



NORTH CAROLINA
Department of Transportation

2025 CAPA / NCDOT Asphalt Pavement Webinar

April 29, 2025

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

2025 CAPA / NCDOT Asphalt Pavement Webinar

AGENDA

- Hurricane Helene Recovery Update
- Contract Administration
- Treatment Type Selection
- Work Zone Traffic Control





NORTH CAROLINA
Department of Transportation



WNC STRONG

Helene Update

Mark Gibbs, PE

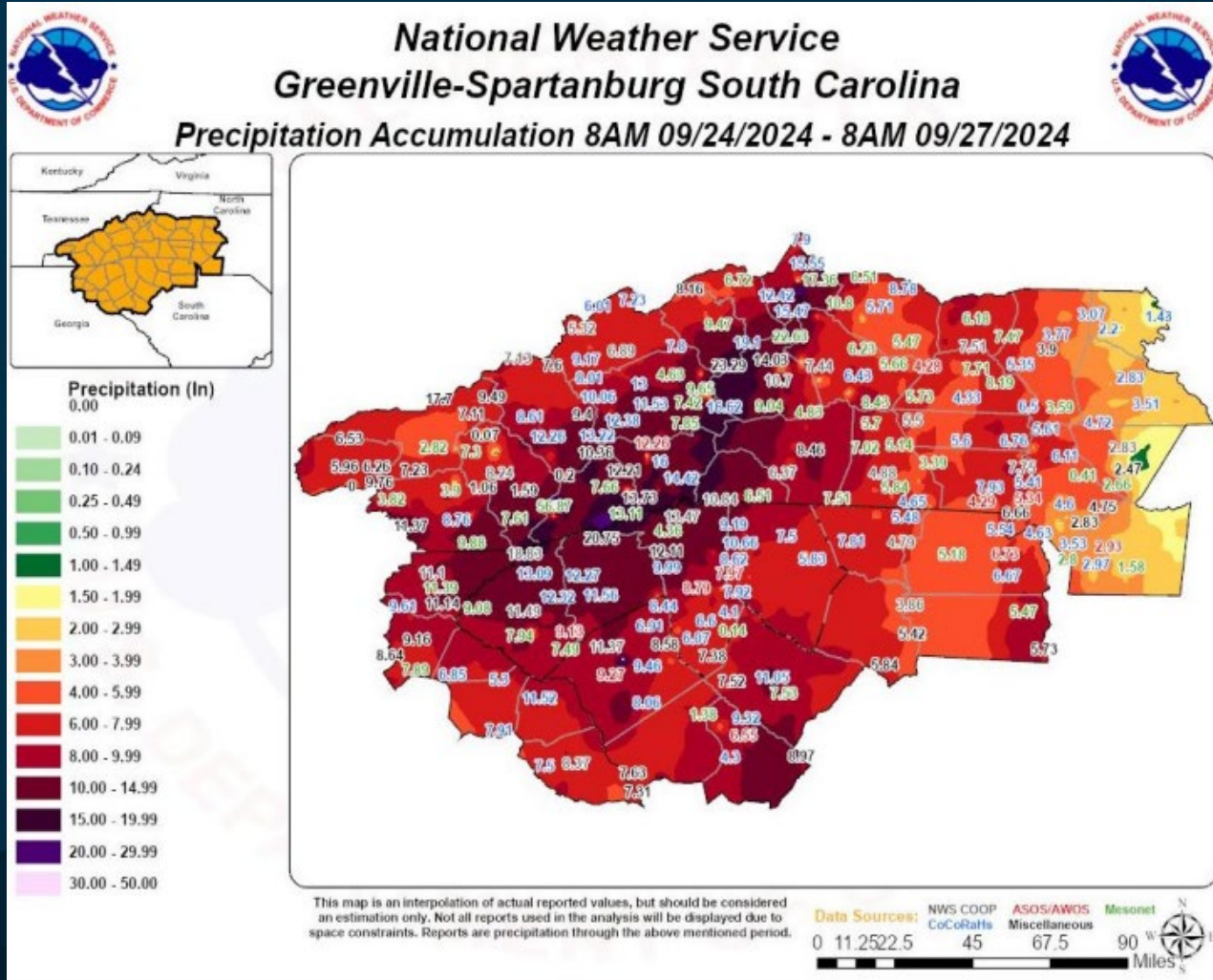
Western Deputy Chief Engineer

April 2025



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

Rainfall Totals During Helene

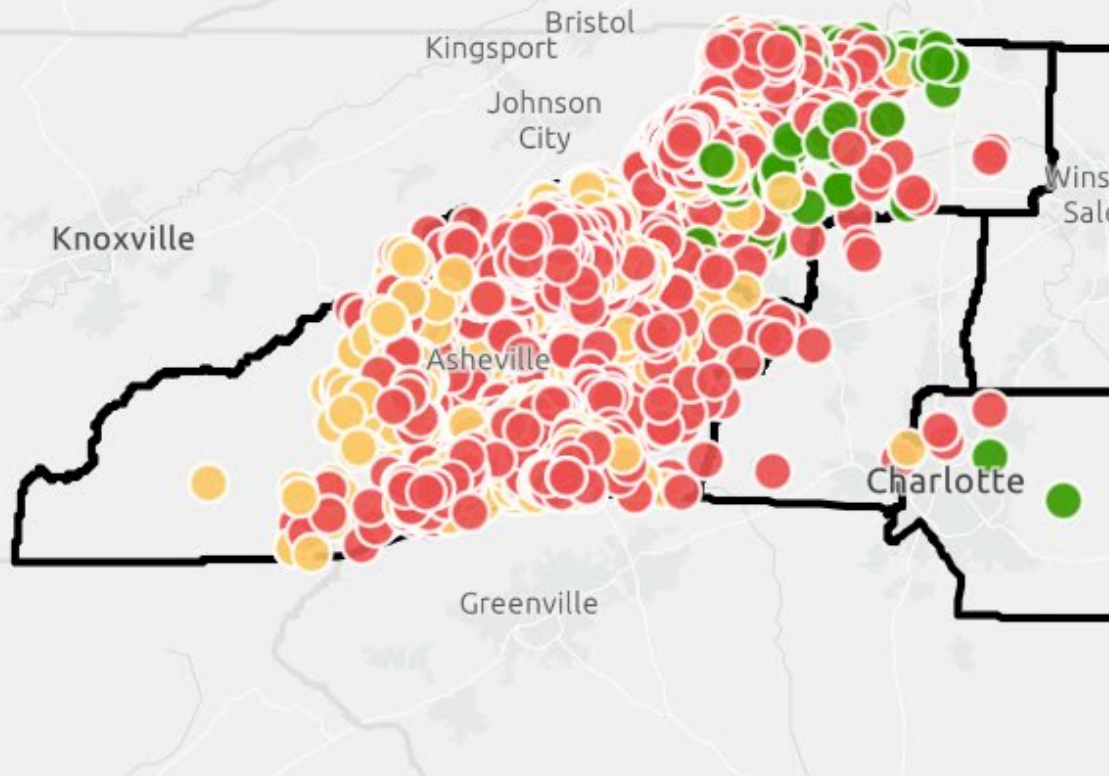


City	County	Rain (in)
Busick	Yancey	29.58
Mt Mitchell St. Park	Yancey	24.2
Spruce Pine	Mitchell	18.23
Davidson River	Transylvania	17.7
Foscoe	Watauga	16.42
Old Fort	McDowell	15.6
Whitehead	Alleghany	15.59
Hendersonville	Henderson	15.11
Swannanoa	Buncombe	14.81
North Cove Pinnacle	McDowell	14.75
Guion Farm	Henderson	14.73
Saluda	Polk	14.58
Highlands	Macon	14.52
Grandfather	Watauga	14.47
Watauga Medical Center	Watagua	10.98
Boone Precip 2 S	Watagua	9.21

- **2000 NCDOT Employees**
- **354 Contractor Firms**
- **61 Consultant Firms**
- **Kentucky Transportation Cabinet**
- **Florida DOT**
- **US Army**
- **NC National Guard**



9,400 Damage Sites
1,400 Roads Closed
96% Roads reopened



59 State-Maintained Roads remain closed

● 0 - 49% Complete

● 50-89% Complete

● >90% Complete



Garvey Bridge Rd



NC 81

843 Bridges Damaged
445 Bridges complete
13 Permanently Replaced

Gap Creek Rd



1,064 Pipes Damaged
1,021 Pipes Completed
4% Remaining

Lower Brush Creek Rd



Garren Creek Rd



Photo from Google Street View

Pre Storm



**US 19W
Near Ramesytown**

Post Storm



Current Condition



June 2023

US 64/US 74A Near Bat Cave

Photo from Google Street View





Photo from Google Aerial View

NC 197 Near Burnsville



Fruitland Rd Henderson County



Filter Plant Rd Haywood County



US 276 S Transylvania County



Major Corridors Damaged by Hurricane Helene

Route	County
I-40 Pigeon River Gorge	Haywood
Toe/Nolichucky	Yancey
US 19W North	Yancey
US 64/74 Chimney Rock	Rutherford
NC 197 Pensacola	Yancey
US 19W South	Yancey
US 74A	Henderson
US 64	Henderson



I-40 Pigeon River Gorge



Photo courtesy of Derek Lacey





Governor's Recovery Office
for WNC (GROW NC)

wncrecoveryn.nc.gov

Public Resources

NC Department of Public Safety
Emergency Management

ncdps.gov/Helene/PRB





Mark Gibbs, PE – WNC STRONG Manager
Western Deputy Chief Engineer

mtgibbs1@ncdot.gov

Alyson Tamer, PE, CPM
WNC STRONG Program Support Manager

awtamer@ncdot.gov



NORTH CAROLINA
Department of Transportation

CAPA – NCDOT Asphalt Pavement Webinar Contract Administration

Mark Biggerstaff, PE

April 29, 2025

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

Topics

- Roadway Bulletins
- Specification and Provision Highlights
- Railroad Coordination and Flagging
- E-Ticketing



Roadway Bulletins

Roadway Bulletins

Basic Information

- Distributed Quarterly
- Bulletins may:
 - Highlight Specifications, Special Provisions, or Detail Drawings.
 - Identify common construction issues.
 - Provide “Best Practices”
 - Summarize changes to Specifications, Special Provisions, or Detail Drawings.
- Bulletins DO NOT make changes to Standard Specifications or Special Provisions.

ROADWAY BULLETIN NCDOT CONSTRUCTION UNIT

Volume 4 / Issue 3



Fall 2024

BLOCK MASONRY CONSTRUCTION

Typically Contractors will utilize precast drainage structures whenever possible, but on occasion they may elect to construct the proposed structures utilizing concrete masonry block. The use of these blocks is more common in any necessary adjustments of the drainage structure to plan finished grade. Section 834 addresses construction using concrete block masonry. This section refers to Sections 840, 858, and 859 of the Standard Specifications. These sections further refer to Section 1040, which requires the use of concrete building block that meets ASTM C90. This section also states that the block shall be **pink** in color. The pink color would indicate that the block originated from a producer within the Department's QC/QA program.



The Solid Concrete Masonry Brick/Unit (CMU) Quality Control/Quality Assurance Program is designed to give producers more responsibility for controlling the quality of material they produce and to utilize the quality control information they provide in the acceptance process by the North Carolina

Department of Transportation (NCDOT). It requires producers to perform quality control sampling, testing and record keeping on materials they ship for use by the Department. Also, it requires the Department to perform quality assurance sampling, testing and record keeping confirming the performance of the producers / controlling plan.

Use of block/brick/units produced outside of the QC/QA program could result in a substandard final product for the Department and should be rejected. If you have questions, please contact the Area Construction Engineer and/or the Section Materials Specialist for your Division.

INTERSECTION RESURFACING LIMITS

An intersection detail was developed to provide consistency statewide regarding the limits of resurfacing. There is table for those intersections that require resurfacing beyond what is shown in the details. This detail shows the Contractor what to expect when bidding the resurfacing contract.

SECTION 800 - INTERSECTION RESURFACING		
Table to show resurfacing limits		
PROJECT	AREA	DATE

In This Issue:

1. Block Masonry
2. Intersection Detail
3. Snowplowable Marker Removal
4. 1099 Workers

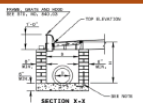
Want to read previous Construction Bulletins?

- [Click Here](#)

Have suggestions for future Construction Bulletins?

Email:

Brian Skeens and Liam Shannon



Roadway Bulletins

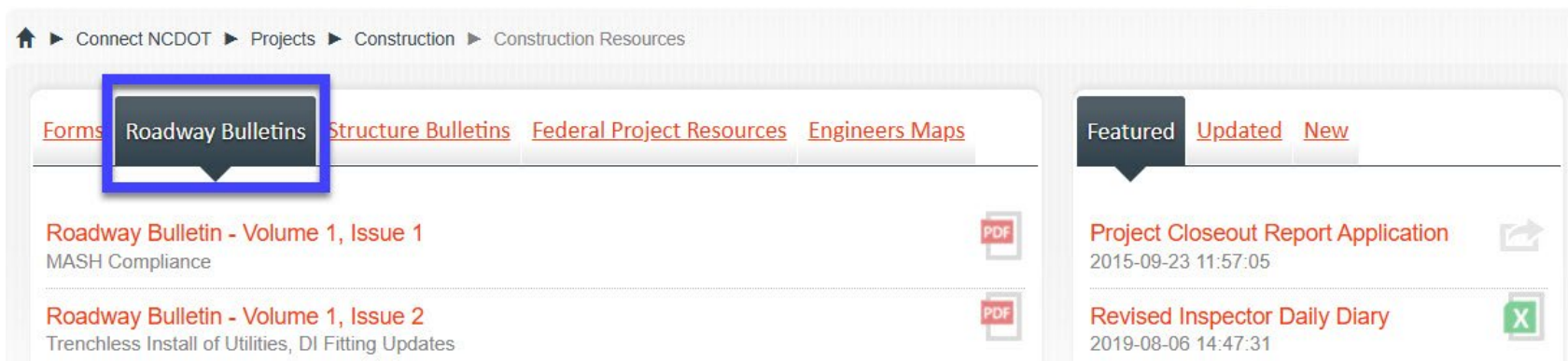
Where do I find them?

- Past Bulletins can be found on the Connect NCDOT webpage



Construction Resources

Construction forms, engineers maps, federal project resources, and roadway and structure bulletins.



<https://connect.ncdot.gov/projects/construction/pages/construction-resources.aspx>

Roadway Bulletins

How do I sign up to receive new ones?

- When new Bulletins are issued, they are distributed by email.
- You can sign-up to receive emailed Roadway Bulletins when they are distributed by scanning this QR code.
- Or sign up at this link
<https://forms.office.com/g/22ZS8GkcBG>



Roadway Bulletins

Asphalt Pavement Related Topics

- 2023 & 2024 Roadway Bulletins topics included:
 - Milling Asphalt Pavements
 - Patching Existing Pavement
 - Adjustment of Catch Basins, Manholes, Drop Inlets, Meter Boxes and Valve Boxes
 - M&T Walking Profiler
 - Timely Entry of Asphalt Densities
 - Intersection Resurfacing Limits Detail

Specification and Provision Highlights

Milling Asphalt Pavements (Section 607)

2024 Standard Specifications



- 2024 Standard Specifications
 - Milling for Butt Joints is paid as Incidental Milling.
 - Variable Depth Milling is intended for cross-slope situations, not for butt joints.
 - Incidental Milling also includes milling of irregular areas, full width turn lanes 500 ft in length or less, and intersections.
 - For turn lanes, the full width portion determines the length. Tapers are typically irregular areas.

OGAFC or UTBWC

Milled Butt Joints?

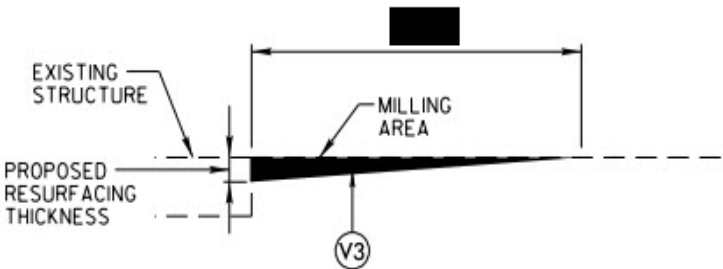
- Do you mill butt joints for OGAFC or UTBWC?
 - Some do and some do not.
 - Currently it is at the Division's preference.
- If you elect to mill butt joints.....
 - Show it in the plans!
 - Milled butt joints are incidental milling.



OGAFC or UTBWC

Example 1 (good example)

- Clearly shows the intent to mill butt joint for OGAFC.
- Clearly defines it will be paid as Incidental Milling.



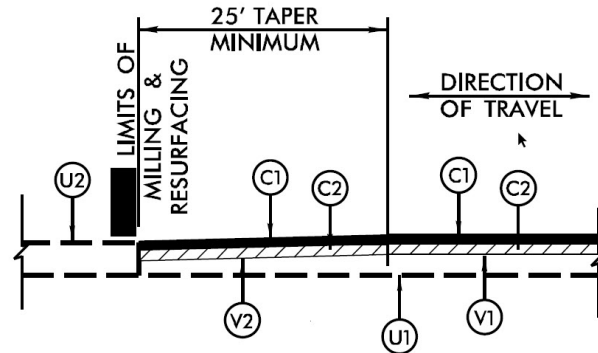
MILLING DETAIL AT BRIDGE APPROACHES

***WHERE BRIDGES WILL NOT BE RESURFACED.
THIS WILL BE PAID FOR AS INCIDENTAL MILLING.
USE AT BRIDGE NUMBERS 138, 143, 146, 149, 151 and 152.***

PAVEMENT SCHEDULE	
B1	PROP. OPEN-GRADED ASPHALT FRICTION COURSE, TYPE FC-1 MODIFIED, AT AN AVERAGE RATE OF 70 LBS. PER SQ. YD.
C1	PROP. APPROX. 2" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 224 LBS. PER SQ. YD.
U	EXISTING PAVEMENT
V2	MILLING ASPHALT PAVEMENT, 2" DEPTH
V3	INCIDENTAL MILLING
Z1	MILLED RUMBLE STRIPS (ASPHALT CONCRETE)

OGAFC or UTBWC

Example 2 (a few issues)



ULTRA-THIN BONDED WEARING COURSE TIE-IN DETAIL

BEGIN/END PROJECT, BRIDGE, AND RAMP TIE-INS

PAVEMENT SCHEDULE	
C1	5/8" ULTRA-THIN BONDED WEARING COURSE AT A RATE OF 70 LBS. PER SQ. YD.
C2	2" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C AT AN AVERAGE RATE OF 224 LBS. PER SQ. YD.
F	FOG SEAL - ROADWAY SURFACE TO BE SWEEPED PRIOR TO FOG SEAL APPLICATION
V1	MILL ASPHALT PAVEMENT, 2" DEPTH
V2	MILL ASPHALT PAVEMENT, VAR. DEPTH (2" TO 2 5/8")
R	MILLED RUMBLE STRIPS
U1	EXISTING PAVEMENT
U2	EXISTING OR PROP. PAVEMENT OR BRIDGE APPROACH SLAB

- Incorrect use of the variable depth milling item to construct a butt joint.
- Variable Depth Milling is intended for cross-slope situations, not for butt joints.
- Is this constructable?
- Butt joints are typically milled into the underlying pavement, not constructed from the bottom up.

New Detail Drawing

36

Y-Line Resurfacing Limits

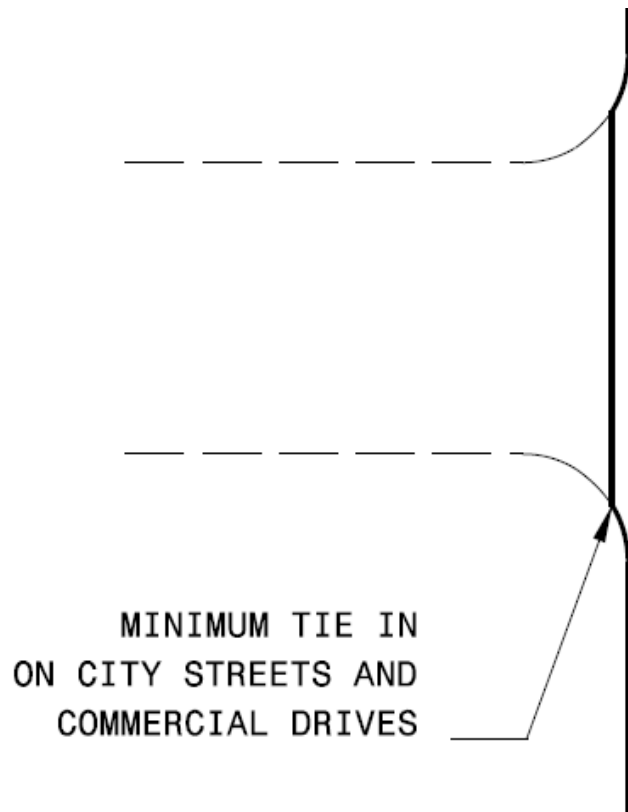
Detail Drawing Summary

- New detail drawing was developed for resurfacing contracts.
 - Should be included in all resurfacing contracts.
 - Not intended for use on TIP construction contracts.
 - Provides consistency statewide on the limits of resurfacing at Y-line intersections.
 - Clarity on limits for bidders, personnel engaged in contract assembly, and staff administering contracts.
 - Deviations from the typical limits are allowable but should be identified in the table provided.

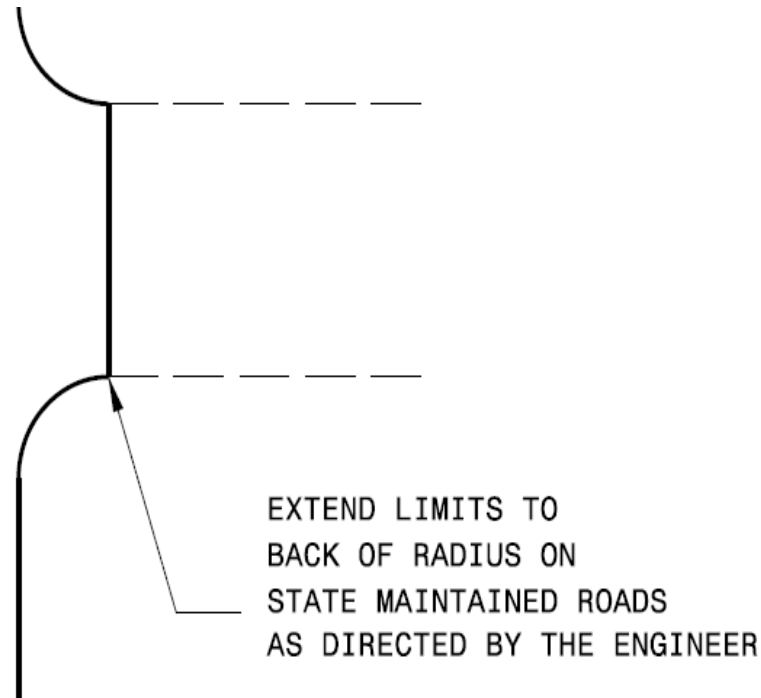
Y-Line Resurfacing Limits

Typical Limits

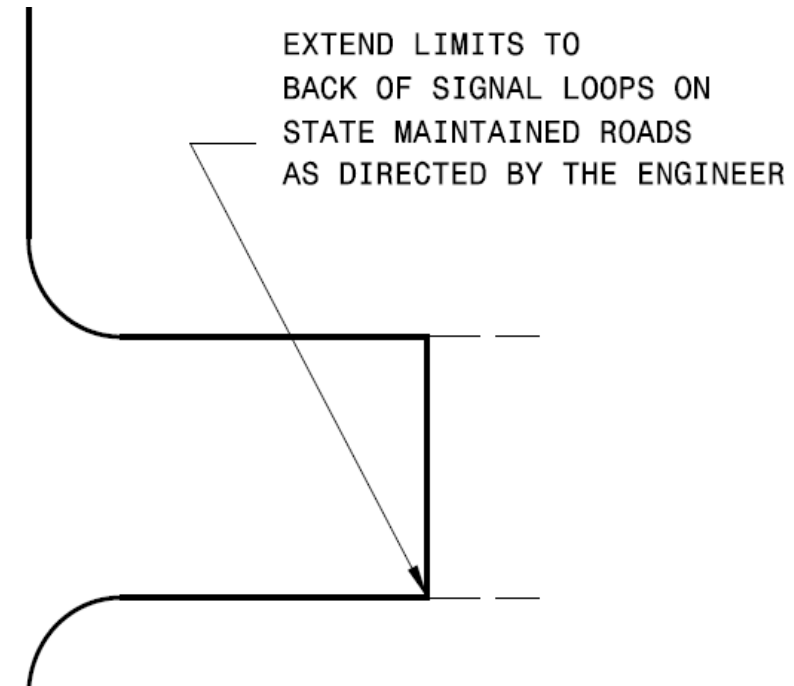
City Streets &
Commercial Drives



Non-signalized State
Maintained Roads



Signalized State
Maintained Roads



Y-Line Resurfacing Limits

Table for Non-Typical Locations

ADDITIONAL INTERSECTIONS (NON-TYPICAL)		
MAP#	STREET NAME	COMMENTS
1	SR 2041	EXTEND LIMIT +/- 100 FT TO PREVIOUS RESURFACING JOINT
	SR 2044	EXTEND LIMIT +/- 100 FT TO PREVIOUS RESURFACING JOINT

Shoulder Reconstruction

“The Standard”

- The “library” of Special Provisions was reviewed with the 2024 Standard Specifications.
- Shoulder Reconstruction was "standardized" to a single SP for statewide use.
 - Shoulder Reconstruction is paid per shoulder mile.
 - Includes clipping high shoulders as needed.
 - Aggregate Shoulder Borrow (ASB) is paid per ton.
 - Borrow, if required, is paid per cubic yard.
 - Incidental Stone is paid per ton.
 - Seeding and Mulching, if required, is paid per acre.
 - Where ASB is used, seeding and mulching is not required.



Railroad Coordination and Flagging

Railroad Coordination

Unfortunately, there is no Easy Button

- ROE is required for any activity within the railroad ROW
- Lengthy process with the major class I railroads.
- Expect 4-5 months with North Carolina Railroad
 - SP specific to NCRR will be included in the contract
- Expect 6 months with Norfolk Southern
 - SP specific to NS will be included in the contract
- Expect 6 months with CSX
 - SP specific to CSX will be included in the contract
- Likely shorter and more simple process with smaller short line railroads.
 - SP in contract will outline the process



Railroad Flagging – North Carolina Railroad/Norfolk Southern Railway

- Three Approved Firms

RailPros

Adam Brown (334-530-2861)

adam.brown@railpros.com



North Carolina Railroad Company

Hilary Kanupp

tpp@ncrr.com



R&R Consulting Team

David Craft (717.497.4373)

dcraft@rrconsultingteam.com

- NCDOT Contractor is required to procure per new provisions.

Railroad Flagging – CSX Transportation



- CSX Property Portal
 - <https://propertyportal.csx.com/>
 - Submit an Outside Party Request Form (OP Form) or
 - Railroad Special Provisions laid out in Proposal
- CSX is working with NCDOT to best utilize the resources available
 - CEI
 - Flagger

Railroad Flagging – General

- Scarce resource across NS and CSX
 - Collaboration, patience and good scheduling is needed between all parties
- Active conversations occurring for solutions.
- Resurfacing flagging still the hardest
 - According to NCDOT Rail Division, initial discussions with CSX on options have been positive on a few alternatives.
 - Additional discussions with various Divisions are underway.



E-Ticketing

Electronic Ticketing (E-ticketing)

General Update

- New Special Provision
 - Implemented beginning with the August 2024 lettings.
 - Asphalt Materials only.
 - Participation is optional.
- We encouraged our industry partners to consider trying it.
 - Can get setup and test the process without fully implementing on a project.
 - Can be tested in conjunction with traditional hardcopy tickets.
 - It is an opportunity to provide feedback that may improve or shape the process.
 - Safety
- <https://connect.ncdot.gov/projects/construction/E-Ticketing/Pages/default.aspx>
- Plan to pilot Aggregate E-ticketing in 2025.
- Concrete E-ticketing piloting to follow.

E-Ticketing

Webinar

- 2024 Webinar Recording is still up-to-date and applicable.

The screenshot shows the 'Connect NCDOT BUSINESS PARTNER RESOURCES' website. The navigation bar includes links for 'Doing Business', 'Bidding & Letting', 'Projects', 'Resources', and 'Local Governments'. The 'Projects' link is highlighted with a yellow box. Below this, a secondary navigation bar includes 'Planning', 'Construction', 'Research', 'Roadway Design', 'Work Zone', 'Public Engagement', 'Bike & Pedestrian', 'Project Management', and 'Value Management'. The 'Construction' link is also highlighted with a yellow box. Below this, a section titled 'Meetings and Professional Development' is highlighted with a yellow box. This section contains a list of links: 'Construction Training', 'Construction Webinar', 'Construction Workshops', and 'Committee Meetings'. The 'Construction Webinar' link is highlighted with a yellow box. Below this, a list of webinar recordings is shown, including 'NCDOT Webinar - Department of Labor Wage Rate Survey', '2024 E-Ticketing Intro and Training' (highlighted with a yellow box), and '2024 CEI Webinar'.

Connect NCDOT
BUSINESS PARTNER RESOURCES

Home Help Team Sites Site Map

Doing Business Bidding & Letting **Projects** Resources Local Governments

Search...

Planning **Construction** Research Roadway Design Work Zone Public Engagement Bike & Pedestrian Project Management Value Management

Meetings and Professional Development
workshop presentations and committee meeting agendas and minutes.

Connect NCDOT Projects Construction Meetings and Professional Development

Construction Training **Construction Webinar** Construction Workshops Committee Meetings

NCDOT Webinar - Department of Labor Wage Rate Survey

2024 E-Ticketing Intro and Training

2024 CEI Webinar

Electronic Ticketing (E-ticketing)

Questions or interested in participating

Contact:

Bryan Edwards, PE

Electronic Construction Engineer

Central Construction Unit, NCDOT

bledwards1@ncdot.gov

NCDOT Construction Unit

Visit Our Website | (919) 707-2400

Unit Leadership

Troy Brooks, PE
State Construction Engineer
(919) 707-2402 | tb Brooks2@ncdot.gov

Brian Skeens, PE
Assistant State Construction Engineer (Western)
(828) 803-1461 | bcskeens@ncdot.gov

Liam Shannon, PE
Assistant State Construction Engineer (Eastern)
(919) 707-2403 | lwshannon@ncdot.gov

Aaron Earwood, PE
State Bridge Construction Engineer
(919) 730-5138 | aeearwood@ncdot.gov

Michelle Gaddy, PE
State Construction Operations Engineer
(919) 707-2490 | mhggaddy@ncdot.gov

Western Region**Area Construction Engineers:**

Divisions 7 & 9
Marcus Kiser, PE
(336) 215-9170 | mkkiser@ncdot.gov

Division 10
Christopher Fine, PE
(336) 225-4266 | icfine@ncdot.gov

Divisions 11 & 12
Mark Biggerstaff, PE
(828) 803-9954 | mabiggerstaff@ncdot.gov

Divisions 13 & 14
Aaron Powell, PE
(828) 417-2629 | apowell@ncdot.gov

Eastern Region**Area Construction Engineers:**

Divisions 1 & 2
Daniel Waugh, PE
(252) 723-5727 | dawaugh1@ncdot.gov

Divisions 3 & 4
David Candela, PE
(910) 524-4931 | dacandela@ncdot.gov

Division 5
Meredith Hayes, PE
(336) 266-2463 | mdhayes3@ncdot.gov

Divisions 6 & 8
John Partin, PE
(336) 847-1226 | jpartin@ncdot.gov

Bridge Construction Engineers**Western Region:**

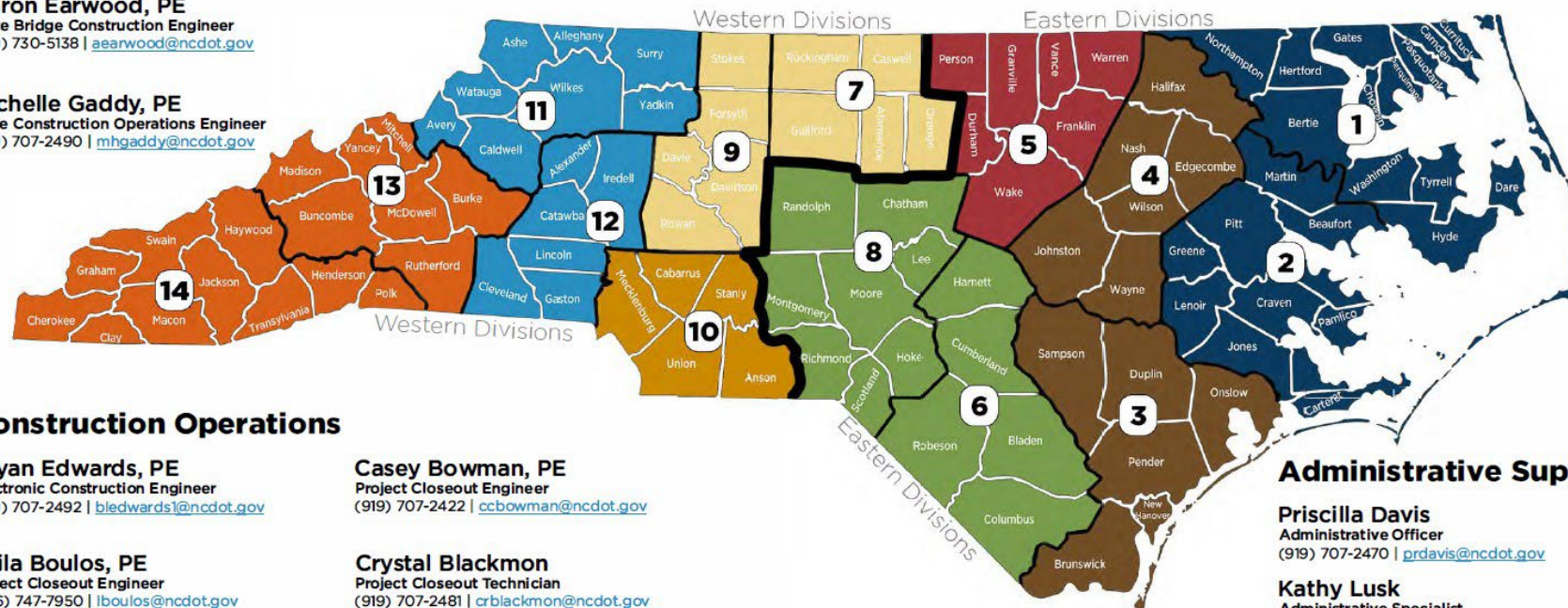
Divisions 7, 9, 10, 12:
Aaron Griffith, PE
(336) 215-9170 | aegriffith@ncdot.gov

Divisions 11, 13, 14:
Tyler Rogers, PE
(828) 593-7028 | trrogers1@ncdot.gov

Eastern Region:

Divisions 1-4:
Randy Hall, PE
(252) 402-9957 | rshall@ncdot.gov

Divisions 5, 6, 8:
Patrick Cheeves, PE
(678) 602-8504 | picheeves@ncdot.gov

**Construction Operations**

Bryan Edwards, PE
Electronic Construction Engineer
(919) 707-2492 | bledwards1@ncdot.gov

Leila Boulos, PE
Project Closeout Engineer
(336) 747-7950 | lboulos@ncdot.gov

Casey Bowman, PE
Project Closeout Engineer
(919) 707-2422 | cbowman@ncdot.gov

Crystal Blackmon
Project Closeout Technician
(919) 707-2481 | crblackmon@ncdot.gov

Administrative Support

Priscilla Davis
Administrative Officer
(919) 707-2470 | prdavis@ncdot.gov

Kathy Lusk
Administrative Specialist
(919) 707-2408 | klusk@ncdot.gov

Roadway Bulletins QR Code





NORTH CAROLINA
Department of Transportation

NCDOT

Asphalt Treatment Selection

4/29/2025

Christopher Fine, PE, CCM – Area Construction Engineer (Div 10)
John Partin, PE – Area Construction Engineer (Div 6 & 8)

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

The Right Treatment for Resurfacing Projects

- Selecting Mix Type
- Pre-Overlay Treatment
 - Alligator Cracking
 - Transverse Cracking
 - Rutting

Selecting Mix Type

- S4.75A: Pavement preservation mix for good-condition residential roads. Effective for filling ruts and leveling but not cost-effective for deteriorated roads. (Can be placed up to 1 ¼")
- S9.5B: General-purpose mix for lower traffic volumes such as typical secondary roads
- S9.5C: Mix for moderate traffic such as NC, US or secondary routes with high truck traffic. Helps to prevent rutting.
- S9.5D: For high traffic volumes (e.g., interstates). Requires an MTV (Material Transfer Vehicle) for placement.

A very rough guideline on base thickness required

Existing Pavement Thickness*	Surface Mix Level
Any	B
More than 7"	C

* Each inch of ABC counts as ½ inch of asphalt.

What to Do About Distresses?

- Alligator Cracking
- Transverse Cracking
- Rutting

Alligator Cracking: Pre-Overlay Treatment



- Alligator cracking is a load associated structural failure.
- Cracking first begins in the wheel path, usually as longitudinal cracking. Further stress creates an alligator pattern.

Alligator Cracking: Pre-Overlay Treatment



Light

No Treatment



Alligator Cracking: Pre-Overlay Treatment



Light



?

Alligator Cracking: Pre-Overlay Treatment



Moderate ($\frac{1}{4}$ " cracks)

Mill and Replace
 $2\frac{1}{2}$ " to 4"

Alligator Cracking: Pre-Overlay Treatment



Severe
($>1/4$ " cracks;
loose chunks;
severe spalling)

Full Depth Patch

Alligator Cracking: Pre-Overlay Treatment

Light	No Treatment
Moderate ($\frac{1}{4}$ " cracks)	Mill and Replace $2\frac{1}{2}$ " to 4"
Severe ($>\frac{1}{4}$ " cracks; loose chunks; severe spalling)	Full Depth Patch

Transverse Cracking: Pre-Overlay Treatment



- Transverse/block cracking is NOT a load associated structural failure.
- Cracks are generally caused by shrinkage of the asphalt concrete and daily temperature cycling. Wheel path loads can increase the severity of block cracking.
- Transverse cracking also includes reflective cracking of plant mix resurfacing over concrete.

Transverse Cracking



Light (Cracks $<1/4$ " wide and are not spalled; block pattern may not be visible yet; transverse cracks usually 10 to 20 feet apart)

Consider Crack Sealant

Transverse Cracking



Moderate (Cracks $<1/2$ " wide likely with spalling present; transverse cracks usually <10 feet apart)

Crack Sealant

Transverse Cracking



Severe (Cracks may be severely spalled with smaller blocks 2 - 10 square feet present; cracks usually about 1/2 inch wide or greater; transverse cracks may be 1 to 2 feet apart throughout portions of the surface. Joints may be bumped up greater than 1 inch high)

Mill and Replace 2.5" to 4.0" or
Consider Full Depth Patch

Transverse Cracking: Pre-Overlay Treatment

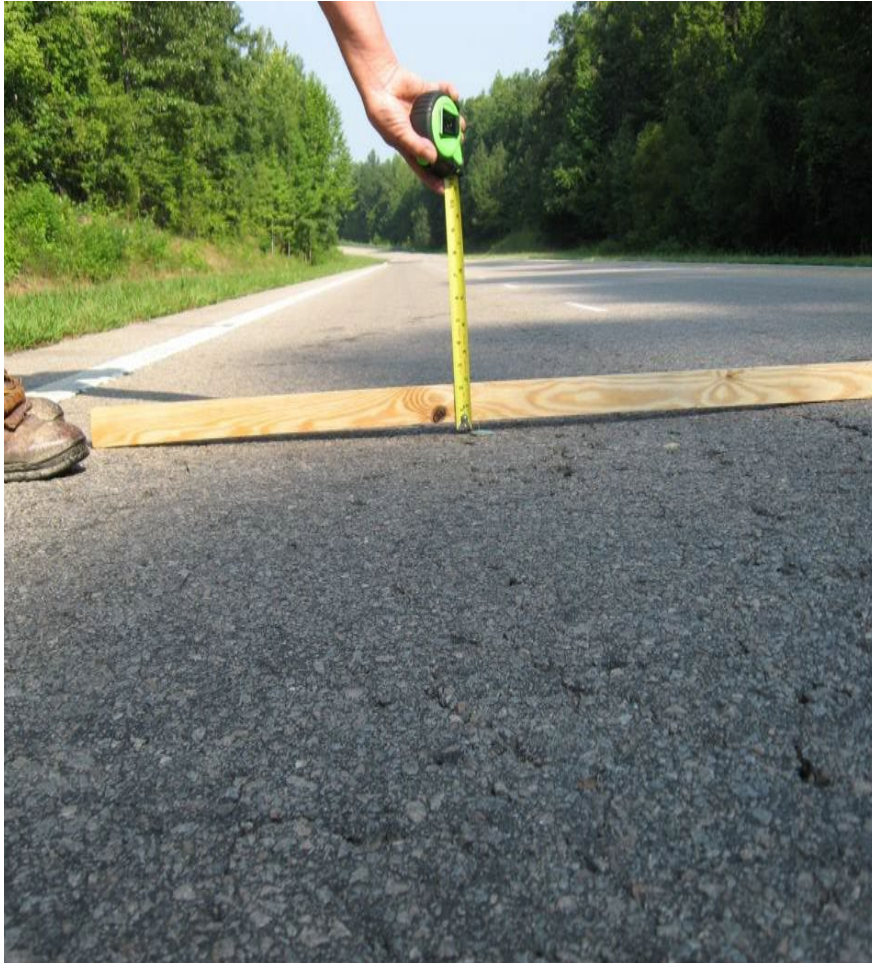
Light	Consider Crack Sealant
Moderate (Isolated transverse cracking)	Crack Sealant
Moderate (Block pattern cracking)	Mill and Replace 2.5" to 4.0"
Severe (Isolated transverse or block pattern cracking)	Mill and Replace 2.5" to 4.0" or Consider Full Depth Patch

Rutting: Pre-Overlay Treatment



- A surface depression in the wheel path or at the edge of pavement.
- Causes of rutting:
 - Pavement deformation caused by traffic loads
 - Unstable mix design
 - Movement of mix in hot weather
 - Subgrade failures

Rutting: Pre-Overlay Treatment



Light ($< \frac{1}{2}$ " deep)

No Treatment

Rutting: Pre-Overlay Treatment



Moderate or Severe
($> \frac{1}{2}$ " deep)

Mill to Level,
Mill and Replace,
or Leveling Course

Rutting: Pre-Overlay Treatment

Light ($< \frac{1}{2}$ " deep)	No Treatment
Moderate or Severe	Mill to Level, Mill and Replace, or Leveling Course

General Guidance on Treatments

- Don't mill more than half the thickness of the existing asphalt
- If half or more of a segment of the project requires treatment, treat it all
 - ie. If >50% of a patching/overlay map must be patched then consider a mill/fill treatment for entire map
- Lack of treatment may lead to compaction difficulties, and/or poor long-term performance

The Right Treatment for Resurfacing Projects

Matching treatments to roadway conditions:

- Mill-and-fill
- Patch-and-overlay
- Surface mix types (e.g., S9.5B, S9.5C)
- Thin-lift

What is the Difference Between Asphalt Surface Mixes?

S4.75A	Subdivisions or Leveling/Rut patch
S9.5B	Rural/Secondary Roads (Low ADT / Low % Trucks)
S9.5C	Primary Roads (High ADT/ Moderate % Trucks)
S9.5D	Interstates/Highways Requires an MTV

Mat and Pave (Interlayer)

What rate should you use?

- Recommend starting with around half the rate of a Mat coat ~13 Lbs/SY
- Recommended aggregate 67 or 78M
- Asphalt minimum thickness 1.5"

Mat and Pave

- When to use it?





Patching Quantities

PATCHING EXISTING PAVEMENT TONS	PATCHING EXISTING PAVEMENT TONS	PATCHING EXISTING PAVEMENT TONS	PATCHING EXISTING PAVEMENT TONS	PATCHING EXISTING PAVEMENT TONS
100	175	40	500	165
50	175	200	900	20
	50	10	5000	200
	100	5	1000	100
500	120	200		1575
	80	100	200	150
		40	800	30
1000	80	10	400	
120	100	50	360	225
240	150	50	170	540
100	130	10	225	1575
300	500		100	200
40			2840	405















NORTH CAROLINA
Department of Transportation

NCDOT Work Zone Update

Ken Thornewell, PE, PTOE, CPM
State Work Zone Engineer

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

Topics


- Work Zone Crash Data
- Work Zone Awareness Week 2025
- Safety Topics
 - Blue Light Radar Trailers
 - Work Zone Speed Limits
 - Speed Safety Cameras

- ATSSA – Carolinas Chapter Meeting – Work Zone

Work Zone Crash Data

2024 was a tragic year....

Road safety worker dies after being hit by two drivers while crossing I-40 in Wake County

By [Michael Perchick](#)      
Friday, August 23, 2024

“NCDOT is heartbroken to share that a transportation contract worker was struck and killed today while working on a project on Interstate 40 East near U.S. 70 Business in Wake County. Our thoughts and prayers are with the family of the worker...”

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

DEVELOPING STORY

ROAD SAFETY WORKER HIT AND KILLED IN I-40


Kevarus N. Bowens was removing a lane closure sign on the eastbound lanes of I-40.

WAKE COUNTY, N.C. (WTVD) -- A man was hit and killed Friday morning on I-40 eastbound in Wake County. It happened around 4 a.m. near mile marker 307 south of Clayton Bypass.

According to the North Carolina State Highway Patrol (NCSHP), the man was identified as Kevarus N. Bowens, 45, of Lumberton, NC.

ABC, Inc., WTVD-TV Raleigh-Durham

5 killed in crash on I-95 involving 3 tractor-trailers and 2 SUVs in North Carolina

By [Bianca Holman](#)      
Thursday, July 25, 2024



Five people were killed in a crash involving multiple vehicles on Interstate 95 North in Wilson County, officials said Wednesday afternoon.

WILSON, N.C. (WTVD) -- Families in North Carolina and Georgia are mourning the loss of loved ones after five people were killed in a crash involving multiple vehicles on Interstate 95 on Wednesday afternoon.

The crash happened shortly before 1:30 p.m. and involved three tractor-trailers and two SUVs in Wilson County.

ABC, Inc., WTVD-TV Raleigh-Durham

PUBLIC SAFETY

Construction worker killed in hit-and-run on Wilmington highway

BY MICHAEL WHITE | WILMINGTON
PUBLISHED 8:10 PM ET APR. 12, 2024

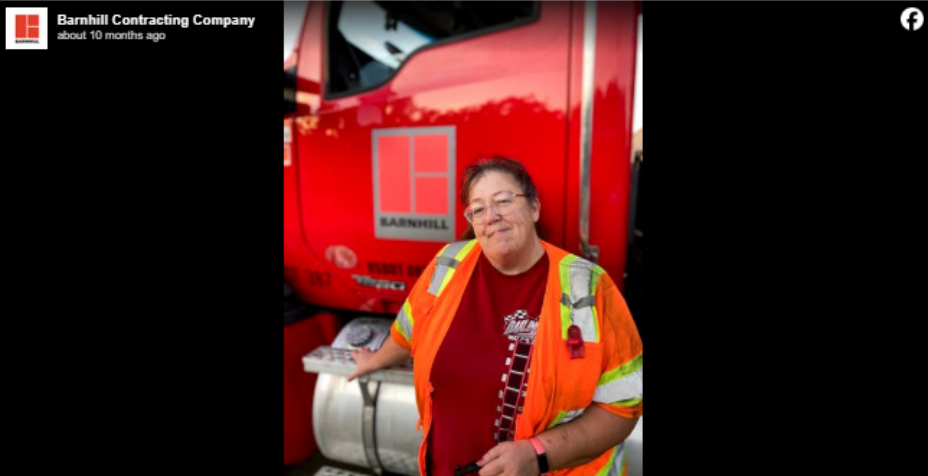
WILMINGTON, N.C. – A construction worker was killed in a hit-and-run crash Thursday morning on a Wilmington highway, officials say.

Wilmington police say the driver, Dakota Quinn Knight, 29, drove into a construction area and struck a worker. Knight fled on foot but was found by a New Hanover Sheriff’s Office deputy behind a nearby church, police said.

Michelle Von Seggern was working with a crew paving Military Cutoff Road when she was fatally struck Thursday, Barnhill Contracting Co. said Friday in a social media post.

She worked two and a half years as a truck driver before joining the asphalt crew, the company said, noting that Von Seggern leaves behind six children and seven grandchildren in addition to other family members.

Knight is charged with felony hit and run, felony DWI and reckless operation of a vehicle, police said.



Spectrum News 1 – Charter Communications

By the Numbers

2022

6,258 work zone crashes resulting in **32** fatalities

2023

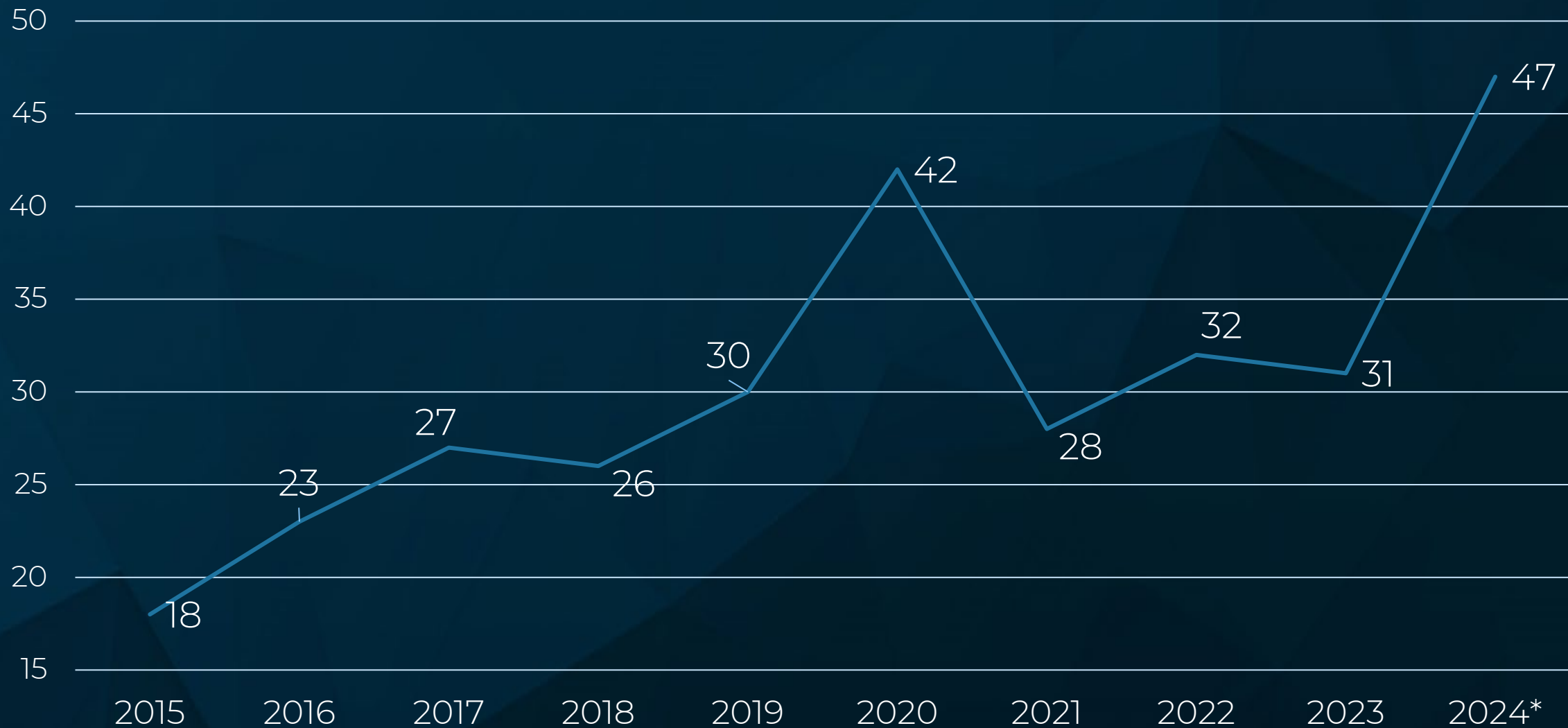
7,523 work zone crashes resulting in **31** fatalities

2024

6,870 work zone crashes resulting in **47** fatalities -- **2 worker fatalities**

Annual WZ Fatalities

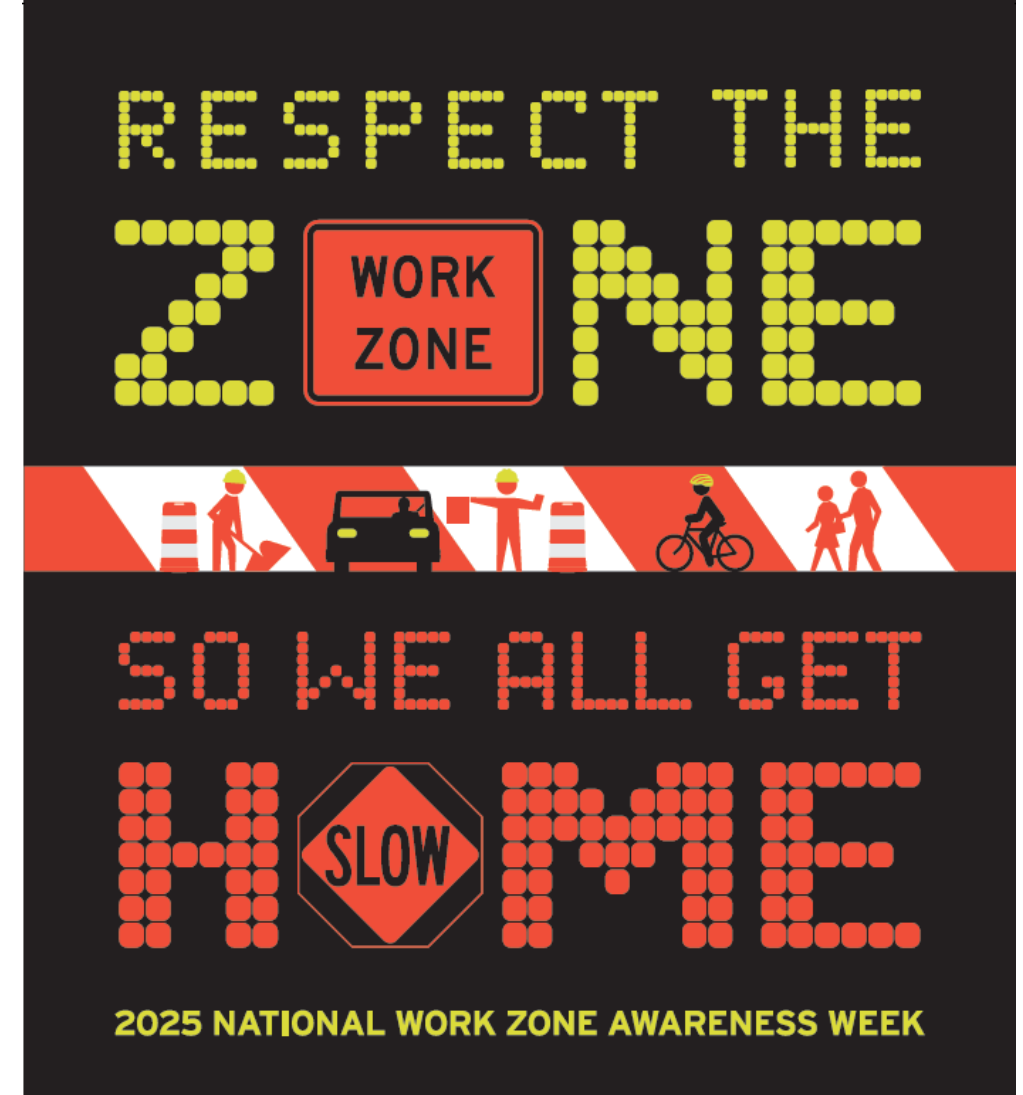
— WZ Fatalities



Work Zone Awareness Week 2025

April 21 – 25, 2025

- NCDOT is hosting the National Campaign at the Fairgrounds
- Mini-Work Zone Rodeo
 - Breakout classes (flagger certifications, safety & best practices presentations, overview of specifications and regulations)
 - Manufacturer demonstrations



- ATSSA – Carolinas Chapter Meeting – Work Zone

Safety Topics

1 – Work Zone Speed Limits

- Ordinance Signed by State Traffic Engineer
- Variable Based on Road Conditions
- More Public Trust = More Compliance
- Speed Differentials vs. High Speeds
- **Posting the right speed is CRUCIAL**

		WORK ZONE CONDITIONS	SPEED TO DISPLAY
LANE CLOSURES		2 LANES REDUCED TO 1 LANE	55
		3 LANES REDUCED TO 1 LANE	55
		3 LANES REDUCED TO 2 LANES	60
		4 LANES REDUCED TO 1 LANE	55
		4 LANES REDUCED TO 2 LANES	60
		4 LANES REDUCED TO 3 LANES	65
CONTINUOUS BARRIER (LENGTH OF BARRIER GREATER THAN 1 MILE)		1 OPEN LANE WITH CONTINUOUS BARRIER ON BOTH SHOULDERS	55
		1 OPEN LANE WITH CONTINUOUS BARRIER ON 1 SHOULDER	60
		3 OR 2 OPEN LANES WITH CONTINUOUS BARRIER ON BOTH SHOULDERS	60
		3 OR 2 OPEN LANES WITH CONTINUOUS BARRIER ON 1 SHOULDER	65
		4 OPEN LANES WITH BARRIER CONTINUOUS ON BOTH SHOULDERS	65
		4 OPEN LANES WITH BARRIER CONTINUOUS ON 1 SHOULDER	EXISTING
		UNEVEN LANES	60

2 – Blue Light Radar Trailers (BLRTs)

- Collaboration with NCDOT and SHP, 40+ trailers in use across NC
- Request through STOC
 - Projects scored similar to HAWKS
- Two primary use cases
 - Work Zone Visibility (Active Lane Closures)
 - Feedback Speed Compliance



3 – Speed Safety Cameras

- Proven Safety Countermeasure
- Fair and equitable enforcement of speeding, regardless of driver age, race, gender, or socio-economic status.
- Public trust is **ESSENTIAL**
- Need legislation passed to implement in NC

Safety Benefits:

Fixed units can reduce crashes on urban principal arterials up to:

54% for all crashes.⁴

48% for injury crashes.⁴

P2P units can reduce crashes on urban expressways, freeways, and principal arterials up to:

37%
for fatal and injury crashes.²

Mobile units can reduce crashes on urban principal arterials up to:

20%
for fatal and injury crashes.⁵

Source:
FHWA