

JANUARY 2016

MULTI-JURISDICTIONAL HAZARD  
MITIGATION PLAN  
SPECIAL DISTRICTS APPENDIX

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PARTICIPANT SECTION  
FOR THE  
LITTLE BLUE NRD



Multi-Jurisdictional Hazard Mitigation Plan

January 2016

## ***INTRODUCTION***

This Hazard Mitigation Plan includes two primary sections: the Regional Hazard Mitigation Plan and the Community (i.e. County, Municipal, and School District) Profiles. Community Profiles include similar information that's also provided in the Regional section, but rather is specific information for the Little Blue NRD, including the following elements:

- Participation
- Location /Geography
- Climate
- Demographics
- Transportation
- Future Development Trends
- Parcel Improvements and Valuations
- Critical Infrastructure and Key Resources
- Historical Hazard Events
- Hazard Identification and Risk Assessment
- Governance
- Capability Assessment
- Plan Integration
- Mitigation Actions

## ***PARTICIPATION***

### **Local Planning Team**

Table LBN.1 provides the list of participating members that comprised the Little Blue NRD local planning team. Members of the planning team attended Round 1 and Round 2 meetings and provided important information including but not limited to: confirming demographic information, critical facilities, structural inventory, future development trends, hazard history and impacts, identifying hazards of greatest concern, and prioritization of mitigation actions that address the hazards at risk to the NRD.

**Table LBN.1: The Little Blue NRD Local Planning Team**

<b>Name</b>	<b>Title</b>	<b>Department / Organization</b>
Marlene Faimon	Programs Manager	Little Blue NRD
Mike Onnen	General Manager	Little Blue NRD
Jeff Henson	Senior Planner, Project Manager	JEO Consulting Group, Inc.
Race Hodges	Planner, Project Coordinator	JEO Consulting Group, Inc.

### **Public Participation**

The local planning team made efforts to notify the public of this planning effort and how they could participate in the development of the plan update. The following table identifies the dates and types of public outreach notifications.

**Table LBN.2: Public Notification Efforts**

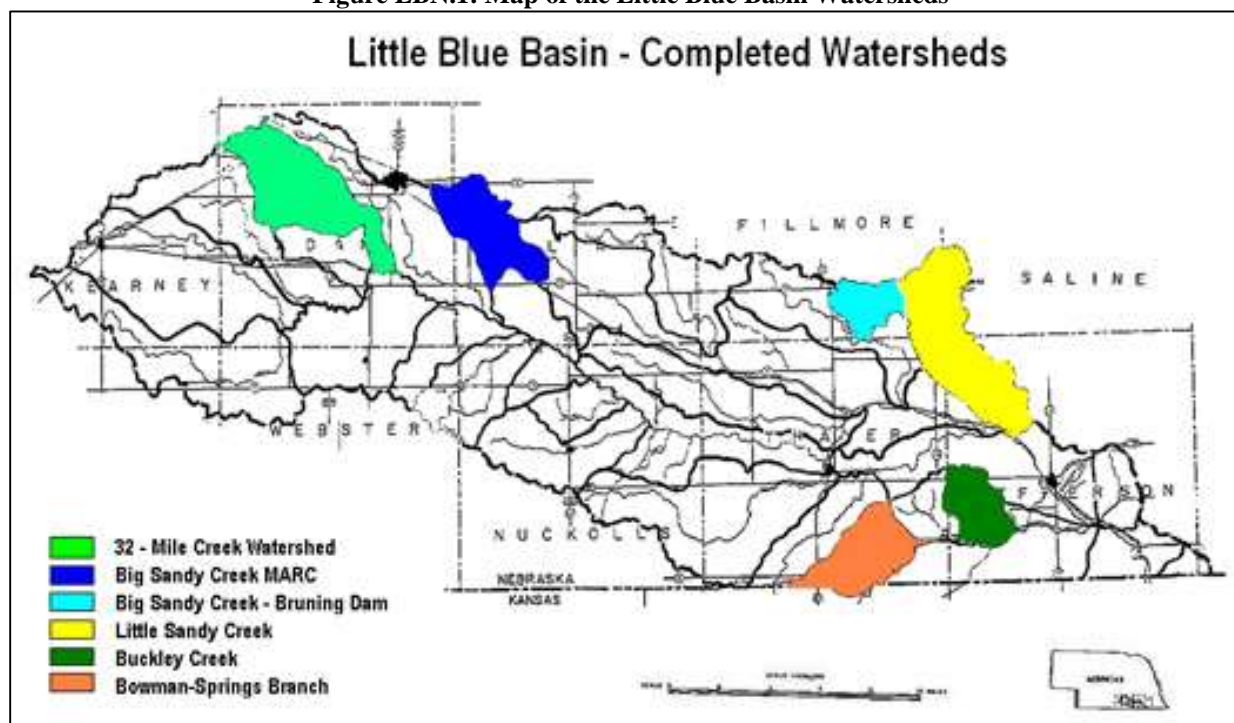
<b>Date</b>	<b>Notification</b>	<b>Location</b>
March 26, 2015	Project Website	<a href="http://jeo.com/blues-hmp">http://jeo.com/blues-hmp</a>
May/June 2015	Invitations Sent Out	NRD Wide

Date	Notification	Location
October 2015	NRD Profile available for public comment and review	<a href="http://jeo.com/blues-hmp">http://jeo.com/blues-hmp</a>
Ongoing	Monthly Board Meeting Updates	LB NRD Offices

**LOCATION AND GEOGRAPHY**

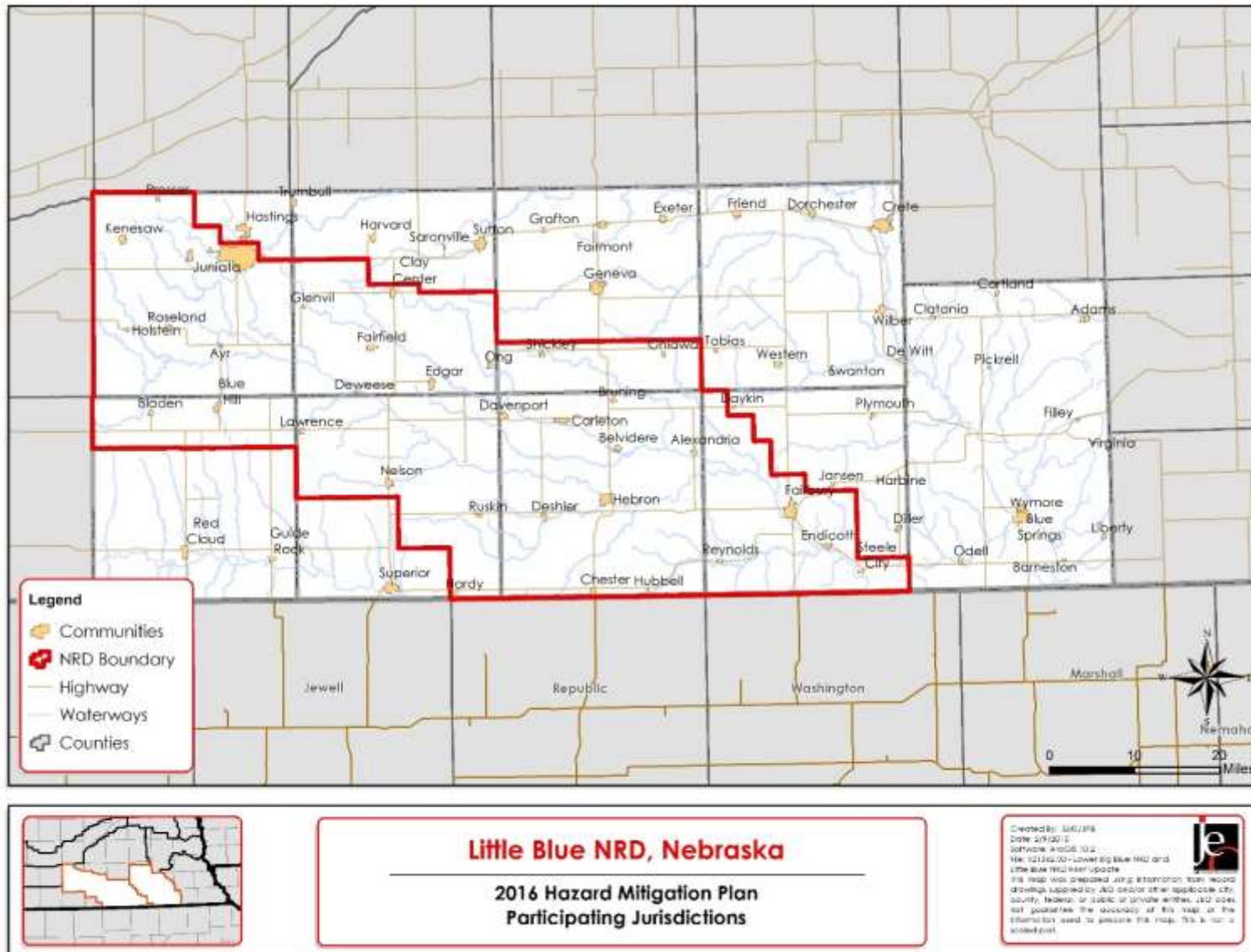
The Little Blue NRD is located in south-central Nebraska and includes parts of Adams, Clay, Fillmore, Jefferson, Nuckolls, Thayer and Webster Counties. The office headquarters are located at 100 East 6<sup>th</sup> St in Davenport, NE. The major waterway in the area is the Little Blue River. The Little Blue River Basin begins in the tablelands of Kearney County near Minden. The Basin drainage area totals just under 2,691 square miles or 1,722,200 acres. The principal tributaries of the Little Blue River include the Big Sandy Creek with a drainage area of 638 square miles; Rose Creek, 203 square miles; Spring Creek, 180 square miles; and Pawnee Creek, 126 square miles. The total length of the Little Blue River in Nebraska is approximately 200 miles. The following figures contain information indication the Little Blue Basin as well as a map of the Little Blue NRDs jurisdiction area.

**Figure LBN.1: Map of the Little Blue Basin Watersheds**



Source: Little Blue NRD

Figure LBN.2: Map of the Little Blue NRD



## ***CLIMATE***

For a discussion on the climate of the Little Blue NRD and the planning area, please refer to *Section Three: Community Profile*.

## ***TRANSPORTATION***

The NRD's major transportation corridors include US Highways 81 and 281, which run north to south, and US Highway 136 which runs east to west near the Kansas border. The main railroad which runs through the NRD is owned and operated by UPRR and runs northwest-southeast from Hastings to Fairbury, then continuing through Kansas to the south. Transportation information is important to hazard mitigation plans because it suggests possible evacuation corridors in the community, as well as areas more at risk to transportation incidents.

Transportation routes of highest concerns include State Highway 4, which runs near the main office of the NRD. Highway 136 also runs near a major water project for the NRD. Highway 81 provides access to several recreational areas which the NRD maintains.

## ***DEMOGRAPHICS***

It is estimated that the Little Blue NRD serves a population of approximately 58,000 over 7 counties. However, the NRD does not collect information on age, or other demographics of their population, nor does the U.S. Census Bureau recognize the NRD. As a result, there is no additional population data for the NRD boundary. For information regarding population data, please refer the specific jurisdiction community profiles or to *Section Three: Community Profile*.

## ***FUTURE DEVELOPMENT TRENDS***

Over the past five years, there has been no new construction on water projects or NRD facilities, although the NRD did remodel and add on to their main office building in Davenport. Only minor upgrades to recreational areas have occurred.

## ***STRUCTURAL INVENTORY AND VALUATION***

Please refer to *Section Three: Community Profile* for structural inventories, valuation, and discussion across the planning area.

## ***CRITICAL INFRASTRUCTURE/KEY RESOURCES***

### **Chemical Storage Fixed Sites**

Chemical sites are located throughout the NRD. A complete list of chemical storage sites in each jurisdiction may be found in *Section Four: Risk Assessment*.

In Davenport, which is where the NRD main office is located, there is a railroad which has trains running through every 10 minutes. This railroad traffics many chemicals, such as fertilizer and anhydrous ammonia. Further, the CPS company houses and delivers chemicals, which is located three blocks away from the main NRD offices. Any chemical spills that may have occurred have been minor and of no consequence.

### **Historic Sites**

The location of historic sites in each jurisdiction, according to the National Register of Historic Places for Nebraska, can be found in their community profiles.

### **Critical Facilities**

Each participating jurisdiction identified critical facilities vital for disaster response, providing shelter to the public, and essential for returning the jurisdiction's functions to normal during and after a disaster.

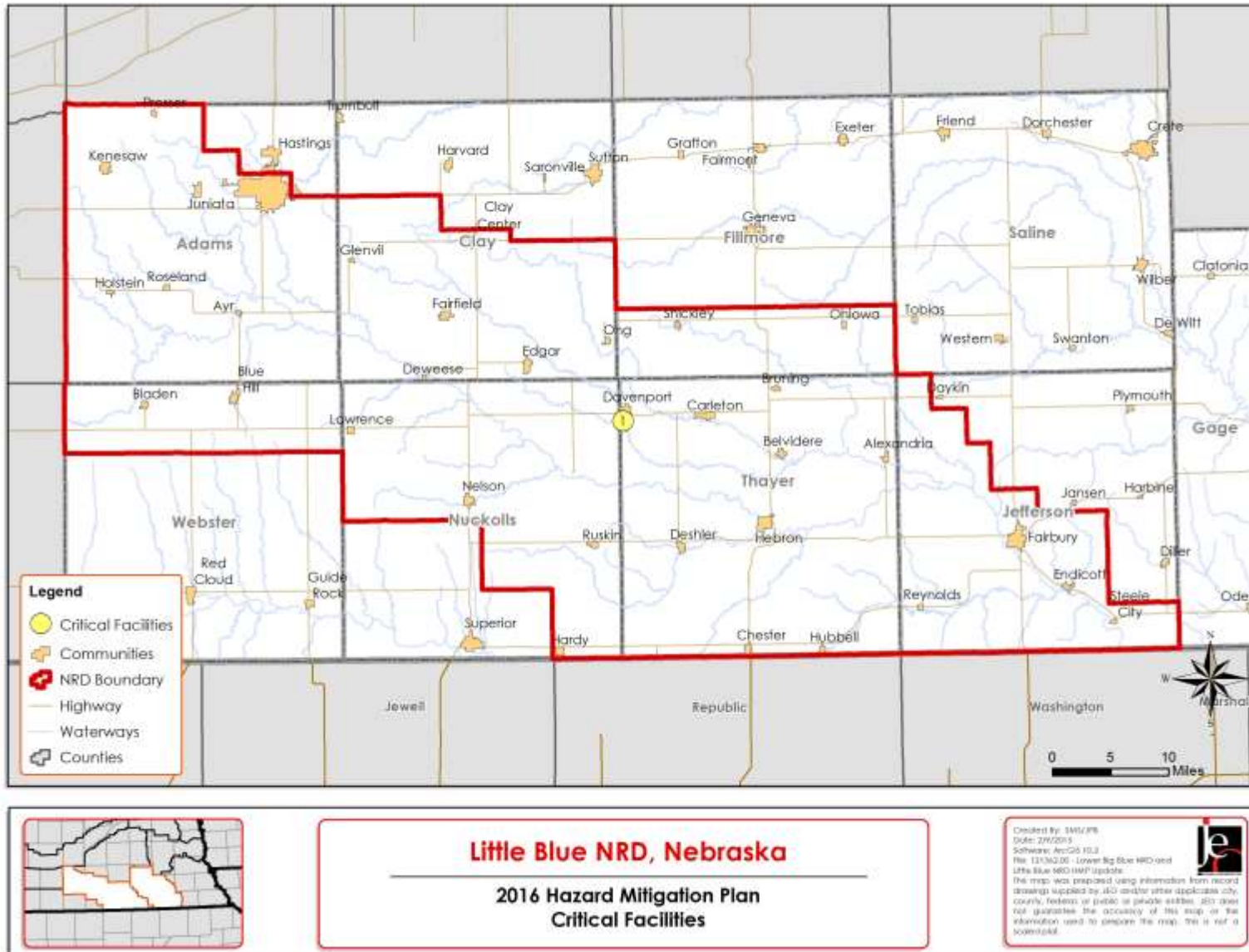


Critical facilities were identified during the original planning process and updated by the local planning team as a part of this plan update. The following table and figure provide a summary of the critical facilities for the jurisdiction.

**Table LBN.3: List of Critical Facilities**

<b>CF Number</b>	<b>Type</b>	<b>Name</b>	<b>Address</b>	<b>Shelter (Y/N)</b>	<b>Generator (Y/N)</b>	<b>Located in Floodplain (Y/N)</b>
1	NRD Facility	NRD Main Office	100 East 6 <sup>th</sup> St., Davenport, NE	No	No	No

Figure LBN.3: Critical Facilities



## ***HISTORICAL OCCURRENCES***

For the complete discussion on historical occurrences, please refer to *Section Four: Risk Assessment*.

## ***RISK ASSESSMENT***

### **Hazard Identification**

The following table is a localized risk assessment of hazards identified specifically for the Little Blue NRD. Refer to *Section Four: Risk Assessment* for an explanation of this methodology.

**Table LBN.4: Risk Assessment**

<b>HAZARD TYPE</b>	<b>PREVIOUS OCCURRENCE Yes/No</b>	<b>LOCAL LOSSES</b>	<b>SPECIFIC CONCERNS IDENTIFIED</b>
<b>Agricultural Animal Disease</b>	Yes	Yes	No
<b>Agricultural Plant Disease*</b>	Yes	Yes	Yes
<b>Chemical Spills (Fixed Site)</b>	Yes	No	No
<b>Chemical Spills (Transportation)</b>	Yes	Yes	No
<b>Civil Disorder</b>	No	No	No
<b>Dam Failure*</b>	No	No	Yes
<b>Drought*</b>	Yes	Yes	Yes
<b>Earthquakes</b>	Yes	Yes	No
<b>Extreme Heat*</b>	Yes	Yes	Yes
<b>Flooding*</b>	Yes	Yes	Yes
<b>Grass/Wildfires*</b>	Yes	Yes	Yes
<b>Hail*</b>	No	No	Yes
<b>High Winds*</b>	Yes	Yes	Yes
<b>Landslides</b>	Yes	Yes	No
<b>Levee Failure*</b>	No	No	Yes
<b>Radiological Incident (Fixed Site)</b>	No	No	No
<b>Radiological Incident (Transportation)</b>	No	No	No
<b>Severe Thunderstorms*</b>	Yes	Yes	Yes
<b>Severe Winter Storms*</b>	Yes	Yes	Yes
<b>Terrorism</b>	No	No	No
<b>Tornados*</b>	Yes	Yes	Yes
<b>Urban Fire</b>	No	No	No

*\*Identified by the planning team as a top concern for the NRD*

For more information regarding these area wide hazards, please see *Section Four: Risk Assessment*. The following provides NRD specific information, reported in the Little Blue NRD Risk Assessment Summary, which is relevant to each hazard.

### ***Agricultural Plant Disease***

Agriculture is a major industry in the NRD, particularly with corn and soybean production. Crops diseases affecting this industry would have considerable impacts on the area's economy.

During this mitigation plan update, LBNRD included a public education and awareness action to reduce the impacts of this hazard.

### ***Dam Failure***

The following table provides a list of the high hazard dams located in Little Blue NRD.

**Table LBN.5: High Hazard Dams**

<b>NIDID</b>	<b>Dam Name</b>	<b>Location</b>	<b>Name of Stream</b>	<b>Owner</b>
NE00703	Big Sandy Creek 20-6-7 Dam	NW of Fairfield	Big Sandy Creek	Little Blue NRD
NE01576	Hebron Dam	Hebron	Little Blue River	Thayer County

Source: NDNR

#### **NE00703**

Big Sandy Creek 20-6-7 Dam is on Big Sandy Creek in Clay County, Nebraska. Construction was completed in 1982. Its normal surface area is 251 acres. It is owned by Little Blue NRD, and the dam is located immediately upstream of the City of Hebron.

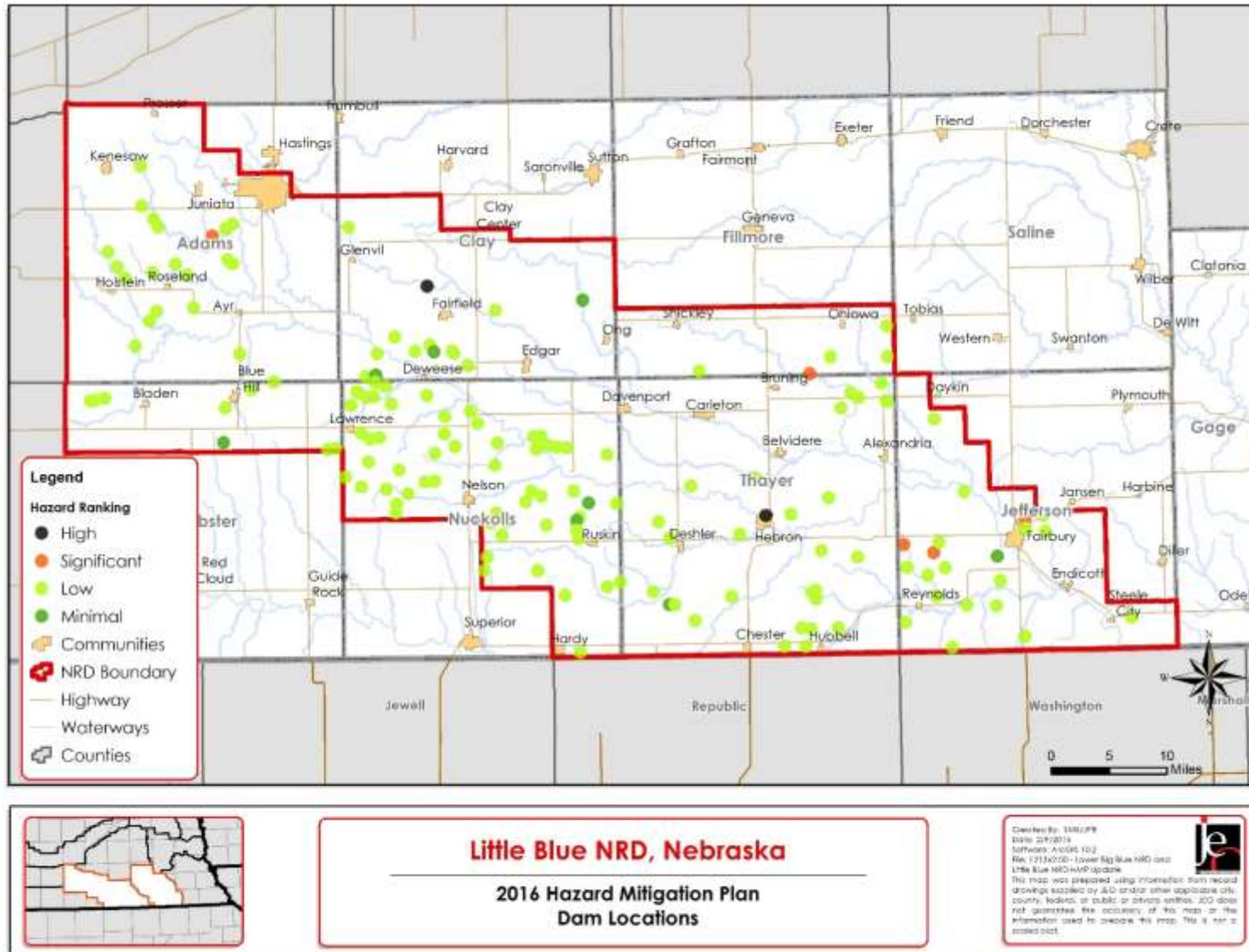
Big Sandy Creek 20-6-7 is of earthen construction. The core is homogeneous, earth. The foundation is soil. Its height is 45 feet with a length of 4,000 feet. Maximum discharge is 9,200 cubic feet per second. Its capacity is 10,700 acre feet. Normal storage is 1,610 acre feet. It drains an area of 42.2 square miles.

#### **NE01576**

Hebron Dam is on a tributary of Little Blue River in Thayer County, Nebraska and is used for flood control purposes. Construction was completed in 1976. Its normal surface area is 14 acres. It is owned by Thayer County.

Hebron Dam is of earthen construction. The core is homogeneous, earth. The foundation is soil. Though originally completed in 1976, the structure was modified in 1992. Its height is 46 feet with a length of 992 feet. Maximum discharge is 3,550 cubic feet per second. Its capacity is 601 acre feet. Normal storage is 79 acre feet. It drains an area of 1.1 square miles.

Figure LBN.4: Map of Dams in Little Blue NRD and Their Hazard Classification



The NRD owns and operates recreational dams and watershed structures throughout the NRD. If dams were to fail, the most likely impacts would be to bridges, fences, roads, and crops. Road dams, such as the one near Hebron, could impact people and property if they were to fail.

**Levee Failure**

The following table identifies the levees that are located in the NRD.

**Table LBN.6: Little Blue NRD Army Corps Certified Levees**

Segment ID	System ID	City	Watercourse	Length (miles)	Date of Construction
3604000008	3605000095	Fairbury, NE	Little Blue River	1.74	14-JUL-1970

Source: Nebraska State Mitigation Plan

The following map provides the location of the leveed area in Fairbury. Areas shaded in blue are land areas that are protected by the levees and are therefore vulnerable if the levees were to fail.

The NRD noted that if the levee were to fail, the Fairbury water supply could be harmed, which in turn could hamper the NRD’s delivery to rural water customers.

The Federal levee in Fairbury was built in 1971. The levee runs along the west and south edges of the city. The levee begins at US Highway 136 and ends at second and E streets.

During this mitigation plan update, LBNRD included the following mitigation actions to reduce the impacts of this hazard: public awareness and education, installing river flow gages, and levee/floodwall construction/improvements.



Figure LBN.5: Leveed Areas



### ***Drought***

Drought conditions in the LBNRD have caused water concerns in some communities. For example, water demands during extreme hot and dry conditions have caused water shortages for customers of the Little Blue Public Water Projects, and have prompted water use restrictions by the City of Fairbury, the project's supplier. Both the city and water projects have developed plans for water use reductions to address such situations.

During dry conditions the water users in rural areas may over use the NRD's water supply from Fairbury. The rural water project has come close several times in over use and rationings. Concerning dams, low water levels could affect fisheries and recreational attendance. Drought plays a part in overturning of lakes and fisheries dying. Other than the water conservation plan of the Little Blue Public Water Project, the LBNRD has no other drought monitoring board, drought response plan or water conservation plan.

During this mitigation plan update, LBNRD included the following mitigation actions to reduce the impacts of this hazard: public awareness and education initiatives, developing a drought management plan, negotiations for additional water service capacity and expansion of mainline to support such capacity, and continuing with a variety of water conservation awareness programs.

### ***Extreme Heat***

The NRD's main concern with extreme heat involves a higher demand on the rural water project. Also, the impacts on the water levels in the watershed and on recreational dams are a concern. Groundwater level declines and the potential loss of domestic water supplies due to declines, are significant concerns for the NRD.

During this mitigation plan update, LBNRD included the following mitigation actions to reduce the impacts of this hazard: purchasing a generator, public awareness and education initiatives, and continuing with a variety of water conservation awareness programs.

### ***Flooding***

Flooding can have significant impacts on NRD recreational and watershed structures, shelters, restrooms, playgrounds, and trails. The rural water projects have also been impacted. The rural water line under the Little Blue River has ruptured in 1993 and 2015 due to significant flood events.

During this mitigation plan update, LBNRD included the following mitigation actions to reduce the impacts of this hazard: public awareness and education initiatives, installing river flow gages, backing up project records, improving emergency communication, and conducting levee/floodwall construction/improvements.

### ***Hail***

For hail, the NRD is primarily concerned with damage to its main offices, recreational area facilities and local trees. There have been minor damages in the past.

During this mitigation plan update, LBNRD included the following mitigation actions to reduce the impacts of this hazard: first aid training, purchasing a backup generator, backing up project records, and installing surge protectors, if needed.

### ***Severe Thunderstorms***

The NRD is primarily concerned about this hazard in regards to potential damage to rural water projects, recreational areas, and the main office building. There have been minor damage historically. All computers in the main office use surge protection and have battery backups. The rural water project, which the NRD



owns and operates in Jefferson County, has a generator on the south booster station. The NRD has expressed an interest in obtaining a generator for the main office in Davenport.

During this mitigation plan update, LBNRD included the following mitigation actions to reduce the impacts of this hazard: first aid training, public awareness and education, purchasing a backup generator, backing up project records, and installing surge protectors, if needed.

### ***Severe Winter Storms***

The NRD is primarily concerned with this hazard causing power outages to rural water projects and the main office building. In the past, ice storms and blizzards have caused multiple power outages in the NRD.

During this mitigation plan update, LBNRD included the following mitigation actions to reduce the impacts of this hazard: purchasing a backup generator, public awareness and education, backing up project records, and improving emergency communications.

### ***Tornados and High Winds***

The NRD concerns include the office building and the shop building. Recreational Facilities, rural water projects, water towers, and other projects could experience significant damages by these events. There also been tree damages due to high winds in recreational areas.

During this mitigation plan update, LBNRD included the following mitigation actions to reduce the impacts of this hazard: constructing a safe room, purchasing a backup generator, public awareness and education, first aid training, backing up project records, and improving emergency communications.

### ***Wildfire***

The NRD indicated that wildfire could cause major damages to the recreational facilities and structures. The NRD has not been notably impacted by wildfire in the past.

During this mitigation plan update, LBNRD included the following mitigation actions to reduce the impacts of this hazard: public awareness and education, first aid training, backing up project records, and improving emergency communications.

## ***GOVERNANCE***

The Little Blue NRD is governed locally by a 17 member Board of Directors. The NRD serves both incorporated and unincorporated areas within their jurisdiction and have the capability to financially and administratively assist villages, cities, and counties with mitigation actions, most commonly flood control and drainage improvements.

- General Manager
- Programs Manager
- Water Quality Specialist
- Project's Manager
- Operations Supervisor
- Administrative Secretary
- District Secretary
- NRD Technician
- Water Resources Technician
- 5 Field Office Staff
- 2 Rural Water Employees

- Executive Committee
- Projects and Planning Committee
- Groundwater committee
- Research and Education Committee

### ***CAPABILITY ASSESSMENT***

The capability assessment consisted of two main components: a Capability Assessment Survey completed by the jurisdiction and a review of local existing policies, regulations, plans, and the programs. The survey is used to gather information regarding the jurisdiction's planning and regulatory capability; administrative and technical capability; fiscal capability; and educational and outreach capability.

The NRD does have the ability to enact capital improvement project funding and the authority to levy taxes for specific purposes. The NRD also regularly engages in public education and information programs related to hazard mitigation in the area.

The NRD routinely works with other counties, cities, and villages within their jurisdictional boundaries. In 2011, the Little Blue NRD also partnered with the Lower Big Blue NRD to produce its first hazard mitigation plan.

To date, the NRD has not applied for HMA grants. In the future, the NRD indicates it would like to apply for backup generators and a safe room in Davenport, and alert sirens and possibly safe rooms for recreational areas.

### ***PLAN INTEGRATION***

Building safe and smart communities can be accomplished through effective Plan integration. Integrating hazard mitigation principles into other local planning mechanisms, such as plans addressing land use, transportation, climate change, sustainability, natural and cultural resource protection, watershed management, economic development and others can greatly increase an area's level of resiliency. While this HMP planning process involved interdepartmental coordination at the local level, this planning process also sought to analyze how existing planning mechanisms were presently integrated and make suggestions for further integration. The plans listed in the preceding table were analyzed using guidance from FEMA's 2014 *Plan Integration Guide*. The following paragraph presents a summary of the findings of this analysis.

The NRD has developed multiple plans in the past, which have influenced the mitigation priorities in the NRD. These include the following:

- Watershed Management Plan
- Groundwater Management Plan
- Water Quality Sub Areas
- Master Plan

The NRD implements principles outlined in these plans through the following programs:

#### **Groundwater**

The NRD maintains a robust groundwater conservation and management program. The NRD is actively involved with flow meter programs, groundwater quality monitoring, chemigation initiatives, wellhead protection, well head monitoring, irrigation scheduling, well abandonment, well permitting, and a basin water plan initiative.

### **Conservation**

The NRD engages in a number of initiatives related to conservation. These include land treatment, water quality, watershed management, dam programs, community tree projects, flood control projects, urban park projects, and urban conservation.

Regarding watershed management, the Little Blue NRD has completed watershed development plans on several of the regional watersheds over the years with the primary purpose being for flood control. But with the construction of dams, other benefits have been recognized as well. These include grade and erosion control, groundwater recharge, livestock water, irrigation, fisheries and wildlife and private and public recreation opportunities. These multi-benefit projects capture storm water runoff and release it slowly into the streams and river, thus reducing road, bridge and crop damages, reducing stream bank erosion and downstream sedimentation, and retaining valuable surface water supplies for beneficial uses.

Regarding the dam program, the purpose of this program is to participate in planning, design and financial assistance in the construction or rebuilding of dams located on private property. Dams constructed under this program may involve one or more landowners. Public benefits achieved include: flood control, sediment & erosion control, and water conservation. Other benefits include groundwater recharge, beneficial use of impounded water, fish and wildlife enhancement.

### **Trees/Wildlife**

The NRD maintains a Tree Program, a NE Buffer Strip Program, a Drill Rental Program, and a Wetland Restoration Program.

With the Tree Program, the NRD meets with interested communities to develop comprehensive tree inventory assessments and help communities achieve strong tree maintenance programs. This is done in partnership with the Natural Resources Conservation Service.

The Nebraska Buffer Strip (NBSP) was created by the Nebraska Legislature in 1998. The program encourages landowners to establish buffer strips, specifically filter strips and riparian forest buffers, along vulnerable surface water resources. Buffer strips are an effective means of reducing sediments and other pollutants in runoff. Funding for the program is from a fee assessed on pesticides registered for sale in Nebraska, and is administered by the Nebraska Department of Agriculture (NDA), Nebraska's Natural Resources Districts, and the USDA Natural Resources Conservation Service (NRCS).

With the drill rental program, the Little Blue NRD provides three grass drills available for rent, two twelve foot drills and one 10 foot no-till drill.

With the wetland restoration program, the NRD fills unused or unwanted irrigation reuse pits that lie in priority wetland basin watersheds within the Rainwater Basin of Nebraska. Filling in these old reuse pits restores the watershed's natural hydrology, allowing snow melt and storm-water runoff to flow unimpeded into the wetland basin, and in so doing, increases the wetland functions and improves wildlife habitat.

### **Recreation**

The Little Blue NRD operates and maintains six Recreation Areas that are open to the public. These areas are at the Lone Star site, Liberty Cove, Crystal Lake, Buckley Creek, Prairie Lake, Roseland Lake, and Bruning Dam. The sites provide a wide array of recreational opportunities to the public, ranging from ice skating to golfing.

### **Education**

The NRD engages in an array of education outreach projects. These include providing scholarships for graduated high school students interested in the natural resources field, hosting an annual, large scale water/earth jamboree (day camp) for 5<sup>th</sup> and 6<sup>th</sup> grade students, land/range judging for Future Farmers of America (FFA) events, hosting an education earth festival and Envirothon, assisting with the Nebraska Rainfall Assessment and Information Network (NeRain), and helping schools develop outdoor classrooms and outdoor class activities. Other education activities include water conferences, and required operator training in water, fertilizer, and conservation.

### **Rural Water**

Poor water quality and availability of water has been a problem in some areas of the NRD. A solution to this problem has been addressed by the construction of two public water supply systems in the southeastern section of the District, termed the Little Blue Public Water Project and the Little Blue Public Water Project South.

#### **Little Blue Public Water Project**

The Little Blue Public Water Project serves over 284 domestic, livestock, and business hookups in eastern Thayer County and west and central Jefferson Counties, including the villages of Gilead and Gladstone. Water is purchased from the City of Fairbury and piped through over 120 miles of buried lines to provide quality water service.

Low water availability and poor water quality were serious issues facing the residents of the Little Blue NRD's southeastern region. Area residents had been exposed to poor water quality problems such as high nitrates, sodium, iron and sulfur with extreme hardness and odor present. The need for a quality water source had become a major concern for the area. The Little Blue Public Water Project was completed in 1976 with the objective of supplying continuous, quality water service to residents of the area. The Project is financially self-supporting and operates almost exclusively (96%) on water sales income from the customers.

#### **Little Blue Public Water Project South**

The Little Blue Public Water Project South provides water service to over 145 customers, many of who are in the area south of Fairbury, NE as well as just across the border into central Kansas, in Washington County.

Water for this Project is also purchased from the City of Fairbury and distributed to provide quality water to residents of the area.

Construction of the Little Blue Public Water Project South was completed in 1999. Funding for the Project was made available through a grant from USDA Rural Development Water 2000 initiative in the amount of \$1,067,900, a loan in the amount of \$873,800, \$116,550 in user fees, \$30,000 from the existing Little

Blue NRD Water Project and a Kansas Community Development Block Grant in the amount of \$220,000. The project consists of 110 miles of buried pipeline, a 75,000 gallon water tower, and two booster stations.

## **MITIGATION STRATEGY**

### **Completed Mitigation Actions**

<b>ACTION LBN-1</b>	<b>Pump station for the Emergency Electrical Power Disconnect (West Station)</b>
<b>Analysis</b>	N/A
<b>Goal/Objective</b>	N/A
<b>Hazard(s) Addressed</b>	N/A
<b>Benefits</b>	N/A
<b>Estimated Cost</b>	N/A
<b>Potential Funding</b>	N/A
<b>Timeline</b>	N/A
<b>Priority</b>	N/A
<b>Lead Agency</b>	N/A
<b>Status</b>	Completed. This action was listed in the previous mitigation plan.

### **Ongoing and New Mitigation Actions**

<b>ACTION LBN-2</b>	<b>Pump station for the Emergency Electrical Power Disconnect (North Station)</b>
<b>Analysis</b>	Install a pump station to reduce the failure of the emergency electrical power disconnect at the north station.
<b>Goal/Objective</b>	3.6
<b>Hazard(s) Addressed</b>	All
<b>Benefits</b>	This would reduce the likelihood of critical infrastructure failure
<b>Estimated Cost</b>	24,000
<b>Potential Funding</b>	General Funds, HMGP, PDM, FMA
<b>Timeline</b>	2-5 years
<b>Priority</b>	High
<b>Lead Agency</b>	LBNRD Board
<b>Status</b>	Ongoing. This action was listed in the previous mitigation plan.

<b>ACTION LBN-3</b>	<b>Floodplain mapping</b>
<b>Analysis</b>	Provide floodplain mapping for communities throughout the NRD
<b>Goal/Objective</b>	3.3
<b>Hazard(s) Addressed</b>	Flooding
<b>Benefits</b>	This would help improve risk awareness in the LBNRD
<b>Estimated Cost</b>	750,000
<b>Potential Funding</b>	General Funds, HMGP, PDM, FMA
<b>Timeline</b>	Ongoing
<b>Priority</b>	High

<b>ACTION LBN-3</b>	<b>Floodplain mapping</b>
<b>Lead Agency</b>	LBNRD Board
<b>Status</b>	Ongoing. This action was listed in the previous mitigation plan.

<b>ACTION LBN-4</b>	<b>River flow gages to mitigate a flooding issue</b>
<b>Analysis</b>	Install river flow gages to monitor flood issues
<b>Goal/Objective</b>	3.6
<b>Hazard(s) Addressed</b>	Flooding
<b>Benefits</b>	This would provide important notification for flood threats
<b>Estimated Cost</b>	\$50,000
<b>Potential Funding</b>	General Funds, HMGP, PDM, FMA
<b>Timeline</b>	2-5 years
<b>Priority</b>	High
<b>Lead Agency</b>	LBNRD Board
<b>Status</b>	Ongoing. This action was listed in the previous mitigation plan.

<b>ACTION LBN-5</b>	<b>Public Awareness/Education</b>
<b>Analysis</b>	The LBNRD provides a consumer confidence report every year to all project users. They also survey all customers with this campaign.
<b>Goal/Objective</b>	1.5
<b>Hazard(s) Addressed</b>	All
<b>Benefits</b>	Improve risk awareness / communication
<b>Estimated Cost</b>	\$250 a year
<b>Potential Funding</b>	General Funds, HMGP, PDM, FMA
<b>Timeline</b>	Ongoing
<b>Priority</b>	High
<b>Lead Agency</b>	LBNRD Board
<b>Status</b>	Ongoing. This is a new action included during this plan update process.

<b>ACTION LBN-6</b>	<b>First Aid Training</b>
<b>Analysis</b>	This would ensure that every five years the NRD staff becomes trained in first aid training.
<b>Goal/Objective</b>	1.5
<b>Hazard(s) Addressed</b>	All
<b>Benefits</b>	Improve response capabilities
<b>Estimated Cost</b>	\$500
<b>Potential Funding</b>	General Funds, Public Health Department
<b>Timeline</b>	Ongoing
<b>Priority</b>	Medium
<b>Lead Agency</b>	LBNRD Board
<b>Status</b>	Ongoing. This is a new action identified during this plan update process.

<b>ACTION LBN-7</b>	<b>Back-up Generator</b>
<b>Analysis</b>	Purchase a mobile generator for Rural Water Projects

<b>ACTION LBN-7</b>	<b>Back-up Generator</b>
<b>Goal/Objective</b>	2.2
<b>Hazard(s) Addressed</b>	All
<b>Benefits</b>	Mitigates the impacts of power outages
<b>Estimated Cost</b>	\$30,000
<b>Potential Funding</b>	Water Project Funds, HMGP, PDM, FMA
<b>Timeline</b>	2-5 years
<b>Priority</b>	Medium
<b>Lead Agency</b>	LBNRD Board
<b>Status</b>	Ongoing. This is a new action identified during this plan update process.

<b>ACTION LBN-8</b>	<b>Back-up Project Records up to Davenport</b>
<b>Analysis</b>	The lady that does our books lives in Fairbury, we would like to have the capability to back up every day to the NRD office.
<b>Goal/Objective</b>	3.6
<b>Hazard(s) Addressed</b>	All
<b>Benefits</b>	Provides secondary copies of records
<b>Estimated Cost</b>	\$5,000
<b>Potential Funding</b>	Water Project Fund, HMGP, PDM, USDA
<b>Timeline</b>	1 year
<b>Priority</b>	High
<b>Lead Agency</b>	LBNRD Board
<b>Status</b>	Ongoing. This is a new action identified during this plan update process.

<b>ACTION LBN-9</b>	<b>Emergency Communications</b>
<b>Analysis</b>	Water Project Database for phone systems, notification system, to report conservation of water, water line breakdowns etc.
<b>Goal/Objective</b>	1.4
<b>Hazard(s) Addressed</b>	All
<b>Benefits</b>	Improve risk awareness and response capabilities
<b>Estimated Cost</b>	\$15,000
<b>Potential Funding</b>	Water Project Fund, HMGP, PDM, FMA
<b>Timeline</b>	2-5 years
<b>Priority</b>	Medium
<b>Lead Agency</b>	LBNRD Board
<b>Status</b>	Ongoing. This is a new action identified during this plan update process.

<b>ACTION LBN-10</b>	<b>Levee/Floodwall Construction and Improvements</b>
<b>Analysis</b>	Work with Kenesaw with the new floodplain mapping, and alternatives to reduce flood impacts.
<b>Goal/Objective</b>	3.4
<b>Hazard(s) Addressed</b>	Levee/Dam Failure, Flooding
<b>Benefits</b>	Reduced likelihood of Levee/Dam Failure/Flooding
<b>Estimated Cost</b>	Varies
<b>Potential Funding</b>	General Funds, HMGP, PDM, FMA

<b>ACTION LBN-10</b>	<b>Levee/Floodwall Construction and Improvements</b>
<b>Timeline</b>	5+ years
<b>Priority</b>	Medium
<b>Lead Agency</b>	LBNRD Board
<b>Status</b>	Ongoing. This is a new action identified during this plan update process.

<b>ACTION LBN-11</b>	<b>Surge Protectors</b>
<b>Analysis</b>	Purchase surge protectors, as need. Presently, the Rural Water Projects have battery backup on surge protectors. Also all computers at the LBNRD office are surge protected.
<b>Goal/Objective</b>	3.6
<b>Hazard(s) Addressed</b>	All
<b>Benefits</b>	Reduces impacts of power surges
<b>Estimated Cost</b>	\$500
<b>Potential Funding</b>	General Funds
<b>Timeline</b>	Ongoing
<b>Priority</b>	Low
<b>Lead Agency</b>	LBNRD Board
<b>Status</b>	Ongoing. This is a new action identified during this plan update process.

<b>ACTION LBN-12</b>	<b>Safe Room</b>
<b>Analysis</b>	This would be bunker type facility under the garage in the rear of the building.
<b>Goal/Objective</b>	1.2
<b>Hazard(s) Addressed</b>	Tornados
<b>Benefits</b>	Provides safe sheltering options
<b>Estimated Cost</b>	\$50,000
<b>Potential Funding</b>	General Funds, HMGP, PDM
<b>Timeline</b>	2-5 years
<b>Priority</b>	High
<b>Lead Agency</b>	NRD funding Manager
<b>Status</b>	Ongoing. This is a new action identified during this plan update process.

<b>ACTION LBN-13</b>	<b>Develop a Drought Management Plan</b>
<b>Analysis</b>	Currently, the rural water projects are developing a 3 stage plan based on water pumps.
<b>Goal/Objective</b>	3.3
<b>Hazard(s) Addressed</b>	Drought
<b>Benefits</b>	Improves drought management capabilities
<b>Estimated Cost</b>	\$5,000+
<b>Potential Funding</b>	General Funds, HMGP, PDM, FMA
<b>Timeline</b>	2-5 years
<b>Priority</b>	Medium
<b>Lead Agency</b>	LBNRD Board
<b>Status</b>	Ongoing. This is a new action identified during this plan update process.



<b>ACTION LBN-14</b>	<b>Water Conservation Awareness programs</b>
<b>Analysis</b>	Continuously implement and update the water conservation awareness programs.
<b>Goal/Objective</b>	1.5
<b>Hazard(s) Addressed</b>	Drought
<b>Benefits</b>	Reduced impacts of drought events
<b>Estimated Cost</b>	\$1,000+
<b>Potential Funding</b>	General Funds, USDA, HMGP, PDM
<b>Timeline</b>	Ongoing
<b>Priority</b>	High
<b>Lead Agency</b>	LBNRD Board
<b>Status</b>	Ongoing. This is a new action included during this plan update process.

**Removed Mitigation Actions**

<b>ACTION LBN-15</b>	<b>Construction of Dam Site 12</b>
<b>Analysis</b>	N/A
<b>Goal/Objective</b>	N/A
<b>Hazard(s) Addressed</b>	N/A
<b>Benefits</b>	N/A
<b>Estimated Cost</b>	N/A
<b>Potential Funding</b>	N/A
<b>Timeline</b>	N/A
<b>Priority</b>	N/A
<b>Lead Agency</b>	N/A
<b>Status</b>	Project Suspended. This action was listed in the previous mitigation plan.

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