PURPOSE AND NEED AND STUDY AREA DEFINED

US 29 Upgrade to Interstate Standards
Guilford and Rockingham Counties
STIP Project R-5889

North Carolina Department of Transportation

Division 7



MERGER CONCURRENCE POINT NUMBER 1

August 2025

Contents

1.	Intro	oduction	2
	1.1	Project Description	2
	1.2	Project History and Merger Plan	2
	1.3	Other STIP Projects Nearby	3
2.	Exis	ting Conditions	4
	2.1	Transportation Features	4
	2.2	Environmental Features	5
3.	Proj	ect Purpose and Need	6
	3.1	Identified Needs	6
	3.2	Proposed Purpose	7
	3.3	Proposed Purpose and Need Statement	7
4.	Proj	ect Study Area Defined	7
5.	Avo	idance and Minimization	8
6.	Mer	ger Plan Review/Next Steps	8

Figures

Vicinity Map

Study Area Map

Environmental Features Map

Traffic Conditions Map

1. Introduction

Lead federal agency: Federal Highway Administration

Primary points of contact for the subject project are:

Agency	Name	Email	Phone
Federal Highway	Seth Wilcher	seth.wilcher@dot.gov	919-747-7019
Administration			
(FHWA)			
U.S. Army Corps of	Eric Alsmeyer	Eric.C.Alsmeyer@usace.army.mil	919-554-4884
Engineers (USACE)			
N.C. Department of	Ryan Conchilla	ryan.conchilla@deq.nc.gov	919-707-9111
Water Resources			
(NCDWR)			
N.C. Department of	Brandon Green	blgreen@ncdot.gov	336-487-0075
Transportation			
(NCDOT)			
Dewberry	Beth Smyre	esmyre@dewberry.com	919-424-3771

The purpose of this meeting is to reach concurrence on CP 1, Purpose and Need and Study Area defined.

1.1 Project Description

The North Carolina Department of Transportation (NCDOT) proposes to upgrade the US 29 corridor to interstate standards from north of I-785 in Guilford County to US 158/NC 14 in Rockingham County. R-5889 is included in the approved 2024-2033 State Transportation Improvement Plan (STIP) (and in the draft 2026-2035 STIP) as projects R-5889A and R-5889B.

The project location is shown in Figure 1 – Vicinity Map and Figure 2 – Study Area Map.

1.2 Project History and Merger Plan

The project is included in the Greensboro Metropolitan Planning Organization's 2020 Comprehensive Transportation Plan, in Rockingham County's 2010 Comprehensive Transportation Plan, and in the 2019 Proposed US 29 Corridor Improvements Feasibility Study. As noted in the previous section, the project is included in the current 2024-2033 STIP (and in the draft 2026-2035 STIP) as projects R-5889A and R-5889B and is being managed by NCDOT Division 7. In the draft 2026-2035 STIP, Section A is funded for both Right-of-Way (FY 2027) and construction (FY 2030). Section B is funded for Preliminary Engineering (PE) only. The current costs for the project as estimated in the current STIP are shown in **Table 1**. The proposed project schedule is included in **Table 2** and is based on the Merger Plan. The schedule and cost estimates are draft and subject to change.

Table 1. 2026-2035 Draft STIP R-5889 Cost Estimate

R-5889A				
Phase	Estimated Costs			
Prior Years Cost	N/A			
Right of Way	\$17,066,000			
Utilities	\$1,876,000			
Construction Total	\$137,400,000			
Total	\$156,342,000			
R-5889B				
Phase	Estimated Cost			
Prior Years Cost	N/A			
Right of Way	\$9,364,000			
Utilities	\$5,430,000			
Construction Total	\$116,450,000			
Total	\$131,244,000			

Total Cost	\$287,886,000

Table 2. Draft R-5889 Project Schedule*

Milestone	Format	Anticipated Date	
Combined CP 2/ CP 2A meeting	In-person/Virtual	TBD 2025	
Public Meeting	In-person Open House(s)	Winter 2026	
CP 3 (LEDPA Determination)/ CP	In-person/Virtual	TBD 2026	
4A			
Categorical Exclusion (CE)	Electronic Distribution	TBD 2026	
CP 4B	Virtual Meeting	TBD 2026	
CP 4C	Virtual Meeting	TBD 2026	
Begin ROW Acquisition		Section A - 2027	
Begin Construction		Section A - 2030	

1.3 Other STIP Projects Nearby

- R-4707 US 29 / SR 4771 (Reedy Fork Parkway) Interchange improvements in Greensboro. Improve roadway, modify interchange and replace bridge. Under construction.
- BP7.R001 Bridge 780023 replacement. US 29 BUS over US 29.

2. Existing Conditions

2.1 Transportation Features

US 29 is designated as a Principal Arterial; it is currently a four-lane divided facility with a median that varies from approximately 30 feet at the southern project terminus to 46 feet as it approaches the Rockingham County line. Within the project limits, the posted speed limit varies, ranging from 55 mph near Greensboro, 60 mph north of SR 2510 (Benaja Road), to 70 mph near US 158/NC 14 in Rockingham County.

US 29 in the project study area contains eight major interchanges at the following locations:

- SR 2565 (Hicone Road)
- SR 2790 (Reedy Fork Parkway)
- NC 150
- SR 2510 (Benaja Road)
- US 29 BUS
- NC 87 (Freeway Drive)
- Barnes Street
- US 158/NC 14

The US 29/SR 2565 (Hicone Road) interchange was upgraded as part of the Greensboro Outer Loop project. NCDOT is currently reconstructing the US 29/Reedy Fork Parkway/Summit Avenue interchange into a diverging diamond interchange (DDI) as part of STIP project R-4707.

In addition to the interchange access points, there are approximately 39 at-grade intersections, private driveways, and dirt access roads on US 29 between Hicone Road and the US 29/US 29BUS interchange, including the following locations:

- Aldine Road and Milford Road intersection (north of Hicone Road)
- Esterwood Road and April Lane intersection (north of Hicone Road)
- Anita Lane access point (north of Hicone Road)
- SR 2829 and SR 2823 intersection (north of NC 150)
- Old Reidsville Road (north of Benaja Road interchange)
- SR 2430 (Benaja Road) access (north of Benaja Road interchange)
- McWalker Road and Cornelius Road intersection (north of Benaja Road interchange)

This section of US 29 also includes several U-turn median breaks and commercial driveway access points.

North of the US 29/US 29BUS interchange, US 29 is a full control of access facility.

Table 3 lists basic information about US 29 and each intersecting facility, including NCDOT's functional classification, 2023 Average Annual Daily Traffic (AADT), existing lanes, lane width, existing ROW and posted speed limit.

Table 3. R-5889 Existing Features

	Existing Features			-	2022 4 4 5 7	
	Facility	# Lanes (width in feet)	ROW (est. in feet)	Speed Limit (mph)	Functional Classification	2023 AADT (vpd*)
	US 29	4 (12)	250-350	55-70	Principal Arterial	14,800-53,800
_	SR 2565 (Hicone Road)	2 (12)	60-100	55	Minor Arterial	14,500
R-5889A	SR 2790 (Reedy Fork Parkway)	2 (12)	60-65	35	Local	7,900
	NC 150	2 (12)	100	45	Major Collector	6,800
	SR 2510 (Benaja Road)	2 (11)	60-65	55	Local	700
	US 29 BUS	2 (12)	150-300	55	Minor Arterial	8,700
R-5889B	NC 87 (Freeway Drive)	2 (12)	200-250	55	Minor Arterial	8,200
R-5	Barnes Street	3 (12)	95-135	35	Principal Arterial- Other	12,200
	US 158/NC 14	2 (12)	75-230	45	Principal Arterial - Other	16,000

^{*}vehicles per day

2.2 Environmental Features

Environmental resources in the project area are shown in the Environmental Features Map (Figure 3). The study area is part of the Roanoke and Cape Fear River Basins (U.S. Geological Survey [USGS] Hydrologic Unit [HUC] 03010104 and 03030002). No Outstanding Resource Waters (ORW), High Quality Waters (HQW) or water supply watersheds (WS-I or WS-II) are present in, or located within 1.0 mile downstream of, the study area. The North Carolina 2022 Final 303(d) list of impaired waters identifies Little Troublesome Creek within the study area as an impaired water due to turbidity exceeding acceptable levels. Within 1.0 mile of the study area, Little Troublesome Creek is also listed on the 303(d) list for having levels of Benthos that exceed acceptable levels. The section of the Haw River within the study area was identified as impaired waters on the Final 303(d) list due to the levels of copper exceeding acceptable levels. There are no trout, anadromous, or primary nursery waters within the project study area. No correspondence regarding stream moratoriums has been received to date.

The project area includes two farms within or in proximity of the project study area that participate in the Guilford County VAD/EVAD program. Right-of-way acquisition is not expected to impact any VAD or EVAD within the within or in proximity of the project study area. Small farms are scattered throughout and near the project study area with a wholesale garden nursery, Buds and Blooms, having direct access to US 29.

Three EMS facilities, three schools and sixteen places of worship are located within or in proximity of the project study area.

A phase 1 geoenvironmental field investigation identified 33 sites of concern within the project study area. It is anticipated that there will be low to moderate monetary and scheduling impacts resulting from these sites.

An archaeological survey of the project study area determined twenty-two (22) high probability locations; all were recommended as ineligible for the National Register of Historic Places. A historic architectural survey concurred that one (1) site within the project study area, the Frank Leslie Lambeth House (GF1808), still merits eligibility for listing on the National Register of Historic Places (NRHP) and five (5) additional properties are eligible for listing on the National Register of Historic Places.

3. Project Purpose and Need

3.1 Identified Needs

The need for this project can be described as follows:

- Access provisions: The US 29 corridor within the R-5889 study area in Guilford County and southern Rockingham County has experienced increased commercial and residential growth in recent years, as evidenced by the construction of manufacturing and retail facilities along with residential neighborhoods near the corridor. The corresponding increase in vehicle traffic associated with this development has increased the pressure on the existing, mostly uncontrolled, access points, which include unsignalized intersections and private driveways along with several interchanges. Provision of access that is designed for both increasing truck and vehicle traffic is needed to address this growth. Though several miles of the US 29 corridor within Rockingham County have full control of access, the current facility designation as a US route allows for uncontrolled driveway access along the rest of the corridor, increasing the potential for accidents and travel delays.
- State and local plan compliance: NCDOT has designated the US 29 corridor between I-40/I-85BUS and the Virginia State Line as a Strategic Transportation Corridor (Corridor J), and both the Greensboro MPO and Rockingham County have identified the upgrade of US 29 to interstate standards as a regional need. US 29 has been designated as Future I-785, consistent with these state and regional plans.

As a Strategic Transportation Corridor, US 29 (Future I-785) is part of a core network that moves large volumes of people and freight across the state and to key markets outside the state. The at-grade intersections and driveways along existing US 29 within the project study area prohibit signing this portion of the proposed I-785 corridor as interstate and are less desirable from a traffic safety and efficiency perspective than a facility that meets interstate standards.

Upgrading the US 29 facility to current interstate standards would address the growing access needs for current and future traffic, while removing the unsignalized intersections, driveways, and U-turn crossovers that represent potential conflict points for US 29 travelers. These issues impede system connectivity and mobility through the corridor, limiting potential economic prosperity in the region.

3.2 Proposed Purpose

The purpose of the project is to enhance regional mobility along US 29 between Greensboro and Reidsville and implement improvements that are consistent with the Strategic Transportation Corridor vision of a full control of access facility.

Improvements to the US 29 roadway would provide a high-speed facility with full control of access, allowing for the roadway facility to meet interstate standards and gain I-785 designation, as well as the goals set forth for Strategic Transportation Corridors, improving roadway network reliability and interregional mobility.

An additional desirable outcome of the project is a reduced potential for crashes with the implementation of full control of access. This includes the elimination of unsignalized intersections, private driveways, and U-turn crossovers, which reduces or eliminates exposure to conflicting movements, consistent with the Strategic Transportation Corridor vision. The proposed improvements will provide consistency with state and local plans for the US 29 corridor, in addition to the state's Strategic Transportation Corridor designation of Corridor J of US 29 between I-40/I-85BUS and the Virginia State Line.

The project is not intended to increase capacity on US 29. Proposed improvements may be designed to account for a future widening of US 29, unless doing so involves increasing impacts to protected resources.

3.3 Proposed Purpose and Need Statement

The purpose of the project is to enhance regional mobility along US 29 between Greensboro and Reidsville by implementing improvements that are consistent with current interstate standards.

4. Project Study Area Defined

The proposed project study area developed to address the Purpose and Need of R-5889 is shown in **Figure 2**. The project study area runs approximately 16 miles from just south of Hicone Road in Greensboro to US 158/NC 14 in Reidsville. The proposed project study area is approximately 800 feet in width on US 29, centered on the corridor centerline. The project study area also extends along the following intersecting roads:

- 1,680 feet east and 1,500 feet west along Hicone Road
- 160 feet west along Aldine Road
- 1,600 feet east along Anita Lane, extending to Eckerson Road
- 1,200 feet east along Reedy Fork Parkway and 1,700 feet west along Summit Avenue
- 2,400 feet east and 2,320 feet west along NC 150
- 1,630 feet east and 1,470 feet west along the south intersection with Benaja Road.
- 1,570 feet west at US 70 BUS
- 810 feet east on Candy Creek Road, starting 800 feet south of the Candy Creek Road intersection of Friendship Church Road on Friendship Church Road.
- 1,000 feet east and 1,350 feet west on Mizpah Church Road
- 1,920 feet east and 1,850 feet west on NC 87 (Freeway Drive)

- 1,620 feet east and 1,250 feet west on Barnes Street
- 840 feet east and 600 feet west on Drum Road
- 1,580 fee east and 1,760 feet west on US 158

The project study area also extends in two other areas where there is no intersecting road. The project study area includes these locations to account for connecting parcels that could lose direct access to US 29 if full access control is implemented. These areas include:

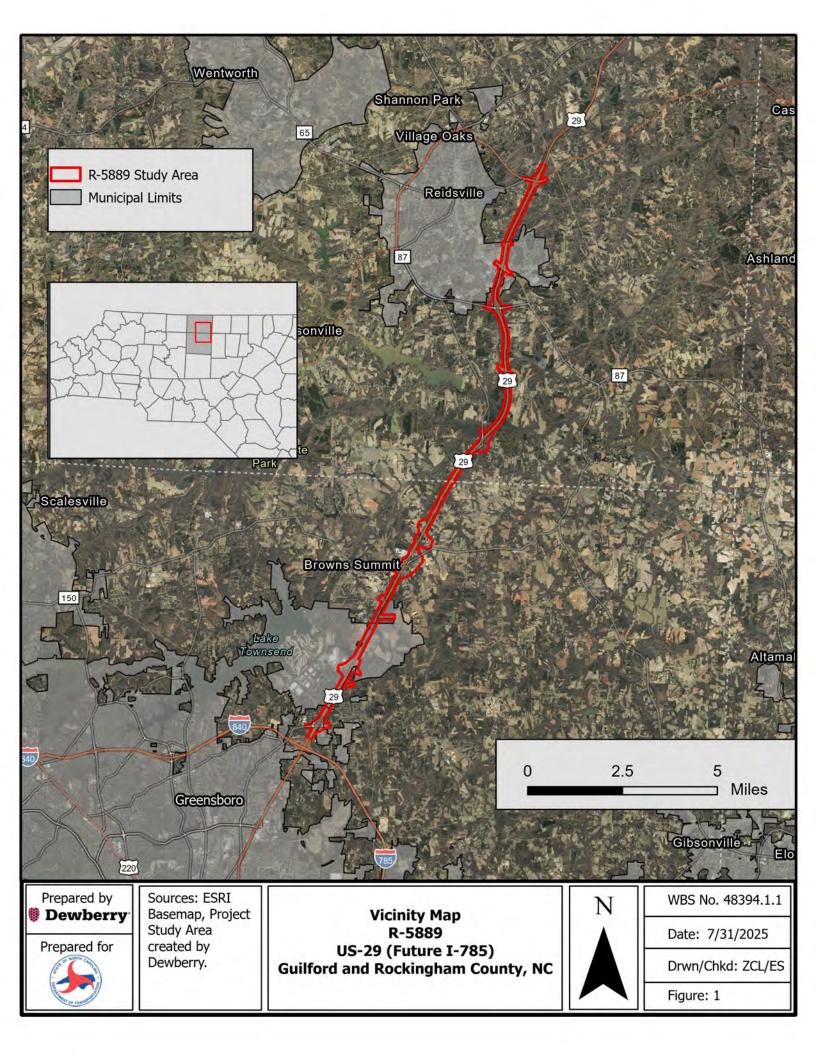
- An extension occurs 1,970 feet east towards Tier View Trail, approximately 1.5 miles from the Reedy Fork Parkway Interchange.
- An extension occurs 500 feet west towards Summit Avenue, approximately 2.2 miles from the Reedy Fork Parkway Interchange.

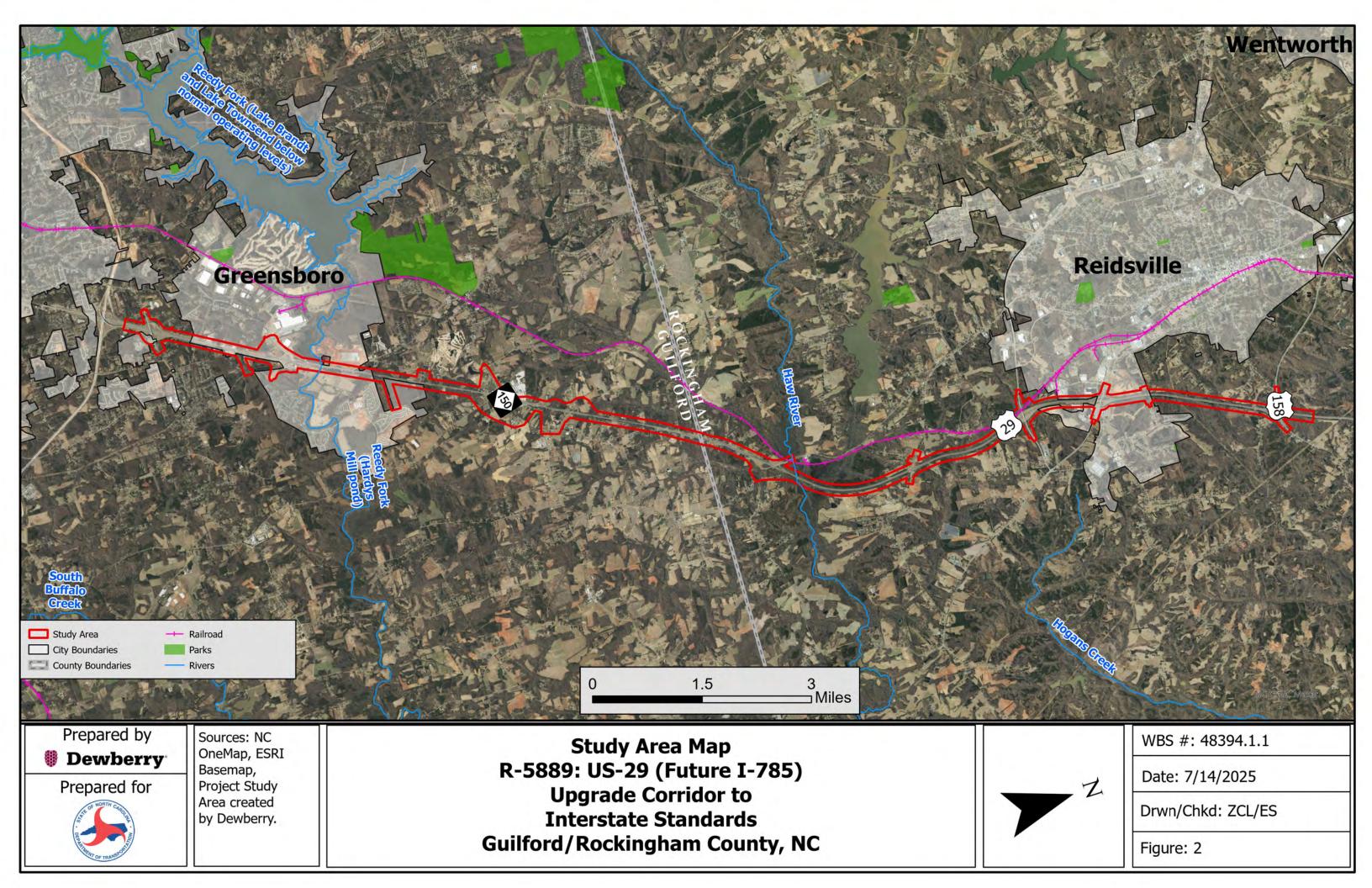
5. Avoidance and Minimization

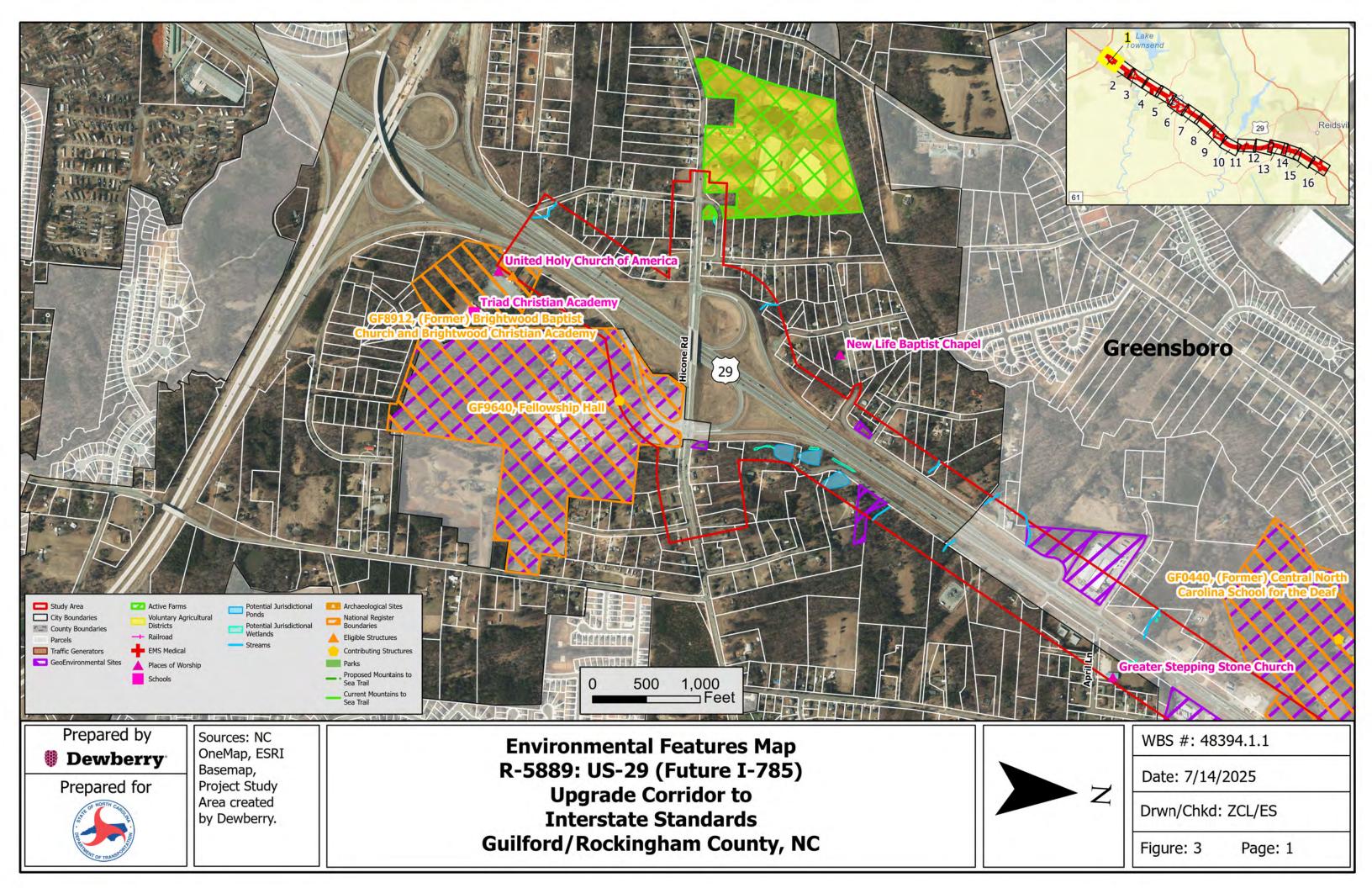
During project scoping, the Study Area corridor limits were chosen in order to limit impacts as much as possible.

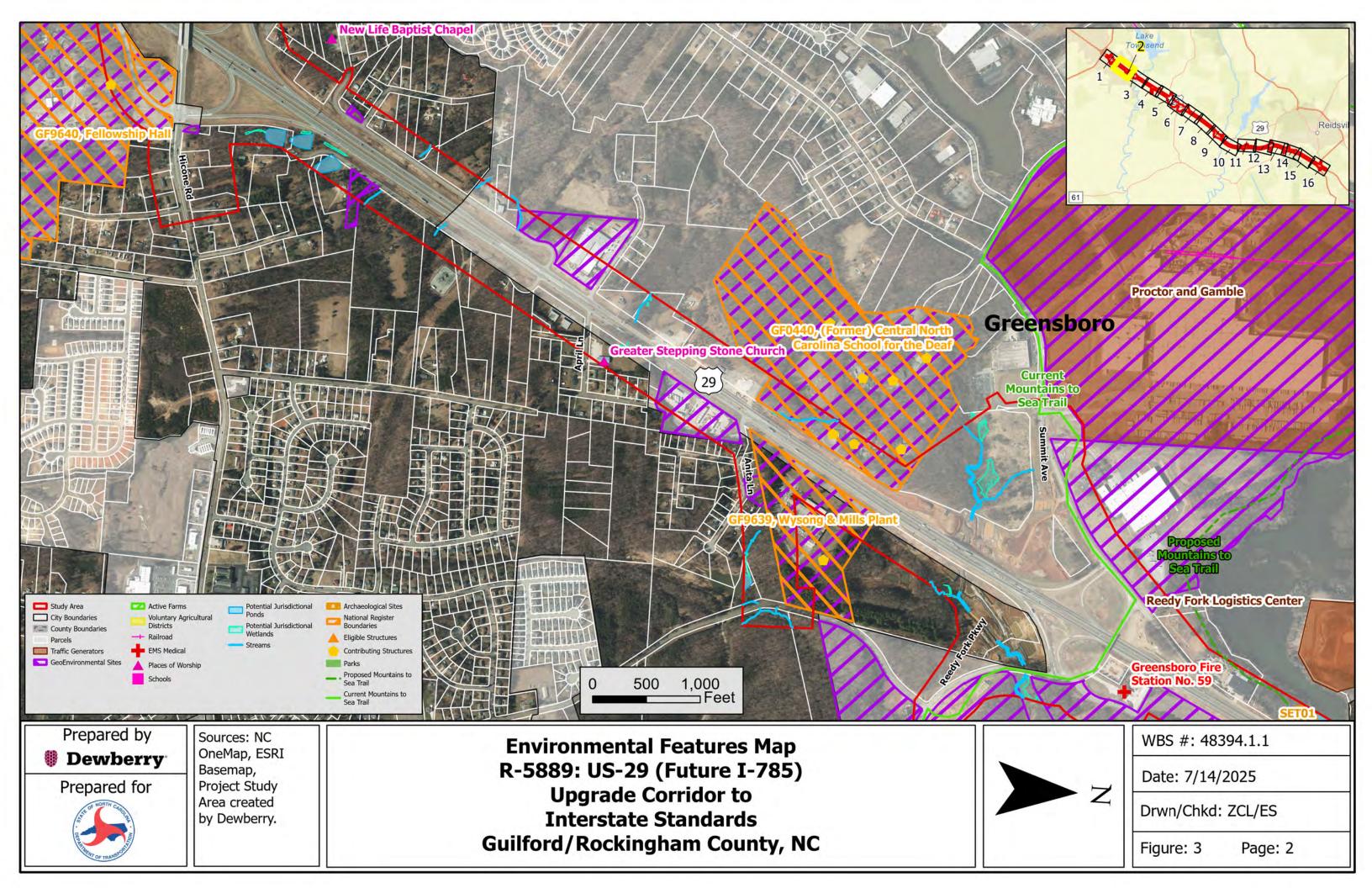
6. Merger Plan Review/Next Steps

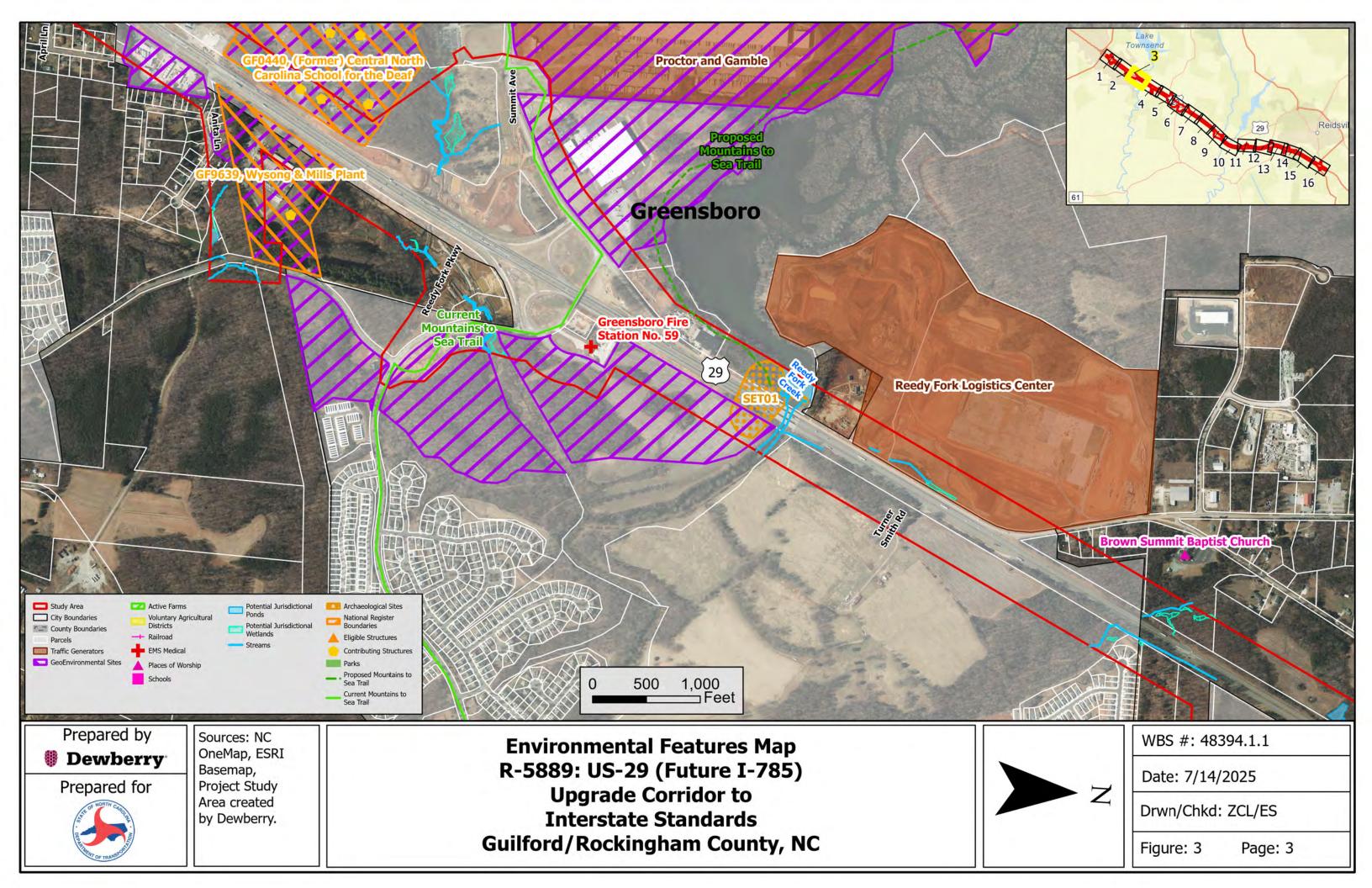
Based on the Merger Plan for the project, NCDOT proposes that the next Merger Meeting will be a combined CP 2 (Alternatives Considered) and CP 2A (Major Hydraulic Crossing Structures and Alignment Defined). Prior to the next Merger Meeting, NCDOT will complete the Hydraulic Planning Report, natural systems studies, and roadway designs based on surveyed data will be available for review. It is anticipated that the combined CP 2/CP 2A meeting will be held in late 2025; Merger Team members will be notified of any changes that require a revision of this timetable.

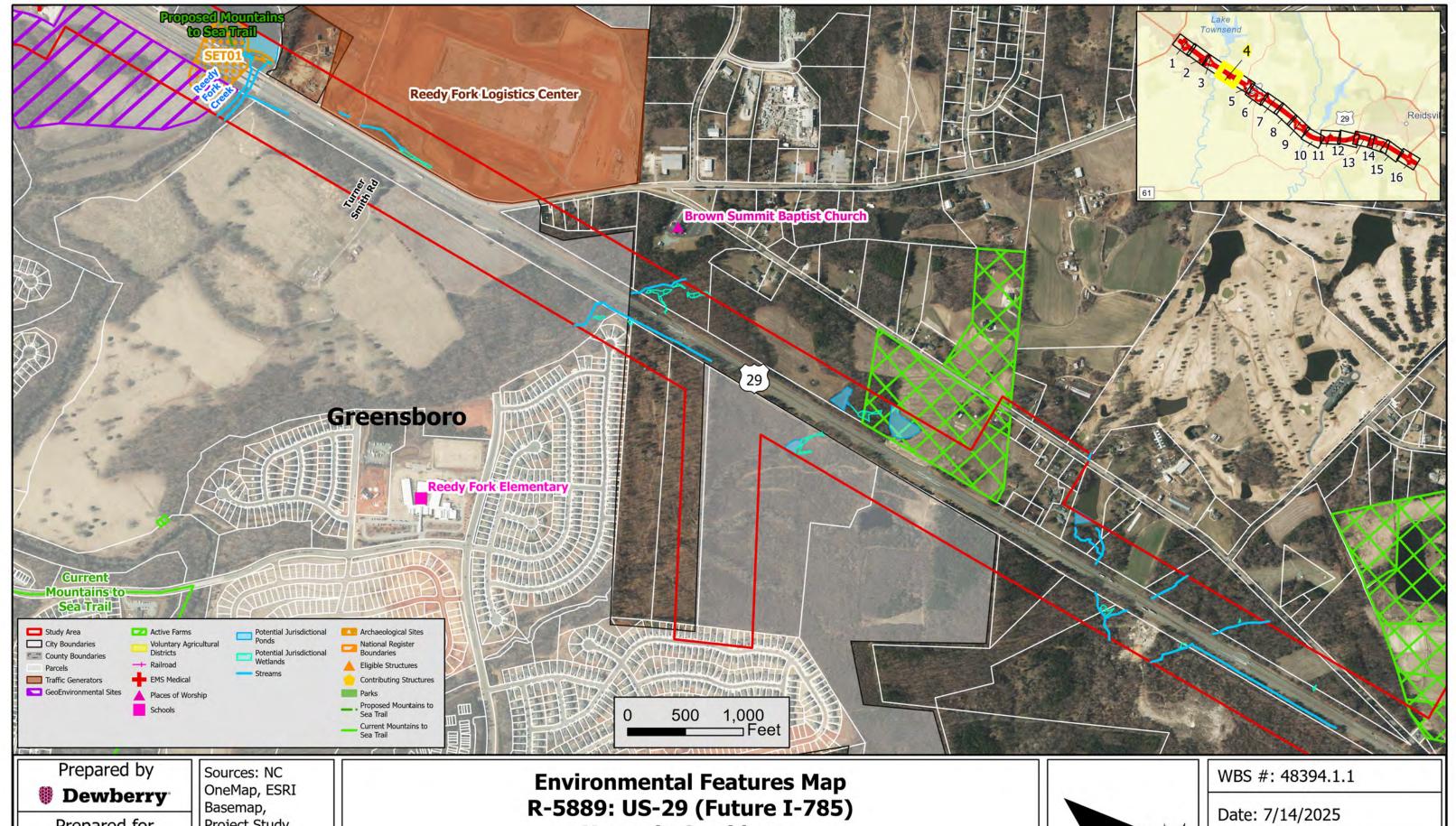














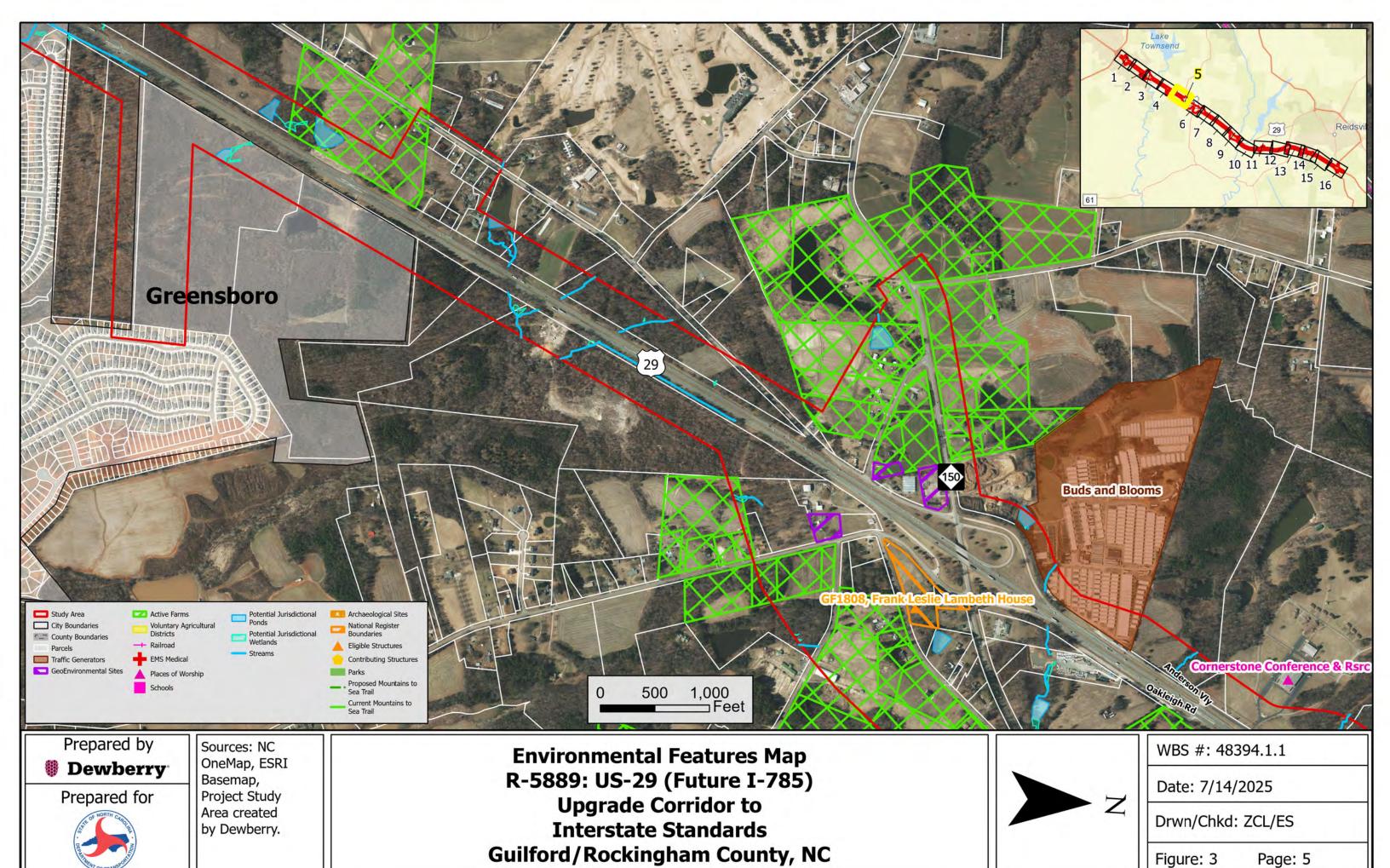
Project Study Area created by Dewberry.

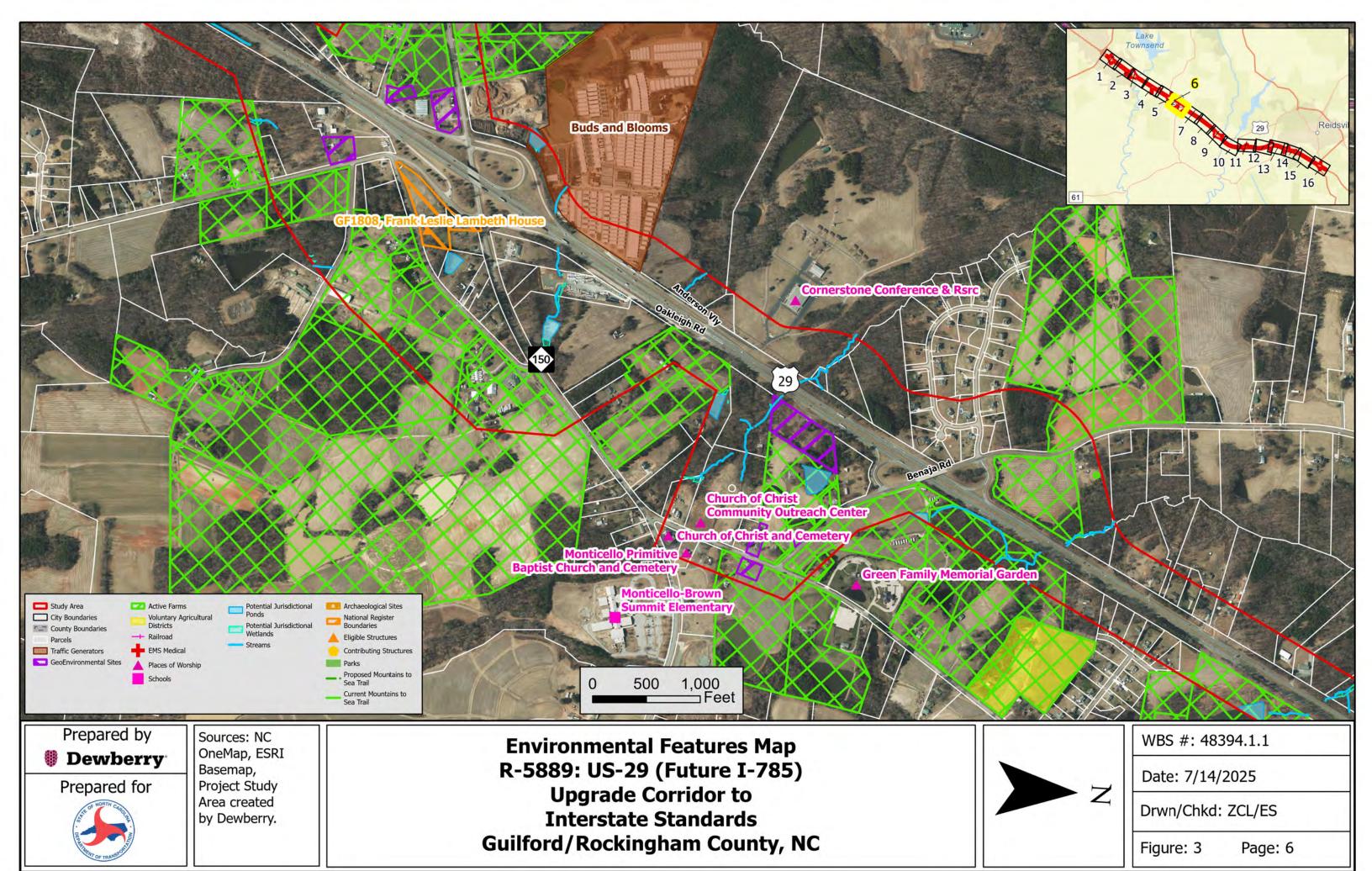
Upgrade Corridor to Interstate Standards Guilford/Rockingham County, NC

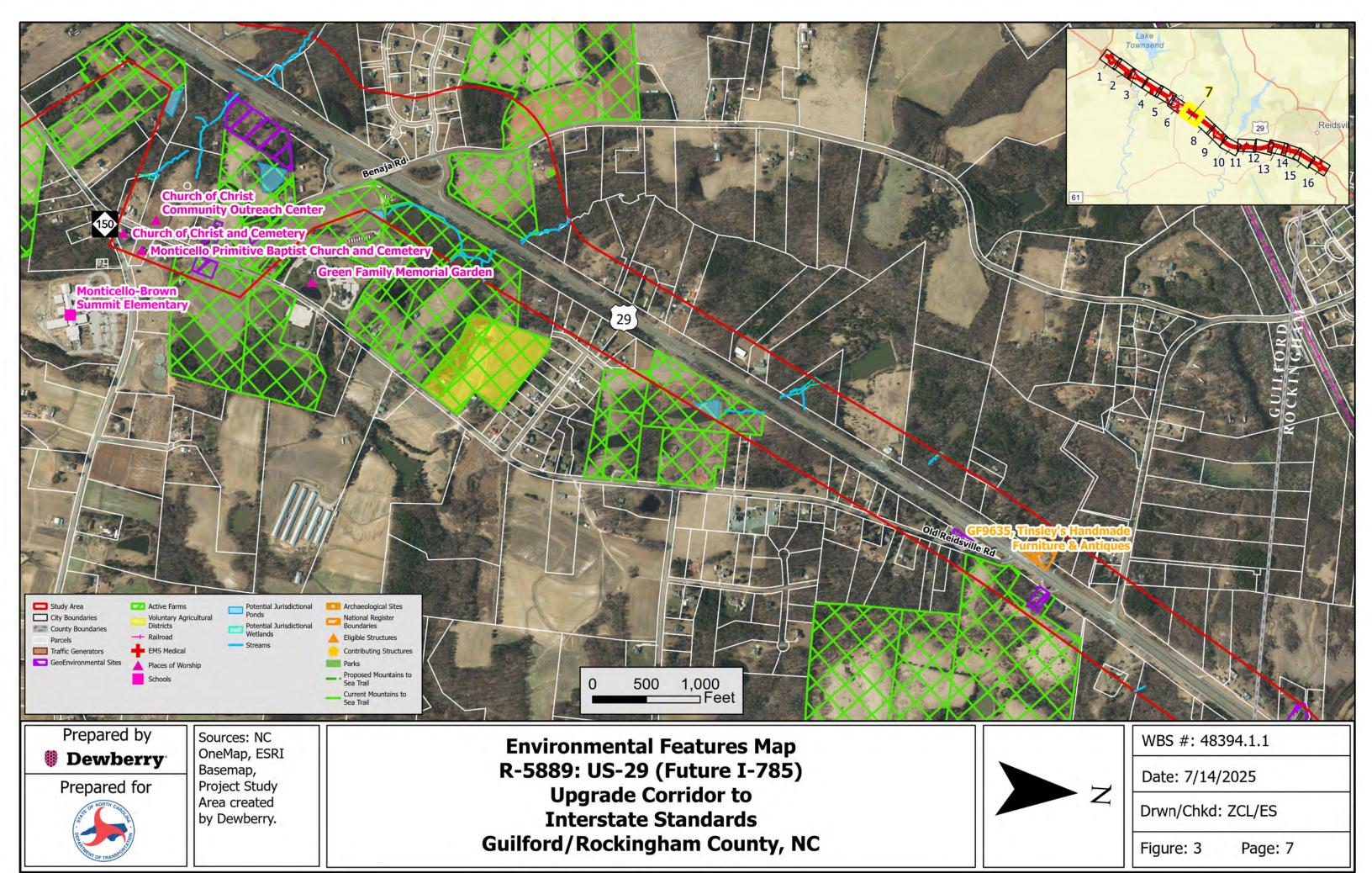


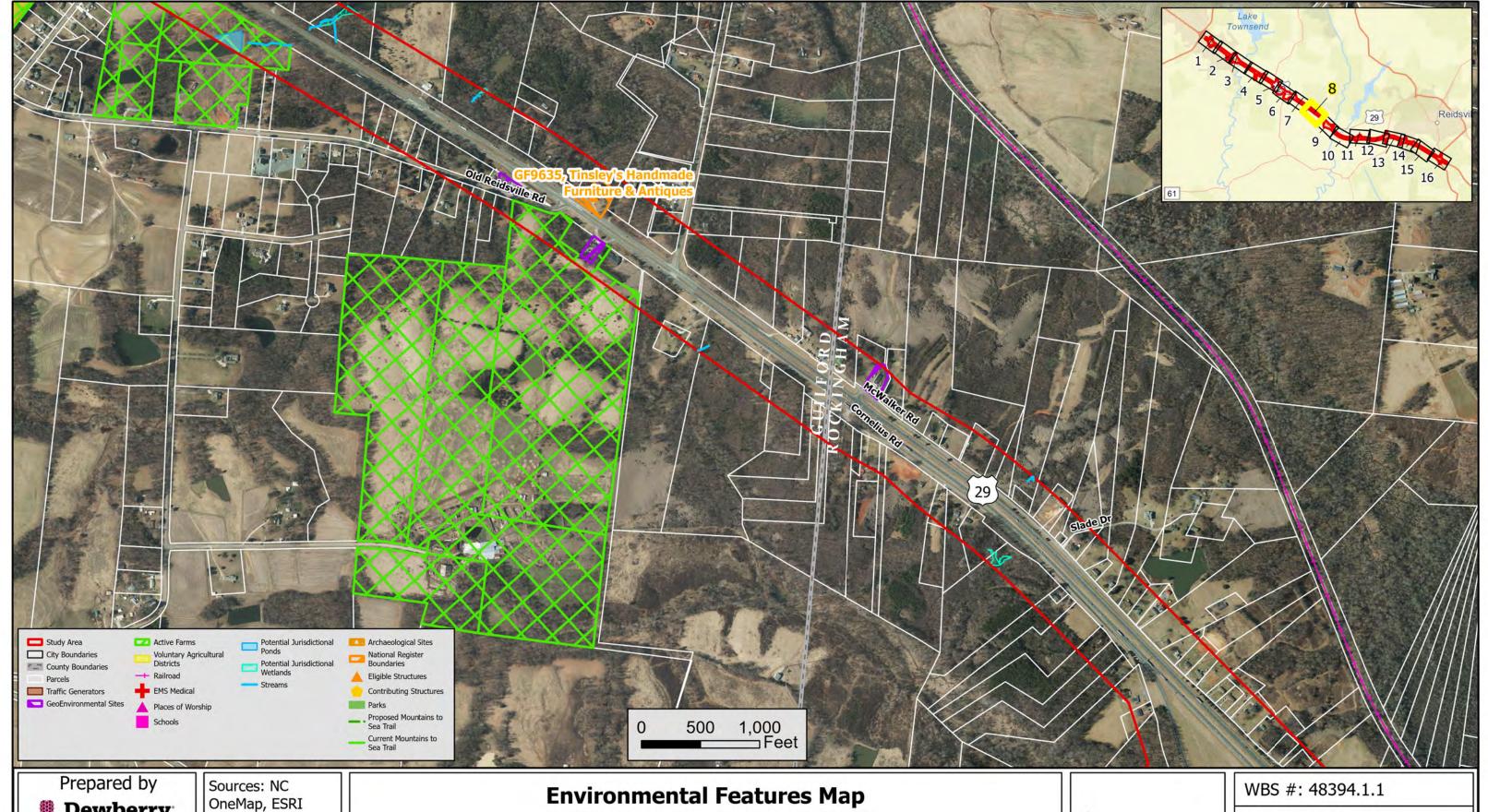
Drwn/Chkd: ZCL/ES

Figure: 3 Page: 4









Dewberry

Prepared for



Basemap, Project Study Area created by Dewberry.

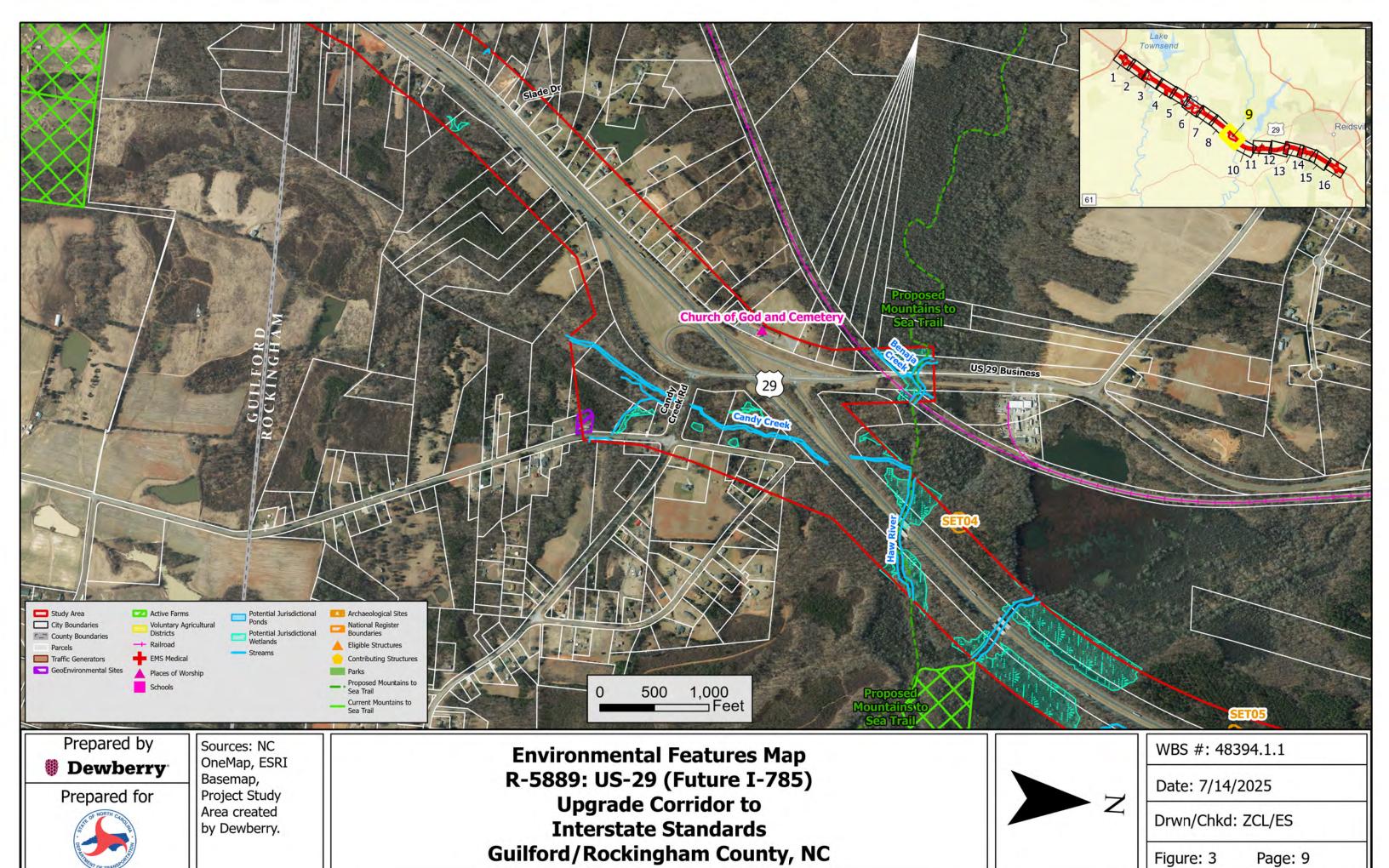
R-5889: US-29 (Future I-785) **Upgrade Corridor to Interstate Standards Guilford/Rockingham County, NC**

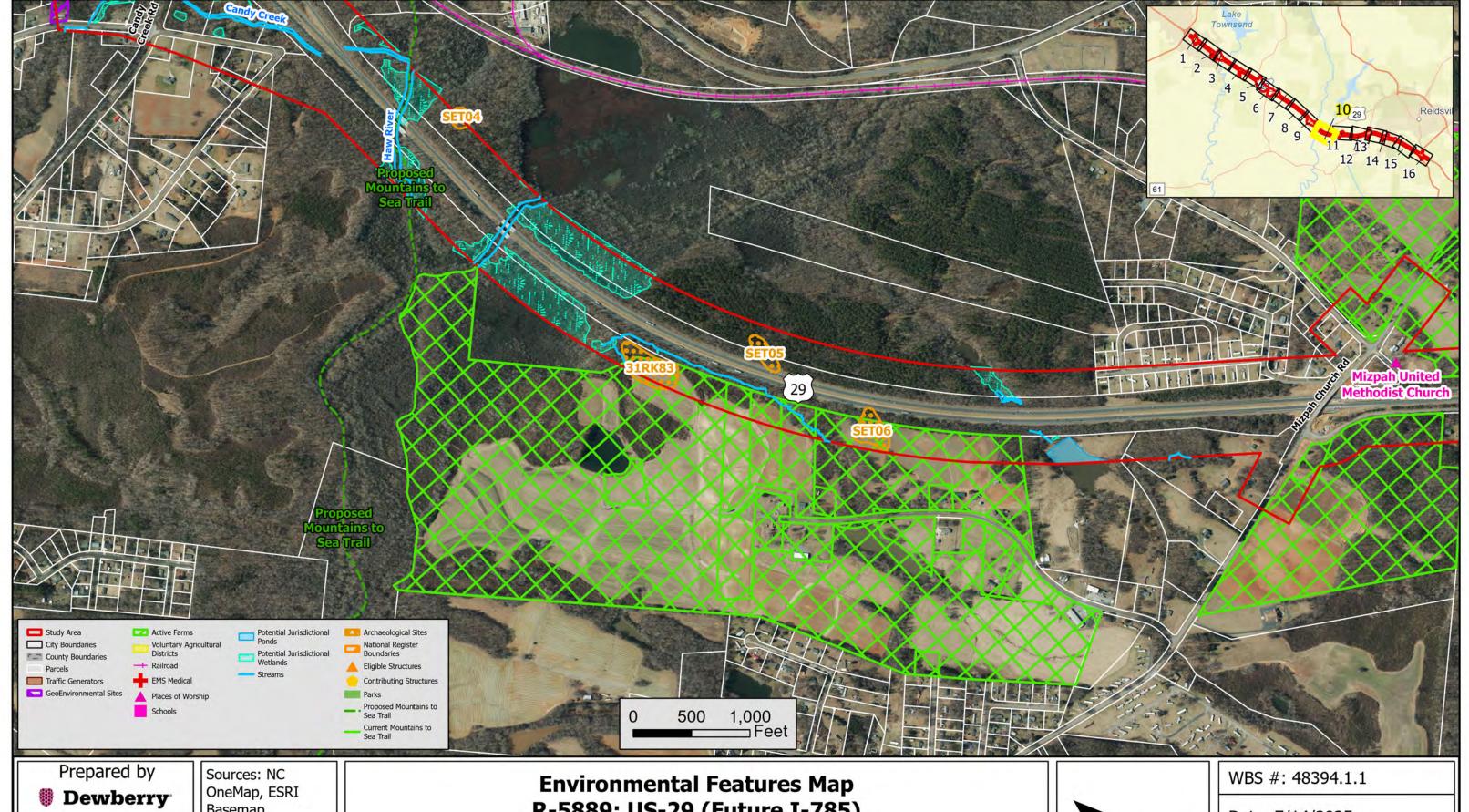


Date: 7/14/2025

Drwn/Chkd: ZCL/ES

Figure: 3 Page: 8





Prepared for



Sources: NC
OneMap, ESRI
Basemap,
Project Study
Area created
by Dewberry.

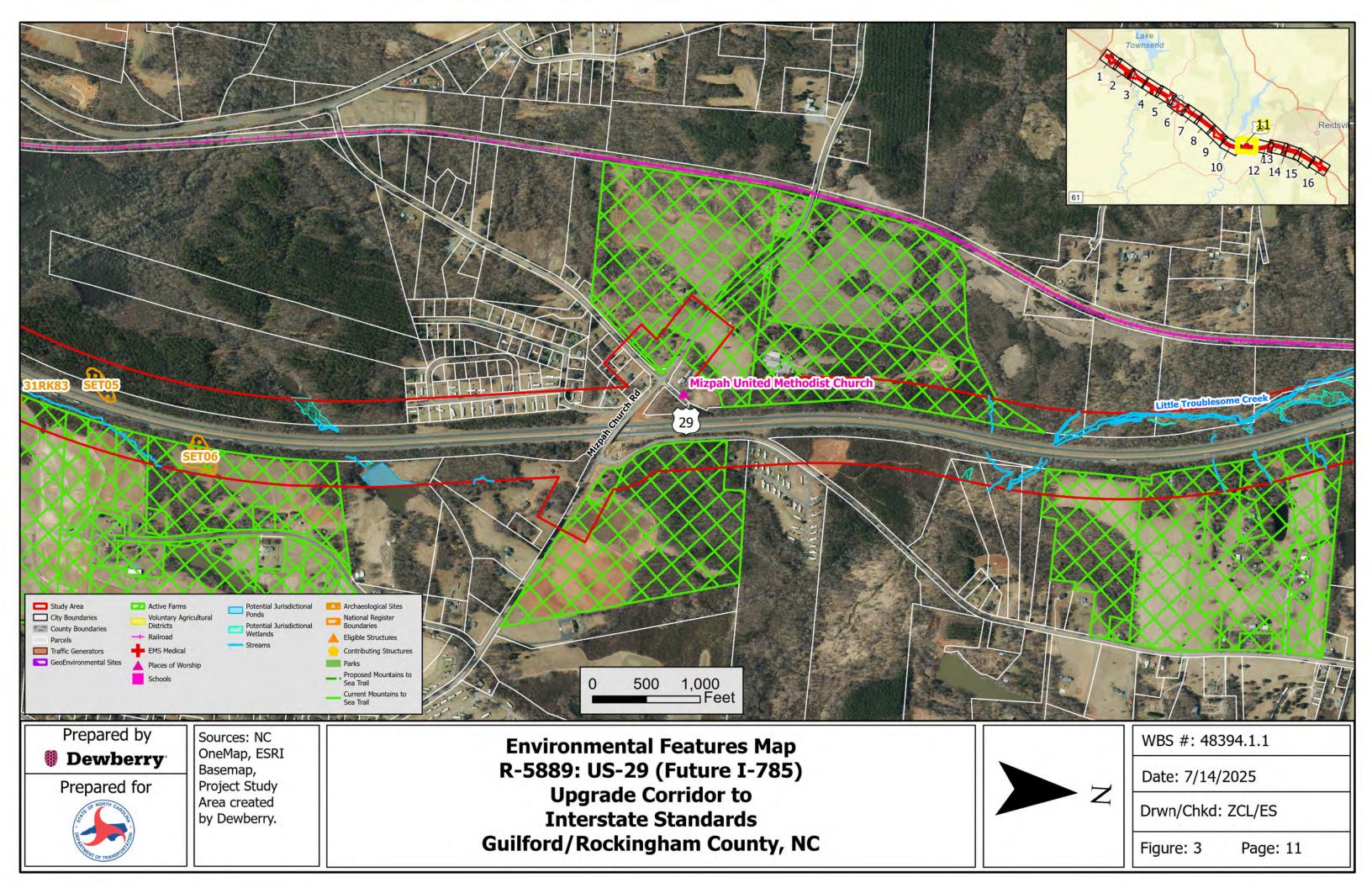
Environmental Features Map R-5889: US-29 (Future I-785) Upgrade Corridor to Interstate Standards Guilford/Rockingham County, NC

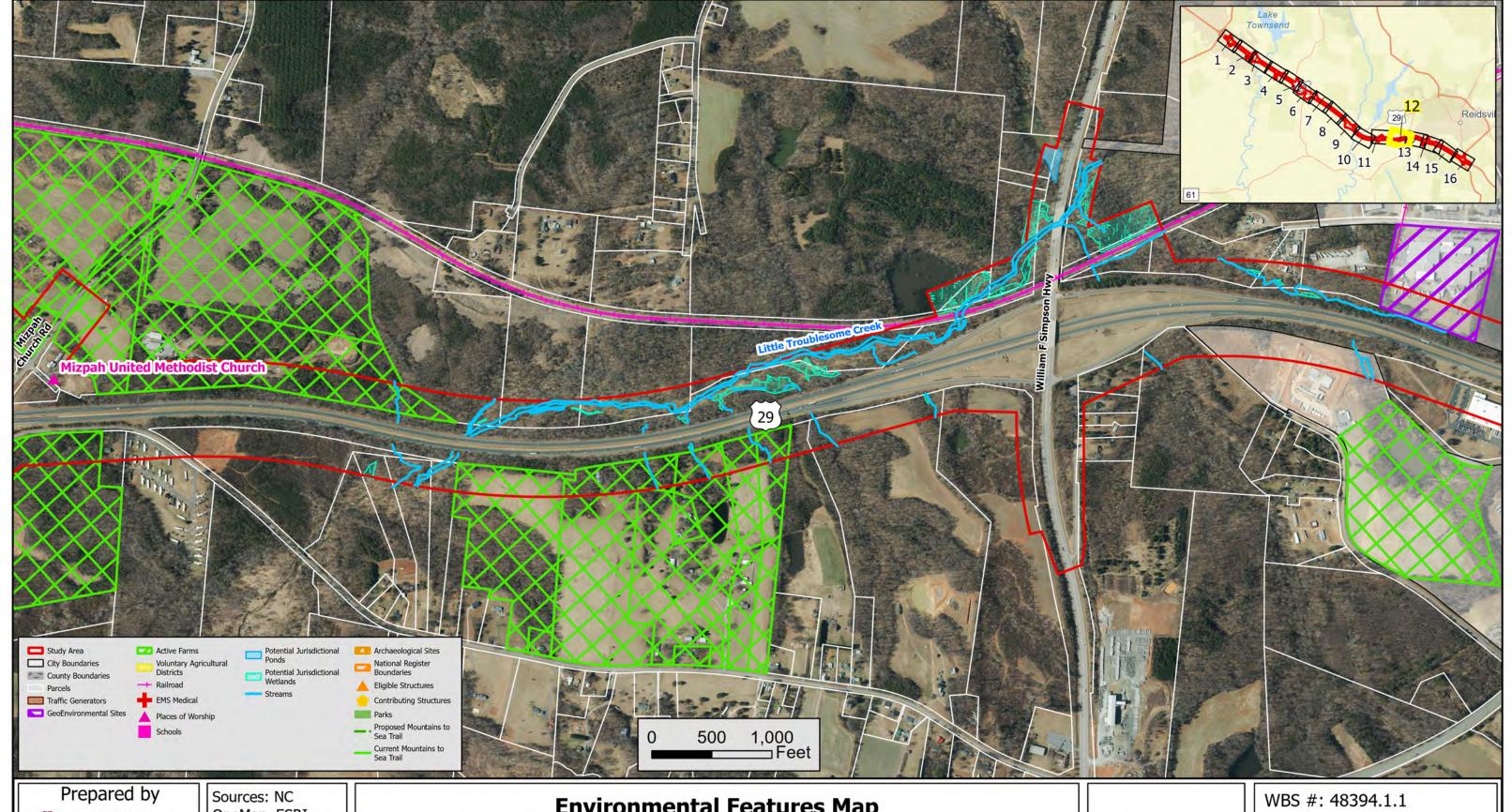


Date: 7/14/2025

Drwn/Chkd: ZCL/ES

Figure: 3 Page: 10





Dewberry

Prepared for



Sources: NC
OneMap, ESRI
Basemap,
Project Study
Area created
by Dewberry.

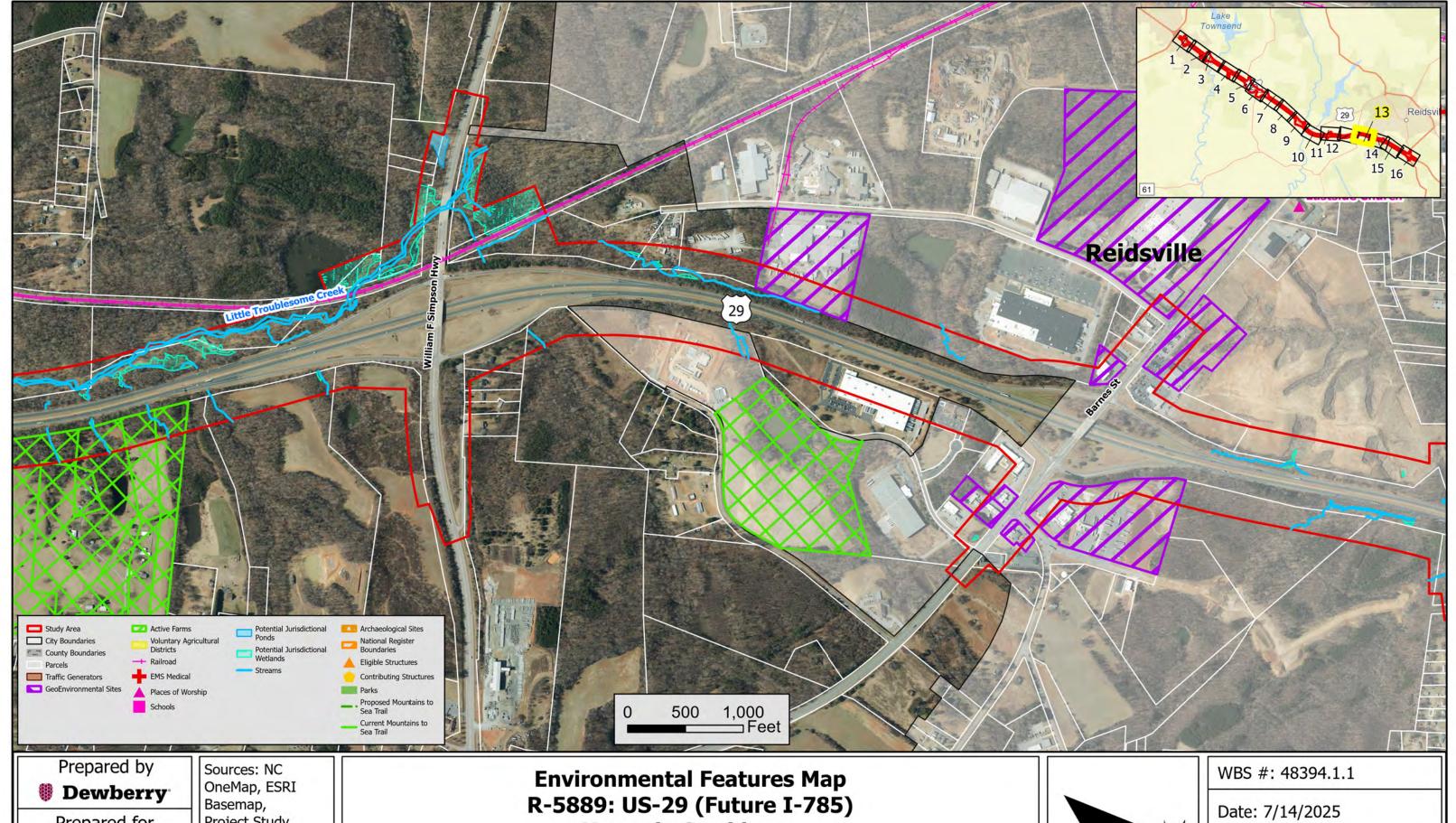
Environmental Features Map R-5889: US-29 (Future I-785) Upgrade Corridor to Interstate Standards Guilford/Rockingham County, NC



Date: 7/14/2025

Drwn/Chkd: ZCL/ES

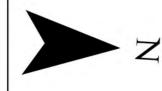
Figure: 3 Page: 12





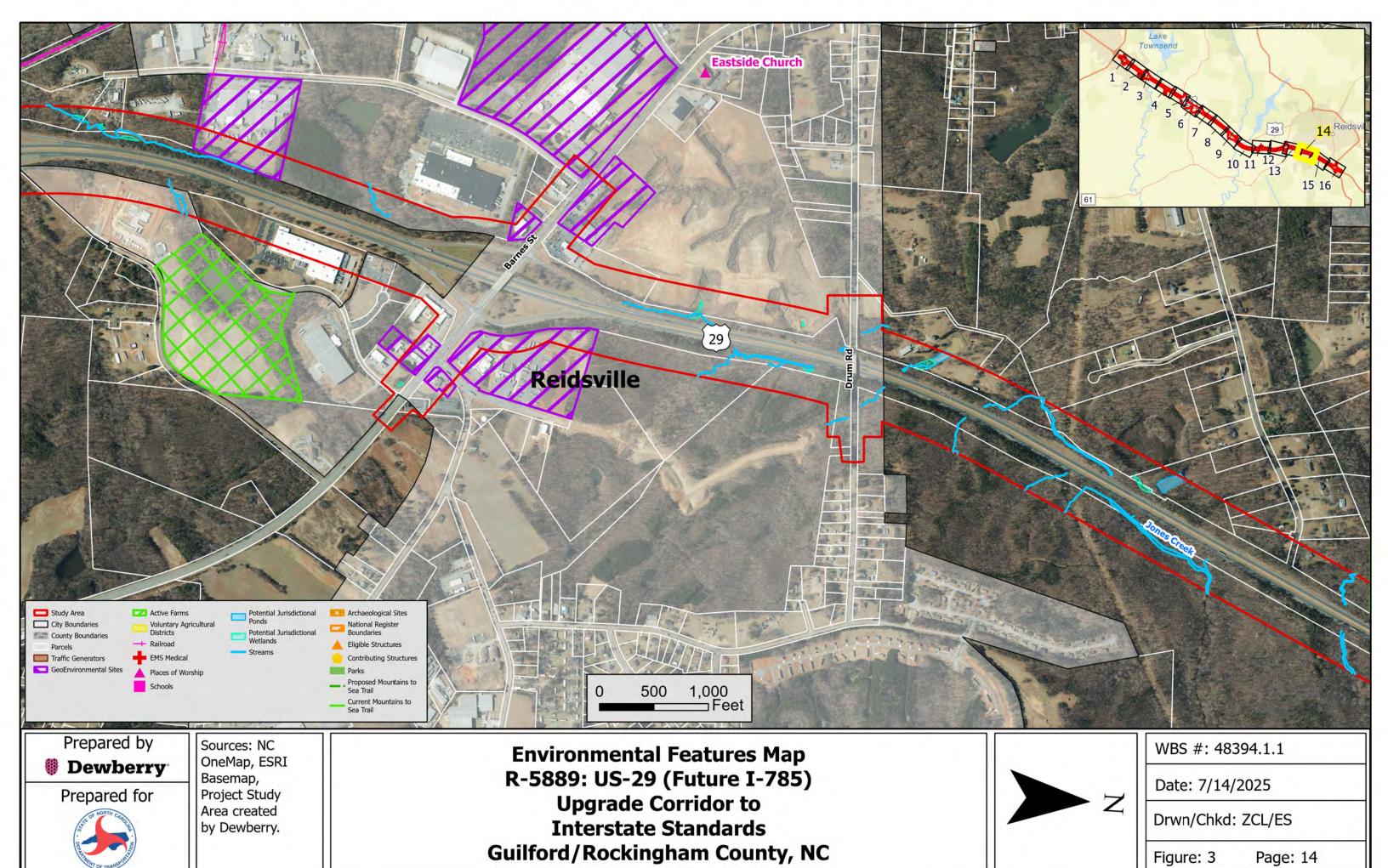
Project Study Area created by Dewberry.

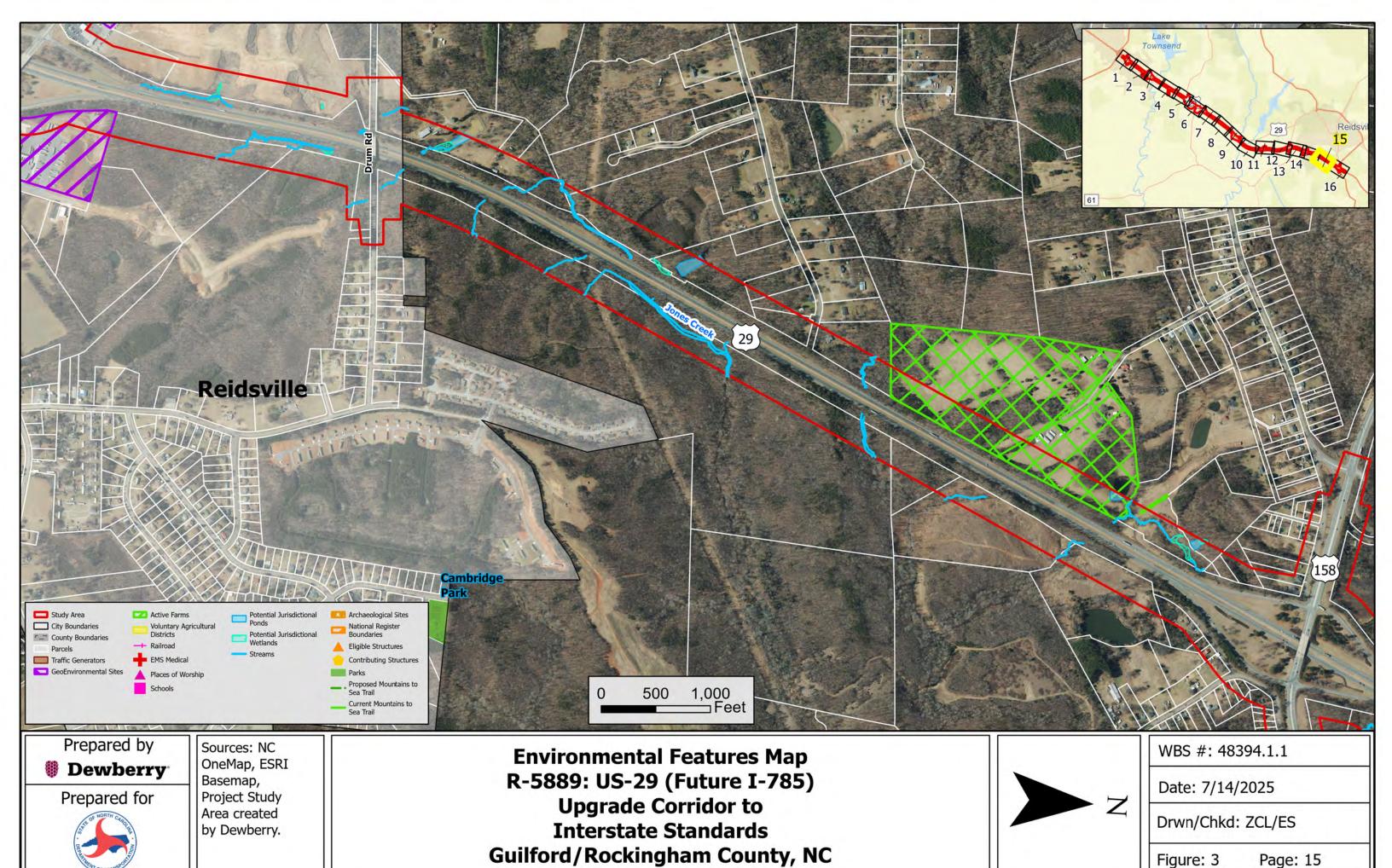
Upgrade Corridor to Interstate Standards Guilford/Rockingham County, NC



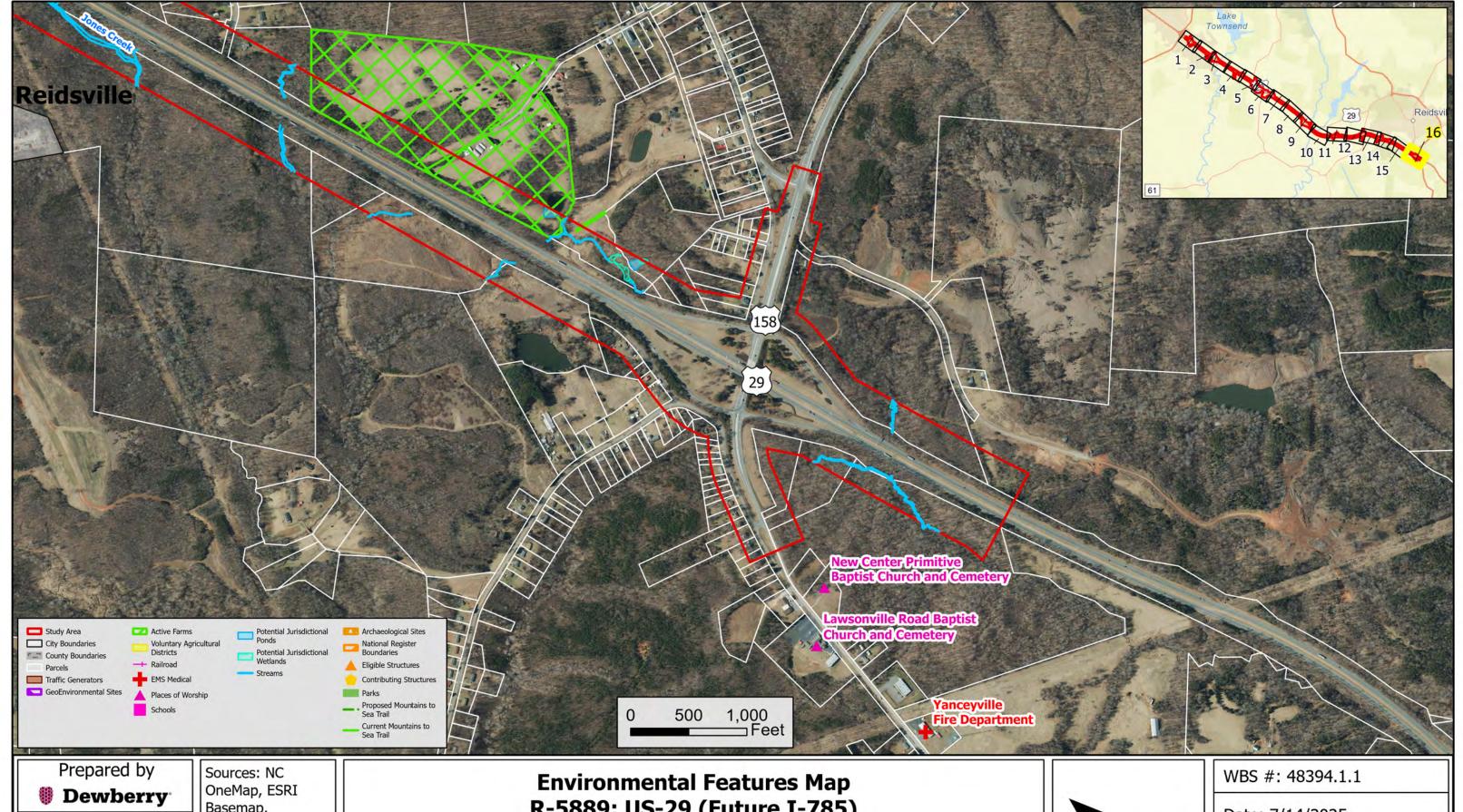
Drwn/Chkd: ZCL/ES

Figure: 3 Page: 13





Page: 15

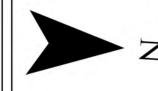


Prepared for



Sources: NC
OneMap, ESRI
Basemap,
Project Study
Area created
by Dewberry.

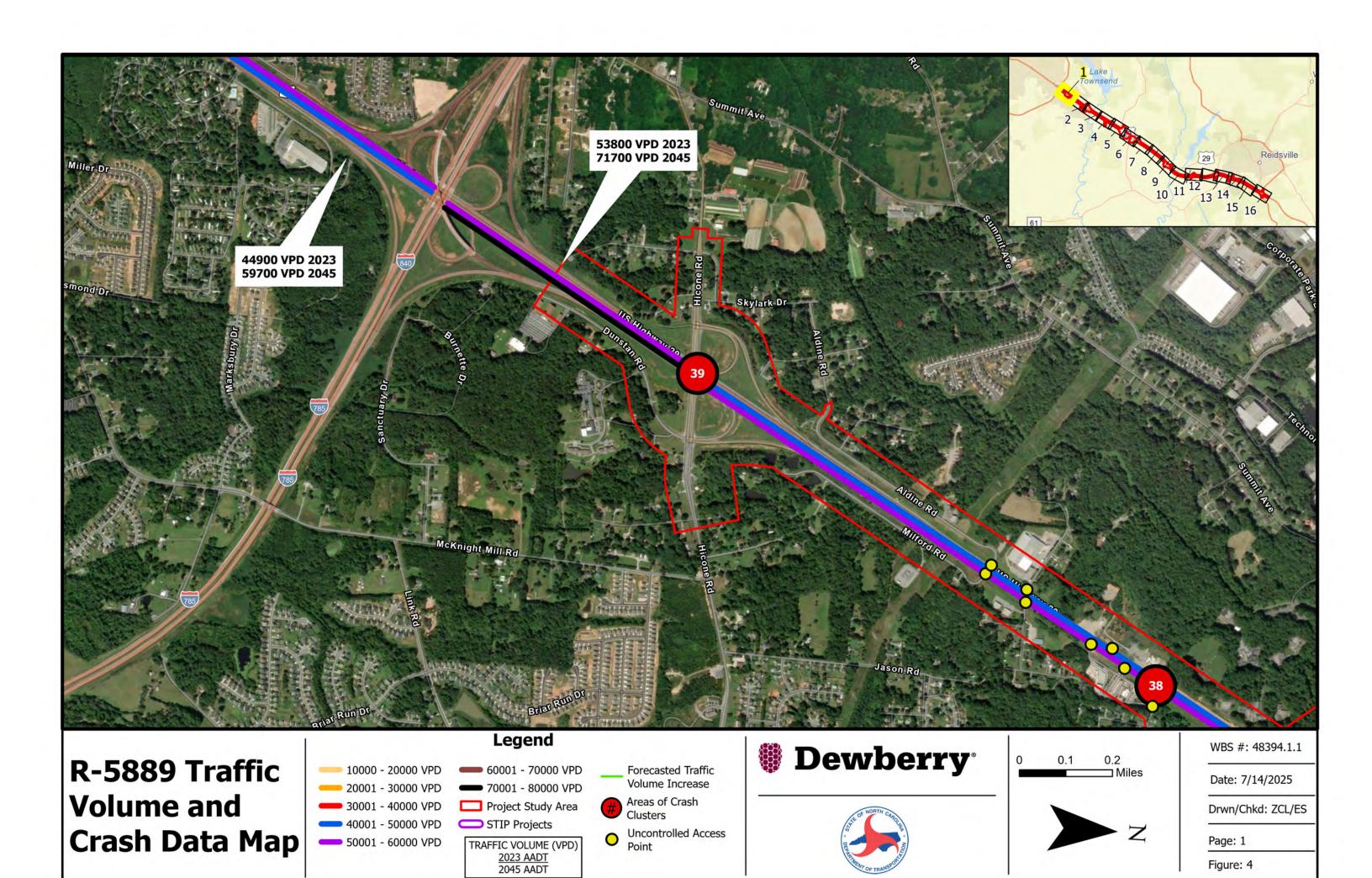
Environmental Features Map
R-5889: US-29 (Future I-785)
Upgrade Corridor to
Interstate Standards
Guilford/Rockingham County, NC

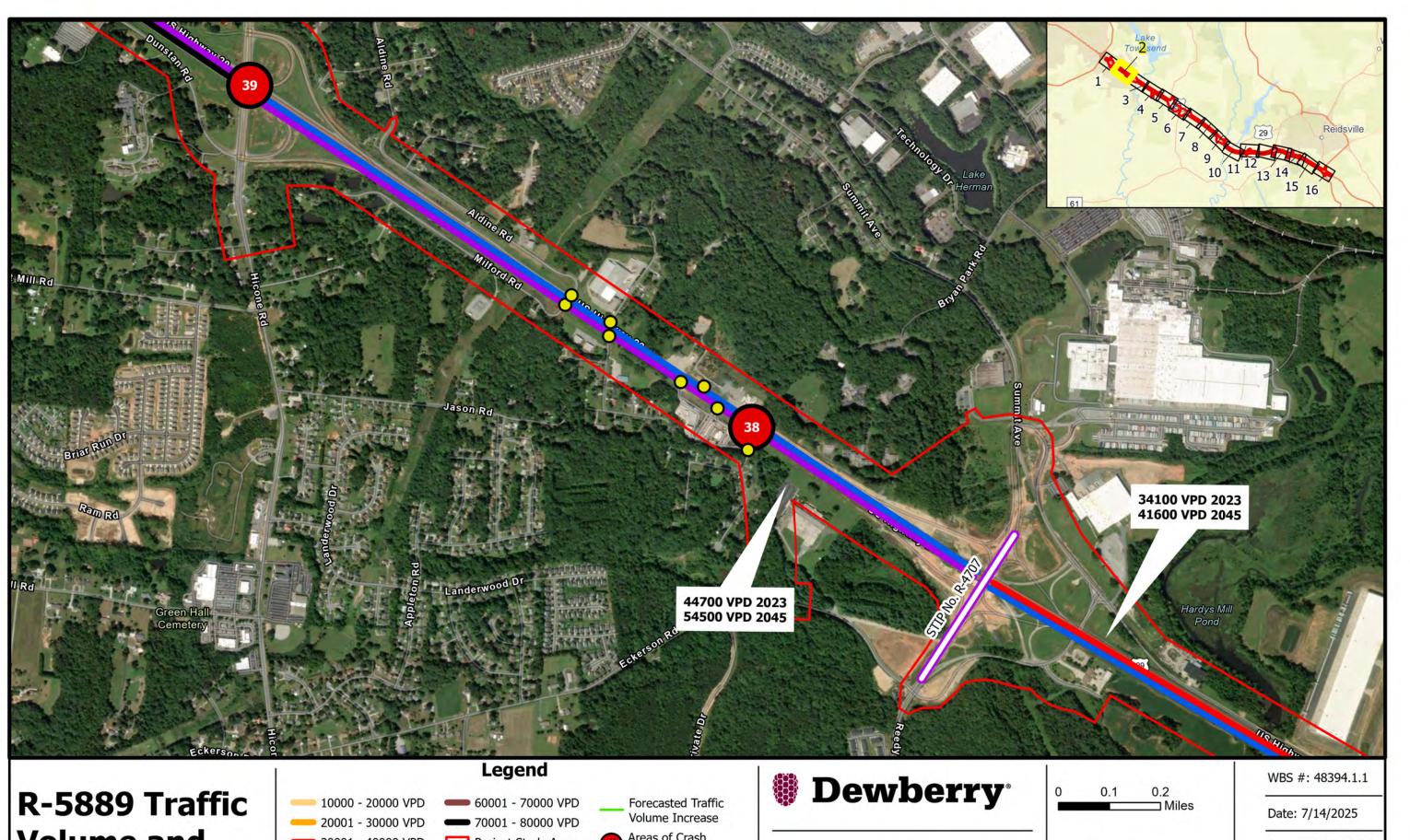


Date: 7/14/2025

Drwn/Chkd: ZCL/ES

Figure: 3 Page: 16





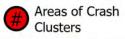
R-5889 Traffic Volume and Crash Data Map

20001 - 30000 VPD 30001 - 40000 VPD 40001 - 50000 VPD 50001 - 60000 VPD

Project Study Area
STIP Projects

TRAFFIC VOLUME (VPD)

2023 AADT
2045 AADT



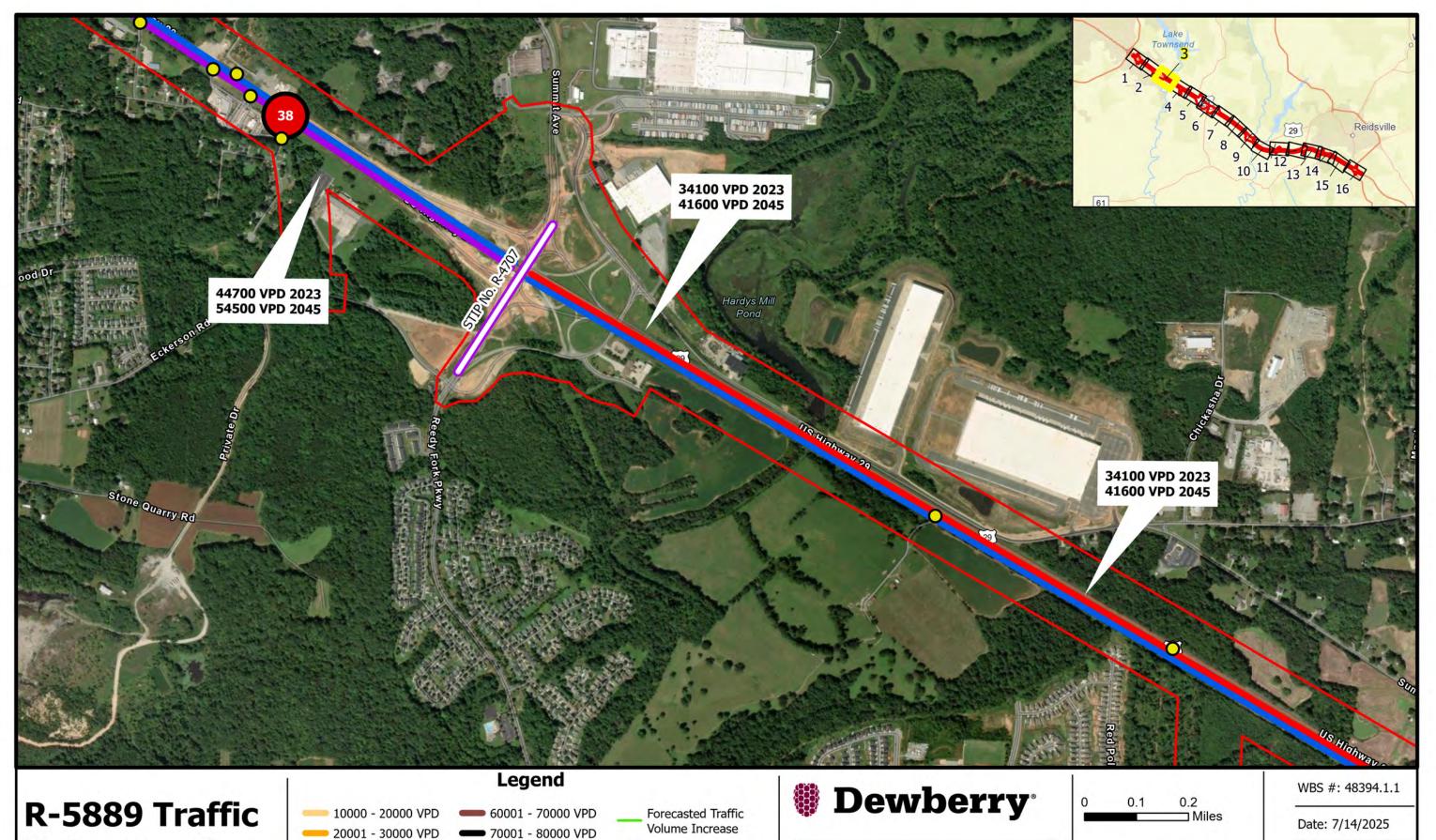
O Uncontrolled Access Point





Drwn/Chkd: ZCL/ES

Page: 2

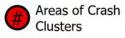


Volume and Crash Data Map

■ 30001 - 40000 VPD 40001 - 50000 VPD 50001 - 60000 VPD

Project Study Area STIP Projects

TRAFFIC VOLUME (VPD)
2023 AADT
2045 AADT



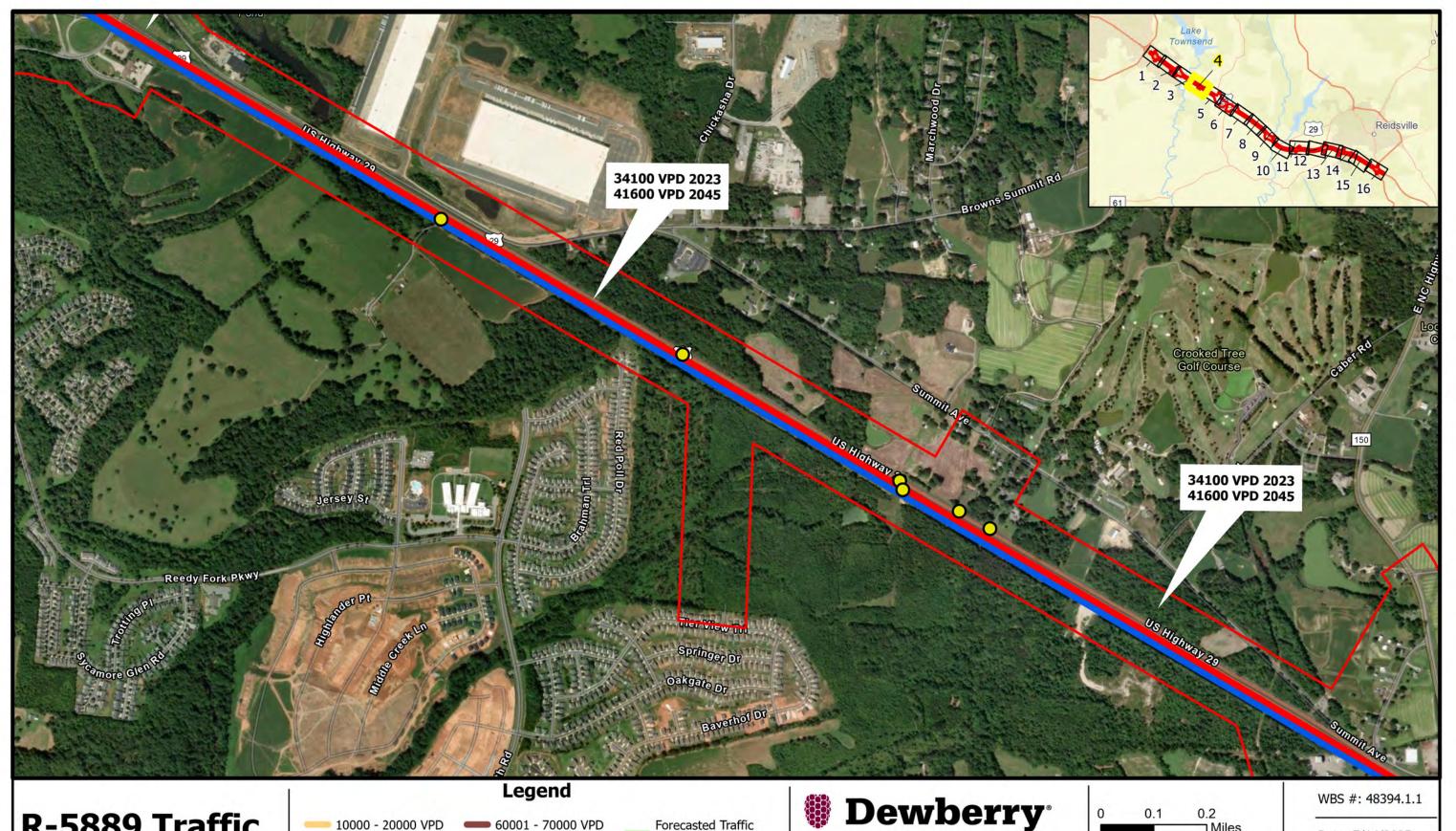
Uncontrolled Access Point





Drwn/Chkd: ZCL/ES

Page: 3



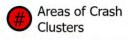
R-5889 Traffic **Volume and Crash Data Map**

30001 - 40000 VPD 40001 - 50000 VPD

Project Study Area STIP Projects

TRAFFIC VOLUME (VPD)
2023 AADT
2045 AADT

Forecasted Traffic Volume Increase



Uncontrolled Access Point



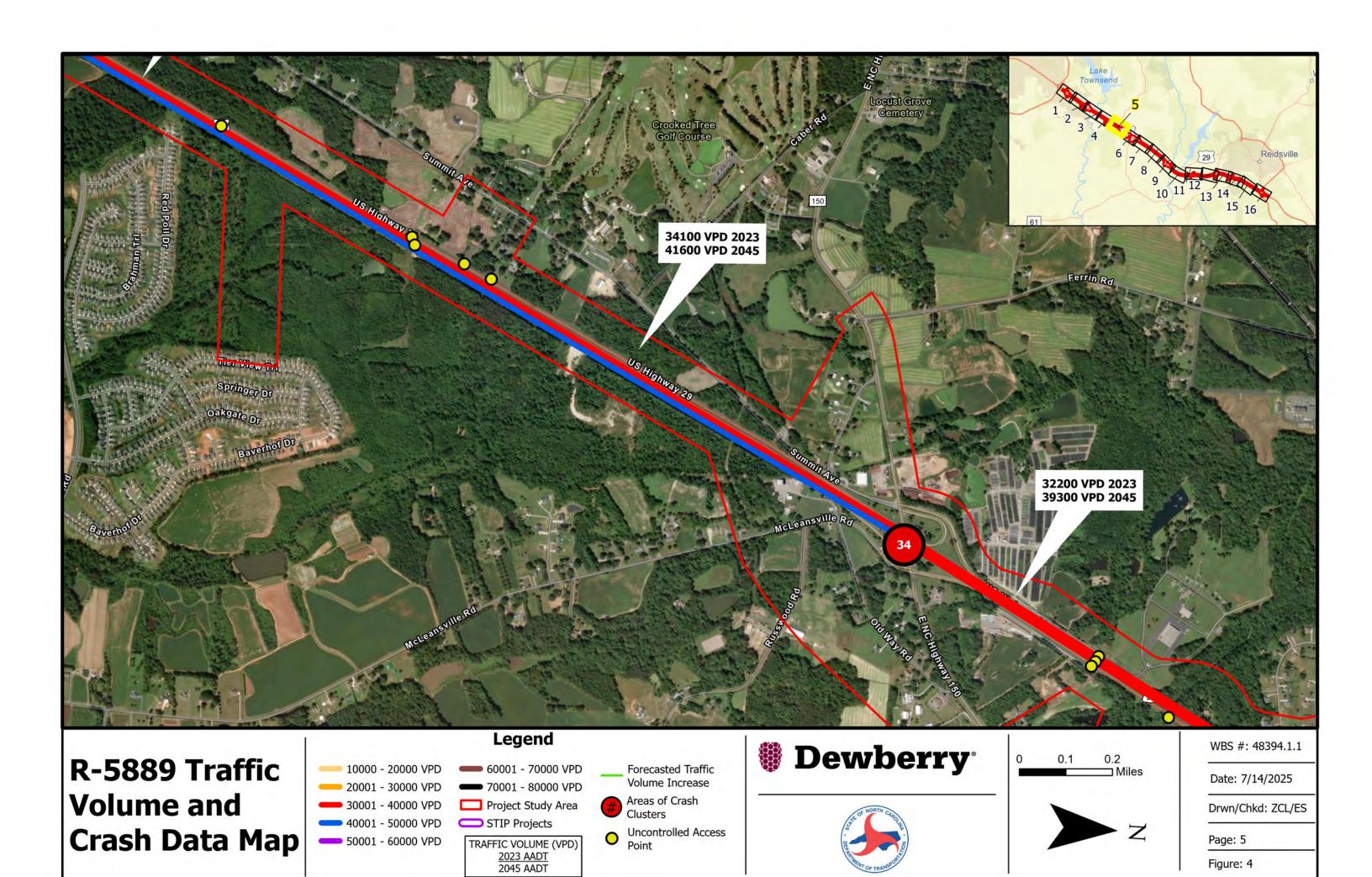


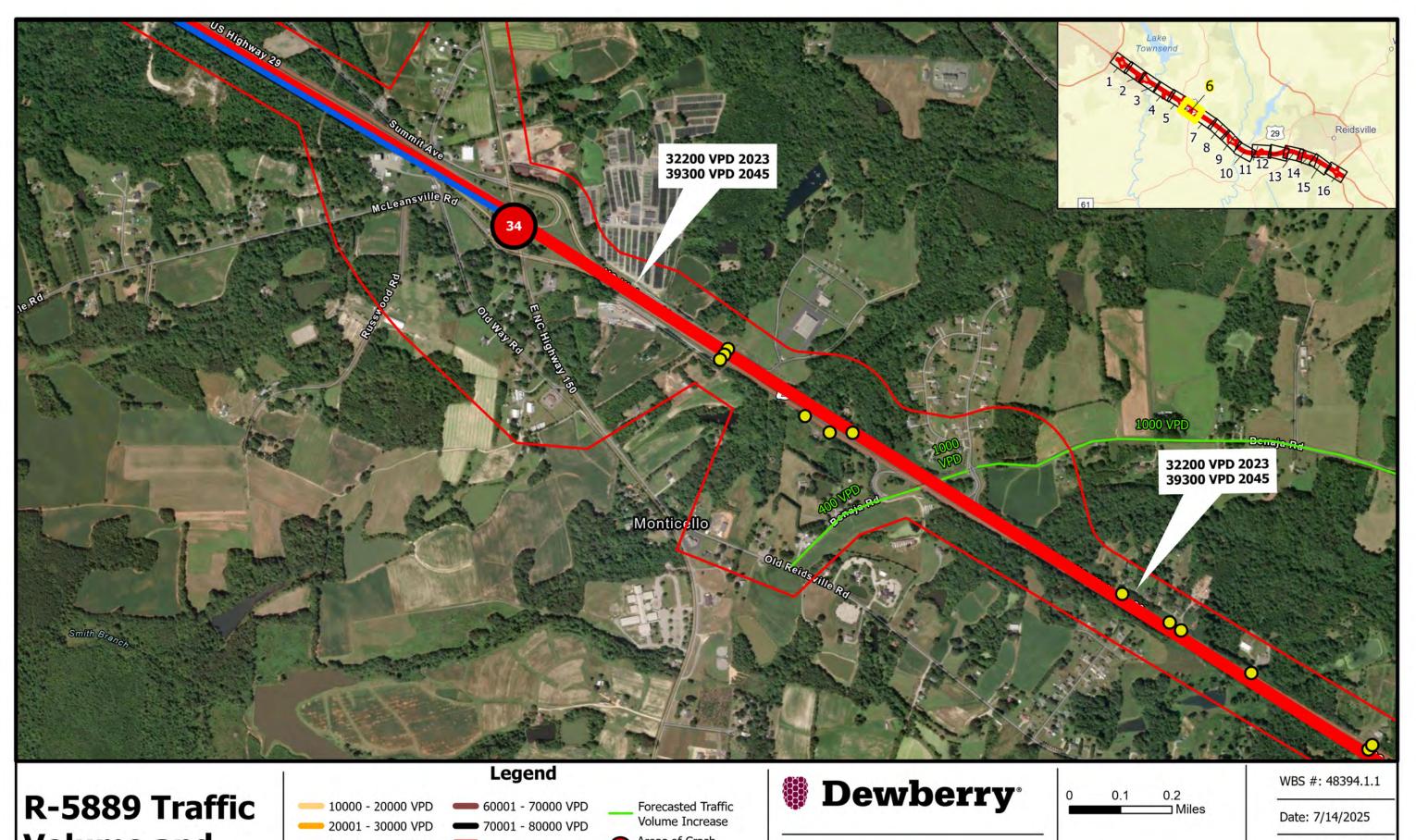


Date: 7/14/2025

Drwn/Chkd: ZCL/ES

Page: 4



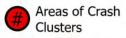


Volume and Crash Data Map

30001 - 40000 VPD 40001 - 50000 VPD 50001 - 60000 VPD

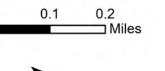
Project Study Area STIP Projects

TRAFFIC VOLUME (VPD)
2023 AADT
2045 AADT



Uncontrolled Access Point

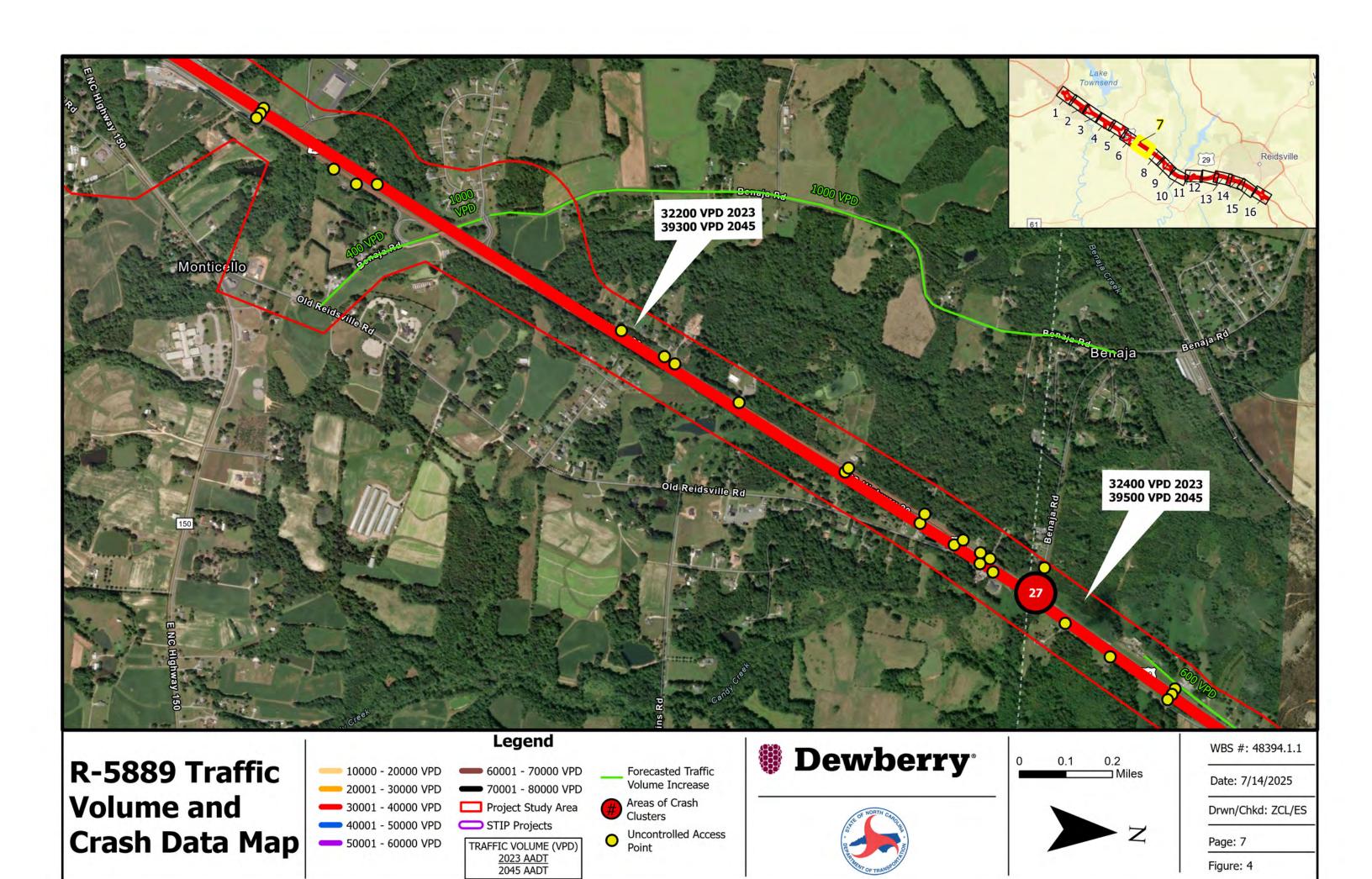


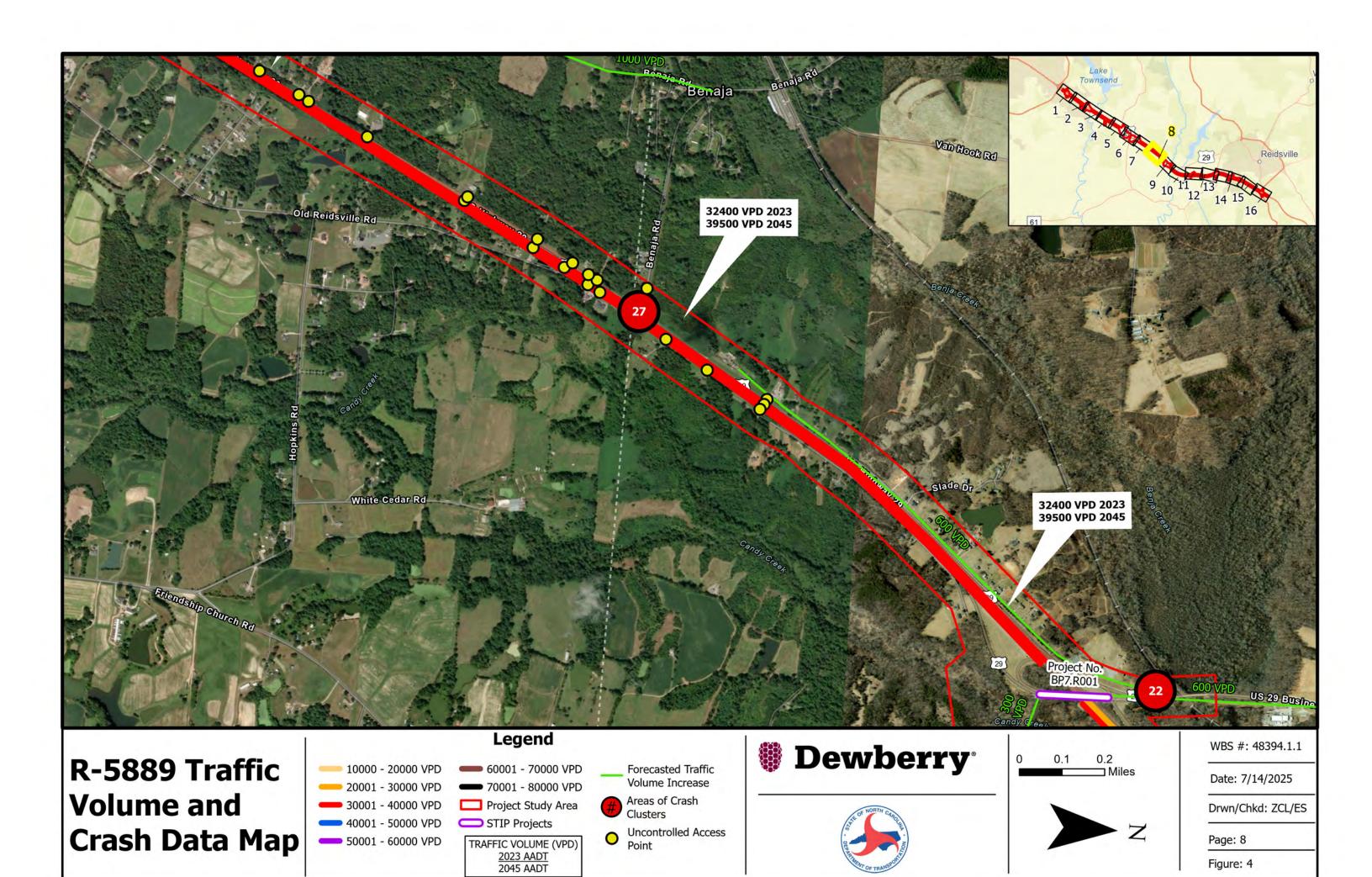


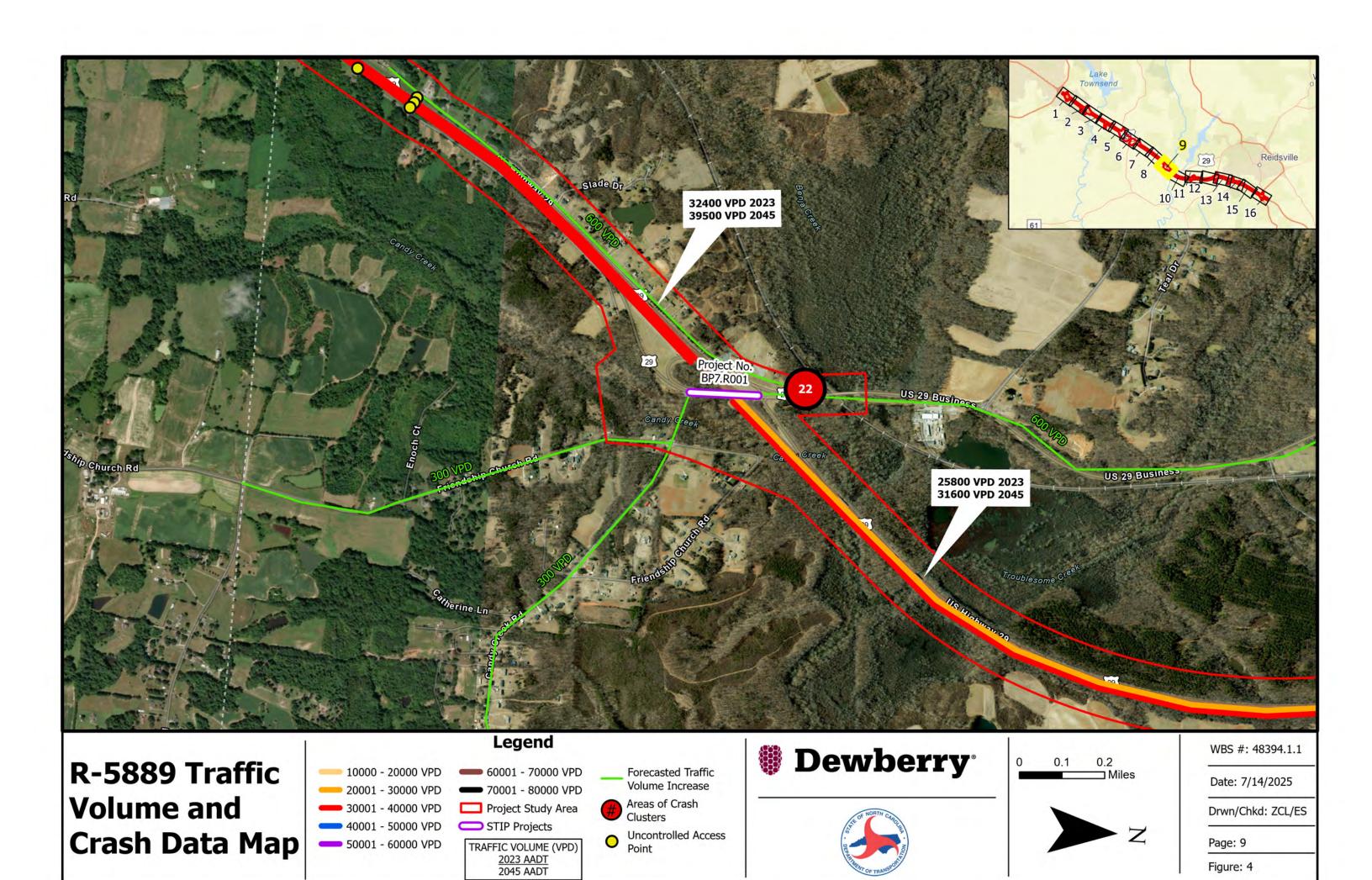


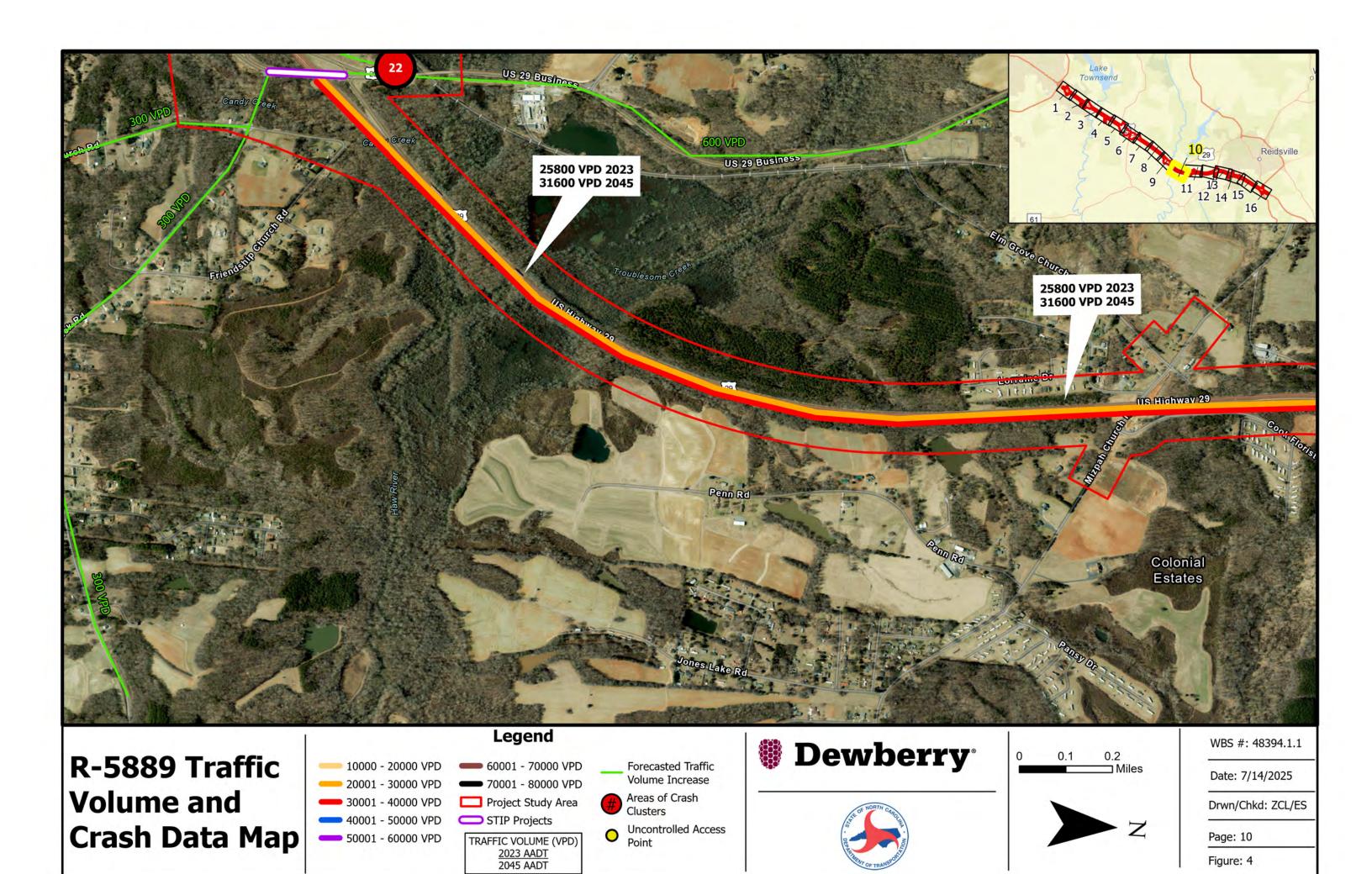
Drwn/Chkd: ZCL/ES

Page: 6

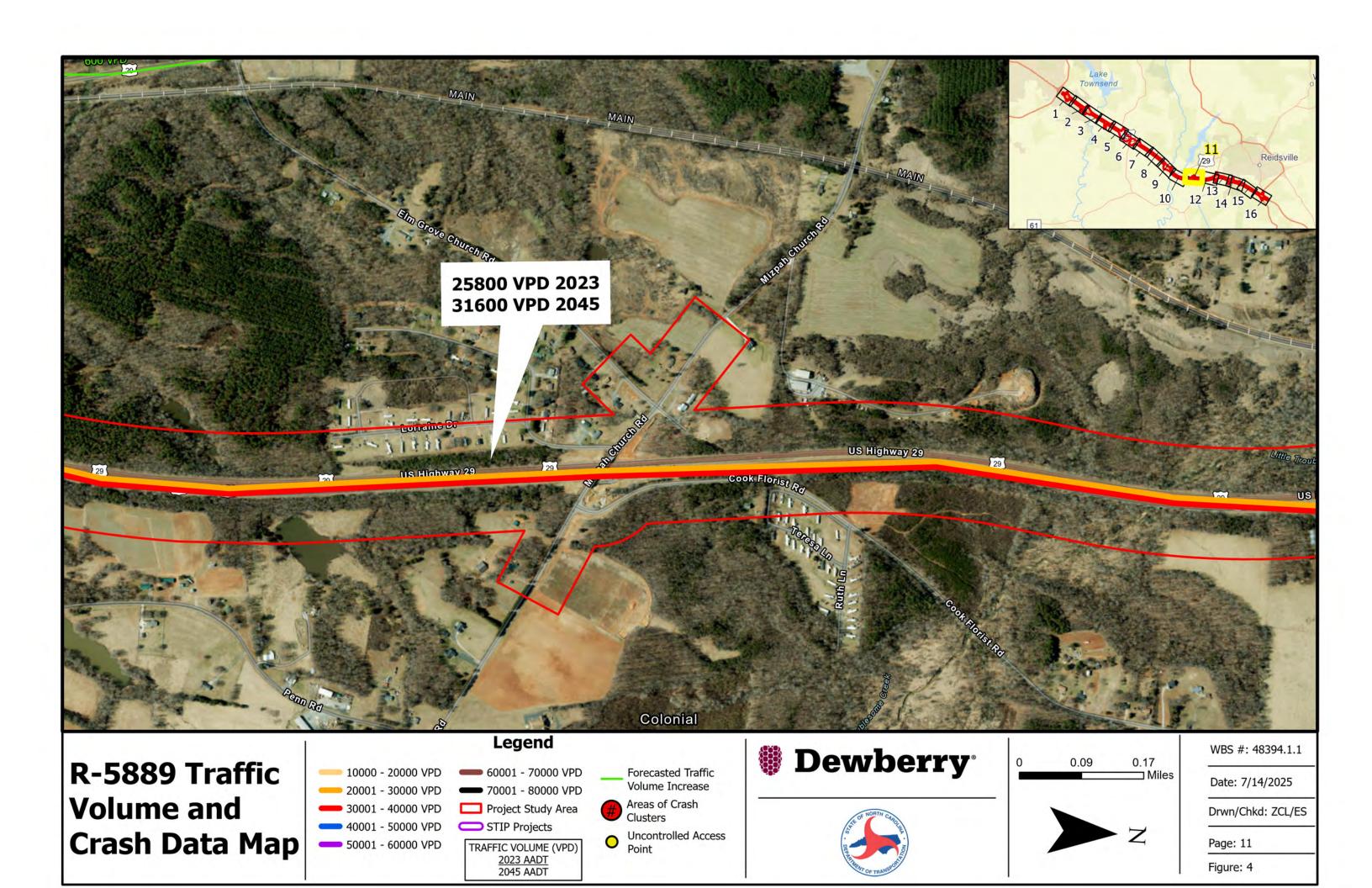


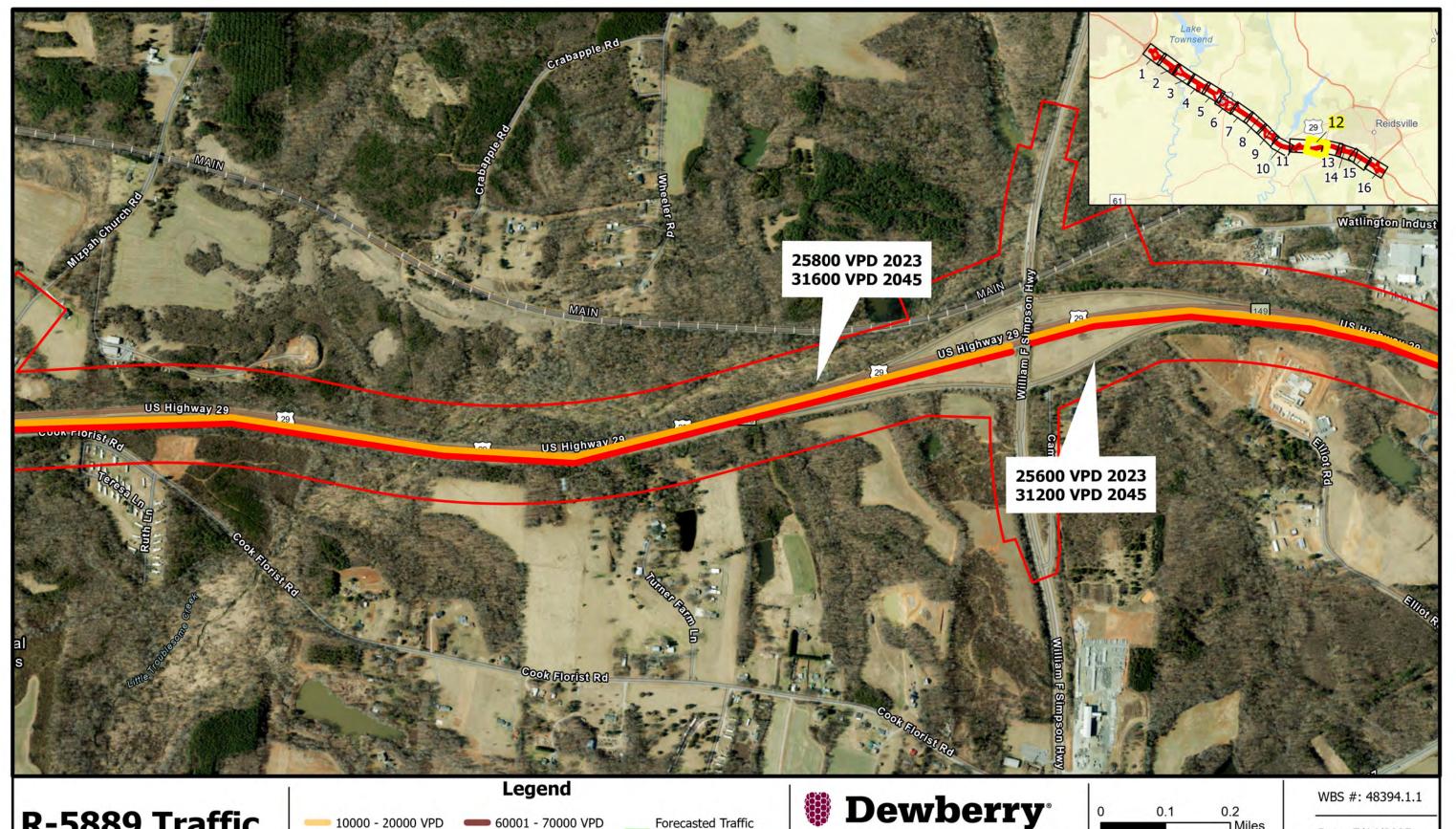






50001 - 60000 VPD





R-5889 Traffic **Volume and Crash Data Map**

■ 30001 - 40000 VPD 40001 - 50000 VPD

Project Study Area STIP Projects

TRAFFIC VOLUME (VPD)
2023 AADT
2045 AADT

Forecasted Traffic Volume Increase

Areas of Crash Clusters

Uncontrolled Access Point



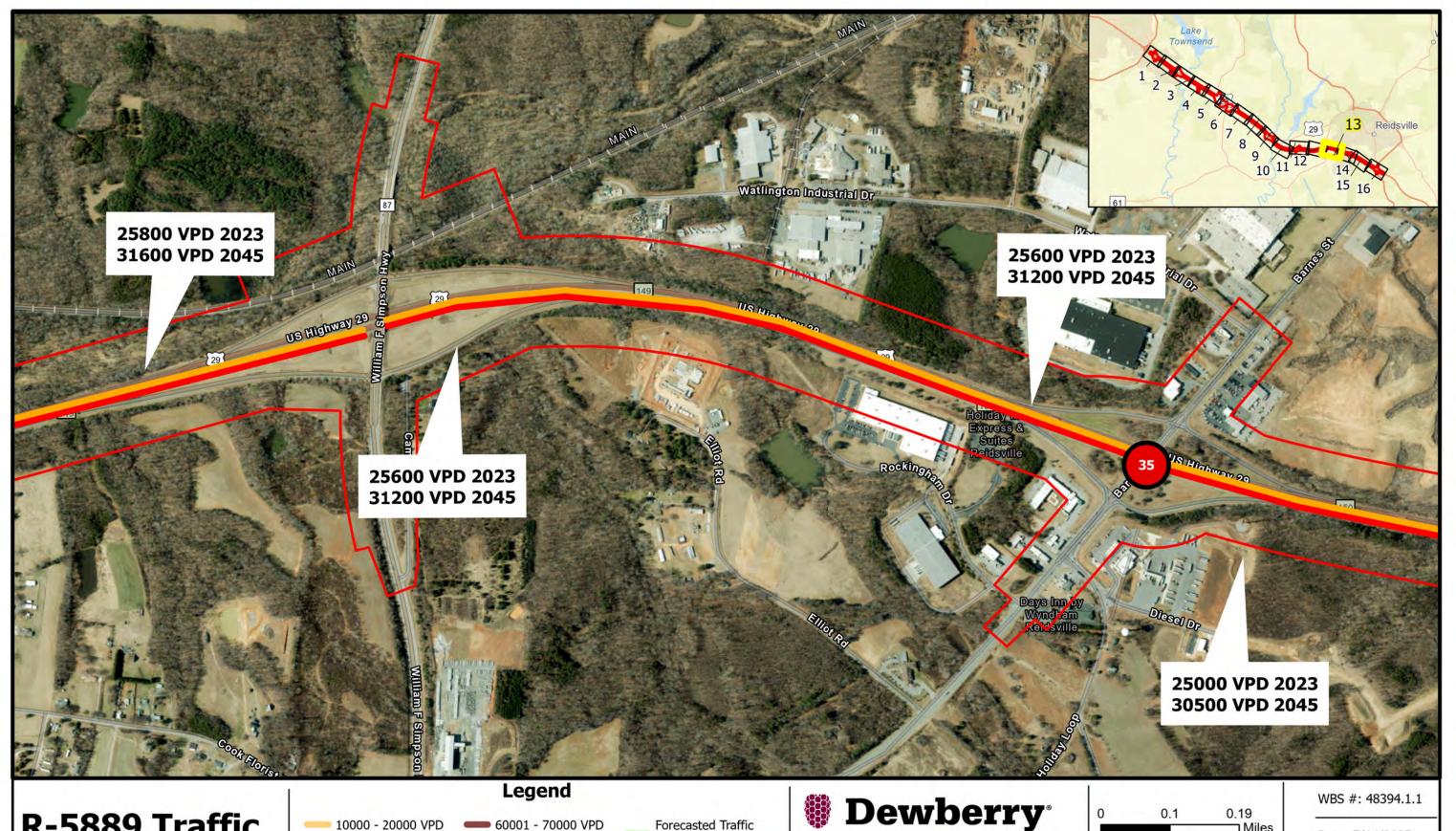




Date: 7/14/2025

Drwn/Chkd: ZCL/ES

Page: 12



R-5889 Traffic **Volume and Crash Data Map**

■ 30001 - 40000 VPD 40001 - 50000 VPD

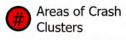
50001 - 60000 VPD

60001 - 70000 VPD 70001 - 80000 VPD

Project Study Area STIP Projects

TRAFFIC VOLUME (VPD)
2023 AADT
2045 AADT

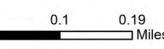
Forecasted Traffic Volume Increase

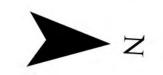


Uncontrolled Access Point





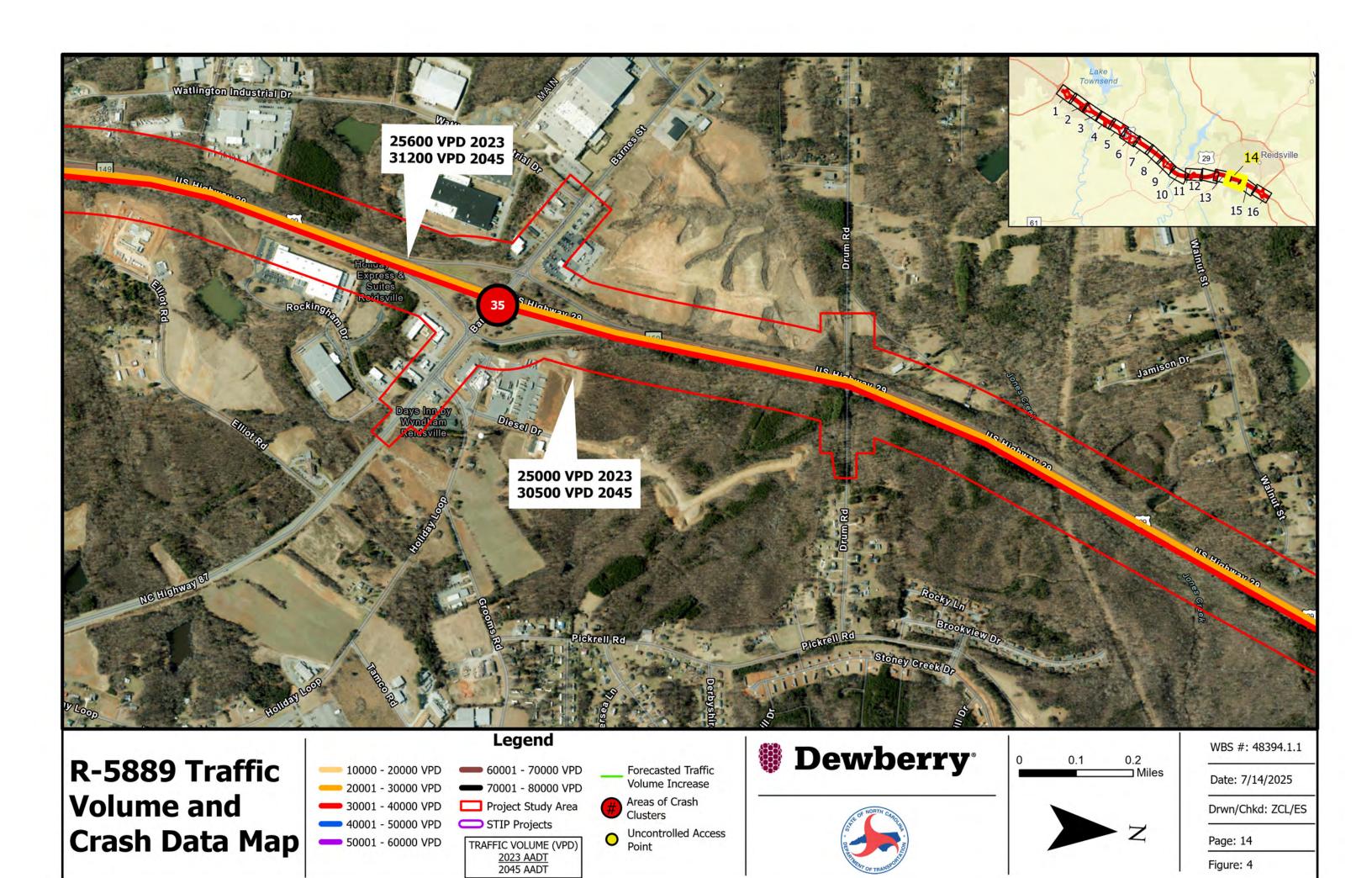


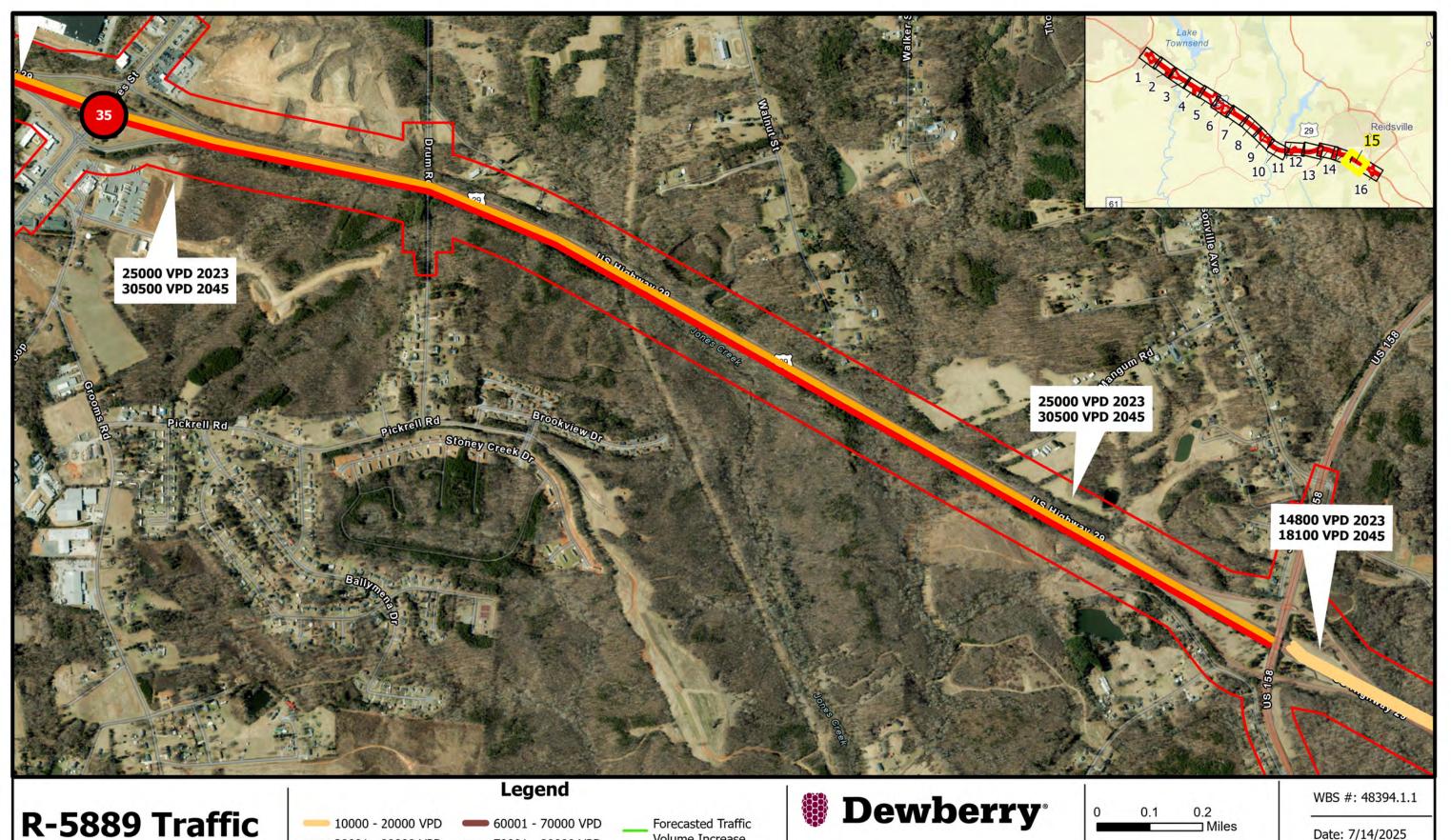


Date: 7/14/2025

Drwn/Chkd: ZCL/ES

Page: 13





Volume and Crash Data Map

30001 - 40000 VPD 40001 - 50000 VPD 50001 - 60000 VPD 70001 - 80000 VPD

Project Study Area STIP Projects

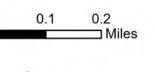
TRAFFIC VOLUME (VPD)
2023 AADT
2045 AADT

Volume Increase



Uncontrolled Access Point







Date: 7/14/2025

Drwn/Chkd: ZCL/ES

Page: 15

