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**DRAFT**

**FLOOD EMERGENCY RESPONSE PLAN  
(Existing Conditions)**

**MOOREFIELD, WEST VIRGINIA**

**ICPRB Report No. 95 - 7**

**Prepared by  
Wright Way Flood Mitigation, Inc.  
for the  
Interstate Commission on the Potomac River Basin**

**MOOREFIELD FLOOD EMERGENCY RESPONSE PLAN**  
(existing conditions)

**TABLE OF CONTENTS**

<b>PREFACE</b> .....	<b>i</b>
<b>INTRODUCTION</b> .....	<b>1</b>
Scope of Plan .....	1
Authority .....	1
Purpose of Plan .....	2
Preparation of Plan .....	2
Document Organization and Use .....	2
<b>EXISTING FLOOD CONDITIONS</b> .....	<b>3</b>
<b>FLOOD HISTORY</b> .....	<b>3</b>
<b>FLOOD THREAT</b> .....	<b>4</b>
<b>FLOOD FORECASTING SYSTEM</b> .....	<b>4</b>
River Gages .....	4
Precipitation or Rain Gages .....	5
Analysis and Forecast .....	5
<b>FLOOD WARNING TIME</b> .....	<b>9</b>
<b>EXISTING FLOOD FIGHTING RESOURCES</b> .....	<b>10</b>
<b>DECISION MAKING, PRIORITY SELECTION AND FLOOD EMERGENCY PLAN</b> .....	<b>11</b>
General .....	11
<b>SELECTING PRIORITIES FOR ACTION</b> .....	<b>11</b>
<b>FLOOD ACTION PHASES</b> .....	<b>12</b>
Yellow Alert .....	13
Orange Alert .....	15
Red Alert .....	16
<b>ORGANIZATIONAL STRUCTURE AND COOPERATING ORGANIZATIONS</b> .....	<b>17</b>
Chain of Command .....	17
Mayor .....	17
Preparedness Director .....	19
Public Works Director .....	19
Emergency Operations Center Unit Commanders .....	19
Police Department .....	19
Cooperating Organizations .....	19
Local Agencies .....	19
County Agencies .....	21

State Agencies .....	21
Federal Agencies .....	22
Other Groups and Organizations .....	23
<b>EMERGENCY OPERATIONS CENTER .....</b>	<b>25</b>
Facility .....	25
Activation .....	27
Staffing .....	27
Operation .....	27
Public Information and Staff Meetings .....	27
Security .....	28
Communications .....	28
Telephones .....	28
Radio .....	28
<b>FLOOD EMERGENCY RESPONSE UNIT RESPONSIBILITIES .....</b>	<b>30</b>
<b>EMERGENCY OPERATIONS CENTER .....</b>	<b>30</b>
MAYOR .....	30
PREPAREDNESS DIRECTOR .....	31
DIRECTOR OF PUBLIC WORKS .....	33
<b>OUTSIDE AGENCIES .....</b>	<b>34</b>
HARDY COUNTY EMERGENCY PREPAREDNESS DIRECTOR .....	34
HARDY COUNTY COMMUNICATIONS .....	36
POLICE .....	38
FIRE DEPARTMENT .....	39
FLOOD WARNING UNIT .....	39
SHELTER, FOOD, HEALTH SERVICES .....	41
SEARCH AND RESCUE .....	43
UTILITIES .....	44
<b>ADMINISTRATION, INSURANCE, EDUCATION TRAINING AND BUDGET .....</b>	<b>47</b>
ADMINISTRATION .....	47
INSURANCE .....	47
EDUCATION .....	48
TRAINING .....	49
BUDGET .....	50
<b>APPENDIX .....</b>	<b>52</b>
Flood Emergency Personnel Phone Listings .....	53
Sample Forms .....	

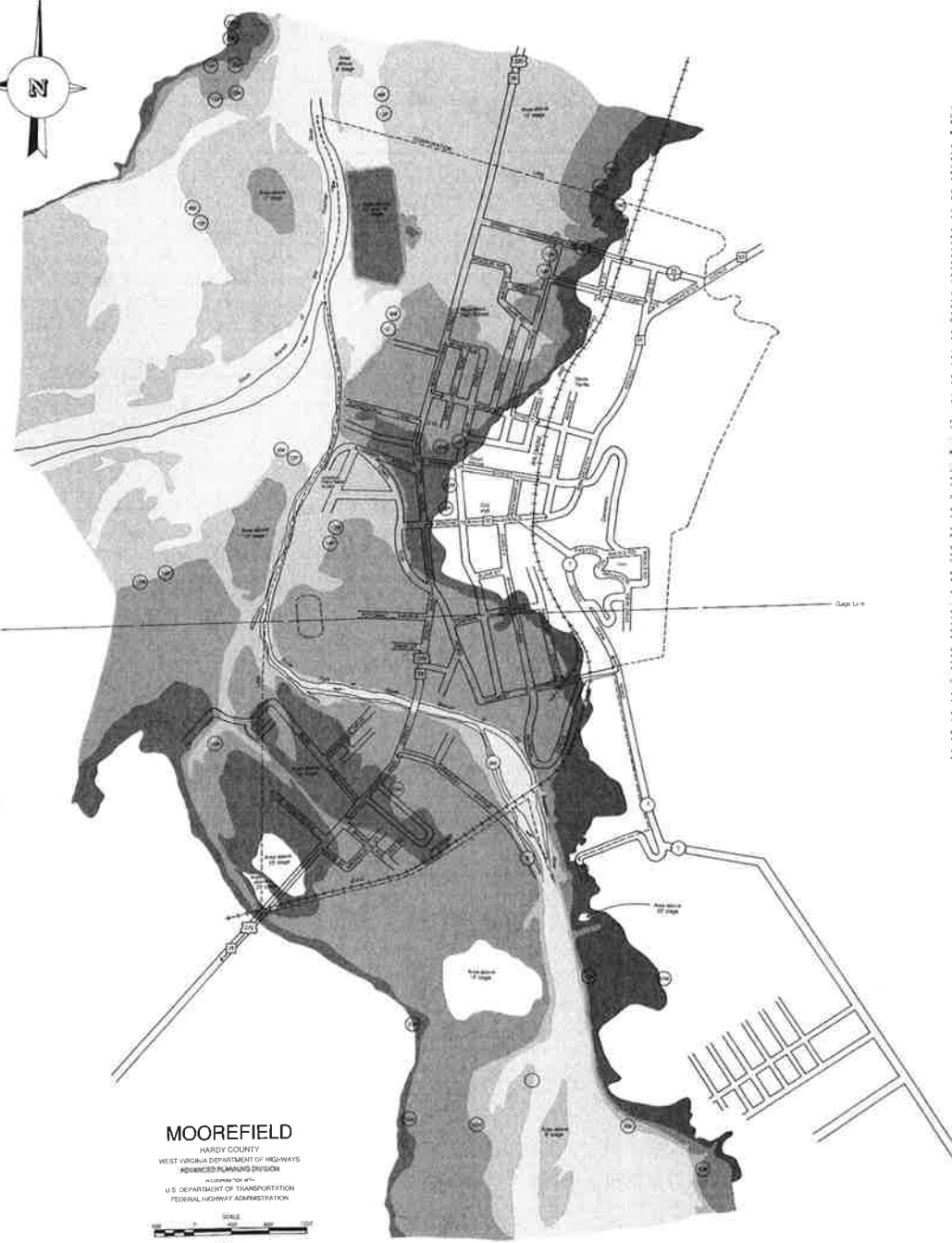
	<u>Page</u>
<b>List of Figures</b>	
1 Rain and River Gages South Branch Potomac River Basin	7
2 South Fork Potomac River Basin Flood Warning Communications	8
3 Relationship between Rainfall and Flood Stage at Petersburg, WV	9
4 Flood Emergency Organization	18

### **List of Tables**

1 Ten Highest Floods	3
2 Flood Stage Action Chart	13
3 Proposed First Year Budget	50

### **APPENDIX** 52

Flood Emergency Personnel Phone Listings  
Volunteer Worker Registration Form  
Plotting Chart -- Rate of Rise  
Daily Bus Run Log  
Sample Pass



**MOOREFIELD**  
 HARDY COUNTY  
 WEST VIRGINIA DEPARTMENT OF HIGHWAYS  
 AGRI-CULTURAL PLANNING DIVISION  
 IN COOPERATION WITH  
 U.S. DEPARTMENT OF TRANSPORTATION  
 FEDERAL HIGHWAY ADMINISTRATION



1974

**"Flood Evacuation Procedures for the Residents along the South Fork and South Branch Potomac River in Moorefield, West Virginia"**

The following are some helpful hints for evacuation planning which may help you determine if your home and car are in jeopardy. However, the final decision on evacuation is your responsibility. Please do not hesitate to call the local emergency services for help.

**GENERAL INFORMATION**

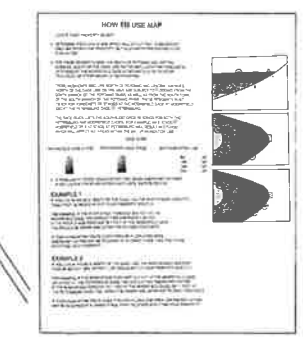
1. Know the location of your home, business, school, and other places you frequent. Know the location of the nearest fire station, hospital, police station, and other emergency services.
2. Know the location of the nearest evacuation route and the location of the nearest shelter.
3. Know the location of the nearest evacuation route and the location of the nearest shelter.
4. Know the location of the nearest evacuation route and the location of the nearest shelter.
5. Know the location of the nearest evacuation route and the location of the nearest shelter.
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9. Know the location of the nearest evacuation route and the location of the nearest shelter.
10. Know the location of the nearest evacuation route and the location of the nearest shelter.

**EVACUATION PROCEDURES**

1. Evacuate as soon as possible. Do not wait for the evacuation signal.
2. Evacuate as soon as possible. Do not wait for the evacuation signal.
3. Evacuate as soon as possible. Do not wait for the evacuation signal.
4. Evacuate as soon as possible. Do not wait for the evacuation signal.
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9. Evacuate as soon as possible. Do not wait for the evacuation signal.
10. Evacuate as soon as possible. Do not wait for the evacuation signal.

**HOW TO USE THIS MAP**

1. This map is a general guide and should not be used as a substitute for official maps.
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# FLOOD EVACUATION PROCEDURES FOR THE RESIDENTS ALONG THE SOUTH FORK AND SOUTH BRANCH POTOMAC RIVER IN MOOREFIELD, WEST VIRGINIA

The following are some helpful hints for evacuation planning which may minimize damage to your home and personal property. However, the major purpose of evacuation is to protect the lives of you and your family. Prepare to evacuate before the flood waters reach your property.

## BEFORE THE FLOOD

1. Prepare an itemized list of personal property (furniture, clothing, and other valuables). Each household in the flood area should determine if articles of furniture can be moved upstairs and make preparations ahead of time if articles are to be moved out. Photographs are helpful in sustaining potential insurance claim and settlements for flood losses.

2. Keep insurance policy, list of home contents and photographs in a safe place.

3. Check for flood insurance eligibility with local government representatives.

4. Keep on hand at all times the following items: battery-operated portable radio, flashlight with spare batteries and bulbs, water purification tablets, portable heater, warm clothing, enough canned or dried food and bottled water to last 4 or 5 days, a good first aid kit, any medical supplies that your family may need, replace supplies yearly. Residents should also have a supply of paper plates, a can opener, and plastic utensils for use with their food supplies. Heavy plastic sheets will also be useful to wrap large appliances which cannot be moved.

5. Plan and draw in advance travel routes to be taken to avoid flood waters in an emergency. When flood waters begin entering the area, the evacuation routes marked on the map should be used. Establish emergency procedures with household members before the emergency occurs.

6. Residents should have heat systems wired with connections so that motors and pumps can easily be removed.

7. Fuel tanks should be properly secured to prevent them from floating or overturning and vents should be raised above the flood level or equipped with a valve that can be closed.

8. Residents should have a collar pump, garden hose and high boots available for clean up after high water.

9. Your home should be equipped with brooms, soap and buckets for clean up.

\* The above procedures should not be considered as addressing most important procedures. Your local authorities can provide additional information upon request.

10. Determine or hire a surveyor to provide you with elevations of your property. Those data can be used with this map to more precisely determine at what flood stage evacuation is necessary.

11. Know where to obtain weather and flood information.

## WHEN EMERGENCY IS ANNOUNCED

1. Move automobile and other mobile equipment to higher ground. Residents should plan ahead where they are going to move their cars and plan their transportation with their neighbors in such a way to program trips.

2. Move pets and/or livestock to higher ground.

3. Move valuable household items, if possible, out of the flood plain or at least to floors above the expected flood level.

4. Disconnect appliances and if they cannot be moved, wrap in heavy plastic sheets and tie.

5. Seal openings of large appliances with mastic tape or waterproof adhesive tape. You should be aware that large appliances, if sealed, could float causing damage.

6. Open a basement window. This will permit access for pumping after the flood.

## WHEN EVACUATING

1. Take prescription medicines, eyeglasses, hearing aids, first-aid supplies, baby formulas and pet food, flash light, battery operated radio, blankets, extra clothes, important papers, wallets and checked articles, sanitary and toilet supplies, water purification tablets for purifying drinking water, and games for children and adults.

2. Turn off all electric circuits (remove main fuses or if circuit breaker, switch main circuit to "off"). Residents should know in advance where they can shut off electric, water and gas in the event they plan to leave their homes.

3. Close main gas valve, water valve and fuel tank valves.

4. Proceed to emergency shelter or high ground, using pre-determined routes.

5. Obey instructions from civil defense, police, fire department or other personnel directing emergency evacuation in your community.

6. Travel with care, follow recommended routes, listen to radio for additional information and instructions.

7. Residents should be aware of the locations where housing will be and let your neighbor/relatives know where you are going.

## IF YOU MUST STAY IN YOUR HOME

1. If you are ordered to evacuate, evacuate as soon as possible. However, if you cannot evacuate and must remain in your home, the following action should be taken:

1. Fill bath tub with cold water for drinking and food preparation.

2. Turn off all electric circuits, gas valves, water valves and fuel tank valves.

3. Open refrigerator and freezer only when necessary.

4. Move to the highest level in your home that is safe from flood water.

5. Also move food, valuables, records and other essentials to highest levels.

6. Listen to radio (battery operated) for additional information.

## AFTER THE FLOOD

1. Residents should check with a qualified electrician or gas company official before turning on service. Gas company should be contacted before trying to light water heaters or stoves.

2. Check for and beware of broken or loose power lines. If you suspect any down lines, call the power company.

3. Open doors and windows for ventilation to remove foul odors or trapped gases. Do not use an open flame if you suspect a gas leak.

4. Be cautious to check floor, walls, and plaster for structural damage upon entering.

5. Do not pump basement areas if ground is still saturated because walls may collapse or become very refilled. City officials will coordinate pumping of basements.

6. Do not start electric motors that have been wet. Disconnect, wash and allow to dry.

7. Proceed with cleanup to prevent health hazards. Damaged perishable items which pose a health threat should be discarded. Partially damaged items should be dried and altered before preparing or serving. Instructions will be provided over the radio as to what to do with items to be discarded.

8. Keep records and receipts of all repairs, losses and damage (photographs are ideal evidence for documentation of losses).

Your home should be clean and dry before moving back in or resuming business. Have local utilities (gas, electric, telephone) check the property and have local building inspectors, health authority or plumber, check plumbing fixtures. Have water supply tested before resuming. Soil or personally treat emergency drinking supply until tests are made and confirm that water is safe.

## MASS CARE SHELTERS

Location of mass care shelters will be announced by the emergency broadcast stations.

## EMERGENCY PHONE NUMBERS

538-6396, Hardy Co. Development Authority  
538-6267, Hardy Co. Development Authority

## IF YOU NEED SPECIAL ASSISTANCE IN EVACUATING

CALL  
538-2928, Moorefield Volunteer Fire Company  
538-2900, Moorefield Volunteer Fire Company  
538-6142, Moorefield Town Office

## FOR GENERAL INFORMATION ON EVACUATION PROCEDURES

CALL  
538-2928, Moorefield Volunteer Fire Company  
538-2900, Moorefield Volunteer Fire Company  
538-6142, Moorefield Town Office

## FLOOD EMERGENCY BROADCASTING STATIONS

Radio WELD FM 101.7, AM 690

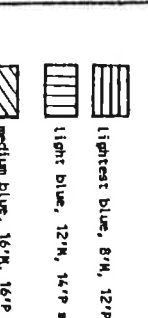
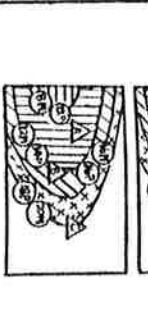
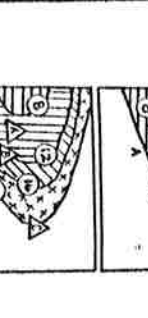
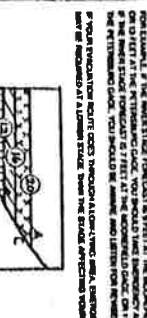
\* The above procedures should not be considered as addressing most important procedures. Your local authorities can provide additional information upon request.

## HOW TO USE MAP

1. LOCATE YOUR PROPERTY ON MAP
2. DETERMINE THE FLOOD STAGE WHICH AFFECTS YOUR PROPERTY AND THE LOCATION OF YOUR PROPERTY ON THE MAP
3. ON THE MAP, DETERMINE THE LOCATION OF YOUR PROPERTY AND THE LOCATION OF YOUR PROPERTY ON THE MAP

FLOOD STAGE	WATER ELEVATION	LAND ELEVATION
8'	12'	8' to 12'
12'	14'	12' to 14'
16'	16'	16' to 18'
20'	18'	20' to 22'

**EXAMPLE 1**  
A resident of the town of Moorefield, West Virginia, has a property located on the South Fork Potomac River. The property is located on the South Fork Potomac River. The property is located on the South Fork Potomac River. The property is located on the South Fork Potomac River.



- dark blue, 20'N, 18'P stage
- medium blue, 16'N, 14'P stage
- light blue, 12'N, 14'P stage
- lightest blue, 8'N, 12'P stage

## **PREFACE**

The Town of Moorefield is subject to frequent flooding from the South Fork South Branch Potomac River and the South Branch Potomac River. In order to provide adequate protection to the residents and businesses in Moorefield, flood response activities should be started at the first indication of heavy rainfall and be organized to react quickly to a flood situation.

Since there may be little warning before a flood, the main responsibility of the Town of Moorefield is warning citizens of potential flood problems. The Town must also be prepared to provide assistance for rapid evacuation in case of rapid rise in flood waters. Limited resources will prevent extensive flood damage reduction activities, therefore every effort should be directed toward rapid evacuation of flood threatened people and businesses. Because of limitations in both manpower and resources, these must be allocated among providing flood warning, carrying out flood evacuation activities, and providing guidance to residents to protect lives and reduce property damage.

Residents of the Town of Moorefield have a responsibility to take action to reduce damages to their property and evacuate to safe areas when given a warning or evacuation order. It is also the responsibility of citizens to obtain information about flood evacuation procedures and to take prompt action to leave flood prone areas over designated evacuation routes. These self-help actions must be undertaken without major outside assistance because there will be little time prior to flooding.

The Flood Emergency Response Plan contained in this manual is a comprehensive plan for pre-flood preparations, evacuation, priority flood fight activities, and post-flood activities. The plan sets forth the criteria for making timely decisions, initiating flood emergency activities, and coordinating various levels of government. The plan provides priority selections of actions that makes most effective use of resources and manpower in the limited time available to reduce damage and save lives.

## INTRODUCTION

### Scope of Plan

The area addressed by this flood emergency plan includes the entire Town of Moorefield. Of primary interest is the safety of the approximately 2,148 residents (1990 Census) who live in Moorefield and the industrial, commercial and retail properties in the Town.

### Authority

There are only limited flood protection works presently in existence at Moorefield. A study of the flooding problems was undertaken by the Baltimore District, Corps of Engineers. A reconnaissance phase study and feasibility study have been completed and levee construction recommended. The Interstate Commission on the Potomac River Basin was the local sponsor of the feasibility study which investigated the feasibility of a levee and channel improvements. As part of the study several additional investigations were completed. They include the following:

1. A study to determine the amount of flood warning time available in the South Branch Potomac River Basin.
2. A description of how the Integrated Flood Observing and Warning System (IFLOWS) operates in the South Fork Potomac River Basin.
3. Recommendations for improvement of the flood warning system in the South Fork Potomac River Basin.
4. The development of a Flood Emergency Response Plan for Moorefield with no new flood protection works in place. (This is a draft of that plan.)

This Flood Emergency Response Plan is prepared in accordance with West Virginia Code Chapter 15 Article 5 Subsection 15-5-8 Local Organization for Emergency Services,

each political subdivision of this state is hereby authorized and directed to establish a local organization for emergency services in accordance with the state plan and program for the provision of emergency services..... Each local organization for emergency services shall consist of a director and a local emergency services council and such other members as may be required..... In carrying out the



provisions of this article each political subdivision in which any disaster as described in section one of this article occurs shall have the power to enter into contracts and incur obligations necessary to combat such disaster, protect the health and safety of persons or property and provide emergency assistance to the victims of such disaster. Each political subdivision is authorized to exercise its powers under this section in light of the exigencies of extreme emergency situations without regard to time-consuming procedures and formalities prescribed by law pertaining to the performance of public work, entry into contracts, incurring of obligations, employment of temporary workers, rental of equipment, purchase of supplies and materials, levying of taxes and appropriation and expenditure of public funds.

### **Purpose of Plan**

The Flood Emergency Response Plan provides a comprehensive plan for preflood preparations, evacuation activities, limited emergency flood fight activities and postflood recovery activities. The plan sets forth the criteria for making timely decisions and provides a basic level of coordination between various levels of government.

### **Preparation of Plan**

This Emergency Response Plan of action was developed through the combined efforts of a committee of Moorefield citizens, the Interstate Commission on the Potomac River Basin, the Baltimore District, Corps of Engineers, the West Virginia Office of Emergency Services and Wright Way Flood Mitigation, Inc. Close cooperation was maintained with town employees and volunteers as well as affected County, State, and Federal agencies to obtain data and identify coordination mechanisms.

### **Document Organization and Use**

The flood emergency manual is formatted to be an evolving document, designed to be used and changed as a result of lessons learned at the time of a post-flood evaluation or whenever additional planning is undertaken.

The manual is arranged so that it can be placed in a loose leaf binder for reference, or it can be used in the field. The document is designed to adjust to continued detailed planning as well as changes and adjustments in either flood vulnerability or flood protection. The format of this manual will also accommodate updates required over the years as a result of changing personnel, material inventories, flood barriers, and development.

## EXISTING FLOOD CONDITIONS

### FLOOD HISTORY

The Town of Moorefield in Hardy County, West Virginia is subject to flooding from the South Branch and the South Fork South Branch Potomac Rivers. Serious floods have occurred in March 1936, June 1949, and November 1985 (Table 1, below). The flood of November 1985, an event with a probability in any year of approximately 0.0025 (approximate once in 400 years), contained flow more than twice that of any previously recorded flood and caused damages totaling almost \$29,000,000 in Moorefield. Over the long term, flood damages in Moorefield are projected to average \$1,453,000 per year.

Flooding can occur at Moorefield at any time during the year. Flooding can be caused by rain on frozen ground in the winter time and rainfall and rapid snowmelt in the spring. Floods also can occur during the remainder of the year due to rainfall runoff from large area wide storms, as well as thunderstorms. Flooding can occur within 1 to 9 hours of rainfall or snowmelt runoff. Action to protect lives and property must be taken immediately after receiving a forecast or other indication of potential flood problems. The rugged topography upstream of Moorefield causes floods to have a rapid rise, be of short duration and decline rapidly.

**Table 1: Ten Highest Floods on the South Fork and South Branch Potomac Rivers**

#### South Fork Flow at USGS Gage

#### South Branch Flow at U.S. 220 Bridge

<u>rank</u>	<u>date</u>	<u>estimated peak discharge (cfs)</u>	<u>rank</u>	<u>date</u>	<u>estimated peak discharge (cfs)</u>
1	11/05/85	110,000	1	11/05/85	130,000
2	06/17/49	39,000	2	06/17/49	62,000
3	03/17/36	30,400	3	03/17/36	49,800
4	05/xx/24	28,000	4	10/06/72	32,100
5	10/16/54	19,800	5	02/04/32	28,300
6	10/06/72	18,000	6	10/09/76	28,100
7	08/18/55	17,100	7	03/19/63	26,700
8	05/22/42	14,600	8	03/07/67	26,600
9	08/24/33	14,000	9	02/03/39	26,000
10	10/15/42	12,800	10	05/31/40	25,600

## **FLOOD THREAT**

The flood threat in Moorefield is very high given the frequency of flooding in the South Branch Potomac River valley. Without a flood emergency response plan the risks to public property and the health and welfare of the residents is very high. This flood emergency response plan is one element in protecting the health and safety of Moorefield residents, though the risks to life and property will remain extremely high. The plan will assist in reducing this problem by providing guidelines for the development of priority actions to be taken in a timely manner.

Although flood insurance coverage in Moorefield is substantial, it does nothing to reduce damage and does not cover all properties. There are about 1,000 water service customers in the Town of Moorefield but only 168 flood insurance policies. Insurance coverage as of January 1989 totaled \$6,409,500. The 1989 assessed valuation of buildings is \$17,106,463 and full market value of buildings is \$32,844,000. If Moorefield were to be flooded it would suffer economic losses to the flood prone properties which do not have flood insurance coverage.

Flood stage maps which show water depths in Moorefield are included in the Appendix at the end of this report. Flooding starts in Moorefield at a flood stage of about 10 feet.

## **FLOOD FORECASTING SYSTEM**

Any flood forecasting system consists of the following parts which must work together to provide a timely and accurate flood forecast.

1. A gaging system which measures rainfall and stream and river levels,
2. A communications link to transfer this information to a flood forecasting center,
3. A center to collect and analyze data to produce a flood forecast, and
4. A communications system to disseminate the flood warning to the community.

### **River Gages**

Records of river stage and discharge on the South Branch Potomac River have been maintained since 1928 at Moorefield. Two gages are maintained by the U.S. Geological Survey. One is located on the right bank of the South Fork South Branch Potomac River 0.2 miles downstream from Stony Creek and about 3.5 miles upstream of Moorefield. The number of the gage is 01608000 and has a reference datum 861.51 feet above National Geodetic Vertical Datum

(NGVD) of 1929. This gage is not equipped with a telephone or other equipment to transfer information to the National Weather Service or other users.

The only river gage that can provide remotely interrogated information is located upstream of Petersburg on the South Branch Potomac River. The gage is located on the right bank 1.1 miles downstream from the mouth of the North Fork South Branch of the Potomac River and 2.6 miles upstream from Petersburg. The number of the gage is 01606500 and has a reference datum 968.34 feet above NGVD. It is imperative that Moorefield do everything possible to monitor flood levels at the Petersburg river gage and to have a reliable emergency communications system to transfer information during a flood emergency between Petersburg and Moorefield.

Other river gages in the South Branch of the Potomac River Basin are located at Circleville, Franklin and Brandywine.

### **Precipitation or Rain Gages**

The precipitation (rain gage) system in the South Branch Potomac River Basin is operated by the National Weather Service. There are 2 existing rain gages in the South Branch Potomac River Basin located at Mathias and Moorefield, both of which are capable of providing hourly rainfall data to the National Weather Service. In addition, while not completely operational at this time, there is an extensive network of automated IFLOWS rain gages being installed in the South Branch Potomac River Basin.

The locations of rain and river gages in the South Branch Potomac River Basin are shown in Figure 1.

### **Analysis and Forecast**

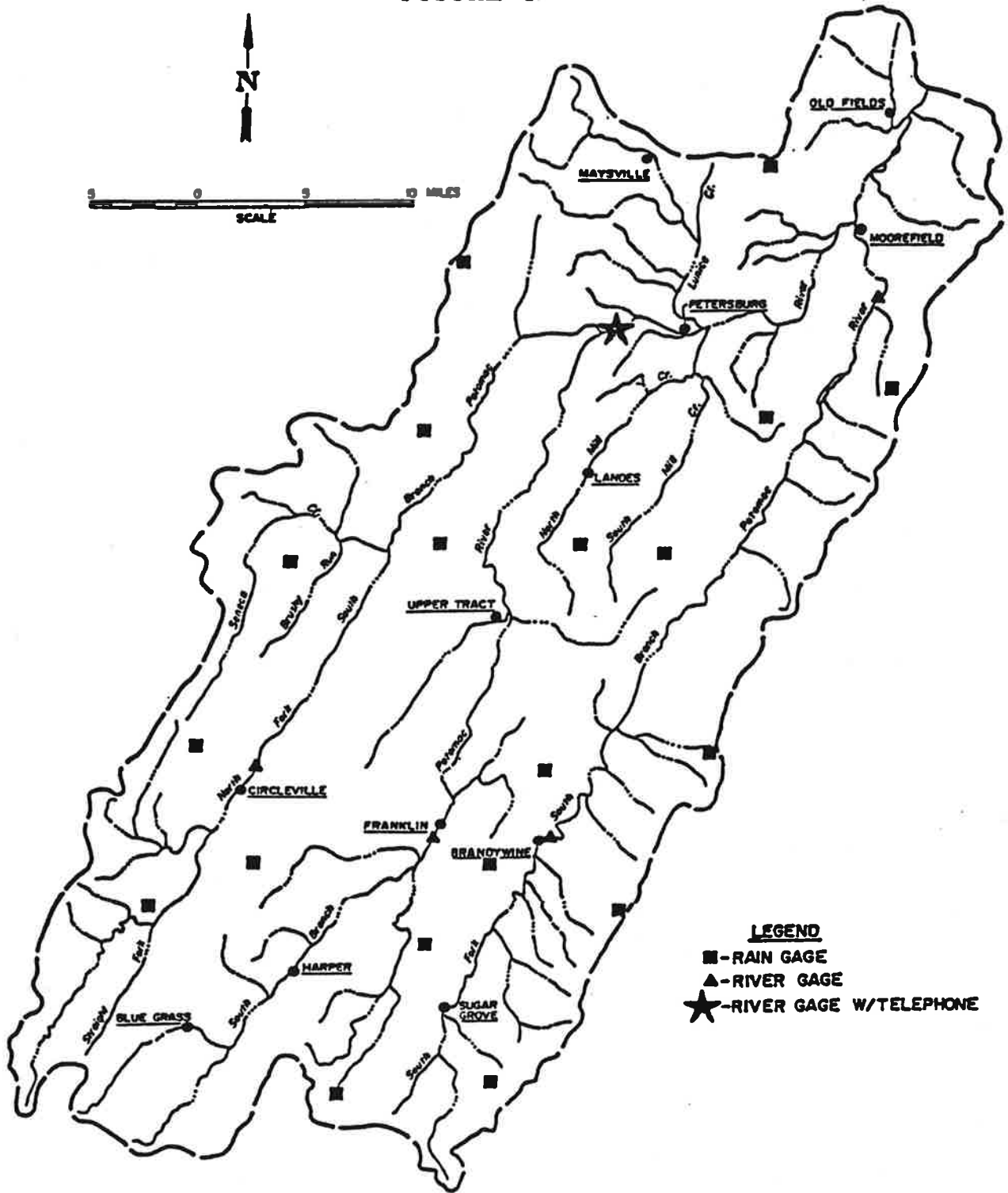
The primary flood forecast dissemination in the South Fork Potomac River Basin is through a number of different systems and relay points. Rainfall and river level information are transferred by telephone and assembled at the National Weather Service Middle Atlantic River Forecast Center at State College, PA. The flood forecast issued by the Forecast Center is transmitted over AFOS, a computer operated communication system which sends forecasts to the NWS Office at Silver Spring, MD who then relay the forecast to the NWS Office at Elkins, WV. The primary means of sending a flood forecast from the Elkins NWS office is over NOAA All Weather radio. This radio is programmed by the National Weather Service Office at Elkins which has a remote transmitter at Moorefield. The flow of information currently used in flood forecasting for the South Branch of the Potomac River Basin is shown in Figure 2.

The NWS office at Elkins provides local weather forecasts and flood forecasts over the NWS Weather Alert Radio System. This system provides 24 hour-a-day weather and flood forecast

information. Anyone with a weather radio receiver can receive the broadcasts if they are within range of the transmitter.

To insure reception of flood warnings at Moorefield there is a need for flood forecasts to be received 24 hours-a-day. The Hardy County Communications Center is not staffed for 24 hours-a-day operation but can receive NWS Weather Alert Broadcasts over NOAA Weather Radio.

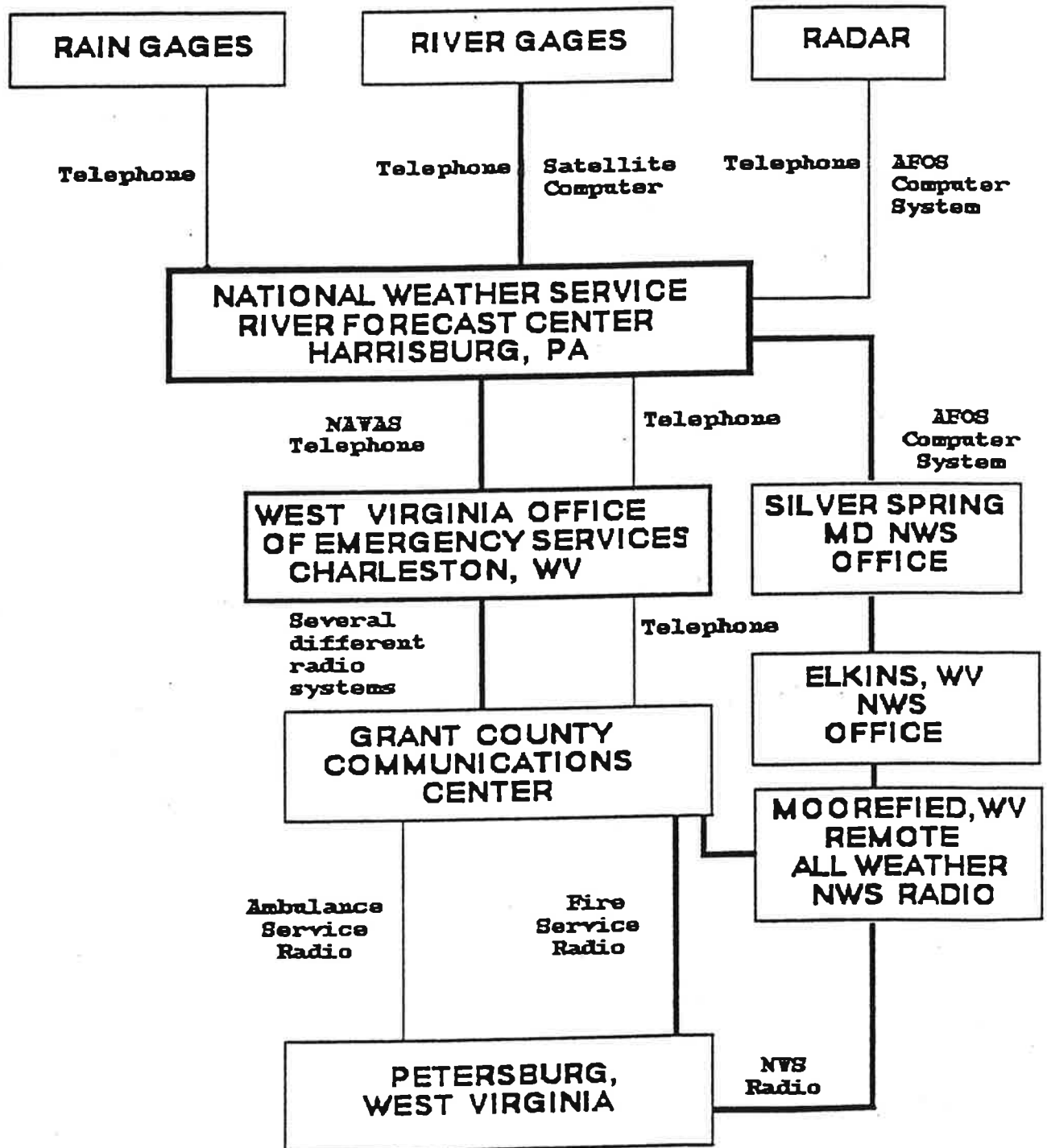
FIGURE 1



RAIN AND RIVER GAGES  
POTOMAC RIVER, WEST VIRGINIA

Figure 2

# SOUTH FORK POTOMAC RIVER BASIN FLOOD WARNING COMMUNICATIONS

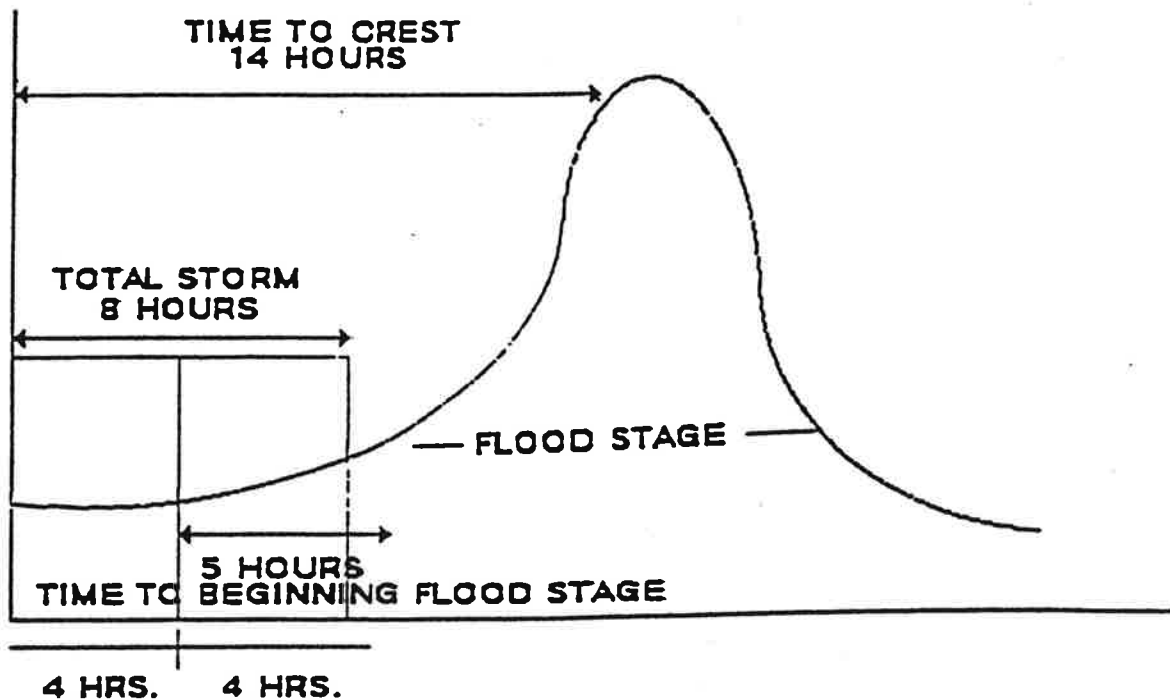


**————— = PRIMARY COMMUNICATIONS LINK**

## FLOOD WARNING TIME

Flood warning time can be estimated for the South Branch of the Potomac River Basin\* at Moorefield. Figure 3 compares the occurrence of rainfall with the flood hydrograph at the Petersburg gage. The figure provides a comparison of the amount of time between rainfall and rapid rise in South Branch of the Potomac River levels and the flood crest at Petersburg for the November 1985 storm.

FIGURE 3  
RELATIONSHIP BETWEEN RAINFALL AND FLOOD STAGE  
SOUTH BRANCH POTOMAC RIVER AT PETERSBURG, WEST VIRGINIA



\*This graph depicts the time from rainfall to flood crest at Petersburg for the South Branch Potomac River. It does not show the time to crest for the South Fork River.

No two storms perform exactly alike, hence, other storms can be expected to have different cresting characteristics. However, this comparison provides useful information in estimating the amount of time between rainfall and flood crest at Moorefield. It can be estimated that the South Branch Potomac River will crest at Moorefield about 4 hours later than at Petersburg resulting in a time to crest of about 18 hours at Moorefield.



The South Fork River has a smaller watershed and has modified discharge as a result of the Soil Conservation Service reservoirs. Additional analysis will be required to determine the time to crest for the South Fork South Branch Potomac River at Moorefield.

### **EXISTING FLOOD FIGHTING RESOURCES**

There are few flood fighting resources in Moorefield. There are only limited local flood protection works. In addition there is limited time for taking action because of the very short time between heavy rainfall and flooding.

It is possible that Moorefield could become isolated for several days during a flood emergency. Therefore, the manpower needed to carry out flood emergency actions must come from within the community and the immediately adjacent area. The 1990 census showed a total population of 2,148 persons.

The use of volunteers must be planned in advance to make the most appropriate resources available. Students at the high school, for example, are a significant resource. This manpower base would be very valuable in a flood emergency if planned and organized ahead of time. To assist in manpower management an assessment of the number of people and skills needed to carry out emergency assignments will be needed. It is also important to keep careful account of who is working and where. A sample Volunteer Worker Registration Form is included in the Appendix to this report.

Each of the flood emergency tasks, described in later sections of this report, will be given an assignment of identifying manpower needs. This assessment should be coordinated and compared with available manpower.

# **DECISION MAKING, PRIORITY SELECTION AND FLOOD EMERGENCY RESPONSE PLAN**

## **General**

To review the flood vulnerability of the Town of Moorefield;

1. Moorefield has an extremely high vulnerability to flooding. Residents and businesses in Moorefield are well aware of the impacts of floods.

2. The South Fork and South Branch Potomac Rivers rise rapidly and decline rapidly during a flood. The time from normal water level to the crest may be as short as 11 to 14 hours following commencement of heavy upstream rainfall, leaving little time for flood damage reduction actions.

3. It is estimated that the time between rainfall and a flood crest at Moorefield can be as short as 11 to 14 hours. It is also estimated that the time between rainfall and beginning flood stages can be as short as 5 hours. The time required to gather data, and produce a flood forecast can vary from 9 to 19 hours. Therefore there is a high probability that damaging flood stages could be reached prior to receiving a flood warning.

4. Moorefield will become isolated very quickly during a flood. The highway system to other areas could be flooded at the same time as Moorefield.

5. There are sufficient human resources in Moorefield to carry out damage reduction actions. However, these resources must be organized so they can respond quickly. There are few full time employees of the Town of Moorefield and a limited number of firemen and ambulance service volunteers. Therefore the efforts that are undertaken to reduce flood damages must be a well organized effort of employees, organizations and volunteers. Phone numbers of flood emergency response personnel are listed in the Appendix.

## **SELECTING PRIORITIES FOR ACTION**

In determining priority actions for reducing flood damage and risk to life, the first focus must be on reduction of life threatening situations by timely and safe evacuation of all vulnerable people prior to flooding. Secondly, consideration is given to the reduction of property, personal possession and business damage through evacuation, early flood warning, and the organization of resources to provide assistance to flood prone individuals and businesses.

In consideration of these objectives the following flood emergency priorities are determined:

1. Monitoring of flood warning messages and rate of rise of the South Branch Potomac River should be given the first priority. River rise of 1/2 foot or more per hour should be an indicator of the need for early activation of flood emergency actions. Early patrols of upstream areas as rainfall is occurring will reinforce other flood warning systems and provide early detection of rising stream and river levels. Because of the short time between rainfall and flooding, careful monitoring of stream levels, and early detection of upstream rainfall is essential to providing sufficient time to take actions.

2. Provide early flood warning to the citizens and businesses in Moorefield even if flooding is uncertain. The risks inherent in providing a warning when it is not needed must be balanced against the short period of time available to take action and the basic need to protect human life. The rise in flood levels is so rapid in the South Fork South Branch and South Branch Potomac River that every minute of pre-flood warning time should be used in taking flood damage reduction actions. Early flood warning is essential to these actions.

3. Activation of the Emergency Operations Center at the first indication of rising flood waters. Any delay in activating the EOC and beginning emergency organization would result in less time available for flood damage reduction actions.

4. Issue flood warnings as soon as possible after a flood threat is identified to ensure the maximum amount of time for individual property protective actions. It is better to be safe than sorry when issuing flood warnings.

5. Initiate early and well organized flood evacuation activities. Give special and early attention to the evacuation of individual homes and businesses in the 10 foot flood stage zone. Relate flood evacuation orders to the amount of time available before flood levels occur.

6. Insure the safety of emergency workers by stopping evacuation efforts when flood levels reach a point where evacuation is unsafe.

### **FLOOD ACTION PHASES**

Flood Emergency Actions in Moorefield will be carried out in stages. Each of the action stages or steps is based on study of the impact of flooding on the community, the time available before each flood stage is reached and the amount of time estimated to take damage reduction and life savings actions.

Each phase of the flood action plan is based on the level of the river, the rate of rise of the river or a flood forecast of future flood levels. Three phases of flood emergency action are planned. Table 2 outlines the decision points for each phase of the plan.

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**TABLE 2: FLOOD STAGE ACTION CHART**  
 -----

**EXISTING/FORECAST  
FLOOD STAGE**

**ACTION**

**CODE YELLOW**

**GAGE 5 FT or  
 FORECAST 8 FT**

**FULL EMERGENCY STATUS**

Activate EOC, Flood Warning Unit in operation  
 Forecast Monitoring systems activated and tested  
 Check upstream rainfall and flood levels.  
 Begin 15 minute monitor of rate of rise.  
 Hold news briefing

**ISSUE PUBLIC FLOOD WARNING**

Provide evacuation assistance to 8 FT area

**CODE ORANGE**

**GAGE 10 FT or  
 FORECAST 12 FT**

**ISSUE EVACUATION ORDER FOR 12' AREA**

Close off/barricade flooded highways and streets.  
 Continue to Check Upstream Flood Levels and Rate of Rise  
 Provide evacuation assistance wherever possible

**CODE RED**

**GAGE 12 FT or  
 FORECAST 16 FT**

**ISSUE EVACUATION ORDER FOR 16' AREA**

Continue evacuation assistance for 12' Area  
 Shift assistance to 16' Area as flood stage increases  
 Continue to Check Upstream Flood Levels and Rate of Rise  
 Provide evacuation assistance wherever possible

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The evacuation plan is designed to reduce flood damage and provide as much safety as possible to the residents and businesses in Moorefield through a well organized flood response plan. The plan is based on a phased effort beginning at a flood stage of just slightly over 10 feet. The following description summarizes actions to take in phases to be discussed fully in the following sections.

**Yellow Alert**

The initial flood warning is issued at the YELLOW ALERT stage. This phase is started when there is a river gage reading of 5 feet or higher, or a flood forecast of 8 feet or higher is received, or the rate of rise at the gage is 0.5 feet or more per hour. This phase sets in motion the beginning of the flood response plan.

The Emergency Operations Center (EOC) will be fully activated. All radios are activated and tested. All affected radio systems are notified by phone that the radio is on line at the EOC and each frequency or circuit is tested. The GTE Telephone Company is called and instructed to

hook up phones at the EOC.

All unit commanders will be called to the EOC for a staff meeting at which duties and responsibilities will be reviewed. Priorities will be established based on the amount of resources available. Each unit commander will be assigned a work force based on the availability of manpower and instructed to start warning and evacuations as appropriate. Following the staff meeting, relevant media are contacted by phone and given the status of flood levels and flood emergency actions that are planned.

A flood warning is issued to all residents of Moorefield. The Mayor should announce the flood warning over radio and TV. The warning should provide instructions on appropriate evacuation routes, the location of the EOC, and designated safe parking areas for vehicles. Residents should be requested to keep their radios tuned to local radio stations for official announcements and updates. The warning should state at what future time status updates will be given.

If there is sufficient time, a news conference is held at which a briefing of current status is provided and a tentative time schedule of future news conferences is given to media. The first news conference should provide a standard background statement covering the EOC activation, phone numbers, missions, existing level of the river and projected flood levels based on flood forecasts or other available information. The news conference should be directed toward providing information to persons living in flood prone areas.

A log of river stages should be started. River readings should be taken every hour unless there is more than a 1/2 foot rise in one hour. The EOC Commander should be given a report every hour unless readings of more than 1/2 foot rise in one hour are recorded. If this occurs then river readings should be taken every 15 minutes and the EOC Commander should be given a report at least once every 1/2 hour.

The Flood Forecast Unit should be activated and all available information should be assembled and recorded as follows:

a. Obtain weather and flood forecast information from the National Weather Service or the West Virginia Office of Emergency Services. Obtain the latest information over the NWS All Weather Radio or telephone the Elkins, WV National Weather Service Office to obtain the latest information. Check with the Grant County Communications Center to obtain the latest rainfall and forecast information.

b. Obtain and record river level data at the Moorefield, Petersburg, Circleville and Franklin river gages.

c. Collect information about heavy rain events or other information from adjoining upstream areas.

The first action priority will be to warn all residents and businesses in the 8 foot flood stage zone. A door-to-door warning will be carried out as quickly as possible to the most vulnerable and lowest residents and businesses. An Emergency Flood Plan brochure is given to each resident along with the bus route schedule. The flood warning should include written instructions to individuals about what to do if a flood does occur. Verbal instruction about evacuation routes are given to all contacted. Residents should be requested to move all vehicles that are not in use, or to be used for evacuation, to designated parking areas. All persons should be instructed to leave quickly and safely if an evacuation order is issued.

In addition to designated parking areas and shelter locations, the written information may include a list of actions which residents should be advised to take including:

- a. Listen to your radio for emergency instructions.
- b. Fill large containers with tap water for drinking, cooking, etc.
- c. Open basement windows.
- d. Turn off electrical power to heating plant.
- e. Remove all electrical equipment possible and store out of flood area. Shut off electric service at fuse box.
- f. Move household belongings to upper levels.
- g. Secure outdoor items that might be washed away.
- h. Prepare vehicles for evacuation. Fill with gas. Move to pre-designated parking area.
- i. Brace or anchor oil storage tank to prevent floating, shut off oil piping at oil tank.
- j. Remove all articles that float: freezers, refrigerators, washers, dryers, other valuables, etc. from the flood area or incase them in a heavy plastic bags, sealed water tight at the top and tied or fastened securely to prevent from floating around.
- k. Disconnect plumbing fixtures and plug or cap all waste and sewer lines.

At the time of the Flood Warning Announcement, planning and action should begin for the next phases of the emergency. The Moorefield Flood Advisory Committee is assembled and all information is reviewed and a course of action for the next 6 hours is chosen.

As more resources come available evacuation assistance should be provided to residents in affected areas. Businesses should be queried to determine their requirements, however businesses should rely primarily on their own resources to carry out emergency actions.

An inventory of other materials used by emergency workers should be completed and supplies ordered where needed.

### **Orange Alert**

At the Second phase, the ORANGE ALERT, an evacuation order is issued for the 12 feet area. This phase is started when a flood stage of 10 feet is reached at the river gage, there is a flood

forecast of 12 feet or higher, or the rate of rise is 0.5 feet or more per hour.

All unit commanders should be re-assembled for a staff meeting and all available information reviewed.

All persons and businesses in the 12 feet flood stage areas will be ordered to evacuate. An evacuation order must be approved by the Mayor or his designee. In their absence or incapacity, authority to issue warning or order an evacuation will rest with the Civil Preparedness Director or the Director of Public Works.

The evacuation order will be broadcast over radio and television and the fire siren should be used. The message "Do not attempt to drive or walk through deep or rapidly flowing water" should be repeated over radio and TV.

The evacuation order should be delivered door-to-door to each home and business in the 12 feet flood stage areas.

The Flood Warning Unit is instructed to obtain as much information about rainfall and river levels from upstream communities, including, if possible, information about rate of rise at the Petersburg, Circleville and Franklin river gages. The unit should contact the NWS office at Elkins. The warning unit should assemble all information as to the status of the latest flood forecast and try to determine if there will be continual rises. Flood levels at the staff gage at Moorefield should be observed, recorded and reported to the EOC Commander every 15 minutes. The flood warning unit should make a flood forecast for the next 2 to 4 hours.

If time permits, a second news briefing should be held and all up to the minute information given to the media. Instruction should be given about where vehicles can be safely parked and where the EOC is located. Instruction about the availability of school buses for evacuation assistance should be given to all residents. Locations and routes of school buses should be provided.

### **Red Alert**

The third phase is the RED ALERT, when the evacuation order for the 16 feet flood stage area is given. This phase is started when the river gage reaches 12 feet, a NWS flood forecast of 16 feet is received, or there is a continual rate of rise of 1/2 feet or more per hour.

All roads that are or could be flooded in Moorefield will be blocked off with barricades and no person or vehicle will be allowed to pass that point. Barricades should be placed around potential high water areas. Barricades should be manned by police, firemen or other designated volunteers to prevent drivers moving or going around barricades.

## **ORGANIZATIONAL STRUCTURE AND COOPERATING ORGANIZATIONS**

### **Chain of Command**

By virtue of his position, the Mayor has overall responsibility for all Town functions and activities, including the provision of emergency services.

Delivery of these emergency services, including the planning and operational supervision during an actual disaster or emergency, is normally accomplished through the Town of Moorefield Emergency Preparedness Office. The Town of Moorefield Emergency Preparedness Office is directed by a Emergency Preparedness Director according to a job description for that position. In the absence of the Emergency Preparedness Director, the Director of Public Works will assume his responsibilities.

The Director of Public Works will assume all field engineering operations and material supply activities during a flood fight.

The EOC (Emergency Operations Center) Commanders or Unit Commanders are responsible for coordinating all flood emergency activities and services. The EOC will operate on a 24 hour basis during a full-scale flood emergency. They are also in charge of evacuations and other units, and are expected to coordinate the activities of the volunteer support groups such as the American Red Cross and Salvation Army. The EOC will handle all inquiries from the public.

The Police Department will coordinate the security services provided by the National Guard. A Chart showing the flood emergency organizational structure is shown in Figure 4. A list of key designated flood emergency personnel with their office, emergency or home telephone numbers is given in the Appendix and should be kept current.

Coordination of flood fight activities is probably the most important element in a successful flood emergency and disaster relief effort. The following sections describes coordination responsibilities during a flood emergency.

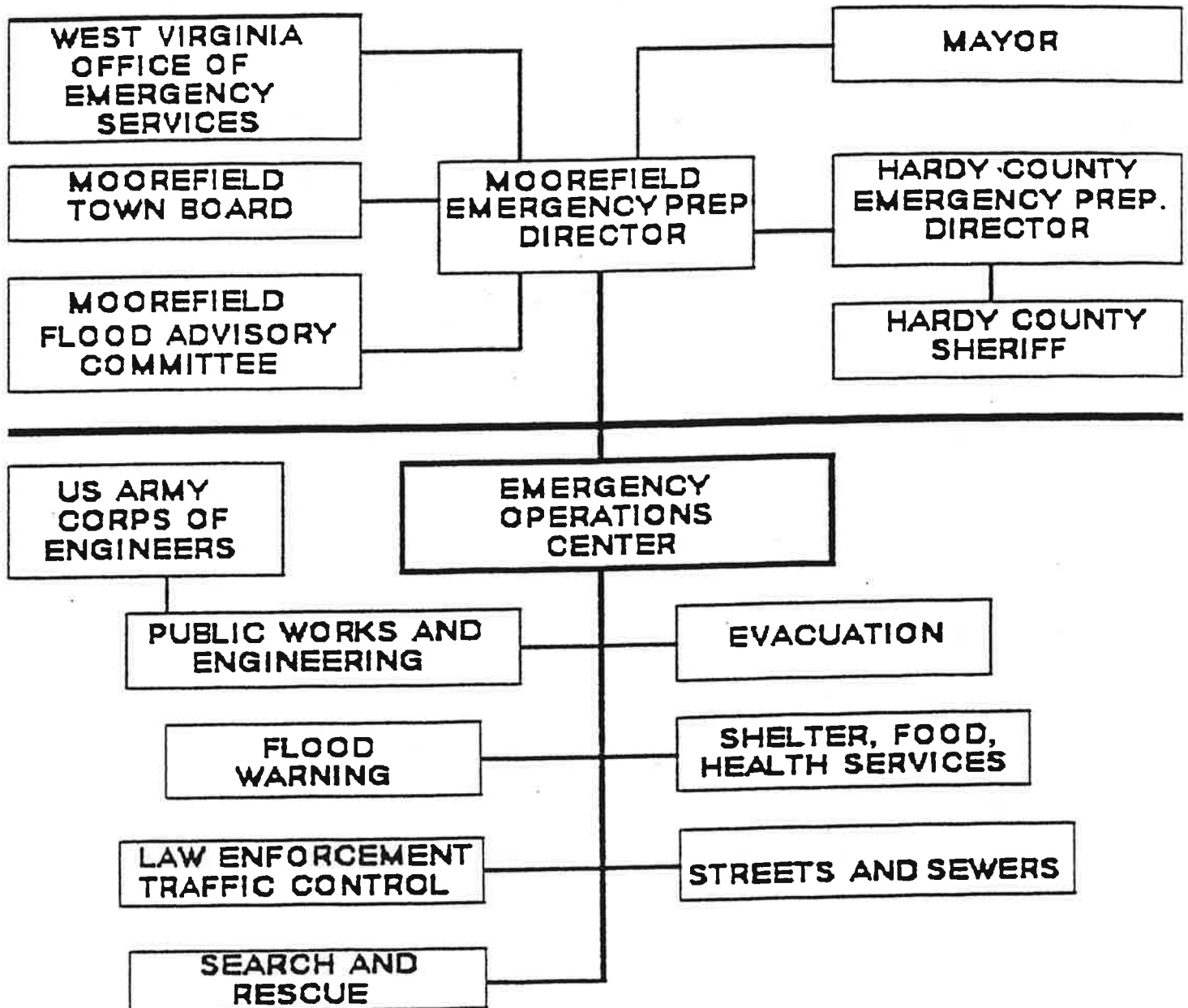
### **Mayor**

The Mayor is responsible for coordinating all requests for assistance with county, State, and Federal authorities. The Mayor will make any declaration of emergency and request a similar State declaration when Town resources will probably be or already are insufficient to meet emergency needs. The Mayor will also coordinate with the Emergency Preparedness Director and Director of Public Works to determine the need for and timing of any flood fight activities.



Figure 4

# FLOOD EMERGENCY ORGANIZATION



## **Preparedness Director**

The Emergency Preparedness Director is the Commander of the Emergency Operations Center (EOC) and coordinates all Town flood emergency and disaster relief efforts. The Emergency Preparedness Director functions under the direction of the Mayor. The Director coordinates Town activities with the County Emergency Preparedness Director, The State Director of the Office of Emergency Services. The Emergency Preparedness Director also assures that optimum coordination is maintained between evacuation units, engineering operations and the EOC.

## **Public Works Director**

The Public Works Director, in close coordination with the Emergency Preparedness Director, will coordinate flood fight activities of the Public Works Department personnel including the provision of needed technical advice to the EOC Commanders. He will also maintain close coordination with on-site Corps of Engineers personnel regarding the need for construction, inspection and maintenance of emergency flood barriers.

## **Emergency Operations Center Unit Commanders**

The EOC Unit Commanders will insure that close coordination exists between the various services and operations in their charge, and shall furnish information and assistance as requested by the Emergency Preparedness Director.

## **Police Department**

The Town Police Department coordinates street and bridge closures with the Director of Public Works. The Police Department also coordinates personnel from the Army or Air National Guard units that assist in traffic control and security.

## **Cooperating Organizations**

This section presents local, county, state federal and independent agencies and organizations expected to have a role in Moorefield flood emergency activities. It includes brief description of the agencies and organization responsibilities and functions. A list of agency contacts and their phone numbers is given in the Appendix.

## **Local Agencies**

### **Moorefield Mayor's Office**

The Mayor's office has overall responsibility for all Town functions including the provision of

emergency activities during a major flood emergency. This office, in cooperation with the Town Emergency Preparedness Director and Director of Public Works, makes the determination as to the advisability and timing of emergency flood actions.

#### Moorefield Emergency Preparedness Director

The Emergency Preparedness Director, in concert with the Mayor's office and Director of Public Works, determines the need for and time of commencement of emergency flood actions based on flood forecasts from the National Weather Service (NWS), and other information. The Emergency Preparedness Director gives the order to establish and staff the Emergency Operations Center (EOC) from which all flood emergency activities are directed. Working with designated assistants, who manage daily activities of the EOC, the Emergency Preparedness Director is responsible for all flood emergency activities including: preflood education and preparation; construction, inspection, and maintenance of emergency flood barriers; evacuation measures; interdepartmental and interagency coordination; public communications; and postflood inspection and cleanup activities.

#### Moorefield Flood Advisory Committee

A flood advisory committee of responsible and experienced individuals has the responsibility of advising the Town Emergency Preparedness Director in all matters relating to flood emergencies. The Committee, of 5 to 7 people, is made up of the Mayor, Director of Public Works, fire chief and representatives of the electric power company, phone company and other individuals experienced in the problems of flooding.

#### Moorefield Fire Department

The Fire Department has a number of volunteer fire fighters available during a flood emergency. Because of the limited amount of warning time, firemen will be devoting their efforts toward warning individuals of the need to evacuate their homes and businesses during a flood emergency.

#### Moorefield Town Police Department

The Police Department has limited personnel for emergencies, therefore, a priority of actions should be established. The Departments' responsibilities during a flood include placing barricades closing off streets where unsafe conditions or levels are expected and providing security for buildings and property during a flood emergency.

#### Moorefield Public Works

Public works personnel provide all planning, engineering, inspection, water supply, waste water, solid waste disposal, and street maintenance services. Since there are limited personnel in public services for flood emergencies a priority of actions should be established. As time permits, these

responsibilities include:

- \* Installing sewer and drainage closures to prevent floodwater backup
- \* Providing temporary flood barriers
- \* Storing and distributing equipment and materials.

#### **Moorefield Consulting Engineer**

The Moorefield Consulting Engineer provides engineering advice to the Town. The engineer, in consultation with the Town, will provide advice on the feasibility and methods that can be used to reduce flood damages to key public buildings.

#### **County Agencies**

##### **Hardy County Emergency Preparedness Coordinator**

The Emergency Preparedness Coordinator coordinates nuclear and natural disaster activities in the county. He maintains close communication with the West Virginia Office of Emergency Services in Charleston. The Emergency Preparedness Coordinator assists the Town in obtaining required communications and assistance from the county and State as well as other sources of assistance as needed. The Hardy County Emergency Preparedness Coordinator 's office is located in the Hardy County Court House in Moorefield.

##### **Hardy County Sheriff**

The Hardy County Sheriff has responsibility for law and order in Hardy County. The Sheriff also operates a communications center which receives telephone reports from adjoining counties and a few upstream volunteer observers when high water is experienced.

#### **State Agencies**

##### **West Virginia Office of Emergency Services**

The West Virginia Office of Emergency Services (OES) is an essential link in the process of accessing State resources, which may in turn lead to a Federal disaster declaration, and, ultimately to Federal assistance, both financial and technical. The OES is often the first outside agency to contact if a flood or other situation may overtax the local government's capabilities.

Because the OES is part of the Nationwide Emergency Preparedness Organization, the County Emergency Preparedness Coordinator, or the Town Emergency Preparedness Director should make the initial contact.

It should be noted that because of the rapid onset of flooding at Moorefield many of the Federal

and State resources noted in this section will be limited to post-flood assistance. Although the OES may bear the brunt of the situation reporting that the State requires, it is imperative that local managers keep adequate records to assist the OES and authenticate their emergency activities and expenses for reimbursement in case of a disaster declaration.

#### **Division of Natural Resources**

The West Virginia Division of Natural Resources can provide post-flood assistance through technical assistance, restoration of public facilities and other services.

#### **Department of Health**

The West Virginia Department of Health can provide post-flood assistance in health services, inspection and certification of water and waste water systems and other services.

#### **Federal Agencies**

##### **National Weather Service**

The National Oceanic and Atmospheric Administration (NOAA), National Weather Service (NWS) Middle Atlantic River Forecast Center at State College, Pennsylvania provides flood forecasting service for the South Fork Potomac River, West Virginia. The NWS predicts given stages at river gages in the basin on the basis of observed precipitation and flow at upstream points based on anticipated weather conditions. These forecasts are revised on the basis of changing climatic and hydrologic conditions. Moorefield officials have no direct means of receiving flood warnings. It is possible that flood warnings could be relayed over police or fire radio from the Petersburg Emergency Operations Center. The Elkins National Weather Service Office can remotely transmit flood warnings over the NOAA Weather Radio which has a transmitter near Moorefield.

##### **U.S. Geological Survey (USGS)**

The USGS is responsible for obtaining flood stage measurements at river gaging stations located in the South Fork Potomac River Basin. These data are provided to the NWS and other agencies to aid in forecasting flood stages.

##### **Federal Emergency Management Agency (FEMA)**

Upon the determination of an emergency or a declaration of major disaster by the President, the Administrator (Washington, D.C.) or Regional Director (Philadelphia, PA) of FEMA may direct any Federal Agency to provide the following kinds of assistance to State and local governments:

- \*equipment, supplies, facilities, personnel and other resources
- \*medicine, food and other consumable supplies
- \*damage surveys and assessment reports
- \*coordination of relief organization efforts
- \*emergency communications
- \*emergency mass care
- \*individual and family financial aid

## U.S. Army Corps of Engineers

Corps of Engineers' participation in emergency flood activities is authorized by Public Law 84-99, which provides for advance measures before an imminent disaster, assistance in flood fighting and rescue operations, and postflood rehabilitation of flood control facilities. The Corps is authorized to provide emergency supplies of clean drinking water when depleted or contaminated sources present a threat to public safety.

When the NWS predicts imminent unusual flooding, Corps advance measures can be taken before actual runoff if there is sufficient time to organize and travel to the affected area. Requests for assistance from local officials through the Governor may include creation of an area office in the Town: acquisition and deployment of sandbags, polyethylene, pumps, and other supplies and equipment; inspection of federally constructed and non-Federal flood control works; and construction of temporary flood barriers.

With the onset of a flood emergency and at the request of State and local governments, the Corps may dispatch action teams to threatened areas to assist flood fight and rescue operations. Contracts are made with private contractors to construct emergency flood barriers and drainage works. Rescue operations may be accomplished through procurement of vehicles and equipment. Flood data are obtained and assessed by Corps personnel to guide in flood emergency operations.

When flood emergency or other disaster relief efforts are completed, the Corps may be involved in the rehabilitation or repair of damaged flood works. Following a Presidential disaster declaration, the Corps District Office may be directed by the FEMA regional office to survey and report on damages to public or nonprofit facilities and make final inspection reports once repairs have been completed. In limited instances, such as extensive flood damages in a concentrated area of development, the Corps may be directed by FEMA to remove debris, restore utilities, or do other major relief work, including providing temporary housing.

## Other Groups and Organizations

### American Red Cross

The American Red Cross can provide staff to operate an emergency shelter, provide shelter management including food, nursing care, cots and other services.

## **Media**

**The newspapers, and radio and television stations which serve Moorefield are an important part of this flood emergency plan because of the need to circulate a flood warning, evacuation order and information quickly.**

# EMERGENCY OPERATIONS CENTER

## Facility

The Emergency Operations Center, (EOC), provides a central location for control, coordination and communications during a flood. The total effort involves municipal workers, public, private and semi-public organization and volunteers. The various control systems that serve each individual group during normal times will not automatically lend themselves to centralized operations during a flood emergency. A new form of organization is required to make the best possible use of the leadership, skills and resources of the community during a flood. The backbone of that organization is the EOC.

Prior to a flood emergency, a location for the EOC should be selected and set up for emergency use. A separate section of the facility will be designated as a command post/communications center and conference area. During an emergency, Mobile Command Posts (MCP) are phased in by the EOC Commander as needed to provide information to and from the EOC in the field. MCP locations should be predetermined.

Prior to activation, the EOC should be provided with office equipment and supplies to meet anticipated staffing needs and operations for several days. These items include the following as a minimum:

### Furniture:

- Desk and chairs
- Work Tables
- File Cabinet and folders
- Map Easels

### Communications:

- Radios
- Telephones (5 minimum)
- Generator or batteries for radios

### Other:

Paper and other writing supplies	Life vests
Blackboards	Portable radios
Bulletin board	Arm bands
Data log books	Hardhats
Data registration cards	Flashlights
Sewer service area map	Flood Emergency Plan
Telephone directory	Flood Stage Map

The following minimum basic data will be available in the EOC:

- Flood Emergency Evacuation Plan and Flood Stage Map.
- Stage Action Chart



River level recording charts  
Map of storm sewers  
Map of sanitary sewers.  
Emergency Evacuation routes  
Locations of emergency housing facilities, remote parking and equipment storage areas

These maps and charts should be placed either on wall bulletin boards, easels, or other support to permit instant access and inspections so that the EOC staff can quickly respond to any emergency situation. Sufficient radios should be placed in the EOC to carry out emergency communications with mobile units, dike patrol and other groups so far as equipment is available. The EOC commander is responsible for adequate communication facilities.

Of the five telephones in the EOC, three numbers are released to the public through the media. Of the remaining two, at least one should be reserved for outgoing calls only. The other is reserved for official incoming and outgoing calls and released only to persons and organizations involved in the flood emergency.

#### Purchases

The EOC will, of necessity, become involved in the purchasing, ordering and leasing of supplies and equipment. It is very important that good records be kept of these transactions to prevent spurious billings appearing after the emergency has passed and to aid in recovery proceedings. The timetable below may help the EOC Commanders in developing a proper purchasing procedure.

1. At River Stage 5 feet the EOC will be partially activated on an 24 hour-a-day basis. The EOC radios will be energized and tested. Maps will be checked, evacuation plans reviewed, and supplies inventoried. The GTE South Telephone Co. will be notified to hook-up EOC phones. The County Emergency Preparedness Director and other agencies will be notified as circumstances warrant.
2. If necessary, EOC supplies such as office supplies, life jackets, reflective vests, flashlights and batteries, etc. will be purchased utilizing funds appropriated under the Emergency Management Budget. All purchase orders will be signed by the Emergency Preparedness Coordinator.
3. If the projected flood forecast of crests or rate-of-rise warrants, a declaration of emergency shall be sought by the Emergency Preparedness Coordinator from the Mayor. If the Mayor declares an emergency, the emergency evacuation and flood fight fund (\$5,000) shall become available for these purchases. In addition, the Town Clerk shall be directed by the Mayor to set up an emergency account to handle the purchase and/or lease of other equipment and supplies from appropriate vendors.

4. It is important that all charges to the emergency account originating from the EOC be properly supported by EOC records, such as EOC Commander's log or the communication logs. All slips and/or invoices shall be initialed by the EOC Commander. The EOC Commander shall also ensure, to the best of his ability, that everything ordered was necessary and justified, was purchased at a reasonable price and was actually received. The EOC Commander shall presume, unless otherwise proven, that all sand, sandbags, poly and other construction materials are being used to protect public property and therefore these purchases are legitimate expenditures of public funds.

### **Activation**

Activation of the EOC is determined by the Emergency Preparedness Director in coordination with the Mayor and Director of Public Works. The timing and extent of EOC operations depend on the forecasted severity and timing of flooding at Moorefield. Since there is so little warning time available at Moorefield, activation of the EOC and implementation of emergency actions will need to be taken quickly. The more preparation that can be taken prior to a flood emergency the less time it will take to activate emergency efforts.

### **Staffing**

Initial staff in the EOC consists of the EOC Commander and personnel to operate the communications equipment, as well as a resource person from either the Public Works Department or the Fire Company.

As conditions warrant, staff should be increased quickly to include more communications personnel, clerical assistance, messengers and other organization representatives as necessary. In most cases, telephone communication with these groups will be adequate and will cut down the noise and confusion caused by additional people in the EOC.

### **Operation**

The EOC Commander should be notified of conditions affecting public safety as soon as possible. All unit commanders should keep the EOC fully informed so that maximum coordination can be obtained and accurate information can be disseminated to the public.

### **Public Information and Staff Meetings**

During a flood emergency, accurate and current information must be released to the public in a timely manner. Subject to the nature of the flood situation, a schedule of public information releases should be posted and adhered to. A staff meeting should precede all news conferences or releases to assure full and accurate information is released.

## **Security**

Realizing that floods, natural disasters, or other emergency situations may restrict the movement of vehicles and people affected by evacuation efforts, flood fighting construction and other operations, the EOC will develop a pass system to be administered by the EOC Commander or his designee at the EOC and issued to persons and vehicles identified as being residents of the Town or working on flood emergency efforts.

## **Communications**

### **Telephones**

Five telephones should be installed and tested in the EOC. Of these five numbers, three should be released for use by the public. Two lines should be reserved for both incoming and outgoing calls between the EOC and official and semi-official persons and groups, and for special out-going calls only. DO NOT release these two numbers to the public.

A roster of staff and volunteers should be established to man the telephones 24 hours a day. It is recommended that at least 15 individuals be identified to man the phones. Ten people on a 6 hour on and 6 hour off schedule with five back-up persons are suggested.

### **Radio**

Radio systems often become overloaded with traffic during a flood emergency. Therefore, strict discipline and priority of use must be established and assigned to each radio and radio system.

There are several radio systems which can be used in Moorefield. Each of the systems which operate the fire, police, sheriff and ambulance services are linked with the Hardy County Communications Center at Moorefield. The EOC must coordinate available radio systems and insure that a base station be set up and manned at the EOC. A remote mobile station will also be required in Moorefield Town proper for use by those carrying out evacuations and other high priority uses.

Federal and State agencies will have their own radio communications systems. It will be necessary to contact their various base stations by phone if needed.

It may be possible to obtain radio communications from adjoining counties. This information would be useful in evaluating flood forecasts and other information. Methods and means of obtaining this important supplemental communications link should be investigated and procedures established for activating the system when needed.

Radio service will be required to maintain radios during the flood emergency. A contract for

radio maintenance should be established and numbers for 24 hour service made available at the EOC.

A system similar to the operation of the telephones should be organized with a roster established for who is to man radios, serve as messengers, and provide other critical communications functions. A minimum of 6 people are suggested for this function.

# **FLOOD EMERGENCY RESPONSE UNIT RESPONSIBILITIES**

## **EMERGENCY OPERATIONS CENTER**

### **MAYOR**

By virtue of his position, the Mayor has the overall responsibility for all Town functions and activities, including the provision of emergency services. Delivery of these services, including planning and operational supervision during an actual emergency, is normally accomplished through the Town of Moorefield Flood Emergency Preparedness Organization.

### **PRIORITY ACTIONS**

#### **Yellow Alert Phase**

At this point the full activation of the emergency preparedness program is started. The Mayor should become informed about the level of the South Fork Potomac River, information about flood forecasts and the necessity to activate the Emergency Operations Center.

At the Town Emergency Preparedness Director's request meet with the Moorefield Flood Advisory Committee. Review this flood Emergency Plan and decide when to take further actions as described in this plan. Decide on what flood stages reached or forecast received will trigger following flood emergency actions. Review the need for and timing of official flood messages.

At a designated time, issue an Official Flood Warning to all business and residents. The message should contain as much factual information as is available such as the South Fork Potomac River Gage is presently at X feet, and is rising at X feet per hour.

#### **Orange Alert Phase**

At this stage a state of emergency in Moorefield is declared and a flood evacuation is ordered for the lowest most flood prone areas. Confer with the Town Emergency Preparedness Director. If time permits hold a news conference and present as full a picture of what is happening with flood conditions.

The Flood Evacuation Order should state that unsafe flood conditions exist or are expected in Moorefield and that all persons are ordered to evacuate as soon as possible over previously designated routes. The message should report the existing flood level of the river, the flood stage when dangerous conditions were reached and reinforce the fact that evacuation is ordered to protect the citizens of the community. The message should repeat where to call if there are

problems and where to go to reach a safe area. The Flood Evacuation Order should be repeated every half hour over local radio and TV stations.

Repeat that a critical flood stage is 10 feet, and that there will be follow up messages every hour or two, or more often as needed. The message should also give instructions of where to obtain more information, and a brief message about the responsibility of individuals to take actions to protect themselves, their property and personal possessions. (Note: A person appointed to handle all public information is suggested at this time.) The official message from the Mayor, repeated every hour or two, should motivate individuals to take action on their own. The message should release the public telephone numbers at the Emergency Operations Center while requesting that people not call those numbers unless they need specific help or have problems.

The Mayor should begin actions to solicit help with outside federal and state agencies and confer with the County Emergency Preparedness Coordinator and the Town Emergency Preparedness Director.

### **Red Alert Phase**

Issue a flood evacuation order for the higher flood stage areas.

Repeat flood evacuation order over radio and TV.

### **Recovery**

After determining that it is safe, the Mayor should issue an all clear message stating that it is safe to return to homes and businesses, cautioning about remaining unsafe conditions, and stating where to request assistance if special problems are encountered. Following inspection and review the Mayor declares the state of emergency ended.

### **PREPAREDNESS DIRECTOR**

The Preparedness Director has overall responsibility for emergency preparedness during the flood emergency and functions under the overall direction of the Mayor. The Preparedness Director has the principal responsibility for directing emergency flood fight and emergency actions in the field.

#### **Preflood Activities:**

1. Position supplies, equipment, and office materials.
2. Review inventory supply, records, files, and purchase orders.
3. Review and coordinate equipment and service needs.

4. Position vital profiles, records, river charts, levee patrol maps, evacuation maps, bulletin boards, directories.
5. Develop and maintain a directory of all persons/business critical to the flood fight.
6. Monitor flood threat.

### **Yellow Alert Phase**

Full activation of the EOC is ordered by the Mayor. All unit commanders are to gather information and report back to the EOC with a summary of the situation regarding their responsibilities. The status of flood levels and flood warning messages are reviewed. All information obtainable from the flood warning unit should be reviewed and flood forecast projections discussed. Procedures to follow if an evacuation is ordered should be reviewed. Methods of coordination with other units of government, county, state and federal agencies wherever they can be of assistance during the pre-flood time period should be reviewed and vigorously followed up.

The flood warning unit and flood evacuation units should be immediately activated for management of flood damage reduction actions.

The Flood Advisory Committee should be assembled and all related information reviewed.

### **Orange Alert Phase**

The EOC should be staffed with more people as activities increase.

Evacuation is ordered for lowest most flood prone areas. All efforts channeled toward moving people to safe locations. Coordination with outside agencies is continued to facilitate the evacuation.

Special equipment and manpower needs should be reviewed and efforts made to obtain them.

### **Red Alert Phase**

All resources should be concentrated on assisting individuals, public facilities and businesses to evacuate. Emphasis should be on protecting human life.

### **Recovery**

The resources of many federal and state agencies will be called into operation at this time to assist in clean up, inspection, and restoration of facilities. There should be a close working relationship

with the State Office of Emergency Services, Department of Natural Resources, Corps of Engineers and Federal Emergency Management Agency and the Hardy County Emergency Preparedness Director.

### **Post Flood Review**

A post-flood review of all actions should be carried out. This is the best time to evaluate the effectiveness of flood response activities. The review should solicit criticism, comments and suggestions from all involved and be used as the basis for planning improvements in future flood emergency actions. This review should form the basis for revision of this Flood Emergency Response Plan.

### **DIRECTOR OF PUBLIC WORKS**

The Director of Public Works has overall responsibility for all public works, utilities, and required engineering services including streets, sewers, and water distribution. The Director of Public Works, in coordination with the Town Engineer, is responsible for planning, coordinating, and carrying out all engineering activities during a flood emergency, directing and coordinating flood emergency tasks which must be performed, and coordinating with local utilities for services needed during a flood emergency.

### **Preflood Activities**

1. Develop, in cooperation with the Town Engineer a flood emergency plan that evaluates the potentials of floodproofing key public and semi-public buildings.
2. Develop, update, and maintain a checklist of engineering-public works tasks that must take place prior to various predicted flood stages.
3. Maintain an inventory of flood fight equipment.
4. Maintain a directory of contractors/companies to meet flood emergency equipment needs.

### **Flood Emergency Activities**

1. Provide direction and coordination with utilities.
2. Provide direction to all field personnel assigned to work on flood fighting activities.
3. Troubleshoot engineering emergencies reported by flood emergency organization.
4. Maintain records on contracted work.



5. Maintain communication between field and Emergency Operation Center.
6. Inform the Preparedness Director of problems (legal, right-of-way, etc.).
7. Plan for and monitor interior drainage problems.
8. Document flood damages (residential, commercial, industrial, public).
9. Plan and coordinate the distribution of equipment, personnel, and materials.

### **Yellow Alert Phase**

As flood waters rise maintain close supervision of the impact of flooding on the town's public works systems. Inspect and immediately report to the Emergency Preparedness Director the status of water, waste water, drainage and street situations.

### **Orange Alert Phase**

Double check again the status of all flood fighting efforts and personally report findings to the Town Emergency Preparedness Director. Notify the EOC immediately of any unexpected developments.

### **Red Alert**

Be aware that evacuation is underway. Monitor road and street conditions and immediately report problems to the EOC.

### **Recovery/Postflood Activities**

1. Open up streets, bridges, and evacuated areas for use.
2. Assess and record damages.
3. Prepare bids and specifications and let bids for cleanup activities, and costs.
4. Work with Federal, State and disaster agencies providing local assistance.

### **OUTSIDE AGENCIES**

### **HARDY COUNTY EMERGENCY PREPAREDNESS DIRECTOR**

The County Emergency Preparedness Director or designate has the responsibility of serving as liaison for outside agencies providing emergency services.

**Preflood Activities:**

1. Develop and maintain a plan for support services.
2. Provide training and coordination.

**Flood Emergency Activities**

The County Emergency Preparedness Director can call into play the resources that are available. The most critical needs will be to develop shelter and food for flood victims. Coordinate with Town Preparedness Director and outside agencies to include:

- a. County Agencies: Hardy County Social Services  
Hardy County Highway Department  
Hardy County Sheriff's Department
- b. State Agencies: Office of Emergency Services  
Department of Transportation  
Division of Natural Resources  
State Police
- c. Federal Agencies: National Weather Service  
U.S. Geological Survey  
Federal Emergency Management Agency  
Corps of Engineers
- d. Other Organizations: American Red Cross.  
Salvation Army.

**PRIORITY ACTIONS**

**Yellow Alert**

Activate County Emergency Operations Center to better coordinate county response, and to serve as back-up or joint EOC with the Town of Moorefield.

Receive report of activities and request for assistance if needed from Moorefield Town Emergency Preparedness Director.

Assist by obtaining and relaying to Moorefield latest flood forecast information for the South Fork Potomac River provided by the National Weather Service.

Contact the State Office of Emergency Services to report on activities and request assistance if needed.

Request information on rainfall, projected rainfall and latest flood forecast information from National Weather Service Offices and other agencies. Report back to Moorefield Flood Warning Group any information obtained.

Notify other County Offices of the potential of flood problems at Moorefield.

Advise Moorefield Emergency Preparedness Director of latest information about upstream rain and river conditions if available. Confer with Moorefield Director about what is the most likely flood conditions in the next 2 to 4 hours.

### **Orange Alert**

Relay flood warning issued by Moorefield to State Emergency Control Center.

Check on planned coordination and support for housing and feeding flood displaced individuals with the Town Emergency Preparedness Director or designated individual.

### **Red Alert**

Provide coordination and support for evacuation efforts by providing locations for emergency housing and feeding of evacuated residents of Moorefield.

### **Recovery/Postflood Activities**

Provide coordination and support to Moorefield for clean up assistance from the county and from federal and state agencies through the State Office of Emergency Services.

## **HARDY COUNTY COMMUNICATIONS**

Emergency communication during a flood is essential in managing, coordinating and directing resources to reduce risk to life and property damage. Hardy County has few communications resources and will be hampered in their emergency response actions because of this situation.

With existing resources it will be difficult for Moorefield to receive flood forecasts because there is no location designated as a 24 hour-a-day location for receiving information or managing response.

### **Preflood Activities:**

1. Maintain a 24 hour-a-day dispatch center which has radio control, command capability with fire, police and ambulance services. Designate responsibility for operating radio communications in times of emergency.
2. Maintain a continuous roster of these radio services and their respective functions during normal working periods. Have an understanding of how the most effective use of these resources can be accommodated to the unusual conditions existing prior to and during a flood.

### **Flood Emergency Activities**

1. Coordinate operations with County Emergency Preparedness Director.
2. Maintain a 24 hour-a-day radio dispatch capability, operating on an emergency basis, with tightly controlled radio procedures to maximize the benefits to be derived from the system.
3. Cooperate with the Moorefield Fire, Police and Ambulance Services wherever possible.
4. Maintain a radio link with the Hardy County Communications Center

### **Yellow Alert**

Receive notification of South Branch Potomac River rise at Moorefield. Search for communications links with upstream Counties. Find out river level readings and rainfall information from upstream areas.

Establish a radio link, if not already activated, with the Grant County Communications Center.

### **Orange Alert**

Continue gathering information from upstream South Branch Potomac River areas. Report all information to County and Moorefield Emergency Preparedness Directors. Coordinate efforts with Grant County Communications Center.

Provide communications coordination and support for Town of Moorefield.

### **Red Alert**

Continue communications support.

## **POLICE**

The major responsibilities of the Police Department are to maintain law and order, traffic control, coordination of warnings to individual residents and businesses, assistance in emergency evacuations, search and rescue operations, security, and liaison with National Guard, State Patrol and County Sheriff.

Realizing that floods, natural disasters, or other emergency situations may restrict the movement of vehicles and people affected by evacuation efforts, flood fighting construction and other operations, the Town has developed a pass system. To administer the system all passes are issued by the EOC Commander or his designee at the EOC to persons and vehicles identified as being residents of the Town or working on flood emergency efforts.

Pass Identification - Official personal identification passes are white and will be worn clipped to the front of the shirt or jacket. All vehicle identification passes will be attached to the lower left front windshield. It shall be the responsibility of the Police Department and other law enforcement agencies or organizations assisting the Moorefield Police Department to enforce the pass restrictions and to enforce appropriate ordinances and statutes in regard to criminal activity and looting in any area affected during natural or man-made disasters.

### **Preflood Activities:**

1. Maintain records on evacuated buildings.
2. Have available barriers for bridge/road closings.

### **Orange Alert**

Assemble barricades and be prepared to block off flooded highways and streets.

### **Red Alert**

Erect barricades on flooded streets and highways.

### **Recovery/Postflood Activities:**

1. Block off, secure, and control traffic in disaster/evacuated areas.
2. Maintain law and order.
3. Open up blocked-off and secure areas when street and highway closures no longer necessary.
4. Report needs, activities, and costs.

## **FIRE DEPARTMENT**

The Fire Department is responsible for fire protection, evacuation, and search and rescue to help protect property and lives.

### **Preflood Activities:**

Train personnel in flood problems, emergency evacuation, search and rescue and clean up procedures.

### **Yellow Alert**

Prepare for house-to-house and business flood warning notification for 12 foot flood stage area. Recruit other volunteers, assign areas and coordinate warning notification.

In support of the Flood Warning Unit carry out road and stream patrols in upstream areas and in cooperation with other fire companies or groups. Patrols to report any unusual flood levels, debris or ice jams and high stream or river flows to the EOC.

### **Orange Alert**

Carry out house-to-house flood warnings for 15 foot flood stage area. Review with individuals where to go and what actions to take. Distribute prepared information to individual residents.

### **Red Alert**

Carry out house-to-house notifications of evacuation order. Make sure that each household and business is notified.

## **FLOOD WARNING UNIT**

The purpose of the flood warning unit is to monitor flood warning information and to independently gage the rate of rise of the South Fork of the South Branch Potomac and South Branch Potomac River. There may be little warning time before flood levels are reached. Therefore, the responsibility of this effort is to gather as much information as possible to detect rising flood waters as soon as they occur and to provide information to the Town Emergency Preparedness Director about warnings and other information that has been gathered.

### **Preflood Activities:**

1. Learn how the flood warning system operates in the South Branch Potomac River Basin.

2. Determine how flood warnings are received at Moorefield and evaluate alternative means of obtaining it if the primary system should not work.
3. Provide training for back-up workers in event of sickness or absence.
4. With the assistance of the Fire Company or others install a painted staff gage on the downstream side of the bridge over the South Fork of the South Branch Potomac River in Moorefield. The staff gage should be made of heavy boards securely fastened to a shortened telephone pole installed at the site. The gage should show one or two feet interval flood levels, starting at about 5 feet and extending upward to 20 feet. The numerals should be painted on the board with phosphorescent paint. The gage should be located where it is protected from ice damage if at all possible. The gage should be observable from the bridge over the river or at the Moorefield end of the bridge, and should be able to be read with field glasses and a strong flashlight at night. This gage will provide the basis for many decisions in taking flood damage actions in Moorefield.

#### **Flood Emergency Activities:**

Activate flood warning activities at the earliest possible time whenever a flood stage of 5 feet or higher is reached. Any Flash Flood Watch or Warning or Flood Watch or Warning should be used to activate the unit. Other indicators which may determine the need for early activation are weather forecasts for heavy or prolonged rain, forecasts of snowmelt and/or rain on a heavy snow pack.

After the river begins to rise keep in communications with the Emergency Preparedness Director to report the status of flood forecasts and/or river conditions. Report changes in river levels as soon as they occur.

Continually monitor flood warning system information.

Maintain an independent estimation of projected river levels based on projections of rate of rise alone.

Watch out for situations where official forecasts are obviously inaccurate such as: river levels are already higher than forecast flood stages; river levels have a higher rate of rise and when projected out for several hours in the future would indicate high flood stage, and other obvious problems with flood forecasts.

#### **Yellow Alert**

Activate flood warning unit. Contact Hardy County Communications, County Emergency Preparedness Director and County Sheriff to determine latest flood warning information.

Contact the Grant County Communications Center to determine latest information.

Begin monitoring of flood levels. Begin plot of river gage readings and time of observation. Calculate rate of rise every hour, more frequently if there is a rise of greater than 1 foot per hour.

Check with all available sources to determine upstream river levels and rainfall reports. Determine if rainfall is continuing in upstream areas. Project future flood levels based on rate of rise information assembled up to that time. Provide these projections to the Town Emergency Preparedness Director every hour whenever gage readings exceed 7 feet.

### **Orange Alert**

Continue plotting rate of rise. With the assistance of the County Emergency Preparedness Director find out the flood level at the Petersburg, Circleville and Franklin river gages and to obtain any information about rainfall amounts from upstream areas.

Confer with the Town Emergency Preparedness Director and give an estimate of the latest river gage readings and a summary of your projections for the next 2, 4, 6 and 8 hour time periods.

Step up river gage observations to not less than every 1/2 hour after river levels reach 7 feet. Report any marked change in rate of rise, either slower or faster, immediately to the Town Emergency Preparedness Director.

### **Red Alert**

Continue careful monitoring of river readings. Renew efforts to determine upstream river levels and rainfall reports.

Prepare another estimate of flood levels for the next 2 to 4 hours based on upstream information and rate of rise at the Moorefield gage (recording gage and/or staff gage).

## **SHELTER, FOOD, HEALTH SERVICES**

The shelter/food, and health services unit is responsible for coordinating all housing, food, and health services needs. Personnel will work closely with the American Red Cross and Salvation Army. Because of the possibility of community isolation for 3 - 6 days. An estimated 900 to 1000 people will be affected by the flood. It is assumed that half will seek shelter with friends and relatives. Official shelter space and food requirements are approximately 400 to 500 people. Special assistance should be provided to the elderly, incapacitated or others with special needs.

Food services needs should be met by working with the American Red Cross, Salvation Army and local service groups in planning and coordinating the delivery of food services to emergency



personnel and shelters. It is extremely important that food be delivered in a planned and systematic manner 24 hours a day. Personnel assignments should be made for staffing and operating the kitchen facilities.

Because of the relatively small size of the Town of Moorefield shelter, food and medical services should be operated as one unit with two to four individuals working together to carry out this function.

**Preflood Activities:**

1. Identify and maintain a log of shelter locations and plans to supply them. Coordinate this planning with the County Emergency Preparedness Director.
2. Establish mutual aid agreements with school district and other organizations for use of facilities.
3. Identify shelter managers, management instructions, policies and priorities.
4. Identify and maintain a list of local social services.
5. Jointly plan food services with Preparedness Director.
6. Identify and maintain a list of medical facilities/ services, and their accessibility and availability during a flood. Consider the potential problem that the Town of Moorefield may become completely isolated during a flood. Determine availability to staff/serve the EOC.

**Flood Emergency Activities:**

1. Maintain records of needs and resources.
2. Coordinate medical emergencies with Preparedness Director.
3. Coordinate needs with County Emergency Preparedness Director and American Red Cross and Salvation Army.

**Yellow Alert**

Review plans and needs for coordinating and organizing emergency actions.

As the EOC is activated staff to meet the needs of the EOC as well as emergency workers in the Town.

## **Orange Alert**

Expand staffing and be prepared to assist people in meeting their shelter and food needs. Coordinate with County Emergency Preparedness Director.

Notify doctors, hospitals and other services of the flood warning and possible need for assistance.

Alert School system regarding needs for busses.

Establish bus schedule and beginning operating so individuals can move vehicles out to predetermined parking area.

## **Red Alert**

Be prepared for a heavy onslaught of requests for information and advice. Direct those seeking shelter to the facilities available. Be prepared to meet the needs of sick, handicapped or other people with special needs.

Begin bus schedule for evacuation of all residents of areas of Moorefield who need transportation assistance.

## **Recovery/Postflood Activities:**

1. Continue to provide services until no longer needed by Preparedness Director.
2. Report needs, activities, and costs.

## **SEARCH AND RESCUE**

The Fire Department is responsible for search and rescue, and in cooperation with the Emergency Preparedness Director coordinates with the National Guard, and other specially trained groups. Search and rescue during a flood is very dangerous for untrained volunteers.

## **Preflood Activities:**

1. Train personnel in search and rescue procedures.
2. Maintain a roster of those receiving specialized training.
3. Determine the availability of State Police, National Guard, military or other sources of helicopter assistance for search and rescue functions. Coordination will be enhanced through ground control - air communications.

## **Flood Emergency Activities**

Search and Rescue operations will be needed in special situations and if timely evacuations are not followed according to this plan.

Boats, helicopters and other rescue vehicles will be needed to carry out this function. Special training is suggested before search and rescue is attempted especially if there is rapid flowing water or it is attempted during night time.

Use of State Police, National Guard or military helicopters can be used if properly coordinated and directed.

## **Recovery/Postflood Activities**

1. Report on needs, activities and costs.

## **UTILITIES**

### **ELECTRICAL**

#### **Preflood Activities:**

Develop a plan which identifies critical tasks necessary to maintain electrical service to the Town of Moorefield.

#### **Flood Emergency Activities:**

1. Disconnect service as needed.
2. Add electrical service for emergency uses as needed.
3. Provide lighting for borrow areas and other emergency areas as commanded by the Emergency Preparedness Coordinator.

#### **Yellow Alert**

Be informed of beginning flood stages. Be prepared to provide emergency electrical service to areas where night time emergency activities are taking place.

Review needs of overall electrical system. Identify and correct and protect any part of the system which can be protected. Make sure sufficient sand and sandbags, pumps and manpower are available to protect vulnerable facilities.

Comply with request for assistance from Town Emergency Preparedness Director.

### **Orange Alert**

Monitor problems of the electrical system. Be prepared to shut down system if flood waters exceed safe levels for residents and businesses that may or are being flooded.

### **Red Alert**

Be aware that evacuation is taking place. Check on the status of all workers. Warn them of the possible need to evacuate quickly.

Determine special needs and coordinate response with Town Emergency Preparedness Director.

### **Recovery/Postflood Activities:**

1. Check water levels.
2. Connect service as needed.
3. Report needs, activities, costs.

## **TELEPHONE**

### **Preflood Activities:**

Develop a plan which identifies critical tasks necessary to maintain telephone service to the Town of Moorefield and assign a river stage (water elevation) at which this task must be completed.

### **Flood Emergency Activities:**

#### **Yellow Alert**

Check status of phone system, determine if there are any problems. Check to see if there are any areas of the system subject to flood damage below 10 feet flood stage.

Review company flood emergency plans. Implement plan as needed.

Determine other emergency communications needs and make necessary installations.

**Orange Alert**

Review status of system and take action either to protect system or to move key components.

**Red Alert**

Start flood protection program allowing sufficient time for protection to be completed prior to flooding.

**Recovery/Postflood Activities:**

Repair and restoration of service will be the primary problem following the flood.

# ADMINISTRATION, INSURANCE, EDUCATION TRAINING AND BUDGET

## ADMINISTRATION

The Moorefield, West Virginia Flood Emergency Response Plan is administered by the Town of Moorefield. Administration of this plan is the responsibility of the Mayor of Moorefield and/or person or persons who are appointed to carry out this function.

The Emergency Preparedness Director (appointed by the Moorefield Town Council) is the manager of the Moorefield Emergency Response Plan and is responsible for emergency management during any emergency and carries out education, training, budget control, long range planning and other functions.

## INSURANCE

The National Flood Insurance Act makes available specified amounts of flood insurance previously unavailable from private insurers. The act requires that local governments adopt and enforce land use controls and other regulatory measures that will guide development in flood-prone areas to avoid or reduce future flood damages.

Moorefield is a participating community in the National Flood Insurance Program (NFIP) since it has passed land use control legislation which permits the community's entry in the program. This enables any home owner, tenant or business to purchase flood insurance. Rates are based on the flood risk in the community, and are subsidized by the NFIP program. As of February 1989 there were 168 policies in force with \$6,409,000 in coverage. The 1989 assessed real estate valuation of buildings is \$6,409,500 and the full market value is \$32,844,000. There are about 1,000 water service customers in 1989.

Studies completed by the Corps of Engineers in 1988 determined that there were about 650 buildings flooded in 1985. Comparing this information with flood insurance data show that National Flood Insurance coverage in Moorefield is not sufficient to cover losses from a major flood.

Flood insurance policies can be written to provide the following coverage:

TYPE OF BUILDING	BUILDING COVERAGE	CONTENTS COVERAGE
Single Family home	\$ 185,000	\$ 60,000
Other residential	\$ 250,000	\$ 60,000

Non-residential	\$ 200,000	\$ 200,000
Small Business	\$ 250,000	\$ 300,000

The NFIP provides insurance coverage for flood damage to insured buildings and contents. Below ground items are not covered except for furnaces, water heater and a few other pieces of equipment.

The Town of Moorefield should be aware that a recent ruling enacted for the NFIP program is that disaster assistance will be reduced by the amount of insurance that public or semi-public buildings would have received during any federally declared disaster.

**EDUCATION**

An educational program should be carried out by the Town of Moorefield covering the following topics:

1. The National Flood Insurance Program
  - What it is?
  - How does it Work?
  - Who is eligible for it?
  - What does it cost?
  - How it is administered?

2. Methods of self-help flood damage reduction.

3. An annual information program to be conducted each January. The information program will include: a copy of the brochure about this flood emergency plan; information about the flood insurance program designed to increase insurance coverage; a report on the status of projects, and general improvement of the flood protective system.

Written materials explaining the National Flood Insurance Program can be obtained from the West Virginia Office of Emergency Services, Capital Building, Room EB-80, Charleston, WV. 25305.

Information about alternatives for self-help flood damage reduction can be obtained from several publications as follows:

Agency	Location	Title
U.S. Army Corps of Engineers	Flood Plain Management Services Program Office, Chief of Engineers, Wash, D.C. 20314-1000	Flood Proofing Systems And Techniques

U.S. Army Corps of Engineers	Baltimore District, Corps of Engineers, Baltimore, Maryland	Flood Damage Reduction Manual
Federal Emergency Management Agency	U.S. Govt' Printing Office Wash., D.C.	Retrofitting Flood Prone Residential Structures
Federal Emergency Management Agency	FEMA REGION V 300 South Wacker Drive Chicago, ILL. 60606	Design Guidelines for Flood Damage Reduction
Federal Emergency Management Agency	U.S. Govt' Printing Office Wash., D.C.	Floodproofing Non-Residential Structures
PA Dept. of Community Affairs	Forum Building Harrisburg, PA	Reducing Commercial and Industrial Flood Losses

## **TRAINING**

An on-going long term training program should be carried out in Moorefield. There should be two phases in the training program. The first phase of the training program should be training of key personnel. This training effort should train the trainers, where those who are trained can bring home what they have learned to train local volunteers and others. The second phase should be the training of volunteer and other groups. A source of people, who would be useful to train as well as a source of volunteers, is the local high school.

### **Priority Training Programs**

The following training programs are recommended for completion as soon as possible:

Incident Management Training Course, National Fire Academy, Emmitsburg, MD.

Hazard Mitigation Training Course, National Training Center, Emmitsburg, MD.

### **Training Programs in West Virginia**

#### **Other Training**

Requests should be submitted for other training programs including:

1. Flood Warning Systems and Techniques.



2. Housing, Feeding and Health Care of disaster victims.

3. Disaster Communications.

### Recommendations Training

The Moorefield Emergency Management Director or another person assigned to emergency management responsibilities should attend the following courses:

Incident Management Training Course or the Hazard Mitigation Training Course.

The Public Works Director should attend courses in Emergency Flood Fighting as soon as possible.

The National Weather Service should be asked to provide individual training on Flood Warning Systems and Techniques to a group of Moorefield staff and volunteers as soon as possible.

### BUDGET

Following is a recommended annual budget appropriation allocated to Emergency Management in Moorefield.

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TABLE 3: Proposed First Year Budget

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<u>Item</u>	<u>Description</u>	<u>Cost</u>
Planning for flood vulnerability analysis of public buildings	Review of flood prone public buildings	\$ 2,000.00
Office Supplies, Telephone	On-going office and phone expenses	\$ 500.00
Training	Workshops and schools on Emergency Management.	\$ 1,500.00
Materials	Acquisition of permanent flood emergency materials.	\$ 2,000.00
Capital Expenditures	Radio and other equipment	\$ 5,000.00
Emergency Operations	Funds to be held in reserve for EOC operations and other costs.	\$ 5,000.00

Update of Plan

Bi-Annual Update of Flood  
Emergency Plan

\$ 2,500.00

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**Total First Year Budget**

**\$ 18,500.00**

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## **APPENDIX**

**Flood Emergency Personnel Phone Listings**

**Volunteer Worker Registration Form**

**Plotting Chart -- Rate of Rise**

**Daily Bus Run Log**

**Sample Pass**

## **FLOOD EMERGENCY PERSONNEL**

Information up-dated: \_\_\_\_\_

<b>Key Personnel</b>	<b>Telephone Office</b>	<b>Home</b>
-----		
Mayor	538-2255	538-2556
Director of Public Works		
Emergency Preparedness Director		
Moorefield Town Office	538-6142	
Police Chief		
Fire Chief	538-2500	
Ambulance Services Coordinator		
Moorefield Town Engineer		
County Agencies		
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Emergency Preparedness Coordinator		
County Clerk	538-2929	
County Sheriff	538-2920	
County Highway Department		
County Rural Development Authority	538-6398	
State Agencies		
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Office of Emergency Services	304-348-5380	
Division of Natural Resources		
Department of Health		

State Police 538-2925

Federal Agencies

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Corps of Engineers

Federal Emergency Management Agency 215-931-5500

National Weather Service  
State College, PA  
Silver Spring, MD  
Elkins, WV

Other Organizations

American Red Cross 538-6021 Same

Salvation Army

Note:-

It is impossible to determine which person(s) will be occupying all future slots on the emergency personnel table of organization. Those persons who have presently been designated should have their names, addresses and phone numbers added to this list in the respective slots. All this information should be reviewed and updated as necessary every year.



**PLOTTING CHART  
RATE OF RISE**

**TIME OF DAY      FLOOD STAGE      CHANGE IN      RATE OF RISE  
                         READINGS/FT.      FLOOD STAGE      FEET PER HOUR**

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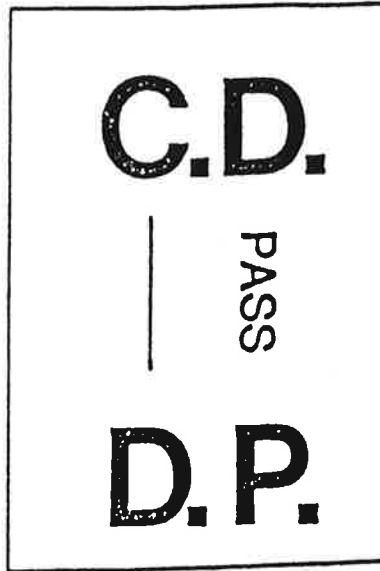
**NOTES**

**Gage Name:**

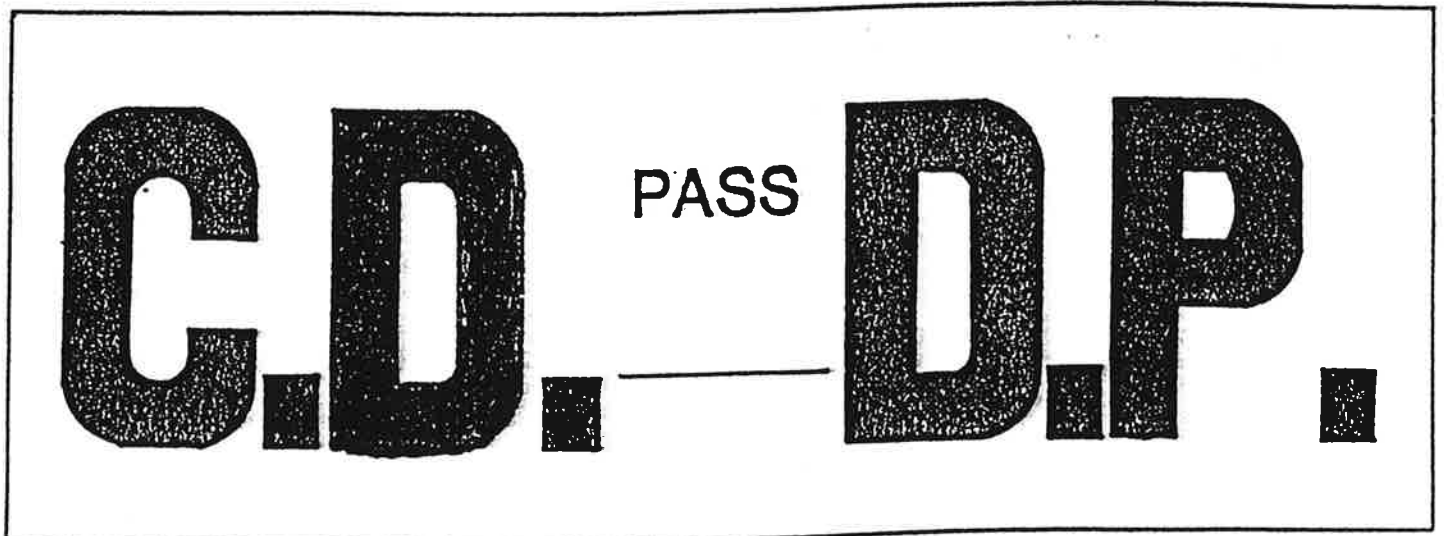
**Gage Location:**







PASS  
FOR INDIVIDUALS



PASS  
FOR VEHICLES

