



### 3.4 Are there any environmental justice concerns in the project study area?

#### 3.4.1 What is Environmental Justice?

Executive Order 12898 requires that each Federal agency shall, to the greatest extent by law, administer and implement its programs, policies, and activities that affect human health or the environment so as to identify and avoid “disproportionately high and adverse” effects on minority and low-income populations. The following are FHWA definitions of minority and low-income populations.<sup>63</sup>

“A minority means a person who is:

- (1) Black (having origins in any of the black racial groups of Africa);
- (2) Hispanic (of Mexican, Puerto Rican, Cuban, Central or South American, or other Spanish culture or origin, regardless of race);
- (3) Asian American (having origins in any of the original peoples of the Far East, Southeast Asia, the Indian subcontinent, or the Pacific Islands); or
- (4) American Indian or Alaskan Native (having origins in any of the original people of North America and who maintains cultural identification through tribal affiliation or community recognition).”

“Minority population means any readily identifiable groups or minority persons who live in a geographic proximity, and if circumstances warrant, geographically dispersed/transient persons (such as migrant workers or Native Americans) who will be similarly affected by a proposed FHWA program, policy or activity.”

“Low-Income means a household income at or below the Department of Health and Human Services poverty guidelines.”

“Low-Income population means any readily identifiable group of low-income persons who live in a geographic proximity, and if circumstances warrant, geographically dispersed/transient persons (such as migrant workers or Native Americans) who will be similarly affected by a proposed FHWA program, policy or activity.”

There are three fundamental principles of environmental justice:

- To avoid, minimize, or mitigate disproportionately high and adverse human health and environmental effects, including social and economic effects, on minority populations and low-income populations;
- To ensure the full and fair participation by all potentially affected communities in the transportation decision-making process; and
- To prevent the denial of, reduction in, or significant delay in the receipt of benefits by minority and low-income populations.

<sup>63</sup> FHWA. Order 6640.23. FHWA Actions to Address Environmental Justice in Minority Populations and Low-Income Populations. December 2, 1998.



### 3.4.2 How were minority and low-income populations identified in the CIA study area?

To identify minority and low-income populations, information from the 2000 U.S. Census was collected for each block group within the CIA study area. Delineated by the U.S. Census Bureau, a block group is the smallest geographic unit for which demographic data are readily available. Demographic data are the physical characteristics of a population such as age, sex, race, marital status, family size, education, geographic location, and occupation. The information collected for each block group included the total population, total minority population, and total population living below the poverty level. From this data, the percentage of persons classified as minority and the percentage of persons below the poverty level were calculated. For the purposes of identifying low-income populations in the CIA study area, the U.S. Department of Health and Human Services poverty thresholds were used (Table 3.13).

**Table 3.13**  
**2000 Department of Health and Human Services Poverty Thresholds**  
**Interstate 73 EIS: I-95 to the Myrtle Beach Region**

| Size of Family Unit | Weighted Average Thresholds |
|---------------------|-----------------------------|
| 1                   | \$ 8,794                    |
| 2                   | \$ 11,239                   |
| 3                   | \$ 13,738                   |
| 4                   | \$ 17,603                   |
| 5                   | \$ 20,819                   |
| 6                   | \$ 23,258                   |
| 7                   | \$ 26,754                   |
| 8                   | \$ 29,701                   |
| 9                   | \$ 35,060                   |

Source U.S. Census Bureau, Housing and Household Economic Statistics Division. 2000 Census data.

Once the baseline minority and low-income populations were identified, the block group data was compared to the populations within the state, county, and the area of each county within the CIA study area. Executive Order 12898 states that the appropriate unit of analysis for environmental justice may be “a governing body’s jurisdiction, a neighborhood, census tract, or other similar unit that is to be chosen so as not to artificially dilute or inflate the affected minority population.” Since the characteristics of the three counties vary, the percentage of minority and low-income populations within the CIA study area in each individual county was used as a threshold for determining if a block group contained high concentrations of environmental justice populations. The CIA study area was chosen as the unit of analysis so as not to artificially dilute or inflate the affected populations, as stated in Executive Order 12898.



Efforts were made to include low-income and minority populations located within the CIA study area in the project development process. The public involvement efforts are described more fully in Chapter 4, but include:

- Public information meetings in each county;
- Stakeholder meetings, including NAACP representatives;
- Coordination with local ministers and conducting church meetings; and,
- Door-to-door surveys within low-income and minority communities to ensure input.

### 3.4.3 Are there any minority populations in the CIA study area?

There are a total of 87 block groups within the CIA study area, including 30 block groups in Dillon County, 32 block groups in Marion County, and 25 block groups in Horry County.

Within the CIA study area in Dillon County, 52 percent of the population is minority. In Marion County, within the CIA area, 60 percent of the population is minority. In Horry County, within the CIA study area, 26 percent of the population is minority. Figure 3-32 identifies these block groups for each county. In total, there are 43 block groups in the CIA study area (14 in Dillon, 18 in Marion, and 11 in Horry) that have minority populations at or above the percentages of their respective counties. Total minority population in the CIA study area in 2000 was estimated at approximately 49 percent. This percentage is 14 percent higher than South Carolina (35 percent) and 24 percent higher than the U.S. (25 percent) (Table 3.14).

|                                     | <b>Total Population</b> | <b>Total Minority Population</b> | <b>Percent Minority Population</b> |
|-------------------------------------|-------------------------|----------------------------------|------------------------------------|
| <b>South Carolina</b>               | 4,012,012               | 1,411,528                        | 35%                                |
| <b>CIA Study Area</b>               | 200,865                 | 89,600                           | 45%                                |
| <b>Dillon County</b>                | 30,722                  | 15,780                           | 51%                                |
| <b>Dillon County CIA Study Area</b> | 30,214                  | 15,634                           | 52%                                |
| <b>Marion County</b>                | 35,466                  | 21,313                           | 60%                                |
| <b>Marion County CIA Study Area</b> | 32,892                  | 19,759                           | 60%                                |
| <b>Horry County</b>                 | 196,629                 | 42,323                           | 22%                                |
| <b>Horry County CIA Study Area</b>  | 19,155                  | 5,009                            | 25%                                |

Source: U.S. Census Bureau, 2000



### 3.4.4 Are there any low-income populations in the CIA study area?

In the Dillon County portion of the CIA study area, 24 percent of the population is low-income. Twenty-three percent of the population in the CIA study area portion of Marion County is considered to be low-income. In Horry County, 18 percent of the population within the CIA study area is low-income. Figure 3-32 identifies the low-income blocks for each county.

In total, 39 block groups represent areas of low-income populations within the CIA study area (13 in Dillon, 15 in Marion, and 11 in Horry). The total percentage of people in the CIA study area classified as living at or below the poverty level in 2000 was approximately 22 percent. This rate is eight percent higher than South Carolina as a whole (Table 3.15).

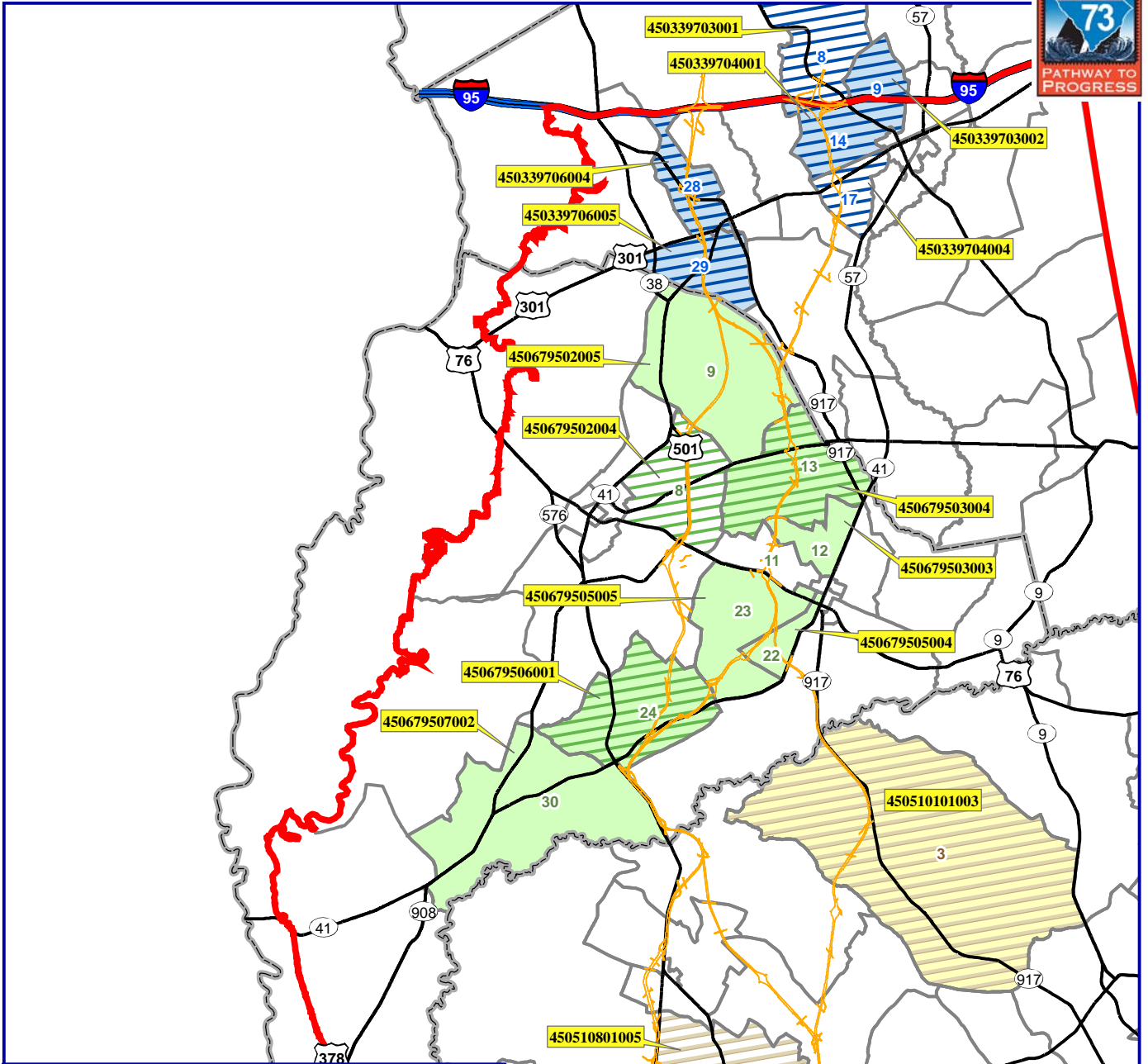
|                                     | <b>Total Population</b> | <b>Total Low-income</b> | <b>Percent Low-income</b> |
|-------------------------------------|-------------------------|-------------------------|---------------------------|
| <b>South Carolina</b>               | 4,012,012               | 547,869                 | 22%                       |
| <b>CIA Study Area</b>               | 200,865                 | 38,368                  | 22%                       |
| <b>Dillon County</b>                | 30,722                  | 7,311                   | 24%                       |
| <b>Dillon County CIA Study Area</b> | 30,214                  | 7,225                   | 24%                       |
| <b>Marion County</b>                | 35,466                  | 8,117                   | 23%                       |
| <b>Marion County CIA Study Area</b> | 32,892                  | 7,587                   | 23%                       |
| <b>Horry County</b>                 | 196,629                 | 23,356                  | 12%                       |
| <b>Horry County CIA Study Area</b>  | 19,155                  | 3,432                   | 18%                       |

Source: U.S. Census Bureau, 2000

According to the FHWA definitions, there are minority and/or low-income populations that reside within the CIA study area. In total, 43 block groups represent areas of minority population and 39 block groups represent areas where the population is living below the poverty level in the CIA study area (Table 3.16). In the total CIA study area, there are 26 block groups that meet both the minority and the low-income thresholds, ten in Dillon County, nine in Marion County, and seven in Horry County.

|                       | <b>Total Block Groups</b> | <b>Low-Income Block Groups</b> | <b>Minority Block Groups</b> |
|-----------------------|---------------------------|--------------------------------|------------------------------|
| <b>Dillon County</b>  | 30                        | 13                             | 14                           |
| <b>Marion County</b>  | 32                        | 15                             | 18                           |
| <b>Horry County</b>   | 25                        | 11                             | 11                           |
| <b>CIA Study Area</b> | 87                        | 39                             | 43                           |

Source: U.S. Census Bureau, 2000



**Legend**

- Interstate
- Major Highway
- Alternative
- CIA Study Area Boundary
- County Boundary

**Minority Population:**

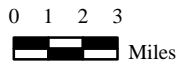
- Dillon Co.- 51%+
- Horry Co.- 26%+
- Marion Co.- 60%+

**Population Below Poverty:**

- Dillon Co.- 24%+
- Horry Co.- 18%+
- Marion Co.- 23%+

450510707033 Blockgroup ID

Note: Numbers inside the block group represent the block group's unique id relative to the county.



**FIGURE 3-32**  
**ENVIRONMENTAL JUSTICE BLOCK GROUPS IMPACTED BY AN ALTERNATIVE**



### 3.4.5 How were potential environmental justice impacts evaluated?

Executive Order 12898 requires that the project be reviewed to determine if there are disproportionately high or adverse effects on minority or low-income populations. The goal is to achieve a fair distribution of benefits and burdens to all communities impacted by the proposed alternatives, while giving the populations within the CIA study area access to the transportation decision-making process.

Areas with concentrations of environmental justice populations above the averages of the county and CIA study area were identified during project development. The proposed alternatives were shifted and modified to avoid or minimize these communities, including low-income and minority areas such as Cool Spring, Mullins, Latta, Dillon, and Emanuelville. However, it was impossible to avoid all low-income and minority block groups, since environmental justice populations are widely spread throughout the counties and compose 64 percent of all of the block groups within the CIA study area.

A block group analysis was conducted to identify the number of minority and low-income areas that would be impacted by each of the eight proposed alternatives. The alternatives were then examined to determine whether disproportionate patterns or concentrations of adverse effects would occur in areas with environmental justice populations when compared to impacts that would occur in other areas of the project.

### 3.4.6 Are there any minority and low-income populations impacted?

The effects of the No-build Alternative on populations within the CIA study area would be essentially the same for all environmental justice areas. No relocations or visual impacts would occur. However, under the no build scenario, traffic congestion on local routes would continue to increase during tourist season and local travel patterns and accessibility in environmental justice communities in the project study area could be affected. Other negative effects of the No-build Alternative could be the lack of increased development and employment opportunities for Dillon and Marion counties, along with increased traffic congestion on local roadways.

In total, there are 87 block groups in the CIA study area, of which 56 block groups meet the established thresholds for low-income and/or minority. The eight proposed alternatives pass through a total of 32 block groups (out of 87) within the CIA study area. Of these 32 block groups, 21 (66 percent) meet the established thresholds to qualify as low-income and/or minority, including six in Dillon County, ten in Marion County, and five in Horry County; this is consistent with the overall composition CIA study area (64 percent). Environmental justice populations also exist in 35 other block groups within the CIA study area that would not be affected by the proposed alternatives.

#### What is disproportionate?

Disproportionate is defined in two ways:

- The impact predominately impacts a minority or low-income population group or,
- The impact is “more severe” than that experienced by non-minority or non-low income populations.



**Table 3.17  
Block Groups Impacted by Alternative  
Interstate 73: I-95 to Myrtle Beach Region**

|  | % minority | % low income | 1        | 2        | 3        | 4        | 5        | 6        | 7        | 8        |
|--|------------|--------------|----------|----------|----------|----------|----------|----------|----------|----------|
| <b>Dillon County</b>   | <b>52%</b> | <b>24%</b>   |          |          |          |          |          |          |          |          |
| <b>Block Group 703001</b>  | <b>51%</b> | <b>35%</b>   |          | X        |          |          |          | X        |          | X        |
| <b>Block Group 703002</b>  | <b>66%</b> | <b>26%</b>   |          | X        |          |          |          | X        |          | X        |
| <b>Block Group 704001</b>  | <b>64%</b> | <b>31%</b>   |          | X        |          |          |          | X        |          | X        |
| <b>Block Group 704004</b>  | <b>31%</b> | <b>33%</b>   |          | X        |          |          |          | X        |          | X        |
| Block Group 706001   | 37%        | 19%          | x        | x        | x        | x        | x        | x        | x        | x        |
| Block Group 706003   | 19%        | 16%          | x        |          | x        | x        | x        |          | x        |          |
| <b>Block Group 706004</b>  | <b>80%</b> | <b>33%</b>   | <b>X</b> |          | <b>X</b> | <b>X</b> | <b>X</b> |          | <b>X</b> |          |
| <b>Block Group 706005</b>  | <b>65%</b> | <b>30%</b>   | <b>X</b> |          | <b>X</b> | <b>X</b> | <b>X</b> |          | <b>X</b> |          |
| Block Group 706006   | 19%        | 11%          | x        | x        | x        |          | x        |          |          | x        |
| <b>Marion County</b>   | <b>60%</b> | <b>23%</b>   |          |          |          |          |          |          |          |          |
| <b>Block Group 502004</b>  | <b>48%</b> | <b>28%</b>   |          |          |          | X        |          |          | X        |          |
| <b>Block Group 502005</b>  | <b>67%</b> | <b>22%</b>   | <b>X</b> | <b>X</b> | <b>X</b> | <b>X</b> | <b>X</b> | <b>X</b> | <b>X</b> | <b>X</b> |
| <b>Block Group 503002</b>  | <b>56%</b> | <b>23%</b>   | <b>X</b> | <b>X</b> | <b>X</b> |          | <b>X</b> | <b>X</b> |          | <b>X</b> |
| <b>Block Group 503003</b>  | <b>65%</b> | <b>16%</b>   | <b>X</b> | <b>X</b> | <b>X</b> |          | <b>X</b> | <b>X</b> |          | <b>X</b> |
| <b>Block Group 503004</b>  | <b>63%</b> | <b>27%</b>   | <b>X</b> | <b>X</b> | <b>X</b> |          | <b>X</b> | <b>X</b> |          | <b>X</b> |
| Block Group 505002   | 42%        | 11%          |          |          | x        |          |          | x        |          |          |
| Block Group 505003   | 12%        | 14%          | x        | x        | x        | x        | x        | x        | x        | x        |
| <b>Block Group 505004</b>  | <b>63%</b> | <b>18%</b>   | <b>X</b> | <b>X</b> | <b>X</b> |          | <b>X</b> | <b>X</b> |          | <b>X</b> |
| <b>Block Group 505005</b>  | <b>73%</b> | <b>21%</b>   | <b>X</b> | <b>X</b> | <b>X</b> | <b>X</b> | <b>X</b> | <b>X</b> | <b>X</b> | <b>X</b> |
| <b>Block Group 506001</b>  | <b>71%</b> | <b>24%</b>   | <b>X</b> | <b>X</b> |          | <b>X</b> | <b>X</b> |          | <b>X</b> | <b>X</b> |
| <b>Block Group 506002</b>  | <b>60%</b> | <b>21%</b>   |          |          |          | <b>X</b> |          |          | <b>X</b> |          |
| <b>Block Group 507002</b>  | <b>69%</b> | <b>17%</b>   | <b>X</b> | <b>X</b> |          | <b>X</b> | <b>X</b> |          | <b>X</b> | <b>X</b> |
| <b>Horry County</b>  | <b>26%</b> | <b>18%</b>   |          |          |          |          |          |          |          |          |
| <b>Block Group 101003</b>  | <b>35%</b> | <b>20%</b>   |          |          | X        |          |          | X        |          |          |
| <b>Block Group 707001</b>  | <b>11%</b> | <b>18%</b>   |          | X        | X        |          | X        | X        | X        |          |
| <b>Block Group 707002</b>  | <b>27%</b> | <b>6%</b>    |          | X        | X        |          | X        | X        | X        |          |
| <b>Block Group 707003</b>  | <b>32%</b> | <b>10%</b>   | <b>X</b> |          |          | <b>X</b> |          |          |          | <b>X</b> |
| Block Group 801001   | 9%         | 14%          | x        | x        | x        | x        | x        | x        | x        | x        |
| Block Group 801002   | 11%        | 7%           |          | x        | x        |          | x        | x        | x        |          |
| Block Group 801003   | 19%        | 14%          | x        | x        |          | x        | x        |          | x        | x        |
| Block Group 801004   | 24%        | 16%          | x        |          |          | x        |          |          | x        | x        |
| <b>Block Group 801005</b>  | <b>14%</b> | <b>19%</b>   | <b>X</b> | <b>X</b> | <b>X</b> | <b>X</b> | <b>X</b> | <b>X</b> | <b>X</b> | <b>X</b> |
| Block Group 802001   | 14%        | 14%          | x        |          |          | x        |          |          | x        | x        |
| Block Group 802002   | 8%         | 6%           | x        |          |          | x        |          |          | x        | x        |
| Total number of block groups impacted per alternative                                      |            |              | 21       | 21       | 19       | 18       | 20       | 19       | 20       | 22       |
| Total number of block groups that are minority/low-income that are impacted by alternative |            |              | 12       | 15       | 12       | 10       | 13       | 14       | 11       | 14       |
| % block groups per alternative that are EJ   |            |              | 57%      | 71%      | 63%      | 56%      | 65%      | 74%      | 55%      | 64%      |

**Bolded text** signifies an area that qualifies as an EJ area.



Of the 21 alternative-affected block groups that qualify as low-income and/or minority, 15 have a minority population over their respective thresholds: Dillon County has four minority population block groups, eight are in Marion County and three are in Horry County (refer to Table 3.17).

Of the 21 block groups that were low-income and/or minority, 13 block groups were identified as low-income, including six in Dillon County, four in Marion County, and three in Horry County (refer to Table 3.17).

Of the total block groups in the CIA study area that have been characterized as low-income/minority (56), any one of the Build Alternatives would impact between 17 and 26 percent of these block groups.

Alternative 7 has the lowest percentage of minority and/or low income block groups impacted, while Alternative 6 would have the highest percentage of minority and/or low-income block groups (Table 3.17). As previously stated, 64 percent of all block groups within the CIA study area qualify as environmental justice areas. The project alternatives will impact a similar percentage (within +/- 10%) of environmental justice block groups; therefore, the percentage of environmental justice census blocks impacted by the Build Alternatives would not be disproportionate when compared to the composition of the CIA study area, as a whole.

### ***3.4.7 What other methods were used to consider Environmental Justice populations in the CIA study area?***

#### ***Community-based Environmental Justice Study***

Due to the rural nature of the area, block groups are very large and development within the block groups can be sparse. Alternatives could pass through block groups that are considered to contain environmental justice populations, but not impact these populations or communities. It also became evident, based on field observations, community impact studies, survey data, and block level census data, that some communities that fell within low-income or minority block groups were not actually environmental justice populations. Additionally, communities were identified that have concentrations of low-income and minority populations, but did not fall within low income and/or minority block groups. For this reason, a community-based analysis of impacts was conducted to identify the location of potential adverse effects associated with the eight alternatives. Issues that were considered when evaluating the potential for environmental justice impacts included relocations, affects on community cohesion, economic impacts, access and mobility issues, noise impacts, change of visual character, and impacts to parks and community facilities.

In general, comments and surveys received from environmental justice communities within Dillon and Marion Counties, expressed support for the project being built in their communities, in hopes that it would bring economic development. Horry County respondents were consistently opposed





**Table 3.18  
Community and Block Group Relocations  
Interstate 73: I-95 to Myrtle Beach Region**

|                      | Community | Residential Relocations | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|----------------------|-----------|-------------------------|---|---|---|---|---|---|---|---|
| <b>Dillon County</b> |           |                         |   |   |   |   |   |   |   |   |
| Block 704004         | Dillon    | 1                       |   | x |   |   |   | x |   | x |
| Block 706004         | Latta     | 10                      | x |   | x | x | x |   | x |   |
| <b>Horry County</b>  |           |                         |   |   |   |   |   |   |   |   |
| Block 801005         | Aynor     | 2                       |   | x |   |   | x |   | x |   |
| <b>Marion County</b> |           |                         |   |   |   |   |   |   |   |   |
| Block 503002         | Mullins   | 9                       | x | x | x |   | x | x |   | x |
| Block 503003         | Mullins   | 1                       | x | x | x |   | x | x |   | x |
| Block 505005         | Mullins   | 8                       | x | x | x |   | x | x |   | x |
| Block 505004         | Mullins   | 10                      | x | x |   |   | x |   |   | x |
| Block 505004         | Gapway    | 3                       | x | x |   |   | x |   |   | x |
| Block 505005         | Gapway    | 4                       | x | x |   |   | x |   |   | x |
| Block 503004         | Zion      | 9                       | x | x | x |   | x | x |   | x |
| Block 506001         | Rains     | 1                       | x | x |   |   | x |   |   | x |
| Block 506002         | Marion    | 2                       |   |   |   | x |   |   | x |   |

to the project. This played an important part in establishing whether effects on the communities of concern were positive or negative, as well as determining the magnitude of the potential impacts.

**Residential Displacements**

Based on studies conducted during development of the DEIS, areas with known concentrations of environmental justice populations were identified. Concerted efforts were made to shift and modify alignments to avoid or minimize impacts to these communities, including low-income and minority areas such as Mullins, Latta, Dillon, Cool Spring, Zion and Emanuelville. Many times, alignments may be shifted from known environmental justice areas to adjacent, more diverse areas to avoid relocations and direct impacts to these communities and environmental justice populations contained within. Some impacts would still occur in these areas.

For the purpose of the community-based study, relocations that fell within both environmental justice block groups and community boundaries, as defined by the survey were included in Table 3.18. Total environmental justice relocations were tallied for each of the Build Alternatives.

Relocations in Table 3.18 fall within communities within block groups that have been identified as having environmental justice populations. However, it is unknown at this time if individual relocations are in fact low-income and/or minority impacts. A conceptual relocation study will be conducted for the Preferred Alternative to confirm relocation impacts on environmental justice



communities. Based on field studies and observations, there appears to be either housing and/or land available for the displaced to relocate within the affected communities.

Overall, the pattern of residential displacements is evenly dispersed throughout populations along the alternatives and relocations located within minority or low-income populations did not constitute a disproportionately high and adverse effect on any single community. Other non-environmental justice communities would experience similar relocation effects and no particular community would bear a disproportionate portion of the relocations.

### Community Cohesion

Community cohesion is reduced when neighborhoods are divided or relocations reduce the number of residences in a community. As discussed in the community impact section, loss of community cohesion could occur with the construction of the proposed project. However, only one community (Aynor) with environmental justice populations in the CIA study area may experience more than minimal impacts to cohesion, depending on which alternative is selected. Non-minority and non-low income communities could also experience similar impacts to community cohesion and therefore, environmental justice populations would not bear a disproportionate impact. For additional discussion on community cohesion, refer to Chapter 3, Section 3.3 and the *Community Impact Analysis Technical Memorandum*.

### Economic Impacts

The population of the CIA study area would be expected to benefit from economic opportunities resulting from the project. Economic benefits could be beneficial to low-income populations in terms of more jobs and business development opportunities.

Specific communities within the CIA study area have expressed support for the project and the potential economic opportunities that it could bring to their communities. These communities include Dillon (including New Town), Latta, Mullins, Marion, Spring Branch, Dog Bluff, and Rains.

Individually, no one environmental effect would cause a disproportionate high and adverse economic effect on any one environmental justice population area. Other non-environmental justice areas would experience similar beneficial and adverse effects. For additional discussion on economic impacts, refer to Chapter 2, Section 2.5 and Chapter 3, Section 3.3.

### Access and Mobility

Each of the Build Alternatives could cause changes in local access and mobility in individual communities throughout the CIA study area. Therefore, environmental justice populations would not suffer a disproportionate impact from the changes. For additional discussion on impacts to access and mobility, refer to Chapter 3, Section 3.3 and the *Community Impact Analysis Technical Memorandum*.



### Noise

All Build Alternatives have the potential to introduce traffic noise into neighborhoods, and there are multiple neighborhoods along each alternative that would experience noise levels above the existing conditions. Noise impacts appear to be distributed throughout the CIA study area; therefore, environmental justice populations would not experience disproportionate impacts.

### Visual and Aesthetic Character

As discussed in the Community Impacts section, the alternatives would have the potential to change the visual environment of environmental justice communities. The effect in view and/or character depends on the existing characteristics of the area, the distance between homes and the road, and whether the facility is at-grade, contains an elevated overpass, and/or interchange. There are several areas where the Build Alternatives may alter the visual elements of environmental justice communities, including Zion, Aynor, Latta, and Emanuelville. However, non-minority and non-low income communities would also experience similar impacts to their visual and aesthetic character and therefore, environmental justice populations would not bear a disproportionate impact. For additional discussion on anticipated changes to visual and aesthetic character, refer to the *Community Impact Analysis Technical Memorandum*.

### Parks and Community Facilities

No public parks or public facilities in the environmental justice communities would be impacted by the Build Alternatives. One church in Emanuelville could be relocated depending on what alternative is chosen as the Preferred Alternative.

### ***3.4.8 What efforts have been made to ensure full and fair participation of environmental justice populations in the transportation decision-making process?***

In order to engage and provide for the full and fair participation of potentially affected environmental justice communities, the following strategies were implemented:

- Public information meetings were held in each of the three counties, and advertised in the local newspapers and on television;
- Stakeholder meetings were held and included local leaders and NAACP representatives;
- Project website and toll-free hotline, which could be accessed at any time to learn the status of the project and information on times and locations of meetings;
- Outreach and coordination with community ministers and leaders to facilitate contact with locals;
- Church meetings were attended to provide project information, answer questions, hear local concerns and distribute community surveys;
- Customized public involvement techniques to local populations – visits to local convenience stores and gas stations;



- Distributed community surveys through various methods to ensure full participation of all populations, including school surveys, mail surveys, door-to-door survey distribution and/or interviews;

There will be a continual commitment to providing full and fair access to information throughout the project development process, including information of the design and construction phases, by:

- Local/county public hearings;
- Advertisement of hearings in local media (public service announcements, newspapers, etc.);
- Continuing stakeholder meetings;
- Updated information posted on websites; and,
- Project newsletters.

### 3.4.9 Summary

In general, it has been determined that all areas that contain environmental justice populations would experience beneficial and adverse effects similar to those of the overall CIA study area population. No environmental justice populations would bear a disproportionate impact from the project.

Avoidance and minimization of impacts to environmental justice and other communities has occurred throughout the development of the Build Alternatives. Project engineers adjusted the alignments of the eight alternatives to avoid municipal boundaries or dense residential areas. Beyond these initial efforts of impact avoidance, the proposed alignments were further shifted and “tweaked” to minimize relocations, community disruptions, and impacts to accessibility. Efforts to avoid any disproportionate impacts to environmental justice communities will continue through the refinement of the Preferred Alternative.

Mitigation opportunities may exist for impacts to low-income and/or minority communities in the project study area. Specific options for mitigating impacts of the Preferred Alternative on environmental justice communities will be explored further during public involvement and studied for the Final EIS.

## 3.5 What 4(f) Resources are in the project study area?

### 3.5.1 What are Section 4(f) properties?

Section 4(f) of the Department of Transportation Act of 1966 regulates how publicly-owned properties such as parks, recreational lands, wildlife and waterfowl refuges, and historic sites are used for transportation projects (refer to *Appendix D, Draft Section 4(f) Evaluation*). Historic sites that are privately-owned are also regulated under Section 4(f). If it can be demonstrated that no prudent or feasible alternative exists to avoid a 4(f) property, then it can be used for a project, provided there is a plan to minimize harm to the property. Section 4(f) uses can be any of the following:



- a direct use if it is permanently incorporating property into the transportation project;
- a temporary use when the temporary occupancy of the property is adverse to the property's purpose; or,
- a constructive use when the proximity impacts are severe enough that the features or activities that make the property a 4(f) resource are impaired.

SAFETEA-LU recently amended Section 4(f) of the Department of Transportation Act in an effort to streamline the approval of projects that have a *de minimis* impact to Section 4(f) property.<sup>64</sup> The word *de minimis* is defined by Black's Law Dictionary as something that is "minimal" or "(Of a fact or thing) so insignificant that a court may overlook it in deciding an issue or case." Under SAFETEA-LU, the USDOT will take into account any avoidance or minimization of impacts along with any mitigation or enhancement measures to determine whether there is a *de minimis* impact from the use of the property. If the use results in a *de minimis* impact, then an avoidance alternatives analysis is not required and the Section 4(f) evaluation process would be considered completed. For parks, recreational lands, wildlife and waterfowl refuges, the managing agency would have to state, in writing, that the project is not likely to "adversely affect the activities, features and attributes" of the Section 4(f) resource. A *de minimis* impact for historic properties would require SHPO to determine in writing that the project would have "no historic properties affected" or "no adverse effect" to historic properties.

#### What is Section 4(f)?

Section 4(f) is part of the Department of Transportation Act of 1966 which regulates the taking of publicly-owned properties for transportation projects.

Section 4(f) properties are publicly-owned parks, recreational lands, and wildlife and waterfowl refuges under local, state, or federal ownership. Historic sites that are under public or private ownership are also considered under Section 4(f).

### 3.5.2 What parks, recreational facilities, and wildlife/waterfowl refuges are found in the project study area?

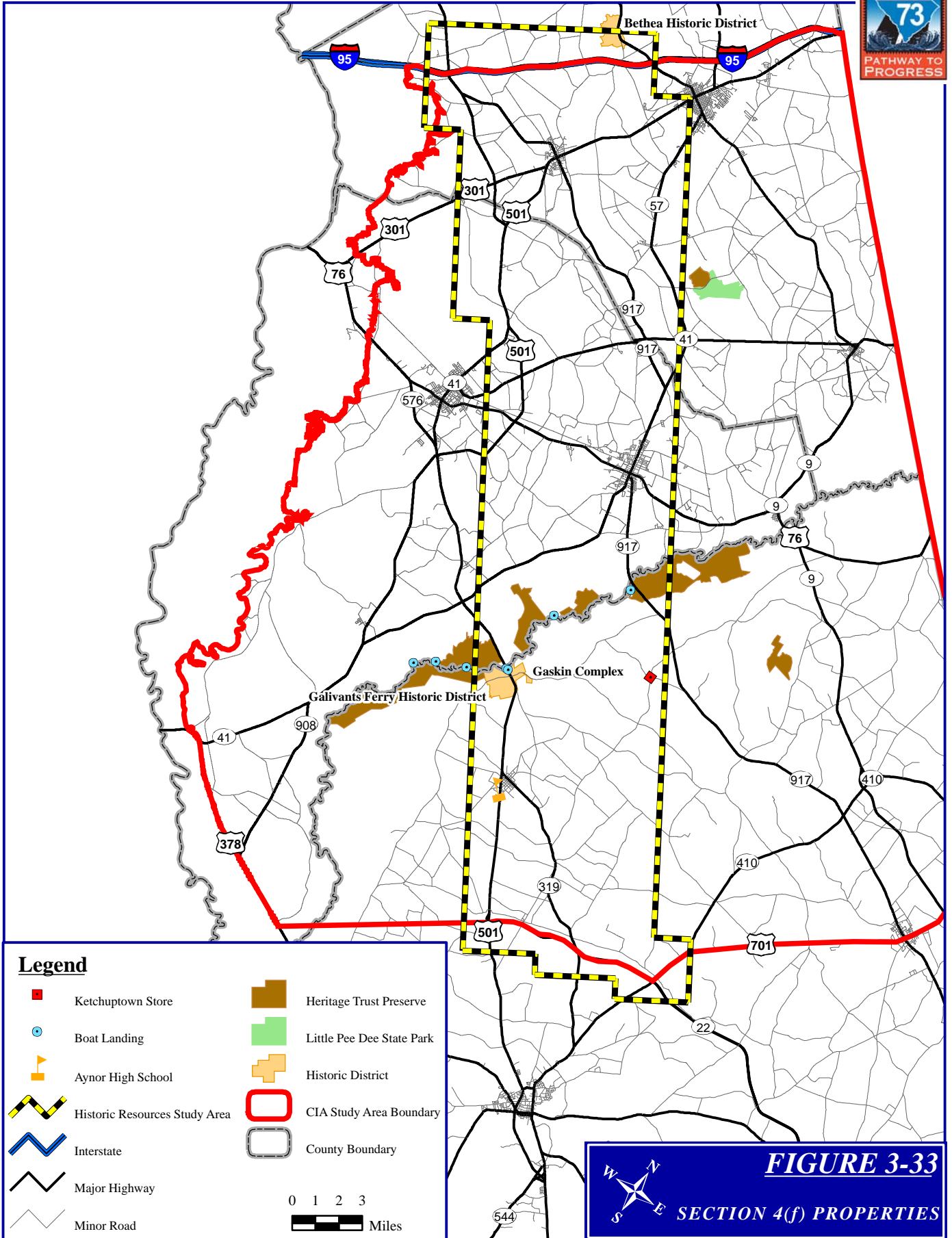
There is one state park, one state heritage preserve (with several tracts), approximately 18 local parks and recreational facilities, and five boat landings throughout the project study area (Figure 3-33). Other recreational facilities in the project study area include ball fields, tennis courts, picnic areas, school playing fields, and playgrounds. There are no wildlife or waterfowl refuges located within the project study area.

Little Pee Dee State Park is located ten miles southeast of Dillon and four miles east of Floydale along S.C. Route 57. The 835-acre facility is managed by the South Carolina State Park Service, and offers camping, hiking, picnic areas, and fishing at the 54-acre Lake Norton.



Aynor High School ballfields

<sup>64</sup> 23 U.S.C. §6009(a) (2005).





Little Pee Dee River Heritage Preserve is a property owned by SCDNR’s Heritage Trust Program. The preserve can be used by the public for various activities including fishing, hunting, boating, hiking, camping, and wildlife viewing. Due to the location of the preserve in relation to the Little Pee Dee River system, the property also protects wetlands and species’ habitats. The Preserve contains approximately 10,238 acres and is split into five tracts of land: Dargan, Vaughn, Tilghman, Ward, and Johnson. Two of the Preserve’s tracts, Dargan and Vaughn, are adjacent to an alternative corridor. The Dargan tract lies south of Galivants Ferry and is accessed from U.S. Route 501 and the Vaughn tract is to the north and accessible from S.C. Route 917.

Public boat landings located along the Little Pee Dee River include the Galivants Ferry Landing that is accessible by U.S. Route 501 and Sandy Bluff Landing, which is accessible from S.C. Route 917. Other public boat landings in the vicinity of the Little Pee Dee River include Cartwheel Landing, south of Mullins; Knife Island and Davis Landings, both off of S.C. Route 41; and Huggins Landing, off of Horry County Road 99.

**3.5.3 Would the alternatives impact parks and recreational facilities under Section 4(f)?**

Under the No-build Alternative, no parks or recreational areas would be impacted by the project. In addition, Alternatives 2, 5, and 7 would have no impacts to parks or recreational areas in the project study area (Table 3.19).

**Table 3.19**  
**Section 4(f) Impacts to Parks and Recreational Facilities**  
**by Alternative**  
**Interstate 73: I-95 to the Myrtle Beach Region**

| Alternative | Resource Name                    | Type of Use |
|-------------|----------------------------------|-------------|
| 1           | Aynor Ball Fields                | Use         |
| 2           | None                             | None        |
| 3           | Little Pee Dee Heritage Preserve | Direct Use  |
| 4           | Aynor Ball Fields                | Use         |
| 5           | None                             | None        |
| 6           | Little Pee Dee Heritage Preserve | Direct Use  |
| 7           | None                             | None        |
| 8           | Aynor Ball Fields                | Direct Use  |

Alternatives 1, 4, and 8 would impact property with the ball fields at Aynor High School. Aynor High School’s fields are open to the public after school and are sometimes used by the public during school for special events, which qualifies them for consideration under Section 4(f).



Alternatives 3 and 6 would impact the Vaughn Tract of the Little Pee Dee Heritage Preserve. Approximately 30 acres of the preserve would be taken to construct a crossing of the Little Pee Dee River that would be parallel to the existing S.C. Route 917 crossing. Access to the preserve would be maintained; however, recreational activities may be temporarily disrupted due to construction. Mitigation would occur for the impacted property. This would include locating and purchasing compensatory acreage, which would be done in coordination with SCDNR through a Memorandum of Agreement prior to issuance of the Record of Decision.

There is not anticipated to be indirect or cumulative impacts to parks and recreational spaces as there would be no additional or reduced access to the facilities within the project study area.

### 3.5.4 What are the potential impacts to historic resources under Section 4(f)?

Table 3.20 lists the historic resources that may be impacted under Section 4(f). Alternatives 1, 2, 3, 5, 6, and 8 would have no impacts to historic properties under Section 4(f) while Alternatives 4 and 7 would potentially have a direct use impact to Archaeological Site 38MA0126 since the alternatives traverse a portion of the site.

| <b>Alternative</b> | <b>Site Number/Resource Name</b> | <b>Type of Use</b> |
|--------------------|----------------------------------|--------------------|
| 1                  | None                             | None               |
| 2                  | None                             | None               |
| 3                  | None                             | None               |
| 4                  | 38MA0126                         | Direct Use         |
| 5                  | None                             | None               |
| 6                  | None                             | None               |
| 7                  | 38MA0126                         | Direct Use         |
| 8                  | None                             | None               |

### 3.6 What are Section 6(f) Resources and would any be impacted by the project?

The Land and Water Conservation Fund Act of 1965 assists states in planning, acquiring, and developing outdoor recreational land and water area. Section 6(f) of the Act prohibits conversion of property acquired or developed with this fund to anything other than public outdoor recreational use.

There are eight Section 6(f) resources that are in the project study area in Dillon County, which include playgrounds, city parks, the Little Pee Dee State Park, and the Little Pee Dee River boat ramp.<sup>65</sup>

<sup>65</sup> <http://waso-lwcf.nrc.nps.gov/public/index.cfm>





Marion County has 14 sites that are mainly parks and swimming pools, all of which are located in the Cities of Mullins and Marion. Horry County has 21 known Section 6(f) resources including city parks, pools, ball fields, and boat landings. All the alternatives avoid Section 6(f) resources, therefore no impacts are anticipated.

### 3.7 What are historic resources and how would they be affected by this project?

#### 3.7.1 What are historic resources?

Section 106 of the National Historic Preservation Act of 1966 requires federal agencies to review the effects of any proposed actions on historic resources. Prior to undertaking a project, federal agencies conduct archival research and field surveys to assess resources that are currently listed or might be eligible for listing on the National Register of Historic Places (NRHP) within a project study area.

#### *What are historic resources?*

**Historic resources are districts, buildings, sites, structures, or objects that are significant in American history, architecture, archaeology, engineering, and culture. – (16 U.S.C. §470(a)(1)(A))**

Based on their findings, agencies make recommendations on resources in the project study area to SHPO. SHPO makes determinations as to whether a resource is eligible for listing on the NRHP and what effect the project would have on eligible or listed resources in the area. The NRHP is a list of all historic resources that have been determined to be significant. There are four criteria to determine if a resource should be listed on the NRHP:<sup>66</sup>

- Association with a significant event or broad pattern of history;
- Association with significant person;
- Conveys unique or distinctive architecture of high artistic value; or
- Has the potential to yield information important to history or prehistory.

In addition to the criteria, most sites are generally required to be at least fifty years of age for listing on the NRHP.

The historic resources study area for the project consists of an approximately eight mile wide and 40-mile long corridor that begins just north of I-95 in Dillon County, extends through Marion County, and ends at S.C. Route 22 north of Conway in Horry County. The historic resources study area encompasses the eight potential alternatives for this project (refer to Figure 3-33, page 3-90).

#### 3.7.2 How was the historic resources survey conducted?

An intensive above-ground historic resources field survey was completed between July and September 2005 following guidelines established by SCDAH. The guidelines were followed to identify and document architectural resources over fifty years of age for NRHP eligibility consideration. Archival

<sup>66</sup> National Park Service. (1990). *National Register Bulletin #15*, "How to Apply the National Register Criteria for Evaluation".



research was conducted and included a literature review and records check at SCDAH and the South Carolina Institute of Archaeology and Anthropology. The South Carolina Historical Society in Charleston, various public libraries in the respective counties, and the University of South Carolina’s Caroliniana Library were consulted to identify, assess, and interpret the above-ground historical resources located in the historic resources study area. Once their historic contexts were developed, local and regional resources were also consulted to identify persons and events significant to local history and to uncover their associations with potential archaeological sites or historic resources.

In addition, a GIS-based archaeological predictive model was developed as part of the alternatives analysis. The model was designed to assess the probability of possible archaeological sites within the project study area. The known environmental and cultural attributes typical of the area were evaluated according to the different subsistence and mobility patterns of people within each prehistoric and historic time period. Environmental variables taken into consideration included soil type, the slope of the land, and the presence of water. In addition, the locations of previously recorded archaeological sites were considered. The model ranked each land unit (100 square foot portion of the landscape) with 1 for lowest probability to 10 for highest probability of encountering archaeological sites (Table 3.21). Upland sites near surface water make up the majority.

**Table 3.21**  
**Archaeological Predictive Model: High Probability Acreage**  
**Interstate 73 EIS: I-95 to the Myrtle Beach Region**

| Alternative | Acreage | Percent of Alternative |
|-------------|---------|------------------------|
| 1           | 1,086   | 43%                    |
| 2           | 1,144   | 44%                    |
| 3           | 1,032   | 45%                    |
| 4           | 991     | 42%                    |
| 5           | 1,149   | 44%                    |
| 6           | 1,028   | 44%                    |
| 7           | 1,057   | 44%                    |
| 8           | 1,078   | 42%                    |

The archaeological predictive model determined that all of the alternatives contained areas with a high probability rating. This meant that sites with a high potential for containing artifacts could be found in any of the alternatives during a Phase I shovel testing process. These sites would be evaluated for NRHP eligibility. If a site is determined to be eligible, then SHPO will decide if further excavation would be warranted. If any eligible site is threatened by the project, then mitigation measures will be coordinated with FHWA, SCDOT, and SHPO.

**What is a Phase I Archaeological Shovel Test?**

**A small test pit is dug at regular intervals in high probability areas. If a significant number of artifacts are found then it is considered a site. This site must then be evaluated for eligibility for listing on the NRHP.**



Table 3.21 shows the amount of acreage within each alternative that have high probability areas and the percent of the total acreage of each alternative that those areas encompass. None of the alternatives, when compared to each other, had substantially greater or less acreage of high probability rating.

### 3.7.3 What above-ground historic resources were found during the survey?

Table 3.22 details the 21 known above-ground historic resources that are listed on the NRHP within the historic resources study area. An additional 30 sites that are located in the historic resources study area have been previously determined by SHPO as eligible for the NRHP, but are not yet listed. During the development of alternatives, properties listed on the NRHP or determined eligible for listing were considered constraints and efforts were made to avoid these known resources (refer to Chapter 2). For more details on those sites, refer to the *Cultural Resources Technical Memorandum*. A total of 947 historic structures were recorded during the above-ground historic resources survey of the historic resources study area. Of these, 254 were recommended eligible for the NRHP, some as part of five recommended eligible historic districts. These resources have not been formally evaluated for eligibility by SHPO but this step will be conducted prior to the Final EIS. For more information refer to the *Cultural Resources Technical Memorandum*.

**Table 3.22**  
**NRHP Sites in the Historic Resources Study Area**  
**Interstate 73 EIS: I-95 to the Myrtle Beach Region**

| County | Resource Name                        | Location          |
|--------|--------------------------------------|-------------------|
| Dillon | Early Cotton Press                   | S.C. Route 38     |
| Dillon | John Hayes Farmstead                 | S.C. Route 38     |
| Dillon | Catfish Creek Baptist Church         | Catfish Church Rd |
| Dillon | Joel Allen House                     | Latta             |
| Dillon | Latta Historic Districts (3)         | Latta             |
| Dillon | McMillan House                       | Latta             |
| Marion | Old Ebenezer Church                  | S.C. Route 38     |
| Marion | Marion Historic District             | Marion            |
| Marion | Rasor and Clardy Company Building    | Mullins           |
| Marion | AH Buchanan Company Building         | Mullins           |
| Marion | Imperial Tobacco Company Building    | Mullins           |
| Marion | Liberty Warehouse                    | Mullins           |
| Marion | Neal and Dixon's Warehouse           | Mullins           |
| Marion | Old Brick Warehouse                  | Mullins           |
| Marion | Dew Barn                             | Zion              |
| Marion | Mt. Olive Baptist Church             | Mullins           |
| Marion | JC Teasley House                     | Mullins           |
| Marion | Marion High School                   | Marion            |
| Marion | Mullins Commercial Historic District | Mullins           |
| Marion | Dillard Barn                         | Mullins area      |
| Horry  | Galivants Ferry Historic District    | Galivants Ferry   |



### 3.7.4 *What archaeological resources are anticipated within the historic resources study area?*

There are 102 previously recorded archaeological sites in the historic resources study area. While the majority have not been evaluated for NRHP eligibility, a formal evaluation will take place for those previously recorded sites and any new sites discovered during field testing for the Preferred Alternative prior to the Final EIS.

### 3.7.5 *What are the differences between Section 106 and Section 4(f), in terms of analyzing historic resources?*

Section 106 of the National Historic Preservation Act of 1966 evaluates the direct or indirect adverse effects of an alternative upon historic resources, while Section 4(f) of the Department of Transportation Act of 1966 takes into account impacts that are a use of the historic property, whether it is of a direct, temporary, or constructive nature. Section 4(f) does not always include visual intrusion impacts or impacts that are not of an adverse nature, which are accounted for under Section 106. SPHO would evaluate the FHWA determination as to whether an eligible site would be or would not be adversely impacted. Archaeological sites eligible for the NRHP are only considered Section 4(f) properties if they warrant preservation in place, which indicates that the sites contain unique features or information that would be of value only if they are preserved in place.

**An adverse affect refers to the diminishment of a property's integrity, with respect to its location, design, setting, materials, workmanship, feeling, or association.**

### 3.7.6 *What would be the potential impacts to historic resources?*

A historic resource was considered directly impacted if it was partially or completely located within an alternative's right-of-way. A visual impact occurs when the project can be seen from the historic resource. Each alternative's 400-foot right-of-way was buffered by 300 feet on both sides and examined to determine other potential impacts on historic resources. Other impacts may occur to resources located outside of the right-of-way, including lack of access to the resource, a change in the resource's setting, or indirect and cumulative impacts.

The No-build Alternative would not affect any known historic resources. Table 3.23 shows what sites would potentially be impacted by each alternative and what type of impact would be anticipated. Locations of the impacted sites, with the exception of the archaeological site 38MA0126, are shown on Figure 3-33, page 3-90. Archaeological sites are not shown for their protection.

Alternatives 1, 2, 5, 7, and 8 have the potential to cause a visual impact to the James Thomas and Fanny Edwards Gaskin Homestead Complex. The Gaskin Homestead Complex is a part of the Galivants Ferry Historic District, and is a circa 1907 farmstead containing a farmhouse and associated outbuildings plus surrounding agricultural land. Galivants Ferry Historic District is historically significant to local and state history and is representative of the agricultural history of the area. In addition, for over 100



**Table 3.23  
Potential Impacts to Historic Resources under Section 106  
Interstate 73: I-95 to the Myrtle Beach Region**

| Impacted Site                                     | Alt. 1   | Alt. 2   | Alt. 3   | Alt. 4   | Alt. 5   | Alt. 6   | Alt. 7   | Alt. 8   |
|---|----------|----------|----------|----------|----------|----------|----------|----------|
| Gaskin Complex/ Galivants Ferry Historic District | Visual   | Visual   |          |          | Visual   |          | Visual   | Visual   |
| Bethea Historic District                          |          | Visual   |          |          |          | Visual   |          | Visual   |
| Ketchuptown Store                                 |          |          | Visual   |          |          | Visual   |          |          |
| Archaeological Site 38MA0126                      |          |          |          | Direct   |          |          | Direct   |          |
| <b>Total Impacted Sites</b>                       | <b>1</b> | <b>2</b> | <b>1</b> | <b>1</b> | <b>1</b> | <b>2</b> | <b>2</b> | <b>2</b> |

years, candidates of the State’s Democratic Party have spoken in an area near the general store in what is known as “The Stump” gathering, which is now the beginning of the local Democratic campaign season.

Alternatives 2, 6, and 8 would potentially have a visual impact to the agricultural lands of the Bethea Historic District. The Bethea Historic District is a collection of plantations belonging to the Bethea family, and includes three historic homes, tenant houses, farm outbuildings, and surrounding agricultural lands. Alfred W. Bethea was an important person in state and regional history as a signatory of South Carolina’s Ordinance of Secession, in which South Carolina repealed the U.S. Constitution and removed itself from the Union prior to the start of the Civil War.

Alternatives 3 and 6 would have a potential visual impact to the Ketchuptown store. It was constructed in 1927 and became the gathering point for local farmers in the area west of Lake Swamp in Horry County and now is the community center and a museum.

Alternatives 4 and 7 would potentially have a direct impact to a portion of an archaeological site containing artifacts of the Woodland and 19<sup>th</sup> century periods located in the Marion area. This site is potentially eligible and is currently pending further evaluation by SHPO.

There may be potentially eligible archeological resources currently unknown in the historic resources study area, which could be affected by future development. Negative indirect and cumulative effects may occur in the vicinity of an alternative, particularly in the area of interchanges, due to future development that may be of a commercial, residential, or industrial nature. This is due to the lack of historic resource investigations required when a private company or individual develops a tract of land.

Induced development near aboveground historical resources could diminish the rural setting that contributes to the historical significance and may lead to physical destruction of sites. Based on predicted land use modeling, the potential for development in relation to Alternatives 1, 2, 4, 5, 7, and



8 exists in the vicinity of Galivants Ferry Historic District, primarily along U.S. Route 501 in that area (Figure 3-33, page 3-90). Potential for development also exists in the vicinity of the Bethea Historic District in relation to Alternatives 2, 6, and 8. However, development is limited at the interchange of I-95 and I-73 due to controlled access. Limited development is predicted to occur at the interchange of S.C. Route 9 and I-95 for all the Build Alternatives. While special protections are required by federal agencies to avoid and minimize impacts to NRHP listed sites, there are no such requirements on private developers to do so. Development in the areas of the historic districts could change the rural nature of the viewshed and diminish the historical significance of the properties. Any adverse effects will be mitigated through coordination with SHPO.