

Section 1: Introduction

1.1	Purpose	1-1
1.2	Plan Scope	1-2
1.3	Plan Update Summary	1-2
1.4	Plan Requirements	1-2
1.5	Disaster Declaration History	1-4
1.6	Multi-Jurisdictional Planning	1-5
1.7	Conceptual Underpinnings	1-6
1.8	Mitigation in Relation to Other Emergency Management Activities	1-7
1.9	Terminology	1-8
1.9.1	Hazard and Risk	1-8
1.9.2	Weather and Climate	1-8
1.9.3	Disaster Impacts and Losses	1-9
1.10	Hazard Mitigation Project Funding	1-10
1.11	Sustainability, Resilience, and Natural Hazard Mitigation	1-11
1.12	Relationship to Other Regional and Community Plans	1-12
1.12.1	Comprehensive Planning	1-12
1.12.2	Yahara Lakes Advisory Group 2 (YLAG2)	1-13
1.12.3	Dane County Sustainable Operations Plan	1-13
1.12.4	Dane County Climate Action Plan	1-14
1.12.5	Stormwater Technical Advisory Committee	1-15

Section 2: Planning Process

2.1	Plan Requirements	2-1
2.2	Planning Process Overview	2-1
2.3	Hazard Mitigation Planning Team	2-2
2.4	Local Jurisdiction Participation	2-2
2.4.1	Countywide Local Jurisdiction Planning Team	2-3
2.5	Planning Process	2-5
2.6	Public Involvement	2-5
2.6.1	Public Meetings	2-6
2.6.2	Yahara Watershed Ecosystem Survey	2-7
2.6.3	Climate Change Action Council Public Meetings	2-7
2.7	Coordination with Other Community Planning Efforts	2-7

Section 3: Dane County Profile

3.1	Physical Description	3-1
3.1.1	Geography	3-1
3.1.2	Surface Waters	3-1
3.1.3	Major Drainage Basins	3-5
3.1.4	Environmentally Sensitive Areas	3-7

3.2	Climate	3-12
3.2.1	Climate Change Trends	3-12
3.3	Population and Demographics	3-13
3.3.1	Population	3-14
3.3.2	Age Trends	3-16
3.3.3	Income Trends	3-17
3.3.4	People with Disabilities	3-18
3.3.5	Ethnicity and Language	3-18
3.3.6	Growth and Development Trends	3-19
3.4	Housing Growth	3-20
3.4.1	Housing Growth	3-20
3.4.2	Future Housing Production	3-20
3.5	Economy	3-21
3.6	Land Use	3-22
3.6.1	Urban Service Areas	3-25
3.7	Critical Facilities	3-27
3.7.1	Essential Infrastructure	3-27
3.7.2	Vulnerable Facilities	3-29

Section 4: Risk Assessment

4.1	Overview	4-1
4.1.1	Hazard Identification	4-2
4.1.2	Hazard Rankings and Priorities	4-2
4.1.3	Risk Assessment Methodology	4-3
4.2	Dam Failure	4-4
4.2.1	Description	4-4
4.2.2	Impact of Climate Change on Future Conditions	4-7
4.2.3	Risk Assessment	4-7
4.3	Drought	4-10
4.3.1	Description	4-10
4.3.2	Impact of Climate Change on Future Conditions	4-15
4.3.3	Impact Assessment	4-15
4.3.4	Vulnerability Assessment	4-17
4.3.5	Potential for Future Losses	4-17
4.4	Extreme Cold/Wind Chill	4-18
4.4.1	Description	4-18
4.4.2	Impact of Climate Change on Future Conditions	4-22
4.4.3	Impact Assessment	4-22
4.4.4	Vulnerability Assessment	4-23
4.4.5	Potential for Future Losses	4-23

4.5	Extreme Heat	4-24
4.5.1	Description	4-24
4.5.2	Impact of Climate Change on Future Conditions	4-28
4.5.3	Impact Assessment	4-29
4.5.4	Vulnerability Assessment	4-29
4.5.5	Potential for Future Losses	4-30
4.6	Flood	4-32
4.6.1	Description	4-32
4.6.2	Impact of Climate Change on Future Conditions	4-48
4.6.3	Impact Assessment	4-50
4.6.4	Vulnerability Assessment	4-53
4.6.5	Potential for Future Losses	4-53
4.7	Fog	4-75
4.7.1	Description	4-75
4.7.2	Impact of Climate Change on Future Conditions	4-77
4.7.3	Impact Assessment	4-77
4.7.4	Vulnerability Assessment	4-78
4.7.5	Potential for Future Losses	4-78
4.8	Hail	4-79
4.8.1	Description	4-79
4.8.2	Impact of Climate Change on Future Conditions	4-81
4.8.3	Impact Assessment	4-81
4.8.4	Vulnerability Assessment	4-82
4.8.5	Potential for Future Losses	4-82
4.9	Landslides, Erosion, and Sinkholes	4-83
4.9.1	Description	4-83
4.9.2	Impact of Climate Change on Future Conditions	4-87
4.9.3	Impact Assessment	4-87
4.9.4	Vulnerability Assessment	4-88
4.9.5	Potential for Future Losses	4-88
4.10	Lightning	4-89
4.10.1	Description	4-89
4.10.2	Impact of Climate Change on Future Conditions	4-91
4.10.3	Impact Assessment	4-91
4.10.4	Vulnerability Assessment	4-92
4.10.5	Potential for Future Losses	4-93
4.11	Tornado	4-94
4.11.1	Description	4-94
4.11.2	Impact of Climate Change on Future Conditions	4-101
4.11.3	Impact Assessment	4-101

4.11.4	Vulnerability Assessment	4-103
4.11.5	Potential for Future Losses	4-103
4.12	Wildfire	4-110
4.12.1	Description	4-110
4.12.2	Impact of Climate Change on Future Conditions	4-112
4.12.3	Impact Assessment	4-112
4.12.4	Vulnerability Assessment	4-112
4.12.5	Potential for Future Losses	4-113
4.13	Windstorm	4-114
4.13.1	Description	4-114
4.13.2	Impact of Climate Change on Future Conditions	4-116
4.13.3	Impact Assessment	4-117
4.13.4	Vulnerability Assessment	4-118
4.13.5	Potential for Future Losses	4-118
4.14	Winter Storm	4-120
4.14.1	Description	4-120
4.14.2	Impact of Climate Change on Future Conditions	4-123
4.14.3	Impact Assessment	4-124
4.14.4	Vulnerability Assessment	4-125
4.14.5	Potential for Future Losses	4-127
4.15	Emerging Hazards	4-128
4.15.1	Description	4-128
4.15.2	Impact and Vulnerability Assessment	4-129
4.16	Risk Summary	4-130
4.16.1	Hazard Ranking	4-130
4.16.2	Summary of Key Trends and Issues	4-133
4.16.3	Catastrophic Scenarios	4-138
4.16.4	Individual Perceptions of Risk of Natural Hazards	4-140

Section 5: Mitigation Strategy

5.1	Plan Requirements	5-1
5.2	Capability Assessment	5-1
5.2.1	Regulatory Authority	5-2
5.2.2	Non-Regulatory Actions	5-3
5.3	Natural Hazard Mitigation Goals and Objectives	5-3
5.3.1	Mitigation Strategy	5-3
5.3.2	Mitigation Goals	5-3
5.3.3	Mitigation Objectives	5-4
5.4	Mitigation Alternatives	5-29
5.4.1	Residential Property Protection Measures	5-29

5.4.2	Commercial Property Protection Measures	5-36
5.4.3	Stormwater Management Strategies	5-39
5.4.4	Flood Impact on Roads	5-41
5.4.5	Other Water Management Strategies	5-42
5.4.6	Urban Heat Island Mitigation	5-44
5.4.7	Information and Educations	5-45
5.5	Samples of Success	5-45
5.6	Implementation	5-46
5.6.1	Project Feasibility and Effectiveness	5-46
5.6.2	Continued Public Involvement	5-48
5.6.3	Funding Assistance	5-48
Section 6: Plan Review and Monitoring		
6.1	Plan Requirements	6-1
6.2	Plan Adoption	6-1
6.2.1	Implementation	6-1
6.2.2	Incorporation into Existing Planning Mechanisms	6-2
6.3	Maintenance, Monitoring, and Updating	6-3
6.3.1	Plan Maintenance	6-3
6.3.2	Plan Updates	6-4
6.3.3	Update Schedule	6-4
Appendices		
A	Planning Team Members	App A
B	Public Input	App B
C	Adoption Records	App C