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June 17, 2016

Jeffrey Hinton, Director
US Commission on Civil Rights
Suite 16T126
61 Forsyth Street, SW
Atlanta, Georgia 30303

Dear Mr. Hinton,

The North Carolina Department of Environmental Quality (DEQ) is committed to ensuring that communities subject to Title VI of the Civil Rights Act of 1964 are not negatively impacted by newly proposed and expanded coal ash landfills. A study has been conducted by the NC DEQ in recent months to evaluate the communities surrounding the landfill sites.

The Sutton Duke Energy Complex is located at a 3,308-acre property in New Hanover County, near the city of Wilmington, Cape Fear River and the Northeast Cape Fear River. The Sutton Duke Energy Complex is the first of the proposed landfill sites to be studied by department staff. Attached to this letter you will find the study.

The study included an assessment of the race and ethnicity, income, sex, disability, age and English proficiency of residents near the Sutton Energy Complex. DEQ has determined that the proposed landfill at the Sutton Energy Complex does not impose disproportionately high or adverse environmental harm to residents in these target populations. We are asking for you to review this study and acknowledge to the DEQ any recommendations or comments on this study within 30 days. Also, please provide any feedback to us on the process which we have undertaken and any suggested changes, as we will be working through numerous environmental justice studies at Duke Energy disposal sites. Two copies of the report are enclosed; please forward one copy to the appropriate Regional Advisory Committee.

Thank you for taking the time for this review. We look forward to hearing from you.

Sincerely,

A handwritten signature in black ink, appearing to read 'Michael Scott', written in a cursive style.

Michael Scott, Division of Waste Management Director

EC: Matthey Lazo-Chadderton, US Commission on Civil Rights
North Carolina Advisory Committee

CONTENTS

1	Introduction	1
2	Environmental Justice Evaluation	1
3	Project Proposal	1
4	Geographic Area.....	2
5	Regional Setting	2
5.1	Race and Ethnicity	2
5.2	Age and Sex.....	3
5.3	Disability	4
5.4	Poverty.....	5
5.5	Household Income.....	6
5.6	Limited English Proficiency (LEP)	6
6	Local Setting	8
6.1	Local Industrial Sites	9
6.2	Local Sensitive Receptors	9
6.3	Race and Ethnicity	10
6.4	Age and Sex.....	11
6.5	Poverty.....	12
6.6	Household Income.....	13
6.7	Limited English Proficiency (LEP).....	13
7	Field Reconnaissance.....	14
7.1	Demographic Analysis of Potential Area of Concern.....	15
7.2	Next Steps.....	15
7.2.1	Discussion with Public Officials	16
7.2.2	Potential Area of Concern.....	16
8	Summary of Potential Adverse Environmental and Human Health Effects and Analysis of the Potential for Disproportionately High and Adverse Effects.....	17
8.1	Traffic.....	17
8.2	Potential releases of CCPs to the environment	17
8.2.1	Leachate Collection System	17
8.2.2	Erosion and Sedimentation Control.....	17
8.2.3	Dust Control Plan.....	18
9	Conclusion	18

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TABLES

Table 1. U.S. Census Bureau, Race and Ethnicity -New Hanover County.....2
Table 2. U.S. Census Bureau, Age and Sex – New Hanover County3
Table 3. U.S. Census Bureau, Disability- New Hanover County.....4
Table 4. U.S. Census Bureau, Poverty Status in the Past 12 Months in 2014 – New Hanover
County5
Table 5. U.S. Census Bureau, Household Income in the Past 12 Months (2014) – New Hanover
County6
Table 6. U.S. Census Bureau, Limited English Proficiency – New Hanover county7
Table 7. U.S. Census Bureau, Race and Ethnicity – Census Tract 115 and One-Mile Radius.....11
Table 8. U.S. Census Bureau, Age and Sex – Census Tract 115 and One-Mile Radius11
Table 9. U.S. Census Bureau, Poverty Status in the Past 12 Months in 2014 – Census Tract 115
and One-Mile Radius12
Table 10. U.S. Census Bureau, Household Income in the Past 12 Months (2014) – Census Tract
115 and One-Mile Radius13
Table 11. U.S. Census Bureau, Limited English Proficiency – Census Tract 115 and One-Mile
Radius.....14

FIGURES

Figure 6-1. Map of Census Tract 115 – New Hanover County, NC.....8
Figure 6-2. Map of One-Mile Radius around Proposed Sutton Industrial Landfill9
Figure 6-3. Sensitive Receptors surrounding Sutton Energy Complex10
Figure 7-1. Potential Environmental Justice Community approximately outside of one-mile15

1 Introduction

Environmental justice is the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income, with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies. This report will examine the demographic and environmental conditions within New Hanover County, as well as Census Tract 115 and a one-mile radius around the Sutton Energy Complex which will contain the proposed coal ash residual (CCR) Sutton Landfill located at 801 Sutton Steam Plant Road, Wilmington, NC, 28401. This report will evaluate the results of the demographic and environmental conditions within one mile of the proposed CCR landfill to determine any disproportionately high or adverse environmental and human health effects on low-income or minority populations.

2 Environmental Justice Evaluation

The North Carolina Department of Environmental Quality (Department or NCDEQ) administration stated in a press release that they would go beyond federal and state requirements to protect minority communities from negative impacts when evaluating Duke Energy's applications to store coal ash in a new landfill. Since then, the Department has assessed the potential impact on communities surrounding the proposed on-site coal ash landfill at the Sutton Energy Complex in Wilmington, NC. The assessment of potential impacts has included:

- Review of coal ash management plan, proposed landfill operations plan and potential exposure pathways to determine impact boundaries.
- Based on coal ash transportation information, a one-mile impact radius was established.
- Study of area demographics are determined by utilizing EPA Environmental Justice tool (EJScreen) <https://ejscreen.epa.gov/mapper/> and current available census data. <http://factfinder.census.gov/faces/nav/jsf/pages/index.xhtml>
- Comparison of area demographics to project county census data.
- Complete a confirmation site visit to ensure current available census data was accurate.
- Communicate with public and public officials in neighboring communities.

3 Project Proposal

The proposed project is for a permit to construct and operate an onsite coal combustion residuals (CCR) landfill disposal facility (landfill) at the L.V. Sutton Energy Complex (Sutton), located in Wilmington, North Carolina, through a 10-year permit. The proposed onsite CCR landfill will be operated in support of closure activities of the existing CCR basins and decommissioning activities at Sutton. The project includes the installation of a liner and leachate collection system for the landfill. It is estimated that the proposed 100-acre landfill will provide approximately 8.3 million cubic yards (approximately 10 million tons – assuming a density of approximately 1.2 tons/cy) of disposal capacity over a period of approximately 12 years; however, construction of the cells is expected to be complete within 10 years (Geosyntec, 2015). The ash from the basins is proposed to go into the onsite landfill; once constructed, transportation of coal ash from Sutton will be terminated. The coordinates for the proposed facility are: N 34.283933, W -77.985009. The maximum elevation of the proposed landfill will be approximately 112 feet North American Vertical

Datum (NAVD88) with an average top-deck elevation equal to 108 feet NAVD88 (Geosyntec, 2015).

4 Geographic Area

Sutton Energy Complex is located in an approximately 3,308-acre property in New Hanover County, near Wilmington, North Carolina and is situated between the Cape Fear River to the west and the Northeast Cape Fear River to the east. The complex is also located approximately 1.9 miles south of the New Hanover Municipal Solid Waste Landfill (Geosyntec, 2015).

5 Regional Setting

The below sections on race and ethnicity, age and sex, disability, poverty, household income, and Limited English Proficiency (LEP) population are based on the US Census Bureau data at a county level. Demographics of New Hanover County will be determined and compared at a local level to better recognize any variations surrounding the project area.

5.1 Race and Ethnicity

According to the 2010 US Census Data QT-P3, Race and Hispanic Origin: 2010; 2010 Census Summary File 1 report, the highest populations within New Hanover County's population of 202,667 were White, Black or African American, Mexican, and Puerto Rican with 79.1%, 14.8%, 2.9%, and 2.9%, respectively. Some other Race, Asian, and Other Hispanic or Latino were also found above 1.0% within New Hanover County in 2010.

Table 1. U.S. Census Bureau, Race and Ethnicity -New Hanover County

Race and Ethnicity	New Hanover County, North Carolina	
	Number	Percent
Total Population	202,667	100%
White	160,298	79.1%
Black or African American	29,907	14.8%
American Indian or Alaska Native	1,005	0.5%
Asian	2,410	1.2%
Native Hawaiian and Other Pacific Islander	130	0.1%
Some other Race	4,852	2.4%
Two or More Races	4,065	2%
HISPANIC OR LATINO (of any race)	202,667	100%
Mexican	5,932	2.9%
Puerto Rican	1,312	2.9%
Cuban	317	0.2%
Other Hispanic or Latino	3,155	1.6%

Source: U.S. Census Bureau, 2010 Census

5.2 Age and Sex

According to the US Census Bureau, QT-P1, Age Groups and Sex: 2010 Census Summary File 1, New Hanover County has an estimated male and female total population of 202,667. The highest percentage of the New Hanover County population is between the ages of 18 and 64, with a median age of 35.7 for males and 38.9 for females.

Table 2. U.S. Census Bureau, Age and Sex – New Hanover County

Age	New Hanover County					
	Number			Percent		
	Both sexes	Male	Female	Both sexes	Male	Female
Total population	202,667	98,269	104,398	100%	100%	100%
Under 5 years	11,724	5,986	5,738	5.8%	6.1%	5.5%
Under 18 years	40,413	20,726	19,687	19.9%	21.1%	18.9%
18 to 64 years	134,162	65,609	68,553	66.2%	66.8%	65.7%
65 years and over	28,092	11,934	16,158	13.9%	12.1%	15.5%
Median age (years)	37.3	35.7	38.9			

Source: U.S. Census Bureau, 2010 Census.

5.3 Disability

According to the 2014 American Community Survey Disability Characteristics 1-year Estimate, S1810 from the US Census Bureau, New Hanover has an estimated total of 213,771 population of noninstitutionalized civilians. Of those civilians, an estimated 12.2% have a disability. The highest population of disabled civilians are of the population 65 years and over, with an estimated percentage of 30.5%. Male and females were found to be equally effected by a disability in New Hanover County with a margin of error of +/-1.9 and 1.6, respectively. The margin of error on the total estimate of the Hispanic or Latino origin population was the lowest amount of error with +/- 2 and a total estimate of 11,616. White, Black or African American, and Two or more races have a margin of error of +/- 1,796, 1,576, 1,646, respectively. The population with a disability is estimated to be highest among White alone with an estimate of 21,086 people. However, the estimated percent of White (only one race) with a disability is 12.2% of the total estimated people within New Hanover County. The highest estimated percent with a disability within New Hanover County would be "Two or more races" at an estimate of 19.4%.

Table 3. U.S. Census Bureau, Disability- New Hanover County

Subject	New Hanover County, North Carolina					
	Total		With a disability		Percent with a disability	
	Estimate	Margin of Error	Estimate	Margin of Error	Estimate	Margin of Error
Total civilian noninstitutionalized population	213,771	+/-831	26,149	+/-2,392	12.20%	+/-1.1
Population under 5 years	11,218	+/-176	75	+/-129	0.70%	+/-1.1
Population 5 to 17 years	30,450	+/-444	2,191	+/-957	7.20%	+/-3.2
Population 18 to 64 years	138,921	+/-848	13,774	+/-1,866	9.90%	+/-1.3
Population 65 years and over	33,182	+/-556	10,109	+/-1,098	30.50%	+/-3.4
SEX						
Male	102,043	+/-1,302	12,473	+/-1,999	12.20%	+/-1.9
Female	111,728	+/-1,247	13,676	+/-1,792	12.20%	+/-1.6
RACE AND HISPANIC OR LATINO ORIGIN						
White	173,178	+/-1,796	21,086	+/-2,162	12.20%	+/-1.2
Black or African American	30,890	+/-1,576	3,997	+/-947	12.90%	+/-3.2
Two or more races	4,507	+/-1,646	875	+/-658	19.40%	+/-10.4
Hispanic or Latino	11,616	+/-2	1,063	+/-474	9.20%	+/-4.1
Source: U.S. Census Bureau, 2014 American Community Survey 1-Year Estimates American Indian and Alaska Native, Asian, Native Hawaiian and Other Pacific Islander, and Some other race were not reported with any estimated disabilities within New Hanover County.						

5.4 Poverty

The following table was completed using data from Census Table S1701, Poverty Status in the Past 12 Months in 2014 for New Hanover County, North Carolina. It was estimated in 2014, there was a population of 209,192 in New Hanover County, NC with a percentage of 18.8% living below the poverty level. A low population of 11,382 Hispanic or Latin origin civilians living in New Hanover County had the highest percent below poverty level at 40.7%. The highest population of 170,020 White civilians had a percentage of 17.3% people living below the poverty level.

Table 4. U.S. Census Bureau, Poverty Status in the Past 12 Months in 2014 – New Hanover County

Subject	New Hanover County, North Carolina					
	Total		Below poverty level		Percent below poverty level	
	Estimate	Margin of Error	Estimate	Margin of Error	Estimate	Margin of Error
Population for whom poverty status is determined	209,192	+/-1,406	39,234	+/-5,756	18.80%	+/-2.7
AGE						
Under 18 years	40,429	+/-1,054	10,331	+/-2,981	25.60%	+/-7.4
18 to 64 years	135,581	+/-1,301	27,140	+/-3,683	20.00%	+/-2.7
65 years and over	33,182	+/-556	1,763	+/-695	5.30%	+/-2.1
SEX						
Male	100,443	+/-1,522	16,765	+/-3,023	16.70%	+/-3.0
Female	108,749	+/-1,415	22,469	+/-3,535	20.70%	+/-3.2
RACE AND HISPANIC OR LATINO ORIGIN						
White	170,020	+/-1,838	29,428	+/-5,203	17.30%	+/-3.0
Black or African American	29,947	+/-1,715	7,446	+/-1,962	24.90%	+/-6.7
Two or more races	4,084	+/-1,378	1,395	+/-913	34.20%	+/-17.7
Hispanic or Latino origin (of any race)	11,382	+/-178	4,638	+/-1,618	40.70%	+/-14.2
White alone, not Hispanic or Latino	161,629	+/-926	25,755	+/-4,470	15.90%	+/-2.7
All Individuals below:						
50 percent of poverty level	21,875	+/-5,057				
125 percent of poverty level	47,658	+/-5,939				
150 percent of poverty level	54,603	+/-6,090				
185 percent of poverty level	66,351	+/-6,448				
200 percent of poverty level	72,145	+/-6,315				
Source: U.S. Census Bureau, 2014 American Community Survey 1-Year Estimates American Indian and Alaska Native, Asian, Native Hawaiian and Other Pacific Islander, and Some other race were not reported with any estimated poverty levels within New Hanover County.						

5.5 Household Income

The following table was completed using data from the Census Table S1901, Income in the Past 12 Months (in 2014 Inflation-Adjusted Dollars) 2014 American Community Survey 1-Year Estimates for New Hanover County. The highest estimated percentage of income per household is 16.8% for \$50,000 to \$74,999. The median income is \$49,982 and the mean income is \$72,586 for New Hanover County.

Table 5. U.S. Census Bureau, Household Income in the Past 12 Months (2014) – New Hanover County

Subject	New Hanover County, North Carolina	
	Households	
	Estimate	Margin of Error
Total	90,106	+/-2,181
Less than \$10,000	7.90%	+/-1.6
\$10,000 to \$14,999	5.80%	+/-1.3
\$15,000 to \$24,999	12.10%	+/-1.9
\$25,000 to \$34,999	9.40%	+/-1.8
\$35,000 to \$49,999	14.80%	+/-1.8
\$50,000 to \$74,999	16.80%	+/-2.0
\$75,000 to \$99,999	10.10%	+/-1.7
\$100,000 to \$149,999	13.20%	+/-1.9
\$150,000 to \$199,999	3.90%	+/-1.2
\$200,000 or more	6.00%	+/-1.2
Median income (dollars)	49,982	+/-3,451
Mean income (dollars)	72,586	+/-3,417

Source: U.S. Census Bureau, 2014 American Community Survey 1-Year Estimates

5.6 Limited English Proficiency (LEP)

According to the 2014 Census Table B16001, Language spoken at home by ability to speak English for the population 5 years and over, 2010 -2014 American Community Survey 5-year Estimates, for New Hanover County, the most estimated language spoken besides English was Spanish or Spanish Creole. English was spoken at an estimated 92.5% within the county. An estimated population of 9,993 people spoke Spanish or Spanish Creole at home, which makes up approximately 5% of the total population of New Hanover County. Of the 5% that speak Spanish or Spanish Creole, 2.4% speak English "very well" and 2.7% speak English "less than very well." Other languages that were spoken in New Hanover County between 0.1% and 0.3% were Italian, Portuguese, Russian, Japanese, Korean, Tagalog, Greek, Gujarati, Vietnamese, other Asian Languages, French, German, and Chinese, respectively.

Should a LEP Group become verified during the pre-permit issuance process, written translations of vital documents for each eligible LEP language group that constitutes five percent or includes 1,000 members, whichever is less, of the population of persons eligible to be served or likely to be affected or encountered. If there are fewer than 50 persons in a language group that reaches the five percent trigger, then DEQ would not translate vital written materials but provide written notice in the primary language of the LEP language group of the right to receive competent oral interpretation of those written materials, free of cost. The safe harbor provisions apply to the

translation of written documents only. Safe harbor guides are per the EPA guidance for LEP persons.

Table 6. U.S. Census Bureau, Limited English Proficiency – New Hanover county

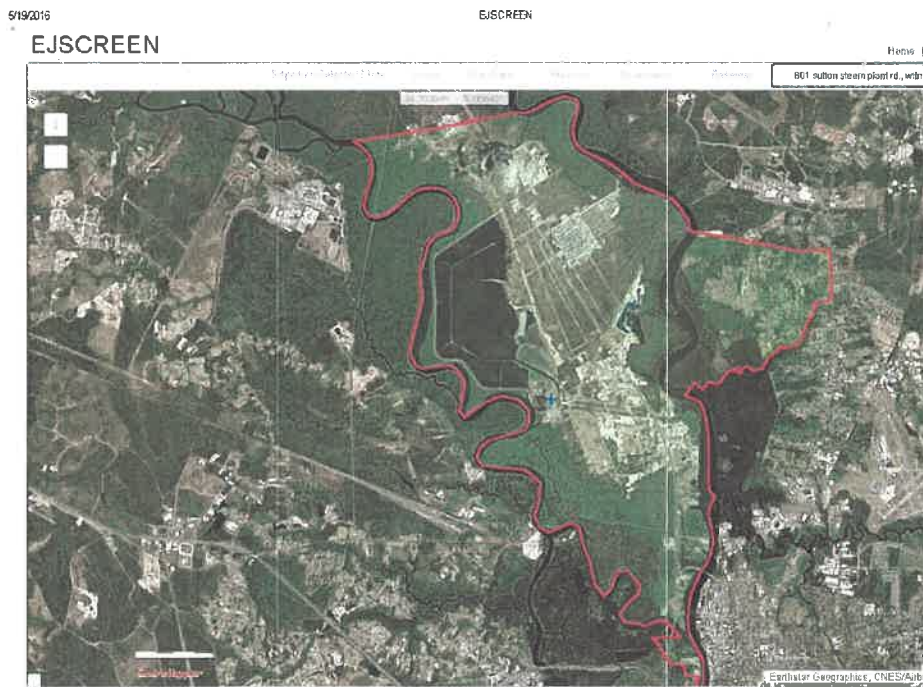
	New Hanover County, North Carolina		
	Estimate	Margin of Error	Percent of Populations
Total:	198,172	+/-91	100.0%
Speak only English	183,228	+/-1,062	92.5%
Spanish or Spanish Creole:	9,993	+/-795	5.0%
Speak English "very well"	4,691	+/-670	2.4%
Speak English less than "very well"	5,302	+/-789	2.7%
French (incl. Patois, Cajun):	667	+/-223	0.3%
Speak English "very well"	464	+/-150	0.2%
Speak English less than "very well"	203	+/-163	0.1%
Italian:	116	+/-74	0.1%
Speak English "very well"	93	+/-64	0.0%
Speak English less than "very well"	23	+/-37	0.0%
Portuguese or Portuguese Creole:	169	+/-120	0.1%
Speak English "very well"	116	+/-86	0.1%
Speak English less than "very well"	53	+/-62	0.0%
German:	504	+/-197	0.3%
Speak English "very well"	454	+/-195	0.2%
Speak English less than "very well"	50	+/-42	0.0%
Greek:	320	+/-209	0.2%
Speak English "very well"	288	+/-177	0.1%
Speak English less than "very well"	32	+/-70	0.0%
Russian:	192	+/-131	0.1%
Speak English "very well"	174	+/-118	0.1%
Speak English less than "very well"	18	+/-24	0.0%
Gujarati:	345	+/-296	0.2%
Speak English "very well"	270	+/-271	0.1%
Speak English less than "very well"	75	+/-71	0.0%
Chinese:	536	+/-251	0.3%
Speak English "very well"	323	+/-169	0.2%
Speak English less than "very well"	213	+/-204	0.1%
Japanese:	171	+/-123	0.1%
Speak English "very well"	144	+/-119	0.1%
Speak English less than "very well"	27	+/-33	0.0%
Korean:	217	+/-122	0.1%
Speak English "very well"	73	+/-42	0.0%
Speak English less than "very well"	144	+/-92	0.1%
Vietnamese:	394	+/-253	0.2%
Speak English "very well"	96	+/-88	0.0%
Speak English less than "very well"	298	+/-231	0.2%
Other Asian languages:	462	+/-359	0.2%
Speak English "very well"	227	+/-192	0.1%
Speak English less than "very well"	235	+/-275	0.1%
Tagalog:	187	+/-118	0.1%
Speak English "very well"	128	+/-80	0.1%
Speak English less than "very well"	59	+/-65	0.0%

Source: U.S. Census Bureau, 2010-2014 American Community Survey 5-Year Estimates.

6 Local Setting

The below sections on race and ethnicity, age and sex, disability, poverty, household income, and LEP population are based on the US Census Tract 115 to display demographics at a local level; with the exception of disability. Disability could only be based on a county level as the information available at the US Census could not be reduced to the tract level. Disability information can be found in Section 3.3. The Census Tract 115 encompasses all of the Sutton Energy Complex and is approximately eight by five miles in size as shown in Figure 6-1, using the EPA's EJ Screen tool.

A one-mile radius around the proposed coal ash landfill will be discussed in conjunction with the Census Tract 115 data. A one-mile radius was chosen for the proposed landfill at Sutton Energy Complex as there would be no transportation of coal ash off the site. The transportation of ash by rail will cease should the proposed landfill be permitted operate.



<https://ejscreen.epa.gov/mapper/>

1/1

Figure 6-1. Map of Census Tract 115 – New Hanover County, NC



Figure 6-2. Map of One-Mile Radius around Proposed Sutton Industrial Landfill

6.1 Local Industrial Sites

Sutton Energy Complex is surrounded by industrial and manufacturing areas to the north, east and south, within a mile as well as outside a one-mile radius. Some of the larger industries/companies within the vicinity of the Sutton Energy Complex include:

- Cape Fear Pick N Pull
- Colonial Materials, Inc.
- Kenan Transport CO
- Louisiana Pacific Corporation
- Old Dominion Freight Line
- MHC Kenworth Wilmington
- MCO Transport INC
- Maola Milk & Ice Cream
- Ferrellgas
- Ferguson
- Live Wire Powder Coating
- Southern Industrial Constructors
- Southern Metals Recycling, Inc
- ST Wooten Corporation
- Vortex Racing Engines

6.2 Local Sensitive Receptors

Sensitive receptors include, but are not limited to, hospitals, schools, daycare facilities, elderly housing and convalescent facilities. Within US Census Tract 115 as shown in Figure 6-3, there was one sensitive receptor detected, which was Pine View Church, approximately 1.75-miles from the south-eastern extent of the proposed Sutton landfill. No other church, school, or hospital was detected within the Census Tract 115.



<https://ejscreen.epa.gov/ejscreen/>

10

Figure 6-3. Sensitive Receptors surrounding Sutton Energy Complex

6.3 Race and Ethnicity

According to the 2010 US Census Data QT-P3, Race and Hispanic Origin: 2010; 2010 Census Summary File 1 report, 4% of the New Hanover County population lives within Census Tract 115, as shown in Figure 6-1. The highest populations within Census Tract 115's population of 7,990 were White, Black or African American, and Mexican with 69.0%, 23.6%, and 5.1%, respectively. American Indian or Alaska Native, Some other Race, Two or More Races, and Other Hispanic or Latino were also found above 1.0% within Census Tract 115 in 2010.

Within one-mile of the Sutton Energy Complex, there was a total residential population of zero.

Table 7. U.S. Census Bureau, Race and Ethnicity – Census Tract 115 and One-Mile Radius

Race and Ethnicity	Census Tract 115		One-Mile Radius	
	Number	Percent	Number	Percent
Total Population	7,990	100%	0	0%
White	5,514	69.0%	0	0%
Black or African American	1,884	23.6%	0	0%
American Indian or Alaska Native	81	1.0%	0	0%
Asian	35	0.4%	0	0%
Native Hawaiian and Other Pacific Islander	7	0.1%	0	0%
Some other Race	298	3.7%	0	0%
Two or More Races	168	2.1%	0	0%
HISPANIC OR LATINO (of any race)	7,990	100%	0	0%
Mexican	408	5.1%	0	0%
Puerto Rican	47	0.6%	0	0%
Cuban	9	0.1%	0	0%
Other Hispanic or Latino	129	1.6%	0	0%

4.4 Age and Sex

The following table was completed using data from Census Table QT-P1, Age Groups and Sex: 2010 for Census Tract 115, New Hanover County, NC. Of the 4% of the population inhabiting Census Tract 115, the median age is slightly higher than the median age of the county by 3%, 3.5%, and 2.6% for both sexes, male, and female, respectively.

Within one-mile of the Sutton Energy Complex, there was a total residential population of zero.

Table 8. U.S. Census Bureau, Age and Sex – Census Tract 115 and One-Mile Radius

Age	Census Tract 115						One-Mile Radius
	Both sexes	Male	Female	Both sexes	Male	Female	Both Sexes
Total Population	7,990.0	4,133.0	3,857.0	100%	100%	100%	0
Under 5 years	493.0	260.0	233.0	6.2%	6.3%	6%	0
Under 18 years	1,676.0	863.0	813.0	21%	20.9%	21.1%	0
18 to 64 years	5,327.0	2,840.0	2,950.0	66.7%	68.7%	64.5%	0
65 years and over	987.0	430.0	557.0	12.4%	10.4%	14.4%	0
Median Age	40.3	39.2	41.5				

4.5 Poverty

The following table was completed using data from Census Table S1701, Poverty Status in the Past 12 Months in 2014 for the Census Tract 115, New Hanover County, North Carolina. Potential environmental justice populations would include, but are not limited to, high minority, non-English speaking, and/or low-income populations. Within Census Tract 115 potential populations are noted among Hispanic or Latino and age 18 to 64. Considering the Margin of Error of the US Census Bureau, the higher end of error would potentially include Black or African American and Two or more races.

The scope of the project is a one-mile radius within Census Tract 115. Of that Tract, there is a residential population of zero within one-mile of Sutton Energy Complex.

Table 9. U.S. Census Bureau, Poverty Status in the Past 12 Months in 2014 – Census Tract 115 and One-Mile Radius

Subject	Census Tract 115						One-Mile Radius
	Total		Below poverty level		Percent below poverty level		Estimate
	Estimate	Margin of Error +/-	Estimate	Margin of Error +/-	Estimate	Margin of Error +/-	
Population for whom poverty status is determined	8,188	+/- 590	1,571	+/- 561	19.2%	+/- 6.3%	0
AGE							
Under 18	2,146	+/- 402	862	+/- 406	40.2%	+/- 14.0%	0
18 to 64	2,146	+/- 402	862	+/- 406	40.2%	+/- 14.0%	0
65 years and over	1,075	+/- 131	83	+/- 59	7.7%	+/- 5.5%	0
SEX							
Male	4,050	+/- 333	714	+/- 291	17.6%	+/- 6.6%	0
Female	4,138	+/- 408	857	+/- 336	20.7%	+/- 7.3%	0
RACE AND HISPANIC OR LATINO ORIGIN							
White	6,319	+/- 591	1,194	+/- 519	18.9%	+/- 7.5%	0
Black or African American	1,500	+/- 377	310	+/- 267	20.7%	+/- 15.9%	0
American Indian and Alaska Native	100	+/- 123	0	+/- 17 0.0%	0.0%	+/- 28.8%	0
Asian	31	+/- 46	0	+/- 17	0.0%	+/- 55.3%	0
Two or more races	238	+/- 155	67	+/- 62	28.2%	+/- 30.0%	0
Hispanic or Latino	1,021	+/- 509	787	+/-487	77.1%	+/-19.6%	0
RACE AND HISPANIC OR LATINO ORIGIN							
All individuals below:							
50 percent of poverty level	841	+/- 403					0
125 percent of poverty level	2,041	+/- 579					0
150 percent of poverty level	2,288	+/- 612					0
185 percent of poverty level	2,013	+/- 687					0
200 percent of poverty level	3,299	+/- 731					0

4.6 Household Income

The following table was completed using data from Census Table S1901, Income in the Past 12 Months (In 2014 Inflation-Adjusted Dollars) for the Census Tract 115, New Hanover County, North Carolina. The highest estimated percentage of income per household within the Census Tract 115 is slightly higher than the county average by an estimated 2.1% for \$50,000 to \$74,999. The median income for Census Tract 115 is slightly lower than the county by \$6,900. The mean income within the Census Tract 115 is significantly lower than the county by an estimate \$14,909.

Table 10. U.S. Census Bureau, Household Income in the Past 12 Months (2014) – Census Tract 115 and One-Mile Radius

Subject	Census Tract 115 Households		One-Mile Radius
	Estimate	Margin of Error +/-	Estimate
Total	3,101	+/- 172	0
Less than \$10,000	6.0	+/- 3.4	0
\$10,000 to \$14,999	5.6	+/- 2.7	0
\$15,000 to \$24,999	15.6	+/- 4.6	0
\$25,000 to \$34,999	11.1	+/- 4.1	0
\$35,000 to \$49,999	15.7	+/- 4.8	0
\$50,000 to \$74,999	18.9	+/- 5.2	0
\$75,000 to \$99,999	11.0	+/- 3.6	0
\$100,000 to \$149,999	12.8	+/- 4.9	0
\$150,000 to \$199,999	0.9	+/- 1.2	0
\$200,000 or more	2.3	+/- 1.9	0
Median income (dollars)	43,082	+/- 5,646	0
Mean income (dollars)	57,677	+/- 6,050	0

6.7 Limited English Proficiency (LEP)

The following table was completed using data from Census Table B16001, Language Spoken at Home by Ability to Speak English for the Population 5 years and over, 2014 estimate for the Census Tract 115, New Hanover County, North Carolina. The Spanish or Spanish Creole population within Census Tract 115 with a total of 549 people make up 5% of the total estimated population for New Hanover County. Of the 394 Spanish or Spanish Creole population that speaks English “less than very well” within Census Tract 115 compared to the county accounts for 7.4% of the population. Within the Census Tract 115, the percent of the population that speaks English “less than very well” is estimated at 4.9%. Within the Census Tract 115, the Spanish or Spanish Creole population is a potential environmental justice and Safe Harbor community.

Within one-mile of the project site, there is zero residential population.

Table 11. U.S. Census Bureau, Limited English Proficiency – Census Tract 115 and One-Mile Radius

LANGUAGE SPOKEN AT HOME	Census Tract 115			One-Mile Radius
	Estimate	Margin of Error	Percent of Population	
Total (population 5 years and over):	7,961	+/- 512	100%	0
Speak only English	7,630	+/- 522	95.8%	0
Spanish or Spanish Creole:	549	+/- 344	6.9 %	0
Speak English "very well"	155	+/- 111	1.9 %	0
Speak English less than "very well"	394	+/- 261	4.9 %	0
Portuguese or Portuguese Creole:	21	+/- 33	0.3 %	0
Speak English "very well"	21	+/- 33	0.3 %	0
Speak English less than "very well"	0	+/- 17	0.0 %	0
Chinese:	31	+/- 46	0.4 %	0
Speak English "very well"	31	+/- 46	0.4 %	0
Speak English less than "very well"	0	+/- 17	0.0 %	0

7 Field Reconnaissance

On May 11, 2016, DEQ staff Sarah Rice, Environmental Senior Specialist and Shannon Aufman, Engineering Project Manager visited the area of the Sutton Energy Complex to corroborate the EPA EJScreen data which was populated within one-mile of the proposed landfill. During the visit, Ms. Rice and Ms. Aufman identified the industrial and manufacturing areas listed in Section 6.1.

Sensitive Receptors were also sought out during the visit. The Pine View Church was identified outside of the one-mile area; however, it was within an area of potential concern within the industrial/commercial area. The potential area of concern was located within approximately 1.2 miles from the southeast edge of the proposed landfill to the north-western edge of the community, as shown in Figure 7-1.



<https://ejscreen.epa.gov/emap/>

1/1

Figure 7-1. Potential Environmental Justice Community approximately outside of one-mile

7.1 Demographic Analysis of Potential Area of Concern

According to the EPA EJSCREEN, which is a summary of 2008-2012 population data, there is a residential population of 35 civilians within a potential area of concern. With a margin of error of +/- 1,000, the population by race was reported as singular populations of either White, Black, American Indian, respectively. Three of the total population are accounted as Total Hispanic. Most of the civilians are between the age of 18 and 64. Of a total of 32 civilians, five percent are estimated to speak English "less than very well." The majority of the household income is between \$15,000 and \$25,000, which is half of the median income of the county.

7.2 Next Steps

DEQ has determined the next steps are:

- Contact local government authorities to solicit feedback on the environmental justice process surrounding Sutton.
- Even though there are no identified communities within the one-mile radius, the Department had decided to reach out to public officials in neighboring communities outside the one-mile radius regarding the environmental justice efforts.
- Send additional information to the residents within the potential area of concern with direct contact information for DEQ employees.

7.2.1 Discussion with Public Officials

On June 1, 2016, DEQ staff, Michael Scott, Division of Waste Management Director, Ms. Rice, Ms. Aufman, and Ed Mussler, Permitting Branch Supervisor contacted Mr. Eulis Willis, Mayor of the Town of Navassa, North Carolina. Mayor Willis expressed satisfaction with the 1-mile assessment radius. He was supportive of NCDEQ's decision to include the community approximately 1.26 miles from the site and was pleased to hear DEQ assessed a community outside of their established radius.

On June 3, 2016, DEQ staff, Mr. Scott, Ms. Rice, Ms. Aufman, Mr. Mussler, and Ellen Lorscheider, Solid Waste Section Chief contacted Bill Saffo, Mayor of the City of Wilmington, North Carolina. Mayor Saffo was pleased with the work DEQ was doing and to hear we were reaching out to identified communities. Mayor Saffo suggested reaching out to New Hanover County Commissioners – Beth Dawson, Chairman and Jonathan Barfield, Jr., Vice-Chairman.

On June 14, 2016, DEQ staff, Mr. Scott, Ms. Rice, Ms. Aufman, Mr. Mussler, and Ms. Lorscheider contacted New Hanover County Authorities, Beth Dawson, County Chairman, Jonathan Barfield, County Vice-Chairman, Chris Coudriet, County Manager, Joe Suleyman, Environmental Management Director, and Wanda Copley, County Attorney. The county authorities were receptive to the proposed process of ash basin cleanup at the Sutton Energy Complex. The question about reuse of ash for structural fill purposes as a mitigation measure by the NC Department of Transportation (NCDOT) was brought up. The reuse of ash by NCDOT is allowable and is promoted by DEQ for structural fills under roadways and as an ingredient or filler in concrete mixes. The largest use of ash in roadway construction currently is in concrete and the ash is not in a readily usable state, when it comes straight out of a basin. The county authorities were made aware of the conversations DEQ had with the Town of Navassa and the City of Wilmington. The county asked about the conversation between the Department and the Town of Navassa due to the history of the Town and Hugo Neu, a company that tried to establish a recycling center and landfill. The Town of Navassa additionally has Kerr-McGee Chemical Corp, a National Priority Listed Superfund site within the Town. The county authorities were amenable to the issuance of informational postcards to the identified community approximately 1.26 miles from the proposed landfill. New Hanover County will be provided copies of the postcard as well as this document for their use. DEQ will follow-up with the county within 30-60 days of issuance of the postcards for discussion of any comments or concerns.

7.2.2 Potential Area of Concern

The mailing of informational postcards should occur during the submittal and review of this document to the EPA Office of Civil Rights and the U.S. Commission on Civil Rights. The postcard is to invite the residents identified within the potential Area of Concern to contact DEQ with any questions or concerns regarding the proposed project.

8 Summary of Potential Adverse Environmental and Human Health Effects and Analysis of the Potential for Disproportionately High and Adverse Effects.

Potential impacts and their mitigation during the construction and operation of the proposed Sutton landfill are summarized below.

8.1 Traffic

The coal ash from the basins will be staying onsite and will be contained within the constructed Sutton landfill. The potential for traffic is greatly reduced as the coal ash will not have to be transported off-site. Once the landfill is constructed and the permit to operate is issued, Duke has agreed to stop transporting coal ash off-site by rail.

8.2 Potential releases of CCRs to the environment

Potential migration pathways for CCRs could be via leaching, migration to groundwater, erosion and transport to soil and surface water, and wind erosion/dust migration.

8.2.1 Leachate Collection System

The proposed Sutton landfill will be constructed with a leachate collection system as per the design. The leachate collection system would be designed to meet the performance criteria of providing less than 1 foot of leachate head on the liner system under normal operating conditions (Geosyntec, 2015).

8.2.2 Erosion and Sedimentation Control

Erosion and sedimentation control (E&SC) during landfill operations would consist of monitoring and repairing E&SC stormwater conveyance features and surface erosion.

Erosion control principles could include:

- Disturbing as little area as practical at any one time for landfilling operations.
- Seeding/mulching of disturbed areas commencing as soon as practically possible. Employing erosion control matting or seeding and mulch on steep slopes and other erosion prone areas.
- Use of earthen berms, hay bales, wattles, silt fences, riprap, or equivalent devices downgradient of disturbed areas, stockpiles, drainage pipe inlets and outlets, and at intervals along grassed waterways, until such time as permanent vegetation is established.
- Placement of riprap at the inlets and outlets of stormwater piping

Surface Erosion Monitoring at a landfill could include:

Adequate erosion control measures could be established to help prevent sediment from leaving the site. Channels would be observed once every seven days and within 24 hours after any rainfall event of 0.5 inches or greater.

Slopes will be periodically checked for erosion and vegetative quality, fertilized, and mowed. A slope or portion thereof shall be identified as needing maintenance if it meets any one of the following conditions:

- Exposed waste on exterior slopes;
- Areas of cracking, sliding, or sloughing; or
- Areas of seepage.

Slopes identified as needing maintenance shall be repaired as soon as practical and as appropriate to correct deficiencies. Repair activities may include re-dressing the slope, filling in low areas, and/or seeding.

8.2.3 Dust Control Plan

Duke Energy would institute a Dust Control Plan for the proposed Sutton landfill. The primary potential sources of dust emissions at the proposed landfill would be at the top deck area and at the active area of waste placement. These areas are at a higher risk for producing dust due to vehicular and equipment traffic and earthwork-related construction. Exterior landfill slopes are less of a dust control concern, as they have intermediate or operational soil covers which are vegetated as described in the Operations Plan (Geosyntec, 2015).

Dust control methods for the proposed landfill area could include:

- Watering
- Establishing vegetative cover
- Mulching
- Structural controls fencing
- Wind breaks
- Temporary coverings
- Calcium chloride
- Spray applied suppressants
- Soil stabilizers
- Operational soil cover
- Modifying the active working area
- Modifying operations during dry and windy conditions

9 Conclusion

Sutton Energy Complex is located in an approximately 3,308-acre property in New Hanover County, near Wilmington, North Carolina and is situated between the Cape Fear River to the west and the Northeast Cape Fear River to the east. The Complex is also located approximately 1.9 miles south of the New Hanover Municipal Solid Waste Landfill (Geosyntec, 2015). This report examined the demographic and environmental conditions within New Hanover County, as well as Census Tract 115 and a one-mile radius around the Sutton Energy Complex which will contain the proposed CCR Sutton Landfill located at 801 Sutton Steam Plant Road, Wilmington, NC, 28401. The coordinates for the proposed facility are: N 34.283933, W -77.985009. Duke Energy Corporation is proposing to install a coal ash industrial landfill to contain the coal ash from the adjacent ash basins. In turn, as the ash from the basins are proposed to go into the onsite landfill, transportation of coal ash from the Sutton Energy Complex will be terminated.

This report examined the demographic and environmental conditions within New Hanover County, as well as census tract 115 and a one-mile radius to determine any disproportionately high or adverse environmental and human health effects on low-income or minority populations. No impacts were identified.

A field reconnaissance identified a community just outside the one-mile radius. This community was not disproportional to the county as a whole, DEQ will reach out by sending information and providing staff contacts. DEQ recommends no further action at this time.

CONTENTS

1	Introduction	1
2	Environmental Justice Evaluation	1
3	Project Proposal	1
4	Geographic Area	2
5	Regional Setting	2
5.1	Race and Ethnicity	2
5.2	Age and Sex	3
5.3	Disability	4
5.4	Poverty	5
5.5	Household Income	6
5.6	Limited English Proficiency (LEP)	6
6	Local Setting	8
6.1	Local Industrial Sites	9
6.2	Local Sensitive Receptors	9
6.3	Race and Ethnicity	10
6.4	Age and Sex	11
6.5	Poverty	12
6.6	Household Income	13
6.7	Limited English Proficiency (LEP)	13
7	Field Reconnaissance	14
7.1	Demographic Analysis of Potential Area of Concern	15
7.2	Next Steps	15
7.2.1	Discussion with Public Officials	16
7.2.2	Potential Area of Concern	16
8	Summary of Potential Adverse Environmental and Human Health Effects and Analysis of the Potential for Disproportionately High and Adverse Effects	17
8.1	Traffic	17
8.2	Potential releases of CCPs to the environment	17
8.2.1	Leachate Collection System	17
8.2.2	Erosion and Sedimentation Control	17
8.2.3	Dust Control Plan	18
9	Conclusion	18

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TABLES

Table 1. U.S. Census Bureau, Race and Ethnicity -New Hanover County.....2
Table 2. U.S. Census Bureau, Age and Sex – New Hanover County3
Table 3. U.S. Census Bureau, Disability- New Hanover County.....4
Table 4. U.S. Census Bureau, Poverty Status in the Past 12 Months in 2014 – New Hanover
County5
Table 5. U.S. Census Bureau, Household Income in the Past 12 Months (2014) – New Hanover
County6
Table 6. U.S. Census Bureau, Limited English Proficiency – New Hanover county7
Table 7. U.S. Census Bureau, Race and Ethnicity – Census Tract 115 and One-Mile Radius.....11
Table 8. U.S. Census Bureau, Age and Sex – Census Tract 115 and One-Mile Radius11
Table 9. U.S. Census Bureau, Poverty Status in the Past 12 Months in 2014 – Census Tract 115
and One-Mile Radius12
Table 10. U.S. Census Bureau, Household Income in the Past 12 Months (2014) – Census Tract
115 and One-Mile Radius13
Table 11. U.S. Census Bureau, Limited English Proficiency – Census Tract 115 and One-Mile
Radius.....14

FIGURES

Figure 6-1. Map of Census Tract 115 – New Hanover County, NC.....8
Figure 6-2. Map of One-Mile Radius around Proposed Sutton Industrial Landfill9
Figure 6-3. Sensitive Receptors surrounding Sutton Energy Complex10
Figure 7-1. Potential Environmental Justice Community approximately outside of one-mile15

1 Introduction

Environmental justice is the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income, with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies. This report will examine the demographic and environmental conditions within New Hanover County, as well as Census Tract 115 and a one-mile radius around the Sutton Energy Complex which will contain the proposed coal ash residual (CCR) Sutton Landfill located at 801 Sutton Steam Plant Road, Wilmington, NC, 28401. This report will evaluate the results of the demographic and environmental conditions within one mile of the proposed CCR landfill to determine any disproportionately high or adverse environmental and human health effects on low-income or minority populations.

2 Environmental Justice Evaluation

The North Carolina Department of Environmental Quality (Department or NCDEQ) administration stated in a press release that they would go beyond federal and state requirements to protect minority communities from negative impacts when evaluating Duke Energy's applications to store coal ash in a new landfill. Since then, the Department has assessed the potential impact on communities surrounding the proposed on-site coal ash landfill at the Sutton Energy Complex in Wilmington, NC. The assessment of potential impacts has included:

- Review of coal ash management plan, proposed landfill operations plan and potential exposure pathways to determine impact boundaries.
- Based on coal ash transportation information, a one-mile impact radius was established.
- Study of area demographics are determined by utilizing EPA Environmental Justice tool (EJScreen) <https://ejscreen.epa.gov/mapper/> and current available census data. <http://factfinder.census.gov/faces/nav/jsf/pages/index.xhtml>
- Comparison of area demographics to project county census data.
- Complete a confirmation site visit to ensure current available census data was accurate.
- Communicate with public and public officials in neighboring communities.

3 Project Proposal

The proposed project is for a permit to construct and operate an onsite coal combustion residuals (CCR) landfill disposal facility (landfill) at the L.V. Sutton Energy Complex (Sutton), located in Wilmington, North Carolina, through a 10-year permit. The proposed onsite CCR landfill will be operated in support of closure activities of the existing CCR basins and decommissioning activities at Sutton. The project includes the installation of a liner and leachate collection system for the landfill. It is estimated that the proposed 100-acre landfill will provide approximately 8.3 million cubic yards (approximately 10 million tons – assuming a density of approximately 1.2 tons/cy) of disposal capacity over a period of approximately 12 years; however, construction of the cells is expected to be complete within 10 years (Geosyntec, 2015). The ash from the basins is proposed to go into the onsite landfill; once constructed, transportation of coal ash from Sutton will be terminated. The coordinates for the proposed facility are: N 34.283933, W -77.985009. The maximum elevation of the proposed landfill will be approximately 112 feet North American Vertical

Datum (NAVD88) with an average top-deck elevation equal to 108 feet NAVD88 (Geosyntec, 2015).

4 Geographic Area

Sutton Energy Complex is located in an approximately 3,308-acre property in New Hanover County, near Wilmington, North Carolina and is situated between the Cape Fear River to the west and the Northeast Cape Fear River to the east. The complex is also located approximately 1.9 miles south of the New Hanover Municipal Solid Waste Landfill (Geosyntec, 2015).

5 Regional Setting

The below sections on race and ethnicity, age and sex, disability, poverty, household income, and Limited English Proficiency (LEP) population are based on the US Census Bureau data at a county level. Demographics of New Hanover County will be determined and compared at a local level to better recognize any variations surrounding the project area.

5.1 Race and Ethnicity

According to the 2010 US Census Data QT-P3, Race and Hispanic Origin: 2010; 2010 Census Summary File 1 report, the highest populations within New Hanover County's population of 202,667 were White, Black or African American, Mexican, and Puerto Rican with 79.1%, 14.8%, 2.9%, and 2.9%, respectively. Some other Race, Asian, and Other Hispanic or Latino were also found above 1.0% within New Hanover County in 2010.

Table 1. U.S. Census Bureau, Race and Ethnicity -New Hanover County

Race and Ethnicity	New Hanover County, North Carolina	
	Number	Percent
Total Population	202,667	100%
White	160,298	79.1%
Black or African American	29,907	14.8%
American Indian or Alaska Native	1,005	0.5%
Asian	2,410	1.2%
Native Hawaiian and Other Pacific Islander	130	0.1%
Some other Race	4,852	2.4%
Two or More Races	4,065	2%
HISPANIC OR LATINO (of any race)	202,667	100%
Mexican	5,932	2.9%
Puerto Rican	1,312	2.9%
Cuban	317	0.2%
Other Hispanic or Latino	3,155	1.6%

Source: U.S. Census Bureau, 2010 Census

5.2 Age and Sex

According to the US Census Bureau, QT-P1, Age Groups and Sex: 2010 Census Summary File 1, New Hanover County has an estimated male and female total population of 202,667. The highest percentage of the New Hanover County population is between the ages of 18 and 64, with a median age of 35.7 for males and 38.9 for females.

Table 2. U.S. Census Bureau, Age and Sex -- New Hanover County

Age	New Hanover County					
	Number			Percent		
	Both sexes	Male	Female	Both sexes	Male	Female
Total population	202,667	98,269	104,398	100%	100%	100%
Under 5 years	11,724	5,986	5,738	5.8%	6.1%	5.5%
Under 18 years	40,413	20,726	19,687	19.9%	21.1%	18.9%
18 to 64 years	134,162	65,609	68,553	66.2%	66.8%	65.7%
65 years and over	28,092	11,934	16,158	13.9%	12.1%	15.5%
Median age (years)	37.3	35.7	38.9			

Source: U.S. Census Bureau, 2010 Census.

5.3 Disability

According to the 2014 American Community Survey Disability Characteristics 1-year Estimate, S1810 from the US Census Bureau, New Hanover has an estimated total of 213,771 population of noninstitutionalized civilians. Of those civilians, an estimated 12.2% have a disability. The highest population of disabled civilians are of the population 65 years and over, with an estimated percentage of 30.5%. Male and females were found to be equally effected by a disability in New Hanover County with a margin of error of +/-1.9 and 1.6, respectively. The margin of error on the total estimate of the Hispanic or Latino origin population was the lowest amount of error with +/- 2 and a total estimate of 11,616. White, Black or African American, and Two or more races have a margin of error of +/- 1,796, 1,576, 1,646, respectively. The population with a disability is estimated to be highest among White alone with an estimate of 21,086 people. However, the estimated percent of White (only one race) with a disability is 12.2% of the total estimated people within New Hanover County. The highest estimated percent with a disability within New Hanover County would be "Two or more races" at an estimate of 19.4%.

Table 3. U.S. Census Bureau, Disability- New Hanover County

Subject	New Hanover County, North Carolina					
	Total		With a disability		Percent with a disability	
	Estimate	Margin of Error	Estimate	Margin of Error	Estimate	Margin of Error
Total civilian noninstitutionalized population	213,771	+/-831	26,149	+/-2,392	12.20%	+/-1.1
Population under 5 years	11,218	+/-176	75	+/-129	0.70%	+/-1.1
Population 5 to 17 years	30,450	+/-444	2,191	+/-957	7.20%	+/-3.2
Population 18 to 64 years	138,921	+/-848	13,774	+/-1,866	9.90%	+/-1.3
Population 65 years and over	33,182	+/-556	10,109	+/-1,098	30.50%	+/-3.4
SEX						
Male	102,043	+/-1,302	12,473	+/-1,999	12.20%	+/-1.9
Female	111,728	+/-1,247	13,676	+/-1,792	12.20%	+/-1.6
RACE AND HISPANIC OR LATINO ORIGIN						
White	173,178	+/-1,796	21,086	+/-2,162	12.20%	+/-1.2
Black or African American	30,890	+/-1,576	3,997	+/-947	12.90%	+/-3.2
Two or more races	4,507	+/-1,646	875	+/-658	19.40%	+/-10.4
Hispanic or Latino	11,616	+/-2	1,063	+/-474	9.20%	+/-4.1
Source: U.S. Census Bureau, 2014 American Community Survey 1-Year Estimates American Indian and Alaska Native, Asian, Native Hawaiian and Other Pacific Islander, and Some other race were not reported with any estimated disabilities within New Hanover County.						

5.4 Poverty

The following table was completed using data from Census Table S1701, Poverty Status in the Past 12 Months in 2014 for New Hanover County, North Carolina. It was estimated in 2014, there was a population of 209,192 in New Hanover County, NC with a percentage of 18.8% living below the poverty level. A low population of 11,382 Hispanic or Latin origin civilians living in New Hanover County had the highest percent below poverty level at 40.7%. The highest population of 170,020 White civilians had a percentage of 17.3% people living below the poverty level.

Table 4. U.S. Census Bureau, Poverty Status in the Past 12 Months in 2014 – New Hanover County

Subject	New Hanover County, North Carolina					
	Total		Below poverty level		Percent below poverty level	
	Estimate	Margin of Error	Estimate	Margin of Error	Estimate	Margin of Error
Population for whom poverty status is determined	209,192	+/-1,406	39,234	+/-5,756	18.80%	+/-2.7
AGE						
Under 18 years	40,429	+/-1,054	10,331	+/-2,981	25.60%	+/-7.4
18 to 64 years	135,581	+/-1,301	27,140	+/-3,683	20.00%	+/-2.7
65 years and over	33,182	+/-556	1,763	+/-695	5.30%	+/-2.1
SEX						
Male	100,443	+/-1,522	16,765	+/-3,023	16.70%	+/-3.0
Female	108,749	+/-1,415	22,469	+/-3,535	20.70%	+/-3.2
RACE AND HISPANIC OR LATINO ORIGIN						
White	170,020	+/-1,838	29,428	+/-5,203	17.30%	+/-3.0
Black or African American	29,947	+/-1,715	7,446	+/-1,962	24.90%	+/-6.7
Two or more races	4,084	+/-1,378	1,395	+/-913	34.20%	+/-17.7
Hispanic or Latino origin (of any race)	11,382	+/-178	4,638	+/-1,618	40.70%	+/-14.2
White alone, not Hispanic or Latino	161,629	+/-926	25,755	+/-4,470	15.90%	+/-2.7
All Individuals below:						
50 percent of poverty level	21,875	+/-5,057				
125 percent of poverty level	47,658	+/-5,939				
150 percent of poverty level	54,603	+/-6,090				
185 percent of poverty level	66,351	+/-6,448				
200 percent of poverty level	72,145	+/-6,315				
Source: U.S. Census Bureau, 2014 American Community Survey 1-Year Estimates American Indian and Alaska Native, Asian, Native Hawaiian and Other Pacific Islander, and Some other race were not reported with any estimated poverty levels within New Hanover County.						

5.5 Household Income

The following table was completed using data from the Census Table S1901, Income in the Past 12 Months (in 2014 Inflation-Adjusted Dollars) 2014 American Community Survey 1-Year Estimates for New Hanover County. The highest estimated percentage of income per household is 16.8% for \$50,000 to \$74,999. The median income is \$49,982 and the mean income is \$72,586 for New Hanover County.

Table 5. U.S. Census Bureau, Household Income in the Past 12 Months (2014) – New Hanover County

Subject	New Hanover County, North Carolina	
	Households	
	Estimate	Margin of Error
Total	90,106	+/-2,181
Less than \$10,000	7.90%	+/-1.6
\$10,000 to \$14,999	5.80%	+/-1.3
\$15,000 to \$24,999	12.10%	+/-1.9
\$25,000 to \$34,999	9.40%	+/-1.8
\$35,000 to \$49,999	14.80%	+/-1.8
\$50,000 to \$74,999	16.80%	+/-2.0
\$75,000 to \$99,999	10.10%	+/-1.7
\$100,000 to \$149,999	13.20%	+/-1.9
\$150,000 to \$199,999	3.90%	+/-1.2
\$200,000 or more	6.00%	+/-1.2
Median income (dollars)	49,982	+/-3,451
Mean income (dollars)	72,586	+/-3,417
Source: U.S. Census Bureau, 2014 American Community Survey 1-Year Estimates		

5.6 Limited English Proficiency (LEP)

According to the 2014 Census Table B16001, Language spoken at home by ability to speak English for the population 5 years and over, 2010 -2014 American Community Survey 5-year Estimates, for New Hanover County, the most estimated language spoken besides English was Spanish or Spanish Creole. English was spoken at an estimated 92.5% within the county. An estimated population of 9,993 people spoke Spanish or Spanish Creole at home, which makes up approximately 5% of the total population of New Hanover County. Of the 5% that speak Spanish or Spanish Creole, 2.4% speak English "very well" and 2.7% speak English "less than very well." Other languages that were spoken in New Hanover County between 0.1% and 0.3% were Italian, Portuguese, Russian, Japanese, Korean, Tagalog, Greek, Gujarati, Vietnamese, other Asian Languages, French, German, and Chinese, respectively.

Should a LEP Group become verified during the pre-permit issuance process, written translations of vital documents for each eligible LEP language group that constitutes five percent or includes 1,000 members, whichever is less, of the population of persons eligible to be served or likely to be affected or encountered. If there are fewer than 50 persons in a language group that reaches the five percent trigger, then DEQ would not translate vital written materials but provide written notice in the primary language of the LEP language group of the right to receive competent oral interpretation of those written materials, free of cost. The safe harbor provisions apply to the

translation of written documents only. Safe harbor guides are per the EPA guidance for LEP persons.

Table 6. U.S. Census Bureau, Limited English Proficiency – New Hanover county

	New Hanover County, North Carolina		
	Estimate	Margin of Error	Percent of Populations
Total:	198,172	+/-91	100.0%
Speak only English	183,228	+/-1,062	92.5%
Spanish or Spanish Creole:	9,993	+/-795	5.0%
Speak English "very well"	4,691	+/-670	2.4%
Speak English less than "very well"	5,302	+/-789	2.7%
French (incl. Patois, Cajun):	667	+/-223	0.3%
Speak English "very well"	464	+/-150	0.2%
Speak English less than "very well"	203	+/-163	0.1%
Italian:	116	+/-74	0.1%
Speak English "very well"	93	+/-64	0.0%
Speak English less than "very well"	23	+/-37	0.0%
Portuguese or Portuguese Creole:	169	+/-120	0.1%
Speak English "very well"	116	+/-86	0.1%
Speak English less than "very well"	53	+/-62	0.0%
German:	504	+/-197	0.3%
Speak English "very well"	454	+/-195	0.2%
Speak English less than "very well"	50	+/-42	0.0%
Greek:	320	+/-209	0.2%
Speak English "very well"	288	+/-177	0.1%
Speak English less than "very well"	32	+/-70	0.0%
Russian:	192	+/-131	0.1%
Speak English "very well"	174	+/-118	0.1%
Speak English less than "very well"	18	+/-24	0.0%
Gujarati:	345	+/-296	0.2%
Speak English "very well"	270	+/-271	0.1%
Speak English less than "very well"	75	+/-71	0.0%
Chinese:	536	+/-251	0.3%
Speak English "very well"	323	+/-169	0.2%
Speak English less than "very well"	213	+/-204	0.1%
Japanese:	171	+/-123	0.1%
Speak English "very well"	144	+/-119	0.1%
Speak English less than "very well"	27	+/-33	0.0%
Korean:	217	+/-122	0.1%
Speak English "very well"	73	+/-42	0.0%
Speak English less than "very well"	144	+/-92	0.1%
Vietnamese:	394	+/-253	0.2%
Speak English "very well"	96	+/-88	0.0%
Speak English less than "very well"	298	+/-231	0.2%
Other Asian languages:	462	+/-359	0.2%
Speak English "very well"	227	+/-192	0.1%
Speak English less than "very well"	235	+/-275	0.1%
Tagalog:	187	+/-118	0.1%
Speak English "very well"	128	+/-80	0.1%
Speak English less than "very well"	59	+/-65	0.0%

Source: U.S. Census Bureau, 2010-2014 American Community Survey 5-Year Estimates.

6 Local Setting

The below sections on race and ethnicity, age and sex, disability, poverty, household income, and LEP population are based on the US Census Tract 115 to display demographics at a local level; with the exception of disability. Disability could only be based on a county level as the information available at the US Census could not be reduced to the tract level. Disability information can be found in Section 3.3. The Census Tract 115 encompasses all of the Sutton Energy Complex and is approximately eight by five miles in size as shown in Figure 6-1, using the EPA's EJ Screen tool.

A one-mile radius around the proposed coal ash landfill will be discussed in conjunction with the Census Tract 115 data. A one-mile radius was chosen for the proposed landfill at Sutton Energy Complex as there would be no transportation of coal ash off the site. The transportation of ash by rail will cease should the proposed landfill be permitted operate.

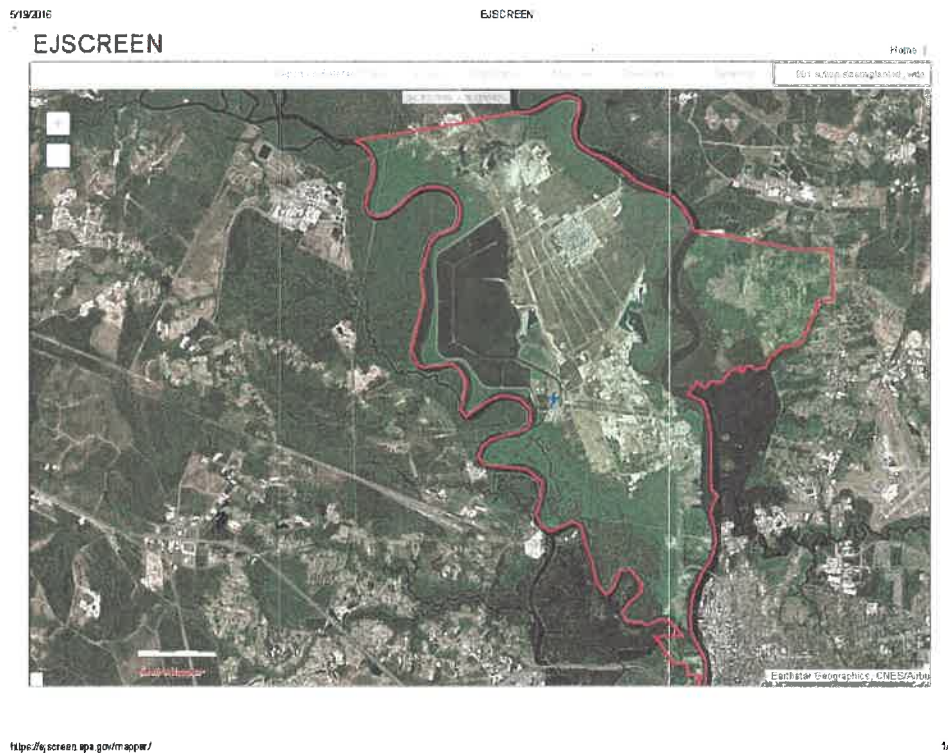


Figure 6-1. Map of Census Tract 115 – New Hanover County, NC



Figure 6-2. Map of One-Mile Radius around Proposed Sutton Industrial Landfill

6.1 Local Industrial Sites

Sutton Energy Complex is surrounded by industrial and manufacturing areas to the north, east and south, within a mile as well as outside a one-mile radius. Some of the larger industries/companies within the vicinity of the Sutton Energy Complex include:

- Cape Fear Pick N Pull
- Colonial Materials, Inc.
- Kenan Transport CO
- Louisiana Pacific Corporation
- Old Dominion Freight Line
- MHC Kenworth Wilmington
- MCO Transport INC
- Maola Milk & Ice Cream
- Ferrellgas
- Ferguson
- Live Wire Powder Coating
- Southern Industrial Constructors
- Southern Metals Recycling, Inc
- ST Wooten Corporation
- Vortex Racing Engines

6.2 Local Sensitive Receptors

Sensitive receptors include, but are not limited to, hospitals, schools, daycare facilities, elderly housing and convalescent facilities. Within US Census Tract 115 as shown in Figure 6-3, there was one sensitive receptor detected, which was Pine View Church, approximately 1.75-miles from the south-eastern extent of the proposed Sutton landfill. No other church, school, or hospital was detected within the Census Tract 115.

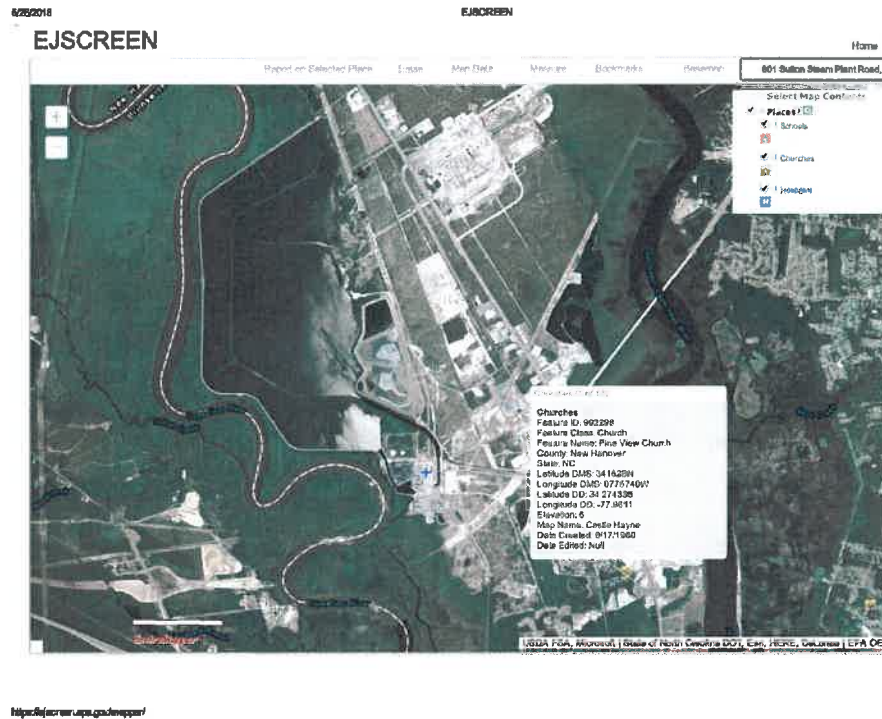


Figure 6-3. Sensitive Receptors surrounding Sutton Energy Complex

6.3 Race and Ethnicity

According to the 2010 US Census Data QT-P3, Race and Hispanic Origin: 2010; 2010 Census Summary File 1 report, 4% of the New Hanover County population lives within Census Tract 115, as shown in Figure 6-1. The highest populations within Census Tract 115's population of 7,990 were White, Black or African American, and Mexican with 69.0%, 23.6%, and 5.1%, respectively. American Indian or Alaska Native, Some other Race, Two or More Races, and Other Hispanic or Latino were also found above 1.0% within Census Tract 115 in 2010.

Within one-mile of the Sutton Energy Complex, there was a total residential population of zero.

Table 7. U.S. Census Bureau, Race and Ethnicity – Census Tract 115 and One-Mile Radius

Race and Ethnicity	Census Tract 115		One-Mile Radius	
	Number	Percent	Number	Percent
Total Population	7,990	100%	0	0%
White	5,514	69.0%	0	0%
Black or African American	1,884	23.6%	0	0%
American Indian or Alaska Native	81	1.0%	0	0%
Asian	35	0.4%	0	0%
Native Hawaiian and Other Pacific Islander	7	0.1%	0	0%
Some other Race	298	3.7%	0	0%
Two or More Races	168	2.1%	0	0%
HISPANIC OR LATINO (of any race)	7,990	100%	0	0%
Mexican	408	5.1%	0	0%
Puerto Rican	47	0.6%	0	0%
Cuban	9	0.1%	0	0%
Other Hispanic or Latino	129	1.6%	0	0%

4.4 Age and Sex

The following table was completed using data from Census Table QT-P1, Age Groups and Sex: 2010 for Census Tract 115, New Hanover County, NC. Of the 4% of the population inhabiting Census Tract 115, the median age is slightly higher than the median age of the county by 3%, 3.5%, and 2.6% for both sexes, male, and female, respectively.

Within one-mile of the Sutton Energy Complex, there was a total residential population of zero.

Table 8. U.S. Census Bureau, Age and Sex – Census Tract 115 and One-Mile Radius

Age	Census Tract 115						One-Mile Radius
	Both sexes	Male	Female	Both sexes	Male	Female	Both Sexes
Total Population	7,990.0	4,133.0	3,857.0	100%	100%	100%	0
Under 5 years	493.0	260.0	233.0	6.2%	6.3%	6%	0
Under 18 years	1,676.0	863.0	813.0	21%	20.9%	21.1%	0
18 to 64 years	5,327.0	2,840.0	2,950.0	66.7%	68.7%	64.5%	0
65 years and over	987.0	430.0	557.0	12.4%	10.4%	14.4%	0
Median Age	40.3	39.2	41.5				

4.5 Poverty

The following table was completed using data from Census Table S1701, Poverty Status in the Past 12 Months in 2014 for the Census Tract 115, New Hanover County, North Carolina. Potential environmental justice populations would include, but are not limited to, high minority, non-English speaking, and/or low-income populations. Within Census Tract 115 potential populations are noted among Hispanic or Latino and age 18 to 64. Considering the Margin of Error of the US Census Bureau, the higher end of error would potentially include Black or African American and Two or more races.

The scope of the project is a one-mile radius within Census Tract 115. Of that Tract, there is a residential population of zero within one-mile of Sutton Energy Complex.

Table 9. U.S. Census Bureau, Poverty Status in the Past 12 Months in 2014 – Census Tract 115 and One-Mile Radius

Subject	Census Tract 115						One-Mile Radius
	Total		Below poverty level		Percent below poverty level		
	Estimate	Margin of Error +/-	Estimate	Margin of Error +/-	Estimate	Margin of Error +/-	Estimate
Population for whom poverty status is determined	8,188	+/- 590	1,571	+/- 561	19.2%	+/- 6.3%	0
AGE							
Under 18	2,146	+/- 402	862	+/- 406	40.2%	+/- 14.0%	0
18 to 64	2,146	+/- 402	862	+/- 406	40.2%	+/- 14.0%	0
65 years and over	1,075	+/- 131	83	+/- 59	7.7%	+/- 5.5%	0
SEX							
Male	4,050	+/- 333	714	+/- 291	17.6%	+/- 6.6%	0
Female	4,138	+/- 408	857	+/- 336	20.7%	+/- 7.3%	0
RACE AND HISPANIC OR LATINO ORIGIN							
White	6,319	+/- 591	1,194	+/- 519	18.9%	+/- 7.5%	0
Black or African American	1,500	+/- 377	310	+/- 267	<u>20.7%</u>	+/- 15.9%	0
American Indian and Alaska Native	100	+/- 123	0	+/- 17 0.0%	0.0%	+/- 28.8%	0
Asian	31	+/- 46	0	+/- 17	0.0%	+/- 55.3%	0
Two or more races	238	+/- 155	67	+/- 62	<u>28.2%</u>	+/- 30.0%	0
Hispanic or Latino	1,021	+/- 509	787	+/-487	77.1%	+/-19.6%	0
RACE AND HISPANIC OR LATINO ORIGIN							
All individuals below:							
50 percent of poverty level	841	+/- 403					0
125 percent of poverty level	2,041	+/- 579					0
150 percent of poverty level	2,288	+/- 612					0
185 percent of poverty level	2,013	+/- 687					0
200 percent of poverty level	3,299	+/- 731					0

4.6 Household Income

The following table was completed using data from Census Table S1901, Income in the Past 12 Months (In 2014 Inflation-Adjusted Dollars) for the Census Tract 115, New Hanover County, North Carolina. The highest estimated percentage of income per household within the Census Tract 115 is slightly higher than the county average by an estimated 2.1% for \$50,000 to \$74,999. The median income for Census Tract 115 is slightly lower than the county by \$6,900. The mean income within the Census Tract 115 is significantly lower than the county by an estimate \$14,909.

Table 10. U.S. Census Bureau, Household Income in the Past 12 Months (2014) – Census Tract 115 and One-Mile Radius

Subject	Census Tract 115 Households		One-Mile Radius
	Estimate	Margin of Error +/-	Estimate
Total	3,101	+/- 172	0
Less than \$10,000	6.0	+/- 3.4	0
\$10,000 to \$14,999	5.6	+/- 2.7	0
\$15,000 to \$24,999	15.6	+/- 4.6	0
\$25,000 to \$34,999	11.1	+/- 4.1	0
\$35,000 to \$49,999	15.7	+/- 4.8	0
\$50,000 to \$74,999	18.9	+/- 5.2	0
\$75,000 to \$99,999	11.0	+/- 3.6	0
\$100,000 to \$149,999	12.8	+/- 4.9	0
\$150,000 to \$199,999	0.9	+/- 1.2	0
\$200,000 or more	2.3	+/- 1.9	0
Median income (dollars)	43,082	+/- 5,646	0
Mean income (dollars)	57,677	+/- 6,050	0

6.7 Limited English Proficiency (LEP)

The following table was completed using data from Census Table B16001, Language Spoken at Home by Ability to Speak English for the Population 5 years and over, 2014 estimate for the Census Tract 115, New Hanover County, North Carolina. The Spanish or Spanish Creole population within Census Tract 115 with a total of 549 people make up 5% of the total estimated population for New Hanover County. Of the 394 Spanish or Spanish Creole population that speaks English “less than very well” within Census Tract 115 compared to the county accounts for 7.4% of the population. Within the Census Tract 115, the percent of the population that speaks English “less than very well” is estimated at 4.9%. Within the Census Tract 115, the Spanish or Spanish Creole population is a potential environmental justice and Safe Harbor community.

Within one-mile of the project site, there is zero residential population.

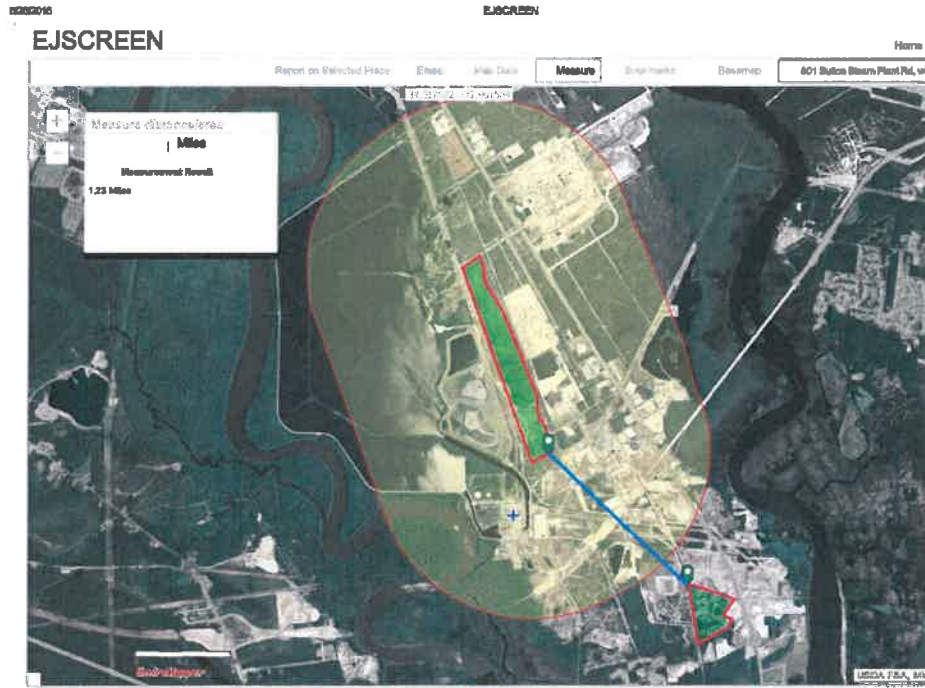
Table 11. U.S. Census Bureau, Limited English Proficiency – Census Tract 115 and One-Mile Radius

LANGUAGE SPOKEN AT HOME	Census Tract 115			One-Mile Radius
	Estimate	Margin of Error	Percent of Population	
Total (population 5 years and over):	7,961	+/- 512	100%	0
Speak only English	7,630	+/- 522	95.8%	0
Spanish or Spanish Creole:	549	+/- 344	6.9 %	0
Speak English "very well"	155	+/- 111	1.9 %	0
Speak English less than "very well"	394	+/- 261	4.9 %	0
Portuguese or Portuguese Creole:	21	+/- 33	0.3 %	0
Speak English "very well"	21	+/- 33	0.3 %	0
Speak English less than "very well"	0	+/- 17	0.0 %	0
Chinese:	31	+/- 46	0.4 %	0
Speak English "very well"	31	+/- 46	0.4 %	0
Speak English less than "very well"	0	+/- 17	0.0 %	0

7 Field Reconnaissance

On May 11, 2016, DEQ staff Sarah Rice, Environmental Senior Specialist and Shannon Aufman, Engineering Project Manager visited the area of the Sutton Energy Complex to corroborate the EPA EJScreen data which was populated within one-mile of the proposed landfill. During the visit, Ms. Rice and Ms. Aufman identified the industrial and manufacturing areas listed in Section 6.1.

Sensitive Receptors were also sought out during the visit. The Pine View Church was identified outside of the one-mile area; however, it was within an area of potential concern within the industrial/commercial area. The potential area of concern was located within approximately 1.2 miles from the southeast edge of the proposed landfill to the north-western edge of the community, as shown in Figure 7-1.



<http://ejscreen.epa.gov/epaapp/>

11

Figure 7-1. Potential Environmental Justice Community approximately outside of one-mile

7.1 Demographic Analysis of Potential Area of Concern

According to the EPA EJSCREEN, which is a summary of 2008-2012 population data, there is a residential population of 35 civilians within a potential area of concern. With a margin of error of +/- 1,000, the population by race was reported as singular populations of either White, Black, American Indian, respectively. Three of the total population are accounted as Total Hispanic. Most of the civilians are between the age of 18 and 64. Of a total of 32 civilians, five percent are estimated to speak English "less than very well." The majority of the household income is between \$15,000 and \$25,000, which is half of the median income of the county.

7.2 Next Steps

DEQ has determined the next steps are:

- Contact local government authorities to solicit feedback on the environmental justice process surrounding Sutton.
- Even though there are no identified communities within the one-mile radius, the Department had decided to reach out to public officials in neighboring communities outside the one-mile radius regarding the environmental justice efforts.
- Send additional information to the residents within the potential area of concern with direct contact information for DEQ employees.

7.2.1 Discussion with Public Officials

On June 1, 2016, DEQ staff, Michael Scott, Division of Waste Management Director, Ms. Rice, Ms. Aufman, and Ed Mussler, Permitting Branch Supervisor contacted Mr. Eulis Willis, Mayor of the Town of Navassa, North Carolina. Mayor Willis expressed satisfaction with the 1-mile assessment radius. He was supportive of NCDEQ's decision to include the community approximately 1.26 miles from the site and was pleased to hear DEQ assessed a community outside of their established radius.

On June 3, 2016, DEQ staff, Mr. Scott, Ms. Rice, Ms. Aufman, Mr. Mussler, and Ellen Lorscheider, Solid Waste Section Chief contacted Bill Saffo, Mayor of the City of Wilmington, North Carolina. Mayor Saffo was pleased with the work DEQ was doing and to hear we were reaching out to identified communities. Mayor Saffo suggested reaching out to New Hanover County Commissioners – Beth Dawson, Chairman and Jonathan Barfield, Jr., Vice-Chairman.

On June 14, 2016, DEQ staff, Mr. Scott, Ms. Rice, Ms. Aufman, Mr. Mussler, and Ms. Lorscheider contacted New Hanover County Authorities, Beth Dawson, County Chairman, Jonathan Barfield, County Vice-Chairman, Chris Coudriet, County Manager, Joe Suleyman, Environmental Management Director, and Wanda Copley, County Attorney. The county authorities were receptive to the proposed process of ash basin cleanup at the Sutton Energy Complex. The question about reuse of ash for structural fill purposes as a mitigation measure by the NC Department of Transportation (NCDOT) was brought up. The reuse of ash by NCDOT is allowable and is promoted by DEQ for structural fills under roadways and as an ingredient or filler in concrete mixes. The largest use of ash in roadway construction currently is in concrete and the ash is not in a readily usable state, when it comes straight out of a basin. The county authorities were made aware of the conversations DEQ had with the Town of Navassa and the City of Wilmington. The county asked about the conversation between the Department and the Town of Navassa due to the history of the Town and Hugo Neu, a company that tried to establish a recycling center and landfill. The Town of Navassa additionally has Kerr-McGee Chemical Corp, a National Priority Listed Superfund site within the Town. The county authorities were amenable to the issuance of informational postcards to the identified community approximately 1.26 miles from the proposed landfill. New Hanover County will be provided copies of the postcard as well as this document for their use. DEQ will follow-up with the county within 30-60 days of issuance of the postcards for discussion of any comments or concerns.

7.2.2 Potential Area of Concern

The mailing of informational postcards should occur during the submittal and review of this document to the EPA Office of Civil Rights and the U.S. Commission on Civil Rights. The postcard is to invite the residents identified within the potential Area of Concern to contact DEQ with any questions or concerns regarding the proposed project.

8 Summary of Potential Adverse Environmental and Human Health Effects and Analysis of the Potential for Disproportionately High and Adverse Effects.

Potential impacts and their mitigation during the construction and operation of the proposed Sutton landfill are summarized below.

8.1 Traffic

The coal ash from the basins will be staying onsite and will be contained within the constructed Sutton landfill. The potential for traffic is greatly reduced as the coal ash will not have to be transported off-site. Once the landfill is constructed and the permit to operate is issued, Duke has agreed to stop transporting coal ash off-site by rail.

8.2 Potential releases of CCRs to the environment

Potential migration pathways for CCRs could be via leaching, migration to groundwater, erosion and transport to soil and surface water, and wind erosion/dust migration.

8.2.1 Leachate Collection System

The proposed Sutton landfill will be constructed with a leachate collection system as per the design. The leachate collection system would be designed to meet the performance criteria of providing less than 1 foot of leachate head on the liner system under normal operating conditions (Geosyntec, 2015).

8.2.2 Erosion and Sedimentation Control

Erosion and sedimentation control (E&SC) during landfill operations would consist of monitoring and repairing E&SC stormwater conveyance features and surface erosion.

Erosion control principles could include:

- Disturbing as little area as practical at any one time for landfilling operations.
- Seeding/mulching of disturbed areas commencing as soon as practically possible. Employing erosion control matting or seeding and mulch on steep slopes and other erosion prone areas.
- Use of earthen berms, hay bales, wattles, silt fences, riprap, or equivalent devices downgradient of disturbed areas, stockpiles, drainage pipe inlets and outlets, and at intervals along grassed waterways, until such time as permanent vegetation is established.
- Placement of riprap at the inlets and outlets of stormwater piping

Surface Erosion Monitoring at a landfill could include:

Adequate erosion control measures could be established to help prevent sediment from leaving the site. Channels would be observed once every seven days and within 24 hours after any rainfall event of 0.5 inches or greater.

Slopes will be periodically checked for erosion and vegetative quality, fertilized, and mowed. A slope or portion thereof shall be identified as needing maintenance if it meets any one of the following conditions:

- Exposed waste on exterior slopes;
- Areas of cracking, sliding, or sloughing; or
- Areas of seepage.

Slopes identified as needing maintenance shall be repaired as soon as practical and as appropriate to correct deficiencies. Repair activities may include re-dressing the slope, filling in low areas, and/or seeding.

8.2.3 Dust Control Plan

Duke Energy would institute a Dust Control Plan for the proposed Sutton landfill. The primary potential sources of dust emissions at the proposed landfill would be at the top deck area and at the active area of waste placement. These areas are at a higher risk for producing dust due to vehicular and equipment traffic and earthwork-related construction. Exterior landfill slopes are less of a dust control concern, as they have intermediate or operational soil covers which are vegetated as described in the Operations Plan (Geosyntec, 2015).

Dust control methods for the proposed landfill area could include:

- Watering
- Establishing vegetative cover
- Mulching
- Structural controls fencing
- Wind breaks
- Temporary coverings
- Calcium chloride
- Spray applied suppressants
- Soil stabilizers
- Operational soil cover
- Modifying the active working area
- Modifying operations during dry and windy conditions

9 Conclusion

Sutton Energy Complex is located in an approximately 3,308-acre property in New Hanover County, near Wilmington, North Carolina and is situated between the Cape Fear River to the west and the Northeast Cape Fear River to the east. The Complex is also located approximately 1.9 miles south of the New Hanover Municipal Solid Waste Landfill (Geosyntec, 2015). This report examined the demographic and environmental conditions within New Hanover County, as well as Census Tract 115 and a one-mile radius around the Sutton Energy Complex which will contain the proposed CCR Sutton Landfill located at 801 Sutton Steam Plant Road, Wilmington, NC, 28401. The coordinates for the proposed facility are: N 34.283933, W -77.985009. Duke Energy Corporation is proposing to install a coal ash industrial landfill to contain the coal ash from the adjacent ash basins. In turn, as the ash from the basins are proposed to go into the onsite landfill, transportation of coal ash from the Sutton Energy Complex will be terminated.

This report examined the demographic and environmental conditions within New Hanover County, as well as census tract 115 and a one-mile radius to determine any disproportionately high or adverse environmental and human health effects on low-income or minority populations. No impacts were identified.

A field reconnaissance identified a community just outside the one-mile radius. This community was not disproportional to the county as a whole, DEQ will reach out by sending information and providing staff contacts. DEQ recommends no further action at this time.