SECTION 6
VULNERABILITY ASSESSMENT

This section identifies and quantifies the vulnerability of the jurisdictions within Wake County to the significant hazards identified in the previous sections (*Hazard Identification and Profiles*). It consists of the following subsections:

- 6.1 Overview
- 6.2 Methodology
- 6.3 Explanation of Data Sources
- 6.4 Asset Inventory
- 6.5 Vulnerability Assessment Results
- 6.6 Conclusions on Hazard Vulnerability

44 CFR Requirement
44 CFR Part 201.6(c)(2)(ii): The risk assessment shall include a description of the jurisdiction's vulnerability to the hazards described in paragraph (c)(2)(i) of this section. The description shall include an overall summary of each hazard and its impact on the community. The plan should describe vulnerability in terms of: (A) The types and numbers of existing and future buildings, infrastructure, and critical facilities located in the identified hazard areas; (B) An estimate of the potential losses to vulnerable structures identified in paragraph (c)(2)(ii)(A) of this section and a description of the methodology used to prepare the estimate; (C) Providing a general description of land uses and development trends within the community so that mitigation options can be considered in future land use decisions.

6.1 OVERVIEW

This section builds upon the information provided in Section 4: *Hazard Identification and* Section 5*: Hazard Profiles* by identifying and characterizing an inventory of assets in Wake County. In addition, the potential impact and expected amount of damages caused to these assets by each identified hazard event is assessed. The primary objective of the vulnerability assessment is to quantify exposure and the potential loss estimates for each hazard. In doing so, Wake County and the participating jurisdictions may better understand their unique risks to identified hazards and be better prepared to evaluate and prioritize specific hazard mitigation actions.

This section begins with an explanation of the methodology applied to complete the vulnerability assessment, followed by a summary description of the asset inventory as compiled for jurisdictions in Wake County. The remainder of this section focuses on the results of the assessment conducted.

6.2 METHODOLOGY

This vulnerability assessment was conducted using three distinct methodologies: (1) A stochastic risk assessment; (2) a geographic information system (GIS)-based analysis; and (3) a risk modeling software analysis. Each approach provides estimates for the potential impact of hazards by using a common, systematic framework for evaluation, including historical occurrence information provided in the *Hazard*

Identification and *Hazard Profiles* sections. A brief description of the three different approaches is provided on the following pages.

6.2.1 Stochastic Risk Assessment

The stochastic risk assessment methodology was applied to analyze hazards of concern that were outside the scope of hazard risk models and the GIS-based risk assessment. This involves the consideration of annualized loss estimates and impacts of current and future buildings and populations. Annualized loss is the estimated long-term weighted average value of losses to property in any single year in a specified geographic area (i.e., municipal jurisdiction or county). This methodology is applied primarily to hazards that do not have geographically-definable boundaries and are therefore excluded from spatial analysis through GIS. A stochastic risk methodology was used for the following hazards:

- Dam Failure
- Drought
- Extreme Heat
- Erosion
- Hailstorm
- Lightning
- Terror Threat
- Thunderstorm Wind/High Wind
- Tornado
- Winter Storm and Freeze

With the exception of Dam Failure, Erosion, and Terror Threat, the hazards listed above are considered atmospheric and have the potential to affect all current and future buildings and all populations. **Table 6.1** provides information about all improved property in Wake County that is vulnerable to these hazards. For all hazards, annualized loss estimates were determined using the best available data on historical losses from sources including NOAA's National Climatic Data Center records, county and municipal hazard mitigation plans, and local knowledge. Annualized loss estimates were generated by totaling the amount of property damage over the period of time for which records were available, and calculating the average annual loss. Given the standard weighting analysis, losses can be readily compared across hazards providing an objective approach for evaluating mitigation alternatives.

For the dam failure[1], erosion, and terror threat, no data with historical property damages was available. Therefore a detailed vulnerability assessment could not be completed for these hazards at this time.

The results for these hazards are found at the end of this section in **Table 6.16**.

[1] As noted in Section 5: *Hazard Profiles*, dam failure could be catastrophic to structures and populations in the inundation area. However, due to lack of data, no additional analysis was performed. Further, local USACE and NCDENR also complete separate dam failure plans to identify risk and response measures.

6.2.2 GIS-Based Analysis

Other hazards have specified geographic boundaries that permit additional analysis using Geographic Information Systems (GIS). These hazards include:

- Flood
- Hazardous Material Incident
- Landslide
- Nuclear Accident
- Wildfire

The objective of the GIS-based analysis was to determine the estimated vulnerability of critical facilities and populations for the identified hazards in Wake County using best available geospatial data. Digital data was collected from local, regional, state, and national sources for hazards and buildings. This included local tax assessor records for individual parcels and buildings and geo-referenced point locations for identified assets (critical facilities and infrastructure, special populations, etc.) when available. ESRI® ArcGIS™ 10.0 was used to assess hazard vulnerability utilizing digital hazard data, as well as local building data. Using these data layers, hazard vulnerability can be quantified by estimating the assessed building value for parcels and/or buildings determined to be located in identified hazard areas. The results of the analysis provided an estimate of the number of parcels, buildings, and critical facilities, as well as the estimated value of those buildings determined to be potentially at risk to the hazards with delineable geographic hazard boundaries.

6.2.3 Risk Modeling Software Analysis

A risk modeling software was used for the following hazards:

- Earthquake
- Hurricane and Tropical Storm

There are several models that exist to model hazards. Hazus-MH was used in this vulnerability assessment to address the aforementioned hazards.

Hazus-MH

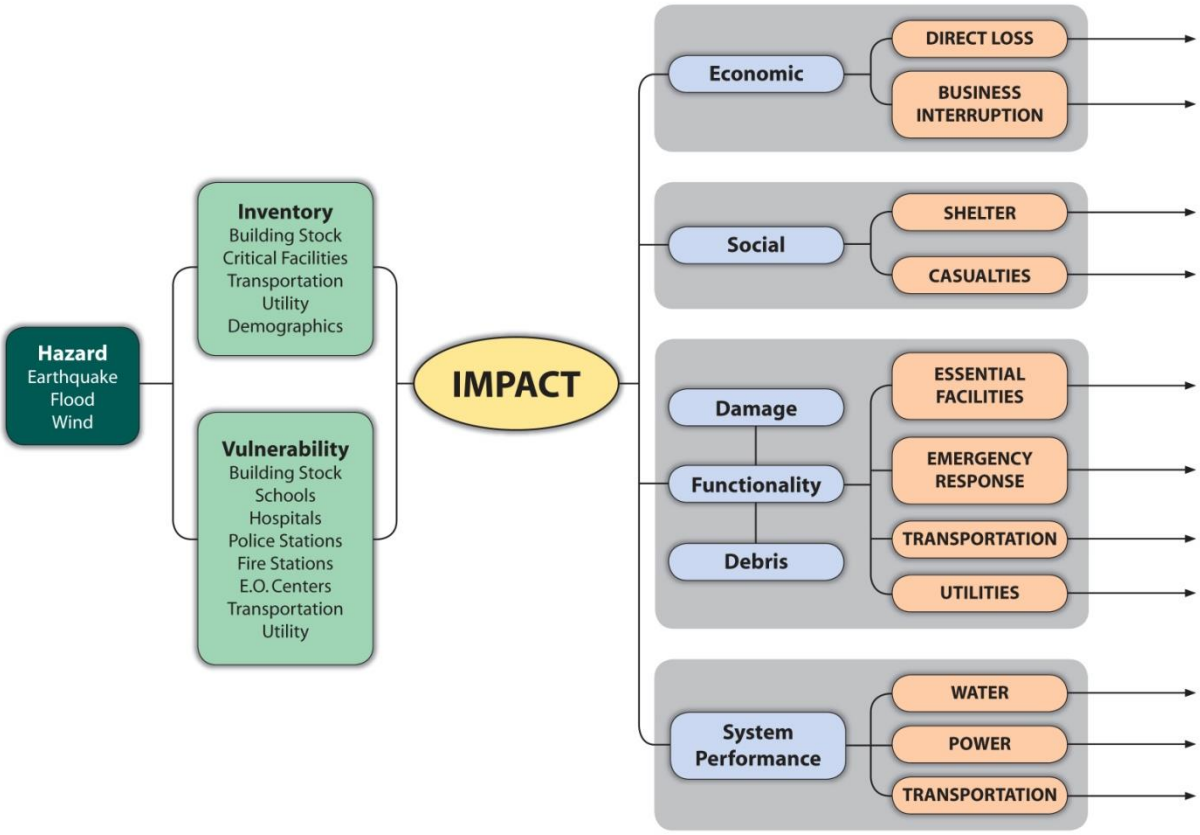
Hazus-MH ("Hazus") is a standardized loss estimation software program developed by FEMA. It is built upon an integrated GIS platform to conduct analysis at a regional level (i.e., not on a structure-by-structure basis). The Hazus risk assessment methodology is parametric, in that distinct hazard and inventory parameters (e.g., wind speed and building types) can be modeled using the software to determine the impact (i.e., damages and losses) on the built environment.

The Wake County Risk Assessment utilized Hazus-MH to produce hazard damage loss estimations for hazards for the planning area. At the time this analysis was completed, Hazus-MH 2.1 was used to estimate

potential damages from hurricane winds earthquake hazards using Hazus-MH methodology. Although the program can also model losses for flood and storm surge, it was not used in this Risk Assessment.

Figure 6.1 illustrates the conceptual model of the Hazus-MH methodology.

FIGURE 6.1: CONCEPTUAL MODEL OF HAZUS-MH METHODOLOGY



Hazus-MH is capable of providing a variety of loss estimation results. In order to be consistent with other hazard assessments, annualized losses are presented when possible. Some additional results based on location-specific scenarios may also be presented to provide a complete picture of hazard vulnerability.

Loss estimates provided in this vulnerability assessment are based on best available data and methodologies. The results are an approximation of risk. These estimates should be used to understand relative risk from hazards and potential losses. Uncertainties are inherent in any loss estimation methodology, arising in part from incomplete scientific knowledge concerning natural hazards and their effects on the built environment. Uncertainties also result from approximations and simplifications that are necessary for a comprehensive analysis (e.g., incomplete inventories, non-specific locations, demographics, or economic parameters).

All conclusions are presented in “Conclusions on Hazard Vulnerability” at the end of this section.

6.3 EXPLANATION OF DATA SOURCES

Earthquake

Hazus-MH 2.1 (as described above) was used to assess earthquake vulnerability. A level 1, probabilistic scenario to estimate annualized loss was utilized. In this scenario, several return periods (events of varying intensities) are run to determine annualized loss. Default Hazus earthquake damage functions and methodology were used to determine the probability of damage. Results are calculated at the 2000 U.S. Census tract level in Hazus and presented at the county level.

Flood

FEMA Digital Flood Insurance Rate Maps (DFIRMs) were used to determine flood vulnerability. DFIRM data can be used in ArcGIS for mapping purposes and they identify several features including floodplain boundaries and base flood elevations. Identified areas on the DFIRM represent some features of Flood Insurance Rate Maps including the 100-year flood areas (1.0-percent annual chance flood), and the 500-year flood areas (0.2-percent annual chance flood). For the vulnerability assessment, local parcel data and critical facilities were overlaid on the 100-year floodplain areas and 500-year floodplain areas. It should be noted that such an analysis does not account for building elevation.

Hurricane and Tropical Storm Wind

Hazus-MH 2.1 (as described above) was used to assess wind vulnerability. For the hurricane wind analysis, a probabilistic scenario was created to estimate the annualized loss damage and probable peak wind speeds in Wake County. Default Hazus wind speed data, damage functions, and methodology were used in to determine the probability of damage for 50-, 100-, 500-, and 1,000-year frequency events (also known as return periods) in the scenario. Results are calculated in Hazus at the 2000 U.S. Census tract level and presented at the county and municipal level.

Hazardous Materials Incident

For the fixed hazardous materials incident analysis, Toxic Release Inventory (TRI) data was used. The Toxics Release Inventory is a publicly available database from the federal Environmental Protection Agency (EPA) that contains information on toxic chemical releases and other waste management activities reported annually by certain covered industry groups as well as federal facilities. This inventory was established under the Emergency Planning and Community Right-to-Know Act of 1986 (EPCRA) and expanded by the Pollution Prevention Act of 1990. Each year, facilities that meet certain activity thresholds must report their releases and other waste management activities for listed toxic chemicals to EPA and to their state or tribal entity. A facility must report if it meets the following three criteria:

- The facility falls within one of the following industrial categories: manufacturing; metal mining; coal mining; electric generating facilities that combust coal and/or oil; chemical wholesale distributors; petroleum terminals and bulk storage facilities; RCRA Subtitle C treatment, storage, and disposal (TSD) facilities; and solvent recovery services;
- Has 10 or more full-time employee equivalents; and
- Manufactures or processes more than 25,000 pounds or otherwise uses more than 10,000 pounds of any listed chemical during the calendar year. Persistent, bioaccumulative, and toxic (PBT) chemicals are subject to different thresholds of 10 pounds, 100 pounds, or 0.1 grams depending on the chemical.

For the mobile hazardous materials incident analysis, transportation data including major highways and railroads were obtained from the North Carolina Department of Transportation. This data is ArcGIS compatible, lending itself to buffer analysis to determine risk.

Wildfire

The data used to determine vulnerability to wildfire in Wake County is based on GIS data called the Southern Wildfire Risk Assessment (SWRA). It was provided for use in this plan by the North Carolina Division of Forest Resources. A specific layer, known as "Level of Concern" (LOC) was used to determine vulnerability of people and property. The LOC is presented on a scale of 1 to 100. It combines a Wildfire Susceptibility Index (WFSI) with a Fire Effects Index (FEI). The primary purpose of the LOC data is to highlight areas of concern that may be conducive to mitigation actions. Due to the assumptions made, it is not a true probability. However, it does provide a comparison of risk throughout the region.

Nuclear Accident

The data used to determine vulnerability to a nuclear accident in Wake County is based on the location of the Shearon Harris Nuclear Power Station and buffer radii recommended by the Nuclear Regulatory Commission for emergency management planning in the event of a nuclear accident.

6.4 ASSET INVENTORY

An inventory of geo-referenced assets within Wake County and its jurisdictions was compiled in order to identify and characterize those properties potentially at risk to the identified hazards[2]. By understanding the type and number of assets that exist and where they are located in relation to known hazard areas, the relative risk and vulnerability for such assets can be assessed. Under this assessment, two categories of physical assets were created and then further assessed through GIS analysis. These are presented below in Section 6.4.1.

6.4.1 Physical and Improved Assets

The two categories of physical assets consist of:

1. Improved Property: Includes all improved properties in Wake County according to local parcel data provided by the county. The information has been expressed in terms of the number of parcels and total assessed value of improvements (buildings) that may be exposed to the identified hazards. In addition, building footprint data was available for all jurisdictions and it was used to improve the overall assessment by providing an accurate assessment of how many buildings are located in hazard areas. However, it should be noted that building footprint data from all jurisdictions except the City of Raleigh and the Town of Wake Forest has not been updated since 2010, so it likely underestimates building counts. City of Raleigh and Town of Wake Forest data is current through 2013.

2. Critical Facilities: Critical facilities vary by jurisdiction and the critical facilities provided by each jurisdiction are used in this section. It should be noted that this listing is not all-inclusive for assets located in the county, and it is anticipated that it may be expanded or adjusted during future plan updates as more geo-referenced data becomes available for use in GIS analysis.

[2] While potentially not all-inclusive for the jurisdictions in Wake County, "georeferenced" assets include those assets for which specific location data is readily available for connecting the asset to a specific geographic location for purposes of GIS analysis.

The following tables provide a detailed listing of the geo-referenced assets that have been identified for inclusion in the vulnerability assessment Wake County.

Table 6.1 lists the number of parcels, total value of parcels, total number of parcels with improvements, and the total assessed value of improvements for participating areas of Wake County (study area of vulnerability assessment).[3]

TABLE 6.1: IMPROVED PROPERTY IN WAKE COUNTY

Location	Number of Parcels	Total Assessed Value of Parcels	Estimated Number of Buildings	Total Assessed Value of Improvements
Apex	13,428	$4,077,109,333	11,097	$2,987,895,360
Cary	46,916	$19,442,602,988	41,362	$14,004,724,996
Fuquay-Varina	8,830	$2,003,114,842	7,048	$1,500,117,328
Garner	9,882	$2,530,181,294	9,185	$1,799,801,899
Holly Springs	10,253	$2,614,443,181	8,162	$1,967,125,463
Knightdale	4,700	$1,212,124,881	3,704	$885,767,979
Morrisville	5,863	$2,618,506,417	4,377	$1,934,811,737
Raleigh	121,927	$49,135,744,779	165,007	$33,719,903,927
Rolesville	2,224	$541,541,860	1,432	$380,149,908
Wake Forest	12,035	$3,802,436,656	11,476	$2,819,911,530
Wendell	2,576	$398,406,521	2,577	$287,227,420
Zebulon	2,251	$476,102,834	2,145	$346,897,517
Unincorporated Area	92,500	$36,869,910,205	88,745	$20,154,896,961
WAKE COUNTY[4] TOTAL	**333,385**	**$125,722,225,791**	**356,317**	**$82,789,232,025**

Table 6.2 lists the fire stations, police stations, EMS stations, medical care facilities, schools, and other critical facilities located in Wake County. These facilities were identified as primary critical facilities in that they are necessary to maintain government functions and protect the life, health, safety, and welfare of citizens. These primary facilities were geospatially mapped and used as the basis for further geographic analysis of the hazards that could potentially affect critical facilities. In addition, a list of secondary facilities was created to recognize the importance of these facilities in the event of a disaster. These facilities were not mapped, but it is important to recognize that they could be potentially impacted by nearly any of the identified hazards, especially those that are atmospheric or have no specific spatial delineation.

All critical facility information was provided by local governments and their GIS departments. Much of the information for both the county and jurisdictions was provided by Wake County GIS. In addition, **Figure 6.2** shows the locations of the primary critical facilities in Wake County. **Table 6.17**, near the end of this section, shows a complete list of the critical facilities by name, as well as the hazards that affect

[3] Total assessed values for improvements is based on tax assessor records as joined to digital parcel data. This data does not include dollar figures for tax-exempt improvements such as publicly-owned buildings and facilities. It should also be noted that, due to record keeping, some duplication is possible thus potentially resulting in an inflated value exposure for an area.
[4] Building value for each jurisdiction is based on the dollar of parcels with an improved building value greater than zero.

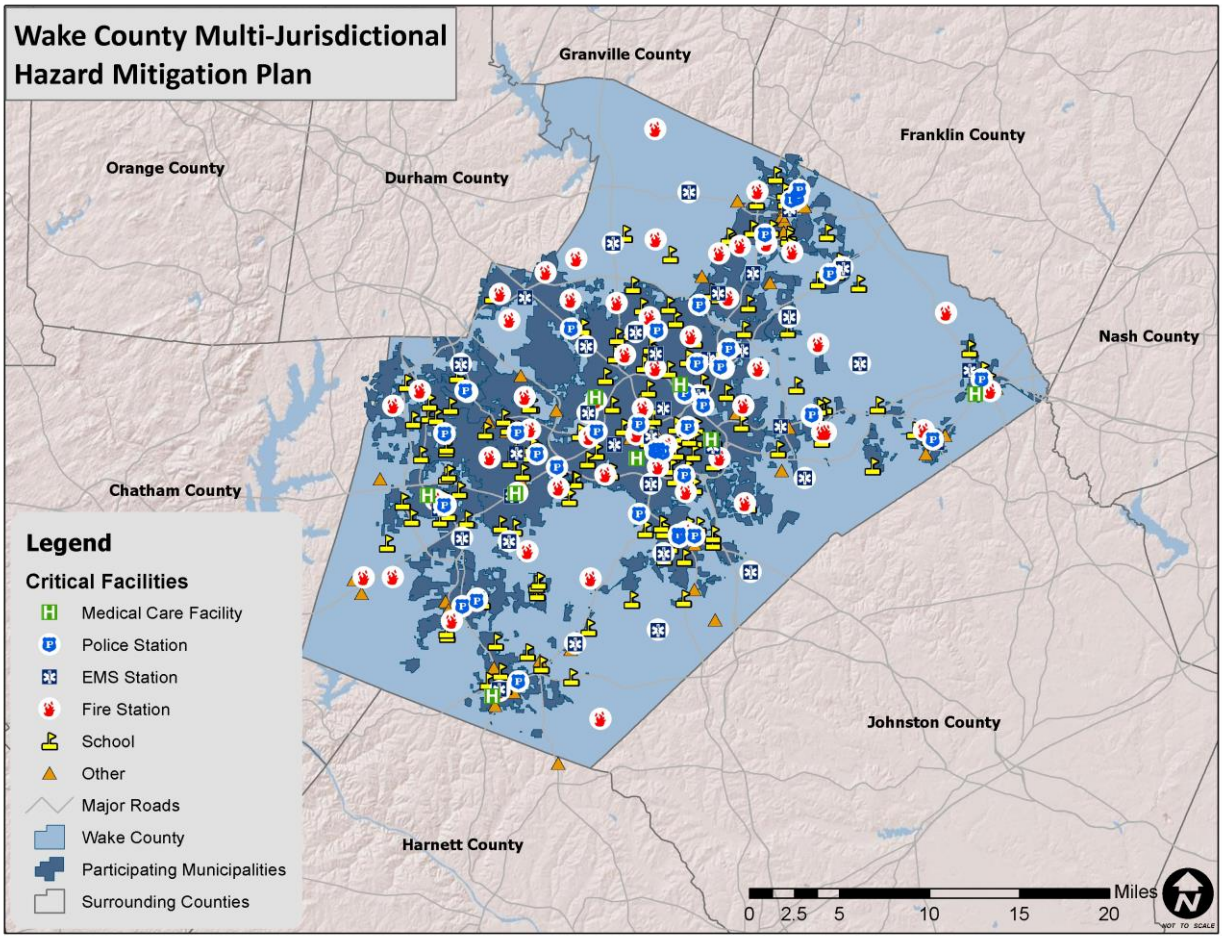
each facility. **Table 6.18** lists all secondary critical facilities. As noted previously, this list is not all-inclusive and only includes information provided by the jurisdictions and certain facilities (police, fire, EMS, medical care, and schools) from Wake County GIS.

TABLE 6.2: CRITICAL FACILITY INVENTORY IN WAKE COUNTY

Location	Fire Stations	Police Stations	EMS Stations	Medical Care Facilities	Schools	Other
Apex	4	1	2	1	10	4
Cary	10	4	4	1	26	5
Fuquay-Varina	1	1	1	1	8	6
Garner	3	5	2	0	9	3
Holly Springs	0	2	0	0	5	3
Knightdale	3	1	1	0	6	2
Morrisville	2	1	1	0	2	1
Raleigh	31	16	15	4	63	4
Rolesville	1	1	1	0	4	1
Wake Forest	4	4	2	0	8	9
Wendell	1	1	1	0	2	6
Zebulon	1	1	0	1	3	2
Unincorporated Area	21	0	11	0	12	4
WAKE COUNTY TOTAL	**82**	**38**	**41**	**8**	**158**	**50**

Source: Local Governments

FIGURE 6.2: CRITICAL FACILITY LOCATIONS IN WAKE COUNTY



Source: Local Governments

6.4.2 Social Vulnerability

In addition to identifying those assets potentially at risk to identified hazards, it is important to identify and assess those particular segments of the resident population in Wake County that are potentially at risk to these hazards.

Table 6.3 lists the population by jurisdiction according to U.S. Census 2010 population estimates. Unfortunately, estimates were not available at the census block level, which limited the results to county-wide estimates. The total population in Wake County according to Census data is 900,993 persons. Additional population estimates are presented in Section 3: *Community Profile*.

TABLE 6.3: TOTAL POPULATION IN WAKE COUNTY

Location	Total 2010 Population
Apex	37,476
Cary	135,234
Fuquay-Varina	17,937
Garner	25,745

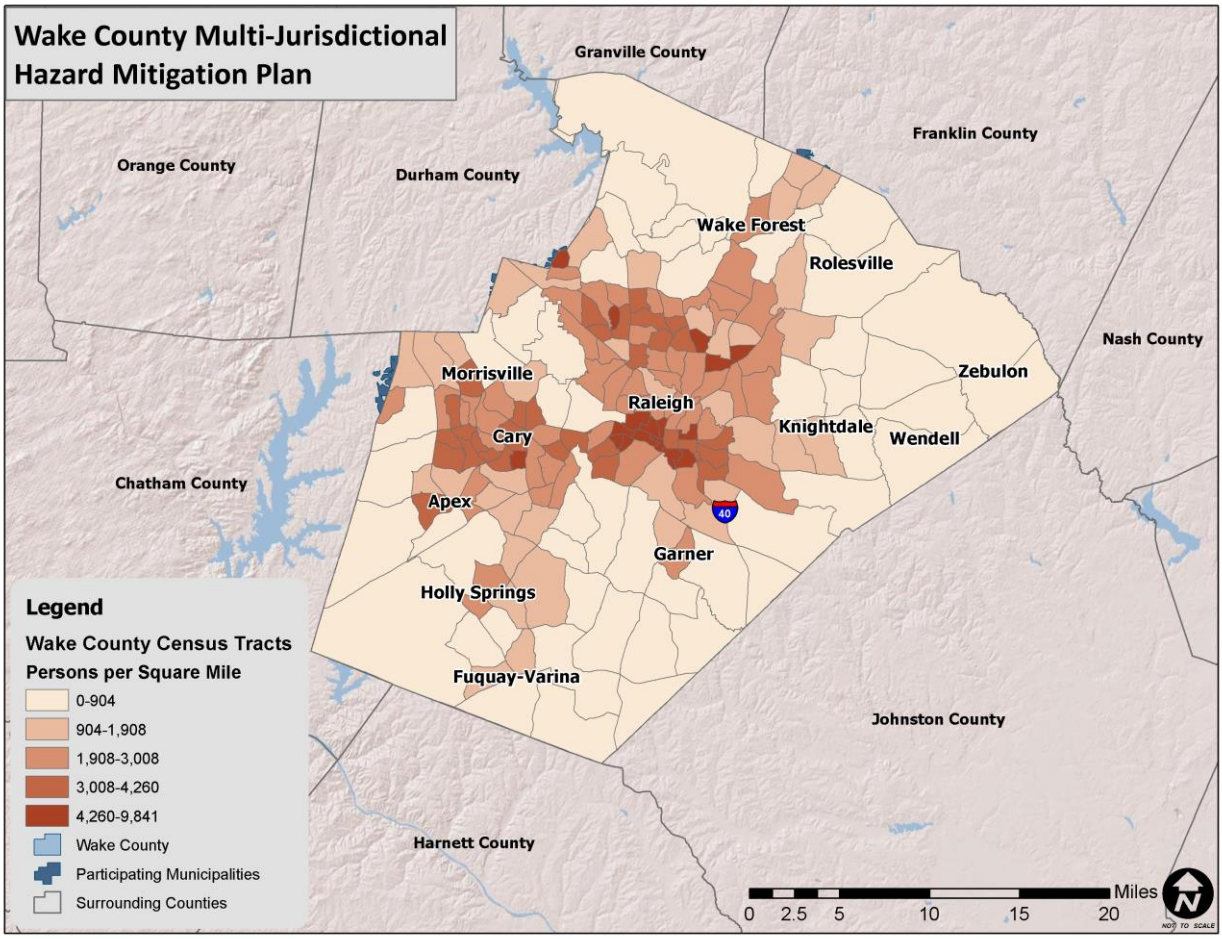
Location	Total 2010 Population
Holly Springs	24,661
Knightdale	11,401
Morrisville	18,576
Raleigh	403,892
Rolesville	3,786
Wake Forest	30,117
Wendell	5,845
Zebulon	4,433
Unincorporated Area	181,890
WAKE COUNTY TOTAL	**900,993**

Note: The total population of Cary, Raleigh, and Wake Forest includes population residing in adjacent counties.
Source: U.S. Census 2010

In addition, **Figure 6.3** illustrates the population density by census tract as it was reported by the U.S. Census Bureau in 2010.[5]

[5] Population by census block was not available at the time this plan was completed.

FIGURE 6.3: POPULATION DENSITY IN WAKE COUNTY



Source: U.S. Census Bureau, 2010

6.4.3 Development Trends and Changes in Vulnerability

Since the previous local hazard mitigation plans were approved (between 2009 and 2012), Wake County has experienced some growth and development. **Table 6.4** shows the number of building units constructed since 2010 according to the US Census American Community Survey.

TABLE 6.4: BUILDING COUNTS FOR WAKE COUNTY

Jurisdiction	Total Housing Units (2012)	Units Built 2010 or later	% Building Stock Built Post-2010
Apex	13,410	199	1.5%
Cary	53,824	667	1.2%
Fuquay-Varina	7,380	59	0.8%
Garner	11,416	0	0.0%
Holly Springs	8,698	105	1.2%
Knightdale	4,329	122	2.8%
Morrisville	8,253	273	3.3%
Raleigh	176,564	842	0.5%

Jurisdiction	Total Housing Units (2012)	Units Built 2010 or later	% Building Stock Built Post-2010
Rolesville	1,268	10	0.8%
Wake Forest	11,385	47	0.4%
Wendell	2,984	0	0.0%
Zebulon	1,830	22	1.2%
Unincorporated Area	70,322	138	0.2%
WAKE COUNTY TOTAL	**371,663**	**2,484**	**0.7%**

Source: US Census Bureau

Table 6.5 shows population growth estimates for the county and municipalities from 2010 to 2013 based on the US Census Annual Estimates of Resident Population.

TABLE 6.5: POPULATION GROWTH FOR WAKE COUNTY

Jurisdiction	Population Estimates (as of July 1)				% Change 2010-2013
	2010	2011	2012	2013	
Apex	37,770	38,787	40,460	42,214	11.8%
Cary	136,543	141,787	145,794	151,088	10.7%
Fuquay-Varina	18,189	19,141	19,970	21,277	17.0%
Garner	25,887	26,348	26,749	26,772	3.4%
Holly Springs	24,902	25,775	26,871	28,915	16.1%
Knightdale	11,529	12,055	12,736	13,291	15.3%
Morrisville	18,803	19,548	20,603	21,932	16.6%
Raleigh	406,324	414,094	423,338	431,746	6.3%
Rolesville	3,817	4,039	4,253	4,649	21.8%
Wake Forest	30,351	31,667	32,997	34,752	14.5%
Wendell	5,886	6,085	6,159	6,135	4.2%
Zebulon	4,453	4,533	4,604	4,591	3.1%
Unincorporated Area	182,490	185,211	187,609	186,927	2.4%
WAKE COUNTY TOTAL	**906,944**	**929,070**	**952,143**	**974,289**	**7.4%**

Note: July 1 population estimates were used in this table to allow comparison of annual population counts (April 1 Census estimates were used for all other population counts throughout the plan which is why the counts may differ).
Source: US Census Bureau

Based on the data above, there has been a relatively low rate of residential development in the county since 2010. However, Knightdale and Morrisville have experienced slightly higher rates of development compared to the rest of the county, resulting in an increased number of structures that are vulnerable to the potential impacts of the identified hazards. Additionally, there have been higher rates of population growth in the following municipalities: Apex, Cary, Fuquay-Varina, Holly Springs, Knightdale, Morrisville, Rolesville, and Wake Forest. Since the population has increased in these municipalities, there are now greater numbers of people exposed to the identified hazards. Therefore, development and population growth have impacted the county's vulnerability since the previous local hazard mitigation plans were approved and there has been a slight increase in the overall vulnerability.

It is also important to note that as development increases in the future, greater populations and more structures and infrastructure will be exposed to potential hazards if development occurs in the

floodplains, moderate landside susceptibility areas, high wildfire risk areas, primary and secondary TRI site buffers, or Shearon Harris Nuclear Station's 10-mile buffer.

6.5 VULNERABILITY ASSESSMENT RESULTS

As noted earlier, only hazards with a specific geographic boundary, modeling tool, or sufficient historical data allow for further analysis. Those results are presented here. All other hazards are assumed to impact the entire planning region (drought, extreme heat, hailstorm, lightning, thunderstorm/high wind, tornado, and winter storm and freeze) or, due to lack of data, analysis would not lead to credible results (erosion, dam and levee failure, terror threat). The total region exposure, and thus risk, was presented in **Table 6.1**.

The annualized loss estimate for all hazards is presented at the end of this section in **Table 6.16.**

The hazards presented in this subsection include: hurricane and tropical storm winds, earthquake, landslide, flood, hazardous materials incident, wildfire, and nuclear accident.

6.5.1 Hurricane and Tropical Storm

Historical evidence indicates that Wake County has a significant risk to the hurricane and tropical storm hazard. There have been three disaster declarations due to hurricanes (Hurricane Fran, Hurricane Floyd, and Hurricane Isabel) in the county. Several tracks have come near or traversed through Wake County, as shown and discussed in Section 5: *Hazard Profiles*.

Hurricanes and tropical storms can cause damage through numerous additional hazards such as flooding, erosion, tornadoes and high winds, and precipitation, thus it is difficult to estimate total potential losses from these cumulative effects. The current Hazus-MH hurricane model only analyzes hurricane winds and is not capable of modeling and estimating cumulative losses from all hazards associated with hurricanes; therefore only hurricane winds are analyzed in this section. It can be assumed that all existing and future buildings and populations are at risk to the hurricane and tropical storm hazard. Hazus-MH 2.1 was used to determine annualized losses for the region as shown below in **Table 6.6.** In the comparative annualized loss analysis at the end of this section, only losses to buildings are reported in order to best match annualized losses reported for other hazards. Hazus-MH reports losses at the U.S. Census tract level, so determining participating jurisdiction losses was not possible.

TABLE 6.6: ANNUALIZED LOSS ESTIMATIONS FOR HURRICANE WIND HAZARD

Location	Building Loss	Contents Loss	Inventory Loss	Total Annualized Loss
Wake County	**$9,936,000**	**$3,892,000**	**$28,000**	**$13,856,000**

Source: Hazus-MH 2.1

In addition, probable peak wind speeds were calculated in Hazus. These are shown below in **Table 6.7.**

TABLE 6.7: PROBABLE PEAK HURRICANE/TROPICAL STORM WIND SPEEDS (MPH)

Location	50-year event	100-year event	500-year event	1,000-year event
Apex	74.2	83.4	102.3	109.0

Location	50-year event	100-year event	500-year event	1,000-year event
Cary	74.2	83.4	102.3	109.0
Fuquay-Varina	75.9	85.0	104.6	111.1
Garner	76.2	85.6	104.6	111.2
Holly Springs	74.2	83.4	102.3	109.0
Knightdale	75.8	84.9	103.0	109.4
Morrisville	72.4	81.4	100.0	106.5
Raleigh	75.8	85.1	103.1	109.8
Rolesville	73.8	82.9	100.6	107.0
Wake Forest	73.8	82.9	100.6	107.1
Wendell	76.6	85.6	103.0	110.3
Zebulon	76.3	85.7	103.0	108.9
MAXIMUM WIND SPEED REPORTED	**76.6**	**85.7**	**104.6**	**111.2**

Source: Hazus-MH 2.1

Social Vulnerability

Given some equal susceptibility across Wake County, it is assumed that the total population is at risk to the hurricane and tropical storm hazard.

Critical Facilities

Given equal vulnerability across Wake County, all critical facilities are considered to be at risk. Some buildings may perform better than others in the face of such an event due to construction and age, among other factors. Determining individual building response is beyond the scope of this plan. However, this plan will consider mitigation actions for vulnerable structures, including critical facilities, to reduce the impacts of the hurricane wind hazard. A list of specific critical facilities and their associated risk can be found in **Table 6.17** at the end of this section.

In conclusion, a hurricane event has the potential to impact many existing and future buildings, critical facilities, and populations in Wake County. Hurricane events can cause substantial damage in their wake including fatalities, extensive debris clean-up, and extended power outages.

6.5.2 Earthquake

For the earthquake hazard vulnerability assessment, a probabilistic scenario was created to estimate the annualized loss for the county. The results of the analysis reported at the U.S. Census tract level do not make it feasible to estimate losses at the jurisdiction level. Since the scenario is annualized, no building counts are provided. Losses reported included losses due to building damage (structural and non-structural), contents, and inventory. However, like the analysis for hurricanes, the comparative annualized loss figures at the end of this chapter only utilize building losses in order to provide consistency with other hazards. **Table 6.8** summarizes the findings.

TABLE 6.8: ANNUALIZED LOSS ESTIMATIONS FOR EARTHQUAKE HAZARD

Location	Structural Building Loss	Non Structural Building Loss	Contents Loss	Inventory Loss	Total Annualized Loss
Wake County	**$119,000**	**$314,000**	**$88,000**	**$3,000**	**$524,000**

Source: Hazus-MH 2.1

Social Vulnerability

It can be assumed that all existing and future populations are at risk to the earthquake hazard.

Critical Facilities

The Hazus probabilistic analysis indicated that no critical facilities would sustain measurable damage in an earthquake event. However, all critical facilities should be considered at-risk to minor damage, should an event occur. A list of individual critical facilities and their risk can be found in **Table 6.17**.

In conclusion, an earthquake has the potential to impact all existing and future buildings, facilities, and populations in Wake County. Minor earthquakes may rattle dishes and cause minimal damage while stronger earthquakes will result in structural damage as indicated in the Hazus scenario above. Impacts of earthquakes include debris clean-up, service disruption and, in severe cases, fatalities due to building collapse. Specific vulnerabilities for assets will be greatly dependent on their individual design and the mitigation measures in place, where appropriate. Such site-specific vulnerability determinations are outside the scope of this assessment but will be considered during future plan updates if data becomes available. Furthermore, mitigation actions to address earthquake vulnerability will be considered.

6.5.3 Landslide

In order to complete the vulnerability assessment for landslides in Wake County, GIS analysis was used. The potential dollar value of exposed land and property total can be determined using the USGS Landslide Susceptibility Index (detailed in Section 5: *Hazard Profiles*), county level tax parcel and building footprint data, and GIS analysis. **Table 6.9** presents the potential at-risk property where available. Most of the county is located outside of high and moderate risk areas as determined by the USGS landslide data. However, there are some areas that are considered to be of moderate risk in the western part of the county. Typically, an analysis is run to determine which parcels/buildings are located within the high and moderate incidence areas, but since no high incidence areas exist, only an analysis of moderate incidence areas was carried out.

TABLE 6.9: TOTAL POTENTIAL AT-RISK PARCELS/BUILDINGS FOR THE LANDSLIDE HAZARD

Location	Number of Parcels At Risk	Number of Improvements At Risk	Total Value of Improvements At Risk ($)
Incidence Level	Moderate		
Apex	12,673	10,548	$2,866,496,753
Cary	30,128	24,023	$8,633,636,293
Fuquay-Varina	0	0	$0
Garner	0	0	$0
Holly Springs	742	95	$114,857,151
Knightdale	0	0	$0
Morrisville	5,863	4,377	$1,934,811,737
Raleigh	4,995	6,645	$1,998,001,868
Rolesville	0	0	$0
Wake Forest	0	0	$0
Wendell	0	0	$0

Location	Number of Parcels At Risk	Number of Improvements At Risk	Total Value of Improvements At Risk ($)
Incidence Level	Moderate		
Zebulon	0	0	$0
Unincorporated Area	6,673	5,396	$3,145,211,453
WAKE COUNTY TOTAL	61,074	51,084	$18,693,015,255

Source: USGS

Social Vulnerability

Given low susceptibility across most of Wake County, it is assumed that much of the total population is at a very low risk to landslides.

Critical Facilities

Several critical facilities are located in a moderate susceptibility area. In unincorporated Wake County, there are 1 EMS station, 4 fire stations, and one assisted living facility in the area of moderate susceptibility (moderate incidence). In Apex, all critical facilities are located in this area, including 2 EMS stations, 5 fire stations, 1 medical care facility, 1 police station, 10 schools, and 4 others. In Cary, there are 1 EMS station, 3 fire stations, 1 police station, 11 schools, and 4 others. All of Morrisville's critical facilities are located in moderate zone, including 1 EMS station, 2 fire stations, 1 police station, 2 schools, and 1 other. One school and one fire station in Raleigh are located in the moderate susceptibility area (moderate incidence). The remaining critical facilities are located in the low landslide susceptibility area. A list of specific critical facilities and their associated risk can be found in **Table 6.17** at the end of this section.

In conclusion, a landslide has the potential to impact some existing and future buildings, facilities, and populations in Wake County, though most areas are at a very low risk. Due to a variety of factors such as steep slopes and modified slopes, hilly areas of the county bear a greater risk than flat areas. Specific vulnerabilities for Wake County assets will be greatly dependent on their individual design and the mitigation measures in place, where appropriate. Such site-specific vulnerability determinations are outside the scope of this assessment but will be considered during future plan updates if data becomes available.

6.5.4 Flood

Historical evidence indicates that Wake County is susceptible to flood events. A total of 100 flood events have been reported by the National Climatic Data Center resulting in $10.6 million dollars in damages.

In order to assess flood risk, a GIS-based analysis was used to estimate exposure to flood events using Digital Flood Insurance Rate Map (DFIRM) data in combination with local tax assessor records for each of the Wake County municipalities. The determination of assessed value at-risk (exposure) was calculated using GIS analysis by summing the total assessed building values for only those improved properties that were confirmed to be located within an identified floodplain. Wake County is also notably one of the few counties in the state that has mapped future conditions of the 1.0 percent annual chance floodplain. Although this risk area often overlaps with the 0.2 percent annual chance flood area, it is still included in

this analysis, albeit in a separate table. **Table 6.10** and **Table 6.11** present the potential at-risk property. Both the number of parcels/buildings and the approximate value are presented.

TABLE 6.10: ESTIMATED EXPOSURE OF PARCELS/BUILDINGS TO THE FLOOD HAZARD

Location	1.0-percent ACF			0.2-percent ACF		
	Approx. Number of Parcels	Approx. Number Improved Buildings	Approx. Improved Value of Buildings[6]	Approx. Number of Parcels	Approx. Number Improved Buildings	Approx. Improved Value of Buildings[7]
Apex	258	66	$76,530,969	9	5	$2,280,162
Cary	1,377	536	$889,772,939	220	126	$114,270,309
Fuquay-Varina	217	25	$42,721,538	44	20	$7,408,483
Garner	485	113	$91,838,660	53	59	$14,149,371
Holly Springs	187	23	$62,514,913	51	18	$13,645,602
Knightdale	129	21	$47,608,720	41	20	$10,195,398
Morrisville	165	51	$179,283,154	67	97	$65,773,450
Raleigh	4,290	2,080	$3,539,297,338	1,018	924	$329,892,256
Rolesville	2	0	$0	0	0	$0
Wake Forest	789	201	$370,427,376	122	81	$31,659,382
Wendell	80	2	$21,156,386	15	12	$1,039,584
Zebulon	59	21	$38,958,547	6	0	$2,141,294
Unincorporated Area	6,093	373	$2,834,713,327	467	192	$237,670,063
WAKE COUNTY TOTAL	**14,131**	**7,796**	**$8,194,823,867**	**2,113**	**1,554**	**$830,125,354**

Source: FEMA DFIRM

TABLE 6.11: ESTIMATED EXPOSURE OF PARCELS/BUILDINGS TO THE FLOOD HAZARD

Location	1.0-percent ACF Future Conditions		
	Approx. Number of Parcels	Approx. Number Improved Buildings	Approx. Improved Value of Buildings[8]
Apex	214	45	$76,999,816
Cary	570	186	$304,368,117
Fuquay-Varina	7	0	$2,546
Garner	25	6	$1,713,476
Holly Springs	4	1	$1,234,937
Knightdale	6	0	$605,636
Morrisville	6	0	$17,329,015

[6] Improved value of buildings is estimated based on the building value associated with parcels that have been identified as being located in the 1.0-percent annual chance floodplain, since building footprints were not associated with dollar value data.
[7] Improved value of buildings is estimated based on the building value associated with parcels that have been identified as being located in the 0.2-percent annual chance floodplain, since building footprints were not associated with dollar value data.
[8] Improved value of buildings is estimated based on the building value associated with parcels that have been identified as being located in the Future Conditions 1.0-percent annual chance floodplain, since building footprints were not associated with dollar value data.

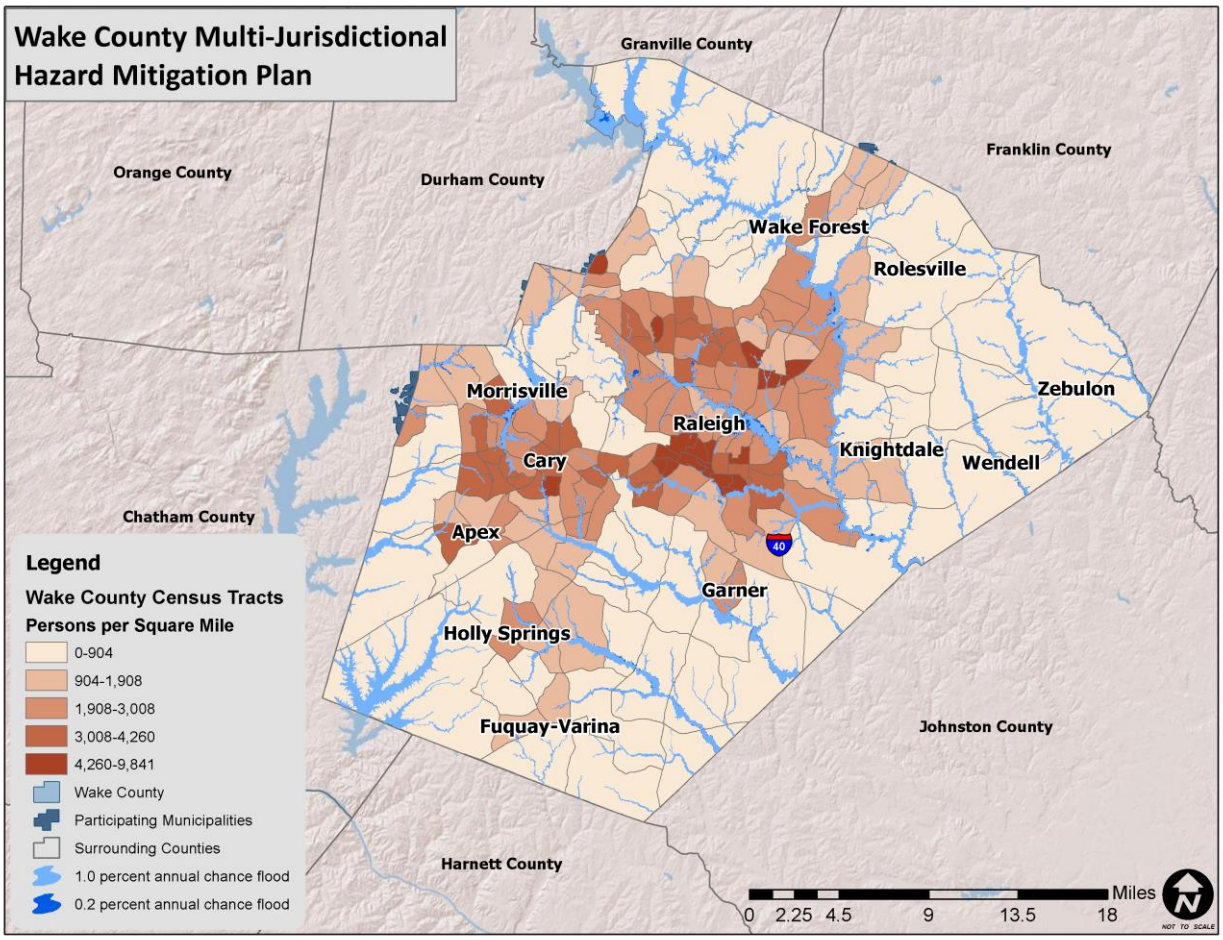
Location	1.0-percent ACF Future Conditions		
	Approx. Number of Parcels	Approx. Number Improved Buildings	Approx. Improved Value of Buildings[8]
Raleigh	1,131	335	$836,014,532
Rolesville	0	0	$0
Wake Forest	25	1	$27,883,823
Wendell	0	0	$0
Zebulon	43	19	$36,697,607
Unincorporated Area	1,992	100	$1,278,809,978
WAKE COUNTY TOTAL	**4,023**	**693**	**$2,581,659,483**

Source: FEMA DFIRM

Social Vulnerability

U.S. Census 2010 population at the tract level was used for analysis to determine where areas of high population concentration intersect with flood prone areas in the county. **Figure 6.4** is presented to gain a better understanding of at risk population.

FIGURE 6.4 : POPULATION DENSITY NEAR FLOODPLAINS



Source: FEMA DFIRM, U.S. Census 2010

Critical Facilities

The critical facility analysis revealed that there is only one critical facility located in either the 1.0-percent annual chance floodplain or the 0.2-percent annual chance floodplain based on FEMA DFIRM boundaries and GIS analysis. (As previously noted, this analysis does not consider building elevation, which may negate risk.) This facility is the Keeter Training Center for Firefighters in Raleigh and it is located at least partially in the 1.0 percent annual chance floodplain. A list of specific critical facilities and their associated risk can be found in **Table 6.17** at the end of this section.

In conclusion, a flood has the potential to impact many existing and future buildings, facilities, and populations in Wake County, though some areas are at a higher risk than others. All types of structures in a floodplain are at-risk, though elevated structures will have a reduced risk. As noted, the floodplains used in this analysis include the 100-year and 500-year FEMA regulated floodplain boundaries. It is certainly possible that more severe events could occur beyond these boundaries or urban (flash) flooding could impact additional structures. Such site-specific vulnerability determinations are outside the scope of this assessment but will be considered during future plan updates. Furthermore, areas subject to repetitive flooding should be analyzed for potential mitigation actions.

6.5.5 Hazardous Materials Incident

Although historical evidence and existing Toxic Release Inventory sites indicate that Wake County is susceptible to hazardous materials events, there are few reports of damage. Therefore, it is difficult to calculate a reliable annualized loss figure. It is assumed that while one major event could result in significant losses, annualizing structural losses over a long period of time would most likely yield a negligible annualized loss estimate for Wake County.

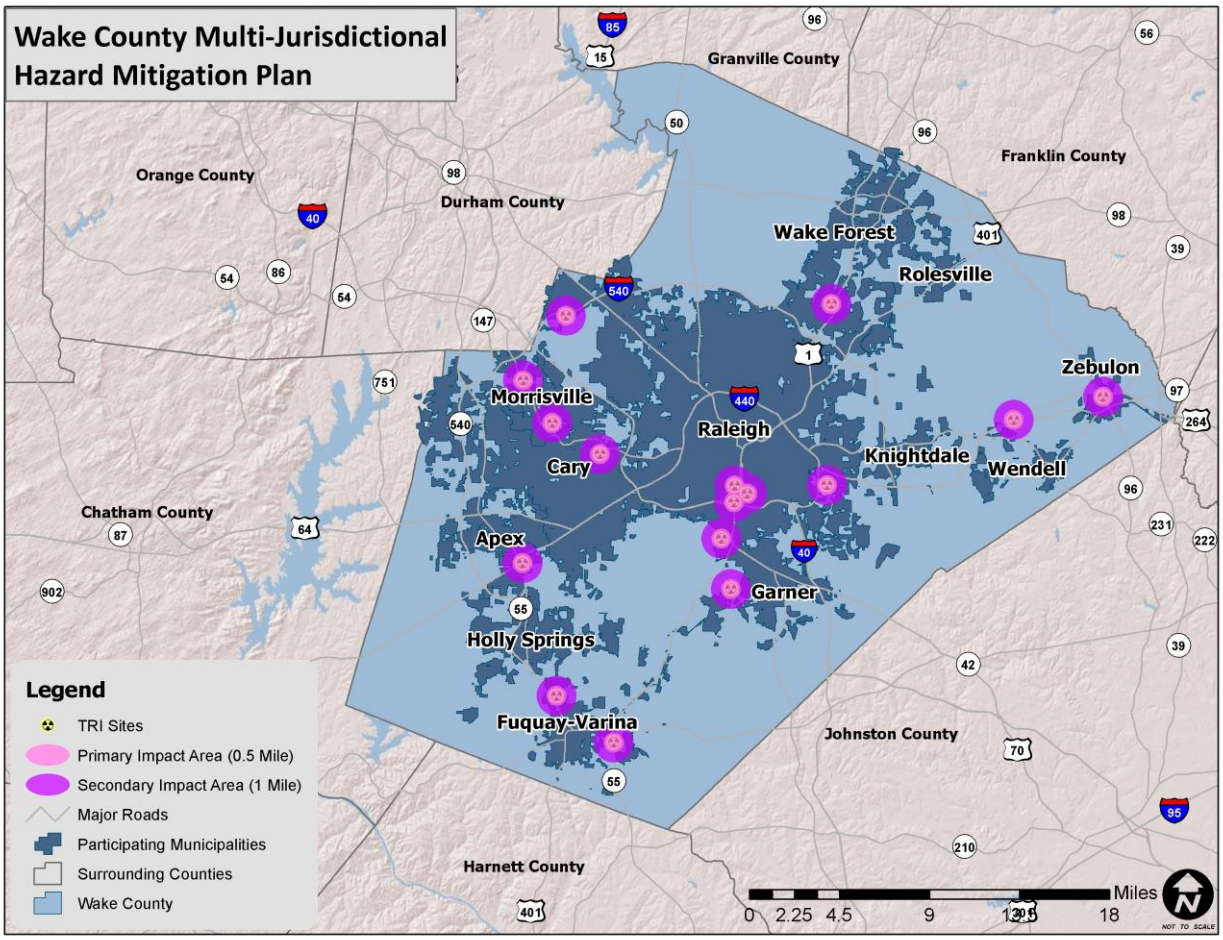
Most hazardous materials incidents that occur are contained and suppressed before destroying any property or threatening lives. However, they can have a significant negative impact. Such events can cause multiple deaths, completely shut down facilities for 30 days or more, and cause more than 50 percent of affected properties to be destroyed or suffer major damage. In a hazardous materials incident, solid, liquid, and/or gaseous contaminants may be released from fixed or mobile containers. Weather conditions will directly affect how the hazard develops. Certain chemicals may travel through the air or water, affecting a much larger area than the point of the incidence itself. Non-compliance with fire and building codes, as well as failure to maintain existing fire and containment features, can substantially increase the damage from a hazardous materials release. The duration of a hazardous materials incident can range from hours to days. Warning time is minimal to none.

In order to conduct the vulnerability assessment for this hazard, GIS intersection analysis was used for fixed and mobile areas and parcels.[9] In both scenarios, two sizes of buffers—0.5-mile and 1.0-mile—were used. These areas are assumed to respect the different levels of effect: immediate (primary) and secondary. Primary and secondary impact sites were selected based on guidance from the PHMSA Emergency Response Guidebook. For the fixed site analysis, geo-referenced TRI listed toxic sites in Wake County, along with buffers, were used for analysis as shown in **Figure 6.5.** For the mobile analysis, the major roads (Interstate highway, U.S. highway, and State highway) and railroads, where hazardous materials are primarily transported that could adversely impact people and buildings, were used for the

[9] This type of analysis will likely yield inflated results (generally higher than what is actually reported after an actual event).

GIS buffer analysis. **Figure 6.6** shows the areas used for mobile toxic release buffer analysis. The results indicate the approximate number of parcels/buildings and improved value, as shown in **Table 6.12** (fixed sites), **Table 6.13** (mobile road sites) and **Table 6.14** (mobile railroad sites).[10]

FIGURE 6.5 : TRI SITES WITH BUFFERS IN WAKE COUNTY



Source: EPA

TABLE 6.12: EXPOSURE OF IMPROVED PROPERTY TO HAZARDOUS MATERIALS (FIXED SITES)

Location	0.5-mile buffer			1.0-mile buffer		
	Approx. Number of Parcels	Approx. Number Improved	Approx. Improved Value[11]	Approx. Number of Parcels	Approx. Number Improved	Approx. Improved Value[12]
Apex	51	121	$69,775,580	695	706	$234,545,987
Cary	955	1,256	$286,638,537	4,017	4,547	$1,052,794,000
Fuquay-Varina	562	476	$85,625,260	2,574	1,719	$428,181,023
Garner	99	77	$50,611,119	901	808	$206,577,359

[10] Note that parcels included in the 1mile analysis are also included in the 0.5-mile analysis.
[11] Improved value is estimated based on the building value associated with parcels that have been identified as being located in the 0.5-mile buffer, since building footprints were not associated with dollar value data.
[12] Improved value is estimated based on the building value associated with parcels that have been identified as being located in the 1.0-mile buffer, since building footprints were not associated with dollar value data.

Location	0.5-mile buffer			1.0-mile buffer		
	Approx. Number of Parcels	Approx. Number Improved	Approx. Improved Value[11]	Approx. Number of Parcels	Approx. Number Improved	Approx. Improved Value[12]
Holly Springs	0	0	$0	0	0	$0
Knightdale	0	0	$0	0	0	$0
Morrisville	420	374	$229,928,761	1,596	1,243	$778,958,787
Raleigh	2,649	2,765	$955,126,130	9,522	9,576	$3,971,361,436
Rolesville	0	0	$0	0	0	$0
Wake Forest	0	0	$0	4	11	$1,078,101
Wendell	19	18	$4,749,408	96	111	$30,683,271
Zebulon	409	432	$89,772,024	1,459	1,449	$244,329,129
Unincorporated Area	750	452	$884,583,035	3,345	2,599	$1,474,039,219
WAKE COUNTY TOTAL	**5,914**	**5,971**	**$2,656,809,854**	**24,209**	**22,769**	**$8,422,548,312**

FIGURE 6.6 : MOBILE HAZMAT BUFFERS IN WAKE COUNTY

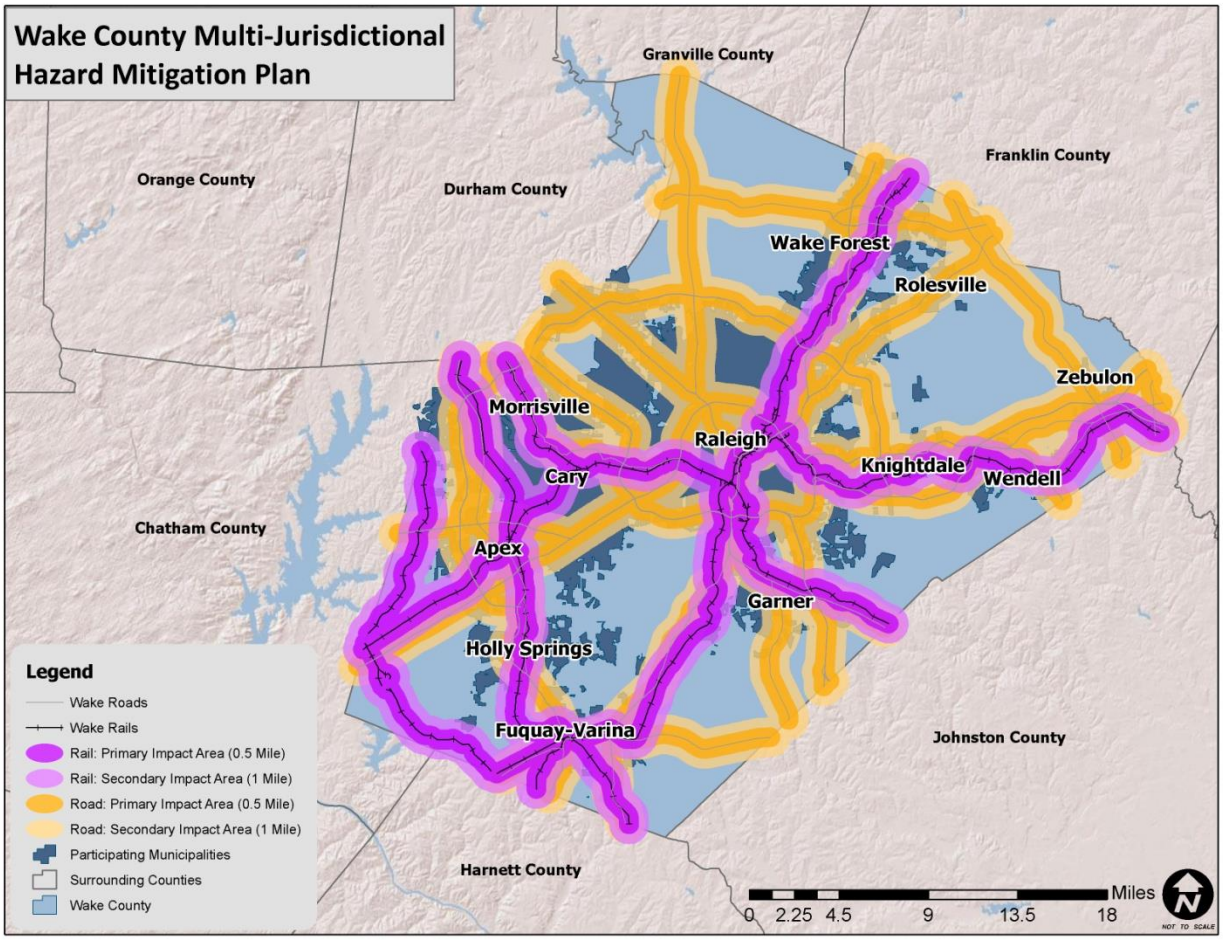


TABLE 6.13: EXPOSURE OF IMPROVED PROPERTY TO HAZARDOUS MATERIALS SPILL (MOBILE ANALYSIS - ROAD)

Location	0.5-mile buffer			1.0-mile buffer		
	Approx. Number of Parcels	Approx. Number Improved	Approx. Improved Value[13]	Approx. Number of Parcels	Approx. Number Improved	Approx. Improved Value[14]
Apex	8,594	7,334	$2,097,748,678	13,001	10,839	$2,918,031,327
Cary	12,009	10,601	$4,743,131,291	26,072	22,519	$8,772,490,046
Fuquay-Varina	6,025	4,876	$1,008,518,985	7,913	6,380	$1,342,413,178
Garner	4,269	3,895	$925,335,883	7,473	6,772	$1,423,945,580
Holly Springs	3,871	3,410	$606,310,663	5,429	4,562	$874,552,521
Knightdale	3,042	2,393	$656,532,998	4,588	3,630	$867,672,937
Morrisville	3,316	2,335	$1,140,036,324	5,497	4,089	$1,794,514,730
Raleigh	51,224	66,676	$18,326,797,532	91,952	121,100	$27,821,957,624
Rolesville	1,178	879	$215,548,841	1,927	1,416	$347,126,021
Wake Forest	6,844	6,987	$1,445,105,064	9,208	9,345	$2,003,231,609
Wendell	2,056	2,132	$250,377,132	2,525	2,571	$286,405,852
Zebulon	2,172	2,114	$343,376,813	2,251	2,145	$346,897,517
Unincorporated Area	29,836	26,417	$8,095,982,143	51,171	47,032	$12,306,306,740
WAKE COUNTY TOTAL	**134,436**	**140,049**	**$39,854,802,347**	**229,007**	**242,400**	**$61,105,545,682**

TABLE 6.14: EXPOSURE OF IMPROVED PROPERTY TO HAZARDOUS MATERIALS SPILL (MOBILE ANALYSIS - RAILROAD)

Location	0.5-mile buffer			1.0-mile buffer		
	Approx. Number of Parcels	Approx. Number Improved	Approx. Improved Value[15]	Approx. Number of Parcels	Approx. Number Improved	Approx. Improved Value[16]
Apex	4,970	3,739	$971,882,327	8,489	6,589	$1,801,300,511
Cary	12,115	11,396	$2,910,061,363	26,174	23,339	$6,618,704,404
Fuquay-Varina	4,368	3,675	$804,969,402	7,279	5,941	$1,226,584,243
Garner	2,369	2,286	$559,538,532	5,107	4,843	$1,047,259,512
Holly Springs	3,549	3,093	$549,178,328	5,194	4,416	$836,700,987
Knightdale	3,183	2,371	$454,248,736	3,997	3,094	$742,764,190
Morrisville	3,005	2,260	$1,041,309,811	5,376	3,981	$1,673,268,282
Raleigh	18,660	25,563	$8,902,424,404	38,922	53,598	$13,836,287,651
Rolesville	0	0	$0	0	0	$0
Wake Forest	3,975	4,525	$803,998,355	6,645	6,942	$1,448,927,511

[13] Improved value is estimated based on the building value associated with parcels that have been identified as being located in the 0.5-mile buffer, since building footprints were not associated with dollar value data.
[14] Improved value is estimated based on the building value associated with parcels that have been identified as being located in the 1.0-mile buffer, since building footprints were not associated with dollar value data.
[15] Improved value is estimated based on the building value associated with parcels that have been identified as being located in the 0.5-mile buffer, since building footprints were not associated with dollar value data.
[16] Improved value is estimated based on the building value associated with parcels that have been identified as being located in the 1.0-mile buffer, since building footprints were not associated with dollar value data.

Location	0.5-mile buffer			1.0-mile buffer		
	Approx. Number of Parcels	Approx. Number Improved	Approx. Improved Value[15]	Approx. Number of Parcels	Approx. Number Improved	Approx. Improved Value[16]
Wendell	1,585	1,639	$175,138,028	2,349	2,343	$255,120,766
Zebulon	826	886	$152,232,553	1,680	1,805	$263,618,682
Unincorporated Area	11,758	10,547	$2,979,477,839	21,718	20,060	$5,352,080,287
WAKE COUNTY TOTAL	**70,363**	**71,980**	**$20,304,459,678**	**132,930**	**136,951**	**$35,102,617,026**

Social Vulnerability

Given high susceptibility across Wake County, it is assumed that the total population is at risk to hazardous materials incidents. It should be noted that areas of population concentration may be at an elevated risk due to a greater burden to evacuate population quickly.

Critical Facilities

Fixed Site Analysis:

The critical facility analysis for fixed TRI sites revealed that there are 44 facilities located in a HAZMAT risk zone. The primary impact zone includes thirteen facilities, 1 EMS station, 3 fire stations, 3 police stations, 4 schools and 2 others. The remaining facilities are in the secondary, 1.0-mile zone. This includes 6 EMS stations, 11 fire stations, 2 medical care facilities, 6 police stations, 15 schools, and 4 others. A list of specific critical facilities and their associated risk can be found in **Table 6.17** at the end of this section.

Mobile Analysis:

The critical facility analysis for road and railroad transportation corridors revealed that there are 297 critical facilities located in the primary and secondary mobile HAZMAT buffer areas for roads and 79 critical facilities located in the railroad HAZMAT buffer areas. The 1.0-mile road buffer area (worst case scenario modeled) includes the following critical facilities: 33 EMS stations, 58 fire stations, 8 medical care facilities, 34 police stations, 118 schools, and 46 others. The railroad buffer areas include 201 facilities as follows: 24 EMS stations, 35 fire stations, 5 medical care facilities, 27 police stations, 73 schools, and 37 others. It should be noted that many of the facilities located in the buffer areas for railroad are also located in the buffer areas for road and/or the fixed site analysis. A list of specific critical facilities and their associated risk can be found in **Table 6.17** at the end of this section.

In conclusion, a hazardous material incident has the potential to impact many existing and future buildings, critical facilities, and populations in Wake County. Those areas in a primary buffer are at the highest risk, though all areas carry some vulnerability due to variations in conditions that could alter the impact area such direction and speed of wind, volume of release, etc.

6.5.6 Wildfire

Although historical evidence indicates that Wake County has some risk to wildfire events, there are few reports of damage. Therefore, it is difficult to calculate a reliable annualized loss figure. Annualized loss is considered negligible though it should be noted that a single event could result in significant damages throughout the region.

To estimate exposure to wildfire, the approximate number of parcels and their associated improved value was determined using GIS analysis. For the critical facility analysis, areas of concern were intersected with critical facility locations. The data used to analyze wildfire risk is called Level of Concern (LOC). Initially provided as raster data, it was converted to a polygon to allow for analysis. The LOC data ranges from 1 – 100 with higher values being most severe (as noted previously, this is only a measure of relative risk). Two was the highest level recorded in the Wake County planning area which indicates that relative risk is very low for the county and its incorporated municipalities. For the analysis, areas with a value above 1 were chosen to be displayed as areas of risk. However, even with this low standard for classifying an area as susceptible, the region contains very little land area where the value falls into the at-risk category. Since all of this land area is on the lower fiftieth of the overall LOC scale, there is likely considerably less risk in the region than in other areas of the country.

Upon conversion of the data and completion of the wildfire analysis, it was determined that less than 4,000 square feet in the entire county registered at over 1 on the Level of Concern scale for wildfire. This indicates that the relative risk of wildfire is extremely low compared to other counties in the state, which resulted in zero or near zero counts of buildings and facilities located in the wildfire risk zones. Therefore, no tables or figures are included and the overall risk for the county should be assumed to be very low.

Social Vulnerability

All areas have relatively equal vulnerability and there is low susceptibility across the entire county. It is assumed that the total population is at low risk to the wildfire hazard.

Critical Facilities

The critical facility analysis revealed that there are no critical facilities located in the level of concern area for wildfire in Wake County. A list of specific critical facilities and their associated risk can be found in **Table 6.17** at the end of this section.

In conclusion, a wildfire event has the potential to impact some existing and future buildings, critical facilities, and populations in Wake County.

6.5.7 Nuclear Accident

The location of Shearon Harris Nuclear Station in southwest Wake County demonstrates that the county is at risk to the effects of a nuclear accident. Although there have not been any major events at this plant in the past, there have been major events at other nuclear stations around the country. Additionally, smaller scale incidents at Shearon-Harris Nuclear Station have occurred.

In order to assess nuclear risk, a GIS-based analysis was used to estimate exposure during a nuclear event within each of the risk zones described in *Section 5: Hazard Profiles*. The determination of assessed value at-risk (exposure) was calculated using GIS analysis by summing the total assessed building values for only those improved properties that were confirmed to be located within one of the risk zones. All areas of Wake County are located within one of the risk zones. **Table 6.15** present the potential at-risk property. Both the number of parcels/buildings and the approximate value are presented.

TABLE 6.15: ESTIMATED EXPOSURE OF PARCELS/BUILDINGS TO A NUCLEAR ACCIDENT

Location	10-mile buffer			50-mile buffer		
	Approx. Number of Parcels	Approx. Number Improved Buildings	Approx. Improved Value of Buildings[17]	Approx. Number of Parcels	Approx. Number Improved Buildings	Approx. Improved Value of Buildings[18]
Apex	12,107	9,794	$2,617,633,591	13,428	11,097	$2,987,895,360
Cary	782	766	$285,094,552	46,916	41,362	$14,004,724,996
Fuquay-Varina	5,706	4,613	$872,156,725	8,830	7,048	$1,500,117,328
Garner	0	0	$0	9,882	9,185	$1,799,801,899
Holly Springs	10,014	7,960	$1,895,491,015	10,253	8,162	$1,967,125,463
Knightdale	0	0	$0	4,700	3,704	$885,767,979
Morrisville	0	0	$0	5,863	4,377	$1,934,811,737
Raleigh	0	0	$0	121,927	165,007	$33,719,903,927
Rolesville	0	0	$0	2,224	1,432	$380,149,908
Wake Forest	0	0	$0	12,035	11,476	$2,819,911,530
Wendell	0	0	$0	2,576	2,577	$287,227,420
Zebulon	0	0	$0	2,251	2,145	$346,897,517
Unincorporated Area	10,274	8,993	$2,050,839,254	92,500	88,745	$20,154,896,961
WAKE COUNTY TOTAL	**38,883**	**32,126**	**$7,721,215,137**	**333,385**	**356,317**	**$82,789,232,025**

Source: International Atomic Energy Agency

Social Vulnerability

Since all areas of the county are within at least the 50-mile buffer area, the total population is considered to be at risk to a nuclear accident. However, populations in the southwest part of the county are considered to be at an elevated risk.

Critical Facilities

The critical facility analysis revealed that there are a total of forty-four critical facilities located in the 10-mile nuclear buffer area. This includes the following: 1 EMS station, 4 fire stations, and 1 other facility in unincorporated Wake County; 2 EMS stations, 3 fire stations, 1 police station, 1 medical care facility, 7 schools, and 4 others in Apex; 1 other facility in Cary; 1 EMS station, 1 fire station, 1 medical care facility, 4 schools, and 1 other facility in Fuquay-Varina; 2 police stations, 5 schools, and 3 others in Holly Springs. All critical facilities in all jurisdictions are located within the 50-mile nuclear buffer. A list of specific critical facilities and their associated risk can be found in **Table 6.17** at the end of this section.

In conclusion, a nuclear accident has the potential to impact many existing and future buildings, facilities, and populations in the Wake County, though areas in the southwest of the county are at a higher risk than others. All structures in the county are at some risk given that they are all located within the 50-mile buffer area.

[17] Improved value of buildings is estimated based on the building value associated with parcels that have been identified as being located in the 10-mile buffer, since building footprints were not associated with dollar value data.
[18] Improved value of buildings is estimated based on the building value associated with parcels that have been identified as being located in the 50-mile buffer, since building footprints were not associated with dollar value data.

6.6 CONCLUSIONS ON HAZARD VULNERABILITY

The results of this vulnerability assessment are useful in at least three ways:

- Improving our understanding of the risk associated with the natural hazards in Wake County through better understanding of the complexities and dynamics of risk, how levels of risk can be measured and compared, and the myriad of factors that influence risk. An understanding of these relationships is critical in making balanced and informed decisions on managing the risk.
- Providing a baseline for policy development and comparison of mitigation alternatives. The data used for this analysis presents a current picture of risk in Wake County. Updating this risk "snapshot" with future data will enable comparison of the changes in risk with time. Baselines of this type can support the objective analysis of policy and program options for risk reduction in the region.
- Comparing the risk among the natural hazards addressed. The ability to quantify the risk to all these hazards relative to one another helps in a balanced, multi-hazard approach to risk management at each level of governing authority. This ranking provides a systematic framework to compare and prioritize the very disparate natural hazards that are present in Wake County. This final step in the risk assessment provides the necessary information for local officials to craft a mitigation strategy to focus resources on only those hazards that pose the most threat to Wake County and its municipalities.

Exposure to hazards can be an indicator of vulnerability. Economic exposure can be identified through locally assessed values for improvements (buildings), and social exposure can be identified by estimating the population exposed to each hazard. This information is especially important for decision-makers to use in planning for evacuation or other public safety related needs.

The types of assets included in these analyses include all building types in the participating jurisdictions. Specific information about the types of assets that are vulnerable to the identified hazards is included in each hazard subsection (for example all building types are considered at risk to the winter storm hazard and commercial, residential, and government owned facilities are at risk to repetitive flooding, etc).

Table 6.16 presents a summary of annualized loss for each hazard in Wake County. Due to the reporting of hazard damages primarily at the county level, it was difficult to determine an accurate annualized loss estimate for each municipality. Therefore, an annualized loss was determined through the damage reported through historical occurrences at the county level. These values should be used as an additional planning tool or measure risk for determining hazard mitigation strategies throughout the region.

TABLE 6.16: ANNUALIZED LOSS FOR WAKE COUNTY*

Event	Apex	Cary	Fuquay-Varina	Garner	Holly Springs	Knightdale	Morrisville
Dam Failure	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible
Drought	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible
Erosion	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible
Extreme Heat	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible

Event	Apex	Cary	Fuquay-Varina	Garner	Holly Springs	Knightdale	Morrisville
Hail	Negligible	$450	Negligible	Negligible	Negligible	Negligible	Negligible
Hurricane & Tropical Storm**	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible
Landslide	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible
Lightning	$4,785	$8,879	Negligible	Negligible	$487,721	$1,407	$5,305
Thunderstorm Wind/High Wind[19]	$2,567	$2,560	$25,950	Negligible	$6,269	$375	Negligible
Tornado	Negligible	$4,875	Negligible	$69,132	Negligible	Negligible	Negligible
Winter Storm & Freeze	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible
Flood	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible
Earthquake**	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible
HAZMAT Incident	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible
Wildfire	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible
Nuclear Accident	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible
Terror Threat	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible

*In this table, the term "Negligible" is used to indicate that no records for the particular hazard were recorded. This could be the case either because there were no events that caused dollar damage or because documentation of that particular type of event is not kept.
**Damage for this hazard was only recorded at the county level. Therefore, damage at the municipal level could not be determined, but it should be noted that municipal losses are not necessarily negligible as the municipalities share in the county-wide damage.

TABLE 6.16 (CONT): ANNUALIZED LOSS FOR WAKE COUNTY*

Event	Raleigh	Rolesville	Wake Forest	Wendell	Zebulon	Wake County	Total
Dam Failure	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible
Drought	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible
Erosion	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible
Extreme Heat	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible
Hail	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible	$450
Hurricane & Tropical Storm**	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible	$9,936,000
Landslide	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible
Lightning	$35,285	Negligible	$3,723	$62,291	Negligible	$21,029	$630,423
Thunderstorm Wind/High Wind[20]	$8,673	Negligible	Negligible	$1,519	$2,518	$5,875	$56,307

[19] The annualized losses for these hazards were combined.
[20] The annualized losses for these hazards were combined.

Event	Raleigh	Rolesville	Wake Forest	Wendell	Zebulon	Wake County	Total
Tornado	$1,197	$54,637	Negligible	$311,795	Negligible	$11,111,453	$11,553,089
Winter Storm & Freeze	Negligible	Negligible	Negligible	Negligible	Negligible	$47,408	$47,408
Flood	$578,710	Negligible	Negligible	Negligible	Negligible	$12,228	$590,938
Earthquake**	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible	$119,000
HAZMAT Incident	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible
Wildfire	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible
Terror Threat	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible
Nuclear Accident	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible

*In this table, the term "Negligible" is used to indicate that no records for the particular hazard were recorded. This could be the case either because there were no events that caused dollar damage or because documentation of that particular type of event is not kept.
**Damage for this hazard was only recorded at the county level. Therefore, damage at the municipal level could not be determined, but it should be noted that municipal losses are not necessarily negligible as the municipalities share in the county-wide damage.

As noted previously, all existing and future buildings and populations (including critical facilities) are vulnerable to atmospheric hazards including drought, hailstorm, hurricane and tropical storm, lightning, thunderstorm wind, tornado, and winter storm and freeze. Some buildings may be more vulnerable to these hazards based on locations, construction, and building type. **Table 6.17** shows the critical facilities vulnerable to additional hazards analyzed in this section. The table lists those assets that are determined to be exposed to each of the identified hazards (marked with an "**X**").

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TABLE 6.17: AT-RISK CRITICAL FACILITIES

		ATMOSPHERIC								GEOLOGIC			HYDROLOGIC		OTHER									
FACILITY NAME	FACILITY TYPE	Drought	Extreme Heat	Hailstorm	Hurricane and Tropical Storm	Lightning	Thunderstorm	Tornado	Winter Storm and Freeze	Earthquake	Landslide – High Incidence	Landslide- Mod. Incidence	Flood – 100 yr	Flood – 500 yr	Fixed HAZMAT 0.5 mile	Fixed HAZMAT 1.0 mile	Mobile HZMT 0.5 mile (road)	Mobile HZMT 1.0 mile (road)	Mobile HZMT 0.5 mile (rail)	Mobile HZMT 1.0 mile (rail)	Wildfire	Nuclear Accident 10 mile	Nuclear Accident 50 mile	Terror Threat
WAKE COUNTY																								
HOLLY SPRINGS	EMS STATION	X	X	X	X	X	X	X	X	X								X		X		X	X	X
WAKE CROSSROADS	EMS STATION	X	X	X	X	X	X	X	X	X						X	X	X					X	X
STONY HILL	EMS STATION	X	X	X	X	X	X	X	X	X							X	X					X	X
HILLTOP	EMS STATION	X	X	X	X	X	X	X	X	X							X	X	X	X			X	X
BETHANY CHURCH	EMS STATION	X	X	X	X	X	X	X	X	X													X	X
SIX FORKS NORTH	EMS STATION	X	X	X	X	X	X	X	X	X							X	X					X	X
RDU AIRPORT	EMS STATION	X	X	X	X	X	X	X	X	X		X					X	X					X	X
GARNER SOUTH	EMS STATION	X	X	X	X	X	X	X	X	X													X	X
KNIGHTDALE SOUTH	EMS STATION	X	X	X	X	X	X	X	X	X								X					X	X
KNIGHTDALE WEST	EMS STATION	X	X	X	X	X	X	X	X	X							X	X		X			X	X
MINICITY	EMS STATION	X	X	X	X	X	X	X	X	X							X	X					X	X
APEX #2	FIRE STATION	X	X	X	X	X	X	X	X	X		X					X	X	X	X		X	X	X
FUQUAY-VARINA #2	FIRE STATION	X	X	X	X	X	X	X	X	X							X	X	X	X			X	X

		ATMOSPHERIC								GEOLOGIC			HYDROLOGIC		OTHER									
FACILITY NAME	FACILITY TYPE	Drought	Extreme Heat	Hailstorm	Hurricane and Tropical Storm	Lightning	Thunderstorm	Tornado	Winter Storm and Freeze	Earthquake	Landslide – High Incidence	Landslide- Mod. Incidence	Flood – 100 yr	Flood – 500 yr	Fixed HAZMAT 0.5 mile	Fixed HAZMAT 1.0 mile	Mobile HZMT 0.5 mile (road)	Mobile HZMT 1.0 mile (road)	Mobile HZMT 0.5 mile (rail)	Mobile HZMT 1.0 mile (rail)	Wildfire	Nuclear Accident 10 mile	Nuclear Accident 50 mile	Terror Threat
GARNER #2	FIRE STATION	X	X	X	X	X	X	X	X	X													X	X
FAIRVIEW #2	FIRE STATION	X	X	X	X	X	X	X	X	X								X					X	X
FAIRVIEW #1	FIRE STATION	X	X	X	X	X	X	X	X	X													X	X
RDU CFR	FIRE STATION	X	X	X	X	X	X	X	X	X		X											X	X
EASTERN WAKE #1	FIRE STATION	X	X	X	X	X	X	X	X	X													X	X
HOPKINS	FIRE STATION	X	X	X	X	X	X	X	X	X								X					X	X
WENDELL #2	FIRE STATION	X	X	X	X	X	X	X	X	X													X	X
WAKE-NEW HOPE #2	FIRE STATION	X	X	X	X	X	X	X	X	X													X	X
FALLS	FIRE STATION	X	X	X	X	X	X	X	X	X													X	X
BAY LEAF #1	FIRE STATION	X	X	X	X	X	X	X	X	X													X	X
STONY HILL #1	FIRE STATION	X	X	X	X	X	X	X	X	X							X	X					X	X
STONY HILL #2	FIRE STATION	X	X	X	X	X	X	X	X	X													X	X
BAY LEAF #2	FIRE STATION	X	X	X	X	X	X	X	X	X							X	X					X	X
DURHAM HIGHWAY #1	FIRE STATION	X	X	X	X	X	X	X	X	X													X	X
FUQUAY-VARINA #3	FIRE	X	X	X	X	X	X	X	X	X													X	X

		ATMOSPHERIC								GEOLOGIC			HYDROLOGIC		OTHER									
FACILITY NAME	FACILITY TYPE	Drought	Extreme Heat	Hailstorm	Hurricane and Tropical Storm	Lightning	Thunderstorm	Tornado	Winter Storm and Freeze	Earthquake	Landslide – High Incidence	Landslide- Mod. Incidence	Flood – 100 yr	Flood – 500 yr	Fixed HAZMAT 0.5 mile	Fixed HAZMAT 1.0 mile	Mobile HZMT 0.5 mile (road)	Mobile HZMT 1.0 mile (road)	Mobile HZMT 0.5 mile (rail)	Mobile HZMT 1.0 mile (rail)	Wildfire	Nuclear Accident 10 mile	Nuclear Accident 50 mile	Terror Threat
	STATION																							
HOLLY SPRINGS #1	FIRE STATION	X	X	X	X	X	X	X	X	X								X		X		X	X	X
HOLLY SPRINGS #2	FIRE STATION	X	X	X	X	X	X	X	X	X							X	X	X	X		X	X	X
HOLLY SPRINGS #3	FIRE STATION	X	X	X	X	X	X	X	X	X		X					X	X				X	X	X
RFD #29	FIRE STATION	X	X	X	X	X	X	X	X	X		X						X					X	X
JAMES REST HOME	OTHER	X	X	X	X	X	X	X	X	X		X					X	X				X	X	X
SPRING ARBOR ADULT CARE OF EAST RALEIGH	OTHER	X	X	X	X	X	X	X	X	X							X	X					X	X
WALTONWOOD CARY PARKWAY ADULT CARE	OTHER	X	X	X	X	X	X	X	X	X							X	X					X	X
HOSPICE OF WAKE COUNTY	OTHER	X	X	X	X	X	X	X	X	X							X	X					X	X
SWIFT CREEK ES	SCHOOL	X	X	X	X	X	X	X	X	X								X					X	X
BRASSFIELD ES	SCHOOL	X	X	X	X	X	X	X	X	X													X	X
PLEASANT UNION ES	SCHOOL	X	X	X	X	X	X	X	X	X								X					X	X
EAST WAKE HS	SCHOOL	X	X	X	X	X	X	X	X	X							X	X					X	X
CARVER ES	SCHOOL	X	X	X	X	X	X	X	X	X							X	X	X	X			X	X
YATES MILL ES	SCHOOL	X	X	X	X	X	X	X	X	X													X	X
JONES DAIRY ES	SCHOOL	X	X	X	X	X	X	X	X	X													X	X
EAST WAKE SCHOOL OF HEALTH SCIENCE	SCHOOL	X	X	X	X	X	X	X	X	X							X	X					X	X
SMITH ES	SCHOOL	X	X	X	X	X	X	X	X	X							X	X		X			X	X

		ATMOSPHERIC								GEOLOGIC			HYDROLOGIC		OTHER									
FACILITY NAME	FACILITY TYPE	Drought	Extreme Heat	Hailstorm	Hurricane and Tropical Storm	Lightning	Thunderstorm	Tornado	Winter Storm and Freeze	Earthquake	Landslide – High Incidence	Landslide- Mod. Incidence	Flood – 100 yr	Flood – 500 yr	Fixed HAZMAT 0.5 mile	Fixed HAZMAT 1.0 mile	Mobile HZMT 0.5 mile (road)	Mobile HZMT 1.0 mile (road)	Mobile HZMT 0.5 mile (rail)	Mobile HZMT 1.0 mile (rail)	Wildfire	Nuclear Accident 10 mile	Nuclear Accident 50 mile	Terror Threat
EAST WAKE SCHOOL OF INTEGRATED TECHNOLOGY	SCHOOL	X	X	X	X	X	X	X	X	X							X	X					X	X
FRED A. SMITH ES	SCHOOL	X	X	X	X	X	X	X	X	X							X	X		X			X	X
VANCE ES	SCHOOL	X	X	X	X	X	X	X	X	X													X	X
APEX																								
APEX MAIN	EMS STATION	X	X	X	X	X	X	X	X	X		X					X	X	X	X		X	X	X
APEX SOUTH	EMS STATION	X	X	X	X	X	X	X	X	X		X				X	X	X	X	X		X	X	X
APEX #1	FIRE STATION	X	X	X	X	X	X	X	X	X		X					X	X	X	X		X	X	X
APEX #2	FIRE STATION	X	X	X	X	X	X	X	X	X		X					X	X	X	X		X	X	X
APEX #3	FIRE STATION	X	X	X	X	X	X	X	X	X		X					X	X		X		X	X	X
APEX #4	FIRE STATION	X	X	X	X	X	X	X	X	X		X				X	X	X	X	X		X	X	X
WAKEMED HEALTHPLEX	MEDICAL CARE FACILITY	X	X	X	X	X	X	X	X	X		X					X	X				X	X	X
TOWN HALL	OTHER	X	X	X	X	X	X	X	X	X		X						X	X	X		X	X	X
PUBLIC WORKS	OTHER	X	X	X	X	X	X	X	X	X		X					X	X	X	X		X	X	X
WATER RECLAMATION FACILITY	OTHER	X	X	X	X	X	X	X	X	X		X			X	X	X	X	X	X		X	X	X
WATER TREATMENT PLANT	OTHER	X	X	X	X	X	X	X	X	X		X						X	X	X		X	X	X
APEX	POLICE STATION	X	X	X	X	X	X	X	X	X		X					X	X	X	X		X	X	X

		ATMOSPHERIC								GEOLOGIC			HYDROLOGIC		OTHER									
FACILITY NAME	FACILITY TYPE	Drought	Extreme Heat	Hailstorm	Hurricane and Tropical Storm	Lightning	Thunderstorm	Tornado	Winter Storm and Freeze	Earthquake	Landslide – High Incidence	Landslide- Mod. Incidence	Flood – 100 yr	Flood – 500 yr	Fixed HAZMAT 0.5 mile	Fixed HAZMAT 1.0 mile	Mobile HZMT 0.5 mile (road)	Mobile HZMT 1.0 mile (road)	Mobile HZMT 0.5 mile (rail)	Mobile HZMT 1.0 mile (rail)	Wildfire	Nuclear Accident 10 mile	Nuclear Accident 50 mile	Terror Threat
APEX ES	SCHOOL	X	X	X	X	X	X	X	X	X		X					X	X	X	X		X	X	X
APEX HS	SCHOOL	X	X	X	X	X	X	X	X	X		X					X	X	X	X			X	X
OLIVE CHAPEL ES	SCHOOL	X	X	X	X	X	X	X	X	X		X					X	X				X	X	X
APEX MS	SCHOOL	X	X	X	X	X	X	X	X	X		X					X	X	X	X		X	X	X
BAUCOM ES	SCHOOL	X	X	X	X	X	X	X	X	X		X					X	X	X	X		X	X	X
LUFKIN ROAD MS	SCHOOL	X	X	X	X	X	X	X	X	X		X				X	X	X	X	X		X	X	X
SALEM ES	SCHOOL	X	X	X	X	X	X	X	X	X		X					X	X	X	X			X	X
SALEM MS	SCHOOL	X	X	X	X	X	X	X	X	X		X						X	X	X			X	X
APEX FRIENDSHIP HS	SCHOOL	X	X	X	X	X	X	X	X	X		X							X	X		X	X	X
SCOTTS RIDGE ES	SCHOOL	X	X	X	X	X	X	X	X	X		X					X	X		X		X	X	X
CARY																								
CARY MAIN	EMS STATION	X	X	X	X	X	X	X	X	X													X	X
FAIRVIEW	EMS STATION	X	X	X	X	X	X	X	X	X													X	X
CARY WEST	EMS STATION	X	X	X	X	X	X	X	X	X		X							X	X			X	X
CARY SOUTH	EMS STATION	X	X	X	X	X	X	X	X	X							X	X					X	X
MORRISVILLE #3	FIRE STATION	X	X	X	X	X	X	X	X	X		X					X	X	X	X			X	X
CARY #4	FIRE STATION	X	X	X	X	X	X	X	X	X		X							X	X			X	X
CARY #5	FIRE STATION	X	X	X	X	X	X	X	X	X		X							X	X			X	X

		ATMOSPHERIC								GEOLOGIC			HYDROLOGIC		OTHER									
FACILITY NAME	FACILITY TYPE	Drought	Extreme Heat	Hailstorm	Hurricane and Tropical Storm	Lightning	Thunderstorm	Tornado	Winter Storm and Freeze	Earthquake	Landslide – High Incidence	Landslide- Mod. Incidence	Flood – 100 yr	Flood – 500 yr	Fixed HAZMAT 0.5 mile	Fixed HAZMAT 1.0 mile	Mobile HZMT 0.5 mile (road)	Mobile HZMT 1.0 mile (road)	Mobile HZMT 0.5 mile (rail)	Mobile HZMT 1.0 mile (rail)	Wildfire	Nuclear Accident 10 mile	Nuclear Accident 50 mile	Terror Threat
CARY #2	FIRE STATION	X	X	X	X	X	X	X	X	X					X	X	X	X	X	X			X	X
CARY #1	FIRE STATION	X	X	X	X	X	X	X	X	X													X	X
SWIFT CREEK	FIRE STATION	X	X	X	X	X	X	X	X	X													X	X
CARY #3	FIRE STATION	X	X	X	X	X	X	X	X	X							X	X					X	X
CARY #6	FIRE STATION	X	X	X	X	X	X	X	X	X													X	X
CARY #7	FIRE STATION	X	X	X	X	X	X	X	X	X		X					X	X	X	X			X	X
CARY #8	FIRE STATION	X	X	X	X	X	X	X	X	X		X						X					X	X
WESTERN WAKE- WAKEMED	MEDICAL CARE FACILITY	X	X	X	X	X	X	X	X	X							X	X					X	X
WESTERN WAKE REGIONAL WATER RECLAMATION FACILITY	OTHER	X	X	X	X	X	X	X	X	X		X					X	X	X	X		X	X	X
SOUTH CARY WATER RECLAMATION FACILITY	OTHER	X	X	X	X	X	X	X	X	X													X	X
NORTH CARY WATER RECLAMATION FACILITY	OTHER	X	X	X	X	X	X	X	X	X		X					X	X					X	X
SOLID WASTE TRANSFER STATION	OTHER	X	X	X	X	X	X	X	X	X		X						X	X	X			X	X
PUBLIC WORKS OPERATIONS CENTER	OTHER	X	X	X	X	X	X	X	X	X		X					X	X	X	X			X	X
CROSSROAD SUBSTATIONS	POLICE STATION	X	X	X	X	X	X	X	X	X							X	X					X	X
CARY TOWNE CENTER SUBSTATION	POLICE	X	X	X	X	X	X	X	X	X								X					X	X

		ATMOSPHERIC								GEOLOGIC			HYDROLOGIC		OTHER									
FACILITY NAME	FACILITY TYPE	Drought	Extreme Heat	Hailstorm	Hurricane and Tropical Storm	Lightning	Thunderstorm	Tornado	Winter Storm and Freeze	Earthquake	Landslide – High Incidence	Landslide- Mod. Incidence	Flood – 100 yr	Flood – 500 yr	Fixed HAZMAT 0.5 mile	Fixed HAZMAT 1.0 mile	Mobile HZMT 0.5 mile (road)	Mobile HZMT 1.0 mile (road)	Mobile HZMT 0.5 mile (rail)	Mobile HZMT 1.0 mile (rail)	Wildfire	Nuclear Accident 10 mile	Nuclear Accident 50 mile	Terror Threat
	STATION																							
CARY (MAIN)	POLICE STATION	X	X	X	X	X	X	X	X	X						X		X	X	X			X	X
SUBSTATION	POLICE STATION	X	X	X	X	X	X	X	X	X		X							X	X			X	X
BRIARCLIFF ES	SCHOOL	X	X	X	X	X	X	X	X	X										X			X	X
FARMINGTON WOODS ES	SCHOOL	X	X	X	X	X	X	X	X	X								X					X	X
CARY HS	SCHOOL	X	X	X	X	X	X	X	X	X													X	X
ADAMS ES	SCHOOL	X	X	X	X	X	X	X	X	X								X					X	X
KINGSWOOD ES	SCHOOL	X	X	X	X	X	X	X	X	X						X		X	X	X			X	X
NORTHWOODS ES	SCHOOL	X	X	X	X	X	X	X	X	X		X					X	X	X	X			X	X
WEST LAKE ES	SCHOOL	X	X	X	X	X	X	X	X	X													X	X
GREEN HOPE HS	SCHOOL	X	X	X	X	X	X	X	X	X		X					X	X	X	X			X	X
OAK GROVE ES	SCHOOL	X	X	X	X	X	X	X	X	X													X	X
EAST CARY MS	SCHOOL	X	X	X	X	X	X	X	X	X								X		X			X	X
WEST CARY MS	SCHOOL	X	X	X	X	X	X	X	X	X		X					X	X		X			X	X
GREEN HOPE ES	SCHOOL	X	X	X	X	X	X	X	X	X		X						X	X	X			X	X
MIDDLE CREEK HS	SCHOOL	X	X	X	X	X	X	X	X	X													X	X
TURNER CREEK ES	SCHOOL	X	X	X	X	X	X	X	X	X		X					X	X					X	X
HIGHCROFT DRIVE ES	SCHOOL	X	X	X	X	X	X	X	X	X		X					X	X		X			X	X
DAVIS DRIVE MS	SCHOOL	X	X	X	X	X	X	X	X	X		X							X	X			X	X
DAVIS DRIVE ES	SCHOOL	X	X	X	X	X	X	X	X	X		X							X	X			X	X

		ATMOSPHERIC								GEOLOGIC			HYDROLOGIC		OTHER									
FACILITY NAME	FACILITY TYPE	Drought	Extreme Heat	Hailstorm	Hurricane and Tropical Storm	Lightning	Thunderstorm	Tornado	Winter Storm and Freeze	Earthquake	Landslide – High Incidence	Landslide- Mod. Incidence	Flood – 100 yr	Flood – 500 yr	Fixed HAZMAT 0.5 mile	Fixed HAZMAT 1.0 mile	Mobile HZMT 0.5 mile (road)	Mobile HZMT 1.0 mile (road)	Mobile HZMT 0.5 mile (rail)	Mobile HZMT 1.0 mile (rail)	Wildfire	Nuclear Accident 10 mile	Nuclear Accident 50 mile	Terror Threat
PANTHER CREEK HS	SCHOOL	X	X	X	X	X	X	X	X	X		X					X	X		X			X	X
CARY ES	SCHOOL	X	X	X	X	X	X	X	X	X									X	X			X	X
WEATHERSTONE ES	SCHOOL	X	X	X	X	X	X	X	X	X		X						X		X			X	X
CARPENTER ES	SCHOOL	X	X	X	X	X	X	X	X	X		X					X	X	X	X			X	X
REEDY CREEK ES	SCHOOL	X	X	X	X	X	X	X	X	X								X					X	X
REEDY CREEK MS	SCHOOL	X	X	X	X	X	X	X	X	X								X					X	X
HARRIET B WEBSTER AT CROSSROADS II ADM	SCHOOL	X	X	X	X	X	X	X	X	X								X					X	X
MIDDLE CREEK ES	SCHOOL	X	X	X	X	X	X	X	X	X													X	X
PENNY ROAD ES	SCHOOL	X	X	X	X	X	X	X	X	X													X	X
FUQUAY-VARINA																								
FUQUAY	EMS STATION	X	X	X	X	X	X	X	X	X							X	X	X	X		X	X	X
FUQUAY-VARINA #1	FIRE STATION	X	X	X	X	X	X	X	X	X							X	X	X	X		X	X	X
SOUTHERN WAKE- WAKEMED	MEDICAL CARE FACILITY	X	X	X	X	X	X	X	X	X							X	X	X	X		X	X	X
TERRIBLE CREEK WWTP	OTHER	X	X	X	X	X	X	X	X	X							X	X	X	X			X	X
BRIGHTON FOREST WWTP	OTHER	X	X	X	X	X	X	X	X	X							X	X	X	X			X	X
WINDSOR POINT ASSISTED LIVING	OTHER	X	X	X	X	X	X	X	X	X							X	X	X	X		X	X	X
FUQUAY-VARINA HOMES FOR THE ELDERLY	OTHER	X	X	X	X	X	X	X	X	X							X	X		X		X	X	X
CARILLON ASSISTED LIVING	OTHER	X	X	X	X	X	X	X	X	X							X	X		X			X	X

		ATMOSPHERIC								GEOLOGIC			HYDROLOGIC		OTHER									
FACILITY NAME	FACILITY TYPE	Drought	Extreme Heat	Hailstorm	Hurricane and Tropical Storm	Lightning	Thunderstorm	Tornado	Winter Storm and Freeze	Earthquake	Landslide – High Incidence	Landslide- Mod. Incidence	Flood – 100 yr	Flood – 500 yr	Fixed HAZMAT 0.5 mile	Fixed HAZMAT 1.0 mile	Mobile HZMT 0.5 mile (road)	Mobile HZMT 1.0 mile (road)	Mobile HZMT 0.5 mile (rail)	Mobile HZMT 1.0 mile (rail)	Wildfire	Nuclear Accident 10 mile	Nuclear Accident 50 mile	Terror Threat
UNIVERSAL HEALTHCARE	OTHER	X	X	X	X	X	X	X	X	X								X	X	X			X	X
FUQUAY-VARINA	POLICE STATION	X	X	X	X	X	X	X	X	X							X	X	X	X			X	X
FUQUAY-VARINA MS	SCHOOL	X	X	X	X	X	X	X	X	X							X	X	X	X		X	X	X
LINCOLN HEIGHTS ES	SCHOOL	X	X	X	X	X	X	X	X	X							X	X	X	X		X	X	X
BALLENTINE ES	SCHOOL	X	X	X	X	X	X	X	X	X													X	X
FUQUAY-VARINA ES	SCHOOL	X	X	X	X	X	X	X	X	X							X	X	X	X			X	X
FUQUAY-VARINA HS	SCHOOL	X	X	X	X	X	X	X	X	X							X	X	X	X		X	X	X
WILLOW SPRINGS ES	SCHOOL	X	X	X	X	X	X	X	X	X							X	X	X	X			X	X
BANKS ROAD ES	SCHOOL	X	X	X	X	X	X	X	X	X							X	X	X	X			X	X
HERBERT AKINS ES	SCHOOL	X	X	X	X	X	X	X	X	X					X	X		X				X	X	X
GARNER																								
GARNER MAIN	EMS STATION	X	X	X	X	X	X	X	X	X						X							X	X
GARNER EAST	EMS STATION	X	X	X	X	X	X	X	X	X								X		X			X	X
GARNER #1	FIRE STATION	X	X	X	X	X	X	X	X	X							X	X	X	X			X	X
GARNER #3	FIRE STATION	X	X	X	X	X	X	X	X	X						X							X	X
GARNER #4	FIRE STATION	X	X	X	X	X	X	X	X	X								X		X			X	X
PUBLIC WORKS BUILDING	OTHER	X	X	X	X	X	X	X	X	X							X	X	X	X			X	X
WATER TREATMENT PLANT	OTHER	X	X	X	X	X	X	X	X	X							X	X					X	X

		ATMOSPHERIC								GEOLOGIC			HYDROLOGIC		OTHER									
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WASTEWATER SPRAY FACILITY	OTHER	X	X	X	X	X	X	X	X	X								X					X	X
GARNER	POLICE STATION	X	X	X	X	X	X	X	X	X							X	X	X	X			X	X
POLICE ANNEX	POLICE STATION	X	X	X	X	X	X	X	X	X							X	X	X	X			X	X
EAST DISTRICT SUBSTATION	POLICE STATION	X	X	X	X	X	X	X	X	X							X	X	X	X			X	X
WEST DISTRICT SUBSTATION	POLICE STATION	X	X	X	X	X	X	X	X	X					X	X	X	X	X	X			X	X
POLICE	POLICE STATION	X	X	X	X	X	X	X	X	X							X	X	X	X			X	X
RAND ROAD ES	SCHOOL	X	X	X	X	X	X	X	X	X							X	X					X	X
NORTH GARNER MS	SCHOOL	X	X	X	X	X	X	X	X	X								X	X	X			X	X
EAST GARNER MS	SCHOOL	X	X	X	X	X	X	X	X	X							X	X	X	X			X	X
EAST GARNER ES	SCHOOL	X	X	X	X	X	X	X	X	X							X	X	X	X			X	X
CREECH ROAD ES	SCHOOL	X	X	X	X	X	X	X	X	X								X		X			X	X
TIMBER DRIVE ES	SCHOOL	X	X	X	X	X	X	X	X	X						X							X	X
GARNER HS	SCHOOL	X	X	X	X	X	X	X	X	X							X	X		X			X	X
VANDORA SPRINGS ES	SCHOOL	X	X	X	X	X	X	X	X	X								X					X	X
AVERSBORO ES	SCHOOL	X	X	X	X	X	X	X	X	X								X					X	X
HOLLY SPRINGS																								
PUBLIC WORKS BUILDING	OTHER	X	X	X	X	X	X	X	X	X							X	X		X		X	X	X
TOWN HALL	OTHER	X	X	X	X	X	X	X	X	X							X	X	X	X		X	X	X
WASTEWATER TREATMENT PLANT	OTHER	X	X	X	X	X	X	X	X	X							X	X		X		X	X	X

		ATMOSPHERIC								GEOLOGIC			HYDROLOGIC		OTHER									
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HOLLY SPRINGS	POLICE STATION	X	X	X	X	X	X	X	X	X							X	X	X	X		X	X	X
LAW ENFORCEMENT CENTER	POLICE STATION	X	X	X	X	X	X	X	X	X								X		X		X	X	X
HOLLY SPRINGS HS	SCHOOL	X	X	X	X	X	X	X	X	X										X		X	X	X
HOLLY SPRINGS ES	SCHOOL	X	X	X	X	X	X	X	X	X							X	X	X	X		X	X	X
HOLLY RIDGE ES	SCHOOL	X	X	X	X	X	X	X	X	X								X				X	X	X
HOLLY RIDGE MS	SCHOOL	X	X	X	X	X	X	X	X	X												X	X	X
HOLLY GROVE ES	SCHOOL	X	X	X	X	X	X	X	X	X								X		X		X	X	X
KNIGHTDALE																								
KNIGHTDALE MAIN	EMS STATION	X	X	X	X	X	X	X	X	X							X	X		X			X	X
EASTERN WAKE #2	FIRE STATION	X	X	X	X	X	X	X	X	X								X	X	X			X	X
KNIGHTDALE PUB SAFETY #2	FIRE STATION	X	X	X	X	X	X	X	X	X								X	X	X			X	X
KNIGHTDALE PUB SAFETY #1	FIRE STATION	X	X	X	X	X	X	X	X	X							X	X		X			X	X
CARILLON ASSISTED LIVING	OTHER	X	X	X	X	X	X	X	X	X								X					X	X
WELLINGTON NURSING HOME	OTHER	X	X	X	X	X	X	X	X	X							X	X		X			X	X
KNIGHTDALE	POLICE STATION	X	X	X	X	X	X	X	X	X							X	X					X	X
LOCKHART ES	SCHOOL	X	X	X	X	X	X	X	X	X							X	X		X			X	X
EAST WAKE MS	SCHOOL	X	X	X	X	X	X	X	X	X								X					X	X
KNIGHTDALE ES	SCHOOL	X	X	X	X	X	X	X	X	X								X	X	X			X	X

		ATMOSPHERIC								GEOLOGIC			HYDROLOGIC		OTHER									
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KNIGHTDALE HS	SCHOOL	X	X	X	X	X	X	X	X	X								X					X	X
FORESTVILLE ROAD ES	SCHOOL	X	X	X	X	X	X	X	X	X								X					X	X
HODGE ROAD ES	SCHOOL	X	X	X	X	X	X	X	X	X								X	X	X			X	X
MORRISVILLE																								
MORRISVILLE	EMS STATION	X	X	X	X	X	X	X	X	X		X			X	X	X	X	X	X			X	X
MORRISVILLE #1	FIRE STATION	X	X	X	X	X	X	X	X	X		X					X	X	X	X			X	X
MORRISVILLE #2	FIRE STATION	X	X	X	X	X	X	X	X	X		X			X	X	X	X	X	X			X	X
TOWN HALL	OTHER	X	X	X	X	X	X	X	X	X		X					X	X	X	X			X	X
MORRISVILLE	POLICE STATION	X	X	X	X	X	X	X	X	X		X					X	X	X	X			X	X
MORRISVILLE ES	SCHOOL	X	X	X	X	X	X	X	X	X		X											X	X
CEDAR FORK ES	SCHOOL	X	X	X	X	X	X	X	X	X		X				X	X	X	X	X			X	X
RALEIGH																								
NORTH HILLS	EMS STATION	X	X	X	X	X	X	X	X	X													X	X
WHITAKER MILL	EMS STATION	X	X	X	X	X	X	X	X	X								X	X	X			X	X
FAIRGROUNDS	EMS STATION	X	X	X	X	X	X	X	X	X								X		X			X	X
KNIGHTDALE SOUTH	EMS STATION	X	X	X	X	X	X	X	X	X								X		X			X	X
SIX FORKS MAIN	EMS STATION	X	X	X	X	X	X	X	X	X								X					X	X

		ATMOSPHERIC								GEOLOGIC			HYDROLOGIC		OTHER									
FACILITY NAME	FACILITY TYPE	Drought	Extreme Heat	Hailstorm	Hurricane and Tropical Storm	Lightning	Thunderstorm	Tornado	Winter Storm and Freeze	Earthquake	Landslide – High Incidence	Landslide- Mod. Incidence	Flood – 100 yr	Flood – 500 yr	Fixed HAZMAT 0.5 mile	Fixed HAZMAT 1.0 mile	Mobile HZMT 0.5 mile (road)	Mobile HZMT 1.0 mile (road)	Mobile HZMT 0.5 mile (rail)	Mobile HZMT 1.0 mile (rail)	Wildfire	Nuclear Accident 10 mile	Nuclear Accident 50 mile	Terror Threat
MINICITY	EMS STATION	X	X	X	X	X	X	X	X	X								X	X	X			X	X
E RALEIGH	EMS STATION	X	X	X	X	X	X	X	X	X								X		X			X	X
DOWNTOWN	EMS STATION	X	X	X	X	X	X	X	X	X						X	X	X	X	X			X	X
DURANT	EMS STATION	X	X	X	X	X	X	X	X	X										X			X	X
WAKE CROSSROADS	EMS STATION	X	X	X	X	X	X	X	X	X								X					X	X
HIGHWOODS	EMS STATION	X	X	X	X	X	X	X	X	X							X	X	X	X			X	X
ST AUGUSTINES	EMS STATION	X	X	X	X	X	X	X	X	X								X		X			X	X
GLENWOOD SOUTH	EMS STATION	X	X	X	X	X	X	X	X	X							X	X	X	X			X	X
CARALEIGH	EMS STATION	X	X	X	X	X	X	X	X	X						X	X	X	X	X			X	X
PLEASANT VALLEY	EMS STATION	X	X	X	X	X	X	X	X	X							X	X					X	X
RFD #23	FIRE STATION	X	X	X	X	X	X	X	X	X								X					X	X
RFD #17	FIRE STATION	X	X	X	X	X	X	X	X	X							X	X					X	X
RFD #14	FIRE STATION	X	X	X	X	X	X	X	X	X								X					X	X
WESTERN WAKE #1	FIRE STATION	X	X	X	X	X	X	X	X	X								X		X			X	X
RFD #8	FIRE	X	X	X	X	X	X	X	X	X							X	X	X	X			X	X

		ATMOSPHERIC								GEOLOGIC			HYDROLOGIC		OTHER									
FACILITY NAME	FACILITY TYPE	Drought	Extreme Heat	Hailstorm	Hurricane and Tropical Storm	Lightning	Thunderstorm	Tornado	Winter Storm and Freeze	Earthquake	Landslide – High Incidence	Landslide- Mod. Incidence	Flood – 100 yr	Flood – 500 yr	Fixed HAZMAT 0.5 mile	Fixed HAZMAT 1.0 mile	Mobile HZMT 0.5 mile (road)	Mobile HZMT 1.0 mile (road)	Mobile HZMT 0.5 mile (rail)	Mobile HZMT 1.0 mile (rail)	Wildfire	Nuclear Accident 10 mile	Nuclear Accident 50 mile	Terror Threat
	STATION																							
RFD #20	FIRE STATION	X	X	X	X	X	X	X	X	X							X	X					X	X
RFD #2	FIRE STATION	X	X	X	X	X	X	X	X	X						X	X	X	X	X			X	X
RFD #10	FIRE STATION	X	X	X	X	X	X	X	X	X								X					X	X
RFD #3	FIRE STATION	X	X	X	X	X	X	X	X	X								X		X			X	X
RFD #5	FIRE STATION	X	X	X	X	X	X	X	X	X									X	X			X	X
RFD #6	FIRE STATION	X	X	X	X	X	X	X	X	X							X	X					X	X
RFD #7	FIRE STATION	X	X	X	X	X	X	X	X	X								X		X			X	X
RFD #12	FIRE STATION	X	X	X	X	X	X	X	X	X						X	X	X					X	X
RFD #18	FIRE STATION	X	X	X	X	X	X	X	X	X							X	X					X	X
BAY LEAF #3	FIRE STATION	X	X	X	X	X	X	X	X	X								X					X	X
RFD #9	FIRE STATION	X	X	X	X	X	X	X	X	X							X	X					X	X
RFD #4	FIRE STATION	X	X	X	X	X	X	X	X	X													X	X
RFD #11	FIRE STATION	X	X	X	X	X	X	X	X	X							X	X	X	X			X	X
WAKE-NEW HOPE #1	FIRE STATION	X	X	X	X	X	X	X	X	X							X	X					X	X

		ATMOSPHERIC								GEOLOGIC			HYDROLOGIC		OTHER									
FACILITY NAME	FACILITY TYPE	Drought	Extreme Heat	Hailstorm	Hurricane and Tropical Storm	Lightning	Thunderstorm	Tornado	Winter Storm and Freeze	Earthquake	Landslide – High Incidence	Landslide- Mod. Incidence	Flood – 100 yr	Flood – 500 yr	Fixed HAZMAT 0.5 mile	Fixed HAZMAT 1.0 mile	Mobile HZMT 0.5 mile (road)	Mobile HZMT 1.0 mile (road)	Mobile HZMT 0.5 mile (rail)	Mobile HZMT 1.0 mile (rail)	Wildfire	Nuclear Accident 10 mile	Nuclear Accident 50 mile	Terror Threat
RFD #19	FIRE STATION	X	X	X	X	X	X	X	X	X								X					X	X
RFD #15	FIRE STATION	X	X	X	X	X	X	X	X	X										X			X	X
RFD #16	FIRE STATION	X	X	X	X	X	X	X	X	X							X	X					X	X
RFD #1	FIRE STATION	X	X	X	X	X	X	X	X	X						X	X	X	X	X			X	X
RFD #21	FIRE STATION	X	X	X	X	X	X	X	X	X								X					X	X
RFD #22	FIRE STATION	X	X	X	X	X	X	X	X	X						X		X	X	X			X	X
RFD #24	FIRE STATION	X	X	X	X	X	X	X	X	X		X				X	X	X					X	X
RFD #25	FIRE STATION	X	X	X	X	X	X	X	X	X								X					X	X
RFD #27	FIRE STATION	X	X	X	X	X	X	X	X	X													X	X
RFD #26	FIRE STATION	X	X	X	X	X	X	X	X	X													X	X
RFD #28	FIRE STATION	X	X	X	X	X	X	X	X	X								X					X	X
KEETER TRAINING CENTER- FIRE	FIRE STATION	X	X	X	X	X	X	X	X	X			X		X	X	X	X	X	X			X	X
DORTHEA DIX	MEDICAL CARE FACILITY	X	X	X	X	X	X	X	X	X						X		X	X	X			X	X
RCMB- WAKEMED	MEDICAL CARE	X	X	X	X	X	X	X	X	X								X		X			X	X

		ATMOSPHERIC								GEOLOGIC			HYDROLOGIC		OTHER									
FACILITY NAME	FACILITY TYPE	Drought	Extreme Heat	Hailstorm	Hurricane and Tropical Storm	Lightning	Thunderstorm	Tornado	Winter Storm and Freeze	Earthquake	Landslide – High Incidence	Landslide- Mod. Incidence	Flood – 100 yr	Flood – 500 yr	Fixed HAZMAT 0.5 mile	Fixed HAZMAT 1.0 mile	Mobile HZMT 0.5 mile (road)	Mobile HZMT 1.0 mile (road)	Mobile HZMT 0.5 mile (rail)	Mobile HZMT 1.0 mile (rail)	Wildfire	Nuclear Accident 10 mile	Nuclear Accident 50 mile	Terror Threat
	FACILITY																							
REX	MEDICAL CARE FACILITY	X	X	X	X	X	X	X	X	X								X					X	X
DUKE RALEIGH	MEDICAL CARE FACILITY	X	X	X	X	X	X	X	X	X							X	X	X	X			X	X
PULSTAR REACTOR AT NCSU	OTHER	X	X	X	X	X	X	X	X	X									X	X			X	X
EMJ WWTP	OTHER	X	X	X	X	X	X	X	X	X													X	X
PUBLIC WORKS	OTHER	X	X	X	X	X	X	X	X	X							X	X	X	X			X	X
MUNICIPAL BUILDING- ECC	OTHER	X	X	X	X	X	X	X	X	X						X	X	X	X	X			X	X
NORTHEAST DISTRICT	POLICE STATION	X	X	X	X	X	X	X	X	X							X	X					X	X
DETECTIVE DIVISION	POLICE STATION	X	X	X	X	X	X	X	X	X									X	X			X	X
SOUTHEAST DISTRICT	POLICE STATION	X	X	X	X	X	X	X	X	X							X	X					X	X
SOUTHWEST DISTRICT	POLICE STATION	X	X	X	X	X	X	X	X	X							X	X	X	X			X	X
RALEIGH (MAIN)	POLICE STATION	X	X	X	X	X	X	X	X	X							X	X	X	X			X	X
DOWNTOWN DISTRICT	POLICE STATION	X	X	X	X	X	X	X	X	X					X	X	X	X	X	X			X	X
NORTHWEST DISTRICT	POLICE STATION	X	X	X	X	X	X	X	X	X						X	X	X					X	X
MAIN STATION INTERIM	POLICE STATION	X	X	X	X	X	X	X	X	X													X	X

		ATMOSPHERIC								GEOLOGIC			HYDROLOGIC		OTHER									
FACILITY NAME	FACILITY TYPE	Drought	Extreme Heat	Hailstorm	Hurricane and Tropical Storm	Lightning	Thunderstorm	Tornado	Winter Storm and Freeze	Earthquake	Landslide – High Incidence	Landslide- Mod. Incidence	Flood – 100 yr	Flood – 500 yr	Fixed HAZMAT 0.5 mile	Fixed HAZMAT 1.0 mile	Mobile HZMT 0.5 mile (road)	Mobile HZMT 1.0 mile (road)	Mobile HZMT 0.5 mile (rail)	Mobile HZMT 1.0 mile (rail)	Wildfire	Nuclear Accident 10 mile	Nuclear Accident 50 mile	Terror Threat
NORTH DISTRICT	POLICE STATION	X	X	X	X	X	X	X	X	X													X	X
CRITICAL PUBLIC SAFETY BUILDING	POLICE STATION	X	X	X	X	X	X	X	X	X							X	X	X	X			X	X
POLICE DISTRICT STATION- INTERACT	POLICE STATION	X	X	X	X	X	X	X	X	X								X		X			X	X
POLICE DISTRICT STATION- NE OUTREACH	POLICE STATION	X	X	X	X	X	X	X	X	X							X	X					X	X
POLICE DISTRICT STATION- NEIGHBORHOOD STATION	POLICE STATION	X	X	X	X	X	X	X	X	X								X		X			X	X
POLICE DISTRICT STATION- MOUNTED POLICE	POLICE STATION	X	X	X	X	X	X	X	X	X						X	X	X	X	X			X	X
POLICE DISTRICT STATION- SERVICE, SPECIAL OPS	POLICE STATION	X	X	X	X	X	X	X	X	X							X	X	X	X			X	X
POLICE TRAINING CENTER	POLICE STATION	X	X	X	X	X	X	X	X	X								X					X	X
COMBS ES	SCHOOL	X	X	X	X	X	X	X	X	X							X	X					X	X
ATHENS DRIVE HS	SCHOOL	X	X	X	X	X	X	X	X	X							X	X					X	X
BROUGHTON HS	SCHOOL	X	X	X	X	X	X	X	X	X								X	X	X			X	X
POWELL ES	SCHOOL	X	X	X	X	X	X	X	X	X								X		X			X	X
MARY E PHILLIPS HS	SCHOOL	X	X	X	X	X	X	X	X	X								X					X	X
LIGON MS	SCHOOL	X	X	X	X	X	X	X	X	X						X		X		X			X	X
WASHINGTON ES	SCHOOL	X	X	X	X	X	X	X	X	X					X	X	X	X	X	X			X	X
CARNAGE MS	SCHOOL	X	X	X	X	X	X	X	X	X						X		X	X	X			X	X
DANIELS MS	SCHOOL	X	X	X	X	X	X	X	X	X							X	X					X	X

		ATMOSPHERIC								GEOLOGIC			HYDROLOGIC		OTHER									
FACILITY NAME	FACILITY TYPE	Drought	Extreme Heat	Hailstorm	Hurricane and Tropical Storm	Lightning	Thunderstorm	Tornado	Winter Storm and Freeze	Earthquake	Landslide – High Incidence	Landslide- Mod. Incidence	Flood – 100 yr	Flood – 500 yr	Fixed HAZMAT 0.5 mile	Fixed HAZMAT 1.0 mile	Mobile HZMT 0.5 mile (road)	Mobile HZMT 1.0 mile (road)	Mobile HZMT 0.5 mile (rail)	Mobile HZMT 1.0 mile (rail)	Wildfire	Nuclear Accident 10 mile	Nuclear Accident 50 mile	Terror Threat
ROOT ES	SCHOOL	X	X	X	X	X	X	X	X	X								X					X	X
LYNN ROAD ES	SCHOOL	X	X	X	X	X	X	X	X	X								X					X	X
BROOKS ES	SCHOOL	X	X	X	X	X	X	X	X	X								X					X	X
CARROLL MS	SCHOOL	X	X	X	X	X	X	X	X	X								X					X	X
DOUGLAS ES	SCHOOL	X	X	X	X	X	X	X	X	X							X	X					X	X
MILLBROOK ES	SCHOOL	X	X	X	X	X	X	X	X	X									X	X			X	X
WILBURN ES	SCHOOL	X	X	X	X	X	X	X	X	X								X					X	X
EAST MILLBROOK MS	SCHOOL	X	X	X	X	X	X	X	X	X							X	X					X	X
FOX ROAD ES	SCHOOL	X	X	X	X	X	X	X	X	X							X	X					X	X
LEAD MINE ES	SCHOOL	X	X	X	X	X	X	X	X	X													X	X
BUGG ES	SCHOOL	X	X	X	X	X	X	X	X	X								X					X	X
DURANT ROAD ES	SCHOOL	X	X	X	X	X	X	X	X	X										X			X	X
STOUGH ES	SCHOOL	X	X	X	X	X	X	X	X	X								X					X	X
YORK ES	SCHOOL	X	X	X	X	X	X	X	X	X							X	X					X	X
JEFFREYS GROVE ES	SCHOOL	X	X	X	X	X	X	X	X	X							X	X					X	X
SOUTHEAST RALEIGH HS	SCHOOL	X	X	X	X	X	X	X	X	X								X					X	X
ROCK QUARRY SERVICE CENTER	SCHOOL	X	X	X	X	X	X	X	X	X							X	X					X	X
BRENTWOOD ES	SCHOOL	X	X	X	X	X	X	X	X	X								X		X			X	X
ENLOE HS	SCHOOL	X	X	X	X	X	X	X	X	X													X	X
MILLBROOK HS	SCHOOL	X	X	X	X	X	X	X	X	X									X	X			X	X
NORTH RIDGE ES	SCHOOL	X	X	X	X	X	X	X	X	X													X	X

		ATMOSPHERIC								GEOLOGIC			HYDROLOGIC		OTHER									
FACILITY NAME	FACILITY TYPE	Drought	Extreme Heat	Hailstorm	Hurricane and Tropical Storm	Lightning	Thunderstorm	Tornado	Winter Storm and Freeze	Earthquake	Landslide – High Incidence	Landslide- Mod. Incidence	Flood – 100 yr	Flood – 500 yr	Fixed HAZMAT 0.5 mile	Fixed HAZMAT 1.0 mile	Mobile HZMT 0.5 mile (road)	Mobile HZMT 1.0 mile (road)	Mobile HZMT 0.5 mile (rail)	Mobile HZMT 1.0 mile (rail)	Wildfire	Nuclear Accident 10 mile	Nuclear Accident 50 mile	Terror Threat
SANDERSON HS	SCHOOL	X	X	X	X	X	X	X	X	X													X	X
WEST MILLBROOK MS	SCHOOL	X	X	X	X	X	X	X	X	X								X					X	X
MARTIN MS	SCHOOL	X	X	X	X	X	X	X	X	X							X	X					X	X
OLDS ES	SCHOOL	X	X	X	X	X	X	X	X	X									X	X			X	X
WILEY ES	SCHOOL	X	X	X	X	X	X	X	X	X							X	X	X	X			X	X
WILDWOOD FOREST ES	SCHOOL	X	X	X	X	X	X	X	X	X						X	X	X		X			X	X
PARTNERSHIP ES	SCHOOL	X	X	X	X	X	X	X	X	X							X	X	X	X			X	X
CENTENNIAL CAMPUS MS	SCHOOL	X	X	X	X	X	X	X	X	X							X	X					X	X
MOORE SQUARE MS	SCHOOL	X	X	X	X	X	X	X	X	X						X	X	X		X			X	X
BAILEYWICK ROAD ES	SCHOOL	X	X	X	X	X	X	X	X	X							X	X					X	X
BRIER CREEK ES	SCHOOL	X	X	X	X	X	X	X	X	X		X				X	X	X					X	X
DURANT ROAD MS	SCHOOL	X	X	X	X	X	X	X	X	X								X					X	X
HILBURN DRIVE ACADEMY	SCHOOL	X	X	X	X	X	X	X	X	X								X					X	X
CONN ES	SCHOOL	X	X	X	X	X	X	X	X	X							X	X	X	X			X	X
UNDERWOOD ES	SCHOOL	X	X	X	X	X	X	X	X	X							X	X	X	X			X	X
MT VERNON SCHOOL	SCHOOL	X	X	X	X	X	X	X	X	X							X	X	X	X			X	X
WAKEFIELD ES	SCHOOL	X	X	X	X	X	X	X	X	X													X	X
WAKEFIELD MS	SCHOOL	X	X	X	X	X	X	X	X	X													X	X
WAKEFIELD HS	SCHOOL	X	X	X	X	X	X	X	X	X													X	X
GREEN ES	SCHOOL	X	X	X	X	X	X	X	X	X													X	X
HARRIS CREEK ES	SCHOOL	X	X	X	X	X	X	X	X	X													X	X

		ATMOSPHERIC								GEOLOGIC			HYDROLOGIC		OTHER									
FACILITY NAME	FACILITY TYPE	Drought	Extreme Heat	Hailstorm	Hurricane and Tropical Storm	Lightning	Thunderstorm	Tornado	Winter Storm and Freeze	Earthquake	Landslide – High Incidence	Landslide- Mod. Incidence	Flood – 100 yr	Flood – 500 yr	Fixed HAZMAT 0.5 mile	Fixed HAZMAT 1.0 mile	Mobile HZMT 0.5 mile (road)	Mobile HZMT 1.0 mile (road)	Mobile HZMT 0.5 mile (rail)	Mobile HZMT 1.0 mile (rail)	Wildfire	Nuclear Accident 10 mile	Nuclear Accident 50 mile	Terror Threat
DILLARD DRIVE MS	SCHOOL	X	X	X	X	X	X	X	X	X							X	X					X	X
DILLARD DRIVE ES	SCHOOL	X	X	X	X	X	X	X	X	X							X	X					X	X
SPRING FOREST ROAD MODULAR	SCHOOL	X	X	X	X	X	X	X	X	X							X	X					X	X
NORTH FOREST PINES ES	SCHOOL	X	X	X	X	X	X	X	X	X							X	X					X	X
RIVER OAKS MS	SCHOOL	X	X	X	X	X	X	X	X	X							X	X		X			X	X
BARWELL ROAD ES	SCHOOL	X	X	X	X	X	X	X	X	X													X	X
FOREST PINES DRIVE ES	SCHOOL	X	X	X	X	X	X	X	X	X							X	X					X	X
FULLER ES	SCHOOL	X	X	X	X	X	X	X	X	X						X	X	X	X	X			X	X
HUNTER ES	SCHOOL	X	X	X	X	X	X	X	X	X										X			X	X
POE ES	SCHOOL	X	X	X	X	X	X	X	X	X													X	X
LONGVIEW SCHOOL	SCHOOL	X	X	X	X	X	X	X	X	X													X	X
WAKE EARLY COLLEGE OF HEALTH AND SCIENCES	SCHOOL	X	X	X	X	X	X	X	X	X								X	X	X			X	X
ROLESVILLE																								
ROLESVILLE MAIN	EMS STATION	X	X	X	X	X	X	X	X	X							X	X					X	X
ROLESVILLE	FIRE STATION	X	X	X	X	X	X	X	X	X							X	X					X	X
ROLESVILLE TOWN HALL	OTHER	X	X	X	X	X	X	X	X	X							X	X					X	X
ROLESVILLE	POLICE STATION	X	X	X	X	X	X	X	X	X							X	X					X	X
ROLESVILLE ES	SCHOOL	X	X	X	X	X	X	X	X	X							X	X					X	X
SANFORD CREEK ES	SCHOOL	X	X	X	X	X	X	X	X	X							X	X					X	X

		ATMOSPHERIC								GEOLOGIC			HYDROLOGIC		OTHER									
FACILITY NAME	FACILITY TYPE	Drought	Extreme Heat	Hailstorm	Hurricane and Tropical Storm	Lightning	Thunderstorm	Tornado	Winter Storm and Freeze	Earthquake	Landslide – High Incidence	Landslide- Mod. Incidence	Flood – 100 yr	Flood – 500 yr	Fixed HAZMAT 0.5 mile	Fixed HAZMAT 1.0 mile	Mobile HZMT 0.5 mile (road)	Mobile HZMT 1.0 mile (road)	Mobile HZMT 0.5 mile (rail)	Mobile HZMT 1.0 mile (rail)	Wildfire	Nuclear Accident 10 mile	Nuclear Accident 50 mile	Terror Threat
ROLESVILLE HS	SCHOOL	X	X	X	X	X	X	X	X	X													X	X
ROLESVILLE MS	SCHOOL	X	X	X	X	X	X	X	X	X							X	X					X	X
WAKE FOREST																								
WAKE FOREST	EMS STATION	X	X	X	X	X	X	X	X	X							X	X	X	X			X	X
WAKE FOREST SOUTH	EMS STATION	X	X	X	X	X	X	X	X	X							X	X	X	X			X	X
WAKE FOREST #1	FIRE STATION	X	X	X	X	X	X	X	X	X							X	X	X	X			X	X
WAKE FOREST #2	FIRE STATION	X	X	X	X	X	X	X	X	X							X	X	X	X			X	X
WAKE FOREST #3	FIRE STATION	X	X	X	X	X	X	X	X	X													X	X
WAKE FOREST #4	FIRE STATION	X	X	X	X	X	X	X	X	X							X	X					X	X
WATER TREATMENT PLAN	OTHER	X	X	X	X	X	X	X	X	X							X	X					X	X
TOWN HALL	OTHER	X	X	X	X	X	X	X	X	X							X	X	X	X			X	X
SEWER TREATMENT PLANT	OTHER	X	X	X	X	X	X	X	X	X													X	X
PUBLIC WORKS OPERATIONS CENTER	OTHER	X	X	X	X	X	X	X	X	X							X	X	X	X			X	X
CARILLON ASSISTED LIVING	OTHER	X	X	X	X	X	X	X	X	X								X	X	X			X	X
HILLSIDE NURSING CENTER	OTHER	X	X	X	X	X	X	X	X	X							X	X		X			X	X
CAROLINA HOUSE OF WAKE FOREST	OTHER	X	X	X	X	X	X	X	X	X							X	X	X	X			X	X
THE LODGE (ELDERLY HOUSING)	OTHER	X	X	X	X	X	X	X	X	X							X	X	X	X			X	X
TURNBERRY APARTMENTS (ELDERLY HOUSING)	OTHER	X	X	X	X	X	X	X	X	X							X	X	X	X			X	X

		ATMOSPHERIC								GEOLOGIC			HYDROLOGIC		OTHER									
FACILITY NAME	FACILITY TYPE	Drought	Extreme Heat	Hailstorm	Hurricane and Tropical Storm	Lightning	Thunderstorm	Tornado	Winter Storm and Freeze	Earthquake	Landslide – High Incidence	Landslide- Mod. Incidence	Flood – 100 yr	Flood – 500 yr	Fixed HAZMAT 0.5 mile	Fixed HAZMAT 1.0 mile	Mobile HZMT 0.5 mile (road)	Mobile HZMT 1.0 mile (road)	Mobile HZMT 0.5 mile (rail)	Mobile HZMT 1.0 mile (rail)	Wildfire	Nuclear Accident 10 mile	Nuclear Accident 50 mile	Terror Threat
MAIN	POLICE STATION	X	X	X	X	X	X	X	X	X							X	X	X	X			X	X
SUBSTATION TWO	POLICE STATION	X	X	X	X	X	X	X	X	X							X	X		X			X	X
SUBSTATION THREE	POLICE STATION	X	X	X	X	X	X	X	X	X							X	X	X	X			X	X
SUBSTATION FOUR	POLICE STATION	X	X	X	X	X	X	X	X	X							X	X	X	X			X	X
WAKE FOREST ES	SCHOOL	X	X	X	X	X	X	X	X	X							X	X	X	X			X	X
WAKE FOREST MS	SCHOOL	X	X	X	X	X	X	X	X	X							X	X	X	X			X	X
WAKE FOREST HS	SCHOOL	X	X	X	X	X	X	X	X	X							X	X	X	X			X	X
HERITAGE MS	SCHOOL	X	X	X	X	X	X	X	X	X								X		X			X	X
HERITAGE ES	SCHOOL	X	X	X	X	X	X	X	X	X								X		X			X	X
WAKEFIELD 9TH GRADE CENTER	SCHOOL	X	X	X	X	X	X	X	X	X							X	X					X	X
RICHLAND CREEK ES	SCHOOL	X	X	X	X	X	X	X	X	X							X	X					X	X
HERITAGE HS	SCHOOL	X	X	X	X	X	X	X	X	X										X			X	X
WENDELL																								
WENDELL	EMS STATION	X	X	X	X	X	X	X	X	X							X	X	X	X			X	X
WENDELL #1	FIRE STATION	X	X	X	X	X	X	X	X	X							X	X	X	X			X	X
WENDELL TOWN HALL	OTHER	X	X	X	X	X	X	X	X	X							X	X	X	X			X	X
PUBLIC WORKS- WASTEWATER FACILITY	OTHER	X	X	X	X	X	X	X	X	X								X		X			X	X
CRESTFIELD APTS FOR DISABLED AND	OTHER	X	X	X	X	X	X	X	X	X							X	X		X			X	X

		ATMOSPHERIC								GEOLOGIC			HYDROLOGIC		OTHER									
FACILITY NAME	FACILITY TYPE	Drought	Extreme Heat	Hailstorm	Hurricane and Tropical Storm	Lightning	Thunderstorm	Tornado	Winter Storm and Freeze	Earthquake	Landslide – High Incidence	Landslide- Mod. Incidence	Flood – 100 yr	Flood – 500 yr	Fixed HAZMAT 0.5 mile	Fixed HAZMAT 1.0 mile	Mobile HZMT 0.5 mile (road)	Mobile HZMT 1.0 mile (road)	Mobile HZMT 0.5 mile (rail)	Mobile HZMT 1.0 mile (rail)	Wildfire	Nuclear Accident 10 mile	Nuclear Accident 50 mile	Terror Threat
ELDERLY																								
OLIVER HOUSE REST HOME	OTHER	X	X	X	X	X	X	X	X	X							X	X	X	X			X	X
ROBINWOOD APARTMENTS- ELDERLY	OTHER	X	X	X	X	X	X	X	X	X							X	X		X			X	X
CEDAR SPRINGS APARTMENTS- ELDERLY	OTHER	X	X	X	X	X	X	X	X	X							X	X	X	X			X	X
WENDELL	POLICE STATION	X	X	X	X	X	X	X	X	X							X	X	X	X			X	X
WENDELL ES	SCHOOL	X	X	X	X	X	X	X	X	X							X	X	X	X			X	X
LAKE MYRA ES	SCHOOL	X	X	X	X	X	X	X	X	X													X	X
ZEBULON																								
ZEBULON	FIRE STATION	X	X	X	X	X	X	X	X	X						X	X	X	X	X			X	X
EASTERN WAKE- WAKEMED	MEDICAL CARE FACILITY	X	X	X	X	X	X	X	X	X						X	X	X	X	X			X	X
TOWN HALL	OTHER	X	X	X	X	X	X	X	X	X					X	X	X	X		X			X	X
PUBLIC WORKS	OTHER	X	X	X	X	X	X	X	X	X						X	X	X	X	X			X	X
ZEBULON	POLICE STATION	X	X	X	X	X	X	X	X	X					X	X	X	X		X			X	X
ZEBULON MS	SCHOOL	X	X	X	X	X	X	X	X	X					X	X	X	X		X			X	X
ZEBULON ES	SCHOOL	X	X	X	X	X	X	X	X	X					X	X	X	X					X	X
WAKELON ES	SCHOOL	X	X	X	X	X	X	X	X	X							X	X					X	X

Secondary Critical Facilities are listed in slight contrast to Critical Facilities as their continued function has not been deemed as critical as primary facilities in the event of a disaster, but these facilities are extremely important. A loss of function to one of these facilities would have a definitively greater negative impact on the community's ability to respond to and recover from a disaster than a loss of function at other facilities/structures within the jurisdiction. In **Table 6.18**, these facilities have been classified as either Significant Community Locations/Sheltering Centers or as Critical Resources Management Facilities. These facilities are all vulnerable to any of the atmospheric hazards and many are also likely vulnerable to other hazards identified above, though no locational analysis was carried out to this end.

TABLE 6.18: WAKE COUNTY SECONDARY CRITICAL FACILITIES

Facility Name	Address*	Type
Apex		
US Post Office	501 W Williams Street	Significant Community Location or Sheltering Center
Dixie Pipeline	1521 E Williams Street	Critical Resources Management (Energy, Water, etc.)
Colonial Pipeline	2200 Ten Ten Road	Critical Resources Management (Energy, Water, etc.)
Motiva Enterprises (refinery)	2232 Ten Ten Road	Critical Resources Management (Energy, Water, etc.)
PSNC High Pressure Station	401 N Mason Street	Critical Resources Management (Energy, Water, etc.)
Gas Pipelines	Dixie, Cardinal, and Colonial	Critical Resources Management (Energy, Water, etc.)
Duke Energy Electric Substations	1324 Wimberly Road; 1406 E Williams Street	Critical Resources Management (Energy, Water, etc.)
Community Center	53 Hunter Street	Significant Community Location or Sheltering Center
Halle Cultural Arts Center	237 N Salem Street	Significant Community Location or Sheltering Center
Cox Airport NC81	off Fern Valley Lane	Significant Community Location or Sheltering Center
John Hertrick [Deck] Air Park	off Air Park Drive	Significant Community Location or Sheltering Center
St. Mary Magdalene Catholic School	625 Magdala Place	Significant Community Location or Sheltering Center
Thales Academy	1177 Ambergate Station	Significant Community Location or Sheltering Center
Eva Perry Regional Library	2100 Shepherds Vineyard Drive	Significant Community Location or Sheltering Center
CC Jones Memorial Park	309 Holleman Street	Significant Community Location or Sheltering Center
NC Department of Corrections	2211 Schieffelin Road	Significant Community Location or Sheltering Center
Chemical Feed Station	1907 Laura Duncan Road	Critical Resources Management (Energy, Water, etc.)
Apex Sanitary Landfill (closed 1976)	451 W Williams Street	Critical Resources Management (Energy, Water, etc.)
Cooper Industries	1000 Lufkin Road	Critical Resources Management (Energy, Water, etc.)
Sorrells Landfill (closed 1994)	5013 Jessie Drive	Critical Resources Management (Energy, Water, etc.)
Water Meter Vaults	• E Williams Street & Sunset Lake Road • Dixie Pipeline • 840 US 64 Highway W • Behind 1040 Vision Drive • 4 Vaults on Eyam Hall Lane • W Williams Street & Jenks Road • The Columns at Broadstone connection to	Critical Resources Management (Energy, Water, etc.)

Facility Name	Address*	Type
	Walmart • 3 Vaults on Creek Glen Way • Olive Chapel Elementary School	
0.5 MGD Water Tower	411 N Mason Street	Critical Resources Management (Energy, Water, etc.)
1.0 MGD Water Tower	91 Hunter Street	Critical Resources Management (Energy, Water, etc.)
1.5 MGD Water Tower	610 Tingen Road	Critical Resources Management (Energy, Water, etc.)
Electric Substation	920 Public Power Drive (formerly accessed from E Williams Street)	Critical Resources Management (Energy, Water, etc.)
Electric Substation	2040 Laura Duncan Road	Critical Resources Management (Energy, Water, etc.)
Electric Substation	2300 Mt. Zion Church Road	Critical Resources Management (Energy, Water, etc.)
Pump Stations	• 1701 ½ Kelly Road (located at 1705 Kelly Road) • 730 ½ Tingen Road (Apex Elementary School) • 1232 ½ Perry Road (1300 Block of Shackleton Road) • 2499 ½ Schieffelin Road • 2422 ½ Watersglen Drive (between 2507 and 2509 Watersglen Drive) • 1016 ½ Camberley Drive • 2025 ½ Production Drive (south of 2026 Production Drive) • 1600 ½ Nasturtium Drive • 4251 ½ Sunset Lake Road (out of sequence) • 6010 Old Smithfield Road • 2525 ½ Lake Pine Road (1800 Block) • 2131 ½ Old Raleigh Road • 1000 ½ East Sterlington Place • 2525 ½ Laura Duncan Road (behind 2209 Candun Drive) • 2731 ½ US 64 Highway West • 814 Homestead Park Drive • 411 ½ Blushing Rose Way • 2080 Laura Duncan Road • 1599 Beaver Creek Commons Drive • 2990 Broadstone Way • 2916 Olive Chapel Road (Town of Cary/Western Wake Partners – Beaver Creek Pump Station) • 3905 Green Level West Road (Town of Cary/Western Wake Partners – West Cary	Critical Resources Management (Energy, Water, etc.)

Facility Name	Address*	Type
	Pump Station) Underlined addresses will need to be re-assigned – see parentheses for explanations	
Cary		
Pump Stations	• West Cary: 3905 Green Level West Road • Morris Branch: 251 Beckingham Loop • Kit Creek: 2605 Green Level Church Road • Beaver Creek: 2916 Olive Chapel Road • Cary/Apex raw Water: 6750 US 64W at Jordan Lake	Critical Resources Management (Energy, Water, etc.)
US Post Office		Significant Community Location or Sheltering Center
Progress Energy		Critical Resources Management (Energy, Water, etc.)
Public Service Company of NC		Critical Resources Management (Energy, Water, etc.)
Bell South		Critical Resources Management (Energy, Water, etc.)
Rex Urgent Care	1515 SW Cary Parkway	Significant Community Location or Sheltering Center
Train Station	211 N. Academy Street	Critical Resources Management (Energy, Water, etc.)
Cary Academy		Significant Community Location or Sheltering Center
Kids Club School		Significant Community Location or Sheltering Center
Lucy Daniels Center		Significant Community Location or Sheltering Center
Shining Star Academy		Significant Community Location or Sheltering Center
Cary Christian School		Significant Community Location or Sheltering Center
Fuquay-Varina		
Town Hall	401 Old Honeycutt Rd.	Significant Community Location or Sheltering Center
Water Pressure Booster Stations	3 locations	Critical Resources Management (Energy, Water, etc.)
Sewer Lift Stations	23 locations	Critical Resources Management (Energy, Water, etc.)
Water Tower	304 Jones Lane	Critical Resources Management (Energy, Water, etc.)
Water Tower	N. Main St	Critical Resources Management (Energy, Water, etc.)
Duke Energy CPL Substations	• Holland Rd (230KV) • Fleming Rd (230KV) • Dickens Rd (115KV)	Critical Resources Management (Energy, Water, etc.)
Public Works Facility		Critical Resources Management (Energy, Water, etc.)
Southern Regional Government Center		Significant Community Location or Sheltering Center
South Park Community Center		Significant Community Location or Sheltering Center
Council Gym		Significant Community Location or Sheltering Center
Johnson House		Historic Location
Wake County Public Library		Significant Community Location or Sheltering Center
Hilltop Christian School	Inside Hilltop Church	Significant Community Location or Sheltering Center

Facility Name	Address*	Type
Southern Wake Academy		Significant Community Location or Sheltering Center
Garner		
Water Tower	140 Rand Mill Road	Critical Resources Management (Energy, Water, etc.)
Water Tower	121 Penny Street	Critical Resources Management (Energy, Water, etc.)
Water Tower	840 East Garner Road	Critical Resources Management (Energy, Water, etc.)
Water Booster Stations	• 2045 W. Garner Road • 501 Mechanical Blvd. • 4567 Jones Sausage Road	Critical Resources Management (Energy, Water, etc.)
Pumping Stations	• 2775 Benson Road • 2390 Aversboro Road • 205 Inkster Cove • 319 St Mellion St • 781 E. Garner Road • 221 E. Garner Road • 1018 N. Spring Garden • 1203 Claymore Drive • 2355 Benson Road • 921 Buffaloe Road • 695 Maxwell Drive • Ten Ten Road and Hwy 401 • 1301 ½ US Hwy 70 • 3960 Junction Road • 2301 Buffaloe Road • 600 Wilton Meadow Road • 5480 Raynor Road • 116 Coassack Circle	Critical Resources Management (Energy, Water, etc.)
US Post Office		Significant Community Location or Sheltering Center
Duke Progress Energy		Critical Resources Management (Energy, Water, etc.)
Duke Progress Energy Central Warehouse/Operations Center		Critical Resources Management (Energy, Water, etc.)
BellSouth		Critical Resources Management (Energy, Water, etc.)
Senior Citizen Center		Significant Community Location or Sheltering Center
Avery Street Recreation Center		Significant Community Location or Sheltering Center
Holly Springs		
Booster Pump Maintenance Building	Utley Creek	Critical Resources (Energy, Water, etc.)
Elevated Water Storage Tank	1136 Avent Ferry Road	Critical Resources Management (Energy, Water, etc.)
Elevated Water Storage Tank	521 Lee St	Critical Resources Management (Energy, Water, etc.)
Elevated Water Storage Tank	401 Holly Springs Rd	Critical Resources Management (Energy, Water, etc.)

Facility Name	Address*	Type
Reclaimed Water Storage Tank	Irving Parkway	Critical Resources Management (Energy, Water, etc.)
Sewer Pump Stations	21 locations	Critical Resources Management (Energy, Water, etc.)
US Post Office		
PSNC Energy Gas Terminal		Critical Resources Management (Energy, Water, etc.)
Duke Progress Energy		Critical Resources Management (Energy, Water, etc.)
BellSouth		Critical Resources Management (Energy, Water, etc.)
Sprint		Critical Resources Management (Energy, Water, etc.)
Solid Waste Facility		Critical Resources Management (Energy, Water, etc.)
W.E. Hunt Community Center/Gym		Significant Community Location or Sheltering Center
Bass Lake Retreat Center		Significant Community Location or Sheltering Center
Holly Springs Cultural Center		Significant Community Location or Sheltering Center
Knightdale		
Recreation Center	101 Lawson Rd	Significant Community Location or Sheltering Center
Old Town Recreation Center	426 N. First Ave	Significant Community Location or Sheltering Center
Track Out Camp at Harper Park	209 Main Street	Significant Community Location or Sheltering Center
Knightdale Swim Club Clubhouse	202 Milburnie Rd	Significant Community Location or Sheltering Center
0.5 MGD Water Tank	7429 Knightdale Blvd	Critical Resources Management (Energy, Water, etc.)
1.0 MDG Water Tank	7429 Knightdale Blvd	Critical Resources Management (Energy, Water, etc.)
Water Booster Pump Stations	• Knightdale Blvd • Forestville Blvd	Critical Resources Management (Energy, Water, etc.)
Sanitary Sewer Pump Stations	• Poole Rd/Neuse • Poplar Cr. Village • Square D • Town Hall • Harper St • Oakwood Acres • Poole Rd/Poplar Cr • Langston Ridge (proposed)	Critical Resources Management (Energy, Water, etc.)
Gas Feeder Line	Knightdale Blvd	Critical Resources Management (Energy, Water, etc.)
Bell South Building	100 Forest Drive	Critical Resources Management (Energy, Water, etc.)
East Wake Library	946 Steeple Square Court	Significant Community Location or Sheltering Center
Angelica's Childcare Center	1305 Oak Crest Drive	Significant Community Location or Sheltering Center
Cathy Lee Child Development Center	529 Bethlehem Road	Significant Community Location or Sheltering Center
Cora's Caring Hands	106 Thomas Place	Significant Community Location or Sheltering Center
Forestville Elementary Before/After School Care	100 Lawson Ridge Road	Significant Community Location or Sheltering Center
Grow-N-Learn Child Care Center	1002 Mulford Court	Significant Community Location or Sheltering Center
Hodge Rd Elementary Before and After School Program	2129 Mingo Bluff Blvd	Significant Community Location or Sheltering Center

Facility Name	Address*	Type
Jenette's Quality Care	111 Satterwhite Drive	Significant Community Location or Sheltering Center
Kid's Palace Home Child Care	942 Widewaters Parkway	Significant Community Location or Sheltering Center
Kids Educational Center IV, Inc.	7106 Forestville Road	Significant Community Location or Sheltering Center
Kids Educational Center	4605 Old Faison Road	Significant Community Location or Sheltering Center
Kindercare Learning Centers LLC	200 Forest Dr	Significant Community Location or Sheltering Center
Knightdale Christian Childcare Center	7114 Knightdale Blvd, Suite A	Significant Community Location or Sheltering Center
Ma Ma Jo's Day Care	301 Park Ave	Significant Community Location or Sheltering Center
Pride and Joy Day Care	1209 Shakentown St.	Significant Community Location or Sheltering Center
Showers of Blessings Childcare	5116 Dantonville Ct.	Significant Community Location or Sheltering Center
The Growing Child Unlimited, Inc.	1005 Big Oak Court	Significant Community Location or Sheltering Center
Widewaters Learning Center	9565 Village Park Dr.	Significant Community Location or Sheltering Center
N.G. House Store	221 N. First Ave	Significant Community Location or Sheltering Center
Henry H. Knight Farm	7045 Knightdale Blvd	Significant Community Location or Sheltering Center
Midway Plantation	1900 Amethyst Ridge Drive	Significant Community Location or Sheltering Center
Beaver Dam Plantation	7081 Forestville Rd	Significant Community Location or Sheltering Center
Morrisville		
Sterling Montessori School	2020 Treybrooke Drive	Significant Community Location or Sheltering Center
Parks and Recreation Administration Building	240 Town Hall Drive	Significant Community Location or Sheltering Center
Public Works	414 Aviation Parkway	Critical Resources Management (Energy, Water, etc.)
Cedar Fork Community Center	1050 B Town Hall Drive	Significant Community Location or Sheltering Center
Raleigh		
Dillon Building	W. Martin	Significant Community Location or Sheltering Center
Anderson Pointe	Anderson Point Dr	Significant Community Location or Sheltering Center
Apollo Heights	Lunar Dr	Significant Community Location or Sheltering Center
Barwell Rd. Park	Barwell Rd.	Significant Community Location or Sheltering Center
Biltmore Hills community Center	Fitzgerald Dr	Significant Community Location or Sheltering Center
Brentwood Park	Vinson Place	Significant Community Location or Sheltering Center
Bufflaloe Rd Park	Buffaloe Rd	Significant Community Location or Sheltering Center
Carolina Pines Community Center	Lake Wheeler Rd	Significant Community Location or Sheltering Center
Chavis	Holmes St	Significant Community Location or Sheltering Center
Downtown Remote operation - F&O	Brentwood Rd	Significant Community Location or Sheltering Center
Durant Campbell Lodge	Durant Rd	Significant Community Location or Sheltering Center
Eastgate	Quail Hollow Dr	Significant Community Location or Sheltering Center
Fayetteville St Mall	Fayetteville St Mall	Significant Community Location or Sheltering Center
Fletcher Borden Building	Clay St.	Significant Community Location or Sheltering Center
Fletcher Park Garris Building	Clay St.	Significant Community Location or Sheltering Center
Glen Eden	Glen Eden Dr	Significant Community Location or Sheltering Center

Facility Name	Address*	Type
Green Rd	Green Rd	Significant Community Location or Sheltering Center
Greystone Recreation Center	Leadmine Rd	Significant Community Location or Sheltering Center
Halifax Park	Halifax St	Significant Community Location or Sheltering Center
Horseshoe Farm old house	Horse Shoe Farm Rd	Significant Community Location or Sheltering Center
Jaycee Community Center	Wade Ave	Significant Community Location or Sheltering Center
John P Top Greene Community Ctr	Martin Luther King Jr Blvd	Significant Community Location or Sheltering Center
Kiwanis Park	Noble Rd	Significant Community Location or Sheltering Center
Lake Johnson - Waterfront, Concession, Bathhouse	Avent Ferry Rd	Significant Community Location or Sheltering Center
Lake Lynn Community Center	Ray Rd	Significant Community Location or Sheltering Center
Lake Wheeler Waterfront Center	Lake Wheeler Rd	Significant Community Location or Sheltering Center
Laurel Hills Community Center	Edward Mills Rd	Significant Community Location or Sheltering Center
Lions Community Center	Dennis Ave	Significant Community Location or Sheltering Center
Marsh Creek Maintenance Facility Admin	Daly Rd	Significant Community Location or Sheltering Center
Marsh Creek Maintenance Facility Head House	Daly Rd	Significant Community Location or Sheltering Center
Marsh Creek Park Community Center	New Hope Rd	Significant Community Location or Sheltering Center
Method Community Center	Method Rd	Significant Community Location or Sheltering Center
Millbrook Community Center	Spring Forest Rd	Significant Community Location or Sheltering Center
Andrew Johnson Birthplace	Mimosa St	Significant Community Location or Sheltering Center
Mordecai House	Mimosa St	Significant Community Location or Sheltering Center
One Exchange Plaza	Fayetteville St	Significant Community Location or Sheltering Center
Optimist Community Center	Whittier Dr	Significant Community Location or Sheltering Center
Peach Rd Neighborhood Center	Peach Rd	Significant Community Location or Sheltering Center
Police Department Cabarrus	W Cabarrus St	Significant Community Location or Sheltering Center
Powell Dr	Powell Dr	Significant Community Location or Sheltering Center
Service Garage - VFS	New Bern Ave	Critical Resources Management (Energy, Water, etc.)
Bus Garage - Radio shop	S Blount St	Critical Resources Management (Energy, Water, etc.)
H.E. Repair Fac - VFS	New Bern Ave	Critical Resources Management (Energy, Water, etc.)
Public Works Tech Shop	S Wilmington St	Critical Resources Management (Energy, Water, etc.)
Butler Bldg- Public Works	S Wilmington St	Critical Resources Management (Energy, Water, etc.)
Peace St- Public Works	W. Peace St., 9	Critical Resources Management (Energy, Water, etc.)
Salt Storage	Dortch St.	Critical Resources Management (Energy, Water, etc.)
Vehicle Fleet Services	N. West St., 4120 New Bern Ave.	Critical Resources Management (Energy, Water, etc.)
Heavy Equipment Facility- Public Works	new Bern Ave	Critical Resources Management (Energy, Water, etc.)
Pullen Park Community Center	Ashe Ave	Significant Community Location or Sheltering Center
Theatre in the Park	Pullen Rd	Significant Community Location or Sheltering Center
Raleigh Little Theatre	Pogue St	Significant Community Location or Sheltering Center
Roberts Community Ctr	E Martin St	Significant Community Location or Sheltering Center

Facility Name	Address*	Type
Sanderford Neighborhood Center	Sanderford Rd	Significant Community Location or Sheltering Center
Southgate Neighborhood Center	Proctor Rd	Significant Community Location or Sheltering Center
Shelly / Sertoma Arts Center	West Millbrook Rd	Significant Community Location or Sheltering Center
Solid Waste Services Scale House	Corporate Prkwy	Critical Resources Management (Energy, Water, etc.)
Solid Waste Services Scale House	N New Hope Rd	Critical Resources Management (Energy, Water, etc.)
Solid Waste Services Yard Waste	New Hope Rd	Critical Resources Management (Energy, Water, etc.)
Solid Waste Services Transfer Station	Corporate Prkwy	Critical Resources Management (Energy, Water, etc.)
Tarboro Rd Community Center	Tarboro Rd	Significant Community Location or Sheltering Center
Tucker House	North Person St	Significant Community Location or Sheltering Center
Walnut Creek Wetland Community Ctr	Peterson St	Significant Community Location or Sheltering Center
Adminstration Bldg - Wilder's Grove – Remote Operations Center	Beacon Lake Dr	Significant Community Location or Sheltering Center
Worthdale Community Center	Cooper Rd	Significant Community Location or Sheltering Center
Brier Creek Community Ctr	Globe Rd	Significant Community Location or Sheltering Center
Raleigh Convention Center	500 S Salisbury St	Significant Community Location or Sheltering Center
Red Hat Ampitheater	500 S McDowell St	Significant Community Location or Sheltering Center
Rolesville		
US Post Office		Significant Community Location or Sheltering Center
Water Booster Station	Bowling Street	Critical Resources Management (Energy, Water, etc.)
Sewer Pump Station	Averett at Jones Dairy	Critical Resources Management (Energy, Water, etc.)
Water Tower	730 South Main Street	Critical Resources Management (Energy, Water, etc.)
Wake Forest		
Community House	133 West Owen Ave	Significant Community Location or Sheltering Center
Alston-Massenburg Recreation Center	416 Taylor St	Significant Community Location or Sheltering Center
Flaherty Park Center	North White Street	Significant Community Location or Sheltering Center
Electric Substation	West Cedar Ave	Critical Resources Management (Energy, Water, etc.)
Wake Forest Urgent Care		Significant Community Location or Sheltering Center
Fast Med		Significant Community Location or Sheltering Center
Public Service Company of NC		Critical Resources Management (Energy, Water, etc.)
Century Link Phone Service		Critical Resources Management (Energy, Water, etc.)
Wake Forest Power		Critical Resources Management (Energy, Water, etc.)
Duke Energy		Critical Resources Management (Energy, Water, etc.)
Wake Electric Membership Corporation		Critical Resources Management (Energy, Water, etc.)
Holding Oil Company		Critical Resources Management (Energy, Water, etc.)
Cruziers		Critical Resources Management (Energy, Water, etc.)
The Learning Experience		Significant Community Location or Sheltering Center
Wake Forest Child Care Center		Significant Community Location or Sheltering Center

Facility Name	Address*	Type
Children's Adventure		Significant Community Location or Sheltering Center
Primrose School of Heritage		Significant Community Location or Sheltering Center
Goddard School		Significant Community Location or Sheltering Center
Wake Forest Kids-R-Kids		Significant Community Location or Sheltering Center
Kids Educational Center		Significant Community Location or Sheltering Center
Heritage Children's Academy		Significant Community Location or Sheltering Center
Rising Star Christian Academy		Significant Community Location or Sheltering Center
Wake Forest Baptist Church		Significant Community Location or Sheltering Center
St. John's Episcopal Church		Significant Community Location or Sheltering Center
Hope Lutheran Church		Significant Community Location or Sheltering Center
Wake Forest Presbyterian Church		Significant Community Location or Sheltering Center
St. Catherine of Siena Early Childhood Center		Significant Community Location or Sheltering Center
Thales Academy		Significant Community Location or Sheltering Center
Endeavor Charter School		Significant Community Location or Sheltering Center
Wake Forest Charter Academy		Significant Community Location or Sheltering Center
Franklin Academy		Significant Community Location or Sheltering Center
St. Catherine's School		Significant Community Location or Sheltering Center
Southeastern Baptist Seminary		Significant Community Location or Sheltering Center
Dubois Center		Significant Community Location or Sheltering Center
Boys and Girls Club		Significant Community Location or Sheltering Center
US Post Office		Significant Community Location or Sheltering Center
Wake Forest Library		Significant Community Location or Sheltering Center
Wakefields		Significant Community Location or Sheltering Center
Glen Royall Apartments		Significant Community Location or Sheltering Center
Calvin Jones House		Significant Community Location or Sheltering Center
I.O. Jones House		Significant Community Location or Sheltering Center
Forestville Baptist Church		Significant Community Location or Sheltering Center
Oak Forest		Significant Community Location or Sheltering Center
Hartsfield House		Significant Community Location or Sheltering Center
Purefoy-Dunn House		Significant Community Location or Sheltering Center
Crenshaw Hall		Significant Community Location or Sheltering Center
Community House		Significant Community Location or Sheltering Center
Purefoy-Chappell House		Significant Community Location or Sheltering Center
Powell House		Significant Community Location or Sheltering Center
Wendell		
Wendell Community Center	601 W. Third Street	Significant Community Location or Sheltering Center
0.5 MGD Water Tank	Poplar Street	Critical Resources Management (Energy, Water, etc.)

Facility Name	Address*	Type
0.75 MGD Water Tank	Chevrolet Way	Critical Resources Management (Energy, Water, etc.)
Water booster Pump Stations	• Liles Dean Road • Old Zebulon Road	Critical Resources Management (Energy, Water, etc.)
Water or Sewer Meter Stations		Critical Resources Management (Energy, Water, etc.)
Sanitary Sewer Pump Stations		Critical Resources Management (Energy, Water, etc.)
Waterlines		Critical Resources Management (Energy, Water, etc.)
Sewer lines		Critical Resources Management (Energy, Water, etc.)
Southern Bell	104 N. Pine Street	Critical Resources Management (Energy, Water, etc.)
Wendell Public Library	207 S. Hollybrook Rd	Significant Community Location or Sheltering Center
US Post Office	40 Hanor Ln	Significant Community Location or Sheltering Center
ABC Land Child Care I	610 Raymond Dr	Significant Community Location or Sheltering Center
ABC Land Child Care II	55 Liles Dean Rd	Significant Community Location or Sheltering Center
Eastern Wake Senior Center	323 Lake Drive	Significant Community Location or Sheltering Center
Parhams Day Care	4690 Wendell Blvd	Significant Community Location or Sheltering Center
Wendell Baptist Church Day Care	3651 Wendell Blvd	Significant Community Location or Sheltering Center
Wendell Commercial Historic District	Downtown Wendell	Significant Community Location or Sheltering Center
Zebulon		
Community Center	301 S. Arendell Ave	Significant Community Location or Sheltering Center
Bell South Phone Service		Critical Resources Management (Energy, Water, etc.)
Duke Progress Energy		Critical Resources Management (Energy, Water, etc.)
Public Service of North Carolina		Critical Resources Management (Energy, Water, etc.)
Water, Sewer, Reuse by City of Raleigh		Critical Resources Management (Energy, Water, etc.)
Wake County Public Library- Zebulon		Significant Community Location or Sheltering Center
Mudcat Baseball Stadium		Significant Community Location or Sheltering Center
Wake County Eastern Regional Center		Significant Community Location or Sheltering Center
Coventry House		Significant Community Location or Sheltering Center
Zebulon Charter School		Significant Community Location or Sheltering Center
Yarborough-O'Neal Villa		Significant Community Location or Sheltering Center
Zebulon Post		Significant Community Location or Sheltering Center

**Some address information could not be provided or was not applicable to the facility*