

AGRICULTURAL FLOOD DAMAGE

Background Information

1. How many years have you operated a farm at this location?

_____ Years

2. Does part of your farm flood frequently enough to require a change in cropping patterns?

1. No 2. Yes

3. How many acres are there in this frequently flooded area?

_____ Acres

Crop Distribution and Production Practices

4. Crop Distribution/Yield Without Project:

In the area below, please describe the cropping patterns for the upper and lower areas of your farm under existing flood conditions. The lower areas are those areas subject to flooding frequently enough to cause a change in cropping patterns.

EXISTING CONDITONS				
	LOWER AREA		UPPER AREA	
Crop	Acre S	Yield in Bushels or Bales	Acre S	Yield in Bushels or Bales
Cotton				
Soybeans				
Rice				

Wheat				
Grain Sorghum (Milo)				
Corn				
Alfalfa				
Hay				
Pasture				
Fallow				
Other Specify _____				
Other Specify _____				

5. How many times since you first operated this farm has flooding caused delayed planting or replanting? _____

_____ Times

6. How many times since you first operated this farm has flooding made you unable to harvest a crop?

_____ Times

7. Please indicate the usual date for each stage of crops production activity.

Crop	Usual Beginning Plant Date for Production Practices			Last date to Plant
	Date to Begin Land Preparation	Date to Begin Planting	Date to Begin Harvesting	

Crops Damage

8. Please fill in the following regarding the most recent flood.

8a. Date that flooding began: _____ (month, day, year)

8b. Depth of flooding at deepest point: _____ (feet)

8c. Longest duration of flooding at any part of your yard: _____ (days)

9. DAMAGE TO CROPS AND PASTURE FROM FLOODING

Crop	No. of Acres	Yield/Acre After Flood	If flooding made it too late to plant this crop, what did you plant instead?	What additional production costs, if any, did you have because of the flooding?	What production costs did you NOT have because of the flooding?

Farm Property Damage

10. Please use the table below to identify the amount of damage for each non-crop item for the most recent flood event. Do not include any property related to fish production.

Item	Unit	Units Damaged	Total Estimated Damage in \$
Farm Roads	Linear Feet		
Drainage Ditches	Linear Feet		
Fences	Linear Feet		
Land Leveling	Acres		
Land Damage	Acres		
Equipment	Pieces of Equipment		
Farm Buildings	Number of Buildings		

Stored Feeds	Bushels		
Pasture	Acres		
Other			

Fishpond Damage

11. Do you have any fishponds?

_____ Yes _____ No

If no, the questionnaire is completed.

12. If yes, have you ever incurred damage to your fishponds as a result of flooding?

_____ Yes _____ No

If no, the questionnaire is completed.

If yes, 13. What was the date of this last damaging flood to your fishponds? _____

14. If yes, how many acres of fishpond area were damaged?

_____ Acres

15. Please list below the amount of dollar losses or damages during the most recent flooding that damaged your fishponds?

CATEGORY	(\$) LOSSES OR DAMAGES TO AQUACULTURE PROPERTY FROM FLOODING
Fish that Were Ready for Market	
Pre-market Fish	
Levees	
Feed for Fish	
Equipment	
Miscellaneous	
Total Damages	

COASTAL STORM DAMAGE

Background Information

1. Is this your primary residence?

YES 1. NO

1a. If not, is it a... (CIRCLE ONE ANSWER)

- 1. Second Home
- 2. Rental
- 3. Other (PLEASE SPECIFY) _____

2. How many years have you owned this house?

_____ YEARS

3. How old is your home?

_____ YEARS OLD

Approximately how many times has your home had coastal storm damage since you've lived here, including Hurricane (Name) or the coastal storm of (date) ?

_____ TIMES

5. Where is your home situated? (CHECK ONE)

_____ Oceanfront, if so how many feet is your home from the ocean at mean high water line?

_____ Feet

- _____ First row behind oceanfront
- _____ Ocean block (Within a block of the ocean)
- _____ On a sound or back bay
- _____ Interior, (More than a block from the ocean bay, or sound)

Structural and Outside Property Data

6. Not counting your attic, garage, or the under portion of an elevated building how many square feet of living area are in your home? (If you are unsure, please give the dimensions.)

_____ SQUARE FEET or (_____ FEET X _____ FEET)

7. What type of foundation does your home have?

(PLEASE CIRCLE ONE ANSWER AND INDICATE NUMBER OF FEET, WHERE APPROPRIATE)

1. Slab
2. Piling - If piling, how many feet do they go below ground? _____ Feet
3. How many feet do they elevate the structure above ground? _____ Feet
4. Concrete Block –
If so, How many feet do they go below ground? _____ Feet
5. Other type of foundation, please describe.

8. If you have an elevated building, is there an under-the-house enclosure?

(CIRCLE YES OR NO)

YES NO

If yes, please indicate the size of enclosed area devoted to each of the following uses:

8a. Finished living area: _____ SQUARE FEET or (_____ FEET X _____ FEET)

8b. Utility space _____ SQUARE FEET or (_____ FEET X _____ FEET)

8c. Garage: _____ SQUARE FEET or (_____ FEET X _____ FEET)

8d. Other: Please describe: _____
_____ SQUARE FEET or (_____ FEET X _____ FEET)

9. Do you have an attached garage that is not under the house?

(CIRCLE YES OR NO) YES NO

9a. If so, indicate the size of the attached garage.

_____ SQUARE FEET or (_____ FEET X _____ FEET)

10. Do you have a detached garage that is not under the house?

(CIRCLE YES OR NO) YES NO

10a. If so, indicate the size of the detached garage.

_____ SQUARE FEET or (_____ FEET X _____ FEET)

11. What category best describes the style of this building?

(CIRCLE ONE ANSWER)

- | | | |
|----------------|---------------------------|----------------------------|
| 1. One-Story | 5. 1-1/2 Story Finished | 9. 3-1/2 Story Finished |
| 2. Two-Story | 6. 1-1/2 Story Unfinished | 10. 3-1/2 Story Unfinished |
| 3. Three-Story | 7. 2-1/2 Story Finished | 11. Bi-Level |
| 4. Split Level | 8. 2-1/2 Story Unfinished | |

12. Not counting any basement, attic, or garage, how many square feet of living area are in your home? (If respondent is unsure, ask for the dimensions and calculate.)

_____ SQUARE FEET

13. Does your home have a basement? (CIRCLE)

1. NO (Skip to 14)
2. YES

13a. If yes, please indicate the total basement area, in square feet, and the amount that is finished and unfinished? (If respondent is unsure, ask for the dimensions and calculate.)

TOTAL BASEMENT AREA: _____ SQUARE FEET

FINISHED BASEMENT AREA: _____ SQUARE FEET

UNFINISHED BASEMENT AREA: _____ SQUARE FEET

14. Do you have a carport? (CIRCLE)

1. NO
2. YES

14a. How large is the carport in square feet? (If respondent is unsure, ask for the dimensions and calculate.)

_____ SQUARE FEET

15. What category best describes the heating and cooling system in this building?
(CIRCLE ONE ANSWER FOR MOST PROMINENT SYSTEM)

Heating Only:

- | | |
|------------------------------------|------------------------------|
| 1. Forced Air | 6. Ceiling, Radiant Electric |
| 2. Gravity Furnace | 7. Baseboard, Electric |
| 3. Floor Furnace | 8. Baseboard, Hot Water |
| 4. Wall Furnace
(No Heat Ducts) | 9. Radiators, Hot Water |
| 5. Floor, Radiant Hot Water | 10. Radiators, Steam |

Heating and Cooling:

- 11. Warmed and Cooled Air
- 12. Heat Pump System

Cooling Only:

- 13. Evaporative Water Cooler (Single or Short Ducts)
- 14. Refrigerated, with Condenser and Ducts

16. What is the primary exterior wall covering on this building?

(CIRCLE ONE ANSWER)

- | | | |
|------------------------|----------------------|--------------------|
| 1. Plywood | 4. Siding | 7. Common Brick |
| 2. Hardboard
Sheets | 5. Shingle | 8. Face Brick |
| 3. Stucco | 6. Masonry
Veneer | 9. Stone |
| | | 10. Concrete Block |

17. What is the primary roof covering of this building? (CIRCLE ONE ANSWER)

- | | | |
|--|---------------------|------------------|
| 1. Composition Shingle | 5. Concrete Tile | 10. Plastic Tile |
| 2. Built-up Rock | 6. Clay Tile | |
| 3. Wood Shingle
(Embedded in Asphalt) | 7. Galvanized Metal | |
| 4. Wood Shake | 8. Slate | |
| | 9. Composition Roll | |

18. How many fireplaces are in this home? _____ FIREPLACES

_____ FIREPLACES

19. How many square feet of each of the following types of porches are there in this home? (If you are unsure of square feet, please give dimensions.)

Slab _____ SQUARE FEET
Or (_____ Feet X _____ Feet)

Slab with Roof _____ SQUARE FEET
Or (_____ Feet X _____ Feet)

Wood Deck _____ SQUARE FEET
Or (_____ Feet X _____ Feet)

Enclosed Slab Porch _____ SQUARE FEET
Or (_____ Feet X _____ Feet)

Enclosed Wood Porch _____ SQUARE FEET
Or (_____ Feet X _____ Feet)

20. Do you have an elevator in your home?

___ Yes ___ No

21. How high is the first floor of your building above the lowest adjacent grade?

_____ FEET

22. How high is the first floor of your building above the where flood water would first enter your building (from considering windows and pipes into the foundation)?

_____ FEET

23. Please note any long-term flood proofing method, which may be used on this property.

(PLEASE CIRCLE YES OR NO FOR EACH COLUMN.)

Long-Term Flood Proofing Methods	Original Construction		Retrofitted (after original construction)		Was Method Effective?	
	YES	NO	YES	NO	YES	NO
Elevated Construction	YES	NO	YES	NO	YES	NO
Reinforced piling	YES	NO	YES	NO	YES	NO

Extended piling	YES NO	YES NO	YES NO
Bracing	YES NO	YES NO	YES NO
Sealant or Shield What type? _____	YES NO	YES NO	YES NO

24. Please indicate 1) which utilities are elevated in your home in order to prevent flood damage and 2) indicate whether the elevating was effective:

(PLEASE CIRCLE YES OR IN BOTH COLUMNS.)

Utility	Elevated		Was method effective?		
Air Conditioner	Yes	No	Yes	No	N/A
Furnace	Yes	No	Yes	No	N/A
Washer/Dryer	Yes	No	Yes	No	N/A
Water Heater	Yes	No	Yes	No	N/A
Other:	Yes	No	Yes	No	N/A

25. Other than in the under-the-house enclosure, do you have a garage on this property?
(CIRCLE)

1. NO (Skip to 26)
2. YES

25a. Is the garage attached to the structure? (CIRCLE)

1. NO
2. YES

25b. How large is the garage in square feet? (If you are unsure, please give the dimensions.)

_____ SQUARE FEET Or (____ Feet X ____ Feet)

26. How high is the first floor of your building above the lowest adjacent grade?

_____ FEET

COSTS AND DAMAGES

The next group of questions is to determine damages to different types of property from the Hurricane (NAME) or the coastal storm of (DATE).

27. Please indicate how high (in feet and inches) did any standing water in your home reach relative to the first floor of your home?

_____ FEET; _____ INCHES (ABOVE, BELOW) FIRST FLOOR LEVEL
[CIRCLE]

28. Please indicate how high in feet and inches did any waves reach relative to the first floor of your home?

_____ FEET; _____ INCHES (ABOVE, BELOW) FIRST FLOOR LEVEL
[CIRCLE]

29. Please indicate the primary source of damage to your home, excluding wind damage?
(CIRCLE ONE)

1. STORM SURGE (a sudden flow of water associated with a storm event)
2. WAVE RUNUP (the rush of water up a structure, associated with the breaking of a wave)
3. INUNDATION (the buildup of water overflow or ponding)
4. EROSION
5. OTHER _____

30. Did the flooding from this storm make it necessary for you or other occupants of your home to stay in temporary residence due to evacuation or while your home was being repaired?

(CIRCLE)

1. NO (Skip to 31)
2. YES

30a. How many days did you or other occupants of your home to spend in temporary residence due to the evacuation or while flood damage to your home was being repaired?

_____ DAYS

30b. How much money did your household spend beyond your normal travel expense, on travel and lodging due to your evacuation(s) during Hurricane ____(Name)_____?

_____ DOLLARS

30c. Due to your evacuation, how much money did your household spend on food in excess of what you normally would have spent?

_____ DOLLARS

31. Was there erosion damage to your lot?

31a. If so, how many square feet of your lot were eroded?

_____ Square Feet?

31b. What percentage of the lot directly under your home (footprint of your home) was eroded?

_____ Percent

31c. What were the total costs to repair the erosion damage to your lot and your home?

\$ _____

32. For each motor vehicle, (including sedan, vans, sports utility, sports cars, station wagons, pickup trucks, boats, jet skis, golf carts, and motorcycles) located at this residence during the flood, please indicate the dollar value, whether or not it was moved, the dollar amount of damage to the vehicle, if any, and the level, in feet and inches, that the flood water reached above the bottom of the vehicle's wheels.

<p style="text-align: center;">Motor Vehicle Category and Year</p> <p>(Categories include: sedan, vans, sports utility, sports cars, station wagons, pickup trucks, boats, jet skis, golf carts, and motorcycles)</p>	<p style="text-align: center;">Dollar Value</p>	<p style="text-align: center;">Was it Moved to a safe location?</p> <p style="text-align: center;">(CIRCLE YES OR NO)</p>	<p style="text-align: center;">Dollar Damage</p>	<p style="text-align: center;">Depth of Water from the Bottom of the Vehicle</p>
<p>Vehicle 1:</p>	<p>\$_____</p>	<p>YES NO</p>	<p>\$_____</p>	<p>_____ FEET</p>
<p>Vehicle 2:</p>	<p>\$_____</p>	<p>YES NO</p>	<p>\$_____</p>	<p>_____ FEET</p>
<p>Vehicle 3:</p>	<p>\$_____</p>	<p>YES NO</p>	<p>\$_____</p>	<p>_____ FEET</p>

The following questions are to determine the dollar cost and unpaid hours for repair and cleanup of your home, and repair, replacement, and cleanup to the contents of your home that resulted from Hurricane _(NAME)_.

33. What was the cost of the structural damage to your home? (Structural damage is defined as damage to any building components, including foundation, walls, floors, windows, roof, electrical systems, heating and cooling systems, plumbing, attached carpeting, attached shelves and cabinets, and built-in equipment and appliances.)

\$ _____ DOLLAR COSTS OF STRUCTURE DAMAGE

33a. Which of the following is the primary source of your structure damage repair costs?

(Circle one)

- a. Contractor estimate (before repairs)
- b. Contractor invoice (after repairs)
- c. Your own assessment
- d. Other _____

33b. What was the dollar cost to you for labor and supplies to clean up your home after the hurricane?

\$ _____

33c. What was the total number of unpaid hours that you and others spent on repair and cleanup to your home?

_____ UNPAID HOURS

34. Please itemize your total structural damages and any additional time that was spent on repairs other than paid labor hours into the following categories.

Portion of Structure	Value of Damages		Unpaid Hours to repair or install, in addition to \$ spent
	In % of total Or in Dollars		
1. Built-in shelves and appliances	_____ %	\$ _____	_____ UNPAID HOURS
2. Electrical	_____ %	\$ _____	_____ UNPAID HOURS
3. Plumbing	_____ %	\$ _____	_____ UNPAID HOURS
4. Exterior walls, windows, doors (painting included), and roofing	_____ %	\$ _____	_____ UNPAID HOURS
5. Footings and foundation	_____ %	\$ _____	_____ UNPAID HOURS
6. Interior doors and walls (painting included)	_____ %	\$ _____	_____ UNPAID HOURS
7. Interior floors, carpet and ceilings	_____ %	\$ _____	_____ UNPAID HOURS
8. Mechanical systems - heat, A/C, sump pump, built-in vacuum	_____ %	\$ _____	_____ UNPAID HOURS
1. Porches and	_____ %	\$ _____	_____ UNPAID HOURS

decks			
2. Chimneys and fireplaces	_____ %	\$ _____	_____ UNPAID HOURS
12. Garages and outbuildings	_____ %	\$ _____	_____ UNPAID HOURS
13. Outside property and landscaping	_____ %	\$ _____	_____ UNPAID HOURS
14. Septic, sewer, and water systems	_____ %	\$ _____	_____ UNPAID HOURS
Total	100 %	\$ _____	_____ UNPAID HOURS

35. What was the dollar damage to the contents of your home, garage, and shed, excluding motor vehicles? (Only include content replacement and repairs. Do not include repairs to the structure of the house).

\$ _____

(Content damage refers to damage to personal property kept inside the home or the garage that is not permanently affixed to the home.)

36. What was the total number of unpaid hours that you and others spent on repair of appliances, furniture, and other contents of your home?

_____ UNPAID HOURS

37. How much, if anything, did each of the following cost you in actual dollar expenditures as a result of Hurricane (NAME) ?

a) Costs for moving furniture and other belongings? \$ _____

b) Costs for storing furniture and other belongings? \$ _____

c) Vandalism, looting, or theft costs? \$ _____

d) Costs from flooding-related medical problems? \$ _____

e) Any other costs due to Hurricane _____. \$ _____

Describe: _____ \$ _____

_____ \$ _____

38. Is there a swimming pool on your lot?

___ Yes ___ No, Go to Question 39

38a. Was your swimming pool damaged by Hurricane (NAME) ?

___ Yes ___ No, Go to Question 39

38b. What were your repair costs from Hurricane (NAME) associated with your swimming pool? (If the pool was destroyed, please estimate the replacement cost.)

\$ _____ SWIMMING POOL REPAIR COSTS

38c. What are the dimensions of your swimming pool?

Size Range of Depth

___ feet X ___ feet ___ feet at shallowest point ___ feet at deepest point

38d. Is your swimming pool on the oceanfront side of your home?

___ Yes ___ No

39. List any additional features, such as hot tub, tile works, etc. that may have been damaged by Hurricane (NAME) .

<u>Item</u>	<u>\$ Damage</u>	<u>CIRCLE N/A, IF NOT</u>
<u>APPLICABLE</u>		
HOT TUB	\$ _____	<u>N/A</u>
TILE WORK	\$ _____	<u>N/A</u>
DECKING	\$ _____	<u>N/A</u>
OTHER (SPECIFY _____)	\$ _____	<u>N/A</u>

Flood Warning and Response

40. Just before (DATE) storm, how did you first become aware that flooding might reach your business? **(CIRCLE ONE ANSWER)**

1. E-MAIL
2. TEXT MESSAGE
3. TWITTER
4. WEBSITE
5. TV
6. RADIO
7. TELEPHONE BY A PUBLIC OR EMERGENCY WORKER
8. TELEPHONE BY OTHER
9. FACE TO FACE BY PUBLIC OR EMERGENCY WORKER
10. FACE TO FACE BY OTHER
11. LOUDSPEAKER
12. SIREN
13. C.B., HAM RADIO or POLICE SCANNER
14. NEWSPAPER
15. OBSERVING THE CREEK OR RIVER WATER LEVELS
16. OTHER _____

41. How many hours were there between the time you first became aware that flooding might reach your property until when the water actually reached your property?

_____ HOURS

42. What actions, if any, did you take to safeguard your business property immediately prior to flooding and what were the dollar damages prevented by each action?

(PLEASE CIRCLE YES OR NO FOR EACH ACTION LISTED BELOW AND INDICATE THE DOLLARS DAMAGES PREVENTED FOR EACH ACTION.)

DAMAGE PREVENTIVE ACTION	TOOK PREVENTIVE ACTION	DOLLAR DAMAGE PREVENTED (PLEASE FILL IN \$ DAMAGES PREVENTED OR CIRCLE DK FOR DON'T KNOW.)
1. Moved contents to higher ground	YES NO	\$ _____ OR DK
2. Elevated contents to a higher spot in the building	YES NO	\$ _____ OR DK
3. Shut off electrical equipment	YES NO	\$ _____ OR DK
4. Sandbagged the outside of the building	YES NO	\$ _____ OR DK
5. Used another type of temporary barrier	YES NO	\$ _____ OR DK
6. Moved vehicles to higher ground	YES NO	\$ _____ OR DK
7. Other action _____ _____	YES NO	\$ _____ OR DK
8. None	YES NO	

43. Emergency Measures/Plans:

41a. What emergency measures/plans, if any, would you take to reduce damage if you were forewarned of another coastal storm?

43b. What is your estimated cost to implement these emergency measures?

\$ _____

43c. How much time (in man hours) is required to implement these emergency measures?

_____ MAN HOURS

NONRESIDENTIAL

Background Information

1. Briefly describe the major purpose of this business facility? _____

2. What is the total number of buildings on site _____ Buildings

3. Number of years business has been at this location _____ Years

4. Please indicate the number of full time, part time, and total employees.
_____ Full Time _____ Part Time _____ Total Employees

5. How many shifts are there in your daily operation?
_____ Shifts per day

6. While at this location, approximately how many times has this facility experienced flood damage, including the flooding from the (date) floods?
_____ Times

7. Briefly describe any permanent flood mitigation measures that have been implemented to reduce potential flood damage.

8. How many days, if any, was this business closed due to the (date) flood?
_____ DAYS CLOSED

8a. Did your business set up temporary quarters at another location because of the (date) floods? (CIRCLE)

1. NO

2. YES

8b. How much additional money did the flood cost your business in increased operational expenses, such as temporary quarters, additional transportation, communications, or storage expenses?

\$ _____ Total Additional Dollars

8c. Please describe additional costs.

Individual Building Information

*(Questions 9-21 are to be answered for your **primary building only**. If there are multiple buildings at the facility, a supplemental sheet is provided that asks for similar information.)*

9. Brief description of function of the primary building and its contents: _____

10. Prior to the (date) floods, what was the value of all equipment physically attached or anchored to this building, not including the building itself? \$ _____

11. Prior to the (date) floods, what was the value of all other equipment, furniture, supplies, raw materials, and inventory generally stored in this building? \$ _____

12. Prior to the (date) floods, what was the value of all vehicles generally stored at this building? \$ _____

13. Prior to the (date) flooding, what was the value of all other equipment, supplies, and inventory stored outside of, but in the immediate vicinity of this building? \$ _____

14. Excluding any basement or attic how many stories does this building have?

_____ STORIES

15. What is the average story height in this building?

_____ FEET

16. What year was this building constructed? _____

17. What is the shape of this building? (Circle one answer.)

1. Square
2. Rectangular
3. L-shaped
4. U-shaped
5. Very Irregular

18. What is the size of your building in square feet? (If respondent is unsure, ask for the dimensions and calculate.)

_____ SQUARE FEET

19. Indicate what type of heating and cooling system is used in your building?

Heating Only:

- | | |
|------------------------------------|------------------------------|
| 1. Forced Air | 6. Ceiling, Radiant Electric |
| 2. Gravity Furnace | 7. Baseboard, Electric |
| 3. Floor Furnace | 8. Baseboard, Hot Water |
| 4. Wall Furnace
(No Heat Ducts) | 9. Radiators, Hot Water |
| 5. Floor, Radiant Hot Water | 10. Radiators, Steam |

Heating and Cooling:

11. Warmed and Cooled Air
12. Heat Pump System

Cooling Only:

13. Evaporative Water Cooler (Single or Short Ducts)
14. Refrigerated, with Condenser and Ducts

20. Does this building have a basement? (CIRCLE)

0. NO

1. YES

20a. If yes, please indicate the total basement area, and the area in square feet or dimensions of the area that is finished and unfinished? (If respondent is unsure, ask for the dimensions and calculate.)

Total Area: _____ Square Feet

Finished Area: _____ Square Feet

Unfinished Area: _____ Square Feet

21. Please indicate the primary construction material for the building frame.

Block/Brick Steel Wood Metal

(Check appropriate block)

22. Relative to the 1st floor elevation of the building, what is the current value of the contents and where are they located vertically? (up through 1st floor only)

Height (ft)	Equipment (\$)	Furniture (\$)	Inventory/products (\$)
0.0 ft			
1.0 ft			
3.0 ft			
6.0 ft			
8.0 ft			
Total			

Notes to interviewer:

- Shaded areas are for buildings with a subterranean level only. Please fill in appropriate values for the depth (e.g., -1.0 ft, -3.0 ft, -6.0 ft). Leave shaded areas blank if no subterranean level exists.
- The values in the columns should be a cumulative total, starting from the lowest level of the structure.

Physical Damage and Other Costs

23. How high in feet and inches did the water from _____ (year) flood reach on the inside of this building relative to the first floor of the building?

_____ FEET; _____ INCHES (ABOVE, BELOW) First Floor Level
[CIRCLE]

24. Please estimate the damages to your business from past flooding events. Please give a single set of combined damages for all floors in all buildings.

Date of the flooding event:	_____	Date of the flooding event:	_____
Contents damage estimate (\$):	\$ _____	Contents damage estimate (\$):	\$ _____
Structure damage estimate (\$):	\$ _____	Structure damage estimate (\$):	\$ _____
Number of lost business days:	_____ Days	Number of lost business days:	_____ Days
Amount of lost net income (\$):	\$ _____	Amount of lost net income (\$):	\$ _____
Cost of cleanup (\$):	\$ _____	Cost of cleanup (\$):	\$ _____

25. Please indicate the replacement value and damage or costs that you attribute to each of the following items.

	Replacement Value	Actual Damage or Cost
Damage to Transportation		
Rail beds and tracks	\$ _____	\$ _____
Docks and loading facilities	\$ _____	\$ _____
Damage to Buildings		
Foundation and supports	\$ _____	\$ _____
Floors (mark one) <input type="checkbox"/> Steel <input type="checkbox"/> Concrete <input type="checkbox"/> Wood	\$ _____	\$ _____
Floor covering (mark one) <input type="checkbox"/> Ceramic <input type="checkbox"/> Linoleum <input type="checkbox"/> Carpet	\$ _____	\$ _____
Exterior walls and insulation (mark one) <input type="checkbox"/> Metal <input type="checkbox"/> Wood <input type="checkbox"/> Block/brick	\$ _____	\$ _____
Windows	\$ _____	\$ _____
Interior walls and ceilings	\$ _____	\$ _____
Doors and moldings	\$ _____	\$ _____

	Replacement Value	Actual Damage or Cost
<p>Damage to Building Utilities</p> <p>Indicate location: B=Basement, G=Ground floor, I=Intermediate floors, R=Roof</p>	Replacement Value	(year)Flood Actual Damage or Cost
<p>Sewer systems</p> <p>___ Storm ___ Industrial ___ Sanitary</p> <p>___ B ___ G ___ I ___ R</p>	\$ _____	\$ _____
<p>Water supply systems</p> <p>___ Treatment ___ Pipes</p> <p>___ B ___ G ___ I ___ R</p>	\$ _____	\$ _____
<p>Water systems</p> <p>___ Hot water ___ Softening</p> <p>___ B ___ G ___ I ___ R</p>	\$ _____	\$ _____
<p>Communications systems</p> <p>___ B ___ G ___ I ___ R</p>	\$ _____	\$ _____
<p>Electric power transformers</p> <p>___ Pole ___ Ground</p>	\$ _____	\$ _____

	Replacement Value	Actual Damage or Cost
Electrical service entrance and meters ___B ___G ___I ___R	\$ _____	\$ _____
Engines/generators/alternators ___B ___G ___I ___R	\$ _____	\$ _____
Other Electrical control panels and circuit breakers ___B ___G ___I ___R	\$ _____	\$ _____
Wiring switches, outlets, lighting ___B ___G ___I ___R	\$ _____	\$ _____
Fuel supply ___Oil tanks ___Gas pipes/meters ___B ___G ___I ___R	\$ _____	\$ _____
Heating ___Oil ___Gas ___Elect. ___Air	\$ _____	\$ _____

	Replacement Value	Actual Damage or Cost
<input type="checkbox"/> Water <input type="checkbox"/> B <input type="checkbox"/> G <input type="checkbox"/> I <input type="checkbox"/> R		
Air conditioning <input type="checkbox"/> Gas <input type="checkbox"/> Electric <input type="checkbox"/> Cool <input type="checkbox"/> Purify <input type="checkbox"/> Dehumidify <input type="checkbox"/> B <input type="checkbox"/> G <input type="checkbox"/> I <input type="checkbox"/> R	\$ _____	\$ _____
Damage to Equipment, Appliances, and Furniture		
<input type="checkbox"/> Conveyors <input type="checkbox"/> Elevators <input type="checkbox"/> Escalators	\$ _____	\$ _____
Foundry furnaces and welding equipment	\$ _____	\$ _____
Machine tools and patterns	\$ _____	\$ _____
Other motors and engines	\$ _____	\$ _____
Compressors	\$ _____	\$ _____
Built-in refrigeration units	\$ _____	\$ _____
Hand and paint tools	\$ _____	\$ _____
Other equipment	\$ _____	\$ _____

	Replacement Value	Actual Damage or Cost
Display cases, counters, and bins	\$ _____	\$ _____
Appliances <input type="checkbox"/> Oven <input type="checkbox"/> Refrigerators <input type="checkbox"/> Other _____	\$ _____	\$ _____
Vehicles kept at this location	\$ _____	\$ _____
Damage to:		
Parts/raw materials	\$ _____	\$ _____
Partly assembled/processed product	\$ _____	\$ _____
Inventory	\$ _____	\$ _____
General Costs		
Fighting the Flood		\$ _____
Evacuation <input type="checkbox"/> Owner <input type="checkbox"/> Tenant		\$ _____
Number of employees out of work		_____ Unemployed
Value of lost wages		\$ _____

	Replacement Value	Actual Damage or Cost
Removal of debris and damaged items		\$ _____
Disinfecting, other cleaning and rehabilitation		\$ _____
Replacement of records		\$ _____
Loss of gross income due to interruption of business		\$ _____
Loss of net income due to interruption of business		\$ _____
Increased alternative operating costs		\$ _____

26. Please indicate the approximate dollar value of damage from the (date) floods to the following categories:

Structure Damage = Damage to any building components, including foundation, walls, floors, doors, windows, roof, electrical system, heating and cooling systems, plumbing, attached carpeting, attached shelves and cabinets, and built-in equipment and appliances.

Content Damage = Damage to unattached equipment, supplies, raw materials, and inventory.

Vehicles and Outside Property Damage = Damage to vehicles parked on premises; damage to inventory, materials, and equipment kept outside; and damage to signs, landscaping, and parking areas.

Preventive Costs = Costs of moving contents prior to and after flooding to avoid damage, costs of flood fighting.

Clean Up Costs = Costs of labor and materials to clean up interior and outside of building.

Business Record Replacement Costs = The financial costs and unpaid hours for reconstructing business records that were damaged by the flood.

TYPE OF DAMAGE	AMOUNT OF COST OR DAMAGE
STRUCTURE DAMAGE	\$ _____
CONTENT DAMAGE	\$ _____
VEHICLE DAMAGE	\$ _____
PREVENTIVE COSTS	\$ _____

CLEANUP COST	\$ _____
LANDSCAPING AND OUTSIDE PROPERTY	\$ _____
UNPAID HOURS OF TIME FOR CLEAN AND REPAIR	_____ UNPAID HOURS
BUSINESS RECORD REPLACEMENT COSTS	\$ _____

27. How long did the water remain in this building?

_____ DAYS _____ HOURS

Damage Susceptibility

28. At what elevation, relative to the 1st floor of the building, does flood damage to **contents** begin? (+ or - ; will only be negative if there is a subterranean level) _____ feet

29. Please estimate the range in damage to contents at corresponding water depths above/below the building's 1st floor elevation. (Express damage in either \$ or % of total value at the lower and upper ends as well as the most likely estimate.)

Flood Depth	Equipment			Furniture			Inventory/products		
	Lower End	Most Likely	Upper end	Lower End	Most Likely	Upper End	Lower End	Most Likely	Upper End
-6.0 ft									
-3.0 ft									
-1.0 ft									
0.0 ft									
0.5 ft									
1.0 ft									
3.0 ft									
6.0 ft									
Total*									

* Total should equal 100% in each column if you are reporting as % of total value.

Notes to interviewer:

- Shaded areas are for buildings with a subterranean level only. Please fill in appropriate values for the depth (e.g., -1.0 ft, -3.0 ft, -6.0 ft). Leave shaded areas blank if no subterranean level exists.

30. Is there a seasonal variation in the value of inventory in this building? Yes No

If yes, what is the average total value of your inventory during the following time periods:

January – March \$ _____ April – June \$ _____

July – September \$ _____ October – December \$ _____

31. Other than the principal structures, are there any other valuable items on your property that flood waters could damage, such as not readily movable (landscaping, electrical equipment, pipes, trailers on blocks, etc.)?

Type	Current Value (\$)	Height Above Ground (ft.)

- Movable (cars, trucks, trailers, etc.)

Type	Current Value (\$)

Flood Warning and Response

32. Just before (date) floods, how did you first become aware that flooding might reach your business? (CIRCLE ONE ANSWER)

- 1. E-MAIL
- 2. TEXT MESSAGE
- 3. TWITTER
- 4. WEBSITE
- 5. TV
- 6. RADIO
- 7. TELEPHONE BY A PUBLIC OR EMERGENCY WORKER
- 8. TELEPHONE BY OTHER
- 9. FACE TO FACE BY PUBLIC OR EMERGENCY WORKER
- 10. FACE TO FACE BY OTHER
- 11. LOUDSPEAKER
- 12. SIREN
- 13. C.B., HAM RADIO or POLICE SCANNER
- 14. NEWSPAPER
- 15. OBSERVING THE CREEK OR RIVER WATER LEVELS
- 16. OTHER _____

32a. How many hours were there between the time you became aware that flooding might reach your business until the water actually reached your business property?

_____ HOURS

33. What actions, if any, did you take to safeguard your business property immediately prior to flooding and what were the dollar damages prevented by each action?

(PLEASE CIRCLE YES OR NO FOR EACH ACTION LISTED AND INDICATE THE DOLLARS DAMAGE PREVENTED FOR EACH ACTION.)

Damage Preventive Action	Took Preventive Action (CIRCLE)	Dollar Damage Prevented \$_____ or Circle DK for Don't Know
1. Moved contents to higher ground	Yes No	\$_____ DK
2. Elevated contents to a higher spot in the building	Yes No	\$_____ DK
3. Shut off electrical equipment	Yes No	\$_____ DK

4. Sandbagged the outside of the building	Yes	No	\$ _____	DK
5. Used another type of temporary barrier	Yes	No	\$ _____	DK
6. Moved vehicles to higher ground	Yes	No	\$ _____	DK
7. Other action: _____	Yes	No	\$ _____	DK
8. None	Yes	No	\$ _____	DK

34. Emergency Measures/Plans:

34a. What emergency measures/plans, if any, would you take to reduce damage if you were forewarned of eminent flooding?

34b. What is your estimated cost to implement these emergency measures?

\$ _____

34c. How much time in man hours is required to implement these emergency measures?

_____ MAN HOURS

PUBLIC DAMAGES AND OTHER COSTS

1. Name of Governmental Entity: _____
2. Agency: _____
3. Phone Number: _____
4. Dates of Flooding/
Coastal Storm: _____
5. Source(s) of Flooding: _____

6. In the table below list the damages that occurred to public property in your jurisdiction as a result of the (date) flood.

Type of Property	\$ Damage	Primary Cause of Damage (inundation, wave, erosion, etc.)
Buildings	\$ _____	
Equipment	\$ _____	
Vehicles	\$ _____	
Supplies	\$ _____	
Streets, highways, roads	\$ _____	
Water supply system plant and equipment distribution system	\$ _____	
Sewage system plant and equipment distribution system	\$ _____	
Drainage system	\$ _____	
Bridges	\$ _____	
Docks	\$ _____	
Marinas	\$ _____	
Boardwalks	\$ _____	
Parks	\$ _____	
Other	\$ _____	

PUBLIC DAMAGES AND OTHER COSTS

7. Please list any other public cost that resulted from the flooding in your jurisdiction.

Type of Costs	\$ Costs	Volunteer (unpaid hours)
Emergency operations and floodfighting	\$ _____	_____ Hours
Police protection	\$ _____	_____ Hours
Additional costs of water supply	\$ _____	_____ Hours
Additional costs of sewage treatment	\$ _____	_____ Hours
Additional costs of flood cleanup	\$ _____	_____ Hours
Additional costs of trash collection and disposal	\$ _____	_____ Hours
Replacement of business records	\$ _____	_____ Hours
Repairs to levee, sand dunes, or other flood or coastal protection	\$ _____	_____ Hours
Cleanup of hazard waste	\$ _____	_____ Hours
Other costs _____ _____	\$ _____	_____ Hours
Total	\$ _____	_____ Hours

8. Please describe any harmful public health and other environmental effects that flooding may have caused by inundation of landfills, sewage treatment plants, or other hazardous waste sites.

PUBLIC DAMAGES AND OTHER COSTS

If you had a damaged sewage treatment facility in the most recent flood, please answer questions 9-13. (If not, skip to question 14.)

9. What is the capacity of the damage facility in gallons per day?

_____ GALLONS PER DAY

10. What is the estimated replacement cost of the plant?

\$ _____

11. How high did the water get above the lowest ground elevation of the plant?

_____ FEET

12. What was the repair cost to the plant?

\$ _____

13. How many days was the plant not operating because of the flood damage?

_____ DAYS

If you had a damaged WATER treatment facility in the most recent flood, please answer questions 9-13. (If not, the survey is complete.)

14. What is the capacity of the damage facility in gallons per day?

_____ GALLONS PER DAY

15. What is the estimated replacement cost of the plant?

\$ _____

16. How high did the water get above the lowest ground elevation of the plant?

_____ FEET

17. What was the repair cost to the plant?

\$ _____

18. How many days was the plant not operating because of the flood damage?

_____ DAYS

PUBLIC DAMAGES AND OTHER COSTS

RESIDENTIAL

Background and Flood History

1. How many years have you been living at this address?
_____ years
2. Were you living at this residence during the (year) flood?
___NO ___YES
3. Was your residence flooded during the (year) flood?
___NO ___YES
4. Before the most recent flood, what would you have said the chance was of major flooding that would cause an evacuation of your neighborhood? (check one)
___NO CHANCE
___SLIGHT CHANCE
___MODERATE CHANCE
___STRONG CHANCE
___EXTREMELY LIKELY CHANCE
5. Before the flood this year, had your home ever been flooded? (check one)
___NO (**SKIP to Q7**) ___YES
6. Please give me the year that any previous floods occurred, and check whether or not you evacuated your home each time.
YEAR

___ DID NOT EVACUATE ___ EVACUATED
___ DID NOT EVACUATE ___ EVACUATED
___ DID NOT EVACUATE ___ EVACUATED
___ DID NOT EVACUATE ___ EVACUATED
___ DID NOT EVACUATE ___ EVACUATED

Structural Data

RESIDENTIAL

7. What is the five-digit zip code of this home?

8. What category best describes the style of this building?

(CIRCLE ONE ANSWER)

- | | | |
|----------------|---------------------------|----------------------------|
| 1. One-Story | 5. 1-1/2 Story Finished | 9. 3-1/2 Story Finished |
| 2. Two-Story | 6. 1-1/2 Story Unfinished | 10. 3-1/2 Story Unfinished |
| 3. Three-Story | 7. 2-1/2 Story Finished | 11. Bi-Level |
| 4. Split Level | 8. 2-1/2 Story Unfinished | |

9. Not counting your basement, attic, or garage, how many square feet of living area are in your home? (If respondent is unsure, ask for the dimensions and calculate.)

_____ SQUARE FEET

10. Does your home have a basement? (CIRCLE)

1. NO (Skip to 11)
2. YES

10a. If yes, please indicate the total basement area, in square feet, and the amount that is finished and unfinished? (If respondent is unsure, ask for the dimensions and calculate.)

TOTAL BASEMENT AREA: _____ SQUARE FEET

FINISHED BASEMENT AREA: _____ SQUARE FEET

UNFINISHED BASEMENT AREA: _____ SQUARE FEET

11. Do you have a garage on this property? (CIRCLE)

1. NO (Skip to 12)
2. YES

11a. Is the garage attached to the structure? (CIRCLE)

1. NO
2. YES

11b. How large is the garage in square feet? (If respondent is unsure, ask for the dimensions and calculate.)

_____ SQUARE FEET

RESIDENTIAL

12. Do you have a carport? (CIRCLE)

1. NO
2. YES

12a. How large is the carport in square feet? (If respondent is unsure, ask for the dimensions and calculate.)

_____ SQUARE FEET

13. What category best describes the heating and cooling system in this building?
(CIRCLE ONE ANSWER FOR MOST PROMINENT SYSTEM)

Heating Only:

- | | |
|------------------------------------|------------------------------|
| 1. Forced Air | 6. Ceiling, Radiant Electric |
| 2. Gravity Furnace | 7. Baseboard, Electric |
| 3. Floor Furnace | 8. Baseboard, Hot Water |
| 4. Wall Furnace
(No Heat Ducts) | 9. Radiators, Hot Water |
| 5. Floor, Radiant Hot Water | 10. Radiators, Steam |

Heating and Cooling:

11. Warmed and Cooled Air
12. Heat Pump System

Cooling Only:

13. Evaporative Water Cooler (Single or Short Ducts)
14. Refrigerated, with Condenser and Ducts

14. What is the primary exterior wall covering on this building?

(CIRCLE ONE ANSWER)

- | | | |
|------------------------|----------------------|--------------------|
| 1. Plywood | 4. Siding | 7. Common Brick |
| 2. Hardboard
Sheets | 5. Shingle | 8. Face Brick |
| 3. Stucco | 6. Masonry
Veneer | 9. Stone |
| | | 10. Concrete Block |

15. What is the primary roof covering of this building? (CIRCLE ONE ANSWER)

- | | | |
|--|---------------------|------------------|
| 1. Composition Shingle | 5. Concrete Tile | 10. Plastic Tile |
| 2. Built-up Rock | 6. Clay Tile | |
| 3. Wood Shingle
(Embedded in Asphalt) | 7. Galvanized Metal | |
| 4. Wood Shake | 8. Slate | |
| | 9. Composition Roll | |

RESIDENTIAL

16. How many fireplaces are in this home? _____ FIREPLACES

_____ FIREPLACES

17. How many square feet of each of the following types of porches are there in this home? (If you are unsure of square feet, please give dimensions.)

Slab _____ SQUARE FEET
Or (_____ Feet X _____ Feet)

Slab with Roof _____ SQUARE FEET
Or (_____ Feet X _____ Feet)

Wood Deck _____ SQUARE FEET
Or (_____ Feet X _____ Feet)

Enclosed Slab Porch _____ SQUARE FEET
Or (_____ Feet X _____ Feet)

Enclosed Wood Porch _____ SQUARE FEET
Or (_____ Feet X _____ Feet)

18. Do you have an elevator in your home?

___ Yes ___ No

19. How high is the first floor of your building above the lowest adjacent grade?

_____ FEET

20. How high is the first floor of your building above the where flood water would first enter your building (from considering windows and pipes into the foundation)?

_____ FEET

Cost and Damages

The next group of questions is to determine flood damages to different types of property from the ___(year)___ flood.

21. Please indicate how high in feet and inches that the water was relative to the first floor of the inside of your home.

_____ FEET; _____ INCHES (ABOVE, BELOW) FIRST FLOOR LEVEL
[CIRCLE]

RESIDENTIAL

22. How long did the water remain in this building?

_____ DAYS _____ HOURS

23. Did the flooding make it necessary for you or other members of your household to stay in temporary residence due to evacuation or while your home was being repaired?

(CIRCLE)

1. NO (Skip to 24)
2. YES

23a. How many days did you spend in temporary residence due to the evacuation or while flood damage to your home was being repaired?

_____ DAYS

23b. How much money did your household spend on travel, (beyond your normal travel expense), and lodging (including trailer rental) due to your evacuation(s) for the _____ flood?

_____ DOLLARS

23c. Due to your evacuation, how much money did your household spend on food in excess of what you normally would have spent?

_____ DOLLARS

24. For each motor vehicle, including cars, trucks, recreational vehicles, boats, and motorcycles, located at this residence during the flood, please indicate the dollar value, whether or not it was moved, the amount of damage to the vehicle, if any, and the level, in feet and inches, that the flood water reached above the bottom of the vehicle's wheels.

Vehicle Category and Year (Categories include: sedan, van, sports utility, sports cars, pickup trucks, and motorcycles)	Dollar Value	Was it Moved? (Yes or no)	Dollar Damage	Depth of Water from the Bottom of the Vehicle
Vehicle 1:	\$ _____	YES NO	\$ _____	_____ FEET
Vehicle 2:	\$ _____	YES NO	\$ _____	_____ FEET
Vehicle 3:	\$ _____	YES NO	\$ _____	_____ FEET
Vehicle 4:	\$ _____	YES NO	\$ _____	_____ FEET

The following questions are to determine the dollar cost and unpaid hours for repair and cleanup of your home, and repair, replacement, and cleanup to the contents of your home that resulted from the (YEAR) flood.

25. What was the cost of the structural damage to your home resulting from the (Year) flood? (Structural damage is defined as damage to any building components; including foundation, walls, floors, windows, roof, electrical systems, heating and cooling systems, plumbing, attached carpeting, attached shelves and cabinets, and built-in equipment and appliances.)

\$ _____

25a. Which of the following is the primary source of your structure damage repair cost? (CIRCLE ONE)

- e. Contractor estimate (before repairs)
- f. Contractor invoice (after repairs)
- g. Your own assessment
- h. Other _____

25b. What was the dollar cost to you for labor and supplies to clean up your home after the flood?

\$ _____

25c. What was the total number of unpaid hours that you and others spent on repair and cleanup to your home after the flood?

_____ UNPAID HOURS

26. a. Please list your total real estate damages into the following categories.
 b. Please also itemize any additional time that was spent on repairs other than paid labor hours.

Area of Damage	Value of Damages		
	In % of total Or in dollars		Unpaid Hours to repair or install, in addition to \$ spent
1. Built-in shelves and appliances	%	\$	_____ UNPAID HOURS
2. Electrical	%	\$	_____ UNPAID HOURS
3. Plumbing	%	\$	_____ UNPAID HOURS
4. Exterior walls, windows, doors (painting included), and roofing	%	\$	_____ UNPAID HOURS
5. Footings and foundation	%	\$	_____ UNPAID HOURS
6. Interior doors and walls (painting included)	%	\$	_____ UNPAID HOURS
7. Interior floors, carpet and ceilings	%	\$	_____ UNPAID HOURS
8. Mechanical systems - heat, A/C, sump pump, built-in vacuum	%	\$	_____ UNPAID HOURS
9. Outbuildings, decks, fireplaces and garages	%	\$	_____ UNPAID HOURS
10. Outside property and landscaping	%	\$	_____ UNPAID HOURS
11. Septic, sewer, and water systems	%	\$	_____ UNPAID HOURS
Total	100 %	\$	_____ UNPAID HOURS

CONTENT DAMAGE

Content damage refers to damage to personal property kept inside the home or the garage that is not permanently affixed to the home.

27. What was the dollar cost of flood damage to the contents of your home, garage, and shed, excluding motor vehicles? (Only include content replacement and repairs, do not include repairs to the structure of the house).

\$ _____

28. What was the total number of unpaid hours that you and others spent on repair of appliances, furniture, and other contents of your home?

_____ UNPAID HOURS FOR CONTENT REPAIR

29. How much, if anything, did each of the following cost you in actual dollar expenditures as a result of the ___(YEAR)___ flood?

a) Costs for moving furniture and other belongings? \$ _____

b) Costs for storing furniture and other belongings? \$ _____

c) Vandalism, looting, or theft costs? \$ _____

d) Costs from flooding-related medical problems? \$ _____

e) Any other costs due to the _____ flood. \$ _____

Describe: _____

Flood Warning and Response

30. Just before this year's flood, did anyone at this residence hear from anyone or receive any other communication that flooding was possible? (CHECK ONE)

___ NO (SKIP to Q48) ___ YES

31. Did the FIRST such message that you received include any of the following information?

- a) "Conditions are possible for a flood in your community." 1. NO 2. YES
- b) "Watch the river or stream for flooding." 1. NO 2. YES
- c) "It's possible your home will be flooded." 1. NO 2. YES
- d) "Flooding will occur; take action." 1. NO 2. YES
- e) "Evacuate your home." (no instructions) 1. NO 2. YES
- f) "Evacuate your home." (with instructions) 1. NO 2. YES
- g) The time that flooding would occur. 1. NO 2. YES
- h) Other information in the message. 1. NO 2. YES

(Specify:)

32. What would you call this first message that you received? (circle one)

- 1. A FLOOD WATCH
- 2. A FLOOD WARNING
- 3. NEITHER ONE
- 4. UNSURE

33. On what date and at what time of day did you hear this message?

MO. DAY TIME (Hours and Minutes):
 / / : (circle one): AM or PM

34. How did you receive this first message? (CIRCLE ONLY ONE)

1. E-MAIL
2. TEXT MESSAGE
3. TWITTER
4. WEBSITE
5. TV
6. RADIO
7. TELEPHONE BY A PUBLIC OR EMERGENCY WORKER
8. TELEPHONE BY OTHER
9. FACE TO FACE BY PUBLIC OR EMERGENCY WORKER
10. FACE TO FACE BY OTHER
11. LOUDSPEAKER
12. SIREN
13. C.B., HAM RADIO or POLICE SCANNER
14. NEWSPAPER
15. OBSERVING THE CREEK OR RIVER WATER LEVELS
16. OTHER _____

35. On what date, and at what approximate time, did the flood waters reach your property?
[Put a Number on each Blank or Check [] if DON'T KNOW]

DATE TIME (Hours and Minutes):
_____ : ____ (circle one): AM or PM

[] DON'T KNOW

36. **Of each of the following actions, please answer yes or no to each to indicate the actions that you took, if any, as a result of this first message you heard. Remember that these are only actions with respect to the first message you heard.**
[CIRCLE YES OR NO FOR EACH.]

In response to the first message did you :

- | | |
|--|--------------|
| a) Listen to TV or Radio? | 0. NO 1. YES |
| b) Contact family members? | 0. NO 1. YES |
| c) Contact other people? | 0. NO 1. YES |
| d) Disconnect appliances? | 0. NO 1. YES |
| e) Pack or prepare any household possessions for an evacuation? | 0. NO 1. YES |
| f) Elevate possessions above the floor of the first story of your house? | 0. NO 1. YES |
| g) Move any possessions to a safer location outside of the house? | 0. NO 1. YES |

RESIDENTIAL

- h) Go out and look at the stream? 0. NO 1. YES
- l) Move cars or other vehicles to higher ground? 0. NO 1. YES
- j) Evacuate from the structure? 0. NO 1. YES
- k) Take any other actions? (if yes, list below) 0. NO 1. YES

37. On a scale of 1 to 10 how would you estimate the strength of your belief in this first message? (1 represents total disbelief and 10 represents total belief)

_____ (fill-in with number between 1-10)

38. The previous questions asked about the first message you received. Did you receive a **DIFFERENT MESSAGE LATER ON** indicating that flooding was possible or the possibility of flooding had increased?

- 0. NO **If No, SKIP to Q 48**
- 1. YES

39. Did the SECOND message that you received include any of the following information?

- a) "Conditions possible for a flood in your community." 0. NO 1. YES
- b) "Watch the river or stream for flooding." 0. NO 1. YES
- c) "It is possible your home will be flooded." 0. NO 1. YES
- d) "Flooding will occur; take action." 0. NO 1. YES
- e) "Evacuate your home." (no instructions) 0. NO 1. YES
- f) "Evacuate your home." (with instructions) 0. NO 1. YES
- g) The time that flooding would occur. 0. NO 1. YES
- h) Other information in the message. 0. NO 1. YES

(Specify:)_____

40. What would you call this SECOND message that you received? (circle one)

- 1. A FLOOD WATCH
- 2. A FLOOD WARNING
- 3. NEITHER ONE
- 4. UNSURE

RESIDENTIAL

RESIDENTIAL

41. On what date, and what time of day did you hear this message?

MO. DAY TIME (Hours and Minutes):

__/__/__:__ (circle one): AM or PM

42. How did you hear this SECOND message? (circle one only)

1. E-MAIL
2. TEXT MESSAGE
3. TWITTER
4. WEBSITE
5. TV
6. RADIO
7. TELEPHONE BY A PUBLIC OR EMERGENCY WORKER
8. TELEPHONE BY OTHER
9. FACE TO FACE BY PUBLIC OR EMERGENCY WORKER
10. FACE TO FACE BY OTHER
11. LOUDSPEAKER
12. SIREN
13. C.B., HAM RADIO or POLICE SCANNER
14. NEWSPAPER
15. OBSERVING THE CREEK OR RIVER WATER LEVELS
16. OTHER _____

43. Please answer yes or no to each to indicate which of the following actions, if any, that you took as a result of this SECOND message that you heard.

[CIRCLE YES OR NO FOR EACH.]

In response to the second message did you :

- | | | |
|---|-------|--------|
| a) Listen to TV or Radio? | 0. NO | 1. YES |
| b) Contact family members? | 0. NO | 1. YES |
| c) Contact other people? | 0. NO | 1. YES |
| d) Disconnect appliances? | 0. NO | 1. YES |
| e) Pack or prepare any household possessions for evacuation? | 0. NO | 1. YES |
| f) Elevate possessions above the floor of the first story of your house? | 0. NO | 1. YES |
| g) Move any possessions to a safer location outside of the house? | 0. NO | 1. YES |
| h) Go out and look at the stream? | 0. NO | 1. YES |
| i) Move cars or other vehicles to higher ground? | 0. NO | 1. YES |
|
 | | |
| j) Did the <u>SECOND</u> message cause you to evacuate from the structure? | 0. NO | 1. YES |
| k) Did the <u>SECOND</u> message cause you to take <u>any other actions?</u> (If yes, list below) | 0. NO | 1. YES |

RESIDENTIAL

44. On a scale of 1 to 10 how would you estimate the strength of your belief in this second message? (1 = total disbelief, and 10 = total belief)

_____ (fill-in with number between 1-10)

45. After receiving the second message, did you receive any later messages that caused you to take further action?

- 0. NO **If No, SKIP to Q 48.**
- 1. YES
- 2. UNSURE

46. Please describe the (those) later message(s).

47. What additional actions, if any, did you take as a result of hearing the (those) later message(s)?

->48. Do you have any suggestions on ways to improve the current flood warning system?

49. For each of the following categories, please tell me the total number of people who were in the residence, the number who did evacuate, and the number who did not: **(PUT A NUMBER OR ZERO ON EACH BLANK)**

	<u>TOTAL</u>	<u>EVAC- UATED</u>	<u>DID NOT</u>
a) Household members <u>under</u> 13:	_____	_____	_____
b) Household members 13-64 yrs. old:	_____	_____	_____
c) Household members 65 and over:	_____	_____	_____

d) <u>Non</u> -household members < 13:	_____	_____	_____
e) <u>Non</u> -household members 13-64 yrs. old:	_____	_____	_____

RESIDENTIAL

f) Non-household members 65 and over: _____

[SKIP to Q 54, if no one evacuated.]

50. During the flooding this year, how many people evacuated from your household using each of the following modes of transportation?

[Put a Number or Zero on each blank.]

	<u>Number Evacuating</u>
a) CAR OR TRUCK?	_____
b) BOAT?	_____
c) WALKING?	_____
d) OTHER TRANSPORTATION?	_____

(What kind?) _____

51. For you and others who decided to evacuate from your residence, which of the following affected the decision to evacuate? Please answer yes or no to each.

[CIRCLE YES OR NO FOR EACH.]

Did you evacuate because of:

- | | | |
|--|-------|--------|
| a) Messages on TV or Radio? | 0. NO | 1. YES |
| b) A telephone message from friends or relatives? | 0. NO | 1. YES |
| c) A face to face message from friends or relatives? | 0. NO | 1. YES |
| d) Telephone messages from local officials? | 0. NO | 1. YES |
| e) Face to face messages from local officials? | 0. NO | 1. YES |
| f) Experience you or other residents had with floods
in previous years? | 0. NO | 1. YES |
| g) High stream level or flood waters close to
your residence? | 0. NO | 1. YES |
| h) Because it was physically impossible to remain
in the structure? | 0. NO | 1. YES |
| i) To find or meet family members? | 0. NO | 1. YES |

RESIDENTIAL

j) Because the neighbors were evacuating? 0. NO 1. YES

k) Other Reason(s) for Decision to Evacuate? 0. NO 1. YES

[Probe for Reasons] _____

52. On what date, and at what time of day, did you last leave your house to go to a place of safety?

Date _____

MO. DAY TIME (Hours and Minutes):

__ / __ / __ : __ (circle one): AM or PM

53. How much time did it take in your evacuation to get out of the area of flood danger?

[Put a Number or a Zero on each Blank]

_____ HOURS; _____ MINUTES

Check Box if everyone evacuated [], and **SKIP to Q31.**

->54. If you and others did NOT evacuate when warned, which of the following affected your decision NOT to evacuate or to delay doing so?

[CIRCLE YES OR NO FOR EACH.]

a) Did not believe messages on TV or Radio? 0. NO 1. YES

b) Telephone message from friends or relatives? 0. NO 1. YES

c) Face to face message from friends or relatives? 0. NO 1. YES

d) Telephone messages from local officials? 0. NO 1. YES

e) Face to face messages from local officials? 0. NO 1. YES

f) Experience you or other residents had with floods in previous years? 0. NO 1. YES

g) Location of flood waters in relation to the residence? 0. NO 1. YES

h) Because it was physically impossible to leave the structure? 0. NO 1. YES

i) Because of the location of your family members? 0. NO 1. YES

RESIDENTIAL

- j) Because the neighbors were not evacuating? 0. NO 1. YES
- k) Fear of looting? 0. NO 1. YES
- l) Other Reason(s) for Not Evacuating? 0. NO 1. YES

[specify] _____

The next question is to determine how you learned about the approaching flood and how you responded at the time.

55. What actions, if any, did you take to safeguard your property immediately prior to flooding and what were the damages prevented by each action?

(PLEASE CIRCLE ALL THAT APPLY AND INDICATED THE DOLLARS DAMAGES PREVENTED FOR EACH ACTION.)

Damage Preventive Action (CIRCLE ALL THAT APPLY)	\$ Damage Prevented	Hours Spent on Damage Prevention	Cost of Materials for Prevention
1. Moved contents to higher ground	\$ _____	_____ HOURS	\$ _____
2. Elevated contents to a higher spot in the building	\$ _____	_____ HOURS	\$ _____
3. Turn off electrical equipment	\$ _____	_____ HOURS	\$ _____
4. Sandbagged the outside of the building	\$ _____	_____ HOURS	\$ _____
5. Used another type of temporary barrier	\$ _____	_____ HOURS	\$ _____
6. Moved vehicles to higher ground	\$ _____	_____ HOURS	\$ _____
7. Other action _____	\$ _____	_____ HOURS	\$ _____
8. None			

ROADWAY DAMAGE

The purpose of this survey is to gain information from area transportation agencies on economic losses due to roadway flooding. These estimates will be used by the Corps of Engineers in economic evaluations. Please provide any information based on damage that occurred (DATE). Note: some questions ask for total cost or number of 8-hour man-days, while others ask for material and labor. Thank you for your participation.

1. How many miles of roadway damage did your jurisdiction experience during the (DATE) flood?

_____ MILES

2. Please estimated cost of roadway repairs following the (DATE) flood:

2a. Cost to repair erosion to roadway embankment:

\$ _____

2b. Cost to repair roadway pavement:

\$ _____

2c. Cost to repair roadway shoulder:

\$ _____

3. Please estimate the costs to monitor roadways for flooding/safety impacts and alert public and agencies affected by an event: \$ _____ or _____ man-days

4. Please estimate the costs associated with installation and removal of detour signs and road barricades for the flood roadways in your jurisdiction: \$ _____ or _____ man-days.

5. Please estimate the costs of flood protection and other operations provided during the (DATE) flood:

5a. Sandbagging \$ _____ and _____ man-days (includes installation, operation, removal and disposal)

5b. pumping materials \$ _____ and _____ man-days of

6. Please estimated costs of post-flood roadway clean-up the (DATE) flood:

6a. street and gutter sweeping: \$_____ or _____man-days

6b. cleaning of drainage structures \$_____total or _____ man days.

7. Please estimate the costs of additional maintenance activities for scour of critical bridges and culverts following the (DATE) flood:

7a. inspection costs: \$_____total or _____ man days (per structure)

7b. scour protection measures \$_____ of materials and _____ man days

7c. debris removal on piers/abutments: \$_____ of materials and
_____man-days (per structure)