

**APPENDIX D**

**WORKSHEETS**  
**USED IN**  
**PLANNING PROCESS**

Date:

What kinds of natural hazards can affect you?

**Task A. List the hazards that may occur.**

1. Research newspapers and other historical records
2. Review existing plans and reports.
3. Talk to the experts in your community, state, or region.
4. Gather information on Internet Websites.
5. Next to the hazard list below, put a check mark in the Task A boxes beside all hazards that may occur in your community or state.

**Task B. Focus on the most prevalent hazard in your community or state.**

1. Go to hazard Websites.
2. Locate your community or state on the Website map.
3. Determine whether you are in a high-risk area. Get more localized information if necessary.
4. Next to the hazard list below, put a check mark in the Task B boxes beside all hazards that post a significant threat.

Use this space to record information you find for each of the hazards you will be **researching**. Attach additional pages as necessary. Note: **Bolded** hazards are addressed in this How-to Guide.

	Task A	Task B
Avalanche		
<b>Coastal Erosion</b>		
<b>Coastal Storm</b>	X	
<b>Dam Failure</b>	X	
Drought	X	X
<b>Earthquake</b>	X	
Expansive Soils		
Extreme Heat	X	
<b>Flood</b>	X	X
Hailstorm	X	
<b>Hurricane</b>	X	
Land Subsidence		
<b>Landslide</b>		
Severe Winter Storm	X	X
<b>Tornado</b>	X	X
<b>Tsunami</b>		
Volcano		
<b>Wildfire</b>	X	X
Windstorm		
Lightning	X	X
Tropical Storms	X	X
Thunderstorm Winds	X	X

Hazard or Event Description (Type of hazard, date of event, number of injuries, cost and types of damage, etc.)	Source of Information	Map Available for this Hazard?	Scale of Map
Drought See Appendix A for complete information	USDA, NCDC, SHELDUS, The Sparta Ishmaelite, Palmer Index	Maps area available for the state as a whole from the Palmer Index See Appendix A	
Flood See Appendix A for this complete information	USGS, NCDC, SHELDUS, The Sparta Ishmaelite,	Flood Plain Maps are available See Appendix A	
Severe Winter Weather See Appendix A for this complete information	SERRC, NCDC, SHELDUS, The Sparta Ishmaelite,	Maps are available in Appendix A	
Hail See Appendix A for this complete information	NCDC, SHELDUS,	No map is available	
Tornado See Appendix A for this complete information	Tornado History Project, MRCC, NCDC, & SHELDUS,	Map is available See Chapter II. Section IV.	
Lightning See Appendix A for this complete information	NCDC, SHELDUS,	No map is available	
Tropical Storms See Appendix A for this complete information	NCDC, SHELDUS,	No map is available	
Thunderstorm Winds See Appendix A for this complete information	NCDC, SHELDUS,	No map is available Map is available for wind zone	
Wildfire See Appendix A for this complete information	GFC	Map is available for fire danger zones	

**MCDUFFIE COUNTY-WIDE INCLUDES ALL JURISDICTIONS  
HAZARD FREQUENCY TABLE**

Hazard	Number of Events in Historic Record	Number of Years in Historic Record	Number of Events in Past 10 Years	Number of Events in Past 20 Years	Number of Events in Past 50 Years	Historic Recurrence Interval (years)	Historic Frequency % chance/year	20 year Historic Frequency % chance/year	Past 10 Year Record Frequency Per Year	Past 20 Year Record Frequency Per Year	Past 50 Year Record Frequency Per Year
Hurricane Surge - Cat 1						#DIV/0!	#DIV/0!	0.00	0	0	0
Hurricane Surge - Cat 2						#DIV/0!	#DIV/0!	0.00	0	0	0
Hurricane Surge - Cat 3						#DIV/0!	#DIV/0!	0.00	0	0	0
Hurricane Surge - Cat 4						#DIV/0!	#DIV/0!	0.00	0	0	0
Hurricane Surge - Cat 5						#DIV/0!	#DIV/0!	0.00	0	0	0
Hurricane Wind						#DIV/0!	#DIV/0!	0.00	0	0	0
Floods	7	70	3	6	7	10.00	10.00	30.00	0.3	0.3	0.14
Wildfire	2,272	61	289	739	1,877	0.03	3724.59	3695.00	28.9	36.95	37.54
Earthquake						#DIV/0!	#DIV/0!	0.00	0	0	0
Tornado	9	70	0	5	8	7.78	12.86	25.00	0	0.25	0.16
Thunderstorm Wind	77	70	41	60	77	0.91	110.00	300.00	4.1	3	1.54
Hail	39	70	11	26	39	1.79	55.71	130.00	1.1	1.3	0.78
Drought	27	23	8	24	27	0.85	117.39	120.00	0.8	1.2	0.54
Extreme Heat						#DIV/0!	#DIV/0!	0.00	0	0	0
Snow & Ice	28	70	5	9	28	2.50	40.00	45.00	0.5	0.45	0.56
Lightning	59	63	11	21	59	1.07	93.65	105.00	1.1	1.05	1.18
Dam Failure						#DIV/0!	#DIV/0!	0.00	0	0	0
Tropical Storm	19	70	3	15	19	3.68	27.14	75.00	0.3	0.75	0.38
HazMat Release (fixed)						#DIV/0!	#DIV/0!	0.00	0	0	0
HazMat Release (trans)						#DIV/0!	#DIV/0!	0.00	0	0	0
Radiological Release						#DIV/0!	#DIV/0!	0.00	0	0	0

NOTE: The historic frequency of a hazard event over a given period of time determines the historic recurrence interval.

For example: If there have been 20 HazMat Releases in the County in the past 5 years, statistically you could expect that there will be 4 releases a year.

Realize that from a statistical standpoint, there are several variables to consider. 1) Accurate hazard history data and collection are crucial to an accurate recurrence interval and frequency. 2) Data collection and accuracy has been much better in the past 10-20 years (NCDC weather records). 3) It is important to include all significant recorded hazard events which will include periodic updates to this table.

By updating and reviewing this table over time, it may be possible to see if certain types of hazard events are increasing in the past 10-20 years.

**MCDUFFIE COUNTY UNINCORPORATED AREAS  
HAZARD FREQUENCY TABLE**

Hazard	Number of Events in Historic Record	Number of Years in Historic Record	Number of Events in Past 10 Years	Number of Events in Past 20 Years	Number of Events in Past 50 Years	Historic Recurrence Interval (years)	Historic Frequency % chance/year	20 year Historic Frequency % chance/year	Past 10 Year Record Frequency Per Year	Past 20 Year Record Frequency Per Year	Past 50 Year Record Frequency Per Year
Hurricane Surge - Cat 1						#DIV/0!	#DIV/0!	0.00	0	0	0
Hurricane Surge - Cat 2						#DIV/0!	#DIV/0!	0.00	0	0	0
Hurricane Surge - Cat 3						#DIV/0!	#DIV/0!	0.00	0	0	0
Hurricane Surge - Cat 4						#DIV/0!	#DIV/0!	0.00	0	0	0
Hurricane Surge - Cat 5						#DIV/0!	#DIV/0!	0.00	0	0	0
Hurricane Wind						#DIV/0!	#DIV/0!	0.00	0	0	0
Floods	5	70	2	3	4	14.00	7.14	15.00	0.2	0.15	0.08
Wildfire						#DIV/0!	#DIV/0!	0.00	0	0	0
Earthquake						#DIV/0!	#DIV/0!	0.00	0	0	0
Tornado	8	70	0	4	7	8.75	11.43	20.00	0	0.2	0.14
Thunderstorm Wind	33	70	19	26	33	2.12	47.14	130.00	1.9	1.3	0.66
Hail	10	70	3	3	10	0.30	333.33	15.00	0.3	0.15	0.2
Drought	27	23	8	24	27	0.85	117.39	120.00	0.8	1.2	0.54
Extreme Heat						#DIV/0!	#DIV/0!	0.00	0	0	0
Snow & Ice	28	70	5	9	28	2.50	40.00	45.00	0.5	0.45	0.56
Lightning						#DIV/0!	#DIV/0!	0.00	0	0	0
Landslide						#DIV/0!	#DIV/0!	0.00	0	0	0
Dam Failure						#DIV/0!	#DIV/0!	0.00	0	0	0
Tropical Storm	19	70	3	15	19	3.68	27.14	75.00	0.3	0.75	0.38
HazMat Release (fixed)						#DIV/0!	#DIV/0!	0.00	0	0	0
HazMat Release (trans)						#DIV/0!	#DIV/0!	0.00	0	0	0
Radiological Release						#DIV/0!	#DIV/0!	0.00	0	0	0

NOTE: The historic frequency of a hazard event over a given period of time determines the historic recurrence interval.

For example: If there have been 20 HazMat Releases in the County in the past 5 years, statistically you could expect that there will be 4 releases a year.

Realize that from a statistical standpoint, there are several variables to consider. 1) Accurate hazard history data and collection are crucial to an accurate recurrence interval and frequency. 2) Data collection and accuracy has been much better in the past 10-20 years (NCEM weather records). 3) It is important to include all significant recorded hazard events which will include periodic updates to this table.

By updating and reviewing this table over time, it may be possible to see if certain types of hazard events are increasing in the past 10-20 years.

**DEARING  
HAZARD FREQUENCY TABLE**

Hazard	Number of Events in Historic Record	Number of Years in Historic Record	Number of Events in Past 10 Years	Number of Events in Past 20 Years	Number of Events in Past 50 Years	Historic Recurrence Interval (years)	Historic Frequency % chance /year	20 year Historic Frequency % chance /year	Past 10 Year Record Frequency Per Year	Past 20 Year Record Frequency Per Year	Past 50 Year Record Frequency Per Year
Hurricane Surge - Cat 1						#DIV/0!	#DIV/0!	0.00	0	0	0
Hurricane Surge - Cat 2						#DIV/0!	#DIV/0!	0.00	0	0	0
Hurricane Surge - Cat 3						#DIV/0!	#DIV/0!	0.00	0	0	0
Hurricane Surge - Cat 4						#DIV/0!	#DIV/0!	0.00	0	0	0
Hurricane Surge - Cat 5						#DIV/0!	#DIV/0!	0.00	0	0	0
Hurricane Wind						#DIV/0!	#DIV/0!	0.00	0	0	0
Floods	3	70	2	2	3	23.33	4.29	10.00	0.2	0.1	0.06
Wildfire						#DIV/0!	#DIV/0!	0.00	0	0	0
Earthquake						#DIV/0!	#DIV/0!	0.00	0	0	0
Tornado	0	70	0	0	0	#DIV/0!	0.00	0.00	0	0	0
Thunderstorm Wind	31	70	19	23	31	2.26	44.29	115.00	1.9	1.15	0.62
Hail	10	70	2	4	10	7.00	14.29	20.00	0.2	0.2	0.2
Drought	27	23	8	24	27	0.85	117.39	120.00	0.8	1.2	0.54
Extreme Heat						#DIV/0!	#DIV/0!	0.00	0	0	0
Snow & Ice	28	70	5	9	28	2.50	40.00	45.00	0.5	0.45	0.56
Lightning						#DIV/0!	#DIV/0!	0.00	0	0	0
Landslide						#DIV/0!	#DIV/0!	0.00	0	0	0
Dam Failure						#DIV/0!	#DIV/0!	0.00	0	0	0
Tropical Storm	19	70	3	15	19	3.68	27.14	75.00	0.3	0.75	0.38
HazMat Release (fixed)						#DIV/0!	#DIV/0!	0.00	0	0	0
HazMat Release (trans)						#DIV/0!	#DIV/0!	0.00	0	0	0
Radiological Release						#DIV/0!	#DIV/0!	0.00	0	0	0

NOTE: The historic frequency of a hazard event over a given period of time determines the historic recurrence interval.

For example: If there have been 20 HazMat Releases in the County in the past 5 years, statistically you could expect that there will be 4 releases a year.

Realize that from a statistical standpoint, there are several variables to consider. 1) Accurate hazard history data and collection are crucial to an accurate recurrence interval and frequency. 2) Data collection and accuracy has been much better in the past 10-20 years (NCDC weather records). 3) It is important to include all significant recorded hazard events which will include periodic updates to this table.

By updating and reviewing this table over time, it may be possible to see if certain types of hazard events are increasing in the past 10-20 years.

**THOMSON  
HAZARD FREQUENCY TABLE**

Hazard	Number of Events in Historic Record	Number of Years in Historic Record	Number of Events in Past 10 Years	Number of Events in Past 20 Years	Number of Events in Past 50 Years	Historic Recurrence Interval (years)	Historic Frequency % chance /year	20 year Historic Frequency % chance /year	Past 10 Year Record Frequency Per Year	Past 20 Year Record Frequency Per Year	Past 50 Year Record Frequency Per Year
Hurricane Surge - Cat 1						#DIV/0!	#DIV/0!	0.00	0	0	0
Hurricane Surge - Cat 2						#DIV/0!	#DIV/0!	0.00	0	0	0
Hurricane Surge - Cat 3						#DIV/0!	#DIV/0!	0.00	0	0	0
Hurricane Surge - Cat 4						#DIV/0!	#DIV/0!	0.00	0	0	0
Hurricane Surge - Cat 5						#DIV/0!	#DIV/0!	0.00	0	0	0
Hurricane Wind						#DIV/0!	#DIV/0!	0.00	0	0	0
Floods	5	70	4	5	5	14.00	7.14	25.00	0.4	0.25	0.1
Wildfire						#DIV/0!	#DIV/0!	0.00	0	0	0
Earthquake						#DIV/0!	#DIV/0!	0.00	0	0	0
Tornado	3	70	0	2	3	23.33	4.29	10.00	0	0.1	0.06
Thunderstorm Wind	55	70	13	26	55	1.27	78.57	130.00	1.3	1.3	1.1
Hail	29	70	6	19	29	2.41	41.43	95.00	0.6	0.95	0.58
Drought	27	23	8	24	27	0.85	117.39	120.00	0.8	1.2	0.54
Extreme Heat						#DIV/0!	#DIV/0!	0.00	0	0	0
Snow & Ice	28	70	5	9	28	2.50	40.00	45.00	0.5	0.45	0.56
Lightning						#DIV/0!	#DIV/0!	0.00	0	0	0
Landslide						#DIV/0!	#DIV/0!	0.00	0	0	0
Dam Failure						#DIV/0!	#DIV/0!	0.00	0	0	0
Tropical Storm	19	70	3	15	19	3.68	27.14	75.00	0.3	0.75	0.38
HazMat Release (fixed)						#DIV/0!	#DIV/0!	0.00	0	0	0
HazMat Release (trans)						#DIV/0!	#DIV/0!	0.00	0	0	0
Radiological Release						#DIV/0!	#DIV/0!	0.00	0	0	0

NOTE: The historic frequency of a hazard event over a given period of time determines the historic recurrence interval.

For example: If there have been 20 HazMat Releases in the County in the past 5 years, statistically you could expect that there will be 4 releases a year.

Realize that from a statistical standpoint, there are several variables to consider. 1) Accurate hazard history data and collection are crucial to an accurate recurrence interval and frequency. 2) Data collection and accuracy has been much better in the past 10-20 years (NCDC weather records). 3) It is important to include all significant recorded hazard events which will include periodic updates to this table.

By updating and reviewing this table over time, it may be possible to see if certain types of hazard events are increasing in the past 10-20 years.

### GEMHSA Worksheet #3a

### Inventory of Assets

**Jurisdiction: McDuffie County All Jurisdictions**

**Hazard: Drought, Wildfire, Tornadoes, Tropical Storms, Severe Weather, and Winter Storms**

**Task A. Determine the proportion of buildings, the value of buildings, and the population in your community or state that are located in hazard areas.**

Type of Structure (Occupancy Class)	Number of Structures			Value of Structures			Number of People		
	# in Community of State	# in Hazard Area	% in Hazard Area	\$ in Community or State	\$ in Hazard Area	% in Hazard Area	# in Community or State	# in Hazard Area	% in Hazard Area
Residential	26,409	26,409	100%	\$734,368,050	\$734,368,050	100%	21,455	21,455	100%
Commercial	2,400	2,400	100%	\$281,637,993	\$281,637,993	100%	21,455	21,455	100%
Industrial	158	158	100%	\$270,334,803	\$270,334,803	100%	6,224	6,224	100%
Agricultural	2,972	2,972	100%	\$316,998,400	\$316,998,400	100%	280	280	100%
Religious/ Non-profit	184	184	100%	\$52,429,515	\$52,429,515	100%	21,455	21,455	100%
Government	236	236	100%	\$126,465,143	\$126,465,143	100%	1,136	1,136	100%
Education	33	33	100%	\$16,564,978	\$16,564,978	100%	4,074	4,074	100%
Utilities	37	37	100%	\$100,624,933	\$100,624,933	100%	11	11	100%
<b>Total</b>	<b>32,429</b>	<b>32,429</b>	<b>100%</b>	<b>\$1,899,423,813</b>	<b>\$1,899,423,813</b>	<b>100%</b>	<b>21,455</b>	<b>21,455</b>	<b>100%</b>

**Task B. Determine whether (and where) you want to collect additional inventory data.**

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

### GEMHSA Worksheet #3a

### Inventory of Assets

Jurisdiction: McDuffie County All Jurisdictions

Hazard: Flood

**Task A. Determine the proportion of buildings, the value of buildings, and the population in your community or state that are located in hazard areas.**

Type of Structure (Occupancy Class)	Number of Structures			Value of Structures			Number of People		
	# in Community of State	# in Hazard Area	% in Hazard Area	\$ in Community or State	\$ in Hazard Area	% in Hazard Area	# in Community or State	# in Hazard Area	% in Hazard Area
Residential	26,409	428	1.62%	\$734,368,050	\$11,901,606	2%	21,455	384	100%
Commercial	2,400	0	0.00%	\$281,637,993	\$0	0%	21,455	0	0%
Industrial	158	10	6.33%	\$270,334,803	\$17,109,798	6%	6,224	0	0%
Agricultural	2,972	549	18.47%	\$316,998,400	\$58,557,241	18%	280	24	9%
Religious/ Non-profit	184	0	0.00%	\$52,429,515	\$0	0%	21,455	0	0%
Government	236	13	5.51%	\$126,465,143	\$6,966,300	6%	1,136	4	0%
Education	33	0	0.00%	\$16,564,978	\$0	0%	4,074	0	0%
Utilities	37	2	5.41%	\$100,624,933	\$5,439,186	5%	11	0	0%
<b>Total</b>	<b>32,429</b>	<b>1,002</b>	<b>3.09%</b>	<b>\$1,899,423,813</b>	<b>\$99,974,131</b>	<b>5%</b>	<b>21,455</b>	<b>412</b>	<b>2%</b>

**Task B. Determine whether (and where) you want to collect additional inventory data.**

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



### GEMHSA Worksheet #3a

### Inventory of Assets

**Jurisdiction: McDuffie County Unincorporated**

**Hazard: Drought, Wildfire, Tornadoes, Tropical Storms, Severe Weather, and Winter Storms**

**Task A. Determine the proportion of buildings, the value of buildings, and the population in your community or state that are located in hazard areas.**

Type of Structure (Occupancy Class)	Number of Structures			Value of Structures			Number of People		
	# in Community of State	# in Hazard Area	% in Hazard Area	\$ in Community or State	\$ in Hazard Area	% in Hazard Area	# in Community or State	# in Hazard Area	% in Hazard Area
Residential	19,445	19,445	100%	\$548,155,483	\$548,155,483	100%	14,238	14,238	100%
Commercial	1,178	1,178	100%	\$143,915,513	\$143,915,513	100%	14,238	14,238	100%
Industrial	136	136	100%	\$267,834,040	\$267,834,040	100%	5,056	5,056	100%
Agricultural	2,947	2,947	100%	\$314,089,865	\$314,089,865	100%	260	260	100%
Religious/ Non-profit	123	123	100%	\$41,053,770	\$41,053,770	100%	14,238	14,238	100%
Government	111	111	100%	\$53,062,968	\$53,062,968	100%	221	221	100%
Education	13	13	100%	\$26,630	\$26,630	100%	943	943	100%
Utilities	16	16	100%	\$87,871,340	\$87,871,340	100%	7	7	100%
<b>Total</b>	<b>23,969</b>	<b>23,969</b>	<b>100%</b>	<b>\$1,456,009,608</b>	<b>\$1,456,009,608</b>	<b>100%</b>	<b>14,238</b>	<b>14,238</b>	<b>100%</b>

**Task B. Determine whether (and where) you want to collect additional inventory data.**

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

### GEMHSA Worksheet #3a

### Inventory of Assets

Jurisdiction: McDuffie County Unincorporated

Hazard: Flood

**Task A. Determine the proportion of buildings, the value of buildings, and the population in your community or state that are located in hazard areas.**

Type of Structure (Occupancy Class)	Number of Structures			Value of Structures			Number of People		
	# in Community of State	# in Hazard Area	% in Hazard Area	\$ in Community or State	\$ in Hazard Area	% in Hazard Area	# in Community or State	# in Hazard Area	% in Hazard Area
Residential	19,445	412	2%	\$548,155,483	\$11,614,300	2%	14,238	359	3%
Commercial	1,178	0	0%	\$143,915,513	\$0	0%	14,238	0	0%
Industrial	136	5	4%	\$267,834,040	\$9,846,840	4%	5,056	0	0%
Agricultural	2,947	542	18%	\$314,089,865	\$57,766,103	18%	260	24	9%
Religious/ Non-profit	123	0	0%	\$41,053,770	\$0	0%	14,238	0	0%
Government	111	8	7%	\$53,062,968	\$3,824,358	7%	221	4	2%
Education	13	0	0%	\$26,630	\$0	0%	943	0	0%
Utilities	16	0	0%	\$87,871,340	\$0	0%	7	0	0%
<b>Total</b>	<b>23,969</b>	<b>967</b>	<b>4%</b>	<b>\$1,456,009,608</b>	<b>\$83,051,601</b>	<b>6%</b>	<b>14,238</b>	<b>387</b>	<b>3%</b>

**Task B. Determine whether (and where) you want to collect additional inventory data.**

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

## GEMHSA Worksheet #3a

## Inventory of Assets

**Jurisdiction: Dearing**

**Hazard: Drought, Wildfire, Tornadoes, Tropical Storms, Severe Weather, and Winter Storms**

**Task A. Determine the proportion of buildings, the value of buildings, and the population in your community or state that are located in hazard areas.**

Type of Structure (Occupancy Class)	Number of Structures			Value of Structures			Number of People		
	# in Community of State	# in Hazard Area	% in Hazard Area	\$ in Community or State	\$ in Hazard Area	% in Hazard Area	# in Community or State	# in Hazard Area	% in Hazard Area
Residential	738	738	100%	\$18,364,863	\$18,364,863	100%	624	624	100%
Commercial	58	58	100%	\$4,050,593	\$4,050,593	100%	624	624	100%
Industrial	9	9	100%	\$993,953	\$993,953	100%	36	36	100%
Agricultural	17	17	100%	\$1,753,660	\$1,753,660	100%	14	14	100%
Religious/ Non-profit	7	7	100%	\$719,043	\$719,043	100%	624	624	100%
Government	15	15	100%	\$2,009,553	\$2,009,553	100%	175	175	100%
Education	2	2	100%	\$3,144,423	\$3,144,423	100%	594	594	100%
Utilities	8	8	100%	\$1,304,308	\$1,304,308	100%	1	1	100%
<b>Total</b>	<b>854</b>	<b>854</b>	<b>100%</b>	<b>\$32,340,393</b>	<b>\$32,340,393</b>	<b>100%</b>	<b>624</b>	<b>624</b>	<b>100%</b>

**Task B. Determine whether (and where) you want to collect additional inventory data.**

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

**GEMHSA Worksheet #3a**  
**Jurisdiction: Dearing**  
**Hazard: Flood**

**Inventory of Assets**

**Task A. Determine the proportion of buildings, the value of buildings, and the population in your community or state that are located in hazard areas.**

Type of Structure (Occupancy Class)	Number of Structures			Value of Structures			Number of People		
	# in Community of State	# in Hazard Area	% in Hazard Area	\$ in Community or State	\$ in Hazard Area	% in Hazard Area	# in Community or State	# in Hazard Area	% in Hazard Area
Residential	738	0	0.00%	\$18,364,863	0	0.00%	624	0	0%
Commercial	58	0	0.00%	\$4,050,593	\$0	0.00%	624	0	0%
Industrial	9	0	0.00%	\$993,953	\$0	0.00%	36	0	0%
Agricultural	17	3	17.65%	\$1,753,660	\$770,744	43.95%	14	0	0%
Religious/ Non-profit	7	0	0.00%	\$719,043	\$0	0.00%	624	0	0%
Government	15	0	0.00%	\$2,009,553	\$0	0.00%	175	0	0%
Education	2	0	0.00%	\$3,144,423	\$0	0.00%	594	0	0%
Utilities	8	0	0.00%	\$1,304,308	\$0	0.00%	1	0	0%
<b>Total</b>	<b>854</b>	<b>3</b>	<b>0.35%</b>	<b>\$32,340,393</b>	<b>\$770,744</b>	<b>2.38%</b>	<b>624</b>	<b>0</b>	<b>0%</b>

**Task B. Determine whether (and where) you want to collect additional inventory data.**

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

## GEMHSA Worksheet #3a

## Inventory of Assets

**Jurisdiction: Thomson**

**Hazard: Drought, Wildfire, Tornadoes, Tropical Storms, Severe Weather, and Winter Storms**

**Task A. Determine the proportion of buildings, the value of buildings, and the population in your community or state that are located in hazard areas.**

Type of Structure (Occupancy Class)	Number of Structures			Value of Structures			Number of People		
	# in Community of State	# in Hazard Area	% in Hazard Area	\$ in Community or State	\$ in Hazard Area	% in Hazard Area	# in Community or State	# in Hazard Area	% in Hazard Area
Residential	6,226	6,226	100%	\$167,847,705	167,847,705	100%	6,593	6,593	100%
Commercial	1,164	1,164	100%	\$133,671,888	\$133,671,888	100%	6,593	6,593	100%
Industrial	13	13	100%	1,506,810	\$1,506,810	100%	1,132	1,132	100%
Agricultural	8	8	100%	1,154,875	\$1,154,875	100%	6	6	100%
Religious/ Non-profit	54	54	100%	\$10,656,703	\$10,656,703	100%	6,593	6,593	100%
Government	110	110	100%	\$71,392,623	\$71,392,623	100%	740	740	100%
Education	18	18	100%	13,393,925	\$13,393,925	100%	2,527	2,527	100%
Utilities	13	13	100%	11,449,285	\$11,449,285	100%	3	3	100%
<b>Total</b>	<b>7,606</b>	<b>7,606</b>	<b>100%</b>	<b>\$411,073,814</b>	<b>\$411,073,814</b>	<b>100%</b>	<b>6,593</b>	<b>6,593</b>	<b>100%</b>

**Task B. Determine whether (and where) you want to collect additional inventory data.**

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

# GEMHSA Worksheet #3a

# Inventory of Assets

**Jurisdiction: Thomson**

**Hazard: Flood**

**Task A. Determine the proportion of buildings, the value of buildings, and the population in your community or state that are located in hazard areas.**

Type of Structure (Occupancy Class)	Number of Structures			Value of Structures			Number of People		
	# in Community of State	# in Hazard Area	% in Hazard Area	\$ in Community or State	\$ in Hazard Area	% in Hazard Area	# in Community or State	# in Hazard Area	% in Hazard Area
Residential	6,226	16	0%	\$167,847,705	\$211,669	0.13%	6,593	25	0.38%
Commercial	1,164	0	0%	\$133,671,888	\$0	0.00%	6,593	0	0.00%
Industrial	13	5	38%	\$1,506,810	\$302,400	20.07%	1,132	0	0.00%
Agricultural	8	4	50%	\$1,154,875	\$350,000	30.31%	6	0	0.00%
Religious/ Non-profit	54	0	0%	\$10,656,703	\$0	0.00%	6,593	0	0.00%
Government	110	5	5%	\$71,392,623	\$152,410	0.21%	740	0	0.00%
Education	18	0	0%	\$13,393,925	\$0	0.00%	2,527	0	0.00%
Utilities	13	2	15%	\$11,449,285	\$155,212	1.36%	3	0	15.38%
<b>Total</b>	<b>7,606</b>	<b>32</b>	<b>0%</b>	<b>\$243,226,108</b>	<b>\$1,171,691</b>	<b>0.48%</b>	<b>6,593</b>	<b>25</b>	<b>0.38%</b>

**Task B. Determine whether (and where) you want to collect additional inventory data.**

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

STAPLEE Criteria	S	T	A	P	L	E	E	Comments
Considerations → for Alternative Actions								
Install surge protectors on critical facilities' electronic equipment in essential county and city facilities.	+		-	+		+	+	
Review current Emergency Response Plan and update when needed.	+	+	+	+		+	+	
Review current evacuation plans paying particular attention to vulnerable populations and update as needed.	+	+	+	+		+	+	
Develop a public awareness program about the installation of lightning grounding systems on critical infrastructure, residential and business properties.	+		+	+		+	+	
Inventory all critical facilities and assess generator needs. Install generators where needed.	+		+	+		+	+	
Seek funding to ensure all current and future emergency shelters have back-up generators.	+		+	+		+	+	
Educate the public on shelter locations and evacuation routes	+		+	+		+	+	
Develop public education and awareness programs regarding severe weather events to include home safety measures, purchase of weather radio and personal safety measures before, during and after an event.	+		+	+		+	+	
Implement a winter storm education program to include winterization of home and/or business and what to do before, during and after.	+		+	+		+	+	
Review current codes to comply with and enforce the State building code with criteria for design snow load for buildings and structures.	+		+	+		+	+	
Create a data base to record hazard event information.	+	+	+	+		+	+	
Inventory existing road equipment and purchase needed equipment to maintain roads before, during and after a hazard event.	+		-	+		+	+	
Develop coordinated management strategies for deticing, snow plowing, and clearing roads of fallen trees and debris	+		+	+		+	+	
Promote the construction of safe rooms in shelter areas and in public buildings.	+		-	+		+	+	
Update 911 equipment as needed.	+		+	+		+	+	
Request that all new education facilities be designed to serve as public shelters for emergency purposes.	+		-	+		+	+	
Promote and participate American Red Cross Disaster Resistant Neighborhoods Program	+		+	+		+	+	
Promote and Participate in Community Disaster Education Preparedness presentations	+		-	+		+	+	
Work with local cable and radio providers to enhance and broadcast public education on Emergency Preparedness.	+			+		+	+	

STAPLEE Criteria	S	T	A	P	L	E	E	Comments
Considerations → for Alternative Actions								
Investigate greater participation level in the CRS								
Investigate greater participation level in the CRS	+	+						
Continue to assess storm water runoff.								
Construct as needed, more storm water retention facilities, storm drain improvements and channel improvements to protect existing and new developments.								
Clear run-off and water retention ditches.	+	+						
Seek funding for communication towers and voice repeater systems.	+	+						
Promote the preservation of areas in and around watercourses.								
Add greenspace to known flood prone areas.								
Evaluate existing water system upgrade as needed								
Investigate methods to reduce non-point source pollution.	+	+						
Enact a program to educate the residents about water conservation issues	+	+						
Increase public awareness of watering restrictions and bans.								
Develop a public awareness campaign to promote water-saving campaigns (i.e. low-flow water saving devices)	+	+						
Continue training of all firefighters to include wildland fire training.	+	+						
Seek funding for needed firefighting equipment	+	+						
Inventory and replace or install more fire hydrants as needed.	+	+						
Enforce defensible space (30-ft minimum setbacks) between buildings and flammable brush and forestland where possible.								
Continue following GFC service of construction and maintenance of firebreaks around forests and structures, along abandoned roadbeds.	+	+						
Strictly follow GFC's guidelines for control burns and permits.	+	+						
Investigate the feasibility of implementing the Firewise Community Initiative where appropriate								
Improve public awareness of wildfire techniques and awareness of wildfire dangers.								
Equip all county and city recreation parks with adequate early severe weather warning and lightning detection devices.								
Inspects public buildings and critical facilities and retrofit to reinforce windows, doors, and roofs as needed								
Enforce building codes for all new buildings and critical facilities.								
Install lightning rods in high value critical facilities.	+	+						



STAPLEE Criteria	S	T	A	P	L	E	E
	(Social)	(Technical)	(Administrative)	(Political)	(Legal)	(Economic)	(Environmental)
Considerations → for Alternative Actions ↓	Community Acceptance						
	Effect on Segment of Population						
Implement GIS technology on fire and emergency management vehicles so data can be readily available in the field so more accurate, timely assessments for future mitigation planning activities.	Technical Feasibility	+					
	Long-term Solution	+					
Seek funding to purchase ambulance	Secondary Impacts						
	Staffing						
Pave Roads in county that are unpassable due to flooding	Funding Allocated	+					
	Maintenance / Operations	+					
Provide NOAA weather radios to elderly and handicap populations (moved to all hazards).	Political Support	+					
	Local Champion						
Review existing comprehensive, development and land use plans to address flood prone areas.	Public Support						
	State Authority						
	Existing Local Authority						
	Potential Legal Challenge						
	Benefit of Action	+					
	Cost of Action	+					
	Contributes to Economic Goals						
	Outside Funding Required						
	Effect on Land / Water						+
	Effect on Endangered Species						
	Effect on HAZMAT / Waste Sites						
	Consistent with Community Environmental Goals						
	Consistent With Federal Laws						
	Alternative Actions						
	Alternative Actions						
	Comments						

**Facility Name**

**Location**

Longitude

Latitude

Location Method:

- Geocode     GPS  
 GPS-closed     GPS - dnr  
 Manual add

Address 1:

Address 2:  
(PO BOX)

City:

Zip:

Jurisdiction:

Daytime Occupancy:

Night Occupancy:

**Building Value**

Number of Stories:

Functional Use Value:

Year Constructed:

Displacement Cost Per Day:

Area Sq Ft:

Contents Value:

Bldg Value:

Contents Value Year:

Valuation Year:

Contents Description:

Building Valuation Type:

0 = Unknown

1 = Market Value

2 = Assessed Value

3 = Replacement Value

99 = Other

\*Mark any or all that apply. See back of page for details.

- Essential Facility
  - Transportation Facility
  - Lifeline System
  - High Potential Loss
  - HazMat Facility
  - Important Facility
  - Vulnerable Population
  - Economic Asset
  - Special Consideration
  - Historical Consideration
  - Other Facility
- Other Details:

**See back of page for codes.**

Building Type Code:

Occupancy Code:

\*Choose Only One Facility Type

**Facility Type:**

- Pre-kindergarten
- Kindergarten
- Primary School
- Elementary School
- Middle School
- Middle/High School
- High School, Public
- Private School
- Other School
- Alternative Division
- Alternative School
- Private Two-Year College
- Private Four-Year College
- Public Four-Year College
- Private University
- Public University
- Public Vocational Technical School
- Psychoeducational
- Adult Edu. Center
- Airport
- City Hall
- City Jail
- County Correctional Institution
- County Jail
- Courthouse
- Federal Penitentiary
- Fire Station
- Wastewater Treatment Plant
- Water System
- C and D Construction and Demolition Landfill
- L (Dry Trash) Landfill
- MSWL (Municipal Solid Waste Landfill)
- SL (Sanitary Waste) Landfill
- Recycling Center
- Transfer Station
- Hospital, Admissions Entrance
- Hospital, Emergency Entrance
- Library
- Marshals Office
- Police Station
- Sheriffs Office
- Emergency Services
- State Prison
- Other

# MCDUFFIE COUNTY HAZARD MITIGATION PLAN UPDATE

## Documentation of Labor Match

NAME (Please Print): \_\_\_\_\_

ORGANIZATION: \_\_\_\_\_

DATE(S): \_\_\_\_\_

EVENT: Hazard Mitigation Plan Update

HOURLY SALARY: \_\_\_\_\_

BENEFITS PER HOUR: \_\_\_\_\_

HOURS CONTRIBUTED (Include travel time): \_\_\_\_\_

TOTAL LABOR MATCH: \_\_\_\_\_

(Hourly Salary + Benefits Per Hour) X Hours Contributed = Total Labor Match

SIGNATURE: \_\_\_\_\_

(FORM IS NOT VALID WITHOUT SIGNATURE)

***"I authorize GEMA/HS to use the value identified for federal costs sharing matching purposes and do not otherwise believe that I am currently paid with federal funds or that my salary is being used to satisfy any other federal costs sharing obligation."***

For use by Committee Members (e.g. EMA Director, County Engineer ...)

**Building Type Code:**

- C1 = Concrete Moment Frame
- C2 = Concrete Shear Walls
- C3 = Concrete Frame with Unreinforced Masonry Infill Walls
- MH = Manufactured Housings
- O = Other Building Type
- P1 = Precast Concrete Tilt-Up Walls
- P2 = Precast Concrete Frames with Cast-in-Place Concrete Shear Walls
- RM1 = Reinforced Masonry Bearing Walls with Wood or Metal Deck Diaphragms
- RM2 = Reinforced Masonry Bearing Walls with Precast Concrete Diaphragms
- S1 = Steel Moment Frame
- S2 = Steel Braced Frame
- S3 = Steel Light Frame
- S4 = Steel Frame with Cast-in-Place Concrete Shear Walls
- S5 = Steel Frame with Unreinforced Masonry Infill Walls
- URM = Unreinforced Masonry Bearing Walls
- UNK = Unknown Building Type

**Definitions:**

**Essential Facility**  
An essential facility is a critical facility that is essential to the health and welfare of the population. The potential consequences of losing functions or services from this type of facility are higher than any other type of structures. Interruption or loss of function from these types of facilities would jeopardize human life and public safety. Essential facilities include: hospitals and other medical facilities, police and fire stations, emergency operations centers, evacuation shelters and schools, and other structures that house first responder equipment or personnel.

**Transportation Systems**  
Transportation infrastructure or facilities. Examples include: Airways: airports, heliports, Highways: bridges, tunnels, roadbeds, overpasses, transfer stations. Railways: tracks, tunnels, bridges, rail yards, depots, switching stations. Waterways: canals, locks, ports, ferries, dry-docks, piers.

**Lifeline System**  
Corridors of flow for equipment, supplies and services. Transportation systems can also be Lifeline Systems. The best physical example of a lifeline would be a bridge and right-of-way that could include utilities and communication. Examples include: potable water, wastewater, oil, natural gas, electric power, and communication.

**Occupancy Code:**

- AGR1 = Agriculture Facilities and Offices
- COM1 = Retail Trade
- COM2 = Wholesale Trade
- COM3 = Personal and Repair Services
- COM4 = Professional/Technical Services
- COM5 = Banks
- COM6 = Hospital
- COM7 = Medical Office and Clinic
- COM8 = Entertainment, Recreation
- COM9 = Theaters
- COM10 = Parking Garages
- EDU1 = Grade Schools and Admin. Offices
- EDU2 = Colleges and Universities
- GOV1 = Government - General Services
- GOV2 = Government - Emergency Response
- UNK = Unknown

**High Potential Loss Facility**

Facilities that would have a high human loss associated with their damage or failure. Examples include: nuclear power plants, dams and military installations.

**Hazardous Materials Facility**

Facilities that produce or house industrial/hazardous materials, such as corrosives, explosives, flammable materials, radioactive materials, and toxins. Check to see if your county has a Local Emergency Planning Committee (LEPC) and an existing Hazardous Material listing.

**Important Facility**

These types of facilities are vital for overall day to day community functions, and ensure full recovery in the wake of a hazard or disaster event. Examples include: government buildings and functions, major employers in the area, bank and financial institutions, non-nuclear power generators, certain commercial establishments such as grocery stores, hardware stores and gas stations, technical schools, colleges, and universities.

**Vulnerable Population**

Is there a vulnerable human population that occupies the structure that would need special assistance, medical care or other actions before, during or after a hazard event or disaster? Examples include: elderly people, jail populations, people with mental, physical or mobility problems, and non-English speaking populations.

**Economic Assets**

Larger economic assets that are vital to the prosperity of the community. Examples include major employers and financial centers in your community or area that impact the local or regional economy if significantly disrupted.

**Special Considerations**

High-density areas (residential or commercial development), if damaged or impacted in a hazard event or disaster, could result in high death tolls or injury rates. Examples include: larger factories or industries, large vertical apartment or housing complexes.

**Historic Considerations**

Historic, cultural or natural resources, including structures and areas that are identified and protected under state or federal law. Examples include: state parks, federal parks, museums and historic districts.

**Other Facilities**

Any other significant locally identified facility that does not fit into another category of those listed above.

**Comments:**

**EXHIBIT "H"**

Date: \_\_\_\_\_

**XYZ County PDM Progress Payment Request**

**Instructions:** All requests for progress payments must be supported by documentation supporting actual expenditures. Itemize each expenditure below to the fullest detail possible, including a reference to specific sites or elements of work. Attach documentation that supports this progress payment request, such as copies of bills of sale, invoices, receipts, and canceled checks evidencing payment. Do not send originals. As project administrative costs are calculated on a sliding scale, do not include this in your request for payment. Attach a continuation sheet if necessary.

AGREEMENT NUMBER \_\_\_\_\_

FEMA Project Number \_\_\_\_\_

SUBGRANTEE NAME: XYZ County

(FIPs code) ID. Number: \_\_\_\_\_

Site Reference or Element of Work	Approved Amount	Previous Payment	Current Request	Description of Documentation Attached in Support of this Payment Request
(from continuation sheet attached) <b>SUBTOTAL</b>				
<b>TOTAL</b>				
<b>Less Subgrantee Share (25% ) or 15% if State match is applicable)</b>				
<b>Less State Share if applicable (10%)</b>				
<b>NET AMOUNT REQUESTED</b>				

Under penalty of perjury, I certify that to the best of my knowledge and belief the data above are correct and that all outlays were made in accordance with the grant conditions or other agreement, comply with procurement regulations contained within the 44 CFR, Part 13, and that payment is due and has not been previously requested. I am familiar with Section 317 of Public Law 93-288, as amended by the Robert T. Stafford Disaster Relief and Emergency Assistance Act. I understand that any part of this payment request that is not supported by cost documents and/or expended within the scope of the approved project will be refunded to the State of Georgia within 30 days of receiving the deobligation notice.

\_\_\_\_\_  
Signature of Subgrantee's Authorized Representative (and printed name)

## Georgia Emergency Management Agency Labor Expense Summary

1. APPLICANT

2. Disaster Number

3. Period Covering

Page Of

4. Purpose/Work Performed

5. Program

STAFF		DATES AND HOURS WORKED							COSTS			
NAME	TITLE	DATE	Hours	DATE	Hours	DATE	Hours	DATE	Hours	TOTAL HOURS	HOURLY RATE	TOTAL COSTS
NAME	TITLE	Hours								0	\$ -	\$ -
NAME	TITLE	Hours								0	\$ -	\$ -
NAME	TITLE	Hours								0	\$ -	\$ -
NAME	TITLE	Hours								0	\$ -	\$ -
NAME	TITLE	Hours								0	\$ -	\$ -
NAME	TITLE	Hours								0	\$ -	\$ -
NAME	TITLE	Hours								0	\$ -	\$ -
NAME	TITLE	Hours								0	\$ -	\$ -
NAME	TITLE	Hours								0	\$ -	\$ -
NAME	TITLE	Hours								0	\$ -	\$ -
<b>Total Cost for Labor Time</b>											\$	-

I CERTIFY THAT THE ABOVE INFORMATION WAS OBTAINED FROM PAYROLL RECORDS, INVOICES OR OTHER DOCUMENTS THAT ARE AVAILABLE FOR AUDIT.

I CERTIFY THAT THE ABOVE COSTS ARE NOT BEING USED FOR LOCAL MATCH FOR ANOTHER FEDERAL GRANT.

Signature

TITLE

DATE