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# BADIN BUSINESS PARK

Draft Community Profile

North Carolina Department of Environmental Quality

July 7, 2025

It is the policy of the North Carolina Department of Environmental Quality (DEQ) that no person shall, on the ground of race, ethnicity, national origin, sex, age or disability be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving federal financial assistance, as provided by Title VI of the Civil Rights Act of 1964, the Civil Rights Restoration Act of 1987, the Rehabilitation Act of 1973, and all other pertinent nondiscrimination laws and requirements.

In conducting this analysis, the Community Engagement Program pursues DEQ's mission to "Provide science-based environmental stewardship for the health and prosperity of all North Carolinians."



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## Executive Summary

### Objective

The primary goal of this Community Profile is to encourage comments and suggestions from the surrounding community, industry, and environmental groups throughout the comment period for the Badin Business Park, LLC (formerly known as Alcoa Badin Works Facility) National Pollutant Discharge Elimination System (NPDES) permit (NC0004308). Using available data from sources including the US Census Bureau, Environmental Protection Agency (EPA), and Centers for Disease Control (CDC), the report provides recommendations for appropriate enhanced public outreach and engagement to facilitate public input during the permitting process. Specifically, this report highlights census tracts within a one-mile radius of Badin Business Park, LLC and the potential for community concerns.

### Key Findings

Based on this report's analysis and using NC Department of Environmental Quality (NCDEQ) Potentially Underserved Block Groups (on the basis of race, ethnicity, and poverty) and standard guidelines established by the US EPA and in the National Environmental Policy Act (NEPA) documentation, the potential community concerns for particular populations within a one-mile radius of Badin Business Park, LLC have been identified as follows:

- **Race and Ethnicity:**
  - Total people of color populations in Census Tract 9302 and project area.
  - The following race and ethnicity population categories:
    - Black or African American
    - Hispanic or Latino
    - American Indian or Alaskan Native
    - Asian
    - Two or more races
- **Tribal Communities:** The Metrolina Native American Association resides within Mecklenburg County and serves Native Americans/Indigenous individuals in Stanly County
- **Age and Sex:** Populations of individuals ages 65 years or older in Census Tracts 9302, 9301.02 and project area.
- **Limited English Proficiency:** Spanish-speaking households with limited English proficiency in Census Tract 9302.
- **Disability:** Populations living with a disability in Census Tracts 9302 and 9301.02.
- **Education:**
  - Populations of individuals at least 18-24 years and older whose highest educational attainment is less than high school graduate in Census Tracts 9302.
  - Populations of individuals at least 25 years and over whose highest educational attainment is less than 9<sup>th</sup> grade in Census Tract 9302.
  - Populations of individuals at least 25 years and over whose highest educational attainment is 9<sup>th</sup>-12<sup>th</sup> grade, no diploma in Census Tracts 9302 and 9301.02.
  - Populations of individuals at least 25 years and over whose highest educational attainment is high school graduate in Census Tract 9302 and 9301.02.
- **Poverty:** Populations below the poverty level in Census Tract 9302 and "low income" populations in Census Tract 9302 and project area.

## Recommendations

Based on the sociodemographic indicator analysis, the Community Engagement Program recommends the following outreach and engagement activities during the public participation period for Badin Business Park, LLC NPDES permit renewal:

- Public notices and one-page fact sheets with public comment and public hearing information in English and Spanish.
- Consultation with community leaders about other outreach recommendations including known organizations or leaders serving local American Indian communities.
- Mailed or emailed public notices and one-page fact sheets in English and Spanish to local sensitive receptors and representatives the Town of Badin and Stanly County.
- Evaluate options to distribute one-page fact sheets in identified community centers to increase visibility.
- Arrange an English and Spanish voicemail line to receive public comments.

## 1. Introduction

The North Carolina Department of Environmental Quality (NCDEQ) and its Community Engagement Program maintains an ongoing interest in integrating protections for human health, vulnerable communities, the environment, and civil rights into its programs.

The NCDEQ Community Engagement Program works to ensure the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations and programs.

The primary goal of this Community Profile is to identify effective means of communication with and encourage comments from the surrounding community, industry, and environmental groups throughout the public participation period for the Badin Business Park, LLC NPDES permit (NC0004308). Specifically, this report highlights demographic and health data for census tracts within a one-mile radius of Badin Business Park, LLC. Communication needs are determined through the Approach described below.

## 2. Evaluation Approach

The NCDEQ Community Engagement Program assesses the current permit conditions and the demographics of the communities in the area surrounding the facility, using a one-mile radius consistent with other Community Profiles and the EPA. The demographic information comes from available data from sources including the US Census Bureau, EPA, and CDC. The demographic information is compared to the county- and state-wide Census data to determine and provide recommendations for appropriate enhanced public outreach and engagement to facilitate public input by characterizing the community within a one-mile radius of Badin Business Park, LLC using sociodemographic information.



The US EPA defines overburdened communities as minority, low-income, tribal or indigenous populations, or communities in the United States that potentially experience disproportionate environmental harms and risks.<sup>1</sup> Disproportionality can result in greater vulnerability to environmental hazards, lack of opportunity for public participation, or other factors. Increased vulnerability may be attributable to an accumulation of negative environmental, health, economic, or social conditions within these populations or places.

If an affected community has a large percentage of Limited English Proficiency (LEP) individuals (typically greater than 5%), DEQ will implement appropriate LEP measures. These measures may include having a bilingual DEQ staff member or interpreter present at public hearings or information sessions, disseminating DEQ information sheets or public notices in multiple languages, distributing media notices in different languages, or communicating with community organizations and leaders to determine other appropriate measures to reach LEP individuals.

This Draft Community Profile is conducted by using the:

- Permit information and facility history
- County economic well-being as determined by the NC Department of Commerce
- Sociodemographic indicators analysis of census tracts within the one-mile radius
- Potential concerns based on a comparison of local area demographics to both county and statewide Census data
- Presence or absence of state or federally recognized Tribal boundaries or Urban Indian Associations
- Health information and potential cumulative impacts
- Sensitive receptors in the community

to characterize the community and determine the appropriate outreach recommendations.

## 2.1 Sociodemographic Indicators

The sociodemographic indicators examined are in alignment with DEQ's policy that no person shall, on the grounds of race, color, Tribal affiliation, national origin, sex, age, or disability be excluded from participation in, be denied the benefits of or be subjected to discrimination under Title VI of the Civil Rights Act of 1964, the Civil Rights Restoration Action of 1987, the Rehabilitation Act of 1973, and all other pertinent nondiscrimination laws and regulations.

The NCDEQ Community Engagement Program examined the following sociodemographic indicators:

- Race and Ethnicity
- Age and Sex
- Disability
- Limited English Proficiency (LEP)
- Educational Attainment
- Poverty and Low-income
- Internet access

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<sup>1</sup> 2020 Glossary. Environmental Protection Agency (US EPA). <https://www.epa.gov/caa-permitting/what-definition-overburdened-community-relevant-epa-actions-and-promising-practices>.

Demographics for the state of North Carolina and its counties are compared to the census tracts on a local geographic scale using data available through the U.S. Census Bureau. Demographic data is assessed at a census tract level for all census tracts within a one-mile radius around Badin Business Park, LLC— which will be referred to as the project area in this report. See Appendix A for descriptions of all U.S. Census source data used in this report.

### Race and Ethnicity

To analyze potential concerns based on race and ethnicity, the NCDEQ Community Engagement Program examined populations in the following U.S. Census-defined race and ethnicity categories:

- White
- Black or African American
- Hispanic or Latino (of any race)
- American Indian or Alaska Native
- Asian
- Native Hawaiian and Other Pacific Islander
- Some Other Race
- Two or More Races

### Age and Sex

To determine potential concerns based on age and sex, the vulnerable populations that are described as greater than or equal to ( $\leq$ ) 5 years old and greater than or equal to ( $\geq$ ) 65 years old for both males and females were examined.<sup>2</sup>

### Disability

To analyze potential concerns based on self-reported disability status, the total civilian non-institutionalized population with a disability was examined. Disability is defined as a long-lasting physical, mental, or emotional condition. This condition can make it difficult for a person to do activities such as walking, climbing stairs, dressing, bathing, learning, or remembering. This condition can also impede a person from being able to go outside the home along or to work at a job or business.

To analyze potential concerns regarding accessibility to public information and public hearings concerning public health or environmental impacts of programs, policies, and activities the types of difficulties experienced by the total population with a disability were also examined.

### Limited English Proficiency

Limited English proficiency (LEP) is identified based on the self-reported status of speaking English less than “very well”.<sup>3</sup> There were a total of twelve LEP language categories identified in the one-mile radius project area with were analyzed. These LEP language categories are within the top LEP language categories in the state and are as follows (ordered by number of speakers present in NC):

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<sup>2</sup> *Sensitive Populations and Chemical Exposure*. Centers for Disease Control and Prevention (CDC) and Agency for Toxic Substances Disease Registry (ATSDR). Archived September 27, 2024.

<https://web.archive.org/web/20240927202933/https://www.atsdr.cdc.gov/emes/public/docs/Sensitive%20Populations%20FS.pdf>

<sup>3</sup> *Table B16001 2021: ACS 5-Year Estimates*. U.S. Census Bureau.

<https://data.census.gov/table/ACSDT1Y2022.B16001?t=Language+Spoken+at+Home&g=040XX00US53>

- Spanish
- Other Indo-European Languages
- Other Asian and Pacific Island Languages
- Chinese (including Mandarin and Cantonese)
- Vietnamese
- Other and unspecified languages
- Arabic
- Russian, Polish or other Slavic Languages
- French (including Cajun)
- Korean
- Tagalog (including Filipino)
- German or other West Germanic languages

To analyze potential concerns regarding accessibility to public information concerning public health or environmental impacts of programs, policies, and activities, these identified populations with LEP were examined.

#### Educational Attainment

To analyze potential concerns based on socioeconomic status, populations with the highest level of level of educational attainment being a high school graduate or equivalent or lower were examined for adults of 25 years or older. Populations where the highest level of educational attainment being high school graduate or lower were also examined for populations between 18 and 24 years old.

#### Poverty and Low-income

To analyze potential concerns based on income levels, populations below the poverty level and “low income” populations were examined. Poverty status is determined by annual income relative to the number of individuals and dependents living in a household. The poverty level for 2023 was defined as having a household income less than \$15,480 for a household with one individual or having a household income of less than \$31,200 for a household with four individuals.<sup>4</sup> The U.S. Census Bureau considers a household to be all individuals that occupy a housing unit as their usual place of residence.<sup>5</sup> Analyzed poverty data from the U.S. Census Bureau considered total populations in poverty as a count of individuals, which was determined on a household level according to these guidelines.

The US EPA assesses income and poverty conditions using the threshold of “low income.” Low income is defined as a household income below twice the federal poverty level.<sup>6</sup> The low-income level for 2023 was defined as having a household income less than \$30,960 for a household with one individual or having a household income of less than \$62,400 for a household with four individuals. The US Census Bureau measures this value as “below 200% of the poverty level.”

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<sup>4</sup> <https://www.census.gov/library/publications/2024/demo/p60-283.html>

<sup>5</sup> Household Definition. (n.d.). In *US Census Bureau Glossary*. <https://www.census.gov/glossary/?term=Household>.

<sup>6</sup> *U.S. Department of Energy. (2024). Weatherization assistance for low-income persons, 10 C.F.R. § 440.3.*  
<https://www.ecfr.gov/current/title-10/chapter-II/subchapter-D/part-440/section-440.3>

### 3. Permit and Facility Information

#### 3.1 Facility/Permit Details

Badin Business Park LLC (BBP) has applied for an NPDES permit renewal for the discharge of groundwater, stormwater, and fire protection water from a historical aluminum production (SIC code 3334) and smelting operation (SIC Code 3365 that no longer occurs).

BBP located in Stanly County discharges from the following sources and outfalls:

- *Outfall 005* discharges groundwater, stormwater, and fire protection water collected from the western area of the Former Main Plant.
- *Outfall 011* discharges groundwater, stormwater, and fire protection water collected from the northeastern area of the Former Main Plant, occurring when flows exceed the capacity of the diffuser at *Outfall 012*.
- *Outfall 012* discharges (via a diffuser) groundwater, stormwater, and fire protection water collected from the northeastern area of the Former Main Plant.
- *Outfall 013* discharges groundwater and stormwater collected from the Onsite Landfill Area of the Former Main Plant.
- *Outfall 019* discharges overflow from the stormwater retention pond at the Old Brick Landfill.
- *Outfalls 002, 004, and 017* discharge stormwater collected from the Former Main Plant.
- *Outfalls 017, 018, 020, 022 and 023* discharge stormwater collected from the Alcoa/Badin Landfill.

In 2024 Badin installed a treatment system to treat fluoride in discharges from Outfall 005. Under the Draft Permit Badin shall continue operating a pilot fluoride treatment system (or an equivalent system), for the reduction of Total Fluoride concentrations to achieve compliance with permit limitations at Outfall 005. This Outfall currently consisting of but not limited to: a stormwater collection system with multiple access points, an in-situ treatment system consisting of twelve (12) activated alumina filter bags, two (2) ex-situ treatment systems in parallel with each consisting of pumps/sumps, a basket strainer, pre-filters, a chambered filter box, and pressure vessels.

Outfalls 004, 005, 017, 018, 022, and 023 (see Map A in permit document) into an unnamed tributary (UT) to Little Mountain Creek, which is currently classified as waters that could be used as sources of water supply for drinking, culinary, or food processing (Class WS-IV waters). This includes Outfalls 002, 011, 012, 013, 019, and 020 which discharge into the Yadkin River via Badin Lake (See Map B in permit document). The Yadkin-Pee Dee River Basin provides protection to waters and lands that are in classified watersheds.

The proposed draft Permit includes the following changes from the current permit issued on July 2, 2019:

- A description of the fluoride treatment system for Outfall 005 was added to the supplement to cover page. In accordance with 15A NCAC 08G .0306, the treatment system for Outfall 005 is classified as a Grade I Physical Chemical Water Pollution Control System. The facility classification and the regulatory citation were added to the effluent monitoring page for Outfall 005.

- In accordance with 15A NCAC 02B .0200, monitoring for Cyanide was updated to include monitoring for either Total Cyanide or Available Cyanide.
- The monitoring frequency for Trichloroethylene (TCE) was reduced from monthly to quarterly for Outfalls 011 & 012 due to the pollutant not being detected in effluent data. The TCE limits and quarterly monitoring for these outfalls will be maintained due to the presence of the pollutant in groundwater at the site.
- There is no state surface water quality standard for Aluminum. To allow for comparison with the EPA 2018 Aquatic Life Ambient Water Quality Criteria for Aluminum in Freshwaters under Section 304(a)(1) of the Clean Water Act, Semi-annual monitoring was added to all outfalls and the mixing zone locations for Dissolved Organic Carbon (DOC) and Total Hardness. The calculation of Aluminum acute and chronic criteria is pH, DOC, and Hardness dependent. Semi-annual pH monitoring was added to the mixing zone locations and stormwater outfalls for the Aluminum Criteria database.
- The following condition was noted for all Fluoride, Cyanide, Trichloroethylene (TCE), and Effluent Pollutant Scan monitoring, including both the wastewater and stormwater sections of the permit: The permittee shall use sufficiently sensitive test procedures approved under 40 CFR part 136 for the analysis of pollutants. A method is “sufficiently sensitive” when: (1) The method minimum level (ML) is at or below the level of the effluent limit established in the permit for the measured pollutant or pollutant parameter; or (2) the method has the lowest ML of the analytical methods approved under 40 CFR part 136 or required under 40 CFR chapter I, subchapter N or O for the measured pollutant or pollutant parameter. The Permittee shall report on its Discharge Monitoring Reports the actual laboratory results for each effluent sample tested. [Also see 40 CFR 122.21(e)(3) & 122.44(i), 15A NCAC 02B .0505 (e)(4), NPDES Standard Conditions Part II Section C. 4.]
- The following condition was noted for all effluent, stormwater and mixing zone monitoring: If the Permittee monitors any pollutant more frequently than required by this permit using test procedures approved under 40 CFR Part 136 and at a sampling location specified in this permit or other appropriate instrument governing the discharge, the results of such monitoring shall be included in the calculation and reporting of the data submitted on the DMR. [Also see 40 CFR 122.41(l)(4)(ii), NPDES Standard Conditions Part II Section E. 5. b.]
- Outfall 012 was changed to Acute Toxicity Fathead Minnow (*Pimephales promelas*) Pass/Fail at 90%. Chronic testing with 24-hour composite samples was infeasible because of the episodic discharges at this outfall.
- Special Condition C. (2.) was added requiring signage along the lake shore that identifies Outfalls 011 and 012 as a wastewater discharge point.
- Special Condition C. (3.) was added for Additional Effluent Monitoring. Within 180 days of the effective permit date, the permittee shall submit analyses for the compounds in Tables A through C of EPA Form 2C (EPA Form 3015-2C) for Outfalls 005, 012, & 013. This form shall also be used for NPDES permit renewal [40 CFR 122]. · Monitoring for Stormwater Outfall 023 was added.

### 3.2 Previous Public Engagement

Badin Business Park, LLC has held permits previously and is not a first-time permit recipient from NCDEQ. Badin Business Park currently holds two active permits issued by NCDEQ, both of which have been submitted for renewal (**Table 1**).

**Table 1.** Summary of NCDEQ permits issued to Badin Business Park, LLC

Permit Type	Permit ID	Permitted by	Most recent date of issuance
NPDES	<a href="#">NC0004308</a>	Division of Water Resources	August 1, 2019
RCRA	<a href="#">NCD 003 162 542</a>	Division of Waste Management	March 24, 2006

The NPDES Permit for Badin Business Park application for permit renewal was received in May 2022. The due date for renewal was on October 31, 2022 but a draft permit was not finalized. NCDEQ has worked with Alcoa and stakeholders to develop a monitoring plan to ensure all outfalls included in the NPDES permit comply with all surface water standards.

In anticipation of the pending permit renewal, and at the request of community stakeholders, NCDEQ drafted a report in 2022 describing the sociodemographic characteristics and potential environmental burdens in the community surrounding the Badin Business Park. The 2022 report included the following recommendations for enhanced outreach during the public participation process:

- Consult the list of sensitive receptors while considering additional outreach options that may best fit this community's needs.
- Provide project information to officials in the Town of Badin.
- Consult known community leaders for additional outreach options and recommendations.

NCDEQ will continue to engage with all stakeholders involved with the site at Badin Business Park. This Community Profile will expand upon previous recommendations provided in the 2022 report.

NCDEQ has continued to conduct meaningful engagement with the Badin community outside of the public participation required for permit renewal. Since 2022, the following activities have been conducted as recommended by the NCDEQ Community Engagement Program to engage with the Badin community:

- Visited Badin to listen to the community's environmental concerns regarding the Badin Business Park facility
- Held an in-person meeting in January 2025 to discuss the community's concerns regarding Badin Business Park
- Attended in-persons to hear the community's concerns regarding Badin Business Park
- Held several virtual meetings with the community to discuss ongoing questions and concerns regarding the NPDES permit and RCRA permit issued to Badin Business Park
- Emailed monthly permitting updates to the community
- Called the Concerned Citizens of West Badin regularly to discuss environmental questions



- Distributed one-page fact sheets on environmental concerns
- Collaborated with other state and local agencies to address community questions not related to environmental quality

## 4. Geographic Area

### 4.1 Project Area

For the purpose of this report, the Project Area will be considered the area within a 1-mile of the permitted facility's parcel boundary. The use of the one-mile radius is consistent with prior community assessments conducted by NCDEQ and U.S. EPA.

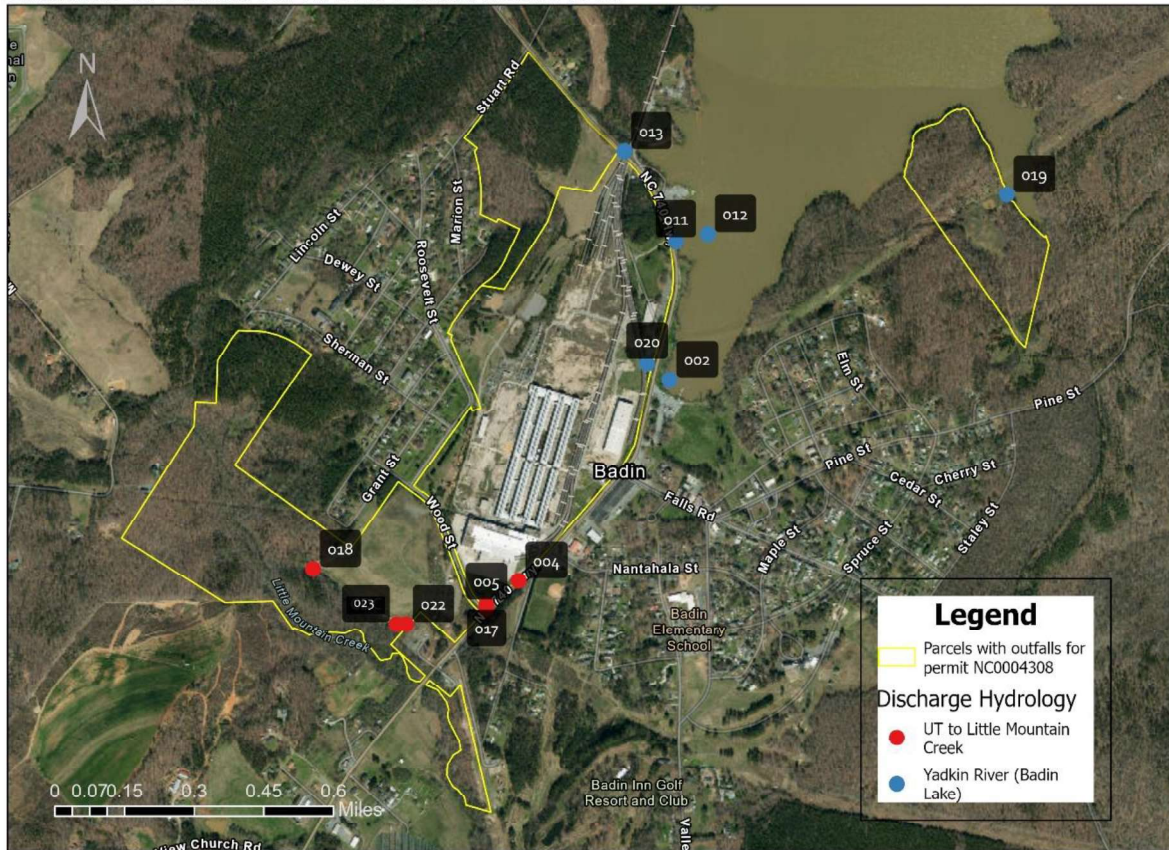
While the majority of the 1-mile radius is within Stanly County, the radius intersects a small area of Montgomery County Census Tract 9603.02. For the purposes of this report, the project area will primarily focus on census tracts in a 1-mile radius within Stanly County. Development within the one-mile radius for Montgomery County was reviewed using satellite imagery and no households were identified (**Figure 1**). To accurately reflect the population within a one-mile radius, only the demographics for Stanly County were considered for recommendations of this report. Assessment of Census Tract 9603.02 and Montgomery County may be found in Appendix C.



**Figure 1.** Satellite imagery of the area of Montgomery County within the 1-mile radius.

The NPDES issued to Badin Business Park has outfall locations across five parcels (**Figure 2**). The Project Area considered in this report will include all parcels owned by Badin Business Park that contain an outfall for Permit NC0004308.

Locations of outfalls for NPDES Permit NC0004308



Generated by NCDEQ January 21, 2025

**Figure 2:** Outfall locations for NPDES Permit NC0004308

#### 4.2 Potentially Underserved Block Groups

NCDEQ identifies a Potentially Underserved Community by examining race/ethnicity and poverty criteria for each Census-defined block group area<sup>7</sup>. The block group is compared to both the county and the state and is classified by DEQ as a Potentially Underserved Block Group if it meets the following criteria for race/ethnicity and poverty:

- **Race/Ethnicity:** Share of people of color and Hispanic or Latino (of any race) is greater than or equal to fifty percent OR share of people of color and Hispanic or Latino (of any race) is at least ten percent higher than County or State share.

**AND**

- **Poverty:** Share of population experiencing poverty is greater than or equal to twenty percent OR share of households in poverty is at least five percent higher than the County or State share.

These selections occur on a block group level and this dataset is a selection of the 2023 American Community Survey (ACS) data from the data tables B03002—Hispanic or Latino Origin by Race—and

<sup>7</sup> See Glossary for block group definition.

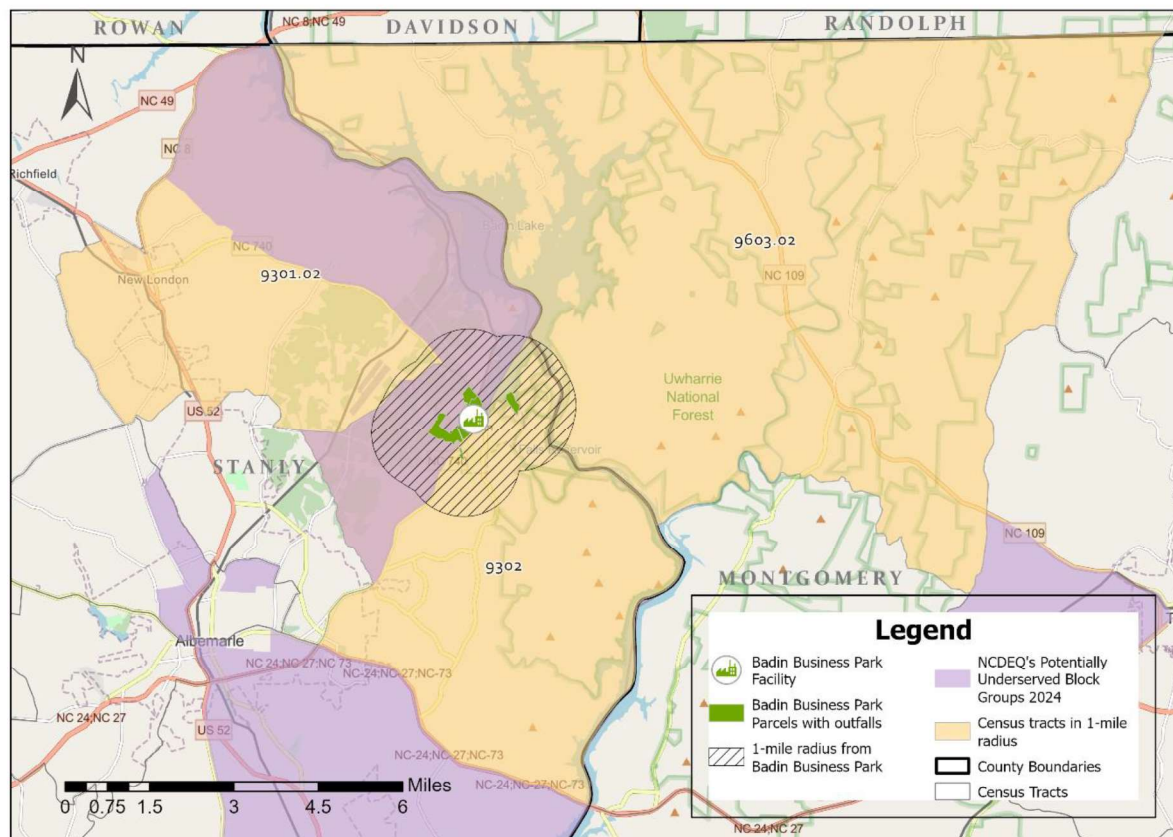


S1701—Poverty Status in the Past 12 Months. Learn more about [NC DEQ's Potentially Underserved Block Groups 2024 - Overview](#).

Badin Business Park, LLC is in Census Tract 9302 in Stanly County. Census tracts 9301.02 in Stanly County and 9603.02 in Montgomery County are within the one-mile radius from the Badin Business Park Facility (**Error! Reference source not found.3**).

By NCDEQ's definition, Badin Business Park is located in a Potentially Underserved Community. Within a one-mile radius of Badin Business Park there are 2 Potentially Underserved Communities by NCDEQ's definition.

#### Geographic Area: Badin Business Park, LLC NPDES Permit



**Figure 3.** Census tracts and one-mile radius for project area of Badin Business Park

#### 4.3 County Development Rankings

County tiers in the state are calculated by the NC Department of Commerce using four factors: average unemployment rate, median household income, percentage growth in population, and adjusted property tax base per capita. Tier 1 encompasses the 40 most distressed counties, Tier 2 encompasses the next 40, and Tier 3 encompasses the 20 least distressed counties. Visit the [NC Department of Commerce's County Distress Rankings](#) for more details on county tier calculations.

According to the NC Department of Commerce 2025 County Tier Designations for County Distress Rankings, Stanly County is a Tier 2 county (on a scale of Tiers 1-3 with Tier 1 being the most distressed)

and has an economic distress rank of 69 out of 100 (with a rank of 1 being most economically distressed and 100 being least economically distressed).

According to the NC Department of Commerce 2025 County Tier Designations for County Distress Rankings, Montgomery County is a Tier 1 county (on a scale of Tiers 1-3 with Tier 1 being the most distressed) and has an economic distress rank of 40 out of 100 (with a rank of 1 being most economically distressed and 100 being least economically distressed).

#### Tribal Presence

There are 8 State- and Federally- Recognized Tribes in North Carolina and 4 Urban Indian Organizations serving multiple counties in NC. Tribal Presence was assessed Based on N.C. Department of Administration's [NC Tribal and Urban Communities map](#).

The Metrolina Native American Association resides within Mecklenburg County and serves Native Americans/Indigenous individuals in Stanly County. Communication with the Metrolina Native American Association on outreach and engagement methods and other relevant information is recommended.

#### Geographic Area Summary

Demographics for the project area and census tracts intersecting the project area were analyzed for this report. **Table 2** and **Figure 3** summarize the geographic area and census tracts within a one-mile radius of Badin Business Park.

**Table 2:** Geographic Area Summary for Badin Business Park project area

GEOGRAPHIC AREA SUMMARY	
<b>Facility Address</b>	293 NC-740 #10, Badin, NC 28009
<b>Geographic Coordinates</b>	35.40911, -80.11912
<b>County</b>	Stanly County
	Montgomery County
<b>Census Tract with the facility</b>	Census Tract 9302, Stanly County
<b>Census Tracts within a one-mile radius of facility</b>	Census Tract 9301.02, Stanly County
	Census Tract 9603.02, Montgomery County
<b>Located in a Potentially Underserved Community</b>	Yes
<b>Located within one mile of a Potentially Underserved Community</b>	Yes
<b>2025 County Tier for County Distress Rankings – Stanly County</b>	Tier 2
<b>2025 Economic Distress Ranking out of 100—Stanly County</b>	69
<b>Presence of State- or Federally recognized Tribes or Urban Indian Organizations</b>	Metrolina Native American Association

## 5. Sociodemographic Analysis

The guidelines developed by the U.S. Environmental Protection Agency (US EPA) pursuant to the National Environmental Policy Act (NEPA) were used for analysis. The guidelines for identification of communities with the potential for concerns are:

1. A 10% or more difference when compared to the county or state for race or ethnicity, age and sex, disability, and educational attainment (up to high school or equivalent level);
2. A 50% or more population of color;
3. Share of population experiencing poverty is 20% or more;
4. Share of low-income population is 20% or more;
5. Percentage increase of 5% or more compared to the county or state average for poverty or low-income;
6. At least 5% of the population or 1,000 people (whichever is smaller) speaks English less than very well.

The U.S. Census Bureau uses and provides margins of error as an indicator of potential sampling errors and relative reliability. A larger margin of error corresponds to a higher degree of uncertainty. Estimates, margins of error, DEQ-calculated confidence intervals for sociodemographic indicators are provided in Appendix C (as available through the U.S. Census Bureau).

### 5.1 Race and Ethnicity

#### Potential Concerns

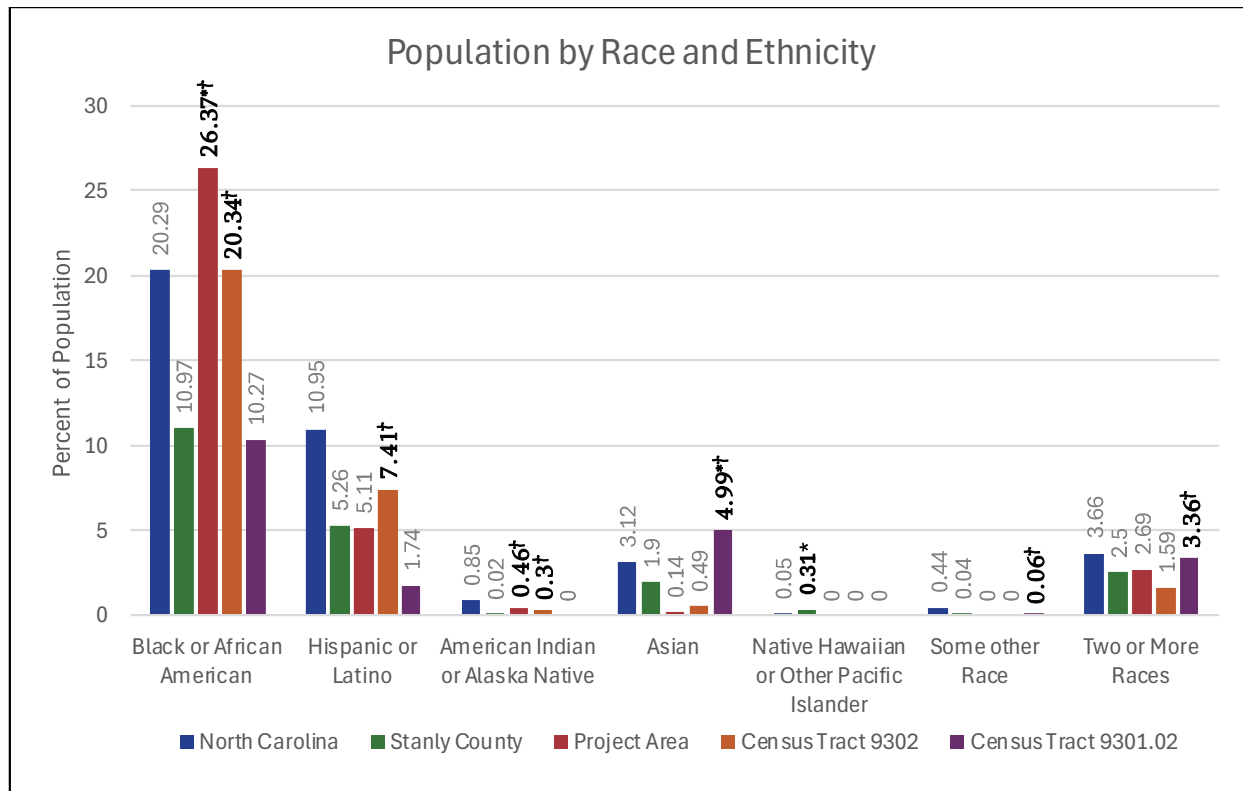
- The percentage of the population comprised of people of color in the project area and Census Tract 9302 are greater than 10% higher compared to Stanly County.
- The project area has a Black or African American population greater than 10% higher when compared to Stanly County and the state.
- Census Tract 9302 has a Black or African American population greater than 10% higher when compared to Stanly County.
- Census Tract 9302 has a Hispanic or Latino populations greater than 10% higher compared to the Stanly County.
- Census Tract 9302 and the project area have American Indian or Alaskan Native populations are greater than 10% higher when compared to Stanly County.
- Census Tracts 9301.02 has an Asian population greater than 10% higher when compared to Stanly County and the state.
- Census Tract 9301.02 has a population identifying as “Two or More Races” greater than 10% higher when compared to Stanly County.

#### Results

**Table 3.** Race & Ethnicity percentage comparisons to Stanly County and the state

RACE & ETHNICITY (%)					
	NORTH CAROLINA (n=2672)	STANLY COUNTY (n=17)	PROJECT AREA	CENSUS TRACT 9302	CENSUS TRACT 9301.02
<b>White (Not Hispanic)</b>	60.65	79.00	65.18	69.87	79.58

<b>Black or African American</b>	20.29	10.97	<b>26.37**</b>	<b>20.34<sup>†</sup></b>	10.27
<b>Hispanic or Latino</b>	10.95	5.26	5.11	<b>7.41<sup>†</sup></b>	1.74
<b>American Indian or Alaska Native</b>	0.85	0.02	<b>0.46<sup>†</sup></b>	<b>0.30<sup>†</sup></b>	0.00
<b>Asian</b>	3.12	1.90	0.14	0.49	<b>4.99**</b>
<b>Native Hawaiian or Other Pacific Islander</b>	0.05	<b>0.31*</b>	0	0	0.00
<b>Some other Race</b>	0.44	0.04	0	0	<b>0.06<sup>†</sup></b>
<b>Two or More Races</b>	3.66	2.50	2.69	1.59	<b>3.36<sup>†</sup></b>
<b>Total Population</b>	10,584,340	63,557	2,154	4,710	3,507
<b>Source:</b> US Census Bureau, 2023 American Community Survey (ACS) 5-year estimate					
All <b>bolded*</b> cells indicate a percentage increase of 10% or more for non-white populations in the county or census tract compared to the <b>state</b> .					
All <b>bolded<sup>†</sup></b> cells indicate a percentage increase of 10% or more for non-white populations in the census tract when compared to the <b>county</b> .					

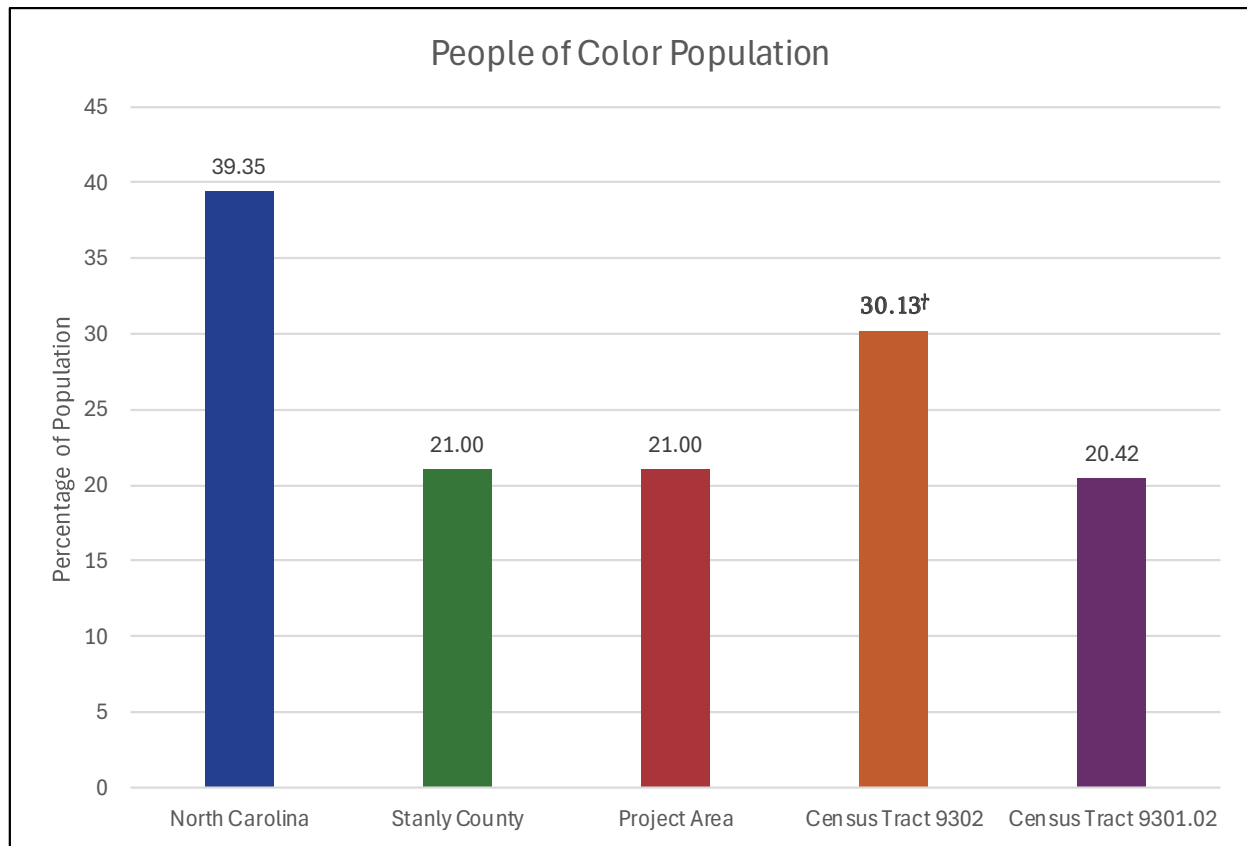


**Figure 4.** Race & Ethnicity percentage comparisons to the county and state

**Table 4.** Population of color percentage comparisons to the county and state

PEOPLE OF COLOR (%)					
	NORTH CAROLINA (n=2672)	STANLY COUNTY (n=17)	STANLY COUNTY (n=17)	CENSUS TRACT 9302	CENSUS TRACT 9301.02

<b>People of Color</b>	39.35	21.00	21.00	<b>30.13<sup>†</sup></b>	20.42
<b>Total Population</b>	10,584,340	63,557	63,557	4,710	3,507
<b>Source:</b> US Census Bureau, 2023 American Community Survey (ACS) 5-year estimate					
All <b>bolded*</b> cells indicate a percentage increase of 10% or more for non-white populations in the county or census tract compared to the <b>state</b> .					
All <b>bolded<sup>†</sup></b> cells indicate a percentage increase of 10% or more for non-white populations in the census tract when compared to the <b>county</b> .					



**Figure 5.** Population of color percentage comparisons to the county and state

## 5.2 Age and Sex

### Potential Concerns

- Census Tracts 9302 and the project area have populations of individuals who are 65 years or older greater than 10% higher when compared to the county or state.
- Stanly County has a population of individuals who are 65 years or older greater than 10% higher when compared to the state.

## Results

**Table 5.** Median Age & Sex for North Carolina and Stanly County

MEDIAN AGE & SEX												
	NORTH CAROLINA (n=2672)			STANLY COUNTY (n=17)			CENSUS TRACT 9302			CENSUS TRACT 9301.02		
	Male	Female	Both	Male	Female	Both	Male	Female	Both	Male	Female	Both
Median Age	37.7	40.4	39.1	<b>42.20*</b>	<b>42.20*</b>	<b>42.20*</b>	<b>43.10*</b>	<b>44.70*</b>	<b>43.60*</b>	<b>42.20*</b>	39.80	41.70
Total (%)	48.92	51.08	50.0	48.16	48.16	48.16	49.14	50.86		48.16	51.84	
<b>Source:</b> US Census Bureau, 2023 American Community Survey (ACS) 5-year estimate												
All <b>bolded*</b> cells indicate a percentage increase of 10% or more in the county compared to the <b>state</b> .												

**Table 6.** Age percentage comparisons to Stanly County and the state

AGE (%)					
	NORTH CAROLINA (n=2672)	STANLY COUNTY (n=17)	CENSUS TRACT 9302	CENSUS TRACT 9301.02	PROJECT AREA
Below 5 Years Old	5.65	5.07	1.78	4.59	3
Above 65 Years Old	16.88	<b>21.82*</b>	<b>20.87*</b>	16.22	<b>21.0*</b>
<b>Source:</b> US Census Bureau, 2023 American Community Survey (ACS) 5-year estimate					
All <b>bolded*</b> cells indicate a percentage increase of 10% or more in the county or census tract compared to the <b>state</b> .					
All <b>bolded+</b> cells indicate a percentage increase of 10% or more in the census tract when compared to the <b>county</b> .					

## 5.3 Disability

## Potential Concerns

- Census Tracts 9302 has a population living with a disability greater than 10% higher when compared to Stanly County and the state.
- Census Tracts 9301.02 has a population living with a disability greater than 10% higher when compared to the state.
- Stanly County has a population living with a disability greater than 10% higher when compared to the state.

## Results

**Table 7.** Disability percentage comparisons to Stanly County and the state

DISABILITY (%)				
	NORTH CAROLINA (n=2672)	STANLY COUNTY (n=17)	CENSUS TRACT 9302	CENSUS TRACT 9301.02

<b>Population with a Disability</b>	13.37	<b>17.81*</b>	<b>26.83**</b>	<b>19.48*</b>
<b>Type of Difficulty</b>				
<b>Hearing</b>	27.67	<b>30.84*</b>	20.65	<b>44.95**</b>
<b>Vision</b>	18.85	10.29	<b>17.31**</b>	8.49
<b>Cognitive</b>	38.59	41.55	37.76	36.46
<b>Ambulatory</b>	50.26	<b>56.67*</b>	50.25	37.04
<b>Self-care</b>	18.19	17.74	11.60	<b>22.69**</b>
<b>Independent Living</b>	33.65	36.64	<b>37.17*</b>	35.14
<b>Source:</b> US Census Bureau, 2023 American Community Survey (ACS) 5-year estimate				
All <b>bolded*</b> cells indicate a percentage increase of 10% or more in the county or census tract compared to the <b>state</b> .				
All <b>bolded+</b> cells indicate a percentage increase of 10% or more in the census tract when compared to the <b>county</b> .				

## 5.4 Limited English Proficiency

### Potential Concerns

- Census Tract 9302 has a population of Spanish-speaking households with limited-English proficiency greater than 5% or higher when compared to Stanly County.

### Results

**Table 8.** Limited English Proficiency percentage comparisons to Stanly County and the state

<b>LIMITED ENGLISH PROFICIENCY (%)</b>				
	<b>NORTH CAROLINA (n=2672)</b>	<b>STANLY COUNTY (n=17)</b>	<b>CENSUS TRACT 9302</b>	<b>CENSUS TRACT 9301.02</b>
<b>Speak only English</b>	86.98	93.57	93.06	98.65
<b>Spanish</b>	3.47	1.92	<b>2.08<sup>+</sup></b>	0.12
<b>French, Haitian, or Cajun</b>	0.10	0.00	0.00	0.00
<b>German or other West Germanic languages</b>	0.04	0.00	0.00	0.00
<b>Russian, Polish, or other Slavic languages</b>	0.10	0.09	0.00	0.00
<b>Chinese (including Mandarin, Cantonese)</b>	0.16	0.01	0.00	<b>0.12<sup>+</sup></b>
<b>Vietnamese</b>	0.16	<b>0.20*</b>	0.00	0.00
<b>Korean</b>	0.08	0.00	0.00	0.00
<b>Tagalog (including Filipino)</b>	0.04	0.00	0.00	0.00
<b>Other Asian and Pacific Island Languages</b>	0.27	0.27	0.00	0.12
<b>Other Indo-European Languages</b>	0.27	0.06	0.00	0.00
<b>Arabic</b>	0.11	0.00	0.00	0.00

<b>Total Population 5 Years and over</b>	9,986,027	59,989	4,626	3,346
<b>Source:</b> US Census Bureau, 2023 American Community Survey (ACS) 5-year estimate				
All <b>bolded*</b> cells indicate a percentage increase of 5% or more in the county or census tract compared to the <b>state</b> .				
All <b>bolded†</b> cells indicate a percentage increase of 5% or more in the census tract when compared to the <b>county</b> .				

## 5.5 Educational Attainment

### Potential Concerns

- Census Tracts 9302 has a population between 18 and 24 years of age with less than a high school graduate degree greater than 10% higher when compared to Stanly County and the state.
- Stanly County has a population between 18 and 24 years of age with less than a high school graduate degree greater than 10% higher when compared to the state.
- Census Tract 9302 has a population of age 25 years and over with the highest educational attainment being less than 9th grade greater than 10% higher when compared to the county and state.
- Stanly County has a population of age 25 years and over with the highest educational attainment being less than 9th grade greater than 10% higher when compared to the state.
- Census Tracts 9302 has a population of age 25 years and over with the highest educational attainment being 9<sup>th</sup> to 12<sup>th</sup> grade with no diploma greater than 10% higher when compared to Stanly County and the state.
- Census Tracts 9301.02 has a population of age 25 years and over with the highest educational attainment being 9<sup>th</sup> to 12<sup>th</sup> grade with no diploma greater than 10% higher when compared to the state.
- Stanly County has a population of age 25 years and over with the highest educational attainment being 9<sup>th</sup> to 12<sup>th</sup> grade with no diploma greater than 10% higher when compared to the state.

### Results

**Table 9.** Educational Attainment percentage comparisons to Stanly County and the state

EDUCATIONAL ATTAINMENT (%)				
	NORTH CAROLINA (n=2672)	STANLY COUNTY (n=17)	CENSUS TRACT 9302	CENSUS TRACT 9301.02
<b>Populations between 18-24 years</b>				
Less than High School Graduate	11.44	<b>15.47*</b>	<b>36.86*†</b>	1.09
High school graduate (includes equivalency)	34.20	<b>38.76*</b>	<b>38.43*</b>	<b>60.11*†</b>
<b>Total population age 18-24 years</b>	999,707	5,106	255	183
<b>Populations age 25 years and over</b>				
Less than 9th grade	3.97	3.77	<b>6.24*†</b>	0.84
9th to 12th grade, no diploma	6.28	<b>9.10*</b>	<b>10.44*†</b>	<b>10.04*</b>



High school graduate (includes equivalency)	24.96	<b>31.64*</b>	<b>31.53*</b>	<b>33.32*</b>
Bachelor's degree	34.72	19.70	16.73	13.32
Population age 25 years and over	7,261,810	44,648	3,574	3,507
<b>Source:</b> US Census Bureau, 2023 American Community Survey (ACS) 5-year estimate				
All <b>bolded*</b> cells indicate a percentage increase of 10% or more in the county or census tract compared to the <b>state</b> .				
All <b>bolded†</b> cells indicate a percentage increase of 10% or more in the census tract when compared to the <b>county</b> .				

## 5.6 Poverty and Low-income

### Potential Concerns

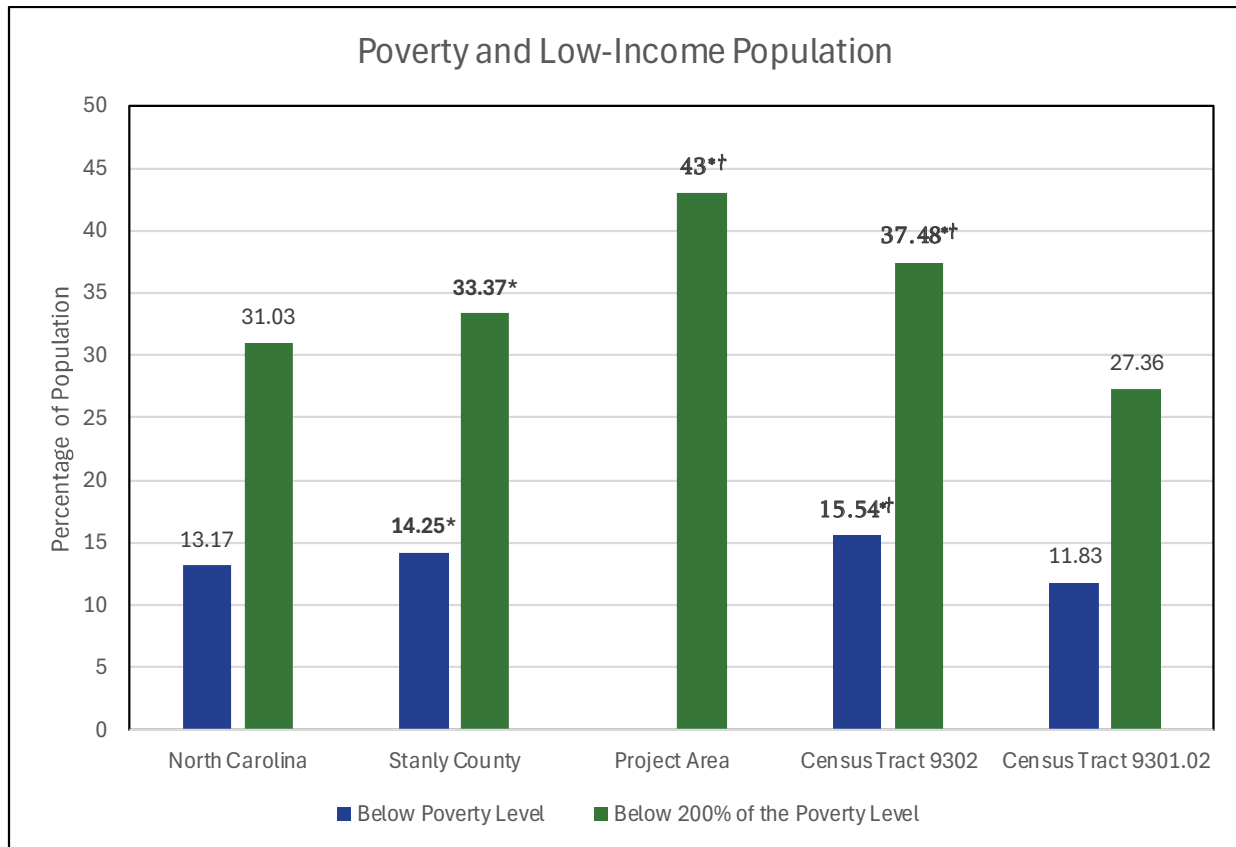
- Census Tract 9302 has a population below the poverty level greater than 5% higher when compared to Stanly County and the state.
- Census Tracts 9302 and the project area have a population considered "low-income" (200% below the poverty level) greater than 5% higher when compared to Stanly County and the state.

### Results

**Table 10.** Poverty percentage comparisons to Stanly County and the state

POVERTY (%)					
	NORTH CAROLINA (n=2672)	STANLY COUNTY (n=17)	PROJECT AREA <sup>8</sup>	CENSUS TRACT 9302	CENSUS TRACT 9301.02
Below Poverty Level	13.17	<b>14.25*</b>		<b>15.54*†</b>	11.83
Below 200% of the Poverty Level	31.03	<b>33.37*</b>	<b>43*†</b>	<b>37.48*†</b>	27.36
Total Population for whom Poverty Status is Determined	10,297,193	61,509	2,154	3,797	3,381
<b>Source:</b> US Census Bureau, 2023 American Community Survey (ACS) 5-year estimate					
All <b>bolded*</b> cells indicate a percentage increase of 5% or more in the county or census tract compared to the <b>state</b> .					
All <b>bolded†</b> cells indicate a percentage increase of 5% or more in the census tract when compared to the <b>county</b> .					

<sup>8</sup> The U.S. EPA's tool estimates data reports the low-income population percentage for a one-mile radius. The agency defines low-income as the percent of a block group's population in households where the household income is less than or equal to twice the federal poverty level. Neither the "total population for whom poverty status is determined" nor population percentage for those "below poverty level" are reported for the one-mile radius EPA report.



**Figure 6.** Poverty percentage comparisons to the county and state

## 6. Health & Cumulative Impacts

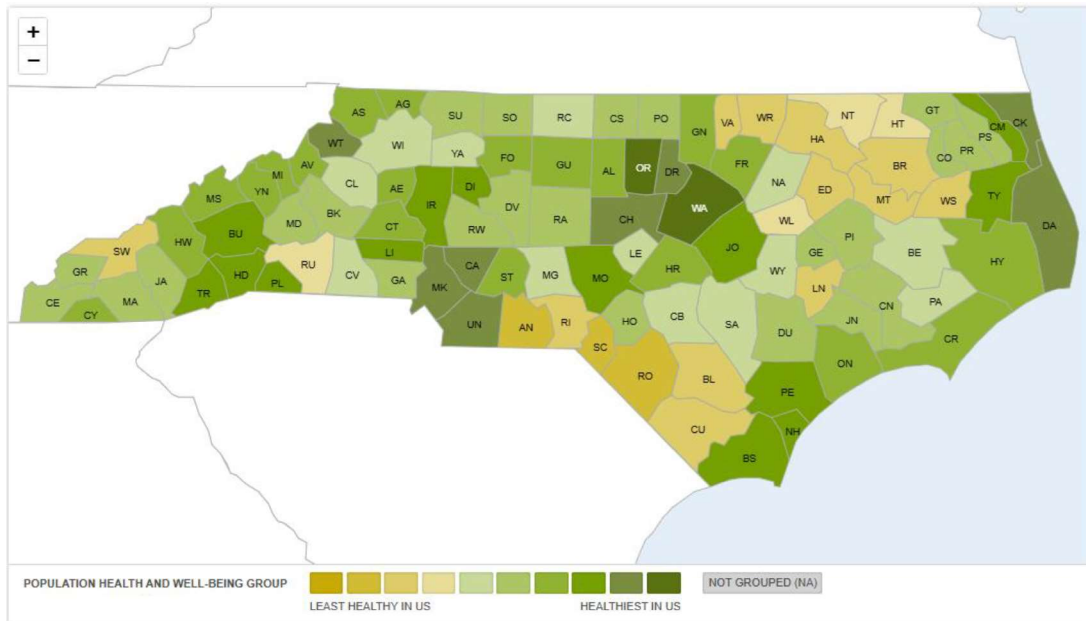
### 6.1 County Health Outcome Ranks

For this report, the Community Engagement Program examined how sensitive populations in the county identified in Section 4 compared to the rest of the state’s population health and well-being and community conditions. The University of Wisconsin Population Health Institute, in collaboration with the Robert Wood Johnson Foundation, calculated County Health Rankings for all the states in the United States ([www.countyhealthrankings.org](http://www.countyhealthrankings.org)). This 2025 County Health Rankings National Data<sup>9</sup> is based on population health and well-being (measured by indicators such as lifespan and self-reported health status) and community conditions (such as environmental, social, and economic conditions). **Figure 8** and **Figure 9** display rankings for all 100 counties in North Carolina on a scale from “least healthy” to “healthiest.”

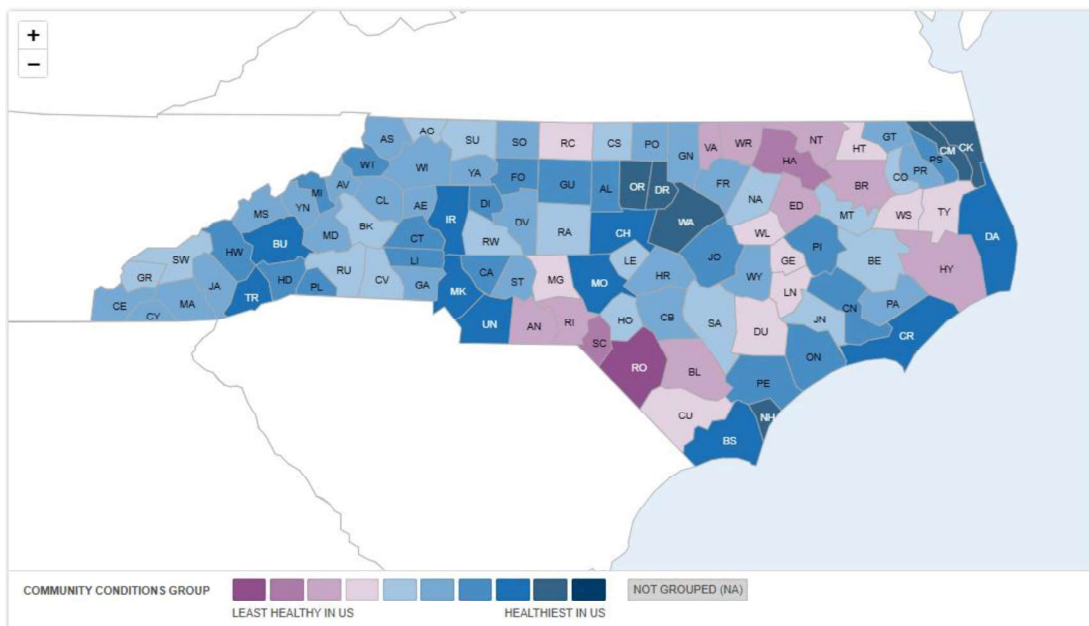
Rankings are provided as a z-score value between –2 (healthiest) and 2 (least healthy), which are sorted into ranges. Out of the 100 counties in the state, Stanly County has a population health and well-being score of 0.03 and a community conditions score of 0.03. The population health and well-being score for Stanly County is not within the two healthiest nor least healthy ranges for the state. The community conditions score for Stanly County is not within the two healthiest nor least healthy ranges for the state.

<sup>9</sup> County Health Rankings & Roadmaps, University of Wisconsin Population Health Institute. 2025 Annual Data Release. <https://www.countyhealthrankings.org/explore-health-rankings/rankings-data-documentation>.

Out of the 100 counties in the state, Montgomery County has a health outcome score of 0.61 and a health factors score of 0.23. The health outcome score for Montgomery County is not within the two least healthy ranges for the state. The health factors score for Montgomery County is not within the two least healthy ranges for the state.



**Figure 7.** NC County Population Health and Well-being Ranks for 2025



**Figure 8.** NC County Community Conditions Ranks for 2025

## 6.2 CDC/ATSDR Index

Cumulative impacts are the combined environmental burdens, pre-existing health conditions, and social factors which may harm human health.<sup>10</sup> At this time, there is no formal, standardized method to assess cumulative impacts. However, cumulative impacts that may affect public health and quality of life are a frequently raised concern among communities across the nation.

CDC/ATSDR Index (CDC Index) scores were sourced from the Centers for Disease Control and Prevention (CDC) and the Agency for Toxic Substances and Disease Registry (ATSDR; See Appendix E for more information on the CDC Index score and model). CDC Index scores and **Figure 9** were sourced from the CDC (See Appendix B).

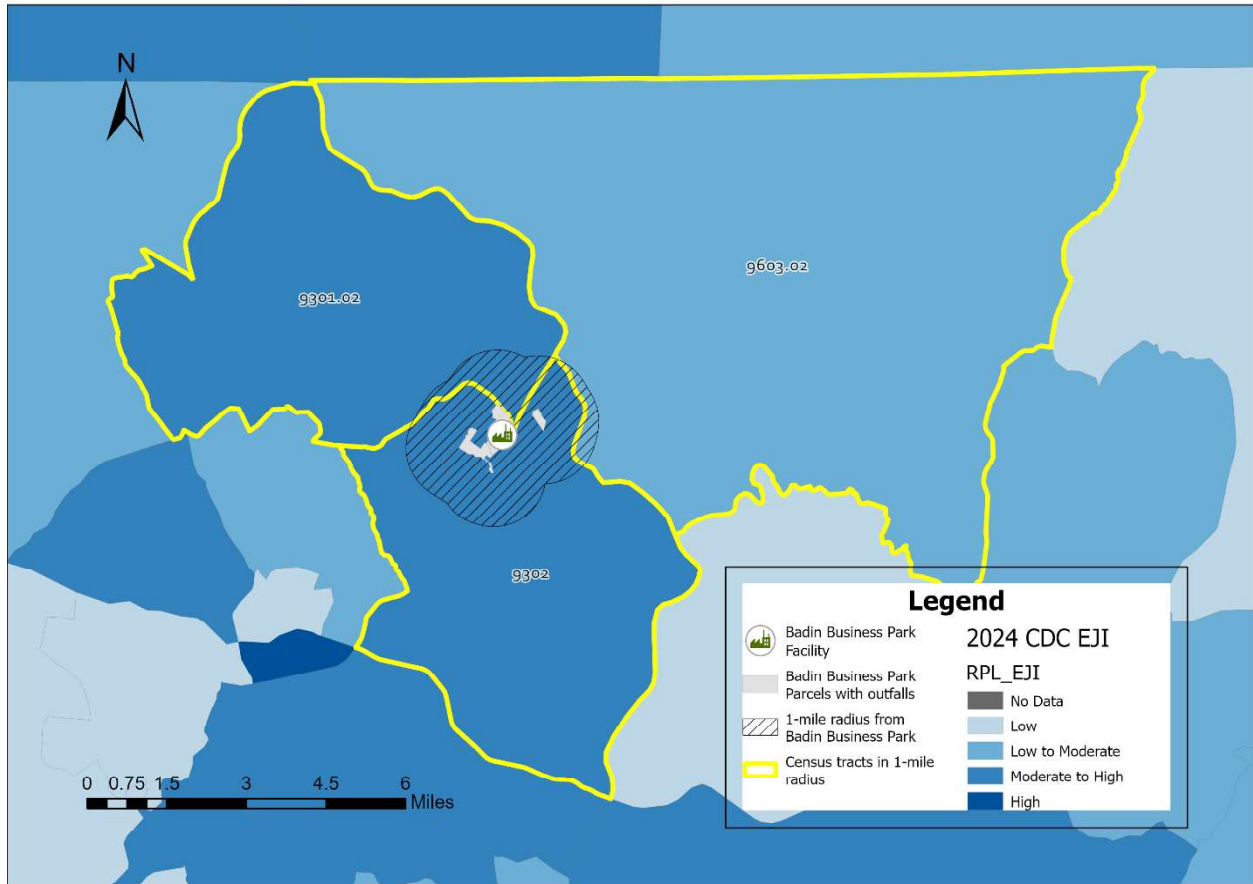
The CDC Index delivers a single score ranging from 0.0 – 1.0 with a score of 1.0 representing a community with the highest environmental burdens for each census tract. The composite score is calculated from a variety of social, environmental, and health indicators. The CDC considers census tracts with a CDC Index score between 0.75 – 1.0 to be highly burdened areas. The CDC Index estimates that 13.7% of North Carolina residents live in highly burdened areas.

According to the CDC Index, Census Tract 9302 – where Badin Business Park, LLC is located – has a CDC Index score of 0.73 (**Figure 9, Table 11**). This means 73% of census tracts in the United States have fewer environmental burdens than Census Tract 9302 and that 27% of census tracts in the United States have higher environmental burdens. According to CDC's definition, Census Tract 9302 is not considered a highly burdened area.

Census tracts within a one-mile radius of the facility have scores ranging from 0.34-0.78. According to the CDC's definition, none of the census tracts within the one-mile radius of the facility are considered highly burdened. In Stanly County, 1 out of 17 census tracts are considered highly burdened, which accounts for 4.6% of residents in the county (see Appendix E).

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<sup>10</sup> *Federal Health Agencies Unveil National Tool to Measure Health Impacts of Environmental Burdens*. (2022). Centers for Disease Control and Prevention (CDC). <https://www.cdc.gov/media/releases/2022/p0810-environmental-burdens.html>.



**Figure 9.** Census tracts within the one-mile radius and corresponding CDC Index scores

**Table 11.** Stanly County Census tracts within the one-mile radius and corresponding CDC Index scores

County	Census Tract	CDC Index Score (between 0-1)	National Percentile	Overall CDC Index Rank
Stanly	<b>9301.02</b>	0.73	73%	Moderate to High
	<b>9302</b>	0.68	68%	Moderate to High

A **\*bold** value indicates a **high** overall CDC Index Rank (within the nation's top 25<sup>th</sup> percentile)

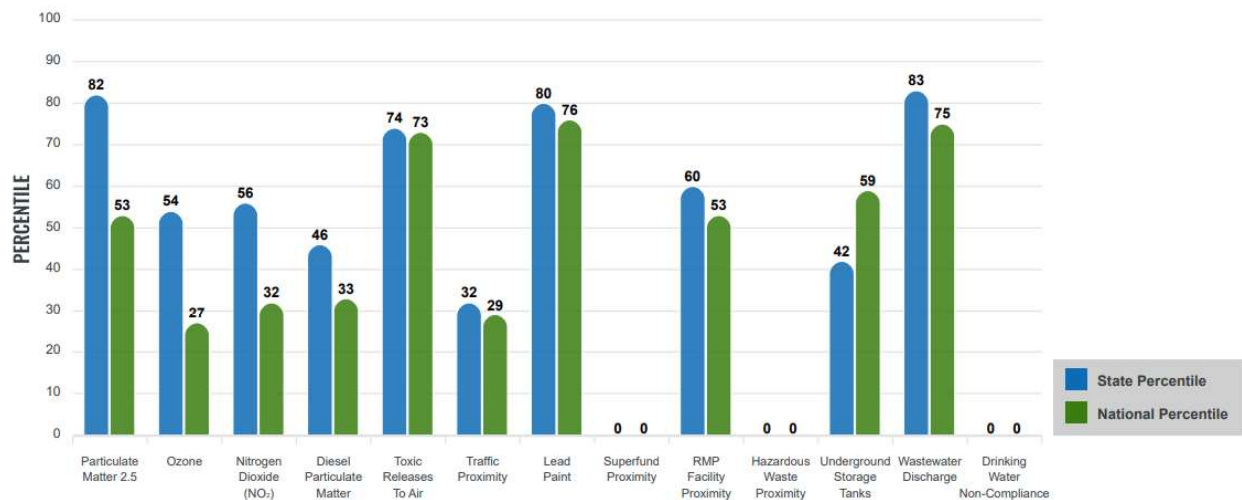
### 6.3 U.S. EPA's Index

The [US EPA's Indexes](#) (EPA Indexes) analyzes the relative potential vulnerability of an area as compared to the state, as well as the U.S., in the form of a percentile from 0 to 100. The higher the EPA Index, the higher the percentile, and the more vulnerable an area. The EPA Index combines demographic data to the listed environmental indicators:

- particulate matter,
- ozone,
- nitrogen dioxide (NO<sub>2</sub>),
- diesel particulate matter,

- toxic releases to air,
- traffic proximity,
- lead paint,
- superfund proximity,
- Risk Management Program (RMP) facility proximity,
- hazardous waste proximity,
- underground storage tanks,
- wastewater discharge, and
- drinking water non-compliance.

**Figure 10** displays the EPA Index for data within the one-mile radius of the facility. The area within one-mile of the facility is in the top 25<sup>th</sup> percentile in the state for 3 out of 13 EPA Indexes and the top 25<sup>th</sup> percentile in the nation for 3 out of 13 of EPA Indexes. This means 75% of other areas in the state and/or nation have lower EPA Indexes compared to the area near the facility (**Figure 10**).



**Figure 10.** EPA Indexes for a one-mile radius around Badin Business Park

#### 6.4 Local Industrial Sites

According to the DEQ Community Mapping System, there are a total of 15 permits and 10 incidents within the one-mile radius of Badin Business Park as of June 19, 2025 (**Figure 11, Table 12**). There are 2 permits and 2 incident that have been issued to Badin Business Park or Alcoa – Badin Works:

- 1 NPDES Wastewater Treatment Facility Permits
- 1 Hazardous Waste Site
- 1 Underground Storage Tank Incident
- 1 Above Ground Storage Tank Incident

**Table 12.** List of Permits, Incidents, and Sites within the one-mile Project Area Radius

List of Permits, Incidents, and Sites		
Type	Quantity	Details
Permits	9	1 Air Quality Permit Site 4 NPDES Wastewater Treatment Facility Permits 4 NPDES Stormwater Permits
Incidents	10	8 Underground Storage Tank Incidents 2 Above Ground Storage Tank Incidents
Sites and Active Facilities	6	4 Hazardous Waste Sites 1 Underground Storage Tank Active Facility 1 Federal Remediation Branch



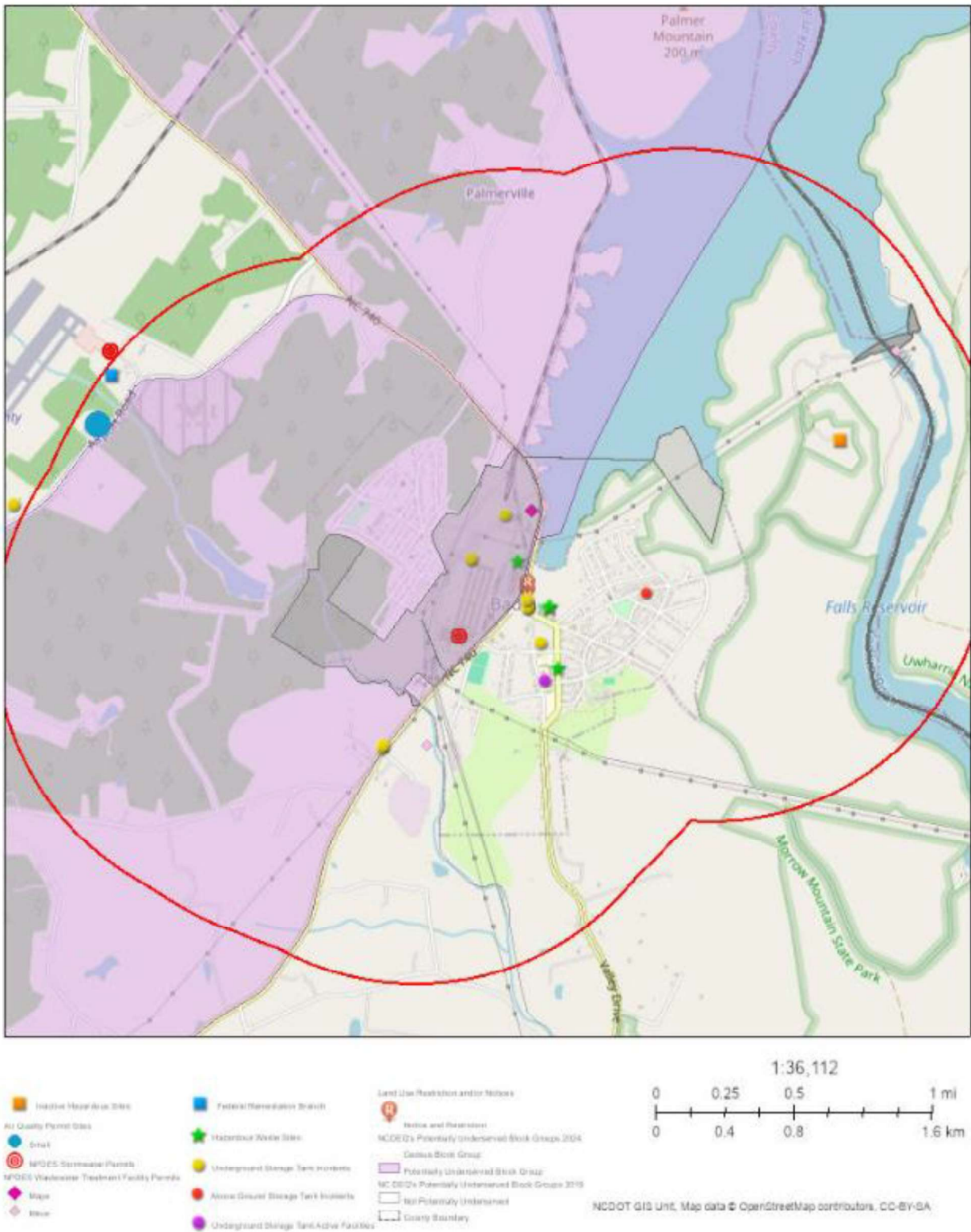


Figure 11. NCDEQ Community Mapping Tool Snapshot of the one-mile Project Area Radius



## 7. Local Sensitive Receptors

Sensitive receptors refer to locations in the local community where populations with potential sensitivity to environmental contaminants (such as children, the elderly, or people with health conditions) are likely to gather and may include, but are not limited to, hospitals, schools, daycare facilities, elderly housing, and convalescent facilities.<sup>11,12</sup> These locations are provided to encourage education and engagement among stakeholders associated with these locations during the public participation period and should not be construed as a statement of risk to these populations from the permitted activity.

Within and near the one-mile radius surrounding the facility location, the following U.S. EPA and NCDEQ-identified sensitive community receptors are listed below (**Figure 12, Table 13**).

**Table 13.** List of Sensitive Receptors within the one-mile Project Area Radius

Sensitive Receptor Type	Name
<b>SCHOOLS &amp; DAYCARES</b>	Badin School
<b>PLACES OF WORSHIP</b>	Badin Baptist Church
	Mountain View Creek Church
	Browns Chapel
<b>COMMUNITY CENTERS</b>	Badin Branch Library
	Badin Volunteer Fire Department – Station 26
<b>PRISONS</b>	Albermarle Correctional Institute

Additional sensitive receptors may be identified during the remainder of the permit application process.

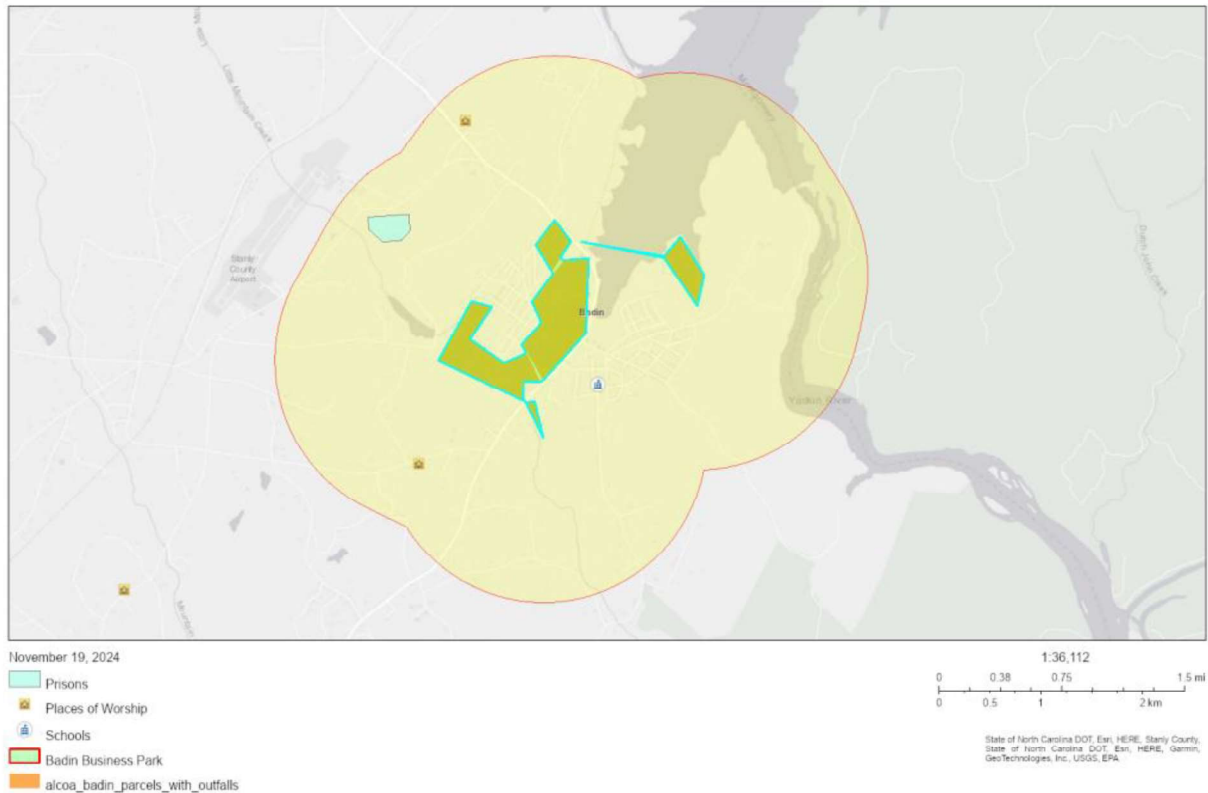
<sup>11</sup>US EPA. *Environmental Issues of Concern for Communities: Resources – Sensitive Receptors*. Archived April 13, 2025.

Accessed via Wayback Machine:

<https://web.archive.org/web/20250413100953/https://www.epa.gov/newenglandhc/environmental-issues-concern-communities-resources#SensitiveReceptors>

<sup>12</sup> US EPA. *Exposure Assessment Tools by Lifestages and Populations – Highly Exposed or Other Susceptible Population Groups*.

<https://www.epa.gov/expobox/exposure-assessment-tools-lifestages-and-populations-highly-exposed-or-other-susceptible>



**Figure 12.** US EPA snapshot of potential sensitive receptors within the one-mile Project Area radius

## 8. Conclusion

### Key Findings

Based on this report's analysis and using N.C. DEQ Potentially Underserved Block Groups (on the basis of race, ethnicity and poverty) and standard guidelines established by the US EPA and in the National Environmental Policy Act (NEPA) documentation, the potential concerns for particular populations within a one-mile radius of Badin Business Park, LLC have been identified as follows:

- **Race and Ethnicity:**
  - Total people of color populations in Census Tract 9302 and project area.
  - The following race and ethnicity population categories:
    - Black or African American
    - Hispanic or Latino
    - American Indian or Alaskan Native
    - Asian
    - Two or more races
- **Tribal Communities:** The Metrolina Native American Association resides within Mecklenburg County and serves Native Americans/Indigenous individuals in Stanly County
- **Age and Sex:** Populations of individuals aged 65 years or older in Census Tracts 9302, 9301.02 and project area.

- **Limited English Proficiency:** Spanish-speaking households with limited English proficiency in Census Tract 9302.
- **Disability:** Populations living with a disability in Census Tracts 9302 and 9301.02.
- **Education:**
  - Populations of individuals at least 18-24 years and older whose highest educational attainment is less than high school graduate in Census Tract 9302.
  - Populations of individuals at least 25 years and over whose highest educational attainment is less than 9<sup>th</sup> grade in Census Tract 9302.
  - Populations of individuals at least 25 years and over whose highest educational attainment is 9<sup>th</sup>-12<sup>th</sup> grade, no diploma in Census Tracts 9302 and 9301.02.
  - Populations of individuals at least 25 years and over whose highest educational attainment is high school graduate in Census Tract 9302 and 9301.02.
- **Poverty:** Populations below the poverty level in Census Tract 9302 and “low income” populations in Census Tract 9302 and project area.

### Recommendations

Based on the sociodemographic indicator analysis, the NCDEQ Community Engagement Program recommends the following outreach and engagement activities during the public participation period for Badin Business Park, LLC NPDES permit renewal:

- Public notices and one-page fact sheets with public comment and public hearing information in English and Spanish.
- Consultation with community leaders about other outreach recommendations including known organizations or leaders serving local American Indian communities.
- Mailed or emailed public notices and one-page fact sheets in English and Spanish to local sensitive receptors and representatives the Town of Badin and Stanly County.
- Evaluate options to distribute one-page fact sheets in identified community centers to increase visibility.
- Arrange an English and Spanish voicemail line to receive public comments.

## Appendix

### Appendix A: U.S. Census Data Sources

All data for this report accessed from [data.census.gov](https://data.census.gov) and collected at a census tract level for all tracts in North Carolina. Data is from 2023 American Community Survey (ACS) 5-year estimates.

NCDEQ was advised to use ACS 2023 data by the NC State Demographer's Office (OSBM). Data used is consistent with methodology and data sources used by U.S. EPA and CDC for similar data analysis. The 2023 American Community Survey (ACS) 5-year estimates provide the most complete coverage of demographic data for the entire state of North Carolina. The American Community Survey models demographic trends for all census tracts in the United States based on data collected in the Decennial Census and the 1-year ACS estimates. Information on the methodology of data collection by survey methods may be found on the [US Census Bureau's Website](https://www.census.gov).

Data records are provided at the smallest geographic unit available statewide for ACS 2023. Census tracts used in the ACS are designed to group populations of 2,500-8,000 individuals, ideally averaging around 4,000 individuals per tract. Census block groups may contain 600-3,000 individuals. Census block group data is incorporated when available through NCDEQ's Potentially Underserved Block Groups.

Estimates provided by ACS 2023 are modeled values and may not be exact records of population characteristics. As population values decrease for smaller units of area, error values may be greater than the estimated population total. Large error values may not reflect accurate population estimates. Error calculations for all estimated values may be found in Appendix D.

Dataset ID	Name
<b>B03002</b>	"Hispanic or Latino Origin by Race"
<b>S0101</b>	"Age and Sex"
<b>S1810</b>	"Disability Characteristics"
<b>C16001</b>	"Language Spoken at Home for the Population 5 Years and Older"
<b>S1501</b>	"Educational Attainment"
<b>S1701</b>	"Poverty Status in the Last 12 Months"

### Appendix B: Additional Data Sources

NCDEQ has consulted various data partners for access to health and economic data evaluation. All data used for health or economic assessment is available for all counties in North Carolina. Methodology for each data source may be found on the websites linked below.

DATA SOURCES			
Organization	Source	Date Accessed	Year Published
NC Department of Commerce	<a href="#">2025 County Distress Rankings</a>	3/7/25	2025
University of Wisconsin Population Health Institute	<a href="#">2024 County Health Rankings National Data</a>	3/7/25	2024
ATSDR/CDC	<a href="#">ATSDR/CDC Index</a>	6/19/25	2024

## Appendix C: Montgomery County Demographics

## Race &amp; Ethnicity

## Potential Concerns

- Census Tract 9603.02, and the project area have American Indian or Alaskan Native populations are greater than 10% higher when compared to Montgomery County.

## Results

**Table 14.** Race & Ethnicity percentage comparisons to Montgomery County and the state

RACE & ETHNICITY (%)				
	NORTH CAROLINA (n=2672)	MONTGOMERY COUNTY (n=10)	PROJECT AREA	CENSUS TRACT 9603.02
White (Not Hispanic)	60.65	62.85	65.18	92.55
Black or African American	20.29	16.36	<b>26.37<sup>++</sup></b>	1.90
Hispanic or Latino	10.95	<b>15.46<sup>*</sup></b>	5.11	2.32
American Indian or Alaska Native	0.85	0.41	<b>0.46<sup>+</sup></b>	<b>0.81<sup>+</sup></b>
Asian	3.12	1.56	0.14	1.24
Native Hawaiian or Other Pacific Islander	0.05	0.00	0	0.00
Some other Race	0.44	0.35	0	0.24
Two or More Races	3.66	3.01	2.69	0.93
Total Population	10,584,340	25,874	2,154	3,316
Source: US Census Bureau, 2023 American Community Survey (ACS) 5-year estimate				
All <b>bolded*</b> cells indicate a percentage increase of 10% or more for non-white populations in the county or census tract compared to the <b>state</b> .				
All <b>bolded<sup>+</sup></b> cells indicate a percentage increase of 10% or more for non-white populations in the census tract when compared to the <b>county</b> .				

PEOPLE OF COLOR (%)				
	NORTH CAROLINA (n=2672)	MONTGOMERY COUNTY (n=10)	PROJECT AREA	CENSUS TRACT 9603.02
People of Color	39.35	37.15	<b>35<sup>+</sup></b>	7.45
Total Population	10,584,340	25,874	2,463	3,316
Source: US Census Bureau, 2023 American Community Survey (ACS) 5-year estimate				
All <b>bolded*</b> cells indicate a percentage increase of 10% or more for non-white populations in the county or census tract compared to the <b>state</b> .				
All <b>bolded<sup>+</sup></b> cells indicate a percentage increase of 10% or more for non-white populations in the census tract when compared to the <b>county</b> .				

## Age &amp; Sex

## Potential Concerns

- Census Tract 9603.02 and the project area have populations of individuals who are 65 years or older greater than 10% higher when compared to the county or state.
- Montgomery County has a population of individuals who are 65 years or older greater than 10% higher when compared to the state.

## Results

**Table 15.** Median Age & Sex for census tracts within a one-mile radius of Badin Business Park facility

MEDIAN AGE & SEX									
	NORTH CAROLINA (n=2672)			MONTGOMERY COUNTY (n=10)			CENSUS TRACT 9603.02		
	Male	Female	Both	Male	Female	Both	Male	Female	Both
<b>Median Age</b>	37.7	40.4	39.1	43.1	44.7	43.6	<b>59.10*†</b>	<b>60.00*†</b>	<b>59.30*†</b>
<b>Total (%)</b>	48.92	51.08	50.0	49.14	50.86		52.11	47.89	
<b>Source:</b> US Census Bureau, 2023 American Community Survey (ACS) 5-year estimate									
All <b>bolded*</b> cells indicate a percentage increase of 10% or more in the census tract compared to the <b>state</b> .									
All <b>bolded†</b> cells indicate a percentage increase of 10% or more in the census tract when compared to the <b>county</b> .									

## Disability

## Potential Concerns

- Census Tract 9603.02 has a population living with a disability greater than 10% higher when compared to the state.
- Montgomery County has a population living with a disability greater than 10% higher when compared to the state.

## Results

**Table 16.** Disability percentage comparisons to Montgomery County and the State

DISABILITY (%)			
	NORTH CAROLINA (n=2672)	MONTGOMERY COUNTY (n=10)	CENSUS TRACT 9603.02
<b>Population with a Disability</b>	13.37	<b>18.61*</b>	<b>19.00*</b>
<b>Type of Difficulty</b>			
<b>Hearing</b>	27.67	26.15	25.40
<b>Vision</b>	18.85	13.88	12.86

<b>Cognitive</b>	38.59	36.27	29.84
<b>Ambulatory</b>	50.26	<b>57.08*</b>	<b>68.57*†</b>
<b>Self-care</b>	18.19	<b>22.78*</b>	17.14
<b>Independent Living</b>	33.65	35.37	<b>52.70*†</b>
<b>Source:</b> US Census Bureau, 2023 American Community Survey (ACS) 5-year estimate			
All <b>bolded*</b> cells indicate a percentage increase of 10% or more in the county or census tract compared to the <b>state</b> .			
All <b>bolded†</b> cells indicate a percentage increase of 10% or more in the census tract when compared to the <b>county</b> .			

### Limited English Proficiency

#### Potential Concerns

- Montgomery County has a population of Spanish-speaking households with limited-English proficiency greater than 5% or higher when compared to the state.
- Montgomery County has a population of Other Asian and Pacific Island language-speaking households with limited-English proficiency greater than 5% or higher when compared to the state.

### Results

**Table 17.** Limited English Proficiency percentage comparisons to Montgomery County and the state

LIMITED ENGLISH PROFICIENCY (%)			
	NORTH CAROLINA (n=2672)	MONTGOMERY COUNTY (n=10)	CENSUS TRACT 9603.02
Speak only English	86.98	83.77	96.58
Spanish	3.47	<b>4.93*</b>	0.00
French, Haitian, or Cajun	0.10	0.00	0.00
German or other West Germanic languages	0.04	0.00	0.00
Russian, Polish, or other Slavic languages	0.10	0.00	0.00
Chinese (including Mandarin, Cantonese)	0.16	0.11	0.00
Vietnamese	0.16	0.10	0.00
Korean	0.08	0.00	0.00
Tagalog (including Filipino)	0.04	0.00	0.00
Other Asian and Pacific Island Languages	0.27	<b>0.59*</b>	0.00
Other Indo-European Languages	0.27	0.12	0.00
Arabic	0.11	0.00	0.00
<b>Total Population 5 Years and over</b>	<b>9,986,027</b>	<b>24,563</b>	<b>3,306</b>
<b>Source:</b> US Census Bureau, 2023 American Community Survey (ACS) 5-year estimate			

All <b>bolded*</b> cells indicate a percentage increase of 5% or more in the county or census tract compared to the <b>state</b> .
All <b>bolded†</b> cells indicate a percentage increase of 5% or more in the census tract when compared to the <b>county</b> .

## Educational Attainment

### Potential Concerns

- Census Tract 9603.02 has a population between 18 and 24 years of age with less than a high school graduate degree greater than 10% higher when compared to Montgomery County or the state.
- Montgomery County have a population between 18 and 24 years of age with less than a high school graduate degree greater than 10% higher when compared to the state.
- Montgomery County has a population of age 25 years and over with the highest educational attainment being less than 9th grade greater than 10% higher when compared to the state.
- Census Tract 9603.02 has a population of age 25 years and over with the highest educational attainment being 9<sup>th</sup> to 12<sup>th</sup> grade with no diploma greater than 10% higher when compared to the state.
- Montgomery County has a population of age 25 years and over with the highest educational attainment being 9<sup>th</sup> to 12<sup>th</sup> grade with no diploma greater than 10% higher when compared to the state.

## Results

**Table 18.** Educational Attainment percentage comparisons to Montgomery County and the state

EDUCATIONAL ATTAINMENT (%)			
	NORTH CAROLINA (n=2672)	MONTGOMERY COUNTY (n=10)	CENSUS TRACT 9603.02
<b>Populations between 18-24 years</b>			
Less than High School Graduate	11.44	<b>16.76*</b>	<b>22.12**†</b>
High school graduate (includes equivalency)	34.20	31.78	18.58
<b>Total population age 18-24 years</b>	999,707	1,850	113
<b>Populations age 25 years and over</b>			
Less than 9th grade	3.97	<b>4.78*</b>	1.23
9th to 12th grade, no diploma	6.28	<b>11.27*</b>	<b>8.53*</b>
High school graduate (includes equivalency)	24.96	<b>33.59*</b>	<b>33.67*</b>
Bachelor's degree	34.72	19.31	<b>26.83†</b>
<b>Population age 25 years and over</b>	7,261,810	18,631	3,012
<b>Source:</b> US Census Bureau, 2023 American Community Survey (ACS) 5-year estimate			



All **bolded\*** cells indicate a percentage increase of 10% or more in the county or census tract compared to the **state**.

All **bolded<sup>†</sup>** cells indicate a percentage increase of 10% or more in the census tract when compared to the **county**.

## Poverty & Low Income

### Potential Concerns

- Montgomery County has a population below the poverty level greater than 5% higher when compared to the state.
- Montgomery County has a population considered “low-income” (200% below the poverty level) greater than 5% higher when compared to the state.
- The project area have a population considered “low-income” (200% below the poverty level) greater than 5% higher when compared to Montgomery County or the state.

## Results

**Table 19.** Poverty percentage comparisons to Montgomery County and the state

POVERTY (%)				
	NORTH CAROLINA (n=2672)	MONTGOMERY COUNTY (n=10)	PROJECT AREA <sup>8</sup>	CENSUS TRACT 9603.02
Below Poverty Level	13.17	<b>16.09*</b>		10.40
Below 200% of the Poverty Level	31.03	<b>40.52*</b>	<b>43*<sup>†</sup></b>	29.79
Total Population for whom Poverty Status is Determined	10,297,193	25,033	2,154	3,316
Source: US Census Bureau, 2023 American Community Survey (ACS) 5-year estimate				
All <b>bolded*</b> cells indicate a percentage increase of 5% or more in the county or census tract compared to the <b>state</b> .				
All <b>bolded<sup>†</sup></b> cells indicate a percentage increase of 5% or more in the census tract when compared to the <b>county</b> .				

## CDC Index Score

**Table 20.** Montgomery County Census tracts within the one-mile radius and corresponding CDC Index scores

County	Census Tract	CDC Index Score (between 0-1)	National Percentile	Overall CDC Index Rank
Montgomery	9603.02	0.34	34%	Low to Moderate
A <b>*bold</b> value indicates a <b>high</b> overall CDC Index Rank (within the nation’s top 25 <sup>th</sup> percentile)				

## Appendix D: Sociodemographic Indicators and US EPA Report

The tables below display estimates and margins of error as available from the U.S. Census Bureau 2023 ACS 5-year estimates and calculations performed for each sociodemographic indicator. Calculations are displayed as averages and 95% upper and lower confidence intervals.

## Race &amp; Ethnicity

RACE & ETHNICITY										
	NORTH CAROLINA (n=2672)					STANLY COUNTY (n=17)				
	Estimate	MOE (+/-)	Average	95% CI (+/-)		Estimate	MOE (+/-)	Average	95% CI (+/-)	
				Lower	Upper				Lower	Upper
White	6,419,285	3,661	2402.43	2348.06	2456.80	50,211	241	2953.59	2388.04	3519.14
Black or African American	2,147,308	6,402	803.63	770.70	836.56	6,970	371	410.00	197.20	622.80
Hispanic or Latino	1,158,750	0	433.66	415.32	452.01	3,341	****	196.53	92.89	300.17
American Indian and Alaska Native	89,481	1,201	33.49	25.60	41.38	15	19	0.88	-0.73	2.49
Asian	330,720	2,729	123.77	112.40	135.15	1,210	89	71.18	22.11	120.24
Native Hawaiian and other Pacific Islander	5,548	614	2.08	1.62	2.53	196	257	11.53	-9.64	32.70
Some Other Race	46,117	3,192	17.26	15.63	18.89	26	22	1.53	-0.42	3.48
Two or More Races	387,131	7,694	144.88	139.59	150.18	1,588	307	93.41	71.19	115.63
Total Population	10,584,340					63,557				

RACE & ETHNICITY				
MONTGOMERY COUNTY (n=10)				
Estimate	MOE (+/-)	Average	95% CI (+/-)	
			Lower	Upper
16,261	107	1626.10	1063.75	2188.45
4,232	191	423.20	179.82	666.58
4,000	0	400.00	-13.50	813.50
106	35	10.60	1.44	19.76
404	48	40.40	6.16	74.64
0	25	0.00	****	****
91	88	9.10	-2.34	20.54
780	226	78.00	36.88	119.12
25,874				

RACE & ETHNICITY						
	CENSUS TRACT 9302		CENSUS TRACT 9301.02		CENSUS TRACT 9603.02	
	Estimate	MOE (+/-)	Estimate	MOE (+/-)	Estimate	MOE (+/-)
White	3,291	426	2,791	348	3,069	492
Black or African American	958	277	360	139	63	97
Hispanic or Latino	349	173	61	63	77	96
American Indian and Alaska Native	14	19	0	14	27	31
Asian	23	40	175	133	41	64
Native Hawaiian and other Pacific Islander	0	14	0	14	0	14
Some Other Race	0	14	2	4	8	16
Two or More Races	75	46	118	81	31	34
Total Population	4,710		3,507		3,316	

## Age &amp; Sex

AGE										
	NORTH CAROLINA (n=2672)					STANLY COUNTY (n=17)				
	Estimate	MOE (+/-)	Average	95% CI (+/-)		Estimate	MOE (+/-)	Average	95% CI (+/-)	
				Lower	Upper				Lower	Upper
≤5 Years	598,313	714	223.92	217.62	230.21	3,568	42	209.88	142.62	277.14
≥65 Years	1,787,027	840	668.80	654.32	683.27	12,102	110	711.88	601.67	822.10
SEX										
Male	5,177,887	1,414	1937.83	1903.20	1972.46	31,854	246	1873.76	1589.66	2157.87
Female	5,406,453	1,484	2023.37	1987.97	2058.78	31,703	246	1864.88	1593.27	2136.49

AGE					
MONTGOMERY COUNTY (n=10)					
	Estimate	MOE (+/-)	Average	95% CI (+/-)	
				Lower	Upper
≤5 Years	1,311	30	131.10	70.03	192.17
≥65 Years	5,645	71	564.50	361.49	767.51

SEX					
MONTGOMERY COUNTY (n=10)					
	Estimate	MOE (+/-)	Average	95% CI (+/-)	
				Lower	Upper
Male	12,714	152	1271.40	904.75	1638.05
Female	13,160	152	1316.00	800.78	1831.22

AGE						
	CENSUS TRACT 9302		CENSUS TRACT 9301.02		CENSUS TRACT 9603.02	
	Estimate	MOE (+/-)	Estimate	MOE (+/-)	Estimate	MOE (+/-)

≤5 Years	84	51	161	90	10	19
≥65 Years	983	166	569	140	1,166	241
<b>SEX</b>						
Male	2,753	394	1,689	199	1,728	266
Female	1,957	248	1,818	261	1,588	282

## Disability

<b>DISABILITY</b>										
	<b>NORTH CAROLINA (n=2672)</b>					<b>STANLY COUNTY (n=17)</b>				
	Estimate	MOE (+/-)	Average	95% CI (+/-)		Estimate	MOE (+/-)	Average	95% CI (+/-)	
				Lower	Upper				Lower	Upper
Population with a Disability	1,386,506	10,541	518.90	508.16	529.65	11,064	898	650.82	530.00	771.65
Type of Difficulty										
Hearing	383,698	10,541	143.60	139.79	147.41	3,412	457	200.71	158.13	243.28
Vision	261,386	5,572	97.82	94.63	101.01	1,138	264	66.94	41.64	92.24
Cognitive	535,055	5,645	200.25	195.06	205.43	4,597	619	270.41	214.20	326.62
Ambulatory	696,828	7,066	260.79	254.52	267.06	6,270	671	368.82	273.06	464.59
Self-care	252,232	6,705	94.40	91.38	97.41	1,963	386	115.47	80.04	150.90
Independent Living	466,517	4,769	174.59	170.02	179.17	4,054	563	238.47	168.72	308.22
Total civilian noninstitutionalized population	10,366,704	2,441				62,113	81			

<b>DISABILITY</b>						
<b>MONTGOMERY COUNTY (n=10)</b>						
	Estimate	MOE (+/-)	Average	95% CI (+/-)		
				Lower	Upper	
Population with a Disability	4,676	431	467.60	280.48	654.72	
Type of Difficulty	Type of Disability					
Hearing	1,223	227	122.30	76.82	167.78	
Vision	649	186	64.90	34.58	95.22	
Cognitive	1,696	321	169.60	75.77	263.43	
Ambulatory	2,669	381	266.90	143.33	390.47	
Self-care	1,065	248	106.50	26.31	186.69	
Independent Living	1,654	257	165.40	97.54	233.26	
Total civilian noninstitutionalized population	25,131	39				

<b>DISABILITY</b>						
	<b>CENSUS TRACT 9302</b>		<b>CENSUS TRACT 9301.02</b>		<b>CENSUS TRACT 9603.02</b>	
	Estimate	MOE (+/-)	Estimate	MOE (+/-)	Estimate	MOE (+/-)
Population with a Disability	1017	223	683	214	630	244

Type of Difficulty						
Hearing	210	75	307	122	160	95
Vision	176	109	58	43	81	66
Cognitive	384	108	249	113	188	151
Ambulatory	511	213	253	112	432	216
Self-care	118	56	155	67	108	104
Independent Living	378	108	240	108	332	183
Total civilian noninstitutionalized population	3,791	527	3,507	341	3,316	477

## Limited English Proficiency

LIMITED ENGLISH PROFICIENCY										
	NORTH CAROLINA (n=2672)					STANLY COUNTY (n=17)				
	Estimate	MOE (+/-)	Average	95% CI (+/-)		Estimate	MOE (+/-)	Average	95% CI (+/-)	
				Lower	Upper				Lower	Upper
Speak only English	8,685,846	10,932	3250.69	3195.41	3305.97	56,130	377	3301.76	2843.79	3759.74
Spanish	346,393	6,442	129.64	121.65	137.62	1,152	311	67.76	11.53	124.00
French, Haitian, or Cajun	9,907	1,591	3.71	2.90	4.52	0	32	0.00	****	****
German or other West Germanic languages	3,643	714	1.36	0.96	1.77	0	32	0.00	****	****
Russian, Polish, or other Slavic languages	10,007	1,187	3.75	3.09	4.40	54	81	3.18	-3.05	9.40
Chinese (including Mandarin, Cantonese)	16,417	1,301	6.14	5.20	7.09	4	8	0.24	-0.23	0.70
Vietnamese	15,622	1,792	5.85	4.56	7.13	117	117	6.88	-7.88	21.64
Korean	7,532	741	2.82	2.26	3.38	0	32	0.00	****	****
Tagalog (including Filipino)	4,281	646	1.60	1.27	1.93	0	32	0.00	****	****
Other Asian and Pacific Island Languages	26,602	1,464	9.96	8.73	11.18	162	82	9.53	-0.56	19.62
Other Indo-European Languages	26,989	2,016	10.10	8.77	11.43	38	49	2.24	-0.72	5.19
Arabic	10,907	1,339	4.08	3.31	4.86	0	32	0.00	****	****
Total Population 5	9,986,027	714				59,989	42			

Years and over						
----------------	--	--	--	--	--	--

MONTGOMERY COUNTY (n=10)					
	Estimate	MOE (+/-)	Average	95% CI (+/-)	
				Lower	Upper
Speak only English	20,576	410	2057.60	1474.05	2641.15
Spanish	1,211	276	121.10	-8.68	250.88
French, Haitian, or Cajun	0	25	0.00	****	****
German or other West Germanic languages	0	25	0.00	****	****
Russian, Polish, or other Slavic languages	0	25	0.00	****	****
Chinese (including Mandarin, Cantonese)	27	30	2.70	-2.59	7.99
Vietnamese	25	25	2.50	****	****
Korean	0	25	0.00	****	****
Tagalog (including Filipino)	0	25	0.00	****	****
Other Asian and Pacific Island Languages	145	93	14.50	-0.12	29.12
Other Indo-European Languages	30	37	3.00	-1.29	7.29
Arabic	0	25	0.00	****	****
Total Population 5 Years and over	24,563	30			

LIMITED ENGLISH PROFICIENCY						
	CENSUS TRACT 9302		CENSUS TRACT 9301.02		CENSUS TRACT 9603.02	
	Estimate	MOE (+/-)	Estimate	MOE (+/-)	Estimate	MOE (+/-)
Speak only English	4,305	529	3,295	335	3,193	484
Spanish	96	48	4	7	0	14
French, Haitian, or Cajun	0	14	0	14	0	14
German or other West Germanic languages	0	14	0	14	0	14
Russian, Polish, or other Slavic languages	0	14	0	14	0	14
Chinese (including Mandarin, Cantonese)	0	14	4	8	0	14
Vietnamese	0	14	0	14	0	14
Korean	0	14	0	14	0	14
Tagalog (including Filipino)	0	14	0	14	0	14
Other Asian and Pacific Island Languages	0	14	4	8	0	14
Other Indo-European Languages	0	14	0	14	0	14
Arabic	0	14	0	14	0	14
Total Population 5 Years and over	4,626	532	3,346	342	3,306	476

## Educational Attainment

EDUCATIONAL ATTAINMENT									
	NORTH CAROLINA (n=2672)					STANLY COUNTY (n=17)			
	Estimate	MOE (+/-)	Average	95% CI (+/-)		Estimate	MOE (+/-)	Average	95% CI (+/-)

				Lower	Upper				Lower	Upper
Less than High School Graduate	114,342	2,700	42.79	40.86	44.73	790	211	46.47	23.35	69.60
High school graduate (includes equivalency)	341,857	4,141	127.94	120.27	135.61	1,979	291	116.41	81.45	151.37
Population age 18-24 years	999,707					5,106				
Less than 9th grade	288,456	4,800	107.96	103.40	112.51	1,681	333	98.88	59.32	138.45
9th to 12th grade, no diploma	456,125	7,346	170.71	165.41	176.00	4,064	476	239.06	190.32	287.79
High school graduate (includes equivalency)	1,812,528	12,817	678.34	663.53	693.15	14,128	834	831.06	725.28	936.84
Bachelor's degree	2,521,353	18,699	943.62	913.88	973.36	8,795	809	517.35	437.99	596.71
Population age 25 years and over	7,261,810					44,648				

MONTGOMERY COUNTY (n=10)					
	Estimate	MOE (+/-)	Average	95% CI (+/-)	
				Lower	Upper
Less than High School Graduate	310	194	31.00	2.75	59.25
High school graduate (includes equivalency)	588	160	58.80	23.04	94.56
Population age 18-24 years	1,850				
Less than 9th grade	890	203	89.00	49.20	128.80
9th to 12th grade, no diploma	2,099	396	209.90	137.17	282.63
High school graduate (includes equivalency)	6,258	507	625.80	416.66	834.94
Bachelor's degree	3,597	459	359.70	191.08	528.32
Population age 25 years and over	18,631				

EDUCATIONAL ATTAINMENT						
	CENSUS TRACT 9302		CENSUS TRACT 9301.02		CENSUS TRACT 9603.02	
	Estimate	MOE (+/-)	Estimate	MOE (+/-)	Estimate	MOE (+/-)
Less than High School Graduate	94	63	2	5	25	28
High school graduate (includes equivalency)	98	63	110	50	21	21
Population age 18-24 years	255		183		113	
Less than 9th grade	223	113	22	22	37	40
9th to 12th grade, no diploma	373	121	263	127	257	174
High school graduate (includes equivalency)	1,127	204	873	213	1,014	263
Bachelor's degree	598	176	349	111	808	245
Population age 25 years and over	3,574		2,620		3,012	

## Poverty &amp; Low Income

POVERTY		
	NORTH CAROLINA (n=2672)	STANLY COUNTY (n=17)



	Estimate	MOE (+/-)	Average	95% CI (+/-)		Estimate	MOE (+/-)	Average	95% CI (+/-)	
				Lower	Upper				Lower	Upper
<b>Below Poverty Level</b>	1,355,827	16,940	507	492	523	8,765	1,077	516	388	643
<b>Below 200% of the Poverty Level</b>	3,195,199	26,486	1,196	1,168	1,224	20,526	1,534	1,207	979	1,436
<b>Total Population for whom Poverty Status is Determined</b>	10,297,193	2,274				61,509	168			

MONTGOMERY COUNTY (n=10)					
	Estimate	MOE (+/-)	Average	95% CI (+/-)	
				Lower	Upper
<b>Below Poverty Level</b>	4,027	669	403	162	643
<b>Below 200% of the Poverty Level</b>	10,144	794	1,014	455	1,574
<b>Total Population for whom Poverty Status is Determined</b>	25,033	128			

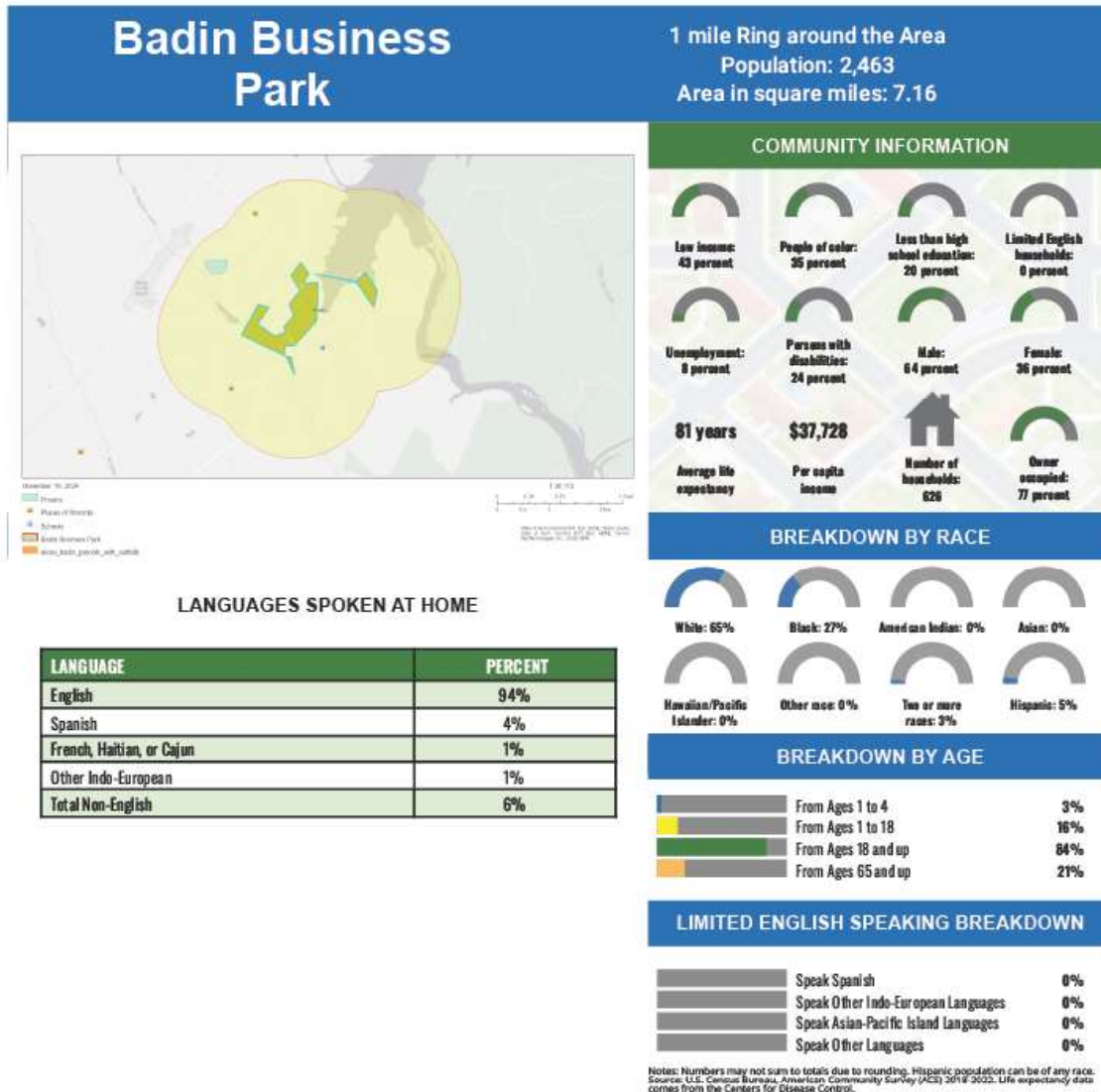
POVERTY						
	CENSUS TRACT 9302		CENSUS TRACT 9301.02		CENSUS TRACT 9603.02	
	Estimate	MOE (+/-)	Estimate	MOE (+/-)	Estimate	MOE (+/-)
<b>Below Poverty Level</b>	590	296	400	212	345	209
<b>Below 200% of the Poverty Level</b>	1,423	378	925	284	988	396
<b>Total Population for whom Poverty Status is Determined</b>	3,797	529	3,381	345	3,316	477

### US EPA Report

The following ACS 2019-2023 report shows the demographics and information provided through US EPA for the one-mile radius around Badin Business Park. Screening was taken from US EPA's website before February 2025.

# EJScreen Community Report

This report provides environmental and socioeconomic information for user-defined areas, and combines that data into environmental justice and supplemental indexes.



Report for 1 mile Ring around the Area  
Report produced November 19, 2024 using EJScreen Version 2.3

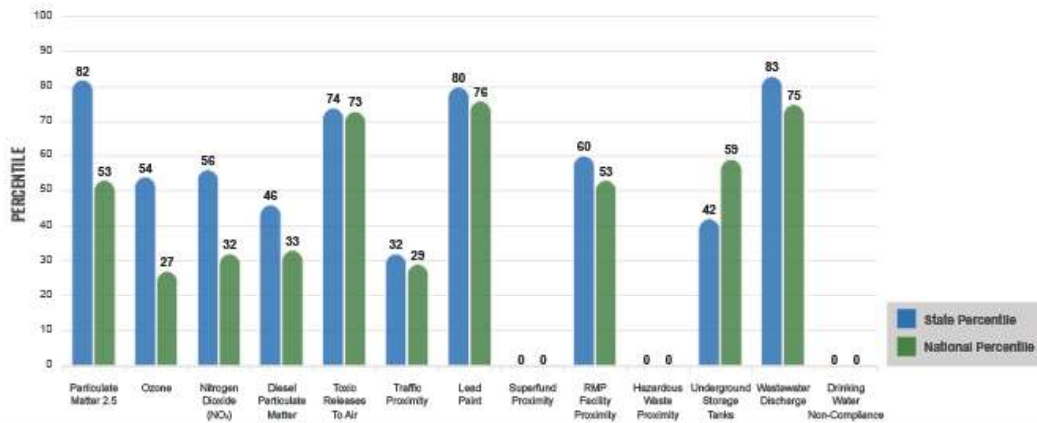
## Environmental Justice & Supplemental Indexes

The environmental justice and supplemental indexes are a combination of environmental and socioeconomic information. There are thirteen EJ indexes and supplemental indexes in EJScreen reflecting the 13 environmental indicators. The indexes for a selected area are compared to those for all other locations in the state or nation. For more information and calculation details on the EJ and supplemental indexes, please visit the [EJScreen website](#).

### EJ INDEXES

The EJ indexes help users screen for potential EJ concerns. To do this, the EJ index combines data on low income and people of color populations with a single environmental indicator.

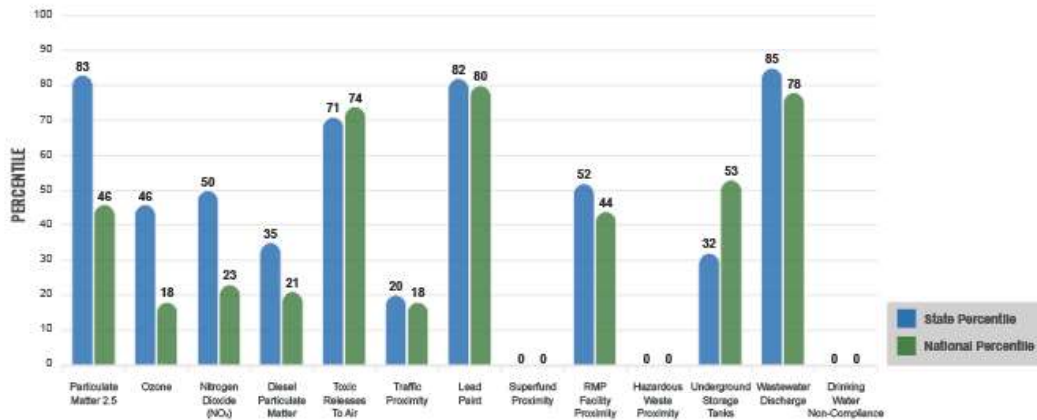
#### EJ INDEXES FOR THE SELECTED LOCATION



### SUPPLEMENTAL INDEXES

The supplemental indexes offer a different perspective on community-level vulnerability. They combine data on percent low income, percent persons with disabilities, percent less than high school education, percent limited English speaking, and percent low life expectancy with a single environmental indicator.

#### SUPPLEMENTAL INDEXES FOR THE SELECTED LOCATION



Report for 1 mile Ring around the Area

Report produced November 19, 2024 using EJScreen Version 2.3

## EJScreen Environmental and Socioeconomic Indicators Data

SELECTED VARIABLES	VALUE	STATE AVERAGE	PERCENTILE IN STATE	USA AVERAGE	PERCENTILE IN USA
<b>ENVIRONMENTAL BURDEN INDICATORS</b>					
Particulate Matter 2.5 (µg/m³)	7.66	6.99	73	8.45	34
Ozone (ppb)	53.3	54	35	61.8	13
Nitrogen Dioxide (NO <sub>2</sub> ) (ppbv)	4.1	5	38	7.8	15
Diesel Particulate Matter (µg/m³)	0.0681	0.102	28	0.191	15
Toxic Releases to Air (toxicity-weighted concentration)	960	3,100	58	4,600	59
Traffic Proximity (daily traffic count/distance to road)	62,000	690,000	17	1,700,000	13
Lead Paint (% Pre-1960 Housing)	0.56	0.17	94	0.3	77
Superfund Proximity (site count/km distance)	0	0.11	0	0.39	0
RMP Facility Proximity (facility count/km distance)	0.13	0.29	48	0.57	37
Hazardous Waste Proximity (facility count/km distance)	0	0.94	0	3.5	0
Underground Storage Tanks (count/km²)	0.24	3.8	25	3.6	38
Wastewater Discharge (toxicity-weighted concentration/m distance)	290	1300	80	70,000	64
Drinking Water Non-Compliance (points)	0	0.58	0	2.2	0
<b>SOCIOECONOMIC INDICATORS</b>					
Demographic Index USA	1.58	N/A	N/A	1.34	66
Supplemental Demographic Index USA	1.93	N/A	N/A	1.64	70
Demographic Index State	1.69	1.49	64	N/A	N/A
Supplemental Demographic Index State	2.12	1.91	63	N/A	N/A
People of Color	35%	37%	55	40%	54
Low Income	43%	34%	69	30%	74
Unemployment Rate	7%	5%	71	6%	68
Limited English Speaking Households	0%	2%	0	5%	0
Less Than High School Education	20%	11%	82	11%	82
Under Age 5	3%	5%	31	5%	29
Over Age 64	21%	18%	65	18%	67

\*Diesel particulate matter index is from the EPA's Air Toxics Data Update, which is the Agency's ongoing, comprehensive evaluation of air toxics in the United States. This effort aims to prioritize air toxics, emission sources, and locations of interest for further study. It is important to remember that the air toxics data presented here provide broad estimates of health risks over geographic areas of the country, not definitive risks to specific individuals or locations. More information on the Air Toxics Data Update can be found at: <https://www.epa.gov/toxics-data-update>.

### Sites reporting to EPA within defined area:

Superfund .....	0
Hazardous Waste, Treatment, Storage, and Disposal Facilities .....	0
Water Dischargers .....	4
Air Pollution .....	3
Brownfields .....	0
Toxic Release Inventory .....	1

### Other community features within defined area:

Schools .....	1
Hospitals .....	0
Places of Worship .....	2

### Other environmental data:

Air Non-attainment .....	No
Impaired Waters .....	Yes

Selected location contains American Indian Reservation Lands* .....	No
Selected location contains a "Justice40 (CE/ST) disadvantaged community .....	No
Selected location contains an EPA IRA disadvantaged community .....	No

Report for 1 mile Ring around the Area

Report produced November 19, 2024 using EJScreen Version 2.3

## EJScreen Environmental and Socioeconomic Indicators Data

HEALTH INDICATORS					
INDICATOR	VALUE	STATE AVERAGE	STATE PERCENTILE	US AVERAGE	US PERCENTILE
Low Life Expectancy	15%	21%	7	20%	13
Heart Disease	6.7	6.1	60	5.8	71
Asthma	9.4	10.1	29	10.3	27
Cancer	6.8	6.5	57	6.4	58
Persons with Disabilities	23.8%	14.2%	94	13.7%	93

CLIMATE INDICATORS					
INDICATOR	VALUE	STATE AVERAGE	STATE PERCENTILE	US AVERAGE	US PERCENTILE
Flood Risk	9%	10%	67	12%	61
Wildfire Risk	0%	9%	0	14%	0

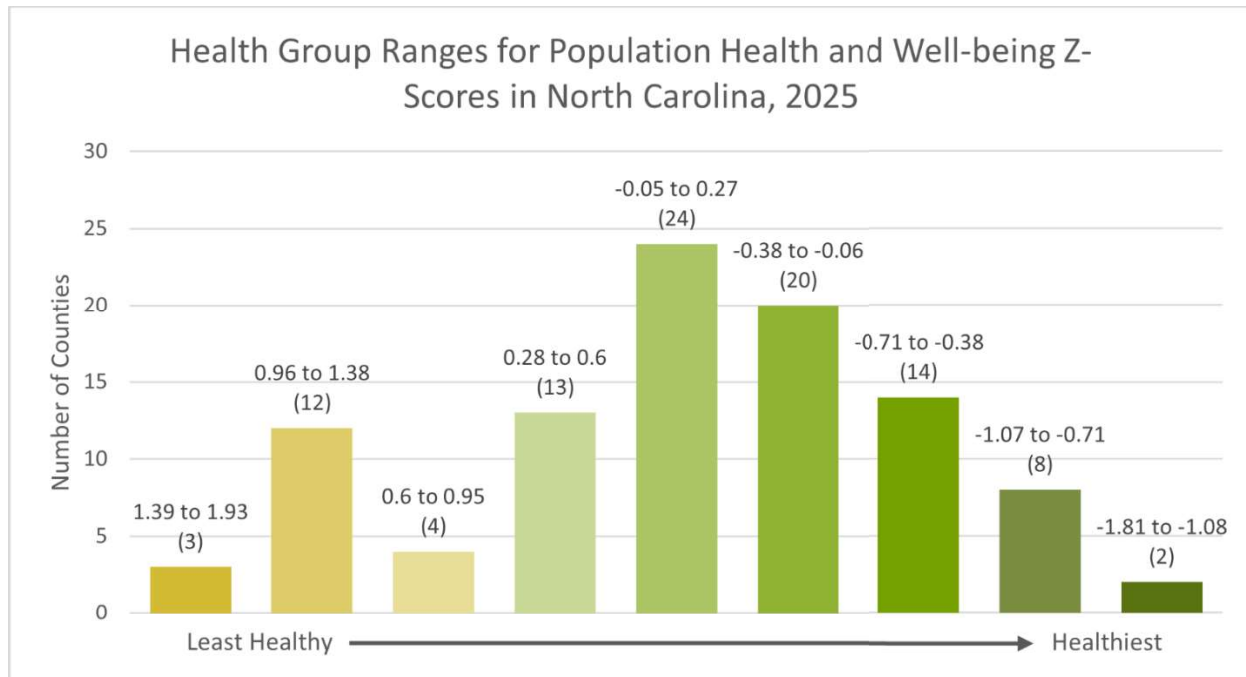
CRITICAL SERVICE GAPS					
INDICATOR	VALUE	STATE AVERAGE	STATE PERCENTILE	US AVERAGE	US PERCENTILE
Broadband Internet	8%	14%	38	13%	44
Lack of Health Insurance	8%	11%	36	9%	58
Housing Burden	No	N/A	N/A	N/A	N/A
Transportation Access Burden	Yes	N/A	N/A	N/A	N/A
Food Desert	No	N/A	N/A	N/A	N/A

Report for 1 mile Ring around the Area

Report produced November 19, 2024 using EJScreen Version 2.3

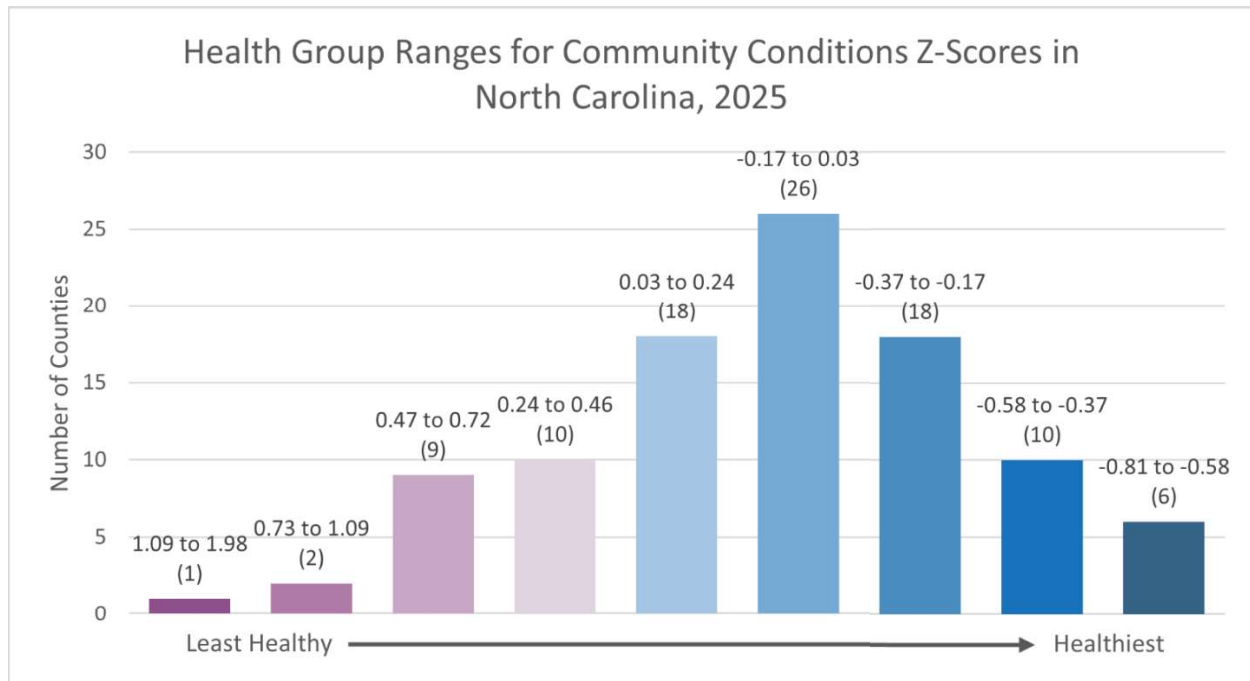
### Appendix E: County-Level Health Rankings

County health ranks and corresponding quartiles for both the health outcomes and health factors categories were taken from the University of Wisconsin Population Health Institute 2025 County Health Rankings National Data. Distributions of z-score ranges as reported by the 2025 County Health Rankings National Data for data present in the state of North Carolina for population health and well-being and community conditions are represented in **Figure 14** and **Figure 15**.



**Figure 13.** Histogram of population health and well-being ranges for national z-scores reported in 2025 County Health Rankings data.





**Figure 14.** Histogram of community conditions ranges for national z-scores reported in 2025 County Health Rankings data.

## Appendix F: CDC Index Model

The CDC Index is intended to evaluate the cumulative impacts on health by ranking census tracts based on combined social, environmental burden, and health vulnerability indicators. Social vulnerability indicators include racial/ethnic minority status, socioeconomic status, household characteristics, and housing type. Environmental burden indicators include air pollution, potentially hazardous and toxic sites, built environment, transportation infrastructure, and water pollution. Health vulnerability is determined based on pre-existing chronic disease burden. The CDC Index delivers a single score for each census tract to identify areas most at risk for the health impacts of environmental burden.

Ranking calculated by multiplying the sum of health vulnerability flags ( $n = 5$ ) by 0.2 to produce a number between 0 - 1. Note: Due to a lack of scientific evidence supporting a specific weighting scheme, all modules are weighted equally in calculating the Overall CDC/ATSDR Index Score. This method of equal weighting for all modules aligns with established methods to assess cumulative impact and social vulnerability.<sup>13</sup> Overall CDC/ATSDR Index Scores are percentile ranked to produce a final ranking with a range of between 0 – 1.

## Appendix G: Limitations

### Census Data

Census data is collected at a national level every 10 years. Data used in this report was collected between 2010 - 2019. For each sociodemographic indicator described, the most recent available data

<sup>13</sup> Sadd, J. L., et. al. (2011). Playing It Safe: Assessing Cumulative Impact and Social Vulnerability... *International Journal of Environmental Research and Public Health*, 8(5), 1441-1459.  
<https://pubmed.ncbi.nlm.nih.gov/21655129/>



since 2022 at a census tract level was utilized. Since not all data from the 2022 census has been published, all data utilized was collected before 2022 to maintain comparability at the tract level. Specific data tables and years available are listed in Appendix A.

Furthermore, reporting affects sample size which then affects interpretation of data. The U.S. Census Bureau uses and provides margins of error which is used as an indicator of potential sampling errors and relative reliability. A larger margin of error corresponds to a larger degree of uncertainty. Margins of error for sociodemographic indicators are provided in Appendix C as available through the U.S. Census Bureau.

- Data available from the EPA is not compatible with all categories of data from U.S. Census Bureau data. Therefore, not all comparison tables contain the project area percentages or estimates.
- Data retrieved from the EPA is based on a one-mile radius of Badin Business Park whereas U.S. Census Bureau data is based on census tracts. As such, the evaluated populations will differ.
- A significantly smaller portion of 9603.02 is included within the one-mile radius of Badin Business Park compared to other intersecting census tracts. Despite this, the census tract is still included in the analysis as it is still within proximity of the facility.

For more information about census data collection methods and sources, please visit [www.data.census.gov](http://www.data.census.gov).

### Cumulative Impacts and Health

As previously mentioned, there is no standardized methodology to assess for cumulative impacts at this current time. This analysis does however examine the factors that may contribute to cumulative impacts. However, this analysis does not establish or imply any direct causal link between the environmental source exposures used in this analysis and health outcomes.

### Appendix H: Glossary

TERM	DEFINITION
Age	The length of time in completed years that a person has lived.
Block Group	A block is the smallest geographic unit for which the Census Bureau tabulates decennial census data. Statistical divisions of census tracts are generally defined to contain between 600 and 3,000 people and are used to present data and control block numbering. A block group consists of clusters of blocks within the same census tract that have the same first digit of their four-digit census block number.
Census Tract	A small, relatively permanent statistical subdivision of a county delineated by a local committee of census data users for the purpose of presenting data. Census tracts ideally contain about 4,000 people and 1,600 housing units.  Small, relatively permanent statistical subdivisions of a county or statistically equivalent entity that can be updated by local

	participants prior to each decennial census as part of the Census Bureau's Participant Statistical Areas Program. Census tracts generally have a population size between 1,200 and 8,000 people, with an optimum size of 4,000 people. A census tract usually covers a contiguous area; however, the spatial size of census tracts varies widely depending on the density of settlement. Census tracts occasionally are split due to population growth or merged as a result of substantial population decline.
Civil Rights Restoration Action of 1987	Amends several anti-discrimination laws, including the Civil Rights Act of 1964, to define the phrase "program or activity" and the term "program" to mean <i>all operations</i> of a (non-religious) entity that receives Federal financial assistance.
Disability	A long-lasting physical, mental, or emotional condition. This condition can make it difficult for a person to do activities such as walking, climbing stairs, dressing, bathing, learning, or remembering. This condition can also impede a person from being able to go outside the home along or to work at a job or business.
Disproportionate Effects	Term used in Executive Order 12898 to describe situations of concern where there exists significantly higher and more adverse health and environmental effects on minority populations, low-income populations, or indigenous peoples.
Income	The money income received on a regular basis (exclusive of certain money receipts such as capital gains and lump-sum payments) before payments for personal income taxes, social security, union dues, Medicare deductions, etc.
Limited English Proficiency (LEP)	The language currently used by respondents at home, either "English only" or a non-English language which is used in addition to English or in place of English.
People of Color Populations	According to the U.S. Census Bureau, population of people who are not single-race white and not Hispanic. Populations of individuals who are members of the following population groups: American Indian or Alaskan Native; Asian or Pacific Islander; Black, not of Hispanic origin; or Hispanic.
Title VI of the Civil Rights Act of 1964	Title VI of the Civil Rights Act of 1964 and the U.S. Environmental Protection Agency (US EPA) regulations prohibit discrimination on the basis of race, color, or national origin in any program or activity receiving federal financial assistance. NCDEQ is a recipient of financial assistance from the US EPA and is subject to the provisions of Title VI and US EPA's implementing regulations.

Race	A person's self-identification with one or more social groups. An individual can report [to the U.S. Census] as White, Black or African American, Asian, American Indian and Alaska Native, Native Hawaiian and Other Pacific Islander, or some other race.
Sensitive Receptors	Areas where the occupants are more susceptible to the adverse effects of exposure to toxic chemicals, pesticides, and other pollutants. Sensitive receptors include, but are not limited to, hospitals, schools, daycare facilities, elderly housing and convalescent facilities.
Sex	A person's biological sex.