

APPENDIX A – WORKSHEETS

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In establishing a planning team, you want to ensure that you have a broad range of backgrounds, responsibilities, and experiences represented. Below are some suggestions for institution organizations and departments to include in a planning team.

Use the checklist as a starting point for forming your team. Check the boxes beside any individuals or organizations that you have both on and off campus that you believe should be included on your planning team so you can follow up with them.

College/University Administration

- Chancellor/President
- Vice Chancellor (VC)/Vice President (VP) Planning and Facilities
- VC/VP Budget and Finance
- VC/VP Business
- Planning Entities
- Safety Units (Police, Fire, Environmental Health and Safety, Risk Management)
- Telecommunications/Electronic Communications
- Human Resources
- Development Office
- _____
- _____
- _____

Academic Departments

- Academic Senate Representatives
- Architecture/Planning
- Engineering/GIS
- Earth Sciences/Geology/Geography/Hydrology (depending on the major hazards)
- Sociology
- Public Administration

Student Representatives

- Student Council Representatives
- Student Life/Residence Life
- Students from relevant academic departments (vis-à-vis potential thesis topics)

Community/Off-Campus Representatives

- Local Emergency Manager
- Emergency Services (Fire/Police)
- Local Emergency Planning Committee Representative
- Local Community Planner
- Local Economic Development Officer

State Representatives

- State Hazard Mitigation Officer
- State University Liaison
- State Emergency Manager

Local Utilities

- Electric Utility
- Gas Utility
- Water Authority/Sewage Authority
- Telephone Companies/Telecommunications
- Internet/Fiber Optic System
- Transit Authority

Vulnerability Questionnaire

1. What are the hazards in your locale?

2. Do you know the frequency and magnitude of possible future hazard events?

3. Has the university/college ever been affected by any hazard events? If so, how?

4. Are some parts of the campus particularly vulnerable to damages, or is the entire area vulnerable?

5. Are some buildings particularly vulnerable to damages? If so, how?

6. What are the uses and occupancies of the vulnerable buildings?

7. What will the expected damages do—threaten life safety? Ruin buildings? Destroy equipment and computers? Disrupt work?

8. Are your utilities vulnerable to damages? How?

9. What systems depend on either building functionality or utility functionality?

10. What could it cost to repair damages?

11. How long could it take?

12. How will teaching be affected?

13. How will research be affected?

14. How will students be affected on campus?

15. How will students be affected off campus?

| ~~15.~~16. Will employees who live in the area be able to get to work?

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| ~~16.~~17. Will employees' homes be affected by the hazard event(s)?

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| ~~17.~~18. Could the university be closed down for a significant period of time because of possible disaster losses?

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Worksheet 3

Identify the Hazards

Date: _____ *What kinds of natural hazards can affect you?*

1. List the hazards that may occur on campus.

- a. Research newspapers and other historical records. (Check campus archives in library.)
- b. Review existing university and community plans and reports.
- c. Talk to the experts on campus and in your community, state, or region.
- d. Gather information on Internet Web sites.

In the hazard list below, put a check mark in the boxes on the left (Column I) beside all hazards that may occur on your campus.

2. Focus on the most prevalent hazards in your community or state, and your campus.

- a. Go to hazard Web sites.
- b. Locate your campus on the Web site map.
- c. Determine whether you are in a high-risk area. Get more localized information if necessary.
- d. In the hazard list below, put a check mark in the boxes on the right (Column II) beside all hazards that pose a significant threat to your community and/or campus.

Use this space to record information you find for each of the hazards you will be researching. Attach additional pages as necessary.

	I	II	<i>Hazard or Event Description</i> <small>(Type of hazard, date of event, number of injuries, cost and types of damage, etc.)</small>	<i>Source of Information</i>	<i>Map Available for This Hazard?</i>	<i>Scale of Map</i>
Avalanche	<input type="checkbox"/>	<input type="checkbox"/>				
Coastal Erosion	<input type="checkbox"/>	<input type="checkbox"/>				
Coastal Storm	<input type="checkbox"/>	<input type="checkbox"/>				
Dam Failure	<input type="checkbox"/>	<input type="checkbox"/>				
Drought	<input type="checkbox"/>	<input type="checkbox"/>				
Earthquake	<input type="checkbox"/>	<input type="checkbox"/>				
Expansive Soils	<input type="checkbox"/>	<input type="checkbox"/>				
Extreme Heat	<input type="checkbox"/>	<input type="checkbox"/>				
Flood	<input type="checkbox"/>	<input type="checkbox"/>				
Hailstorm	<input type="checkbox"/>	<input type="checkbox"/>				
Hurricane	<input type="checkbox"/>	<input type="checkbox"/>				
Land Subsidence	<input type="checkbox"/>	<input type="checkbox"/>				
Landslide	<input type="checkbox"/>	<input type="checkbox"/>				
Severe Winter Storm	<input type="checkbox"/>	<input type="checkbox"/>				
Tornado	<input type="checkbox"/>	<input type="checkbox"/>				
Tsunami	<input type="checkbox"/>	<input type="checkbox"/>				
Volcano	<input type="checkbox"/>	<input type="checkbox"/>				
Wildfire	<input type="checkbox"/>	<input type="checkbox"/>				
Windstorm	<input type="checkbox"/>	<input type="checkbox"/>				
Other _____	<input type="checkbox"/>	<input type="checkbox"/>				
Other _____	<input type="checkbox"/>	<input type="checkbox"/>				
Other _____	<input type="checkbox"/>	<input type="checkbox"/>				

Worksheet 4

Profile Hazard Events

Date:

Note: Use FEMA 386-2 for assistance in completing this Worksheet.

Obtain or create a base map.

You can use existing maps from:

- Campus facilities department
- Campus GIS maps
- USGS topographic maps or Digital Orthophoto Quarter Quads (DOQQ)
- Maps from your city and county
- Topographic and/or planimetric maps from other agencies
- Aerial topographic and/or planimetric maps

OR you can create a base map using:

- Field surveys
- GIS software
- CADD software
- Digitized paper maps

<i>Title of Map</i>	<i>Scale</i>	<i>Date</i>

Obtain Hazard Profile Information

Record Hazard Profile Information

Flood	<input type="checkbox"/> 1. Meet with your local floodplain administrator to review the Flood Insurance Study and mapping information.	<input type="checkbox"/> 1. Transfer the boundaries from your Flood Insurance Rate Map onto your base map (floodway, 100-yr flood, 500-yr flood).
Earthquake	<input type="checkbox"/> 1. Seek out specialists either on campus or in local or state emergency management offices to determine risk <input type="checkbox"/> 2. Review state geological survey maps <input type="checkbox"/> 3. Go to the website: http://geohazards.cr.usgs.gov	<input type="checkbox"/> 2. Transfer the Base Flood Elevations onto your base map. <input type="checkbox"/> 1. Record the probability, epicenter location(s), and shaking intensity of potential earthquakes.
Tsunami	<input type="checkbox"/> 1. Get a copy of your tsunami inundation zone map from your local or state Emergency Manager. <input type="checkbox"/> 1. Find your design wind speed.	<input type="checkbox"/> 1. Copy the boundary of your tsunami inundation zone onto your base map. <input type="checkbox"/> 1. Record your design wind speed: _____ <input type="checkbox"/> 2. If you have more than one design wind speed, print, download, or copy your design wind speed zones, copy the boundaries of your design wind speed zones onto your base map, then record the design wind speed zones on your base map.
Tornado	<input type="checkbox"/> 1. Get a copy of your FIRM. <input type="checkbox"/> 2. Verify that the FIRM is up to date and complete. <input type="checkbox"/> 3. Determine the annual rate of coastal erosion. <input type="checkbox"/> 4. Find your design wind speed.	<input type="checkbox"/> 1. Transfer the boundaries of your coastal storm hazard areas onto your base map. <input type="checkbox"/> 2. Transfer the BFEs onto your base map. <input type="checkbox"/> 3. Record the erosion rates on your base map: _____ <input type="checkbox"/> 4. Record the design wind speed here and on your base map: _____
Coastal Storm	<input type="checkbox"/> 1. Map location of previous landslides. <input type="checkbox"/> 2. Map the topography. <input type="checkbox"/> 3. Map the geology. <input type="checkbox"/> 4. Identify the high-hazard areas on your map.	<input type="checkbox"/> 1. Mark the areas susceptible to landslides on your base map.
Landslide	<input type="checkbox"/> 1. Map the fuel models located within the urban/wildland interface areas. <input type="checkbox"/> 2. Map the topography. <input type="checkbox"/> 3. Determine your critical fire weather frequency. <input type="checkbox"/> 4. Determine your fire hazard severity.	<input type="checkbox"/> 1. Draw the boundaries of your wildfire hazard areas onto your base map.
Wildfire	<input type="checkbox"/> 1. Map the hazard.	<input type="checkbox"/> 1. Record hazard event info on your base map.
Other		

Date: *What will be affected by the hazard event?*

Determine the proportion of buildings, the value of buildings, and the population on campus that are located in hazard areas.

Hazard _____

<i>Type of Building</i>	<i>Number of Structures</i>			<i>Value of Structures</i>			<i>Number of People</i>		
	<i># on Campus</i>	<i># in Hazard Area</i>	<i>% in Hazard Area</i>	<i>\$ on Campus</i>	<i>\$ in Hazard Area</i>	<i>% in Hazard Area</i>	<i># on Campus</i>	<i># in Hazard Area</i>	<i>% in Hazard Area</i>
<i>Residential</i>									
<i>Classroom Buildings</i>									
<i>Administration</i>									
<i>Research</i>									
<i>Recreational Use</i>									
<i>Libraries</i>									
<i>Medical Facilities</i>									
<i>Dining Facilities/Auditoria</i>									
<i>Utilities</i>									

- | | Y | N |
|--|----------|----------|
| 1. <i>Do you know where the greatest damages may occur in your hazard areas?</i> | _____ | _____ |
| 2. <i>Do you know whether your critical facilities will be operational after a hazard event?</i> | _____ | _____ |
| 3. <i>Is there enough data to determine which assets are subject to the greatest potential damages?</i> | _____ | _____ |
| 4. <i>Is there enough data to determine whether significant elements of the campus are vulnerable to potential hazards?</i> | _____ | _____ |
| 5. <i>Is there enough data to determine whether certain areas of historic, environmental, political, or cultural significance are vulnerable to potential hazards?</i> | _____ | _____ |
| 6. <i>Is there concern about a particular hazard because of its severity, repetitiveness, or likelihood of occurrence?</i> | _____ | _____ |
| 7. <i>Is additional data needed to justify the expenditure of funds for mitigation initiatives?</i> | _____ | _____ |

Worksheet 6

Assess Priority Assets

Date: *What will be affected by the hazard event?*

Compile a detailed inventory of what can be damaged by a hazard event.

Inventory the assets that are of highest priority to your institution's operations that can be damaged by a hazard event.

Hazard _____

Name or Description of Asset	Sources of Information	Critical Facilities	Emergency Operations	Communications Systems	Data Systems	Laboratories	Size of Building (sq ft)	Replacement Value (\$)	Contents Value (\$)	Function or Use Value (\$)	Displacement Cost (\$ per day)	Occupancy or Capacity (#)	Other Hazard-Specific Information
		✓	✓	✓	✓	✓							

Worksheet 7

Estimate Losses

Date: _____ How will the hazard events affect you?

Note: Use FEMA 386-2 for assistance in completing this Worksheet.

Hazard _____

<i>Name/Description of Structure</i>	<i>Structure Loss</i>				<i>Contents Loss</i>					
	<i>Structure Replacement Value (\$)</i>	<i>x</i>	<i>Percent Damage (%)</i>	<i>=</i>	<i>Loss to Structure (\$)</i>	<i>Replacement Value of Contents (\$)</i>	<i>x</i>	<i>Percent Damage (%)</i>	<i>=</i>	<i>Loss to Contents (\$)</i>
	x		=			x		=		
	x		=			x		=		
	x		=			x		=		
	x		=			x		=		
	x		=			x		=		
	x		=			x		=		
	x		=			x		=		
	x		=			x		=		
Total Loss to Structure					Total Loss to Contents					

<i>Structure Use and Function Loss</i>								<i>Structure Loss + Content Loss + Function Loss (\$)</i>	
<i>Name/Description of Structure</i>	<i>Average Daily Operating Budget</i>	<i>x</i>	<i>Functional Downtime (# of days)</i>	<i>+</i>	<i>Displacement Cost per Day (\$)</i>	<i>x</i>	<i>Displacement Time (\$)</i>		<i>=</i>
		x		+		x		=	
		x		+		x		=	
		x		+		x		=	
		x		+		x		=	
		x		+		x		=	
		x		+		x		=	
		x		+		x		=	
Total Loss to Structure Use & Function									
									Total Loss for Hazard Event

Worksheet 8

Identify Mitigation Actions

Date:

Instructions: For each type of loss identified on previous worksheets, determine possible actions. Record information below.

Hazard _____

<i>Priority</i>	<i>Possible Actions (include location)</i>	<i>Sources of Information (include sources you consulted for future reference and documentation)</i>	<i>Comments (Note any initial issues you may want to discuss or research further)</i>	<i>Planning Reference (Determine into which pre-existing planning systems or activities the suggested projects can be integrated)</i>