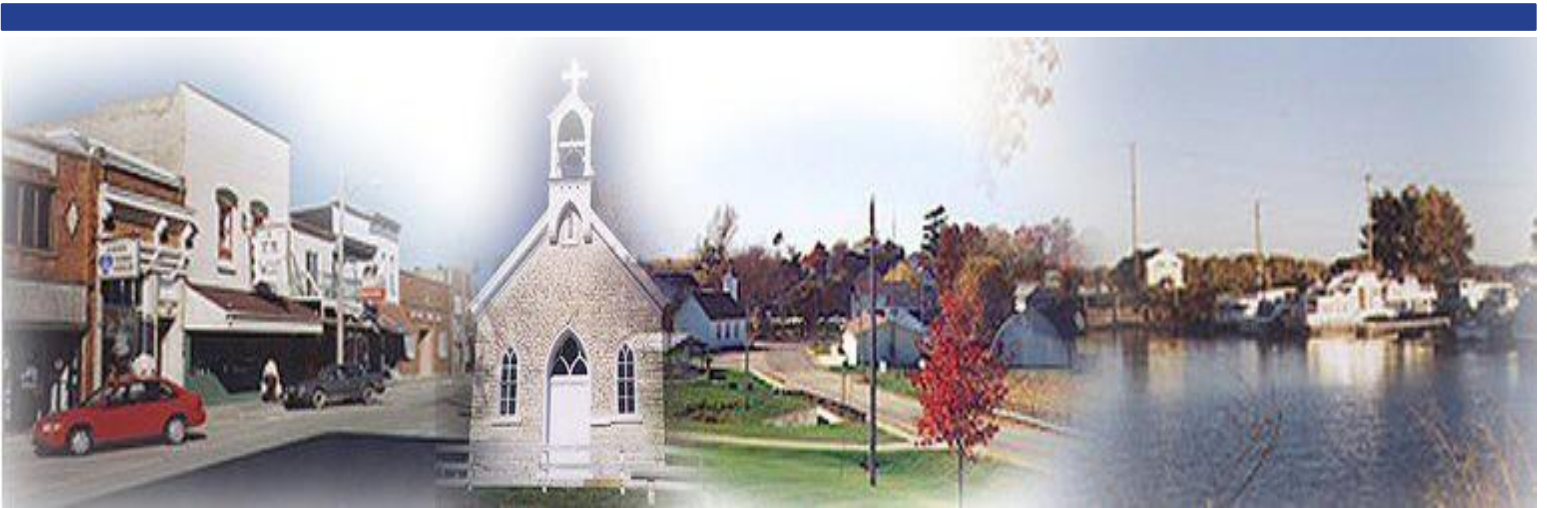


Jackson County, Iowa Multi-Jurisdictional Hazard Mitigation Plan



2024 Plan Update



Developed by Jackson County with professional assistance from East Central Intergovernmental Association, Dubuque, Iowa.

SPECIAL THANKS AND ACKNOWLEDGEMENTS

Jackson County Hazard Mitigation Planning Committee

Jurisdiction/Stakeholder	Name	Title
Andrew	Roeder, Mike	Mayor
Andrew and Easton Valley Community School Districts	Fee, Chris	Superintendent
Baldwin	Browne, Carrie	City Clerk
Baldwin	Wogomon, John	Mayor
Bellevue	Clasen, Kent	Fire Chief
Bellevue	Weinschenk, Teresa	City Clerk
Bellevue Community School District	Meyer, Tom	Superintendent
East Central Intergovernmental Association	Danielson, Dawn	Development Coordinator, Facilitator
Jackson County/Jackson County Region Medical Center	Beranek, Paige	Emergency Preparedness Coordinator
Jackson County/Jackson County Economic Alliance	Brown, Kelley	Executive Director
Jackson County	Flagel, Nin	Supervisor
Jackson County	Medinger, Lyn	Emergency Management Coordinator
Jackson County	Schwenker, Don	Supervisor
Jackson County	Steines, Mike	Supervisor
Jackson County/Jackson County Public Health	Warren, Jennifer	Emergency Preparedness Coordinator
Jackson County	Kinney, Todd	Engineer
Jackson County	Kraker, Jim	Sheriff
Jackson County	Roling, Lori	Zoning Administrator
LaMotte	Kilburg, Joe	Water Testing
LaMotte	Wagner, Matt	Mayor
Maquoketa	Boldt, Josh	City Administrator
Maquoketa	Beck, Mark	Assistant Fire Chief
Maquoketa	Messerli, Tom	Mayor
Maquoketa	Muhlhausen, Carl	Assistant Fire Chief
Miles	Maze, Paul	Fire Chief
Miles	Portz, Mike	Fire Chief
Miles	Tebbe, Brenda	City Clerk
Monmouth	VonBehren, Stephanie	City Clerk

Preston	Ruchotzke, Landon	Fire Chief
Sabula	Parker, Lynn	City Clerk
Sabula	Woodhurst, Travis	Fire Chief
Spragueville	Bredekamp, Caroline	Mayor
Springbrook	Sieverding, Kevin	Fire Chief
St. Donatus	Hilkin, Ron	Mayor

TABLE OF CONTENTS

(insert)

EXECUTIVE SUMMARY

The purpose of hazard mitigation is to reduce or eliminate long-term risk to people and property from hazards. Jackson County and participating jurisdictions developed this multi-jurisdictional local hazard mitigation plan update to reduce future losses to the County and its communities resulting from hazard events. The plan was prepared pursuant to the requirements of the Disaster Mitigation Act of 2000 and to achieve eligibility for the Federal Emergency Management Agency (FEMA) Hazard Mitigation Assistance Grant Programs.

The Jackson County Multi-Jurisdictional Hazard Mitigation Plan covers the following jurisdictions that participated in the planning process and have submitted a resolution adopting the plan:

- Unincorporated County
- Andrew
- Baldwin
- Bellevue
- LaMotte
- Maquoketa
- Miles
- Monmouth
- Preston
- Sabula
- St. Donatus
- Spragueville
- Springbrook
- Andrew Public School District
- Bellevue Public School District
- Easton Valley Public School District
- Maquoketa Public School District

Jackson County, the incorporated areas, and public-school districts listed above developed a Multi-Jurisdictional Hazard Mitigation Plan that was approved by FEMA on February 15, 2013 (hereafter referred to as the *2013 Jackson County Hazard Mitigation Plan*). The plan was updated in 2019 and is again following a similar update format. Therefore, this current planning effort serves to update the previous plan.

The plan update process followed a methodology prescribed by FEMA, which began with the formation of a Hazard Mitigation Planning Committee (HMPC) comprised of representatives from Jackson County, participating jurisdictions, and stakeholders. The HMPC updated the risk assessment that identified and profiled hazards that pose a risk to the Jackson County planning area, assessed the vulnerability to these hazards, and examined the capabilities in place to mitigate them. The planning area is vulnerable to several hazards that are identified, profiled, and analyzed in this plan.

Based upon the risk assessment, the HMPC reviewed the previously developed goals for reducing risk from hazards. As a part of the plan update process, these goals were updated. The updated goals are listed below:

- Goal 1: Protect the health, safety, and quality of life for Jackson County citizens while reducing or eliminating property losses, economic costs, and damage to the natural environment caused by a disaster.
- Goal 2: Ensure government operations, response and recovery in Jackson County are not significantly disrupted by disasters.
- Goal 3: Expand public awareness within the whole community, both urban and rural and encourage intergovernmental cooperation, coordination, and communication in Jackson County to build a more resilient community against all hazards.

To meet the identified goals, the recommended mitigation action details are in Chapter 4. The HMPC developed an implementation plan for each action, which identifies priority level, background information, responsible agency, timeline, cost estimate, potential funding sources, and more.

PREREQUISITES

44 CFR requirement 201.6(c)(5): The local hazard mitigation plan shall include documentation that the plan has been formally adopted by the governing body of the jurisdiction requesting approval of the plan. For multi-jurisdictional plans, each jurisdiction requesting approval of the plan must document that it has been formally adopted.

Note to Reviewers: When this plan has been reviewed and approved pending adoption by FEMA Region VII the adoption resolutions will be signed by the participating jurisdictions and added to **Appendix D**. A model resolution is provided.

The following jurisdictions participated in the development of this plan and have adopted the multi-jurisdictional plan. Resolutions of Adoptions are included in **Appendix D**.

Jurisdiction	2019 - 2024 Plan	2025-2030 Plan
Jackson County, unincorporated	√	√
Andrew	√	√
Baldwin	√	√
Bellevue	√	√
LaMotte	√	√
Maquoketa	√	√
Miles	√	√
Monmouth	√	√
Preston	√	√
Sabula	√	√
Spragueville	√	√
Springbrook	√	√
St. Donatus	√	√
Andrew Public School District	√	√
Bellevue Public School District	√	√
Easton Valley Public School District	√	√
Maquoketa Public School District	√	√

MODEL RESOLUTION

Resolution # _____

Adopting the Jackson County Multi-Jurisdictional Local Hazard Mitigation Plan – 2024 Plan Update

Whereas, the (Name of Government/District/Organization seeking FEMA approval of hazard mitigation plan) recognizes the threat that natural hazards pose to people and property within our community; and

Whereas, undertaking hazard mitigation actions will reduce the potential for harm to people and property from future hazard occurrences; and

Whereas, the U.S Congress passed the Disaster Mitigation Act of 2000 (“Disaster Mitigation Act”) emphasizing the need for pre-disaster mitigation of potential hazards;

Whereas, the Disaster Mitigation Act made available hazard mitigation grants to state and local governments; and

Whereas, an adopted Local Hazard Mitigation Plan is required as a condition of future funding for mitigation projects under multiple FEMA pre- and post-disaster mitigation grant programs; and

Whereas, the (Name of Government/District/Organization) fully participated in the hazard mitigation planning process to prepare this Multi-Jurisdictional Local Hazard Mitigation Plan; and

Whereas, the Iowa Homeland Security and Emergency Management Department and the Federal Emergency Management Agency Region VII officials have reviewed the “Jackson County Multi-Jurisdictional Local Hazard Mitigation Plan,” and approved it contingent upon this official adoption of the participating governing body; and

Whereas, the (Name of Government/District/Organization) desires to comply with the requirements of the Disaster Mitigation Act and to augment its emergency planning efforts by formally adopting the Jackson County Multi-Jurisdictional Local Hazard Mitigation Plan; and

Whereas, adoption by the governing body for the (Name of Government/District/Organization) demonstrates the jurisdictions’ commitment to fulfilling the mitigation goals outlined in this Multi-Jurisdictional Local Hazard Mitigation Plan

Whereas, adoption of this legitimizes the plan and authorizes responsible agencies to carry out their responsibilities under the plan;

Now, therefore, be it resolved, that the (Name of Government/District/Organization) adopts the “Jackson County Multi-Jurisdictional Local Hazard Mitigation Plan – 2024 Plan Update” as an official plan; and

Be it further resolved, the (Name of Government/District/Organization) will submit this Adoption Resolution to the Iowa Homeland Security and Emergency Management Department and Federal Emergency Management Agency Region VII officials to enable the plan’s final approval.

Date: _____

Certifying Official: _____

1 INTRODUCTION AND PLANNING PROCESS

1.1 Purpose

Jackson County and its participating cities and public-school districts prepared this Multi-Jurisdictional Hazard Mitigation Plan update to guide hazard mitigation planning to better protect the people and property of the planning area from the effects of hazard events.

This plan demonstrates the jurisdictions' commitments to reducing risks from hazards and serves as a tool to help decision makers direct mitigation activities and resources. This plan was also developed to make Jackson County and the participating jurisdictions eligible for certain federal grant programs, specifically the Federal Emergency Management Agency's (FEMA) Hazard Mitigation Assistance (HMA) grants include the Hazard Mitigation Grant Program, Pre-Disaster Mitigation Program, and Flood Mitigation Assistance Program.

1.2 Background and Scope

Each year in the United States, disasters take the lives of hundreds of people and injure thousands more. Nationwide, taxpayers pay billions of dollars annually to help communities, organizations, businesses, and individuals recover from disasters. These monies only partially reflect the true cost of disasters because additional expenses to insurance companies and nongovernmental organizations are not reimbursed by tax dollars. Many disasters are predictable, and much of the damage caused by these events can be alleviated or even eliminated.

Hazard mitigation is defined by FEMA as "any sustained action taken to reduce or eliminate long-term risk to human life and property from a hazard event." The results of a three-year, congressionally mandated independent study to assess future savings from mitigation activities provide evidence that mitigation activities are highly cost-effective. According to the National Institute of Building Sciences' 2019 report, every \$1 in federal grants invested in mitigation can save up to \$6. Mitigation can:

- Protect public safety and prevent loss of life and injury.
- Build resilience to current and future disaster risks.
- Prevent damage to a community's economic, cultural, and environmental assets.
- Reduce operational downtime and speed up the recovery of government and business after disasters.
- Reduce the costs of disaster response and recovery, as well as the exposure to risk for first responders.
- Help achieve other community goals, such as protecting infrastructure, preserving open space, and boosting economic resilience.

Hazard mitigation planning is the process through which hazards that threaten communities are identified, likely impacts of those hazards are determined, mitigation goals are set, and appropriate strategies to lessen impacts are determined, prioritized, and implemented. Jackson County and the participating incorporated cities and public-school districts that participated in this plan update developed a Multi-Jurisdictional Hazard Mitigation Plan that was approved by FEMA on January 8, 2020 (hereafter referred to as the *2019 Jackson County Hazard Mitigation Plan*). Therefore, this current planning effort serves to update the previous plan.

This plan documents the hazard mitigation planning process undertaken by the Jackson County Hazard Mitigation Planning Committee (HMPC). It identifies relevant hazards and vulnerabilities in the planning area and sets forth an updated mitigation strategy to decrease vulnerability and increase resiliency and sustainability in Jackson County.

The Jackson County Multi-Jurisdictional Hazard Mitigation Plan is a multi-jurisdictional plan that geographically covers the participating jurisdictions within Jackson County’s boundaries (hereinafter referred to as the planning area). The following jurisdictions officially participated in the planning process:

City	Jackson County
Andrew	Unincorporated
Baldwin	
Bellevue	
LaMotte	
Maquoketa	
Miles	
Monmouth	
Preston	
Sabula	
Spragueville	
Springbrook	
St. Donatus	

School
Andrew Public School District
Bellevue Public School District
Easton Valley Public School District
Maquoketa Public School District

This plan was prepared pursuant to the requirements of the Disaster Mitigation Act of 2000 (Public Law 106-390) and the implementing regulations set forth by the Interim Final Rule published in the Federal Register on February 26, 2002, (44 CFR §201.6) and finalized on October 31, 2007. (Hereafter, these requirements, and regulations will be referred to collectively as the Disaster Mitigation Act.) Additionally, this plan is prepared in accordance with the *2023 Local Mitigation Planning Handbook* published by FEMA.

While the Disaster Mitigation Act emphasized the need for mitigation plans and more coordinated mitigation planning and implementation efforts, the regulations established the requirements that local hazard mitigation plans must meet for a local jurisdiction to be eligible for certain federal disaster assistance and hazard mitigation funding under the Robert T. Stafford Disaster Relief and Emergency Act (Public Law 93-288).

Information in this plan will be used to help guide and coordinate mitigation activities and decisions for local land use policy in the future. Proactive mitigation planning will help reduce the cost of disaster response and recovery to communities and their residents by protecting critical community facilities, reducing liability exposure, and minimizing overall community impacts and disruptions. The Jackson County planning area has been affected by hazards in the past and the participating jurisdictions are therefore committed to reducing future impacts from hazard events and becoming eligible for mitigation-related federal funding.

1.3 Plan Organization

This Jackson County Multi-Jurisdictional Hazard Mitigation Plan update is organized as follows:

- Executive Summary
- Chapter 1: Introduction and Planning Process
- Chapter 2: Planning Area Profile and Capabilities
- Chapter 3: Risk Assessment
- Chapter 4: Mitigation Strategy

- Chapter 5: Plan Implementation and Maintenance Process
- Appendices

This is the same general format that was used for the 2019 Jackson County Hazard Mitigation Plan.

1.4 Planning Process

44 CFR Requirement 201.6(c)(1): [The plan shall document] the planning process used to develop the plan, including how it was prepared, who was involved in the process, and how the public was involved.

In March 2023, Jackson County contracted with ECIA to facilitate the update of the Jackson County Multi-Jurisdictional Local Hazard Mitigation Plan. ECIA's role was to:

- Assist in establishing the Hazard Mitigation Planning Committee (HMPC) as defined by the Disaster Mitigation Act (DMA),
- Ensure the updated plan meets the DMA requirements as established by federal regulations and following FEMA's planning guidance,
- Facilitate the entire planning process,
- Identify the data requirements that HMPC participants could provide and conduct the research and documentation necessary to augment that data,
- Assist in facilitating the public input process,
- Produce the draft and final plan update documents, and
- Coordinate the Iowa Homeland Security and Emergency Management Department and FEMA plan reviews.

1.4.1 Multi-Jurisdictional Participation

44 CFR Requirement §201.6(a)(4): Multi-Jurisdictional plans may be accepted, as appropriate, as long as each jurisdiction has participated in the process and has officially adopted the plan.

Jackson County invited the incorporated cities, public school districts, and various other stakeholders in mitigation planning (identified in Appendix B) to participate in the Jackson County Multi-Jurisdictional Hazard Mitigation Plan update process. The jurisdictions that elected to participate in this plan are listed above in section 1.2. The DMA requires that each jurisdiction that participates in the planning process must officially adopt the multi-jurisdictional hazard mitigation plan. Each jurisdiction that chose to participate in the planning process and development of the plan was required to meet plan participation requirements defined at the first planning meeting, which includes the following:

- Designate a representative to serve on the HMPC.
- Participate in at least one of the three HMPC planning meetings by either direct representation or authorized representation.
- Provide data for and assist in the development of the updated risk assessment that describes how various hazards impact their jurisdiction.
- Provide data to describe current capabilities.
- Develop/update mitigation actions (at least one) specific to each jurisdiction.
- Provide comments on plan drafts as requested.

- Inform the public, local officials, and other interested parties about the planning process and provide opportunities for them to comment on the plan; and
- Formally adopt the mitigation plan.

All the jurisdictions listed as official participants in this plan met all of these participation requirements. **Table 1.1** shows the representation of each participating jurisdiction at the planning meetings, provision of Data Collection Guides, and update/development of mitigation actions. Sign-in sheets are included in Appendix B: Planning Process Documentation.

Table 1.1 Participation Tracking

Jurisdiction	Kickoff	Meeting #1	Meeting #2	Meeting #3	Survey - Public Outreach	Data Collection	Status of Previous Action	Mitigation Action Plans
City								
Andrew		√	√		√	√	√	√
Baldwin		√			√	√	√	√
Bellevue		√	√		√	√	√	√
LaMotte		√	√		√	√	√	√
Maquoketa		√	√	√	√	√	√	√
Miles		√	√	√	√	√	√	√
Monmouth		√			√	√	√	√
Preston		√	√	√	√	√	√	√
Sabula		√	√		√	√	√	√
Spragueville		√	√	√	√	√	√	√
Springbrook		√	√	√	√	√	√	√
St. Donatus*		√	√	√	√	√	√	√
Jackson County								
Unincorporated	√	√	√	√	√	√	√	√
School Districts								
Andrew PSD		√			√	√	√	√
Bellevue PSD			√		√	√	√	√
Easton Valley PSD		√			√	√	√	√
Maquoketa PSD					√	√	√	√

Source: ECIA

PSD=Public School District

*Followed up with mayor after each meeting with one-on-one phone interview regarding meeting content as mayor was out of town during meetings.

1.4.2 The Planning Steps

ECIA and Jackson County worked together to establish the framework and process for this planning effort using FEMA's Local Mitigation Planning Handbook (May 2023). The plan update was completed utilizing the 9-task approach within a broad four-phase process:

- 1) Organize resources,

- 2) Assess risks,
- 3) Develop the mitigation plan, and
- 4) Implement the plan and monitor progress.

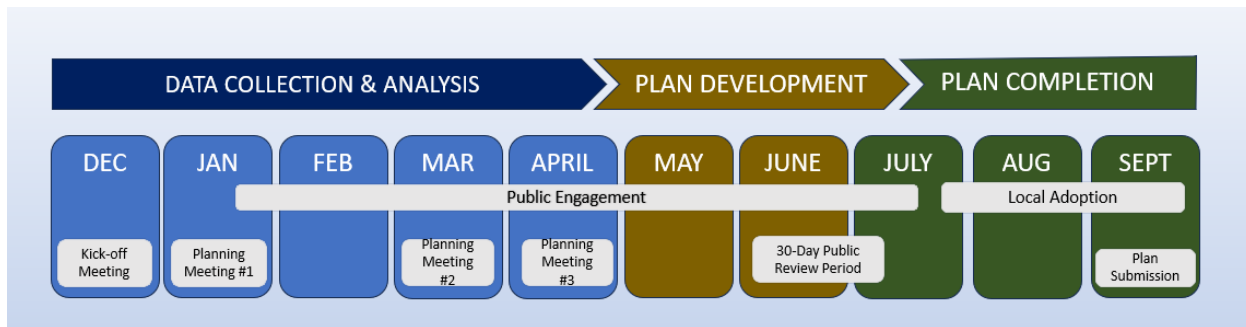
Into this process, ECIA integrated a detailed 10-step planning process adapted from FEMA’s Community Rating System (CRS) and Flood Mitigation Assistance programs. Thus, the process used for this plan meets the funding eligibility requirements of the Hazard Mitigation Assistance grants and Community Rating System.

Table 1.2 shows how the process followed fits into FEMA’s original four-phase DMA process as well as the revised Nine Task Process outlined in the 2023 Local Mitigation Planning Handbook and the 10-step CRS process.

Table 1.2 Mitigation Planning Process Used to Develop the Jackson County Multijurisdictional Local Hazard Mitigation Plan

Phase	Community Rating System (CRS) Planning Steps Activity	Local Mitigation Planning Handbook Tasks 44 CFR Part 201)
Phase I	Step 1. Organize	Task 1: Determine the Planning Area and Resources Task 2: Build the Planning Team 44 CFR 201.6(c)(1)
	Step 2. Involve the Public	Task 3: Create an Outreach Strategy 44 CFR 201.6(b)(1)
	Step 3. Coordinate	Task 5: Review Community Capabilities 44 CFR 201.6(b)(2) & (3)
Phase II	Step 4. Assess the Hazard	Task 4: Conduct a Risk Assessment 44 CFR 201.6(c)(2)(i) 44 CFR 201.6(c)(2)(ii) & (iii)
	Step 5. Assess the Problem	
Phase III	Step 6. Set goals	Task 6: Develop a Mitigation Strategy 44 CFR 201.6(c)(3)(i); 44 CFR 201.6(c)(3)(ii); and 44 CFR 201.6(c)(3)(iii)
	Step 7. Review possible activities	
	Step 8. Draft an action plan	
Phase IV	Step 9. Adopt the plan	Task 7: Review and Adopt the Plan
	Step 10. Implement, evaluate, revise	Task 8: Keep the Plan Current Task 9: Create a Safe and Resilient Community 44 CFR 201.6(c)(4)

Based on the established plan process, the HMPC created a project timeline. **Figure 1.1.** outlines the project timeline.



Phase I: Organize Resources

Step 1: Organize the Planning Team (Handbook Tasks 1 & 2)

The planning process resulting in the preparation of this plan document officially began with an initial coordination conference call and survey review on December 29, 2023. Participants of the meeting included the Jackson County Emergency Management Coordinator and the ECIA Development Coordinator. The purpose of this meeting was to determine the jurisdictions and other stakeholders that would be invited to participate on the Hazard Mitigation Planning Committee (HMPC) (Step 1), set tentative planning meeting dates, identify GIS needs and resources, discuss the hazards to be included in the plan update and options for the flood risk assessment methodology, and develop an initial public participation strategy. Detailed meeting minutes are included in **Appendix B**.

After the initial coordination meeting, a formal kick-off planning email was sent on January 12, 2024 followed by three planning meetings held on January 31, February 28, and April 17, 2024. A complete list of all representatives of the agencies and organizations that participated in the Jackson County HMPC is provided in **Appendix B**.

The HMPC communicated during the planning process with a combination of face-to-face meetings, survey platforms, phone interviews, and email correspondence. The meeting schedule and topics are listed in **Table 1.3**.

Table 1.3. Schedule of HMPC Meetings

Meeting	Topic	Date
Kickoff-Informational Meeting	General overview of planning process/requirements and schedule, public survey circulated	12/29/2023
Kick-Off Email/Survey Sent	Initial invitation to JC HMP Plan Update planning meeting and distribution of hazard assessment public survey	1/12/2024
Planning Meeting #1	Introduction to JC HMP Plan Committee, planning process, hazard identification and public strategy. Distribution of data collection worksheets to jurisdictions.	1/31/2024
Planning Meeting #2	Review of Risk Assessment, update plan goals, instructions to update status of previous mitigation actions. Distribute mitigation action worksheets to jurisdictions.	2/28/2024
Planning Meeting #3	Development of new mitigation actions, mitigation action planning and prioritization. Determine process to monitor, evaluate, and update plan.	4/17/2024

During planning meeting #1 ECIA presented information on the scope and purpose of the plan, participation requirements of HMPC members, and the proposed project work plan and schedule. Plans for public involvement (Step 2) and coordination with other agencies and departments (Step 3) were discussed. ECIA also introduced hazard identification requirements and data needs. The HMPC discussed potential hazards as well as past events and impacts and refined the identified hazards to be relevant to Jackson County. The hazard ranking methodology utilized by Iowa Homeland Security and Emergency Management Department in the State Hazard Mitigation Plan was introduced and preliminary information was presented for each hazard identified.

Participants were given the ECIA Data Collection Guide to facilitate the collection of information needed to support the plan, such as data on historic hazard events, values at risk, and current capabilities. Each participating jurisdiction completed and returned the worksheets in the Data Collection Guide to ECIA. ECIA integrated this information into the plan, supporting the development of Chapters 2 and 3.

Step 2: Plan for Public Involvement (Handbook Task 3)

44 CFR Requirement 201.6(b): An open public involvement process is essential to the development of an effective plan. In order to develop a more comprehensive approach to reducing the effects of natural disasters, the planning process shall include:

(1) an opportunity for the public to comment on the plan during the drafting stage and prior to plan approval.

At the kick-off and initial planning meeting, the HMPC discussed options for conducting community engagement related to soliciting public input on the mitigation plan. The county will ensure that the whole community has an opportunity to participate in the process and discussion. FEMA defines the “whole community” as “individuals and families, including those with access and functional needs, businesses, faith-based and community organizations, nonprofit groups, schools and academia, media outlets, and all levels of government, including state, local tribal, territorial, and federal partners that have a shared responsibility in emergency preparedness and mitigation” (FEMA, 2011). To provide an opportunity for the public to comment during the drafting stage, the committee determined that the most effective method would be dissemination of a survey. The survey was announced via email to all county supervisors and appropriate personnel, city administrators, managers, clerks, mayors, and councils.

The survey was developed specifically for the Jackson County Mitigation Plan and provided a brief plan summary as well as a questionnaire to capture public and stakeholder input. The survey was made available online as well as in hard copy at the Jackson County Courthouse, local city halls, libraries, post offices and local fire stations. A copy of the survey is provided in **Appendix B**.

Committee members distributed the survey to members of the public and key stakeholders in their own jurisdiction. In all, 44 surveys were completed.

The survey asked the public and stakeholders to indicate their opinion on the likelihood for each hazard to impact their jurisdiction. They were asked to rate the probability of each hazard profiled in this plan as 1-unlikely, 2-occasional, 3-likely, and 4-highly likely. The summary results of this question are ranked from highest to lowest rounded weighted average and are provided in **Table 1.4**.

Table 1.4 Survey Results - Probability of Hazards

Hazard	Unlikely	Occasionally	Likely	Highly Likely	Rounded Weighted Average
Hail & Lightning Storms from Thunderstorms	0	8	11	25	3.39
Severe Winter Storm	0	10	14	20	3.23
Tornado/Windstorm	0	13	11	20	3.16
Drought	2	13	21	8	2.8
Extreme Heat	1	13	24	6	2.8
Flooding-River	6	14	13	11	2.66
Flooding-Flash	6	19	13	6	2.43
Transportation Incident	14	12	12	6	2.23
Grass/Wildland Fire	12	15	13	4	2.2
Human Disease	12	19	8	5	2.14
Hazardous Materials	16	14	9	5	2.07
Infrastructure Failure	15	16	9	4	2.05
Animal/Plant/Crop Disease	11	25	6	2	1.98
Expansive Soils	15	22	5	2	1.86
Dam/Levee Failure	21	13	6	4	1.84
Sinkholes	23	13	5	3	1.73
Terrorism	30	8	4	2	1.5
Radiological Incident	36	5	3	0	1.25
Landslide	35	8	1	0	1.23

Source: Survey Monkey Results/ECIA 2024.

The survey also asked the public and stakeholders to indicate their opinion on the potential magnitude of each hazard effects on their jurisdiction. They were asked to rate the probability of each hazard profiled in this plan as 1-negligible, 2-limited, 3-critical, and 4-catastrophic. The summary results of this question are ranked from highest to lowest weighted rounded average, provided in **Table 1.5**.

Table 1.5 Survey Results - Magnitude of Hazards

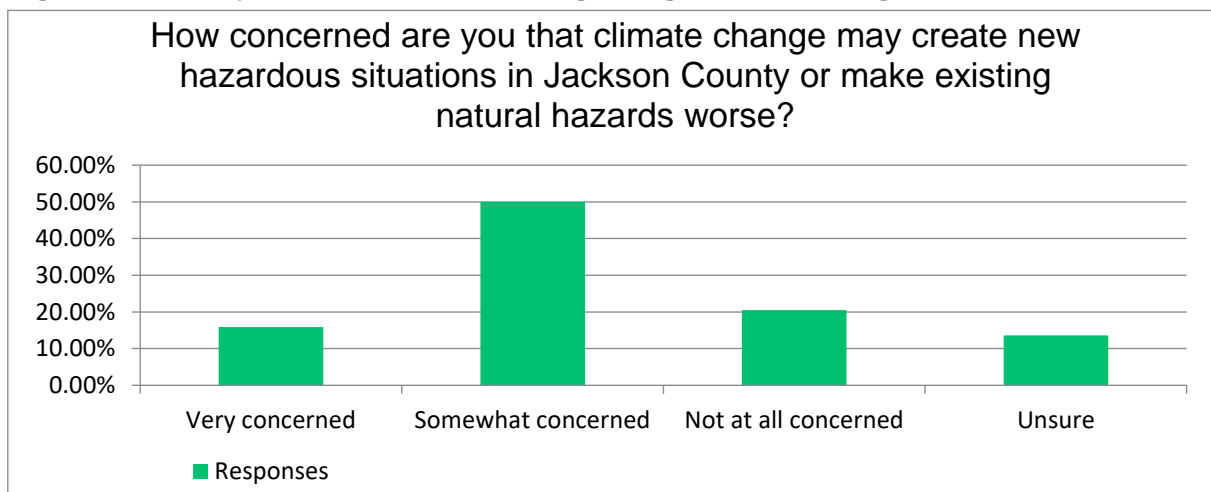
Hazard	Negligible	Limited	Critical	Catastrophic	Rounded Weighted Average
Tornado/Windstorm	1	16	13	14	2.91
Hail & Lightning Storms from Thunderstorms	4	20	16	4	2.45
Severe Winter Storm	4	22	14	4	2.41
Flooding-River	5	23	13	3	2.32
Drought	9	20	14	1	2.16
Extreme Heat	7	23	14	0	2.16

Hazard	Negligible	Limited	Critical	Catastrophic	Rounded Weighted Average
Flooding-Flash	8	24	10	2	2.14
Infrastructure Failure	13	18	8	5	2.11
Dam/Levee Failure	17	15	7	5	2
Human Disease	15	20	7	2	1.91
Grass/Wildland Fire	15	22	5	2	1.86
Hazardous Materials	21	15	4	4	1.8
Transportation Incident	21	13	9	1	1.77
Terrorism	27	5	9	3	1.73
Animal/Plant/Crop Disease	18	22	4	0	1.68
Radiological Incident	28	7	5	4	1.66
Sinkholes	26	14	4	0	1.5
Expansive Soils	23	21	0	0	1.48
Landslide	34	8	2	0	1.27

Source: Survey Monkey Results/ECIA 2024.

The survey also asked the public and stakeholders to indicate their opinion on how concerned they are regarding climate changes impacting hazardous situations in Jackson County or making existing natural hazards worse. They were asked to rate level of concern as very concerned, somewhat concerned, not at all concerned and unsure. The summary results of this question are illustrated in **Figure 1.2**.

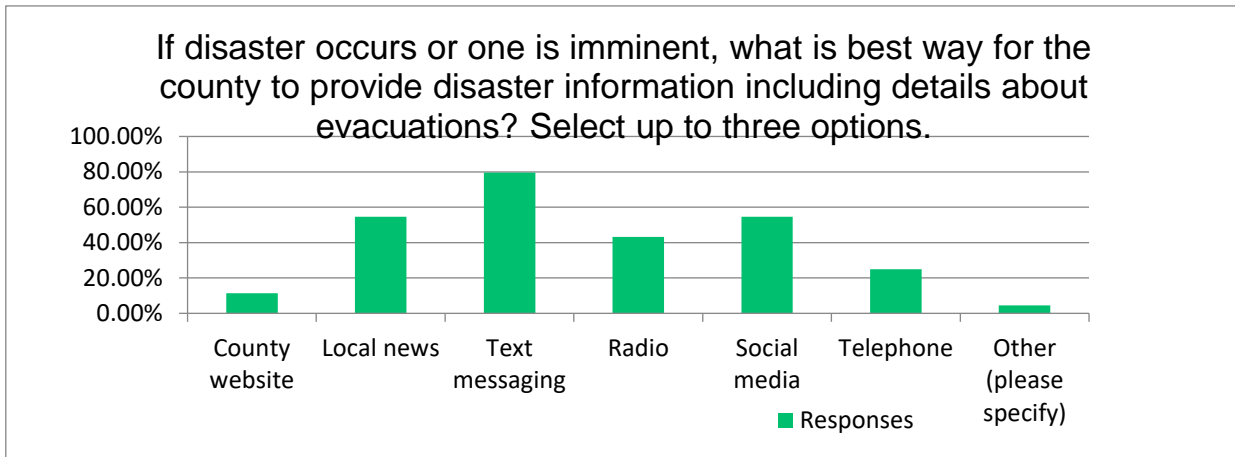
Figure 1.2 Survey Results – Question Regarding Climate Change



Source: Survey Monkey Results/ECIA 2024.

The survey also asked the public and stakeholders to indicate the best methods for communicating disaster information including details about evacuations. Up to three responses could be selected. Other methods written in included fire department and alert system – send out text message. The summary results of this question are depicted in **Figure 1.3**

Figure 1.3 Survey Results – Question Best Way to Communicate Disaster Information



Source: Survey Monkey Results/ECIA 2024.

The public was also given an opportunity to provide input on the final draft of the complete plan. The entire plan draft was made available on Jackson County and on ECIA’s website as a PDF document. In addition, hard copies were made available at the Bellevue Public Library, Maquoketa Public Library and Preston Public Library.

Jackson County announced the availability of the entire final draft plan and the four-week final public comment period on the County website. ECIA hosted a webpage throughout the planning process for the public to review the plan as updates were posted. The final draft was posted on the website and available for public review and comment. The public announcement was also published in the *Bellevue Herald* and the *Maquoketa Sentinel Press* along with on Facebook and/or websites of Bellevue, Maquoketa, and Sabula. A copy of the announcement is provided in Appendix B. The final public comment period was from June 1 - 30, 2024. Comments were received and incorporated into the final plan.

The HMPC invited other targeted stakeholders to comment on the draft plan via an e-mail letter, which is described in greater detail in Step 3: Coordinate with Other Departments and Agencies. Minor comments were received and incorporated.

Table 1.6 reflects the public outreach conducted to obtain public involvement in the plan.

Table 1.6 Public Outreach

Public Outreach conducted	Facebook	Post at City Hall	Post at Post Office	Post at Fire Dept	Post at Bank	Post at YMCA	Website Post
City							
Andrew							
Baldwin							
Bellevue	√						√
LaMotte		√	√				
Maquoketa	√	√	√	√	√	√	√
Miles	√	√					√
Monmouth							

Preston	√						√
Public Outreach conducted	Facebook	Post at City Hall	Post at Post Office	Post at Fire Dept	Post at Bank	Post at YMCA	Website Post
Sabula	√	√	√	√	√		
Spragueville							
Springbrook			√				
St. Donatus							
Jackson County							
Unincorporated	√						√

Source: ECIA

Step 3: Coordinate with Other Departments and Agencies and Incorporate Existing Information (Handbook Task 3)

44 CFR Requirement 201.6(b): An open public involvement process is essential to the development of an effective plan. In order to develop a more comprehensive approach to reducing the effects of natural disasters, the planning process shall include:

(2) An opportunity for neighboring communities, local and regional agencies involved in hazard mitigation activities, and agencies that have the authority to regulate development, as well as businesses, academia, and other private and non-profit interests to be involved in the planning process.

(3) Review and incorporation, if appropriate, of existing plans, studies, reports, and technical information.

There are numerous organizations whose goals and interests' interface with hazard mitigation in Jackson County. Coordination with these organizations and other community planning efforts is vital to the success of this plan. Jackson County invited neighboring counties, other local, state, and federal departments, and agencies as well as institutions of higher learning to the planning meetings to learn about the hazard mitigation plan update initiative. In addition, the HMPC developed a list of additional stakeholders involved in hazard mitigation activities to invite by e-mail letter to review and comment on the final draft of the Jackson County Multi-Jurisdictional Hazard Mitigation Plan prior to submittal to the State and FEMA. The stakeholders that were invited to meetings and/or to comment on the final plan draft are included in **Table 1.7**.

Table 1.7 Stakeholder Involvement

Stakeholders	Type	Invited to Meetings	Provided Data for Risk Assessment	Invited to Comment on Final Draft
Alliance Water	Utility-Water and Wastewater Operator	√		√
Alliant Energy	Utility-Electric			√
Black Hills Energy	Utility-Gas			√

Stakeholders	Type	Invited to Meetings	Provided Data for Risk Assessment	Invited to Comment on Final Draft
Carroll County, IL County Emergency Management	Adjacent County			✓
City of Zwingle	Neighboring City	✓	✓	✓
Clinton County Emergency Management	Adjacent County	✓		✓
Dubuque County Emergency Management	Adjacent County	✓		✓
East Central Intergovernmental Association	Regional Planning	✓	✓	✓
Iowa Department of Agriculture and Land Stewardship	State Agency		✓	✓
Iowa Department of Natural Resources	State Agency	✓	✓	✓
Iowa Department of Public Safety	State Agency		✓	✓
Iowa Department of Transportation	State Agency		✓	✓
Iowa Homeland Security and Emergency Management	State Agency	✓	✓	✓
Iowa State University, Iowa Flood Center	Academia		✓	✓
Jackson County Economic Alliance	Regional Planning	✓	✓	✓
Jackson County Regional Health Center	Regional Medical	✓	✓	✓
Jackson Ridge Healthcare Center (fka Crestridge Care Center)	Nursing Home	✓		✓
Jo Daviess County, IL County Emergency Management	Adjacent County	✓		✓
Jones County Emergency Management	Adjacent County	✓		✓
Maquoketa Care Center	Nursing Home	✓		✓
Maquoketa Municipal Electric Utility	Utility-Electric		✓	✓
Maquoketa Valley REC	Utility-Electric		✓	✓
National Weather Service	Federal Agency		✓	✓
U.S. Army Corps of Engineers	Federal Agency	✓	✓	✓
U.S. Environmental Protection Agency	Federal Agency		✓	✓
U.S. Federal Emergency Management Agency	Federal Agency		✓	✓
U.S. Geological Survey	Federal Agency		✓	✓

Source: ECIA

Several additional stakeholder agencies were contacted to obtain data in preparation of the Risk Assessment. This included contact with specific representatives of stakeholder agencies, as well as accessing stakeholder data that has been made available to the public via the internet.

Integration of Other Data, Reports, Studies, and Plans

In addition, input was solicited from many other agencies and organizations that provided information but were not able to attend planning meetings. As part of the coordination with other agencies, the HMPC collected and reviewed existing technical data, reports, and plans. These included:

- Iowa Hazard Mitigation Plan (2023);
- Jackson County Multi-Jurisdictional Hazard Mitigation Plan (February 2019);
- National Flood Insurance Program Policy and Loss data.
- Flood Insurance Rate Maps for all of Jackson County.
- Iowa Department of Natural Resources, Dam Safety Program Inventory of Dams for Jackson County, available inundation maps.
- National Inventory of Dams
- National Levee Inventory levee protected areas
- Wildland/Urban Interface and Intermix areas from the SILVIS Lab, Department of Forest Ecology and Management, University of Wisconsin.
- Various local plans such as Comprehensive Plans, Economic Development Plans, Capital Improvement Plans, etc. For a complete list of local plans that were reviewed and incorporated, see Chapter 2.
- US Department of Agriculture's (USDA) Risk Management Agency Crop Insurance Statistics.

This information was used in the development of hazard identification, vulnerability assessment, and capability assessment and in the formation of goals, objectives, and mitigation actions. These sources, as well as additional sources of information are documented throughout the plan and in Appendix A, References.

Phase 2 Assess Risk (Handbook Task 5)

Step 4: Assess the Hazard: Identify and Profile Hazards

ECIA assisted the HMPC in a process to identify the hazards that have impacted or could impact communities in Jackson County. At the kick-off meeting, the HMPC examined the history of disaster declarations in Jackson County, the list of hazards considered in the 2023 Iowa State Hazard Mitigation Plan, and the hazards identified in the previous hazard mitigation plan. The committee then worked through this list of all potential hazards that could affect the planning area. They discussed past hazard events, types of damage, and where additional information might be found. The committee identified 16 natural and non-natural hazards that have the potential to impact the planning area. Additional information on the hazard identification process and which hazards were identified for each jurisdiction is provided in Chapter 3.

During the kick-off meeting, the HMPC discussed past events and impacts on a county-wide basis to contribute to the risk assessment update. After the kick-off meeting, each jurisdiction completed a Data Collection Guide, including information on previous hazard events in their community. Utilizing the information from the Data Collection Guides as well as existing plans, studies, reports, and technical information as well as information available through internet research and GIS analysis, a profile was developed for each hazard identified. More information on the methodology and resources used to identify and profile the hazards can be found in Chapter 3.

Step 5: Assess the Problem: Identify Assets and Estimate Losses

Assets for each jurisdiction were identified through a combination of several resources. The Jackson County GIS Department and Assessor's Office provided access to datasets with parcel and building data as well as corporate boundaries, school district boundaries, and other available GIS layers. Population data was obtained from the U.S. Census Bureau. The critical facility inventory was compiled from data layers provided by the Jackson County GIS Department. Methodologies and results of the critical facility analysis are provided in Chapter 3 and Appendix E.

Additional assets such as historic, cultural, and economic assets as well as specific vulnerable populations and structures were obtained from a variety of sources as described in Chapter 3. The HMPC also analyzed development since the last plan update and future development trends from data provided by each jurisdiction on the Data Collection Guide as well as data available from the U.S. Census Bureau and obtained from jurisdictions through other planning mechanisms such as Comprehensive Plans and Future Development Plans.

After profiling the hazards that could affect Jackson County and identifying assets, the HMPC collected information to describe the likely impacts of future hazard events on the participating jurisdictions. For each hazard, there is a discussion regarding future development as well as climate change impacts regarding how vulnerability to that specific hazard might be impacted in the future.

Existing mitigation capabilities were also considered in developing the risk assessment. This assessment consisted of identifying the existing mitigation capabilities of participating jurisdictions. This involved collecting information about existing government programs, policies, regulations, ordinances, and plans that mitigate or could be used to mitigate risk from hazards. Participating jurisdictions collected information on their regulatory, personnel, fiscal, and technical capabilities, as well as previous and ongoing mitigation initiatives. This information is included in Chapter 2 Planning Area Profile and Capabilities.

Specific capabilities such as participation in the National Flood Insurance Program as well as designation as Fire Wise Communities or Storm Ready Communities and placement of storm sirens are incorporated in the vulnerability analysis discussions, where applicable.

Taking into consideration the vulnerability and capability assessments, and where sufficient information was available, a variety of methods was used to estimate losses for each profiled hazard. For geographic hazards such as river flooding, levee failure, hazardous materials (fixed facilities), and wildfire, specific assets/areas at risk and loss estimates were determined through GIS analysis. For other hazards such as weather-related hazards, loss estimates were developed based on statistical analysis of historic events. For hazards such as dam failure, GIS data was not available to identify specific geographic boundaries at risk. Therefore, the risk assessment provides descriptions of the types of improvements located in approximated risk areas. For some human-caused hazards, loss estimates were scenario-based. The methodologies for each loss estimate are described in detail in Chapter 3. Within each hazard section, the text provides details on how the hazard varies by jurisdiction, where applicable. In addition, at the conclusion of each hazard section, a summary table indicates the specific probability, magnitude, warning time, and duration rating of the hazard for each jurisdiction is provided to show how the hazard varies. Where applicable, introductory text preceding the table highlights noted variables.

Results of the preliminary risk assessment were presented at Meeting #2 and the Draft Risk Assessment (Chapter 3) was provided to the HMPC for review and comment. Several comments, corrections, and suggestions were provided to ECIA and incorporated into the risk assessment as appropriate.

Phase 3 Develop the Mitigation Plan (Handbook Task 6)

Step 6: Set Goals

ECIA facilitated a discussion session with the HMPC during Meeting #2 to review and update goals. Common categories of mitigation goals were presented as well as the 2023 State Hazard Mitigation Plan goals.

This planning effort is an update to an existing hazard mitigation plan. As a result, the goals from the 2023 Jackson County Hazard Mitigation Plan were reviewed and revised. The HMPC made no changes to Goal 1 & 2 and only minor changes to Goal 3 to include 'whole community', both urban and rural' for clarification purposes.

The revised goals for this plan update are provided below:

- Goal 1: Protect the health, safety, and quality of life for Jackson County citizens while reducing or eliminating property losses, economic costs, and damage to the natural environment caused by a disaster.
- Goal 2: Ensure government operations, response and recovery in Jackson County are not significantly disrupted by disasters.
- Goal 3: Expand public awareness within the whole community, both urban and rural and encourage intergovernmental cooperation, coordination, and communication in Jackson County to build a more resilient community against all hazards.

Step 7: Review Possible Activities

At meeting #2, a handout of previous actions was provided to all jurisdictions with instructions to provide updates for each action. Jurisdictions were encouraged to maintain a focused approach and continue forward only those actions that are aimed at implementing long-term solutions to prevent losses from hazards. The focus of Meeting #3 was to update the mitigation strategy by discussing relevant new actions considered necessary as a result of the updated risk assessment. The HMPC reviewed the following: plan goals, previous actions from the 2019 plan, key issues from the risk assessment, Iowa Homeland Security and Emergency Management's HMA funding priorities, public opinion survey results on types of actions desired, and FEMA's Mitigation Action Ideas publication.

The group discussed the types of mitigation actions/projects that could be done by the jurisdictions in Jackson County. Consideration was given to the analysis results provided in the risk assessment and the anticipated success for each project type. Projects relating to emergency response were discussed, but participants were encouraged to focus on long-term mitigation solutions since response-related mitigation actions occur on a routine basis as requirements of other plans. Complex projects that would necessitate use of large numbers of county resources were also discussed. This opportunity to discuss a broad range of mitigation alternatives allowed the jurisdictions to understand the overall priorities of the committee and to allow for discussion of the types of projects most beneficial to each jurisdiction. As part of this discussion, consideration was given to the potential cost of each project in relation to the anticipated future cost savings.

The jurisdictions were also provided instructions for completing the Mitigation Action Plan for each continuing and newly developed action. A modified form of the STAPLEE prioritization tool was also provided to assist jurisdictions in determining the prioritization that should be assigned to each action. To provide a current, comprehensive, and consistent prioritization approach, all continuing and new actions were evaluated using the modified STAPLEE prioritization tool for the plan

update. The details from the Action Plan for each Continuing and New action are provided in Chapter 4. The completed and deleted actions are provided in **Appendix C**. Chapter 4 provides additional details regarding the process undertaken to refine the mitigation strategy to make Jackson County and its jurisdictions more disaster resistant.

Step 8: Draft an Action Plan

A complete draft of the plan was made available online and in hard copy for review and comment by the public, other agencies and interested stakeholders. This review period was from June 1 through June 30, 2024. Methods for inviting interested parties and the public to review and comment on the plan were discussed in Steps 2 and 3, and materials are provided in **Appendix B**. Comments were integrated into a final draft for submittal to the Iowa Homeland Security and Emergency Management Division and FEMA.

Phase 4 Implement the Plan and Monitor Progress

Step 9: Adopt the Plan (Handbook Task 8)

To secure buy-in and officially implement the plan, the governing bodies of each participating jurisdiction adopted the plan. Scanned copies of resolutions of adoption are included in Appendix D of this plan.

Step 10: Implement, Evaluate, and Revise the Plan (Handbook Tasks 7 & 9)

The plan will remain in effect for five (5) years once approved by the Federal Emergency Management Agency (FEMA). The HMPC developed and agreed upon during meeting #3 an overall strategy for plan implementation and for monitoring and maintaining the plan over time to build a more resilient community. This strategy is described in Chapter 5, Plan Maintenance Process.