



**US Army Corps  
of Engineers®**  
Wilmington District

---

**CESAW**  
**District Circular 500-1-3**



**HURRICANE  
PREPAREDNESS**

**June 2007**

---

**DEPARTMENT OF THE ARMY  
WILMINGTON DISTRICT, CORPS OF ENGINEERS  
POST OFFICE BOX 1890  
WILMINGTON, NC 28402-1890**

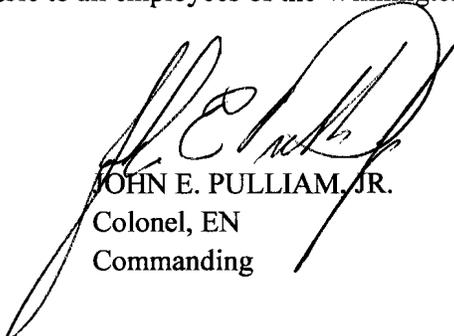
DISTRICT CIRCULAR  
NO. 500-1-3

1 June 2007

**EMERGENCY EMPLOYMENT OF THE ARMY AND OTHER RESOURCES**

**Hurricane Procedures**

1. Purpose. The purpose of the guidance and information in this document is to inform individuals of hurricane procedures and to enable these individuals to better prepare in the event a hurricane strikes the Wilmington District area.
2. Applicability. This Circular is applicable to all employees of the Wilmington District.



JOHN E. PULLIAM, JR.  
Colonel, EN  
Commanding

Distribution:  
DLL-SAW-All SAW

## TABLE OF CONTENTS

<u>Paragraph</u>		<u>Page Number</u>
1	General	1
2	Hurricane Movement	1
3	Weather Bulletins	1
<b>4</b>	<b>Actions Associated With Hurricanes</b>	<b>2</b>
<b>5</b>	<b>Advance Hurricane Season Precautions</b>	<b>3</b>
6	Hurricane Season Preparedness	5
7	Hurricane Information Sources	5
8	Hurricane Categories	6
9	Tracking a Tropical Disturbance	6
<b>10</b>	<b>2007 - 2008 Atlantic Storm Names</b>	<b>7</b>
11	Action To Be Taken When a Hurricane Watch Is Issued	7
12	Actions To Be Taken When a Hurricane Warning Is Issued	8
13	Evacuation	8
14	What To Do At The Shelter	9
15	During The Hurricane	9
16	After The ALL CLEAR Is Given	9
17	District Office Preparations	10
<b>18</b>	<b>Personnel Accountability</b>	<b>11</b>

### APPENDICES

A	Maps Indicating Evacuation Routes and Public Shelter Facilities For New Hanover County, Brunswick County, and Pender County	A-1
B	Hurricane Tracking Chart And Map	B-1
<b>C</b>	<b>Information Management Office FY 2007 Storm Plan for Protecting Computer &amp; Peripheral Equipment</b>	<b>C-1</b>
D	Project Specific Emergency Information	D-1

**NOTE:** Paragraphs highlighted in bold contain additional/updated information.

## HURRICANE PREPAREDNESS INFORMATION

1. General. A hurricane is a storm of tropical origin with cyclonic wind circulation of 74 miles per hour (MPH) or greater. Hurricane season begins on 1 June and ends 30 November each year. Most hurricanes occur during this period and generally have a life span of 9 days, with a higher life span of 12 days during the month of August. Hurricane winds within the storm rotate around a calm center of low atmospheric pressure, known as the eye. The eye averages 14 miles in diameter. Hurricane force winds usually extend outward from the eye for 25-100 miles. The area of gale force winds (32 MPH) may reach 500 miles in diameter.
2. Hurricane Movement. The early movement of a hurricane is usually westward, gradually curving to the northwest and then to the north. Hurricanes originating in the Caribbean Sea and the Gulf of Mexico frequently curve to the northeast, as do Atlantic-bred storms in the higher latitudes. Rotation in the Northern Hemisphere is counterclockwise. A hurricane's forward movement usually varies from 5 to 20 MPH on westerly tracks. Forward movement normally increases as the track turns to the north or northeast, although speeds in excess of 15 MPH are not uncommon in the coastal areas.
3. Weather Bulletins. The National Oceanic and Atmospheric Administration (NOAA) transmits early storm bulletins. The National Hurricane Center (NHC), located in Miami, FL, along with National Weather Service (NWS) Branch offices, gather all Atlantic tropical weather disturbance data.
  - a. This information is released to the public in the following manner:
    - Advisory. A method for disseminating storm and hurricane data to the public every 6 hours.
    - Intermediate Advisory. A method of updating regular advisory information every 2 to 3 hours as necessary.
    - Special Advisory. Warning given any time there is a significant change in weather conditions or change in warnings.
    - Small Craft Advisory. Sustained (exceeding 2 hours) weather and/or sea conditions, either present or forecast that are potentially hazardous to small boats. Hazardous conditions may include winds of 20 to 38 MPH (18 to 33 knots) and/or dangerous wave conditions.
  - b. Advisories contain the following terms:
    - Tropical Disturbance. A moving area of thunderstorms in the tropics.
    - Tropical Depression. An area of low pressure with a counterclockwise circulation of clouds and winds up to 38 MPH.
    - Tropical Storm. Counterclockwise circulation of clouds and winds from 39-73 MPH.
    - Hurricane. Counterclockwise circulation of clouds and winds greater than 73 MPH.
    - Hurricane Watch. There is a probability of a hurricane striking your area.
    - Hurricane Warning. A hurricane is expected to strike the area within 24 hours.

- Storm Surge. Strong winds associated with tropical storms and hurricanes cause the sea level to rise above normal tidal heights, with giant wind-driven waves and strong, unpredictable currents, sometimes covering 50 miles.

- Tornado Watch. Tornadoes and severe thunderstorms are possible in the area.

- Tornado Warning. A tornado has been detected in the area. TAKE SHELTER IMMEDIATELY.

#### 4. Actions Associated With Hurricanes.

a. Rainfall associated with a hurricane can easily average 3 to 6 inches. Greater rainfall does occur, depending on the intensity and ground speed of the system. The severity of flooding depends on the rainfall duration, topography, and degree of saturation. Many coastal areas are extremely vulnerable to flooding. Flooding, storm surge, and tornadoes contribute to most deaths associated with hurricanes.

b. Sea conditions along coastal areas consist of a combination of astronomical tide, storm surge, and wind-driven waves. Abnormally high tides can add 3 to 4 feet to the normal water level, and storm surges can increase water levels an additional 18 feet or more. Wind-driven waves, superimposed on the tide and storm surge, have great erosive power and destructive impact on seawalls and other structures. Storm surge and the Saffir-Simpson Hurricane Scale

(1) Category 1: Minimal damage; Winds 74-95 mph; Surge 4-5 feet. An abnormal rise of sea along a shore as the result, primarily, of the winds from a storm.

(2) Category 2: Moderate damage; Winds 96-110 mph; Surge 6-8 feet. No real damage to building structures. Damage primarily to unanchored mobile homes, shrubbery, and trees. Also, some coastal road flooding and minor pier damage.

(3) Category 3: Extensive damage; Winds 111-130 mph; Surge 9-12 feet. Some roofing material, door, and window damage of buildings. Considerable damage to shrubbery and trees with some trees blown down. Considerable damage to mobile homes and piers. Small craft in unprotected anchorages break moorings.

(4) Category 4: Extreme damage; Winds 131-155 mph; Surge 13-18 feet. Some structural damage to small residences and utility buildings with a minor amount of curtainwall failures. Damage to shrubbery and trees with foliage blown off trees and large trees blown down. Mobile homes are destroyed. Flooding near the coast destroys smaller structures with larger structures damaged by battering of floating debris.

(5) Category 5: Catastrophic damage; Winds more than 155 mph; Surge higher than 18 feet. More extensive curtainwall failures with some complete roof structure failures on small

residences. Shrubs, trees, and most signs are blown down. Complete destruction of mobile homes. Extensive damage to doors and windows. Major damage to lower floors of structures near the shore.

Massive evacuation of residential areas on low ground within 5-10 miles of the shoreline may be required. These surge values are averages for these storm categories. Actual surge depths may be much greater.

Areas that are especially vulnerable to hurricanes and people within them may be ordered to evacuate because of storm surge hazard. People not in these areas may nonetheless be vulnerable to flooding and high winds. For more information, go to [www.ncfloodmaps.com](http://www.ncfloodmaps.com).

c. Tornadoes are frequently associated with hurricanes but can occur anywhere, at any time of the year, day or night. Their occurrence is greatest from March through September between the hours of 1500 and 1900. A tornado is a funnel-shaped, violently destructive, extremely noisy, rotating column of air with wind speeds from 50 to over 300 MPH within the funnel. Tornadoes usually move from southwest to northeast at a ground speed of 25 to 40 MPH, although ground speeds of over 65 MPH have been recorded. Tornado paths average 4 miles in length but may reach 300 miles. Path widths average 300-400 yards but may exceed 1 mile. Waterspouts are tornadoes located over water.

#### 5. Advance Hurricane Season Precautions.

##### a. Create a Disaster Plan.

- Draw a floor plan of your home and mark two escape routes from each room.
- Post emergency telephone numbers by telephones. Teach children how and when to dial 911.
- Make sure everyone in your household knows how and when to shut off water, gas and electricity at the main switches. Consult with your local utilities if you have questions.
- Take first aid and CPR class. Local American Red Cross chapters can provide information.
- Plan how your household would stay in contact if you were separated.
- Pick a friend or relative who lives out of the area for household members to call to say they are okay.
- Consider ways to help neighbors who may need special assistance, such as the elderly or the disabled.
- Make arrangements for pets as they are not allowed in public shelters, with the exception of service animals for those who depend on them.

##### b. Houses and Mobile Homes.

- Trim dead wood from trees.

- Secure loose rain gutters.
- If shutters do not protect windows, stock plywood or pressboard, nails, and masking tape, which can be used to protect windows.
- Inventory personal property for insurance purposes and store the inventory in a waterproof place, such as a safe-deposit box.
- Review insurance policies and ensure they cover both wind and water damage.
- Keep the family car in good repair and the gas tank full.
- Secure all awnings over doors and windows.
- Ensure mobile home's tie-down system meets local and/or state codes.

c. High-Rise Apartments.

- Be familiar with the location of all exit stairways. Count the number of steps from apartment door to the exit door in the event lights are off in the corridors and halls. Do not use the elevator unless absolutely necessary to evacuate elderly or disabled individuals.
- Predetermine a location outside the building for family members to meet if asked to evacuate.
- Rehearse the evacuation plan. It could save lives.
- Do not leave loose items on the terrace or patio. They can cause damage.

d. Tips from the Department of Insurance.

- Homeowners should review their insurance policies with their agents. Most standard homeowners policies do not cover flood damage, and some policies in coastal areas may not cover windstorm damage. Don't wait until the storm is approaching to upgrade your coverage. Be sure to discuss with your agent whether you need coverage for replacement value or actual cash value of your property.
- Flood insurance can be obtained by qualifying property owners by contacting your local agent or through the National Flood Insurance Program. Call 800-638-6620 for more information.
- Residents living in rental property should consider purchasing renter's insurance to cover losses of personal property within the rental unit.
- Make a list of your belongings and take pictures or videotape them. Include a close-up shot of the day's newspaper to provide the date. Keep your inventory list along with purchase receipts, pictures, and your insurance policy in a safe-deposit box or other safe place away from your home. If you are forced to evacuate, take a copy of your policy with you.
- Additional tips for hurricane and storm preparation are also available online at the Department of Insurance's Web site, [www.ncdoi.com](http://www.ncdoi.com).
- If you have questions or problems concerning your insurance coverage, contact the Consumer Services Division of the Department of Insurance, toll free at 800-546-5664.

6. Hurricane Season Preparedness.

a. Know safe routes inland and the location of shelters if evacuation is necessary. Charts indicating area shelters and maps detailing safe routes inland for New Hanover, Brunswick, and Pender Counties may be found in Appendix A, beginning on page A-1.

b. Know the meaning of the severe weather and hurricane information released by the National Weather Service (see paragraph 3).

c. Know the area's potential storm surge and land elevation.

d. Discuss the purpose of preparation with the entire family. Have a clear understanding of where the family will gather and know which shelter will be used if a watch or warning is issued. Know where each family member may be reached if away from home. Leave informative notes if direct communication is not possible.

e. Assemble a Hurricane Survival Kit and store it in a convenient location known to all family members. Hurricane Survival Kits should contain the following items.

- Food (nonperishable)
- Water (1 gallon per person per day for drinking)
- Eating and cooking utensils
- Toilet articles
- Sanitary needs
- Medication
- Portable radio and batteries
- Flashlight and batteries
- Bedding
- Clothing
- Special needs for young, elderly, or handicapped individuals
- Portable ice chest
- First aid supplies

f. Keep on hand a bag or can of lime to sterilize garbage and refuse in anticipation of reduced collection services.

g. Obtain vicinity and state maps.

NOTE: More information for storm preparation can be found at [www.fema.gov/areyouready/](http://www.fema.gov/areyouready/)

7. Hurricane Information Sources. Local governments and the Emergency Management Director or designated alternate are responsible for maintaining the emergency communication and warning

systems. The Emergency Operations Control Group is comprised of local, state, and pre-designated support agency officials, which make local response decisions. The County Commission Chairmen and Mayors work with the Emergency Management Director to provide uniform public information. The Emergency Management Director is, however, the chief spokesperson during a hurricane and will oversee the release of all emergency public information. Local radio and television stations will provide initial releases of information and notification to allow early evacuation if necessary. Following is a brief list of Emergency Alert System stations (EASs) in this area and other appropriate emergency information sources.

- a. NOAA Weather Band Radio, Wilmington 162.55 (MZ)
- b. Coastal EAS Radio Broadcast Stations 97.3 WMNX (FM)  
630 WMFD (AM)

WMNX-FM EAS covers Brunswick, Columbus, New Hanover, Onslow, and Pender Counties. Many local stations have emergency generators for continuous operation.

c. New Hanover County has established a Disaster Preparedness Hot Line, a telephone line that will provide the latest coordinates and data on approaching storms. The number for that line is (910) 341-4123.

d. If a hurricane threatens, Wilmington District information on delayed reporting times, District closure, etc., will be available on the "4001 Emergency Information Line", (910) 251-4001, Employee Hurricane Bulletin; or employees may be contacted by their supervisor.

8. Hurricane Categories. The National Weather Service categorizes hurricanes by intensity on a Saffir/Simpson Hurricane Scale, which indicates the relative strength of a hurricane.

SAFFIR/SIMPSON HURRICANE SCALE

CATEGORY	CENTRAL PRESSURE		WINDS	SURGE
	(Millibars)	(Inches of Mercury)	(MPH)	(FEET)
1	+980	+28.94	74-95	4-5
2	965-979	28.50-28.93	96-110	6-8
3	945-964	27.91-28.49	111-130	9-12
4	920-944	27.17-27.90	131-155	13-18
5	-920	-27.17	+155	+18

9. Tracking a Tropical Disturbance. A tracking data sheet and a plotting chart are located in Appendix B.

a. When an advisory is received, fill in the blanks on the tracking data sheet. Plot the latitude and longitude to the nearest degree on the plotting chart and position a mark to indicate the storm's center.

b. Carefully monitor the storm's direction. Hurricanes and tropical storms change direction and intensity very quickly. Hurricane wind speed can be given in either knots or miles per hour (1 MPH = .868 knot).

10. Atlantic Storm Names.

<u>2007 Names</u>		<u>2008 Names</u>	
Andrea	Lorenzo	Arthur	Laura
Barry	Melissa	Bertha	Marco
Chantal	Noel	Cristobal	Nana
Dean	Olga	Dolly	Omar
Erin	Pablo	Edouard	Paloma
Felix	Rebekah	Fay	Rene
Gabrielle	Sebastien	Gustav	Sally
Humberto	Tanya	Hanna	Teddy
Ingrid	Van	Ike	Vicky
Jerry	Wendy	Josephine	Wilfred
Karen		Kyle	

11. Action To Be Taken When a Hurricane Watch Is Issued. A hurricane watch indicates conditions are favorable for a hurricane to strike the area. When hurricane watches are issued, a specific area and period of time for danger are included. Check often for official bulletins on the EBS weather radio, and/or area television. Immediately take the following actions.

- a. Inventory and restock the Hurricane Survival Kit (refer to paragraph 6.e).
- b. Lock and secure all windows, glass doors, etc., with storm shutters or other protective materials, such as plywood or pressboard. Glass that is coated with a plastic sunscreen is already somewhat protected. Wedge sliding glass door with a bar.
- c. Survey area limbs and branches and trim those which may brush against the house.
- d. Collect and place all loose articles indoors.
- e. Fuel automobiles and check batteries.
- f. Make plans to secure the house if evacuation is intended.
- g. Make preparations to moor, anchor, or store boat in a safe place, keeping in mind high winds and the possibility of storm surge.
- h. Check portable radio and obtain extra batteries. An automobile radio can also be used to stay informed.

- i. Limit telephone calls.
- j. Obtain adequate supplies of special or prescription medicines, baby needs, and sanitary items.
- k. Become familiar with the main cutoff devices for electricity, water, and gas.
  - l. Package valuables such as titles, deeds, insurance papers, licenses, stocks, bonds, jewelry, etc., for safekeeping in waterproof containers. Consider relocating these items to a safe-deposit box.
  - m. If a Red Cross shelter is to be used, contact a local kennel or the Humane Society to arrange for safeguarding pets and animals.
  - n. Remove all pictures, bric-a-brac, etc., from walls. Draw all drapes and blinds to limit flying glass.
  - o. Lower, remove, and store DSS/television antennas in a safe place.
  - p. Turn off electricity to pool and add extra chlorine to the water. Aluminum furniture can be placed in the pool for safekeeping.
  - q. Arrange for transportation should evacuation be necessary. This is especially important for the elderly and handicapped.

12. Actions To Be Taken When a Hurricane Warning Is Issued. A hurricane warning is issued when winds of at least 74 MPH, high water, and a storm surge are expected in a specific area within 24 hours. The warning will identify coastal areas where these conditions are expected to occur. Depending on the strength, location, and direction of the hurricane's movement, coastal areas can require as long as 24 hours to evacuate. For this reason, be prepared to evacuate even if the weather does not appear threatening at the time. Pay close attention to official announcements by the Emergency Management Director on the EBS. Disregard rumors. Prepare to take the following actions.

- a. Turn refrigerator and freezer to their coldest settings. In case of power failure, cover freezer with blankets. To maintain coldness, open only when necessary.
- b. Fill containers, bathtub, and washing machine with water.
- c. Relocate Hurricane Survival Kit to central area (refer to paragraph 6.e).
- d. Review evacuation routes and shelter sites (see maps for specific counties).
- e. Use the telephone only for emergencies.

13. Evacuation. When a hurricane threatens to strike, the Emergency Management Director and local government officials will decide if and when evacuation is necessary. Local radio and television stations will provide notification of areas to be evacuated and information on which Red Cross shelters are opened and staffed. If evacuation is advised, the following information applies.

- a. Act immediately. Do not take the chance of becoming marooned.
- b. Store perishables, taking reasonable amounts of nonperishable foodstuffs. Prepare a meal and snack for family members because it may be some time before food or beverages are provided.
- c. Take Hurricane Survival Kit to the shelter.
- d. Do not attempt to take pets, firearms, or intoxicating beverages into the shelter. The only animals allowed in shelters are assistance animals (ex. seeing-eye dogs).
- e. Mass transportation pickup points and schedules will be broadcast on television and radio. A minimum number of buses will be available. If transportation is to be provided by friends or neighbors, contact those individuals.
- f. Turn off all utilities upon departure.
- g. Lock home securely.
- h. Travel with care, leave early and follow recommended routes. Stay away from low-lying areas. Avoid obstructions, wires, and trees. Keep radio on and listen for additional instructions and bulletins.
- i. Remember the Red Cross shelter will not have all the comforts of home. Be prepared to make the best of the situation.

14. What To Do At The Shelter. Upon arrival at the Red Cross shelter, all individuals will be registered and briefed on the shelter's rules and procedures. While using the shelter, each person has an obligation to help keep the building clean and sanitary. If possible, volunteer to assist the shelter workers in some way. Communications with shelters will be maintained via law enforcement officials patrolling the area or assigned to shelter sites, as well as updated news media, as long as the stations maintain power. Stay calm and anticipate behavioral changes, especially in children.

15. During The Hurricane. Remain indoors during the hurricane. If the calm center passes directly overhead, there will be a lull in the wind lasting from a few minutes to an hour or more. Do not go outside unless emergency repairs are absolutely necessary.

Remember, at the other side of the eye the winds rise rapidly to hurricane force and come from the opposite direction of the leading edge. Electricity, water, gas, and telephone services may be interrupted. Stay calm and listen to the radio for the ALL CLEAR.

16. After The ALL CLEAR Is Given. Continue to monitor radio and television bulletins for updated information. Local law enforcement agencies will control access into affected areas. To avoid post-hurricane disasters, follow the instructions below.

- a. If driving is necessary, avoid disaster areas unless they encompass home or work. Drive with extreme caution and be alert for road obstructions, downed electrical wires, and flooded low

spots. Do not sightsee. If public transportation was provided to the shelter, return transportation will also be provided.

b. Evaluate your home with extreme care and survey surroundings for downed wires, escaping gas, downed trees, structural damage, etc. Check all utility systems to be sure they are safe. Take photographs of major damage before beginning any repairs. Report broken or damaged water, sewer, and electrical lines to appropriate representatives.

c. Check for the possibility of food spoilage. Spoiled perishables should be disposed by double bagging before placement in garbage container for collection.

d. Do not drink water from the faucet until local officials advise that it is safe from contamination. Use emergency supply or boil tap water before drinking.

e. Advise friends and family members that you are safe. They may not be able to contact you.

f. Snakes, animals, and insects instinctively travel inland to higher ground to escape approaching floodwaters. Take precautions.

g. Use streets and roads as little as possible to allow recovery operations to proceed.

17. District Office Preparations. See Appendix C, Information Management Office Storm Plan for Protecting Computer & Peripheral Equipment, for procedures to be followed prior to departing the District Office if storm conditions are anticipated.

18. Personnel Accountability. In an emergency, accounting for personnel and providing valuable situational and safety information is the top USACE priority. As such, it is imperative to have a simple mechanism to ensure the accountability of civilian, military, and contractor employees and maximize their situational awareness.

a. It is USACE policy to attain 100% accountability as soon as possible after a large-scale emergency, disaster, or Command-ordered evacuation. USACE has established a toll-free phone number/email for personnel accountability during emergencies **when local personnel accountability procedures cannot be followed.**

b. The personnel accountability number is 1-877-HI-USACE (1-877-448-7223). Alternatively, the personnel accountability email is [877.hi.usace@usace.army.mil](mailto:877.hi.usace@usace.army.mil) and can be used by those unable to access the phone line.

c. **Personnel accountability is the responsibility of the local Command.** The accountability policy and establishment of the 1-877-HI-USACE in no way eliminates any accountability or notification procedures implemented at the Division/District/Center level. The purpose of this number is to provide a simple method and single process to expediently achieve 100% accountability following a large-scale disaster, emergency, or Command-ordered evacuation when local personnel accountability procedures cannot be followed.

d. All USACE local office emergency/contingency plans shall require all employees to call the number or email address within 72 hours of a large-scale disaster, emergency, or Command-ordered evacuation resulting in normal personnel accountability procedures not being followed. The message on the phone and the automatically generated email response both ask employees to identify themselves and provide contact information. Once the magnitude of the disaster is known, the message can be updated to provide information and procedures on leave and/or reporting to work, or to designate an alternate work location.

e. In the event of a large-scale disaster, emergency, or Command-ordered evacuation, the impacted Division/FOA/Center will notify the USACE Operations Center (UOC). The UOC will track all employee contact until 100% accountability of the impacted organization has been achieved. If there has been no notice of an event, and employees begin calling/emailing, the UOC will attempt to contact the impacted organization for a situational assessment. If contact cannot be made, the UOC will assume there is an emergency situation and track personnel until otherwise informed.

f. District/FOAs/Centers are responsible for ensuring employee awareness of 1-877-HI-USACE and [877.hi.usace@usace.army.mil](mailto:877.hi.usace@usace.army.mil) and when they should be utilized.

g. Districts/FOAs/Centers are responsible for providing an accountability roster of names to the UOC in the event of a large-scale disaster, emergency, or Command-ordered evacuation.

**APPENDIX A**

**MAPS INDICATING EVACUATION ROUTES**

**AND**

**PUBLIC SHELTER FACILITIES**

**FOR**

**NEW HANOVER COUNTY**

**BRUNSWICK COUNTY**

**AND**

**PENDER COUNTY**

**APPENDIX A**

**Public Shelter Facilities**

**New Hanover County, N. C.**

**Check media announcements at time of impending storm for location and time of shelter openings. Locations are noted by number on the attached county map.**

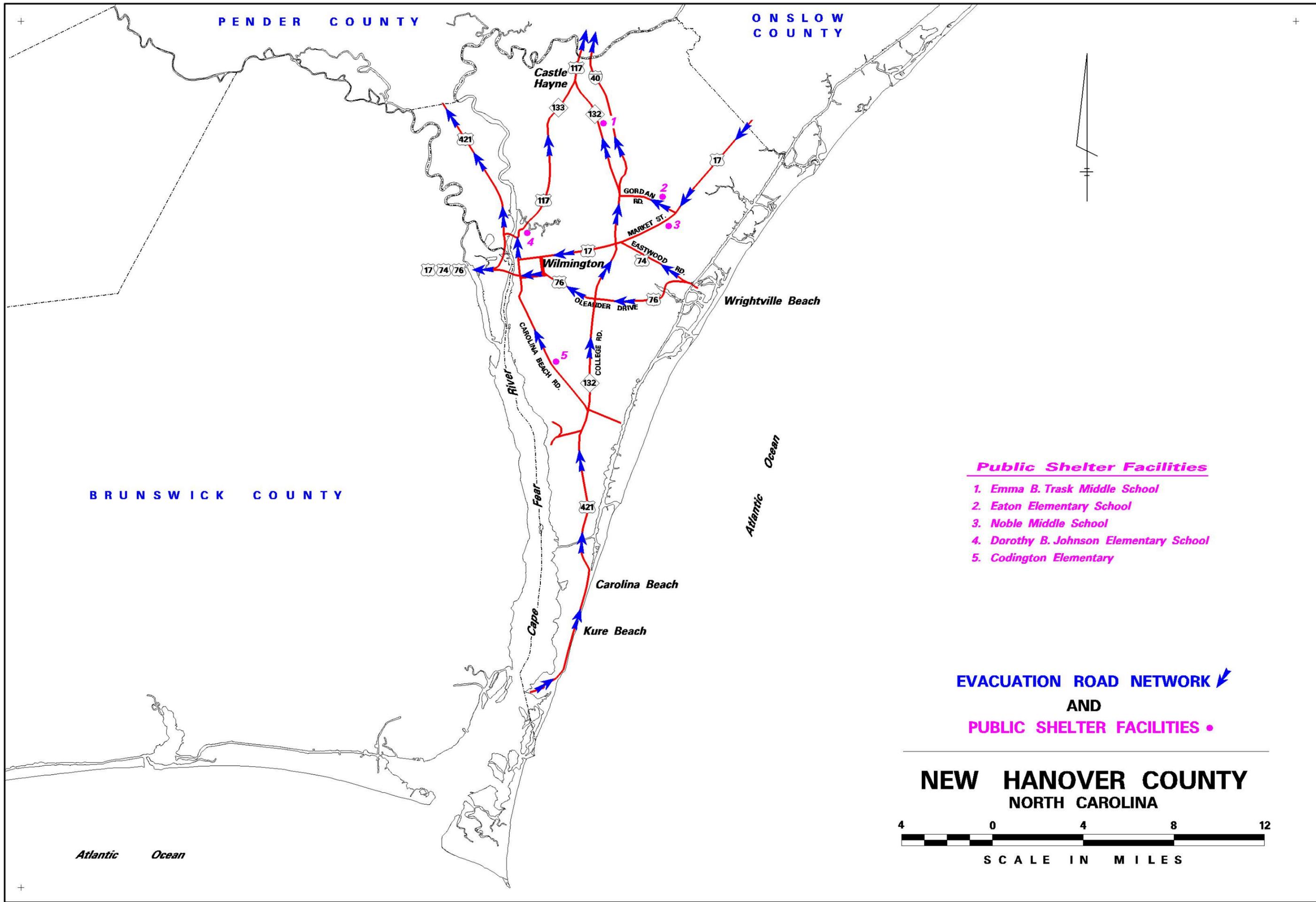
**PRIMARY SHELTERS**

1. **Emma B. Trask Middle School**  
2900 North College Road  
Wilmington, NC 28405
2. **Eaton Elementary School**  
6701 Gordon Road  
Wilmington, NC 28405
3. **Noble Middle School**  
6520 Market Street  
Wilmington, NC 28405
4. **Dorothy B. Johnson Elementary School**  
1100 McRae Street  
Wilmington, NC 28401

**RESERVE SHELTERS** (Used only when Primary Shelters are full.)

5. **Codington Elementary School**  
4321 Carolina Beach Road  
Wilmington, NC 28401

**THIS PAGE LEFT BLANK INTENTIONALLY**

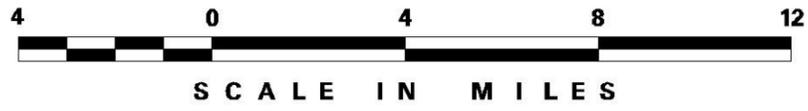


**Public Shelter Facilities**

- 1. Emma B. Trask Middle School
- 2. Eaton Elementary School
- 3. Noble Middle School
- 4. Dorothy B. Johnson Elementary School
- 5. Codington Elementary

**EVACUATION ROAD NETWORK** ↘  
**AND**  
**PUBLIC SHELTER FACILITIES** •

**NEW HANOVER COUNTY**  
**NORTH CAROLINA**



**APPENDIX A**

**Public Shelter Facilities**

**Brunswick County, N. C.**

**Check media announcements at time of impending storm for location and time of shelter openings. Locations are noted by number on the attached county map.**

**PRIMARY SHELTERS**

1. **North Brunswick High School**  
1395 Scorpion Drive  
(Highway 17 Near Woodburn Community)  
Leland, NC 28451
2. **South Brunswick High School**  
280 Cougar Drive, BSL  
(Boiling Spring Lakes, Highway 87)  
Southport, NC 28461
3. **West Brunswick High School**  
550 Whiteville Road, NW  
(Highway 130 West)  
Shallotte, NC 28470

**RESERVE SHELTERS** (Opened as needed after High Schools are full)

- |   |  |
|---|--|
| 4. <b>Leland Middle School</b><br>927 Old Fayetteville Road, NE<br>(Highway 17 Near Woodburn Community)<br>Leland, NC 28451   | 8. <b>Southport Elementary</b><br>701 West 9th Street<br>Southport, NC 28461           |
| 5. <b>Shallotte Middle School</b><br>225 Village Road (Highway 179)<br>Shallotte, NC 28459                                    | 9. <b>Supply Elementary School</b><br>51 Benton Road, SE<br>Supply, NC 28459           |
| 6. <b>South Brunswick Middle School</b><br>100 Cougar Drive, BSL<br>(Boiling Spring Lakes, Highway 87)<br>Southport, NC 28461 | 10. <b>Union Elementary School</b><br>170 Union School Road, NW<br>Shallotte, NC 28459 |
| 7. <b>Belville Elementary School</b><br>575 River Road<br>Leland, NC 28451  | 11. <b>Virginia Williamson Elementary</b><br>1020 Zion Hill Road<br>Bolivia, NC 28422  |

12. **Bolivia Elementary School**  
4036 Business Hwy 17E  
Bolivia, NC 28422

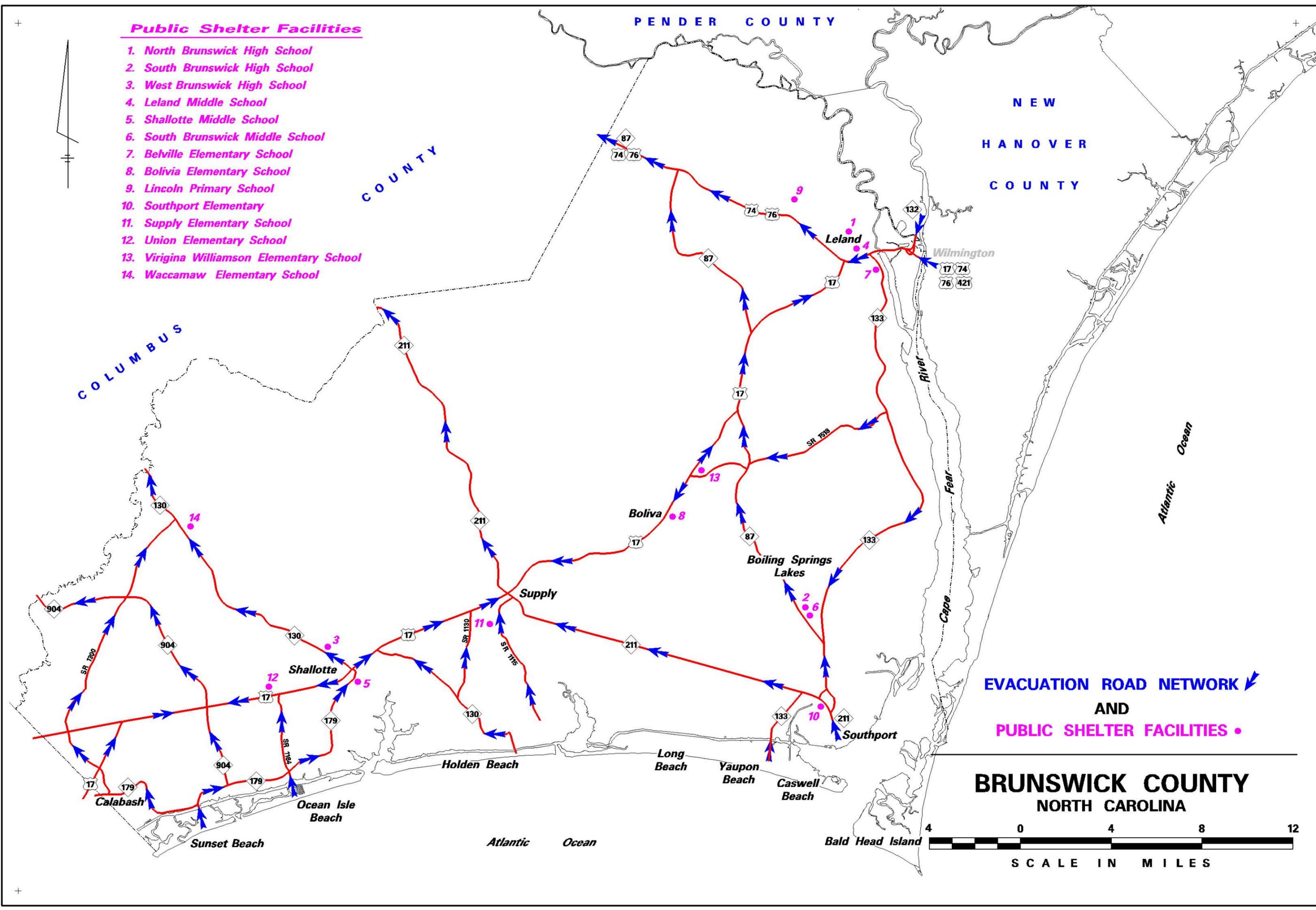
13. **Lincoln Primary School**  
1664 Lincoln Road  
(Old Highway 74, Near Phoenix)  
Leland, NC 28451

14. **Waccamaw Elementary School**  
5901 Waccamaw School Road, NW  
(Intersection Hwy 130 & SR 1329)  
Ash, NC 28420

14. **Waccamaw Elementary School**  
5901 Waccamaw School Road, NW  
(Intersection Hwy 130 & SR 1329)  
Ash, NC 28420

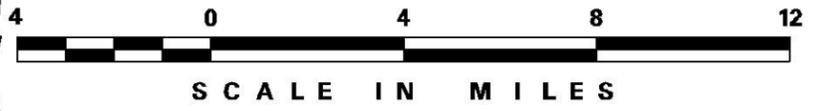
**Public Shelter Facilities**

1. North Brunswick High School
2. South Brunswick High School
3. West Brunswick High School
4. Leland Middle School
5. Shallotte Middle School
6. South Brunswick Middle School
7. Belville Elementary School
8. Bolivia Elementary School
9. Lincoln Primary School
10. Southport Elementary
11. Supply Elementary School
12. Union Elementary School
13. Virigina Williamson Elementary School
14. Waccamaw Elementary School



**EVACUATION ROAD NETWORK** ↘  
**AND**  
**PUBLIC SHELTER FACILITIES** •

**BRUNSWICK COUNTY**  
**NORTH CAROLINA**



**APPENDIX A**

**Public Shelter Facilities**

**Pender County, N. C.**

**Check media announcements at time of impending storm for location and time of shelter openings. Locations are noted by number on the attached county map.**

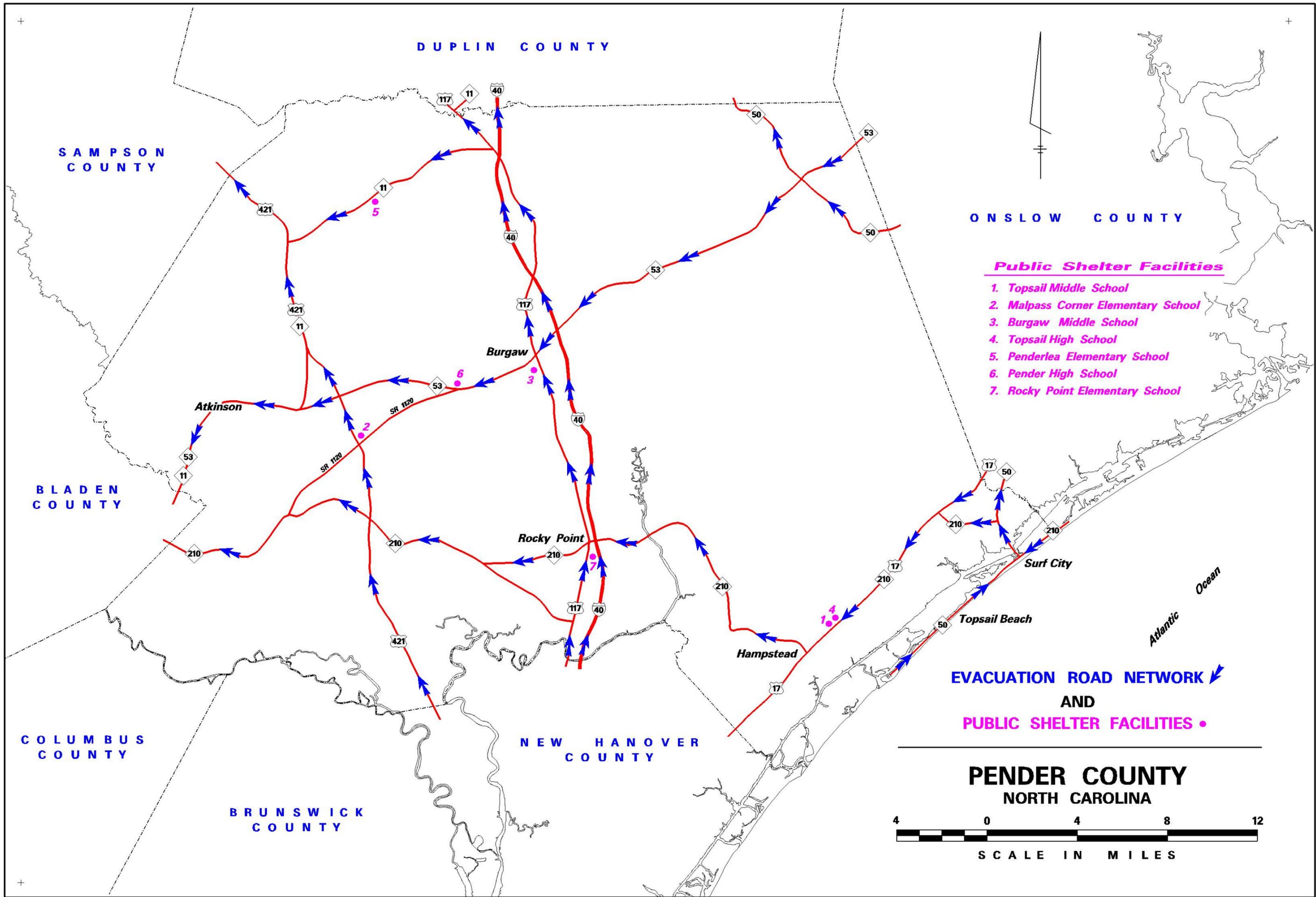
**PRIMARY SHELTERS**

1. **Topsail Middle School**  
17385 US Highway 17 North  
Hampstead, NC 28443
2. **Malpass Corner Elementary School**  
4992 Malpass Corner Road  
Burgaw, NC 28425
3. **Burgaw Middle School** (1st alternate to Pender High)  
500 S. Wright Street  
Burgaw, NC 28425

**SECONDARY SHELTERS** (Used only when Primary Shelters are full.)

4. **Topsail High School** (1st alternate to Topsail Elementary)  
17445 US Highway 17 North  
Hampstead, NC 28443
5. **Penderlea Elementary School**  
82 Penderlea School Road  
Willard, NC 28478
6. **Pender High School**  
5380 NC Highway 53  
Burgaw, NC 28425
7. **Rocky Point Elementary School**  
255 Rocky Point Elementary Road  
Rocky Point, NC 28457

**THIS PAGE LEFT BLANK INTENTIONALLY**

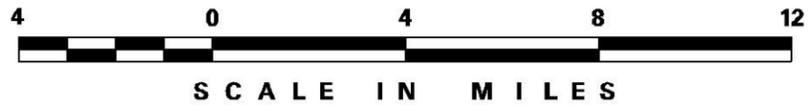


**Public Shelter Facilities**

- 1. Topsail Middle School
- 2. Malpass Corner Elementary School
- 3. Burgaw Middle School
- 4. Topsail High School
- 5. Penderlea Elementary School
- 6. Pender High School
- 7. Rocky Point Elementary School

**EVACUATION ROAD NETWORK** ↙  
**AND**  
**PUBLIC SHELTER FACILITIES** •

**PENDER COUNTY**  
**NORTH CAROLINA**



**APPENDIX B**  
**HURRICANE TRACKING**  
**CHART AND MAP**



**THIS PAGE LEFT BLANK INTENTIONALLY**

# HURRICANE TRACKING CHART

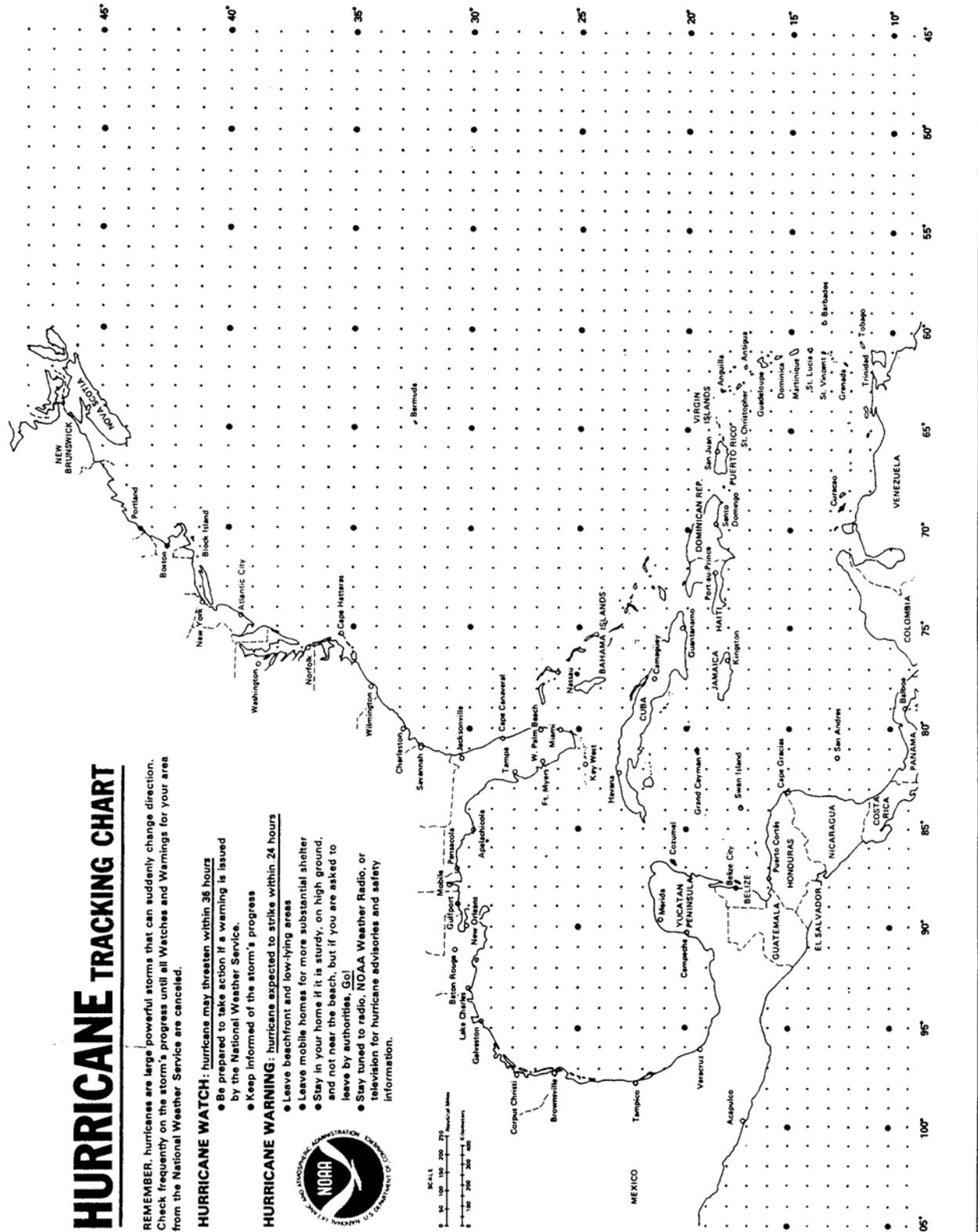
**REMEMBER:** hurricanes are large powerful storms that can suddenly change direction. Check frequently on the storm's progress until all Watches and Warnings for your area from the National Weather Service are canceled.

**HURRICANE WATCH:** hurricanes may threaten within 36 hours

- Be prepared to take action if a warning is issued by the National Weather Service.
- Keep informed of the storm's progress

**HURRICANE WARNING:** hurricanes expected to strike within 24 hours

- Leave beachfront and low-lying areas
- Leave mobile homes for more substantial shelter
- Stay in your home if it is sturdy, on high ground, and not near the beach, but if you are asked to leave by authorities, Go!
- Stay tuned to radio, NOAA Weather Radio, or television for hurricane advisories and safety information.



**THIS PAGE LEFT BLANK INTENTIONALLY**

**APPENDIX C**

**INFORMATION MANAGEMENT OFFICE**

**STORM PLAN**

**FOR PROTECTING**

**COMPUTERS, PERIPHERALS AND INFORMATION**

## APPENDIX C

### INFORMATION MANAGEMENT OFFICE STORM PLAN FOR PROTECTING COMPUTERS, PERIPHERALS AND INFORMATION

1. Preparation: Since the windows in this building are designed to withstand 110 mph winds, they do not need to be taped in preparation for a storm; however, close and lower blinds for increased protection. Staff should review employee checklist.

a. LM.

(1) Before Hurricane season begins (1 June), stockpile approx. 1,000 heavy duty, extra large plastic yard bags; and/or a combination of rolls of 25'-50' sheeting of equal width and similar pliability, to be distributed to users in the event of a storm. (Rolls should be lightweight enough that they can be easily carried to the work area.)

(2) Purchase/stock three - 50' foot rolls of sheeting 45" to 50" wide, minimum 4 mil, clear (preferable), for covering equipment in the Computer Room and Customer User Area and oversized equipment, i.e., plotters, copiers, large workstations, etc.

(3) Purchase/stock approx. 25 flashlights and batteries for employees to access unlighted areas when necessary to secure equipment.

(4) Purchase/stock battery operated lanterns for increased lighting in essential offices, if necessary.

(5) Purchase adequate supply of CDs for backing up user hard drives if necessary.

b. IMQ. Make sure there is an adequate inventory of supplies/equipment for use during Mobilization (IM maintains a supplies/equipment list for Mobilization requirements).

2. Notification Process: Employees should be notified that each user is responsible for securing his/her own equipment as per guidelines to follow below (2a. and 2b). Supervisors will be responsible for assigning/ensuring that equipment for employees not in building is secured.

a. LM. Make an announcement over the intercom system when the plastic bags/sheeting is available in the center quad and users are to pick them up from there to secure automation equipment.

b. IM. An intercom announcement will be made and an email will be issued to users, if possible (i.e., network is still operational), when it is time to begin the process of securing equipment. The email will explicitly inform users **NOT** to cover equipment until they are finished using them (unplug equipment). Copies of this guidance will be placed on table in center quad beside the supply of bags, with instructions for users on how to secure their equipment. The guidance is identified in 3. below.

3. Securing Equipment: In addition to the employees' efforts to secure their own respective areas it is necessary to secure other areas such as the Customer User Area; Computer Room; Tape Vault; Radio Room; Teletype Room, Multipurpose Room, Conference Rooms and any other common use

area. IMO will attempt to secure these areas. Do this by using the same guideline, "EMPLOYEE STORM CHECKLIST FOR PROTECTION OF OFFICE EQUIPMENT / SPACE" which follows.

## **EMPLOYEE STORM CHECKLIST FOR PROTECTION OF OFFICE EQUIPMENT/SPACE**

### **Before Storm**

Due to possible adverse weather conditions, it is imperative that government automation equipment (computers, printers, phones, fax machines, plotters, scanners, copiers, monitors, UPS, etc.) be protected from water damage as much as possible before you leave work! If you have critical DATA files (DATA files only not programs) on your HARD DRIVE (not network files as they are automatically backed up daily) be sure to back up your critical data to CD or other media and store in a safe place. Logistics Management Office (LMO) will provide the backup media.

If you are aware of team members not present, please assist in protecting his/her equipment as well.

Equipment *can* remain on the floor!

IMO will make an attempt to quickly check the entire building to ensure all equipment is covered and turned off before IMO staff leaves the building.

When you return to the office, please refer to IMO guidance below as to the proper procedures for re-connecting and turning on your automation equipment.

### **Securing and Powering Down Equipment: Follow steps in order!**

- Properly "shut down" computer i.e. Start, Shutdown
- Power off monitor (power switch on monitor)
- Disconnect the LAN network cable from the back of the CPU, or from the wall outlet (LAN cable looks like a telephone cable)
- Power off the UPS backup device (hold down power button for at least 5 seconds)
- Disconnect UPS power cord from wall outlet. Note: if UPS keeps beeping it is not turned off i.e. turn power switch off
- Make sure all power is OFF on ALL equipment i.e. printers, copiers etc. (Equipment will overheat when covered with plastic)
- Cover equipment with plastic sheeting.
- Move items away from windows and close all blinds.
- Make sure personal items are removed or secured. (Radios, tape players, fans, pictures, etc.)

## **After Storm**

### **Powering up Equipment: Follow steps in order!**

- ❑ Remove plastic and fold all plastic sheeting and place in boxes in center quad for LMO to store.
- ❑ Re-connect UPS power cord to wall outlet
- ❑ Power on the UPS device (some models vary first push the power button, if that does not work then hold down power button for at least 5 seconds)
- ❑ Power on the monitor (power switch on monitor)
- ❑ Connect the LAN network cable to the back of the CPU or wall outlet (LAN cable looks like a telephone cable).
- ❑ Power on all equipment (CPU, printers, copiers, fax machines etc.)
- ❑ Ctrl-Alt-Delete to log on computer
- ❑ Return usable plastic sheeting/plastic bags and flashlights to center quad for pickup up by LMO.
- ❑ Notify LMO of any building damage/repair work required
- ❑ Notify IMO of any equipment problems.

### **Instructions for Backing up files from your Hard Drive to CD**

SAW has standardized on Roxie's Easy CD Creator software for backing up hard drive data. Below guidance is provided for backing up hard drive data to CD using Easy CD Creator software. If you have any questions, please contact the IT Helpdesk.

Note: Most computers will have 2 CD drives, however, only one of the drives will be the writeable/recordable drive (CD-R or CD-RW). The CD drive will be identified as CD-R or C-RW on the front of the CD drive – look carefully.

#### **Terms:**

CD-R disc: A recordable CD that you can "write" or save data to one time only.

CD-RW disc: A recordable CD that you can "write" or "re-write" data to many times. Data can also be deleted from this disc.

CD-RW drive: A drive in your PC that is capable of writing to CD-R and CD-RW discs, as well as reading data from CD-ROMs, and playing audio CDs.

CD-ROM drive: Can only read data and play audio CDs.

Burn: The process of writing data to a recordable CD. It's done with a laser, so the process involves "burning" the data onto the disc.

Burn speed: How fast data is written to the disc. You'll see this depicted as "4X," "16X," and so forth.

Coaster: A CD-R that turns out to be unreadable because of a recording error. This can often happen if you use your PC to do other things while burning a CD, or if you have a slow system. The latest generation of CD-RW drives incorporates technology to help prevent burning coasters.

Image: A complete copy of the data as it will appear on the CD, but in a separate file on your hard drive. Creating an image helps prevent burning coasters and saves time when burning multiple copies. But in general, creating an image will add extra steps to the burning process. It may not always be necessary on newer drives.

Below are instructions for *Easy CD Creator* and *Nero* which are 2 of the most popular programs used to backup files. The steps are pretty much the same for other software used for backing up data.

#### **Backing up hard drive data Using Roxio's Easy CD Creator 5:**

1. Click, on Start, Programs, Roxio Easy CD Creator, Project Selector. Roll cursor over Make a Data CD and select Data CD Project.
2. Insert a blank CD-R disc into your rewritable/recordable drive (will be identified by CD-R or CD-RW on the front of the drive – look carefully on the drive). Choose your source drive in Select source files, and select the files and folders in the top pane that you want to copy to the disc. Click the *Add* button or drag the files and folders into the lower pane. You can see how much room you have left on the disc by looking above the aqua bar at the bottom of the lower pane.

3. Click *Record*.

4. In the Record CD Setup window that pops up, make sure your CD-RW drive is selected. Pick your recording speed. (As a general rule, if you're planning to work in any other apps while the recording is being done, choose a relatively low recording speed.) Click the *Options* button. You'll be able to choose whether you want to record, test, or test and record. Test and record is safest but takes more time. Choose *Finalize CD* under Record Method if you want your disc to be readable in other CD-ROM drives. Then click *Copy to hard drive first*. Creating an image of your data like this is often a good idea, especially if you want to make multiple copies. (This is the safest way to go if you have an older drive that lacks buffer-under-run protection to prevent burning coasters. If you have a newer drive, keep the Buffer Under-run Prevention box checked.) Click *Start recording*.

5. When Easy CD Creator is finished burning the CD, it will prompt you to create a label. Click *Close*, and then click *OK* to close the other Record CD Progress dialog box.

**APPENDIX D**

**PROJECT SPECIFIC EMERGENCY INFORMATION**

**APPENDIX D**

**Project Specific Emergency Information**

**Washington Regulatory Field Office**

**Staff should use routine supervisory channels for information on office status and reporting to work during emergencies and or inclement weather situations. The following is provided as supplemental information only.**

**Beaufort County, NC**

Emergency Management	252-946-2046
Shelter Information:	Listen to media (radio/television) outlets for openings and locations.
EAS Broadcasters:	WDLX 93.3 FM
American Red Cross:	866-GET-INFO
Sheriff's Office:	252-946-7111

**Pitt County, NC**

Emergency Management	252-902-3950
Shelter Information:	Listen to media (radio/television) outlets for openings and locations.
EAS Broadcasters:	WNCT 107.9 FM
American Red Cross:	866-GET-INFO
Sheriff's Office:	252-830-4195

**Craven County, NC**

Emergency Management	252-636-6608
Shelter Information:	Listen to media (radio/television) outlets for openings and locations.
EAS Broadcaster:	WMGV 103.3 FM
American Red Cross:	866-GET-INFO
Sheriff's Office:	252-636-6620

**APPENDIX D**

**Project Specific Emergency Information**

**Asheville Regulatory Field Office**

**Staff should use routine supervisory channels for information on office status and reporting to work during emergencies and or inclement weather situations. The following is provided as supplemental information only.**

**Buncombe County, NC**

Emergency Management	828-255-5638
Shelter Information:	Listen to media (radio/television) outlets for openings and locations.
EAS Broadcasters:	WWNC 570AM
American Red Cross:	866-GET-INFO
Sheriff's Office:	828-250-4477

**APPENDIX D**

**Project Specific Emergency Information**

**Raleigh Regulatory Field Office**

**Staff should use routine supervisory channels for information on office status and reporting to work during emergencies and or inclement weather situations. The following is provided as supplemental information only.**

**Wake County, NC**

Emergency Management	919-856-6480
Shelter Information:	Listen to media (radio/television) outlets for openings and locations.
EAS Broadcasters:	WRAL 101.5 FM
American Red Cross:	866-GET-INFO
Sheriff's Office:	919-856-6900

**APPENDIX D**

**Project Specific Emergency Information**

**Falls / Jordan**

**Staff should use routine supervisory channels for information on office status and reporting to work during emergencies and or inclement weather situations. The following is provided as supplemental information only.**

**Wake County, NC**

Emergency Management 919-856-6480

Shelter Information: Listen to media (radio/television) outlets for openings and locations.

EAS Broadcasters: WRAL 101.5 FM

American Red Cross: 866-GET-INFO

Sheriff's Office: 919-856-6900

**Lee County, NC**

Emergency Management 919-775-8279

Shelter Information: Listen to media (radio/television) outlets for openings and locations.

EAS Broadcasters: WRAL 101.5 FM

American Red Cross: 866-GET-INFO

Sheriff's Office: 919-775-5531

**Chatham County, NC**

Emergency Management 919-542-2811

Shelter Information: Listen to media (radio/television) outlets for openings and locations.

EAS Broadcasters: WRAL 101.5 FM

American Red Cross: 866-GET-INFO

Sheriff's Office: 919-542-2811 x224

**APPENDIX D**

**Project Specific Emergency Information**

**Falls / Jordan  
(Continued)**

**Orange County, NC**

Emergency Management 919-968-2050

Shelter Information: Listen to media (radio/television) outlets for openings and locations.

EAS Broadcasters: WTVD –TV; WRAL 101.5FM

American Red Cross: 866-GET-INFO

Sheriff’s Office: 919-732-8181

**Durham County, NC**

Emergency Management 919-560-0660

Shelter Information: Listen to media (radio/television) outlets for openings and locations.

Primary EAS Broadcasters: WTVD –TV; WQDR 94.7 FM; WRAL 101.5 FM

American Red Cross: 866-GET-INFO

Sheriff’s Office: 919-560-0897

**Franklin County, NC**

Emergency Management 919-496-5005

Shelter Information: Listen to media (radio/television) outlets for openings and locations.

Primary EAS Broadcasters: WTVD –TV; WRAL 101.5 FM

American Red Cross: 866-GET-INFO

Sheriff’s Office: 919-496-3332

**APPENDIX D**

**Project Specific Emergency Information**

**John H. Kerr**

**Official work schedules, delays, or cancellations will be obtained by phoning the Powerhouse Operator (434-738-6633 ex. 200). The following is provided as supplemental information only.**

**Granville County, NC**

Emergency Management 919-603-1310

Primary Shelter: Northern Granville Middle School, Oxford; Toler Oak Hill Elementary School, Oxford; Mount Energy Elementary School. Listen to media (radio/television) outlets for openings.

EAS Broadcasters: WQDR 94.7 FM / WIZE 98.3 FM / WCBQ 1340 AM

American Red Cross: 866-GET-INFO

Sheriff's Office: 919-693-3213

**Vance County, NC**

Emergency Management 252-438-8264

Shelter Information: Primary shelter – Southern Vance School, Henderson, NC. Listen to media (radio/television) outlets for openings and additional locations.

EAS Broadcasters: WIZS 1450 AM  
WYSK 98.9 FM  
WICE 98.3 FM

American Red Cross: 866-GET-INFO

Sheriff's Office: 252-738-2200

**Warren County, NC**

Emergency Management: 252-257-2666

Primary Shelter: Warren County High School, Warrenton, NC. Listen to media (radio/television) outlets for openings.

EAS Broadcasters: WARR 1520 AM / WRAL-TV

American Red Cross: 866-GET-INFO

Sheriff's Office: 252-257-3364

**APPENDIX D**

**Project Specific Emergency Information**

**John H. Kerr  
(Continued)**

**Brunswick County, VA**

Emergency Management: 434-949-7506

Primary Shelter: Listen to media (radio/television) outlets for openings.

EAS Broadcasters: WKSK 98.9 FM  
WTVR 6 TV (Richmond)

American Red Cross: 866-GET-INFO

Sheriff's Office: 434-848-3133

**Charlotte County, VA**

Emergency Management: 434-542-5117

Primary Shelter: Listen to media (radio/television) outlets for openings.

EAS Broadcasters: WHLF 95.3 FM  
WDBJ 7 TV (Roanoke)

American Red Cross: 866-GET-INFO

Sheriff's Office: 434-542-5141

**Dinwiddie County, VA**

Emergency Management: 804-469-5388

Primary Shelter: Listen to media (radio/television) outlets for openings.

EAS Broadcasters: WKSK 98.9 FM  
WRIC 8 TV (Richmond)

American Red Cross: 866-GET-INFO

Sheriff's Office: 911

**APPENDIX D**

**Project Specific Emergency Information**

**John H. Kerr  
(Continued)**

**Lunenburg County, VA**

Emergency Management: 434-696-2142

Primary Shelter: Listen to media (radio/television) outlets for openings.

EAS Broadcasters: WKSK 98.9 FM; WTVR 6 TV (Richmond)

American Red Cross: 866-GET-INFO

Sheriff's Office: 434-696-4452

**Mecklenburg County, VA**

Emergency Management: 434-738-6191

Primary Shelter: Listen to media (radio/television) outlets for openings and locations.

EAS Broadcasters: WSHV 1370 AM  
WKSK 98.9 FM  
WWBT 12 TV (Richmond)

American Red Cross: 866-GET-INFO

Sheriff's Office: 434-738-6171

**APPENDIX D**

**Project Specific Emergency Information**

**Kerr Scott**

**Staff should use routine supervisory channels for information on office status and reporting to work during emergencies and or inclement weather situations. The following is provided as supplemental information only.**

**Wilkes County, NC**

Emergency Management: 336-651-7305

Primary Shelter: Listen to media (radio/television) outlets for openings and locations.

EAS Broadcasters: WKBC 97.3 FM  
WWWC 1240 AM  
TV12 Winston- Salem

American Red Cross: 866-GET-INFO

Sheriff's Office: 336-903-7600

**APPENDIX D**

**Project Specific Emergency Information**

**Philpott**

**Staff should use routine supervisory channels for information on office status and reporting to work during emergencies and or inclement weather situations. The following is provided as supplemental information only.**

**Guilford County, NC**

Emergency Management: 336-641-2278

Primary Shelter: Listen to media (radio/television) outlets for openings and locations.

EAS Broadcasters: All available

American Red Cross: 866-GET-INFO

Sheriff's Office: 336-641-3694

**Franklin County, VA**

Emergency Management: 540-483-3091

Primary Shelter: Franklin Middle School, Rocky Mount. Listen to media (radio/television) outlets for openings.

EAS Broadcasters: WFIR 9600 FM  
K 92 FM  
RQK 96 FM

American Red Cross: 866-GET-INFO

Sheriff's Office: 540-483-3000

**Henry County, VA**

Emergency Management: 276-634-4662

Primary Shelter: Listen to media (radio/television) outlets for openings and locations.

EAS Broadcasters: WFIR 9600 FM  
Cable Interrupt Crawl

American Red Cross: 276-632-5127

Sheriff's Office: 276-656-4200

**APPENDIX D**

**Project Specific Emergency Information**

**Philpott  
(Continued)**

**Patrick County, VA**

Emergency Management:	276-694-4940/6094
Primary Shelter:	Listen to media (radio/television) outlets for openings and locations.
EAS Broadcasters:	1270 AM
American Red Cross:	866-GET-INFO
Sheriff's Office:	276-694-3161

**APPENDIX D**

**Project Specific Emergency Information**

**Lock and Dams 1, 2 and 3**

**Staff should use routine supervisory channels for information on office status and reporting to work during emergencies and or inclement weather situations. The following is provided as supplemental information only.**

**Bladen County, NC**

Emergency Management: 910-862-6760

Primary Shelter: Listen to media (radio/television) outlets for openings and locations.

EAS Broadcasters: WECT-TV 6  
87.7 FM

American Red Cross: 866-GET-INFO

Sheriff's Office: 910-862-3750