

PERMIT MODIFICATION
ENVIVA HAMLET, LLC
HAMLET, NC
ENVIRONMENTAL JUSTICE SNAPSHOT

PRESENTED BY: N.C. DEPARTMENT OF ENVIRONMENTAL QUALITY

OCTOBER 1, 2018

1 EJ Snapshot

The EJ Snapshot is an initial look at the demographics and socioeconomics of the surrounding community area. This would include information within a determined radius by the Department, (decennial census year – race and poverty), (most current ACS census range - per Capita income and Ability to speak English), current NC Commerce county tier, and yes/no – native American territory. The EJ Snapshot does not include a reconnaissance of the community.

A snapshot will be conducted at the beginning of the application process when a full EJ report is already requested. This will be distributed to interested community members (if known) and posted to the DEQ website with the relevant permit application before the close of the public comment period. This will encourage EJ Report suggestions from the surrounding community, industry, and environmental groups during the comment period.

An EJ snapshot may also be conducted in lieu of an EJ report in some circumstances. This could be based on community interest, public interest, hot topic, national interest, new technology, new facility, coal ash, etc.

It is important to keep in mind the following limitations of this study: census data is from 2010 and may be outdated; the more recent census data up through 2016 are estimates; EJSCREEN does not provide all of the data categories that were used in this analysis so the census tract and county data cannot be compared to the radius used surrounding the facility boundary; census tracts can still be large areas and do not allow for exact locations of each population; some of the census tracts overlap with the two-mile radius only slightly; and the department cannot determine which populations are in that small amount of overlap.

The Department has assessed a snapshot of the demographic and socioeconomic data of the communities surrounding the Enviva Hamlet, LLC facility to foster communication prior to the Division of Air Quality's discussion on the permit modification for enhanced emission controls. This in turn will result in a completed EJ Report by the Department once community comments are incorporated from the public comment period.

2 Environmental Justice Evaluation

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 (US EPA). The final report will examine the demographic and environmental conditions in Richmond County, as well as census tracts, and the two-mile radius around the property boundary of the Enviva Pellets Hamlet, LLC facility. Finally, the demographics of the entire state of North Carolina are also considered as they relate to both the county and local census tract and radius settings.

The North Carolina Department of Environmental Quality (NCDEQ) has assessed the permit application and the potential impact on communities surrounding the requested modified facility operation by reduced emission sources and implementation of control technology. The Environmental Justice Assessment Report will include:

- Permit modification application submitted by – Enviva Pellets Hamlet, LLC.
- Point Source Emission Units
- Potential Emissions from the wood pellet manufacturing plant process
- Regulatory Evaluation
- Compliance Assurance Monitoring
- Facility-Wide Air Toxics
- Modeled Emissions Rates
- Study of area demographics are determined by utilizing the 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.

As of September 28, 2018, the following events have not occurred, but will take place prior to the Division of Air Quality's public hearing.

- A confirmation site visit to ensure current available census data was accurate.
- Communication with public and public officials in neighboring communities.

3 Proposed Project

Enviva Pellets Hamlet, LLC (Enviva) has requested a modification to their existing permit to install additional air pollution control equipment which will reduce their overall emissions profile for volatile organic compound (VOC), Hazardous Air Pollutants (HAP) and particulate matter (PM).

Enviva was initially permitted to construct a wood pellets manufacturing plant in Richmond County, North Carolina under the authorization of North Carolina Division of Air Quality (NC DAQ) permit 10365R00 on March 29, 2016. Enviva's proposed modifications include installing air pollution control devices that will lower the current permitted emission rates. The reductions in permitted emissions will allow the facility to comply with a Prevention of Significant Deterioration (PSD) permit avoidance limit. The PSD avoidance limit will require the facility to remain below 250 tons per year (tpy) for each criteria pollutant.

Enviva's emission reduction modifications will include:

- Installation of a regenerative thermal oxidizer following the currently permitted dryer wet electrostatic precipitator (WESP) for VOC, HAP and PM emissions control;
- Remove the Green Wood Hammermill cyclones from the permit and recirculate the exhaust to reduce VOC, HAP and PM emissions;
- Install one wet scrubber on the pellet cooler product recovery cyclones to reduce PM emissions;
- Install a regenerative catalytic oxidizer, to control combined emissions of VOC, HAP and PM from the pellet coolers and pellet mills;
- Decrease the amount of wood that can bypass the Dry Hammermills from 25% to 15%;
- Remove the hammermill area emission point (which will no longer be an emission point);
- Change the number of Pellet Loadout Bins from eight (8) to two (2);
- Remove the truck loadout station emission point - pellets will now be loaded into hopper rail cars that are entirely enclosed

4 Geographic Area

The facility is located at 1125 North NC Highway 177 Hamlet, NC, 28345 (Richmond County). The highest off-site ambient air impacts from the Enviva Hamlet dispersion modeling occur at the plant fence line. Enviva's contribution to the total impact is over 99%. As such the two-mile radius for analyzing the local demographics and socioeconomics was used. (Figure 1).

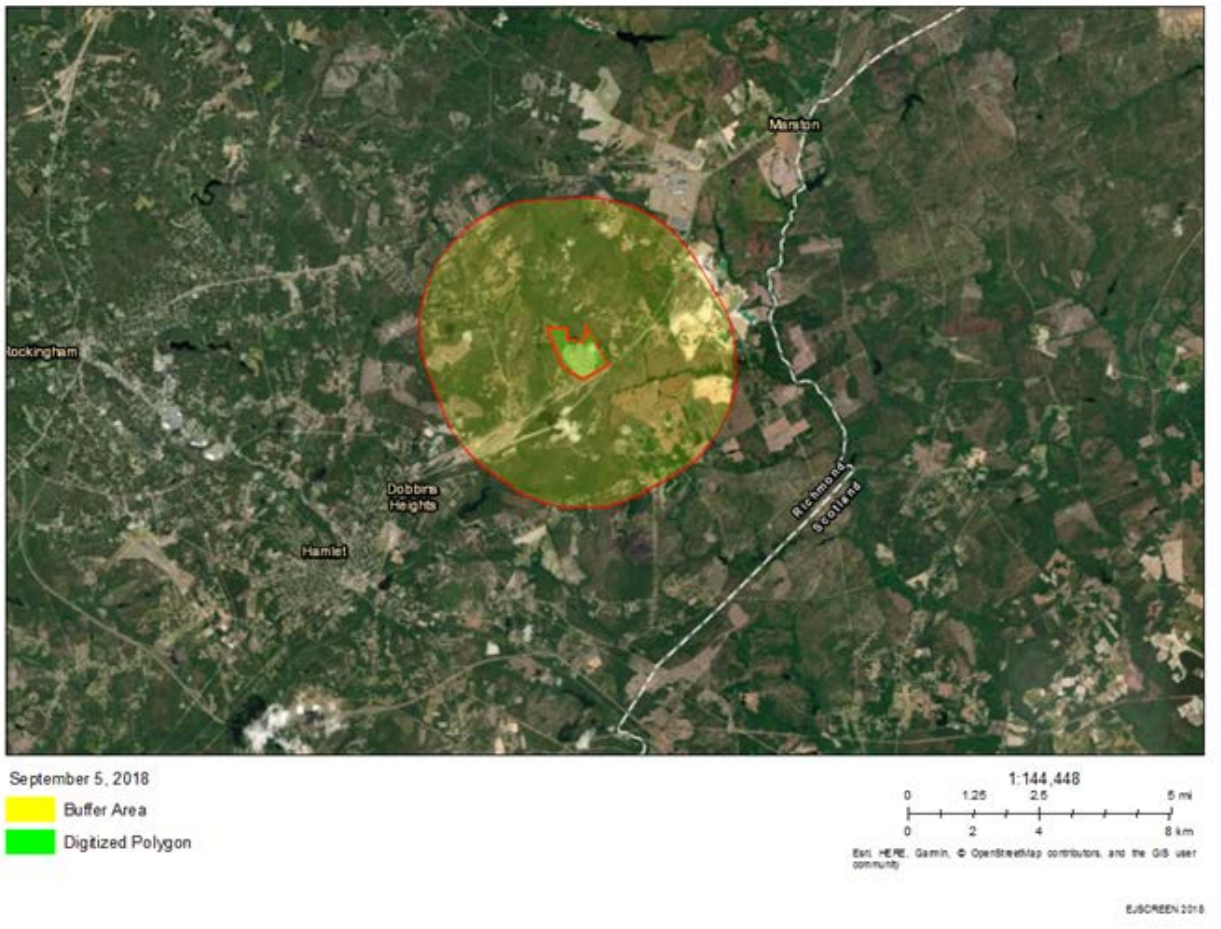


Figure 1. Facility location with two-mile radius.

Regional Setting

Richmond County is designated as Tier 1 county by NC Department of Commerce. Tier 1 counties must have less than 12,000 people or be a county with a population less than 50,000 people and a poverty rate of 19% or greater. Richmond County has been designated as Tier 1 for at least the last two consecutive years. The two-mile radius used in this analysis stays within Richmond County and is encompassed by census tracts 9710 and 9711 (Figure 2). Census tracts are small, relatively permanent statistical subdivisions of a county with a unique numeric code (US Census Bureau). The two census tracts do not encompass any Federal or State American Indian Reservation, Off-Reservation Trust Land, Statistical Area, Designated Tribal Area, or Native Regional Corporation. However, this does not mean, there is not the presence of Native American or Alaska Native persons living within Census Tracts 9710 and 9711.

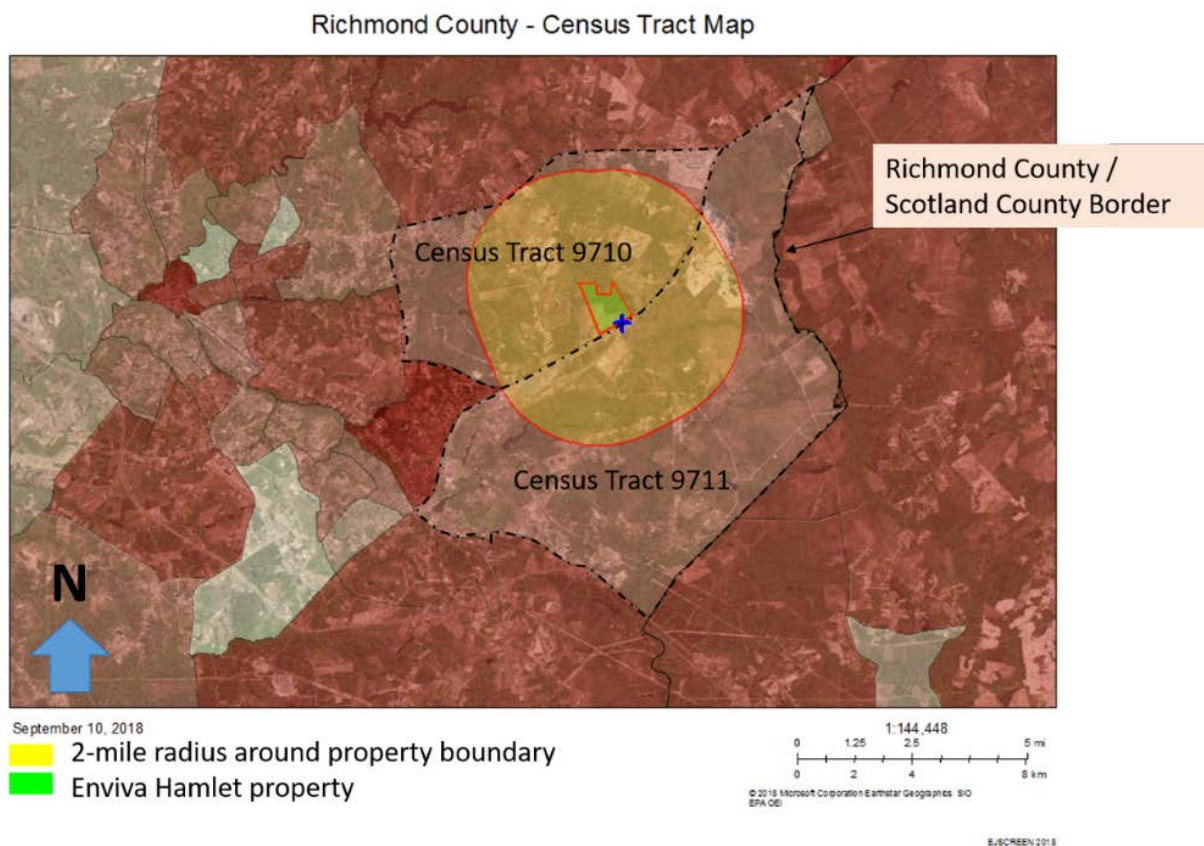


Figure 2. Census tracts and counties around facility location.

Table 1. Regional Setting - Race and Ethnicity

Race and Ethnicity	North Carolina		Richmond County	
	Number	Percent	Number	Percent
Total Population	9,535,483	100.0	46,639	100
White	6,528,950	68.5	28,072	60.2
Black or African American	2,048,628	21.5	14,269	<u>30.6</u>
American Indian or Alaska Native	122,110	1.3	1,173	2.5
Asian	208,962	2.2	431	0.9
Native Hawaiian and Other Pacific Islander	6,604	0.1	26	0.1
Some other Race	414,030	4.3	1,700	3.6
Two or More Races	206,199	2.2	968	2.1
HISPANIC OR LATINO (of any race)				
	800,120	8.4	2,741	5.9
Mexican	486,960	5.1	2,163	4.6
Puerto Rican	71,800	0.8	130	0.3
Cuban	18,079	2.3	30	0.1
Other Hispanic or Latino	223,281	2.3	418	0.9
All bolded and <u>underlined</u> cells indicate a difference that is greater than 10% when compared to the State. Source: US Census, 2010				

¹ Mexican is considered a sub-group of Hispanic or Latino. These subgroups are a portion of the total percentage of Hispanic or Latino of any race.

Table 2. Local Setting – Race and Ethnicity

Race and Ethnicity	Project Area - 1 Mile		Project Area - 2 Miles		Census Tract 9710		Census Tract 9711	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Total Population	330	100	1,047	100	4,174	100.0	4,390	100.0
White	321	72	741	71	1,732	41.5	2,255	51.4
Black or African American	66	20	221	21	2,199	<u>52.7</u>	1,658	<u>37.8</u>
American Indian or Alaska Native	6	2	24	2	55	1.3	274	<u>6.2</u>
Asian	6	2	16	2	36	0.9	11	0.3
Native Hawaiian and Other Pacific Islander	0	0	1	0	7	0.2	1	0.0
Some other Race	5	1	14	1	41	1.0	30	0.7
Two or More Races	9	3	30	3	104	2.5	161	<u>6.3</u>
HISPANIC OR LATINO (of any race)								
	12	4	36	3	128	3.1	70	1.6
Mexican					81	1.9	31	0.7
Puerto Rican					21	0.5	22	0.5
Cuban					0	0	2	0
Other Hispanic or Latino					26	0.6	15	0.3
All orange highlighted cells indicate a difference that is greater than 10% when compared to the county All bolded and <u>underlined</u> cells indicate a difference that is greater than 10% when compared to the State. Source: US Census, 2010								

Table 3. Poverty Status -North Carolina

Subject	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	9,685,511	1,782	1,631,704	17,281	16.8	0.2
AGE						
Under 18	2,254,721	2,050	539,417	8,484	23.9	0.4
18 to 64	6,012,888	1,258	955,430	9,789	15.9	0.2
65 years and over	1,417,902	1,068	136,857	2,562	9.7	0.2
SEX						
Male	4,684,761	2,068	719,985	8,902	15.4	0.2
Female	5,000,750	1,846	911,719	9,880	18.2	0.2
RACE AND HISPANIC OR LATINO ORIGIN						
White	6,220,770	2,615	718,254	11,602	11.5	0.2
Black or African American	2,056,688	4,872	537,538	7,834	26.1	0.4
American Indian and Alaska Native	114,277	1,759	32,101	1,831	28.1	1.5
Asian	248,665	1,763	32,044	1,973	12.9	0.8
Native Hawaiian and Other Pacific Islander	6,227	910	1,229	363	19.7	5.3
Some other Race	293,512	8,038	98,899	5,189	33.7	1.5
Two or more races	233,951	5,773	57,525	2,970	24.6	1.1
Hispanic or Latino	867,229	835	273,081	2,970	24.6	0.8
All individuals below:						
50 percent of poverty level	709,029	10,824				
125 percent of poverty level	2,156,665	18,666				
150 percent of poverty level	2,675,626	22,058				
185 percent of poverty level	3,374,865	23,762				
200 percent of poverty level	3,649,420	24,199				
Source: US Census, 2012-2016 ACS 5-Year Estimates						

Table 4. Poverty Status -Richmond County

	Richmond County					
Subject	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	44,288	253	11,443	1,029	<u>25.8</u>	2.3
AGE						
Under 18	10,570	94	4,214	525	<u>39.9</u>	5.0
18 to 64	26,521	232	6,191	616	<u>23.3</u>	2.3
65 years and over	7,197	94	1,038	182	<u>14.4</u>	2.5
SEX						
Male	20,865	368	5,010	549	<u>24.0</u>	2.6
Female	23,423	273	6,433	673	<u>27.5</u>	2.8
RACE AND HISPANIC OR LATINO ORIGIN						
White	25,863	150	4,690	621	<u>18.1</u>	2.4
Black or African American	13,809	331	5,007	667	<u>36.3</u>	4.7
American Indian and Alaska Native	919	173	232	118	<u>25.2</u>	12.0
Asian	122	125	20	26	<u>16.4</u>	25.6
Native Hawaiian and Other Pacific Islander	-	25	-	25	-	-
Some other Race	331	204	46	60	13.9	17.9
Two or more races	1,025	282	322	198	<u>31.4</u>	16.6
Hispanic or Latino	2,638	114	1,183	375	<u>44.8</u>	14.7
All individuals below:						
50 percent of poverty level	5,421	856				
125 percent of poverty level	15,106	1,202				
150 percent of poverty level	17,840	1,169				
185 percent of poverty level	20,963	1,169				
200 percent of poverty level	22,827	1,178				
All bolded and <u>underlined</u> cells indicate a difference that is greater than 5% when compared to the State. Source: US Census, 2012-2016 ACS 5-Year Estimates						

Table 5. Poverty Status – Census Tracts 9710 and 9711 (Richmond County)

Subject	Census Tract 9710						Census Tract 9711					
	Total		Below poverty level		Percent below poverty level		Total		Below poverty level		Percent below poverty level	
	Estimate	Margin of Error +/-	Estimate	Margin of Error +/-	Estimate	Margin of Error +/-	Estimate	Margin of Error +/-	Estimate	Margin of Error +/-	Estimate	Margin of Error +/-
Population for whom poverty status is determined	4,042	370	1,581	351	<u>39.1</u>	6.8	4,396	418	1,353	397	<u>30.8</u>	8.8
AGE												
Under 18	1,138	248	684	254	<u>60.1</u>	14	1,027	225	478	232	<u>46.5</u>	20.
18 to 64	2,298	212	723	162	<u>31.5</u>	6.7	2,583	285	748	100	<u>28.6</u>	12.1
65 years and over	606	82	174	69	<u>28.7</u>	10.6	786	110	127	71	<u>16.2</u>	8.8
SEX												
Male	1,704	228	584	166	<u>34.3</u>	7.7	2,221	284	744	230	<u>33.5</u>	9.6
Female	2,338	265	997	242	<u>42.6</u>	8.4	2,175	303	609	236	28.0	10.7
RACE AND HISPANIC OR LATINO ORIGIN												
White	1,566	288.0	327.0	159.0	<u>20.9</u>	9.7	2355.0	303.0	585.0	277.0	<u>24.8</u>	11.2
Black or African American	2,292	395.0	1148.0	366.0	<u>50.1</u>	10.2	1697.0	334.0	694.0	226.0	<u>40.9</u>	12.2
American Indian and Alaska Native	80	57.0	49.0	54.0	<u>61.3</u>	37.8	111.0	82.0	51.0	66.0	<u>45.9</u>	42.1
Asian	-	12.0	0.0	12.0	-	-	0.0	12.0	0.0	12.0	-	-
Native Hawaiian and Other Pacific Islander	-	12.0	0.0	12.0	-	-	0.0	12.0	0.0	12.0	-	-
Some other Race	11	18.0	11.0	18.0	<u>100.0</u>	89.4	0.0	12.0	0.0	12.0	-	-
Two or more races	74	58.0	46.0	52.0	<u>62.2</u>	38.3	233.0	191.0	23.0	50.0	9.9	36.8
Hispanic or Latino	30	45.0	11.0	18.0	<u>36.7</u>	24.5	11.0	20.0	0.0	12.0	0.0	89.4
All individuals below:												
50 percent of poverty level	791	344					516	217				
125 percent of poverty level	1,840	363					1,744	353				
150 percent of poverty level	2,001	368					1,984	390				
185 percent of poverty level	2,240	368					2,473	415				
200 percent of poverty level	2,249	369					2,522	413				
All orange highlighted cells indicate a difference that is greater than 5% when compared to the county All bolded and underlined cells indicate a difference that is greater than 5% when compared to the State. Source: US Census, 2012-2016 ACS 5-Year Estimates												

Table 6. Per Capita Income

	Subject		Per Capita Income in Last 12 Months (Dollars)
North Carolina	Per Capita Income	Estimate	26,779
		Margin of Error +/-	127
Richmond County	Per Capita Income	Estimate	19,411
		Margin of Error +/-	1,383
Census Tract 9710	Per Capita Income	Estimate	16,743
		Margin of Error +/-	1,825
Census Tract 9711	Per Capita Income	Estimate	16,269
		Margin of Error +/-	1,890
One Mile	Per Capita Income	Estimate	19,718
		Margin of Error +/-	-
Two Miles	Per Capita Income	Estimate	19,718
		Margin of Error +/-	-

5 Limited English Proficiency (LEP)

Per the Safe Harbor Guidelines, should an LEP Group be identified 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 guidelines are per the EPA guidance for LEP persons, and followed by DEQ when deemed appropriate. No LEP Groups were identified during the initial screening of demographic data. However, should LEP Groups be identified during the site visit, DEQ will revisit Safe Harbor Guidelines.

6 Local Sensitive Receptors

The Environmental Protection Agency suggests that sensitive receptors include, but are not limited to, hospitals, schools, daycare facilities, elderly housing and convalescent facilities. These are areas where the occupants are more susceptible to the adverse effects of exposure to toxic chemicals, pesticides, and other pollutants. Extra care must be taken when dealing with contaminants and pollutants in close proximity to areas recognized as sensitive receptors. For instance, children and the elderly may have a higher risk of developing asthma from elevated levels of certain air pollutants than a healthy individual aged between 18 and 64.

Within the two-mile project radius, the following were identified as potential sensitive receptors:

- Marks Creek Presbyterian Church
- House of Prayer Church

Outside of the two-mile radius are the following sensitive receptors:

- Richmond 9th Grade Academy
- Mc Donald Church
- Fisher Adult Care, Inc.
- New Hope Adult Care