



Community Impact Assessment

Draft 04 August 12, 2020



Community Impact Assessment

SC Highway 41 Corridor Improvements Project

Charleston and Berkeley Counties, South Carolina

Draft 04 August 12, 2020

Prepared for
Charleston County

Prepared by





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Contents

1.0	Introduction.....	1
1.1	Project Description.....	1
1.1.1	Alternatives.....	3
1.1.2	Public Involvement.....	6
1.2	Purpose of Community Impact Assessment.....	7
2.0	Methodology.....	9
2.1	Study Area.....	9
2.2	Data Sources.....	12
2.3	Environmental Justice and Limited English Proficiency.....	12
2.4	Impact Assessment.....	13
3.0	Existing Conditions.....	14
3.1	Study Area Growth Trends.....	14
3.2	Environmental Justice.....	17
3.3	Limited English Proficiency.....	21
4.0	Environmental Consequences.....	23
4.1	Study Area.....	24
4.1.1	Economic and Business Conditions.....	28
4.1.2	Land Use.....	28
4.1.3	Mobility and Access.....	28
4.1.4	Public Health and Safety.....	28
4.1.5	Sensory Aspects.....	30
4.1.6	Environmental Justice.....	31
4.1.7	Temporary Impacts.....	33
4.1.8	Recurring and Cumulative Effects.....	33
4.2	Brickyard/Colonnade.....	33
4.2.1	Community Resources.....	34
4.3	Cardinal Hill.....	36
4.3.1	Community Resources.....	36
4.4	Dunes West.....	38
4.4.1	Community Resources.....	41
4.4.2	Economic and Business Conditions.....	42
4.4.3	Mobility and Access.....	42
4.4.4	Public Health and Safety.....	43
4.4.5	Residential Aspects.....	43
4.5	Gregorie Ferry.....	43
4.5.1	Community Resources.....	45
4.5.2	Economic and Business Conditions.....	45
4.5.3	Sensory Aspects.....	45
4.6	Horlbeck Creek.....	46
4.6.1	Community Resources.....	46
4.7	Ivy Hall.....	48
4.7.1	Economic and Business Conditions.....	48
4.8	Park West.....	50

4.8.1	Community Resources.....	50
4.8.2	Land Use.....	52
4.8.3	Mobility and Access.....	52
4.8.4	Public Health and Safety.....	52
4.8.5	Sensory Aspects.....	52
4.8.6	Residential Aspects.....	53
4.9	Phillips Community.....	53
4.9.1	Phillips Community Cultural Landscape.....	56
4.9.2	Community Resources.....	60
4.9.3	Economic and Business Conditions.....	60
4.9.4	Mobility and Access.....	60
4.9.5	Public Health and Safety.....	61
4.9.6	Sensory Aspects.....	61
4.9.7	Residential Aspects.....	61
4.10	Planter's Pointe.....	62
4.10.1	Community Resources.....	62
4.11	Rivertowne.....	64
4.11.1	Economic and Business Conditions.....	64
4.12	Seven Mile.....	66
4.12.1	Economic and Business Conditions.....	68
4.12.2	Land Use.....	68
4.12.3	Residential Aspects.....	68
4.12.4	Social, Cultural, and Psychological Aspects.....	69
4.12.5	Recurring and Cumulative Effects.....	69
4.13	Cainhoy.....	69
5.0	Synthesis and Conclusions.....	71
5.1	Summary of Impacts.....	71
5.2	Environmental Justice.....	72
5.3	Offsetting Benefits of the Alternatives.....	72
5.4	Next Steps.....	73
6.0	References.....	74

Tables

Table 1.	Top Ten Comment Topics.....	7
Table 2.	Study Area Minority Populations at Block Group Level.....	18
Table 3.	Study Area Low-Income Populations at Block Group Level.....	21
Table 4.	Impacted Acreages and Individual Residential Parcels by Community and Build Alternative in Comparison with Study Area Averages.....	23
Table 5.	Comparison of Overall Community Impacts by Build Alternative.....	71

Figures

Figure 1. Project Location.....	2
Figure 2. Build Alternatives Associated with the Project	5
Figure 3. Study Area and Associated USCB Block Groups	10
Figure 4. Communities.....	11
Figure 5. Minority Population Densities.....	19
Figure 6. Per Capita Income Rates	22
Figure 7. Major Community Resources.....	25
Figure 8. Charleston County Land Use.....	26
Figure 9. Berkeley County Land Use.....	27
Figure 10. Cardinal Hill Community Resources and the Build Alternatives.....	37
Figure 11. Dunes West Community Resources and the Build Alternatives	40
Figure 12. Gregorie Ferry Community Resources and the Build Alternatives	44
Figure 13. Horlbeck Creek Community Resources and the Build Alternatives.....	47
Figure 14. Ivy Hall Community Resources and the Build Alternatives	49
Figure 15. Park West Community Resources and the Build Alternatives	51
Figure 16. Phillips Community Resources and the Build Alternatives.....	55
Figure 17. Phillips Community Cultural Landscape.....	59
Figure 18. Planter's Pointe Community Resources and the Build Alternatives.....	63
Figure 19. Rivertowne Community Resources and the Build Alternatives.....	65
Figure 20. Seven Mile Community Resources and the Build Alternatives.....	67
Figure 21. Cainhoy Community Resources and the Build Alternatives	70

Graphs

Graph 1. Population Growth between 2015 and 2040.....	15
Graph 2. Employment Growth between 2015 and 2040	16
Graph 3. Non-white population.....	17
Graph 4. Low-income population.....	20

Appendices

Appendix A – Affected Parcels

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1.0 Introduction

Charleston County is evaluating the benefits and impacts from the proposed SC Highway 41 (SC 41) corridor improvements (hereafter, Project), in accordance with the National Environmental Policy Act (NEPA). The United States Army Corps of Engineers (USACE) will be the lead federal agency upon submittal of a Clean Water Act permit application for the Project.

This report, the community impact assessment (CIA), evaluates the effects of the Project on the surrounding human community or communities. The SC 41 community characterization report (CCR; HDR 2020) presents the existing historical, social, cultural, economic, and environmental justice (EJ) conditions in and near the Project study area and serves as a baseline for this CIA. The CCR documents existing conditions related to the 12 human communities identified in the study area, including details on three Gullah African-American communities. Due to their EJ status and particular histories, the Gullah communities warrant special consideration. More details on Gullah communities are provided in Section 3.0, as well as in the CCR and in the Phillips Community Cultural Landscape report included as an appendix to the CCR (Richardson Seacat 2018). The latter report documents the Phillips Community, located within the Project study area, and several associated community facilities and natural resources as a National Register of Historic Places (NRHP)-eligible historic district.

The consideration and documentation of environmental and socioeconomic effects is a critical part of NEPA, and findings from this CIA are summarized in the Environmental Report for the Project.

1.1 Project Description

HDR, in cooperation with a team of consultants, was contracted by Charleston County to provide engineering design and environmental permitting services associated with proposed improvements to the SC 41 corridor from US Highway 17 (US 17) to Clements Ferry Road in Charleston and Berkeley Counties, South Carolina. The Project also includes improvements to the intersection of SC 41 and US 17 and completion of the tie in of Gregory Ferry Road to SC 41 near US 17. The Project study area is defined as a 4.6-mile-long mainline corridor of SC 41 from US 17 in Mount Pleasant across the new Wando River Bridge to Clements Ferry Road in Berkeley County. The study area also includes US 17 from the intersection with the northern extent of Old Georgetown Road to the entrance to Lexington Drive and an expanded study area around Laurel Hill County Park and the Phillips Community between Bessemer Road and Dunes West Boulevard (hereafter, study area; (Figure 1). SC 41 is a two-lane highway that provides vehicular access between US 17 and Clements Ferry Road, as well as north to Huger, South Carolina. The primary purpose of the Project, as stated in the draft Environmental Report (HDR 2019), is to reduce traffic congestion within the SC 41 corridor to accommodate future traffic projections. The secondary purposes of the Project are to enhance safety throughout the corridor, improve transportation system and community connections, and provide bicycle and pedestrian accommodations, while minimizing community and environmental impacts. This section of SC 41 serves as a minor arterial that has experienced an increase in traffic due to regional growth, and currently sustains operations that exceed capacity and are projected to worsen over time.

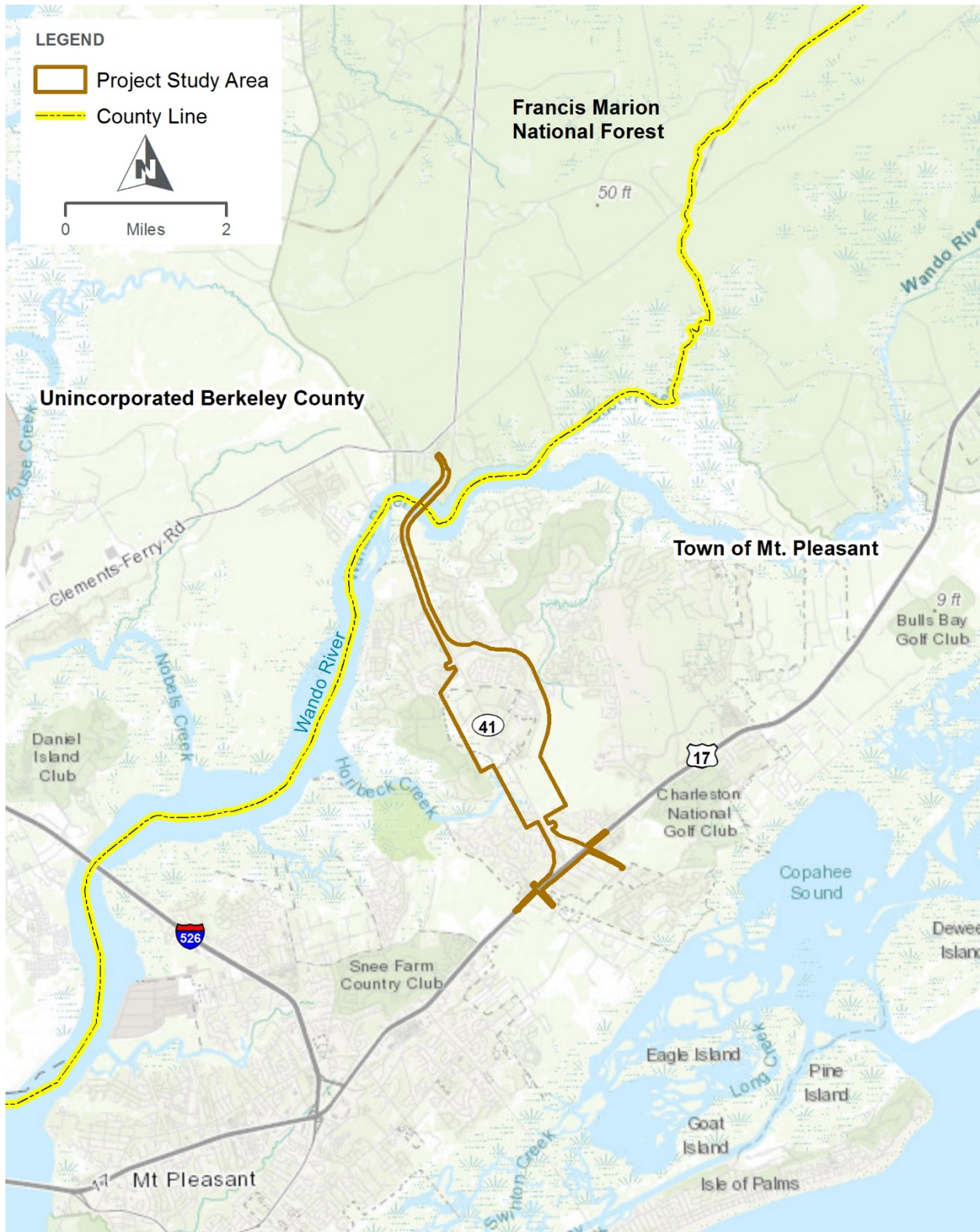


Figure 1. Project Location

1.1.1 Alternatives

Various location and design alternatives were evaluated during the development of the Project. The Charleston Area Transportation Study (CHATS) Travel Demand Model distributes trips in part according to the capacity of the links (roads) within the network. By adding lanes (capacity) to a link, more traffic may be drawn to that link. Similarly, if a new link (roadway on new alignment) is placed in the model, connecting two existing links, some of the existing or forecasted traffic on those adjoining links may be drawn to the new connecting link (road). A wide variety of alternatives were modeled in this manner, by either adding capacity directly to SC 41, or by adding connecting or parallel roadways in an attempt to distribute the traffic demand, relieve congestion and reduce travel times. Twelve different improvement alternatives and a No-Build alternative, were initially analyzed in the unmodified CHATS model. Development and screening of the range of alternatives was initially completed through modifications to the CHATS model.

Following the initial planning level screening analysis, the alternatives were refined and a detailed analysis of Alternatives 1, 2, and 7 was performed. The refinements included an update of growth forecasts in the Project area to correspond to changes in development plans for the proposed Cainhoy Plantation (discussed in more detail in Section 3.1). The developer recently committed to not developing approximately fifty percent of the area previously planned for development. This forecast was applied to the remaining alternatives prior to conducting more detailed analyses. Upon further analysis, Alternatives 2 and 7 were eliminated, and two modified alternatives, Alternatives 5A and 7A, were developed. After additional analysis, Alternative 5A was eliminated from further evaluation because of the significant impacts to utilities and the environment. Alternative 5A would result in the most property impacts, as well as tidal and non-tidal wetland impacts. Additionally, Alternative 5A was proposed through Laurel Hill County Park and would prevent its intended function as a passive park, as stipulated in the land trust associated with this property.

1.1.1.1 No-Build Alternative

The No-Build Alternative consists of making no improvements to the current two-lane roadway of SC 41. The No-Build Alternative serves as a baseline for comparison to the two build alternatives, as an anticipated future with no changes to SC 41.

1.1.1.2 Alternative 1

Alternative 1 consists of widening SC 41 to a five-lane roadway with a center raised island or two-way left-turn lane from US 17 to the Wando River Bridge (Figure 2). This build alternative would also include a sidewalk along the east side of the roadway and a multi-use path for bicyclists and pedestrians along the west side of the roadway along the entire length. This alternative would be approximately 4.6 miles long and would include complementary improvements at selected intersections. This alternative would provide the necessary improvements to accommodate future traffic deficiencies from US 17 to Clements Ferry Road through the construction of additional travel lanes, a center two-way left-turn lane in some sections, and a multi-use path.

1.1.1.3 Alternative 7A

Alternative 7A consists of widening SC 41 to a five-lane roadway with a center raised island or two-way left-turn lane from US 17 to Joe Rouse Road and from Dunes West Boulevard to the Wando River Bridge and a three-lane roadway with a center two-way left-turn lane from Joe Rouse Road to Dunes West Boulevard. Alternative 7A would also reroute SC 41 parallel to Bessemer Road and onto Laurel Hill County Park property, parallel to the power line easement, and then back along Dunes West Boulevard (Figure 2). This reroute would also be a five-lane roadway with a center raised island. This build

alternative would also include a sidewalk along the east side of the roadway and a multi-use path for bicyclists and pedestrians along the west side of the roadway along the entire length. This alternative would be approximately 5.3 miles long and would include complementary improvements at selected intersections. This alternative would provide the necessary improvements to accommodate future traffic volumes from US 17 to Clements Ferry Road through the construction of additional travel lanes, a center two-way left-turn lane in some sections, and a multi-use path.

1.1.1.4 US 17 and SC 41 Intersection

Both alternatives include the same proposed improvements of the US 17 and SC 41 intersection. While the intersection design concept primarily focuses on improving traffic flow onto and off of Highway 41 (via the Highway 41 and Highway 17 intersection), the concept also considers improvements for surrounding intersections including Hamlin Road, Brickyard Parkway, Gregorie Ferry Road, Winnowing Way, and Porchers Bluff Road. Specific improvements include modifications to the Hamlin Road and Brickyard Parkway intersection, widening Winnowing Way from 2-lanes to 5-lanes, and constructing a bridge over the new Winnowing Way and Porchers Bluff Road intersection. Additional turn lanes would be added on US 17 at the Hamlin Road, SC 41, and Winnowing Way and Porchers Bluff Road intersection. The proposed improvements would also include bicycle and pedestrian accommodations to connect with the proposed multi-use path on SC 41. The proposed intersection improvements would limit some existing turning movements, but the design provides alternative options to maintain access to all homes and businesses.

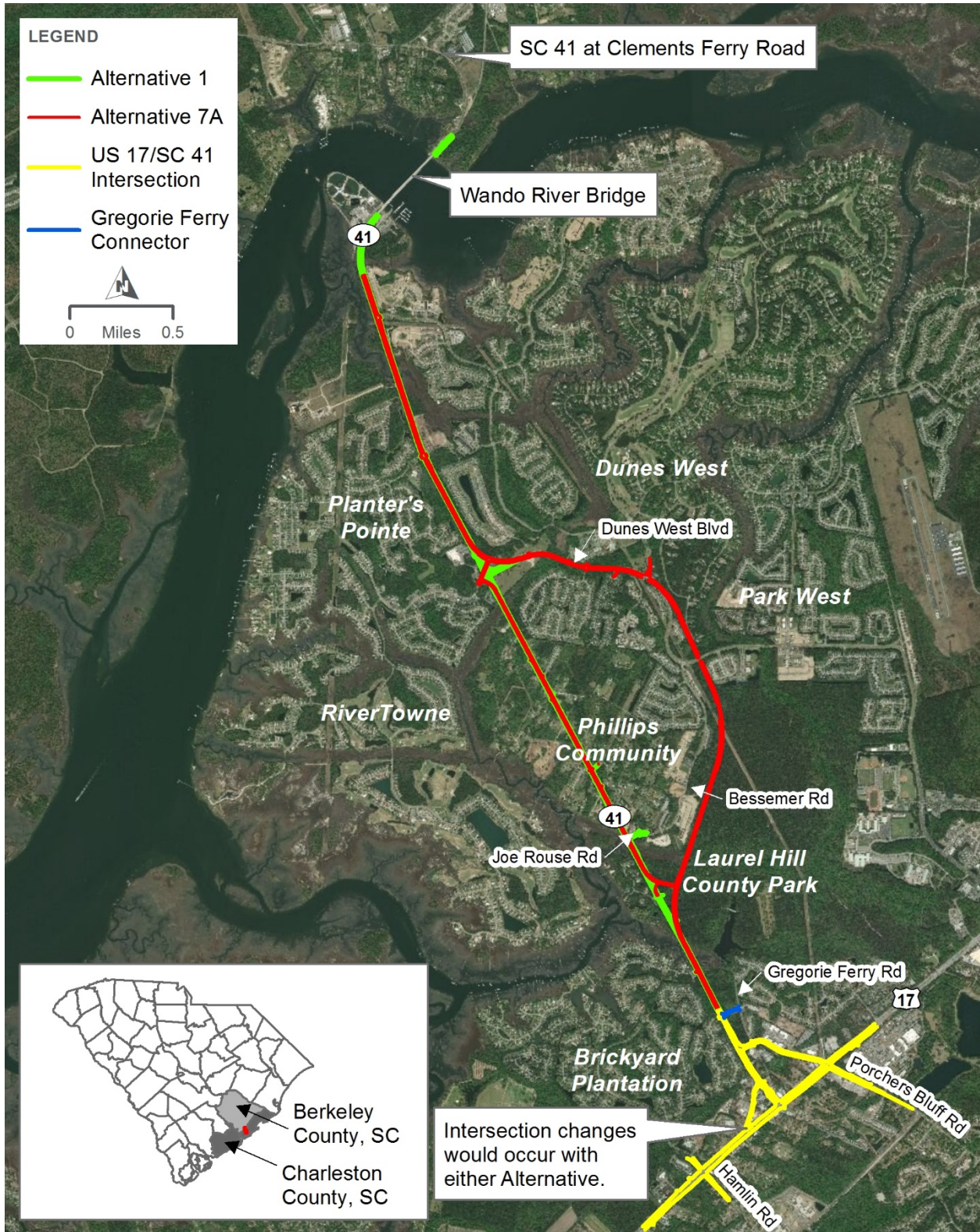


Figure 2. Build Alternatives Associated with the Project

1.1.2 Public Involvement

Public participation has been a critical component of the NEPA process, and the Project team made early and committed efforts to engage the public. A Public Involvement Plan (PIP) was developed and outlined the Project's approach to public, agency and stakeholder involvement. This included outreach to diverse groups, including EJ and historic communities, to improve Project awareness and understanding of the NEPA process. The Project team has proactively shared Project information and sought input from the public, agencies, municipalities, and other stakeholders. The primary goal of public involvement efforts has been to foster open communications between a diverse public, agencies and the Project team to gain productive input leading to better decisions that meet study area needs.

1.1.2.1 Public and Stakeholder Meetings

Several meetings, including in-person public information meetings, online meetings, stakeholder meetings, and neighborhood and small group meetings, have been held to date. These consisted of the following:

- Community and property owners' association (POA) meetings held September 20-22, 2017;
- Presentations to Town of Mount Pleasant Council on October 10, 2017, November 5, 2018, and June 3, 2019; and December 10, 2019;
- A public kickoff meeting held at the Park West Gym on November 13, 2017;
- Stakeholder Working Group meetings held on September 26, 2017, April 26, 2018, November 14, 2018, and March 6, 2019;
- Four meetings with leadership representing community, neighborhood and business groups on April 25-26, 2018;
- NEPA Scoping Meeting on May 16, 2018;
- Community and POA meetings on January 22, March 5-6, and August 27, 2019;
- Meeting with the Seven Mile Community Action Group for Encouragement on August 1 and August 29, 2019;
- Meeting with Charleston County School District Staff on September 13, 2019; and
- Meeting with Charleston Moves on November 12, 2019.

Other outreach methods such as mailings, fliers, e-mail invitations, newspaper ads, social media announcements, and a detailed Project website were also used in obtaining public input and sharing Project information. Several approaches were used to promote public meetings and increase public engagement. These approaches included advertisements placed in local newspapers, press releases distributed by Charleston County, printed and digital newsletters, community flyers, social media posts, website updates, and updated hotline recordings.

1.1.2.2 Environmental Justice Outreach

Due to the presence of three Gullah African-American communities in the study area, special consideration was made during the planning and development of public outreach efforts for EJ communities within the study area. The Project team developed materials specifically to reach these communities and encourage participation with the Project. Flyers were developed and distributed to key locations within the study area to notify residents of EJ communities of upcoming public meetings, and extra efforts were made to engage community representatives early and throughout the NEPA process. Mailing lists were developed to include these areas so that all post cards, letters and other mailings would reach the residents. The Project team held one-on-one meetings with representatives of EJ communities to keep them informed, collect feedback, and understand how to better engage the community. Meetings

with EJ community representatives were also held in documenting the Phillips Community Cultural Landscape.

1.1.2.3 Public and Agency Comments

As of July 2020, 2,949 comments have been recorded in the Project database that cover a range of topics from wetlands to cost and the refined alternatives. The comments have been evaluated by the Project team for inclusion in Project development and have influenced the development of the alternatives. In addition to comments, contact information has also been recorded in the Project database and is used to keep the public informed on relevant Project information. The Project database was used to record other Project activities including meetings, mailings, and other outreach activities.

To collect greater feedback from the public, the Project team developed several methods to submit comments including email, a fillable form on the Project website, a dedicated Project hotline, and an address to mail comments. All submitted comments were documented in the Project database following a specific protocol to ensure all information was accurately recorded.

The comments received ranged from traffic and safety to preferences on the reasonable alternatives, concerns related to flooding and wetlands, and many more. The table below summarizes the top ten comment topics received.

Table 1. Top Ten Comment Topics

Topic	Comments Received
Traffic/Safety	1,523
Alternative 7/7a	1,440
Alternative 1	1,389
Residential Areas	1,232
Property Value	523
New/Platted Developments	424
Cost	415
ROW	384
Noise	383
Bike/Ped Accommodations	329

1.2 Purpose of Community Impact Assessment

The Federal Highway Administration (FHWA) guidance document entitled *Community Impact Assessment: A Quick Reference for Transportation* (FHWA 2018; hereafter, the FHWA guidebook or the guidebook) recommends a process to evaluate the effects of a transportation project on a community and its quality of life. The assessment of effects helps ensure that transportation investment addresses concerns and minimizes effects to communities where possible. While FHWA is not providing oversight of this Project, the County is using the FHWA guidance document as it represents a current, industry-accepted methodology for the CIA in transportation projects.

This CIA evaluates the effects of the Project on the twelve surrounding communities identified by HDR in the CCR. Following the guidebook, to evaluate effects, the following topics are discussed in relation to each identified community:

- community cohesion and other sociocultural aspects;
- community resources, including facilities and services;
- economics;
- land use;
- mobility, access, and safety;
- residential and business relocations;
- visual aesthetics;
- EJ and Limited English Proficiency (LEP); and
- temporary impacts.

Effects to the Phillips Community Cultural Landscape (Phillips Cultural Landscape) are also considered in the CIA. The Phillips Cultural Landscape is an NRHP-eligible historic district encompassing the Phillips Community and several community facilities and natural resources located outside of the current community boundary (Richardson Seacat 2018). While part of the CIA, consideration of effects to the Phillips Cultural Landscape is mandated by Section 106 of the National Historic Preservation Act (NHPA) and the four-step process outlined in federal regulations titled “Protection of Historic Properties” (36 CFR Part 800). Section 106 directs federal agencies to consider the effects or impacts of their undertakings on NRHP-eligible or listed cultural resources (i.e., historic properties) and take measures to avoid, minimize, or mitigate adverse effects. Throughout the Section 106 process, the lead federal agency must consult with the appropriate State Historic Preservation Officer, federally recognized tribes that have an interest in the undertaking, and any other party with a vested interest in the undertaking.

2.0 Methodology

2.1 Study Area

The FHWA guidebook presents various definitions of community, all of which were considered in determining the overall study area for the CCR, as well as the smaller divisions of the study area discussed in the report. The guidebook defines community as an area where behavior patterns of individuals or groups of individuals are common and where shared perceptions or attitudes create an identifiable area. Communities may be based on a common characteristic that is not spatial in nature, such as religion, income, ethnicity, etc. Community characterization study areas typically include communities within, and immediately adjacent to, project study areas, as well as where social effects may be felt. The boundaries of study areas may be delineated based on physical barriers, land use trends, political divisions, certain demographic characteristics, and/or resident perceptions.

The study area is defined as a 4.6-mile-long mainline corridor of SC 41 from US 17 in Mount Pleasant across the new Wando River Bridge to Clements Ferry Road in Berkeley County. The study area also includes US 17 from the intersection with the northern extent of Old Georgetown Road to the entrance to Lexington Drive and an expanded study area around Laurel Hill County Park and the Phillips Community between Bessemer Road and Dunes West Boulevard. In developing the community characterization study area for the Project, the Project team identified neighborhoods and communities in areas adjacent to the SC 41 corridor, and for ease of data collection, used the US Census Bureau (Census Bureau) geographies, either census tracts or smaller block groups, and the Traffic Analysis Zones (TAZ) that encompass those neighborhoods and communities to delineate the study area. TAZs are geographical units used for travel demand modeling. The Census Bureau geographies and TAZ boundaries also generally follow visible natural or man-made features such as streams, rivers or major roadways. It should be noted that the Census Bureau geographies are not a perfect match to the TAZ boundaries, and both are larger than the extent of the communities discussed in this report.

The community characterization study area in this report is made up of five larger sub-areas, which are delineated similarly to the Census Bureau's county census tract divisions. The area's history is discussed at the largest sub-area level and addresses either side of the Wando River in Charleston and Berkeley counties. The study area is further organized into 12 smaller, Project team-defined communities, which are based on similarities in land use and context, while still typically following Census Bureau geographies, TAZ boundaries, and visible features. The Charleston County portion of the study area, located to the south of the Wando River, includes two Census Bureau census tracts encompassing five Census Bureau block groups and 11 of the 12 identified communities, consisting of Brickyard/Colonnade, Cardinal Hill, Dunes West, Gregorie Ferry, Horlbeck Creek, Ivy Hall, Park West, Phillips Community, Planter's Pointe, Rivertowne, and Seven Mile. The Berkeley County portion of the study area, located to the north of the Wando River, includes two census tracts and one block group within each tract and the remaining identified community, Cainhoy.

The study area is shown in Figure 3. The 12 communities within the study area are described in detail in later sections of this report and are depicted in Figure 4.

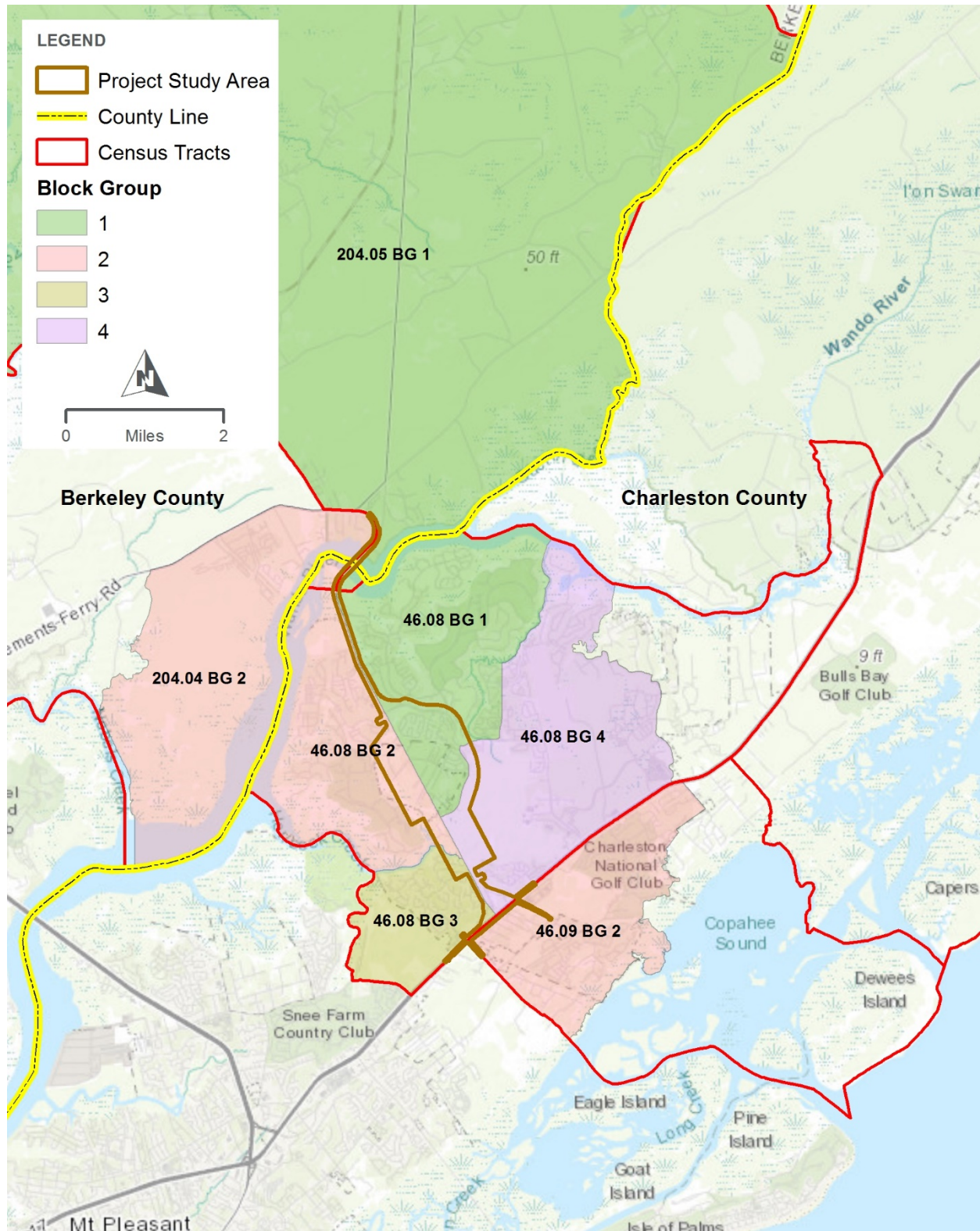


Figure 3. Study Area and Associated USCB Block Groups

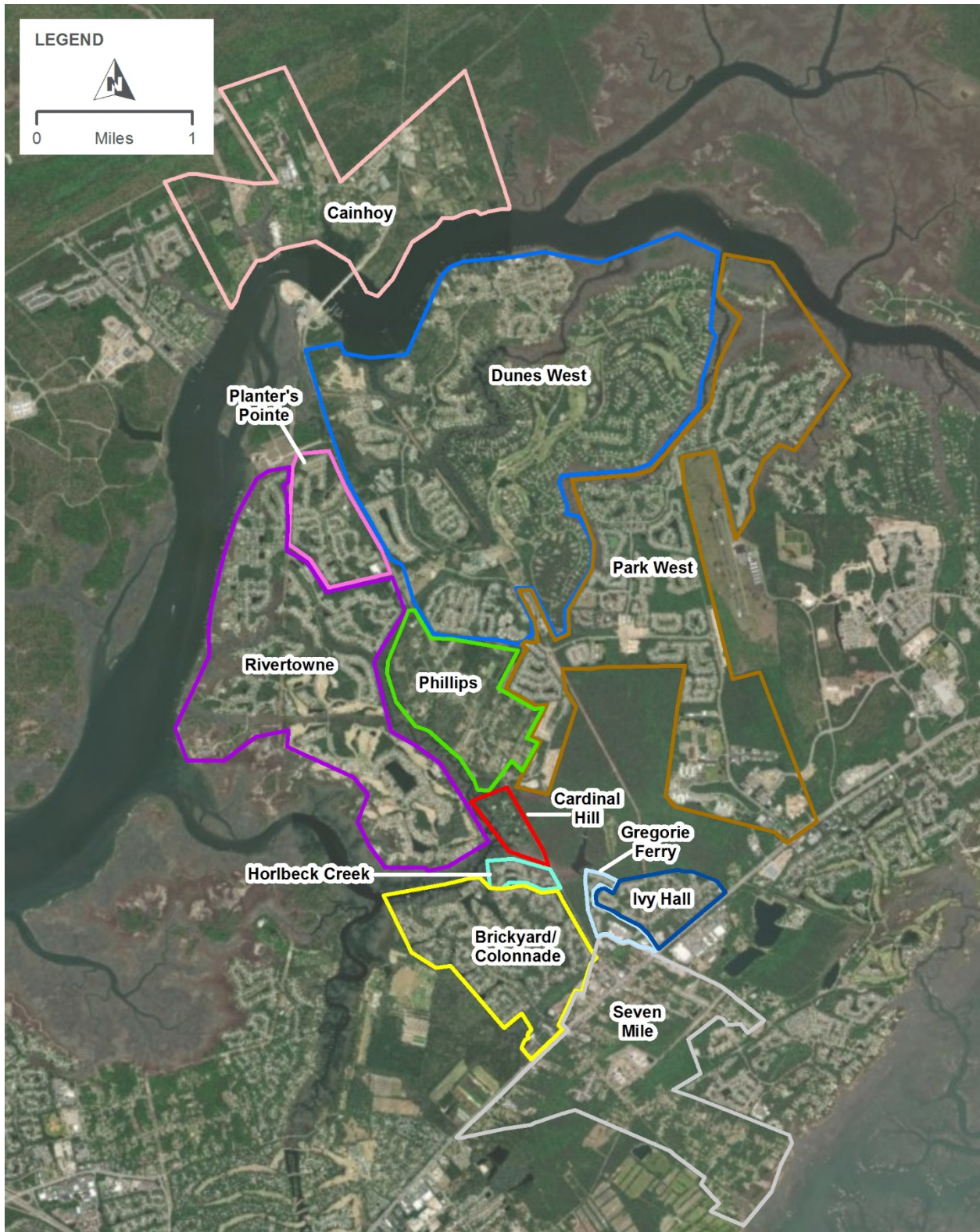


Figure 4. Communities

2.2 Data Sources

Data from the communities were used as the foundation for the existing conditions analysis in the CCR. Census Bureau census tract and TAZ data were used in the evaluation of demographics, economics, EJ populations, and growth trends within the overall study area and each of the four census tracts. Data from Census Bureau block groups, which are smaller than the census tracts, were used to refine the EJ analysis to a more detailed geographic level. For more specific details pertaining to the demographic, economic, and EJ data used in the CCR associated with this CIA, see *Community Characterization: SC Highway 41 Corridor Improvements Project, Charleston and Berkeley Counties, South Carolina* (HDR 2020).

Data compiled for the CCR that inform this CIA were obtained from a number of sources, including:

- map data from Google (Google 2017);
- ESRI World Imagery (ESRI 2017);
- historical to current USGS 7.5 minute series topographic quadrangles;
- U.S. Census Bureau (USCB), American FactFinder, 2010 Decennial Census (USCB 2010);
- USCB, American FactFinder, 2011-2015 American Community Survey (ACS) 5-Year Estimates (USCB 2015);
- BCDCOG Travel Demand Model for the SC Highway 41 Corridor Improvements Project (BCDCOG 2017, 2020);
- published books and articles obtained from regional libraries; and
- local plans and websites from associated counties and municipality.

Direct observations, meetings with study area residents and stakeholders held between Summer 2017 and Summer 2019, and coordination with relevant organizations all served as additional sources of information for the CCR and CIA.

2.3 Environmental Justice and Limited English Proficiency

As presented in the CCR, the minority population was calculated at the census tract and block group levels by adding all races other than white. This includes Black or African American; American Indian and Alaska Native; Asian; Native Hawaiian and Other Pacific Islander; and some other race. The Census Bureau block group geographies with minority populations exceeding 50 percent of the overall population are presented as the portions of the study area where the chance for disproportional environmental and human health effects may be the greatest, per EJ guidance from the President's Council on Environmental Quality (CEQ). Low-income populations were calculated at the census tract level by adding the below-poverty population and the near-poor population between 100 percent and 149 percent of poverty level as prescribed by the US Health and Human Services poverty guidelines. At the block group level, per capita income rates were assessed using the 2015 United States individual income poverty threshold reported by the Census Bureau (\$12,082; USCB 2016), per CEQ EJ guidance, to refine the analysis.

Pursuant to Title VI of the Civil Rights Act of 1964 (42 USC § 2000d et seq.), U.S. Department of Justice (USDOJ) Guidance to Federal Financial Assistance Recipients Regarding Title VI Prohibition Against National Origin Discrimination Affecting Limited English Proficient Persons [DOJ LEP Guidance; Federal Register 67(117):41455-41472, June 18, 2002], and EO 13166 [Federal Register 65(159):50121-50122, August 16, 2000], the LEP population was assessed for the study area. DOJ LEP Guidance advises recipients of DOJ funds to provide “written translations of vital documents for each eligible LEP language

group that constitutes five percent or 1,000, whichever is less, of the population of persons eligible to be served or likely to be affected or encountered” [Federal Register 67(117):41463-41464, June 18, 2002]. This is referred to herein as the DOJ LEP threshold. Eligible LEP language groups are those whose members self-report speaking English less than very well. The LEP population was calculated at the census tract level and also considered at the block group level by adding all populations that self-reported speaking other languages and English less than very well. U.S. Department of Justice (DOJ) LEP guidance advises recipients of DOJ funds to provide “written translations of vital documents for each eligible LEP language group that constitutes five percent or 1,000, whichever is less, of the population of persons eligible to be served or likely to be affected or encountered” [Federal Register 67(117):41463-41464, June 18, 2002].

2.4 Impact Assessment

The FHWA guidebook provides a broad framework for assessing the significance of specific community impacts and suggests that community analysts assess the following factors in relation to expected effects:

- Likelihood of impact
- Scale, severity, and extent of impact
- Duration of impact over time
- Reversibility of impact
- Direct and indirect impacts
- Cumulative and counterbalancing impacts

The guidebook additionally directs that analysts use public engagement to help determine the scale, severity, and extent of the potential impacts. Where appropriate, analysts should also compare the potential impacts with existing impacts of the same variety in nearby or otherwise similar communities.

Based on these guidelines, in this report, the scale, severity, and extent of impacts were assessed by considering the following factors: (1) who and how many people would be affected; (2) how severe the impacts are, with considerations to proximity, existing buffers, current functions, and other aspects as relevant; (3) how widespread the impacts would be felt throughout the community; and (4) known perceptions of community members on the scale, severity, and extent of the impacts.

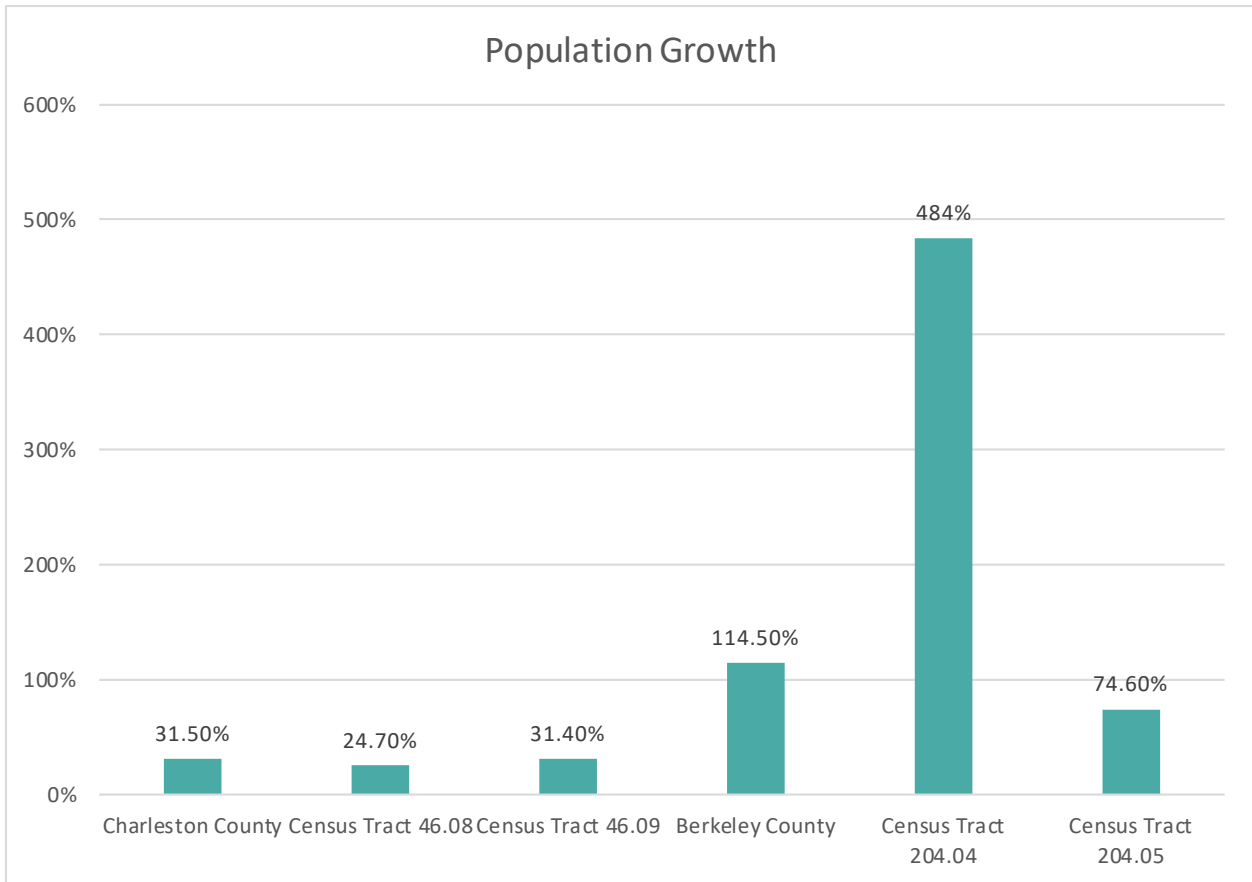
3.0 Existing Conditions

The SC 41 CCR, *Community Characterization: SC Highway 41 Corridor Improvements Project, Charleston and Berkeley Counties, South Carolina* (HDR 2020), presents in detail the existing historical, social, cultural, economic, and EJ conditions in and near the Project study area and serves as a baseline for this CIA. The CCR documents that three communities in the study area were settled by freed African Americans following the Civil War. These consist of the communities of Phillips and Seven Mile as well as portions of Cainhoy. The people of these and similar coastal communities of South Carolina are known as Gullah people (NPS 2005). Gullah people are descendants of enslaved Africans who were brought to North America to labor on Atlantic Coast plantations between the late seventeenth and early nineteenth centuries. Once on plantations, they developed a unique culture from a fusion of the many different cultural traditions they had practiced in Africa. Following the Civil War, many Gullah communities were created as an aspect of federal Reconstruction initiatives that focused on assisting freed African Americans in establishing themselves (Reed 2016). Many of the communities were formed when African Americans purchased lands from subdivided plantations. In the Mount Pleasant vicinity, an estimated 18 postbellum African American communities were established (Gibbs 2006).

Findings from the CCR are briefly summarized in the sections that follow.

3.1 Study Area Growth Trends

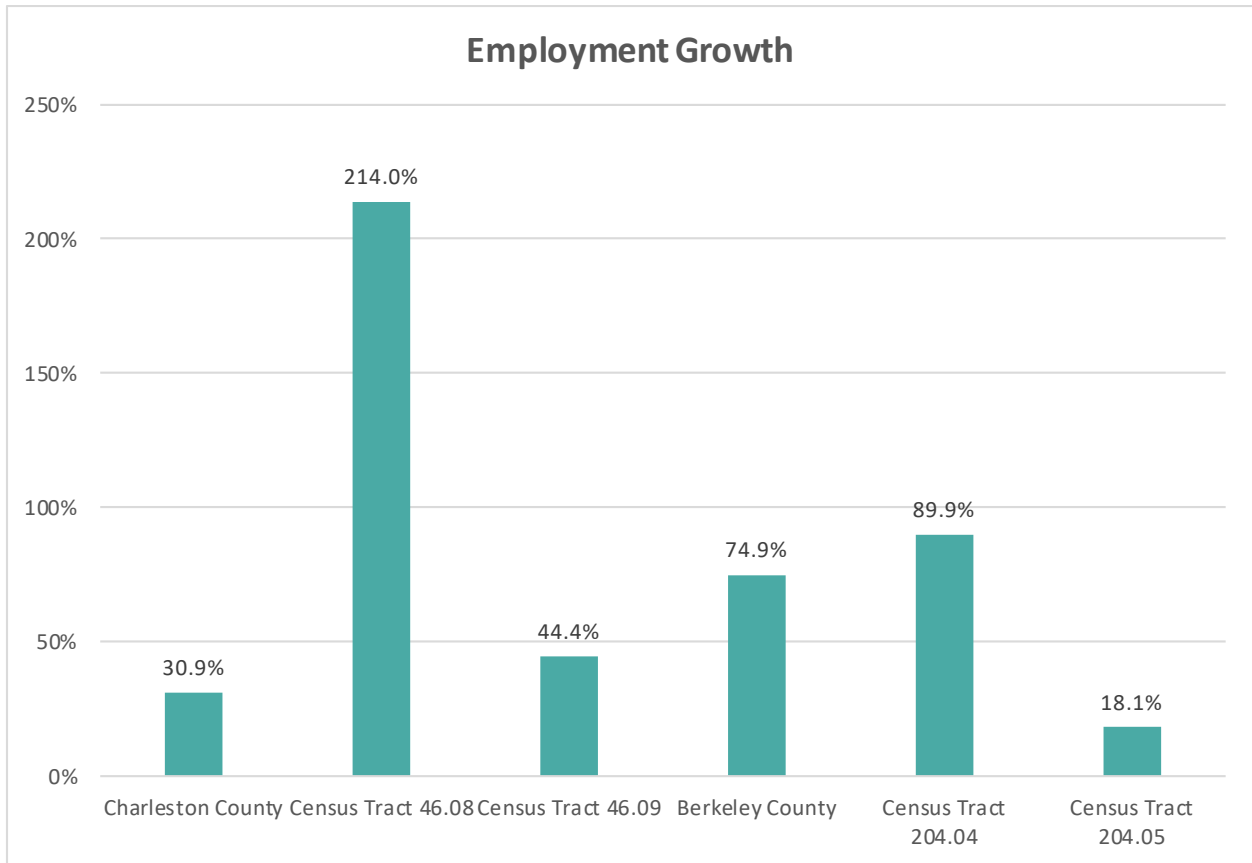
An evaluation of socioeconomic data reveals that population growth and employment growth are expected in all census tracts within the study area between 2015 and 2040. The anticipated population growth ranges from 24.7 percent to 31.4 percent in the Charleston County census tracts, while the anticipated population growth in the Berkeley County census tracts ranges from 74.6 percent to 484.4 percent. While anticipated population growth is high in all portions of the study area, the greatest anticipated population increase is anticipated in the two Berkeley County census tracts, which includes the Cainhoy community (Graph 1).



Graph 1. Population Growth between 2015 and 2040

Source: Population growth data prepared for the BCDCOG Travel Demand Model for the SC Highway 41 Corridor Improvements Project (2017, 2020)

Similar to the anticipated increase in population throughout the study area, considerable employment growth is anticipated, as well. The anticipated employment growth in the Charleston County census tracts ranges from 44.4 percent to 214 percent, while the anticipated employment growth in the Berkeley County census tracts ranges from 18.1 percent to 89.9 percent. While anticipated employment growth is high in all portions of the study area, the greatest employment increases are anticipated in Charleston County Census Tract 46.08, which includes 11 of the 12 communities in the study area, and in the Berkeley County Census Tract 204.04, which includes the Cainhoy community (Graph 2).



Graph 2. Employment Growth between 2015 and 2040

Source: Employment growth data prepared for the BCDCOG Travel Demand Model for the SC Highway 41 Corridor Improvements Project (2017, 2020)

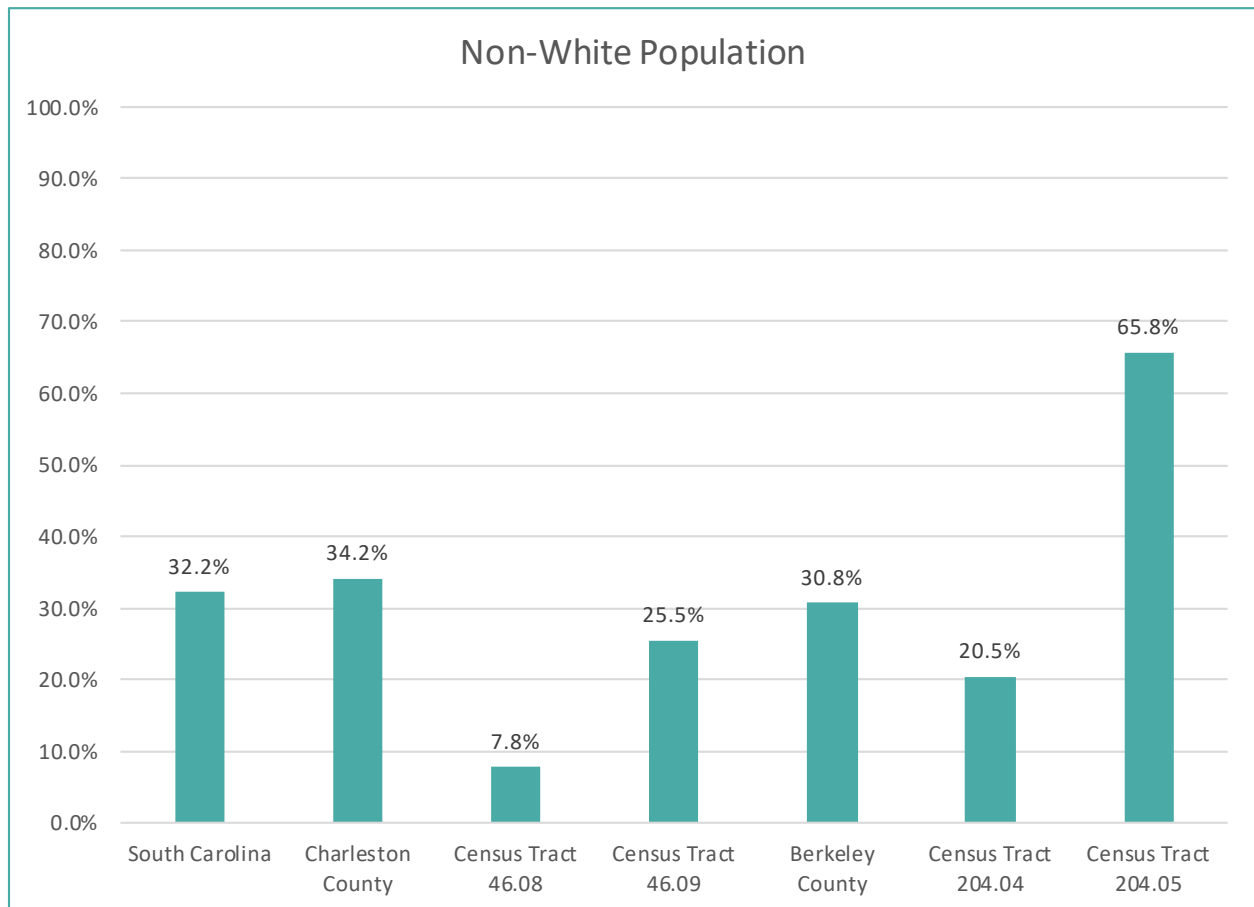
This population and/or employment growth is expected to occur in key locations, as identified in local plans. The most extensive growth is projected to occur through 2040 in the Berkeley County portion of the study area, to the north of the Wando River in and around the Cainhoy community. In general, compared to the Charleston County portion of the study area, this area contains much more open and undeveloped land for new residential and commercial developments. Proposed developments adjacent to the Project study area in Berkeley County include Wando Village, a mixed-use development combining retail/commercial uses with 416 units of various residential types; and Rivers Bend, a retail center including a gas station and other retail spaces such as a hardware store, bank, fast-food restaurant, and garden center. The proposed Cainhoy Plantation development is a 9,000-acre master-planned, mixed-use development along Clements Ferry Road in Berkeley County to the northwest of the Project study area. Two schools associated with this development have already been constructed, and approximately 9,000 new homes are expected to be built. The proposed development, which has been approved by the City of Charleston for areas to the north and west of the Cainhoy community, has produced anticipated increases in population and employment in the Berkeley County portion of the study area.

The Charleston County portion of the study area is comparatively densely developed; development is largely residential. There are several existing and approved commercial developments in the study area, including a grocery store complex that is completed along SC 41 in the Dunes West community. Most of the Town of Mount Pleasant's growth in recent years has been outwards or northwards along US 17 and

SC 41. For a number of reasons, infill and redevelopment have become more compelling as a policy issue for the Town. The Town’s comprehensive plan recommends that infill and redevelopment should occur in such a way as to preserve the character of nearby residential areas, with buffers and transition zones where appropriate.

3.2 Environmental Justice

As detailed in the CCR and shown on Graph 3, Charleston County Census Tract 46.08 had the lowest percentage of minorities in the study area (at 7.8 percent), while Berkeley County Census Tract 204.05 had the highest percentage of minorities (at 65.8 percent). Both of the Charleston County census tracts had a lower percentage of minorities when compared to Charleston County. In considering ethnicity, the census data show that the percentages of Hispanic or Latino in all four census tracts were low, ranging from 1.9 percent (Berkeley County Census Tract 204.05) to 2.7 percent (Charleston County Census Tract 46.08). These percentages are not enough to change the census tract with the highest percent minority (Berkeley County Census Tract 204.05) and the census tract with the lowest percent minority (Charleston County Census Tract 46.08).



Graph 3. Non-white population
Source: United States Census Bureau, American FactFinder (2015)

Census Bureau block group data were used to refine identification of environmental justice populations in the study area. Table 2 presents minority populations at the block group level, as compared with study

area averages. While only one block group (Census Tract 204.05 Block Group 1) exceeded the 50-percent threshold noted as significant in CEQ environmental justice guidance, several block groups had minority percentages that were greater than study area averages. Census Tract 46.09 Block Group 2, which encompasses southern portions of the Gullah community of Seven Mile, and Census Tract 204.05 Block Group 1, which overlaps approximately half of Cainhoy, including portions of its Gullah community, had overall minority percentages that exceeded the study area average. In both of these Census Bureau geographies, African American was the most prominent race or ethnicity. Also notable were Asian and Hispanic populations comprising 7.8 percent and 16.1 percent, respectively, of the overall population of Census Tract 46.08 Block Group 1, which encompasses eastern portions of the Gullah African-American Phillips Community and the entirety of Dunes West. These three census geographies are emboldened in Table 2 due to their potential higher vulnerability. Figure 5 shows minority population percentages at the block group level across the study area.

The presence of the Phillips Community, located within Census Tract 46.08 Block Group 1 and Census Tract 46.08 Block Group 2, is diluted within the block group data due to sharing that block group with Dunes West, a substantially larger and predominantly nonminority planned community. The Phillips Community was founded by freed African Americans after the Civil War, and the community retains a high percentage of African Americans in its population.

Table 2. Study Area Minority Populations at Block Group Level

Geography	% Minority	% African American	% American Indian / Alaska Native	% Asian	% Native Hawaiian / Other Pacific Islander	% Some Other Race	% Two or More Races	% Hispanic
Study Area ¹	15.8	11.9	0.0	1.2	0.1	0.0	2.7	3.4
46.08 BG 1	11.2	1.5	0.0	7.8	0.0	0.0	1.9	16.1
46.08 BG 2	9.7	6.4	0.0	0.0	0.0	0.0	2.8	0.0
46.08 BG 3	7.4	0.0	0.0	0.0	0.0	0.0	7.4	3.5
46.08 BG 4	3.3	2.6	0.0	0.0	0.0	0.0	0.6	0.5
46.09 BG 2	19.0	16.0	0.2	0.0	0.6	0.0	2.8	0.0
204.04 BG 2	0.8	0.0	0.0	0.3	0.0	0.0	0.6	0.0
204.05 BG 1	59.5	56.5	0.0	0.0	0.0	0.0	3.0	3.6

Source: 2011-2015 American Community Survey 5-Year Estimates

¹ Study area percentages are averages of the Census Bureau block group data

Note: Emboldened geographies exceed the 50-percent threshold noted as significant in CEQ guidance or have higher minority percentages than the study area average. Emboldened ethnic percentages indicate those that are higher than the study area average.

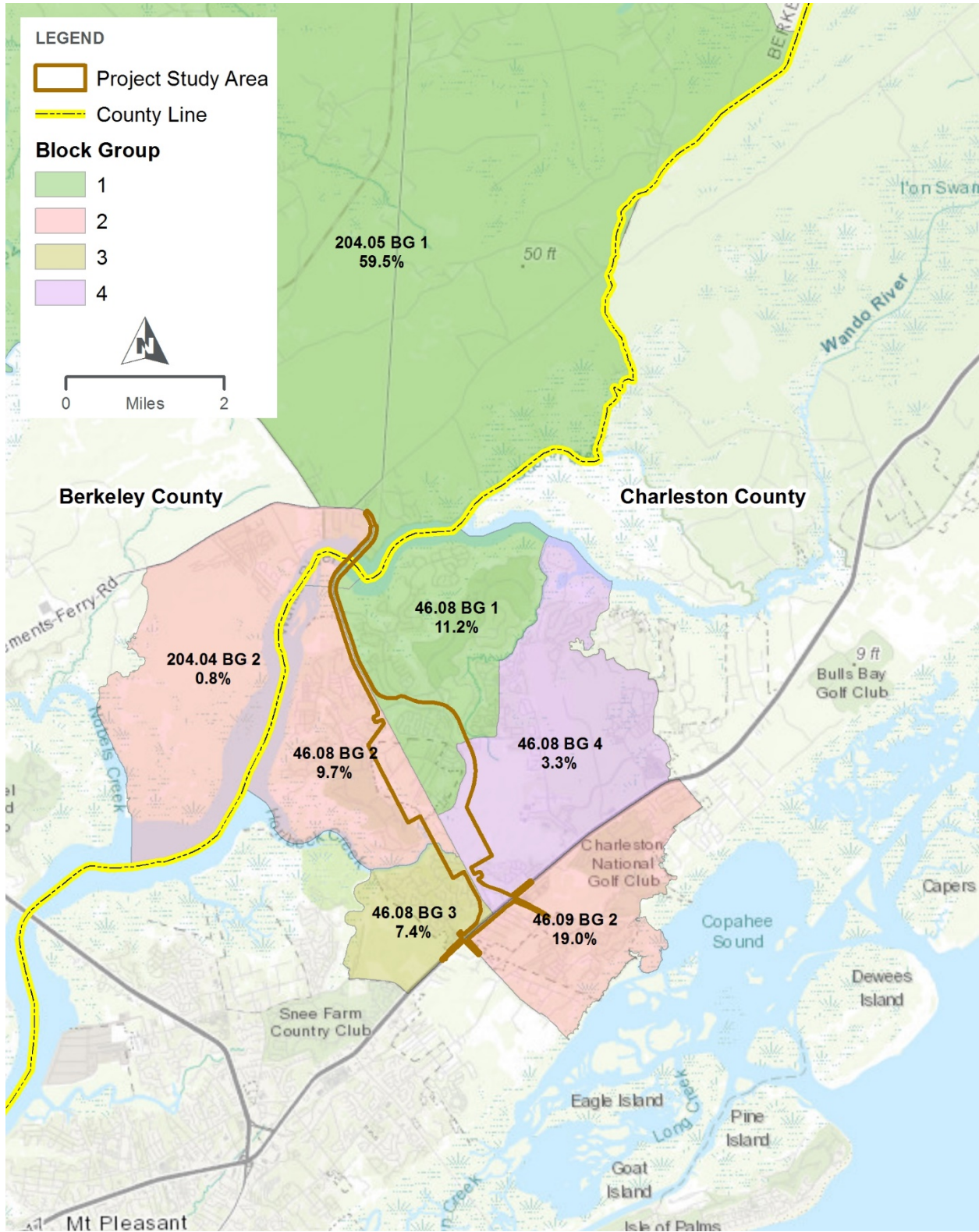
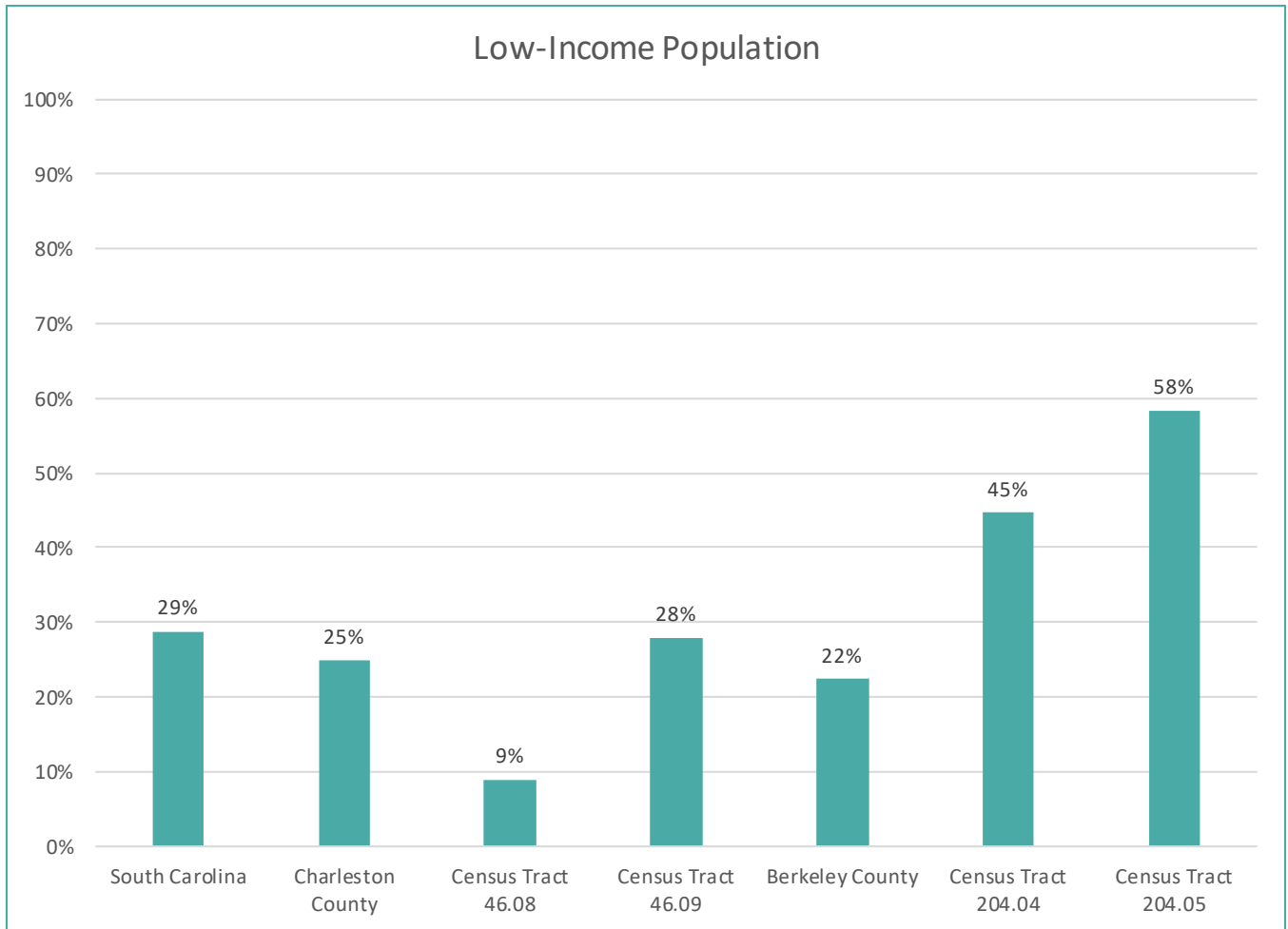


Figure 5. Minority Population Densities

As seen in Graph 4, Berkeley County Census Tract 204.05 also had the highest percentage of low-income populations in the study area (at 58 percent). Both of the Charleston County census tracts had a lower percentage of low-income populations when compared to Charleston County. Conversely, both of the Berkeley County census tracts had a higher percentage of low-income populations when compared to Berkeley County as a whole.



Graph 4. Low-income population

Source: United States Census Bureau, American FactFinder (2015)

Table 3 presents per capita income rates at the block group level and poverty rates at the census tract level, as compared with study area averages. Across the study area, the per capita income rate was \$38,280, and the proportion of the population below poverty level was 6.9 percent. Four block groups had per capita income rates that were lower than the study area as a whole, and two census tracts that overlap portions of African American communities had poverty rates that exceeded the study area rate. While none of the block groups had per capita income rates at or lower than the 2015 US poverty threshold for individuals (\$12,082), as reported by the Census Bureau (2016). Across the study area, poverty rates for all but one census geography were lower than the 2015 official US poverty rate (13.5 percent). Census Tract 204.05 Block Group 1, which overlaps portions of the Cainhoy community, had a poverty rate that exceeded the official US poverty rate threshold and had a per capita income rate lower

than the rate across the study area. This census geography is emboldened in Table 3 due to its potential higher vulnerability. Figure 6 shows per capita income rates at the block group level across the study area.

Table 3. Study Area Low-Income Populations at Block Group Level

Geography	Per Capita Income	% Below Poverty Level ¹
Study Area	\$38,280	6.9
46.08 BG 1	\$44,770	5.5
46.08 BG 2	\$34,936	5.5
46.08 BG 3	\$50,867	5.5
46.08 BG 4	\$35,900	5.5
46.09 BG 2	\$40,117	8.8
204.04 BG 2	\$31,918	3.5
204.05 BG 1	\$26,085	16.3

Source: 2011-2015 American Community Survey 5-Year Estimates

¹ Provided at the census tract level due to availability

3.3 Limited English Proficiency

According to US Census Bureau ACS data, 1.6 percent of South Carolina households are LEP. Similarly, 1.4 percent of Charleston County households are LEP. Zero percent of Charleston County Census Tracts 46.08 and 46.09 are LEP. The EPA’s Environmental Justice Screening and Mapping Tool was checked, and none of the Charleston County census tracts within the Project study area are linguistically isolated. According to the US Census Bureau ACS data, 2.3 percent of Berkeley County households are LEP. Berkeley County Census Tract 204.04 is 0.5 percent LEP, and Census Tract 204.05 is 2.0 percent LEP. Both of these percentages are below the 2.3 LEP percentage for Berkeley County households. There were no requests for translation services at any of the Project public meetings held in the fall of 2017. When assessed at the Census Bureau block group level, no LEP population met the DOJ LEP thresholds of constituting five percent or 1,000 individuals.

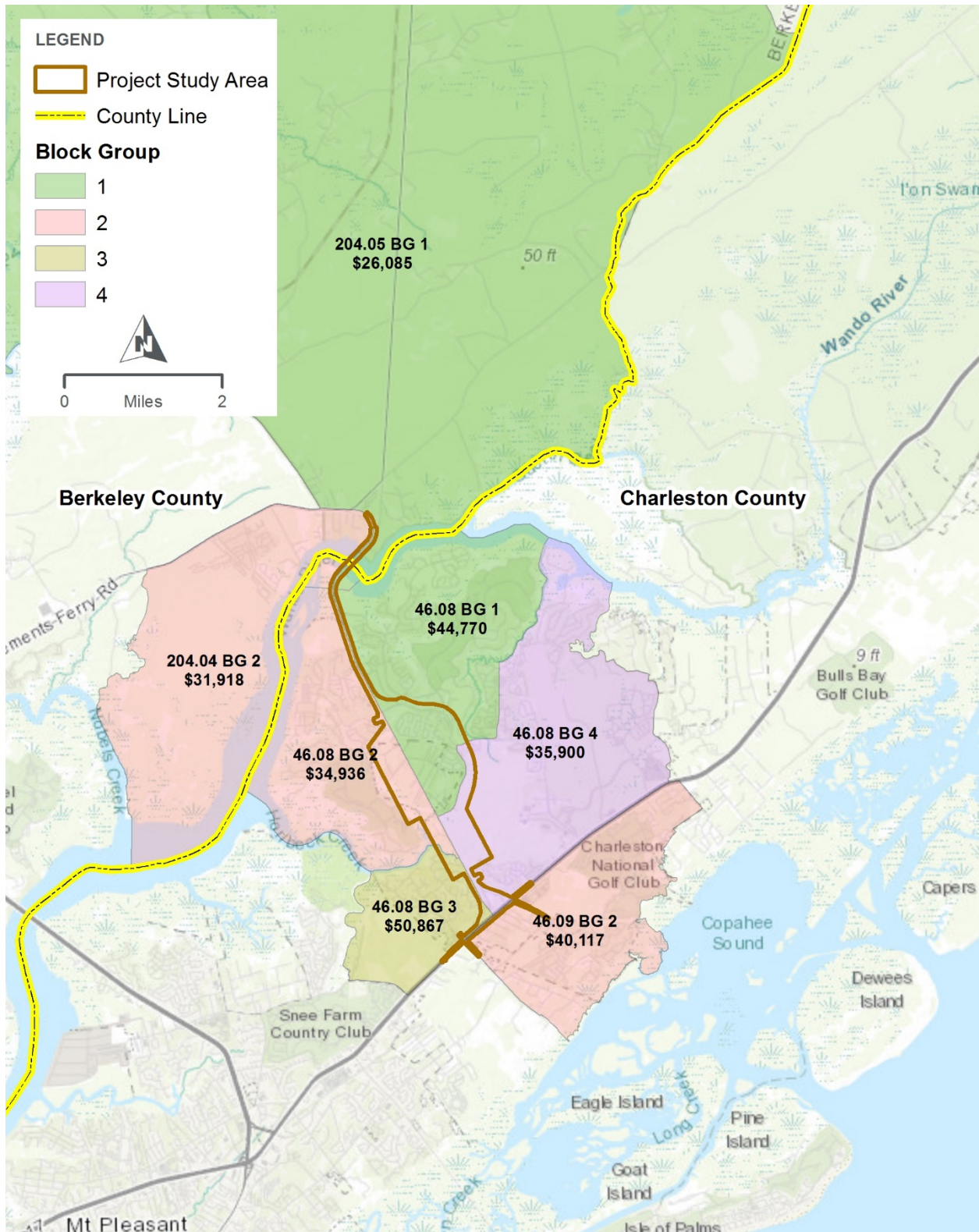


Figure 6. Per Capita Income Rates

4.0 Environmental Consequences

The following sections address potential effects of the alternatives on the communities within the study area. While no residential or business relocations are expected with implementation of the Project, portions of numerous parcels would be impacted by the additional right-of-way (ROW) associated with the Project. Table 4 compares the impacted acreages in each community in relation to each build alternative.

Table 4. Impacted Acreages and Individual Residential Parcels by Community and Build Alternative in Comparison with Study Area Averages

Community	Alt 1			Alt 7A		
	Overall Acres	Individual Residential Acres	Individual Residential Parcels	Overall Acres	Individual Residential Acres	Individual Residential Parcels
Study Area Averages	2.0	0.4	7.5	2.8	0.1	2.4
Brickyard / Colonnade	1.2	0.0	0	1.2	0.0	0
Cardinal Hill	1.5	0.0	0	0.4	0.0	0
Dunes West	8.2	0.0	0	12.1	0.2	1
Gregorie Ferry	1.0	0.0	0	1.0	0.0	0
Horlbeck Creek	0.1	0.0	0	0.1	0.0	0
Ivy Hall	0.2	0.0	0	0.2	0.0	0
Park West	0.0	0.0	0	11.3	0.01	7
Phillips Community	5.2	4.1	70	0.4	0.2	1
Planter's Pointe	1.6	0.0	0	1.6	0.0	0
Rivertowne	1.0	0.0	0	1.1	0.0	0
Seven Mile	3.8	0.6	20	3.8	0.6	20
Cainhoy	0.0	0.0	0	0.0	0.0	0

Due to the importance of residential aspects of the study area, Table 4 presents the quantity of impacted individual residential parcels. Such parcels are either (1) defined as “Residential” in the Charleston County parcel data, excluding large, undeveloped residential development parcels and POA-owned parcels, or (2) defined as “Commercial” in the Charleston county parcel data but function as residential properties. In some but not all cases, the latter property type have small commercial enterprises associated with them, such as sweetgrass basket stands or firewood sales. Such combined residential-commercial properties are often associated with Gullah African-American communities. Most of the quantified residential parcels function as single-family residential parcels, while some function as small vacant lots that currently serve as vegetative buffers but could serve as residential parcels. Impacts to

individual parcels within condominium complexes are counted as one parcel, per the Charleston County parcel data indicating these as the same overall acreage. Table 4 additionally presents study area averages, and the numbers emboldened reflect those that are above those averages.

To assess impacts to communities in the study area, various community-related resources were evaluated for effects resulting from the alternatives. Effects to the aesthetic character, community services, and economics as well as effects from Project construction were assessed for the entire study area. These effects from the alternatives are expected to be similar in all communities in the study area. If specific, unique impacts to these resources would occur within a community, generally, they are discussed in the individual community sections (Section 4.2 to Section 4.13). Additional effects – those that are expected to differ across the communities – are also considered in relation to each community in the individual community sections. Where it would be most effective to understand how impacts to individual communities differ across the study area, these are discussed in the study area section.

4.1 Study Area

The No-Build Alternative consists of making no improvements to SC 41. While no immediate new effects are expected in the study area from the no-build alternative, traffic volumes on SC 41 would continue to increase as a result of regional population growth. Over time, these changes are projected to result in substantial congestion on SC41 and US17 in the study area, which may lead to direct and indirect effects on residential aspects in the study area, such as livability and other social, cultural, and/or psychological effects, and may indirectly lower residential property values. Economic and business conditions may alter and become less favorable, which in turn could negatively impact the Charleston County tax base. Public health and safety may be at increased risk as emergency vehicles may not be able to navigate the study area as rapidly or safely, and emergency facilities may be less accessible.

The two build alternatives (Alternative 1 and Alternative 7A) would have similar impacts on all communities in relation to economic and business conditions, land use, mobility and access, public health and safety, sensory aspects, Project construction, as well as indirect, recurring, and cumulative effects, as discussed in the following sections. EJ impacts are also considered in this section, in an effort to consolidate that discussion across the study area and assess the impacts as a whole. Direct effects to specific parcels within the study area by build alternative are presented in Appendix A. Figure 7 shows the locations of major community resources in the study area.

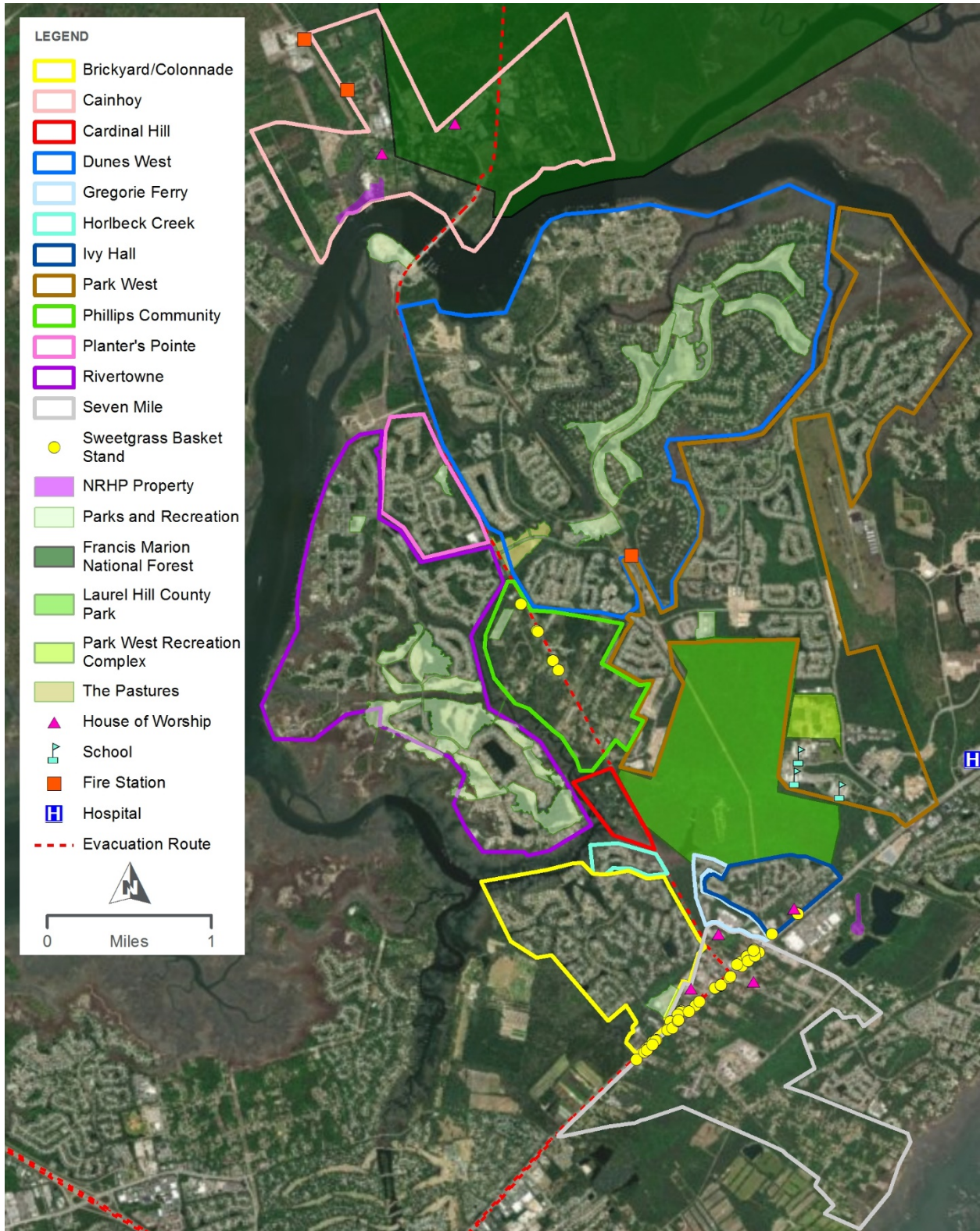


Figure 7. Major Community Resources

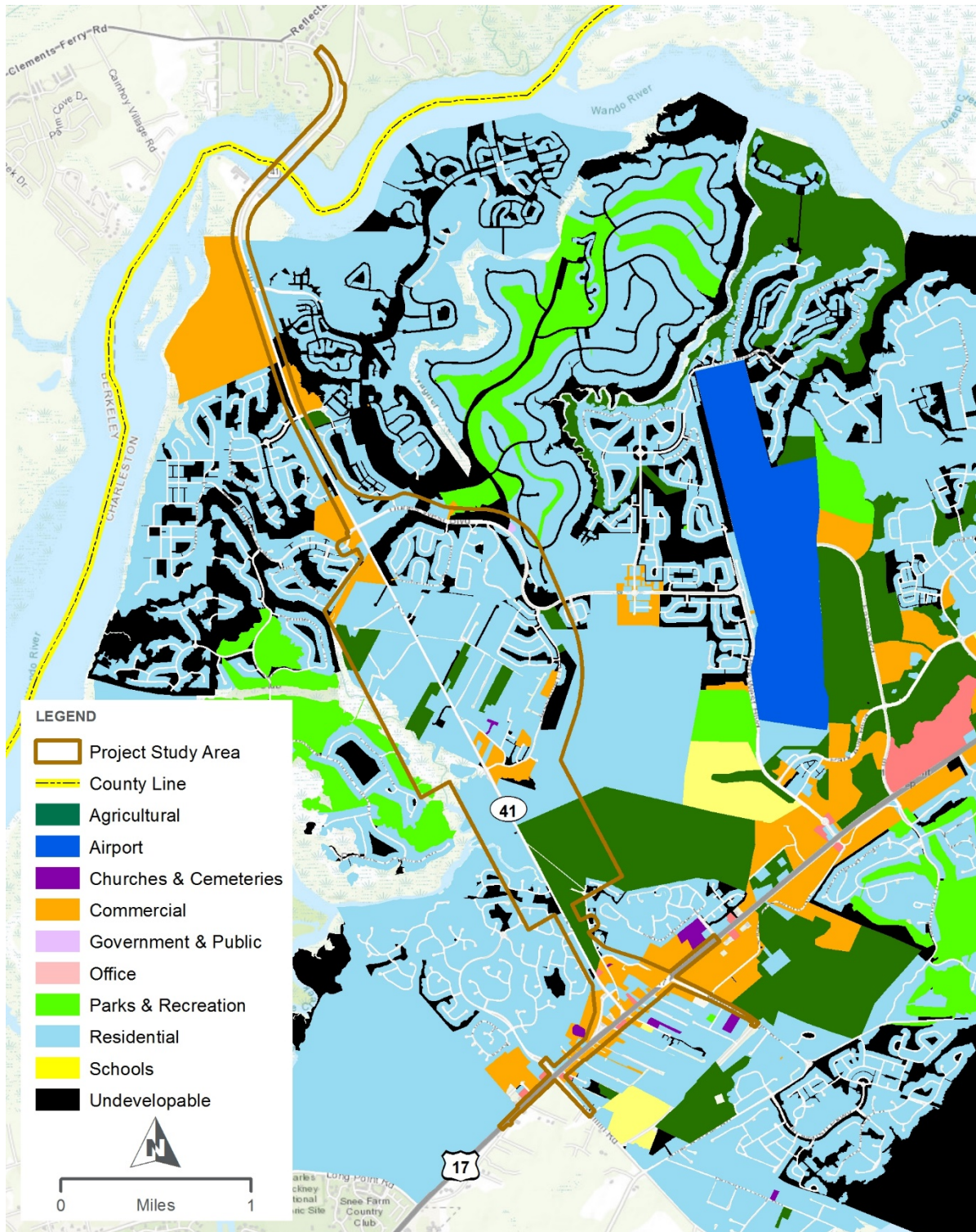


Figure 8. Charleston County Land Use

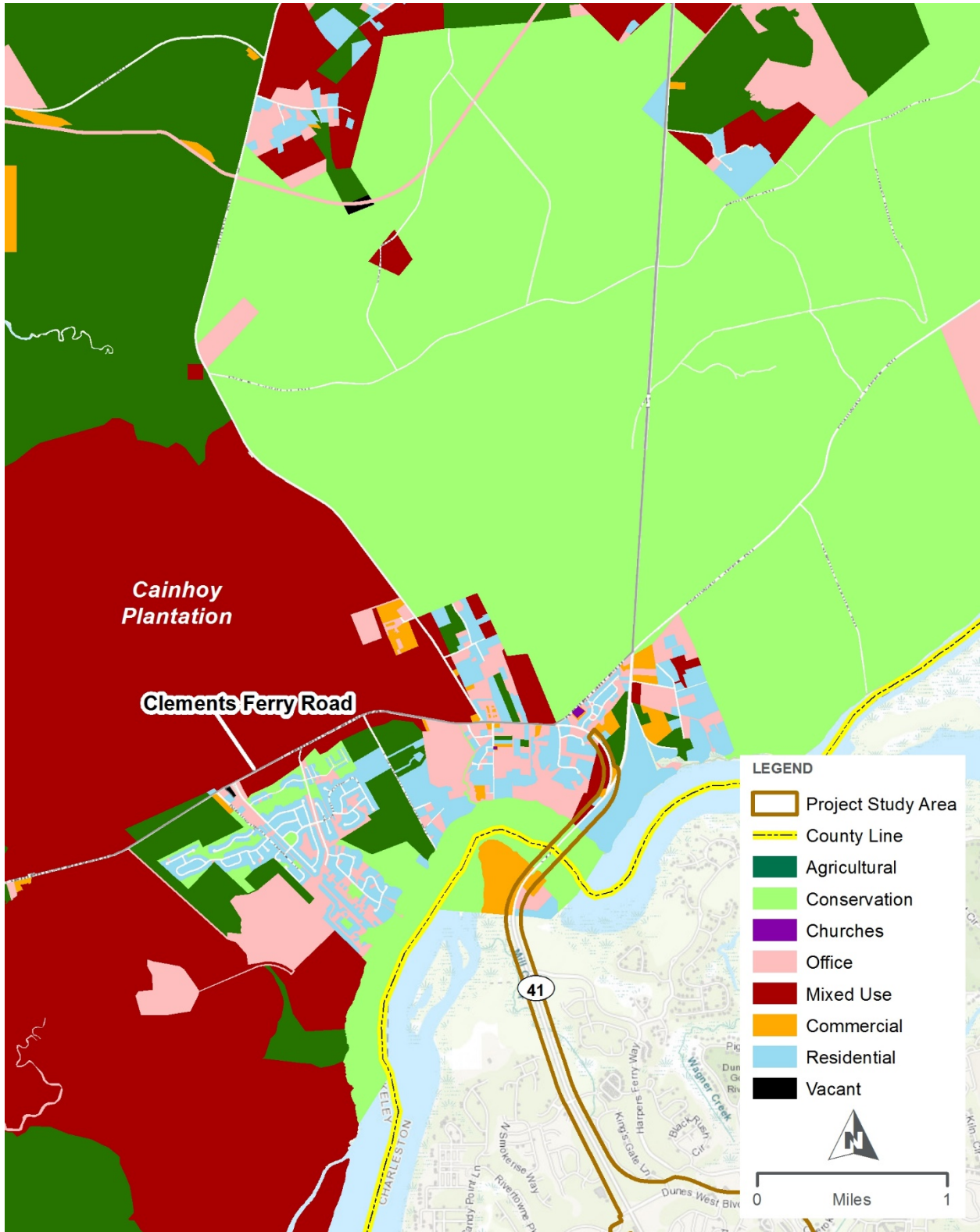


Figure 9. Berkeley County Land Use

4.1.1 Economic and Business Conditions

Proposed Project changes would result in increased roadway capacity and reduced congestion and may improve access to commercial services along its corridor. These effects have the potential to increase patronage of the businesses along the corridor. No business relocations are expected with implementation of the Project.

Overall, construction of either of the build alternatives would potentially result in, minor, positive impacts to economic and business conditions in the study area, with concentrated effects in areas adjacent to the selected build alternative.

4.1.2 Land Use

The majority of the study area is single-family residential, with several planned residential neighborhoods, some multifamily residential complexes, and some long-term rural residential land uses (Figure 8 and Figure 9). Some commercial, office, religious, recreational, and undeveloped land uses also exist in the study area. Most of the commercial land uses concentrate along US 17, southern portions of SC 41, and at the intersection of Clements Ferry Road and Cainhoy Road. While most of the recreational land uses in the study area are private, public recreational land uses consist of Laurel Hill County Park. Public resources outside of the study area but within community boundaries consist of Park West Recreation Complex in Park West and Francis Marion National Forest in Cainhoy (Figure 7).

Within the study area, land use impacts are expected to occur in different locations depending on the build alternative; however, these would generally be consistent with local plans and initiatives discussed in the CCR). Alternative 1 may alter land uses along existing SC 41. Along this corridor, more planned residential and, subsequently, neighborhood scale commercial uses could be stimulated with completion of the Project. Alternative 7A may alter land uses along northern and southern portions of existing SC 41 as well as along existing Dunes West Boulevard. To the east of Bessemer Road and the location where Dunes West Boulevard turns to Park West Boulevard, within Dunes West and Park West, land uses would change from undeveloped to transportation uses, and commercial land uses may also be stimulated in this location with Project completion. Along and near US 17, land uses would change from commercial to transportation uses in some places, and more commercial land uses could be spurred with Project completion. Refer to the Environmental Report for the Project for additional information on Project effects on land use.

4.1.3 Mobility and Access

Within the study area, general mobility, and access to individual properties, and residential developments would be improved with implementation of either build alternative, since the build alternatives would improve capacity and reduce traffic delays across the study area. In addition, multimodal mobility would be improved by the addition of pedestrian and bicycle pathways, which would connect with existing pathways at either extent of the study area. Generally, Alternative 1 would positively affect mobility and access along existing SC 41, while Alternative 7A would positively affect mobility and access along existing SC 41 as well as along existing Dunes West Boulevard, Park West Boulevard, and Bessemer Road. Both alternatives would positively affect mobility and access where Project changes are proposed on and near US 17. Refer to the Environmental Report for the Project for additional information on Project effects on projected changes to traffic flow.

4.1.4 Public Health and Safety

Because impacts to public health and safety within any of the communities could affect the study area as a whole, public health and safety effects are assessed in this section and not within the individual

community sections below. Impacts to private recreational facilities as well as unique effects to public health and safety are presented in the individual community sections.

Three public recreational resources exist in the study area: Francis Marion National Forest, Laurel Hill County Park, and Park West Recreation Complex (Figure 7). Francis Marion National Forest and Laurel Hill County Park are primarily undeveloped, forested land with some trails and/or roads. Laurel Hill County Park additionally features a historic oak allée associated with the former Laurel Hill Plantation, large open meadows, and a small lake (Charleston County Park & Recreation Commission 2017). Park West Recreation Complex, accessed off Park West Boulevard southeast of the



Laurel Hill County Park Trail

proposed build alternatives, is a Town of Mount Pleasant park with several sports fields and courts, an activity building and gym, a pool, a lake, and many walking trails (Town of Mount Pleasant 2019). Park West Recreation Complex provides the main access to Laurel Hill County Park, via a trailhead (Charleston County Park & Recreation Commission 2017). No impacts would occur to Frances Marion National Forest or Park West Recreation Complex. Either of the build alternatives would impact extreme western portions of the approximate 745-acre Laurel Hill County Park, to the east of Bessemer Road and along SC 41, where undeveloped forested land dominates and no recreational resources exist. Alternative 1 would impact 0.7 acres, while Alternative 7A would affect 19.4 acres. Although the impacted acreage is higher for Alternative 7A, neither build alternative would impact developed areas of the park and, therefore, would not negatively impact public health in relation to this public resource. In addition, both build alternatives would add bicycle and pedestrian pathways, which would offer additional public recreational opportunities and, thus, benefit public health in the study area.

Either build alternative would affect a small portion of one Town of Mount Pleasant-owned parcel located within Gregorie Ferry and one public utility parcel owned by South Carolina Electric and Gas. The Project is not expected to affect the function of these public properties and, therefore, would not have an impact on public health or safety in relation to this resource.

Alternative 1 would affect a small portion of three Town of Mount Pleasant-owned parcels, two located along existing SC 41 within the Phillips Community and one, adjacent to Cardinal Hill. The Project is not expected to affect the function of these public properties and, therefore, would not have an impact on public health in relation to these resources.

Alternative 7A would affect portions of one parcel in Dunes West owned by the Town of Mount Pleasant. This parcel, located east of the intersection of Wando Plantation Way and Park West Boulevard, currently serves as Station 5 of the Mount Pleasant Fire Department. The impacted portion of this parcel is a small

portion of the driveways adjacent to Park West Boulevard. This change associated with Alternative 7A is not expected to affect the operation of the fire department and would generally improve access to and from this property; thus, the Project would not result in an adverse impact to public health and safety in relation to this resource.

The Project would involve construction within the regulated 100-year floodplain of the Wando River. The majority of floodplains within the study area are designated Zone AE (100-year floodplain where detailed studies have previously determined base flood elevations) with some areas designated Zone X (500-year floodplain and outside of 500-year floodplain; see the environmental report for the Project). Because base flow elevations have been established for most floodplains in the study area, FEMA requirements limit encroachment in the 100-year floodplain to activities that do not increase the base elevation by more than one-tenth foot, also called “no-rise” (FEMA 2007). The Project would be designed in an effort to meet “no-rise” requirements and, therefore, would not have an impact on public health and safety in relation to flooding and drainage.

Reoccurring drainage and flooding problems have been documented by Charleston County within the Phillips Community (Thomas & Hutton 2016). The main drainage system in the approximately 250-acre drainage basin east of SC 41 consists of linear, open ditches and road and driveway culverts. Other minor drainage infrastructure in the basin generally consists of roadside swales and driveway pipes. Out-of-bank flooding and roadway overtopping has been documented along the main drainage system in the past. The widening of SC 41 from two lanes to five lanes and the use of closed drainage systems would potentially result in increased flow rates at outfall locations. In the design process, each outfall location would be analyzed to determine if measures would be required to mitigate the impacts related to the increase in impervious surfaces related to the Project.

The Project would improve mobility and access in the study area and, thus, would positively affect public health and safety in relation to the disaster evacuation route located in the study area, extending along existing SC 41 and US 17, and would be relocated to portions of the selected build alternative, as appropriate. Overall, public health and safety across the study area may be improved due to emergency vehicles being able to navigate the study area more effectively and efficiently, and emergency facilities and recreational resources would be more accessible due to improved roadway capacity and reduced traffic delays. The Project has the potential to generally improve public health in the study area with the addition of bicycle and pedestrian pathways along the selected corridor.

4.1.5 Sensory Aspects

Overall, the Project is not expected to introduce substantially different visual elements, as the Project is primarily proposed within an existing transportation corridor in a predominantly developed area. Where new visual effects would occur at individual locations in the study area, these are addressed in the associated community section below.

Some sensory effects, such as increased noise, vibration, dust, and vehicular smells, could occur in the immediate corridor of the proposed widened and/or realigned SC 41. However, in Park West, the Phillips Community, and Seven Mile these effects would be more impactful due to the relatively short distance between build alignments and existing buildings and the associated lack of wide vegetative buffers between the build alignments and developed portions of these communities.

Increased sensory effects would occur in limited locations in Dunes West and Park West with implementation of Alternative 7A, which would result in a new five-lane roadway through the western

portions of these communities that would sustain an increased volume of traffic compared with current conditions. In this portion of Dunes West, a community event area known as “the pastures,” discussed in more detail in Section 4.4 and, in Park West, several townhouse complexes are near the proposed new roadway associated with Alternative 7A. These permanent effects associated with Alternative 7A are expected to be minor to moderate, depending on the distance of developed portions of parcels to proposed changes.

Increased sensory effects would occur in the Phillips Community with implementation of Alternative 1, which would widen the existing two-lane roadway to a five-lane roadway through the community that would sustain an increased volume of traffic compared with current conditions. These permanent impacts are expected to affect numerous residential properties through the central portion of the Phillips Community. Due to the extent of these effects across Phillips, impacts from Alternative 1 are expected to be moderate. While Alternative 7A would widen existing SC 41 to three lanes, Alternative 7A also provides a bypass of the Phillips Community to the east and, thus, would result in reduced traffic volume through the Phillips Community. Therefore, Alternative 7A is not expected to result in substantial sensory impacts in the Phillips Community.

In Seven Mile, either build alternative would widen US 17 from a six- to seven-lane roadway with occasional turn lanes, to an eight- to ten-lane roadway with occasional turn lanes along the northern boundary of the community. The expanded roadway would sustain an increased volume of traffic compared with current conditions. Due to the present existence of a large roadway through the community, these permanent changes along SC 41 and US 17 are expected to be minor to moderate, depending on the distance of developed portions of parcels to proposed changes. The introduction of an expanded roadway following the existing Hamlin Road alignment would result in increased sensory effects in this portion of Seven Mile. This may introduce increased traffic volume through this portion of the community, and permanent impacts in this location are expected to be moderate. Overall, these permanent effects associated with either of the build alternatives are expected to be minor, as they would impact limited portions of the community.

4.1.6 Environmental Justice

EJ populations are detailed in Section 3.2. Residential relocations or acquisitions are not anticipated in association with either build alternative; or no direct impacts to the EJ-qualifying Cainho community or its resources are expected. However, the Project would result in an expanded roadway with increased capacity passing near residences along the selected build alternative. In the EJ-qualifying Phillips Community, these changes in association with Alternative 1 would affect approximately 70 residential parcels and would range from moderate to major in severity, depending on whether the affected parcels are legally heirs’ properties. Currently, only four residences are within 30 feet of the existing SC 41 ROW. Under Alternative 1, the proposed SC 41 ROW, which would span the entire north-south width of the community, would be within 30 feet of approximately 13 residences or other buildings appearing like residences. The parcels associated with these residences lack vegetative buffers that would otherwise minimize visual effects of the Project. The status of individual properties as heirs’ properties, meaning that they are owned in common among the heirs of earlier-named owners of the properties, may exacerbate negative effects because compensation for the loss of portions of these parcels would legally be shared among all the heirs of individual parcels. This could result in a very small portion of the overall compensation amount going to each heir. For these properties, which has been estimated by community members to be the majority of family properties still held in the Phillips Community (Richardson Seacat 2018, impacts are anticipated to be permanent and major, as heirs living near the road who may prefer to relocate due to the expanded roadway would potentially not receive enough individual compensation to be able to relocate elsewhere. In addition, while

some properties could have space for heirs to relocate their homes elsewhere on the property, others generally lack that space due to being occupied or controlled by other family members.

In EJ-qualifying Seven Mile, the changes in association with either build alternative would affect approximately 20 residential parcels and 14 sweetgrass basket stands. Overall, based on the assessment factors outlined in Section 2.4, these changes are expected to be minor to moderate, as the effects of the Project would be made more minimal due to the distance of residences from proposed new ROW, the presence of some vegetative buffers, and the current existence of large roadways within the community. Expanded SC 41 immediately north of its intersection with US 17, the improved intersection at SC 41 and US 17, and the roadway changes proposed directly to US 17 would affect portions of the study area that are primarily commercial. Additionally, in consideration of the residential properties that do exist in these portions of Seven Mile, US 17 in this location is currently a wide (six- to seven-lane) roadway with a large capacity.

The Project is expected to affect the Phillips Community and Seven Mile more intensely due to the community members' traditional cultural heritage as Gullah African-American people. Impacts to individual families and potential self-elected relocation by individual community members (as opposed to forced relocation by the Project) in these traditional Gullah communities could indirectly affect the psychologies of community members, community cohesion, and the long-term viability of the communities as a whole. Because the changes associated with Alternative 1 in the Phillips Community are estimated to be moderate to major and would affect approximately 70 residential parcels throughout the community with residences in near proximity to the proposed new ROW, and because these impacts are more severe than in non-EJ communities in the study area, the Phillips Community is expected to experience disproportionately high and adverse effects from the Project with implementation of Alternative 1. Implementation of Alternative 7A in the Phillips Community, which would not require substantial additional ROW through the community, is not expected to result in disproportionate effects. Because the changes associated with either build alternative in Seven Mile are estimated to be minor to moderate and would affect approximately 20 residential parcels and 14 sweetgrass basket stands spread throughout the community, and because these impacts are more severe than in non-EJ communities in the study area, Seven Mile is expected to experience disproportionate effects from the Project with implementation of either build alternative.

This negative impact to these EJ populations would be partially offset by the potential benefits of the Project; refer to Section 5.3 of this document to learn more about the benefits of the alternatives. Implementation of Alternative 1 would expand the current two-lane roadway through Phillips to five lanes. These changes could contribute to cumulative impacts to the traditional culture of the Phillips Community and the traditional cultural identities of community members when considered along with nearby federal and nonfederal projects, in particular the 2013 US 17 widening project and private residential developments. Thus, Alternative 1 compounds adverse effects to this EJ-qualifying community, as discussed in Section 4.9.1. Implementation of either build alternative, which would result in a more expansive roadway and larger intersection than currently exists in the northeast portion of the community, could contribute to cumulative impacts to the traditional culture of Seven Mile and the traditional cultural identities of community members when considered along with nearby federal and nonfederal projects, in particular the 2013 US 17 widening project and private residential developments. Thus, implementation of the Project would compound adverse effects to this EJ-qualifying community, as discussed in Section 4.9.1. Recurring or cumulative effects to other EJ populations are not anticipated.

4.1.7 Temporary Impacts

Traffic would be temporarily affected during construction of the Project. Short-term construction impacts could include increases in dust, noise, and vibration; traffic disruption, congestion, and diversion; as well as limited access to individual properties. Motorists, pedestrians, and bicyclists would be temporarily affected during construction, as traffic detours and some temporary road closures would be required and are expected to change frequently throughout construction. Detours and road closures could temporarily increase commute times, fuel use, and air pollutant emissions. Construction could also temporarily increase response times for emergency service vehicles. Access to individual properties could also be temporarily disrupted, potentially resulting in the loss of revenue for affected businesses. These effects would be greater in the Phillips Community with implementation of Alternative 1 and in Dunes West and Park West with implementation of Alternative 7A.

To minimize these impacts, the construction contractor would develop a maintenance-of-traffic plan. A requirement of this plan would be that access to individual properties be maintained to the extent practicable and that existing roads be kept open to traffic unless alternate routes are provided. During construction, Charleston County would coordinate with local municipalities and/or property owners' associations to post information on temporary closures and detours.

The presence of large construction equipment in the study area could be perceived as visually disruptive or incongruent and could cause temporary effects to the character of the study area and individual communities. Construction impacts to communities, neighborhoods, businesses, and the natural environment would be minimized where possible. Community outreach activities to educate the public on construction activities would occur during pre-construction and construction.

4.1.8 Recurring and Cumulative Effects

Cumulative effects could occur in some portions of the study area in relation to the Project. These would concentrate in two of the Gullah African-American communities in the corridor, the Phillips Community and Seven Mile, in relation to compounding effects from private residential developments and the 2013 US 17 widening project, which resulted in the relocation of many sweetgrass basket stands that were present in the US 17 corridor when existing conditions information was compiled. These potential cumulative effects are discussed in Section 4.1.6, Section 4.9, and Section 4.12. No additional cumulative effects are anticipated in relation to the Project.

4.2 Brickyard/Colonnade

Brickyard Plantation and The Colonnade, hereafter Brickyard/Colonnade, are adjacent, developer-designed neighborhoods located in the southern portion of the study area, to the west of SC 41 and north of US 17 (Figure 9). These neighborhoods, together totaling 537 acres but not connected via internal roadway, can be accessed via Brickyard Parkway from US 17 and via Colonnade Drive from SC 41. The neighborhoods are made up of suburban single-family homes. There are sub-areas within the neighborhoods, each with its own price range and style of living. Private recreational facilities include a fitness center, tennis courts, a clubhouse, basketball court and access to Horlbeck Creek. There also are private walking/jogging trails and two swimming pools. Substantial forested buffers are present adjacent to residential portions of these communities, along existing SC 41 and north of commercial properties along US 17, also considered part of Brickyard/Colonnade.

Both build alternatives associated with the Project would change the existing two-lane SC 41 in the vicinity of Brickyard/Colonnade, surrounding the entrance to The Colonnade, to a five-lane roadway with a center raised island or two-way left-turn lane. Either build alternative would also result in widening of portions of

US 17 and Brickyard Parkway surrounding the entrance to Brickyard Plantation to facilitate turning movements to and from US 17. These changes associated with the Project would require a total of approximately 1.2 acre from parcels associated with Brickyard/Colonnade. This would result in more expansive roadways closer to these neighborhoods than the existing roadways.

In addition to the impacts shared across the study area, as discussed in Section 4.1, Brickyard/ Colonnade would experience specific impacts to community resources. These impacts would be permanent and minor, as discussed in the following sections. Appendix A presents acreage impacts to individual parcels by build alternative.

4.2.1 Community Resources

Both of the build alternatives would affect small portions of 10 POA-owned parcels or parcels indicated as undevelopable in the Charleston County parcel data, together totaling in their entirety 27.2 acres. These parcels currently function as relatively wide vegetative buffers between residential portions of the community and SC 41 or are associated with the entrance to the Brickyard Plantation community from US 17. Affected portions of these parcels total 1.2 acres, and individual parcels are affected by less than 0.3 acre. Impacts to these parcels associated with the Project are expected to be permanent and minor due to the maintenance of the majority of these parcels, which would allow their continued use as forested buffers.



Figure 9. Brickyard/Colonnade Community Resources and the Build Alternatives

4.3 Cardinal Hill

Cardinal Hill is an approximate 66-acre developer-designed, gated neighborhood located in the southern portion of the study area, to the west of SC 41 (Figure 9). The neighborhood can be accessed from SC 41 via Cardinal Hill Drive. The neighborhood is made up of large single-family homes on a densely wooded property bound to the east by SC 41 and to the west by Horlbeck Creek and its adjacent marshes. A substantial forested buffer is present along the east side of the community, adjacent to existing SC 41.

Both of the build alternatives associated with the Project would change widen the existing two-lane SC 41 in the vicinity of Cardinal Hill to a five-lane roadway with a center raised island or two-way left-turn lane. Alternative 1 would require a total of approximately 1.5 acre from parcels, all located on the west side of SC 41, adjacent to Cardinal Hill. These changes would result in a more expansive roadway closer to the neighborhood than the existing roadway. Alternative 7A would require a total of approximately 0.4 acre from parcels alongside Cardinal Hill. Additionally, Alternative 7A would route the proposed SC 41 alignment farther from the community than existing SC 41. While Project changes would result in loss of some acreage, this change associated with Alternative 7A would reduce traffic flow near Cardinal Hill.

In addition to the impacts shared across the study area, as discussed in Section 4.1, Cardinal Hill would experience specific impacts to community resources. These impacts would be minor and permanent, as discussed in the following section. Appendix A presents acreage impacts to individual parcels by build alternative.

4.3.1 Community Resources

Alternative 1 would affect small portions of four undevelopable, POA-owned parcels and one large undeveloped residential parcel, together totaling in their entirety approximately 28.7 acres, while Alternative 7A would affect small portions of two of these parcels, consisting of one of the undevelopable, POA-owned parcels and the one large undeveloped residential parcel, together totaling in their entirety approximately 25.1 acres. Affected portions of the parcels as impacted by Alternative 1 total approximately 1.5 acre, while affected portions of the parcels as impacted by Alternative 7A total approximately 0.4 acre. In addition, the neighborhood gate is currently 55 feet from the edge of travel, and the widened Alternative 1 will reduce that storage length to 42 feet, so the gate may need to be relocated to provide ample vehicle storage between the gate and proposed roadway. The portions of these properties that would be affected by the Project are adjacent to existing ROW along SC 41 and primarily serve as undeveloped forested buffers between the existing roadway and developed portions of the community; thus, the impacts are expected to be permanent but minor.

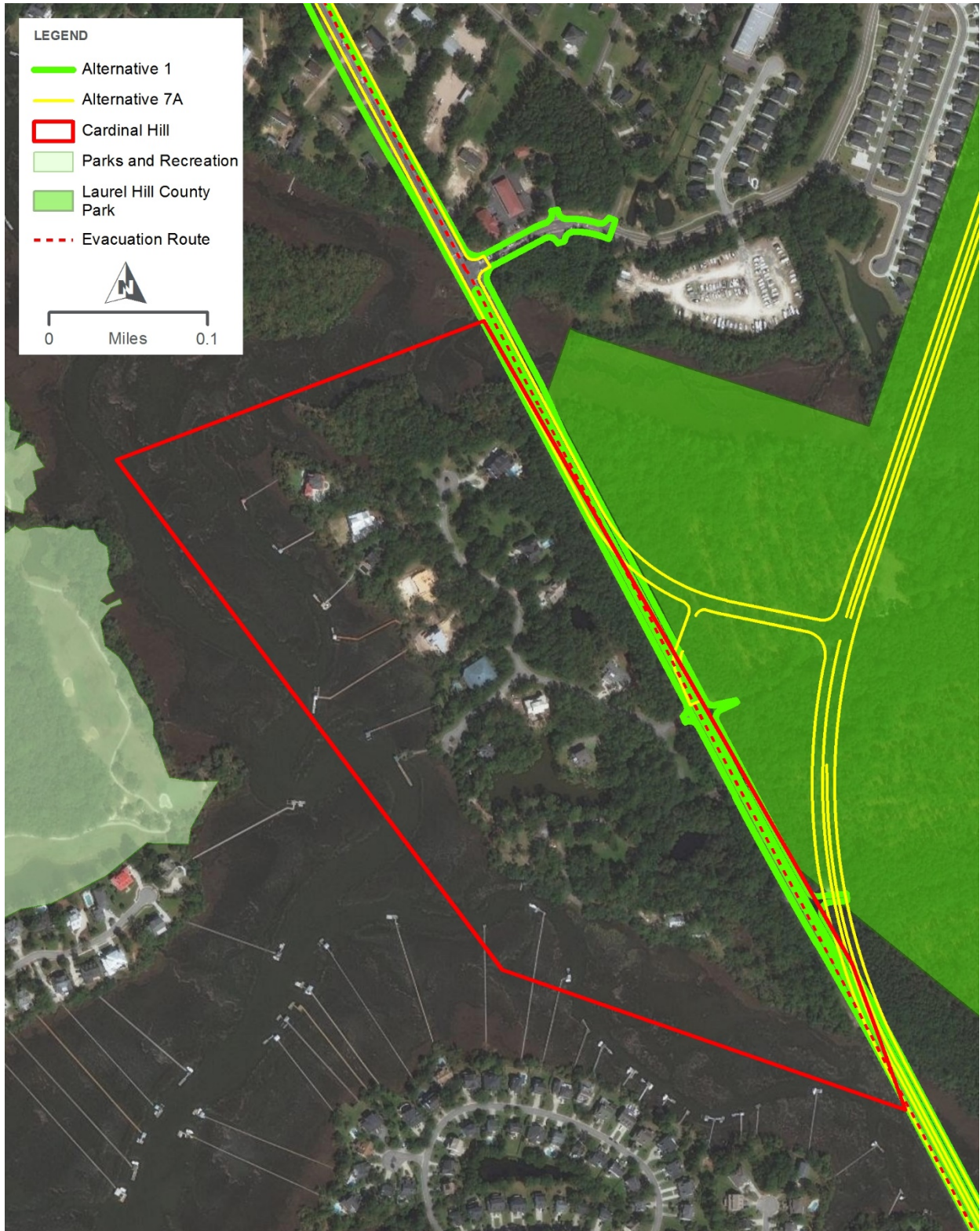


Figure 10. Cardinal Hill Community Resources and the Build Alternatives

4.4 Dunes West

Dunes West is an approximate 2,674-acre developer-designed neighborhood located in the northern portion of the study area, to the east of SC 41 (Figure 11). The neighborhood can be accessed from SC 41 via Bessemer Road, Dunes West Boulevard, Wood Park Drive, and Harpers Ferry Way. The neighborhood is bordered to the south by the Phillips Community. Dunes West is bordered to the east by the Park West neighborhood, and one can also access Dunes West via Park West Boulevard from US 17. Dunes West has approximately 12 miles of waterfront along Wando River, Wagner Creek and Toomer Creek. The neighborhood contains a mixture of single-family homes as well as apartments and townhouses. Dunes West Golf Club and Dunes West Athletic Club are private recreational resources located within the neighborhood. A large supermarket complex has been constructed on a Dunes West parcel along SC 41. Substantial forested buffers are present along the west side of the community, adjacent to existing SC 41, and along existing Dunes West Boulevard, in the southwest portion of the community.

Both of the build alternatives associated with the Project would widen existing SC 41 to a five-lane roadway with a center raised island or two-way left-turn lane along the western boundary of Dunes West. Alternative 7A would additionally convert existing two-lane Dunes West Boulevard, which also currently consists of a center island, two bike lanes, and occasional turn lanes, into a five-lane roadway with a center raised island, a sidewalk on the east side, and a multi-use pathway on the west side. Alternative 7A would result in increased traffic volume through Dunes West. Intersection improvements along existing Dunes West Boulevard would help to mitigate congestion and mobility issues associated with increased traffic.

Alternative 1 would require a total of approximately 8.2 acres from parcels on the east side of SC 41, adjacent to Dunes West. This consists of undeveloped land that currently functions as a vegetative buffer between developed portions of the community and SC 41. Alternative 7A would require a total of approximately 12.1 acres from parcels on the east side of SC 41 and within the southern portion of the community, where existing Dunes West Boulevard provides entrances into developed portions of the community, primarily to the north. Realignment and additional ROW associated with Alternative 7A would result in the loss of



The Pastures

mostly undeveloped land surrounding existing Dunes West Boulevard. Developed portions are primarily mowed, grassed areas along the existing roadway, and these areas do not contain any buildings. One of these areas, known as “the south pasture” or “the pastures,” at the entrance to Dunes West, is used by the community for events (Dunes West Property Owners Association [POA] 2015).

In addition to the impacts shared across the study area, as discussed in Section 4.1, Dunes West would experience specific impacts to community resources, economic and business conditions, mobility and access, public health and safety, and residential aspects. Overall, impacts associated with Alternative 1 would be minor and permanent. Impacts associated with Alternative 7A would be minor to moderate, as discussed in the following sections. Appendix A presents acreage impacts to individual parcels by build alternative.

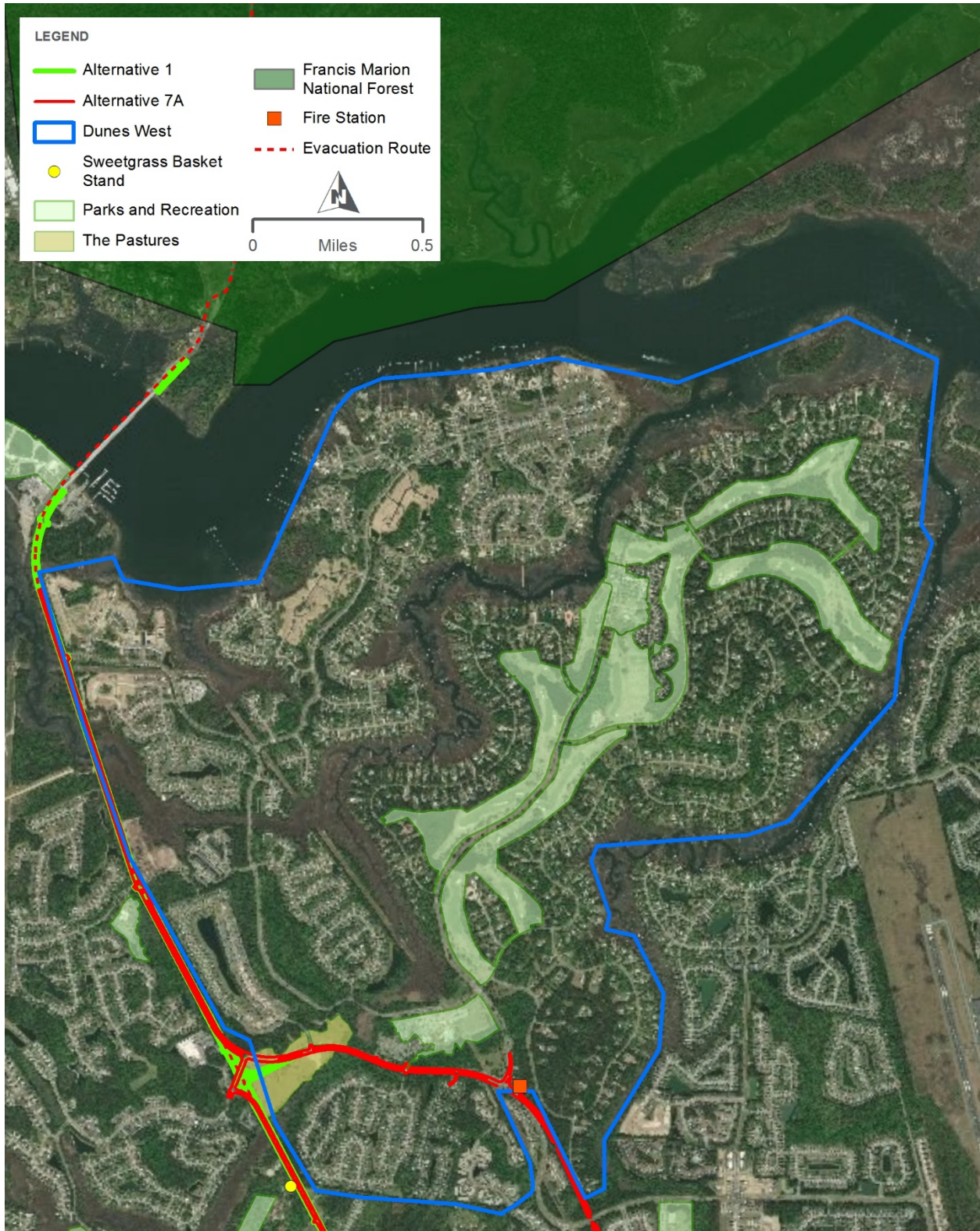


Figure 11. Dunes West Community Resources and the Build Alternatives

4.4.1 Community Resources

Both of the build alternatives would affect small portions of several POA-owned undevelopable parcels or large undeveloped parcels. These parcels currently function as relatively wide vegetative buffers between residential portions of the community and SC 41. Two of these parcels are addressed in the next paragraph. Of the remaining parcels, Alternative 1 would impact seven parcels that fit this description, while Alternative 7A would impact 14 parcels of this type. Alternative 1 and Alternative 7A would affect approximately 5.4 percent and 5.8 percent of the overall acreage of these parcels, respectively.

Generally, impacts to each individual parcel would be small, totaling less than 1 acre. However, either build alternative would affect four parcels by more than 1 acre each. One of these parcels is undevelopable due to being marsh associated with a tributary to the Wando River. Two of these parcels are associated with developer-designed neighborhoods off Harpers Ferry Way. One of these functions as a vegetative buffer and drainage, while the other is composed of undeveloped portions a neighborhood. Affected portions of the latter parcel function as vegetative buffer between developed portions of the community and existing SC 41. Overall, the impacts to these three parcels are expected to be permanent but minor. The community would maintain use of the majority of these parcels, which would allow their continued function as forested buffers and/or drainage.

The remaining parcel affected by more than 1 acre (Property Identification Number [PIN] 5941000329) is a POA-owned parcel at the main entrance to Dunes West, located at the intersection of SC 41 and Dunes West Boulevard. This parcel, along with another POA-owned parcel (PIN 5941000314), together totaling approximately 23.4 acres, are referred to as “the south pasture” or “the pastures” and are used by the community for events. One such event was described in the Summer 2015 quarterly newsletter of the Dunes West Property Owners Association (2015). The event was referred to as the “Highway 41 and Friends party” and included residents of Dunes West, Rivertowne, Park West, Planter’s Pointe, and Phillips Manor, a developer-designed residential development within the Phillips Community. The event included children’s activities, live music, raffles, fire extinguisher safety inspections, and presentation of child seat safety information. Alternative 1 would result in the loss of approximately 1.3 acre, or 5.7 percent of these parcels, leaving approximately 22.1 acres for community use. Realignments and additional ROW associated with Alternative 7A would impact approximately 3.0 acres (12.6 percent) of this event space, leaving approximately 20.4 acres for community use. While the community would retain use of the majority of this space, the character of this community resource would be altered by either of the build alternatives. Alternative 1 would result in a permanent and minor impact to this community resource. These changes in relation to Alternative 7A are expected to result in a permanent and moderate impact to this community resource.

Alternative 7A would additionally affect a small portion of the approximate 19.2-acre Dunes West Athletic Club property. Dunes West Athletic Club is accessible to resident and nonresident club members who pay initial fees and recurring dues (Dunes West Golf Club 2019). The impacted portion of this parcel (approximately 0.01 acre) is immediately adjacent to Dunes West Boulevard. Because the community would retain use of the developed portion of this parcel and the impacts would concentrate immediately adjacent to the existing roadway, Alternative 7A would result in a negligible impact to this community resource.

Overall, impacts associated with Alternative 1 to community resources in Dunes West are expected to be permanent and minor, whereas impacts associated with Alternative 7A are expected to be permanent and moderate, due to the effects to “the pastures.”

4.4.2 Economic and Business Conditions

Both of the build alternatives would affect small portions of two commercial development acreages. These parcels currently function as vegetative buffers between residential portions of the community and SC 41. Impacts to these commercial properties associated with Alternative 1 and Alternative 7A widening of existing SC 41 are expected to be permanent and minor to negligible due to the maintenance of the majority of this developable commercial parcel alongside existing SC 41.

Realignments and new ROW associated with Alternative 7A would additionally affect small portions of two other commercial parcels totaling in their entirety approximately 7.6 acres. One of these parcels is the approximate 5.5-acre office complex called The Commons at Dunes West. The affected portions are immediately adjacent to existing Dunes West Boulevard and currently serve as part of the landscaped entrance to the complex.

The remaining commercial parcel affected by Alternative 7A functions as The Amenity Area at Dunes West, an approximate 2.1-acre parcel adjacent to The Commons at Dunes West that primarily consists of a new home sales center. The affected portion is immediately adjacent to existing Dunes West Boulevard and currently serves as part of the landscaped entrance to The Amenity Area at Dunes West.

Overall, Alternative 1 and Alternative 7A impacts to commercial parcels in Dunes West are expected to be permanent and minor to negligible because the impacts would concentrate immediately adjacent to the existing roadway and would not affect their function. In addition, offsetting beneficial impacts are expected to occur to these commercial resources, as increased traffic through the community associated with Alternative 7A could potentially benefit these businesses.

4.4.3 Mobility and Access

Mobility within the study area and access to individual properties and developments in the study area would be improved with implementation of the Project, as discussed in Section 4.1. These effects would differ by build alternative in Dunes West. Alternative 1 and Alternative 7A would both alter existing SC 41 by expanding this two-lane road to a five-lane highway with a center raised island or two-way left-turn lane along the western boundary of Dunes West. This change associated with both build alternatives would improve access to Dunes West. However, Alternative 1 would not improve the existing intersections into and along Dunes West Boulevard that provide access into the separate developed areas within relatively densely populated Dunes West and, thus, may not greatly improve mobility and access within Dunes West. Alternative 7A would change the existing intersection of SC 41 and Dunes West Boulevard to route traffic along widened and realigned SC 41. Alternative 7A would also convert existing two-lane Dunes West Boulevard into a five-lane roadway with a center raised island, a sidewalk on the east side, and a multi-use pathway on the west side. While Alternative 7A would increase the traffic volume on realigned SC 41, access into the different areas within Dunes West is generally expected to be improved by the expanded and realigned roadway with additional traffic signals. These traffic signals would additionally improve mobility of bicyclists and pedestrians both through the corridor and when crossing proposed SC 41 between the southern and northern portions of Dunes West.

Overall, while Alternative 1 and Alternative 7A would each result in beneficial effects to mobility and access across the study area, in Dunes West, the Alternative 7A-related traffic flow and intersection improvements is expected to increase these beneficial effects in Dunes West.

4.4.4 Public Health and Safety

Alternative 7A would improve public health and safety in Dunes West. While changes associated with Alternative 7A would widen the roadway and increase traffic volume through the southern portion of the community, the pedestrian and multimodal pathways on either side along with improved intersections with traffic signals would allow for safe bike or foot travel along the proposed roadway and safe crossing of the roadway to obtain access to other portions of the community.

Overall, implementation of Alternative 7A is expected to result in beneficial effects to public health and safety within Dunes West.

4.4.5 Residential Aspects

Alternative 7A would affect portions of one residential parcel that contains a residence in Dunes West. This 1.2-acre parcel, located at the southern extent of Kiln Court, north of Park West Boulevard, is currently surrounded by forested land to the south and west and one neighboring residence to the east. A small portion of the proposed Alternative 7A realignment of SC 41 and its associated ROW would be within 23 feet of the home, occupy an approximate 0.2-acre western portion of this parcel, or 17.2 percent of its overall acreage. Alternative 7A effects to this residential parcel are expected to be permanent and moderate.

4.5 Gregorie Ferry

Gregorie Ferry is an approximate 50-acre community that consists of several developer-designed neighborhoods. Gregorie Ferry is located in the southern portion of the study area, to the east of SC 41 and to the north of US 17 (Figure 12). The community can be accessed via Gregorie Ferry Road from SC 41 or via Winoing Way off US 17.

The neighborhoods in Gregorie Ferry are composed of a mixture of single-family homes and multifamily townhouses and apartments. Gregorie Ferry Landing Apartments is a large four-story apartment complex containing 240 units within Gregorie Ferry that can be accessed from Winoing Way. Some commercial properties are located along US 17, at the entrance to Gregorie Ferry. Developed residential portions of the community are substantially set back from existing SC 41 and US 17, and substantial forested buffers are present between the community and these two roadways.



Figure 12. Gregorie Ferry Community Resources and the Build Alternatives

Improvements at the intersection of SC 41 and US 17, associated with either build alternative, would widen existing two-lane Winnowing Way to a four-lane roadway with a center two-way turn lane adjacent to the southern extent of Gregorie Ferry. Existing Winnowing Way would be extended to the west from its current terminus at Gregorie Ferry Road to intersect with SC 41 and would also be straightened in one location, central along its current extent, south of an apartment complex in Gregorie Ferry. Both build alternatives would additionally change the existing two-lane SC 41 near the western portion of Gregorie Ferry to a five-lane roadway with a center raised island or two-way left-turn lane and would add a connecting road between Gregorie Ferry Road and proposed SC 41 where existing SC 41 intersects Colonnade Drive. Either build alternative associated with the Project would require a total of approximately 1.0 acre from parcels in Gregorie Ferry. This would result in additional roadways and a more expansive roadway adjacent to the southern portion of the neighborhood than exists currently.

In addition to the impacts shared across the study area, as discussed in Section 4.1, Gregorie Ferry would experience specific impacts to community resources, economic and business conditions, and sensory aspects. While some moderate effects would occur at an apartment complex along existing Winnowing Way, impacts associated with either build alternative would generally be minor, as discussed in the following sections. Appendix A presents acreage impacts to individual parcels by build alternative.

4.5.1 Community Resources

Either build alternative would affect one approximate 0.13-acre residential parcel owned by the Homeowners' Association of The Enclave at Gregorie Ferry, a small developer-designed neighborhood. This parcel is indicated as undevelopable in the Charleston County parcel data and currently functions as a buffer between the single-family residential parcels within the complex and Gregorie Ferry Road and Winnowing Way. The impact to this parcel is expected to be permanent and minor, due to loss of only a small portion (approximately 0.01 acre) that would not affect its function as a buffer from existing roadways.

4.5.2 Economic and Business Conditions

Both of the build alternatives would affect small portions of two commercial properties, together totaling in their entirety approximately 19.3 acres. One of these parcels is developed into a mini-storage facility, and the other parcel is developed as an apartment complex. Impacted portions of these commercial properties associated with either build alternative would be small for each individual parcel (less than 0.7 acre); together the affected areas of the parcels total 1.0 acre and are adjacent to the existing roadways. The Project is not expected to affect the function of these parcels as commercial properties.

Overall, Project impacts to commercial parcels in Gregorie Ferry are expected to be permanent and minor to negligible because the impacts would concentrate immediately adjacent to the existing roadway and would not affect their function. In addition, offsetting beneficial impacts would occur to these commercial resources, as increased traffic through the community could benefit existing businesses and potential commercial properties.

4.5.3 Sensory Aspects

Either build alternative would introduce new Project-associated visual elements in Gregorie Ferry. These would occur in currently undeveloped portions of the Seven Mile community, adjacent to existing Winnowing Way. These changes would realign existing Winnowing Way in one location to straighten the roadway. These changes would not greatly alter the viewshed from the apartment complex nearby, to the north or any of the developed areas along US 17.

Some sensory effects, such as increased noise, vibration, dust, and vehicular smells, would occur in the immediate corridor of the selected build alternative, as discussed in Section 4.1. However, in Gregorie Ferry, these effects would be more impactful due to the relatively short distance between the proposed changes to Winoaning Way and one existing apartment complex. Increased sensory effects would occur in Gregorie Ferry with implementation of either build alternative, which would result in a new four-lane roadway with a central two-way turn lane through the southern portion of the community that would sustain an increased volume of traffic compared with current conditions. These effects are expected to be moderate at the location of the apartment complex but minor overall, as they would impact limited portions of the community, in an area that is primarily commercial.

4.6 Horlbeck Creek

Horlbeck Creek is an approximate 41-acre developer-designed neighborhood located in the southern portion of the study area, to the west of and accessible via SC 41 (Figure 13). The neighborhood is made up of large single-family homes and is bound to the east by SC 41, to the north by the waterway called Horlbeck Creek and its adjacent marshes, and to the south by the Brickyard/Colonnade neighborhood. A forested buffer is present along the east side of the community, adjacent to existing SC 41, and marshes along Horlbeck Creek, adjacent to SC 41, provide a vegetated setback from the extant roadway.

Both build alternatives would change the existing two-lane SC 41 in the vicinity of Horlbeck Creek to a five-lane roadway with a center raised island or two-way left-turn lane. These changes would require a total of approximately 0.14 acre from parcels, all located on the west side of SC 41, adjacent to Horlbeck Creek. This would result in a more expansive roadway closer to the neighborhood than the existing roadway.

In addition to the impacts shared across the study area, as discussed in Section 4.1, Horlbeck Creek would experience specific impacts to community resources. These impacts would be minor and permanent, as discussed in the following section. Appendix A presents acreage impacts to individual parcels by build alternative.

4.6.1 Community Resources

Both of the build alternatives would affect small portions of two POA-owned parcels that total in their entirety 22.6 acres. One of these parcels consists of marsh land situated along an unnamed tributary of Horlbeck Creek and provides property owner access to the creek via boardwalks built between the community's waterfront homes and the creek. The approximate 0.05-acre portion of this property that would be affected by the Project is adjacent to existing ROW along SC 41 and primarily serves as an undeveloped, vegetated buffer between developed residential portions of the community and the existing roadway. The other parcel in its entirety, serves as an undeveloped, vegetated buffer between the community and existing SC 41, and the Project would result in the loss of an approximate 0.09-acre portion of this parcel. The Project is not expected to affect the function of these POA-owned properties; thus, Project impacts to community resources in Horlbeck Creek are expected to be permanent but minor.

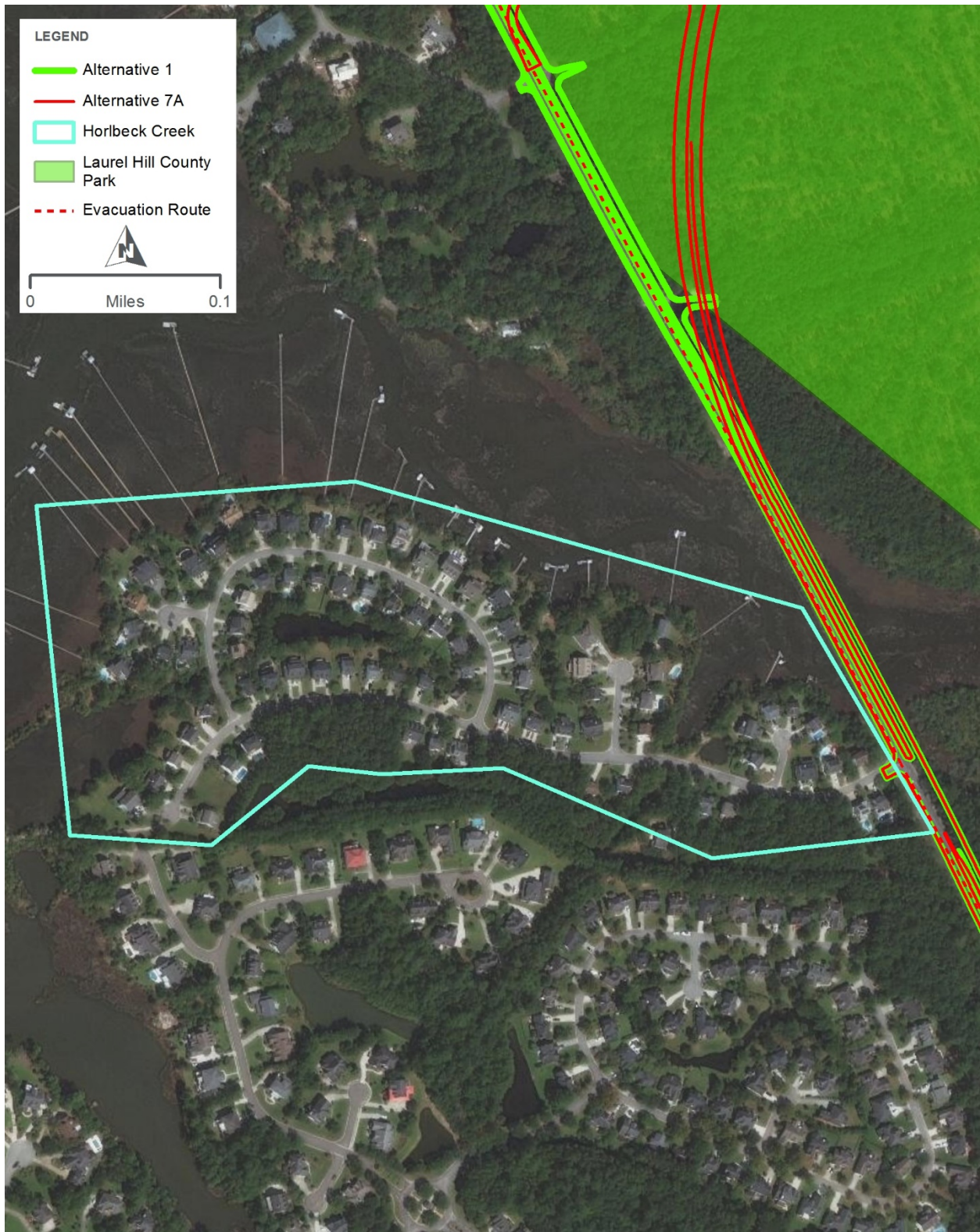


Figure 13. Horlbeck Creek Community Resources and the Build Alternatives

4.7 Ivy Hall

Ivy Hall is an approximate 144-acre developer-designed neighborhood in the southern portion of the study area, to the east of SC 41 and to the north of US 17 (Figure 14). The neighborhood is bordered to the west by the Gregorie Ferry neighborhood and to the north by Laurel Hill County Park. The neighborhood is made up of suburban single-family homes, and a commercial area is located in the southern portion of the neighborhood along US 17. Eastbridge Presbyterian Church and two sweetgrass basket stands are located within the neighborhood, along US 17 in front of other commercial properties, at the southern extent of the neighborhood. Developed residential portions of the community are set back from existing US 17, and forested buffers are present between the community and this roadway.

Both build alternatives would warrant improvements to US 17 at and surrounding its intersection with SC 41. Near Ivy Hall, US 17 is currently a six-lane roadway with occasional turn lanes. These changes would add an additional turn lane in the southern portion of the community, requiring a total of approximately 0.2 acre from parcels on the north side of US 17, adjacent to Ivy Hall. This would result in a more expansive roadway along the southern portion of the community, where commercial properties exist.

In addition to the impacts shared across the study area, as discussed in Section 4.1, Ivy Hall would experience specific impacts to economic and business conditions. These impacts would be permanent and minor, as discussed in the following section. Appendix A presents acreage impacts to individual parcels by build alternative.

4.7.1 Economic and Business Conditions

Both of the build alternatives would affect small portions of three commercial properties, together totaling in their entirety approximately 17.8 acres. These parcels are currently forested or developed retail properties. Impacted portions of these commercial properties associated with either build alternative would be small for each individual parcel (less than 0.08 acre); together the affected areas of the parcels total 0.2 acre. The Project is not expected to affect the function of these developed commercial parcels.

Overall, Project impacts to commercial parcels in Ivy Hall are expected to be permanent and minor because the impacts would concentrate immediately adjacent to the existing roadway and would not affect their function. In addition, offsetting beneficial impacts would occur to these commercial resources, as more efficient traffic flow through the community could benefit existing businesses and potential commercial properties.



Figure 14. Ivy Hall Community Resources and the Build Alternatives

4.8 Park West

Park West is an approximate 1,859-acre developer-designed neighborhood located in the eastern portion of the study area, to the east of SC 41 and north of US 17 (Figure 15). The neighborhood can be accessed via Park West Boulevard from US 17; a portion of Park West Boulevard is currently being widened from two lanes to four-lanes, ending at a roundabout at Dunes West Boulevard. The neighborhood is located to the southeast of the Dunes West neighborhood and is connected to it by Park West Boulevard. The neighborhood contains a mixture of single-family homes and townhouses. Three Charleston County schools have been built within Park West in the past decade; these consist of Laurel Hill Primary School, Charles Pinckney Elementary School, and Thomas C. Cario Middle School. A commercial area containing a mixture of businesses is located within the neighborhood in an area close to US 17. Private recreational resources include approximately 6 miles of bike and hiking paths, 4.5 miles of Toomer Creek, and a crabbing dock at the park in the Masonborough section of Park West. Additionally, Town of Mount Pleasant maintains Park West Recreation Complex, featuring several sports fields and courts, an activity building and gym, a pool, a lake, and many walking trails (Town of Mount Pleasant 2019). Park West Recreation Complex provides the main access to Charleston County's Laurel Hill County Park, via a trailhead (Charleston County Park & Recreation Commission 2017).

As the community is located to the east of expected changes from Alternative 1, no direct impacts to Park West or its resources are expected to result from Alternative 1 apart from the impacts shared across the study area, discussed in Section 4.1.

Alternative 7A would result in a five-lane alignment from SC 41 along the current alignment of Dunes West Boulevard. This alternative would have a center raised island, a sidewalk on the east side, and a multi-use pathway on the west side between existing Park West Boulevard and Kiln Court, where Dunes West Boulevard changes names to Park West Boulevard. From there, a proposed new alignment would be constructed within existing undeveloped forested land adjacent to and east of Bessemer Road. This new alignment would join existing SC 41 south of the intersection of SC 41 and Bessemer Road. These changes would affect the extreme western portion of Park West, where Park West Boulevard and Bessemer Road currently traverse through the community. Realignment and additional ROW associated with Alternative 7A would result in the loss of approximately 11.3 acres of mostly undeveloped, forested land surrounding existing Park West Boulevard and Bessemer Road. Developed portions are primarily mowed, grassed areas along the existing roadway, and these areas do not contain any buildings.

In addition to the impacts shared across the study area, as discussed in Section 4.1, Park West would experience specific impacts to community resources, land use, mobility and access, public health and safety, sensory aspects, and residential aspects. Impacts associated with Alternative 7A would generally be minor, but some moderate effects are expected to occur to some townhouse properties, as discussed in the following sections. Appendix A presents acreage impacts to individual parcels by build alternative.

4.8.1 Community Resources

Alternative 7A would affect portions of eleven parcels that are either undevelopable or POA-owned properties, together totaling in their entirety 49.7 acres. Generally, the individual acreage loss would be less than 1 acre. However three parcels would lose approximately 1.4 to 3.9 acres. Together the affected areas of the parcels total approximately 8.6 acres. The portions of these properties that would be affected by the Project are immediately adjacent to existing ROW and primarily serve as undeveloped forested buffers between Dunes West Boulevard, Park West Boulevard, or Bessemer Road and developed portions of the community; thus, the impacts are expected to be permanent but minor.

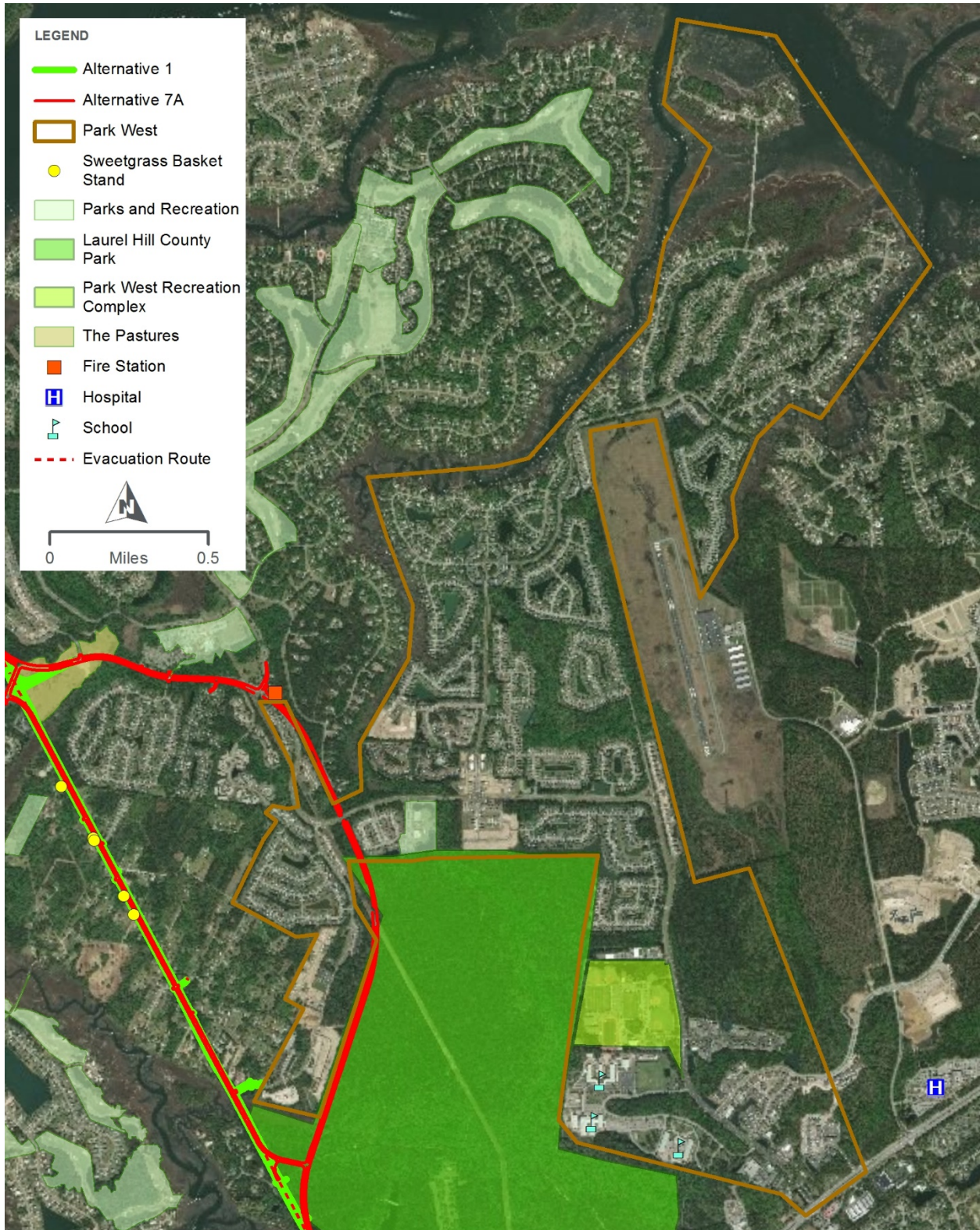


Figure 15. Park West Community Resources and the Build Alternatives

4.8.2 Land Use

Alternative 7A could alter land uses along existing Dunes West Boulevard. To the east of Bessemer Road and to the east of the location where Dunes West Boulevard turns to Park West Boulevard, land uses would change from undeveloped to transportation uses, and commercial land uses may also be stimulated in this location with Project completion. These impacts are expected to be permanent and minor to moderate, depending on the proximity to occupied residential properties.

4.8.3 Mobility and Access

Mobility within the study area and access to individual properties and developments in the study area is expected to be improved with implementation of the Project. These effects would differ by build alternative in Park West. Alternative 1 would not alter the immediate entrance to Park West from SC 41 or the existing roadways that provide access into the various developed areas within relatively densely populated Park West and, thus, would not greatly improve mobility and access within Park West. Conversely, Alternative 7A would result in a five-lane alignment from SC 41 along the current alignment of Dunes West Boulevard. This alternative would have a center raised island, a sidewalk on the east side, and a multi-use pathway on the west side between existing Park West Boulevard and Kiln Court, where Dunes West Boulevard changes names to Park West Boulevard. From there, the proposed new alignment would be constructed within existing undeveloped forested land adjacent to and east of Bessemer Road. This new alignment would join existing SC 41 south of the intersection of SC 41 and Bessemer Road. While Alternative 7A would increase the traffic volume on realigned SC 41, traffic on Bessemer Road is expected to reduce, and access into the different areas within Park West is generally expected to be improved by the expanded and realigned roadway with additional traffic signals.

Overall, while Alternative 1 and Alternative 7A would each result in beneficial effects to mobility and access across the study area, the Alternative 7A-related traffic flow improvements is expected to increase these beneficial effects in Park West.

4.8.4 Public Health and Safety

Alternative 7A is expected to improve public health and safety in Park West. While changes associated with Alternative 7A would result in new road alignment and increased traffic volume through the western portion of the community, the pedestrian and multimodal pathways on either side along with improved intersections with traffic signals would allow for safe bike or foot travel along the proposed roadway and safe crossing of the roadway to obtain access to other portions of the community. In addition, Project changes are expected to lead to reduced traffic volume on existing Park West Boulevard and Bessemer Road and make these roadways safer for multimodal traffic.

Overall, implementation of Alternative 7A is expected to result in beneficial effects to public health and safety within Park West.

4.8.5 Sensory Aspects

Alternative 7A would introduce new Project-associated visual elements in Park West. These would occur in currently undeveloped portions of the community, between existing Park West Boulevard and Kiln Court to the east of Park West Boulevard and to the east of Bessemer Road to a point along existing SC 41 south of the intersection of SC 41 and Bessemer Road. These changes would not remove all existing trees between developed portions of the community and the new roadway; some forested buffer would remain to help make these changes minimal.

Some sensory effects, such as increased noise, vibration, dust, and vehicular smells, would occur in the immediate corridor of the proposed widened and realigned SC 41, as discussed in Section 4.1. However, in Park West, these effects would be more impactful due to the relatively short distance between the proposed Alternative 7A alignment and existing buildings. Increased sensory effects would occur in Park West with implementation of Alternative 7A, which would result in a new five-lane roadway through the western portion of the community that is expected to sustain an increased volume of traffic compared with current conditions. Overall, these effects are expected to be minor, as they would impact limited portions of the community.

4.8.6 Residential Aspects

Alternative 7A would affect seven developed or undeveloped individual parcels within three townhouse neighborhoods along Park West Boulevard; together in their entirety these parcels total 0.6 acre. The proposed ROW would come within 14 to 60 feet of the structures. Generally, these complexes and their associated parcels are either set back from the current roadways or are currently surrounded by vegetative buffers that tend to make effects from nearby roadways more minimal. Alternative 7A would result in the removal of some tall vegetation that currently buffers the affected parcels within these complexes and would be constructed within relatively close proximity to these residential properties. Together, the affected areas of these parcels total 0.01 acre.



Townhomes on Park West Boulevard (facing south)

Overall, effects to these townhome parcels are expected to be permanent and minor to moderate, depending on their distance from proposed realigned SC 41 and whether existing tree buffers would remain. In some cases, the existing vegetative buffers would help minimize the effects of the Project in this location.

4.9 Phillips Community

The Gullah African-American community of Phillips is an approximate 392-acre, long-term, rural-residential settlement area that is centrally located within the study area along SC 41, approximately halfway between the bridge over the Wando River and US 17 (Figure 16). Early in its settlement history, just following the American Civil War, the Phillips Community (also termed herein “Phillips”) was characterized by large, family-held tracts primarily developed as agricultural fields. The second generation of Phillips community members tended to settle on undeveloped portions of the individual parcels, and subsequent generations inherited the properties of their parents and divided those between their siblings. Ownership of the larger parcel was often transferred to a person’s heirs, rather than named individuals. These inheritance patterns still characterize the community of Phillips today, and a large percentage of the original parcels remain whole. Several single-family residences are scattered across

most parcels, and small local roads provide access to these. SC 41 and its predecessor, SC 511, divided these family properties, resulting in relatives living on either side of SC 41 from one another. Several sweetgrass basket stands are located along SC 41. In recent years, some planned residential developments have been constructed on former family properties in Phillips; however, due to being within the larger Phillips Community, these areas are included in this section.

In the Phillips Community, Alternative 1 would result in the widening of SC 41 to a five-lane roadway with a center raised island or two-way left-turn lane. Alternative 1 would require approximately 5.2 acres along existing SC 41. Projected population growth in the study area is expected to lead to increased traffic volume on SC 41, including through the Phillips Community, while congestion would be reduced and traffic flow would be improved. The addition of a center raised island or two-way left-turn lane would help improve the safety of community members crossing existing SC 41 as pedestrians and turning into their driveways or access roads.

Alternative 7A would widen SC 41 to a three-lane roadway with a center two-way left-turn lane through the Phillips Community. Alternative 7A would require approximately 0.4 acre in the community. Additionally, Alternative 7A is expected to lead to decreased traffic volume through the Phillips Community, at least in the short term (see the Environmental Report for details on projected traffic volumes).

In addition to the impacts shared across the study area, as discussed in Section 4.1, the Phillips Community would experience specific impacts to the NRHP-eligible Phillips Cultural Landscape (see Section 1.2) and its associated resources as well as specific impacts to community resources (other than those identified in the Phillips Cultural Landscape), economic and business conditions, mobility and access, public health and safety, sensory aspects, and residential aspects. Social, cultural, and psychological effects and recurring and cumulative effects to the Phillips Community are addressed in the Phillips Cultural Landscape section of this report, Section 4.9.1 and in the Phillips Cultural Landscape report. EJ impacts to the Phillips Community are considered together with those in other EJ-qualifying communities in Section 4.1.

Overall, the impacts to the Phillips Community associated with Alternative 1 would be permanent and moderate to major, due to the lack of distance of many residences from the proposed roadway, the effects being felt across the community, and depending on the legal status of affected parcels, as discussed in Section 4.9.7. Impacts associated with Alternative 7A would be minor, as discussed in the following sections. Appendix A presents acreage impacts to individual parcels by build alternative.



Figure 16. Phillips Community Resources and the Build Alternatives

4.9.1 Phillips Community Cultural Landscape

The Phillips Cultural Landscape is an NRHP-eligible historic district encompassing the Phillips Community, also considered the community settlement area, and several associated community resources (i.e., the Phillips Community), Papa’s Island, the Bridge over Horlbeck Creek that once afforded access to Parker’s Island, Horlbeck Creek, an approximate late nineteenth- to mid-twentieth-century cemetery on a peninsula at the southern extent of Parker’s Island, and Greater Goodwill AME Church (Figure 17). All of these resources are within or immediately surrounding the Phillips Community except Greater Goodwill AME Church, which is south of Phillips on US 17 near its intersection with SC 41 and included as a non-contiguous contributing resource. The Phillips Cultural Landscape meets NRHP criteria due to its historical and cultural significance as well as its potential to expand our knowledge of local and regional Gullah material culture. Because of the cultural significance of the Phillips Cultural Landscape, for the Phillips Community, social, cultural, and psychological effects and recurring and cumulative effects are addressed in this section.



The Bridge over Horlbeck Creek

Under the No-Build Alternative, there would be no impacts to the Phillips Cultural Landscape. Currently, SC 41 is a reasonably accessible, two-lane highway with an associated approximate 37.5-foot ROW on either side. SC 41 extends north-south through the Phillips Cultural Landscape and associated settlement area composed of family properties. Phillips community members would be expected to continue the generations-long cultural practice of crossing SC 41 as pedestrians to access other portions of the Phillips Cultural Landscape, including portions of family properties on the opposite side of SC 41, community gathering places, and natural resource harvesting areas such as the Bridge over Horlbeck Creek or the community-owned Park. The cultural practices associated with these community resources would continue to help maintain the traditional culture of the Phillips Community and the traditional cultural identities of community members, both of which are key aspects of the community that are supported by the Phillips Cultural Landscape.

Direct impacts are expected to the Phillips Cultural Landscape in relation to each build alternative. Alternative 1 would require approximately 4.7 acres of ROW from the community due to the addition of two traffic lanes and a center raised island or two-way left-turn lane. Alternative 7A would require approximately 0.6 acre of ROW from the addition of a two-way left-turn lane through the Phillips Cultural Landscape. The acreage associated with each build alternative ROW would be located adjacent to the existing ROW currently associated with SC 41. The portions of the Phillips Cultural Landscape that could be directly affected by the build alternatives include several community resources that contribute to the NRHP significance of the Phillips Cultural Landscape: four sweetgrass basket stands, a terracotta-

Direct impacts are expected to the Phillips Cultural Landscape in relation to each build alternative. Alternative 1 would require approximately 4.7 acres of ROW from the community due to the addition of two traffic lanes and a center raised island or two-way left-turn lane. Alternative 7A would require approximately 0.6 acre of ROW from the addition of a two-way left-turn lane through the Phillips Cultural Landscape. The acreage associated with each build alternative ROW would be located adjacent to the existing ROW currently associated with SC 41. The portions of the Phillips Cultural Landscape that could be directly affected by the build alternatives include several community resources that contribute to the NRHP significance of the Phillips Cultural Landscape: four sweetgrass basket stands, a terracotta-

encased well associated with the former Phillips School, and a brick tomb. Overall, direct physical impacts to these community resources associated with the Phillips Cultural Landscape located within the proposed new ROW would be avoided or minimized by the Project, as detailed below. While the SC 41 ROW would be nearer residences in the Phillips Cultural Landscape with implementation of the Project, no commercial or residential relocations are expected to be necessary for the Project. Thus, no direct physical impacts to residences or other buildings located on family properties in the Phillips Cultural Landscape are expected.

Four sweetgrass basket stands were identified during the cultural resources survey for the Project (Baluha et al. 2019) and considered part of the Phillips Cultural Landscape (Richardson Seacat 2018). While three of these appear to function as basket-selling stands and one of these may be currently used as a gathering place, both activities are important traditional cultural practices that contribute to the NRHP significance of the Phillips Cultural Landscape. Impacts to the basket stands would be minimized by relocating the stands outside the proposed new ROW. A circular, concrete-topped, terracotta-lined well understood to be associated with the former Phillips School is located on the west side of SC 41, within the proposed ROW of Alternative 1. The two-room Phillips School was an African-American school operating within the community at least by 1918 but likely prior to this time, based on local and state trends (Richardson Seacat 2018). The school was closed in 1953 with the establishment of Jennie Moore Elementary School, an African-American equalization school. The well is located approximately 23 feet west of the existing SC 41 ROW. However, direct impacts to the well would be avoided by the road changes proposed in the Project. A vaulted, English-bond brick tomb, identified as 38CH1752 in the South Carolina State Historic Preservation Office database and important to Phillips community members as a symbol of the community's association with the pre-Civil War era, exists within the proposed ROW of either alternative. However, the tomb would be avoided by the road changes proposed in the Project.

Indirect impacts are also expected to the Phillips Cultural Landscape in relation to each build alternative. Indirect impacts were assessed using qualitative factors developed through interviews with community members and stakeholders as well as background research and researcher insights. Alternative 1 would change the two-lane, reasonably accessible roadway to a larger, multi-lane highway with a wider expanse to cross as pedestrians. Alternative 1 may also affect land use in the Phillips Community, potentially changing the characteristic rural residential uses to commercial and higher density developer-designed residential uses. These changes may alter how community members utilize portions of the Phillips Cultural Landscape and, in turn, affect how community members interact with one another and, more generally, modify how the community associates with the Phillips Cultural Landscape and its associated resources. Thus, Alternative 1 is expected to indirectly alter the traditional culture of the Phillips Community and the traditional cultural identities of community members, both of which are key aspects of the community that are supported by the Phillips Cultural Landscape. As these changes would affect aspects of the Phillips Cultural Landscape that make this historic property eligible for the NRHP, implementation of Alternative 1 would result in an adverse effect to the Phillips Cultural Landscape (see Section 1.2 for discussion regarding the federal agency responsibility to consider adverse effects to NRHP properties).

Alternative 7A would result in the addition of a two-way left-turn lane through the Phillips Cultural Landscape, and proposed SC 41 would be rerouted outside of the community, thereby reducing the traffic volume on existing SC 41, at least in the short term. While the Project would increase the expanse of the roadway by one lane, this change is not expected to substantially alter how family and community members interact, and community members are expected to continue to cross the roadway to access other portions of the Phillips Cultural Landscape, including portions of family properties on the opposite

side of SC 41, community gathering places, and resource harvesting areas. Additionally, the reduction of traffic volume through Phillips associated with Alternative 7A is expected to indirectly nurture one of the community's core cultural values currently supported by the Phillips Cultural Landscape: the sense that a close-knit community with members who have feelings of security provides "quality of life" (Richardson Seacat 2018). Overall, implementation of Alternative 7A is not expected to negatively affect the traditional culture of the Phillips Community or the traditional cultural identities of community members and, therefore, would not result in an adverse effect to the Phillips Cultural Landscape. Over the long term (25 years or more), traffic volumes are expected to increase to current volumes; however, that projected change with population growth and personal decisions to travel existing SC 41 rather than realigned SC 41 would not be related to the Project.

Cumulative impacts were assessed using qualitative factors developed through interviews with community stakeholders as well as background research. In the past few decades, the area surrounding the Phillips Cultural Landscape has changed drastically. Since the 1970s, the Town of Mount Pleasant incorporation limits began to expand to the east (Town of Mount Pleasant 2017). By 1990, areas surrounding the Phillips Community incorporated into the Town and were newly developed, and these changes led to drastic alteration of the area's racial composition. While, in 1930, the population was 77 percent African American, by 1960, African Americans composed only 34 percent of the population. Over time, these compounding changes in the study area, including population growth, changing lifestyles, and a subsequent increase in new residential and commercial developments and roadway projects, such as the widening of US 17 to the south of Phillips in 2013, have affected the traditional culture of the Phillips Community and also led to the need for the Project. Thus, implementation of Alternative 1, which would expand the current two-lane roadway through Phillips to five lanes, could contribute to cumulative impacts to the traditional culture of the Phillips Community and the traditional cultural identities of community members and, thus, compound adverse effects to the NRHP-eligible Phillips Cultural Landscape.



Figure 17. Phillips Community Cultural Landscape

4.9.2 Community Resources

Both build alternatives would affect small portions of one approximate 0.2-acre parcel indicated as undevelopable in the Charleston County parcel data. This parcel is located adjacent to marsh associated with an unnamed tributary of Horlbeck Creek, across SC 41 from the southern extent of Joe Rouse Road. Alternative 1 would affect approximately 0.008 acre of this parcel, while Alternative 7A would affect approximately 0.04 acre of this parcel.

Alternative 1 would result in losses to an additional six parcels associated with POAs or indicated as undevelopable in the Charleston County parcel data; together these parcels, in their entirety, total 2.3 acres. Two of these Alternative 1-impacted parcels are associated with two developer-designed residential developments within the Phillips Community: Phillips Manor and Sunchaser. These developments are located in the northern and central portions of the Phillips Community, respectively. The parcel in Phillips Manor currently functions as stormwater drainage and a vegetative buffer between Phillips Manor and SC 41, while the parcel in Sunchaser functions as a roadway through the neighborhood. Two other Alternative 1-impacted parcels are associated with the private roadways of Phillips community members; these consist of parcels associated with Virginia Rouse Road and Elijah Smalls Road. The remaining two Alternative 1-impacted parcels fitting this description are owned by individuals or the Phillip Community Association, a nonprofit associated with generational Phillips community members, and may be deemed undevelopable due to their small size along existing roadway. Together, Alternative 1 would impact approximately 0.3 acre associated with these parcels.

Overall, impacts to these seven parcels are expected to be permanent and minor. For the most part, the majority of these parcels would not be lost to community use, and for those not functioning as road ROW or some POA use, they are already deemed undevelopable.

4.9.3 Economic and Business Conditions

Alternative 1 would affect portions of three commercial parcels in the Phillips Community. One of these parcels currently functions as combined commercial and residential space for Phillips community members, containing an adult daycare. The other two parcels are undeveloped portions of known family properties. Impacts to these commercial properties would be less than 1 acre each and are expected to be permanent and minor since the property owners would be able to maintain use of the majority of these parcels. Offsetting beneficial impacts are also expected to occur to these commercial resources, as increased traffic through the community associated with Alternative 1 could potentially benefit these individual businesses or commercial development acreages.

4.9.4 Mobility and Access

Mobility within the study area and access to individual properties and developments in the study area is expected to be improved with implementation of the Project, as discussed in Section 4.1. However, these effects would differ by build alternative in the Phillips Community. Alternative 1 would result in the widening of two-lane SC 41 to a five-lane roadway. Turning left into individual properties would likely be more difficult with two traffic lanes to cross. Alternative 7A, on the other hand, would allow turning into individual properties by crossing one opposing lane of traffic. Moreover, Alternative 7A would reduce the traffic volume on existing SC 41 and, subsequently, make turning left across one lane of traffic easier than in current conditions.

Overall, while Alternative 1 and Alternative 7A would each result in beneficial effects to mobility and access across the study area, the Alternative 1-related effects of increased traffic volume and the addition

of one lane of opposing traffic are expected to partially offset these beneficial effects in the Phillips Community and, thus, result in minor negative effects.

4.9.5 Public Health and Safety

Both build alternatives are expected to improve public health and safety in the Phillips Community. The addition of a central two-way turn lane would help improve the safety of community members crossing existing SC 41 as pedestrians, and turning left from their driveways or access roads. However, these beneficial effects of the Project would be offset by negative effects with implementation of Alternative 1. Alternative 1 would increase the existing two-lane SC 41 to a five-lane highway, resulting in a wider expanse to cross. Alternative 1 would also increase the traffic volume on existing SC 41.

Overall, while Alternative 1 and Alternative 7A would each result in some beneficial effects to public health and safety across the study area, the Alternative 1-related effects of a much wider roadway to cross combined with increased traffic volume are expected to offset these beneficial effects in the Phillips Community and, thus, result in mostly negative effects.

4.9.6 Sensory Aspects

Some sensory effects, such as increased noise, vibration, dust, and vehicular smells, would occur in the immediate corridor of the proposed widened and realigned SC 41, as discussed in Section 4.1. However, in the Phillips Community, these effects would be more impactful due to the lack of vegetative buffers between existing SC 41 and developed portions of the community and the relatively short distance between SC 41 and existing buildings.

Overall, while increased sensory effects would occur in the Phillips Community with either build alternative, these effects would be intensified with implementation of Alternative 1, which would result in a wider roadway through the community and an increased volume of traffic compared with current conditions.

4.9.7 Residential Aspects

Alternative 1 would result in the acquisition of small portions of approximately 69 residential parcels within the Phillips Community; together, these parcels total 79.9 acres in their entirety. These changes would result in the loss of approximately 4.1 acres associated with these parcels. Two of these residential parcels are associated with residents of Sunchaser, while the vast majority are associated with intact family properties of generational Phillips community members. Thirteen residences or other buildings appearing like residences that are located on the affected residential parcels and one additional residential parcel would be within 30 feet of the proposed Alternative 1 ROW. While each parcel would lose less than 0.3 acre, overall, residential impacts associated with Alternative 1 in the Phillips Community are expected to be permanent and moderate. While the majority of these residential parcels would remain intact, few trees are present between the residences and the roadway to help buffer the effects of the Project. Further, the proximity of the proposed Alternative 1 ROW to 13 residences on affected parcels would result in effects to a large number of family properties scattered across the community, as shown in Figure 16; thus, Alternative 1 effects would be felt among a substantial portion of the community and, based on the assessment factors outlined in Section 2.4, would be considered moderate.

Alternative 7A would affect a small portion of one approximate 0.9-acre residential parcel within the Phillips Community. These changes would result in the loss of approximately 0.2 acre of this parcel, which contains a residence with a substantial setback and some vegetative buffer from existing SC 41. As

such, residential impacts associated with Alternative 7A in the Phillips Community are expected to be permanent but minor.

Negative effects to residential parcels in the Phillips Community would be exacerbated by the prominence of heirs' property in the community. If any of the affected parcels are legally heirs' properties, meaning that they are owned in common among the heirs of earlier owners of the properties, compensation for the loss of portions of these parcels would be shared among all the heirs. This could result in a very small portion of the overall compensation amount going to each heir. For these properties, which has been estimated by community members to be the majority of family properties still held in the Phillips Community (Richardson Seacat 2018), impacts are anticipated to be permanent and major, as heirs living near the road who may self-elect to relocate due to the expanded roadway (rather than being forced to relocate due to the Project) would potentially not receive enough individual compensation to be able to relocate elsewhere, and other portions of the properties may be occupied by other family members.

4.10 Planter's Pointe

Planter's Pointe is an approximate 221-acre developer-designed neighborhood located in the northern portion of the study area, to the west of SC 41 (Figure 18). The neighborhood can be accessed via Planter's Pointe Boulevard and contains single-family homes. Planter's Pointe is bordered to the west and south by the Rivertowne community.

Planter's Pointe Clubhouse is located in the northern portion of the neighborhood, to the west of SC 41 and to the south of Planter's Pointe Boulevard. This private recreational complex includes a clubhouse, a swimming pool, and four tennis courts. Generally, developed residential portions of the community are substantially set back from existing SC 41, and substantial forested buffers are present between the community and this roadway.

Both of the build alternatives would change the existing two-lane SC 41 in the vicinity of Planter's Pointe to a five-lane roadway with a center raised island or two-way left-turn lane. These changes would require approximately 1.6 acre on the west side of SC 41, adjacent to Planter's Pointe. This would result in a more expansive roadway closer to the neighborhood than the existing roadway.

In addition to the impacts shared across the study area, as discussed in Section 4.1, Planter's Pointe would experience specific impacts to community resources. These impacts would be minor and permanent, as discussed in the following section. Appendix A presents acreage impacts to individual parcels by build alternative.

4.10.1 Community Resources

Both build alternatives would affect small portions of eight parcels in the community that are owned by the Planter's Pointe Homeowners' Association and/or indicated as undevelopable in the Charleston County parcel data; together these parcels total in their entirety 32.3 acres. Impacted portions of these properties would be small (less than 1 acre) for each individual parcel, and together the impacted portions total 1.6 acre. The portions of these properties that would be affected by the Project are adjacent to existing ROW along SC 41 and currently serve as undeveloped forested buffers between the existing roadway and developed portions of the community; thus, the impacts are expected to be permanent but minor.



Figure 18. Planter's Pointe Community Resources and the Build Alternatives

4.11 Rivertowne

Rivertowne is an approximate 1,333-acre developer-designed neighborhood located in the central portion of the study area, to the west of SC 41 (Figure 19). The neighborhood can be accessed via Rivertowne Parkway from SC 41. The neighborhood is located to the south and west of the Planter's Pointe neighborhood and to the west of the Phillips Community. Rivertowne is made up of single-family homes and contains two separate communities, each with its own private recreational resources. Rivertowne Country Club is a golfing community and has an 18-hole semi-private golf course, swimming pool, and tennis courts. Rivertowne on the Wando is a waterfront community located along the Wando River. Both communities within Rivertowne are made up of single-family homes and have private multimodal resources in the form of bicycle and pedestrian trails. A grocery store is located in the northern portion of the neighborhood along SC 41. Only a small portion of Rivertowne is adjacent to existing SC 41, and this portion is substantially set back from SC 41 and is shielded from this roadway by relatively wide forested buffers.

Alternative 1 would change the existing two-lane SC 41 in the vicinity of Rivertowne to a five-lane roadway with a center raised island or two-way left-turn lane. These changes would require approximately 1.0 acre on the west side of SC 41, adjacent to Rivertowne. This would result in a more expansive roadway closer to the neighborhood than the existing roadway. Alternative 7A would widen SC 41 to a three-lane roadway with a center two-way left-turn lane south of Dunes West Boulevard and would widen SC 41 to a five-lane roadway with a center raised island or two-way left-turn lane north of Dunes West Boulevard. Additionally, Alternative 7A would result in an improved realigned intersection at SC 41 and Rivertowne Parkway. These changes would require approximately 1.1 acre on the west side of SC 41, adjacent to Rivertowne.

In addition to the impacts shared across the study area, as discussed in Section 4.1, Rivertowne would experience specific impacts to economic and business conditions. These impacts would be minor and permanent, as discussed in the following section. Additionally, Rivertowne would experience improved mobility and access due to intersection improvements associated with either build alternative. Both alternatives would also improve Rivertowne's access to the sidewalk and new multi-use path. Appendix A presents acreage impacts to individual parcels by build alternative.

4.11.1 Economic and Business Conditions

Both of the build alternatives would affect small portions (less than 1 acre each) of five commercial parcels adjacent to existing SC 41. Three of these parcels currently function as vegetative buffers between commercial and residential properties and SC 41. One of the remaining two commercial parcels functions primarily as a relatively wide vegetative buffer between residential portions of the community and SC 41 but also contains a veterinary clinic and a two-lane access road between Rivertowne Parkway and a grocery store parking lot. The remaining commercial parcel is the location of a grocery store and an associated parking lot.

Overall, Alternative 1 and Alternative 7A impacts to commercial parcels in Rivertowne are expected to be permanent and minor since the property owners will be able to maintain use of the majority of these commercial parcels and because the impacts would concentrate immediately adjacent to the existing roadway.

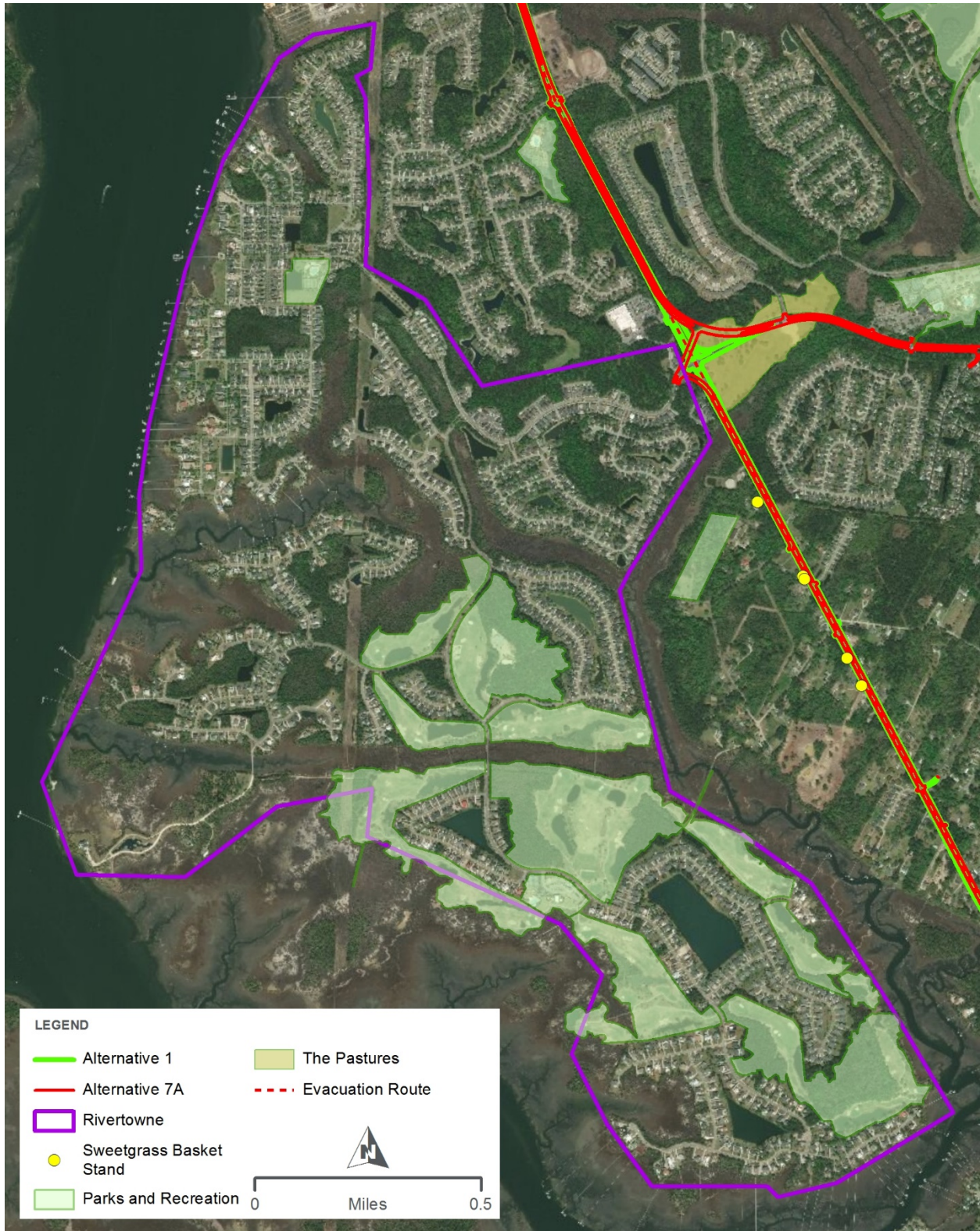


Figure 19. Rivertowne Community Resources and the Build Alternatives

4.12 Seven Mile

The Gullah African-American community of Seven Mile is an approximate 973-acre community located to the north and south of US 17 at the southern extent of the study area (Figure 20). Several small roads to the south of US 17 provide access to largely family-held tracts containing single-family homes. Many of the homes and commercial properties fronting US 17 have associated sweetgrass basket stands; a total of 36 are currently extant in the community. The Kingdom Hall of Jehovah's Witnesses church is located within the community, along Dingle Road. The Greater Goodwill AME Church and associated cemetery and the Lighthouse Church Worship Center are two other churches located within the community, to the north of US 17 and west and east of SC 41, respectively. Commercial properties are located at the intersection of US 17 and SC 41 and on either side of US 17, through the northern portion of the community.

Both build alternatives would change the existing two-lane SC 41 in the vicinity of Seven Mile to a five-lane roadway with a center raised island or two-way left-turn lane. Changes to the intersection of SC 41 and US 17 would also occur in the vicinity of Seven Mile. Either build alternative would widen existing SC 41 from a two-lane roadway to a five-lane roadway in the northeastern portion of Seven Mile and also widen US 17 from a six- to seven-lane roadway with occasional turn lanes to an eight- to ten-lane roadway with occasional turn lanes through the northern portion of the community. The changes would also warrant changes along Hamlin Road and Brickyard Parkway near their intersections US 17. Left turns onto Hamlin Road would not be allowed; motorists would be required to make a U-turn at US 17 and Old Georgetown Road. These changes would require approximately 3.8 acres across Seven Mile. This would result in a more expansive roadway and larger intersections than currently exist in the community.

In addition to the impacts shared across the study area, as discussed in Section 4.1, Seven Mile would experience specific impacts to economic and business conditions; land use; residential aspects; social, cultural, and psychological aspects, as well as some cumulative effects. These impacts would either be minimized or would be permanent and minor to moderate, as discussed in the following sections. Appendix A presents acreage impacts to individual parcels by build alternative. Overall, the effects of the Project would be made more minimal due to the distance of residences from proposed new ROW, the presence of some vegetative buffers, and the current existence of large roadways within the community. However, the Project is expected to contribute to cumulative effects to the traditional culture of the Seven Mile community. The potential for adverse effects to the NRHP-eligible Sweetgrass Basket Corridor traditional cultural property, a portion of which extends through Seven Mile, is evaluated in the cultural resources report for the Project (Baluha et al. 2019).



Figure 20. Seven Mile Community Resources and the Build Alternatives

4.12.1 Economic and Business Conditions

Both of the build alternatives would affect small portions of 30 commercial properties; together these properties total approximately 68.6 acres. Some of these parcels are currently forested or partially cleared undeveloped parcels, while others are developed as commercial properties. Impacted portions of these properties associated with either build alternative would be small for each individual parcel (less than 1 acre); together the affected areas of the parcels total 3.8 acres. The Project is not expected to affect the function or potential function of these parcels as commercial properties.

An estimated 14 sweetgrass basket stands near the existing sidewalk along US 17 would be either within the proposed new ROW or in close enough proximity to warrant minimization measures. Impacts to the sweetgrass basket stands would be minimized by relocating the stands outside the proposed new ROW. The increased traffic volume along US 17 is expected to increase commercial opportunities for sweetgrass basket stand owners and other business owners in the community.



Sweetgrass Basket Stand 32 (facing northeast)

Overall, Project impacts to commercial parcels in Seven Mile are expected to be permanent and minor because the impacts would concentrate immediately adjacent to the existing roadway and would not affect their function. In addition, offsetting beneficial impacts would occur to these commercial resources, as increased traffic through the community could benefit existing businesses and potential commercial properties.

4.12.2 Land Use

Either build alternative would alter land uses along existing Winoing Way, in the extreme northeast portion of Seven Mile. In one location, existing Winoing Way would be straightened and would change land use in that location from undeveloped commercial to transportation uses. This impact to land use is expected to be permanent and minor, as the affected area is surrounded by commercial properties.

4.12.3 Residential Aspects

Either build alternative would affect small portions of 20 residential parcels; together these developed or vacant residential parcels total in their entirety 13.5 acres. Impacts to these parcels would be along existing roadways, and individual parcel impacts would be less than 0.2 acre; all together, changes associated with either build alternative would impact a total of 0.6 acre associated with these parcels. Based on modern aerial and street views, residences in Seven Mile are typically setback from existing roadways, and generally, some trees exist between the residences and the roadway to help buffer the effects of the Project.

Overall, while Project effects would occur to a large number of community members scattered across the community, these effects would generally be minor due to the distance of residences to the proposed new

ROW, the presence of vegetative buffers, and the current existence of large roadways throughout the community. Where these conditions differ and substantial setbacks or vegetative buffers do not exist, the effects to residential parcels would be moderate. Unlike the Phillips Community, negative effects to residential parcels in Seven Mile are not expected to be exacerbated by the prominence of heirs' property in the community due to the effects from the Project being more minimal and unlikely warranting self-elected relocations.

4.12.4 Social, Cultural, and Psychological Aspects

The relocation of an estimated 14 sweetgrass basket stands as a result of the Project is expected to indirectly alter the traditional culture of the Seven Mile community and the traditional cultural identities and individual psychologies of community members. These effects are expected to result in moderate impacts in Seven Mile.

4.12.5 Recurring and Cumulative Effects

The widening of US 17 in the vicinity of the Project, completed in 2013, improved accessibility and led to altered residential and commercial development in the area. In particular, more commercial and planned residential development was spurred by the widening project. That project also resulted in the loss of portions of family properties in Seven Mile and the loss or relocation of some associated sweetgrass basket stands. The currently proposed Project would widen SC 41 and improve the intersection of SC 41 and US 17. These changes from the Project could stimulate more commercial and developer-designed residential development in the vicinity of Seven Mile and contribute to the displacement of long-term community members.

4.13 Cainhoy

The Cainhoy community is an approximate 1,033-acre community located to the north of the Wando River at the northern extent of the study area in Berkeley County (Figure 21). As discussed previously, portions of Cainhoy were settled by freed African Americans following the Civil War. Larger roads that pass through the community include SC 41, Clements Ferry Road, Cainhoy Road, and Reflectance Road. Several smaller roads branching off of these roads provide access to single-family homes. A large townhouse neighborhood is located to the north of Clements Ferry Road and southeast of Reflectance Road. Several commercial developments are present within the community, most notably at the intersection of Clements Ferry Road and Cainhoy Road. Saint Peters African Methodist Episcopal Church is located in the western portion of Cainhoy, along Fogarty Lane. Wando Baptist Church is located in the eastern portion of Cainhoy, along Reflectance Road. Two fire stations are extant in the community along Cainhoy Road, north of Clements Ferry Road. The Cainhoy Historic District, composed of nine mid-eighteenth century to early twentieth century buildings that were part of an early river port and ferry community that connected Berkeley County and Charleston, is extant in the southern portions of Cainhoy, along the northern banks of the Wando River. The Francis Marion National Forest is located to the north and east of the Cainhoy community. A 9,000-acre master-planned, mixed-use development known as Cainhoy Plantation is proposed near the study area on Clements Ferry Road in Berkeley County. Two schools have been constructed as part of the development.

Alternative 1 and 7A would tie into Clements Ferry Road within the Cainhoy community. As the community is located to the north of expected changes, no direct impacts to Cainhoy or its resources are expected to result from the Project. However, like the other communities in the study area, Cainhoy would experience the impacts shared across the study area, discussed in Section 4.1.

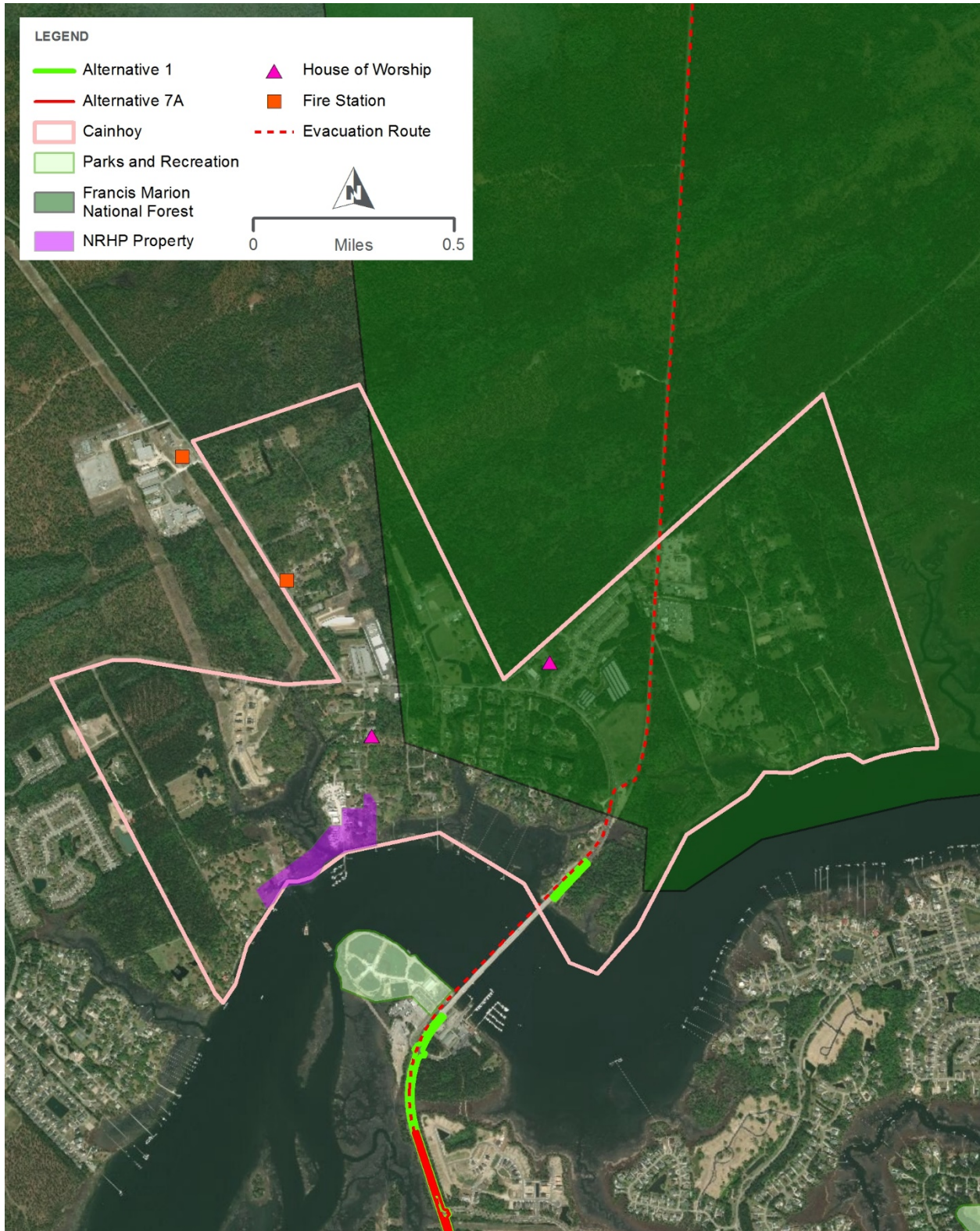


Figure 21. Cainho Community Resources and the Build Alternatives

5.0 Synthesis and Conclusions

5.1 Summary of Impacts

Table 5 provides a comparison of impacts across all communities in the study area and per build alternative. The table highlights that, depending on alternative, moderate to major impacts are expected in the Phillips Community, and minor to moderate impacts are expected in Dunes West, Park West, and Seven Mile. All other communities except Cainhoy would experience minor effects. Cainhoy is not expected to experience any direct effects from the Project. While Table 4 (presented in Section 4.1) shows that Dunes West would experience the highest acreage losses of any community, these effects are made more minimal due to the substantial setback of residential portions of this community and the wide vegetative buffers that were retained by developers.

Table 5. Comparison of Overall Community Impacts by Build Alternative

Community	Alt 1	Alt 7A
Brickyard / Colonnade	Minor	Minor
Cardinal Hill	Minor	Minor
Dunes West	Minor	Minor to Moderate
Gregorie Ferry	Minor	Minor
Horlbeck Creek	Minor	Minor
Ivy Hall	Minor	Minor
Park West	Minor	Minor to Moderate
Phillips Community	Moderate to Major	Minor
Planter's Pointe	Minor	Minor
Rivertowne	Minor	Minor
Seven Mile	Minor to Moderate	Minor to Moderate
Cainhoy	No direct effects	No direct effects

Based on the assessment factors outlined in Section 2.4, impact severity ratings range from minor to moderate in Dunes West due to some moderate effects occurring at the pastures and one residential parcel in association with Alternative 7A, while minor effects would be felt in other portions of the community near the Project. Impact severity ratings likewise range from minor to moderate in Park West due to some moderate effects occurring at three townhome complexes situated near existing roadways in association with Alternative 7A, while minor effects would be felt in other portions of the community near its western extent. In the Phillips Community, the impact severity ratings range from moderate to major in association with Alternative 1, due to the numbers of impacted residential parcels and their wide

distribution across the community and, thus, family properties; the lack of distance of many residences on affected parcels from the proposed new ROW; and depending on the legal status of affected parcels as heirs' properties. In Seven Mile, the impact severity ratings range from minor to moderate with either build alternative, due to the numbers of impacted residential parcels and their wide distribution across the community; however, these effects are generally made more minimal in Seven Mile due to substantial setback of residences from existing roadways, the presence of some vegetative buffers, and the current existence of large roadways within the community.

5.2 Environmental Justice

In the EJ-qualifying Phillips Community, Alternative 1 would result in moderate to major impacts to residential aspects of the community and adverse effects to the Phillips Cultural Landscape, an NRHP-eligible property that is significant to the history of the community and the traditional cultural identities of community members. In EJ-qualifying Seven Mile, changes associated with either build alternative would result in moderate impacts to social, cultural, and psychological aspects of the community. The impact severity ratings in Phillips would depend on whether an affected parcel contains a residence within close proximity to the proposed roadway and is legally considered heirs' property. These differences in the Phillips Community and the potential for cultural impacts in Seven Mile are due to their traditional cultural heritage as Gullah African-American people.

Because the changes associated with Alternative 1 in the Phillips Community are estimated to be moderate to major and would affect approximately 70 residential parcels spread throughout the community, and because these impacts are more severe than in non-EJ communities in the study area (Table 5), the EJ-qualifying Phillips Community is expected to experience disproportionately high and adverse effects from the Project with implementation of Alternative 1. Implementation of Alternative 7A in the Phillips Community, which would not require substantial ROW through the community, is not expected to result in disproportionately high and adverse effects. The changes associated with either build alternative in Seven Mile are estimated to be minor to moderate and would affect approximately 20 residential parcels and 14 sweetgrass basket stands spread throughout the community. Because the impacts to Seven Mile associated with Alternative 1 are more severe than in non-EJ communities in the study area, the EJ-qualifying Seven Mile is expected to experience disproportionately high and adverse effects from the Project with implementation of Alternative 1.

Implementation of either build alternative is expected to contribute to cumulative impacts to the traditional culture of the Seven Mile community and the traditional cultural identities of community members, while implementation of Alternative 1 would contribute to cumulative impacts to the traditional culture of the Phillips Community and the traditional cultural identities of community members. This is because effects from the Project are expected to combine with the effects of other, nearby federal and nonfederal projects and, thus, compound adverse effects to these EJ-qualifying communities. Recurring or cumulative effects to other EJ or non-EJ populations are not anticipated.

5.3 Offsetting Benefits of the Alternatives

The purpose of the Project is to accommodate an increase in traffic volume and system continuity throughout the Project limits. SC 41 from US 17 to Clements Ferry Road serves as a minor arterial that has experienced an increase in traffic due to regional growth, and currently sustains operations that exceed capacity and are projected to worsen over time (see the Environmental Report for the Project).

Overall, Project implementation would potentially cause a positive impact to economic and business conditions in the study area, with concentrated effects in areas surrounding the selected build alternative. Within the study area, general mobility and access to individual commercial and residential properties and residential developments would be improved with implementation of either build alternative. Generally, Alternative 1 would positively affect mobility and access along existing SC 41, while Alternative 7A would positively affect mobility and access along existing SC 41 as well as along existing Dunes West Boulevard, Park West Boulevard, and Bessemer Road. These changes are expected to, in turn, increase patronage of businesses in the vicinity of the selected build alternative. The Project is also expected to improve public health and safety across the study area. Public health and safety are expected to be improved due to emergency vehicles being able to navigate the study area more efficiently and effectively, and emergency facilities and recreational resources would be accessed more efficiently and safely. In addition, the Project has the potential to generally improve public health in the study area with the addition of bicycle and pedestrian pathways along the selected corridor.

5.4 Next Steps

Next, potential measures to address direct community impacts will be identified. Potential mitigation measures will be developed through data collected during public engagement opportunities and/or direct community contact, such as through phone and in-person meetings and/or focused interviews. Four primary methods to address direct impacts will be considered, including avoidance, minimization, mitigation, and enhancement. If appropriate, HDR will make recommendations regarding mitigation measures that would help alleviate or offset an impact or replace an affected community resource. Project enhancements that would add a desirable or attractive feature and thus result in the Project being more fitting with the community will also be considered and developed, as appropriate. Throughout this process, HDR will take into account the potential for additional adverse impacts to emerge through the mitigation process. If additional impacts are identified, HDR will address these by engaging the same process.

Mitigation measures will be addressed in the community mitigation plan, to be appended in future drafts of this report. Developing strategies for community mitigation will initially involve working with the Project engineers to alter the design to avoid or minimize impacts and/or to identify enhancement opportunities to make the Project fit better with existing communities. Once the design is finalized and the most affected communities are identified, the Project community analysts will meet with representatives of the affected communities to identify avoidance and minimization options and to develop effective solutions to address adverse impacts.

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Appendix A – Affected Parcels



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Community	PIN	Parcel Acreage	Alternative	ROW Take (Ac)	Class Code
Brickyard/Colonnade	5800000033	2.7563	1	0.0173	HOA
Brickyard/Colonnade	5800000086	17.6242	1	0.0205	HOA
Brickyard/Colonnade	5800300031	0.1592	1	0.0518	Undevelopable
Brickyard/Colonnade	5800700069	1.7314	1	0.1421	Undevelopable
Brickyard/Colonnade	5800700118	0.2591	1	0.0105	HOA
Brickyard/Colonnade	5800700118	2.5973	1	0.2886	HOA
Brickyard/Colonnade	5800700134	0.7728	1	0.2034	HOA
Brickyard/Colonnade	5801100029	0.4311	1	0.1653	HOA
Brickyard/Colonnade	5801100051	0.51	1	0.1957	HOA
Brickyard/Colonnade	5801100098	0.3812	1	0.1191	Undevelopable
Brickyard/Colonnade	5800300031	0.1592	7A	0.0518	Undevelopable
Brickyard/Colonnade	5800700069	1.7314	7A	0.1421	Undevelopable
Brickyard/Colonnade	5800700118	0.2591	7A	0.0105	HOA
Brickyard/Colonnade	5800700118	2.5973	7A	0.2886	HOA
Brickyard/Colonnade	5800700134	0.7728	7A	0.2034	HOA
Brickyard/Colonnade	5801100029	0.4311	7A	0.1653	HOA
Brickyard/Colonnade	5801100051	0.51	7A	0.1957	HOA
Brickyard/Colonnade	5801100098	0.3812	7A	0.1191	Undevelopable
Cardinal Hill	5800000062	22.3135	1	0.4708	Res
Cardinal Hill	5800000116	0.7803	1	0.2038	HOA
Cardinal Hill	5800000117	0.0808	1	0.0107	Undevelopable
Cardinal Hill	5800000118	0.4662	1	0.1239	HOA
Cardinal Hill	5800000119	2.7883	1	0.6796	HOA
Cardinal Hill	5800000120	2.3358	1	0.0368	HOA
Cardinal Hill	5800000062	22.3135	7A	0.3515	Res
Cardinal Hill	5800000119	2.7883	7A	0.0911	HOA
Dunes West	5940200258	18.1188	1	1.1916	Undevelopable
Dunes West	5940500219	6.1273	1	0.2269	Comm
Dunes West	5940500228	16.2476	1	1.162	Comm
Dunes West	5940500229	26.8577	1	1.3637	Undevelopable
Dunes West	5940500231	23.5045	1	1.025	HOA
Dunes West	5940500232	2.9579	1	0.0563	HOA
Dunes West	5940500232	2.3525	1	0.0592	HOA
Dunes West	5940500235	10.6646	1	1.3126	Res
Dunes West	5940500914	3.7729	1	0.0921	Road-Row
Dunes West	5941000313	2.9467	1	0.1736	Undevelopable
Dunes West	5941000314	13.2534	1	0.3042	HOA
Dunes West	5941000329	5.7158	1	1.0281	HOA
Dunes West	5941000330	15.4714	1	0.2589	Undevelopable
Dunes West	5940200258	18.1188	7A	1.1916	Undevelopable
Dunes West	5940500219	6.1273	7A	0.2269	Comm
Dunes West	5940500228	16.2476	7A	1.162	Comm
Dunes West	5940500229	26.8577	7A	1.3637	Undevelopable
Dunes West	5940500231	23.5045	7A	1.025	HOA
Dunes West	5940500232	2.9579	7A	0.0563	HOA
Dunes West	5940500232	2.3525	7A	0.0592	HOA

Dunes West	5940500235	10.6646	7A	2.1415	Res
Dunes West	5940500914	3.7729	7A	0.0921	Road-Row
Dunes West	5941000028	0.9403	7A	0.0197	Govt-Bldg
Dunes West	5941000051	2.0902	7A	0.0582	Comm
Dunes West	5941000313	2.9467	7A	0.1021	Undevelopable
Dunes West	5941000314	13.2534	7A	0.4509	HOA
Dunes West	5941000315	2.999	7A	0.0981	Undevelopable
Dunes West	5941000317	0.5739	7A	0.0931	Undevelopable
Dunes West	5941000318	0.2937	7A	0.1344	Undevelopable
Dunes West	5941000325	8.7994	7A	0.4567	Undevelopable
Dunes West	5941000327	7.6015	7A	0.1402	Undevelopable
Dunes West	5941000329	4.4736	7A	0.1299	HOA
Dunes West	5941000329	5.7158	7A	2.385	HOA
Dunes West	5941000330	15.4714	7A	0.0861	Undevelopable
Dunes West	5941000330	15.4714	7A	0.159	Undevelopable
Dunes West	5941000333	19.1949	7A	0.0099	HOA
Dunes West	5941000850	5.5219	7A	0.24992	Comm
Dunes West	5941100001	1.1944	7A	0.2052	Res
Gregorie Ferry	5800000021	0.1262	1	0.0102	Res
Gregorie Ferry	5800000188	10.6283	1	0.219	Comm
Gregorie Ferry	5980000024	8.6414	1	0.735	Comm
Gregorie Ferry	5800000021	0.1262	7A	0.0102	Res
Gregorie Ferry	5800000188	10.6283	7A	0.219	Comm
Gregorie Ferry	5980000024	8.6414	7A	0.735	Comm
Horlbeck Creek	5800000037	22.4499	1	0.0528	Res
Horlbeck Creek	5800300031	0.0768	1	0.0107	Undevelopable
Horlbeck Creek	5800300031	0.0992	1	0.0763	Undevelopable
Horlbeck Creek	5800000037	22.4499	7A	0.0528	Res
Horlbeck Creek	5800300031	0.0768	7A	0.0107	Undevelopable
Horlbeck Creek	5800300031	0.0992	7A	0.0763	Undevelopable
Ivy Hall	5980000026	3.2469	1	0.0603	Comm
Ivy Hall	5980000027	2.0448	1	0.0767	Comm
Ivy Hall	5980000034	6.3037	1	0.0014	Comm
Ivy Hall	5980000034	6.3037	1	0.0704	Comm
Ivy Hall	5980000026	3.2469	7A	0.0603	Comm
Ivy Hall	5980000027	2.0448	7A	0.0767	Comm
Ivy Hall	5980000034	6.3037	7A	0.0014	Comm
Ivy Hall	5980000034	6.3037	7A	0.0704	Comm
Park West	232310	37.6135	7A	0.3246	Res
Park West	583030098	0.8242	7A	0.1358	Undevelopable
Park West	5400000056	0.8556	7A	0.0079	Comm
Park West	5830300001	0.2763	7A	0.0298	Undevelopable
Park West	5830300001	0.354	7A	0.0775	Undevelopable
Park West	5830300166	17.2138	7A	2.4461	Undevelopable
Park West	5830300353	5.88	7A	2.115	Comm
Park West	5941000681	1.265	7A	0.0728	Undevelopable
Park West	5941000831	7.3644	7A	1.4325	Undevelopable

Park West	5941000832	0.4091	7A	0.2566	HOA
Park West	5941000834	1.0137	7A	0.3187	Res
Park West	5941000872	0.0546	7A	0.0001	Res
Park West	5941000873	0.0702	7A	0.0016	Res
Park West	5941000874	0.097	7A	0.0062	Res
Park West	5941100132	14.0072	7A	3.9218	HOA
Park West	5941100136	0.1216	7A	0.0018	Res
Park West	5941100164	4.9957	7A	0.0014	Undevelopable
Park West	5941100832	1.9463	7A	0.1002	Undevelopable
Park West	5941600759	0.0705	7A	0.0006	Res
Park West	5941600760	0.078	7A	0.0013	Res
Park West	5941600761	0.126	7A	0.0003	Res
Park West	5941600851	1.0529	7A	0.0726	Undevelopable
Phillips Community	5830000005	1.8881	1	0.0279	Res
Phillips Community	5830000012	1.3553	1	0.1046	Res
Phillips Community	5830000013	0.4762	1	0.0053	Res
Phillips Community	5830000014	0.2948	1	0.015	Res
Phillips Community	5830000015	0.5211	1	0.0007	Res
Phillips Community	5830000016	0.0586	1	0.0195	Res
Phillips Community	5830000017	0.5673	1	0.026	Res
Phillips Community	5830000018	0.2921	1	0.0408	Res
Phillips Community	5830000025	5.455	1	0.0187	Res
Phillips Community	5830000025	0.1104	1	0.0522	Res
Phillips Community	5830000026	7.5414	1	0.0084	Comm
Phillips Community	5830000026	7.5414	1	0.0156	Comm
Phillips Community	5830000027	0.564	1	0.0616	Res
Phillips Community	5830000028	2.376	1	0.0291	Res
Phillips Community	5830000029	1.0108	1	0.0387	Res
Phillips Community	5830000030	0.6964	1	0.0277	Res
Phillips Community	5830000031	0.7105	1	0.0449	Res
Phillips Community	5830000032	0.266	1	0.0272	Res
Phillips Community	5830000033	0.6667	1	0.0377	Res
Phillips Community	5830000049	0.0172	1	0.0078	Undevelopable
Phillips Community	5830000050	1.169	1	0.0449	Res
Phillips Community	5830000051	0.7907	1	0.043	Res
Phillips Community	5830000054	3.2384	1	0.0567	Res
Phillips Community	5830000055	3.882	1	0.103	Res
Phillips Community	5830000056	1.7315	1	0.1116	Res
Phillips Community	5830000057	0.0382	1	0.0166	Res
Phillips Community	5830000059	0.4695	1	0.0145	Res
Phillips Community	5830000060	0.07451	1	0.0282	Undevelopable
Phillips Community	5830000061	0.3466	1	0.0572	Res
Phillips Community	5830000063	2.3519	1	0.0913	Res
Phillips Community	5830000064	1.4563	1	0.112	Res
Phillips Community	5830000065	0.0732	1	0.0278	Res
Phillips Community	5830000065	4.5443	1	0.1406	Res
Phillips Community	5830000066	1.6548	1	0.091	Res

Phillips Community	5830000067	0.2133	1	0.0579	Res
Phillips Community	5830000082	0.2578	1	0.0524	Res
Phillips Community	5830000083	0.2811	1	0.0782	Res
Phillips Community	5830000084	1.6109	1	0.0595	Res
Phillips Community	5830000085	2.3999	1	0.0255	Res
Phillips Community	5830000087	11.327	1	0.0313	Res
Phillips Community	5830000089	0.3491	1	0.0677	Res
Phillips Community	5830000090	13.7156	1	0.0908	Comm
Phillips Community	5830000091	1.2663	1	0.1522	Res
Phillips Community	5830000095	1.1283	1	0.024	Undevelopable
Phillips Community	5830000096	1.7681	1	0.0202	Res
Phillips Community	5830000097	0.4522	1	0.0508	Res
Phillips Community	5830000098	2.5072	1	0.0724	Res
Phillips Community	5830000099	1.7608	1	0.0695	Res
Phillips Community	5830000100	1.6735	1	0.0815	Res
Phillips Community	5830000101	0.9323	1	0.055	Res
Phillips Community	5830000102	0.8244	1	0.1953	Res
Phillips Community	5830000103	0.8872	1	0.1407	Res
Phillips Community	5830000104	1.098	1	0.2269	Res
Phillips Community	5830000107	0.2182	1	0.1328	Undevelopable
Phillips Community	5830000109	0.9636	1	0.0523	Res
Phillips Community	5830000110	0.004	1	0.004	Undevelopable
Phillips Community	5830000116	2.7201	1	0.002	Comm
Phillips Community	5830000117	0.866	1	0.1888	Res
Phillips Community	5830000126	1.4202	1	0.0637	Res
Phillips Community	5830000129	0.2832	1	0.0089	Undevelopable
Phillips Community	5830000129	0.5708	1	0.0421	Undevelopable
Phillips Community	5830000130	1.4661	1	0.147	Res
Phillips Community	5830000131	1.0525	1	0.0841	Res
Phillips Community	5830000132	0.796	1	0.0709	Res
Phillips Community	5830000135	0.7386	1	0.038	Res
Phillips Community	5830000136	3.0173	1	0.0204	Res
Phillips Community	5830000142	1.4453	1	0.043	Res
Phillips Community	5830000157	0.479	1	0.0586	Res
Phillips Community	5830000212	15.2382	1	0.5727	Comm
Phillips Community	5830000233	0.0437	1	0.094	Public-Util
Phillips Community	5830000242	0.3408	1	0.0282	Res
Phillips Community	5830000247	0.4767	1	0.0166	Res
Phillips Community	5830000250	0.5972	1	0.0293	Res
Phillips Community	5830000251	1.0269	1	0.0226	Res
Phillips Community	5830000266	1.1873	1	0.061	Res
Phillips Community	5830000268	0.3219	1	0.0528	Res
Phillips Community	5830000284	0.9415	1	0.0072	Res
Phillips Community	5830000288	0.3974	1	0.0882	Res
Phillips Community	5830000296	(no data)	1	0.0218	Undevelopable
Phillips Community	5830000298	0.7299	1	0.0672	Res
Phillips Community	5830000303	1.0277	1	0.0637	Res

Phillips Community	5830000305	2.4097	1	0.0067	Res
Phillips Community	5830000386	0.4841	1	0.0189	Res
Phillips Community	5830000399	0.3909	1	0.0168	Res
Phillips Community	5830000107	0.2182	7A	0.039	Undevelopable
Phillips Community	5830000117	0.866	7A	0.1756	Res
Phillips Community	5830000212	15.2382	7A	0.1771	Comm
Planter's Pointe	5400000050	12.4409	1	0.9116	HOA
Planter's Pointe	5830600055	1.2006	1	0.0104	Undevelopable
Planter's Pointe	5830600056	0.41	1	0.0176	Undevelopable
Planter's Pointe	5830600173	7.1414	1	0.1302	Undevelopable
Planter's Pointe	5830600174	9.6714	1	0.139	Undevelopable
Planter's Pointe	5830700130	0.429	1	0.1105	Undevelopable
Planter's Pointe	5830700130	0.9454	1	0.2519	Undevelopable
Planter's Pointe	5830700131	0.0782	1	0.0112	Undevelopable
Planter's Pointe	5400000050	12.4409	7A	0.9116	HOA
Planter's Pointe	5830600055	1.2006	7A	0.0104	Undevelopable
Planter's Pointe	5830600056	0.41	7A	0.0176	Undevelopable
Planter's Pointe	5830600173	7.1414	7A	0.1302	Undevelopable
Planter's Pointe	5830600174	9.6714	7A	0.139	Undevelopable
Planter's Pointe	5830700130	0.429	7A	0.1105	Undevelopable
Planter's Pointe	5830700130	0.9454	7A	0.2519	Undevelopable
Planter's Pointe	5830700131	0.0782	7A	0.0112	Undevelopable
Rivertowne	5400000058	4.7067	1	0.2549	Comm
Rivertowne	5400000103	17.8657	1	0.3543	Comm
Rivertowne	5830000324	2.7082	1	0.2104	Comm
Rivertowne	5830500419	1.7402	1	0.0729	Comm
Rivertowne	58300002831	1.7942	1	0.1005	Comm
Rivertowne	5400000058	4.7067	7A	0.3498	Comm
Rivertowne	5400000103	17.8657	7A	0.1003	Comm
Rivertowne	5830000324	2.7082	7A	0.0653	Comm
Rivertowne	5830500419	1.7402	7A	0.4786	Comm
Rivertowne	58300002831	1.7942	7A	0.1208	Comm
Seven Mile	5780000034	0.799	1	0.0093	Comm
Seven Mile	5780000035	5.166	1	0.0421	Comm
Seven Mile	5780000042	5.9502	1	0.2244	Comm
Seven Mile	5780000043	0.5674	1	0.1405	Comm
Seven Mile	5780000044	0.4011	1	0.0284	Comm
Seven Mile	5780000045	0.7553	1	0.0324	Comm
Seven Mile	5780000091	0.2237	1	0.003	Comm
Seven Mile	5780000092	1.008	1	0.0316	Comm
Seven Mile	5780000096	0.9312	1	0.0364	Comm
Seven Mile	5780000148	1.8171	1	0.0016	Comm
Seven Mile	5780000149	2.0451	1	0.045	Comm
Seven Mile	5780000151	0.5244	1	0.0324	Comm
Seven Mile	5780000233	0.8238	1	0.0276	Comm
Seven Mile	5780000317	0.5244	1	0.0191	Comm
Seven Mile	5780000534	1.2363	1	0.0555	Comm

Seven Mile	5800000001	1.9733	1	0.3791	Comm
Seven Mile	5800000004	5.6736	1	0.9138	Comm
Seven Mile	5800000007	0.7922	1	0.0078	Comm
Seven Mile	5800000008	0.9821	1	0.018	Comm
Seven Mile	5800000009	0.5212	1	0.0179	Comm
Seven Mile	5800000012	4.4289	1	0.0032	Comm
Seven Mile	5800000013	2.9811	1	0.7072	Comm
Seven Mile	5800000023	0.6397	1	0.1604	Comm
Seven Mile	5800000026	2.5778	1	0.1319	Comm
Seven Mile	5800000027	1.3253	1	0.1455	Comm
Seven Mile	5800000034	0.2454	1	0.0328	Res
Seven Mile	5800000035	1.1376	1	0.0001	Res
Seven Mile	5800000039	2.679	1	0.0166	Comm
Seven Mile	5800000044	0.526	1	0.0034	Comm
Seven Mile	5800000045	0.7987	1	0	Comm
Seven Mile	5800000047	1.2021	1	0	Comm
Seven Mile	5800000048	0.512	1	0	Comm
Seven Mile	5800000051	0.4138	1	0.0103	Comm
Seven Mile	5800000052	0.8117	1	0	Comm
Seven Mile	5800000053	0.3319	1	0.0007	Comm
Seven Mile	5800000056	2.4571	1	0.0452	Comm
Seven Mile	5800000064	0.8853	1	0.0439	Comm
Seven Mile	5800000069	1.0018	1	0.0051	Comm
Seven Mile	5800000071	0.7283	1	0	Comm
Seven Mile	5800000072	2.4108	1	0.0133	Comm
Seven Mile	5800000079	0.9844	1	0	Comm
Seven Mile	5800000081	1.0588	1	0.001	Comm
Seven Mile	5800000089	0.6733	1	0.0012	Comm
Seven Mile	5800000091	0.2966	1	0.0131	Comm
Seven Mile	5800000092	1.4042	1	0.0157	Comm
Seven Mile	5800000123	0.9463	1	0.103	Comm
Seven Mile	5800000124	1.2943	1	0.0203	Comm
Seven Mile	5800000125	1.352	1	0.0024	Comm
Seven Mile	5800000126	1.5161	1	0.0403	Comm
Seven Mile	5800000128	1.7619	1	0.1324	Comm
Seven Mile	5800000131	0.5714	1	0.0136	Comm
Seven Mile	5800000132	3.5461	1	0.0002	Comm
Seven Mile	5800000133	7.21	1	0.0025	Comm
Seven Mile	5800000149	2.8558	1	0.0589	Comm
Seven Mile	5800000189	0.1453	1	0.0133	Comm
Seven Mile	5800000205	0.273	1	0.0078	Comm
Seven Mile	5800000234	0.5151	1	0.0279	Comm
Seven Mile	5780000043	0.5674	7A	0.017	Comm
Seven Mile	5780000044	0.4011	7A	0.0284	Comm
Seven Mile	5780000045	0.7553	7A	0.0324	Comm
Seven Mile	5780000091	0.2237	7A	0.008	Comm
Seven Mile	5780000148	1.8171	7A	0.0016	Comm

Seven Mile	5780000149	2.0451	7A	0.045	Comm
Seven Mile	5780000151	0.5244	7A	0.0324	Comm
Seven Mile	5780000233	0.8238	7A	0.0276	Comm
Seven Mile	5780000317	0.5244	7A	0.0191	Comm
Seven Mile	5780000534	1.2363	7A	0.0018	Comm
Seven Mile	5800000001	1.9733	7A	0.3791	Comm
Seven Mile	5800000004	5.6736	7A	0.9138	Comm
Seven Mile	5800000007	0.7922	7A	0.0078	Comm
Seven Mile	5800000008	0.9821	7A	0.018	Comm
Seven Mile	5800000009	0.5212	7A	0.0179	Comm
Seven Mile	5800000012	4.4289	7A	0.0032	Comm
Seven Mile	5800000013	2.9811	7A	0.7072	Comm
Seven Mile	5800000023	0.6397	7A	0.1604	Comm
Seven Mile	5800000026	2.5778	7A	0.1319	Comm
Seven Mile	5800000027	1.3253	7A	0.1455	Comm
Seven Mile	5800000033	2.7563	7A	0.2533	HOA
Seven Mile	5800000034	0.2454	7A	0.0328	Res
Seven Mile	5800000035	1.1376	7A	0.0001	Res
Seven Mile	5800000039	2.679	7A	0.0472	Comm
Seven Mile	5800000044	0.526	7A	0.0063	Comm
Seven Mile	5800000045	0.7987	7A	0.0112	Comm
Seven Mile	5800000047	1.2021	7A	0.0236	Comm
Seven Mile	5800000048	0.512	7A	0.0048	Comm
Seven Mile	5800000051	0.4138	7A	0.0676	Comm
Seven Mile	5800000052	0.8117	7A	0.0033	Comm
Seven Mile	5800000053	0.3319	7A	0.0257	Comm
Seven Mile	5800000056	2.4571	7A	0.0452	Comm
Seven Mile	5800000064	0.8853	7A	0.0439	Comm
Seven Mile	5800000066	17.6242	7A	0.0262	HOA
Seven Mile	5800000069	1.0018	7A	0.0062	Comm
Seven Mile	5800000071	0.7283	7A	0.0017	Comm
Seven Mile	5800000072	2.4108	7A	0.0628	Comm
Seven Mile	5800000079	0.9844	7A	0.0008	Comm
Seven Mile	5800000081	1.0588	7A	0.0045	Comm
Seven Mile	5800000089	0.6733	7A	0.0072	Comm
Seven Mile	5800000091	0.2966	7A	0.0131	Comm
Seven Mile	5800000092	1.4042	7A	0.0157	Comm
Seven Mile	5800000123	0.9463	7A	0.103	Comm
Seven Mile	5800000124	1.2943	7A	0.0558	Comm
Seven Mile	5800000125	1.352	7A	0.0024	Comm
Seven Mile	5800000126	1.5161	7A	0.0403	Comm
Seven Mile	5800000128	1.7619	7A	0.1324	Comm
Seven Mile	5800000131	0.5714	7A	0.0136	Comm
Seven Mile	5800000132	3.5461	7A	0.0002	Comm
Seven Mile	5800000133	7.21	7A	0.0876	Comm
Seven Mile	5800000149	2.8558	7A	0.085	Comm
Seven Mile	5800000189	0.1453	7A	0.0133	Comm

Seven Mile	5800000205	0.273	7A	0.0078	Comm
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Charleston County
Transportation Development

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