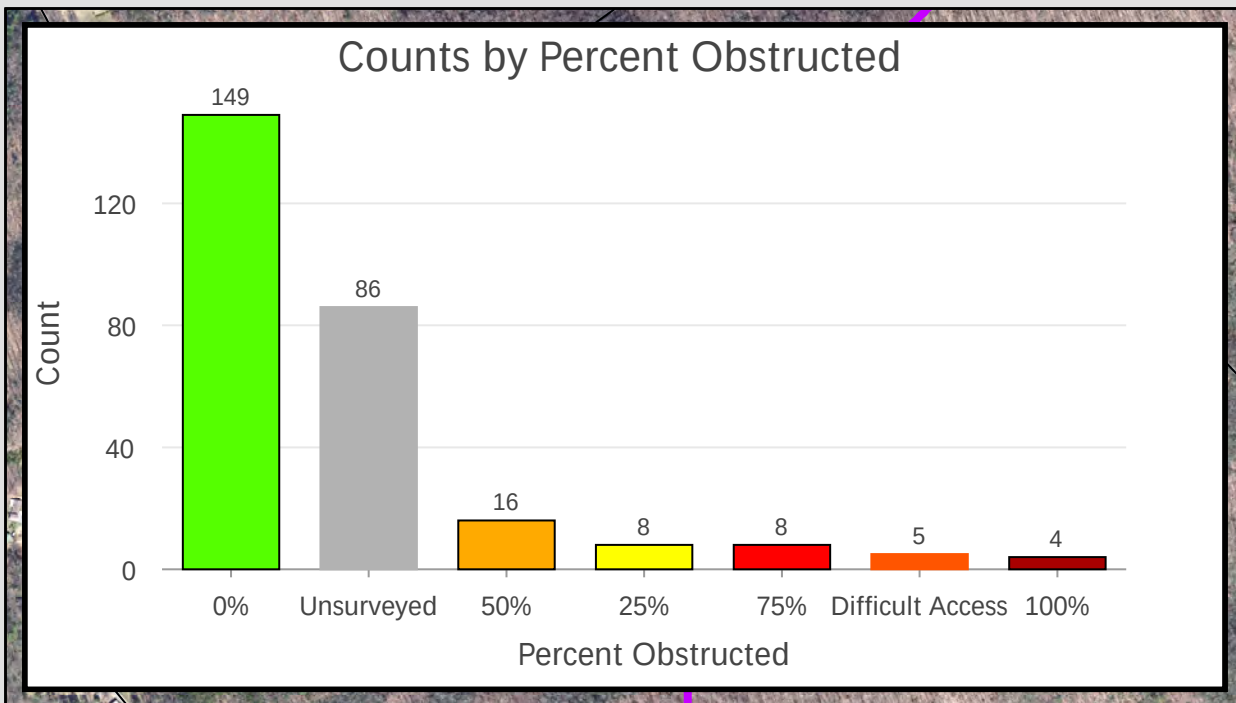
- Waterbody
- Stormwater Pipe
- Minor Channel
- Major Channel
- Road
- Watershed

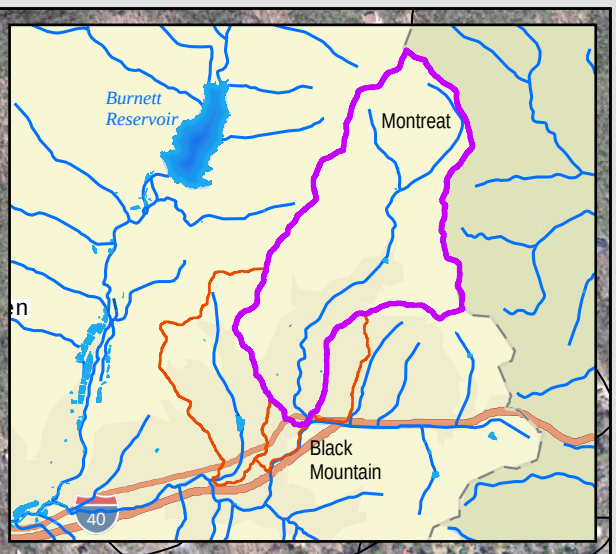
WK DICKSON
AN ARDURRA COMPANY

Figure A-2: Obstructed & Difficult Access Stormwater Structures
TOMAHAWK BRANCH PRIMARY SYSTEM
Town of Black Mountain Stormwater Master Plan

0 500 1,000 Feet
1 in = 1,000 ft

N W E S





**The location of unknown/unsurveyed structures are not exact.
Unknown structure locations are assumed based upon pipe size and material changes between upstream and downstream surveyed structures. It is inferred from the results of the stormwater inventory and survey that there are many buried structures or underground junction boxes.

Legend

Stormwater Structures
Percent Obstructed
- 0%
- 25%
- 50%
- 75%
- 100%
- Difficult Access Structure
- Unsurveyed Structure

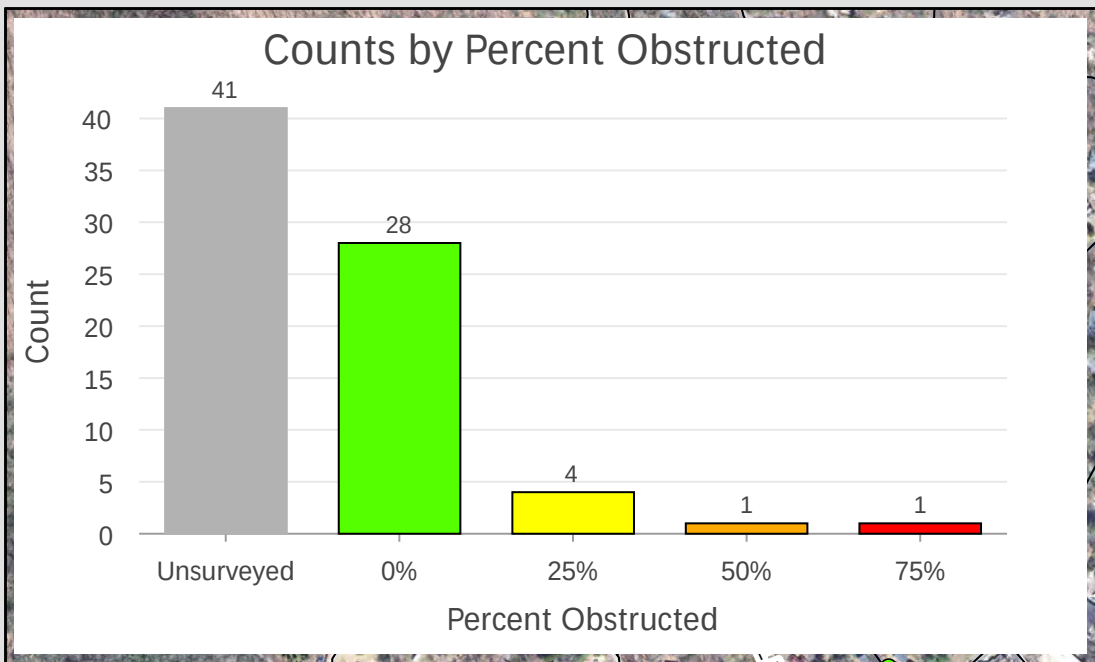
- Waterbody
- Stormwater Pipe
- Minor Channel
- Major Channel
- Road
- Watershed

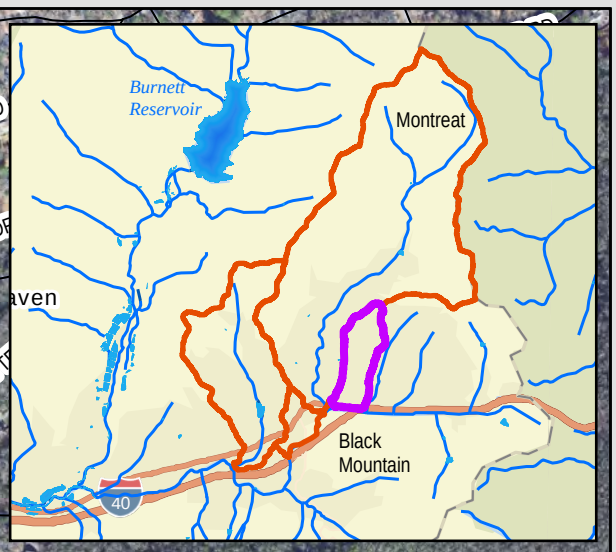
WK DICKSON
AN ARDURRA COMPANY

Figure A-3: Obstructed & Difficult Access Stormwater Structures
FLAT CREEK TRIBUTARY 1 PRIMARY SYSTEM
Town of Black Mountain Stormwater Master Plan

0 400 800 Feet
1 in = 800 ft

N W E S





**The location of unknown/unsurveyed structures are not exact.
Unkown structure locations are assumed based upon pipe size and material changes between upstream and downstream surveyed structures. It is inferred from the results of the stormwater inventory and survey that there are many buried structures or underground junction boxes.

Legend

Stormwater Structures
Percent Obstructed
- 0%
- 25%
- 50%
- 75%
- 100%
- Difficult Access Structure
- Unsurveyed Structure

- Waterbody
- Stormwater Pipe
- Minor Channel
- Major Channel
- Road
- Watershed

WK DICKSON
AN ARDURRA COMPANY

Figure A-4: Obstructed & Difficult Access Stormwater Structures
AVENA ROAD/TRIBUTARY 35 PRIMARY SYSTEM
Town of Black Mountain Stormwater Master Plan

0 300 600 Feet
1 in = 600 ft

N W E S

HYDROLOGIC ANALYSIS

Per the contract, PCSWMM developed by the CHI was selected as the hydrologic and hydraulic model to evaluate both the primary and secondary stormwater conveyance systems. The model uses the EPB-developed SWMM engine for computations and is particularly effective at evaluating systems that may: (a) have significant backwater effects from rising water surface elevations within the primary systems, (b) have attenuation within drainage ditches or behind roadways, and (c) show a sensitivity to the timing response of runoff to rainfall.

The precipitation data for the 24-hour duration, NRCS Type II storm was used to represent the synthetic rainfall event. The NRCS curve number approach was selected to calculate runoff volumes from the precipitation data, and the sub-basin unit hydrographs for these flood volumes were developed using the NRCS lag times.

The NRCS curve number approach was selected to calculate runoff volumes from the precipitation data, and the sub-basin unit hydrographs for these flood volumes were developed using the watershed width parameter. PCSWMM simulates the surface runoff response to precipitation for an interconnected system of surfaces, channels, and ponds. Input data for the PCSWMM model was developed using topographic data, land cover data, and soils maps in GIS to delineate and calculate the basin areas and NRCS hydrologic parameters.

The PCSWMM model offers a variety of methods for simulating the rainfall-runoff response, hydrograph development, and channel routing. One advantage to using PCSWMM to model both hydrology and hydraulics is that channel routing is modeled in the EXTRAN (hydraulics) block automatically based on the geometry and nature of the conveyance system. This eliminates the need to iterate between a hydrologic model and a hydraulic model to produce reasonable flows.

B. 1 Watershed Delineation and Connectivity

Watersheds were delineated for the Town study areas utilizing digital LiDAR data available from the State of North Carolina, survey, and the stormwater inventory. The preliminary watersheds were created using automated delineation procedures in a GIS platform and then adjusted as necessary based on the conveyance system and known ridge lines. Subwatersheds were selected at hydrologically and hydraulically significant points, such as major roadway crossings, stream convergences, known problem areas, etc. Secondary systems like Downtown and Tomahawk Branch/Lake areas were delineated in more detail to effectively evaluate the closed stormwater system.

Watershed maps showing the sub-basins and hydrological connectivity are provided in Section 2 of the SWMP. In its entirety, the study covers an area of approximately 5,557 acres (8.68 square miles). Drainage areas for each of the watersheds studied are noted in Table B.1. The upper parts of the primary

system watersheds extend outside of the Town limits. However, runoff from these areas drains down the mountain and through the Town's stormwater conveyance system on its way to the Swannanoa River.

TABLE B-1: WATERSHED DRAINAGE AREAS

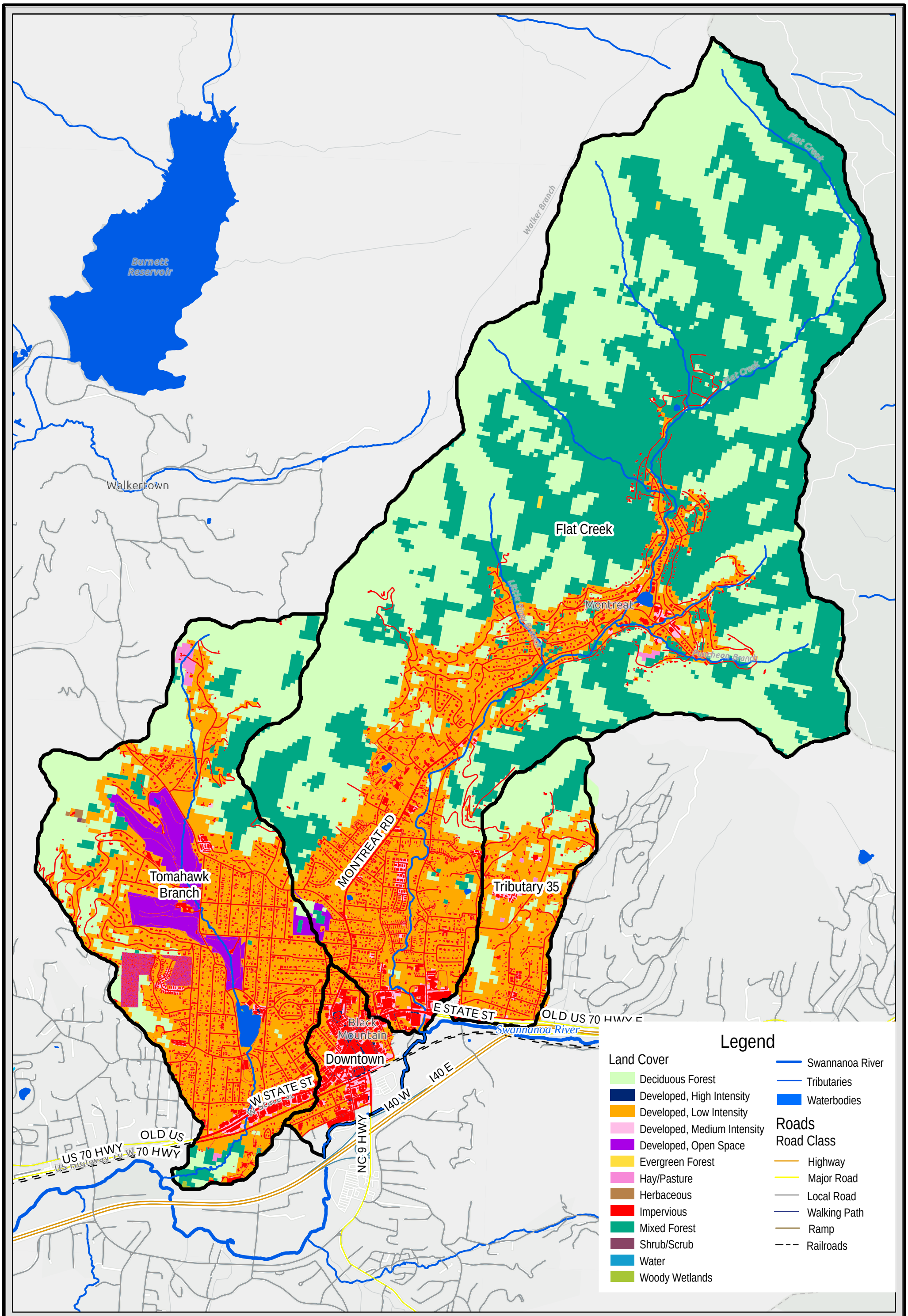
WATERSHED	AREA (ACRES)	PERCENT OF WATERSHED LOCATED INSIDE TOWN LIMITS
Downtown	151	100%
Tomahawk Branch	1,233	73%
Flat Creek	3,863	13%
Tributary 35 (of the Swannanoa)	310	69%
TOTAL STUDY DRAINAGE AREA	**5,557**	**42%**

B. 2 Land Cover

Land cover represents the physical surface characteristics of the watershed, describing what is present on the ground e.g., impervious surfaces, open water, forest, etc. Land cover directly influences the hydrologic response of a watershed by affecting infiltration, evapotranspiration, and surface runoff. In combination with other basin characteristics, land cover is used to estimate hydrologic parameters such as the SCS curve number for the basin.

One of the most critical land cover components in an urban environment is impervious surface coverage. Using a high-resolution impervious layer developed by Raftelis, Ardurra integrated this dataset into the overall land cover classification framework. Next, water features were identified and incorporated into the dataset using USGS data products (3DHP). After establishing impervious and water features, the National Land Cover Dataset (NLCD) was used to classify remaining areas and fill data gaps. In total, fifteen (15) land cover categories were delineated within the Town. Aerial imagery, field observations, and current development plans provided by the Town of Black Mountain (e.g., Tudor Croft Development) were used to verify and refine the land cover classifications as necessary.

Land cover within the Town is mostly forest (especially in the upper watershed of Flat Creek) and low intensity development. The overall land cover map for the watershed study is shown in Figure B-1. Acreage of each existing land cover groups and correlating percentages are listed in Tables B-2 and B-6.



WK DICKSON
AN ARDURRA COMPANY

Figure B-1: Land Cover
Town of Black Mountain Stormwater Master Plan

0 1,000 2,000 Feet
1 in = 2,000 ft

N
W E
S

TABLE B.2: BLACK MOUNTAIN LAND COVER

LAND COVER CATEGORY	EXISTING	
	AREA (ACRES)	PERCENT OF BASIN AREA
Deciduous Forest	2046.2	37.1
Mixed Forest	1505.6	27.3
Low Intensity Development	1236.3	22.4
Impervious	517.1	9.4
Developed Open Space	107.7	2.0
Water	52.0	0.9
Medium Intensity Development	40.0	0.7
Hay/Pasture	8.8	0.2
High Intensity Development	4.0	0.1
Evergreen Forest	2.3	0.0
Grassland/Herbaceous	1.3	0.0
Woody Wetland	0.7	0.0
Shrub/Scrub	0.2	0.0

TABLE B-3: DOWNTOWN WATERSHED LAND COVER

LAND COVER CATEGORY	EXISTING	
	AREA (ACRES)	PERCENT OF BASIN AREA
Impervious	61.8	52.6
Low Intensity Development	38.6	32.8
Medium Intensity Development	13.5	11.5
High Intensity Development	3.5	3.0
Water	0.1	0.0

TABLE B-4: TOMAHAWK BRANCH LAND COVER

LAND COVER CATEGORY	EXISTING	
	AREA (ACRES)	PERCENT OF BASIN AREA
Low Intensity Development	507.9	42.0
Deciduous Forest	318.3	25.8
Impervious	189.2	15.3
Developed Open Space	103.0	8.4
Mixed Forest	78.7	6.4
Water	16.8	1.4
Medium Intensity Development	9.4	0.8
Hay/Pasture	6.6	0.5
Grassland/Herbaceous	1.3	0.1
Evergreen Forest	0.9	0.1
Woody Wetlands	0.7	0.1
Shrub/Scrub	0.2	0.0
High Intensity Development	0.1	0.0

TABLE B-5: FLAT CREEK LAND COVER

LAND COVER CATEGORY	EXISTING	
	AREA (ACRES)	PERCENT OF BASIN AREA
Deciduous Forest	1622.8	42.0
Mixed Forest	1412.4	36.6
Low Intensity Development	544.0	14.1
Impervious	227.7	5.9
Water	35.1	0.9
Medium Intensity Development	13.5	0.3
Developed Open Space	4.8	0.1
Hay/Pasture	1.6	0.0
Evergreen Forest	1.3	0.0
High Intensity Development	2.3	0.0

TABLE B-6: AVENDA ROAD/TRIBUTARY 35 LAND COVER

LAND COVER CATEGORY	EXISTING	
	AREA (ACRES)	PERCENT OF BASIN AREA
Low Intensity Development	146.3	47.1
Deciduous Forest	106.6	34.4
Impervious	38.5	12.4
Mixed Forest	14.7	4.7
Medium Intensity Development	3.6	1.2
Hay/Pasture	0.7	0.2

B. 3 Soils

The infiltration rate of soil influences the volume of surface runoff that results from given storm events. Soils with high infiltration rates produce lower runoff than soils with lower infiltration rates. The Soil Conservation Service has prepared soil maps for Buncombe County that identify four (4) primary soil groups. This data is available digitally and was obtained for the Town of Black Mountain. The groups (A, B, C, and D) correspond to decreasing rates of infiltration. A general description of the four (4) soil groups taken from the USDA, SCS, NEH-4 (1972) is presented in Table B-7. A map of the hydrologic soil groups (HSG) is shown in Figure B-2.

TABLE B-7: HYDROLOGIC SOIL GROUPS

SOIL GROUP	DESCRIPTION
A	Group A soils have high infiltration rates even when thoroughly wetted and consist chiefly of deep, well to excessively drained sand or gravels. These soils have a high rate of water transmission (greater than 0.3 inches per hour).
B	Group B soils have moderate infiltration rates even when thoroughly wetted and consist chiefly of moderately deep to deep, moderately well to well drained soils with moderately fine to moderately coarse texture. These soils have a moderate rate of water transmission (0.15 to 0.3 inches per hour).
C	Group C soils have slow infiltration rates when thoroughly wetted and consist chiefly of soils with a layer that impedes downward movement of water, or soils with moderately fine to fine texture. These soils have a slow rate of water transmission (0.5 to 0.15 inches per hour).

SOIL GROUP	DESCRIPTION
D	Group D soils have a very slow infiltration rate when thoroughly wetted and consist chiefly of clay soils with a high swelling potential, soils with a permanent high-water table, soils with a clay pan or clay layer at or near the surface, and shallow soils over nearly impervious material. These soils have a very slow rate of water transmission (0 to 0.05 inches per hour).
A/D B/D C/D	The first letter applies to the drained condition and the second to the undrained condition. For the purpose of hydrologic soil group, adequately drained means that the seasonal high-water table is kept at least 60 centimeters (24 inches) below the surface.

Soils within study area are predominantly NRCS hydrologic soil groups A and B soils. It should be noted that all soils designated as dual hydrologic soils groups (A/D, B/D, and C/D) were assumed to be D for the hydrologic analysis. Additionally, soils that were not surveyed due to significant soil disturbance (deemed "disturbed" or "urban" soils) were also assumed to be D for the hydrologic analysis. A breakdown of the HSGs for the entire study area and each watershed is provided in Tables B-8 through B-12.

TABLE B-8: AREA DISTRIBUTION OF HYDROLOGIC SOIL GROUPS – OVERALL STUDY AREA

SOIL GROUP	TOTAL AREA (ACRE)	PERCENT OF TOTAL AREA
A	1,284.5	23.3%
B	3,878.2	70.2%
C	51.8	0.9%
D*	307.5	5.6%

**Includes A/D, B/D, C/D, and Non-surveyed (Null) soils*

TABLE B-9: AREA DISTRIBUTION OF HYDROLOGIC SOIL GROUPS – DOWNTOWN WATERSHED

SOIL GROUP	TOTAL AREA (ACRE)	PERCENT OF TOTAL AREA
A	1.3	1.1%
B	59.6	50.7%
D*	56.7	48.2%

**Includes A/D, B/D, C/D, and Non-surveyed (Null) soils*

Burnett Reservoir
Walkertown
Walker Branch
Flat Creek
Flat Creek
Montreat
Flat Creek
Tomahawk Branch
MONTREAT RD
Tributary 35
Black Mountain
Downtown
E STATE ST
OLD US 70 HWY E
E OLD US
70 HWY
Swannanoa River
I40 E
I40 W
W STATE ST
NC 9 HWY
OLD US
US 70 HWY
US Highway 70 W

Legend

Hydrologic Soil Group
- A
- A/D
- B
- B/D
- C
- C/D
- D
- Disturbed Soils

Roads

Road Class
- Highway
- Major Road
- Local Road
- Railroad

Tributary
- Swannanoa River

WK DICKSON
AN ARDURRA COMPANY

Figure B-2: Hydrologic Soil Groups
Town of Black Mountain Stormwater Master Plan

0 1,000 2,000 Feet

1 in = 2,000 ft

N
W E
S

TABLE B-10: AREA DISTRIBUTION OF HYDROLOGIC SOIL GROUPS – TOMAHAWK BRANCH

SOIL GROUP	TOTAL AREA (ACRE)	PERCENT OF TOTAL AREA
A	108.5	8.8%
B	1,071.3	86.9%
C	6.8	0.6%
D*	46.3	3.8%

**Includes A/D, B/D, C/D, and Non-surveyed (Null) soils*

TABLE B-11: AREA DISTRIBUTION OF HYDROLOGIC SOIL GROUPS – FLAT CREEK

SOIL GROUP	TOTAL AREA (ACRE)	PERCENT OF TOTAL AREA
A	1,162.8	30.1%
B	2488.5	64.4%
C	34.0	0.9%
D*	178.0	4.6%

**Includes A/D, B/D, C/D, and Non-surveyed (Null) soils*

TABLE B-12: AREA DISTRIBUTION OF HYDROLOGIC SOIL GROUPS – AVENA RD. / TRIBUTARY 35

SOIL GROUP	TOTAL AREA (ACRE)	PERCENT OF TOTAL AREA
A	12.4	4.0%
B	260.4	83.9%
C	11.0	3.5%
D*	26.5	8.5%

**Includes A/D, B/D, C/D, and Non-surveyed (Null) soils*

As there is a high-resolution impervious cover layer available for the Town, it became the primary basis for a mixed methods approach to determine land cover for the study area. To supplement the high-resolution impervious cover, U.S. Geological Survey 3D Hydrography Program (3DHP) data were used to capture water features with high accuracy within the study area. Areas not represented in these datasets were supplemented with classifications from the National Land Cover Database (NLCD).

To avoid double-counting impervious areas already represented in the dedicated impervious layer, all NLCD classes identified as high, medium, or low-density developed were reclassified to match the "Developed – Open Space" category. These are demarcated with an * in Table B-13.

The combined land cover and soil data were then used to assign curve numbers (CNs) based on the U.S. Army Corps of Engineers (USACE) HEC-HMS guidance. These are also noted in Table B-13 below. A composite runoff curve number was calculated for each of the sub-basins based on the weighted curve number for the sub-basin.

TABLE B-13: CURVE NUMBERS BASED ON LAND COVER AND SOIL GROUPS

LAND USE CATEGORY	SOIL GROUP			
	A	B	C	D
Water	98	98	98	98
Impervious	98	98	98	98
Developed Open Space	49	69	79	84
Low Intensity Development*	49	69	79	84
Medium Intensity Development*	49	69	79	84
High Intensity Development*	49	69	79	84
Barren Land	78	86	91	93
Deciduous Forest	45	66	77	83
Evergreen Forest	25	55	70	77
Mixed Forest	36	60	73	79
Shrub/Scrub	55	72	81	86
Grassland/Herbaceous	50	69	79	84
Pasture/Hay	49	69	79	84
Cultivated Crops	67	78	85	89
Woody Wetlands	30	58	71	78
Emergent Herbaceous Wetlands	30	58	71	78

A summary of the hydrologic input for each of the watershed models can be provided upon request.

B. 4 Rainfall

Rainfall distributions for Black Mountain are derived using the NRCS Type II standard distribution. Total rainfall volumes for the modeled frequency storms were based on data obtained from NOAA Atlas 14. Table B-14 shows the total rainfall volumes used for this study.

TABLE B-14: DESIGN STORM RAINFALL DEPTHS

DESIGN STORM	RAINFALL DEPTH (IN)
2-YR, 24HR	3.39
10-YR, 24HR	5.00
25-YR, 24HR	5.98
50-YR, 24HR	6.76
100-YR, 24HR	7.57
2-YR, 6HR	2.23
5-YR, 6HR	2.79

While the depth-duration-frequency curves are calculated based on real rainfall data, the rainfall data used for the PCSWMM represents the Type II synthetic rainfall distribution. Actual runoff is based on several factors including rainfall intensity, duration and the antecedent moisture conditions of the watershed.

B. 5 Hydrograph Translation

The lag time, as defined by the NRCS for use in the NRCS dimensionless unit hydrograph method, is the time, or lag, between the center of mass of rainfall excess and the peak of the unit hydrograph. The lag time is based on the subwatershed time of concentration, or travel time, and is a function of the subwatershed size, shape, slope, cover, and other basin characteristics. For the NRCS method, the subwatershed lag time is calculated to be 0.6 times the time of concentration for each subwatershed.

The times of concentration for the subwatersheds were calculated from the methodology described in TR-55. The longest flow path is divided into three types of flow; overland flow, shallow concentrated flow, and channel flow. A spreadsheet was developed to tabulate the incremental travel times for each type of flow for each sub-basin. The incremental travel times were totaled and multiplied by 0.6 to compute the lag time for each sub-basin.

The equation detailing the travel time for sheet flow is as follows:

$$T_t = \frac{.007\,(nL)^{0.8}}{(P_2)^{0.5}\,s^{0.4}}$$

T_t = Travel Time in hours

n = Manning Roughness Coefficient (Paved=0.011, Unpaved=0.24)

L = flow length in feet

P_2 = 2-year, 24 hour rainfall = 3.76 inches

S = slope of hydraulic grade line (land slope in ft/ft)

For shallow concentrated flow, the velocity (V) is calculated for either paved or unpaved sections by using the following equations:

$$\text{Unpaved } V = 16.1345\ (S)^{1/2}$$

$$\text{Paved } V = 20.3282\ (S)^{1/2}$$

The travel time for shallow flow is then calculated by dividing the flow length (L in feet) by velocity as follows:

$$T_t = \text{Travel Time} = L / (3600*V)$$

The open channel travel times are determined by a modified version of the Manning equation, which is as follows:

$$V = \frac{1.49\ R^{2/3}\ S^{0.5}}{n}$$

V = Average full-flow velocity (ft/s)

R = Hydraulic radius (ft)

S = Slope of hydraulic grade line (ft/ft)

n = Manning roughness coefficient

Instead of a time of concentration parameter, the PCSWMM model uses a watershed width parameter to crate the unit hydrograph used in the model that will translate the rainfall into runoff. The watershed width is a parameter unique to PCSWMM that typically represents the watershed area divided by the longest flow path. The width parameter is typically calibrated to flow gauge data, if available.

The watersheds studied lacked flow gauge data, so the peak flows from PCSWMM were compared to flows developed using the Rational Method, USGS Regression where applicable, Stream Stats flows, and FEMA model flows. Based on the flow comparison, the watershed widths for each basin were adjusted in some instances to produce reasonable flows.

HYDRAULIC ANALYSIS

The purpose of the hydraulic modeling analysis is to determine an existing level of flooding for the stormwater drainage network and to develop proposed solutions to mitigate flooding, on both the primary systems and the secondary systems.

The stormwater models were developed using survey, stormwater inventory, FEMA models, and LiDAR data. Detailed and limited detailed FEMA study models were downloaded from the North Carolina Flood Risk Information System (FRIS) website. The bridge data included in the FEMA models for Tomahawk Branch, Flat Creek, Flat Creek Tributary 1, and Tributary 35 (of the Swannanoa River) were imported into PCSWMM to include in the primary system analyses. The FEMA water surface elevations were also used as the fixed starting water surface elevation to evaluate the primary and secondary stormwater systems. LiDAR data available from the State of North Carolina was used to supplement open channel cross sections.

C.1 Stormwater Inventory

For the SWMP, stormwater utility infrastructure throughout the subwatershed was collected by Kee Mapping and Surveying personnel (located in Asheville, NC) to compile a GIS stormwater inventory database for the Town. This was accomplished by using GPS as the primary means of data capture to locate the x, y, and z coordinates of each visible stormwater system structure and conventional surveying techniques to obtain other attributes including but not limited to size, material, slope, and length. Data was obtained for those streams and open channels required to complete connectivity for modeling purposes. The data was collected using horizontal datum NAD 1983 and vertical datum NAVD 1988.

Attributes collected as part of the inventory were used to populate the various models. Field visits and digital photographs for each structure and some channels were used to estimate the roughness coefficients and energy loss coefficients.

C.2 Roughness Coefficients

Manning's roughness coefficients, or 'n' values, represent the resistance to flow and influence the flow capacity of channels and floodplains. The PCSWMM model uses these coefficients to compute friction loss longitudinally in the channel and floodplain. The roughness value is a function of the type and density of the vegetation, channel bottom and stream bank material, degree of channel meandering, and depth of flow.

Roughness coefficients were determined for all stream reaches for which hydraulic analyses were performed. The right or left bank of the stream is referenced facing downstream. Roughness coefficients used in this study are listed in Table C-1. All roughness coefficients were estimated through field observation and by referencing standard engineering manuals.

TABLE C-1: ROUGHNESS COEFFICIENTS

LOCATION	RANGE OF 'N' VALUES
Main Channel	0.04 - 0.065
Left Overbank	0.04 - 0.16
Right Overbank	0.035 - 0.16

C.3 Starting Water Surface Elevation

The starting water surface elevations (WSEL) for the PCSWMM models were set based on the FEMA water surface elevations where available. Table C-2 indicates the number of outfalls for each watershed model and if FEMA WSELs were referenced directly from the models. Where FEMA WSELs were not directly published, the FEMA results were interpolated between storm events.

All 2-yr 24-hr, 2-yr and 5-yr 6-hr storm events used normal outfall conditions as the starting water surface elevations.

The Town is currently engaged in the Swannanoa Floodplain Bench Project, which provides additional floodplain storage along the south bank of the Swannanoa River to lower WSELs. The project is located between Hemphill Road and the Norfolk Southern Railway near the confluence with Flat Creek. The second phase of the project extends floodplain benching along the south bank to just I-40 East near Riverwalk Park and includes construction of a 1.3-acre wetland to lower WSELS.

Preliminary (unapproved) FEMA WSELS for the Swannanoa Floodplain Bench Project were provided by the Town's consultant. These were considered with the proposed capital improvement projects as the floodplain project will likely be constructed prior to recommended capital projects within the Town.

TABLE C-2: FEMA WSEL REFERENCES

Model	Outfalls to the Swannanoa River	FEMA WSELs	Swannanoa FPB Projected WSELs
Downtown	4	10-, 50-, and 100-yr	Yes
Tributary 35	Direct Confluence	10-, 50-, and 100-yr	Yes
Flat Creek	Used Flat Creek FEMA	10-, 50-, and 100-yr	No
Tomahawk	Used Tomahawk FEMA	10-, 50-, and 100-yr	No

C.4 Model Run Descriptions and Assumptions

PCSWMM is a dynamic rainfall-runoff model capable of modeling the hydrologic response of a watershed and hydraulic routing throughout a stormwater conveyance system. The model calculates the effect of backwater, flat or negative slopes, energy losses, and minor headlosses associated with bends, entrances and exits.

Input data for the PCSWMM (hydraulics) computer model include the following:

- Conveyance pipes including structure inverts, pipe sizes and lengths;
- Open channel cross section geometries;
- Roughness coefficients for pipes and channels;
- Energy loss coefficients for flow in the pipes and channels;
- Storage rating curves; and
- Overland flow characteristics.

PCSWMM provides an accurate evaluation of the existing and proposed conditions because it combines hydrology and hydraulics while accounting for the routing effects of the channel and overbank storage areas. Because hydrology and hydraulics are combined, changes to peak flows or water surface elevations resulting from proposed modifications to the existing channels or culverts are calculated in the model in one (1) step. Additionally, changes to flow from proposed pipes and channel improvements are seen both upstream and downstream, reducing the potential for a stormwater system having increased flooding downstream.

The 2-, 10-, 25-, 50- and 100-year 24-hour storm events were modeled as well as the 2- and 5-year 6-hour storm events. The hydraulic analysis for this study is based only on the condition of unobstructed flow. Therefore, flood elevations shown on the profiles are considered valid only if hydraulic structures remain unobstructed and do not fail. Flood elevations may be raised by debris blockage of the culvert, channel, or floodplain.

Energy Loss Coefficients

Contraction and expansion of flow produces energy losses caused by the transition. The magnitude of these losses is related to the velocity and the estimated loss coefficient. Where the transitions are gradual, the losses are small. At abrupt changes in cross-sectional area, the losses are higher. Energy losses resulting from expansion are greater than losses associated with contraction. Energy loss coefficients used for the hydraulic PCSWMM models are presented in Table C-3.

Additional energy losses for structures having bends were divided between the two (2) joining pipes. The bend losses used for this project are based on NCDOT values and are shown below in Table C-4.

TABLE C-3: ENERGY LOSS COEFFICIENTS FOR PCSWMM MODELS

TYPE OF TRANSITION	EXPANSION	CONTRACTION
None	0	0
Manhole/Inlet	0.7	0.5
Open Channel	1	0.5–Headwall/ 0.9 - Projecting

TABLE C-4: BEND LOSS COEFFICIENTS

ANGLE (°)	LOSS COEFFICIENT	ANGLE (°)	LOSS COEFFICIENT
90	0.70	40	0.38
80	0.66	30	0.28
70	0.61	25	0.22
60	0.55	20	0.16
50	0.47	15	0.10

APPENDIX D
CONDITION ASSESSMENT METHODOLOGY

D.1 Data Collection and Analysis

Since running the prioritization tool is highly dependent upon existing infrastructure data, WK Dickson worked closely with the Town to compile as much available data regarding the stormwater infrastructure as possible. The data collection and analysis tasks included:

- Inventory and review of stormwater GIS database and attributes
- Collection and review of relevant transportation and geographic data
- Summary and analysis of data reviewed
- Confidence level and applicability to the prioritization tool

As a result, the following information pertaining to the stormwater infrastructure was collected and analyzed for the prioritization tool:

- GIS data and attributes for stormwater systems
- GIS data for the following relevant layers:
    - Road centerlines
    - Building footprints
    - Soils
    - Hydrography
    - Critical Facilities

D.2 Summary of Existing Facilities

In order to clearly identify critical infrastructure for each utility, WK Dickson separated the stormwater infrastructure database into stormwater pipes and stormwater structures. The following discussion presents a summary of the stormwater system assets and relative attributes that were incorporated into the prioritization tool for the criticality assessment.

Stormwater System Assets

The Town of Black Mountain stormwater system asset infrastructure data is noted in Table D-1. Attributes assigned to these assets and considered for the stormwater system included the following:

- Unique ID
- Pipe diameter
- Pipe material
- Pipe length
- Pipe slope
- Pipe condition

- Proximity to corrosive soils
- Proximity to transportation infrastructure
- Proximity to buildings
- Proximity to hydrographic features
- Proximity to critical facilities

The stormwater system assets listed below were incorporated into the prioritization tool.

TABLE D-1: STORMWATER SYSTEM ASSET SUMMARY

ASSET NAME	NUMBER	UNITS
Unknown Storm Pipe	12,828	LF
Irregular Dimension Storm Pipe	2,205	LF
4” Storm Pipe	38	LF
6” Storm Pipe	67	LF
8” Storm Pipe	432	LF
10” Storm Pipe	281	LF
12" Storm Pipe	3,934	LF
15" Storm Pipe	7,256	LF
16” Storm Pipe	111	LF
18" Storm Pipe	6,984	LF
20” Storm Pipe	144	LF
21" Storm Pipe	45	LF
24” Storm Pipe	6,335	LF
30" Storm Pipe	2,286	LF
36" Storm Pipe	2,019	LF
42" Storm Pipe	70	LF
48" Storm Pipe	938	LF
60” Storm Pipe	146	LF
66” Storm Pipe	193	LF
90” Storm Pipe	183	LF
Inlet	246	EA
Junction Box	52	EA
Pipe End	631	EA
Manhole	14	EA
Unknown Structure	251	EA

Critical Facilities

Critical facilities are those service locations within the system where failure of infrastructure would have an impact on a large concentration of customers or customers that provide critical operations. In the case of Black Mountain, the critical facilities were determined to be a combination of schools, fire stations, medical facilities, police stations, libraries, hazardous waste facilities, and nursing homes/assisted living facilities. Within the study area it was determined that there are thirty critical facilities. The critical facilities identified are as follows: nursing homes/assisted living facilities (4), medical facilities (5), fire stations (2), police stations (3), hazardous waste facilities (3), a library (1), and schools (12).

Soil Corrosivity

Corrosion is a significant factor affecting the long-term integrity of stormwater infrastructure. The degree of soil corrosivity varies depending on the material composition of the asset, as soils influence concrete and metallic structures differently. For this analysis, WK Dickson utilized data from the USDA SSURGO (Soil Survey Geographic Database), which provides corrosivity ratings classified as 'Low', Moderate', or 'High' for both concrete and metallic materials. These ratings are based on soil drainage class, total acidity, electrical resistivity and conductivity. Each stormwater asset was spatially overlaid with the SSURGO soil areas to determine the soil unit in which it was located. The corresponding corrosivity rating for that soil was then applied to the asset based on its material type. For pipes intersecting multiple soil units, the corrosivity rating associated with the soil encompassing the majority of the pipe's length was assigned. Plastic assets e.g., HDPE, CPP, CPE, PVC, etc. were given a rating of 0, as plastic materials are not subject to corrosion.

Within the USDA SSURGO database, some soil areas are not included in the soil survey due to extensive disturbance from development. This condition is common in the downtown area of Black Mountain due to the extent of development in this area. Because these soils lack reliable data, WK Dickson assigned a moderate corrosivity rating to all non-plastic stormwater assets within these soil regions to provide a reasonable, conservative estimate of potential corrosion risk.

D. 3 GIS Data Audit

WK Dickson performed an audit of the Town's GIS data to establish a confidence level for utilizing the data in the creation of the criticality assessment tool. The audit consisted of the following tasks:

- Review of GIS layer data to determine ability to assess for the criticality analysis
- Review of attribute fields utilized for the assessment tool
- Analysis of attribute data for use in the assessment tool
- Review of weighted criticality scoring values to determine audit locations/databases

The data collection and audit enabled the tool to be applied with a high level of confidence and reliability. Tables D-2 and D-3 summarize the reliability of the attribute data based on the percentage of data available for each attribute relative to the total number of assets. Reliability can be improved over time as more information is entered into and linked to the GIS database.

TABLE D-2: STORMWATER PIPES ATTRIBUTE RELIABILITY

STORMWATER PIPES – LIKELIHOOD		STORMWATER PIPES – CONSEQUENCE	
FIELD	DATA SET	FIELD	DATA SET
Installation Date	0.0%	Proximity to Hydrographic features	100.0%
Pipe Length	100.0%	Pipe Diameter	75.1%
Age	0.0%	Proximity to Critical Facilities	100.0%
Remaining Life	0.0%	Proximity to Transportation Infrastructure	100.0%
Material Type	73.5%	Proximity to Buildings	100.0%
Pipe Slope	45.8%	**Average**	**93.8%**
Corrosive Soils	100.0%		
Condition	75.1%		
Proximity to Frequent Flooding Locations	100.0%		
Average	**82.4%**		

TABLE D-3: STORMWATER STRUCTURE ATTRIBUTE RELIABILITY

STORMWATER STRUCTURES – LIKELIHOOD		STORMWATER STRUCTURES – CONSEQUENCE	
FIELD	DATA SET	FIELD	DATA SET
Installation Date	0.00%	Proximity to Hydrographic Features	100.00%
Proximity to Frequent Flooding Locations	100.00%	Proximity to Buildings	100.00%
Age	0.00%	Proximity to Critical Facilities	100.00%
Remaining Life	0.00%	Proximity to Transportation Infrastructure	100.00%
Material Type	71.5%	**Average**	**100.00%**
Structure Obstructions	62.7%		
Condition	64.7%		
Corrosive Soils	100.00%		
Average	**79.8%**		

As shown in Tables D-2 and D-3, data reliability was sufficiently high to obtain a good measure of the criticality of each asset. Average values were calculated without including the reliability ratings of the fields: “Installation Date”, “Age”, and “Remaining Life”. This is because despite not having adequate age data, the other available data was sufficient enough to evaluate the infrastructure.

D. 4 Criticality Scoring and Methodology

Attribute scoring categories provide a quantitative value for the likelihood and consequence of failure and associated criticality score summation. Tasks for the criticality scoring and methodology included:

- Establishment of scoring criteria and attribute factors
- Establishment of final scoring system and documentation of methodology
- Application of scoring criteria to system assets to obtain ranking and thresholds

Each attribute was assigned between 2 to 6 factors with a scoring range between 0 and 100. Scores were added together within the likelihood of failure category and the consequence of failure category to develop a total cumulative score.

Tables D-4 through D-7 summarize the final attributes, attribute factors, and factor scoring used in the prioritization tool for the criticality assessment.

Limitations of the scoring system included availability of data, accuracy of data, and associated reliability scoring as discussed in the GIS data audit section.

D. 5 Results

Criticality Results for the Stormwater Pipes are provided in Section 4 of the SWMP. Maps of the criticality results for the Stormwater Structures are shown in Figures D-1 through D-4.

D-1 Downtown Secondary System – Criticality Analysis Stormwater Structures

D-2 Tomahawk Branch Primary System – Criticality Analysis Stormwater Structures

D-3 Flat Creek Primary System – Criticality Analysis Stormwater Structures

D-4 Tributary 35 / Avena Rd Primary System – Criticality Analysis Stormwater Structures

TABLE D-4: STORMWATER PIPES SCORING MATRIX – LIKELIHOOD OF FAILURE

ATTRIBUTE	ATTRIBUTE FACTOR	ATTRIBUTE FACTOR SCORING
Slope	Less than 0.2%	50
	Between 0.2% and 1%	20
	Between 1% and 2% or Null	0
	Between 2% and 4%	50
	Greater than 4%	100
Corrosive Soils*	High	100
	Moderate or Null	80
	Low	60
Condition	Needs Repair	100
	Poor	80
	Fair or Unknown	50
	Good	20
	Excellent	0
Material*	Brick/VCP	100
	CMP/CPP	80
	CPE/HDPE/Other/Unknown	40
	DIP/Steel/CAS	20
	PRE/PVC/RCP/CSU/PCCP/CP/CON	0
Proximity to Frequent Flooding Locations	Less than or equal to 100 feet	100
	Greater than 100 feet	0

**Category considers pipe material in the analysis.*

TABLE D-5: STORMWATER PIPES SCORING MATRIX – CONSEQUENCE OF FAILURE

ATTRIBUTE	ATTRIBUTE FACTOR	ATTRIBUTE FACTOR SCORING
Pipe Diameter	Greater than 42	100
	37 to 42	80
	25 to 36	60
	16 to 24	40
	8 to 15	20
	Less than 8	0
	Unknown/Null	50
Proximity to Transportation Infrastructure	Under Railroad	100
	Under Road	60
	Not Under Road	0
Proximity to Building	Underneath Building	200
	Less than 20 feet from Building	100
	Greater than 20 feet from Building	0
Proximity to Critical Facility	Underneath Facility	200
	Less than 100 feet from Facility	100
	Greater than 100 feet from Facility	0
Proximity to Waterbody / Waterway	Less than or equal to 25 feet	100
	26 to 50 feet	50
	Greater than 50 feet	0

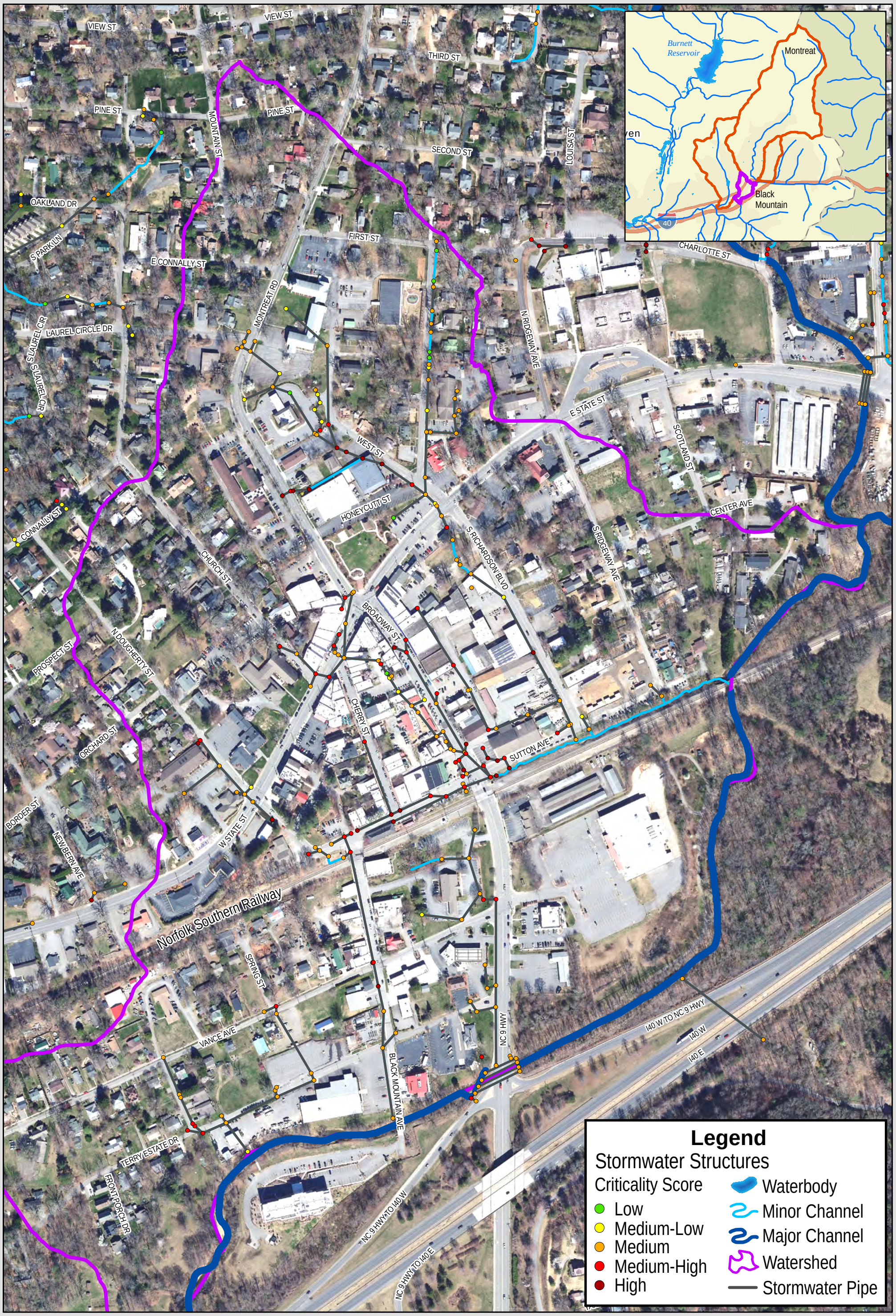
TABLE D-6: STORMWATER STRUCTURE SCORING MATRIX – LIKELIHOOD OF FAILURE

ATTRIBUTE	ATTRIBUTE FACTOR	ATTRIBUTE FACTOR SCORING
Corrosive Soils*	High	100
	Moderate or Null	80
	Low	60
Proximity to Frequent Flooding Location	Less than or equal to 100 feet	100
	Greater than 100 feet	0
Material*	Brick/VCP/Stone	100
	CMP/CPP	80
	Concrete Block	60
	HDPE/Other/Unknown	40
	DIP	20
	PVC/PreCast/RCP/Concrete	0
Percent Obstructed	100%	50
	75%	30
	50%	15
	25% or Null	5
	0%	0
Condition	Needs Repair	100
	Poor	80
	Fair or Unknown	50
	Good	20
	Excellent	0

**Category considers pipe material in the analysis.*

TABLE D-7: STORMWATER STRUCTURE SCORING MATRIX – CONSEQUENCE OF FAILURE

ATTRIBUTE	ATTRIBUTE FACTOR	ATTRIBUTE FACTOR SCORING
Proximity to Waterbody / Waterway	Up to 100 feet	100
	101 feet to 500 feet	50
	Greater than 500 feet	0
Proximity to Transportation Infrastructure	Within 100 feet of Railroad	100
	Within 50 feet of Roadway	60
	Not Within 50 feet of Roadway	0
Proximity to Building	Within 20 feet of Building	100
	Greater than 20 feet from Building	0
Proximity to Critical Facility	Within 100 feet of Facility	100
	Not within 100 feet of Facility	0

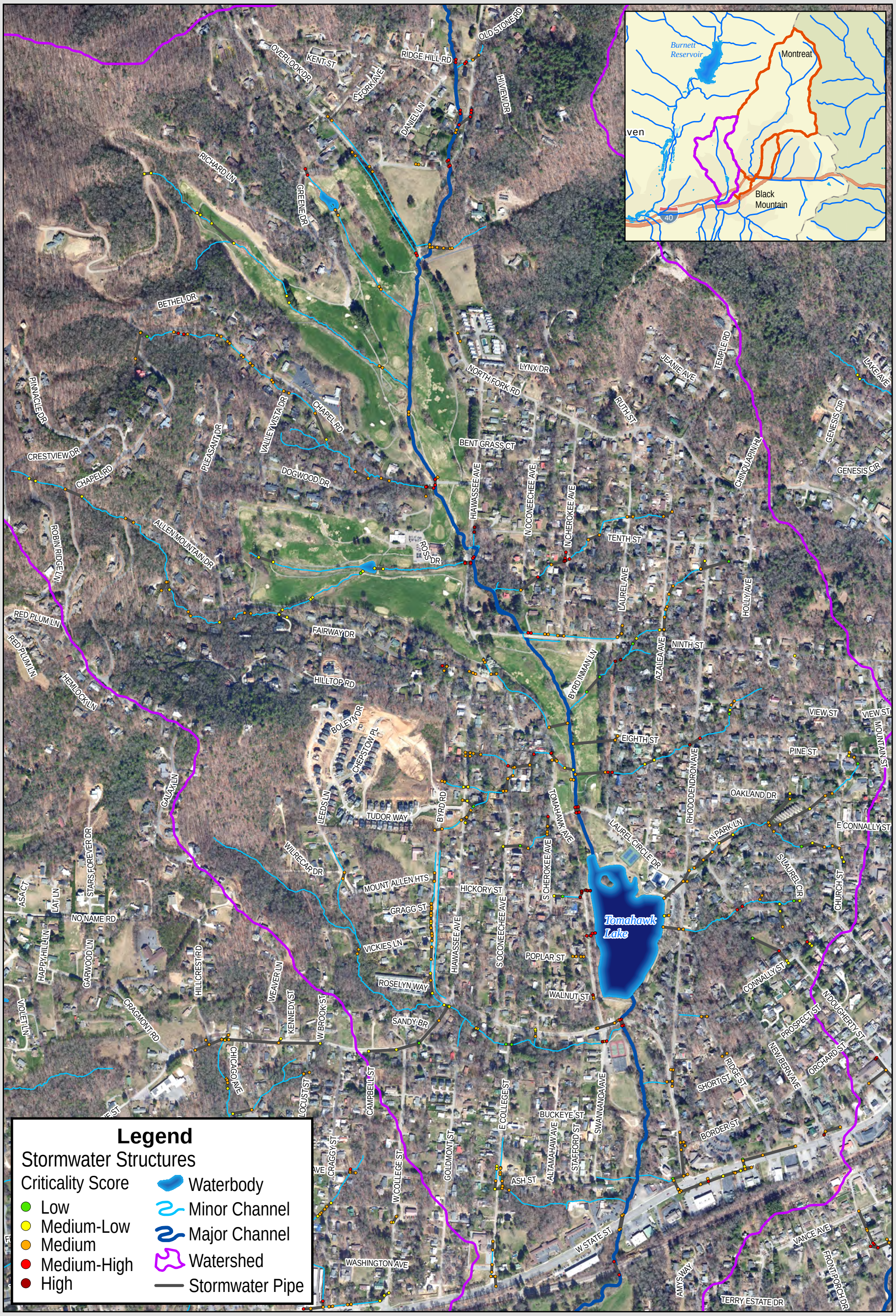


WK DICKSON
AN ARDURRA COMPANY

Figure D-1: Criticality Analysis Results - Stormwater Structures
DOWNTOWN SECONDARY SYSTEM
Town of Black Mountain Stormwater Master Plan

0 150 300 Feet
1 in = 300 ft

N
W E
S

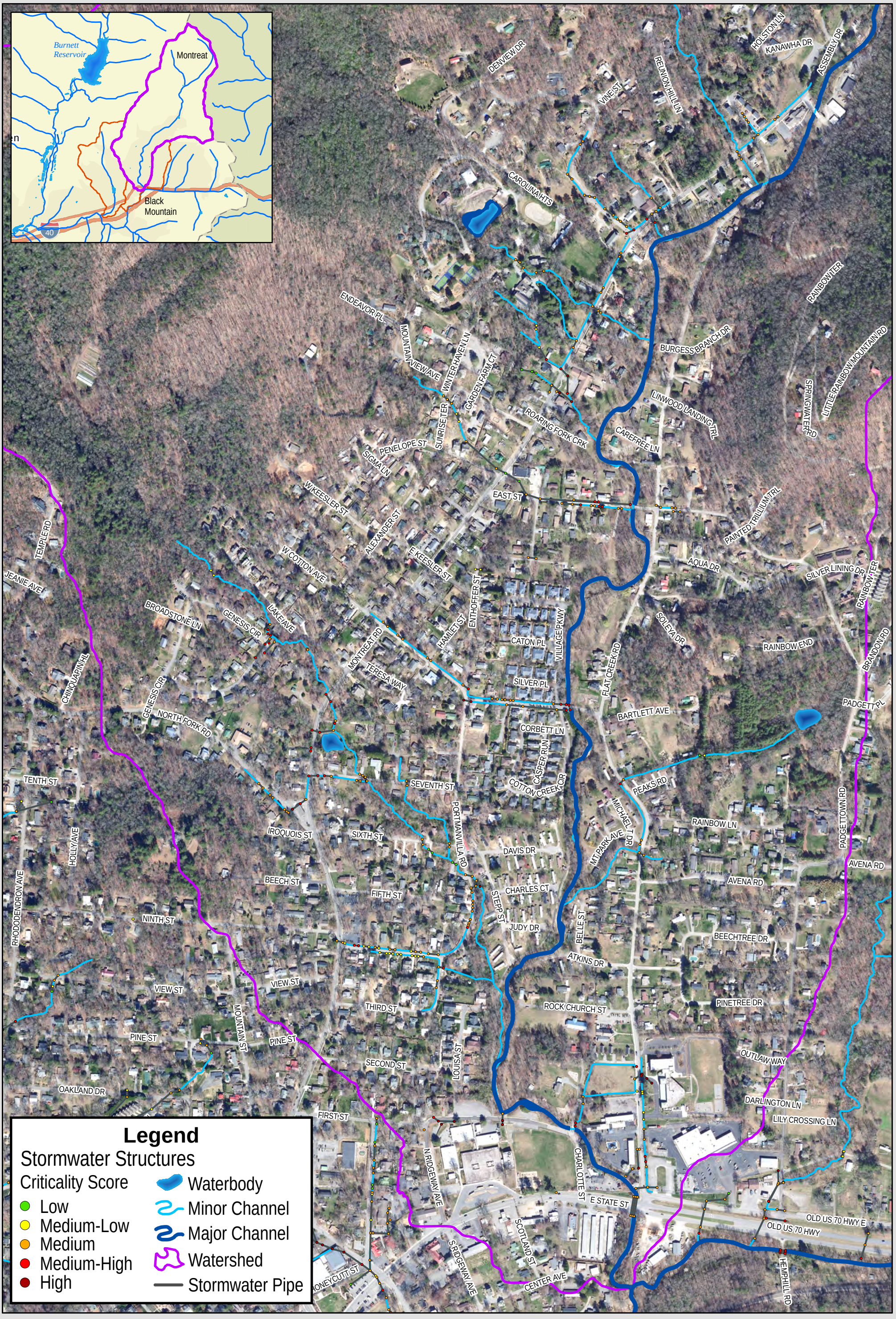


WK DICKSON
AN ARDURRA COMPANY

Figure D-2: Criticality Analysis Results - Stormwater Structures
TOMAHAWK BRANCH PRIMARY SYSTEM
Town of Black Mountain Stormwater Master Plan

0 300 600 Feet
1 in = 600 ft

N W E S



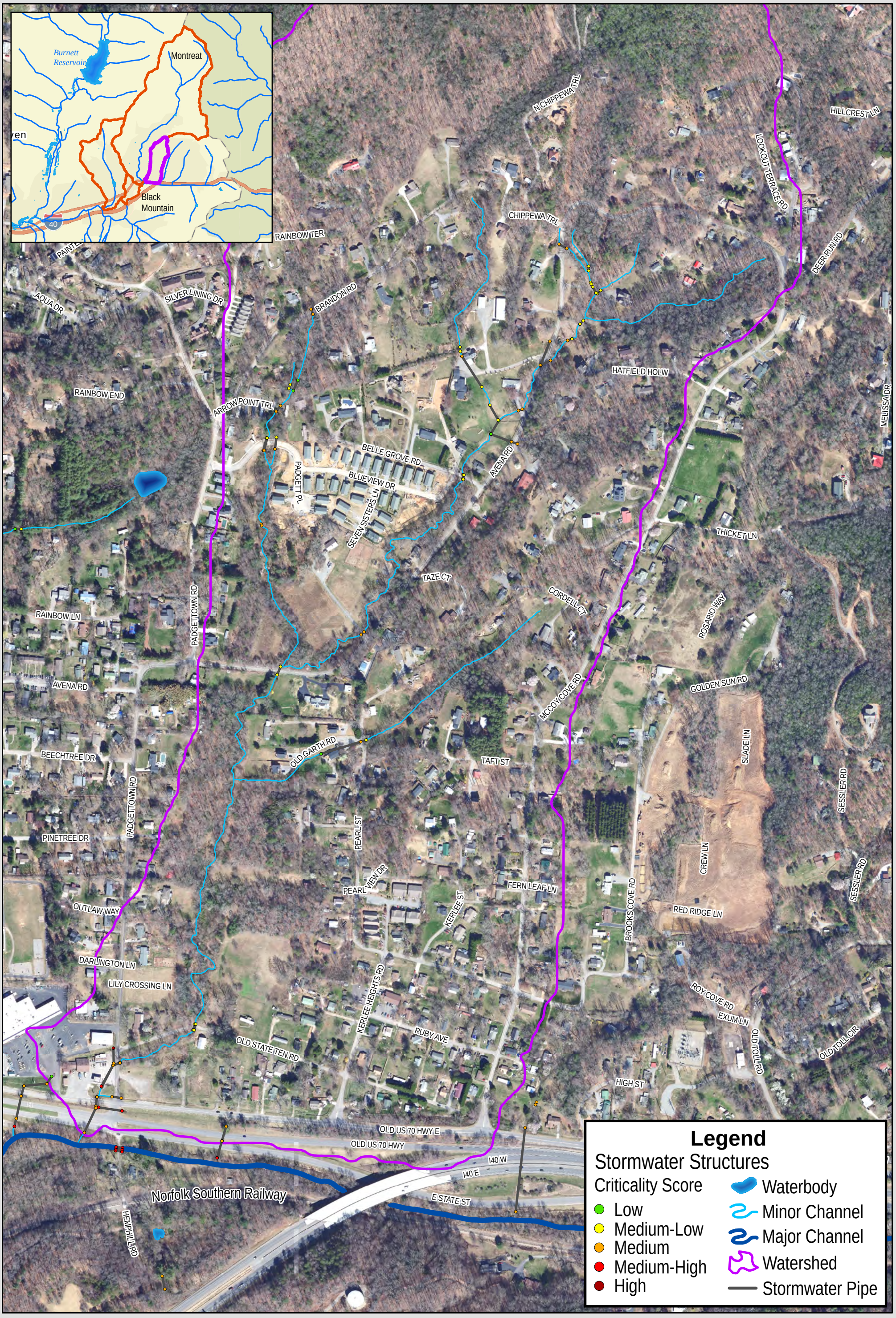
WK DICKSON
AN ARDURRA COMPANY

Figure D-3: Criticality Analysis Results - Stormwater Structures
FLAT CREEK TRIBUTARY 1 PRIMARY SYSTEM
Town of Black Mountain Stormwater Master Plan

0 250 500 Feet

1 in = 500 ft

N W E S



WK DICKSON
AN ARDURRA COMPANY

Figure D-4: Criticality Analysis Results - Stormwater Structures
AVENA ROAD/TRIBUTARY 35 WATERSHED
Town of Black Mountain Stormwater Master Plan

0 200 400 Feet
1 in = 400 ft

N W E S

APPENDIX E
PROPOSED CAPITAL IMPROVEMENT PLAN

Downtown Proposed Projects Map (17 Projects)

Downtown Project Sheets and Planning Level Opinions of Cost

Tomahawk Branch Proposed Projects Map (3 Projects)

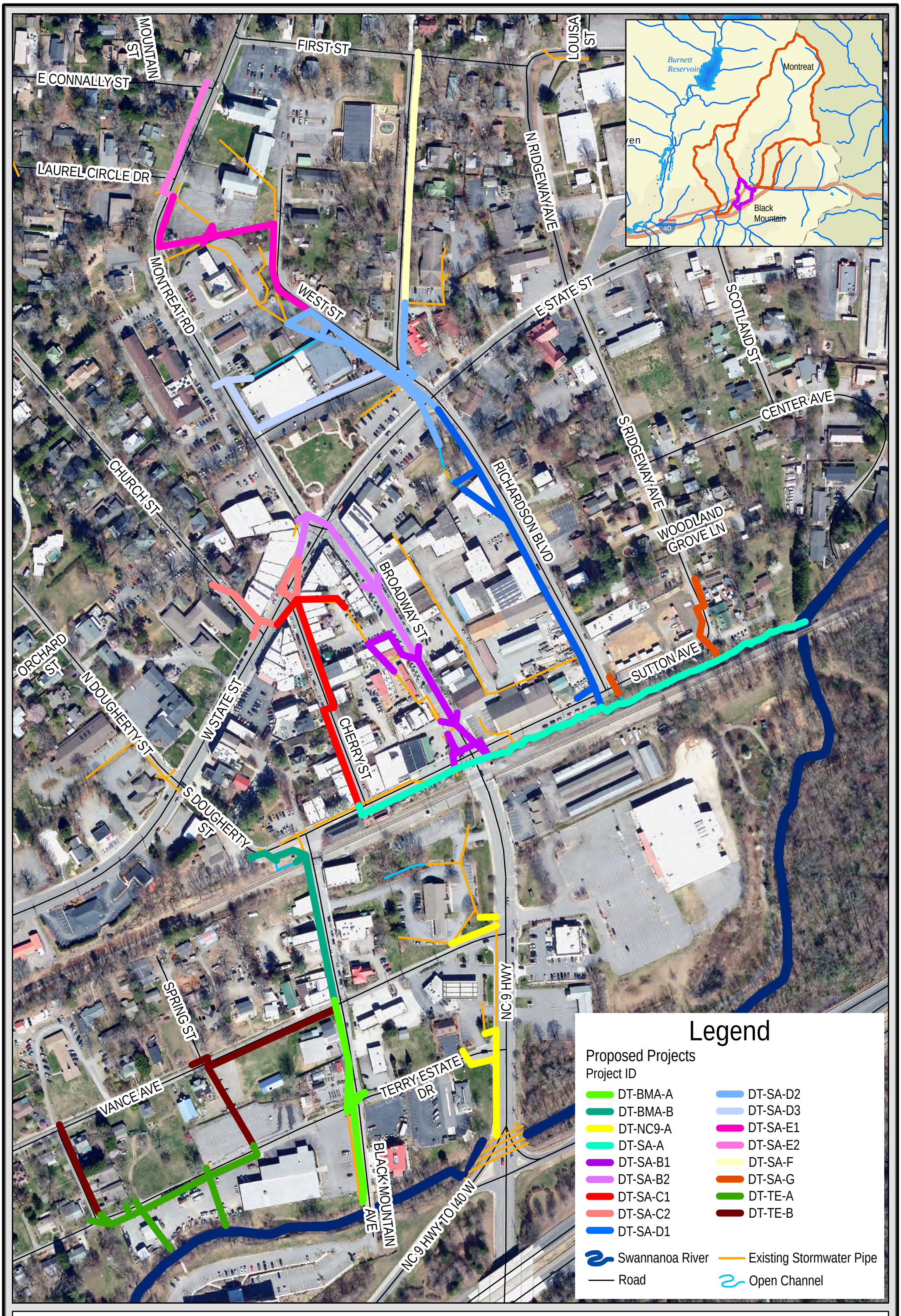
Tomahawk Branch Sheets and Planning Level Opinions of Cost

Flat Creek Proposed Projects Map (4 Projects)

Flat Creek Branch Sheets and Planning Level Opinions of Cost

Tributary 35 / Avena Rd Proposed Projects Map (5 Projects)

Tributary 35 / Avena Rd Sheets and Planning Level Opinions of Cost



WK DICKSON
AN ARDURRA COMPANY

Figure E-1: Proposed Stormwater Improvement Projects
DOWNTOWN DRAINAGE SYSTEM
Town of Black Mountain Stormwater Master Plan

0 100 200 Feet
1 in = 200 ft

N W E S

PROJECT NAME: **Sutton Ave and Open Channel Stormwater Improvements** PROJECT ID: **DT-SA-A**

PROJECT INFORMATION

LOCATION: Sutton Ave: Cherry St to Broadway St outfall
WATERSHED: Downtown
STORMWATER PROJECT TYPE: Stormwater Drainage
DRAINAGE IMPROVEMENTS (LF): 1360

PROJECT DESCRIPTION

To improve level of service for surrounding roadways and reduce flood risk to nearby property owners:

- Install 25 LF of new 42" RCP across Sutton Ave at Cherry St.
- Replace existing pipe on south side of Sutton Ave with 280 LF of 42" RCP.
- Replace existing pipe in the Broadway St/SuttonAve intersection with 100 LF of 48" RCP.
- Replace exising outfall pipe with 20 LF of 60" RCP.
- Install 940 LF of channel improvements from the outfall to the confluence with the Swannanoa River.*

PROJECT PRIORITIZATION and LEVEL OF SERVICE

CRITERIA	TOTAL SCORE
Utility Conflict	8
Street Flooding	32
Public or Privately-Owned Land	8
Effect of Improvements	20
Cost Effectiveness	15
Grant Bonus	3
Criticality Bonus	2
FINAL PROJECT SCORE:	**88**

KEY CROSSING	LEVEL OF SERVICE EXISTING	LEVEL OF SERVICE PROPOSED	% REDUCTION 50 YR
Sutton Ave at Cherry St	< 2-YR	50-YR	100
Sutton Ave at Broadway St	< 2-YR	50-YR	100
Future Outfall Projects*	< 2-YR	50-YR	100

**Open Channel improvements along existing roadside channel from outfall at Broadway St to the confluence with the Swannanoa River provide capacity for future outfall improvements at Richardson Blvd and S. Ridgeway Ave.*

PLANNING LEVEL OPINION OF COST

Construction estimate includes 30% contingency for planning. Design and permitting includes environmental permitting estimates. Proposed project footprints are based on GIS and modeling analyses. Detailed planning level costs are provided separately.

ITEM	COST OPINION
Construction	$ 1,394,000
Design and Permitting	$ 493,800
Other Project Costs	$ 362,200
Total Project	**$ 2,250,000**

PROJECT AREA MAP

PROJECT NAME **Sutton Ave and Open Channel Stormwater Improvements** PROJECT ID: **DT-SA-A**

PROJECT TYPE: Stormwater Drainage WATERSHED: Downtown

PLANNING LEVEL COST ESTIMATE

Construction cost includes 30% contingency for planning. Improvements (LF): 420
Proposed project footprints are based on GIS and modeling analyses.
Real estate, if privately-owned land, is estimated based on property value.

CONSTRUCTION COST:

ITEM DESCRIPTION	QUANTITY	UNIT	UNIT COST	AMOUNT
Mobilization	1	LS	$ 51,060.00	$ 51,100.00
Erosion Control	1	LS	$ 41,850.00	$ 41,900.00
Traffic Control	1	LS	$ 16,740.00	$ 16,700.00
Moderate Utility Conflict	1	LS	$ 125,550.00	$ 125,600.00
Unclassified Excavation/Hauling	500	CY	$ 72.00	$ 36,000.00
Infrastructure Removal and Disposal	400	LF	$ 115.00	$ 46,000.00
Structure Removal and Disposal	6	EA	$ 6,800.00	$ 40,800.00
Standard Structure	-	EA	$ 8,600.00	-
Large Structure or Headwall	6	EA	$ 12,000.00	$ 72,000.00
New Pipe: 18-inch to 24-inch	-	LF	$ 390.00	-
New Pipe: 30-inch to 36-inch	-	LF	$ 535.00	-
New Pipe: 42-inch to 54-inch	400	LF	$ 670.00	$ 268,000.00
New Pipe: 60-inch	20	LF	$ 875.00	$ 17,500.00
Arch Pipe (22.5" - 31.3")	-	LF	$ 500.00	-
Large RCBC	-	LF	$ 1,700.00	-
Rip Rap	25	TN	$ 50.00	$ 1,300.00
Open Channel Improvements	940	LF	$ 350.00	$ 329,000.00
Roadway/Sidewalk Replacement	240	SY	$ 110.00	$ 26,400.00
New Concrete Curb and Gutter	-	LF	$ 110.00	-
Replace Driveway Culvert Pipe	-	LF	$ 300.00	-
Replace Existing Concrete Driveway	-	SY	$ 120.00	-
			Construction Contingency (30%):	$ 322,000.00
			PLANNING LEVEL OPINION OF CONSTRUCTION COST:	**$ 1,394,000.00**

PROJECT COST:

PROJECT BUDGET ITEM	% of CONSTRUCTION	AMOUNT
Survey	5%	$ 69,700.00
Design and Permitting	20%	$ 278,800.00
Environmental Permitting	-	$ 65,000.00
Railroad Permitting/Coordination	-	$ 150,000.00
Geotechnical Investigation	1%	$ 13,900.00
Structural Evaluation	1%	$ 13,900.00
Real Estate	2%	$ 27,900.00
Utility Relocation	2%	$ 27,900.00
Project Maintenance (3yr)	5%	$ 69,700.00
Construction Inspections	10%	$ 139,400.00
Construction	100%	$ 1,394,000.00
PLANNING LEVEL OPINION OF TOTAL PROJECT COST:		$ 2,250,000.00

PROJECT NAME: **Broadway St Stormwater Improvements Phase I** PROJECT ID: **DT-SA-B1**

PROJECT INFORMATION

LOCATION: Broadway St in Downtown Business District
WATERSHED: Downtown
STORMWATER PROJECT TYPE: Stormwater Drainage
DRAINAGE IMPROVEMENTS (LF): 700

PROJECT DESCRIPTION

To improve level of service for surrounding roadways and reduce flood risk to nearby property owners:

- Replace existing 24" pipe in Broadway St with 325 LF of 42-inch RCP.
- Replace existing catch basins and connecting pipes along Broadway with larger pipes.
- Re-route private system to proposed Broadway system and remove pipe under structure.
- Install upsized and new crossings and connections at Montreat Rd and Sutton Ave.

PROJECT PRIORITIZATION and LEVEL OF SERVICE

CRITERIA	TOTAL SCORE
Utility Conflict	4
Street Flooding	32
Public or Privately-Owned Land	8
Effect of Improvements	20
Cost Effectiveness	15
Grant Bonus	2
Criticality Bonus	2
FINAL PROJECT SCORE:	**83**

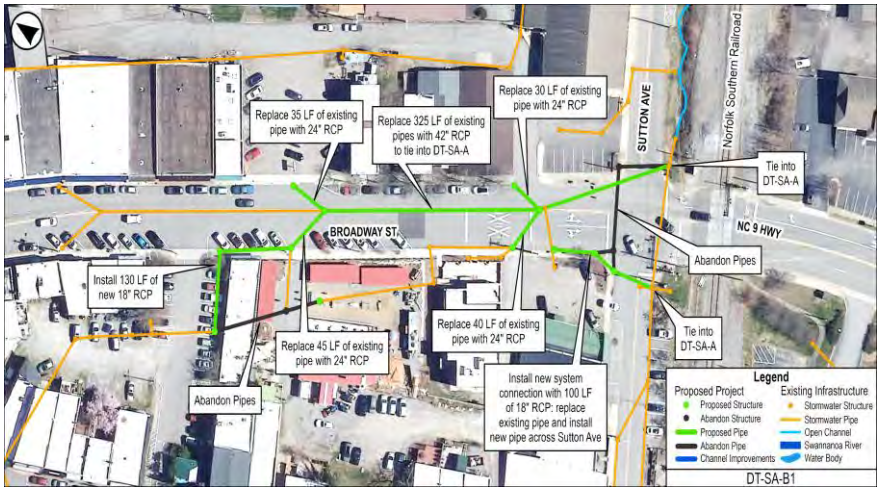
KEY CROSSING	LEVEL OF SERVICE EXISTING	LEVEL OF SERVICE PROPOSED	% REDUCTION 50 YR
Broadway St at Sutton Ave	< 2-YR	50-YR	100
Side system along Broadway	< 2-YR	50-YR	100

PLANNING LEVEL OPINION OF COST

Construction estimate includes 30% contingency for planning. Design and permitting includes environmental permitting estimates. Proposed project footprints are based on GIS and modeling analyses. Detailed planning level costs are provided separately.

ITEM	COST OPINION
Construction	$ 1,390,000
Design and Permitting	$ 278,000
Other Project Costs	$ 361,000
Total Project	**$ 2,029,000**

PROJECT AREA MAP



PROJECT NAME **Broadway St Stormwater Improvements Phase I** PROJECT ID: **DT-SA-B1**

PROJECT TYPE: Stormwater Drainage WATERSHED: Downtown

PLANNING LEVEL COST ESTIMATE

Construction cost includes 30% contingency for planning. Improvements (LF): 700
Proposed project footprints are based on GIS and modeling analyses.
Real estate, if privately-owned land, is estimated based on property value.

CONSTRUCTION COST:

ITEM DESCRIPTION	QUANTITY	UNIT	UNIT COST	AMOUNT
Mobilization	1	LS	$ 50,915.00	$ 50,900.00
Erosion Control	1	LS	$ 37,160.00	$ 37,200.00
Traffic Control	1	LS	$ 14,864.00	$ 14,900.00
Major Utility Conflict	1	LS	$ 222,960.00	$ 223,000.00
Unclassified Excavation/Hauling	500	CY	$ 72.00	$ 36,000.00
Infrastructure Removal and Disposal	720	LF	$ 115.00	$ 82,800.00
Structure Removal and Disposal	15	EA	$ 6,800.00	$ 102,000.00
Standard Structure	9	EA	$ 8,600.00	$ 77,400.00
Large Structure or Headwall	2	EA	$ 12,000.00	$ 24,000.00
New Pipe: 18-inch to 24-inch	375	LF	$ 390.00	$ 146,300.00
New Pipe: 30-inch to 36-inch	-	LF	$ 535.00	-
New Pipe: 42-inch to 54-inch	325	LF	$ 670.00	$ 217,800.00
New Pipe: 60-inch	-	LF	$ 875.00	-
Arch Pipe (22.5" - 31.3")	-	LF	$ 500.00	-
Large RCBC	-	LF	$ 1,700.00	-
Rip Rap	25	TN	$ 50.00	$ 1,300.00
Open Channel Improvements	-	LF	$ 350.00	-
Roadway/Sidewalk Replacement	380	SY	$ 110.00	$ 41,800.00
New Concrete Curb and Gutter	125	LF	$ 110.00	$ 13,800.00
Replace Driveway Culvert Pipe	-	LF	$ 300.00	-
Replace Existing Concrete Driveway	-	SY	$ 120.00	-
			Construction Contingency (30%):	$ 321,000.00
			PLANNING LEVEL OPINION OF CONSTRUCTION COST:	**$ 1,390,000.00**

PROJECT COST:

PROJECT BUDGET ITEM	% of CONSTRUCTION	AMOUNT
Survey	5%	$ 69,500.00
Design and Permitting	20%	$ 278,000.00
Environmental Permitting	-	$ -
Railroad Permitting/Coordination	-	$ -
Geotechnical Investigation	1%	$ 13,900.00
Structural Evaluation	1%	$ 13,900.00
Real Estate	2%	$ 27,800.00
Utility Relocation	2%	$ 27,800.00
Project Maintenance (3yr)	5%	$ 69,500.00
Construction Inspections	10%	$ 139,000.00
Construction	100%	$ 1,390,000.00
PLANNING LEVEL OPINION OF TOTAL PROJECT COST:		$ 2,029,000.00

PROJECT NAME: **Broadway St Stormwater Improvements Phase II** PROJECT ID: **DT-SA-B2**

PROJECT INFORMATION

LOCATION: Broadway St north to Montreat Rd
WATERSHED: Downtown
STORMWATER PROJECT TYPE: Stormwater Drainage
DRAINAGE IMPROVEMENTS (LF): 615

PROJECT DESCRIPTION

To improve level of service for surrounding roadways and reduce flood risk to nearby property owners:

- Replace existing 24" pipe in Broadway St with 210 LF of 36-inch RCP.
- Install 285 LF of new 30-inch RCP from 36-inch RCP in Broadway St across E State St.
- Replace 30 LF of existing pipe across Montreat Rd at E State St with 30-inch RCP.
- Remove pipe across Montreat flowing to first catch basin on W. State St.

PROJECT PRIORITIZATION and LEVEL OF SERVICE

CRITERIA	TOTAL SCORE
Utility Conflict	8
Street Flooding	32
Public or Privately-Owned Land	4
Effect of Improvements	20
Cost Effectiveness	20
Grant Bonus	2
Criticality Bonus	2
FINAL PROJECT SCORE:	**88**

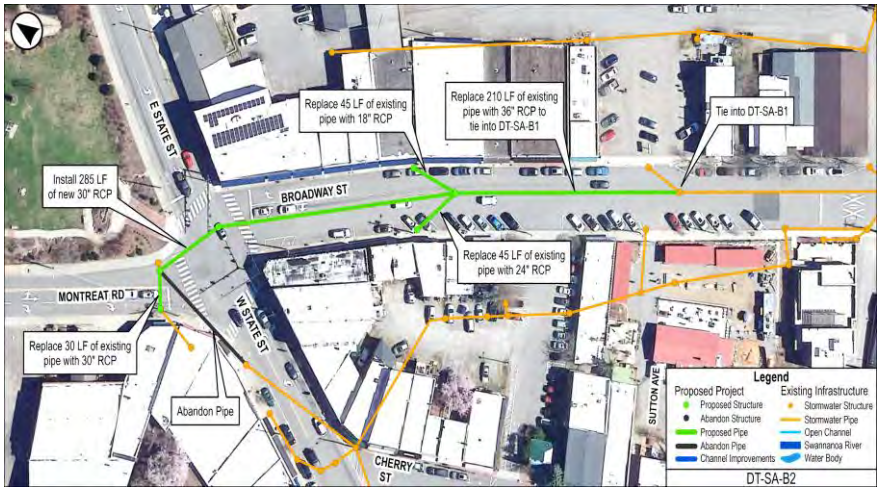
KEY CROSSING	LEVEL OF SERVICE EXISTING	LEVEL OF SERVICE PROPOSED	% REDUCTION 50 YR
E State St at Broadway St	NA	50-YR	New Crossing
Montreat Rd at E State St	< 2-YR	50-YR	100

PLANNING LEVEL OPINION OF COST

Construction estimate includes 30% contingency for planning. Design and permitting includes environmental permitting estimates. Proposed project footprints are based on GIS and modeling analyses. Detailed planning level costs are provided separately.

ITEM	COST OPINION
Construction	$ 885,000
Design and Permitting	$ 177,000
Other Project Costs	$ 230,000
Total Project	**$ 1,292,000**

PROJECT AREA MAP



PROJECT NAME **Broadway St Stormwater Improvements Phase II** PROJECT ID: **DT-SA-B2**

PROJECT TYPE: Stormwater Drainage WATERSHED: Downtown

PLANNING LEVEL COST ESTIMATE

Construction cost includes 30% contingency for planning. Improvements (LF): 615
Proposed project footprints are based on GIS and modeling analyses.
Real estate, if privately-owned land, is estimated based on property value.

CONSTRUCTION COST:

ITEM DESCRIPTION	QUANTITY	UNIT	UNIT COST	AMOUNT
Mobilization	1	LS	$ 32,425.00	$ 32,400.00
Erosion Control	1	LS	$ 26,580.00	$ 26,600.00
Traffic Control	1	LS	$ 10,632.00	$ 10,600.00
Moderate Utility Conflict	1	LS	$ 79,740.00	$ 79,700.00
Unclassified Excavation/Hauling	620	CY	$ 72.00	$ 44,600.00
Infrastructure Removal and Disposal	435	LF	$ 115.00	$ 50,000.00
Structure Removal and Disposal	5	EA	$ 6,800.00	$ 34,000.00
Standard Structure	6	EA	$ 8,600.00	$ 51,600.00
Large Structure or Headwall	-	EA	$ 12,000.00	-
New Pipe: 18-inch to 24-inch	90	LF	$ 390.00	$ 35,100.00
New Pipe: 30-inch to 36-inch	525	LF	$ 535.00	$ 280,900.00
New Pipe: 42-inch to 54-inch	-	LF	$ 670.00	-
New Pipe: 60-inch	-	LF	$ 875.00	-
Arch Pipe (22.5" - 31.3")	-	LF	$ 500.00	-
Large RCBC	-	LF	$ 1,700.00	-
Rip Rap	25	TN	$ 50.00	$ 1,300.00
Open Channel Improvements	-	LF	$ 350.00	-
Roadway/Sidewalk Replacement	310	SY	$ 110.00	$ 34,100.00
New Concrete Curb and Gutter	-	LF	$ 110.00	-
Replace Driveway Culvert Pipe	-	LF	$ 300.00	-
Replace Existing Concrete Driveway	-	SY	$ 120.00	-
			Construction Contingency (30%):	$ 204,000.00
			PLANNING LEVEL OPINION OF CONSTRUCTION COST:	**$ 885,000.00**

PROJECT COST:

PROJECT BUDGET ITEM	% of CONSTRUCTION	AMOUNT
Survey	5%	$ 44,300.00
Design and Permitting	20%	$ 177,000.00
Environmental Permitting	-	$ -
Railroad Permitting/Coordination	-	$ -
Geotechnical Investigation	1%	$ 8,900.00
Structural Evaluation	1%	$ 8,900.00
Real Estate	2%	$ 17,700.00
Utility Relocation	2%	$ 17,700.00
Project Maintenance (3yr)	5%	$ 44,300.00
Construction Inspections	10%	$ 88,500.00
Construction	100%	$ 885,000.00
PLANNING LEVEL OPINION OF TOTAL PROJECT COST:		$ 1,292,000.00

PROJECT NAME: **Cherry St Stormwater Improvements Phase I** PROJECT ID: **DT-SA-C1**

PROJECT INFORMATION

LOCATION: Cherry St from W State St to Sutton Ave
WATERSHED: Downtown
STORMWATER PROJECT TYPE: Stormwater Drainage
DRAINAGE IMPROVEMENTS (LF): 690

PROJECT DESCRIPTION

To improve level of service for surrounding roadways and reduce flood risk to nearby property owners:

- Replace existing pipe on Cherry St with 270 LF of 36-inch RCP and tie into 42-inch RCP at Sutton Ave.
- Install 330 LF of new 36-inch RCP along Cherry St. from W. State St.
- Replace existing pipe crossing Cherry St at W State St with 85 LF of 36-inch RCP.
- Remove pipe under structure at corner of W State St and Cherry St. to re-route flow to right-of-way.

PROJECT PRIORITIZATION and LEVEL OF SERVICE

CRITERIA	TOTAL SCORE
Utility Conflict	8
Street Flooding	24
Public or Privately-Owned Land	4
Effect of Improvements	20
Cost Effectiveness	15
Grant Bonus	2
Criticality Bonus	2
FINAL PROJECT SCORE:	**75**

KEY CROSSING	LEVEL OF SERVICE EXISTING	LEVEL OF SERVICE PROPOSED	% REDUCTION 50 YR
Cherry St at W State St	< 2-YR	50-YR	100
Cherry St at Sutton Ave	< 2-YR	50-YR	100

PLANNING LEVEL OPINION OF COST

Construction estimate includes 30% contingency for planning. Design and permitting includes environmental permitting estimates. Proposed project footprints are based on GIS and modeling analyses. Detailed planning level costs are provided separately.

ITEM	COST OPINION
Construction	$ 1,034,000
Design and Permitting	$ 206,800
Other Project Costs	$ 269,200
Total Project	**$ 1,510,000**

PROJECT AREA MAP

PROJECT NAME **Cherry St Stormwater Improvements Phase I** PROJECT ID: **DT-SA-C1**

PROJECT TYPE: Stormwater Drainage WATERSHED: Downtown

PLANNING LEVEL COST ESTIMATE

Construction cost includes 30% contingency for planning. Improvements (LF): 690
Proposed project footprints are based on GIS and modeling analyses.
Real estate, if privately-owned land, is estimated based on property value.

CONSTRUCTION COST:

ITEM DESCRIPTION	QUANTITY	UNIT	UNIT COST	AMOUNT
Mobilization	1	LS	$ 37,855.00	$ 37,900.00
Erosion Control	1	LS	$ 31,030.00	$ 31,000.00
Traffic Control	1	LS	$ 12,412.00	$ 12,400.00
Moderate Utility Conflict	1	LS	$ 93,090.00	$ 93,100.00
Unclassified Excavation/Hauling	860	CY	$ 72.00	$ 61,900.00
Infrastructure Removal and Disposal	500	LF	$ 115.00	$ 57,500.00
Structure Removal and Disposal	3	EA	$ 6,800.00	$ 20,400.00
Standard Structure	4	EA	$ 8,600.00	$ 34,400.00
Large Structure or Headwall	-	EA	$ 12,000.00	-
New Pipe: 18-inch to 24-inch	-	LF	$ 390.00	-
New Pipe: 30-inch to 36-inch	690	LF	$ 535.00	$ 369,200.00
New Pipe: 42-inch to 54-inch	-	LF	$ 670.00	-
New Pipe: 60-inch	-	LF	$ 875.00	-
Arch Pipe (22.5" - 31.3")	-	LF	$ 500.00	-
Large RCBC	-	LF	$ 1,700.00	-
Rip Rap	25	TN	$ 50.00	$ 1,300.00
Open Channel Improvements	-	LF	$ 350.00	-
Roadway/Sidewalk Replacement	390	SY	$ 110.00	$ 42,900.00
New Concrete Curb and Gutter	300	LF	$ 110.00	$ 33,000.00
Replace Driveway Culvert Pipe	-	LF	$ 300.00	-
Replace Existing Concrete Driveway	-	SY	$ 120.00	-
			Construction Contingency (30%):	$ 239,000.00
			PLANNING LEVEL OPINION OF CONSTRUCTION COST:	**$ 1,034,000.00**

PROJECT COST:

PROJECT BUDGET ITEM	% of CONSTRUCTION	AMOUNT
Survey	5%	$ 51,700.00
Design and Permitting	20%	$ 206,800.00
Environmental Permitting	-	$ -
Railroad Permitting/Coordination	-	$ -
Geotechnical Investigation	1%	$ 10,300.00
Structural Evaluation	1%	$ 10,300.00
Real Estate	2%	$ 20,700.00
Utility Relocation	2%	$ 20,700.00
Project Maintenance (3yr)	5%	$ 51,700.00
Construction Inspections	10%	$ 103,400.00
Construction	100%	$ 1,034,000.00
PLANNING LEVEL OPINION OF TOTAL PROJECT COST:		$ 1,510,000.00

PROJECT NAME: **Cherry St Stormwater Improvements Phase II** PROJECT ID: **DT-SA-C2**

PROJECT INFORMATION

LOCATION: Church St and W State St
WATERSHED: Downtown
STORMWATER PROJECT TYPE: Stormwater Drainage
DRAINAGE IMPROVEMENTS (LF): 420

PROJECT DESCRIPTION

To improve level of service for surrounding roadways and reduce flood risk to nearby property owners:

- Replace existing crossings at Church St and W State St with 50 LF of 30-inch RCP and 50 LF of 36-inch RCP.
- Replace existing pipe along Church St with 24-inch RCP and connect to new system at W. State St/Cherry St.
- Install 160 LF of 18-inch RCP along W. State St to redirect flow to proposed Cherry St system.
- Remove remaining connection between Montreat Rd and Cherry St.

PROJECT PRIORITIZATION and LEVEL OF SERVICE

CRITERIA	TOTAL SCORE
Utility Conflict	8
Street Flooding	32
Public or Privately-Owned Land	4
Effect of Improvements	20
Cost Effectiveness	20
Grant Bonus	2
Criticality Bonus	2
FINAL PROJECT SCORE:	**88**

KEY CROSSING	LEVEL OF SERVICE EXISTING	LEVEL OF SERVICE PROPOSED	% REDUCTION 50 YR
W State St at Church St	< 2-YR	50-YR	100
W State St east of Cherry St	2-YR	50-YR	100
Church St at W State St	< 2-YR	50-YR	100

PLANNING LEVEL OPINION OF COST

Construction estimate includes 30% contingency for planning. Design and permitting includes environmental permitting estimates. Proposed project footprints are based on GIS and modeling analyses. Detailed planning level costs are provided separately.

ITEM	COST OPINION
Construction	$ 699,000
Design and Permitting	$ 139,800
Other Project Costs	$ 182,200
Total Project	**$ 1,021,000**

PROJECT AREA MAP

PROJECT NAME **Cherry St Stormwater Improvements Phase II** PROJECT ID: **DT-SA-C2**

PROJECT TYPE: Stormwater Drainage WATERSHED: Downtown

PLANNING LEVEL COST ESTIMATE

Construction cost includes 30% contingency for planning. Improvements (LF): 420
Proposed project footprints are based on GIS and modeling analyses.
Real estate, if privately-owned land, is estimated based on property value.

CONSTRUCTION COST:

ITEM DESCRIPTION	QUANTITY	UNIT	UNIT COST	AMOUNT
Mobilization	1	LS	$ 25,635.00	$ 25,600.00
Erosion Control	1	LS	$ 21,015.00	$ 21,000.00
Traffic Control	1	LS	$ 8,406.00	$ 8,400.00
Moderate Utility Conflict	1	LS	$ 63,045.00	$ 63,000.00
Unclassified Excavation/Hauling	340	CY	$ 72.00	$ 24,500.00
Infrastructure Removal and Disposal	440	LF	$ 115.00	$ 50,600.00
Structure Removal and Disposal	8	EA	$ 6,800.00	$ 54,400.00
Standard Structure	7	EA	$ 8,600.00	$ 60,200.00
Large Structure or Headwall	-	EA	$ 12,000.00	-
New Pipe: 18-inch to 24-inch	325	LF	$ 390.00	$ 126,800.00
New Pipe: 30-inch to 36-inch	95	LF	$ 535.00	$ 50,800.00
New Pipe: 42-inch to 54-inch	-	LF	$ 670.00	-
New Pipe: 60-inch	-	LF	$ 875.00	-
Arch Pipe (22.5" - 31.3")	-	LF	$ 500.00	-
Large RCBC	-	LF	$ 1,700.00	-
Rip Rap	25	TN	$ 50.00	$ 1,300.00
Open Channel Improvements	-	LF	$ 350.00	-
Roadway/Sidewalk Replacement	260	SY	$ 110.00	$ 28,600.00
New Concrete Curb and Gutter	210	LF	$ 110.00	$ 23,100.00
Replace Driveway Culvert Pipe	-	LF	$ 300.00	-
Replace Existing Concrete Driveway	-	SY	$ 120.00	-
			Construction Contingency (30%):	$ 161,000.00
			PLANNING LEVEL OPINION OF CONSTRUCTION COST:	**$ 699,000.00**

PROJECT COST:

PROJECT BUDGET ITEM	% of CONSTRUCTION	AMOUNT
Survey	5%	$ 35,000.00
Design and Permitting	20%	$ 139,800.00
Environmental Permitting	-	$ -
Railroad Permitting/Coordination	-	$ -
Geotechnical Investigation	1%	$ 7,000.00
Structural Evaluation	1%	$ 7,000.00
Real Estate	2%	$ 14,000.00
Utility Relocation	2%	$ 14,000.00
Project Maintenance (3yr)	5%	$ 35,000.00
Construction Inspections	10%	$ 69,900.00
Construction	100%	$ 699,000.00
PLANNING LEVEL OPINION OF TOTAL PROJECT COST:		$ 1,021,000.00

PROJECT NAME: **Police Station / Post Office Stormwater Improvements Phase I** PROJECT ID: **DT-SA-D1**

PROJECT INFORMATION

LOCATION: Richardson Blvd / Post Office
WATERSHED: Downtown
STORMWATER PROJECT TYPE: Stormwater Drainage
DRAINAGE IMPROVEMENTS (LF): 1600

PROJECT DESCRIPTION

To improve level of service for surrounding roadways and reduce flood risk to nearby property owners:

- Install 150 LF of 3' x 7' RCBC along Richardson Blvd to the outfall in the open channel along Sutton Ave.
- Install 570 LF of twin 42-inch RCP north along Richardson Blvd to the post office.
- Install 190 LF of 42-inch pipe to the intersection with E State St.
- Install 70 LF of new 36-inch RCP adjacent to the post office to reroute flow to the right-of-way.
- Project allows for stormwater improvements upstream at Police Station.

PROJECT PRIORITIZATION and LEVEL OF SERVICE

CRITERIA	TOTAL SCORE
Utility Conflict	8
Street Flooding	32
Public or Privately-Owned Land	8
Effect of Improvements	20
Cost Effectiveness	0
Grant Bonus	2
Criticality Bonus	1
FINAL PROJECT SCORE:	**71**

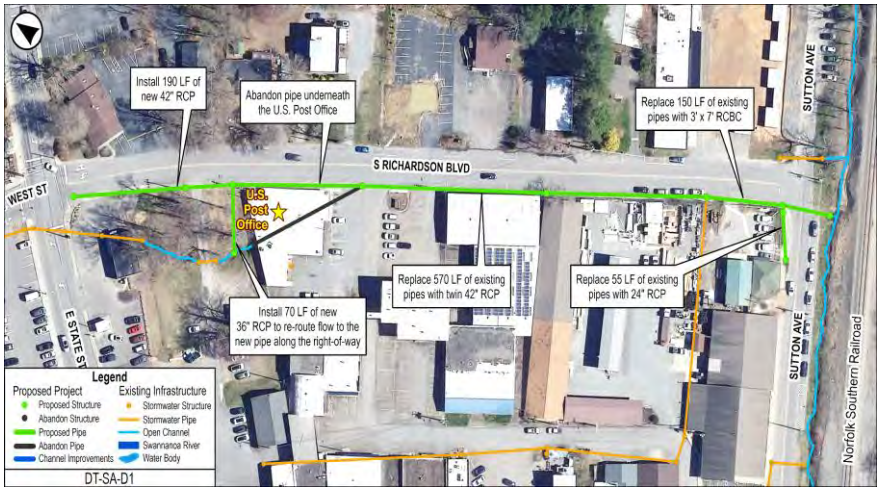
KEY CROSSING	LEVEL OF SERVICE EXISTING	LEVEL OF SERVICE PROPOSED	% REDUCTION 50 YR
Sutton Ave at Richardson	< 2-YR	50-YR	100
Post Office Infrastructure	2-YR	50-YR	100

PLANNING LEVEL OPINION OF COST

Construction estimate includes 30% contingency for planning. Design and permitting includes environmental permitting estimates. Proposed project footprints are based on GIS and modeling analyses. Detailed planning level costs are provided separately.

ITEM	COST OPINION
Construction	$ 2,913,000
Design and Permitting	$ 632,600
Other Project Costs	$ 757,400
Total Project	**$ 4,303,000**

PROJECT AREA MAP



PROJECT NAME **Police Station / Post Office Stormwater Improvements Phase I** PROJECT ID: **DT-SA-D1**

PROJECT TYPE: Stormwater Drainage WATERSHED: Downtown

PLANNING LEVEL COST ESTIMATE

Construction cost includes 30% contingency for planning. Improvements (LF): 1600
Proposed project footprints are based on GIS and modeling analyses.
Real estate, if privately-owned land, is estimated based on property value.

CONSTRUCTION COST:

ITEM DESCRIPTION	QUANTITY	UNIT	UNIT COST	AMOUNT
Mobilization	1	LS	$ 106,720.00	$ 106,700.00
Erosion Control	1	LS	$ 87,475.00	$ 87,500.00
Traffic Control	1	LS	$ 34,990.00	$ 35,000.00
Moderate Utility Conflict	1	LS	$ 262,425.00	$ 262,400.00
Unclassified Excavation/Hauling	2310	CY	$ 72.00	$ 166,300.00
Infrastructure Removal and Disposal	760	LF	$ 115.00	$ 87,400.00
Structure Removal and Disposal	6	EA	$ 6,800.00	$ 40,800.00
Standard Structure	3	EA	$ 8,600.00	$ 25,800.00
Large Structure or Headwall	8	EA	$ 12,000.00	$ 96,000.00
New Pipe: 18-inch to 24-inch	50	LF	$ 390.00	$ 19,500.00
New Pipe: 30-inch to 36-inch	70	LF	$ 535.00	$ 37,500.00
New Pipe: 42-inch to 54-inch	1330	LF	$ 670.00	$ 891,100.00
New Pipe: 60-inch	-	LF	$ 875.00	-
Arch Pipe (22.5" - 31.3")	-	LF	$ 500.00	-
Large RCBC	150	LF	$ 1,700.00	$ 255,000.00
Rip Rap	50	TN	$ 50.00	$ 2,500.00
Open Channel Improvements	-	LF	$ 350.00	-
Roadway/Sidewalk Replacement	610	SY	$ 110.00	$ 67,100.00
New Concrete Curb and Gutter	550	LF	$ 110.00	$ 60,500.00
Replace Driveway Culvert Pipe	-	LF	$ 300.00	-
Replace Existing Concrete Driveway	-	SY	$ 120.00	-
			Construction Contingency (30%):	$ 672,000.00
			PLANNING LEVEL OPINION OF CONSTRUCTION COST:	**$ 2,913,000.00**

PROJECT COST:

PROJECT BUDGET ITEM	% of CONSTRUCTION	AMOUNT
Survey	5%	$ 145,700.00
Design and Permitting	20%	$ 582,600.00
Environmental Permitting	-	$ 50,000.00
Railroad Permitting/Coordination	-	$ -
Geotechnical Investigation	1%	$ 29,100.00
Structural Evaluation	1%	$ 29,100.00
Real Estate	2%	$ 58,300.00
Utility Relocation	2%	$ 58,300.00
Project Maintenance (3yr)	5%	$ 145,700.00
Construction Inspections	10%	$ 291,300.00
Construction	100%	$ 2,913,000.00
PLANNING LEVEL OPINION OF TOTAL PROJECT COST:		$ 4,303,000.00

PROJECT NAME: **Police Station / Post Office Stormwater Improvements Phase II** PROJECT ID: **DT-SA-D2**

PROJECT INFORMATION

LOCATION: West St at E State St / Police Station
WATERSHED: Downtown
STORMWATER PROJECT TYPE: Stormwater Drainage
DRAINAGE IMPROVEMENTS (LF): 775

PROJECT DESCRIPTION

To improve level of service for surrounding roadways and reduce flood risk to nearby property owners:

- Install 170 LF of new 42-inch RCP from Honeycutt St crossing E State St to tie-into proposed project DT-SA-D1.
- Install 55 LF of new 24-inch RCP and 200 LF of new 36-inch RCP in a new alignment along West St.
- Install new connecting pipes north of the police station to re-route flow to the right-of-way.
- Remove/abandon in place stormwater system running underneath police station to south of E State St.
- Install 235 LF of 24-inch RCP at the West/Midland intersection.

PROJECT PRIORITIZATION and LEVEL OF SERVICE

CRITERIA	TOTAL SCORE
Utility Conflict	8
Street Flooding	32
Public or Privately-Owned Land	8
Effect of Improvements	20
Cost Effectiveness	15
Grant Bonus	2
Criticality Bonus	2
FINAL PROJECT SCORE:	**87**

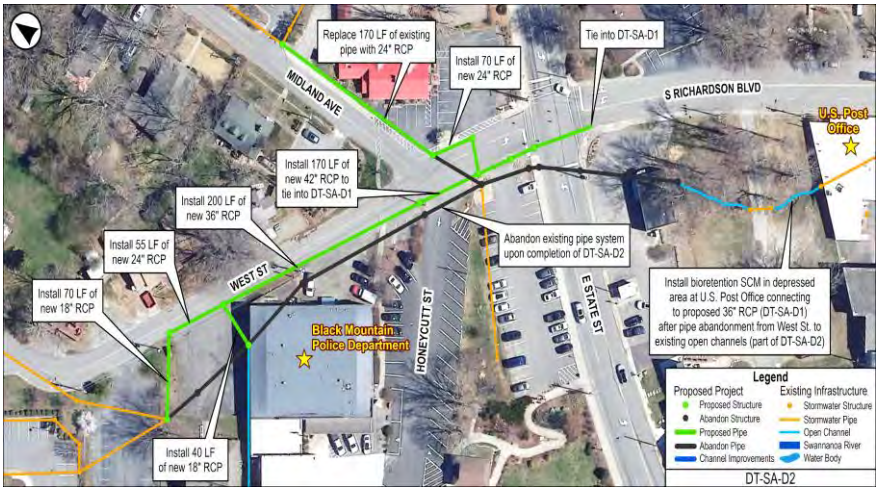
KEY CROSSING	LEVEL OF SERVICE EXISTING	LEVEL OF SERVICE PROPOSED	% REDUCTION 50 YR
E State St/Richardson INT	< 2-YR	50-YR	100
West/Midland INT	< 2-YR	50-YR	100
Police Station Infrastructure	< 2-YR	50-YR	100

PLANNING LEVEL OPINION OF COST

Construction estimate includes 30% contingency for planning. Design and permitting includes environmental permitting estimates. Proposed project footprints are based on GIS and modeling analyses. Detailed planning level costs are provided separately.

ITEM	COST OPINION
Construction	$ 1,323,000
Design and Permitting	$ 264,600
Other Project Costs	$ 344,400
Total Project	**$ 1,932,000**

PROJECT AREA MAP



PROJECT NAME **Police Station / Post Office Stormwater Improvements Phase II** PROJECT ID: **DT-SA-D2**

PROJECT TYPE: Stormwater Drainage WATERSHED: Downtown

PLANNING LEVEL COST ESTIMATE

Construction cost includes 30% contingency for planning. Improvements (LF): 775
Proposed project footprints are based on GIS and modeling analyses.
Real estate, if privately-owned land, is estimated based on property value.

CONSTRUCTION COST:

ITEM DESCRIPTION	QUANTITY	UNIT	UNIT COST	AMOUNT
Mobilization	1	LS	$ 48,475.00	$ 48,500.00
Erosion Control	1	LS	$ 39,735.00	$ 39,700.00
Traffic Control	1	LS	$ 15,894.00	$ 15,900.00
Moderate Utility Conflict	1	LS	$ 119,205.00	$ 119,200.00
Unclassified Excavation/Hauling	940	CY	$ 72.00	$ 67,700.00
Infrastructure Removal and Disposal	710	LF	$ 115.00	$ 81,700.00
Structure Removal and Disposal	10	EA	$ 6,800.00	$ 68,000.00
Standard Structure	7	EA	$ 8,600.00	$ 60,200.00
Large Structure or Headwall	4	EA	$ 12,000.00	$ 48,000.00
New Pipe: 18-inch to 24-inch	400	LF	$ 390.00	$ 156,000.00
New Pipe: 30-inch to 36-inch	200	LF	$ 535.00	$ 107,000.00
New Pipe: 42-inch to 54-inch	175	LF	$ 670.00	$ 117,300.00
New Pipe: 60-inch	-	LF	$ 875.00	-
Arch Pipe (22.5" - 31.3")	-	LF	$ 500.00	-
Large RCBC	-	LF	$ 1,700.00	-
Rip Rap	25	TN	$ 50.00	$ 1,300.00
Open Channel Improvements	-	LF	$ 350.00	-
Roadway/Sidewalk Replacement	370	SY	$ 110.00	$ 40,700.00
New Concrete Curb and Gutter	425	LF	$ 110.00	$ 46,800.00
Replace Driveway Culvert Pipe	-	LF	$ 300.00	-
Replace Existing Concrete Driveway	-	SY	$ 120.00	-
			Construction Contingency (30%):	$ 305,000.00
			PLANNING LEVEL OPINION OF CONSTRUCTION COST:	**$ 1,323,000.00**

PROJECT COST:

PROJECT BUDGET ITEM	% of CONSTRUCTION	AMOUNT
Survey	5%	$ 66,200.00
Design and Permitting	20%	$ 264,600.00
Environmental Permitting	-	$ -
Railroad Permitting/Coordination	-	$ -
Geotechnical Investigation	1%	$ 13,200.00
Structural Evaluation	1%	$ 13,200.00
Real Estate	2%	$ 26,500.00
Utility Relocation	2%	$ 26,500.00
Project Maintenance (3yr)	5%	$ 66,200.00
Construction Inspections	10%	$ 132,300.00
Construction	100%	$ 1,323,000.00
PLANNING LEVEL OPINION OF TOTAL PROJECT COST:		$ 1,932,000.00

PROJECT NAME: **Police Station / Post Office Stormwater Improvements Phase III** PROJECT ID: **DT-SA-D3**

PROJECT INFORMATION

LOCATION: Montreat Rd and Honeycutt St
WATERSHED: Downtown
STORMWATER PROJECT TYPE: Stormwater Drainage
DRAINAGE IMPROVEMENTS (LF): 575

PROJECT DESCRIPTION

To improve level of service for surrounding roadways and reduce flood risk to nearby property owners:

- Replace existing pipe with paved over inlet across Montreat Rd at Fire Station with 35 LF of 24-inch RCP.
- Install 540 LF of new 24-inch RCP along Montreat Rd to Honeycutt St connecting to 42-inch RCP at West St.
- Remove existing pipe directing public water onto private property just north of the Fire Station.

PROJECT PRIORITIZATION and LEVEL OF SERVICE

CRITERIA	TOTAL SCORE
Utility Conflict	8
Street Flooding	32
Public or Privately-Owned Land	4
Effect of Improvements	15
Cost Effectiveness	20
Grant Bonus	2
Criticality Bonus	0
FINAL PROJECT SCORE:	**81**

KEY CROSSING	LEVEL OF SERVICE EXISTING	LEVEL OF SERVICE PROPOSED	% REDUCTION 50 YR
Montreat Rd at Fire Station	< 2-YR	50-YR	100
Honeycutt St	NA	50-YR	New System

PLANNING LEVEL OPINION OF COST

Construction estimate includes 30% contingency for planning. Design and permitting includes environmental permitting estimates. Proposed project footprints are based on GIS and modeling analyses. Detailed planning level costs are provided separately.

ITEM	COST OPINION
Construction	$ 632,000
Design and Permitting	$ 126,400
Other Project Costs	$ 164,600
Total Project	**$ 923,000**

PROJECT AREA MAP

PROJECT NAME **Police Station / Post Office Stormwater Improvements Phase III** PROJECT ID: **DT-SA-D3**

PROJECT TYPE: Stormwater Drainage WATERSHED: Downtown

PLANNING LEVEL COST ESTIMATE

Construction cost includes 30% contingency for planning. Improvements (LF): 575
Proposed project footprints are based on GIS and modeling analyses.
Real estate, if privately-owned land, is estimated based on property value.

CONSTRUCTION COST:

ITEM DESCRIPTION	QUANTITY	UNIT	UNIT COST	AMOUNT
Mobilization	1	LS	$ 23,135.00	$ 23,100.00
Erosion Control	1	LS	$ 18,960.00	$ 19,000.00
Traffic Control	1	LS	$ 7,584.00	$ 7,600.00
Moderate Utility Conflict	1	LS	$ 56,880.00	$ 56,900.00
Unclassified Excavation/Hauling	510	CY	$ 72.00	$ 36,700.00
Infrastructure Removal and Disposal	100	LF	$ 115.00	$ 11,500.00
Structure Removal and Disposal	3	EA	$ 6,800.00	$ 20,400.00
Standard Structure	4	EA	$ 8,600.00	$ 34,400.00
Large Structure or Headwall	-	EA	$ 12,000.00	-
New Pipe: 18-inch to 24-inch	575	LF	$ 390.00	$ 224,300.00
New Pipe: 30-inch to 36-inch	-	LF	$ 535.00	-
New Pipe: 42-inch to 54-inch	-	LF	$ 670.00	-
New Pipe: 60-inch	-	LF	$ 875.00	-
Arch Pipe (22.5" - 31.3")	-	LF	$ 500.00	-
Large RCBC	-	LF	$ 1,700.00	-
Rip Rap	25	TN	$ 50.00	$ 1,300.00
Open Channel Improvements	-	LF	$ 350.00	-
Roadway/Sidewalk Replacement	310	SY	$ 110.00	$ 34,100.00
New Concrete Curb and Gutter	150	LF	$ 110.00	$ 16,500.00
Replace Driveway Culvert Pipe	-	LF	$ 300.00	-
Replace Existing Concrete Driveway	-	SY	$ 120.00	-
			Construction Contingency (30%):	$ 146,000.00
			PLANNING LEVEL OPINION OF CONSTRUCTION COST:	**$ 632,000.00**

PROJECT COST:

PROJECT BUDGET ITEM	% of CONSTRUCTION	AMOUNT
Survey	5%	$ 31,600.00
Design and Permitting	20%	$ 126,400.00
Environmental Permitting	-	$ -
Railroad Permitting/Coordination	-	$ -
Geotechnical Investigation	1%	$ 6,300.00
Structural Evaluation	1%	$ 6,300.00
Real Estate	2%	$ 12,600.00
Utility Relocation	2%	$ 12,600.00
Project Maintenance (3yr)	5%	$ 31,600.00
Construction Inspections	10%	$ 63,200.00
Construction	100%	$ 632,000.00
PLANNING LEVEL OPINION OF TOTAL PROJECT COST:		$ 923,000.00

PROJECT NAME: **West St to Montreat Rd Stormwater Improvements** PROJECT ID: **DT-SA-E1**

PROJECT INFORMATION

LOCATION: West St to Montreat Rd
WATERSHED: Downtown
STORMWATER PROJECT TYPE: Stormwater Drainage
DRAINAGE IMPROVEMENTS (LF): 760

PROJECT DESCRIPTION

To improve level of service for surrounding roadways and reduce flood risk to nearby property owners:

- Install 735 LF of new 24-inch system along Montreat Rd and West St to connect to Proposed Project DT-SA-D2.
- This requires a permanent easement along the property line with the bank and church.
- Install 575 LF of new 24-inch system along Montreat Rd at Fire Station and Honeycutt Rd.
- Proposed project re-routes flow away from private property into the right-of-way.

PROJECT PRIORITIZATION and LEVEL OF SERVICE

CRITERIA	TOTAL SCORE
Utility Conflict	8
Street Flooding	32
Public or Privately-Owned Land	8
Effect of Improvements	10
Cost Effectiveness	15
Grant Bonus	2
Criticality Bonus	1
FINAL PROJECT SCORE:	**76**

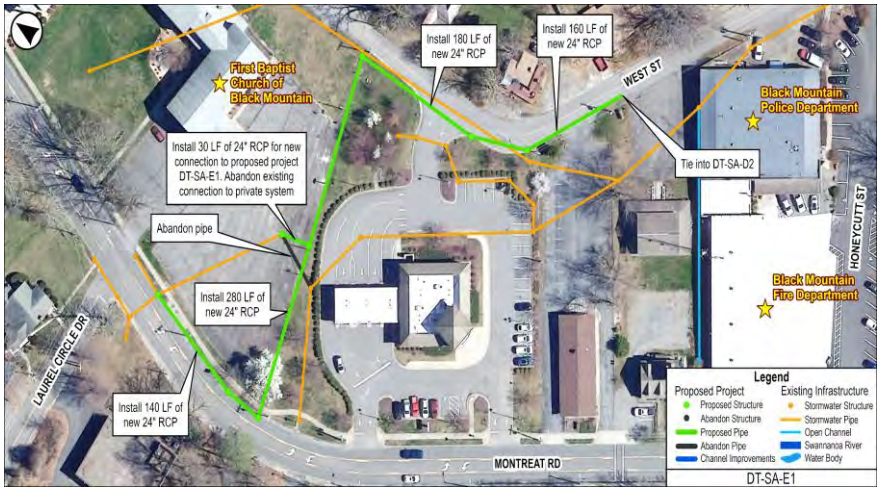
KEY CROSSING	LEVEL OF SERVICE EXISTING	LEVEL OF SERVICE PROPOSED	% REDUCTION 50 YR
Montreat Rd at the Church	NA	50-YR	New System
West St behind Bank	NA	50-YR	New System

PLANNING LEVEL OPINION OF COST

Construction estimate includes 30% contingency for planning. Design and permitting includes environmental permitting estimates. Proposed project footprints are based on GIS and modeling analyses. Detailed planning level costs are provided separately.

ITEM	COST OPINION
Construction	$ 841,000
Design and Permitting	$ 168,200
Other Project Costs	$ 218,800
Total Project	**$ 1,228,000**

PROJECT AREA MAP



PROJECT NAME **West St to Montreat Rd Stormwater Improvements** PROJECT ID: **DT-SA-E1**

PROJECT TYPE: Stormwater Drainage WATERSHED: Downtown

PLANNING LEVEL COST ESTIMATE

Construction cost includes 30% contingency for planning. Improvements (LF): 760
Proposed project footprints are based on GIS and modeling analyses.
Real estate, if privately-owned land, is estimated based on property value.

CONSTRUCTION COST:

ITEM DESCRIPTION	QUANTITY	UNIT	UNIT COST	AMOUNT
Mobilization	1	LS	$ 30,820.00	$ 30,800.00
Erosion Control	1	LS	$ 25,260.00	$ 25,300.00
Traffic Control	1	LS	$ 10,104.00	$ 10,100.00
Moderate Utility Conflict	1	LS	$ 75,780.00	$ 75,800.00
Unclassified Excavation/Hauling	910	CY	$ 72.00	$ 65,500.00
Infrastructure Removal and Disposal	30	LF	$ 115.00	$ 3,500.00
Structure Removal and Disposal	2	EA	$ 6,800.00	$ 13,600.00
Standard Structure	8	EA	$ 8,600.00	$ 68,800.00
Large Structure or Headwall	-	EA	$ 12,000.00	-
New Pipe: 18-inch to 24-inch	760	LF	$ 390.00	$ 296,400.00
New Pipe: 30-inch to 36-inch	-	LF	$ 535.00	-
New Pipe: 42-inch to 54-inch	-	LF	$ 670.00	-
New Pipe: 60-inch	-	LF	$ 875.00	-
Arch Pipe (22.5" - 31.3")	-	LF	$ 500.00	-
Large RCBC	-	LF	$ 1,700.00	-
Rip Rap	25	TN	$ 50.00	$ 1,300.00
Open Channel Improvements	-	LF	$ 350.00	-
Roadway/Sidewalk Replacement	210	SY	$ 110.00	$ 23,100.00
New Concrete Curb and Gutter	300	LF	$ 110.00	$ 33,000.00
Replace Driveway Culvert Pipe	-	LF	$ 300.00	-
Replace Existing Concrete Driveway	-	SY	$ 120.00	-
			Construction Contingency (30%):	$ 194,000.00
			PLANNING LEVEL OPINION OF CONSTRUCTION COST:	**$ 841,000.00**

PROJECT COST:

PROJECT BUDGET ITEM	% of CONSTRUCTION	AMOUNT
Survey	5%	$ 42,100.00
Design and Permitting	20%	$ 168,200.00
Environmental Permitting	-	$ -
Railroad Permitting/Coordination	-	$ -
Geotechnical Investigation	1%	$ 8,400.00
Structural Evaluation	1%	$ 8,400.00
Real Estate	2%	$ 16,800.00
Utility Relocation	2%	$ 16,800.00
Project Maintenance (3yr)	5%	$ 42,100.00
Construction Inspections	10%	$ 84,100.00
Construction	100%	$ 841,000.00
PLANNING LEVEL OPINION OF TOTAL PROJECT COST:		$ 1,228,000.00

PROJECT NAME: **Montreat Rd at Laurel Circle Dr Stormwater Improvements** PROJECT ID: **DT-SA-E2**

PROJECT INFORMATION

LOCATION:	Montreat Rd: E. Connally St to Laurel Circle Dr	STORMWATER PROJECT TYPE:	Stormwater Drainage
WATERSHED:	Downtown	DRAINAGE IMPROVEMENTS (LF):	350

PROJECT DESCRIPTION

To improve level of service for surrounding roadways and reduce flood risk to nearby property owners:

- Install 260 LF of new 24-inch RCP along Montreat Rd from E. Connally St to Laurel Circle Dr.
- Replace 90 LF of existing pipe with 24-inch RCP across Laurel Circle Dr to tie-into proposed project DT-SA-E1.

PROJECT PRIORITIZATION and LEVEL OF SERVICE

CRITERIA	TOTAL SCORE
Utility Conflict	4
Street Flooding	8
Public or Privately-Owned Land	4
Effect of Improvements	15
Cost Effectiveness	15
Grant Bonus	2
Criticality Bonus	1
FINAL PROJECT SCORE:	**49**

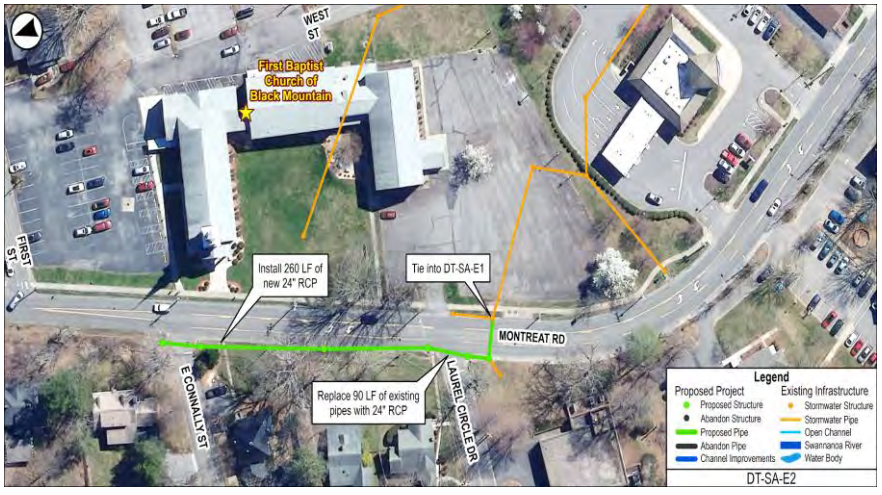
KEY CROSSING	LEVEL OF SERVICE EXISTING	LEVEL OF SERVICE PROPOSED	% REDUCTION 50 YR
Laurel Circle Dr	< 2-YR	25-YR	45
E Connally St at Montreat Rd	NA	25-YR	New Crossing

PLANNING LEVEL OPINION OF COST

Construction estimate includes 30% contingency for planning. Design and permitting includes environmental permitting estimates. Proposed project footprints are based on GIS and modeling analyses. Detailed planning level costs are provided separately.

ITEM	COST OPINION
Construction	$ 546,000
Design and Permitting	$ 109,200
Other Project Costs	$ 141,800
Total Project	**$ 797,000**

PROJECT AREA MAP



PROJECT NAME **Montreat Rd at Laurel Circle Dr Stormwater Improvements** PROJECT ID: **DT-SA-E2**

PROJECT TYPE: Stormwater Drainage WATERSHED: Downtown

PLANNING LEVEL COST ESTIMATE

Construction cost includes 30% contingency for planning.
Proposed project footprints are based on GIS and modeling analyses.
Real estate, if privately-owned land, is estimated based on property value.

Improvements (LF): 350

CONSTRUCTION COST:

ITEM DESCRIPTION	QUANTITY	UNIT	UNIT COST	AMOUNT
Mobilization	1	LS	$ 19,975.00	$ 20,000.00
Erosion Control	1	LS	$ 14,580.00	$ 14,600.00
Traffic Control	1	LS	$ 5,832.00	$ 5,800.00
Major Utility Conflict	1	LS	$ 87,480.00	$ 87,500.00
Unclassified Excavation/Hauling	300	CY	$ 72.00	$ 21,600.00
Infrastructure Removal and Disposal	95	LF	$ 115.00	$ 10,900.00
Structure Removal and Disposal	3	EA	$ 6,800.00	$ 20,400.00
Standard Structure	6	EA	$ 8,600.00	$ 51,600.00
Large Structure or Headwall	-	EA	$ 12,000.00	-
New Pipe: 18-inch to 24-inch	350	LF	$ 390.00	$ 136,500.00
New Pipe: 30-inch to 36-inch	-	LF	$ 535.00	-
New Pipe: 42-inch to 54-inch	-	LF	$ 670.00	-
New Pipe: 60-inch	-	LF	$ 875.00	-
Arch Pipe (22.5" - 31.3")	-	LF	$ 500.00	-
Large RCBC	-	LF	$ 1,700.00	-
Rip Rap	25	TN	$ 50.00	$ 1,300.00
Open Channel Improvements	-	LF	$ 350.00	-
Roadway/Sidewalk Replacement	110	SY	$ 110.00	$ 12,100.00
New Concrete Curb and Gutter	240	LF	$ 110.00	$ 26,400.00
Replace Driveway Culvert Pipe	30	LF	$ 300.00	$ 9,000.00
Replace Existing Concrete Driveway	15	SY	$ 120.00	$ 1,800.00
			Construction Contingency (30%):	$ 126,000.00
			PLANNING LEVEL OPINION OF CONSTRUCTION COST:	**$ 546,000.00**

PROJECT COST:

PROJECT BUDGET ITEM	% of CONSTRUCTION	AMOUNT
Survey	5%	$ 27,300.00
Design and Permitting	20%	$ 109,200.00
Environmental Permitting	-	$ -
Railroad Permitting/Coordination	-	$ -
Geotechnical Investigation	1%	$ 5,500.00
Structural Evaluation	1%	$ 5,500.00
Real Estate	2%	$ 10,900.00
Utility Relocation	2%	$ 10,900.00
Project Maintenance (3yr)	5%	$ 27,300.00
Construction Inspections	10%	$ 54,600.00
Construction	100%	$ 546,000.00
PLANNING LEVEL OPINION OF TOTAL PROJECT COST:		$ 797,000.00

PROJECT NAME: **Midland Ave Stormwater Improvements** PROJECT ID: **DT-SA-F**

PROJECT INFORMATION

LOCATION: Midland Ave
WATERSHED: Downtown
STORMWATER PROJECT TYPE: Stormwater Drainage
DRAINAGE IMPROVEMENTS (LF): 675

PROJECT DESCRIPTION

To improve level of service for surrounding roadways and reduce flood risk to nearby property owners:

- Replace existing culvert crossing at First St and Midland Ave with 30 LF of 24-inch RCP.
- Replace existing pipe and open channel system along Midland Ave with 24-inch RCP.
- Tie-into 24-inch RCP (part of proposed project DT-SA-D2) at Town Hall.

PROJECT PRIORITIZATION and LEVEL OF SERVICE

CRITERIA	TOTAL SCORE
Utility Conflict	12
Street Flooding	24
Public or Privately-Owned Land	8
Effect of Improvements	15
Cost Effectiveness	20
Grant Bonus	2
Criticality Bonus	1
FINAL PROJECT SCORE:	**82**

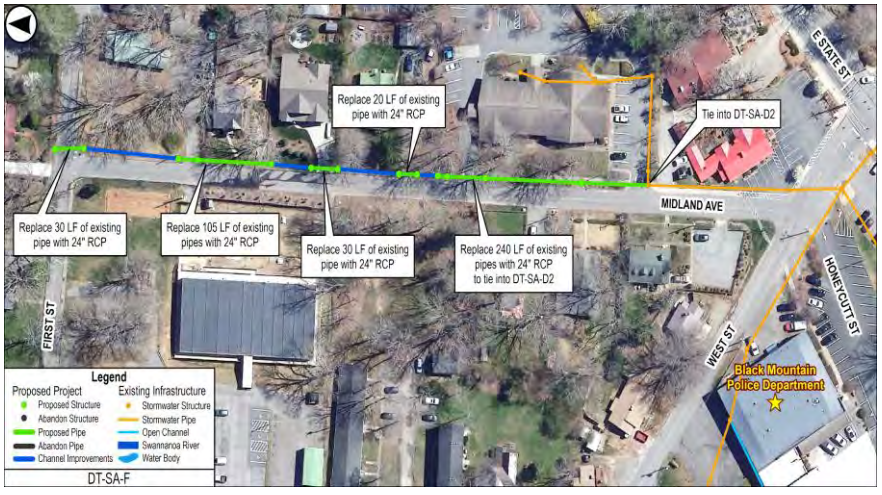
KEY CROSSING	LEVEL OF SERVICE EXISTING	LEVEL OF SERVICE PROPOSED	% REDUCTION 50 YR
First St at Midland Ave	2-YR	50-YR	100
System at Town Hall	2-YR	50-YR	100

PLANNING LEVEL OPINION OF COST

Construction estimate includes 30% contingency for planning. Design and permitting includes environmental permitting estimates. Proposed project footprints are based on GIS and modeling analyses. Detailed planning level costs are provided separately.

ITEM	COST OPINION
Construction	$ 768,000
Design and Permitting	$ 153,600
Other Project Costs	$ 199,400
Total Project	**$ 1,121,000**

PROJECT AREA MAP



PROJECT NAME **Midland Ave Stormwater Improvements** PROJECT ID: **DT-SA-F**

PROJECT TYPE: Stormwater Drainage WATERSHED: Downtown

PLANNING LEVEL COST ESTIMATE

Construction cost includes 30% contingency for planning. Improvements (LF): 425
Proposed project footprints are based on GIS and modeling analyses.
Real estate, if privately-owned land, is estimated based on property value.

CONSTRUCTION COST:

ITEM DESCRIPTION	QUANTITY	UNIT	UNIT COST	AMOUNT
Mobilization	1	LS	$ 28,125.00	$ 28,100.00
Erosion Control	1	LS	$ 25,115.00	$ 25,100.00
Traffic Control	1	LS	$ 10,046.00	$ 10,000.00
Minor Utility Conflict	1	LS	$ 25,115.00	$ 25,100.00
Unclassified Excavation/Hauling	210	CY	$ 72.00	$ 15,100.00
Infrastructure Removal and Disposal	425	LF	$ 115.00	$ 48,900.00
Structure Removal and Disposal	5	EA	$ 6,800.00	$ 34,000.00
Standard Structure	13	EA	$ 8,600.00	$ 111,800.00
Large Structure or Headwall	-	EA	$ 12,000.00	-
New Pipe: 18-inch to 24-inch	425	LF	$ 390.00	$ 165,800.00
New Pipe: 30-inch to 36-inch	-	LF	$ 535.00	-
New Pipe: 42-inch to 54-inch	-	LF	$ 670.00	-
New Pipe: 60-inch	-	LF	$ 875.00	-
Arch Pipe (22.5" - 31.3")	-	LF	$ 500.00	-
Large RCBC	-	LF	$ 1,700.00	-
Rip Rap	25	TN	$ 50.00	$ 1,300.00
Open Channel Improvements	250	LF	$ 350.00	$ 87,500.00
Roadway/Sidewalk Replacement	110	SY	$ 110.00	$ 12,100.00
New Concrete Curb and Gutter	-	LF	$ 110.00	-
Replace Driveway Culvert Pipe	70	LF	$ 300.00	$ 21,000.00
Replace Existing Concrete Driveway	40	SY	$ 120.00	$ 4,800.00
			Construction Contingency (30%):	$ 177,000.00
			PLANNING LEVEL OPINION OF CONSTRUCTION COST:	**$ 768,000.00**

PROJECT COST:

PROJECT BUDGET ITEM	% of CONSTRUCTION	AMOUNT
Survey	5%	$ 38,400.00
Design and Permitting	20%	$ 153,600.00
Environmental Permitting	-	$ -
Railroad Permitting/Coordination	-	$ -
Geotechnical Investigation	1%	$ 7,700.00
Structural Evaluation	1%	$ 7,700.00
Real Estate	2%	$ 15,400.00
Utility Relocation	2%	$ 15,400.00
Project Maintenance (3yr)	5%	$ 38,400.00
Construction Inspections	10%	$ 76,800.00
Construction	100%	$ 768,000.00
PLANNING LEVEL OPINION OF TOTAL PROJECT COST:		$ 1,121,000.00

PROJECT NAME: **S. Ridgeway Ave Stormwater Improvements** PROJECT ID: **DT-SA-G**

PROJECT INFORMATION

LOCATION:	Sutton Ave at S. Ridgway Ave	STORMWATER PROJECT TYPE:	Stormwater Drainage
WATERSHED:	Downtown	DRAINAGE IMPROVEMENTS (LF):	310

PROJECT DESCRIPTION

To improve level of service for surrounding roadways and reduce flood risk to nearby property owners:

- Replace existing pipe with 50 LF of 30-inch RCP across Sutton Ave on east side of Richardson Blvd.
- Install 80 LF of new 18-inch RCP and 100 LF of new 24-inch RCP along S. Ridgeway Ave.
- Replace existing pipe with 85 LF of 36-inch RCP to outfall at the open channel along Sutton Ave.

PROJECT PRIORITIZATION and LEVEL OF SERVICE

CRITERIA	TOTAL SCORE
Utility Conflict	4
Street Flooding	32
Public or Privately-Owned Land	8
Effect of Improvements	10
Cost Effectiveness	20
Grant Bonus	2
Criticality Bonus	0
FINAL PROJECT SCORE:	**76**

KEY CROSSING	LEVEL OF SERVICE EXISTING	LEVEL OF SERVICE PROPOSED	% REDUCTION 50 YR
Sutton Ave at Richardson	< 2-YR	50-YR	100
Sutton Ave at Ridgeway Ave	< 2-YR	50-YR	100

PLANNING LEVEL OPINION OF COST

Construction estimate includes 30% contingency for planning. Design and permitting includes environmental permitting estimates. Proposed project footprints are based on GIS and modeling analyses. Detailed planning level costs are provided separately.

ITEM	COST OPINION
Construction	$ 532,000
Design and Permitting	$ 156,400
Other Project Costs	$ 138,600
Total Project	**$ 827,000**

PROJECT AREA MAP

PROJECT NAME **S. Ridgeway Ave Stormwater Improvements** PROJECT ID: **DT-SA-G**

PROJECT TYPE: Stormwater Drainage WATERSHED: Downtown

PLANNING LEVEL COST ESTIMATE

Construction cost includes 30% contingency for planning. Improvements (LF): 310
Proposed project footprints are based on GIS and modeling analyses.
Real estate, if privately-owned land, is estimated based on property value.

CONSTRUCTION COST:

ITEM DESCRIPTION	QUANTITY	UNIT	UNIT COST	AMOUNT
Mobilization	1	LS	$ 19,475.00	$ 19,500.00
Erosion Control	1	LS	$ 14,215.00	$ 14,200.00
Traffic Control	1	LS	$ 5,686.00	$ 5,700.00
Major Utility Conflict	1	LS	$ 85,290.00	$ 85,300.00
Unclassified Excavation/Hauling	170	CY	$ 72.00	$ 12,200.00
Infrastructure Removal and Disposal	105	LF	$ 115.00	$ 12,100.00
Structure Removal and Disposal	3	EA	$ 6,800.00	$ 20,400.00
Standard Structure	9	EA	$ 8,600.00	$ 77,400.00
Large Structure or Headwall	-	EA	$ 12,000.00	-
New Pipe: 18-inch to 24-inch	175	LF	$ 390.00	$ 68,300.00
New Pipe: 30-inch to 36-inch	135	LF	$ 535.00	$ 72,200.00
New Pipe: 42-inch to 54-inch	-	LF	$ 670.00	-
New Pipe: 60-inch	-	LF	$ 875.00	-
Arch Pipe (22.5" - 31.3")	-	LF	$ 500.00	-
Large RCBC	-	LF	$ 1,700.00	-
Rip Rap	25	TN	$ 50.00	$ 1,300.00
Open Channel Improvements	-	LF	$ 350.00	-
Roadway/Sidewalk Replacement	110	SY	$ 110.00	$ 12,100.00
New Concrete Curb and Gutter	75	LF	$ 110.00	$ 8,300.00
Replace Driveway Culvert Pipe	-	LF	$ 300.00	-
Replace Existing Concrete Driveway	-	SY	$ 120.00	-
			Construction Contingency (30%):	$ 123,000.00
			PLANNING LEVEL OPINION OF CONSTRUCTION COST:	**$ 532,000.00**

PROJECT COST:

PROJECT BUDGET ITEM	% of CONSTRUCTION	AMOUNT
Survey	5%	$ 26,600.00
Design and Permitting	20%	$ 106,400.00
Environmental Permitting	-	$ 50,000.00
Railroad Permitting/Coordination	-	$ -
Geotechnical Investigation	1%	$ 5,300.00
Structural Evaluation	1%	$ 5,300.00
Real Estate	2%	$ 10,600.00
Utility Relocation	2%	$ 10,600.00
Project Maintenance (3yr)	5%	$ 26,600.00
Construction Inspections	10%	$ 53,200.00
Construction	100%	$ 532,000.00
PLANNING LEVEL OPINION OF TOTAL PROJECT COST:		$ 827,000.00

PROJECT NAME: **Black Mountain Ave Stormwater Improvements Phase I** PROJECT ID: **DT-BMA-A**

PROJECT INFORMATION

LOCATION: Vance Ave to the Swannanoa River
WATERSHED: Downtown
STORMWATER PROJECT TYPE: Stormwater Drainage
DRAINAGE IMPROVEMENTS (LF): 585

PROJECT DESCRIPTION

To improve level of service for surrounding roadways and reduce flood risk to nearby property owners:

- Install 85 LF of 30" RCP across Vance St at Black Mountain Ave.
- Replace 175 LF of existing pipe with 30" RCP and 36" RCP at Vance Ave intersection and moving south.
- Install 370 LF of new 36" RCP just north of the Terry Estate Dr intersection to the outfall.
- Install 40 LF of new 24" RCP across Black Mountain Ave at Terry Estate Dr.
- Remove 195 LF of existing pipe from service at Terry Estate Dr/Black Mountain Ave intersection.

PROJECT PRIORITIZATION and LEVEL OF SERVICE

CRITERIA	TOTAL SCORE
Utility Conflict	8
Street Flooding	32
Public or Privately-Owned Land	4
Effect of Improvements	20
Cost Effectiveness	15
Grant Bonus	2
Criticality Bonus	1
FINAL PROJECT SCORE:	**82**

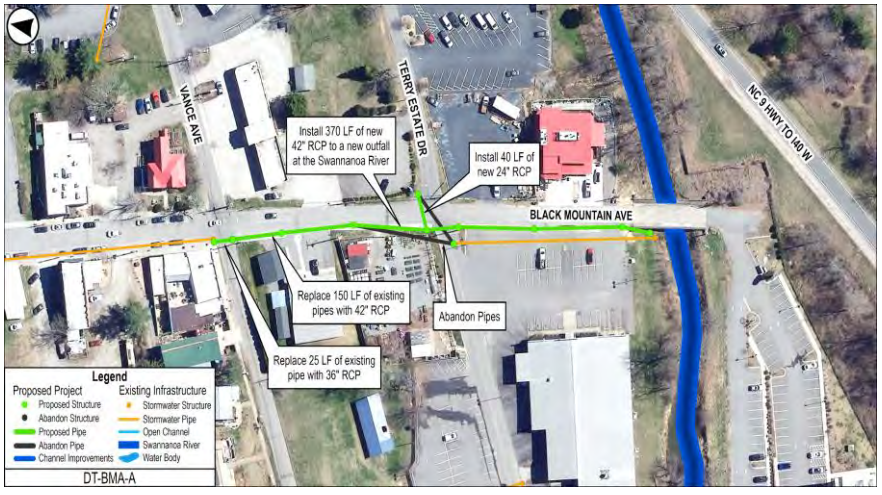
KEY CROSSING	LEVEL OF SERVICE EXISTING	LEVEL OF SERVICE PROPOSED	% REDUCTION 50 YR
Terry Estate at Black Mtn Ave	< 2-YR	50-YR	100
Vance Ave at Black Mtn Ave	< 2-YR	25-YR	100

PLANNING LEVEL OPINION OF COST

Construction estimate includes 30% contingency for planning. Design and permitting includes environmental permitting estimates. Proposed project footprints are based on GIS and modeling analyses. Detailed planning level costs are provided separately.

ITEM	COST OPINION
Construction	$ 1,253,000
Design and Permitting	$ 300,600
Other Project Costs	$ 326,400
Total Project	**$ 1,880,000**

PROJECT AREA MAP



PROJECT NAME **Black Mountain Ave Stormwater Improvements Phase I** PROJECT ID: **DT-BMA-A**

PROJECT TYPE: Stormwater Drainage WATERSHED: Downtown

PLANNING LEVEL COST ESTIMATE

Construction cost includes 30% contingency for planning. Improvements (LF): 585
Proposed project footprints are based on GIS and modeling analyses.
Real estate, if privately-owned land, is estimated based on property value.

CONSTRUCTION COST:

ITEM DESCRIPTION	QUANTITY	UNIT	UNIT COST	AMOUNT
Mobilization	1	LS	$ 45,910.00	$ 45,900.00
Erosion Control	1	LS	$ 37,630.00	$ 37,600.00
Traffic Control	1	LS	$ 15,052.00	$ 15,100.00
Moderate Utility Conflict	1	LS	$ 112,890.00	$ 112,900.00
Unclassified Excavation/Hauling	860	CY	$ 72.00	$ 61,900.00
Infrastructure Removal and Disposal	370	LF	$ 115.00	$ 42,600.00
Structure Removal and Disposal	4	EA	$ 6,800.00	$ 27,200.00
Standard Structure	3	EA	$ 8,600.00	$ 25,800.00
Large Structure or Headwall	8	EA	$ 12,000.00	$ 96,000.00
New Pipe: 18-inch to 24-inch	40	LF	$ 390.00	$ 15,600.00
New Pipe: 30-inch to 36-inch	25	LF	$ 535.00	$ 13,400.00
New Pipe: 42-inch to 54-inch	520	LF	$ 670.00	$ 348,400.00
New Pipe: 60-inch	-	LF	$ 875.00	-
Arch Pipe (22.5" - 31.3")	-	LF	$ 500.00	-
Large RCBC	-	LF	$ 1,700.00	-
Rip Rap	25	TN	$ 50.00	$ 1,300.00
Open Channel Improvements	-	LF	$ 350.00	-
Roadway/Sidewalk Replacement	560	SY	$ 110.00	$ 61,600.00
New Concrete Curb and Gutter	450	LF	$ 110.00	$ 49,500.00
Replace Driveway Culvert Pipe	25	LF	$ 300.00	$ 7,500.00
Replace Existing Concrete Driveway	15	SY	$ 120.00	$ 1,800.00
			Construction Contingency (30%):	$ 289,000.00
			PLANNING LEVEL OPINION OF CONSTRUCTION COST:	**$ 1,253,000.00**

PROJECT COST:

PROJECT BUDGET ITEM	% of CONSTRUCTION	AMOUNT
Survey	5%	$ 62,700.00
Design and Permitting	20%	$ 250,600.00
Environmental Permitting	-	$ 50,000.00
Railroad Permitting/Coordination	-	$ -
Geotechnical Investigation	1%	$ 12,500.00
Structural Evaluation	1%	$ 12,500.00
Real Estate	2%	$ 25,100.00
Utility Relocation	2%	$ 25,100.00
Project Maintenance (3yr)	5%	$ 62,700.00
Construction Inspections	10%	$ 125,300.00
Construction	100%	$ 1,253,000.00
PLANNING LEVEL OPINION OF TOTAL PROJECT COST:		$ 1,880,000.00

PROJECT NAME: **Black Mountain Ave Stormwater Improvements Phase II** PROJECT ID: **DT-BMA-B**

PROJECT INFORMATION

LOCATION:	S. Doughtery St to Vance Ave	STORMWATER PROJECT TYPE:	Stormwater Drainage
WATERSHED:	Downtown	DRAINAGE IMPROVEMENTS (LF):	585

PROJECT DESCRIPTION

To improve level of service for surrounding roadways and reduce flood risk to nearby property owners:

- Replace nearly 400 LF of existing pipe along Black Mountain Ave from S. Doughtery St to Vance Ave.
- Install 160 LF of new 24" RCP at S. Doughtery St. to Black Mountain Ave.
- Replace existing culvert adjacent to the railroad tracks with 30 LF of 18" RCP.
- Install 50 LF of stormwater channel improvements as needed.

PROJECT PRIORITIZATION and LEVEL OF SERVICE

CRITERIA	TOTAL SCORE
Utility Conflict	12
Street Flooding	24
Public or Privately-Owned Land	8
Effect of Improvements	20
Cost Effectiveness	20
Grant Bonus	2
Criticality Bonus	2
FINAL PROJECT SCORE:	**88**

	LEVEL OF SERVICE		% REDUCTION
KEY CROSSING	EXISTING	PROPOSED	50 YR
Black Mountain Ave at RR	< 2-YR	50-YR	100
S. Dougherty St Bend	< 2-YR	50-YR	100

PLANNING LEVEL OPINION OF COST

Construction estimate includes 30% contingency for planning. Design and permitting includes environmental permitting estimates. Proposed project footprints are based on GIS and modeling analyses. Detailed planning level costs are provided separately.

ITEM	COST OPINION
Construction	$ 862,000
Design and Permitting	$ 222,400
Other Project Costs	$ 223,600
Total Project	**$ 1,308,000**

PROJECT AREA MAP

PROJECT NAME **Black Mountain Ave Stormwater Improvements Phase II** PROJECT ID: **DT-BMA-B**

PROJECT TYPE: Stormwater Drainage WATERSHED: Downtown

PLANNING LEVEL COST ESTIMATE

Construction cost includes 30% contingency for planning. Improvements (LF): 585
Proposed project footprints are based on GIS and modeling analyses.
Real estate, if privately-owned land, is estimated based on property value.

CONSTRUCTION COST:

ITEM DESCRIPTION	QUANTITY	UNIT	UNIT COST	AMOUNT
Mobilization	1	LS	$ 31,570.00	$ 31,600.00
Erosion Control	1	LS	$ 28,185.00	$ 28,200.00
Traffic Control	1	LS	$ 11,274.00	$ 11,300.00
Minor Utility Conflict	1	LS	$ 28,185.00	$ 28,200.00
Unclassified Excavation/Hauling	550	CY	$ 72.00	$ 39,600.00
Infrastructure Removal and Disposal	500	LF	$ 115.00	$ 57,500.00
Structure Removal and Disposal	4	EA	$ 6,800.00	$ 27,200.00
Standard Structure	6	EA	$ 8,600.00	$ 51,600.00
Large Structure or Headwall	-	EA	$ 12,000.00	-
New Pipe: 18-inch to 24-inch	190	LF	$ 390.00	$ 74,100.00
New Pipe: 30-inch to 36-inch	395	LF	$ 535.00	$ 211,300.00
New Pipe: 42-inch to 54-inch	-	LF	$ 670.00	-
New Pipe: 60-inch	-	LF	$ 875.00	-
Arch Pipe (22.5" - 31.3")	-	LF	$ 500.00	-
Large RCBC	-	LF	$ 1,700.00	-
Rip Rap	25	TN	$ 50.00	$ 1,300.00
Open Channel Improvements	-	LF	$ 350.00	-
Roadway/Sidewalk Replacement	350	SY	$ 110.00	$ 38,500.00
New Concrete Curb and Gutter	400	LF	$ 110.00	$ 44,000.00
Replace Driveway Culvert Pipe	50	LF	$ 300.00	$ 15,000.00
Replace Existing Concrete Driveway	30	SY	$ 120.00	$ 3,600.00
			Construction Contingency (30%):	$ 199,000.00
			PLANNING LEVEL OPINION OF CONSTRUCTION COST:	**$ 862,000.00**

PROJECT COST:

PROJECT BUDGET ITEM	% of CONSTRUCTION	AMOUNT
Survey	5%	$ 43,100.00
Design and Permitting	20%	$ 172,400.00
Environmental Permitting	-	$ -
Railroad Permitting/Coordination	-	$ 50,000.00
Geotechnical Investigation	1%	$ 8,600.00
Structural Evaluation	1%	$ 8,600.00
Real Estate	2%	$ 17,200.00
Utility Relocation	2%	$ 17,200.00
Project Maintenance (3yr)	5%	$ 43,100.00
Construction Inspections	10%	$ 86,200.00
Construction	100%	$ 862,000.00
PLANNING LEVEL OPINION OF TOTAL PROJECT COST:		$ 1,308,000.00

PROJECT NAME: **Terry Estate Dr Stormwater Improvements Phase I** PROJECT ID: **DT-TE-A**

PROJECT INFORMATION

LOCATION: Terry Estate Drive
WATERSHED: Downtown
STORMWATER PROJECT TYPE: Stormwater Drainage
DRAINAGE IMPROVEMENTS (LF): 745

PROJECT DESCRIPTION

To improve level of service for surrounding roadways and reduce flood risk to nearby property owners:

- Replace existing pipes across Terry Estate Dr in 5 locations with larger pipes.
- Replace the existing pipe on the south side of Terry Estate Dr with 55 LF of 30-inch and 400 LF of 36-inch RCP.
- Install a new 42-inch outfall pipe across the parking lot to the Swannanoa River.

PROJECT PRIORITIZATION and LEVEL OF SERVICE

CRITERIA	TOTAL SCORE
Utility Conflict	4
Street Flooding	24
Public or Privately-Owned Land	4
Effect of Improvements	15
Cost Effectiveness	10
Grant Bonus	2
Criticality Bonus	2
FINAL PROJECT SCORE:	**61**

KEY CROSSING	LEVEL OF SERVICE EXISTING	LEVEL OF SERVICE PROPOSED	% REDUCTION 50 YR
Terry Estate Dr at Bridge St	< 2-YR	50-YR	100
Terry Estate Dr	< 2-YR	25-YR	96

PLANNING LEVEL OPINION OF COST

Construction estimate includes 30% contingency for planning. Design and permitting includes environmental permitting estimates. Proposed project footprints are based on GIS and modeling analyses. Detailed planning level costs are provided separately.

ITEM	COST OPINION
Construction	$ 1,310,000
Design and Permitting	$ 312,000
Other Project Costs	$ 341,000
Total Project	**$ 1,963,000**

PROJECT AREA MAP

PROJECT NAME **Terry Estate Dr Stormwater Improvements Phase I** PROJECT ID: **DT-TE-A**

PROJECT TYPE: Stormwater Drainage WATERSHED: Downtown

PLANNING LEVEL COST ESTIMATE

Construction cost includes 30% contingency for planning. Improvements (LF): 745
Proposed project footprints are based on GIS and modeling analyses.
Real estate, if privately-owned land, is estimated based on property value.

CONSTRUCTION COST:

ITEM DESCRIPTION	QUANTITY	UNIT	UNIT COST	AMOUNT
Mobilization	1	LS	$ 48,010.00	$ 48,000.00
Erosion Control	1	LS	$ 35,045.00	$ 35,000.00
Traffic Control	1	LS	$ 14,018.00	$ 14,000.00
Major Utility Conflict	1	LS	$ 210,270.00	$ 210,300.00
Unclassified Excavation/Hauling	630	CY	$ 72.00	$ 45,400.00
Infrastructure Removal and Disposal	730	LF	$ 115.00	$ 84,000.00
Structure Removal and Disposal	7	EA	$ 6,800.00	$ 47,600.00
Standard Structure	9	EA	$ 8,600.00	$ 77,400.00
Large Structure or Headwall	-	EA	$ 12,000.00	-
New Pipe: 18-inch to 24-inch	120	LF	$ 390.00	$ 46,800.00
New Pipe: 30-inch to 36-inch	485	LF	$ 535.00	$ 259,500.00
New Pipe: 42-inch to 54-inch	140	LF	$ 670.00	$ 93,800.00
New Pipe: 60-inch	-	LF	$ 875.00	-
Arch Pipe (22.5" - 31.3")	-	LF	$ 500.00	-
Large RCBC	-	LF	$ 1,700.00	-
Rip Rap	25	TN	$ 50.00	$ 1,300.00
Open Channel Improvements	-	LF	$ 350.00	-
Roadway/Sidewalk Replacement	410	SY	$ 110.00	$ 45,100.00
New Concrete Curb and Gutter	-	LF	$ 110.00	-
Replace Driveway Culvert Pipe	-	LF	$ 300.00	-
Replace Existing Concrete Driveway	-	SY	$ 120.00	-
			Construction Contingency (30%):	$ 302,000.00
			PLANNING LEVEL OPINION OF CONSTRUCTION COST:	**$ 1,310,000.00**

PROJECT COST:

PROJECT BUDGET ITEM	% of CONSTRUCTION	AMOUNT
Survey	5%	$ 65,500.00
Design and Permitting	20%	$ 262,000.00
Environmental Permitting	-	$ 50,000.00
Railroad Permitting/Coordination	-	$ -
Geotechnical Investigation	1%	$ 13,100.00
Structural Evaluation	1%	$ 13,100.00
Real Estate	2%	$ 26,200.00
Utility Relocation	2%	$ 26,200.00
Project Maintenance (3yr)	5%	$ 65,500.00
Construction Inspections	10%	$ 131,000.00
Construction	100%	$ 1,310,000.00
PLANNING LEVEL OPINION OF TOTAL PROJECT COST:		$ 1,963,000.00

PROJECT NAME: **Terry Estate Dr Stormwater Improvements Phase II** PROJECT ID: **DT-TE-B**

PROJECT INFORMATION

LOCATION: Vance Ave at Bridge St and Spring St
WATERSHED: Downtown
STORMWATER PROJECT TYPE: Stormwater Drainage
DRAINAGE IMPROVEMENTS (LF): 715

PROJECT DESCRIPTION

To improve level of service for surrounding roadways and reduce flood risk to nearby property owners:

- Replace existing pipe and stormwater roadside ditches along Bridge St with 260 LF of 24-inch RCP.
- Replace existing pipe crossing Spring St and Vance St with 70 LF of 24-inch RCP.
- Install 375 LF of new 24-inch RCP to re-route flow to Vance Ave and Black Mountain Ave rights-of-way.
- Remove/abandon in place stormwater pipe running south to Terry Estate Dr through private property.

PROJECT PRIORITIZATION and LEVEL OF SERVICE

CRITERIA	TOTAL SCORE
Utility Conflict	8
Street Flooding	24
Public or Privately-Owned Land	8
Effect of Improvements	20
Cost Effectiveness	15
Grant Bonus	2
Criticality Bonus	1
FINAL PROJECT SCORE:	**78**

KEY CROSSING	LEVEL OF SERVICE EXISTING	LEVEL OF SERVICE PROPOSED	% REDUCTION 50 YR
Vance Ave at Bridge St	10-YR	50-YR	100
Vance Ave/Spring St INT	< 2-YR	50-YR	100

PLANNING LEVEL OPINION OF COST

Construction estimate includes 30% contingency for planning. Design and permitting includes environmental permitting estimates. Proposed project footprints are based on GIS and modeling analyses. Detailed planning level costs are provided separately.

ITEM	COST OPINION
Construction	$ 945,000
Design and Permitting	$ 189,000
Other Project Costs	$ 246,000
Total Project	**$ 1,380,000**

PROJECT AREA MAP

PROJECT NAME **Terry Estate Dr Stormwater Improvements Phase II** PROJECT ID: **DT-TE-B**

PROJECT TYPE: Stormwater Drainage WATERSHED: Downtown

PLANNING LEVEL COST ESTIMATE

Construction cost includes 30% contingency for planning. Improvements (LF): 715
Proposed project footprints are based on GIS and modeling analyses.
Real estate, if privately-owned land, is estimated based on property value.

CONSTRUCTION COST:

ITEM DESCRIPTION	QUANTITY	UNIT	UNIT COST	AMOUNT
Mobilization	1	LS	$ 34,625.00	$ 34,600.00
Erosion Control	1	LS	$ 28,380.00	$ 28,400.00
Traffic Control	1	LS	$ 11,352.00	$ 11,400.00
Moderate Utility Conflict	1	LS	$ 85,140.00	$ 85,100.00
Unclassified Excavation/Hauling	590	CY	$ 72.00	$ 42,500.00
Infrastructure Removal and Disposal	580	LF	$ 115.00	$ 66,700.00
Structure Removal and Disposal	4	EA	$ 6,800.00	$ 27,200.00
Standard Structure	7	EA	$ 8,600.00	$ 60,200.00
Large Structure or Headwall	-	EA	$ 12,000.00	-
New Pipe: 18-inch to 24-inch	265	LF	$ 390.00	$ 103,400.00
New Pipe: 30-inch to 36-inch	450	LF	$ 535.00	$ 240,800.00
New Pipe: 42-inch to 54-inch	-	LF	$ 670.00	-
New Pipe: 60-inch	-	LF	$ 875.00	-
Arch Pipe (22.5" - 31.3")	-	LF	$ 500.00	-
Large RCBC	-	LF	$ 1,700.00	-
Rip Rap	25	TN	$ 50.00	$ 1,300.00
Open Channel Improvements	-	LF	$ 350.00	-
Roadway/Sidewalk Replacement	180	SY	$ 110.00	$ 19,800.00
New Concrete Curb and Gutter	-	LF	$ 110.00	-
Replace Driveway Culvert Pipe	15	LF	$ 300.00	$ 4,500.00
Replace Existing Concrete Driveway	10	SY	$ 120.00	$ 1,200.00
			Construction Contingency (30%):	$ 218,000.00
			PLANNING LEVEL OPINION OF CONSTRUCTION COST:	**$ 945,000.00**

PROJECT COST:

PROJECT BUDGET ITEM	% of CONSTRUCTION	AMOUNT
Survey	5%	$ 47,300.00
Design and Permitting	20%	$ 189,000.00
Environmental Permitting	-	$ -
Railroad Permitting/Coordination	-	$ -
Geotechnical Investigation	1%	$ 9,500.00
Structural Evaluation	1%	$ 9,500.00
Real Estate	2%	$ 18,900.00
Utility Relocation	2%	$ 18,900.00
Project Maintenance (3yr)	5%	$ 47,300.00
Construction Inspections	10%	$ 94,500.00
Construction	100%	$ 945,000.00
PLANNING LEVEL OPINION OF TOTAL PROJECT COST:		$ 1,380,000.00

PROJECT NAME: **NC 9 Stormwater Improvements** PROJECT ID: **DT-NC9-A**

PROJECT INFORMATION

LOCATION: Vance Ave to outfall at Swannanoa River
WATERSHED: Downtown
STORMWATER PROJECT TYPE: Stormwater Drainage
DRAINAGE IMPROVEMENTS (LF): 595

PROJECT DESCRIPTION

To improve level of service for surrounding roadways and reduce flood risk to nearby property owners:

- Replace existing pipe along NC 9 with 280 LF of 36-inch RCP and tie-into culvert at Swannanaoa River.
- Replace existing pipe along Terry Estate Dr with 24-inch RCP and tie into proposed 36-inch pipe at NC 9.
- Install 130 LF of new 24-inch RCP to route flow along the Vance Ave right-of -way to tie into the NC 9 system.

PROJECT PRIORITIZATION and LEVEL OF SERVICE

CRITERIA	TOTAL SCORE
Utility Conflict	8
Street Flooding	24
Public or Privately-Owned Land	8
Effect of Improvements	10
Cost Effectiveness	15
Grant Bonus	2
Criticality Bonus	1
FINAL PROJECT SCORE:	**68**

KEY CROSSING	LEVEL OF SERVICE EXISTING	LEVEL OF SERVICE PROPOSED	% REDUCTION 50 YR
Terry Estate Dr west of NC9	< 2-YR	50-YR	100
Terry Estate Dr at NC9	25-YR	50-YR	100
Vance Ave at NC9	25-YR	50-YR	100
Vance Ave west of NC 9	2-YR	50-YR	100

PLANNING LEVEL OPINION OF COST

Construction estimate includes 30% contingency for planning. Design and permitting includes environmental permitting estimates. Proposed project footprints are based on GIS and modeling analyses. Detailed planning level costs are provided separately.

ITEM	COST OPINION
Construction	$ 880,000
Design and Permitting	$ 226,000
Other Project Costs	$ 229,000
Total Project	**$ 1,335,000**

PROJECT AREA MAP

PROJECT NAME **NC 9 Stormwater Improvements** PROJECT ID: **DT-NC9-A**

PROJECT TYPE: Stormwater Drainage WATERSHED: Downtown

PLANNING LEVEL COST ESTIMATE

Construction cost includes 30% contingency for planning. Improvements (LF): 595
Proposed project footprints are based on GIS and modeling analyses.
Real estate, if privately-owned land, is estimated based on property value.

CONSTRUCTION COST:

ITEM DESCRIPTION	QUANTITY	UNIT	UNIT COST	AMOUNT
Mobilization	1	LS	$ 32,250.00	$ 32,300.00
Erosion Control	1	LS	$ 26,435.00	$ 26,400.00
Traffic Control	1	LS	$ 10,574.00	$ 10,600.00
Moderate Utility Conflict	1	LS	$ 79,305.00	$ 79,300.00
Unclassified Excavation/Hauling	540	CY	$ 72.00	$ 38,900.00
Infrastructure Removal and Disposal	470	LF	$ 115.00	$ 54,100.00
Structure Removal and Disposal	7	EA	$ 6,800.00	$ 47,600.00
Standard Structure	7	EA	$ 8,600.00	$ 60,200.00
Large Structure or Headwall	-	EA	$ 12,000.00	-
New Pipe: 18-inch to 24-inch	315	LF	$ 390.00	$ 122,900.00
New Pipe: 30-inch to 36-inch	280	LF	$ 535.00	$ 149,800.00
New Pipe: 42-inch to 54-inch	-	LF	$ 670.00	-
New Pipe: 60-inch	-	LF	$ 875.00	-
Arch Pipe (22.5" - 31.3")	-	LF	$ 500.00	-
Large RCBC	-	LF	$ 1,700.00	-
Rip Rap	25	TN	$ 50.00	$ 1,300.00
Open Channel Improvements	-	LF	$ 350.00	-
Roadway/Sidewalk Replacement	270	SY	$ 110.00	$ 29,700.00
New Concrete Curb and Gutter	220	LF	$ 110.00	$ 24,200.00
Replace Driveway Culvert Pipe	-	LF	$ 300.00	-
Replace Existing Concrete Driveway	-	SY	$ 120.00	-
			Construction Contingency (30%):	$ 203,000.00
			PLANNING LEVEL OPINION OF CONSTRUCTION COST:	**$ 880,000.00**

PROJECT COST:

PROJECT BUDGET ITEM	% of CONSTRUCTION	AMOUNT
Survey	5%	$ 44,000.00
Design and Permitting	20%	$ 176,000.00
Environmental Permitting	-	$ 50,000.00
Railroad Permitting/Coordination	-	$ -
Geotechnical Investigation	1%	$ 8,800.00
Structural Evaluation	1%	$ 8,800.00
Real Estate	2%	$ 17,600.00
Utility Relocation	2%	$ 17,600.00
Project Maintenance (3yr)	5%	$ 44,000.00
Construction Inspections	10%	$ 88,000.00
Construction	100%	$ 880,000.00
PLANNING LEVEL OPINION OF TOTAL PROJECT COST:		$ 1,335,000.00

WK DICKSON
AN ARDURRA COMPANY

Figure E-2: Proposed Stormwater Improvement Projects
TOMAHAWK BRANCH PRIMARY SYSTEM
Town of Black Mountain Stormwater Master Plan

0 100 200 Feet
1 in = 200 ft

N W E S

PROJECT NAME: **Laurel Circle Culvert Replacement (Tomahawk Branch)** PROJECT ID: **TB-A1**

PROJECT INFORMATION

LOCATION:	Laurel Circle Dr north of Lake Tomahawk	STORMWATER PROJECT TYPE:	Stormwater Drainage
WATERSHED:	Tomahawk Branch	DRAINAGE IMPROVEMENTS (LF):	220

PROJECT DESCRIPTION

To improve level of service for surrounding roadways and reduce flood risk to nearby property owners:

- Replace existing arch culverts with 40 LF of triple 5' x 9' RCBC.
- Install floodplain benching upstream/downstream of proposed culvert (documented separately).
- Tomahawk Lake analysis is required to determine any additional measures to improve the level of service.

PROJECT PRIORITIZATION and LEVEL OF SERVICE

CRITERIA	TOTAL SCORE
Utility Conflict	12
Street Flooding	8
Public or Privately-Owned Land	8
Effect of Improvements	10
Cost Effectiveness	15
Grant Bonus	3
Criticality Bonus	2
FINAL PROJECT SCORE:	**58**

KEY CROSSING	LEVEL OF SERVICE EXISTING	LEVEL OF SERVICE PROPOSED	% REDUCTION 50 YR
Laurel Circle Drive	< 2-YR	10-YR	0

PLANNING LEVEL OPINION OF COST

Construction estimate includes 30% contingency for planning. Design and permitting includes environmental permitting estimates. Proposed project footprints are based on GIS and modeling analyses. Detailed planning level costs are provided separately.

ITEM	COST OPINION
Construction	$ 455,000
Design and Permitting	$ 186,000
Other Project Costs	$ 119,000
Total Project	**$ 760,000**

PROJECT AREA MAP

PROJECT NAME **Laurel Circle Culvert Replacement (Tomahawk Branch)** PROJECT ID: **TB-A1**

PROJECT TYPE: Stormwater Drainage WATERSHED: Tomahawk B

PLANNING LEVEL COST ESTIMATE

Construction cost includes 30% contingency for planning. Improvements (LF): 120
Proposed project footprints are based on GIS and modeling analyses.
Real estate, if privately-owned land, is estimated based on property value.

CONSTRUCTION COST:

ITEM DESCRIPTION	QUANTITY	UNIT	UNIT COST	AMOUNT
Mobilization	1	LS	$ 16,650.00	$ 16,700.00
Erosion Control	1	LS	$ 14,865.00	$ 14,900.00
Traffic Control	1	LS	$ 5,946.00	$ 5,900.00
Minor Utility Conflict	1	LS	$ 14,865.00	$ 14,900.00
Unclassified Excavation/Hauling	190	CY	$ 72.00	$ 13,700.00
Infrastructure Removal and Disposal	120	LF	$ 115.00	$ 13,800.00
Structure Removal and Disposal	-	EA	$ 6,800.00	-
Standard Structure	-	EA	$ 8,600.00	-
Large Structure or Headwall	2	EA	$ 12,000.00	$ 24,000.00
New Pipe: 18-inch to 24-inch	-	LF	$ 390.00	-
New Pipe: 30-inch to 36-inch	-	LF	$ 535.00	-
New Pipe: 42-inch to 54-inch	-	LF	$ 670.00	-
New Pipe: 60-inch	-	LF	$ 875.00	-
Arch Pipe (22.5" - 31.3")	-	LF	$ 500.00	-
Large RCBC	120	LF	$ 1,700.00	$ 204,000.00
Rip Rap	25	TN	$ 50.00	$ 1,300.00
Open Channel Improvements	100	LF	$ 350.00	$ 35,000.00
Roadway/Sidewalk Replacement	50	SY	$ 110.00	$ 5,500.00
New Concrete Curb and Gutter	-	LF	$ 110.00	-
Replace Driveway Culvert Pipe	-	LF	$ 300.00	-
Replace Existing Concrete Driveway	-	SY	$ 120.00	-
			Construction Contingency (30%):	$ 105,000.00
			PLANNING LEVEL OPINION OF CONSTRUCTION COST:	**$ 455,000.00**

PROJECT COST:

PROJECT BUDGET ITEM	% of CONSTRUCTION	AMOUNT
Survey	5%	$ 22,800.00
Design and Permitting	20%	$ 91,000.00
Environmental Permitting	-	$ 95,000.00
Railroad Permitting/Coordination	-	$ -
Geotechnical Investigation	1%	$ 4,600.00
Structural Evaluation	1%	$ 4,600.00
Real Estate	2%	$ 9,100.00
Utility Relocation	2%	$ 9,100.00
Project Maintenance (3yr)	5%	$ 22,800.00
Construction Inspections	10%	$ 45,500.00
Construction	100%	$ 455,000.00
PLANNING LEVEL OPINION OF TOTAL PROJECT COST:		$ 760,000.00

PROJECT NAME: **Tomahawk Branch Floodplain Benching at Golf Course** PROJECT ID: **TB-A2**

PROJECT INFORMATION

LOCATION:	Laurel Circle Dr north of Lake Tomahawk	STORMWATER PROJECT TYPE:	Floodplain Benching
WATERSHED:	Tomahawk Branch	DRAINAGE IMPROVEMENTS (LF):	500

PROJECT DESCRIPTION

To improve level of service for surrounding roadways and reduce flood risk to nearby property owners:

- Install approximately 500 LF of channel improvements with floodplain benching to lower WSELs.
- Floodplain benching improvements are located up and downstream of the proposed RCBC in project TB-A1.

PROJECT PRIORITIZATION AND PROPERTY REQUIREMENTS

CRITERIA	TOTAL SCORE
Utility Conflict	12
Street Flooding	8
Public or Privately-Owned Land	4
Effect of Improvements	10
Cost Effectiveness	15
Grant Bonus	3
Criticality Bonus	1
FINAL PROJECT SCORE:	**53**

KEY CROSSING	LEVEL OF SERVICE EXISTING	LEVEL OF SERVICE PROPOSED	% REDUCTION 50 YR
Laurel Circle Drive	< 2-YR	10-YR	0

PLANNING LEVEL OPINION OF COST

Construction estimate includes 30% contingency for planning. Design and permitting includes environmental permitting estimates. Proposed project footprints are based on GIS and modeling analyses. Detailed planning level costs are provided separately.

ITEM	COST OPINION
Construction	$ 406,000
Design and Permitting	$ 146,200
Other Project Costs	$ 137,800
Total Project	**$ 690,000**

PROJECT AREA MAP

PROJECT NAME: **Tomahawk Branch Floodplain Benching at Golf C** PROJECT ID: **TB-A2**

PROJECT TYPE: Floodplain Benching WATERSHED: Tomahawk Branch

PLANNING LEVEL COST ESTIMATE

- Construction estimate includes 30% contingency for planning.
- Proposed project footprints are based on GIS and modeling analyses.
- Real estate, if privately-owned land, is estimated based on property value.

CONSTRUCTION COST:

ITEM DESCRIPTION	QUANTITY	UNIT	UNIT COST	AMOUNT
Mobilization	1	LS	$ 15,660.00	$ 15,700.00
Erosion Control	1	LS	$ 13,980.00	$ 14,000.00
Traffic Control	1	LS	$ 5,592.00	$ 5,600.00
Minor Utility Conflict	1	LS	$ 13,980.00	$ 14,000.00
Clearing and Grubbing	1110	SY	$ 5.50	$ 6,100.00
Earthwork	370	CY	$ 90.00	$ 33,300.00
Fine Grading	1110	SY	$ 18.00	$ 20,000.00
Structure Removal and Disposal	-	EA	$ 6,800.00	-
Infrastructure Removal and Disposal	-	LF	$ 115.00	-
Stone, Class B	125	TN	$ 92.00	$ 11,500.00
Filter Fabric/Geotextiles	2780	SY	$ 35.00	$ 97,300.00
Plantings	1110	SY	$ 7.00	$ 7,800.00
3-gallon Container Plants	135	EA	$ 70.00	$ 9,500.00
Riffle Grade Control	2	EA	$ 4,025.00	$ 8,100.00
Floodplain Tree Removal	1	LS	$ 15,000.00	$ 15,000.00
Log Grade Control Structure	-	EA	$ 4,000.00	-
Pump Around Operation	1	LS	$ 46,000.00	$ 46,000.00
Golf Course Bridge	1	LS	$ 25,000.00	$ 25,000.00
			Construction Contingency (30%):	$ 77,000.00
			PLANNING LEVEL OPINION OF CONSTRUCTION COST:	**$ 406,000.00**

PROJECT COST:

PROJECT BUDGET ITEM	% of CONSTRUCTION	AMOUNT
Survey	5%	$ 20,300.00
Design and Permitting	20%	$ 81,200.00
Environmental Permitting	-	$ 65,000.00
Railroad Permitting/Coordination	-	$ -
Geotechnical Investigation	1%	$ 4,100.00
Structural Evaluation	1%	$ 4,100.00
Real Estate	10%	$ 40,600.00
Utility Relocation	2%	$ 8,100.00
Project Maintenance (3yr)	5%	$ 20,300.00
Construction Inspections	10%	$ 40,600.00
Construction	100%	$ 406,000.00
PLANNING LEVEL OPINION OF TOTAL PROJECT COST:		$ 690,000.00

PROJECT NAME: **Swannanoa Ave Culvert Replacement and Stream Stabilization** PROJECT ID: **TB-B**

PROJECT INFORMATION

LOCATION:	Swannanoa Ave near Cragmont Rd	STORMWATER PROJECT TYPE:	Stormwater Drainage
WATERSHED:	Tomahawk Branch	DRAINAGE IMPROVEMENTS (LF):	355

PROJECT DESCRIPTION

To improve level of service for surrounding roadways and reduce flood risk to nearby property owners:

- Replace existing culvert with 30 LF of 48-inch RCP.
- Install approximately 200 LF of stream stabilization measures.

PROJECT PRIORITIZATION and LEVEL OF SERVICE

CRITERIA	TOTAL SCORE
Utility Conflict	12
Street Flooding	24
Public or Privately-Owned Land	8
Effect of Improvements	10
Cost Effectiveness	20
Grant Bonus	2
Criticality Bonus	1
FINAL PROJECT SCORE:	**77**

KEY CROSSING	LEVEL OF SERVICE EXISTING	LEVEL OF SERVICE PROPOSED	% REDUCTION 50 YR
Swannanoa Ave	2-YR	25-YR	50

PLANNING LEVEL OPINION OF COST

Construction estimate includes 30% contingency for planning. Design and permitting includes environmental permitting estimates. Proposed project footprints are based on GIS and modeling analyses. Detailed planning level costs are provided separately.

ITEM	COST OPINION
Construction	$ 250,000
Design and Permitting	$ 115,000
Other Project Costs	$ 65,000
Total Project	**$ 430,000**

PROJECT AREA MAP

PROJECT NAME **Swannanoa Ave Culvert Replacement and Stream Stabilization** PROJECT ID: **TB-B**

PROJECT TYPE: Stormwater Drainage WATERSHED: Tomahawk B

PLANNING LEVEL COST ESTIMATE

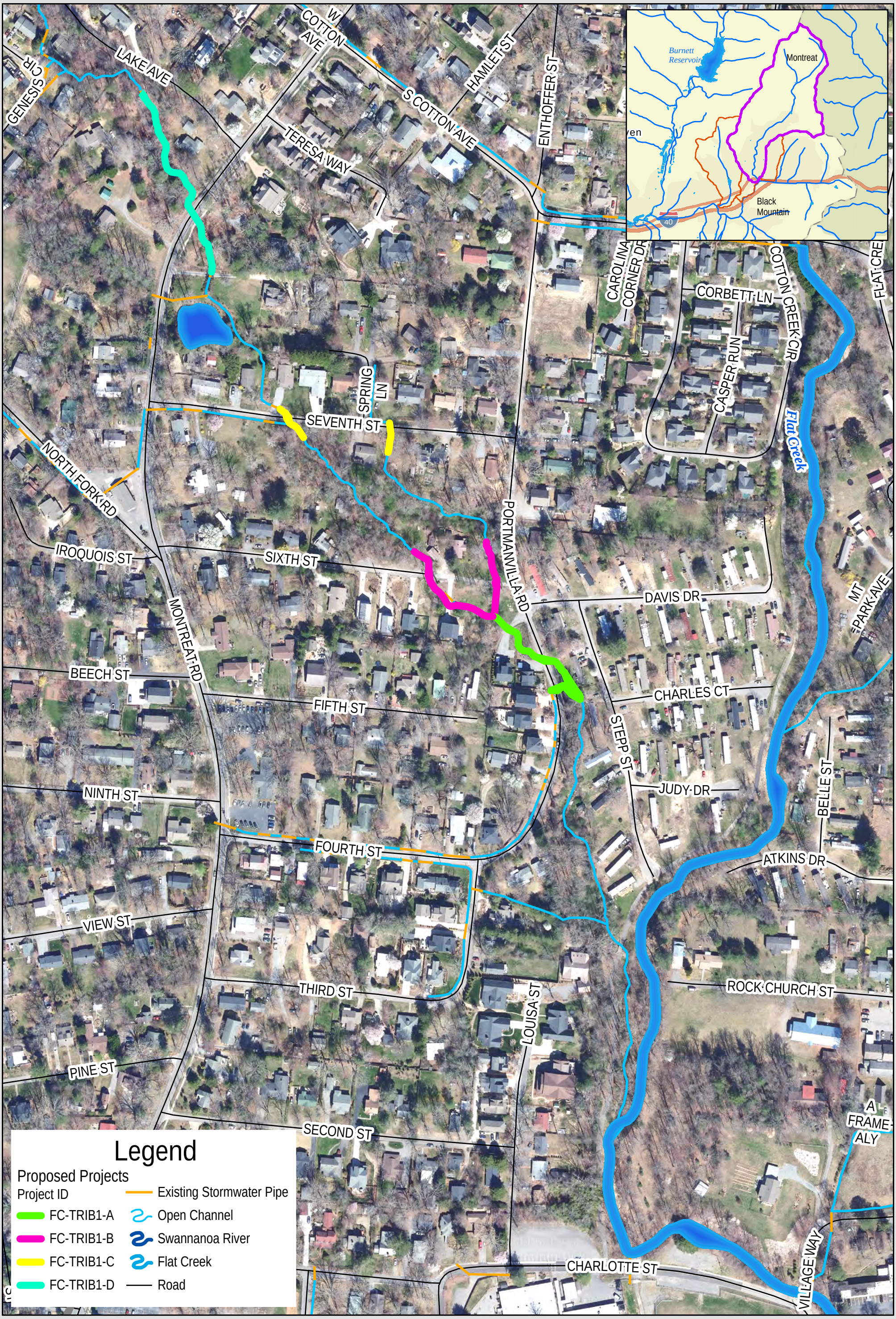
Construction cost includes 30% contingency for planning. Improvements (LF): 35
Proposed project footprints are based on GIS and modeling analyses.
Real estate, if privately-owned land, is estimated based on property value.

CONSTRUCTION COST:

ITEM DESCRIPTION	QUANTITY	UNIT	UNIT COST	AMOUNT
Mobilization	1	LS	$ 9,140.00	$ 9,100.00
Erosion Control	1	LS	$ 8,155.00	$ 8,200.00
Traffic Control	1	LS	$ 3,262.00	$ 3,300.00
Minor Utility Conflict	1	LS	$ 8,155.00	$ 8,200.00
Unclassified Excavation/Hauling	40	CY	$ 72.00	$ 2,900.00
Infrastructure Removal and Disposal	35	LF	$ 115.00	$ 4,000.00
Structure Removal and Disposal	-	EA	$ 6,800.00	-
Standard Structure	2	EA	$ 8,600.00	$ 17,200.00
Large Structure or Headwall	-	EA	$ 12,000.00	-
New Pipe: 18-inch to 24-inch	-	LF	$ 390.00	-
New Pipe: 30-inch to 36-inch	-	LF	$ 535.00	-
New Pipe: 42-inch to 54-inch	35	LF	$ 670.00	$ 23,500.00
New Pipe: 60-inch	-	LF	$ 875.00	-
Arch Pipe (22.5" - 31.3")	-	LF	$ 500.00	-
Large RCBC	-	LF	$ 1,700.00	-
Rip Rap	25	TN	$ 50.00	$ 1,300.00
Open Channel Improvements	320	LF	$ 350.00	$ 112,000.00
Roadway/Sidewalk Replacement	20	SY	$ 110.00	$ 2,200.00
New Concrete Curb and Gutter	-	LF	$ 110.00	-
Replace Driveway Culvert Pipe	-	LF	$ 300.00	-
Replace Existing Concrete Driveway	-	SY	$ 120.00	-
			Construction Contingency (30%):	$ 58,000.00
			PLANNING LEVEL OPINION OF CONSTRUCTION COST:	**$ 250,000.00**

PROJECT COST:

PROJECT BUDGET ITEM	% of CONSTRUCTION	AMOUNT
Survey	5%	$ 12,500.00
Design and Permitting	20%	$ 50,000.00
Environmental Permitting	-	$ 65,000.00
Railroad Permitting/Coordination	-	$ -
Geotechnical Investigation	1%	$ 2,500.00
Structural Evaluation	1%	$ 2,500.00
Real Estate	2%	$ 5,000.00
Utility Relocation	2%	$ 5,000.00
Project Maintenance (3yr)	5%	$ 12,500.00
Construction Inspections	10%	$ 25,000.00
Construction	100%	$ 250,000.00
PLANNING LEVEL OPINION OF TOTAL PROJECT COST:		$ 430,000.00



WK DICKSON
AN ARDURRA COMPANY

Figure E-3: Proposed Stormwater Improvement Projects
FLAT CREEK TRIBUTARY 1 PRIMARY SYSTEM
Town of Black Mountain Stormwater Master Plan

0 100 200 Feet
1 in = 200 ft

N
W E
S

PROJECT NAME: **Portmanvilla Rd Stormwater Improvements** PROJECT ID: **FC-TRIB1-A**

PROJECT INFORMATION

LOCATION: Portmanvilla Rd near Davis Dr
WATERSHED: Flat Creek
STORMWATER PROJECT TYPE: Stormwater Drainage
DRAINAGE IMPROVEMENTS (LF): 540

PROJECT DESCRIPTION

To improve level of service for surrounding roadways and reduce flood risk to nearby property owners:

- Replace existing 15-inch CMP with 35 LF of twin 22.5" x 36.25" (30" Eq) Concrete Arch Pipe.
- Replace existing 30-inch CMP with 45 LF of twin 31.31" x 51.13" (42" Eq) Concrete Arch Pipe.
- Replace existing upstream private pipe with 25 LF of twin 31.31" x 51.13" (42" Eq) Concrete Arch Pipe.
- Replace existing downstream private pipe with 40 LF of twin 31.31" x 51.13" (42" Eq) Concrete Arch Pipe.
- Install approximately 250 LF of stream stabilization measures.

PROJECT PRIORITIZATION and LEVEL OF SERVICE

CRITERIA	TOTAL SCORE
Utility Conflict	8
Street Flooding	32
Public or Privately-Owned Land	8
Effect of Improvements	15
Cost Effectiveness	20
Grant Bonus	2
Criticality Bonus	2
FINAL PROJECT SCORE:	**87**

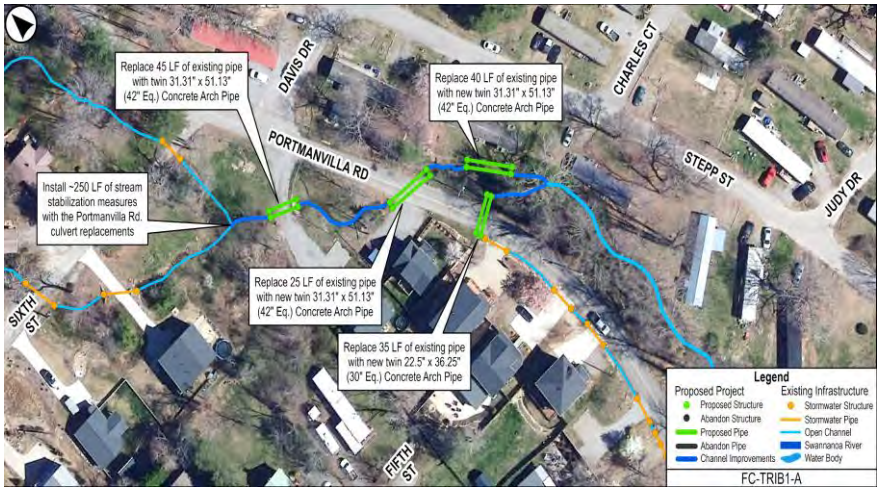
KEY CROSSING	LEVEL OF SERVICE EXISTING	LEVEL OF SERVICE PROPOSED	% REDUCTION 50 YR
Portmanvilla Rd (15" CMP)	< 2-YR	50-YR	100
Portmanvilla Rd (30" RCP)	2-YR	50-YR	100

PLANNING LEVEL OPINION OF COST

Construction estimate includes 30% contingency for planning. Design and permitting includes environmental permitting estimates. Proposed project footprints are based on GIS and modeling analyses. Detailed planning level costs are provided separately.

ITEM	COST OPINION
Construction	$ 572,000
Design and Permitting	$ 179,400
Other Project Costs	$ 148,600
Total Project	**$ 900,000**

PROJECT AREA MAP



PROJECT NAME **Portmanvilla Rd Stormwater Improvements** PROJECT ID: **FC-TRIB1-A**

PROJECT TYPE: Stormwater Drainage WATERSHED: Flat Creek

PLANNING LEVEL COST ESTIMATE

Construction cost includes 30% contingency for planning. Improvements (LF): 290
Proposed project footprints are based on GIS and modeling analyses.
Real estate, if privately-owned land, is estimated based on property value.

CONSTRUCTION COST:

ITEM DESCRIPTION	QUANTITY	UNIT	UNIT COST	AMOUNT
Mobilization	1	LS	$ 20,940.00	$ 20,900.00
Erosion Control	1	LS	$ 17,160.00	$ 17,200.00
Traffic Control	1	LS	$ 6,864.00	$ 6,900.00
Moderate Utility Conflict	1	LS	$ 51,480.00	$ 51,500.00
Unclassified Excavation/Hauling	270	CY	$ 72.00	$ 19,400.00
Infrastructure Removal and Disposal	140	LF	$ 115.00	$ 16,100.00
Structure Removal and Disposal	2	EA	$ 6,800.00	$ 13,600.00
Standard Structure	-	EA	$ 8,600.00	-
Large Structure or Headwall	4	EA	$ 12,000.00	$ 48,000.00
New Pipe: 18-inch to 24-inch	-	LF	$ 390.00	-
New Pipe: 30-inch to 36-inch	-	LF	$ 535.00	-
New Pipe: 42-inch to 54-inch	-	LF	$ 670.00	-
New Pipe: 60-inch	-	LF	$ 875.00	-
Arch Pipe (22.5" - 31.3")	290	LF	$ 500.00	$ 145,000.00
Large RCBC	-	LF	$ 1,700.00	-
Rip Rap	25	TN	$ 50.00	$ 1,300.00
Open Channel Improvements	250	LF	$ 350.00	$ 87,500.00
Roadway/Sidewalk Replacement	60	SY	$ 110.00	$ 6,600.00
New Concrete Curb and Gutter	-	LF	$ 110.00	-
Replace Driveway Culvert Pipe	15	LF	$ 300.00	$ 4,500.00
Replace Existing Concrete Driveway	10	SY	$ 120.00	$ 1,200.00
			Construction Contingency (30%):	$ 132,000.00
			PLANNING LEVEL OPINION OF CONSTRUCTION COST:	**$ 572,000.00**

PROJECT COST:

PROJECT BUDGET ITEM	% of CONSTRUCTION	AMOUNT
Survey	5%	$ 28,600.00
Design and Permitting	20%	$ 114,400.00
Environmental Permitting	-	$ 65,000.00
Railroad Permitting/Coordination	-	$ -
Geotechnical Investigation	1%	$ 5,700.00
Structural Evaluation	1%	$ 5,700.00
Real Estate	2%	$ 11,400.00
Utility Relocation	2%	$ 11,400.00
Project Maintenance (3yr)	5%	$ 28,600.00
Construction Inspections	10%	$ 57,200.00
Construction	100%	$ 572,000.00
PLANNING LEVEL OPINION OF TOTAL PROJECT COST:		$ 900,000.00

PROJECT NAME: **6th Street Culvert Replacements and Stream Stabilization** PROJECT ID: **FC-TRIB1-B**

PROJECT INFORMATION

LOCATION:	6th St near Portmanvilla Rd	STORMWATER PROJECT TYPE:	Stormwater Drainage
WATERSHED:	Flat Creek	DRAINAGE IMPROVEMENTS (LF):	500

PROJECT DESCRIPTION

To improve level of service for surrounding roadways and reduce flood risk to nearby property owners:

- Replace existing 15-inch CMP with 20 LF of twin 22.5" x 36.25" (30" Eq) Concrete Arch Pipe.
- Replace existing 42-inch CMP with 30 LF of twin 26.625" x 43.75" (36" Eq) Concrete Arch Pipe.
- Install approximately 150 LF of stream stabilization measures upstream of the proposed culverts.
- Install approximately 250 LF of stream stabilization measures downstream of the proposed culverts.

PROJECT PRIORITIZATION and LEVEL OF SERVICE

CRITERIA	TOTAL SCORE
Utility Conflict	12
Street Flooding	24
Public or Privately-Owned Land	8
Effect of Improvements	10
Cost Effectiveness	20
Grant Bonus	2
Criticality Bonus	2
FINAL PROJECT SCORE:	**78**

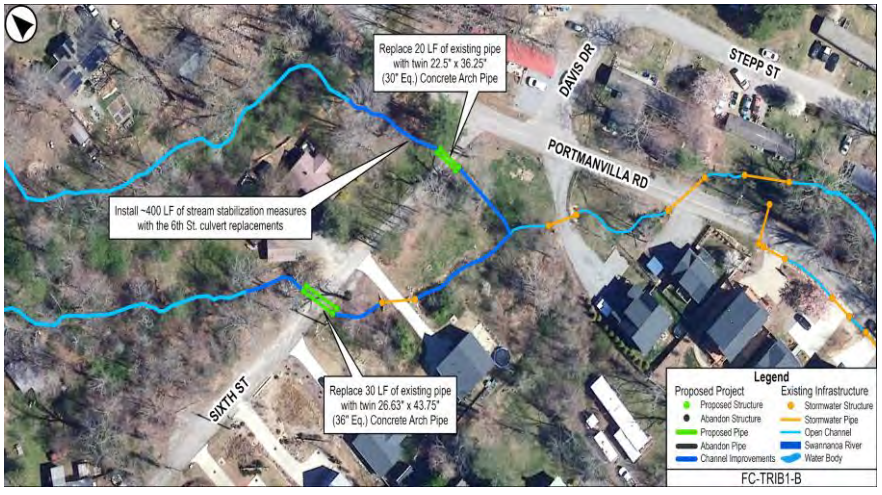
KEY CROSSING	LEVEL OF SERVICE EXISTING	LEVEL OF SERVICE PROPOSED	% REDUCTION 50 YR
6th St at Portmanvilla Rd	< 2-YR	50-YR	100
6th Street	10-YR	50-YR	100

PLANNING LEVEL OPINION OF COST

Construction estimate includes 30% contingency for planning. Design and permitting includes environmental permitting estimates. Proposed project footprints are based on GIS and modeling analyses. Detailed planning level costs are provided separately.

ITEM	COST OPINION
Construction	$ 389,000
Design and Permitting	$ 142,800
Other Project Costs	$ 101,200
Total Project	**$ 633,000**

PROJECT AREA MAP



PROJECT NAME **6th Street Culvert Replacements and Stream Stabilization** PROJECT ID: **FC-TRIB1-B**

PROJECT TYPE: Stormwater Drainage WATERSHED: Flat Creek

PLANNING LEVEL COST ESTIMATE

Construction cost includes 30% contingency for planning. Improvements (LF): 100
Proposed project footprints are based on GIS and modeling analyses.
Real estate, if privately-owned land, is estimated based on property value.

CONSTRUCTION COST:

ITEM DESCRIPTION	QUANTITY	UNIT	UNIT COST	AMOUNT
Mobilization	1	LS	$ 14,250.00	$ 14,300.00
Erosion Control	1	LS	$ 12,725.00	$ 12,700.00
Traffic Control	1	LS	$ 5,090.00	$ 5,100.00
Minor Utility Conflict	1	LS	$ 12,725.00	$ 12,700.00
Unclassified Excavation/Hauling	70	CY	$ 72.00	$ 5,000.00
Infrastructure Removal and Disposal	50	LF	$ 115.00	$ 5,800.00
Structure Removal and Disposal	-	EA	$ 6,800.00	-
Standard Structure	2	EA	$ 8,600.00	$ 17,200.00
Large Structure or Headwall	2	EA	$ 12,000.00	$ 24,000.00
New Pipe: 18-inch to 24-inch	-	LF	$ 390.00	-
New Pipe: 30-inch to 36-inch	-	LF	$ 535.00	-
New Pipe: 42-inch to 54-inch	-	LF	$ 670.00	-
New Pipe: 60-inch	-	LF	$ 875.00	-
Arch Pipe (22.5" - 31.3")	100	LF	$ 500.00	$ 50,000.00
Large RCBC	-	LF	$ 1,700.00	-
Rip Rap	25	TN	$ 50.00	$ 1,300.00
Open Channel Improvements	400	LF	$ 350.00	$ 140,000.00
Roadway/Sidewalk Replacement	50	SY	$ 110.00	$ 5,500.00
New Concrete Curb and Gutter	-	LF	$ 110.00	-
Replace Driveway Culvert Pipe	15	LF	$ 300.00	$ 4,500.00
Replace Existing Concrete Driveway	10	SY	$ 120.00	$ 1,200.00
			Construction Contingency (30%):	$ 90,000.00
			PLANNING LEVEL OPINION OF CONSTRUCTION COST:	**$ 389,000.00**

PROJECT COST:

PROJECT BUDGET ITEM	% of CONSTRUCTION	AMOUNT
Survey	5%	$ 19,500.00
Design and Permitting	20%	$ 77,800.00
Environmental Permitting	-	$ 65,000.00
Railroad Permitting/Coordination	-	$ -
Geotechnical Investigation	1%	$ 3,900.00
Structural Evaluation	1%	$ 3,900.00
Real Estate	2%	$ 7,800.00
Utility Relocation	2%	$ 7,800.00
Project Maintenance (3yr)	5%	$ 19,500.00
Construction Inspections	10%	$ 38,900.00
Construction	100%	$ 389,000.00
PLANNING LEVEL OPINION OF TOTAL PROJECT COST:		$ 633,000.00

PROJECT NAME: **7th Street Culvert Replacements and Stream Stabilization** PROJECT ID: **FC-TRIB1-C**

PROJECT INFORMATION

LOCATION: 7th St near Portmanvilla Rd
WATERSHED: Flat Creek
STORMWATER PROJECT TYPE: Stormwater Drainage
DRAINAGE IMPROVEMENTS (LF): 210

PROJECT DESCRIPTION

To improve level of service for surrounding roadways and reduce flood risk to nearby property owners:

- Replace existing 15-inch CPP with 25 LF of 22.5" x 36.25" (30" Eq) Concrete Arch Pipe.
- Replace existing triple 24-inch CMP with 25 LF of twin 22.5" x 36.25" (30" Eq) Concrete Arch Pipe.
- Install approximately 110 LF of stream stabilization measures.

PROJECT PRIORITIZATION and LEVEL OF SERVICE

CRITERIA	TOTAL SCORE
Utility Conflict	12
Street Flooding	24
Public or Privately-Owned Land	8
Effect of Improvements	20
Cost Effectiveness	20
Grant Bonus	2
Criticality Bonus	1
FINAL PROJECT SCORE:	**87**

KEY CROSSING	LEVEL OF SERVICE EXISTING	LEVEL OF SERVICE PROPOSED	% REDUCTION 50 YR
7th St at Portmanvilla Rd	< 2-YR	50-YR	100
7th Street	2-YR	25-YR	78

PLANNING LEVEL OPINION OF COST

Construction estimate includes 30% contingency for planning. Design and permitting includes environmental permitting estimates. Proposed project footprints are based on GIS and modeling analyses. Detailed planning level costs are provided separately.

ITEM	COST OPINION
Construction	$ 233,000
Design and Permitting	$ 111,600
Other Project Costs	$ 60,400
Total Project	**$ 405,000**

PROJECT AREA MAP

PROJECT NAME **7th Street Culvert Replacements and Stream Stabilization** PROJECT ID: **FC-TRIB1-C**

PROJECT TYPE: Stormwater Drainage WATERSHED: Flat Creek

PLANNING LEVEL COST ESTIMATE

Construction cost includes 30% contingency for planning. Improvements (LF): 100
Proposed project footprints are based on GIS and modeling analyses.
Real estate, if privately-owned land, is estimated based on property value.

CONSTRUCTION COST:

ITEM DESCRIPTION	QUANTITY	UNIT	UNIT COST	AMOUNT
Mobilization	1	LS	$ 8,525.00	$ 8,500.00
Erosion Control	1	LS	$ 7,615.00	$ 7,600.00
Traffic Control	1	LS	$ 3,046.00	$ 3,000.00
Minor Utility Conflict	1	LS	$ 7,615.00	$ 7,600.00
Unclassified Excavation/Hauling	60	CY	$ 72.00	$ 4,300.00
Infrastructure Removal and Disposal	100	LF	$ 115.00	$ 11,500.00
Structure Removal and Disposal	-	EA	$ 6,800.00	-
Standard Structure	2	EA	$ 8,600.00	$ 17,200.00
Large Structure or Headwall	2	EA	$ 12,000.00	$ 24,000.00
New Pipe: 18-inch to 24-inch	-	LF	$ 390.00	-
New Pipe: 30-inch to 36-inch	-	LF	$ 535.00	-
New Pipe: 42-inch to 54-inch	-	LF	$ 670.00	-
New Pipe: 60-inch	-	LF	$ 875.00	-
Arch Pipe (22.5" - 31.3")	100	LF	$ 500.00	$ 50,000.00
Large RCBC	-	LF	$ 1,700.00	-
Rip Rap	25	TN	$ 50.00	$ 1,300.00
Open Channel Improvements	110	LF	$ 350.00	$ 38,500.00
Roadway/Sidewalk Replacement	50	SY	$ 110.00	$ 5,500.00
New Concrete Curb and Gutter	-	LF	$ 110.00	-
Replace Driveway Culvert Pipe	-	LF	$ 300.00	-
Replace Existing Concrete Driveway	-	SY	$ 120.00	-
			Construction Contingency (30%):	$ 54,000.00
			PLANNING LEVEL OPINION OF CONSTRUCTION COST:	**$ 233,000.00**

PROJECT COST:

PROJECT BUDGET ITEM	% of CONSTRUCTION	AMOUNT
Survey	5%	$ 11,700.00
Design and Permitting	20%	$ 46,600.00
Environmental Permitting	-	$ 65,000.00
Railroad Permitting/Coordination	-	$ -
Geotechnical Investigation	1%	$ 2,300.00
Structural Evaluation	1%	$ 2,300.00
Real Estate	2%	$ 4,700.00
Utility Relocation	2%	$ 4,700.00
Project Maintenance (3yr)	5%	$ 11,700.00
Construction Inspections	10%	$ 23,300.00
Construction	100%	$ 233,000.00
PLANNING LEVEL OPINION OF TOTAL PROJECT COST:		$ 405,000.00

PROJECT NAME: **Montreat Road Culvert Replacement (Flat Creek)** PROJECT ID: **FC-TRIB1-D**

PROJECT INFORMATION

LOCATION: Montreat Rd near Lake Ave
WATERSHED: Tomahawk Branch
STORMWATER PROJECT TYPE: Stormwater Drainage
DRAINAGE IMPROVEMENTS (LF): 350

PROJECT DESCRIPTION

To improve level of service for surrounding roadways and reduce flood risk to nearby property owners:

- Replace existing 24-inch CMP with 50 LF of 42-inch RCP.
- Install approximately 200 LF of stream stabilization measures upstream.
- Install approximately 100 LF of stream stabilization measures downstream of the proposed culvert.

PROJECT PRIORITIZATION and LEVEL OF SERVICE

CRITERIA	TOTAL SCORE
Utility Conflict	4
Street Flooding	32
Public or Privately-Owned Land	8
Effect of Improvements	20
Cost Effectiveness	20
Grant Bonus	3
Criticality Bonus	1
FINAL PROJECT SCORE:	**88**

KEY CROSSING	LEVEL OF SERVICE EXISTING	LEVEL OF SERVICE PROPOSED	% REDUCTION 50 YR
Montreat Rd near Lake Ave	2-YR	50-YR	100

PLANNING LEVEL OPINION OF COST

Construction estimate includes 30% contingency for planning. Design and permitting includes environmental permitting estimates. Proposed project footprints are based on GIS and modeling analyses. Detailed planning level costs are provided separately.

ITEM	COST OPINION
Construction	$ 329,000
Design and Permitting	$ 130,800
Other Project Costs	$ 86,200
Total Project	**$ 546,000**

PROJECT AREA MAP

PROJECT NAME **Montreat Road Culvert Replacement (Flat Creek)** PROJECT ID: **FC-TRIB1-D**

PROJECT TYPE: Stormwater Drainage WATERSHED: Tomahawk B

PLANNING LEVEL COST ESTIMATE

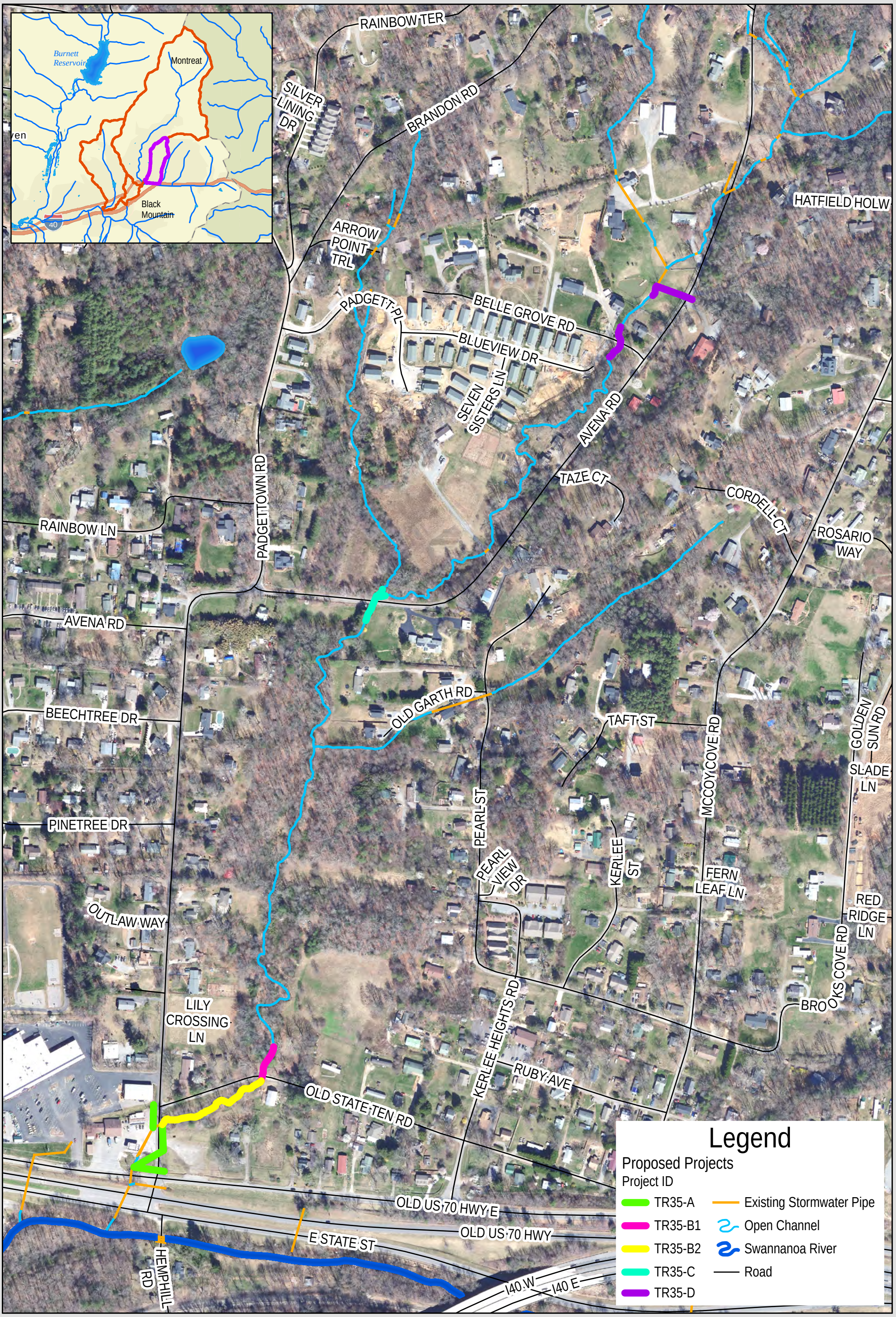
Construction cost includes 30% contingency for planning. Improvements (LF): 50
Proposed project footprints are based on GIS and modeling analyses.
Real estate, if privately-owned land, is estimated based on property value.

CONSTRUCTION COST:

ITEM DESCRIPTION	QUANTITY	UNIT	UNIT COST	AMOUNT
Mobilization	1	LS	$ 12,060.00	$ 12,100.00
Erosion Control	1	LS	$ 8,805.00	$ 8,800.00
Traffic Control	1	LS	$ 3,522.00	$ 3,500.00
Major Utility Conflict	1	LS	$ 52,830.00	$ 52,800.00
Unclassified Excavation/Hauling	60	CY	$ 72.00	$ 4,300.00
Infrastructure Removal and Disposal	50	LF	$ 115.00	$ 5,800.00
Structure Removal and Disposal	-	EA	$ 6,800.00	-
Standard Structure	-	EA	$ 8,600.00	-
Large Structure or Headwall	2	EA	$ 12,000.00	$ 24,000.00
New Pipe: 18-inch to 24-inch	-	LF	$ 390.00	-
New Pipe: 30-inch to 36-inch	-	LF	$ 535.00	-
New Pipe: 42-inch to 54-inch	50	LF	$ 670.00	$ 33,500.00
New Pipe: 60-inch	-	LF	$ 875.00	-
Arch Pipe (22.5" - 31.3")	-	LF	$ 500.00	-
Large RCBC	-	LF	$ 1,700.00	-
Rip Rap	25	TN	$ 50.00	$ 1,300.00
Open Channel Improvements	300	LF	$ 350.00	$ 105,000.00
Roadway/Sidewalk Replacement	20	SY	$ 110.00	$ 2,200.00
New Concrete Curb and Gutter	-	LF	$ 110.00	-
Replace Driveway Culvert Pipe	-	LF	$ 300.00	-
Replace Existing Concrete Driveway	-	SY	$ 120.00	-
			Construction Contingency (30%):	$ 76,000.00
			PLANNING LEVEL OPINION OF CONSTRUCTION COST:	**$ 329,000.00**

PROJECT COST:

PROJECT BUDGET ITEM	% of CONSTRUCTION	AMOUNT
Survey	5%	$ 16,500.00
Design and Permitting	20%	$ 65,800.00
Environmental Permitting	-	$ 65,000.00
Railroad Permitting/Coordination	-	$ -
Geotechnical Investigation	1%	$ 3,300.00
Structural Evaluation	1%	$ 3,300.00
Real Estate	2%	$ 6,600.00
Utility Relocation	2%	$ 6,600.00
Project Maintenance (3yr)	5%	$ 16,500.00
Construction Inspections	10%	$ 32,900.00
Construction	100%	$ 329,000.00
PLANNING LEVEL OPINION OF TOTAL PROJECT COST:		$ 546,000.00



WK DICKSON
AN ARDURRA COMPANY

Figure E-4: Proposed Stormwater Improvement Projects
AVENA ROAD/TRIBUTARY 35 PRIMARY SYSTEM
Town of Black Mountain Stormwater Master Plan

0 150 300 Feet
1 in = 300 ft

N
W E
S

PROJECT NAME: **Padgettown Rd Stormwater Improvements** PROJECT ID: **TR35-A**

PROJECT INFORMATION

LOCATION: Padgettown Rd/US Hwy 70E Intersection
WATERSHED: Tributary 35
STORMWATER PROJECT TYPE: Stormwater Drainage
DRAINAGE IMPROVEMENTS (LF): 460

PROJECT DESCRIPTION

To improve level of service for surrounding roadways and reduce flood risk to nearby property owners:

- Install 145 LF of twin 60-inch RCP by-pass system to depression area south of the gas station.
- Replace existing pipe across Padgettown Road at Old US 70E with twin 48" RCP.
- Excavate and enlarge existing open channel and outfall area downstream of gas station.
- Existing conditions severly limit options to provide desired LOS. An option is presented herein.
- Additional survey and engineering investigation required to determine constructability and achievable LOS.

PROJECT PRIORITIZATION and LEVEL OF SERVICE

CRITERIA	TOTAL SCORE
Utility Conflict	4
Street Flooding	16
Public or Privately-Owned Land	8
Effect of Improvements	15
Cost Effectiveness	15
Grant Bonus	3
Criticality Bonus	1
FINAL PROJECT SCORE:	**62**

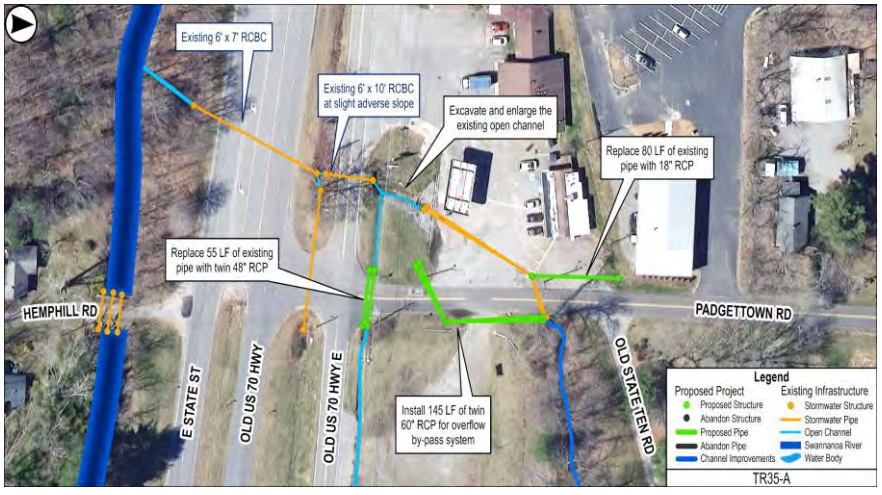
KEY CROSSING	LEVEL OF SERVICE EXISTING	LEVEL OF SERVICE PROPOSED	% REDUCTION 50 YR
Padgettown at Old US70E	2-YR	25-YR	80
Gas Station (Twin 36")	2-YR	10-YR	76
Padgettown Rd (Twin 36")	< 2-YR	10-YR	68
Padgettown Rd (Twin 60")	NA	25-YR	New Crossing

PLANNING LEVEL OPINION OF COST

Construction estimate includes 30% contingency for planning. Design and permitting includes environmental permitting estimates. Proposed project footprints are based on GIS and modeling analyses. Detailed planning level costs are provided separately.

ITEM	COST OPINION
Construction	$ 909,000
Design and Permitting	$ 276,800
Other Project Costs	$ 236,200
Total Project	**$ 1,422,000**

PROJECT AREA MAP



PROJECT NAME **Padgettown Rd Stormwater Improvements** PROJECT ID: **TR35-A**

PROJECT TYPE: Stormwater Drainage WATERSHED: Tributary 35

PLANNING LEVEL COST ESTIMATE

Construction cost includes 30% contingency for planning. Improvements (LF): 460
Proposed project footprints are based on GIS and modeling analyses.
Real estate, if privately-owned land, is estimated based on property value.

CONSTRUCTION COST:

ITEM DESCRIPTION	QUANTITY	UNIT	UNIT COST	AMOUNT
Mobilization	1	LS	$ 33,290.00	$ 33,300.00
Erosion Control	1	LS	$ 24,300.00	$ 24,300.00
Traffic Control	1	LS	$ 9,720.00	$ 9,700.00
Major Utility Conflict	1	LS	$ 145,800.00	$ 145,800.00
Unclassified Excavation/Hauling	770	CY	$ 72.00	$ 55,400.00
Infrastructure Removal and Disposal	125	LF	$ 115.00	$ 14,400.00
Structure Removal and Disposal	-	EA	$ 6,800.00	-
Standard Structure	1	EA	$ 8,600.00	$ 8,600.00
Large Structure or Headwall	5	EA	$ 12,000.00	$ 60,000.00
New Pipe: 18-inch to 24-inch	-	LF	$ 390.00	-
New Pipe: 30-inch to 36-inch	-	LF	$ 535.00	-
New Pipe: 42-inch to 54-inch	90	LF	$ 670.00	$ 60,300.00
New Pipe: 60-inch	290	LF	$ 875.00	$ 253,800.00
Arch Pipe (22.5" - 31.3")	-	LF	$ 500.00	-
Large RCBC	-	LF	$ 1,700.00	-
Rip Rap	25	TN	$ 50.00	$ 1,300.00
Open Channel Improvements	-	LF	$ 350.00	-
Roadway/Sidewalk Replacement	100	SY	$ 110.00	$ 11,000.00
Earthwork	105	CY	$ 90.00	$ 9,500.00
Fine Grading	550	SY	$ 18.00	$ 9,900.00
Plantings	250	SY	$ 7.00	$ 1,800.00
			Construction Contingency (30%):	$ 210,000.00
			PLANNING LEVEL OPINION OF CONSTRUCTION COST:	**$ 909,000.00**

PROJECT COST:

PROJECT BUDGET ITEM	% of CONSTRUCTION	AMOUNT
Survey	5%	$ 45,500.00
Design and Permitting	20%	$ 181,800.00
Environmental Permitting	-	$ 95,000.00
Railroad Permitting/Coordination	-	$ -
Geotechnical Investigation	1%	$ 9,100.00
Structural Evaluation	1%	$ 9,100.00
Real Estate	2%	$ 18,200.00
Utility Relocation	2%	$ 18,200.00
Project Maintenance (3yr)	5%	$ 45,500.00
Construction Inspections	10%	$ 90,900.00
Construction	100%	$ 909,000.00
PLANNING LEVEL OPINION OF TOTAL PROJECT COST:		$ 1,422,000.00

PROJECT NAME: **Old State 10 Rd Culvert Replacement and Stream Stabilization** PROJECT ID: **TR35-B1**

PROJECT INFORMATION

LOCATION:	Old State 10 Rd Culvert Crossing	STORMWATER PROJECT TYPE:	Stormwater Drainage
WATERSHED:	Tributary 35	DRAINAGE IMPROVEMENTS (LF):	160

PROJECT DESCRIPTION

To improve level of service for surrounding roadways and reduce flood risk to nearby property owners:

- Replace existing pipe with 30 LF of twin 4'x6' RCBC under Old State 10 Rd.
- Install 100 LF of upstream channel improvements to accommodate flow into new RCBC.

PROJECT PRIORITIZATION and LEVEL OF SERVICE

CRITERIA	TOTAL SCORE
Utility Conflict	4
Street Flooding	32
Public or Privately-Owned Land	8
Effect of Improvements	10
Cost Effectiveness	20
Grant Bonus	2
Criticality Bonus	1
FINAL PROJECT SCORE:	**77**

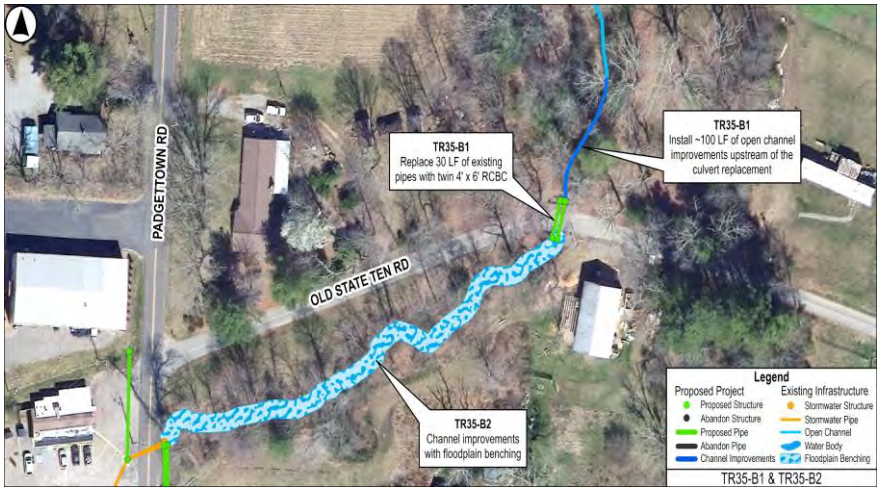
KEY CROSSING	LEVEL OF SERVICE EXISTING	LEVEL OF SERVICE PROPOSED	% REDUCTION 50 YR
Old State 10 Road (Twin 36")	2-YR	25-YR	91

PLANNING LEVEL OPINION OF COST

Construction estimate includes 30% contingency for planning. Design and permitting includes environmental permitting estimates. Proposed project footprints are based on GIS and modeling analyses. Detailed planning level costs are provided separately.

ITEM	COST OPINION
Construction	$ 351,000
Design and Permitting	$ 165,200
Other Project Costs	$ 91,800
Total Project	**$ 608,000**

PROJECT AREA MAP



PROJECT NAME **Old State 10 Rd Culvert Replacement and Stream Stabilization** PROJECT ID: **TR35-B1**

PROJECT TYPE: Stormwater Drainage WATERSHED: Tributary 35

PLANNING LEVEL COST ESTIMATE

Construction cost includes 30% contingency for planning. Improvements (LF): 60
Proposed project footprints are based on GIS and modeling analyses.
Real estate, if privately-owned land, is estimated based on property value.

CONSTRUCTION COST:

ITEM DESCRIPTION	QUANTITY	UNIT	UNIT COST	AMOUNT
Mobilization	1	LS	$ 12,860.00	$ 12,900.00
Erosion Control	1	LS	$ 9,385.00	$ 9,400.00
Traffic Control	1	LS	$ 3,754.00	$ 3,800.00
Major Utility Conflict	1	LS	$ 56,310.00	$ 56,300.00
Unclassified Excavation/Hauling	70	CY	$ 72.00	$ 5,000.00
Infrastructure Removal and Disposal	30	LF	$ 115.00	$ 3,500.00
Structure Removal and Disposal	2	EA	$ 6,800.00	$ 13,600.00
Standard Structure	-	EA	$ 8,600.00	-
Large Structure or Headwall	2	EA	$ 12,000.00	$ 24,000.00
New Pipe: 18-inch to 24-inch	-	LF	$ 390.00	-
New Pipe: 30-inch to 36-inch	-	LF	$ 535.00	-
New Pipe: 42-inch to 54-inch	-	LF	$ 670.00	-
New Pipe: 60-inch	-	LF	$ 875.00	-
Arch Pipe (22.5" - 31.3")	-	LF	$ 500.00	-
Large RCBC	60	LF	$ 1,700.00	$ 102,000.00
Rip Rap	25	TN	$ 50.00	$ 1,300.00
Open Channel Improvements	100	LF	$ 350.00	$ 35,000.00
Roadway/Sidewalk Replacement	30	SY	$ 110.00	$ 3,300.00
New Concrete Curb and Gutter	-	LF	$ 110.00	-
Replace Driveway Culvert Pipe	-	LF	$ 300.00	-
Replace Existing Concrete Driveway	-	SY	$ 120.00	-
			Construction Contingency (30%):	$ 81,000.00
			PLANNING LEVEL OPINION OF CONSTRUCTION COST:	**$ 351,000.00**

PROJECT COST:

PROJECT BUDGET ITEM	% of CONSTRUCTION	AMOUNT
Survey	5%	$ 17,600.00
Design and Permitting	20%	$ 70,200.00
Environmental Permitting	-	$ 95,000.00
Railroad Permitting/Coordination	-	$ -
Geotechnical Investigation	1%	$ 3,500.00
Structural Evaluation	1%	$ 3,500.00
Real Estate	2%	$ 7,000.00
Utility Relocation	2%	$ 7,000.00
Project Maintenance (3yr)	5%	$ 17,600.00
Construction Inspections	10%	$ 35,100.00
Construction	100%	$ 351,000.00
PLANNING LEVEL OPINION OF TOTAL PROJECT COST:		$ 608,000.00

PROJECT NAME: **Tributary 35 Floodplain Benching at Old State 10 Rd** PROJECT ID: **TR35-B2**

PROJECT INFORMATION

LOCATION: Old State 10 Road near Padgettown Rd
WATERSHED: Tributary 35
STORMWATER PROJECT TYPE: Floodplain Benching
DRAINAGE IMPROVEMENTS (LF): 350

PROJECT DESCRIPTION

To improve level of service for surrounding roadways and reduce flood risk to nearby property owners:

- Install approximately 350 LF of channel improvements with floodplain benching to lower WSELs.
- Floodplain benching improvements are located downstream of the proposed RCBC in project TR35-B1.

PROJECT PRIORITIZATION AND PROPERTY REQUIREMENTS

CRITERIA	TOTAL SCORE
Utility Conflict	12
Street Flooding	16
Public or Privately-Owned Land	4
Effect of Improvements	10
Cost Effectiveness	20
Grant Bonus	3
Criticality Bonus	1
FINAL PROJECT SCORE:	**66**

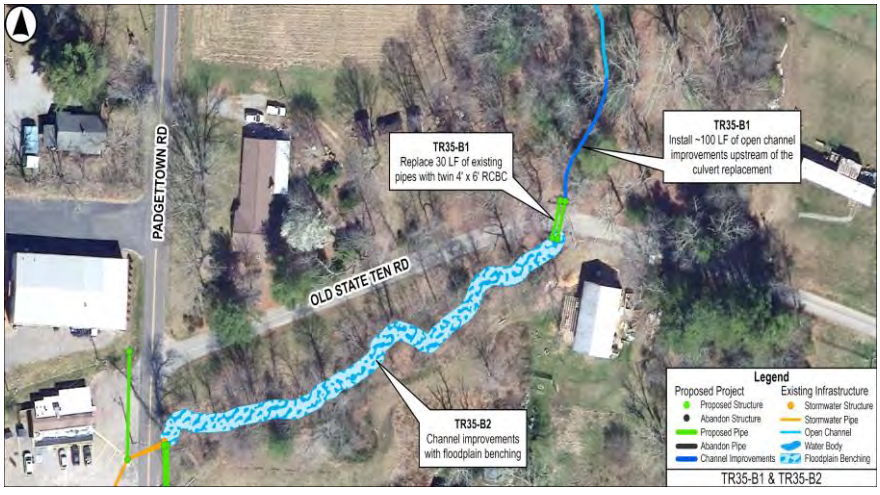
KEY CROSSING	LEVEL OF SERVICE EXISTING	LEVEL OF SERVICE PROPOSED	% REDUCTION 50 YR
Padgettown Rd (Twin 36")	< 2-YR	10-YR	68
Old State 10 Road (Twin 36")	2-YR	25-YR	91

PLANNING LEVEL OPINION OF COST

Construction estimate includes 30% contingency for planning. Design and permitting includes environmental permitting estimates. Proposed project footprints are based on GIS and modeling analyses. Detailed planning level costs are provided separately.

ITEM	COST OPINION
Construction	$ 234,000
Design and Permitting	$ 111,800
Other Project Costs	$ 79,200
Total Project	**$ 425,000**

PROJECT AREA MAP



PROJECT NAME: **Tributary 35 Floodplain Benching at Old State 10** PROJECT ID: **TR35-B2**

PROJECT TYPE: Floodplain Benching WATERSHED: Tributary 35

PLANNING LEVEL COST ESTIMATE

- Construction estimate includes 30% contingency for planning.
- Proposed project footprints are based on GIS and modeling analyses.
- Real estate, if privately-owned land, is estimated based on property value.

CONSTRUCTION COST:

ITEM DESCRIPTION	QUANTITY	UNIT	UNIT COST	AMOUNT
Mobilization	1	LS	$ 9,090.00	$ 9,100.00
Erosion Control	1	LS	$ 8,120.00	$ 8,100.00
Traffic Control	1	LS	$ 3,248.00	$ 3,200.00
Minor Utility Conflict	1	LS	$ 8,120.00	$ 8,100.00
Clearing and Grubbing	390	SY	$ 5.50	$ 2,100.00
Earthwork	0	CY	$ 90.00	$ -
Fine Grading	390	SY	$ 18.00	$ 7,000.00
Structure Removal and Disposal	-	EA	$ 6,800.00	-
Infrastructure Removal and Disposal	-	LF	$ 115.00	-
Stone, Class B	75	TN	$ 92.00	$ 6,900.00
Filter Fabric/Geotextiles	1940	SY	$ 35.00	$ 67,900.00
Plantings	390	SY	$ 7.00	$ 2,700.00
3-gallon Container Plants	95	EA	$ 70.00	$ 6,700.00
Riffle Grade Control	2	EA	$ 4,025.00	$ 8,100.00
Floodplain Tree Removal	1	LS	$ 15,000.00	$ 15,000.00
Log Grade Control Structure	-	EA	$ 4,000.00	-
Pump Around Operation	1	LS	$ 46,000.00	$ 46,000.00
			Construction Contingency (30%):	$ 43,000.00
			PLANNING LEVEL OPINION OF CONSTRUCTION COST:	**$ 234,000.00**

PROJECT COST:

PROJECT BUDGET ITEM	% of CONSTRUCTION	AMOUNT
Survey	5%	$ 11,700.00
Design and Permitting	20%	$ 46,800.00
Environmental Permitting	-	$ 65,000.00
Railroad Permitting/Coordination	-	$ -
Geotechnical Investigation	1%	$ 2,300.00
Structural Evaluation	1%	$ 2,300.00
Real Estate	10%	$ 23,400.00
Utility Relocation	2%	$ 4,700.00
Project Maintenance (3yr)	5%	$ 11,700.00
Construction Inspections	10%	$ 23,400.00
Construction	100%	$ 234,000.00
PLANNING LEVEL OPINION OF TOTAL PROJECT COST:		$ 425,000.00

PROJECT NAME: **Avena Road Culvert Replacement and Stream Stabilizaton** PROJECT ID: **TR35-C**

PROJECT INFORMATION

LOCATION:	Avena Road near Padgettown Rd	STORMWATER PROJECT TYPE:	Stormwater Drainage
WATERSHED:	Tributary 35	DRAINAGE IMPROVEMENTS (LF):	230

PROJECT DESCRIPTION

To improve level of service for surrounding roadways and reduce flood risk to nearby property owners:

- Replace existing pipe with 40 LF of twin 48" RCP across Avena Rd.
- Install approximately 120 LF of stream stabilization measures.

PROJECT PRIORITIZATION and LEVEL OF SERVICE

CRITERIA	TOTAL SCORE
Utility Conflict	12
Street Flooding	32
Public or Privately-Owned Land	8
Effect of Improvements	10
Cost Effectiveness	20
Grant Bonus	2
Criticality Bonus	1
FINAL PROJECT SCORE:	**85**

KEY CROSSING	LEVEL OF SERVICE EXISTING	LEVEL OF SERVICE PROPOSED	% REDUCTION 50 YR
Avena Road	2-YR	25-YR	97

PLANNING LEVEL OPINION OF COST

Construction estimate includes 30% contingency for planning. Design and permitting includes environmental permitting estimates. Proposed project footprints are based on GIS and modeling analyses. Detailed planning level costs are provided separately.

ITEM	COST OPINION
Construction	$ 235,000
Design and Permitting	$ 142,000
Other Project Costs	$ 61,000
Total Project	**$ 438,000**

PROJECT AREA MAP

PROJECT NAME **Avena Road Culvert Replacement and Stream Stabilizaton** PROJECT ID: **TR35-C**

PROJECT TYPE: Stormwater Drainage WATERSHED: Tributary 35

PLANNING LEVEL COST ESTIMATE

Construction cost includes 30% contingency for planning. Improvements (LF): 80
Proposed project footprints are based on GIS and modeling analyses.
Real estate, if privately-owned land, is estimated based on property value.

CONSTRUCTION COST:

ITEM DESCRIPTION	QUANTITY	UNIT	UNIT COST	AMOUNT
Mobilization	1	LS	$ 8,605.00	$ 8,600.00
Erosion Control	1	LS	$ 7,680.00	$ 7,700.00
Traffic Control	1	LS	$ 3,072.00	$ 3,100.00
Minor Utility Conflict	1	LS	$ 7,680.00	$ 7,700.00
Unclassified Excavation/Hauling	120	CY	$ 72.00	$ 8,600.00
Infrastructure Removal and Disposal	40	LF	$ 115.00	$ 4,600.00
Structure Removal and Disposal	1	EA	$ 6,800.00	$ 6,800.00
Standard Structure	-	EA	$ 8,600.00	-
Large Structure or Headwall	2	EA	$ 12,000.00	$ 24,000.00
New Pipe: 18-inch to 24-inch	-	LF	$ 390.00	-
New Pipe: 30-inch to 36-inch	-	LF	$ 535.00	-
New Pipe: 42-inch to 54-inch	80	LF	$ 670.00	$ 53,600.00
New Pipe: 60-inch	-	LF	$ 875.00	-
Arch Pipe (22.5" - 31.3")	-	LF	$ 500.00	-
Large RCBC	-	LF	$ 1,700.00	-
Rip Rap	25	TN	$ 50.00	$ 1,300.00
Open Channel Improvements	150	LF	$ 350.00	$ 52,500.00
Roadway/Sidewalk Replacement	20	SY	$ 110.00	$ 2,200.00
New Concrete Curb and Gutter	-	LF	$ 110.00	-
Replace Driveway Culvert Pipe	-	LF	$ 300.00	-
Replace Existing Concrete Driveway	-	SY	$ 120.00	-
			Construction Contingency (30%):	$ 54,000.00
			PLANNING LEVEL OPINION OF CONSTRUCTION COST:	**$ 235,000.00**

PROJECT COST:

PROJECT BUDGET ITEM	% of CONSTRUCTION	AMOUNT
Survey	5%	$ 11,800.00
Design and Permitting	20%	$ 47,000.00
Environmental Permitting	-	$ 95,000.00
Railroad Permitting/Coordination	-	$ -
Geotechnical Investigation	1%	$ 2,400.00
Structural Evaluation	1%	$ 2,400.00
Real Estate	2%	$ 4,700.00
Utility Relocation	2%	$ 4,700.00
Project Maintenance (3yr)	5%	$ 11,800.00
Construction Inspections	10%	$ 23,500.00
Construction	100%	$ 235,000.00
PLANNING LEVEL OPINION OF TOTAL PROJECT COST:		$ 438,000.00

PROJECT NAME: **Bellgrove Road/Avena Road Stormwater Improvements** PROJECT ID: **TR35-D**

PROJECT INFORMATION

LOCATION: Bellegrove Rd and Avena Rd Culvert Crossings
WATERSHED: Tributary 35
STORMWATER PROJECT TYPE: Stormwater Drainage
DRAINAGE IMPROVEMENTS (LF): 475

PROJECT DESCRIPTION

To improve level of service for surrounding roadways and reduce flood risk to nearby property owners:

- Replace existing pipe with 20 LF of twin 48" RCP under Bellegrove Rd.
- Install approximately 140 LF of stream stabilization measures with the Bellgrove culvert.
- Replace existing pipe with 135 LF of 30" RCP under Avena Rd.
- Install 35 LF of channel improvements downstream of 30" RCP.

PROJECT PRIORITIZATION and LEVEL OF SERVICE

CRITERIA	TOTAL SCORE
Utility Conflict	8
Street Flooding	24
Public or Privately-Owned Land	8
Effect of Improvements	20
Cost Effectiveness	20
Grant Bonus	2
Criticality Bonus	1
FINAL PROJECT SCORE:	**83**

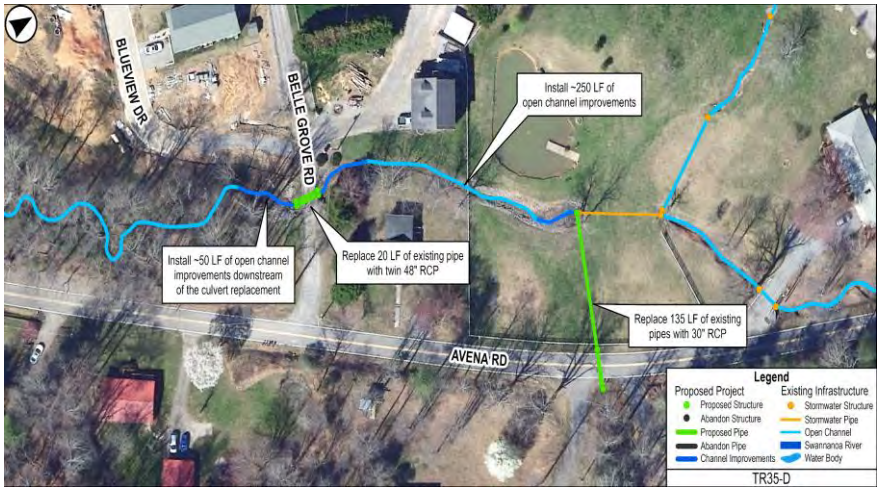
KEY CROSSING	LEVEL OF SERVICE EXISTING	LEVEL OF SERVICE PROPOSED	% REDUCTION 50 YR
Bellegrove Road	2-YR	50-YR	100
Avena Road	2-YR	50-YR	100

PLANNING LEVEL OPINION OF COST

Construction estimate includes 30% contingency for planning. Design and permitting includes environmental permitting estimates. Proposed project footprints are based on GIS and modeling analyses. Detailed planning level costs are provided separately.

ITEM	COST OPINION
Construction	$ 499,000
Design and Permitting	$ 194,800
Other Project Costs	$ 130,200
Total Project	**$ 824,000**

PROJECT AREA MAP



PROJECT NAME **Bellgrove Road/Avena Road Stormwater Improvements** PROJECT ID: **TR35-D**

PROJECT TYPE: Stormwater Drainage WATERSHED: Tributary 35

PLANNING LEVEL COST ESTIMATE

Construction cost includes 30% contingency for planning. Improvements (LF): 175
Proposed project footprints are based on GIS and modeling analyses.
Real estate, if privately-owned land, is estimated based on property value.

CONSTRUCTION COST:

ITEM DESCRIPTION	QUANTITY	UNIT	UNIT COST	AMOUNT
Mobilization	1	LS	$ 18,295.00	$ 18,300.00
Erosion Control	1	LS	$ 14,995.00	$ 15,000.00
Traffic Control	1	LS	$ 5,998.00	$ 6,000.00
Moderate Utility Conflict	1	LS	$ 44,985.00	$ 45,000.00
Unclassified Excavation/Hauling	180	CY	$ 72.00	$ 13,000.00
Infrastructure Removal and Disposal	155	LF	$ 115.00	$ 17,800.00
Structure Removal and Disposal	3	EA	$ 6,800.00	$ 20,400.00
Standard Structure	2	EA	$ 8,600.00	$ 17,200.00
Large Structure or Headwall	2	EA	$ 12,000.00	$ 24,000.00
New Pipe: 18-inch to 24-inch	-	LF	$ 390.00	-
New Pipe: 30-inch to 36-inch	135	LF	$ 535.00	$ 72,200.00
New Pipe: 42-inch to 54-inch	40	LF	$ 670.00	$ 26,800.00
New Pipe: 60-inch	-	LF	$ 875.00	-
Arch Pipe (22.5" - 31.3")	-	LF	$ 500.00	-
Large RCBC	-	LF	$ 1,700.00	-
Rip Rap	25	TN	$ 50.00	$ 1,300.00
Open Channel Improvements	300	LF	$ 350.00	$ 105,000.00
Roadway/Sidewalk Replacement	20	SY	$ 110.00	$ 2,200.00
New Concrete Curb and Gutter	-	LF	$ 110.00	-
Replace Driveway Culvert Pipe	-	LF	$ 300.00	-
Replace Existing Concrete Driveway	-	SY	$ 120.00	-
			Construction Contingency (30%):	$ 115,000.00
			PLANNING LEVEL OPINION OF CONSTRUCTION COST:	**$ 499,000.00**

PROJECT COST:

PROJECT BUDGET ITEM	% of CONSTRUCTION	AMOUNT
Survey	5%	$ 25,000.00
Design and Permitting	20%	$ 99,800.00
Environmental Permitting	-	$ 95,000.00
Railroad Permitting/Coordination	-	$ -
Geotechnical Investigation	1%	$ 5,000.00
Structural Evaluation	1%	$ 5,000.00
Real Estate	2%	$ 10,000.00
Utility Relocation	2%	$ 10,000.00
Project Maintenance (3yr)	5%	$ 25,000.00
Construction Inspections	10%	$ 49,900.00
Construction	100%	$ 499,000.00
PLANNING LEVEL OPINION OF TOTAL PROJECT COST:		$ 824,000.00

TOWN OF BLACK MOUNTAIN

AGENDA ITEM SUMMARY

SUBMITTER:	Richard Hicks, Interim Town Manager	**MEETING DATE:**	August 10, 2026
AGENDA SECTION:	New Business	**DEPARTMENT:**	Administration

TITLE OF ITEM: Amendment to Town Purchasing Policy on Purchase/Credit Cards

SUGGESTED MOTION(S):
I move that Council adopt the proposed amendment to the Town's Purchasing Policy on Purchase/Credit Cards.

SUMMARY:

Recent actions by the State Auditor's Office has created a renewed interest in Town and County policies regarding the use of Purchasing/Credit Cards. The Town of Black Mountain has been using P-Cards for a few years now and has an existing policy. A copy of that policy is attached for your review and information. I had requested Tonya Coffey with Martin & Starnes to help review our current policy and she provided me with a suggested revised policy for your consideration. In Section X of the existing policy, she has included revised language to replace the first section. It is highlighted in the red box of the existing policy. Also attached is a new Black Mountain Purchasing Card Policy that we would ask Council to adopt and rescind the existing policy. Also attached is an Administrative Procedures Outline that would also become a part of the newly adopted policy. There is also a copy of a new Cardholder Agreement that would also become a part of the new policy when adopted.

These revisions are intended to strengthen governance, clarify employee responsibilities and provide a framework for consistent administration of the program. The new policy should provide a solid framework for the Town's Purchasing Card Program, while allowing flexibility for future administrative updates.

BUDGET IMPACT:

Is this expenditure approved in the current fiscal year budget? n/a

If no, describe how it will be funded. n/a

ATTACHMENTS:

1. Pages from Town of Black Mountain Purchasing Policy Revised 091321
2. Town of Black Mountain Proposed Purchasing Card Policy
3. Administrative Procedures Outline
4. Cardholder Agreement

1. There is an appropriate budget ordinance or project/grant ordinance appropriation authorizing the obligation
2. Sufficient monies remain in the appropriation to cover the amount that is expected to be paid out in the current fiscal year if the expenditure is accounted for in the budget ordinance/resolution or the entire amount if the expenditure is accounted for in the a project/grant ordinance

The Finance Department will enter an encumbrance in the accounting system for each department in an adequate amount to cover one month's purchases for the P-Card.
For specific purchasing guidelines on P-Cards, see section X

X. PURCHASE/CREDIT CARDS

Replace this section with:

The Town may issue Purchasing Cards (P-Cards) to authorized employees to facilitate efficient purchasing of goods and services for official Town business.

The issuance, use, administration, reconciliation, and oversight of Purchasing Cards shall be governed by the Town of Black Mountain Purchasing Card Policy, as adopted and amended by the Town.

All Purchasing Card transactions remain subject to this Purchasing Policy, the Town's Budget Ordinance, Travel Policy, applicable North Carolina General Statutes, and any other applicable Town policies.

Employees issued Purchasing Cards shall comply with all requirements of the Purchasing Card Policy and annually execute the required Cardholder Agreement.

10.1 Employee Responsibilities

Town of Black Mountain Purchasing Card Policy

PURPOSE

The purpose of the Purchasing Card Policy ("Policy") is to establish procedures for the administration of Town purchasing cards and to regulate their use. The Policy is intended to provide an efficient purchasing method while maintaining appropriate stewardship of public funds through effective internal controls and accountability.

SCOPE

This Policy applies to all Town departments, including all employees who are authorized and issued a Town purchasing card. This Policy does not replace or circumvent procurement policies and procedures.

POLICY

It is the Policy of the Town of Black Mountain that the Finance Department (Finance) shall be the primary department responsible for managing Town purchasing cards, including the sole authority to obtain purchasing cards on the Town's behalf. Finance shall oversee the accounts and maintain the list of authorized cardholders. The Town will limit the number of purchasing cards issued to those employees with a demonstrated and continuing operational need. A Department Head may submit a written request to become (or identify) an authorized cardholder to Finance that demonstrates a continuing operational need and explains why standing procurement procedures are not sufficient. No card may be issued without approval from the Finance Officer.

A cardholder must review and sign the Cardholder Agreement. Signed copies shall be sent to Finance, as well as the Human Resources Department for inclusion in the cardholder's personnel file. The purchasing card limit is set by the Finance Officer.

Town Purchasing Card Use

Purchasing cards are issued to an individual employee and shall always remain under the custody and control of that employee. Cardholders are responsible for safeguarding the physical card and card account information against unauthorized use.

Purchasing cards are intended to facilitate efficient procurement of routine, low-dollar goods and services for official Town business when use of a purchasing card is appropriate and the most efficient purchasing method. Town-issued purchasing cards may also be used in the following situations:

- Emergencies that present a public safety hazard or threat
- A purchase order cannot reasonably be issued or payment cannot be processed through the Town's normal procurement and accounts payable process
- As authorized by the Finance Officer or designee

Town of Black Mountain Purchasing Card Policy

All purchases shall comply with applicable Town policies and procurement procedures. Purchasing cards should not be used to circumvent routine procurement procedures and shall only be used for official Town business. Under no circumstances shall a Town purchasing card be used for personal use or gain. Any person who conducts any personal business with a Town purchasing card will be subject to corrective action up to and including termination and/or criminal prosecution. Cash advances are strictly prohibited.

Purchasing cards may be used only for travel that has been approved in accordance with the Town's Travel Policy. Use of a purchasing card does not exempt an employee from compliance with any provision of the Town's Travel Policy, including advance approval, allowable expenses, lodging limitations, meal limitations, per diem requirements, or required documentation.

Unauthorized Use

Unauthorized purchases include purchases that violate Town policy, are not supported by adequate documentation, or do not serve a legitimate public purpose.

Cardholders shall reimburse the Town for any unauthorized or personal purchases in accordance with procedures established by the Finance Officer. Failure to provide timely reimbursement may result in payroll deduction where authorized by law, revocation of purchasing card privileges, disciplinary action, or other remedies available to the Town.

Purchasing card transactions shall not be divided or structured to circumvent established purchasing limits, approval requirements, or competitive purchasing requirements.

Purchasing cards shall only be used by the individual to whom the card is issued. Card sharing is strictly prohibited. The cardholder remains responsible for all transactions made with the assigned purchasing card, regardless of who initiated or completed the transaction.

Documentation and Payment

At the time of a transaction, the cardholder shall obtain and retain an original, itemized receipt. Required details are an itemization of goods or services, unit price, vendor name, date of purchase, sales tax, and total price. Lack of proper documentation or authorizations may result in loss of purchasing card privileges and/or personal liability. Securing missing receipts shall be the responsibility of the cardholder. The cardholder shall validate card charges monthly and reconcile to the card statement.

All purchasing card transactions shall be reviewed and approved by the employee's supervisor or other designated approver. Finance will prescribe a monthly validation and signoff process for each cardholder. Itemized receipts and sufficient documentation to demonstrate the public purpose of each purchase shall be provided within the timeframe established by the Finance Officer.

Missing Receipt Affidavits may be accepted only in exceptional circumstances. Excessive use of Missing Receipt Affidavits may result in suspension or revocation of purchasing card privileges. Excessive use shall be determined by the Finance Officer in accordance with administrative procedures.

Lost, Stolen, or Compromised Cards

It is the responsibility of the cardholder to immediately notify the Finance Office in the event of a lost, stolen, or compromised purchasing card. If criminal activity is suspected, the cardholder shall also notify the Police Department.

Authorized Employee Termination

Upon termination of employment for any reason, an authorized cardholder must relinquish their purchasing card to the Finance Office at the time of separation and ensure the account is reconciled. The Human Resources Department shall notify the Finance Office of a termination as soon as possible. The Finance Office will instruct the purchasing card issuer to deactivate the card. Any cardholder who uses a Town purchasing card fraudulently after termination shall be subject to legal action.

Annual Review

The Finance Officer shall conduct an annual review of all purchasing cards. Department Heads shall annually certify that each cardholder continues to have a legitimate business need for a purchasing card. Purchasing cards that are no longer necessary shall be cancelled. All cardholders shall complete annual training and execute a new Cardholder Agreement acknowledging their understanding of this Policy and their responsibilities as a cardholder to continue participation in the purchasing card program.

Audit

The Finance Office may conduct audits of card activity and related documentation at any time, with or without prior notice. Finance may request supporting documentation for any transaction at any time. If necessary, the Finance Officer may suspend or terminate a cardholder’s account.

Noncompliance With Town Policy

Failure to comply with this Policy may result in corrective action, including reimbursement of unauthorized expenditures, written warning, temporary suspension of purchasing card privileges, permanent revocation of purchasing card privileges, disciplinary action, or other action deemed appropriate by the Town.

Purchasing Card Administrative Procedures

The following topics should be addressed by the Finance Officer through administrative procedures. These procedures are intended to implement the Town's Purchasing Card Policy and may be updated as operational needs change.

1. Purpose
    - Purpose of the procedures
    - Authority under the Purchasing Card Policy
    - Finance Officer's authority to administer the program
2. Roles and Responsibilities
    - Finance Officer (Program Administrator)
    - Cardholders
    - Department Heads
    - Supervisors/Approvers
    - Human Resources (terminations)
    - Accounts Payable/Finance staff
3. Card Issuance
    - Request process
    - Approval process
    - Training requirements
    - Cardholder Agreement
    - Credit limits
    - Merchant category restrictions
4. Card Security
    - Safeguarding physical cards
    - Protection of card account information
    - Storage of purchasing cards
    - Digital wallet requirements
    - Prohibition on departmental/shared cards
    - Changes in employment status
5. Authorized Purchases
    - Examples of Authorized Purchases:
        a. Office supplies
        b. Maintenance materials
        c. Registration fees
        d. Online purchases
        e. Minor equipment
        f. Emergency purchases
        g. Approved travel expenses

6. Prohibited Purchases
    - Examples of Prohibited Purchases:
        a. Personal purchases
        b. Cash advances
        c. Gift cards
        d. Alcohol
        e. Fuel
        f. Split purchases
        g. Items requiring contracts or formal bids
        h. Purchases exceeding delegated authority
7. Documentation Requirements
    - Itemized receipt
    - Business purpose
    - Grant/project coding (if applicable)
    - Missing documentation process
    - Credits and returns
    - Internet purchases
8. Missing Receipts
    - Duplicate receipt required first
    - Missing Receipt Affidavit only if duplicate unavailable
    - Finance Officer determines when use becomes excessive
    - Review for repeated occurrences
9. Monthly Reconciliation
    - Statement distribution
    - Cardholder review
    - Supervisor approval
    - Finance review
    - Deadline (e.g., within five business days of statement distribution, if that's what the Town chooses)
    - Late submissions
10. Disputed Charges
    - Contact vendor
    - Contact bank
    - Notify Finance
    - Documentation
11. Lost or Stolen Cards
    - Notify bank (if required by issuer)
    - Notify Finance immediately
    - Notify Police if theft suspected

- Complete incident documentation

12. Annual Review
    - Operational need certification
    - Annual training
    - Agreement renewal
    - Review of spending limits
    - Cancellation of inactive cards
13. Violations
    - Minor violations
    - Repeated violations
    - Serious violations
    - Fraud
14. Forms
    - Card Request Form
    - Cardholder Agreement
    - Missing Receipt Affidavit
    - Annual Review Certification

Best Practice: Administrative procedures should be reviewed periodically by the Finance Officer and updated as necessary to reflect changes in banking services, purchasing processes, technology, software, internal controls, or Town operations. Revisions to the administrative procedures do not require amendment of the Town's Purchasing Card Policy unless they conflict with or materially alter the policy adopted by the Town Council.

Town of Black Mountain

Purchasing Card Cardholder Agreement

I,_____, acknowledge that I have been issued a Town of Black Mountain Purchasing Card ("P-Card") for official Town business. I understand that use of the P-Card is a privilege, not an employee benefit or entitlement, and that I am personally responsible for ensuring it is used in accordance with the Town's Purchasing Card Policy and Administrative Procedures.

As a condition of receiving and retaining a Town Purchasing Card, I acknowledge and agree to the following:

Card Security and Custody

I understand that the Purchasing Card is issued to me individually and shall remain under my custody and control at all times. I understand that the Purchasing Card remains the property of the Town of Black Mountain and shall be surrendered immediately upon request by the Finance Officer or upon separation from employment.

I will:

- safeguard the physical Purchasing Card and card account information from unauthorized use;
- maintain physical possession of my Purchasing Card except when necessary to complete an authorized transaction.
- not allow another person to use my Purchasing Card for any purpose;
- not loan, share, transfer, or assign my Purchasing Card or account information to another individual;
- immediately notify the Finance Office if my Purchasing Card is lost, stolen, compromised, or suspected of unauthorized use.

Authorized Use

I understand the Purchasing Card may be used only for legitimate Town business and only for purchases permitted by Town policy.

I will not:

- make personal purchases;
- obtain cash advances;
- split purchases to avoid purchasing limits or procurement requirements;
- use the Purchasing Card for any unauthorized purpose.

Documentation

Town of Black Mountain

Purchasing Card Cardholder Agreement

I understand I am responsible for maintaining adequate documentation for every purchase.

I will:

- obtain and retain an itemized receipt for each transaction;
- provide any additional documentation requested by Finance;
- submit documentation and reconcile transactions within established deadlines;
- make every reasonable effort to obtain replacement documentation if a receipt is lost.

Responsibility for Transactions

I understand that I am responsible for every transaction charged to my assigned Purchasing Card, regardless of who initiated or completed the transaction.

If unauthorized charges occur because I failed to safeguard my card or account information, I understand I may be held responsible as provided by Town policy and applicable laws.

Audits

I understand that Purchasing Card transactions are subject to review by supervisors, Finance, auditors, and other authorized officials.

I agree to cooperate fully with any review, audit, or investigation involving Purchasing Card transactions.

Reimbursement

I understand that I may be required to reimburse the Town for unauthorized or personal purchases made with my Purchasing Card.

I further understand that reimbursement requirements do not limit the Town's ability to impose disciplinary action.

Annual Review

I understand that Purchasing Cards are issued only where a continuing operational need exists.

I acknowledge that:

- my continued participation in the Purchasing Card Program is subject to annual review;
- continued participation in the Purchasing Card Program is not guaranteed;
- I am required to complete annual training and execute a new Cardholder Agreement.

Town of Black Mountain

Purchasing Card Cardholder Agreement

Acknowledgment

By signing below, I certify that:

- I have received and read the Town of Black Mountain Purchasing Card Policy.
- I understand my responsibilities as a cardholder.
- I agree to comply with all applicable Town policies and procedures governing Purchasing Card use.
- all information and documentation I submit in support of Purchasing Card transactions will be complete and accurate to the best of my knowledge.

I understand that failure to comply may result in reimbursement of unauthorized expenditures, suspension or revocation of Purchasing Card privileges, disciplinary action, termination of employment, and/or criminal prosecution where applicable.

Employee Name: _____

Department: _____

Title: _____

Purchasing Card Number (last four digits): _____

Credit Limit: _____

Employee Signature: _____ Date: _____

Department Head Signature: _____ Date: _____

Finance Officer or Designee: _____ Date: _____

TOWN OF BLACK MOUNTAIN

AGENDA ITEM SUMMARY

SUBMITTER: Greta Gibson, Customer Service & Revenue Supervisor

MEETING DATE: August 10, 2026

AGENDA SECTION: New Business

DEPARTMENT: Finance

TITLE OF ITEM: State of NC Purchasing Card Program Discussion

SUGGESTED MOTION(S):
Staff recommends enrollment in the State of NC Purchasing Card Program presented.

SUMMARY:

The Town of Black Mountain uses P-Cards (Purchasing Card) to buy business-related, approved goods and services. The program administrator can set transaction limits, monthly caps, and set specific limitations on the card.

P-Cards are commonly used for office supplies and equipment, travel costs and expenses, registration fees, and subscriptions.

While the cards function like a credit card, use can be limited by vendors who accept the cards for payment, balances must be paid in full each month, cards integrate directly with accounting software for reconciliation, and incentives for card use are paid by rebate.

The Town of Black Mountain is enrolled in the Purchasing Card Program at Truist Bank.

There is no fee for the program. The town's overall program credit limit is $250,000. This amount can be adjusted if needed to accommodate spending. There are 46 active cards.

The rebate cycle is January through December. In 2025, the town's annual spend was $500,000, which yielded a rebate of $1,263.16 deposited to the checking account (calculated from 25 bps).

Truist can run an analysis on current spending and produce a report of what could be paid by P-Card instead of check or ACH to create a larger rebate. To earn 75 bps, the town would have to increase spending on the P-Card to $1,000,000.

The State of North Carolina Procurement Card (P-Card) Program, operating under Statewide

Term Contract 946A and managed by the NC Department of Administration Division of Purchase and Contract, is held by Bank of America. North Carolina local governments can voluntarily opt to use the Statewide Term Contract 946A – State Procurement Card as allowed by general statute.

The NC rebate year runs annually from Sept 1st - August 30th. Transactions under $8,000 earn 209 bps and purchases over $8,000 earn a bps of 72.

Example: If the town had a $500k of spend and 90% of that is standard ticket (small $ transactions) and 10% is large ticket (>$8k on single transaction) or preferred partner (ex. Costco) and the town paid at 30 day cycle, 25-day grace period (30/25).

Total spend: $500k
Standard: $450K x 209 bps (2.09%) = $9,405
Alternate: $50k x 72 bps (0.72%) = $360
Total rebate estimate: ~$9,405
This is an $8,141.84 difference from Truist.
The first step to join the program is a request to join letter.

Once the state welcomes us, we have to complete an application, send 3 years of audited financials for credit review, and onboard with the bank. We would then have an Implementation Manager who would help with the transition and training.

BUDGET IMPACT:

Is this expenditure approved in the current fiscal year budget?

If no, describe how it will be funded.

ATTACHMENTS:

1. State of NC PCard Program Overview 2026

State of North Carolina

Purchasing Card Program Overview

Austin Grainger
Card Product Sales

BANK OF AMERICA

State of North Carolina - Client Team

Your Card Account Specialist is assigned specifically to your relationship for servicing your accounts after implementation.

North America Card Account Specialist (CAS): Holli Christi
Phone: 888.715.1000 Ext. 20105
Email: dedicated_card_east@bankofamerica.com
Hours: 9:00 AM – 5:00 PM EST
*Team Servicing is available after hours – 1.800.822.5985, Option 2

North America Back-Up (CAS): Erin McHale-Smith
Phone: 888.715.1000 Ext. 21049
Email: dedicated_card_east@bankofamerica.com
Hours: 7:00 AM – 3:30 PM EST

Card Digital Services (Works, GRAM, & Global Card Access)
888-715-1000. Option 2, then 4.

Fraud/Disputes Department
Release fraud blocks or notify of international travel 1.866.500.8262 (domestic) and +1.757.441.4124 (international, able to call collect)

Specialized Product Sales (SPS) – Austin Grainger
Phone: 980.497.1723
Email: austin.grainger@bofa.com

Specialized Product Sales (SPS)– Jeffrey Soltero
Phone: 312.206.8014
Email: Jeffrey.e.soltero@bofa.com

Client Manager (CM) – Brandi Keefer
Phone: 803.255.7515
Email: Brandi.keefer@bofa.com

Client Manager (CM) – Ciara Allen
Phone: 980.683.0537
Email: Ciara.Allen@bofa.com

Client Manager (CM) – Mary Steward
Phone: 980.987.3312
Email: mary.steward@bofa.com

State of the State – North Carolina

89 Active State Agencies

NCDHHS

NC DOA
Department of Administration

111 Active College & Universities

NC Central University

ECU

ECSU
Elizabeth City State University
Founded 1891

193 Active Local Governments

Guilford County Schools

Morrisville
Live connected. Live well.

Durham County
1881

BANK OF AMERICA

2025 Rebate Year Spend Volume and Trends

Year	Purchase Volume	# of Transactions	Avg. Transaction	Total Open Cards	% of Active Cards	YOY%
2025	$1,187,492,293	2,891,517	$411	68,736	50.44%	2.7%
2024	$1,156,659,927	2,884,006	$401	65,930	51.18%	+12.2%
2023	$1,030,110,253	2,729,686	$377	60,851	51.77%	+18.7%
2022	$867,779,842	2,370,089	$366	57,025	49.63%	+26.5%
2021	$685,810,433	1,925,542	$356	52,895	46.29%	+7.1%
2020	$639,847,445	1,993,430	$333	49,237	51.08%	-6.3%
2019	$683,005,195	2,268,862	$301	45,028	58.54%	+8.1%
2018	$631,356,901	2,067,857	$305	40,744	60.04%	+13.5%
2017	$556,154,139	1,914,186	$290	36,206	62.22%	+12.5%
2016	$494,239,443	1,723,416	$286	33,776	61.85%	+13.4%
2015	$435,794,660	1,532,148	$284	31,116	61.22%	+16.1%
2014	$375,154,914	1,397,246	$268	28,419	61.44%	+13.2%
2013	$331,208,189	1,216,980	$272	24,630	61.68%	N/A

State of NC End User Rebate

September 1st-August-31st

Annual USD Card Volume		Billing Cycle Days	30	30	30	30	30	30
STANDARD PURCHASES		Payment Days	2	5	10	15	20	25
STATE OF NORTH CAROLINA			REBATE INCENTIVE PROVIDED AS BASIS POINTS					
$350,000,001	$400,000,000		215	213	209	205	203	199
$400,000,001	$450,000,000		216	214	210	206	204	200
$450,000,001	$500,000,000		217	215	211	207	205	201
$500,000,001	$550,000,000		218	216	212	208	206	202
$550,000,001	$600,000,000		219	217	213	209	207	203
$600,000,001	$650,000,000		220	218	214	210	208	204
$650,000,001	$700,000,000		221	219	215	211	209	205
$700,000,001	$750,000,000		222	220	216	212	210	206
$750,000,001	$800,000,000		223	221	217	213	211	207
$800,000,001	$850,000,000		224	222	218	214	212	208
$850,000,001	**+**		**225**	**223**	**219**	**215**	**213**	**209**
Annual USD Card Volume		**Billing Cycle Days**	**30**	**30**	**30**	**30**	**30**	**30**
LARGE TICKET/(PPV)		**Payment Days**	**2**	**5**	**10**	**15**	**20**	**25**
			REBATE INCENTIVE PROVIDED AS BASIS POINTS					
Note: Final Rebate Calculation May Include Preferred Partner Volume (PPV)			88	86	82	78	76	72

BANK OF AMERICA

Purchasing Card

Conveniently manage all business expenses with a single solution

Value-added benefits

- Acceptance at millions of locations, globally
- Complimentary access to Benefits on Us

Insurance[1]

- All cardholders receive $500K USD Travel Accident Insurance, $3K USD Lost Luggage insurance, collision (auto) insurance and more!
- Visit https://go.bofa.com/insurancebenefitsmatrix for more information

Mobile access anytime, anywhere

- Manage accounts from any device with Global Card Access online card management
- Download the Global Card Access Mobile App for access to critical tools when making a purchase
- Pay online or in-person using your smart device's mobile wallet

About your card…

- 24/7/365 cardholder support
- A variety of billing, settlement and payment options
- Flexible limits and card controls including spending limits, MCC controls and cash access
- Configurable reporting and data
- Integration with expense reporting and auditing systems
- Online reporting[2]
- Real-time account maintenance[2]
- Company-branded card design available[3]
- Contactless capability
- Automated VAT management

[1] Limitations may apply by country, visit https://go.bofa.com/insurancebenefitsmatrix for more information. | [2] Available where Bank of America direct issues cards | [3] Availability of certain products, services and features vary by region and country, terms and conditions apply and may incur an additional fee.

Program administrator features and tools

Global Card Access gives visibility and access to account information, self-service tools and card management modules

Program dashboard

View spend details, credit limit, current balances, and available credit on corporate and individual accounts

Digital account statements and payments

Easily access your current statement and 12 months of historical statements and make a payment[1] online

Online card application portal

Invite employees to complete application for a card account; modify, approve or decline applications

User management

Reset passwords, unlock users, resend welcome emails and deactivate users

Account management, reporting and expense management module

Quick and secure access to Works

Works module features and tools

Real-time creation and modification of card and user accounts

- Manage card spend controls for multiple cards in bulk
- Choose card delivery speed / method
- Exact authorization override for one-off exception purchases
- Supports pre-approval card funding
- Temporarily suspend card accounts
- MCC blocking
- Incremental discretionary funds, single and daily transaction limits
- HR Files available for real-time card and user maintenance via file transmission

Expense reporting for transactions and reimbursements

- 10 cost-allocation segments that can be customized, including valid combos and allocation rules / permissions
- Three levels of review and approval: cardholder, approver, accountant
- Receipt images
- Cost-allocation defaults based on MCC, supplier, card, user, group
- Manage cost-allocation values and combinations via file transmission

Reporting

- Online, on-demand, configurable reporting
- Report retrieval via file transmission
- Spend by supplier reports
- Level II and III transaction data
- Integration with all expense reporting tools

1. Available in North America

Purchasing Card approaches

Physical cards

Streamline the procure-to-pay process and reduce transaction costs

Traditional Purchasing Card

A plastic card used for business purchases of goods and services – typically high-frequency, low value (less than $2,500)

Use Cases

- Recurring payments (e.g., utility and rent)
- Temporary or contract labor
- Smaller technology equipment
- Maintenance, repair, and operations
- Professional fees (e.g., marketing and consulting)
- Mail, packaging and courier services

Department/meeting card

A plastic card assigned to a specific department, meeting or event. Meeting cards often have high individual and monthly transaction limits.

Use Cases

- Employee use for approved expenses associated with conferences, events and meetings
- Utilities payments for specific sites and locations

Extended time to pay increases working capital and liquidity

Strategic opportunities identified using data and reporting

Spend control with policy enforcement

Ways To Grow Your Card Program

- **Utilities and Tax Payments.** Setting up a Dedicated Card in your AP Department to pay for these monthly recurring expenses

- **Per Diem Policy.** The State of NC has implemented policy change allowing food to be expensed on a Purchasing Card.

- **Fuel & Vehicle Maintenance.** Coming away from traditional fleet cards for fuel and designating a chain automotive repair facility for maintenance, if not conducted in house.

- **State Single Transaction Limit** raised to **$25,000** without exception approval to match the STL on Travel related expenses

- **AP Vendor File.** You can provide for us a AP Vendor check file, and we can tell you which vendors will accept a card payment.

Comprehensive range of solutions

Travel and entertainment

Make business travel easier with a card that offers purchasing power, cost-efficiency and flexibility.

- Corporate card
- Central travel accounts
- Executive card options
- Virtual travel

Business expense cards

Conveniently manage all business expenses with a single solution.

- Department card
- Meeting card
- Purchasing card
- Virtual card

Accounts payable

B2B payment automation which helps AP departments maximize efficiency, reduce fraud risk and optimize working capital

- Complete AP
- Comprehensive payables
- Paymode-X

2026 State of North Carolina Summit

When: September 15th 2026
Where: Chapel Hil, NC

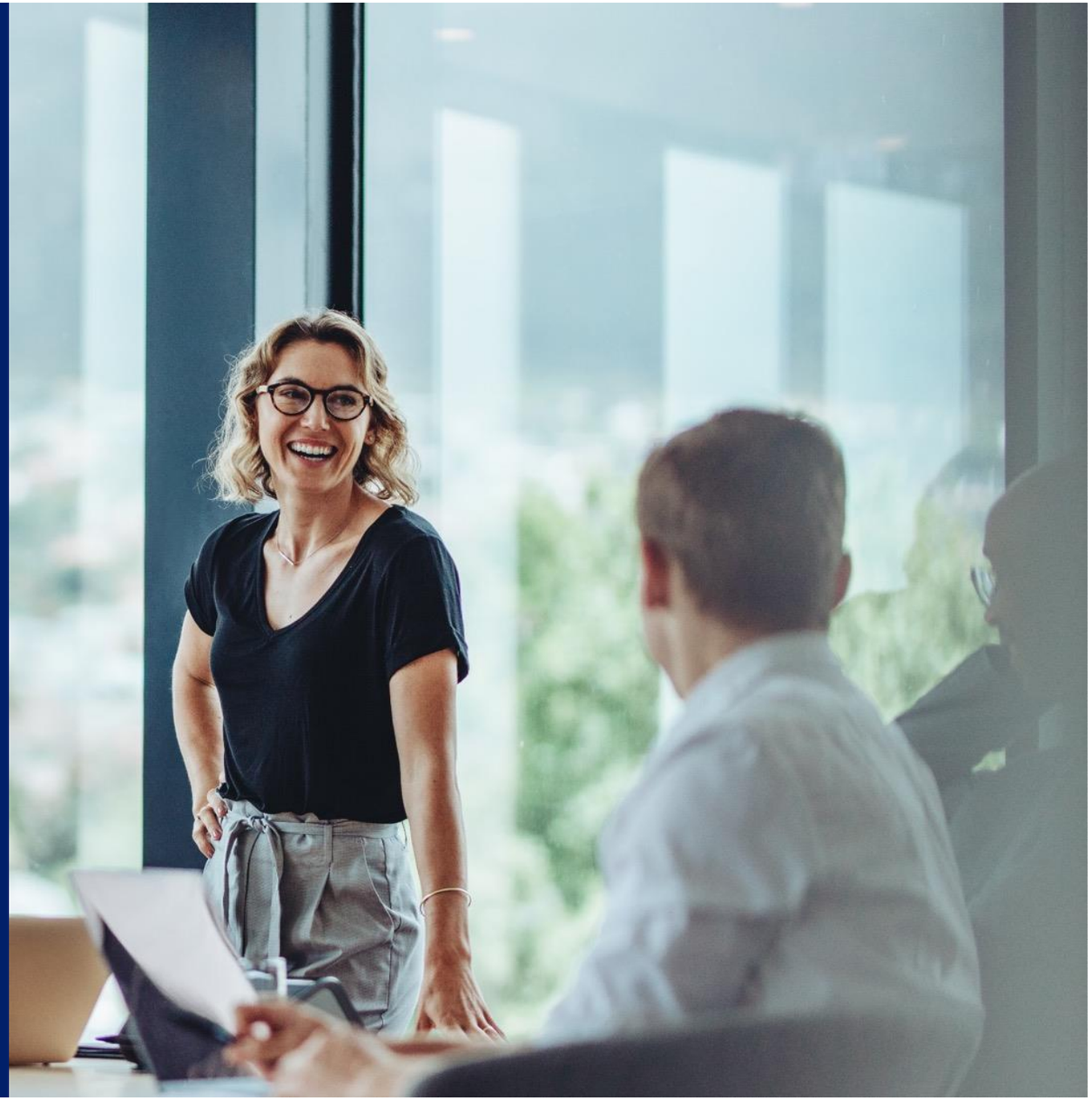
State of North Carolina Virtual User Groups

Quarterly BANK OF AMERICA

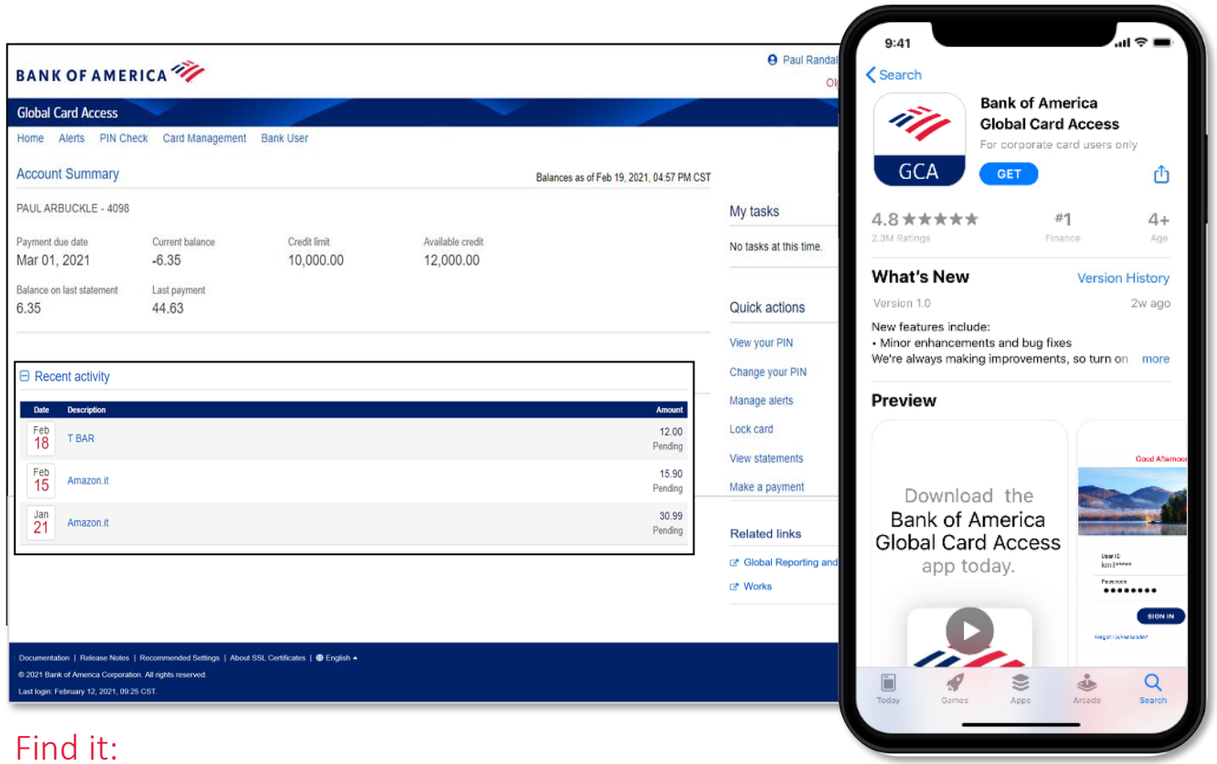
STATE OF NORTH CAROLINA
LOCAL USER GROUP SESSIONS

When: Quarterly
Where: Webex

Trends and updates



Cardholder account management anytime, anywhere



Find it:

www.bankofamerica.com/gca

Apple, Google and Samsung app stores

Apple App Store

Google Play

Please note that the availability of certain key card features and tools vary by geographical region. Please contact your company or your BofA representative to learn more.

Real-time account information

Account dashboard
View account details such as credit limit, current balance, available credit, and recent card activity

Digital statements
Review current and 12 months of past statements

PIN access
Securely view your unique card PIN

Service resources
Find region-specific contact information for servicing

Quick actions for added security

Card activation
Skip the call and activate a new card

PIN management
Create a custom PIN online

Lock card
Temporarily secure a card to prevent unauthorized use

Alert management
Customize account alerts to be sent via SMS text or email

Strong Customer Authentication (EMEA)
Complete biometrics verification within the app

Convenient options for self-service tasks

New card application
Request a new card from your program administrator

Digital payment (N.A.)
Pay monthly bill online

Profile maintenance
Update contact and security profile

Data
Download transactional data into Quickbooks

Works platform transformation

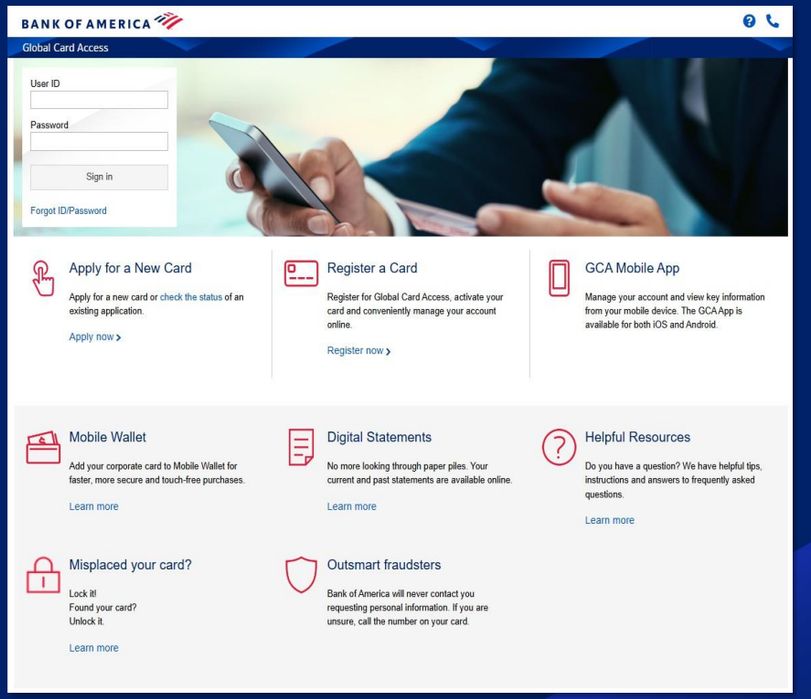
Fully integrated commercial card platform with consolidated card management functionality

To improve user experience, Works clients are being migrated to one single point of access via Global Card Access (GCA) between March 2025 and the end of 2026. The Works and GCA platforms are being upgraded to accommodate these migrations and to ensure a smooth user experience.

- Users will no longer log into Works directly. Instead, users will first log into Global Card Access and from there can click into Works.
- This will reduce the number of login credentials one must maintain since there will now be one centralized site.

Future enhancements:

- **Bulk receipt image download** (*Q4 2025 deployment*[1]) – Works users who utilize the expense reporting feature often have their cardholders upload receipt images. This enhancement will provide program administrators with the ability to download the images in bulk, allowing them to store the data in their systems.
- **Future scheduling spend controls profile update** (*Q4 2025 deployment*[1]) – allows users to choose a date in the future for when they would like to move a card to a new spend control profile. Currently, Works only allows users to set a future *return* date when a card is moved from one profile to another.



Your new landing page for Global Card Access/Works

1 | Deployment dates are subject to change.

Enhanced decline reasons on Global Card Access

Ensuring cardholders know why declines occurred and how to resolve them

1 Adherence to company policy

Ensures compliance with company spending policy and avoids unauthorized purchases

2 Real-time information

View decline reasons immediately after a card purchase is attempted

3 Clear descriptions

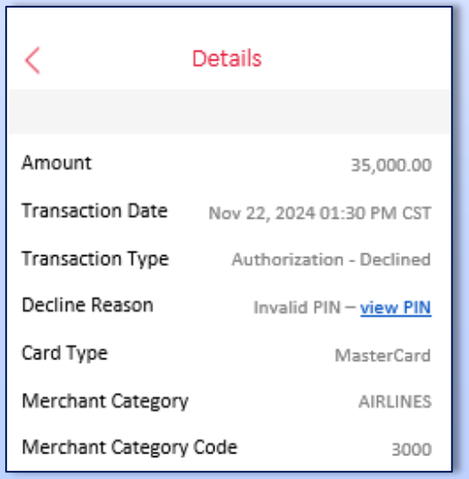
Understand what triggered the card decline via clear and concise language

4 Direct resolution path

Actionable decline reasons help identify the right next step to resolve declines, whether that be the program administrator, bank customer service, or self-servicing

Declined transaction on Global Card Access (online)

Declined transaction on Global Card Access (mobile app)



KEY BENEFITS

Improved cardholder experience due to **real-time communication** of decline

Speeds up payments and reduces delays by identifying the right course of action

Reduces risk of **fraud** or card misuse

Encourages **faster resolution** by helping cardholders understand the decline

Contactless card and mobile wallet

Tap to pay. It's that simple.

Speed

- Contactless authorization takes 0.5 seconds which is 7 times faster than traditional Chip & PIN card
- Fast and ideal at places where you are in a hurry, e.g., fast food restaurants, taxis, trains, petrol stations and more
- Pay the exact amount and avoid the need to handle cash and coins

Security

- Using the latest encryption technology for data transmission
- Card never leaves your hand, which reduces the chance of fraud
- Security and safety are the most important aspects of the contactless feature

Industry trends

- Contactless transactions have been steadily increasing over 100% YoY
- Merchant acceptance growing by 45% YoY
- Number of unique contactless accounts increased 100% YoY
- Tap spend recently increased 200% YoY

For more information, visit bofa.com/contactless or bofa.com/cardmobilewallet

Next steps

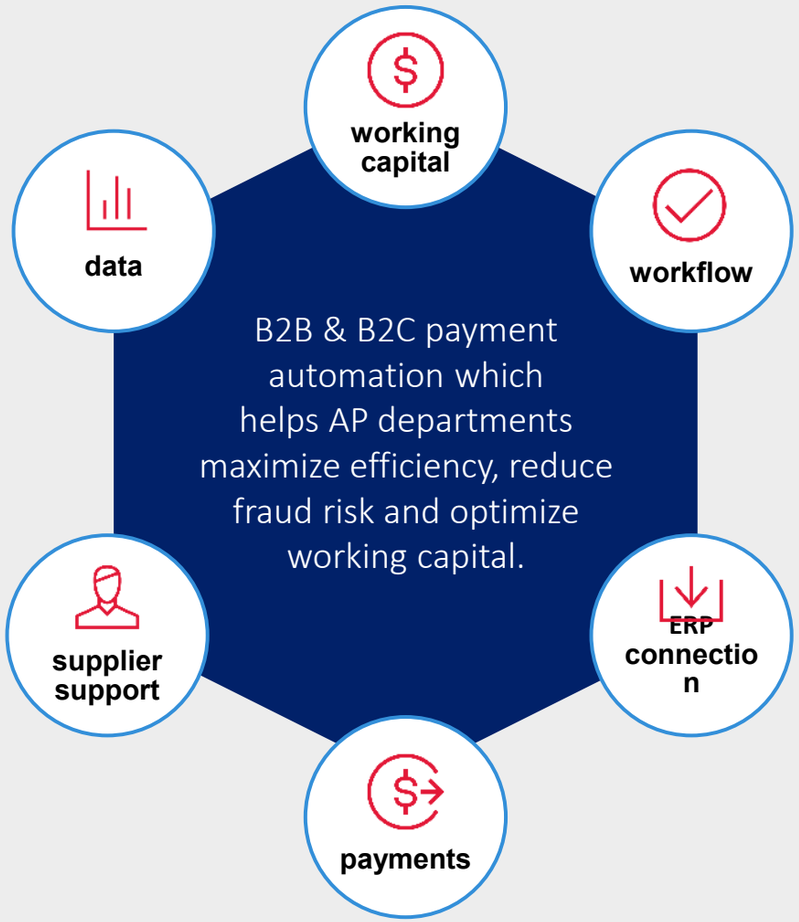
Next Steps:

- Request to Join Letter
- Receipt of Welcome Letter from the State of NC
- Purchasing Card Application
- 3 Years of Audited Financials for Credit Review
- KYC Onboarding into the Bank (W9/IRS Letter)
- Implementation Manager assignment for the project
- Day One Kick-Off call for the Implementation

Appendix

Comprehensive Payables

A solution that offers **flexibility** to send multiple payment types in a single file, **risk mitigation** through supplier verification, **data** to optimize your payment strategy and **support** for ongoing supplier enablement and maintenance.



18+

Years offering Comprehensive Payables with Bottomline

$329+bn

In payments processed in 2024

700+

Clients using Comprehensive Payables or Paymode-X

99%

Of clients who invest in AP automation earn a rebate that can be reinvested in the business

750k

Suppliers in Paymode-X and BofA Card Network

Virtual Payables

A market-leading provider with best-in-class solutions which help clients transform their payment strategy by improving working capital, payment efficiency and security

Industry expertise and commitment
through long term investment, leadership and innovation

Robust spend analysis and supplier targeting
based on deep supplier knowledge and best practices

Supplier enablement for the life of your program
with strategies designed for different phases and audiences

Innovative tools
for program management, compliance controls and better fraud prevention

Source: Bank of America 2024.

Nearly

2 decades

experience in Virtual Payables

$20.4+B

in spend processed annually

4.9MM

payments made using virtual card

1200+

clients processing B2B payments with Virtual Payables

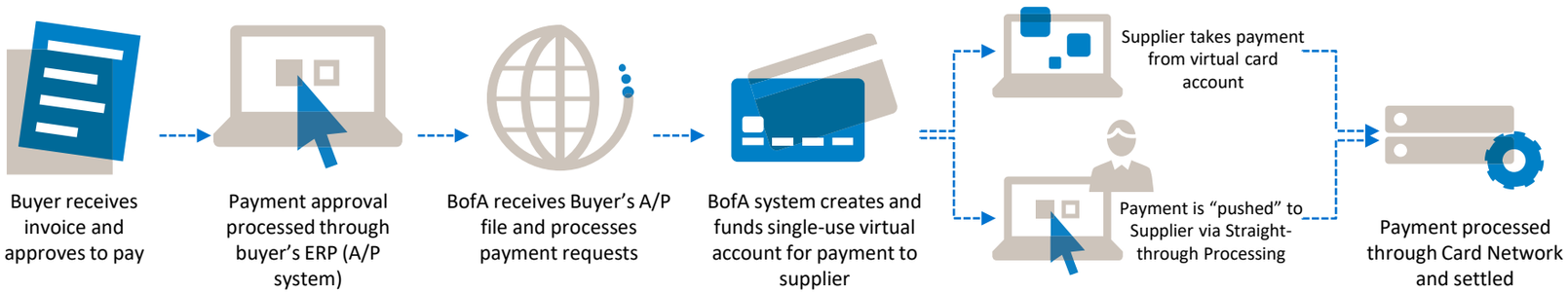
250K

suppliers in Virtual Card Network

Virtual Payables

A no-cost alternative to traditional fee-based payments

Use Virtual Payables to migrate check payments to virtual card*



VIRTUAL PAYABLES BENEFITS

Reduced costs, increased efficiencies

- Requires no changes to upfront accounts payable process
- Increases float for improved cash flow and working capital
- Provides ease of reconciliation for both buyer and supplier
- Revenue share potential linked to spend volume

Transaction risk management

- Helps control card payments by authorizing only pre-approved payment amounts to known suppliers
- Generation of single-use account reduces exposure to certain types of fraud

Payment automation

- Replaces costly paper payments with low-cost, electronic payments

*most common way organizations initiate virtual card transactions; other options available

Notice to Recipient

These materials have been prepared by one or more affiliates of Bank of America Corporation for the client or potential client to whom such materials are directly addressed and delivered (the "Company") for discussion purposes only in connection with an actual or potential mandate or engagement and are subject to our review and assessment from a legal, compliance, accounting policy and risk perspective, as appropriate. These materials may not be used or relied upon for any purpose other than as specifically contemplated by a written agreement with us. These materials have not been prepared with a view toward public disclosure under applicable securities laws or otherwise, and may not be, in whole or in part, reproduced, quoted or referred to, or shown, transmitted, or otherwise given to any person other than Company's authorized representatives, without our prior written consent. We assume no obligation to update or otherwise revise these materials.

These materials were designed for use by specific persons familiar with the business and affairs of the Company and are being furnished and should be considered only in connection with other information, oral or written, provided by us in connection herewith. These materials are not intended to provide the sole basis for evaluating, and should not be considered a recommendation with respect to, any transaction or other matter and do not constitute an offer or solicitation to sell or purchase any securities, nor do they constitute a commitment by Bank of America Corporation or any of its affiliates to provide or arrange any financing for any transaction, to purchase any security or to otherwise enter into any type of business relationship in connection herewith.

These materials are based on information provided by or on behalf of the Company and/or other potential transaction participants, from public sources or otherwise reviewed by us. We assume no responsibility for independent investigation or verification of such information (including, without limitation, data from third party suppliers) and have relied on such information being complete and accurate in all material respects. To the extent such information includes estimates and forecasts of future financial performance prepared by or reviewed with the managements of the Company and/or other potential transaction participants or obtained from public sources, we have assumed that such estimates and forecasts have been reasonably prepared on bases reflecting the best currently available estimates and judgments of such managements (or, with respect to estimates and forecasts obtained from public sources, represent reasonable estimates). No representation or warranty, express or implied, is made as to the accuracy or completeness of such information, or of these materials, and nothing contained herein is, or shall be relied upon as, a representation, whether as to the past, the present or the future. These materials may not reflect information known to other professionals in other business areas of Bank of America Corporation and its affiliates.

Any League Tables referenced within these materials have been prepared using data sourced from external third-party providers as outlined in the relevant footnotes where applicable. For persons wishing to request further information regarding these third-party providers and the criteria and methodology used to prepare a league table please contact your usual Bank of America or BofA Securities representative/Relationship Manager.

Bank of America Corporation and its affiliates (the "BAC Group") comprises a full service securities firm and commercial bank engaged in securities, commodities and derivatives trading, foreign exchange and other brokerage activities, and principal investing as well as providing investment, corporate and private banking, asset and investment management, financing and strategic advisory services and other commercial services and products to a wide range of corporations, governments and individuals, domestically and offshore, from which conflicting interests or duties, or a perception thereof, may arise. In the ordinary course of these activities, parts of the BAC Group at any time may invest on a principal basis or manage funds that invest, make or hold long or short positions, finance positions or trade or otherwise effect transactions, for their own accounts or the accounts of customers, in debt, equity or other securities or financial instruments (including derivatives, bank loans or other obligations) of the Company, potential counterparties or any other company that may be involved in a transaction.

"Bank of America" and "BofA Securities" are the marketing names used by the Global Banking and Global Markets divisions of Bank of America Corporation. Lending, derivatives, other commercial banking activities, and trading in certain financial instruments are performed globally by banking affiliates of Bank of America Corporation, including Bank of America, N.A., Member FDIC. Trading in securities and financial instruments, and strategic advisory, and other investment banking activities, are performed globally by investment banking affiliates of Bank of America Corporation ("Investment Banking Affiliates"), including, in the United States, BofA Securities, Inc., which is a registered broker-dealer and Member of SIPC, and, in other jurisdictions, by locally registered entities. BofA Securities, Inc. is a registered futures commission merchant with the CFTC and a member of the NFA.

Investment products offered by Investment Banking Affiliates:

Are Not FDIC Insured	Are Not Bank Guaranteed	May Lose Value

Bank of America and BofA Securities entities and branches provide financial services to the clients of Bank of America and BofA Securities and may outsource/delegate the marketing and/or provision of certain services or aspects of services to other branches or members of the BAC Group (for example in the UK). Your service provider will remain the entity/branch specified in your onboarding documentation and/or other contractual or marketing documentation even where you communicate with staff that operate from a different entity or branch which is acting for and on behalf of your contractual service provider in their communications with you. If you are unsure who your contractual service provider is or will be please contact your usual Bank of America or BofA Securities representative or relationship manager.

Products and services that may be referenced in the accompanying materials may be provided through one or more affiliates of Bank of America Corporation.

For Bank of America or BofA Securities entities outside the US, please see additional information via the following link: https://www.bofaml.com/en-us/content/baml-disclaimer.html. Specifically, for Bank of America or BofA Securities entities in EMEA, please see additional information via the following link: www.bofaml.com/mifid2. Note please that BofA Securities Europe SA, with registered address at 51, rue La Boétie, 75008 Paris is registered under no. 842 602 690 RCS Paris, and its share capital can be found at https://www.bofaml.com/en-us/content/BofASE.html.

The BAC Group has adopted policies and guidelines designed to preserve the independence of our research analysts. These policies prohibit employees from, directly or indirectly, offering research coverage, a favorable research rating or a specific price target or offering to change a research rating or price target as consideration for or an inducement to obtain business or other compensation and prohibit research analysts from being directly compensated for involvement in investment banking transactions. The views expressed herein are the views solely of the specific BAC line of business providing you with these materials and no inference should be made that the views expressed represent the view of the firm's research department.

We do not provide legal, compliance, tax or accounting advice. Accordingly, any statements contained herein as to tax matters were neither written nor intended by us to be used and cannot be used by any taxpayer for the purpose of avoiding tax penalties that may be imposed on such taxpayer. If any person uses or refers to any such tax statement in promoting, marketing or recommending a partnership or other entity, investment plan or arrangement to any taxpayer, then the statement expressed herein is being delivered to support the promotion or marketing of the transaction or matter addressed and the recipient should seek advice based on its particular circumstances from an independent tax advisor. Notwithstanding anything that may appear herein or in other materials to the contrary, the Company shall be permitted to disclose the tax treatment and tax structure of a transaction—including any materials, opinions or analyses relating to such tax treatment or tax structure, but without disclosure of identifying information or any nonpublic commercial or financial information (except to the extent any such information relates to the tax structure or tax treatment)—on and after the earliest to occur of the date of (i) public announcement of discussions relating to such transaction, (ii) public announcement of such transaction or (iii) execution of a definitive agreement (with or without conditions) to enter into such transaction; provided, however, that if such transaction is not consummated for any reason, the provisions of this sentence shall cease to apply.

These materials are not intended to provide legal, consulting, accounting, rating agency or ESG rating agency advice, nor are any materials provided by us intended to identify, evaluate or advise you as to any potential legal, reputational or other risks. The information and any examples provided have not been evaluated for effectiveness, quality, accuracy or risk and none of Bank of America, BofA Securities, or their affiliates is endorsing any particular approach to environmental, social and governance ("ESG"), any particular ESG or sustainability investment strategy or any particular ESG or sustainability standards, ratings or metrics.

We are required to obtain, verify and record certain information that identifies the Company, which information includes the name and address of the Company and other information that will allow us to identify the Company in accordance, as applicable, with the USA Patriot Act (Title III of Pub. L. 107-56, as amended, which was signed into law October 26, 2001) and such other laws, rules and regulations as applicable within and outside the United States.

For more information, including terms and conditions that apply to the service(s), please contact your usual Bank of America or BofA Securities representative or relationship manager.

©2023 Bank of America Corporation. All rights reserved. 10/2023

TOWN OF BLACK MOUNTAIN

AGENDA ITEM SUMMARY

SUBMITTER:	Richard Hicks, Interim Town Manager	**MEETING DATE:**	August 10, 2026
AGENDA SECTION:	New Business	**DEPARTMENT:**	Finance
TITLE OF ITEM:	Discussion of RFP's for Town Banking Services		

SUGGESTED MOTION(S):
n/a

SUMMARY:

North Carolina local government bank accounts and deposits are primarily governed by Chapter 159 (The Local Government Finance Act) of the North Carolina General Statutes. Specifically, G.S. 159-31 controls the selection of official bank depositories, while G.S. 159-30 regulates deposits and investments. It is unlawful to deposit public money anywhere other than an official designated depository. Deposits must be fully secured by federal deposit insurance, surety bonds, letters of credit, or approved investment securities regulated by the North Carolina Local Government Commission (LGC).

The Town of Black Mountain has a Public Fund Analyzed Checking account that is fully collateralized with Truist Bank. The account was originally set up at SunTrust Bank, which had a local branch in Black Mountain. In 2019 SunTrust and BB&T merged and the branches and banking were consolidated in 2021-2022. The nearest Truist Bank branch is located at 1327 Tunnel Road, Asheville, NC 28805 (9.2 miles from 160 Midland Avenue). The Town has Night Drop agreements with three branches. Cash deposits are made daily after business hours and in the normal course of travel for employees. Checks are deposited daily by remote deposit capture in the office by Customer Service Representatives. On occasion, a trip to the branch is made for change (one a month or less).

Large organizations with high balances and transaction levels or that require multiple services hold Commercial Analysis accounts at banks. The Commercial Analysis account has a service fee for every item, transaction, and service. These fees are offset by an earnings credit that is based on the average collected balance on the account. Ideally, the account balance produces an earnings credit greater than the service fee. If not, the organization pays a service fee.

In fiscal year 2026, the Town of Black Mountain accrued $75,752.90 in service fees, of which

$27,153.17 were not offset by the earnings credit and were paid by the town.

A line-by-line review of the analysis statement revealed duplicate billing and a list of superfluous services. The earnings credit was 40 bps and did not produce enough credit to negate the service fees.

Truist adjusted the earnings credit to 100 bps, removed the redundant products and services, corrected the duplicate billing, and a $500 “soft” credit towards future service fees and a $500 actual credit were applied to the account.

An analysis was run on the town’s account which calculated that zero service fees would be assessed in the account. In the example analysis provided, service fees accrued equaled $1,816.77 compared to the earnings credit of $2143.34 which left an excess earnings credit of $326.57.

At the request of the Town Council, an RFP was sent out to local banks. First Bank, Servis First Bank, and First Citizens Bank responded.

First Citizens Bank, located at 417 W State Street, took time and consideration to discuss and review the RFP; but declined to respond with a proposal. First Citizens is relationship driven and would entertain the entire relationship with the Town of Black Mountain but does not have an appetite for a partial relationship.

Servis First Bank, located at 1200 Ridgefield Blvd, Suite 254, is not located in Black Mountain but is in Buncombe County. The bank does not accept cash deposits; this would require an armored car service daily and an alternative solution for change orders. Service First Bank responded with a proposal that would require alternative resources for depositing cash daily, change orders, and Electronic Lockbox. The standard ECR at Servis First Bank is .50% (50 bps), half the ECR at Truist and First Bank.

First Bank, located at 300 W State Street, fully responded to the RFP after several meetings in person and virtually. The Branch Manager, Charlene Baker, was the Branch Manager of SunTrust in Black Mountain and has familiarity with the town’s account. SVP, Scott Crawford, Business Development Officer,has worked with the town on several loans. Stephanie Franklin, the SVP of Treasury Services and Sales, has an office on Church St in Asheville. The town currently has three active loans with First Bank totaling $534,000 and First Bank has put in the lowest rate for an RFP of the $260,000 loan for law enforcement vehicles.

The proposal from First Bank is competitive in price:

- First Bank has a standard ECR of 1.00% (100 bps) and has since 2008.
- Some fees are more costly than Truist, but this is balanced by others that are less costly than Truist.

- The proposal lists that a service fee would be negated by keeping a target balance of $1,750,000 based on a comparison of activity listed in previous statements.

Products and services that do not correlate to current use:

- First Bank does not offer Electronic Lockbox services

Considerations:

- FEMA funds, grant funding, insurance claims, and other electronic payments are set to pay to the existing account. Transitioning to the new account would require the town to contact each payee to update payment information. In some cases, one agency may be authorizing payment but another agency pays the claim. Payment receipts may go to the email of an employee who is no longer with the Town and it may take an extended amount of time to recover the funds if they are rejected.
- There is limited staff to set up the templates, contact vendors and depositors, and update information.
- Payroll is prepared on the Tyler/Encode system and then imported to Truist and uploaded for payment. There would be a short window of time to learn the new system and ensure there is no interruption or delay.
- If a new Operational or General Fund account is opened, the old account would need to remain open for six months (minimum) for outstanding checks to clear. The checks would process through Positive Pay, this would incur duplicate service fees.
- While banking local would allow us to switch from using the night drop for daily cash deposits, this would require an employee go to the bank and wait for the deposits to be processed daily.
- The Town of Black Mountain uses Electronic Lockbox services with Truist Bank. When a customer uses their bank's Billpay service to send a payment to the Town for an invoice, rent, or utility bill a paper check or electronic payment is created. The paper checks arrive by mail and are processed in the Customer Service Department. The electronic payments are received by Truist Lockbox service and deposited into the Town account and imported by the Customer Service Department daily. To avoid an Electronic Payment processing fee, a customer may opt to pay by Billpay. First Bank does not offer Lockbox services. This would convert all electronic payments into paper checks and require customers to change their behavior. Customers would have to send payment a week or more before the due date to ensure the payment is received on time. This service could be supplemented by a third-party vendor.

Recommendation:

- Evaluate service fees at Truist Bank each month. The new ECR and account changes took effect July 1, 2026. If the town continues to accrue service fees, communicate again with bank and if not remediated in three months, revisit the consideration to move the General Fund/Operating Account with a full understanding of what drives the service fees and that it will be negated with the move. The Electronic Payment Policy that passes Merchant Fees on to the customer is changing the behavior of customers.
- Set a target balance for banking to avoid service fees.
- Foster a relationship with First Bank. Open a business checking account with a minimal balance for change orders. If there is a need to a separate checking account for specialized funds, the account should be opened at First Bank.
- Invite First Bank to come onsite for First @ Work program for employees.
- Continue to send RFP requests for loans and services.
- Give First Bank the opportunity to review the Town of Black Mountain Merchant Services.
- Research third-party vendors for Lockbox services, including the ability to intercept paper checks for quicker processing.

BUDGET IMPACT:

Is this expenditure approved in the current fiscal year budget? n/a

If no, describe how it will be funded. n/a

ATTACHMENTS:

1. SERVIS FIRST RFP FOR BANKING SERVICES AND Q AND A FOLLOWUP
2. FIRST BANK RFP FOR BANKING SERVICES

Docusign Envelope ID: E11C3515-2C0B-8D2F-828E-FF34BDE84F64

Required Form – Firm Information

Name of Company

SERVISFIRST BANK

Address

1200 RIDGEFIELD BLVD, STE 254, ASHEVILLE NC 28806

Phone No.828-380-3186

E-Mail Address
TBALDWIN@SERVISFIRSTBANK.COM

Federal I.D. No.
20-2451671

SDBE, Minority or Woman Owned Business Enterprise _____Yes X_____No

Proposal Submitted By: TAMMY BALDWIN
(Name Printed Out)

DocuSigned by:
Tammy Baldwin
38D5B9C12345473...

(Signature)

Title: AVP BUSINESS SERVICES OFFICER

Date: 7/21/2026

Required Form – E-Verify

STATE OF North Carolina
COUNTY OF _____

(the individual attesting below), being duly authorized by and on behalf of ("Employer") after first being duly sworn hereby swears or affirms as follows:

1. Employer understands that E-Verify is the federal E-Verify program operated by the United States Department of Homeland Security and other federal agencies, or any successor or equivalent program used to verify the work authorization of newly hired employees pursuant to federal law in accordance with NCGS §64-25(5).

2. Employers understand that Employers Must Use E-Verify. Each employer, after hiring an employee to work in the United States, shall verify the work authorization of the employee through E-Verify in accordance with NCGS§64-26(a).

3. Employer is a person, business entity, or other organization that transacts business in this State and that employs 25 or more employees in this State. (Mark Yes or No)

a. YES ✓, or
b. NO _____

4. Employer and Employer's subcontractors comply with E-Verify, and if Employer subsequently retains any subcontractors on this project Employer will ensure their compliance with E-Verify.

This ____ day of the 20X6.

Tammy Baldwin

Signature of Affiant
Print or Type Name: Tammy Baldwin
State of NC County of Buncombe
Signed and sworn to (or affirmed) before me, this
the _____ day
of 9/22/26, 20X6.
My Commission Expires: 6/21/27
Notary Public

(Affix Official Notarial Seal)

XXXXXX

Business Chk XXXXXX

Account Analysis Review

Officer: Tammy Baldwin
Date: 07/07/2026
Prepared By: Shawn Coleman

Servis 1st Bank

Activity	Units	Fee Per Unit	Servis1st Fees
Corporate Checking Account			
Monthly Maintenance	1	$ 25.00	$ 25.00
FDIC Fee		$ -	$ -
Negative Collected Balance Charge (SFB Prime + 2%)		$ -	$ -
Deposits	26	$ 0.60	$ 15.60
Deposited Items - On Us	108	$ 0.11	$ 11.88
Deposited Items - Local		$ 0.11	$ -
Deposited Items - Regional/Other		$ 0.11	$ -
Collection Items Deposited - per item*		$ 7.00	$ -
Checks Paid	13	$ 0.25	$ 3.25
Electronic Credits	183	$ 0.15	$ 27.45
Electronic Debits	42	$ 0.15	$ 6.30
Returned Deposited Items (Chargebacks)		$ 10.00	$ -
Courier - Per Pickup/Delivery (BHM Only)		$ 14.00	$ -
Official Check Fee		$ 10.00	$ -
Overdraft Fee*		$ 35.00	$ -
Stop Payment Fee		$ 28.00	$ -
Cash Handling Fees			
Cash Deposits - In Branch per $1,000		$ 1.50	$ -
Branch Currency/Coin Order - per order		$ 3.00	$ -
Armored Services - Cost plus 20%		Cost plus 20%	$ -
Internet Banking			
eServis Business Basic Internet Banking		$ -	$ -
eServis Business Plus Bill Pay	1	$ 15.00	$ 15.00
eServis Corporate Internet Banking - ACH or Wires	0	$ 50.00	$ -
eServis Corporate Internet Banking - ACH & Wires	1	$ 75.00	$ 75.00
eServis Corporate Internet Banking - Low Volume Wires		$ -	$ -
Direct Connect (Quicken,QB,OFX Interface)		$ 15.00	$ -
ACH Services			
Origination Per Item	1556	$ 0.12	$ 186.72
Same-Day Origination Per Item		$ 0.30	$ -
Reversal (Manual) Per Item/File		$ 5.00	$ -
Return Per Item		$ 6.00	$ -
Notification of Change Per Item		$ 3.00	$ -
ACH File Import		$ 5.00	$ -
Direct Send FTP Per ACH File		$ 10.00	$ -
EDI Monthly Reporting, Per Company	1	$ 25.00	$ 25.00
ACH Filter/Debit Block Monthly Fee, Per Account		$ 30.00	$ -
ACH Positive Pay Monthly Fee, Per Account		$ 30.00	$ -
Reconcilement Services			
Check & ACH Positive Pay Maintenance	0	$ 60.00	$ -
Check Reverse Positive Pay Monthly Maint., Per Account	1	$ 25.00	$ 25.00
Check Positive Pay Upload, Per File		$ 0.50	$ -
Check Positive Pay Per Issued Check Item		$ 0.09	$ -
Check Positive Pay Per Payee Name Verification Item		$ 0.09	$ -
Check Positive Exception Item		$ 4.00	$ -
Reverse Positive Pay & ACH Positive Pay		$ 50.00	$ -
Check Positive Pay		$ 25.00	$ -
Full Recon including Check Positive Pay Monthly Fee	1	$ 125.00	$ 125.00
CD-Rom Check Imaging Monthly Fee		$ 15.00	$ -
Remote Deposit Services			
Remote Deposit Now (per scanner)	1	$ 50.00	$ 50.00
Mobile Remote Deposit Capture	1	$ 25.00	$ 25.00
Remote Deposit – per Deposit	5	$ 1.00	$ 5.00
Remote Deposit – per Deposited Item		$ 0.10	$ -
Sweep Services			
Line of Credit Sweep (Parent Acct) - monthly		$ 230.00	$ -
Line of Credit Sweep (per Child/Sub Acct) - monthly		$ 25.00	$ -
Money Market Sweep (Parent Acct) - monthly		$ 75.00	$ -
Money Market Sweep (per Child/Sub Acct) - monthly		$ 25.00	$ -
Zero Balance ZBA Sweep (Parent Acct) - monthly		$ 140.00	$ -
Zero Balance ZBA Sweep (per Child/Sub Acct) - monthly		$ 25.00	$ -
Wire Transfer Services			
Incoming Wire - Domestic *		$ 12.00	$ -

Incoming Wire - International (Foreign Currency)*		$ 20.00	$ -
Incoming Wire - International (US Dollars)*		$ 20.00	$ -
Outgoing Wire - Domestic/International USD (In-Person)*		$ 24.00	$ -
Outgoing Wire - Domestic/International USD/FX (Phone/Email)*		$ 100.00	$ -
Outgoing Wire via Internet Banking - Domestic or FX**		$ 8.00	$ -
Outgoing Wire via Internet Banking - Low Volume		$ 20.00	$ -
Outgoing Wire via Internet Banking - International USD**		$ 20.00	$ -
Drawdown Wires		$ 50.00	$ -
Returned Wires Fee*		$ 10.00	$ -
Lockbox Services (IBML)			
Lockbox Implementation Fee (One-Time)		$ 375.00	$ -
Online Image Archive Implementation Fee (One-Time)		$ 150.00	$ -
Lockbox Monthly Maintenance		$ 230.00	$ -
Online Image Archive Monthly Maintenance		$ 115.00	$ -
Per Item Processing - Wholesale		$ 0.52	$ -
Per Item Processing - Retail Singles		$ 0.17	$ -
Per Item Processing - Acceptable Payees		$ 0.06	$ -
Per Item Processing - Unprocessable/Correspondence		$ 0.29	$ -
Fields Keyed/Captured		$ 0.12	$ -
Per Duplex Image - Check, Page, Envelope		$ 0.12	$ -
Online Image Archive - Per Duplex Image (check,page,envelope)		$ 0.030	$ -
Per Claim - EOB/ERA		$ 0.58	$ -
Custom Sort - Per Item		$ 0.06	$ -
End of Day/Custom Report Monthly		$ 35.00	$ -
Transmission/Posting File - per day		$ 14.00	$ -
Per Item - Document Destruction		$ 0.003	$ -
Package Return/Postage		At $ Cost	$ -
Online Access - per user (up to 3 free)		$ 6.00	$ -
Post Office Pickup (client-owned/keyed box)		$ 115.00	$ -
Other/Misc		$ -	$ -
	Analysis Fees		$ 621.20
	Less Earnings Credit		$ (1,014.55)
	Net Analysis Fees		$ (393.35)
	Net Fees (Must be > $0.00)		$ (393.35)
	*Plus Hard Dollar Charges		$ -
	Total Fees for Comparison		**$ (393.35)**

All fees are subject to analysis unless otherwise noted
**Denotes hard dollar charge*
***Fee analyzed if initiated via online banking*

ServisFirst
ECR 0.50%

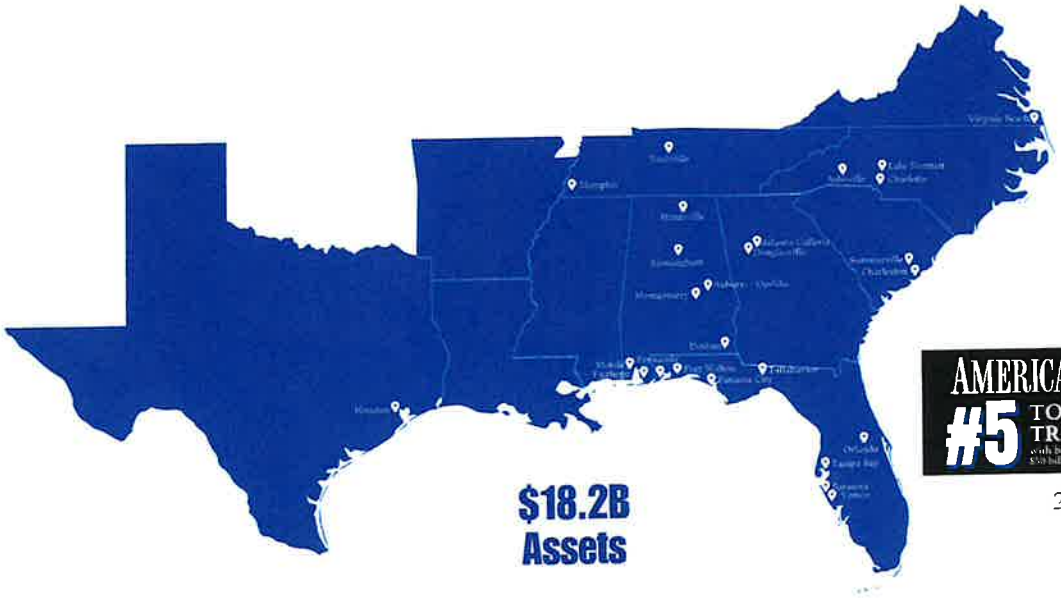
Average Collected Balance	$	2,699,283.00
- Reserve Requirement	$	269,928.30
Average Net Collected Balance	$	2,429,354.70
Earnings Credit Rate		0.50%
Average Net Collected Balance to offset ServisFirst Fees	$	1,487,466.48
Overage/(Shortfall) to offset fees	$	941,888.22
Could have covered fees of	$	1,014.55
Cover/(Short) fees of	**$**	**393.35**

Monthly Savings with Servis1st
Annualized Savings with Servis1st

Servis 1st Bank

First Quarter 2026

ServisFirst Bank is a full-service commercial bank focused on commercial banking, correspondent banking, treasury management, private banking and the professional consumer market, emphasizing competitive products, state of the art technology and a focus on quality service. In first quarter 2026, The bank reported total assets of 18.2 billion. ServisFirst Bank offers sophisticated cash management products, internet banking, home mortgage lending, remote deposit express banking, international banking, and highly competitive rates.



2025

2025

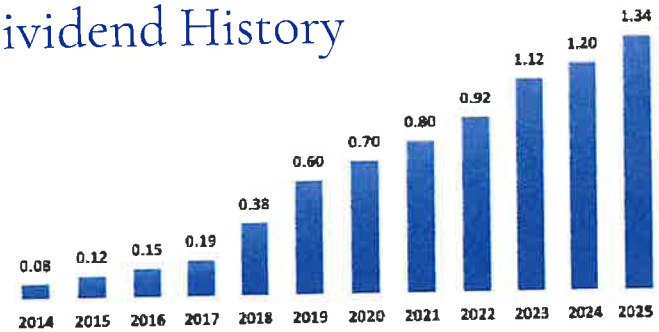
2023

News

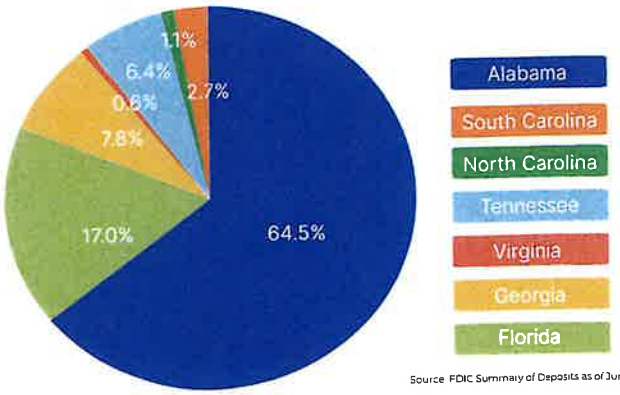
ServisFirst Bank was ranked among the top 10 U.S. public banks in S&P Global Market Intelligence's 2025 financial performance rankings, reflecting the Bank's operating results. The annual evaluation reviewed banks with more than $10 billion in total assets, comparing performance across key financial indicators using calendar-year data.

Earning a place among the top 10 reflects ServisFirst Bank's consistent performance and disciplined approach across all areas of the organization. This honor not only highlights the dedication of our team but also showcases the ongoing commitment to delivering long-term value to clients, communities, and shareholders.

Dividend History



Summary of Deposits



Source: FDIC Summary of Deposits as of June 30, 2025

Servis1st Bank

Contact ServisFirst Bank

Website	Phone	Address
	866.317.0810	ServisFirst Bank Headquarters 2500 Woodcrest Place Birmingham, AL 35209

ServisFirst Bancshares, Inc

	Three Months Ended March 31,		Year Ended December 31,				
	2026	2025	2025	2024	2023	2022	2021
Period-End Balances ($ in thousands)							
Balance Sheet Highlights							
Cash and Cash Equivalents	$ 1,836,622	$ 3,349,720	$ 1,626,696	$ 2,376,634	$ 2,131,088	$ 816,053	$ 4,222,096
Investment Securities	1,684,421	1,905,550	1,728,901	1,876,253	1,882,847	1,678,936	1,305,527
Loans	13,945,913	12,886,831	13,696,912	12,605,836	11,658,829	11,687,968	9,532,934
Total Assets	18,171,287	18,636,766	17,727,190	17,351,643	16,129,668	14,595,753	15,448,806
Noninterest Bearing Demand Deposits	2,836,622	2,647,577	2,684,272	2,619,687	2,643,101	3,321,347	4,799,767
Interest Bearing Deposits	11,649,742	11,781,484	11,534,762	10,923,772	10,630,410	3,321,347	4,799,767
Total Deposits	14,486,364	14,429,061	14,219,034	13,543,459	13,273,511	11,546,805	12,452,836
Stockholders' Equity	1,912,537	1,668,900	1,849,847	1,616,772	1,440,405	1,297,896	1,152,015
Performance Measures							
Net Income	$ 82,971	$ 63,224	$ 276,603	$ 227,242	$ 206,853	$ 251,504	$ 207,734
Return on Average Assets	1.89 %	1.45 %	1.56 %	1.39 %	1.37 %	1.71 %	1.53 %
Return On Average Common Stockholders' Equity	17.91	15.63	16.05	14.98	15.13	20.73	19.26
Capitalization							
Tangible Common Equity to Total Tangible Assets	10.46 %	8.89 %	10.37 %	9.25 %	8.85 %	8.81 %	7.45 %
Tier 1 Capital to Risk-Weighted Assets	11.87	11.48	11.66	11.42	10.91	9.55	9.95
Common Equity Tier 1 Capital to Risk-Weighted Assets	11.86	11.48	11.65	11.42	10.92	9.55	9.96
Total Capital to Risk-Weighted Assets	13.13	12.93	12.93	12.9	12.45	11.03	11.58
Tier 1 Capital to Average Assets	10.71	9.48	10.26	9.59	9.12	9.29	7.39
Asset Quality (%)							
Net charge-offs to Average Total Loans	0.25 %	0.19 %	0.21 %	0.09 %	0.01 %	0.08 %	0.03 %
Nonperforming Loans to Total Loans	1.28	0.57	1.23	0.34	0.18	0.15	0.25
Nonperforming Assets to Total Assets	1.00	0.4	0.97	0.26	0.14	0.12	0.05
Allowance to Total Loans	1.25	1.28	1.25	1.3	1.32	1.25	1.22
Other Information							
Yield on Average Earning Assets*	5.75 %	5.69 %	5.78 %	5.97 %	5.56 %	3.94 %	3.18 %
Cost of Funds*	2.37	2.95	2.87	3.39	2.95	0.66	0.26
Interest Spread*	2.84	2.12	2.34	1.84	1.83	2.96	2.82
Net Interest Margin*	3.53	2.92	3.12	2.82	2.81	3.32	2.94
Book Value per Share	$ 34.99	$ 30.57	$ 33.87	$ 29.63	$ 26.45	$ 23.89	$ 21.24
Number of Full-Service Offices	33	33	33	33	30	26	23
Number of Employees (Full-Time Equivalent)	668	636	666	630	591	571	502

*FTE – fully taxable equivalent

This document contains statements related to dividends that are not based on historical facts and constitute "forward-looking statements" within the meaning of the Private Securities Litigation Reform Act of 1995. By nature, such forward-looking statements are based on various assumptions and involve inherent risks and uncertainties that could cause actual results to differ materially from those expressed in or implied by the forward-looking statements. Among other risks, there can be no guarantee that the board of directors of ServisFirst Bancshares, Inc. will approve a quarterly dividend in future quarters, and the timing, payment, and amount of future dividends (if any) may differ significantly from past dividends. ServisFirst Bancshares, Inc. cautions that such forward-looking statements, wherever they occur in this document or in other statements attributable to ServisFirst Bancshares, Inc., are necessarily estimates reflecting the judgment of ServisFirst Bancshares, Inc.'s senior management and involve a number of risks and uncertainties that could cause actual results to differ materially from those suggested by the forward-looking statements. For discussion of these and other risks that may cause actual results to differ from expectations, please refer to "Cautionary Note Regarding Forward-looking Statements" and "Risk Factors" in our most recent Annual Report on Form 10-K, in our Quarterly Reports on Form 10-Q, and our other SEC filings. If one or more of the factors affecting our forward-looking information and statements proves incorrect, then our actual results, performance or achievements could differ materially from those expressed in, or implied by, forward-looking information and statements contained herein. Accordingly, you should not place undue reliance on any forward-looking statements, which speak only as of the date made. ServisFirst Bancshares, Inc. assumes no obligation to update or revise any forward-looking statements that are made from time to time. More information about ServisFirst Bancshares, Inc. may be obtained over the Internet at www.servisfirstbancshares.com

Member FDIC

FIRST BANK

Deposit & Treasury Proposal

Comprehensive Banking Services

July 23, 2026

Presented By

Charlene Baker, VP
Branch Manager
Black Mountain, NC 28711
828-669-8432
charlene.baker@localfirstbank.com

Stephanie Franklin, SVP
Treasury Services Sales Officer
Asheville, NC 28801
828-423-2701
sfranklin@localfirstbank.com

FIRST BANK

REQUEST FOR TREASURY PROPOSAL

COMPREHENSIVE BANKING SERVICES

July 23, 2026

Table of Contents

WHO WE ARE 4

OUR CULTURE 6

WORKING WITH US 7

RECOMMENDATION SUMMARY 8

ONLINE BANKING & ADDITIONAL TREASURY SERVICES 9

MASTERCARD BUSINESS CARD WITH REWARDS 12

EMPLOYEE BENEFITS 13

FEE SCHEDULE 14

July 23, 2026

Greta Gibson
Town of Black Mountain
160 Midland Ave
Black Mountain, NC 28711

Dear Greta:

Thank you for the opportunity to present our products and services. First Bank is committed to providing our customers with innovative technology, personal service, and access to decision-makers. We believe you will see the benefits of this winning combination.

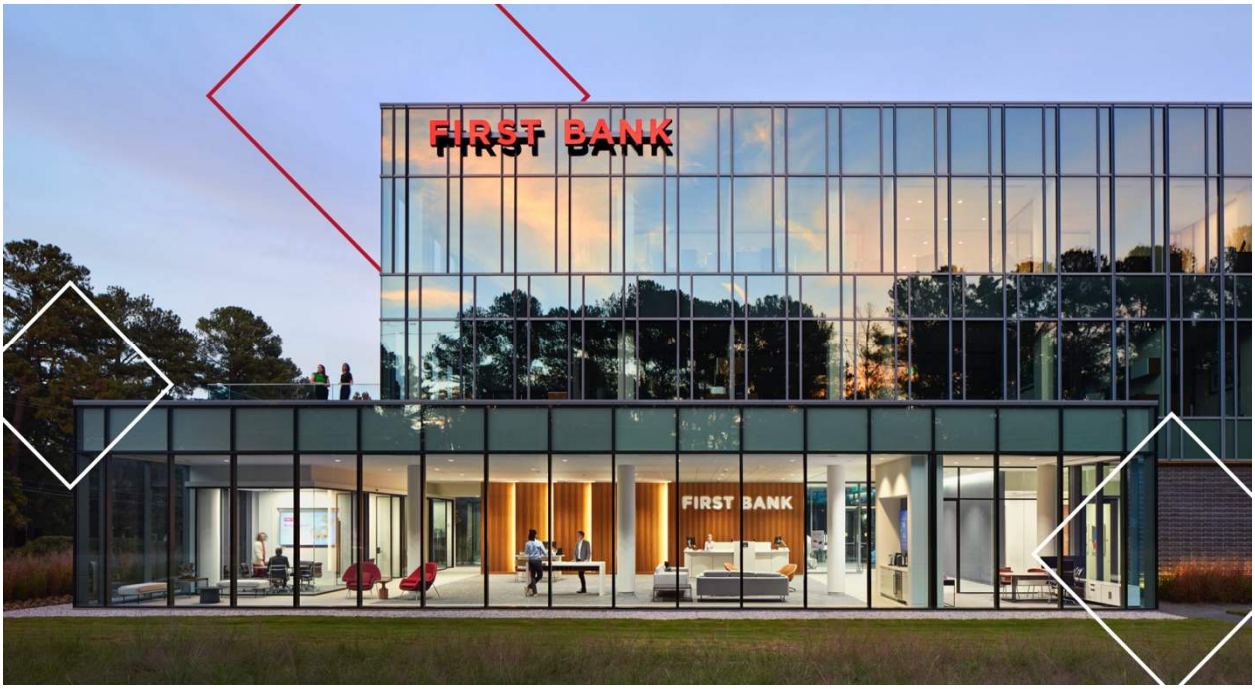
- The personal service of a community bank
- The variety of products to help you efficiently manage your finances
- The financial strength to ensure we will be your long-time financial partner

First Bank prides itself on having the best people backed by the right technology, products, and services. We understand your desire to control expenses, operate efficiently, and maximize earnings and are confident that we can support you with the quality service you deserve.

Sincerely,

Charlene Baker
Branch Manager
First Bank

Stephanie Franklin
Treasury Services Sales Officer
First Bank



“To be the best community bank in every community we serve and through every delivery channel we offer”

Who We Are

We were founded in 1935 and have grown into the largest independent community bank headquartered in North Carolina. Today we offer a full suite of financial services — from lending to checking, mobile tools, to payroll services. After decades of providing personalized service, our mission has remained the same: to help our communities and customers achieve financial independence, to prosper, and to pursue the passions that drive their dreams.

4th
largest bank headquartered in NC (largest community bank)

$12.7
billion in assets

$8.7
billion in loans

$10.7
billion in deposits

Corporate Profile

- Our headquarters is located in Southern Pines, NC.
- We operate more than 110 branches across the Carolinas, from the mountains to the coast.
- First Bancorp, our holding company, is traded on the NASDAQ Global Select Market under the symbol "FBNC."
- First Bank subsidiaries include Magnolia Financial and CarBucks Floor Plan.

Our History

1935 Opened as Bank of Montgomery in Troy, NC

1985 Name changed to First Bank

1987 Traded publicly on the NASDAQ under the symbol "FBNC"

2003 Expansion into South Carolina through acquisition of Carolina Community Bank with three branches in Dillon County

2009 Acquisition of Cooperative Bank ($974M in assets) and addition of 18 branches

2011 Acquisition of Bank of Asheville ($200M in assets) and addition of five branches

2013 Headquarters moved to Southern Pines, North Carolina

2017 Acquisitions of Carolina Bank ($706M in assets) and Asheville Savings Bank ($803M in assets), adding 20 branches and a Triad regional headquarters

2019 Recognized by *Fortune* as one of the Top 100 Fastest-Growing Companies and by *Forbes* as a Best-In-State Bank in North Carolina

2020 Recognized again by *Forbes* as the Best-In-State Bank in North Carolina

2021 Opened Triangle regional headquarters in Raleigh and once again topped the *Forbes* Best-In-State list for North Carolina

2022 Acquisition of Select Bank & Trust ($1.8B in assets) and addition of 11 branches
Ranked #18 in S&P Global Market Intelligence's Top 50 Public Banks

2023 Acquisition of GrandSouth Bank ($515M in assets) and addition of 8 branches across South Carolina

Our Culture

Our Promise to Service Excellence

Our corporate culture is centered on Service Excellence. We commit to Safety and Soundness, Knowledge and Accuracy, Courteous Service, and providing Convenience and Ease so that our customers choose when, where, and how they do business with us.

Corporate Citizenship

We are the bank for people who believe in the Power of Good. For nearly 100 years, we have been changing lives by giving communities access to the financial services and support they need. Through our Power of Good corporate citizenship program, we invest in the power of people to move our communities forward. At its heart, The Power of Good aims to make a tangible, long-term difference in people's lives, to engage and energize associates and customers, and to build upon the bank's reputation as a pillar of support in communities across the Carolinas.

Read more on our initiatives at: localfirstbank.com/powerofgood

Working With Us

At First Bank, you will enjoy one-on-one attention and comprehensive support from our entire team of business experts. You are not just another number in a database —you are a partner.

You will also learn firsthand how powerful working with an independent bank can be — capable of delivering everything the big banks can — but with a unique agility and unparalleled personalization.

Business Services
First Bank offers a wide range of business banking and government services from deposit and loan services, credit cards, and treasury services including electronic funds transfers (ACH), online wires, Remote Deposit Capture, and Positive Pay. We partner with BASYS Processing for merchant processing.

Recommendation Summary

Commercial Analysis Account with Investment Sweep - Operating Account

Based on the information received, we recommend our Commercial Analysis account type for your general operating account. With this account type, an earnings credit, based on monthly average collected balance, is used to offset some or all activity fees. First Bank is happy to offer an Earnings Credit Rate of 1.00% APY.

The following services are included:

- ACH Services ($25/month + $0.10 per transaction)
- Remote Deposit Capture ($75/month)
- Check Positive Pay ($75/month)
- ACH Positive Pay ($50/month)
- Account Recon ($25/month – master account, $10/month – sub account)
- Online Wires (Per wire fee – Domestic $15, International $45)
- Direct File Transmission/SFTP ($25/month)
- Investment Sweep ($125/month)

Sweep to Commercial Investment Account:

The Sweep account eliminates the need to manually transfer balances to an interest-bearing account. A target balance of $1,750,000 would remain in the Operating Account to offset fees. Balances over that amount would sweep automatically to the interest-bearing account, earning 1.25%APY. When balances fall below the $1,750,000 target in the Operating Account, funds are swept back to it to maintain the target balance. The Sweep account eliminates the need to manually transfer balances back and forth between the checking account and the interest account while allowing for a maximum return.

Based on statements provided:

- *Minimum/Target balance of $1,750,000 in Operating offsets fees with ECR of 1.00%*
- *Estimated monthly fee of $0 on Operating account with minimum balance maintained*
- *Excess funds sweep to investment account earning 1.25%APY*

Online Banking

First Bank's system is internet driven and requires no special software.

Features include:

- Up to 18 months of cleared transaction history
- Previous day's activity available following day, with some available same day
- Online statements and advanced search capabilities
- Online check images (front and back)
- Real-time, online stop payments
- Initiate Domestic Online Wire Transfers until 5:30 pm with the ability to retain information for recurring wires
- Make tax payments using EFTPS
- Robust user entitlements including approval authority levels
- Online banking administrator(s) are set up with access to set up new users
- Transfers between First Bank accounts are real-time and can be made up to 8:00 pm for same-day credit
- Ability to establish dual approvals for fund transfers, ACH transactions, or wires
- Ability to set up the use of Secure Access Codes (SAC) for transactions
- Quick downloads of all cleared items
- Online Demo available via our website (www.localfirstbank.com)
  Click on Business, then search for Treasury Services Hub

Security

- First Bank has multiple control factors in place to protect your information and prevent our systems from being compromised. These layers have protected our systems; however, we continue to evaluate and update controls as technology changes. Online banking is protected using:
  - Multifactor authentication (MFA): This is a security system in which more than one form of authentication is implemented to verify the legitimacy of an attempt to log in online. In contrast, single factor authentication (SFA) involves only a user ID and password.
  - Web browser is required to have 128-bit encryption capability. This feature helps prevent anyone from "eavesdropping" on your data as it travels between you and the bank. As a user, you don't have to do a thing except make sure you have a version of a web browser that can participate in this process.
  - In addition to your personal password security, we provide an additional security measure with Secure Access Codes. Secure Access Code strengthens the safeguards in place at login by adding steps to verify your identity.

Treasury Tools

Account Structure

Automate the cash flow between operating accounts, investment, or credit facilities, to maximize efficiency and optimize cash on hand

Options Include:

- Investment Sweep (recommended)
- Zero-Balance Account: Primary and Sub-accounts
- Line of Credit Sweep

Electronic Payments

All ACH tools (Collections, Payments, Payroll) may be created in a template or freeform format, or by uploading a file within your First Bank online banking system. These transactions may also be set up to reoccur for an indefinite or finite period. First Bank's online banking system accepts all NACHA formatted files. Our system provides clear confirmation of file submission and several options for file approval. Upon submission of the file you have the option of notifying an approver that the file is ready. With our mobile options, the approver has the option of authorizing the transaction using their mobile smartphone.

Remote Deposit Capture

This time-saving product allows you to make deposits into your First Bank account electronically. All you need is an internet-enabled PC or Mac with a browser and a check scanner.

Features Include:

- Deposits can be made for multiple accounts using the same scanner
- State-of-the-art recognition software to capture the check image and amounts
- Dual Approval capability to release deposits to the bank
- Make deposits until 6:00 pm on the business day for same-day credit
- Easy image search and retrieval
- No detail input necessary, our scanner reads the dollar amount on each check

ACH Positive Pay

ACH Positive Pay helps guard against unauthorized electronic activity. Any ACH item that does not meet the authorized vendor parameters specified by the customer will have to be approved for payment.

Features Include:

- Define preauthorized ACH transaction rules for each account
- Parameters include originating company and transaction type
- Customer defined cap for the maximum authorized dollar amount, if requested
- Daily cutoff of 11:00am EST
- Email and/or text notification of exception items
- Items are returned if no decision is made.

Check Positive Pay

Check Positive Pay compares each check presented for payment against the customer's issued check file. Customer can view images of checks before deciding which items to pay or return, monitor daily incoming clearings and return fraudulent items.

Features Include:

- Single sign-on with our online banking
- Customizable issued check file – we map to your file
- Manual check entry available
- Real-time recognition of entered checks in bank systems to accommodate quick check-cashers
- Email and/or text notification of exception items
- Items are returned if no decision is made.

Account Reconciliation

First Bank offers both full and partial account reconciliation and check serial sort. Our account reconciliation service includes secure file transmission of all cleared items and detailed account reconciliation reports which can be customized based upon your requirements. File transmission is available electronically in the following formats: CSV, Excel, and BAI2.

Merchant Services

Our partner-provider, BASYS Processing , will be delighted to provide a proposal based on current statements.

Mastercard Business Card with Rewards

A First Bank Mastercard® Business Card with Rewards provides the financial freedom to make everyday and monthly business purchases in a convenient and secure way.

- With our Mastercard Business Card with Rewards, you can **earn 1.25 points for every $1 spent** on qualified purchases. Calculate your points from everyday and monthly purchases with our online rewards calculator.
- Employee liability protection program that protects companies and financial institutions from employee misuse of charge privileges.
- Protect yourself from fraudulent use of your card information online when you register your card with Mastercard SecureCode™.
- You have 26 days when you're not charged interest for purchases you've made, so long as you pay your balance in full on time.
- With our Mastercard Business Card with Rewards, you'll receive a year-end account summary, a convenient tool for accounting and tax preparation which helps you identify and manage your personal spending trends and patterns.
- 0% introductory APR for the first 6 months for new cardholders. After 6 months, a variable rate will apply.

Employee Benefits

First@Work for all Employees with Direct Deposit

As a benefit to your employees, we offer our First@Work package. First@Work features checking, savings, credit, and financial wellness tools with built-in benefits. The highlights of this program are below:

Checking & Savings

- Checking account with no monthly maintenance fee with a direct deposit
- One free overdraft annually
- One free order of checks
- No-hassle savings account when you set up a $10/month auto-transfer or maintain a minimum daily balance of $300

Peace of Mind

- IDProtect® – Identity Theft Monitoring and Resolution service that includes:
  - Credit file monitoring
  - Up to $10,000 identity theft expense reimbursement coverage
  - And more!
- Cell phone protection

Financial Wellness

- Personal financial management tool
- Financial education tool

Convenience

- More than 100 branch locations across the Carolinas
- No First Bank fees at out-of-network ATMs plus with our ATM fee rebates we will refund up to $15/month of fees charged by other ATM owners
- Free digital banking and free mobile app with check deposit and Zelle®

***First @ Work Flyer attached*

Fee Schedule

FIRST BANK ANALYSIS		
Monthly Maintenance	$20.00	per month
Deposit Ticket Charge	$0.60	per ticket
Checks Paid	$0.20	per item
Deposited Items	$0.15	per item
POS Debits	$0.30	per item
Cash Deposits	$0.18	per $100 of deposited
ACH Debits	$0.20	per debit
ACH Credits	$0.35	per credit
Straps of Currency Chg	$0.75	per strap
Rolled Coin Chg	$0.12	per rolled coin
Disposable Night Deposit Chg/Drop Charge	$2.00	per bag
Return Check Charge	$7.00	per item
Return Checks Special Charge	$10.00	per return item
Incoming wire transfers	$18.00	per item
Domestic Wire Transfers (in branch)	$25.00	per transfer
International Wire Transfers (in branch)	$55.00	per transfer
Stop Payment	$35.00	per item
TREASURY SERVICES		
Remote Deposit Capture (RDC) <100 items	$35.00	per month
Remote Deposit Capture (RDC) 100-500 items	$50.00	per month
Remote Deposit Capture (RDC) >500 items	$75.00	per month
Anytime Deposit (RDC Mobile Feature)	$2.50	per user per month
Commercial Treasury Online Platform (includes up to 40 entities)	$40.00	per month
Online Domestic Wire Transfers	$15.00	per transfer
Online International Wire Transfers in USD	$45.00	per transfer
ACH Originator Monthly Maintenance	$25.00	per month per TIN
ACH transactions	$0.10	per debit or credit
ACH Same Day Transactions	$1.00	per item
ACH Returned Items & Notice of Change	$5.00	per item
Positive Pay (Check with Payee Match)	$75.00	per month
Positive Pay (ACH & Reverse)	$50.00	per month
Positive Pay - suspect items	$0.10	per suspect item
Account Reconciliation	$50.00	per month
Account Recon - item fee	$ 0.06	per issue item
Direct Transmission	$25.00	per month per TIN per file type transmitted
Direct Transmission Implementation	$200.00	one-time per transmission setup
Commercial Courier Transport Services – priced upon request		per month
Commercial Courier Vault Monthly Maintenance	$75.00	per month per TIN or safe
Commercial Courier Cash Safe Provisional Credit	$0.10	per $100 deposited
Bulk Statement Delivery - Web-CD	$20.00	per month per TIN

Bulk Statement Delivery - Web-CD Item	$0.06	per item
Commercial Investment Sweep	$125.00	per month
Commercial Line of Credit Sweep	$125.00	per month
Zero Balance Account Master Account	$25.00	per month
Zero Balance Account Sub Account	$10.00	per month
DACA Implementation	$1,000.00	one-time at setup
DACA Monthly Monitoring	$150.00	per month per acct
Lockbox Services – priced upon request		per month
Merchant Processing – priced upon request		Per month
Print & Mail Services – priced upon request		Per month

Town of Black Mountain

Request for Proposals
Banking Services

Responses Due: July 24, 2026

Email: greta.gibson@tobm.org
or Mail/Deliver
Town of Black Mountain Customer Service Department
Attn: Greta Gibson
160 Midland Ave
Black Mountain, NC 28711

Request for Proposals for Banking Services

Section I – General Information

The Financial Services Department of The Town of Black Mountain (The Town) requests that qualified and interested banking institutions that operate within the legal jurisdiction of The Town submit proposals for providing certain banking services. Each proposal submitted shall be expected to respond to each consideration set forth in this Request for Proposal (the "RFP").

OBJECTIVE

The Town desires to select a reputable financial institution to manage its deposits, provide core banking services, and make available certain other related financial services to The Town for its benefit and the benefit of the citizens it serves.

This RFP is organized into several separate sections. This first section provides a general overview of the selection process, terms and conditions, and basic requirements. All candidates must provide the Required Financial Information as well as the information required in the RFP section. The RFP will have more specific terms and additional conditions and mandatory requirements.

EVALUATION AND SELECTION PROCESS

The selection process will be based on the responses to this RFP. A committee, comprised of members from the Financial Services department and other selected staff of The Town, will evaluate responses. Efficient and cost-effective integration of services will be considered.

The following will be the basic criteria for evaluating all responses.

The full cost of implementation will be considered, which includes software installation, data transmission file setup and other initial one-time implementation fees.

Basic Selection Criteria:

1. Ensure all proposal requirements, conditions and instructions are met as set forth in this RFP.
2. Ensure financial stability by reviewing financial statistics and other financial information provided by the institutions.
3. Review references, verifying exemplary service levels for similar banking and financial services and evaluate experience with governmental entities or private companies of similar complexity. Prior experiences with The Town will be strongly considered.
4. Ensure the institution is equipped to best address the technological needs of The Town.
5. Ensure the institution best addresses the overall goals, objectives, and mandatory service requirements as outlined in this document.
6. Ensure the institution provides service effectively and efficiently, which includes designating a specific Account Executive and/or support staff for The Town.
7. Ensure that the overall banking services are the most cost advantageous. The full cost of implementation will be considered during the selection process.

   The Town reserves the right to reject any or all proposals, to waive any non-material irregularities or informalities in any proposal, to request additional clarification of proposals, to be the sole judge of the suitability of the services for its intended use and further, specifically reserves the right to make the award in the best interest of The Town.

TERMS AND CONDITIONS

The contractual period to be approved by The Town Council with the chosen firm(s) will be for a five-year term beginning approximately September 1, 2026. Up to three, three-year extension periods may be granted at the sole discretion of The Town at the prices proposed by or negotiated with the successful firm. A formal contract will be used and shall control subject to specifications, requirements, and conditions contained herein.

The Town shall retain the right to cancel the contract at any time for cause. Such cancellation will generally result from the failure of the contracted institution to complete or provide the specified services, or by a violation of the Mandatory Requirements (listed below). The Town shall retain the right to cancel the contract at any time without cause with 90-day notice.

Any and all costs associated with the preparation of a response to this RFP are the responsibility of the candidate and are not to be passed on to The Town.

The specific details shown herein shall be considered minimum unless otherwise indicated. The specifications, terms and conditions included with this RFP shall govern in any resulting contract(s) unless approved otherwise in writing individually by The Town. Candidates must consent to personal jurisdiction and venue in a state court of competent jurisdiction in Buncombe County, North Carolina.

MANDATORY MINIMUM REQUIREMENTS

There are certain minimal requirements for the institutions involved in providing any financial services referred to herein. Specific reference to each must be provided in the general response section as detailed in the instructions below. It is expected that the chosen firm will exceed these qualifications. Firms shall:

1. Be a Federal Deposit Insurance Corporation (FDIC) insured institution;
2. Be online with the Federal Reserve Bank for funds and securities;
3. Have experience with large volume customers of similar complexity;
4. Be an Equal Opportunity Employer;
5. Comply with mandatory requirements according to the type of service specified in the RFP for Core Banking Services;
6. Comply with all other requirements specified in this RFP.

Section II – Required Financial Information

The following is the required financial information to be provided by **all** candidates responding to
any section of the RFP.

- Provide the current ratings for the candidate from each of the following agencies if rating the institution: Fitch Ratings Ltd., Moody's Investors Service and Standard & Poor's.
  First Bank is not rated by any of the three agencies listed above.
- If a subsidiary, please indicate the exact legal corporate name of each entity providing any of the services requested in this RFP.
  First Bank is the exact legal corporate name.
- To ensure compliance with the Financial Reform, Recovery and Enforcement Act (FIRREA), the bank will need to formally approve the banking contract.
  First Bank can comply.
- List three references including any governmental units and other companies that have similar volume and complexity. Please include contact, name, title, address, phone number, email address, and years serviced.
  References are listed below:
  - County of McDowell, NC
    Alison Bell, Finance Director
    60 E. Court Street
    Marion, NC 28752
    amorgan@mcdowellgov.com
    828-652-2235
    8 years of service
  - Blue Ridge Community College
    Carolyn Alley, CFO
    180 W. Campus Dr.
    Flat Rock, NC 28731
    c_alley@blueridge.edu
    828-694-1730
    7 years of service
  - County of Anderson, SC
    Jason Phillips, Treasurer
    PO Box 8002
    Anderson, SC 29622
    jphillips@andersoncountysc.org
    864-260-6342
    28 years of service

- State the method of collateralization ("Dedicated Method" or "Pooling Method") used for public deposits.
  First Bank uses the Pooling Method.
- Clearly describe any services that are provided by third parties, identifying the parties providing the service.
  First Bank uses BASYS Processing for Merchant Services.
  First Bank uses Deluxe for Lockbox Services.

Please include the following information as an attachment:

- Provide one copy of its most current audited annual report and Form 10-K filed with the SEC. The annual report should contain at least three years of comparative financial data.
  Each of the above reports contain many pages. This information can be found by visiting our Investor Relations website at: First Bancorp - Investor Relations
- Provide one copy of its most current quarterly report and Form 10-Q filed with the SEC.
  Same as above
- The candidate must include with their response; copies of all agreements needed in accordance with the provision of services to The Town. These will be reviewed and approved by The Town legal counsel.
  Copies of our agreements are included in the RFP Response Packet.

Section III – Core Banking Services

MANDATORY INSTITUTION AND SERVICE REQUIREMENTS

The Town of Black Mountain desires to select a reputable financial institution to manage its deposits and provide core banking services. In addition to providing the Required Financial Information previously described, please respond to each of the following items.

GENERAL REQUIREMENTS

1. Be a FDIC insured institution.
   First Bank is FDIC insured.
2. Be online with the Federal Reserve Bank for funds and securities.
   First Bank is online with the Federal Reserve Bank.
3. A full service branch of the institution must be located within the boundary of Buncombe County, North Carolina. Bank branches must be located within the vicinity of the main administrative location, and other locations.
   Black Mountain branch location:
   300 West State St.
   Black Mountain, NC 28711
   828-669-8432
4. Be a qualified depository for public funds in accordance with North Carolina General Statutes (hereafter "G.S.") specifically Chapter 159, Article 3 – The Local Government Budget and Fiscal Control Act (the "LGBFCA"), primarily G.S. 159-31 – Selection of Depository; Deposits to be Secured and the North Carolina Administrative Code Title 20 – State Treasurer, Chapter 7 – Collateralization Of Deposits under either the "Dedicated Method" (formerly option 1) of collateralization or the "Pooling Method" of collateralization (formerly option 2). The publication "**Collateralization of Public Deposits in North Carolina**" is available at www.nctreasurer.com under "Financial Operations".
   First Bank is a qualified depository for public funds in accordance with North Carolina General Statutes.
5. All funds deposited shall earn interest. Balances remaining at the end of each day in the main operating account shall be invested overnight at a competitive rate in an interest-bearing checking account. Please provide the Bank's current earnings credit rate as well as the Bank's methodology for determining and adjusting the earnings credit rate. What other additional secure, short-term investment products does the Bank offer? Please include any balance requirements or restrictions on the amount of draws related to these products.
   Per email received from Greta Gibson on 7/8/26, interest is not expected or required. First Bank will pay the Town of Black Mountain an Earnings Credit Rate (ECR) of 1.00% on operating funds. In addition, First Bank is offering a sweep account at 1.25% APY, even though interest is not expected or required by the Town.
6. The Town may have activities that need to be maintained separately. There needs to be options for separate interest-bearing accounts.
   First Bank can comply and has multiple options for interest-bearing accounts

7. All account balances shall always be available for investment by The Town.
   First Bank can comply.

DEPOSITS

8. Monies deposited in the bank by 5:00 p.m. shall be processed and credited for same-day credit. Remote deposits must be available next day.
   Other monies, such as maturing investments, shall be given immediate credit and availability. Collected funds credit shall be given to checks drawn on the United States Treasury, Federal Reserve and the State of North Carolina. The bank shall provide collected funds credit for checks drawn on the United States Treasury, Federal Reserve and State of North Carolina.
   First Bank can comply.
9. Forward all returned deposit items to an authorized representative of The Town. Provide a return item report via on-line banking, which includes ACH and traditional check returns.
   First Bank can comply.
10. Provide onsite image capture deposits.
    First Bank offers Remote Deposit Capture service.

ONLINE SERVICES

11. Provide an online banking services package. Bank shall provide all software required to provide these services and to access all required reports. Detailed requirements are listed below. If online services are down, provide an acceptable backup method via telephone or email for each online requirement listed herein. All online services and options must be accessible 8 a.m. – 5 p.m., seven days per week.
    First Bank provides an online banking services platform which is available 24 hours a day, seven days a week.
12. Describe how the Bank limits access to the Bank's online system to known Town and selected other IP addresses?
    First Bank cannot limit access by IP Address(es) to the Bank's online system.
13. Provide the following report types online.
    a. Detailed transaction and balance reports – Report should show the previous day's detailed transactions, which include listings of all debits and credits impacting the accounts. Report should have the ability for user to establish a minimum threshold for viewing either debits or credits or both and may have separate thresholds for electronic and paper entries. Reports should be accessible for six prior business days. Reports should be able to download into Excel with detailed transactional information.
       First Bank's online banking platform provides the above.
    b. Intra-day position report – Report must provide up-to-the-minute recap of available account balances. It should be updated continuously throughout the day and reflect beginning balances, incoming and outgoing Fed wire transfers, ACH activity effective that day, maturing investments and disbursing debits. Please list types of transactions that update the Intra-day report and those that do not update the Intra-day report.

First Bank's online banking platform provides all the above.

c. Return report – Report should list all checks and ACH return items for the previous day. Report should be by account.
First Bank provides this report.

d. Positive pay exception reports – Reports should list all checks or ACH items that are not included in the positive pay data transmission and should be interactive. Authorized officials from The Town should be able to accept or deny these items online. Exceptions should be available by 10 a.m. each day after the previous day's activity.
First Bank offers this information and exceptions are available prior to 10 a.m. each day. Daily Positive Pay cut-off time is 11 a m.

e. Please state in RFP response whether you offer imaged copies of the checks in addition to the report.
First Bank offers imaged copies of the checks, front and back.

f. Describe the Bank's ability to customize reports as well as any fees associated, and the length of time required to receive a customized report.
First Bank offers some ability to customize reports through our online banking Treasury platform. Other reporting needs can be addressed on a case-by-case basis.

14. Provide stop payment services online from authorized officials of The Town. Verbal requests from authorized officials will be accepted and processed on the same day with documentation to follow. As a part of this service authorized officials would be able to inquire online to determine if a specific check had previously been presented for payment prior to initiating a stop payment.
First Bank provides Stop Payment services online for authorized officials as well as verbal requests with the branch. Authorized officials would be able to see all checks presented for payment via the online banking platform.
15. Access the imaged copy of checks online. If the image is not available due to the timing of check clearing, also accept requests for check copies via email. Indicate how long after the check has cleared before an image is available online. Also, indicate how long the check will be available to view online.
First Bank provides copies of checks online, front and back. These check images are available the day after clearing and remain available for 18 months.
16. Provide the ability to enter wire, ACH debits and credits, and book transfer online as outlined below. Online systems should offer the ability to template repetitive transactions. System should also have ability to structure an approval hierarchy.
First Bank's online banking platform provides the above.
17. Provide ability to transfer funds on-line between two or more accounts maintained with the bank.
First Bank's online banking platform provides the above transfer options.

WIRE TRANSFERS, ACH TRANSACTIONS AND OTHER TRANSFERS

18. Furnish direct deposit of employees' checks (credit entries) to their designated checking or savings account according to the Automated Clearing House (ACH) rules and regulations.

Bank must be able to receive a direct transmission with all payroll information in a fixed-width text file format. Transmission will be delivered no later than 8 p.m. one business day prior to payday.
First Bank offers this service.

19. Process automatic drafts as a method of payment for some invoices. The Town also receives reimbursements from other agencies via ACH deposit.
First Bank offers this service.
20. Transmit debit entries initiated by The Town under ACH rules. The bank shall provide software or another means to allow The Town to change and adjust ACH information prior to transmission to the bank. The bank must be able to receive information through direct transmission in required format. The Town's current file format is available upon request. Upon proper notification by The Town, the bank shall manually adjust or stop payment or other adjusting entries. The bank shall be responsible for any loss limited to the liability for its own negligence or willful misconduct.
First Bank offers this service.
21. Process incoming and outgoing wire transfers online in real time as requested by duly authorized official(s) if instructions are received by the bank by the official deadline established by the Federal Reserve System. All incoming wires processed are expected to result in same day credit to the account. The bank is expected to assume responsibility for all losses or costs incurred by The Town as a result of the bank's failure to transfer wires as instructed.
First Bank offers online wire transfer service. All incoming wires are credited same day.
22. Provide ability to create templates for repetitive wires and ACH transactions with the ability to restrict the amount and access for different users. Each individual template should have the ability to permanently establish different sections of the template. For example, for some repetitive wires, the same amount is wired each time. Each individual template should also have the ability to restrict use for designated authorized officials. Different templates would then be able to have different users. Changes to these templates shall only be made online with approval from another user (dual approval).
First Bank offers these options via the online banking platform.

SUPPLIES

23. Provide sufficient pre-numbered and pre-encoded deposit slips per deposit site in duplicate at no charge for The Town to process daily deposits. The number of Town deposit sites is subject to change, but is currently one (1).
First Bank can provide.
24. If an endorsement stamp is required, provide all endorsement stamps for the departments making deposits at no cost to The Town. The bank shall provide two (2) stamps to each department upon the beginning of the contract. The endorsement stamps shall be in a format approved by The Town. During the term of the contract, endorsement stamps shall be provided as requested.
First Bank can provide.

OTHER SERVICES

25. Provide account reconciliation for all disbursement accounts and have the capability to send daily and monthly transmissions of account activity to the unit. Currently, the file is available to download to Excel.
    First Bank offers Account Reconciliation services.
26. Provide payee positive pay option (checks and ACH) for all disbursement accounts. Banks must have the capability to receive electronic transmissions. The Town's current file format is available upon request. Exception reporting and communication must be provided through online banking services. In the RFP response, include the following information regarding positive pay:
    a. Include an overall description of your positive pay service, including file layout and transmission process.
       Positive Pay is an automated fraud detection tool that identifies unauthorized transactions before final payment allowing business customers to feel secure about money coming out of their account. First Bank can map our system to your file when provided with a sample file. Check files must contain Check Number, Date of Issue, Payee and Dollar Amount. Issued Check Files are uploaded through First Bank's Online Banking platform. ACH Authorization Rules can be created using the Company Name and Company ID Number. ACH Authorization rules can also be set with a dollar amount threshold, if applicable.
    b. Is the service the same day or next day?
       Next Day
    c. Is it applied to the teller line?
       Yes
    d. Provide no manual checks
       First Bank does offer the ability to manually enter checks, but can disable the option should the Town choose to do so.
    e. Explain how voided checks are handled in reference to the positive pay file.
       Checks can be voided through the Positive Pay system within First Bank's Online Banking platform.
    f. Indicate any limit on the volume of positive pay exceptions that your system can handle.
       There are not limits on the volume of positive pay exceptions First Bank can handle.
    g. State your default disposition of exception items if the bank does not receive the decision from The Town to pay or not to pay.
       First Bank's default disposition of exception items is **"Return".**
27. Forward bank-generated debit or credit items to The Town the next business day with detailed support describing the nature of the transaction. Detailed support should include images of checks, adding tapes, and deposit slips. Bank-generated transactions without sufficient detail will not be accepted.
    First Bank can comply.
28. Provide research assistance on transactions (lost checks, lost deposit slips, mutilated checks, and bank-generated transactions) by providing sufficient details within 72 hours of request.

First Bank can comply.

29. Provide sufficient night depository services, including optional provision of bags with keys. The Town has the right to purchase these bags from a third-party vendor. These bags would display the name of The Town and no bank name.
    First Bank offers a night depository service and the Town can use their preferred bags.
30. Provide change as needed for various activities and events.
    First Bank can comply.
31. The following services are used by The Town, please provide any details or differentiators in the bank product or service that the Bank believes would benefit the town.
    1. Electronic Lockbox
    2. Reconciling Services
    3. Positive Pay- checks and ACH
    4. Online statements
    5. Remote Deposit
    6. Night Drop services for cash
    7. Coin and currency change
    8. ACH credit and debit
    9. Wires

    First Bank offers all of the above with the exception of Electronic Lockbox.

32. Please list any products or services the Bank believes would enhance and streamline The Town's existing structure. Please include a detailed rationale for why The Town should consider utilizing these services.

STATEMENTS AND PAYMENT OF FEES

33. Allow The Town to pay service fees by compensating balance.
    First Bank can comply and is proposing a Commercial Analysis account using compensating balance.
34. Provide a detailed itemized statement for each account for the previous month, which shows each deposit, credit, or debit memo, along with the check number and amount of each transaction processed within 2 working days of the subsequent month, and kept online for one year.
    First Bank provides detailed statements via our online banking platform.
35. Provide all cleared check images (front and back) on internet inquiry and download file into The Town's software for each account, as well as providing the software and database that allows for efficient inquiry.
    First Bank can comply with both.
36. Furnish a monthly detailed account analysis for each account enumerating the account activity by type of service and activity volume within each service. When utilizing compensating balance, provide analysis of fees compared to earnings allowance. Include average balances, net monthly earnings, total costs and any gain or loss by the bank. In the event costs exceed earnings allowance for a given month, The Town may be billed or have the right to negotiate a new compensating balance. In the event the earnings allowance exceeds fees accumulate charges and earnings and roll-over to next year(s).

First Bank provides monthly analysis statements via our online banking platform. Excess ECR does not roll over month-to-month.

GENERAL INFORMATION TO BE PROVIDED BY INSTITUTION

37. Provide information outlined below.
    a. Describe your internal controls and procedures to protect account information. If you have experienced any unauthorized access to account numbers and account information, please describe the circumstances and any resulting changes in controls and procedures.
    First Bank uses multifactor authentication for online platforms. Secure Access Codes are sent to the phone number on file – by voice or SMS. Phone numbers cannot be changed online, users must do so in person at our branch locations.
    b. For interest bearing account options, explain how the interest rate will be set and how often it will be adjusted. Provide the past daily interest rates for a similar account for the six-month periods of July – December 2025 and January-June 2026.
    First Bank sets interest rates based on relationship. Rates are adjusted with market changes, not at defined intervals.
    c. For non-interest-bearing account options, provide clear instructions on the earnings allowance calculation. Include a definition of the benchmark rate that will be used in the calculation (Example: 6-month Treasury Bill).
    First Bank calculates Earnings Credit Rate (ECR) on the Average Collected Balance over the course of the statement cycle. First Bank's standard ECR is 1.00% and has not changed since 2008.
    d. Provide a list of nationwide routing and transit numbers.
    First Bank's Routing Number is 053104568
    e. Provide a list of your firm's local direct exchange banks.
    First Bank utilizes Pacific Coast Banker's Bank (PCBB) to process International Wire Transfers.
    f. List bank branch addresses in Buncombe County. Save as a Word file using the proposing bank name. Example: ProposingBank.doc.
    First Bank has provided this information as requested.
    g. Discuss your appetite for providing credit to The Town in the way of a line of credit or commercial loan. Have you previously extended credit to The Town?
    First Bank is interested in providing a variety of credit solutions to support the Town's needs. We currently have three loans totaling approximately $534,000 for vehicles and equipment. We look forward to future opportunities to support the Town's needs through a variety of credit products.
    h. Please describe in detail any banking services you might propose to provide to The Town's employees. Would employees have to enroll in direct deposit to receive these services?
    First Bank offers a special package for the Town's employees that have Direct Deposit. Our program is called First at Work. Please see the attached flyer for detailed information.

i. What is the average lead time required for implementation? What are the critical factors that may impact that lead time?
First Bank can implement most products and services within 1-2 business days. Initial implementation can take up to two weeks. Critical factors that may impact lead time will be the Town's responsiveness to providing required information.

j. Who will be responsible for coordinating the transition of banking services? If a conversion team is used, how will The Town's accounts be transitioned to the ongoing client service team?
The Town will have a First Bank team to coordinate your conversion/transition. This team will consist of branch staff as well as our Treasury Services group. The conversion/implementation team will be used until all services are established and being utilized successfully by the Town. First Bank has a Business Support Team that is responsible for ongoing client service, along with your local branch staff.

ORGANIZATION OF RESPONSE

Information related to the above-listed requirements should be organized and presented **in the same order** as listed above. Any additional information regarding institution-specific enhancements or other services that may benefit The Town can follow.

INFORMATION ABOUT THE TOWN:

If the average volume listed is one, The Town is interested in pricing for that service. Please indicate your cost per unit and/or monthly fee for each item. Please itemize all monthly fees associated with each service provided (i.e. account maintenance fee, ACH service fee, EFT service fee, etc.).

The Town requires payroll direct deposit to its employees. Payroll is on a bi-weekly basis, and averages about (100) one hundred transactions per pay period. Specific payroll calendars will be provided to the chosen institution.

The Town currently utilizes positive pay services.

If The Town develops a need for additional accounts or services during the term of this agreement, services will be provided with the same conditions as applied to existing accounts at the time. If the Federal Reserve or other regulatory bodies provide for regulations which are favorable to The Town, the institution shall make these new services available to it.

Examples of two months of transactions is listed on the next page.

SERVICE DESCRIPTION	VOLUME- JULY 2025	VOLUME-JANUARY 2026
GENERAL BANKING SERVICES		
MONTHLY ACCOUNT MAINT FEE	0	1
CREDITS POSTED	173	126
REMOTE DEPOSIT ITEM ON-US (TRUIST)	120	106
REMOTE DEPOSIT ITEM TRANSIT	743	690
CHECKS PAID AND OTHER DEBITS	13	9
CONTROLLED DISB- CHECKS PAID	163	90
COIN AND CURRENCY DEPOSITED	31,438	11,846
NIGHT DEPOSITORY SERVICES	94	52
RETURNED DEPOSITED ITEM FEE	3	0
SPEC COLLECTION SERVICES		
RDC MONTHLY	1	1
WIRE SERVICES		
WIRE TRANSFER INCOMING DOMESTIC	1	0
ACH SERVICES		
ACH RECEIVED CREDIT	225	149
ACH RECEIVED DEBIT	57	37
ACH NOTIFICATION OF CHANGE	2	2
ACH RETURN TRANSACTION	4	
DLTY AND TM ACH MONTHLY MAINT	2	2
TOTAL ACH ORIGINATED ITEMS	1,614	1,563
ACH AUTHORIZATION RECORD	2	0
ACH POSITIVE PAY MONTHLY MAINT	1	1
TM ACH FILE UPLOAD	8	9
ELECTRONIC LOCKBOX		
ELECTRONIC LOCKBOX MONTHLY FEE	1	1
ELECTRONIC LOCKBOX PER ITEM	170	162
RECONCILIATION SERVICES		
FULL RECON MAINT ELECTRONIC	1	1
FULL RECON-ITEM	234	137
POSPAY		
CPR/POSPAY/PAYEE D/T BANK/FILE	1	1
CPR/POS PAY/PAYEE EXCEPTIONS	1	1
POSITIVE PAY WITH RECON MAINT	1	1
CTRL/POS PAY WITH RECON ITEM	163	90
INFORMATION SERVICES		
CONTROLLED DISB MAINT	1	1
ONLINE COURIER SERVICES		
OLC DDA STATEMENT	1	1
OLC ANALYSIS STATEMENT	1	1
OLC ARP REPORT	1	0
TREASURY MANAGER		
TM/OLC MAINTENANCE FEE	1	1
TM/OLC PRIOR DAY/ACCOUNT	1	1
TM/OLC/DETAIL ITEM	632	412
TM/OLC CURRENT DAY/ACCOUNT	1	1
TM/OLC CURRENT DAY/DETAIL ITEM	135	92
TM/OLC CAR REPORT	10	8
TM WIRE TRANSFER SERVICE/ MONTH	1	1
AVERAGE BALANCE	$3,186,463	$2,954,668

Required Form – Firm Information

Name of Company: FIRST BANK

Address:

300 S.W. Broad Street Southern Pines, NC 28387 – Corporate Headquarters

300 West State St. Black Mountain, NC 28711 – Local Branch

Phone No: 828-669-8432

E-Mail Address: sfranklin@localfirstbank.com

Federal I.D. No. 56-0132330

SDBE, Minority or Woman Owned Business Enterprise _____Yes ___X__No

Proposal Submitted By: Stephanie Franklin_____
(Name Printed Out)

_____
(Signature)

Title: SVP, Treasury Services
Date: 7/17/2026

Required Form – E-Verify

STATE OF North Carolina
COUNTY OF Buncombe

(the individual attesting below), being duly authorized by and on behalf of ("Employer") after first being duly sworn hereby swears or affirms as follows:

1. Employer understands that E-Verify is the federal E-Verify program operated by the United States Department of Homeland Security and other federal agencies, or any successor or equivalent program used to verify the work authorization of newly hired employees pursuant to federal law in accordance with NCGS §64-25(5).

2. Employer understands that Employers Must Use E-Verify. Each employer, after hiring an employee to work in the United States, shall verify the work authorization of the employee through E-Verify in accordance with NCGS§64-26(a).

3. Employer is a person, business entity, or other organization that transacts business in this State and that employs 25 or more employees in this State. (Mark Yes or No)

a. YES X, or
b. NO _____

4. Employer and Employer's subcontractors comply with E-Verify, and if Employer subsequently retains any subcontractors on this project Employer will ensure their compliance with E-Verify.

This 17th day of July, 2026.

_____

Signature of Affiant
Print or Type Name: _____

State of _____ County of_____
Signed and sworn to (or affirmed) before me, this the _____day of _____, 20X3.
My Commission Expires:
Notary Public

(Affix Official/Notarial Seal)

FIRST BANK

Deposit & Treasury Proposal

Comprehensive Banking Services

July 23, 2026

Presented By

Charlene Baker, VP
Branch Manager
Black Mountain, NC 28711
828-669-8432
charlene.baker@localfirstbank.com

Stephanie Franklin, SVP
Treasury Services Sales Officer
Asheville, NC 28801
828-423-2701
sfranklin@localfirstbank.com

FIRST BANK

REQUEST FOR TREASURY PROPOSAL

COMPREHENSIVE BANKING SERVICES

July 23, 2026

Table of Contents

WHO WE ARE 4

OUR CULTURE 6

WORKING WITH US 7

RECOMMENDATION SUMMARY 8

ONLINE BANKING & ADDITIONAL TREASURY SERVICES 9

MASTERCARD BUSINESS CARD WITH REWARDS 12

EMPLOYEE BENEFITS 13

FEE SCHEDULE 14

July 23, 2026

Greta Gibson
Town of Black Mountain
160 Midland Ave
Black Mountain, NC 28711

Dear Greta:

Thank you for the opportunity to present our products and services. First Bank is committed to providing our customers with innovative technology, personal service, and access to decision-makers. We believe you will see the benefits of this winning combination.

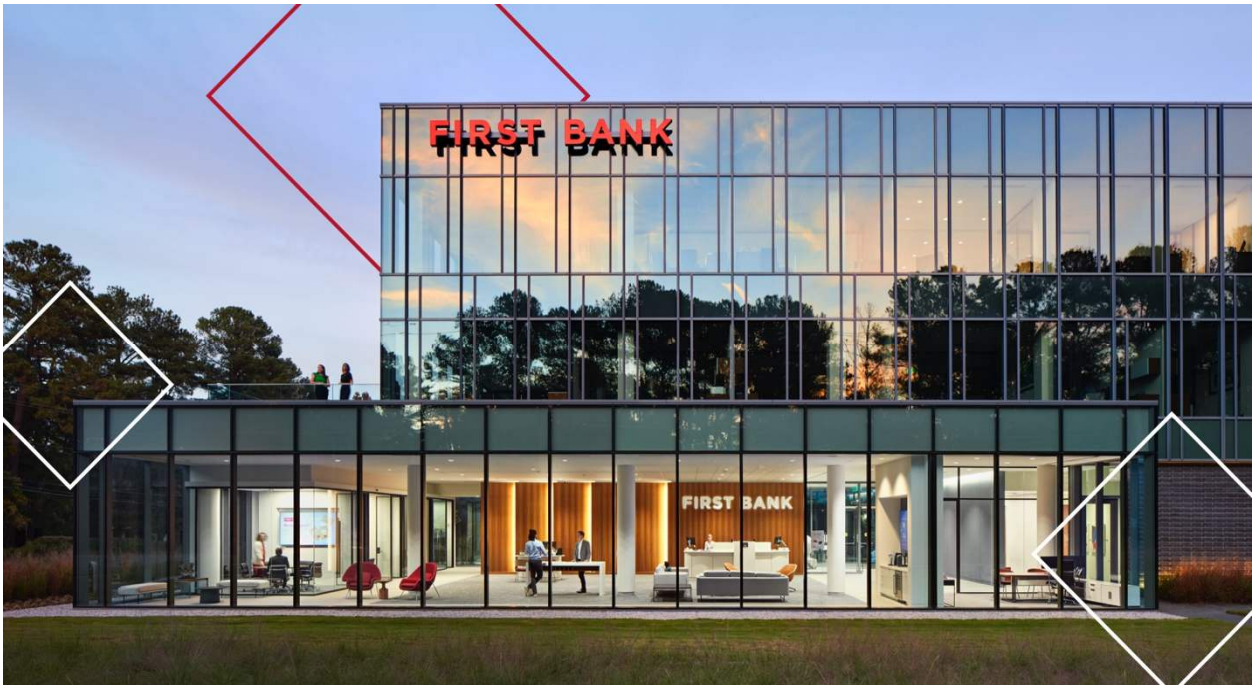
- The personal service of a community bank
- The variety of products to help you efficiently manage your finances
- The financial strength to ensure we will be your long-time financial partner

First Bank prides itself on having the best people backed by the right technology, products, and services. We understand your desire to control expenses, operate efficiently, and maximize earnings and are confident that we can support you with the quality service you deserve.

Sincerely,

Charlene Baker
Branch Manager
First Bank

Stephanie Franklin
Treasury Services Sales Officer
First Bank



“To be the best community bank in every community we serve and through every delivery channel we offer”

Who We Are

We were founded in 1935 and have grown into the largest independent community bank headquartered in North Carolina. Today we offer a full suite of financial services — from lending to checking, mobile tools, to payroll services. After decades of providing personalized service, our mission has remained the same: to help our communities and customers achieve financial independence, to prosper, and to pursue the passions that drive their dreams.

4th
largest bank headquartered in NC (largest community bank)

$12.7
billion in assets

$8.7
billion in loans

$10.7
billion in deposits

Corporate Profile

- Our headquarters is located in Southern Pines, NC.
- We operate more than 110 branches across the Carolinas, from the mountains to the coast.
- First Bancorp, our holding company, is traded on the NASDAQ Global Select Market under the symbol "FBNC."
- First Bank subsidiaries include Magnolia Financial and CarBucks Floor Plan.

Our History

1935 Opened as Bank of Montgomery in Troy, NC

1985 Name changed to First Bank

1987 Traded publicly on the NASDAQ under the symbol "FBNC"

2003 Expansion into South Carolina through acquisition of Carolina Community Bank with three branches in Dillon County

2009 Acquisition of Cooperative Bank ($974M in assets) and addition of 18 branches

2011 Acquisition of Bank of Asheville ($200M in assets) and addition of five branches

2013 Headquarters moved to Southern Pines, North Carolina

2017 Acquisitions of Carolina Bank ($706M in assets) and Asheville Savings Bank ($803M in assets), adding 20 branches and a Triad regional headquarters

2019 Recognized by *Fortune* as one of the Top 100 Fastest-Growing Companies and by *Forbes* as a Best-In-State Bank in North Carolina

2020 Recognized again by *Forbes* as the Best-In-State Bank in North Carolina

2021 Opened Triangle regional headquarters in Raleigh and once again topped the *Forbes* Best-In-State list for North Carolina

2022 Acquisition of Select Bank & Trust ($1.8B in assets) and addition of 11 branches
Ranked #18 in S&P Global Market Intelligence's Top 50 Public Banks

2023 Acquisition of GrandSouth Bank ($515M in assets) and addition of 8 branches across South Carolina

Our Culture

Our Promise to Service Excellence

Our corporate culture is centered on Service Excellence. We commit to Safety and Soundness, Knowledge and Accuracy, Courteous Service, and providing Convenience and Ease so that our customers choose when, where, and how they do business with us.

Corporate Citizenship

We are the bank for people who believe in the Power of Good. For nearly 100 years, we have been changing lives by giving communities access to the financial services and support they need. Through our Power of Good corporate citizenship program, we invest in the power of people to move our communities forward. At its heart, The Power of Good aims to make a tangible, long-term difference in people's lives, to engage and energize associates and customers, and to build upon the bank's reputation as a pillar of support in communities across the Carolinas.

Read more on our initiatives at: localfirstbank.com/powerofgood

Working With Us

At First Bank, you will enjoy one-on-one attention and comprehensive support from our entire team of business experts. You are not just another number in a database —you are a partner.

You will also learn firsthand how powerful working with an independent bank can be — capable of delivering everything the big banks can — but with a unique agility and unparalleled personalization.

Business Services
First Bank offers a wide range of business banking and government services from deposit and loan services, credit cards, and treasury services including electronic funds transfers (ACH), online wires, Remote Deposit Capture, and Positive Pay. We partner with BASYS Processing for merchant processing.

Recommendation Summary

Commercial Analysis Account with Investment Sweep - Operating Account

Based on the information received, we recommend our Commercial Analysis account type for your general operating account. With this account type, an earnings credit, based on monthly average collected balance, is used to offset some or all activity fees. First Bank is happy to offer an Earnings Credit Rate of 1.00% APY.

The following services are included:

- ACH Services ($25/month + $0.10 per transaction)
- Remote Deposit Capture ($75/month)
- Check Positive Pay ($75/month)
- ACH Positive Pay ($50/month)
- Account Recon ($25/month – master account, $10/month – sub account)
- Online Wires (Per wire fee – Domestic $15, International $45)
- Direct File Transmission/SFTP ($25/month)
- Investment Sweep ($125/month)

Sweep to Commercial Investment Account:

The Sweep account eliminates the need to manually transfer balances to an interest-bearing account. A target balance of $1,750,000 would remain in the Operating Account to offset fees. Balances over that amount would sweep automatically to the interest-bearing account, earning 1.25%APY. When balances fall below the $1,750,000 target in the Operating Account, funds are swept back to it to maintain the target balance. The Sweep account eliminates the need to manually transfer balances back and forth between the checking account and the interest account while allowing for a maximum return.

Based on statements provided:

- *Minimum/Target balance of $1,750,000 in Operating offsets fees with ECR of 1.00%*
- *Estimated monthly fee of $0 on Operating account with minimum balance maintained*
- *Excess funds sweep to investment account earning 1.25%APY*

Online Banking

First Bank's system is internet driven and requires no special software.

Features include:

- Up to 18 months of cleared transaction history
- Previous day's activity available following day, with some available same day
- Online statements and advanced search capabilities
- Online check images (front and back)
- Real-time, online stop payments
- Initiate Domestic Online Wire Transfers until 5:30 pm with the ability to retain information for recurring wires
- Make tax payments using EFTPS
- Robust user entitlements including approval authority levels
- Online banking administrator(s) are set up with access to set up new users
- Transfers between First Bank accounts are real-time and can be made up to 8:00 pm for same-day credit
- Ability to establish dual approvals for fund transfers, ACH transactions, or wires
- Ability to set up the use of Secure Access Codes (SAC) for transactions
- Quick downloads of all cleared items
- Online Demo available via our website (www.localfirstbank.com)
  Click on Business, then search for Treasury Services Hub

Security

- First Bank has multiple control factors in place to protect your information and prevent our systems from being compromised. These layers have protected our systems; however, we continue to evaluate and update controls as technology changes. Online banking is protected using:
  - Multifactor authentication (MFA): This is a security system in which more than one form of authentication is implemented to verify the legitimacy of an attempt to log in online. In contrast, single factor authentication (SFA) involves only a user ID and password.
  - Web browser is required to have 128-bit encryption capability. This feature helps prevent anyone from "eavesdropping" on your data as it travels between you and the bank. As a user, you don't have to do a thing except make sure you have a version of a web browser that can participate in this process.
  - In addition to your personal password security, we provide an additional security measure with Secure Access Codes. Secure Access Code strengthens the safeguards in place at login by adding steps to verify your identity.

Treasury Tools

Account Structure

Automate the cash flow between operating accounts, investment, or credit facilities, to maximize efficiency and optimize cash on hand

Options Include:

- Investment Sweep (recommended)
- Zero-Balance Account: Primary and Sub-accounts
- Line of Credit Sweep

Electronic Payments

All ACH tools (Collections, Payments, Payroll) may be created in a template or freeform format, or by uploading a file within your First Bank online banking system. These transactions may also be set up to reoccur for an indefinite or finite period. First Bank's online banking system accepts all NACHA formatted files. Our system provides clear confirmation of file submission and several options for file approval. Upon submission of the file you have the option of notifying an approver that the file is ready. With our mobile options, the approver has the option of authorizing the transaction using their mobile smartphone.

Remote Deposit Capture

This time-saving product allows you to make deposits into your First Bank account electronically. All you need is an internet-enabled PC or Mac with a browser and a check scanner.

Features Include:

- Deposits can be made for multiple accounts using the same scanner
- State-of-the-art recognition software to capture the check image and amounts
- Dual Approval capability to release deposits to the bank
- Make deposits until 6:00 pm on the business day for same-day credit
- Easy image search and retrieval
- No detail input necessary, our scanner reads the dollar amount on each check

ACH Positive Pay

ACH Positive Pay helps guard against unauthorized electronic activity. Any ACH item that does not meet the authorized vendor parameters specified by the customer will have to be approved for payment.

Features Include:

- Define preauthorized ACH transaction rules for each account
- Parameters include originating company and transaction type
- Customer defined cap for the maximum authorized dollar amount, if requested
- Daily cutoff of 11:00am EST
- Email and/or text notification of exception items
- Items are returned if no decision is made.

Check Positive Pay

Check Positive Pay compares each check presented for payment against the customer's issued check file. Customer can view images of checks before deciding which items to pay or return, monitor daily incoming clearings and return fraudulent items.

Features Include:

- Single sign-on with our online banking
- Customizable issued check file – we map to your file
- Manual check entry available
- Real-time recognition of entered checks in bank systems to accommodate quick check-cashers
- Email and/or text notification of exception items
- Items are returned if no decision is made.

Account Reconciliation

First Bank offers both full and partial account reconciliation and check serial sort. Our account reconciliation service includes secure file transmission of all cleared items and detailed account reconciliation reports which can be customized based upon your requirements. File transmission is available electronically in the following formats: CSV, Excel, and BAI2.

Merchant Services

Our partner-provider, BASYS Processing , will be delighted to provide a proposal based on current statements.

Mastercard Business Card with Rewards

A First Bank Mastercard® Business Card with Rewards provides the financial freedom to make everyday and monthly business purchases in a convenient and secure way.

- With our Mastercard Business Card with Rewards, you can **earn 1.25 points for every $1 spent** on qualified purchases. Calculate your points from everyday and monthly purchases with our online rewards calculator.
- Employee liability protection program that protects companies and financial institutions from employee misuse of charge privileges.
- Protect yourself from fraudulent use of your card information online when you register your card with Mastercard SecureCode™.
- You have 26 days when you're not charged interest for purchases you've made, so long as you pay your balance in full on time.
- With our Mastercard Business Card with Rewards, you'll receive a year-end account summary, a convenient tool for accounting and tax preparation which helps you identify and manage your personal spending trends and patterns.
- 0% introductory APR for the first 6 months for new cardholders. After 6 months, a variable rate will apply.

Employee Benefits

First@Work for all Employees with Direct Deposit

As a benefit to your employees, we offer our First@Work package. First@Work features checking, savings, credit, and financial wellness tools with built-in benefits. The highlights of this program are below:

Checking & Savings

- Checking account with no monthly maintenance fee with a direct deposit
- One free overdraft annually
- One free order of checks
- No-hassle savings account when you set up a $10/month auto-transfer or maintain a minimum daily balance of $300

Peace of Mind

- IDProtect® – Identity Theft Monitoring and Resolution service that includes:
  - Credit file monitoring
  - Up to $10,000 identity theft expense reimbursement coverage
  - And more!
- Cell phone protection

Financial Wellness

- Personal financial management tool
- Financial education tool

Convenience

- More than 100 branch locations across the Carolinas
- No First Bank fees at out-of-network ATMs plus with our ATM fee rebates we will refund up to $15/month of fees charged by other ATM owners
- Free digital banking and free mobile app with check deposit and Zelle®

***First @ Work Flyer attached*

Fee Schedule

FIRST BANK ANALYSIS		
Monthly Maintenance	$20.00	per month
Deposit Ticket Charge	$0.60	per ticket
Checks Paid	$0.20	per item
Deposited Items	$0.15	per item
POS Debits	$0.30	per item
Cash Deposits	$0.18	per $100 of deposited
ACH Debits	$0.20	per debit
ACH Credits	$0.35	per credit
Straps of Currency Chg	$0.75	per strap
Rolled Coin Chg	$0.12	per rolled coin
Disposable Night Deposit Chg/Drop Charge	$2.00	per bag
Return Check Charge	$7.00	per item
Return Checks Special Charge	$10.00	per return item
Incoming wire transfers	$18.00	per item
Domestic Wire Transfers (in branch)	$25.00	per transfer
International Wire Transfers (in branch)	$55.00	per transfer
Stop Payment	$35.00	per item
TREASURY SERVICES		
Remote Deposit Capture (RDC) <100 items	$35.00	per month
Remote Deposit Capture (RDC) 100-500 items	$50.00	per month
Remote Deposit Capture (RDC) >500 items	$75.00	per month
Anytime Deposit (RDC Mobile Feature)	$2.50	per user per month
Commercial Treasury Online Platform (includes up to 40 entities)	$40.00	per month
Online Domestic Wire Transfers	$15.00	per transfer
Online International Wire Transfers in USD	$45.00	per transfer
ACH Originator Monthly Maintenance	$25.00	per month per TIN
ACH transactions	$0.10	per debit or credit
ACH Same Day Transactions	$1.00	per item
ACH Returned Items & Notice of Change	$5.00	per item
Positive Pay (Check with Payee Match)	$75.00	per month
Positive Pay (ACH & Reverse)	$50.00	per month
Positive Pay - suspect items	$0.10	per suspect item
Account Reconciliation	$50.00	per month
Account Recon - item fee	$ 0.06	per issue item
Direct Transmission	$25.00	per month per TIN per file type transmitted
Direct Transmission Implementation	$200.00	one-time per transmission setup
Commercial Courier Transport Services – priced upon request		per month
Commercial Courier Vault Monthly Maintenance	$75.00	per month per TIN or safe
Commercial Courier Cash Safe Provisional Credit	$0.10	per $100 deposited
Bulk Statement Delivery - Web-CD	$20.00	per month per TIN

Bulk Statement Delivery - Web-CD Item	$0.06	per item
Commercial Investment Sweep	$125.00	per month
Commercial Line of Credit Sweep	$125.00	per month
Zero Balance Account Master Account	$25.00	per month
Zero Balance Account Sub Account	$10.00	per month
DACA Implementation	$1,000.00	one-time at setup
DACA Monthly Monitoring	$150.00	per month per acct
Lockbox Services – priced upon request		per month
Merchant Processing – priced upon request		Per month
Print & Mail Services – priced upon request		Per month

TOWN OF BLACK MOUNTAIN

AGENDA ITEM SUMMARY

SUBMITTER: Greta Gibson, Customer Service & Revenue Supervisor

MEETING DATE: August 10, 2026

AGENDA SECTION: New Business

DEPARTMENT: Finance

TITLE OF ITEM: Resolution Approving Financing Terms for Vehicle Purchases- Police Department

SUGGESTED MOTION(S):

Motion to approve the resolution approving finance terms for Police Department vehicle purchases as presented.

SUMMARY:

An RFP was sent to Civic Federal Credit Union, First Bank, First Citizens Bank, Servis First Bank, and Truist Bank for the four-year financing of four Police Department vehicles and equipment in the amount of $260,000.

- Civic Federal Credit Union responded with a fixed rate of 5.42% and no closing costs.
- First Bank responded with a fixed rate of 4.80% and no closing costs.

Based on the RFP's received, staff recommends that the police vehicles and equipment be approved to be financed by First Bank at the rate provided.

Vehicles to be purchased are as follows:

- 2026 Ford Ranger XLT 4x4 SuperCrew 5 ft box
- 2025 Ford Explorer FPIU Hybrid
- 2026 Ford Explorer FPIU Hybrid
- 2026 Ford Explorer FPIU Hybrid

Further, Council should authorize Richard Hicks, Interim Town Manager, to sign all loan documents related to the financing.

BUDGET IMPACT:

Is this expenditure approved in the current fiscal year budget? Yes

If no, describe how it will be funded.

ATTACHMENTS:

1. Resolution for BMPD vehicles purchase
2. CIVIC FEDERAL CREDIT UNION VEHICLE FINANCING RFP RESPONSE
3. FIRST BANK VEHICLE FINANCING RFP RESPONSE

TOWN OF BLACK MOUNTAIN, NORTH CAORLINA
RESOLUTION
APPROVING FINANCING TERMS FOR VEHICLE PURCHASE

RESOLUTION NO. #

WHEREAS: The TOWN OF BLACK MOUNTAIN ("Borrower") has previously determined to undertake a project for the financing of **4 Police Department vehicles**, and the Finance Officer has now presented a proposal for the financing of such Project.

BE IT THEREFORE RESOLVED, as follows:

1. The Borrower hereby determines to finance the Project through **First Bank ("Lender")** in accordance with the proposal dated July 24, 2026. **The amount financed shall not exceed $260,000, the annual interest rate (in the absence of default or change in tax status) shall not exceed 4.80% and the financing term shall not exceed forty-eight (48) months from closing.**

2. All financing contracts and all related documents for the closing of the financing (the "Financing Documents") shall be consistent with the foregoing terms. All officers and employees of the Borrower are hereby authorized and directed to execute and deliver any Financing Documents, and to take all such further action as they may consider necessary or desirable, to carry out the financing of the Project as contemplated by the proposal and this resolution.

3. The Finance Officer is hereby authorized and directed to hold executed copies of the Financing Documents until the conditions for the delivery of the Financing Documents have been completed to such officer's satisfaction. The Finance Officer is authorized to approve changes to any Financing Documents previously signed by Borrower officers or employees, provided that such changes shall not substantially alter the intent of such documents or certificates from the intent expressed in the forms executed by such officers. The Financing Documents shall be in such final forms as the Finance Officer shall approve, with the Finance Officer's release of any Financing Document for delivery constituting conclusive evidence of such officer's final approval of the Document's final form. **The Interim Town Manager is hereby authorized to execute any and all loan documents.**

4. The Borrower shall not take or omit to take any action the taking or omission of which shall cause its interest payments on this financing to be includable in the gross income for federal income tax purposes of the registered owners of the interest payment obligations. Borrower hereby designates its obligations to make principal and interest payments under the Financing Documents as "qualified tax-exempt obligations" for the purpose of Internal Revenue Code Section 265(b)(3).

5. The Borrower intends that the adoption of this resolution will be a declaration of the Borrower's official intent to reimburse expenditures for the Project that are to be

financed from the proceeds of the Lender financing described above. The Borrower intends that funds that have been advanced, or that may be advanced, from the Borrower's general fund or any other Borrower fund related to the Project, for project costs may be reimbursed from the financing proceeds.

6. All prior actions of Borrower officers in furtherance of the purposes of this resolution are hereby ratified, approved and confirmed. All other resolutions (or parts thereof) in conflict with this resolution are hereby repealed, to the extent of the conflict. This resolution shall take effect immediately.

APPROVED this the 10th day of August 2026.

_____
C. Michael Sobol, Mayor

ATTEST:

_____
Wesley M. Barker, Town Clerk

CIVIC
FEDERAL CREDIT UNION

July 16, 2026

Civic Financial Partners, LLC is pleased to offer the following Installment Purchase Proposal to the Town of Black Mountain for the purchase of 3 patrol cars and 1 administrative law enforcement vehicle and equipment for the vehicles.

Amount:	$260,000
Terms:	48 Months – fully amortized
Interest Rate:	5.42% fixed
Payments:	4 Annual payments of $74,047.37
Collateral:	3 patrol cars and 1 administrative law enforcement vehicle and equipment for the vehicles.
Fees:	Civic Financial Partners LLC will not charge any origination fees or a prepayment penalty fee should the Installment Purchase Agreement be paid off early.
	This transaction shall be closed in compliance with North Carolina General Statute 160A-20.

Non-Appropriation/Early Termination: The Town of Black Mountain shall exercise its best efforts to obtain annual appropriations to meet each fiscal year installment payment. The installment purchase agreement may be terminated without penalty in the event of non-appropriation.

This letter includes a summary of the key points to be contained in closing documentation. The final documentation will include additional terms and covenants that are usual and customary for this type of transaction. This proposal does not constitute approval and is subject to underwriting of an application package, including financial statements, to be provided upon acceptance of this proposal.

Please contact me at (919) 609-1184 should you have any questions.

Best regards,

Brian Griffin

Brian Griffin
Loan Officer

t: 1 844 77CIVIC | p: 919 987 1997 | e: memberservices@civicfcu.org
f: 919 235 4711 | a: 3600 wake forest road, raleigh, nc 27609

FIRST BANK

July 24, 2026

Greta Gibson
Town of Black Mountain
160 Midland Ave
Black Mountain, NC 28711

Dear Greta:

Thank you for allowing First Bank the opportunity to submit a proposal for a credit facility to finance Law Enforcement vehicles and equipment. The terms of this non-binding proposal are as follows:

Borrower:	Town of Black Mountain
Guarantors:	N/A
Amount:	$260,000 Not to exceed 100% of Total Costs
Purpose:	Finance Law Enforcement vehicles and equipment
Type of Loan:	Commercial Term Loan
Interest Rate:	Fixed Rate of 4.80%.
Term:	48 Months
Repayment:	Annual principal and interest payments based on a 4-year amortization.
Prepayment Penalty:	N/A
Loan Fee:	None
Collateral:	1st lien position on the vehicles and equipment.
Appraisal:	The invoice will serve as the valuation. No additional appraisal will be required.
Additional Requirements:	The loan terms set forth on this Term Sheet are contingent upon the loan meeting all of the requirements for a bank qualified tax-exempt loan under IRS Code Sections 103 and 265 and First Bank policies and procedures. Borrower agrees to take all necessary steps and obtain all approvals required by state and federal statues to obtain a bank qualified tax-exempt loan from First Bank. Those steps include but are not limited to: adequate

	publication of public notice, approval of the loan at a meeting of the Organization as well as a meeting of the sponsoring municipality, if applicable, and all necessary votes required to approve the loan. Borrower further agrees to file an IRS Form 8038G at the time of closing and annually thereafter for so long as the loan shall remain outstanding. Borrower acknowledges that First Bank has the authority, both prior to any loan closing as well as after closing to re-price loans and collect any difference in interest or penalties accrued if the loan is ever deemed not to qualify for the bank qualified tax-exempt interest rate.
Financial Statements:	Borrower shall furnish financial statements annually during the loan, and if requested by First Bank, the Borrower shall provide interim financial statements.
Closing Costs:	None from the bank.
Organizational Documents:	Copies of Borrower Organizational Documents certified by an authorized officer or representative and Certificates of Existences shall be furnished to First Bank prior to the loan closing.
Deposit Relationship:	As First Bank is a depository institution, Borrower agrees to consider moving its primary operating accounts to First Bank.
Miscellaneous:	First Bank may require additional documentation as may reasonably be necessary to assure feasibility and authority of the purposes for which loan proceeds will be used.
Assignment:	This proposal is issued to the borrower and cannot be assigned by the borrower without the written consent of First Bank.

This is a proposal, not a commitment. The commitment will be based on the Bank's review of the Borrower's and Guarantor's current financials and other supporting documents and obtaining final approval by the Bank. The proposed rate and terms are reliant upon borrower's prompt response to proceed with full underwriting. An extended borrower response timeframe could allow changes in market conditions and interest rate pricing.

Formal acknowledgement of proposed terms must be communicated within ten (10) business days of the date of this letter). Subject to underwriting and approval, the rate and terms are offered for a transaction closing within 65 days.

Thank you again for allowing First Bank the opportunity to submit this proposal. If you have any questions, please feel free to call me at 828-712-3981

Sincerely,

Scott Crawford

Senior Vice President
First Bank
11 Church Street
Asheville, NC 28801

TOWN OF BLACK MOUNTAIN

AGENDA ITEM SUMMARY

SUBMITTER:	Richard Hicks, Interim Town Manager	**MEETING DATE:**	August 10, 2026
AGENDA SECTION:	New Business	**DEPARTMENT:**	Administration

TITLE OF ITEM: Acceptance of Drinking Water System Resiliency Improvement Funds From The State Revolving Fund Supplemental Appropriations for Hurricane Helene.

SUGGESTED MOTION(S):

I move that the Interim Town Manager be authorized to execute the Acceptance Documents for the Water Resiliency Improvement Funds from the State Revolving Fund Supplemental Appropriations for Hurricane Helene.

SUMMARY:

In 2025, the Council authorized staff to apply for Drinking Water System Resiliency Improvement Funds to make improvements to the Town's water system. On February 4, 2026, the Town was provided a Letter of Intent to Fund for this project in the amount of $4,999,632 from the Drinking Water State Revolving Fund. This funding would be at 100% Principal Forgiveness. In 2026, realizing that this would not be enough funds to complete all of the work on the water system that was needed, the Council authorize staff to file a second application in the second round of funding. On June 10, 2026, the town was provided a Letter of Intent to Fund for additional funding of $4,886,922 through the State Revolving Fund Supplemental Appropriations. The second round of funding would include an additional $1,579,945 in Principal Forgiveness and $3,420,587 in a loan at 0% interest for 20 years. Due to the long life expectancy of the projects being built, it is possible to have the loan extended for 30 years. Both funding cycles represent a total budget of $9,886,554. A copy of both Intent Letters are attached, as well as a copy of the draft budget.

Based on a loan of $3,420,587, this would result in an annual loan payment of $171,029.35/year. If the loan is extended for 30 years, the annual loan payment would be $114,019.56/year. With the current schedule, the loan documents would not be ready for execution until probably the 2028/2029 Fiscal Year. The project would be completed in phases, so the Town would have plenty of time to determine if the Council wanted to proceed with the loans. The Town also has pending applications with the Hazard Mitigation Program that could potentially replace the loan funds. Those funding decisions should be made in 2026.

Based on the budget projections, the loan forgiveness represents 65% of the total project costs of $9,886,554. The loan funds would be at 0% interest for the term of the loan. It is the recommendation of staff that the Town accept the June 10, 2026 Letter of Intent to Fund to reserve the maximum potential of funding. A final determination of the loan funds could be made at a much later date. The other option is to accept the original Letter of Intent to Fund in the amount of $4,999,632 and forego the additional funding. This option would limit what the Town would be able to accomplish with the entire funding.

BUDGET IMPACT:

Is this expenditure approved in the current fiscal year budget? n/a

If no, describe how it will be funded. A project budget would be adopted upon official notification of the funding amounts.

ATTACHMENTS:

1. Letter of Intent to Fund_20260610
2. Letter of Intent to Fund_20260204
3. Drinking Water System Resiliency Improvement Funds_Final Combined Project Estimate

Docusign Envelope ID: DF65FB98-592F-82D8-80FB-1BBCE5A6A758

JOSH STEIN
Governor
D. REID WILSON
Secretary
SHADI ESKAF
Director

NORTH CAROLINA
Environmental Quality

June 10, 2026

Richard Hicks, Interim Town Manager
Town of Black Mountain
160 Midland Avenue
Black Mountain, NC 28711

Subject: **REVISED** Letter of Intent to Fund
Town of Black Mountain
DW System Resiliency Improvements
SRF Helene Rolling Application Cycle
SWIA Award Date: April 15, 2026
Project No.: SRF-D-HEL-0012
Agreement ID: 2000087849

Dear Manager Hicks:

The North Carolina Department of Environmental Quality (DEQ) Division of Water Infrastructure (DWI) has reviewed your funding application for the project listed above, and we're pleased to share that the State Water Infrastructure Authority (SWIA) has determined your project is eligible for an **additional funding in the amount of $4,886,922** through the State Revolving Fund Supplemental Appropriations for Hurricanes Helene and Milton and the Hawai'i Wildfires (referred to as the "SRF Helene" funds).

These funds are intended to support projects that strengthen infrastructure resilience either by reducing flood risk and vulnerability or by improving preparedness for rapid hydrologic changes and other natural disasters. The funding information is as follows:

Funding Information

Funding Source:	Drinking Water State Revolving Fund (DWSRF) Helene Funds
Total Funding Amount*:	$9,886,554 total funding including: $6,465,967 in Principal Forgiveness and $3,420,587 in Loans with the loan term specified below.
Loan Term:	0% interest rate over 20 years
Total Project Cost:	$10,600,758
Fee:	2% of the funding amount to be invoiced after bids are received; (eligible for financing with Principal Forgiveness)

Docusign Envelope ID: DF65FB98-592F-82D8-80FB-1BBCE5A6A758

DWI Project Manager:
Chris Graybeal
christopher.graybeal@deq.nc.gov
828-767-0764

Viable Utility Contact (if distressed):
(not applicable)

Please note that this intent to fund is contingent on DWI receiving funds from the US EPA, approval of the loan portion through the Local Government Commission (if applicable), and on meeting all the following milestones:

Milestone*	**Date**
Engineering Report/Environmental Information Document Submittal**	10/1/2026
Engineering Report Approval***	3/1/2027
Bid and Design Package Submittal	9/1/2027
Bid and Design Package Approval	1/3/2028
Advertise Project, Receive Bids, Submit Bid Information, and Receive Authority to Award	5/2/2028
Execute Construction Contract(s)	8/2/2028

*Failure to meet any milestone may result in the forfeiture of funding
** SRF Projects require an Environmental Information Document as part of the Engineering Report

Submittals and Disbursement
All project documents must be submitted via Laserfiche: https://edocs.deq.nc.gov/Forms/DW-Document-Upload-Form.

Funds are reimbursed for eligible, documented costs after they are incurred and approved by DWI. Advance disbursement requests require contractor payment within three business days. Costs incurred since the onset of the hurricane may be eligible if all SRF Helene requirements were met at the time incurred.

Prior to the first disbursement, required documents will include, but are not limited to:

1. Executed funding offer and Conditions & Assurances
2. Governing body resolution accepting the award (sample attached)
3. Federal Tax ID / UEID form (attached)
4. Sales tax certification (attached)
5. Executed contracts and service agreements
6. Engineering Services Procurement Certification (attached)
7. Site Certification (if applicable)

DWI will notify you when these documents are required. Loan components must receive LGC

Docusign Envelope ID: DF65FB98-592F-82D8-80FB-1BBCE5A6A758

approval prior to disbursement.

Disbursement of Funds

If the Recipient requests disbursement before paying contractors, payment to contractors must be made within three business days of receiving the funds.

Project costs incurred since the onset of the hurricane may be eligible for disbursement if they are within the approved project scope and all SRF Helene requirements were met at the time the costs were incurred.

After required documents have been reviewed and approved, the Recipient will request disbursements through the DWI's EBS system at: https://www.ebs.nc.gov/logon/index.html. A reference copy of the Disbursement Request Form, access to the EBS portal, and frequently asked questions are available on the DWI website at: https://www.deq.nc.gov/construction-disbursement-funds.

Document Naming Conventions and Identification Requirements

To support timely review and processing, all required documents must be clearly named and properly identified when submitted through Laserfiche or any other designated portal.

Please use clear, consistent file names in the following format:
Project Number_Document Type_Date
(Example: SRP-W-ARP-0000_Resolution_2025-01-18.pdf)
Using this naming convention helps ensure documents are correctly categorized and processed without delay.

Examples:

- SRP-W-ARP-0000_Resolution_2025-02-10.pdf
- SRP-D-ARP-0000_ExecutedEngineeringContract_2025-01-15.pdf
- SRP-W-134-0000_UEIForm_2025-02-01.pdf
- SRP-W-ARP-0000_InsuranceCertificate_2025-03-05.pdf
- SRP-D-134-0000_SiteCertification_2025-01-30.pdf

Additional Requirements

Projects must comply with:

- N.C.G.S. 143-64.31 (Engineering Procurement)
- Davis-Bacon wage requirements
- American Iron and Steel provisions
- LGC debt approval and legislative notification requirements, if applicable
- Annual audit compliance

Docusign Envelope ID: DF65FB98-592F-82D8-80FB-1BBCE5A6A758

Topic	Requirement
Engineering Services Procurement	All projects must comply with N.C.G.S. 143-64.31 (Article 3D) governing procurement of architectural, engineering, and surveying services. Qualification-based selection cannot be waived under N.C.G.S. 143-64.32. Any services procured outside of federal and state requirements will be ineligible for disbursement.
Davis-Bacon & American Iron and Steel (AIS)	All SRF-funded projects must comply with Davis-Bacon prevailing wage requirements and American Iron and Steel provisions. Standard specifications are available on the DWI I Have Funding webpage.
Local Government Commission (LGC) Approval	Projects that include a repayable DWI loan must receive approval from the Local Government Commission (LGC). Final debt approval occurs after construction bids are received and must be coordinated directly with the LGC. Required materials should be emailed to srf@nctreasurer.com.
Legislative Notification (G.S. 120-157.2)	Local governments issuing debt greater than $1,000,000 must submit a notification letter to the Joint Legislative Committee on Local Government (Committee Chairs, Committee Assistant, and Fiscal Research Division) at least 45 days prior to presentation before the LGC. A copy of this letter must also be provided to DWI.
Annual Audit Requirement	Local government recipients must be current on all annual audits to receive loan or grant disbursements. The most recent audited financial statements must be submitted to the LGC by July 1 following the close of the fiscal year.
Extended Term Loans	Projects eligible for a targeted interest rate that demonstrate a weighted average design life greater than 20 years may qualify for an extended loan term, up to the calculated design life (not to exceed 30 years). Requests must be coordinated with the DWI Project Manager and supported by the design life calculation found on the I Have Funding webpage.
Coordination with Other Funding Sources	SRF funds may not duplicate costs already funded by another state or federal source. Recipients must notify the DWI Project Manager if they have secured or are seeking other funding (including FEMA Public Assistance) for any portion of the project scope.
Declination of Funding	If the recipient chooses to decline this potential funding, a signed declination letter on official letterhead from the Authorized Representative must be submitted within 30 days of receipt of the Letter of Intent to Fund.
Future Funding Eligibility	Additional funding may only be considered for documented unfunded project costs. The amount identified in this Letter of Intent will not be considered in future applications. To pursue different funding terms for the same project through another DWI program, the recipient must reapply and formally decline this funding prior to the application deadline.

If you choose to decline this potential funding, please submit a signed declination letter on official letterhead within 30 days of receipt. If you have any questions, please contact the assigned Project Manager, Chris Graybeal.

Congratulations on the selection of your application for a funding award.

Sincerely,

DocuSigned by:
6300A872077B4C5...

Shadi Eskaf, Director
Division of Water Infrastructure, NCDEQ

Docusign Envelope ID: DF65FB98-592F-82D8-80FB-1BBCE5A6A758

Enclosures: Federal Tax ID/Unique Entity ID (UEID) Form
Engineering Services Procurement Certification Form
Sales Tax Certification form
Sample Resolution
Site Certification Form

EC: Richmard Hicks, Town of Black Mountain, richard.hicks@tobm.org
Carson Childers, McGill Associates, carson.childers@mcgillassociates.com
Chris Graybeal (via email)
DWI Agreement ID 2000087849 **(COM – LOIF)**

Docusign Envelope ID: C4DB950F-9E67-4A7F-9232-6033D887C63C

JOSH STEIN
Governor
D. REID WILSON
Secretary
SHADI ESKAF
Director

NORTH CAROLINA
Environmental Quality

February 4, 2026

Jessica Trotman, Asst. Town Manager
Town of Black Mountain
160 Midland Avenue
Black Mountain, NC 28711

Subject: Letter of Intent to Fund
Town of Black Mountain
Drinking Water Resiliency Improvements
SRF Helene Rolling Application Cycle
SWIA Award Date: December 10, 2025
Project No.: SRF-D-HEL-0012
Agreement ID: 2000087849

Dear Manager Trotman:

The Division of Water Infrastructure has reviewed your funding application for the project listed above, and we're pleased to share that the State Water Infrastructure Authority (SWIA) has determined your project is eligible for funding through the State Revolving Fund Supplemental Appropriations for Hurricanes Helene and Milton and the Hawai'i Wildfires (referred to as the "SRF Helene" funds).

These funds are intended to support projects that strengthen infrastructure resilience—either by reducing flood risk and vulnerability or by improving preparedness for rapid hydrologic changes and other natural disasters. The funding information is as follows:

Funding Information

Funding Source/Type:	Drinking Water State Revolving Fund (DWSRF) Loan Helene Funds
Funding Amount*:	$4,999,632 total funding including: $4,999,632 at 100% Principal Forgiveness (PF) Total award includes $4,999,632 in PF and $0 in Loans
Loan Term:	Not applicable
Total Project Cost:	$4,999,632

Docusign Envelope ID: C4DB950F-9E67-4A7F-9232-6033D887C63C

Fee: 2% of the Funding Amount to be invoiced after bids are received (can be financed with Principal Forgiveness awarded in the project)

Division's Project Manager(s)

Suzanne Molloy (PM): suzanne.molloy@deq.nc.gov
828-296-4590

Please note that this intent to fund is contingent on the Division receiving funds from the US EPA, approval of the loan portion through the Local Government Commission (if applicable), and on meeting all of the following milestones:

Milestone*	**Date**
Engineering Report Submittal	7/15/2026
Engineering Report Approval**	12/1/2026
Bid and Design Package Submittal	6/1/2027
Bid and Design Package Approval	10/1/2027
Advertise Project, Receive Bids, Submit Bid Information, and Receive Authority to Award	2/2/2028
Execute Construction Contract(s)	5/2/2028

*Failure to meet any milestone may result in the forfeiture of funding for the proposed project.

**Funding offer will be prepared after Engineering Report approval.

The first milestone is the submittal of an Engineering Report by the date shown above. The Engineering Report must be developed using the guidance found on our website's *I Have Funding* webpage under the Engineering Report section. Failure to meet any milestone may result in the forfeiture of funding for the proposed project. A funding offer will be prepared after approval of the Engineering Report.

The Division's *I Have Funding* webpage at https://www.deq.nc.gov/about/divisions/water-infrastructure/i-have-funding contains guidance, checklists and templates to use for funded projects.

Upon detailed review of the project during the funding process, it may be determined that portions of your project are not eligible for funding and the total funding amount may be reduced. Additionally, changes in the scope or priority points awarded – based on additional information that becomes apparent during project review – may also result in changes to the total funding amount and loan terms.

Docusign Envelope ID: C4DB950F-9E67-4A7F-9232-6033D887C63C

Submittal of Project Documents to the Division on Laserfiche
All project documents are to be submitted to the Division via Laserfiche at the following link: https://edocs.deq.nc.gov/Forms/DW-Document-Upload-Form.

Disbursement of Funds
Funds are disbursed to the Recipient for eligible costs that are documented as part of the project only after the costs have been incurred by the Recipient and all necessary documentation has been received and approved by the Division beforehand. If the Recipient requests funds prior to paying contractors, the Recipient will have three business days to pay contractors upon receipt of funds. Costs incurred since the onset of the hurricane may be eligible if they are related to the project scope and all SRF Helene requirements had been met by the time costs have been incurred.

Prior to requesting the first disbursement on your project, you will be asked to submit to the Division, via the Laserfiche link above, several required documents including but not limited to:

1. One copy of the original funding offer-and-acceptance document, executed by the Authorized Representative for the project, along with the "Conditions and Assurances". Note that the funding offer will be prepared after approval of the Engineering Report.
2. A Resolution adopted by the governing body accepting the funding offer and making the applicable assurances contained therein (sample included).
3. Federal Tax ID/Unique Entity ID (UEID) Form (attached).
4. Sales Tax Certification form, if applicable (attached).
5. One copy of all executed service agreements and/or contracts.
    - Note that these contracts must be fully executed with signatures from both parties, effective dates, and where applicable, signed and dated performance and payment bonds and Powers of Attorney (must be dated on or after the agreement effective date), Certificates of Insurance with active policies, and signed and dated Notice to Proceed.
6. Engineering Services Procurement Certification Form.
7. Site Certification form, if applicable (Certification Regarding Uniform Relocation Assistance and Real Property Acquisition Policies (URLAP) Act of 1970) (attached).

The Division will communicate with you when these documents will be required. In addition, loans (if applicable) must be approved by the Local Government Commission prior to disbursement.

Once all documents have been received and approved, the Recipient will request disbursements via the Division's EBS System Log-in located at https://www.ebs.nc.gov/logon/index.html. A reference copy of the Division's Disbursement Request Form, a link to the online EBS portal, and a list of frequently asked questions can be accessed from the Division's webpage at https://www.deq.nc.gov/construction-disbursement-funds.

Docusign Envelope ID: C4DB950F-9E67-4A7F-9232-6033D887C63C

Please Submit the UEID Form
Upon receipt of this letter of intent to fund, please fill out the attached Federal Tax ID & Unique Entity ID (UEID) form and submit it through LaserFiche using the link provided above.

Document Naming Conventions and Identification Requirements
To ensure efficient review and processing, all required documents must be clearly named and accurately identified when submitted via Laserfiche or any other designated portal. Please follow these conventions:

Use clear, consistent filenames. Name each file with a prefix that identifies the project number, followed by the document type, and then the date (e.g., SRP-W-ARP-0000_ Resolution__2025-01-18.pdf). This helps ensure your submission is correctly categorized and processed without delay.

Examples:

- SRP-W-ARP-0000_Resolution_2025-02-10.pdf
- SRP-D-ARP-0000_ExecutedEngineeringContract_2025-01-15.pdf
- SRP-W-134-0000_UEIForm_2025-02-01.pdf
- SRP-W-ARP-0000_InsuranceCertificate_2025-03-05.pdf
- SRP-D-134-0000_SiteCertification_2025-01-30.pdf

Engineering Services Procurement
All projects must comply with North Carolina General Statute 143-64.31, Article 3D Procurement of Architectural, Engineering, and Surveying Services. Projects cannot be exempted from qualification-based selection of these services under N.C.G.S. 143-64.32. Any services provided that were not selected in compliance with federal requirements will be ineligible for reimbursement.

Davis-Bacon Requirements and American Iron and Steel Provisions
Projects funded through the State Revolving Fund (SRF) programs must comply with Davis -Bacon wage requirements and American Iron and Steel provisions. You can find standard specifications covering these requirements on our website's *I Have Funding* section.

Approval of Debt by Local Government Commission
Projects funded with a Division of Water Infrastructure repayable loan component must receive approval from the Local Government Commission (LGC). Final approval of debt must be coordinated directly with the LGC after construction bids are received. Materials must be emailed to srf@nctreasurer.com.

Docusign Envelope ID: C4DB950F-9E67-4A7F-9232-6033D887C63C

Joint Legislative Committee on Local Government Notification Requirements
In accordance with G.S. 120-157.2, local government units with projects that require debt to be issued greater than $1,000,000 **must** submit a letter to Committee Chairs, Committee Assistant, and the Fiscal Research Division of the General Assembly at least 45 days prior to presentation before the Local Government Commission. You are responsible for submitting that letter and providing a copy to the Division.

Local Government Units Must Be Current on Annual Audits
Units of local government must be current on their annual audits to receive disbursements from the loan or grant award. Funded local government units must submit their audited financial statement of the latest fiscal year to the Local Government Commission by July 1 of the following calendar year to comply with this requirement.

Extended Term Loan
Projects that qualify for a targeted interest rate and demonstrate in the Engineering Report a weighted average design life for the major components of the project greater than 20 years are eligible for an extended loan term up to the calculated weighted average design life, but not to exceed 30 years. Request an extended term by contacting your project manager and provide the necessary calculation (see the design life workbook in the Engineering Report section of the *I Have Funding* webpage).

Coordination of Funding from Other Sources
Funding must not be used to cover the costs of the Recipient for which alternative funding from another state or federal agency has already been secured. In order to avoid duplication of funding and to streamline project review and approvals, please inform the Division's project manager if you already have secured or are seeking funding from another state or federal agency (including FEMA-Public Assistance) for any part of the scope for this project.

Declination of Intent of Funding
If you choose to decline the potential for funding as identified in this Letter of Intent to Fund, please submit a signed letter on official letterhead from the Authorized Representative as identified in the funding application within 30 days of receipt of this letter.

In accordance with the Division's policy, this project will only be eligible for additional funding if there are documented unfunded project costs. The funding amount identified in this Letter of Intent to Fund will not be considered in future funding applications. If you intend to seek different funding terms for the same project and costs through a different Division of Water Infrastructure funding source, you must reapply for the project and formally decline this potential for funding prior to the application deadline.

If you have any questions, please contact the assigned Project Manager, Suzanne Molloy.

Docusign Envelope ID: C4DB950F-9E67-4A7F-9232-6033D887C63C

Congratulations on the selection of your application for a funding award.

Sincerely,

DocuSigned by:
6300A872077B4C5...
Shadi Eskaf, Director
Division of Water Infrastructure, NCDEQ

Enclosures: Federal Tax ID/Unique Entity ID (UEID) Form
Engineering Services Procurement Certification Form
Sales Tax Certification form
Sample Resolution
Site Certification Form

EC: Jessica Trotman, Town of Black Mountain, jessica.trotman@tobm.org
Carson Childers, McGill Associates, carson.childers@mcgillassociates.com
Suzanne Molloy (via email)
DWI Agreement ID 2000087849 **(COM – LOIF)**

PRELIMINARY OPINION OF PROBABLE COST
WATER SUPPLY & DISTRIBUTION RESILIENCY IMPROVEMENTS
TOWN OF BLACK MOUNTAIN
JULY 2026

ITEM	DESCRIPTION	QUAN.	UNIT	UNIT PRICE	TOTAL
1	Mobilization (3.0%)	1	LS	3%	$ 220,300
2	Water Supply Well, Preliminary Drilling	2	EA	$ 50,000	$ 100,000
3	Water Supply Well, Final Development	2	EA	$ 150,000	$ 300,000
4	Existing Supply Well Piping, Building, and Site Modifications	10	EA	$ 40,000	$ 400,000
5	8" DIP Water Line, Well Transmission Line	1000	LF	$ 120	$ 120,000
6	6" DIP Water Line. Well Transmission Line	500	LF	$ 95	$ 47,500
7	4" DIP Water Line, Well Transmission	500	LF	$ 85	$ 42,500
8	2" HDPE Water Line, Well Transmission	1000	LF	$ 60	$ 60,000
9	Backup Generators, Supply Wells	5	EA	$ 75,000	$ 375,000
10	Existing Supply Well SCADA Telemetry	11	EA	$ 12,000	$ 132,000
11	Well Treatment Building Modifications	1	LS	$ 30,000	$ 30,000
13	6" DIP Water Line, Chapel Rd	2,000	LF	$ 95	$ 190,000
13	12" DIP Water Line, Shumate Rd	1,250	LF	$ 200	$ 250,000
13	24" Bore & Jack with Carrier Pipe	200	LF	$ 500	$ 100,000
15	Reconnect to Existing Water Line	4	EA	$ 9,500	$ 38,000
16	6" Gate Valve	6	EA	$ 5,500	$ 33,000
17	12" Gate Valve	6	EA	$ 9,500	$ 57,000
18	Fire Hydrant Assembly	5	EA	$ 9,500	$ 47,500
19	Reconnect Existing Water Service	10	EA	$ 2,500	$ 25,000
20	Rock Excavation	250	CY	$ 300	$ 75,000
21	Select Backfill	300	CY	$ 60	$ 18,000
21	Asphalt Pavement Repair	500	LF	$ 95	$ 47,500
23	Water Line Creek Crossing, Complete, by Directional Drill or Open Cut	14	EA	$ 80,000	$ 1,120,000
24	0.75MG Storage Tank, Demo Existing Tank	1	LS	$ 2,500,000	$ 2,500,000
25	Booster Pump Station Generators, Miscellaneous Electrical Improvements	5	EA	$ 100,000	$ 500,000
26	Water Supply Well, Preliminary Drilling	2	EA	$ 75,000	$ 150,000
27	Water Supply Well, Final Development	2	EA	$ 140,000	$ 280,000
28	8" DIP Water Line	1000	LF	$ 85	$ 85,000
	CONSTRUCTION SUBTOTAL				**$ 7,343,300**
	CONTINGENCY				$ 734,400
	ENGINEERING DESIGN AND PERMITTING				$ 730,000
	BID AND AWARD				$ 60,000
	CONSTRUCTION OBSERVATION & ADMINISTRATION				$ 570,000
	LEGAL/EASEMENTS				$ 125,000
	FUNDING ADMINISTRATION				$ 80,000
	EMERGENCY RESPONSE PLAN				$ 50,000
	SUBTOTAL				$ 9,692,700
	2% Closing Costs				$ 193,854
	TOTAL PROJECT				**$ 9,886,554**

Notes:

1. All costs shown are in current dollars.

2. The Engineer maintains no control of labor costs, materials, equipment or services furnished by others, the Contractor(s)' methods for determining prices, or competitive or market conditions. The opinions herein for project and construction costs represent the Engineer's best judgment, and are based on experience and qualifications as a Professional Engineer who possesses familiarity with the construction industry. The Engineer does not guarantee the accuracy of the cost opinions which may vary from bids or actual project and construction costs.

3. Rock excavation or undercut of unsuitable material is not included in the above cost opinion.

4. Cost opinion based on LIDAR topographical data and conceptual site plan. Revisions to cost opinions should be expected after final design is complete.

TOWN OF BLACK MOUNTAIN

AGENDA ITEM SUMMARY

SUBMITTER:	Matt Begley, Recovery & Capital Programs Director	**MEETING DATE:**	August 10, 2026
AGENDA SECTION:	New Business	**DEPARTMENT:**	Administration

TITLE OF ITEM: A Resolution Authorizing the Task Order with Kimley-Horn and Associates, Inc. for Professional Engineering & Design Services for the Flat Creek Flood Mitigation Project.

SUGGESTED MOTION(S):
Motion to approve the resolution as presented.

SUMMARY:

Town Council will consider the attached Task Order for professional engineering and design services for the Flat Creek Flood Mitigation project. This project is grant funded through the North Carolina Emergency Management Disaster Relief and Mitigation Fund (NCEM DRMF), a State program providing Helene-impacted communities with an opportunity to invest in mitigation strategies to build a safer, more resilient North Carolina. The project itself includes three smaller projects outlined in the 2026 Draft Stormwater Capital Improvement Plan as FC-TRIB1-A, FC-TRIB1-B, and FC-TRIB1-C.

BUDGET IMPACT:

Is this expenditure approved in the current fiscal year budget? n/a

If no, describe how it will be funded. n/a

ATTACHMENTS:

1. R-26-XX_Resolution Auth Task Order & Budget Amend - Flat Creek Flood Mitigation
2. O-26-XX Flat Creek Flood Mitigation Capital Project Ordinance_2026.08.10
3. Flat Creek Flood Mitigation CIP Project Descriptions

4. Black Moutnain_IPO 3 - DRMF Flat Creek Culverts

Council Member ____ made a motion to approve the following resolution. A vote of ____.

A RESOLUTION AUTHORIZING THE TASK ORDER WITH KIMLEY-HORN AND ASSOCIATES, INC. FOR PROFESSIONAL ENGINEERING & DESIGN SERVICES AND ASSOCIATED BUDGET AMENDMENT FOR THE FLAT CREEK FLOOD MITIGATION PROJECT

RESOLUTION NO. R-26-XX

WHEREAS, the Town of Black Mountain (the "Town") has laid out several projects in the Flat Creek basin which could improve the flow of stormwater in the area in its draft 2026 Stormwater Master Plan; and

WHEREAS, Kimley-Horn and Associates, Inc. (the "Engineer"), a professional engineering firm was selected through a qualifications-based selection process in accordance with the North Carolina Mini-Brooks Act (G.S. 143-64.31); and

WHEREAS, the Town and the Engineer have previously entered into a Master Services Agreement to establish terms and conditions under which the Engineer provides professional services on an as-needed basis, through individually authorized Task Orders; and

WHEREAS, the attached Task Order covers nearly the entirety of expenses associated with engineering and design for the project; and

WHEREAS, Town staff recommends approval of the Agreement to allow timely engagement of professional services necessary to advance the grant-funded Flat Creek Flood Mitigation project; and

WHEREAS, the project is being funded under the North Carolina Emergency Management Disaster Relief and Mitigation Fund (NCEM DRMF) program; and

WHEREAS, the NCEM DRMF program is a reimbursement-based program; and

WHEREAS, the Town intends to use funding from the Stormwater Utility Fund to provide temporary cash flow for the project while reimbursements are processing; and

WHEREAS, the Town for these temporary cash flow funds to be repaid to the stormwater utility fund by no later than June 30, 2027.

NOW, THEREFORE, BE IT RESOLVED by the Town Council of the Town of Black Mountain, North Carolina, that:

1. The Town makes the following budget amendments to allocate funds to the design and engineering associated with the Flat Creek Flood Mitigation capital project.

Account Number	Account Description	Increase	Decrease
630-5500-57210	Capital Outlay – Land Improvements (Stormwater Fund)		$90,000.00
450-8517-52012	Professional Services – Engineering and Design (Flat Creek Flood Mitigation)	$90,000.00	

450-8517-43200	Grant Revenue – State (Flat Creek Flood Mitigation)		$535,700.00
450-8517-52012	Professional Services – Engineering and Design (Flat Creek Flood Mitigation)	$535,700.00	

2. The Town Council hereby authorizes the Interim Town Manager to execute any necessary budget amendments, contracts, or related documents required to implement this allocation, including the Task Order and associated Notice to Proceed for the Engineer to proceed with the outlined scope of work on the Flat Creek Flood Mitigation project, as presented.

Adopted this 10th day of August, 2026.

_____
C. Michael Sobol, Mayor

Attest:

_____
Wesley M. Barker, Town Clerk

Town of Black Mountain
Flat Creek Flood Mitigation Project
Capital Project Fund Ordinance
Ordinance No: O-26-XX

BE IT ORDAINED by the Town Council of the Town of Black Mountain, North Carolina, that, pursuant to the Local Government Budget and Fiscal Control, a local government may, in its discretion, authorize and budget for a capital project or a grant project in a project ordinance adopted pursuant to G.S. 159-13.2. A project ordinance authorizes all appropriations necessary for the completion of the project and neither it nor any part of it need be readopted in any subsequent fiscal year; and the following Capital Project Fund Ordinance is hereby created as follows:

Section 1: Project Defined
The Town of Black Mountain defines a "Capital project" as a project financed in whole or in part by the proceeds of bonds, notes or debt instruments or a project involving the construction or acquisition of a capital asset with expenditures that span across multiple fiscal years.

Section 2: Project Authorization
The project authorized is for the purpose of completing the Flat Creek Flood Mitigation Project (outlined as projects FC-TRIB1-A, FC-TRIB1-B, and FC-TRIB1-C in the 2026 Draft Stormwater Capital Improvement Plan).

Section 3: Funding
The project is funded in whole or in part by the North Carolina Emergency Management Disaster Relief and Mitigation Fund (NCEM DRMF) grant program and is being supplied with cash flow by a transfer from the stormwater utility fund to be repaid to the stormwater utility fund no later than June 30, 2027.

Section 4: Directives
The officers of the Town of Black Mountain are hereby directed to proceed with the capital project within the terms and budget contained herein, as approved by the Governing Board of the Town of Black Mountain. The Town Manager is hereby directed to act on behalf of the Town Council in all matters associated with the project within the terms of all contracts, agreements, and legal requirements binding on the project and within limits of the appropriate funds.

Section 5. Revenues

The following anticipated Revenues are hereby adopted:

Budgeted Revenues	
Revenue Type	***Anticipated Revenues***
Allocation Project Grant Funding (NCEM DRMF)	$535,700.00
Cash Flow Source (Capital Outlay Land Improvements – Stormwater Utility Fund)	$90,000.00
Total Revenue	**$625,700.00**

Section 6. Expenditures

The following anticipated appropriations are hereby adopted:

Budgeted Expenditures	
Expenditure Type	***Anticipated Expenditures***
Professional Services – Design and Engineering	$535,700.00
Repayment to Cash Flow Source (Capital Outlay Land Improvements – Stormwater Utility Fund)	$90,000.00
Total Expenditure	**$625,700.00**

Section 7. Records and Reporting

The Finance Director is hereby directed to maintain within the Capital Project Fund sufficient specific detailed accounting records to satisfy the disclosure requirements of all the contractual agreements, if applicable.

Section 8. Authority to Manage Accounts

The Town Manager and/or the Finance Director has the authority to transfer funds; both expenditures and revenues, between the accounts contained within the capital project as may be necessary, provided however that the total expenditures equal the total revenues and that expenditures may not exceed the project total without an amended ordinance from council.

Section 9. Official Copies

Copies of this Capital Project Ordinance shall be furnished to the Town Clerk, the Town Manager and the Finance Director for the direction in carrying out this project.

Section 10. Budget Inclusion

Authorized project expenditures represent appropriations necessary for the completion of projects and therefore do not require re-appropriation in any subsequent fiscal year. However, per G.S. 159-13.2 information on project ordinances will be included in the annual budget. Each year the finance officer shall include within the budget information in such detail as he or the governing board may require concerning each grant project or capital project. This information will be detailed for any new project funds expected to be authorized by project ordinance during the budget year and include information on projects authorized by previously adopted project ordinances which have remaining appropriations available for expenditure during the budget year.

Section 11. Project Expiration
This project ordinance expires when the project has been completed and all of the Project Funds have been obligated and expended by the Town OR by the date set forth within the grant funding contract, if applicable, whichever comes first.

Duly adopted this 10th day of August 2026.

_____
C. Michael Sobol
Mayor

ATTEST:

_____
Wesley M. Barker
Town Clerk

PROJECT NAME: **Portmanvilla Rd Stormwater Improvements** **PROJECT ID:** **FC-TRIB1-A**

PROJECT INFORMATION

LOCATION: Portmanvilla Rd near Davis Dr
WATERSHED: Flat Creek
STORMWATER PROJECT TYPE: Stormwater Drainage
DRAINAGE IMPROVEMENTS (LF): 540

PROJECT DESCRIPTION

To improve level of service for surrounding roadways and reduce flood risk to nearby property owners:

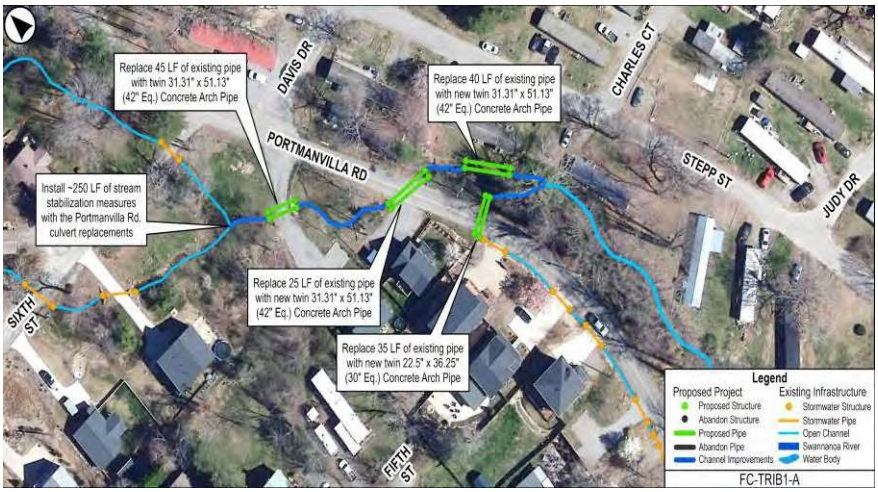
- Replace existing 15-inch CMP with 35 LF of twin 22.5" x 36.25" (30" Eq) Concrete Arch Pipe.
- Replace existing 30-inch CMP with 45 LF of twin 31.31" x 51.13" (42" Eq) Concrete Arch Pipe.
- Replace existing upstream private pipe with 25 LF of twin 31.31" x 51.13" (42" Eq) Concrete Arch Pipe.
- Replace existing downstream private pipe with 40 LF of twin 31.31" x 51.13" (42" Eq) Concrete Arch Pipe.
- Install approximately 250 LF of stream stabilization measures.

PROJECT PRIORITIZATION and LEVEL OF SERVICE

CRITERIA	TOTAL SCORE
Utility Conflict	8
Street Flooding	32
Public or Privately-Owned Land	8
Effect of Improvements	15
Cost Effectiveness	20
Grant Bonus	2
Criticality Bonus	2
FINAL PROJECT SCORE:	**87**

KEY CROSSING	EXISTING	PROPOSED	% REDUCTION
Portmanvilla Rd (15" CMP)	< 2-YR	50-YR	100
Portmanvilla Rd (30" RCP)	2-YR	50-YR	100

PROJECT AREA MAP



PROJECT NAME: **6th Street Culvert Replacements and Stream Stabilization** **PROJECT ID:** **FC-TRIB1-B**

PROJECT INFORMATION

LOCATION:	6th St near Portmanvilla Rd	STORMWATER PROJECT TYPE:	Stormwater Drainage
WATERSHED:	Flat Creek	DRAINAGE IMPROVEMENTS (LF):	500

PROJECT DESCRIPTION

To improve level of service for surrounding roadways and reduce flood risk to nearby property owners:

- Replace existing 15-inch CMP with 20 LF of twin 22.5" x 36.25" (30" Eq) Concrete Arch Pipe.
- Replace existing 42-inch CMP with 30 LF of twin 26.625" x 43.75" (36" Eq) Concrete Arch Pipe.
- Install approximately 150 LF of stream stabilization measures upstream of the proposed culverts.
- Install approximately 250 LF of stream stabilization measures downstream of the proposed culverts.

PROJECT PRIORITIZATION and LEVEL OF SERVICE

CRITERIA	TOTAL SCORE
Utility Conflict	12
Street Flooding	24
Public or Privately-Owned Land	8
Effect of Improvements	10
Cost Effectiveness	20
Grant Bonus	2
Criticality Bonus	2
FINAL PROJECT SCORE:	**78**

KEY CROSSING	EXISTING	PROPOSED	% REDUCTION (50 YR)
6th St at Portmanvilla Rd	< 2-YR	50-YR	100
6th Street	10-YR	50-YR	100

PROJECT AREA MAP

PROJECT NAME: **7th Street Culvert Replacements and Stream Stabilization** **PROJECT ID:** **FC-TRIB1-C**

PROJECT INFORMATION

LOCATION: 7th St near Portmanvilla Rd
WATERSHED: Flat Creek
STORMWATER PROJECT TYPE: Stormwater Drainage
DRAINAGE IMPROVEMENTS (LF): 210

PROJECT DESCRIPTION

To improve level of service for surrounding roadways and reduce flood risk to nearby property owners:

- Replace existing 15-inch CPP with 25 LF of 22.5" x 36.25" (30" Eq) Concrete Arch Pipe.
- Replace existing triple 24-inch CMP with 25 LF of twin 22.5" x 36.25" (30" Eq) Concrete Arch Pipe.
- Install approximately 110 LF of stream stabilization measures.

PROJECT PRIORITIZATION and LEVEL OF SERVICE

CRITERIA	TOTAL SCORE
Utility Conflict	12
Street Flooding	24
Public or Privately-Owned Land	8
Effect of Improvements	20
Cost Effectiveness	20
Grant Bonus	2
Criticality Bonus	1
FINAL PROJECT SCORE:	**87**

KEY CROSSING	EXISTING	PROPOSED	% REDUCTION
7th St at Portmanvilla Rd	< 2-YR	50-YR	100
7th Street	2-YR	25-YR	78

PROJECT AREA MAP

Docusign Envelope ID: AC4B38B4-F693-8517-81F1-64113848343B

INDIVIDUAL PROJECT ORDER NUMBER 03

Describing a specific agreement between Kimley-Horn and Associates, Inc. (the Consultant), and the Town of Black Mountain (the Client) in accordance with the terms of the Master Agreement for Continuing Professional Services dated 10/14/2025, which is incorporated herein by reference.

Identification of Project:

Project Name: Flat Creek Flood Mitigation Project
KH Project Manager: Jason Claudio-Diaz
KH Project Number: 016490005

Project Understanding:

The Town of Black Mountain (The Client) intends to use the North Carolina Disaster Relief and Mitigation fund (DRMF) to fund the planning, design, and permitting services for flood mitigation efforts along the Flat Creek corridor. Specifically, culvert replacements and streambank stabilization on Flat Creek Tributary 1 were identified in the preliminary study completed by WK Dickson. A detailed description and scope of services are included below.

Specific scope of basic Services:

Task 1 – Data Collection
Kimley-Horn will provide field surveys to document the size, material, condition, and location of drainage systems. The survey will also include 1-foot topographic mapping, utility locates (NC811), location of trees greater than 12” diameter at breast height (dbh), property lines (for up to 20 parcels), right-of-way, curb, sidewalk, edge of pavement, fencing, structures, and other items located within the survey as shown in the attached survey area exhibit. The survey sub-consultant will provide survey notification to the affected property owners. Kimley-Horn will also conduct an on-site visual assessment to document existing conditions.

This task includes subsurface utility engineering (SUE) level B, which includes marking the presence and approximate horizontal position of the subsurface utilities by use of geophysical prospecting techniques.

A geotechnical sub-consultant will perform up to six (6) Standard Penetration Test (SPT) soil borings to a planned depth of 15 feet or to auger refusal/skewing. Groundwater measurements will be taken within the boreholes. The geotech will perform laboratory testing consisting of Atterberg limits, water content and grain size analysis. The geotech will provide a written summary report documenting the work, providing descriptions of the encountered subsurface conditions, providing headwall later earth pressure parameters and foundation support recommendations, and discussing geotechnical-related aspects of construction. The bore holes will be backfilled with soil and capped with asphalt cold patch (if required).

Task 2 – Public Involvement
Kimley-Horn will conduct three (3) in-person public meetings. Kimley-Horn will provide the public meeting material (1-2 posters, a sign-in sheet, and handouts), document the general conversation, and provide meeting summaries. Kimley-Horn will prepare flyers and mailers for each meeting. The Town or Land of Sky will assist with the distribution and display of the flyers in public locations.

Task 3 – Hydraulic Design
Kimley-Horn will update the existing models used in the previously completed stormwater study using the information collected in Task 1. Kimley-Horn will use the existing models (if available) as a basis for the

Docusign Envelope ID: AC4B38B4-F693-8517-81F1-64113848343B

proposed conditions models. If the existing models are not available, Kimley-Horn will create existing conditions models. It is anticipated that the proposed improvements will be designed to provide capacity for greater than the 50-year design event without overtopping and will check for pressurized flow. Kimley-Horn will perform an attenuation analysis to estimate the effect of attenuation within the system due to the culverts being in a series. Kimley-Horn will provide a basis-of-design report to document the calculations and assumptions made during the design and modeling of the proposed improvements.

This task also includes an analysis of potential downstream impacts using the 10% rule. The project will be analyzed to estimate impacts to the downstream infrastructure up to a point where the project drainage area is equal to 10% of the total drainage area. Based on the location of this project, downstream impacts are not anticipated. It is assumed that no new hydrology calculations or modeling is required and is not included in this scope of services.

Kimley-Horn will complete an evaluation of existing channel form and processes, including bed material, bank stability, entrenchment, width-to-depth ratio, sinuosity, and floodplain connectivity, to inform restoration and stabilization strategies. The design of stream stabilization measures is consistent with natural channel design techniques, which may include bank grading, floodplain benching, riffle–pool sequencing, step-pool structures (where appropriate), use of large woody material, and native substrate and vegetative reinforcement. Lastly, the integration of stream stabilization design with culvert geometry to provide continuity of slope, alignment, and bed material through the crossing reduces hydraulic drops and minimizes long-term maintenance and scour risks.

Task 4 – Plans and Cost Estimate
Kimley-Horn will prepare plans and an opinion of probable construction costs (OPCC) for review by Land of Sky and the Town. The following items will be completed:

- 30% Conceptual Design
    - Summary of existing conditions, including survey
    - Basis of design report
    - Plan view of proposed design elements in a detailed exhibit.
    - Estimate of quantities and OPCC
    - Identify necessary easements required to complete the project and coordinate with the Town. Easement negotiations may be performed as an additional service.
    - Coordinate with the public and private utility providers within the proposed project limits. Utilities will be located using 811 and will be included in Task 1. This task does not include any utility relocation design. It is assumed that the proposed improvements can be made without relocation or major adjustments to the utilities.
- 60% Design Plans
    - Plans to include: Cover, Notes, Index, Legend, Plan View, Grading Limits, Utility Conflicts, Details, and Tree Protection Plan.
    - Minor utility conflict design. No major relocation is assumed as part of this scope. Minor utility relocations are assumed to include underground electric, service water and gas, and underground cable. Sewer relocations, water or gas distribution, overhead power, and fiber optic lines are considered major.
    - Estimate of quantities and OPCC
    - Prepare easement exhibits (up to twenty (20)) and up to twenty-five (25) hours of discussions with the property owners affected by the project. This task does not include the preparation of plats, appraisals, or negotiations.
- 90% Design Plans
    - 60% plans and Storm Profiles, Invert Tables, Cross-Sections, Planting Plans, Traffic Control, Erosion and Sediment Control
    - Estimate of quantities and OPCC
    - Kimley-Horn will perform the structural design of reinforced concrete or precast concrete headwalls and wingwalls, including evaluation of geometry (parallel, flared, or straight wing

Docusign Envelope ID: AC4B38B4-F693-8517-81F1-64113848343B

configurations), hydraulic entrance considerations, and compatibility with culvert material and size. Kimley-Horn will coordinate with a qualified geotechnical subconsultant to perform subsurface exploration at representative culvert and headwall locations. The subconsultant will prepare a geotechnical engineering report summarizing subsurface conditions and providing foundation recommendations for culverts and headwalls, including bearing capacity, settlement considerations, lateral earth pressures, excavation support considerations, and construction recommendations. Kimley-Horn will incorporate geotechnical recommendations into the final design documents.

- Final Plans
    - Updates to the 90% plans will meet the requirements of the Town, NCDOT, and NC Department of Environmental Quality (NCDEQ) Stormwater Design Manual.
    - Project manual and technical specifications
    - Quantities and Final OPCC
    - Permits (see Task 5)
    - A cost-benefit analysis is not assumed in this scope.

Quality Assurance/Quality Control.

- Kimley-Horn will implement the processes that are defined in our internal Quality Assurance/Quality Control Manual. These include creating a project work plan that includes what will be reviewed, who is reviewing it, when it will be reviewed, and setting internal deadlines to provide time for the reviews and for updating based on input. The deliverables will be reviewed for accuracy, completeness, and logic. The senior project manager is responsible for this task.
- In addition to the reviews, Kimley-Horn will also maintain appropriate records of the projects and activities. This often includes a document that is maintained throughout the life of the project. This document will include all meeting minutes, copies of client directives, a summary of decisions, significant correspondence, copies of deliverables, invoices, schedules, exhibits, quality control reviews, and agency comments.

Task 5 – Permitting

Kimley-Horn will prepare and submit permit applications with the 60% plans for the following permits that are expected to be required for the project:

- NCDEQ – Erosion and Sediment Control
    - Includes one (1) pre-construction meeting with NCDEQ staff.
    - Includes two (2) rounds of comments/revisions.
- Floodplain Development Permit
    - Includes one (1) pre-construction meeting with Town staff
    - Includes two (2) rounds of comments/revisions.
    - A CLOMR and LOMR is not included in this scope.
- Utilities (if applicable)
    - Includes two (2) rounds of comments/revisions.
- USACE/NCDWR – Section 404/401 Permitting
    - Aquatic Resources Delineation – Kimley-Horn will review readily available data and conduct field reconnaissance to verify the presence or absence of potential waters of the U.S., including wetlands. Soils, vegetation, and hydrology will be evaluated at representative locations and documented using USACE Regional Supplement Data Forms within Ecobot, with wetlands identified using the USACE 1987 Manual and the applicable regional supplement. Wetland and open water boundaries, stream origins, and flow-regime changes will be flagged and numbered in the field, with streams evaluated using the NCDWR methodology. Sub-meter GNSS data will be collected for all flagged features and

Docusign Envelope ID: AC4B38B4-F693-8517-81F1-64113848343B

road crossings and used to support client planning figures and USACE verification. Following completion of field delineation, Kimley-Horn will prepare a formal Aquatic Resources Delineation Report (ARDR) suitable for USACE permitting coordination. The ARDR will document identified aquatic resources, applicable regulatory context, investigation methods, resource descriptions, supporting figures/photos/data forms, and an opinion of jurisdiction based on current guidance. GIS shapefiles of delineated resources and associated data, along with project figures for Client use, will also be provided.

- NCSHPO Consultation – Kimley-Horn will review the North Carolina State Historic Preservation Office (NCSHPO) HPOWEB GIS Service to identify documented historical, architectural, or cultural resources known to occur within the project area. Following the review, Kimley-Horn will prepare and submit a project scoping letter to NCSHPO requesting review and comment for the proposed site. If any historical, architectural, or cultural resources are identified within the project area, then further coordination with NCSHPO may be necessary and would be completed as an additional service.
- T&E Species Assessment & USFWS Consultation – Kimley -Horn will conduct a protected species assessment to identify wildlife protected under federal laws, including the Endangered Species Act (ESA), Migratory Bird Treaty Act (MBTA), and Bald and Golden Eagle Protection Act (BGEPA), administered by the U.S. Fish and Wildlife Service (USFWS).

  The assessment will compile and evaluate readily available federal and state databases and GIS resources to identify documented occurrences of federally threatened and endangered (T&E) species, migratory birds, bald and golden eagles, potentially suitable habitat, environmentally sensitive land uses, and designated critical habitat within the Project Area. Data sources reviewed will include USGS topographic maps, aerial imagery, LiDAR, National Wetlands Inventory (NWI) mapping, USFWS Information for Planning and Conservation (IPaC), and the North Carolina Natural Heritage Program (NCNHP) Online Data Explorer.

  Based on a preliminary review of the USFWS IPaC database conducted on May 4, 2026, the following federally listed species are documented within the Project Area watershed:

  - **Mammals:**
    - Tricolored Bat (*Perimyotis subflavus*) – Federally Endangered (Proposed)
    - Gray Bat (*Myotis grisescens*) – Federally Endangered
  - **Reptiles:**
    - Bog turtle (*Glyptemys muhlenbergii*) – Similarity of Appearance (Threatened)
  - **Insects:** Monarch Butterfly (*Danaus plexippus*) – Federally Threatened (Proposed)
  - **Amphibians:** Eastern hellbender (*Cryptobranchus alleganiensis alleganiensis*) – Federally Endangered (Proposed)

  Kimley-Horn will prepare a brief protected species habitat assessment memorandum summarizing regulatory context, methods, key findings, and site-specific conclusions, with habitat mapping attached. The memo will assess the need for species-specific pedestrian surveys; if recommended, Kimley-Horn will provide a separate scope and fee and notify the Client if subcontracting is required. Upon Client authorization, the memo may be submitted to the USFWS to initiate consultation, with any additional agency-requested work treated as additional services.

Docusign Envelope ID: AC4B38B4-F693-8517-81F1-64113848343B

- Section 404/401 Permitting – Kimley-Horn will prepare and submit the required Section 404/401 permit applications (Pre-Construction Notifications) to the USACE and the NCDWR. This scope assumes the proposed culvert replacements qualify for Nationwide Permit (NWP) 3 (Maintenance) and NWP 27 (Aquatic Habitat Restoration, Enhancement, and Establishment). It is assumed that an Individual Permit will not be required and is not a part of this scope of services. Kimley-Horn will coordinate agency submittals and support permitting review, including participation in one (1) pre-application meeting with USACE and NCDWR staff. Any permitting actions beyond these assumptions would be considered additional services.

Task 6 – Construction Administration

Kimley-Horn will provide bid assistance to the Town. The bid assistance will include responding to three (3) rounds of questions/requests for more information (RFI). We will also attend the pre-bid conference and bid opening. Kimley-Horn will compile the bids and review them for completeness and responsiveness. Kimley-Horn will issue applicable addenda and will distribute bid documents as requested by bidders. It is assumed that we will provide up to ten (10) full-size sets of plans. Kimley-Horn will review the responsive bidder(s) packages to verify that each bid package is complete and is compliant with DRMF requirements.

Kimley-Horn will provide limited construction administration services. We will organize and attend the pre-construction meeting, up to forty-eight (48) weekly construction coordination calls (up to 1 hour in duration), twelve (12) monthly progress meetings (up to 1 hour in duration, in addition to travel), and three (3) punch list meetings, including at substantial completion, final inspection, and the 10-month warranty. Kimley-Horn will coordinate with a subconsultant for construction engineering and inspection (CEI), including management of the CEI scope, participation in progress meetings, review of inspection reports, and coordination.

Kimley-Horn will not supervise, direct, or control Contractor's work, and will not have authority to stop the Work or responsibility for the means, methods, techniques, equipment choice and use, schedules, or procedures of construction selected by Contractor, for safety programs incident to Contractor's work, or for failure of Contractor to comply with laws. Consultant does not guarantee Contractor’s performance and has no responsibility for Contractor's failure to perform in accordance with the Contract Documents.

Kimley-Horn is not responsible for any duties assigned to it in the construction contract that are not expressly provided for in this Agreement.

We will compile and review change order requests (up to 3). Kimley-Horn will provide redline markups of the plans that document any field or design changes during construction. No new survey or construction stake-out is assumed in this scope of services. We will also provide an Operation and Maintenance (O&M) Plan to the Town following the completion of construction. The O&M plan will provide details on ownership, recommended regular and long-term maintenance, and items that should be inspected by the Town, including some typical issues that may be encountered and typical remedies for those issues.

Kimley-Horn may require special inspections or material testing of the Contractor's work and may receive and review certificates of inspections within the Consultant’s area of responsibility. Kimley-Horn’s review will be solely to determine that the results indicate compliance with the Contract Documents and will not be an independent evaluation that the content or procedures of such inspections, tests, or approvals comply with the Contract Documents. Kimley-Horn is entitled to rely on the results of such tests. Inspections and testing services are not included in this scope of services.

Kimley-Horn will respond to reasonable and appropriate up to five (5) Contractor requests for information made in accordance with the Contract Documents and issue necessary clarifications and interpretations. Any orders authorizing variations from the Contract Documents will be made only by the Client.

Docusign Envelope ID: AC4B38B4-F693-8517-81F1-64113848343B

Kimley-Horn will review Shop Drawings and Samples and other data that the Contractor is required to submit, but only for general conformance with the Contract Documents. Such review and any action taken in response will not extend to means, methods, techniques, equipment choice and usage, schedules, or procedures of construction or to related safety programs. Any action in response to a shop drawing will not constitute a change in the Contract Documents, which can be changed only through the Change Orders.

Kimley-Horn will, if requested by the Client, render a written decision on all claims of the Client and Contractor relating to the acceptability of Contractor's work or the interpretation of the requirements of the Contract Documents. In rendering decisions, Consultant shall be fair and not show partiality to Client or Contractor and shall not be liable in connection with any decision.

When requested by Contractor and Client, Kimley-Horn will conduct a site visit to determine if the Work is substantially complete. Work will be considered substantially complete following satisfactory completion of all items with the exception of those identified on a final punch list.

Kimley-Horn will conduct a final site visit to evaluate whether the completed Work of Contractor is generally in accordance with the Contract Documents and the final punch list so that Consultant may recommend final payment to Contractor.

Kimley-Horn will conduct a site visit at 10-months after the final completion visit. We will provide a punch list if applicable, or a letter affirming the project is complete.

Kimley-Horn will assist Land of Sky in coordinating and submitting the required closeout requirements for the DRMF funding, including a closeout letter indicating the project is complete, and all funds were used, the Summary of Documentation form, copies of all invoices, and a copy of proof of payment, bid documents, contracts, insurance documentation, and required photographs (if applicable).

Task 7 – Project Management
Kimley-Horn will provide bi-weekly email updates to the Town and Land of Sky and will attend up to thirty-six (36) monthly coordination calls (virtual) to provide progress reports to the Town and Land of Sky. It is assumed that these calls will be up to 1 hour in duration. Kimley-Horn will assist Land of Sky in providing grant compliance quarterly progress reports to NCEM. Kimley-Horn will also attend up to two (2) site visits with Land of Sky and the Town's staff as needed. It is anticipated that these visits will be up to 1 hour in duration, plus travel. Kimley-Horn will provide bi-weekly email updates to the Town. This task also includes schedule updates and invoice preparation.

Additional Services if required:
Any services not specifically provided for in the above scope will be billed as additional services and performed at Kimley-Horn's then-current hourly rates. Additional services Kimley-Horn can provide include, but are not limited to, the following:

- Major utility relocation design and permitting, including water, sewer, and private utilities.
- Structural design (it is assumed that the recommended stormwater components will all be NCDOT standard details)
- Real estate services
- Post construction survey
- Meetings and site visits beyond what is listed above
- Plan updates or redesign based on project budgets or bidding
    - It is assumed that parts of the project may be removed to bring the project within budget, and no redesign is included.
- Construction inspections and testing
- Audit Support

Docusign Envelope ID: AC4B38B4-F693-8517-81F1-64113848343B

Information Provided By Client

Kimley-Horn shall be entitled to rely on the completeness and accuracy of all information provided by the Client or the Client's consultants or representatives.

Responsibilities of Client

In addition to other responsibilities set out in this Agreement, the Client shall:

- Assist with coordination with the property owners within the project area.
- Provide meeting space for the public meetings.

Schedule:

Kimley-Horn will perform the services as expeditiously as practicable with the goal of meeting a mutually agreed-upon schedule. It is assumed that the final deliverable will be provided within five hundred and forty (540) days of notice to proceed. Schedule is contingent upon timely agency review and response.

- Task 1: Data Collection — 45 days from NTP
- Task 2: Public Involvement — 60 days from NTP
- Task 3: Hydraulic Design — 90 days from NTP
- Task 4: Plans and Cost Estimates — 540 days from NTP
- Task 5: Permitting — 450 days from NTP
- Task 6: Construction Administration — 12-month duration (assumed)
- Task 7: Project Management — on-going
- Expenses — on-going

Fees and Expenses:

Kimley-Horn will perform the services in Tasks 1-7 for the total lump sum labor fee below.

Task	Description	KH Fee
1	Data Collection	$18,000
2	Public Involvement	$18,700
3	Hydraulic Design	$78,700
4	Plans and Cost Estimate	$94,900
5	Permitting	$92,500
6	Construction Admin	$67,900
7	Project Management	$53,500
n/a	Expenses	$36,600
n/a	Terracon (geotech)	$11,900
n/a	Pilot SE (survey)	$58,000
n/a	Telics (real estate)	$5,000
n/a	Terracon (CEI)	n/a[1]
	Total Lump Sum Fee	$535,700

1 Services to be scoped at a future date

Lump sum fees and expenses will be invoiced monthly based upon the overall percentage of services performed. Payment will be due within 25 days of your receipt of the invoice and should include the invoice number and Kimley-Horn project number.

Docusign Envelope ID: AC4B38B4-F693-8517-81F1-64113848343B

ACCEPTED:

CLIENT	**KIMLEY-HORN AND ASSOCIATES, INC.**
BY:_____	BY: DocuSigned by: Jason Lee Claudio-Diaz 4FEAC9A7F9F946F...
TITLE:_____	TITLE: Vice President
	P.E. No.: 035665
DATE:_____	DATE: 7/24/2026

rev 1/2021

TOWN OF BLACK MOUNTAIN

AGENDA ITEM SUMMARY

SUBMITTER:	Richard Hicks, Interim Town Manager	**MEETING DATE:**	August 10, 2026
AGENDA SECTION:	New Business	**DEPARTMENT:**	Administration
TITLE OF ITEM:	Proposed Contract for 2027 July 4th Fireworks Show		

SUGGESTED MOTION(S):

I move that Council authorize the Interim Town Manager to Execute the Contract for the 2027 July 4th Fireworks Show.

SUMMARY:

PyroWright has provided the Town with a proposed fireworks agreement for the July 4, 2027 Fireworks Show. They are asking that the contract be executed as soon as possible, so they can purchase the fireworks at the lowest cost possible. The price under the new agreement would be $20,000, compared to $18,500 for the 2026 show. The price increase is due to the restocking of their inventory since the tariff increases. They base their prices on what they currently have in inventory and the price that was paid at the time of purchase and passing the savings to the customer. By delaying the contract, the Town would be subject to potential new price increases.

BUDGET IMPACT:

Is this expenditure approved in the current fiscal year budget? Yes

If no, describe how it will be funded.

ATTACHMENTS:

1. black mountain contract 070427 Fireworks

PyroWright
FIREWORKS

This Agreement, made this 14th day of *July*, 2026 , by and between Pyrowright L.L.C. located at 268 Flat Creek Road, Black Mountain, North Carolina 28711, hereinafter referred to as "Pyrowright" and _____ with its principle place of business located at _____ _____ hereinafter referred to as "Customer." The parties listed above hereby agree as follows:

If this contract is not signed by Pyrowright and customer within 15 days of date above, Pyrowright has the right to withdraw this offer.

Show Date: _July 4th 2027_
Show time: _9:15 p.m.__
Show duration: 18 minutes
Cost of show if no rain date used: $20,000.00
**Rain date: August 7, 2027 (Sourwood Festival)

I. FIREWORKS DISPLAY: Pyrowright agrees to furnish to customer a firework display (hereinafter "Show") pursuant to the display agreement set forth in this contract.

II. CANCELLATION: Should Customer elect to CANCEL the Show for any reason, Customer must provide Pyrowright with a thirty (30) days' written notice by certified mail, return receipt, to Pyrowright address as set forth above. Customer agrees that Pyrowright shall incur substantial expenses in preparation for the Show and, accordingly, agrees to pay Pyrowright fifty (50%) of the total contract price for the show as liquidated damages for cancellation. If customer provides written notice between 30 days and one day prior to the show date, seventy-five (75%) of the total cost will be paid to Pyrowright by customer. If the Customer does not provide Pyrowright with notice as set forth herein, Customer shall pay Pyrowright the entire amount or one hundred percent (100%) of the contract price for the Show as liquidated damages. (If we set up the show, it fires that night, RAIN OR SHINE.)

III. RAIN DATE: Pyrowright and customer together shall determine what weather conditions prohibit Pyrowright from proceeding with the Show; in which case, Pyrowright agrees to present the Show on the previously agreed upon rain date for an additional fee of $1,500.00

provided the show has not been set up. You can make the decision any time before the original show is set up to use your rain date.

IV. SECURITY AREA: Customer agrees to furnish sufficient space for Pyrowright to properly conduct the Show as determined by NFPA 1123-2026 "Security Area". Customer agrees to provide adequate security protection to preclude persons unauthorized by Pyrowright from entering the Security Area. For the purposes of the Agreement, "Unauthorized Persons" shall mean anyone other than the employees of Pyrowright or specifically approved by Pyrowright prior to the event.

V. SITE CLEANUP: Pyrowright shall be responsible for basic cleanup of the launch area to include policing of the fallout zone for any unexploded ordinance and removal of all large paper debris, wood, wire, foil, racks, mortars and firing equipment used in the setup for the show, to the best of our ability. Customer shall be responsible for cleanup of small debris located in and around fallout zone.

VI. INDEMNIFICATION AND HOLD HARMLESS: Customer agrees to hold Pyrowright harmless from any damages caused to Customer which result as a consequence of unauthorized persons entering the Security Area. Furthermore, Customer agrees to defend and indemnify Pyrowright from any and all claims brought against Pyrowright for damages caused wholly or in part by Unauthorized Person who have entered the Security Area.

VII. SITE PREPERATION: Customer is responsible for the preparation of the fallout area. Including grass being mowed to under six (6) inches tall at time of setup. Wetting the fallout area if needed. Removing any equipment or flammable objects.

VIII. SITE SECURITY: In the event of the show being on site and loaded, but not fired on the original show date, customer shall be responsible for site security until all equipment owned by PyroWright can be safely removed.

IX. COMPLIANCE WITH THE LAWS AND REGULATIONS: Promptly upon the execution of this Agreement, Customer shall apply for the approval hereof to any agency, officer or authority of any government if such approval is required by any applicable law, ordinance, code or regulation. Customer agrees to indemnify and hold harmless Pyrowright from against all claims, suits, and causes of action, demands, penalties, losses or damages which may arise or accrue because of the failure or neglect of customer to obtain such approval. This Agreement is made expressly subject to and Customer expressly agrees to comply with and abide by all applicable laws, ordinances, codes and regulations insofar as the same may be applicable to the terms and conditions of this Agreement, including all rules and regulations now existing or that may be promulgated under and in accordance with any such law or laws.

X. PERMITS AND LICENSES: Customer shall assist Pyrowright in the acquisition and maintenance of all necessary permits and licenses to enable Pyrowright to perform fully hereunder unless otherwise forbidden by any other applicable statute, rule or otherwise. Any expenses for security or stand by fire protection shall be the responsibility of the customer beyond the original contract price.

XI. LATE PAYMENT: Pyrowright shall charge, and Customer agrees to pay, one- and one half percent (1.5%) per month late payment fee for each month until Pyrowright is paid the amount set forth in Paragraph XV herein. The stated late payment fee shall begin to run from the applicable date(s) established in Section XV, unless this provision is prohibited by law.

XII. ADVERTISEMENT AND PROMOTIONS: Customer agrees to state that fireworks display is being provided by Pyrowright in all advertisements and promotions mentioning the fireworks display written or spoken. Furthermore, Customer agrees to allow Pyrowright to use sponsors name and/or logo in Pyrowright list of clients and any Pyrowright advertisements and promotions.

XIII. COMPLAINTS: In the event that Customer has a complaint concerning the Show, or any material or product used in or pursuant to the Show, or of the conduct of the Show by Pyrowright, or any act or omission of Pyrowright or its agents, either directly or indirectly, without limitation, Customer shall make complaint known to Pyrowright in writing by certified mail to Pyrowrights' address as set forth above, within five (5) days after the date of the Show. In the event that Customer fails to register any complaint in the time and in the manner specified, Customer agrees that it shall not claim such complaint as cause for an offset or withhold any payment due to Pyrowright hereunder on account of or because of such complaint or any matter arising from, relating to or a consequence of the complaint. Furthermore, Customer agrees that should Pyrowright have to collect any amount due Pyrowright hereunder which Customer claims as an offset or which is withheld by Customer on account of, or because of, a complaint not registered with Pyrowright in the time and in the manner specified herein, by law or through an Attorney-at Law, Pyrowright shall be entitled to collect attorneys' fees in the amount of 15% of the amount owing Pyrowright or the maximum amount allowed by law, whichever is greater, along with all cost of collection.

XIV. INSURANCE: Pyrowright shall provide $1,000,000.00 General Liability Insurance single limit, covering its activities and services in connection with the show described in this contract. Pyrowright also agrees to include Customer as additional Insured under the terms of this coverage. Pyrowright will provide a certificate of Insurance. All entities listed on the certificate will be deemed an additional Insured per this contract. Pyrowright agrees to include: _____ as additional insured under the terms of this coverage.

XV. SHELL COUNT AND MISFIRE ALLOWANCE: The amount of each size shell and cake shall be as follows:

Shells	cakes
2" x_____	_____
2.5"x_____	
3" x___480_____	
4" x___120_____	
5" x____85_____	
6" x____18_____	

There may be more shells provided, but NEVER less.

There shall be an allowance of 10% of total fireworks to malfunction.

If there is more than 10% but less than 25% of the shell count that did not fire, Pyrowright shall reimburse customer 10% of original show cost. If there is 25% to 50% of shells and cakes left Pyrowright shall reimburse customer 25% of show cost. If there are over 50% of fireworks that did not fire due to Pyrowright error or equipment failure (excluding defective shells), the customer shall receive 50% of the original price of the show.

The above conditions mentioned in this paragraph shall only apply if the extra left-over shells are a result of Pyrowright error and in no way pertain to weather, customer, AHJ, or other force that may stop the show.
If the show is stopped by AHJ or customer, this will be considered a cancelation and billed 100%.

XV. PAYMENT TERMS: _____ shall pay Pyrowright the amount of $ 10,000.00 (50% of show) upon signing of contract. And the remaining amount due as described in this contract no later than fifteen (15) days after the original show date.

XVI. TAXES: Customer shall be responsible for all applicable sales taxes. IMPORTANT: Checks must be payable to Pyrowright L.L.C.

XVII. All the terms and conditions set forth on any addendum attached to this Agreement are made part of this Agreement and incorporated by reference herein. IN WITNESS

WHEREOF, the parties have hereunto set their hands and seals the day and year first written above.

Pyrowright L.L.C. BY: _____

Date _____ James L. Wright: President

CUSTOMER BY: _____ _____

_____ Date _____

Print Name Title_____ _____

Please Make checks payable to Pyrowright L.L.C. and mail to 268 Flat Creek road, Black Mountain N.C. 28711

TOWN OF BLACK MOUNTAIN

AGENDA ITEM SUMMARY

SUBMITTER:	Richard Hicks, Interim Town Manager	**MEETING DATE:**	August 10, 2026
AGENDA SECTION:	New Business	**DEPARTMENT:**	Administration

TITLE OF ITEM: Ordinance to Amend the Fiscal Year 2026-27 Town Budget

SUGGESTED MOTION(S):
I move that Council adopt the Ordinance to Amend the FY26-27 Budget.

SUMMARY:

When the FY 26/27 budget was adopted, it included an appropriation of $125,000 of fund balance in the General Fund Budget. Staff was instructed to begin looking at potential expenditure reductions to eliminate the need for the fund balance appropriation. The attached budget amendment reduced the fund balance appropriation to $0.

BUDGET IMPACT:

Is this expenditure approved in the current fiscal year budget? n/a

If no, describe how it will be funded. n/a

ATTACHMENTS:

1. Ordinance to Amend the FY26-27 Budget_2026.08.10

AMENDMENT TO FY 26/27 BUDGET ORDINANCE
TOWN OF BLACK MOUNTAIN
Ordinance No. # O-26-xx

BE IT ORDAINED by the Town Council of the Town of Black Mountain, North Carolina, that the following amendment is made to the annual budget ordinance for the fiscal year ending June 30, 2027.

Section 1: To amend the General Fund, the appropriations are to be changed as follows:

Department	Account	Account Name	Decrease	Increase
Administration	100-4020-51510	Professional Dues	$2,000.00	
	100-4020-51511	Employee Continuing Education	$2,000.00	
	100-4020-52020	Contract Services	$1,000.00	
	100-4020-52212	Utilities - Refuse Disposal	$3,000.00	
Human Resources	100-4025-51013	Employee Appreciation Expense	$2,236.00	
Finance	100-4030-52111	Bank Service Charges	$15,000.00	
	100-4030-51511	Employee Continuing Education	$2,000.00	
Information Technology	100-4040-52115	Technology Software & License	$4,000.00	
	100-4040-52213	Utilities - Communication	$3,000.00	
Police	100-4510-52020	Contract Services	$32,164.00	
	100-4510-52212	Utilities - Refuse Disposal	$3,000.00	
Public Works	100-4610-52510	Non Capital Equipment	$1,500.00	
Building & Grounds	100-4615-52310	Repair/Maintenance Building	$3,000.00	
Streets	100-4620-52216	Utilities - Streetlights	$3,000.00	
	100-4620-52510	Non Capital Equipment	$2,500.00	
Sanitation	100-4640-52110	Disposal Fees	$5,000.00	
Parks & Recreation	100-4700-51511	Employee Continuing Education	$1,500.00	
	100-4700-53000	Programs & Events	$5,000.00	
Pool	100-4710-57510	Capital Outlay - Furnishings	$9,100.00	
	100-4710-52112	Credit Card Processing Fees	$5,000.00	
	100-4710-52420	Specialty Operating Supplies	$5,000.00	
Golf	100-4750-52020	Contract Services	$10,000.00	
	100-4750-57610	Capital Outlay	$5,000.00	
		Total	$125,000.00	$0

Section 2: To amend the General Fund, the estimated revenues are to be changed as follows:

Account	Account Name	Decrease	Increase
100-0000-48900	Appropriated Fund Balance	$125,000.00	

The budget officer has perfomed a thorough analysis of revenues and expenditures and is recommending approval of the amendments as presented.

the Finance Officer for their direction.

Section 3: Copies of this budget amendment shall be furnished to the Town Clerk, and to the Budget Officer and

ADOPTED this the 10th day of August, 2026 by the Town Council of the Town of Black Mountain.

C. Michael Sobol
Mayor

ATTEST:

Wesley Barker
Town Clerk

TOWN OF BLACK MOUNTAIN

AGENDA ITEM SUMMARY

SUBMITTER:	Richard Hicks, Interim Town Manager	**MEETING DATE:**	August 10, 2026
AGENDA SECTION:	New Business	**DEPARTMENT:**	Administration

TITLE OF ITEM: Ordinance To Amend The Highway 70 Waterline Replacement Fund

SUGGESTED MOTION(S):

I move that Council adopt the Ordinance to amend the Highway 70 Waterline Replacement Fund Budget as presented.

SUMMARY:

At the prior meeting, Council awarded the bid for the Highway 70 Waterline Replacement Project to Cooper Construction Company, Inc. in the amount of $796,345.00. The attached budget amendment brings the total project costs to $989,986.00.

BUDGET IMPACT:

Is this expenditure approved in the current fiscal year budget? Yes, once budget amendment is approved.

If no, describe how it will be funded. n/a

ATTACHMENTS:

1. Hwy 70 Waterline Replacement Budget Amendment

AMENDMENT TO THE HIGHWAY 70 WATERLINE REPLACEMENT CAPITAL PROJECT ORDINANCE
TOWN OF BLACK MOUNTAIN

BE IT ORDAINED by the Town Council of the Town of Black Mountain, North Carolina, that the following amendment is made to the Highway 70 Waterline Replacement Capital Project Ordinance for the fiscal year ending ending June 30, 2027

Section 1: To amend the Helene Instrastructure Fund, the appropriations are to be changed as follows:

Department	Account	Account Name	Decrease	Increase
Helen Water Infrastructure	450-8516-59510	Transfers Out (Hwy 70 Waterline		$489,986.00
		Total		$489,986.00

Section 2: To amend the Helene Water Infrastructure Fund, the estimated revenues are to be changed as follows:

	Account	Account Name	Decrease	Increase
Helene Water Infrastructure	450-8516-43100	Grant Revenues - Federal		$489,986.00
		Total		$489,986.00

Section 3: To amend the Highway 70 Waterline Replacement Fund, the estimated revenues are to be changed as follows:

	Account	Account Name	Decrease	Increase
Hwy 70 Waterline	450-8510-48590	Transfers In (Helene Water Fund)		$489,986.00
		Total		$489,986.00

Section 4: To amend the Highway 70 Waterline Replacement Fund, the appropriations are to be changed as follows:

	Account	Account Name	Decrease	Increase
Hwy 70 Waterline	450-8510-52012	Professional Services - Engineering		$132,191.00
	450-8510-57615	Capital Outlay - Distribution Lines		$296,345.00
	450-8510-52016	Professional Services - Consultants		$11,450.00
	450-8510-55110	Contingency		$50,000.00
		Total		$489,986.00

The budget officer has perfomed a thorough analysis of revenues and expenditures and is recommending approval of the amendments as presented.

Section 3: Copies of this budget amendment shall be furnished to the Town Clerk, and to the Budget Officer and the Finance Officer for their direction.

ADOPTED this the 10th day of August, 2027 by the Town Council of the Town of Black Mountain.

C. Michael Sobol
Mayor

ATTEST:

Wesley Barker
Town Clerk

TOWN OF BLACK MOUNTAIN

AGENDA ITEM SUMMARY

SUBMITTER:	Richard Hicks, Interim Town Manager	**MEETING DATE:**	August 10, 2026
AGENDA SECTION:	New Business	**DEPARTMENT:**	Administration
TITLE OF ITEM:	Ordinance to Amend the Ninth Street Bridge Project		

SUGGESTED MOTION(S):

I move that Council adopt the Ordinance to amend the 9TH Street Bridge Capital Project Ordinance as presented.

SUMMARY:

At the July 13, 2026 Council meeting, the Council concurred with the award of the construction bid for the 9th Street Bridge Replacement to Kemp Sigmon Construction Company, Inc. in the amount of $1,184,032. The Town's share for the total project is currently estimated at $414,528.00. There was an original appropriation of $120,000.00. The appropriation included in this budget amendment is for $294,528, which will meet the Town's match obligation of $414,528.00. The appropriation of $294,528 comes from the Powell Bill Fund.

BUDGET IMPACT:

Is this expenditure approved in the current fiscal year budget? Yes, after the budget amendment.

If no, describe how it will be funded. n/a

ATTACHMENTS:

1. 9th Street Bridge Budget Amendment

AMENDMENT TO THE 9TH STREET BRIDGE CAPITAL PROJECT ORDINANCE
TOWN OF BLACK MOUNTAIN

BE IT ORDAINED by the Town Council of the Town of Black Mountain, North Carolina, that the following amendment is made to the 9th Street Bridge Capital Project Ordinance for the fiscal year ending June 30, 2027

Section 1: To amend the Powell Bill Fund, the appropriations are to be changed as follows:

Department	Account	Account Name	Decrease	Increase
Powell Bill	220-4625-57610	Capital Outlay- Streets/Bridges	$200,000.00	
Powell Bill	220-7000-59510	Transfer Out (9th Street Bridge)		$294,528.00
		Total	$200,000.00	$294,528.00

Section 2: To amend the Powell Bill Fund, the estimated revenues are to be changed as follows:

	Account	Account Name	Decrease	Increase
Powell Bill	220-0000-48900	Appropriated Fund Balance		$94,528.00

Section 3: To amend the 9th Street Bridge Fund, the estimated revenues are to be changed as follows:

	Account	Account Name	Decrease	Increase
9th Street Bridge	400-8002-43200	Grant Revenue - State		$1,018,110.00
	400-8002-48590	Transfers In (Powell Bill Fund)		$294,528.00
		Total		$1,312,638.00

Section 4: To amend the 9th Street Bridge Fund, the appropriations are to be changed as follows:

	Account	Account Name	Decrease	Increase
9th Street Bridge	400-8002-52012	Professional Services - Engineering		$390,000.00
	400-8002-57110	Capital Outlay - Land/Easements		$7,449.73
	400-8002-57610	Capital Outlay - Bridge Construction		$915,188.27
		Total		$1,312,638.00

The budget officer has perfomed a thorough analysis of revenues and expenditures and is recommending approval of the amendments as presented.

Section 3: Copies of this budget amendment shall be furnished to the Town Clerk, and to the Budget Officer and the Finance Officer for their direction.

ADOPTED this the 10th day of August, 2027 by the Town Council of the Town of Black Mountain.

C. Michael Sobol
Mayor

ATTEST:

Wesley Barker
Town Clerk