

# Community Forest Storm Mitigation Plan for North Carolina Communities

## Template



Template

Community Forest Storm Mitigation Plan for North Carolina Communities

This Template was copied with permission from the Sustainable  
Community Forestry Program, Georgia Forestry Commission and adapted for use in North Carolina

## How to Use This Template

This template is intended as a tool for guiding a community through the development of a *Community Forest Storm Mitigation Plan* and as a basic plan framework. The *Community Forest Storm Mitigation Planning Workbook*, which accompanies this template, includes step-by-step instructions for completing the plan template.

*As you fill in the blanks, check off completed activities, and circle the appropriate selections within brackets, you will begin the assessment of your storm readiness and the development of your plan.* You can address the gaps in information, activities and programs that become apparent as you go through the template and then begin to further develop your community forest management program with storm mitigation in mind.

After completing as much of the template as possible, you can either use it as is or use the Word document version of the template available on the NCFS website to write a final *Community Forest Storm Mitigation Plan*. Your completed template or plan should be distributed to and implemented by the storm mitigation team you've assembled during the process. As community forest and storm mitigation program elements are further developed and changes are made in programs and procedures, you can revise your plan to keep it up to date. An annual review is recommended.

Both the workbook and template are available as PDF and Word documents on the North Carolina Forest Service's Urban and Community Forestry Program Web site at [http://ncforests.service.gov/Urban/Urban\\_Forestry.htm](http://ncforests.service.gov/Urban/Urban_Forestry.htm). Copies of the workbook and template can be printed out, placed in a three-ring binder, and distributed to those developing your plan. The completed template should be distributed to your storm mitigation team members, who should meet at least annually to review and update the document.

The North Carolina Forest Service can provide guidance in developing your plan and completing the template. For assistance, contact the County Ranger in your area by visiting the NCFS website. The Ranger can also provide you with a list of consultants in your area who can help you develop your community forest storm mitigation plan and community forest management program.

## PART I. COMMUNITY SETTING

### A. COMMUNITY GEOGRAPHY AND SIZE

This Storm Mitigation Plan has been developed for \_\_\_\_\_.  
(community name)

Date of adoption: \_\_\_\_\_ Date of last update: \_\_\_\_\_

Our community is located in the [Appalachian Highlands] [Piedmont] [Coastal Plain] of North Carolina.

Our jurisdiction encompasses an area of \_\_\_\_\_ square miles and has \_\_\_\_\_ miles of public roadways.

Our community has a population of \_\_\_\_\_ as of the last official census.

### B. STORM HISTORY AND EXPOSURE

#### 1. Potential Storms and Emergency Events

The primary weather and catastrophic events that have occurred or are likely to occur in our community that can affect trees include:

- |  |                                     |   |   |
|--|-------------------------------------|---|---|
| <input type="checkbox"/> Earthquake        | <input type="checkbox"/> Hurricane  | <input type="checkbox"/> Salt intrusion | <input type="checkbox"/> Tropical storm |
| <input type="checkbox"/> Flood             | <input type="checkbox"/> Ice storm  | <input type="checkbox"/> Snow           | <input type="checkbox"/> Wildfire       |
| <input type="checkbox"/> Hail              | <input type="checkbox"/> Microburst | <input type="checkbox"/> Tornado        | <input type="checkbox"/> Wind           |
| <input type="checkbox"/> Pest Infestation: | _____                               |   |   |
| <input type="checkbox"/> Other:            | _____                               |   |   |
|  | _____                               |   |   |

#### 2. Snow and Ice Storms

Snow and ice storms are most likely to occur during the months when freezing temperatures are possible—including the following months in our area:

- |          |          |
|----------|----------|
| 1. _____ | 4. _____ |
| 2. _____ | 5. _____ |
| 3. _____ | 6. _____ |

The largest snow amounts (single event snow totals) are most likely to occur during the following months in our area:

- |          |          |
|----------|----------|
| 1. _____ | 4. _____ |
| 2. _____ | 5. _____ |
| 3. _____ | 6. _____ |

### 3. Rainfall and Flooding

The months of the year in our area with the highest average precipitation are:

- |          |          |
|----------|----------|
| 1. _____ | 4. _____ |
| 2. _____ | 5. _____ |
| 3. _____ | 6. _____ |

The driest months of the year (lowest average annual precipitation) in our area are:

- |          |          |
|----------|----------|
| 1. _____ | 4. _____ |
| 2. _____ | 5. _____ |
| 3. _____ | 6. _____ |

### 4. Droughts and Fires

The warmest months of the year in our area are:

- |          |          |
|----------|----------|
| 1. _____ | 4. _____ |
| 2. _____ | 5. _____ |
| 3. _____ | 6. _____ |

Our community participates in the *Firewise Communities Program* through the National Fire Protection Association.

### 5. Other Significant Conditions

Other significant geographic, climatological and meteorological conditions that predispose our community to storms or catastrophic events include:

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_



## C. COMMUNITY FOREST RESOURCE MANAGEMENT

### 1. Tree Care Manager

The primary tree care manager for the community is the:

- |  |   |
|--|---|
| <input type="checkbox"/> Community [arborist] [forester]   | <input type="checkbox"/> Streets superintendent |
| <input type="checkbox"/> Traffic engineer                  | <input type="checkbox"/> Public works director  |
| <input type="checkbox"/> City manager                      | <input type="checkbox"/> County administrator   |
| <input type="checkbox"/> Tree board [chairperson] [member] | <input type="checkbox"/> Citizen volunteer      |
| <input type="checkbox"/> Other _____                       |   |

Name: \_\_\_\_\_ Title: \_\_\_\_\_

Phone Number: \_\_\_\_\_

E-mail Address: \_\_\_\_\_

- Our tree care manager is an ISA Certified Arborist.
- Our tree care manager is Tree Risk Assessment Qualified (TRAQ) by the International Society of Arboriculture.

### 2. Tree City USA

- Our community is designated a Tree City USA by the Arbor Day Foundation.

Our community was first designated a Tree City USA for calendar year \_\_\_\_\_.

Our community has been designated a Tree City USA for \_\_\_\_\_ year(s).

As a Tree City USA, our community has:

- a [public] [private] tree ordinance (included in the appendix)
- total annual tree program expenditures of \$ \_\_\_\_\_ in calendar year \_\_\_\_\_
- a tree board with \_\_\_\_\_ members (list included in the appendix)
- an annual Arbor Day celebration and proclamation

Our last Arbor Day celebration was held on \_\_\_\_\_.

### 3. Management Plan

- We have a community forest management plan in place (included in the appendix)

Our community forest management plan was first adopted on \_\_\_\_\_ (date).

Our community forest management plan was last revised on \_\_\_\_\_ (date).

The person responsible for administering and updating our community forest management plan is:

\_\_\_\_\_

Name

\_\_\_\_\_

Title or Position

## PART II. STORM PREPARATION

### A. STORM MITIGATION TEAM

#### 1. Emergency Management Personnel

##### Local Emergency Management Director

Name: \_\_\_\_\_ Radio # \_\_\_\_\_

Title: \_\_\_\_\_

Department: \_\_\_\_\_

Primary Phone Number: \_\_\_\_\_ Alternate Phone Number: \_\_\_\_\_

E-Mail Address \_\_\_\_\_

##### North Carolina Emergency Management (NCEM) County Coordinator

Name: \_\_\_\_\_

Primary Phone Number: \_\_\_\_\_ Alternate Phone Number: \_\_\_\_\_

E-Mail Address \_\_\_\_\_

##### Federal Emergency Management Agency (FEMA) Region IV Regional Administrator

Name: \_\_\_\_\_

Primary Phone Number: \_\_\_\_\_ Alternate Phone Number: \_\_\_\_\_

E-Mail Address \_\_\_\_\_

#### 2. Government Staff

##### City Manager or Designee [County Manager or Designee]

Name: \_\_\_\_\_ Radio # \_\_\_\_\_

Primary Phone Number: \_\_\_\_\_ Alternate Phone Number: \_\_\_\_\_

E-Mail Address \_\_\_\_\_

##### Public Information Officer

Name: \_\_\_\_\_ Radio # \_\_\_\_\_

Primary Phone Number: \_\_\_\_\_ Alternate Phone Number: \_\_\_\_\_

E-Mail Address \_\_\_\_\_

##### Public Safety Officer or Police Chief or County Sheriff

Name: \_\_\_\_\_ Radio # \_\_\_\_\_

Primary Phone Number: \_\_\_\_\_ Alternate Phone Number: \_\_\_\_\_

E-Mail Address \_\_\_\_\_

##### Fire Chief

Name: \_\_\_\_\_ Radio # \_\_\_\_\_

Primary Phone Number: \_\_\_\_\_ Alternate Phone Number: \_\_\_\_\_

E-Mail Address \_\_\_\_\_



**Public Works Director**

**Name:** \_\_\_\_\_ Radio # \_\_\_\_\_  
Primary Phone Number: \_\_\_\_\_ Alternate Phone Number: \_\_\_\_\_  
E-Mail Address \_\_\_\_\_

**Streets Superintendent or Traffic Engineer**

**Name:** \_\_\_\_\_ Radio # \_\_\_\_\_  
Primary Phone Number: \_\_\_\_\_ Alternate Phone Number: \_\_\_\_\_  
E-Mail Address \_\_\_\_\_

**Arborist or Forester or Tree Care Manager**

**Name:** \_\_\_\_\_ Radio # \_\_\_\_\_  
Primary Phone Number: \_\_\_\_\_ Alternate Phone Number: \_\_\_\_\_  
E-Mail Address \_\_\_\_\_

**Parks and Recreation Director**

**Name:** \_\_\_\_\_ Radio # \_\_\_\_\_  
Primary Phone Number: \_\_\_\_\_ Alternate Phone Number: \_\_\_\_\_  
E-Mail Address \_\_\_\_\_

**Planning Director**

**Name:** \_\_\_\_\_ Radio # \_\_\_\_\_  
Primary Phone Number: \_\_\_\_\_ Alternate Phone Number: \_\_\_\_\_  
E-Mail Address \_\_\_\_\_

**GIS Manager**

**Name:** \_\_\_\_\_ Radio # \_\_\_\_\_  
Primary Phone Number: \_\_\_\_\_ Alternate Phone Number: \_\_\_\_\_  
E-Mail Address \_\_\_\_\_

**Additional Government Staff**

**Title:** \_\_\_\_\_  
**Name:** \_\_\_\_\_ Radio # \_\_\_\_\_  
Primary Phone Number: \_\_\_\_\_ Alternate Phone Number: \_\_\_\_\_  
E-Mail Address \_\_\_\_\_

**Title:** \_\_\_\_\_  
**Name:** \_\_\_\_\_ Radio # \_\_\_\_\_  
Primary Phone Number: \_\_\_\_\_ Alternate Phone Number: \_\_\_\_\_  
E-Mail Address \_\_\_\_\_

**Title:** \_\_\_\_\_  
**Name:** \_\_\_\_\_ Radio # \_\_\_\_\_  
Primary Phone Number: \_\_\_\_\_ Alternate Phone Number: \_\_\_\_\_  
E-Mail Address \_\_\_\_\_

**Title:** \_\_\_\_\_  
**Name:** \_\_\_\_\_ Radio # \_\_\_\_\_  
Primary Phone Number: \_\_\_\_\_ Alternate Phone Number: \_\_\_\_\_  
E-Mail Address \_\_\_\_\_

### 3. Utility Companies and Departments

**Electric Utility:** \_\_\_\_\_ **Name:** \_\_\_\_\_  
Title: \_\_\_\_\_ Department: \_\_\_\_\_  
Primary Phone Number: \_\_\_\_\_ Alternate Phone Number: \_\_\_\_\_  
E-Mail Address \_\_\_\_\_

**Gas Utility:** \_\_\_\_\_ **Name:** \_\_\_\_\_  
Title: \_\_\_\_\_ Department: \_\_\_\_\_  
Primary Phone Number: \_\_\_\_\_ Alternate Phone Number: \_\_\_\_\_  
E-Mail Address \_\_\_\_\_

**Telephone/Cable/Fiber Optic Utility:** \_\_\_\_\_ **Name:** \_\_\_\_\_  
Title: \_\_\_\_\_ Department: \_\_\_\_\_  
Primary Phone Number: \_\_\_\_\_ Alternate Phone Number: \_\_\_\_\_  
E-Mail Address \_\_\_\_\_

**Telephone/Cable/Fiber Optic Utility:** \_\_\_\_\_ **Name:** \_\_\_\_\_  
Title: \_\_\_\_\_ Department: \_\_\_\_\_  
Primary Phone Number: \_\_\_\_\_ Alternate Phone Number: \_\_\_\_\_  
E-Mail Address \_\_\_\_\_

**Water and Sewer Utility:** \_\_\_\_\_ **Name:** \_\_\_\_\_  
Title: \_\_\_\_\_ Department: \_\_\_\_\_  
Primary Phone Number: \_\_\_\_\_ Alternate Phone Number: \_\_\_\_\_  
E-Mail Address \_\_\_\_\_

**Other Utility:** \_\_\_\_\_ **Name:** \_\_\_\_\_  
Title: \_\_\_\_\_ Department: \_\_\_\_\_  
Primary Phone Number: \_\_\_\_\_ Alternate Phone Number: \_\_\_\_\_  
E-Mail Address \_\_\_\_\_

#### 4. State Agencies

##### North Carolina Forest Service, County Ranger

**Name:** \_\_\_\_\_  
Primary Phone Number: \_\_\_\_\_ Alternate Phone Number: \_\_\_\_\_  
E-Mail Address \_\_\_\_\_

##### Cooperative Extension Service

**Name:** \_\_\_\_\_ **Title:** \_\_\_\_\_ Primary  
Phone Number: \_\_\_\_\_ Alternate Phone Number: \_\_\_\_\_ E-Mail  
Address \_\_\_\_\_

##### Other State Agencies

**Agency:** \_\_\_\_\_  
**Name:** \_\_\_\_\_ **Title:** \_\_\_\_\_ Primary  
Phone Number: \_\_\_\_\_ Alternate Phone Number: \_\_\_\_\_ E-Mail  
Address \_\_\_\_\_

**Agency:** \_\_\_\_\_  
**Name:** \_\_\_\_\_ **Title:** \_\_\_\_\_ Primary  
Phone Number: \_\_\_\_\_ Alternate Phone Number: \_\_\_\_\_ E-Mail  
Address \_\_\_\_\_

**Agency:** \_\_\_\_\_  
**Name:** \_\_\_\_\_ **Title:** \_\_\_\_\_ Primary  
Phone Number: \_\_\_\_\_ Alternate Phone Number: \_\_\_\_\_  
E-Mail Address \_\_\_\_\_

#### 5. Contractors

##### Debris Removal Contractors

**Contractor:** \_\_\_\_\_  
**Name:** \_\_\_\_\_ **Title:** \_\_\_\_\_ Primary  
Phone Number: \_\_\_\_\_ Alternate Phone Number: \_\_\_\_\_ E-Mail  
Address \_\_\_\_\_

**Contractor:** \_\_\_\_\_  
**Name:** \_\_\_\_\_ **Title:** \_\_\_\_\_ Primary  
Phone Number: \_\_\_\_\_ Alternate Phone Number: \_\_\_\_\_ E-Mail  
Address \_\_\_\_\_

**Contractor:** \_\_\_\_\_  
**Name:** \_\_\_\_\_ **Title:** \_\_\_\_\_ Primary  
Phone Number: \_\_\_\_\_ Alternate Phone Number: \_\_\_\_\_ E-Mail  
Address \_\_\_\_\_

**Tree Service Contractors**

**Contractor:** \_\_\_\_\_  
**Name:** \_\_\_\_\_ **Title:** \_\_\_\_\_ Primary  
Phone Number: \_\_\_\_\_ Alternate Phone Number: \_\_\_\_\_ E-Mail  
Address \_\_\_\_\_

**Contractor:** \_\_\_\_\_  
**Name:** \_\_\_\_\_ **Title:** \_\_\_\_\_ Primary  
Phone Number: \_\_\_\_\_ Alternate Phone Number: \_\_\_\_\_ E-Mail  
Address \_\_\_\_\_

**Contractor:** \_\_\_\_\_  
**Name:** \_\_\_\_\_ **Title:** \_\_\_\_\_ Primary  
Phone Number: \_\_\_\_\_ Alternate Phone Number: \_\_\_\_\_ E-Mail  
Address \_\_\_\_\_

**Landscape Contractors**

**Contractor:** \_\_\_\_\_  
**Name:** \_\_\_\_\_ **Title:** \_\_\_\_\_ Primary  
Phone Number: \_\_\_\_\_ Alternate Phone Number: \_\_\_\_\_ E-Mail  
Address \_\_\_\_\_

**Contractor:** \_\_\_\_\_  
**Name:** \_\_\_\_\_ **Title:** \_\_\_\_\_ Primary  
Phone Number: \_\_\_\_\_ Alternate Phone Number: \_\_\_\_\_ E-Mail  
Address \_\_\_\_\_

**Contractor:** \_\_\_\_\_  
**Name:** \_\_\_\_\_ **Title:** \_\_\_\_\_ Primary  
Phone Number: \_\_\_\_\_ Alternate Phone Number: \_\_\_\_\_  
E-Mail Address \_\_\_\_\_

**6. Equipment and Materials Vendors**

**Equipment Rental Vendors**

**Vendor:** \_\_\_\_\_  
**Name:** \_\_\_\_\_ **Title:** \_\_\_\_\_ Primary  
Phone Number: \_\_\_\_\_ Alternate Phone Number: \_\_\_\_\_ E-Mail  
Address \_\_\_\_\_

**Vendor:** \_\_\_\_\_  
**Name:** \_\_\_\_\_ **Title:** \_\_\_\_\_ Primary  
Phone Number: \_\_\_\_\_ Alternate Phone Number: \_\_\_\_\_ E-Mail  
Address \_\_\_\_\_

**Vendor:** \_\_\_\_\_  
**Name:** \_\_\_\_\_ Title: \_\_\_\_\_ Primary  
Phone Number: \_\_\_\_\_ Alternate Phone Number: \_\_\_\_\_ E-Mail  
Address \_\_\_\_\_

**Tree Nursery Vendors**

**Vendor:** \_\_\_\_\_  
**Name:** \_\_\_\_\_ Title: \_\_\_\_\_ Primary  
Phone Number: \_\_\_\_\_ Alternate Phone Number: \_\_\_\_\_ E-Mail  
Address \_\_\_\_\_

**Vendor:** \_\_\_\_\_  
**Name:** \_\_\_\_\_ Title: \_\_\_\_\_ Primary  
Phone Number: \_\_\_\_\_ Alternate Phone Number: \_\_\_\_\_ E-Mail  
Address \_\_\_\_\_

**Vendor:** \_\_\_\_\_  
**Name:** \_\_\_\_\_ Title: \_\_\_\_\_ Primary  
Phone Number: \_\_\_\_\_ Alternate Phone Number: \_\_\_\_\_ E-Mail  
Address \_\_\_\_\_

**7. Volunteer Organizations**

**Tree Board, Chairperson**

**Name:** \_\_\_\_\_  
Primary Phone Number: \_\_\_\_\_ Alternate Phone Number: \_\_\_\_\_  
E-Mail Address \_\_\_\_\_

**Local Agencies and Non-Profit Organizations**

**Agency or Organization:** \_\_\_\_\_  
**Name:** \_\_\_\_\_ Title: \_\_\_\_\_ Primary  
Phone Number: \_\_\_\_\_ Alternate Phone Number: \_\_\_\_\_ E-Mail  
Address \_\_\_\_\_

**Agency or Organization:** \_\_\_\_\_  
**Name:** \_\_\_\_\_ Title: \_\_\_\_\_ Primary  
Phone Number: \_\_\_\_\_ Alternate Phone Number: \_\_\_\_\_ E-Mail  
Address \_\_\_\_\_

**Agency or Organization:** \_\_\_\_\_  
**Name:** \_\_\_\_\_ Title: \_\_\_\_\_ Primary  
Phone Number: \_\_\_\_\_ Alternate Phone Number: \_\_\_\_\_ E-Mail  
Address \_\_\_\_\_

## 8. Community Forest Management Program Sponsors

### Reforestation Sponsors

**Agency, Company, or Organization:** \_\_\_\_\_ **Name:** \_\_\_\_\_

Title: \_\_\_\_\_ Primary Phone Number: \_\_\_\_\_ Alternate

Phone Number: \_\_\_\_\_ E-Mail Address \_\_\_\_\_

**Agency, Company, or Organization:** \_\_\_\_\_ **Name:** \_\_\_\_\_

Title: \_\_\_\_\_ Primary Phone Number: \_\_\_\_\_ Alternate

Phone Number: \_\_\_\_\_ E-Mail Address \_\_\_\_\_

**Agency, Company, or Organization:** \_\_\_\_\_ **Name:** \_\_\_\_\_

Title: \_\_\_\_\_ Primary Phone Number: \_\_\_\_\_ Alternate

Phone Number: \_\_\_\_\_

E-Mail Address \_\_\_\_\_

## 9. Additional Team Members and Emergency Contacts

**Agency, Company, or Organization:** \_\_\_\_\_ **Name:** \_\_\_\_\_

Title: \_\_\_\_\_ Primary Phone Number: \_\_\_\_\_ Alternate

Phone Number: \_\_\_\_\_ E-Mail Address \_\_\_\_\_

**Agency, Company, or Organization:** \_\_\_\_\_ **Name:** \_\_\_\_\_

Title: \_\_\_\_\_ Primary Phone Number: \_\_\_\_\_ Alternate

Phone Number: \_\_\_\_\_ E-Mail Address \_\_\_\_\_

## B. COMMUNITY FOREST RESOURCE ASSESSMENTS

Our community has made the following assessments of the tree resource and has the information indicated below available for use in storm preparation, response, and mitigation. This information is available from the tree care manager.

### 1. Tree Canopy Assessment

We have completed a tree canopy assessment, and \_\_\_\_\_% of our community is covered with tree canopy as of \_\_\_\_\_(year). The method used for determining our tree canopy was:

\_\_\_\_\_.

Previous tree canopy assessments have been made.

\_\_\_\_\_ % in \_\_\_\_\_(year)

\_\_\_\_\_ % in \_\_\_\_\_(year)

\_\_\_\_\_ % in \_\_\_\_\_(year)

Our tree canopy cover has [increased] [decreased] over the \_\_\_\_\_years of measurement. Additional changes in our tree canopy cover over time are described below.

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

A tree canopy goal of \_\_\_\_\_% has been set by the community.

### 2. Public Tree Inventory

An inventory of public trees was last completed in \_\_\_\_\_(year), and the community has the number of public trees shown below growing on:

Street rights-of-way \_\_\_\_\_ (# of trees)

Public parks \_\_\_\_\_ (# of trees)

Public cemeteries \_\_\_\_\_ (# of trees)

Public school campuses \_\_\_\_\_ (# of trees)

Yards of public offices and facilities \_\_\_\_\_ (# of trees)

We have \_\_\_\_\_(# of trees) street trees 24 inches DBH and greater.

Our tree inventory information is available in an [Excel spreadsheet] [GIS shapefile] [hardcopy format] [inventory specific software] and is available from the tree care manager.

Our inventory includes the location of all street trees determined using GPS and we have a GIS shapefile of our street trees.

Our public tree inventory is included as a layer on our community's geographic information system.

A map of the locations of street trees 24 inches DBH and greater is available from the tree care manager.

### 3. Tree Risk Assessment

Our community has a copy of the ANSI standards and best management practices for tree risk assessment on file in the tree care manager's office.

Our community has a tree risk assessment program or plan.

Our community has a tree risk assessment plan.

A Level 1 tree risk assessment is conducted every \_\_\_\_\_ year(s).

The date of the most recent Level 1 tree risk assessment was \_\_\_\_\_.

A Level 2 tree risk assessment is conducted every \_\_\_\_\_ year(s).

The date of the most recent Level 2 tree risk assessment was \_\_\_\_\_.

### 4. Tree Benefits and Value

We have information on the dollar value of the benefits that our tree canopy provides.

The dollar value of the annual benefits provided by our community trees, based on our tree canopy assessment, is \$\_\_\_\_\_.

The dollar values of the benefits our tree canopy provides include:

\$\_\_\_\_\_ aesthetic and other benefits

\$\_\_\_\_\_ air quality benefits

\$\_\_\_\_\_ CO<sub>2</sub> benefits \_\_\_\_\_ pounds of CO<sub>2</sub> sequestered and avoided

\$\_\_\_\_\_ energy benefits

\$\_\_\_\_\_ stormwater benefits \_\_\_\_\_ gallons of stormwater intercepted

We have information on the dollar value of the benefits that our street trees provide.

The dollar value of the annual benefits provided by our public street trees, based on our tree inventory, is \$\_\_\_\_\_.

The annual benefits per tree average \$\_\_\_\_\_.

The dollar values of the benefits our street trees provide include:

\$\_\_\_\_\_ aesthetic and other benefits

\$\_\_\_\_\_ air quality benefits

\$\_\_\_\_\_ CO<sub>2</sub> benefits \_\_\_\_\_ pounds of CO<sub>2</sub> sequestered and avoided

\$\_\_\_\_\_ energy benefits

\$\_\_\_\_\_ stormwater benefits \_\_\_\_\_ gallons of stormwater intercepted



## 5. Community Forest Management Costs

We have information on our annual community forest management costs.

The total annual cost of managing our public [street] [park] [cemetery] [school] [facility] trees includes costs for:

- \$ \_\_\_\_\_ Tree inventory
- \$ \_\_\_\_\_ Tree risk assessment
- \$ \_\_\_\_\_ Tree purchases
- \$ \_\_\_\_\_ Tree planting (staff)
- \$ \_\_\_\_\_ Tree planting (contract)
- \$ \_\_\_\_\_ Mulching (labor)
- \$ \_\_\_\_\_ Mulch materials
- \$ \_\_\_\_\_ Pruning (staff)
- \$ \_\_\_\_\_ Pruning (contract)
- \$ \_\_\_\_\_ Supplemental support (cabling and bracing, contract)
- \$ \_\_\_\_\_ Lightning protection system installation (contract)
- \$ \_\_\_\_\_ Pest management
- \$ \_\_\_\_\_ Irrigation
- \$ \_\_\_\_\_ Inspection (staff)
- \$ \_\_\_\_\_ Removal (staff)
- \$ \_\_\_\_\_ Removal (contract)
- \$ \_\_\_\_\_ Equipment
- \$ \_\_\_\_\_ Supplies
- \$ \_\_\_\_\_ Consulting services
- \$ \_\_\_\_\_ Infrastructure repairs due to trees
- \$ \_\_\_\_\_ Leaf and limb pick-up
- \$ \_\_\_\_\_ Liability/claims for damages
- \$ \_\_\_\_\_ Administration (describe the administrative and overhead costs included)

\_\_\_\_\_  
\$ \_\_\_\_\_ Other costs (describe)  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Our annual community forestry program expenditures total \$ \_\_\_\_\_.

Street trees represent \_\_\_\_\_% of our total public tree population.

The pro-rated cost of managing our street tree population is \$ \_\_\_\_\_ (multiply total annual community forestry program expenditures by the percentage of the tree population represented by street trees).

## 6. Benefit to Cost Ratio of Community Forestry Management

The total value of the benefits provided by our tree canopy is \$ \_\_\_\_\_ (A)

The total value of the benefits provided by our street trees is \$ \_\_\_\_\_ (B)

The total cost of our annual community forest management program is \$ \_\_\_\_\_ (C)

The total cost of managing our street tree population is \$ \_\_\_\_\_ (D)

The total cost of our annual tree risk assessment program is \$ \_\_\_\_\_ (E)

For every \$1 our community spends on community forest management, we receive \$ \_\_\_\_\_ back in benefits from our tree canopy. (A divided by C)

For every \$1 our community spends on management of the street tree population, we receive \$ \_\_\_\_\_ back in benefits from our public street trees. (B divided by D)

For every \$1 our community spends on tree risk assessment, we receive \$ \_\_\_\_\_ back in benefits from our public street trees. (B divided by E)

## C. STORM MITIGATION MAP

A storm mitigation map has been developed and is included as part of our plan.

Copies of the storm mitigation plan are available in the office(s) of the:

Emergency Response Manager

Tree Care Manager

[Public Works Director]/[Traffic Engineer]

Other

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The storm mitigation map can also be accessed online at:

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Our storm mitigation map includes the following information:

### **Critical Facilities**

Hospitals

Other critical health care facilities (list below)

---

---

---

---

Fire stations

Police stations

Communications networks and facilities

### **Utilities**

Electric utilities

- Water system
  - Sanitary sewer system
  - Other utility networks and facilities (list below)
- 
- 
- 

**Transportation Network**

- Street network
- Priority streets to critical facilities (highlighted)

**Trees**

- All public trees
- Large canopy public trees highlighted
- Tree canopy density

**Emergency Response Sites**

- Emergency management centers
- Homeland Security offices
- Personnel and equipment staging areas
- Debris staging areas
- Debris storage areas

The person responsible for developing and updating our storm mitigation map is:

---

**D. TREE RISK MITIGATION**

**1. Short-term Tree Risk Mitigation**

- We have a short-term tree risk mitigation program in place.

The number of trees identified during our tree risk assessment that require mitigation total \_\_\_\_\_, including:

- \_\_\_\_\_ that require risk reduction pruning.
- \_\_\_\_\_ that require supplemental support.
- \_\_\_\_\_ that require lightning protection systems.
- \_\_\_\_\_ that require pest management.
- \_\_\_\_\_ that require removal.

The number of trees scheduled to be pruned for risk mitigation each year is \_\_\_\_\_.

The number of trees scheduled to be cabled for risk mitigation each year is \_\_\_\_\_.

The number of trees scheduled for lightning protection system installation each year is \_\_\_\_\_.

The number of trees scheduled for pest management each year is \_\_\_\_\_.

The number of trees scheduled to be removed for risk mitigation each year is \_\_\_\_\_.

The number of trees scheduled to be planted to replace trees removed for risk mitigation each year is \_\_\_\_\_.

## 2. Long-term Tree Risk Mitigation

The additional routine community forest management activities and program components that are in place in our community to further mitigate tree risk and storm damage on a long-term basis are:

- Tree care standards and best management practices
- Tree ordinance
- Ongoing training program for tree care personnel
- Established tree care budget
- Alternate program funding mechanisms
- Tree bank
- Routine street tree inspection program
- Routine large tree inspection program
- Routine pruning program
- Routine tree planting program
- Routine tree mulching, irrigation, and soil aeration
- Recommended tree species list
- Species selection guidelines
- Site selection guidelines
- Minimum rooting area and soil volume requirements
- Growing space protection requirements
- Critical root zone protection requirements
- Public information and education program
- Program analysis and feedback



## F. MEMORANDA OF UNDERSTANDING AND ADVANCED READINESS CONTRACTS

### 1. Memoranda of Understanding

Copies of existing MOUs are included in the template appendix.

Memoranda of understanding (MOUs) for storm preparation, response and recovery have been executed by the local government with the communities, agencies, organizations, groups and individuals listed below.

#### Neighboring communities:

- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_

#### Local Agencies:

- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_

#### Non-Profit Organizations:

- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_

#### Other individuals and groups:

- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_

## 2. Advanced Readiness Contracts

Copies of existing ARCs are included in the template appendix.

Advanced readiness contracts (ARCs) for storm preparation, response and recovery have been executed by the local government with the vendors and contractors listed below.

### Equipment Rental Vendors:

- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_

### Debris Removal Contractors:

- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_

### Mulch Grinding Contractors:

- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_

### Tree Service Contractors:

- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_

### Tree Suppliers:

- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_

### Landscape Contractors:

- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_

## G. COMMUNICATION, INFORMATION, EDUCATION AND AWARENESS

### 1. Communication

We have a designated call center established for notification of fallen and hazardous trees and tree damage.

The name and contact information for the call center is:

Name of Call Center: \_\_\_\_\_ Address: \_\_\_\_\_  
Phone Number: \_\_\_\_\_ Fax Number: \_\_\_\_\_ Website: \_\_\_\_\_  
E-Mail Address: \_\_\_\_\_ Call Center Director/Contact: \_\_\_\_\_

### 2. Information and Education

#### **Internal Information Sharing**

During storm preparation, information will be shared internally by:

- Phone
- E-mail
- Cloud-based storage site
- Quarterly meetings
- Semi-annual meetings
- Annual meetings

The person responsible for coordinating internal information sharing about community forest storm damage mitigation planning, preparation, response and recovery is:

---

#### **External Information Sharing**

- Government website \_\_\_\_\_
- Community forest management program website \_\_\_\_\_
- Facebook page \_\_\_\_\_
- Twitter account \_\_\_\_\_
- Phone (see storm mitigation team contact list)
- E-mail (see storm mitigation team contact list)
- Cloud-based storage site \_\_\_\_\_
- Meetings
  - Quarterly
  - Semi-annual
  - Annual

The person responsible for coordinating external information sharing and education about storm preparation, response and recovery is:

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**Information and Education Topics**

The community has information readily available to disseminate to the public on storm preparation, response and recovery. The information available by topic and format is indicated in the chart below.

<b>TOPIC</b>	<b>WRITTEN SCRIPT</b>	<b>RECORDED PSA</b>	<b>ARTICLE / PRESS RELEASE</b>	<b>WEBSITE / SOCIAL MEDIA</b>	<b>BROCHURE / PAMPHLET / HANDOUT</b>
Benefits of trees					
Tree maintenance standards and BMPs					
When and how to hire an arborist					
Chainsaw safety					
Storm severity and damage magnitude					
Debris pick-up schedule and procedures					
Type of debris to be collected					
Expected clean-up time					
Post-storm hazards—hangers, leaning trees, downed power lines					
Caring for storm damaged trees					
Tree selection and planting BMPs					

The outlets that will be used for disseminating information on storm preparation, response and recovery include:

- Websites
- Social media
- Radio stations
- Television stations
- Newspapers
- Public meetings

The person responsible for distributing written information, press releases and public service announcements to the public and the media is:

\_\_\_\_\_

The person responsible for coordinating educational opportunities for the public is:

\_\_\_\_\_

### 3. Awareness

The community coordinates the dissemination of storm preparation information during state-wide and national weather and emergency awareness programs.

The dates of upcoming statewide and national weather and emergency awareness weeks and days that will be the focus of information dissemination are listed below:

Air Quality Awareness Week \_\_\_\_\_ Fire  
Prevention Week \_\_\_\_\_ Hurricane  
Preparedness Week \_\_\_\_\_ Severe  
Weather Preparedness Week \_\_\_\_\_ Tsunami  
Awareness Week \_\_\_\_\_ Flood  
Awareness Week \_\_\_\_\_ Heat  
Awareness Day \_\_\_\_\_ Lightning  
Safety Awareness Week \_\_\_\_\_

### H. PREPARATION RECORD KEEPING

The following records are maintained and kept in the tree care manager's office and online in a cloud-based storage service as appropriate.

- Storm mitigation team contact information
- Storm mitigation team meeting announcements, agendas and minutes
- Community Forest Storm Mitigation Plan
- Storm mitigation map
- Memoranda of understanding
- Advance readiness contracts
- Data and cost information for:
  - Program administration (personnel and overhead)
  - Tree canopy assessments
  - Tree risk assessments
  - Tree inventory assessments
  - Tree pruning Cabling  
and bracing
  - Lightning protection
  - Tree removal
  - Other tree maintenance
- Date, amount and source of volunteer hours for program activities
- Public information scripts, public service announcements and press releases

## PART III. STORM RESPONSE

### A. MOBILIZATION

Crews will be mobilized to clear fallen trees and woody debris from the highest priority areas first, as identified on the storm mitigation map. These priority areas will include:

- Priority roads
- Priority facilities
- Buildings, vehicles or other situations with a personal injury
- Buildings and vehicles without injured persons
- Utility repair
- Remaining rights-of-way, public buildings and public facilities

The person responsible for mobilizing resources to respond to storm damage and dispatching crews to remove fallen trees and woody debris is:

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### B. DEBRIS MANAGEMENT

#### 1. Debris Staging and Storage

One or more debris storage sites that will accommodate large volumes of woody debris and logs have been established. Debris storage sites have been established in the following locations:

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The person responsible for coordinating debris staging and storage is:

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#### 2. Debris Estimation

The person responsible for debris estimation is:

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### C. TREE RISK AND DAMAGE ASSESSMENTS

Tree risk and damage assessments will be performed within 30 days of the storm event by one or more of the following groups or individuals:

Government staff

Consultants

Trained volunteers

Urban Forest Strike Teams

The person responsible for coordinating tree risk and damage assessment crews is:

---

Trees with the following conditions and structural defects should be pruned or removed to reduce further damage potential:

- Hangers (detached limbs hanging in the crown; remove limb only)
- Splitting limbs (prune or remove)
- Splitting trunks (cable or remove)
- Leaning trunk with soil broken and heaved opposite the lean (remove)
- Other conditions (list below)

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We have a policy in place stating trees that do not pose an imminent risk of failure will not be removed until a tree damage assessment has been completed, to avoid the removal of trees that are still viable and valuable to the community.

The person responsible for determining which standing trees should be removed is:

---

#### **D. INFORMATION**

The person responsible for providing information to the public during a storm event is:

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#### **E. RESPONSE RECORD KEEPING**

During initial storm response, the following records will be retained:

- Tree and debris removal call log
- Debris removal costs
- Debris volume estimates
- Number and location of trees removed
- Number and location of tree pruned
- Number and location of stumps removed
- Hazardous tree, limb, and stump removal costs (see section 5a, 5b, and 5c, below)
- Contractor invoices
- Staff hours by person
- Equipment hours by piece of equipment
- Volunteer hours by person and activity; volunteer contact information
- Tree damage assessment data and costs

## F. FEMA PUBLIC ASSISTANCE GRANTS

### 1. Hazardous Trees Documentation

Documentation retained for hazardous tree removal includes:

- Spreadsheet showing the number of trees removed and size and location of each tree
- Location of hazardous trees removed including the street/road name and GPS coordinates of each tree removed along public rights-of-way, and the property address and GPS coordinates of each tree removed from private property
- Photographs of trees cut flush with the ground along with a certification that the trees were 6 inches or larger in diameter

### 2. Hazardous Limbs Documentation

Documentation retained for hazardous limb removal includes:

- Spreadsheet showing the location of the trees and number of limbs cut on each tree (information on number of hazardous limbs removed is not necessary if removal was contracted for on a per-tree basis)
- Certification that the limbs were 2 inches or larger in diameter
- Locations of hazardous limb removals including the street/road name and GPS coordinates of each tree with hazardous limbs removed along public rights-of-way, and the property address and GPS coordinates for trees with hazardous limbs removed on private property
- Photographs showing the number of limbs cut

### 3. Hazardous Stumps Documentation

Documentation retained for hazardous stump removal includes:

- Hazardous Stump Worksheet ([http://www.fema.gov/pdf/government/grant/pa/9523\\_11.pdf](http://www.fema.gov/pdf/government/grant/pa/9523_11.pdf))
- Number of hazardous stumps removed, locations, and sizes
- Quantity of fill material required to fill the remaining hole
- Photographs of the stumps removed

The person responsible for documenting the hazardous trees, limbs and stumps removed is:

---

## PART IV. STORM RECOVERY

### A. POST-STORM MITIGATION ANALYSIS

Listed below are the activities that contributed most to the mitigation of tree-related damage during the most recent storm(s):

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_
5. \_\_\_\_\_

Listed below are the greatest areas of need identified during the most recent storm(s) for preparation and mitigation for future storms:

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_
5. \_\_\_\_\_

### B. SUMMARY OF TREE LOSSES

A summary of the number of public trees lost by species and DBH category will be completed after each storm event, using the chart on the following page.







#### D. TREE SPECIES SELECTION

Our community has adopted an official list of trees recommended for planting in our area that is used as a guide for selecting trees for planting on public property.

In our area fast-growing, weak-wooded, and or invasive species to be avoided include:

- Bradford pear (*Pyrus calleryana* 'Bradford')
- Tree-of-heaven (*Ailanthus altissima*)
- Siberian elm (*Ulmus pumila*)
- Silver maple (*Acer saccharinum*)
- Paulownia (*Paulownia tomentosa*)
- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_

#### E. TREE REPLACEMENT PLAN

To replace trees lost in each storm event, a public tree replacement plan will be developed that takes into account the number of tree losses, number of available planting sites inventoried, and available resources. We will adopt a goal of planting a specific number of trees per year during an appropriate number of years.

We have developed a written 3-year maintenance plan that includes mulching, watering, pest management, training pruning and inspection of all newly planted trees.

The person responsible for developing and coordinating the community's tree replacement plan is:

\_\_\_\_\_

The person responsible for new tree maintenance is:

#### F. TREE REPLACEMENT PARTNERS

The person(s) responsible for soliciting financial, labor and material assistance for tree replacement are:

- Tree care manager
- Storm mitigation team members
- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_

Tree replacement program partners include:

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

## G. ONGOING TREE RISK MITIGATION

- We have an ongoing tree risk mitigation program that focuses on:
- Improvement of tree health
  - Routine tree pruning
  - Quality tree species, tree and site selection
  - Routine tree maintenance including watering, mulching, pest management, and inspections
  - Tree protection

The person responsible for coordinating ongoing tree risk mitigation is:

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## H. INFORMATION AND EDUCATION

- We have in place a program to identify the individuals, organizations and companies that deserve recognition for their efforts in storm response and recovery.

The person responsible for coordinating the recognition program for response and recover is:

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During long-term response, our community forest information and education program will continue and will focus on the following topics:

- Tree and tree canopy loss results
- Tree planting programs and grants
- Availability of assistance and materials, including volunteer labor, replacement trees, and mulch
- When and how to hire an ISA Certified Arborist
- Ongoing tree risk assessment
- Tree health maintenance
- Crown restoration pruning
- Recommended species for planting
- Tree planting techniques
- Tree benefits

Information and education programs that will be utilized during long-term recovery to communicate with the public will include:

- Recognition programs for responders
- Field demonstrations
- Neighborhood workshops
- Website content
- Newspaper articles
- Public service announcements

## I. RECOVERY RECORD KEEPING

- Staff hours
- Equipment hours
- Contractor invoices
- Donations by source with contact information
- Volunteer hours
- Tree purchase data (nursery source, number purchased by species and cultivar) and costs
- Tree planting data (species, location, date) and costs
- Tree survival data (annual results)

The person(s) responsible for maintaining long-term recovery records are:

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