

MULLEN BOARD OF EDUCATION
January 13, 2020
Regular Board Meeting Agenda
7:00 PM

1. Call to order, roll call, and excuse board member absences.
Speaker(s): President Bryan Starr
2. Reorganization of the board and election of officers.
3. Assignment of board committees.
4. Approval of the December 9, 2019 Board Workshop minutes and Regular Board Meeting minutes.
5. Approval of the Agenda.
6. Approval of the following January, 2020 claims: Payroll \$241,406.52, General Fund \$51,453.17, Lunch Fund \$4,926.66, and Special Building Fund \$276.05.
7. Continuous Improvement Report from the MPS Safety Committee
Speaker(s): Ms. Melody McDowell
8. Requests to address the Board
9. Discuss, consider and take all necessary action to renew policy 2012 Board Code of Ethics.
10. Discuss, consider and take all necessary action to approve the 2020-2021 Negotiated Agreement with the Mullen Education Association.
11. Discuss, consider and take all necessary action to approve the 2019 superintendent evaluation for Chris Kuncl.
12. Discuss, consider and take all necessary action to approve the two year superintendent contract for Chris Kuncl for the 2020-2021 school year and the 2021-2022 school year.
13. Discuss, consider and take all necessary action to approve contracts with ESU 16 for the 2020-2021 school year.
14. Discuss, consider and take all necessary action to approve First State Bank of Mullen to be the official depository bank for the Mullen School District in 2020.
15. Discuss, consider and take all necessary action to approve the request of the Mullen Education Association as the exclusive bargaining agent for the district's non supervisory certificated staff for the 2021-2022 contract year.
16. Discuss, consider and take all necessary action to approve the adoption of the Upper Loup NRD Hazard Mitigation Plan.
17. Nebraska Association of School Board Monthly Update
Speaker(s): Chris Kuncl
18. Administrative Reports
 - a. Mr. Moore- Elementary Principal Report
Speaker(s): Justin Moore
 - b. Mr. Kvanvig- High School Principal Report
Speaker(s): Mike Kvanvig
 - c. Mr. Kuncl- Superintendent Report
Speaker(s): Chris Kuncl
 - d. Activities Director Report
19. Board Reports
20. Next Meeting - February 10, 2020 at 7:00 PM.

21. Adjournment

The Mullen Board of Education reserves the right to go into Closed Session for purposes in accordance with LB 84-1410(1)

Mullen Public Schools
Board of Education
2020 Committee Assignments

Negotiations/Finance Committee

Bryan Starr, Jason Coble, Barb Svoboda

High School Building/Transportation Committee

Bryan Starr, Jason Coble, Travis Hampton

Elementary Building/Technology Committee

Barb Svoboda, Liza Simonson, Mike French

Curriculum & Instruction Committee

Liza Simonson (CIP Board Rep), Mike French

Policy/Americanism Committee

Travis Hampton, Barb Svoboda

**MULLEN BOARD OF EDUCATION
MINUTES
December 9, 2019**

The regular meeting of the Mullen School Board was called to order at 7:00 p.m. by President Bryan Starr. He announced that the Open Meetings Act is posted on the west wall. Board members in attendance were Bryan Starr, Jason Coble, Barb Svoboda, Liza Simonson, Travis Hampton, and Mike French. Also in attendance were Superintendent Chris Kunch, 6-12 Principal Mike Kvanvig, K-5 Principal Justin Moore, 4 staff members, 2 students, and 1 patron.

Motion to approve the minutes from the November 11, 2019 Regular Board Meeting. This motion, made by Mike French and seconded by Travis Hampton, carried.

Barb Svoboda: yes, Bryan Starr: yes, Jason Coble: yes, Liza Simonson: yes, Mike French: yes, Travis Hampton: yes
yes: 6, no: 0

Motion to approve the agenda, and verify that notice of the meeting was published in the Hooker County Tribune, and posted according to board policy. This motion, made by Liza Simonson and seconded by Jason Coble, carried.

Barb Svoboda: yes, Bryan Starr: yes, Jason Coble: yes, Liza Simonson: yes, Mike French: yes, Travis Hampton: yes
yes: 6, no: 0

Motion for approval of the following December claims: Payroll \$232,966.01 , General Fund \$41,429.34, Lunch Fund \$4,037.57, Special Building Fund \$304.03, Bond Fund \$93,851.25 and QSCB Fund \$10,518.75. This motion, made by Liza Simonson and seconded by Jason Coble, carried.

Barb Svoboda: yes, Bryan Starr: yes, Jason Coble: yes, Liza Simonson: yes, Mike French: yes, Travis Hampton: yes
yes: 6, no: 0

Mrs. Vest provided a detailed report on the Social Science curriculum that is used at Mullen High School. She stated that her American Government students are required to attend a public meeting once during the year. Mrs. Vest went over each level and what they cover within her area of Social Science.

Motion to approve the 2019 Mullen Public Schools Annual Report. This motion, made by Barb Svoboda and seconded by Liza Simonson, carried.

Barb Svoboda: yes, Bryan Starr: yes, Jason Coble: yes, Liza Simonson: yes, Mike French: yes, Travis Hampton: yes
yes: 6, no: 0

Motion to approve a lease through Titan Machinery for a T650 Bobcat. This motion, made by Travis Hampton and seconded by Mike French, carried.

Barb Svoboda: yes, Bryan Starr: yes, Jason Coble: yes, Liza Simonson: yes, Mike French: yes, Travis Hampton: yes
yes: 6, no: 0

Motion to approve the 2020-2021 Negotiated Agreement with the Mullen Education Association. This motion, made by Barb Svoboda and seconded by Jason Coble, Tabled.

Barb Svoboda: yes, Bryan Starr: yes, Jason Coble: yes, Liza Simonson: yes, Mike French: yes, Travis Hampton: yes
yes: 6, no: 0

The Nebraska Association of School Board provides the Mullen Public Schools with a monthly update on new happening throughout Nebraska.

Mr. Moore provided a detailed report to the board of education on the continuous improvement process, security, and the learning walk.

Mr. Kvanvig provided a detailed report on "What I Need" (WIN) time, holiday break, and future events.

Mr. Kuncl provided a detailed report on the Rule 10 visit from Nebraska Department of Education, the ALICAP insurance visit, and the Nebraska Association of School Board's state conference.

Mr. Kuncl provided the school board with a detailed activities director report.

Liza Simonson provided a detailed report on the Nebraska Association of School Board's state conference.

President Bryan Starr declared the meeting adjourned at 8:03 pm

An agenda is kept continually current and is available for public inspection in the Superintendent's office during regular office hours.

Chris Kuncl, Recording Secretary

**MULLEN BOARD OF EDUCATION
BOARD WORKSHOP MINUTES
December 9, 2019**

The board workshop of the Mullen School Board was called to order at 5:00 p.m. by President Bryan Starr. He announced that the Open Meetings Act is posted on the west wall. Board members in attendance were Bryan Starr, Jason Coble, Barb Svoboda, Liza Simonson, Travis Hampton, and Mike French. Also in attendance was Superintendent Chris Kuncl.

President Starr announced that the purpose of this workshop was to conduct the superintendent evaluation for Chris Kuncl.

Motion to go into executive session to protect the privacy of personnel. This motion, made by Liza Simonson and seconded by Travis Hampton, carried.

Barb Svoboda: yes, Bryan Starr: yes, Jason Coble: yes, Liza Simonson: yes, Mike French: yes, Travis Hampton: yes
yes: 6, no: 0

The board of education discussed the evaluation and compiled information on Mr. Kuncl. Mr. Kuncl joined the meeting at 6:45 pm.

Mike French moved to exit executive session at 6:57 pm.

President Starr called a recess at 6:57 pm.

President Starr reconvened the workshop at 8:10 pm.

Motion to go into executive session to protect the privacy of personnel. This motion, made by Barb Svoboda and seconded by Jason Coble, carried.

Barb Svoboda: yes, Bryan Starr: yes, Jason Coble: yes, Liza Simonson: yes, Mike French: yes, Travis Hampton: yes
yes: 6, no: 0

Discussion with the board and Mr. Kuncl was continued on the superintendent evaluation.

Mike French moved to exit executive session at 10:12 pm.

President Starr declared the workshop adjourned at 10:13 pm.

Chris Kuncl, Recording Secretary

Current Cash Balance Report

SELECTED Data

Date: 12/01/2019 thru 12/31/2019

Arranged by:
Group ID and Activity Number

Activity Number and Name	Beginning Cash	Receipts	Disbursements	Adjustments	Cash Balance
A ACTIVITIES					
100 ATHLETICS	397.33	95.00	8.33	0.00	484.00
120 Hill Top Gym & Weight Room	11,413.88	0.00	253.00	0.00	11,160.88
175 Doug Young Memorial	7,450.66	0.00	0.00	0.00	7,450.66
180 Dan Brost Memorial	11,324.56	0.00	0.00	0.00	11,324.56
185 Chuck Hafer Memorial	656.00	0.00	0.00	0.00	656.00
190 Keith Sauls Memorial	42,593.07	0.00	1,876.09	0.00	40,716.98
250 Banking	1,066.10	138.51	0.00	0.00	1,204.61
300 Media	3,552.34	130.00	0.00	0.00	3,682.34
345 Bronco Play Production	89.95	0.00	0.00	0.00	89.95
350 Bronco Speech	728.78	0.00	0.00	0.00	728.78
400 CONCESSIONS	6,862.88	3,643.00	702.64	0.00	9,803.24
425 Pepsi Cola	3,011.94	0.00	0.00	0.00	3,011.94
430 Vending Machine	663.65	340.75	0.00	0.00	1,004.40
450 Wellness	-353.41	0.00	-224.84	0.00	-128.57
500 FCCLA--LOCAL	9,869.79	0.00	3,339.71	0.00	6,530.08
520 FCCLA--NATIONAL	785.17	0.00	0.00	0.00	785.17
720 Class of 2020	2,542.62	0.00	0.00	0.00	2,542.62
721 Class of 2021	1,934.25	0.00	0.00	0.00	1,934.25
722 Class of 2022	2,170.36	0.00	0.00	0.00	2,170.36
723 Class of 2023	1,456.64	0.00	0.00	0.00	1,456.64
724 Class of 2024	413.61	0.00	0.00	0.00	413.61
725 Class of 2025	0.00	0.00	0.00	0.00	0.00
726 Class of 2026	-18.21	0.00	0.00	0.00	-18.21
800 ANNUAL	6,237.05	70.00	1,347.50	0.00	4,959.55
825 Digital Yearbooks	1,138.21	0.00	0.00	0.00	1,138.21
850 Computer/Technology	2,462.43	0.00	0.00	0.00	2,462.43
900 MUSIC	161.67	28.50	0.00	0.00	190.17
950 BAND/MUSIC CLUB	1,449.05	0.00	0.00	0.00	1,449.05
1000 SHOP	4,449.92	0.00	0.00	0.00	4,449.92
1010 PlasmaCam/Power Drive	2,596.31	0.00	0.00	0.00	2,596.31
1050 FFA	8,040.93	3,639.07	1,749.80	0.00	9,930.20
1100 SUMMER & YOUTH RECREATION	6,218.91	0.00	0.00	0.00	6,218.91
1150 PLAYGROUND	5,760.16	0.00	0.00	0.00	5,760.16
1300 CHEERLEADERS	2,730.45	57.99	0.00	0.00	2,788.44
1400 SPANISH CLUB	3,249.55	0.00	0.00	0.00	3,249.55
1500 NATIONAL HONOR SOCIETY	2,643.54	1,223.26	2,541.99	0.00	1,324.81
1520 Quiz Bowl	1,694.52	0.00	0.00	0.00	1,694.52
1550 FLORIDA SCIENCE	1,452.97	1,412.00	2,000.00	0.00	864.97
1600 ART CLUB	3,410.12	0.00	0.00	0.00	3,410.12
1700 STUDENT COUNCIL	566.02	0.00	0.00	0.00	566.02
1800 M CLUB	3,380.10	0.00	0.00	0.00	3,380.10
1801 Broncos Cross Country	559.89	0.00	0.00	0.00	559.89
1802 Bronco Football	1,843.59	51.00	0.00	0.00	1,894.59
1805 Lady Bronco Volleyball Club	105.80	0.00	0.00	0.00	105.80
1806 Bronco Lady Basketball	942.55	155.00	267.50	0.00	830.05
1807 Bronco Basketball	4,039.06	135.00	0.00	0.00	4,174.06
1808 Bronco Wrestling	519.94	0.00	0.00	0.00	519.94
1809 Bronco Track Team	786.15	0.00	0.00	0.00	786.15
1811 Bronco Boys Golf	4,054.80	0.00	0.00	0.00	4,054.80
1950 Scholarships	1,145.62	0.00	0.00	0.00	1,145.62
1955 Marilyn Downing Scholarship est 2019	8,384.78	0.00	0.00	0.00	8,384.78

Current Cash Balance Report

SELECTED Data

Date: 12/01/2019 thru 12/31/2019

Arranged by:
Group ID and Activity Number

Activity Number and Name	Beginning Cash	Receipts	Disbursements	Adjustments	Cash Balance
2200 TURNER FOUNDATION	40.83	0.00	0.00	0.00	40.83
3000 MATH-SCIENCE COALITION	5,146.26	0.00	18.98	0.00	5,127.28
3100 STEM	1,673.35	0.00	0.00	0.00	1,673.35
A ACTIVITIES Totals:	195,496.49	11,119.08	13,880.70	0.00	192,734.87
B NSAA Activities					
5001 Cross Country	123.95	0.00	0.00	0.00	123.95
5002 Football	-322.87	0.00	100.00	0.00	-422.87
5005 Volleyball	684.18	0.00	0.00	0.00	684.18
5006 Girls Basketball	1,330.03	0.00	2,133.00	0.00	-802.97
5007 Boys Basketball	1,007.46	0.00	0.00	0.00	1,007.46
5008 Wrestling	508.52	0.00	0.00	0.00	508.52
5009 Track & Field	480.54	0.00	0.00	0.00	480.54
5011 Boys Golf	250.00	0.00	0.00	0.00	250.00
5012 Play Production	350.00	0.00	286.05	0.00	63.95
5013 Speech	460.12	0.00	47.50	0.00	412.62
5050 Admissions/Officials	8,355.75	2,023.00	3,040.00	0.00	7,338.75
5065 Travel	2,284.00	0.00	160.00	0.00	2,124.00
5070 Dues & Fees	596.00	1,180.00	711.00	0.00	1,065.00
B NSAA Activities Totals:	16,107.68	3,203.00	6,477.55	0.00	12,833.13
Report Totals:	211,604.17	14,322.08	20,358.25	0.00	205,568.00

Mullen Public Schools

Cash Summary Report December 2019

Fund	Description	Beginning Balance	Revenue	Expenditure	Other	Ending Balance
01	GENERAL FUND	\$803,948.19	\$61,327.56	(\$269,767.07)	\$0.00	\$595,508.68
02	DEPRECIATION FUND	\$191,324.20	\$125.80	\$0.00	\$0.00	\$191,450.00
03	EMPLOYEE BENEFIT FUND	\$72,166.80	\$47.45	\$0.00	\$0.00	\$72,214.25
06	LUNCH FUND	\$17,427.29	\$4,754.91	(\$8,665.85)	\$0.00	\$13,516.35
07	BOND FUND	\$334,954.22	\$296.34	(\$93,851.25)	\$0.00	\$241,399.31
08	SPECIAL BUILDING FUND	\$457,126.60	\$853.15	(\$304.03)	\$0.00	\$457,675.72
09	QUALIFIED SCHOOL	\$471,782.52	\$373.33	(\$10,518.75)	\$0.00	\$461,637.10
	ACTIVITY FUND	\$211,604.17	\$14,322.08	(\$20,358.25)	\$0.00	\$205,568.00
	PETTY CASH FUND	\$5,208.03	\$3,067.45	(\$2,781.82)	\$0.00	\$5,493.66
	CAFETERIA PLAN	\$6,423.82	\$514.31	(\$319.30)	\$0.00	\$6,618.83
		\$2,571,965.84	\$85,682.38	(\$406,566.32)	\$0.00	\$2,251,081.90

County Treasurer's Report December 2019

	GENERAL	BOND	SPEC BUILDING	QSCB	TOTAL
HOOKER	\$135,704.37	\$1,482.05	\$45.60	\$1,670.06	\$138,902.08
CHERRY	\$102,417.48	\$1,136.59	\$5.83	\$1,295.87	\$104,855.77
THOMAS	\$18,920.09	\$203.57	\$0.84	\$232.27	\$19,356.77
TOTAL	\$257,041.94	\$2,822.21	\$52.27	\$3,198.20	\$263,114.62

Mullen Public Schools

Cash Summary Report

Accounting Cycle: FY19-20; Beginning Period: Period 02 (10/01/2019 - 10/31/2019) ; Ending Period: Period 02 (10/01/2019 - 10/31/2019) ; Show Prior Year Expense/Encumbrance: No; Prior Year Ending Balance for Beginning Balance: No; Include Transactions after the Last Period: None; Exclude Closing Entries: No; Include Unposted Transactions: No; Created On: 11/11/2019 5:00:58 PM

Fund	Description	Liabilities (Beginning)	Liabilities (Ending)	Cash Journal Entries	Other Total
01	GENERAL FUND	\$0.00	\$0.00	\$0.00	\$0.00
02	DEPRECIATION FUND	\$0.00	\$0.00	\$0.00	\$0.00
03	EMPLOYEE BENEFIT FUND (unemplo	\$0.00	\$0.00	\$0.00	\$0.00
06	LUNCH FUND	\$0.00	\$0.00	\$0.00	\$0.00
07	BOND FUND	\$0.00	\$0.00	\$0.00	\$0.00
08	SPECIAL BUILDING FUND	\$0.00	\$0.00	\$0.00	\$0.00
09	QUALIFIED SCHOOL CONSTRUCTION	\$0.00	\$0.00	\$0.00	\$0.00
14	CAFETERIA PLAN	\$0.00	\$0.00	\$0.00	\$0.00
Sub Total		\$0.00	\$0.00	\$0.00	\$0.00

Check Summary Report

Date: 12/01/2019 thru 12/31/2019

Check Number	Status	Check / Void Date	Vendor Name	PO Number	Description	Amount
0011EFT	C	12/10/2019	PEPSI COLA OF WESTERN		pop @ HS	69.45
0011EFT	C	12/10/2019	PEPSI COLA OF WESTERN		pop @ Elem	110.50
036892	V	12/11/2019	WADE MARSH		reimb NEMFCA dues	-45.00
037018	V	12/31/2019	Hooker County Ag Society		deposit fee staff social	-400.00
037019	C	12/04/2019	Arlan Paxton		BB vs Anselmo-Merna official	134.00
037020	C	12/04/2019	John Walz		BB vs Anselmo-Merna official	133.00
037021	C	12/04/2019	Aaron Weismann		BB vs Anselmo-Merna official	133.00
037022	C	12/04/2019	Nick Brost		Bronco Wrestling Invite Official	260.00
037023	C	12/04/2019	DAVID CHRISTIAN		Bronco Wrestling Invite Official	250.00
037024	C	12/04/2019	DUANE SKILES		Bronco Wrestling Invite Official	250.00
037025	C	12/04/2019	Fairfield Inn & Suites		FFA P2C @ Kearney	429.80
037026	C	12/04/2019	Gordon-Rushville High School		wrestling entry	120.00
037027	C	12/04/2019	MISKO SPORTS, INC.		coaching gear	4,305.95
037028	C	12/04/2019	rSchoolToday (DWC)		training/software	53.33
037029	C	12/04/2019	Scholastic Book Fairs		Book Fair	1,760.46
037030	C	12/04/2019	TrackWrestling		JH wrestling 2019	100.00
037031	C	12/04/2019	WorldStrides		Florida Science Trip 2020	2,000.00
037032	C	12/04/2019	DOUG DEIBLER		Fall Sports Help	60.00
037033	C	12/04/2019	Jessica Hampton		Fall Sports Help	120.00
037034	C	12/04/2019	Darrick Hanks		Fall Sports Help	140.00
037035	C	12/04/2019	SCOTT JONES		Fall Sports Help	120.00
037036	C	12/04/2019	Lacie Lietka		Fall Sports Help	70.00
037037	C	12/04/2019	Traci McCully		Fall Sports Help	70.00
037038	C	12/04/2019	RYAN RIDENOUR		Fall Sports Help	180.00
037039	C	12/04/2019	Brian Wright		Fall Sports Help	220.00
037040	C	12/09/2019	HANDYMAN HARDWARE		water coolers at elementary	376.09
037041	C	12/09/2019	LUCYS		Adv Biology supplies	18.98
037042	C	12/09/2019	MACKES GROCERY		supplies	368.02
037043	C	12/09/2019	U.S. Bank	220015	one act scripts/royalty fees	2,161.05
037044	C	12/09/2019	US Foods		friendly bean supplies	276.06
037045	C	12/09/2019	Walsworth Publishing Company		2020 Yearbook 1st Deposit	1,347.50
037046	C	12/11/2019	WADE MARSH		replace void check/NEMFCA	45.00
037047	O	12/11/2019	SUTHERLAND HIGH SCHOOL		Wrestling Entry Fee	80.00
037048	C	12/11/2019	Megan Andersen		reimb:	174.63
037049	C	12/12/2019	Matt Ketteler		BB vs Maxwell official	150.00
037050	C	12/12/2019	Dan Myers		BB vs Maxwell official	150.00
037051	C	12/12/2019	Doug Stanton		BB vs Maxwell official	150.00
037052	C	12/12/2019	MACKES GROCERY		concession supplies	339.72
037053	O	12/19/2019	4J Designs		STMgr shirts	112.50
037054	C	12/19/2019	Brady High School		VB tourney entry fee	50.00
037055	O	12/19/2019	Brooklyn Publishers	220019	speech scripts	47.50
037056	C	12/19/2019	GIRL SCOUTS		Bronco wrestling hospitality	246.00

Check Summary Report

Date: 12/01/2019 thru 12/31/2019

Check Number	Status	Check / Void Date	Vendor Name	PO Number	Description	Amount
037057	C	12/19/2019	MACKES GROCERY		FCCLA Fruit Sales	3,014.71
037058	C	12/19/2019	Prairie Industries Inc		water	156.00
037059	C	12/19/2019	Alexander J. Harms		BB vs Gordon Rushville	150.00
037060	C	12/19/2019	Jakob N. Samuelson		BB vs Gordon Rushville	150.00
037061	C	12/19/2019	John Walz		BB vs Gordon Rushville	150.00

Report Total: 20,358.25

Check Summary Report

Date: 12/01/2019 thru 12/31/2019

Check Number	Status	Check / Void Date	Vendor Name	PO Number	Description	Amount
006944	C	12/02/2019	BLUE CROSS BLUE SHIELD		Starr Premium	2,024.75
006945	C	12/02/2019	Blue Cross Blue Shield		Vinton Premium	588.79
006946	C	12/04/2019	WALMART Community		art supplies	35.38
006947	C	12/11/2019	AT&T		long distance services	100.29
006948	C	12/11/2019	CASH (PAM GINKENS)		replenish HS postage petty	32.61
Report Total:						2,781.82

Mullen Public Schools

January Claims 01/13/2020

Fund	Description	Amount
01	GENERAL FUND	\$237,512.58
06	LUNCH FUND	\$3,893.94
Total		\$241,406.52

GENERAL FUND

Check Number	Payee	Description	Amount
18839	Amazon.com PBI	classroom/tech/custodial supplies	\$534.51
18840	Andersen & Sons	snowblower maintenance	\$117.42
18841	ASI	administration fee	\$25.00
18842	At&t	long distance phone service	\$98.29
18843	Awards Unlimited, Inc.	Spelling Bee Awards	\$27.15
18844	Brett Phipps	transportation	\$396.72
18845	Chris KuncI	monthly cell phone use reimb	\$100.00
18846	Cody Kessler	transportation	\$104.14
18847	Consolidated	phone service	\$520.57
18848	DGP Publishing	English Student Workbooks	\$378.60
18849	E.s.u. #16	Early Childhood/SPED Services	\$23,934.90
18850	Eakes Office Solutions	copier contract meter billing 9/10-12/9/19	\$3,609.26
18851	Encore Data Products Inc	Headphones for Reading Fluency	\$193.35
18852	General Fund-petty Cash	Misc Reimb: AT&T,postage,classroom supplies	\$168.28
18853	Handyman Hardware	custodial & instructional supplies	\$272.85
18854	Harris School Solutions	2019 tax forms	\$148.80
18855	Hinton's Lock & Alarm	upgrade door system server	\$65.00
18856	Hometown Leasing	copier lease	\$743.55
18857	Hooker County Tribune	minutes;notices	\$85.75
18858	Ideal LInen Supply	custodial supplies	\$690.21
18859	Justin Moore	cell phone reimb	\$75.00
18860	KSB School Law PC LLO	legal services	\$787.50
18861	Kwik Stop	gasoline	\$2,123.79
18862	Lucy's	supplies	\$4.77
18863	Macke's	supplies	\$240.54
18864	MACKIN LIBRARY MEDIA	Assorted library books	\$128.27
18865	Menards - North Platte	maintenance supplies	\$54.99
18866	Mike French	transportation	\$859.56

18867	Mike Kvanvig	cell phone reimb	\$75.00
18868	Mullen Auto & Diesel LLC	vehicle maintenance	\$391.14
18869	Mullen Motor Co	vehicle maintenance/inspections	\$198.97
18870	Mullen Schools Activity Fund	sharing information FFA/FCCLA dues waived	\$375.00
18871	Northwest Evaluation Association	Reading Fluency K-2 and Skills 3-5	\$77.50
18872	One Source	background checks	\$135.00
18873	Presto X	pest maintenance service	\$127.00

18874	Sandhills Family Medicine	bus driver physicals	\$145.00
18875	SparqData Solutions	Sparq Meeting annual subscription	\$2,600.00
18876	Staples Credit Plan	Bookkeeping supplies	\$106.98
18877	Teachers Synergy, LLC	5th grade TPT downloads	\$30.00
18878	Telegraph	High School subscription	\$223.60
18879	Titan Machinery	Bobcat T-650 skidsteer lease	\$4,750.00
18880	U.S. Bank	custodial/classroom supplies; travel expense	\$1,520.65
18881	Village Of Mullen	utilities	\$4,208.56
		TOTAL	\$51,453.17

LUNCH FUND

Check Number	Payee	Type	Amount
2947	Bernard Food Industries Inc	food	\$693.68
2948	Cash-wa Distributing	food & supplies	\$923.52
2949	Harris Sales	food	\$137.92
2950	Macke's	food	\$944.00
2951	Mid Nebraska Ice Inc	walk in freezer timer & repair	\$686.64
2952	US Foods dba The Thompson Co	food/supply	\$1,540.90
		TOTAL	\$4,926.66

SPECIAL BUILDING FUND

Check Number	Payee	Type	Amount
1225	Hooker County Treasurer	2019 Real Estate Taxes Teacherage	\$174.10
1226	Village Of Mullen	teacherage utilities	\$101.95
		TOTAL	\$276.05

SELECTED Data

Activity Detail Report

Arranged by:

Date Range: 12/01/2019 thru 12/31/2019

Group ID, Activity Number

Group ID and Description	Activity Number and Name	Reporting ID and Description	Sponsor
--------------------------	--------------------------	------------------------------	---------

A GENERAL FUND

210 MISCELLANEOUS

Receipts

Date	Receipt	Deposit From	Description	Amount
12/10/2019	000000	MSD	Misc Reimb	288.27

Expenditures

Date	PO Number	Check Vendor	Description	Amount
12/04/2019		006946 WALMART Community /RFCSELLC	art supplies	35.38
12/11/2019		006947 AT&T	long distance services	100.29
12/11/2019		006948 CASH (PAM GINKENS)	replenish HS postage petty cash	32.61
			Expenditures Total:	168.28

Activity and Budget Totals

Beginning Balance	-288.27
Receipts	288.27
Expenditures	168.28
Adjustments	0.00
Cash Balance	-168.28
Outstanding POs	0.00
Unencumbered Balance	-168.28

Group Totals

Beginning Balance	-288.27
Receipts	288.27
Expenditures	168.28
Adjustments	0.00
Cash Balance	-168.28
Outstanding POs	0.00
Unencumbered Balance	-168.28

2012 Board Code of Ethics

The board recognizes that collectively and individually, all members of the board must adhere to an accepted code of ethics in order to improve public education. Board members must conduct themselves professionally and in a manner fitting of their position.

Each board member shall:

1. Attend all regularly scheduled board meetings insofar as possible, and become informed concerning the issues to be considered at those meetings;
2. Endeavor to make policy decisions only after full discussion at publicly held board meetings;
3. Render all decisions based on the available facts and his or her independent judgment, and refuse to surrender that judgment to individuals or special interest groups;
4. Encourage the free expression of opinion by all board members, and seek systematic communication between the board and students, staff and all elements of the community;
5. Work with other board members to establish effective board policies and to delegate authority to the superintendent to administer the school district;
6. Communicate expressions of public reaction to the board policies and school program to other board members and the superintendent;
7. Learn about current educational issues by individual study and through participation in seminars and programs, such as those sponsored by the state and national school board associations;
8. Support the employment of those persons best qualified to serve as school staff, and insist on a regular and impartial evaluation of all staff;
9. Avoid being placed in a position of conflict of interest, and refrain from using the board member's position on the board for personal or political gain;

10. Refrain from discussing the confidential business of the board in any setting except a board meeting;
11. Refrain from micro-managing the affairs of the school district;
12. Recognize the superintendent as the executive officer of the board;
13. Work constructively and collegially with the other members of the board, students, staff and patrons.
14. Refer complaints to the superintendent or building principal, as appropriate;
15. Always be mindful of his/her fiduciary obligation to the school district, including duties of loyalty and care, by placing the interests of the district above the board member's personal interests.
16. Remember that a board member's first and greatest concern must be the educational welfare of the students attending this district's schools.

Adopted on: March 14, 2016

Revised on: _____

Reviewed on: January 13, 2020

NEGOTIATED AGREEMENT

BETWEEN

THE MULLEN EDUCATION ASSOCIATION

AND

**MULLEN PUBLIC SCHOOLS,
A/K/A HOOKER COUNTY SCHOOL DISTRICT 46-0001**

TABLE OF CONTENTS

Type chapter title (level 1)	1
Type chapter title (level 2)	2
Type chapter title (level 3)	3
Type chapter title (level 1)	4
Type chapter title (level 2)	5
Type chapter title (level 3)	6
Type chapter title (level 1)	4
Type chapter title (level 2)	5
Type chapter title (level 3)	6

THIS NEGOTIATED AGREEMENT ("Agreement") is made and entered into by and between the Mullen Public Schools, also known as Hooker County School District 46-0001 ("District") and the Mullen Education Association ("Association").

I. RECOGNITION

[The District recognizes the Mullen Education Association as the exclusive bargaining agent for the certificated staff employed by the District as "teachers" under NEB. REV. STAT. § 79-101 for the purpose of collectively negotiating the terms and conditions of employment under the Industrial Relations Act (NEB. REV. STAT. § 48-801 through § 48-839) and other applicable law.

II. TERM AND DURATION

- A.** This one-year Agreement shall be effective for the 2020-21 contract year. The parties agree that the number of contract days is management prerogative and not subject to negotiation. The District shall notify the Association of the number of contract days that will be required in each future contract year no later than the first negotiation meeting between the Association and the District.
- B.** The terms of this Agreement shall remain in full force and effect from year to year until they are superseded by an agreement of the parties or by an order of the Commission of Industrial Relations.

III. MANAGEMENT RIGHTS

Except as expressly modified or restricted by a specific provision of this Agreement, all statutory and inherent managerial rights, prerogatives, and functions are retained and vested exclusively in the District, including, but not limited to, the rights, in accordance with its sole and exclusive judgment and discretion: to reprimand, suspend, discharge, or otherwise discipline employees; to determine the number of employees to be employed; to hire employees, determine their qualifications, and assign and direct their work; to promote, demote, transfer, and recall to work; to suspend, discharge, or discipline employees as provided by statute; to set the standards of productivity and the services to be rendered; to maintain the efficiency of operations; to determine the personnel, methods, means, and facilities by which operations are conducted; to set the starting and quitting time and the number of hours to be worked; to set the school calendar; determine class sizes; to use independent contractors to perform work or services; to subcontract, contract out, close down, or relocate the District's operations or any part thereof; to expand, reduce, alter, combine, transfer, assign, or cease

any job, department, operation, or service; to control and regulate the methods, materials, processes, curriculum, and equipment and other property of the District; to determine which extracurricular activities may be supported or sponsored; to determine the number, location and operation of departments, divisions, and all other units of the District; to issue, amend and revise policies, rules, regulations, and practices; and to take whatever action is either necessary or advisable to determine, manage, and fulfill the mission of the District and to direct the District's employees. The District's failure to exercise any right, prerogative, or function hereby reserved to it, or the District's exercise of any such right, prerogative, or function in a particular way, shall not be considered a waiver of the District's right to exercise such right, prerogative, or function or preclude it from exercising the same in some other way not in conflict with the express provisions of this Agreement.

IV. COMPENSATION

A. Creditable Years of Experience

i. Experience Outside the District – Initial Placement

Upon their initial hire, employees new to the school system shall be credited with all of their acceptable prior years of teaching experience and/or acceptable prior years of professional work experience.

ii. Experience Inside the District

For all purposes, including the adjustment of salaries and computing of fringe benefits, employees must have at least 120 teaching days on duty during the regular school year to be counted as a creditable year of service. Any district approved FMLA leave or use of sick leave or personal leave will count as teaching days.

B. Part-Time Employees

Part-time employees covered by this Agreement shall receive the same compensation and benefits as full-time employees on a pro-rata basis.

C. Compensation

i. Salary

The base salary for the 2020-21 contract year will be \$35,500. The salary schedule is attached as Exhibit A and incorporated into this Agreement.

ii. EXTENDED CONTRACTS- Where a contractual agreement has been reached between an individual employee and the District relating to employment beyond the Annual Employment Period. defined in Article IV, the salary

for that extended contract shall be a pro-rata extension of that employee's daily rate of pay for the Annual Employment Period.

iii. Extra Duty- The extra duty schedule is attached as Exhibit B and incorporated into this Agreement. Compensation for extra duties will be negotiated by the bargaining agent.

iv. Payment

Payroll checks will be electronically deposited to the financial institution as directed by the employee on each regular payday. Any employee not enrolled in the direct deposit program will be enrolled in a prepaid debit card program or will be paid by check.

v. Salary Deductions

1. Mandatory Deductions

All deductions required by law will be made from wages of each employee. These deductions include, but are not necessarily limited to state income tax, federal income tax, social security tax, and Medicare tax withholding; retirement plan contributions; and wage garnishments.

2. Voluntary Deductions

Any employee may authorize in writing voluntary deductions including, but not necessarily limited to, deductions for health insurance, vision insurance, dental insurance, life insurance, flexible spending accounts, retirement buybacks, or tax-sheltered annuities.

3. Salary Corrections

Any overpayment or underpayment of an employee for compensation for benefits shall be corrected during the pay period following the discovery.

4. Recovery for Damages

The District may deduct or withhold from each and every period of pay from an employee any amounts necessary to offset any damages caused by the employee or the value of property or money entrusted to the employee or owed by the employee to the District during the course of or as a result of the employee's employment, if such property or money has not properly been returned to the District.

V. BENEFITS

A. Health Insurance

The District shall provide coverage through the Educator's Health Alliance through Blue Cross and Blue Shield or its equivalent to all qualified employees who have been employed by the District for at least 30 days. The District shall pay the following amounts of the \$850 deductible total premium:

Health Coverage	Yearly	Monthly
Employee	\$8,003.04	\$666.92
Employee and Child(ren)	\$14,805.72	\$1,233.81
Employee and Spouse	\$16,806.48	\$1,400.54
EE, Spouse & Child(ren)	\$22,566.72	\$1,880.56

In the event the health insurance plan deductible is no longer available, the parties agree that the deductible will move to the next highest available deductible.

The District will also offer the \$3600 Deductible HSA-Eligible plan to employees by depositing the cost difference in their plan to their health savings account.

The District shall pay the following amounts of the total dental premium:

Dental Coverage	Yearly	Monthly
PPO - 100% A, 75% B, 50% C Coverage - Employee Only	\$354.48	\$29.54

B. Long-Term Disability

The District will provide long-term disability benefits for full-time employees who have been employed by the district for at least 30 calendar days. This plan will provide a monthly benefit of 66.67% of the employee's monthly gross salary, to a maximum of \$5000.00. This monthly benefit will be coordinated with other benefits the employee may be eligible to receive.

VI. LEAVES OF ABSENCE

A. Sick Leave

- i. **Amount of Leave.** Each full-time (1.0 FTE) employee will be credited with up to 10 days of sick leave per year without loss of pay at the beginning of each school year. Employees may accumulate no more than 30 days of sick leave.
- ii. **Use of Leave.** Sick leave may be used for illness, injury, or disability when the employee is too ill to work or when the employee's family

member (as listed below) is too ill to remain alone. Sick leave may also be used for medical, dental, and eye doctor appointments of the employee or family members.

Sick leave may not be used as a substitute for personal leave.

- iii. Reporting.** Absence due to sick leave must be reported as soon as practicable by the employee to the building principal. In the event that the building principal cannot be reached, the employee will report the absence to the building secretary. Absences must be reported through telephone call/e-mail/text/other.
- iv. Increments.** Employees may use sick leave in 1 hour increments.
- v. Certification.** The school district administration may require medical certification for any sick leave that exceeds 30 days.
- vi. Payment for Unused Sick Leave.**
Employees will be paid for unused sick leave as follows upon retirement, voluntary resignation, or reduction in force or if they start the school year with the maximum of 30 days and only 6 days of sick leave will be reimbursed at .66.7% of the pay given to a substitute teacher. Payment will be included with the July payroll.

B. Personal Leave

- i. Amount of Leave.** Each full-time (1.0 FTE) employee will be credited with up to 3 days of personal leave per year without loss of pay at the beginning of each school year. Employees may not accumulate personal leave. Employees who have accumulated personal leave on the last day of the school year will be reimbursed at .66.7% of the pay given to a substitute teacher per day. Payment will be included with the July payroll.
- ii. Use of Leave.** Personal leave may be used for any purpose, provided that personal leave may not be taken immediately preceding or following any holiday; spring, fall, or winter break; or any similar school break unless permission is given by the building principal or superintendent. The principal or superintendent may limit the number of staff members who may take personal days on the same day. Employee shall not be required to provide a reason for taking personal leave.

iii. Reporting. Except in the case of emergency, employees must submit personal leave requests to the building principal at least 1 day in advance of the leave. Personal leave requests are contingent on the school district's ability to retain a substitute teacher and must be submitted through telephone call/e-mail/text/other.

iv. Increments. Employees may use personal leave in 1 hour increments.

C. Bereavement Leave

Employees shall be entitled to leave with pay for a maximum of 4 contract days per year in the event of the death of the employee's parent, grandparents, aunt, uncle, sibling, grandchild, child, or spouse. This includes employee's in-laws of parents, grandparents, aunt, uncle, brother or sister. A maximum of 21 additional unpaid contract day(s) shall be allowed each time another listed individual dies within the same contract year. Such leave may be used only during the five (5) calendar day period commencing with the date of death. Leave under this section may be conditioned upon the teacher submitting to the principal proof of the death of the deceased and the teacher's relationship to the deceased.

D. Additional Unpaid Leave

Up to 5 total days of paid leave each year shall be granted to representatives of the MEA to conduct Association business.

Employees who desire additional unpaid leave may submit a request to the school board as provided in NEB. REV. STAT. § 79-838.

VII. GRIEVANCE PROCEDURE

A. Definition of Grievance. A grievance is an allegation by an employee or group of employees that there has been a violation of a provision of the negotiated agreement or a policy of the board of education.

B. Procedural Steps. The procedure for handling grievances is as set forth below.

Step 1 - Oral Notice to Principal. The grievant shall initiate the grievance by presenting it to his or her principal or immediate supervisor within seven (7) days from the date that the grievant knew or should have known of the incident giving rise to the grievance.

Step 2 - Written Grievance to the Principal. If the grievance is not resolved to the satisfaction of the grievant within five (5) days of the meeting with the principal, the grievant representative may present the

grievance in writing to the principal. The failure to present the grievance within five (5) days shall result in the waiver of the grievance. The grievance must contain a detailed description of all facts giving rise to the grievance, a list of all witnesses, all relevant documents, the section of the Agreement that has been violated, and the requested resolution. The grievant shall sign and date the grievance.

The principal shall schedule a meeting within three (3) days of receipt of the written grievance to discuss the elements of the grievance. The grievant must present all evidence at this meeting. The parties shall record this meeting. The principal shall submit his or her determination in writing to the grievant within five (5) days of the meeting.

Step 3 - Written Appeal to the Superintendent of Schools. If the determination of the principal is not satisfactory to the grievant, the grievant may appeal it to the superintendent of schools or his or her designated representative. Said appeal shall be presented, in writing, to the office of the superintendent of schools within five (5) days of receipt of the principal's determination. The appeal shall be based on, and limited to, the facts produced at Step 2. In other words, this is an "appeal on the record."

The superintendent of schools or a designee shall hold a meeting within seven (7) days of receiving the written appeal. The superintendent of schools or a designated representative shall make a written determination regarding the grievance within five (5) days of the date of the meeting.

Step 4 - Appeal to the Board of Education. If the determination of the superintendent of schools is not satisfactory to the grievant, the grievant may appeal it to the board within five (5) days of receipt of the superintendent's decision. The appeal shall be based on, and limited to, the facts produced at Step 2. In other words, this is an "appeal on the record." The board shall hear the grievance within thirty (30) days in open or closed session in accordance with the law. The board shall notify the grievant of its decision within five (5) days of hearing the grievance.

C. Written Presentation. All grievances presented at Step 2 and subsequent steps of the procedure shall set forth in writing all facts giving rise to the grievance, the provision(s) of the Agreement or policy alleged to have been violated, the names of the grievant(s), the names of all witnesses, and the remedy sought by the grievant. All grievances at Step 2 and appeals at Step 3 and Step 4 shall be signed and dated by the aggrieved employee. All written answers submitted by the district shall be signed and dated by the appropriate district representative.

- D. Grievance Meetings or Hearings.** All meetings and hearings conducted under this procedure up to and including Step 3 shall be conducted in private and shall include only the administration's representatives, the grievant, the grievant's representatives, and witnesses (Step 2 only) as necessary.
- E. Association Representation.** A grievant shall have the right to have an Association representative present to represent the grievant at each level of the grievance procedure.
- F. Reprisals.** No reprisals of any kind shall be taken against any employee who uses this grievance procedure in good faith.
- G. Withdrawal of a Grievance.** A grievant may withdraw his or her grievance at any level of the procedure without fear of reprisal from any party.
- H. Advanced Step Filing.** A grievance shall be filed initially at the level at which the decision resulting in the grievance was made.
- I. Time Limitations.** Time limitations herein are critical. All references to days are to calendar days. No grievance shall be accepted by the district unless it is submitted or appealed within the time limits set forth in this Agreement. If at any time during the grievance process, it is discovered that the grievance was not filed or appealed in a timely manner, the grievance shall be dismissed. If the grievance is not submitted in a timely manner at Step 1 or Step 2, it shall be deemed to be waived. If the grievance is not appealed to Step 3 in a timely manner, it shall be deemed to have been settled in accordance with the district's Step 2 determination. If the district fails to answer within the time limits set forth in this Agreement, the grievance shall automatically proceed to the next step.

When the deadline for taking an action falls on a Saturday, a Sunday or a legal holiday, the time for taking the action shall be extended to the next working day.

VIII. SAFETY COMMITTEE

The Superintendent may appoint members of the staff to serve on the safety committee as appropriate and as required by law.

IX. NONDISCRIMINATION

The Board and Association shall not discriminate against any employee or applicant who is to be employed for performance of this Agreement with respect to his or her hire, tenure, terms, conditions, or privileges of employment, because of his or her race, color, religion, sex, disability, or national origin.

X. JOINT PREPARATION AND CONSTRUCTION

This Negotiated Agreement is the product of a collectively-bargained negotiation, and all parties have cooperated in the drafting and preparation of the Agreement. Thus, this Negotiated Agreement should not be construed for or against any party. To the extent there is any conflict between this Agreement and an employee's individual employment contract, this Agreement shall control.

XI. REOPENING THE AGREEMENT

Either party may reopen negotiations for the purpose of bargaining modifications to the terms and conditions of employment and/or salary and benefits for the 2020-21 school year only for the following reasons:

- A.** In the event there are changes to the Patient Protection Affordability Care Act or its regulations that require the District to make changes to comply with the Act.
- B.** In the event that the insurance costs rise 10% or more, the parties agree to reopen the agreement to renegotiate insurance coverage, insurance deductibles, and wages.

XII. WAIVER OF BARGAINING RIGHTS AND AMENDMENT TO AGREEMENT

During the negotiations resulting in this Agreement, the District and the Association each had the unlimited right and opportunity to make demands and proposals with respect to any subject matter as to which any state or federal law imposes an obligation to bargain, including but not necessarily limited to, the Industrial Relations Act (NEB. REV. STAT. §§ 48-801 through 48-839). Except as specifically set forth elsewhere in this Agreement, the District expressly waives its right to require the Association to negotiate, and the Association expressly waives its right to require the District to negotiate over all matter as to which state or federal law imposes an obligation to bargain, whether or not: (a) such matters are specifically referred to in this Agreement; (b) such matters were discussed between the District and the Association during the negotiations which resulted in this Agreement; or (c) such matters were within the contemplation or knowledge of the District or the Association at the time this Agreement was negotiated and executed. This Agreement contains the entire understanding, undertaking, and agreement of the District and the Association, after the exercise of the right and opportunity referred to in the first sentence of this section, and finally determines all matters of collective bargaining for its terms. Changes to this Agreement, whether by addition, waiver, deletion, amendment, or modification, must be reduced to writing and executed by both the District and the Association.

XIII. SAVINGS CLAUSE AND SEPARABILITY

If any article, section, or clause of this Agreement is found to be in conflict with law or declared illegal by a court of competent jurisdiction, the article, section, or clause, as the case may be, is automatically deleted from this Agreement to the extent that it violates the law. The remaining articles, sections, and clauses must remain in full force and effect for the duration of the Agreement if not affected by the deleted article, section, or clause.

MULLEN EDUCATION ASSOCIATION

President

Date

Secretary

Date

Chief Negotiator

Date

MULLEN PUBLIC SCHOOLS

President

Date

Secretary

Date

EXHIBIT A

SALARY SCHEDULE

- A. All employees covered by this Agreement will be placed on this salary schedule. Base salary for the 2020-21 school year will be **\$35,500**.
- B. Transcripts of credits must be in the Office of the Superintendent of Schools by September 1, for verification of placement on the schedule. If transcripts are not received by this date, the teacher placement on the salary schedule will be determined with the hours on file as of September 1.
- C. Horizontal Movement. Steps horizontally on the schedule up to and including the Master's column will be granted on college hours that are applied toward a Master's program in the teacher's endorsed area, educational technology, or the areas of guidance or administration in education or a program approved by the superintendent. Steps horizontally on the schedule past the Master's column will be granted on college hours that are applied toward a second Master's, Specialist or Doctorate in the teacher's endorsed area, educational technology, or the areas of guidance or administration in education. Steps horizontally on the schedule past the Master's column will also be granted on hours that are approved by the Superintendent and the Board of Education. A class approval form is required prior to the first class session for requesting these hours.
- D. Vertical Movement. After initial placement, employees will be limited to one step of vertical movement per year.

EXHIBIT A

MULLEN SCHOOL DISTRICT SALARY SCHEDULE FOR 2020-2021

STEP	BA	BA+9	BA+18	BA+27	MA or BA+36	MA+9	MA+18	MA+27
1	1.00 \$35,500	1.05 \$37,275	1.10 \$39,050	1.15 \$40,825	1.20 \$42,600	1.25 \$44,375	1.30 \$46,150	1.35 \$47,925
2	1.04 \$36,920	1.09 \$38,695	1.14 \$40,470	1.19 \$42,245	1.24 \$44,020	1.29 \$45,795	1.34 \$47,570	1.39 \$49,345
3	1.08 \$38,340	1.13 \$40,115	1.18 \$41,890	1.23 \$43,665	1.28 \$45,440	1.33 \$47,215	1.38 \$48,990	1.43 \$50,765
4	1.12 \$39,760	1.17 \$41,535	1.22 \$43,310	1.27 \$45,085	1.32 \$46,860	1.37 \$48,635	1.42 \$50,410	1.47 \$52,185
5	1.16 \$41,180	1.21 \$42,955	1.26 \$44,730	1.31 \$46,505	1.36 \$48,280	1.41 \$50,055	1.46 \$51,830	1.51 \$53,605
6	1.20 \$42,600.00	1.25 \$44,375	1.30 \$46,150	1.35 \$47,925	1.40 \$49,700	1.45 \$51,475	1.50 \$53,250	1.55 \$55,025
7		1.29 \$45,795	1.34 \$47,570	1.39 \$49,345	1.44 \$51,120	1.49 \$52,895	1.54 \$54,670	1.59 \$56,445
8		1.33 \$47,215.00	1.38 \$48,990	1.43 \$50,765	1.48 \$52,540	1.53 \$54,315	1.58 \$56,090	1.63 \$57,865
9			1.42 \$50,410.00	1.47 \$52,185	1.52 \$53,960	1.57 \$55,735	1.62 \$57,510	1.67 \$59,285
10				1.51 \$53,605.00	1.56 \$55,380	1.61 \$57,155	1.66 \$58,930	1.71 \$60,705
11					1.60 \$56,800.00	1.65 \$58,575	1.70 \$60,350	1.75 \$62,125
12						1.69 \$59,995	1.74 \$61,770	1.79 \$63,545
13							1.78 \$63,190.00	1.83 \$64,965
14								1.87 \$66,385.00

Exhibit B
Extra Duty Schedule 2020-2021

Base Pay =

\$35,500.00

Position		1-3 years	4-6 years		7+ years	
Athletic Director	0.100	\$3,550.00	0.120	\$4,260.00	0.140	\$4,970.00
Head Football	0.100	\$3,550.00	0.120	\$4,260.00	0.140	\$4,970.00
Head Boys Basketball	0.100	\$3,550.00	0.120	\$4,260.00	0.140	\$4,970.00
Head Girls Basketball	0.100	\$3,550.00	0.120	\$4,260.00	0.140	\$4,970.00
Head Volleyball	0.100	\$3,550.00	0.120	\$4,260.00	0.140	\$4,970.00
Head Wrestling	0.100	\$3,550.00	0.120	\$4,260.00	0.140	\$4,970.00
Head Track	0.100	\$3,550.00	0.120	\$4,260.00	0.140	\$4,970.00
FCCLA Sponsor	0.080	\$2,840.00	0.100	\$3,550.00	0.120	\$4,260.00
FFA Sponsor	0.080	\$2,840.00	0.100	\$3,550.00	0.120	\$4,260.00
Head Golf	0.080	\$2,840.00	0.100	\$3,550.00	0.120	\$4,260.00
Head Cross Country	0.080	\$2,840.00	0.100	\$3,550.00	0.120	\$4,260.00
Asst Football	0.070	\$2,485.00	0.090	\$3,195.00	0.110	\$3,905.00
Asst Boys Basketball	0.070	\$2,485.00	0.090	\$3,195.00	0.110	\$3,905.00
Asst Girls Basketball	0.070	\$2,485.00	0.090	\$3,195.00	0.110	\$3,905.00
Asst Volleyball	0.070	\$2,485.00	0.090	\$3,195.00	0.110	\$3,905.00
Asst Wrestling	0.070	\$2,485.00	0.090	\$3,195.00	0.110	\$3,905.00
Asst Track	0.070	\$2,485.00	0.090	\$3,195.00	0.110	\$3,905.00
Asst Cross Country	0.050	\$1,775.00	0.070	\$2,485.00	0.090	\$3,195.00
Asst Golf	0.050	\$1,775.00	0.070	\$2,485.00	0.090	\$3,195.00
Speech	0.050	\$1,775.00	0.070	\$2,485.00	0.090	\$3,195.00
Play Production	0.050	\$1,775.00	0.070	\$2,485.00	0.090	\$3,195.00
Art Club	0.040	\$1,420.00	0.050	\$1,775.00	0.060	\$2,130.00
Cheerleader Sponsor	0.040	\$1,420.00	0.050	\$1,775.00	0.060	\$2,130.00
Assistant Speech	0.020	\$710.00	0.030	\$1,065.00	0.040	\$1,420.00
Asst Play Production	0.020	\$710.00	0.030	\$1,065.00	0.040	\$1,420.00
Junior Class Sponsor	0.020	\$710.00	0.030	\$1,065.00	0.040	\$1,420.00
National Honor Society	0.020	\$710.00	0.030	\$1,065.00	0.040	\$1,420.00
Yearbook	0.020	\$710.00	0.030	\$1,065.00	0.040	\$1,420.00
Quiz Bowl	0.020	\$710.00	0.030	\$1,065.00	0.040	\$1,420.00
JH Sports, Each	0.020	\$710.00	0.030	\$1,065.00	0.040	\$1,420.00
STEM Club Facilitators	0.030	\$1,065.00	0.030	\$1,065.00	0.030	\$1,065.00
Teacher Mentor	0.010	\$355.00	0.010	\$355.00	0.010	\$355.00

Fixed Pay Rate

Technology Coordinator will be paid \$25 hourly (up to 160 hrs), as needed, during the Summer. Supt (Striv/Streaming Coordinator will be paid \$25 per hour to complete duties outside contract time. (1 year Elementary Data Steward will be paid \$25 hourly (up to 80 hrs), as needed, to complete duties outside Summer Weights supervisors will be paid \$25 per day during the summer. Only one sponsor paid dai Music supervisor will be paid \$25 for each hour of Pep Band that is conducted outside of contract time CIP Team and MTSS Team Members will be paid \$25 per meeting outside of contract hours. Dual Credit Teachers and Distance Learning Teachers will be paid a \$500 stipend per 5 credit class to Saturday School monitor will be paid a stipend of \$75.

Extra Duty Parameters

Football will be allowed 2 assistant coaches if over 15 players and 3 assistant coaches if over 30 players
Volleyball and Basketball will be allowed 1 assistant coach and 2 assistant coaches if there are over 20 players
Wrestling will be allowed 1 assistant coach and 2 assistant coaches if there are over 15 wrestlers
Track will be allowed 3 assistant coaches if over 15 participants and 4 assistant coaches if over 30 participants
Cross Country, Golf and Cheer will be allowed an assistant coach if there are over 10 participants.
FFA/FCCLA will be allowed paid sponsors for assistance to attend an events as approved by administrator

Exhibit B
Extra Duty Schedule 2020-2021

Extended Contracts

Library Media Specialist is granted an extended contract of up to 8 days for duties outside of contract time at the rate of \$100 per day.
Guidance Counselor is granted an extended contract of 10 days for duties outside of contract time at the rate of \$100 per day.

Superintendent Pay Transparency Notice—Proposed Contract Chris Kunc

Notice is hereby given that Mullen Public Schools approved a superintendent employment contract amendment at the board meeting held on January 13, 2020.

After the 2019/20 school year, how many years remain on the contract: (Column F must be completed if additional years remain on contract.)

2

The estimated costs to the district for the 2020/21 year and future years are listed below:

	2020/21 Base Pay, Additional Compensation & Benefits	2021/22 Base Pay, Additional Compensation & Benefits	TOTAL CONTRACT COST
Base Pay for the Total FTE	\$ 117,000.00	\$ 117,000.00	\$ 234,000.00
Compensation for activities outside of the regular salary:			
• <i>Extended contracts / Activities outside of regular salary</i>			\$ -
• <i>Bonus/Incentive/Performance Pay</i>			\$ -
• <i>Stipends</i>			\$ -
• <i>All other costs not mentioned above</i>			\$ -
Benefits and Payroll Costs Paid by district:			
• <i>Insurances (Health, Dental, Life, Long Term Disability)</i>	\$ 31,405.20	\$ 31,405.20	\$ 62,810.40
• <i>Cafeteria Plan Stipend</i>			\$ -
• <i>Cash in lieu of insurance</i>			\$ -
• <i>Employee's share of retirement, deferred compensation, FICA and Medicare if paid by the district</i>			\$ -
• <i>District's share of retirement, FICA and Medicare</i>	\$ 20,510.10	\$ 20,510.10	\$ 41,020.20
• <i>IRS value of housing allowance</i>			\$ -
• <i>IRS value of vehicle allowance</i>			\$ -
• <i>Additional leave days</i>			\$ -
• <i>Annuities</i>			\$ -
• <i>Service credit purchase</i>			\$ -
• <i>Association / Membership dues</i>			\$ -
• <i>Cell Phone/Internet reimbursement</i>	\$ 1,200.00	\$ 1,200.00	\$ 2,400.00
• <i>Relocation reimbursement</i>			\$ -
• <i>Travel allowance/reimbursement</i>	\$ 6,250.00	\$ 6,250.00	\$ 12,500.00
• <i>Mileage Allowance</i>			\$ -
• <i>Educational tuition assistance</i>			\$ -
• <i>All other benefit costs not mentioned above</i>			\$ -
Totals:	\$ 176,365.30	\$ 176,365.30	\$ 352,730.60

SUPERINTENDENT'S CONTRACT OF EMPLOYMENT MULLEN PUBLIC SCHOOLS

THIS CONTRACT is made by and between the **Board of Education of Mullen Public Schools**, legally known as **Hooker County School District 46-0001**, and referred to as "the Board" and "the School District" respectively, and **Chris Kuncl**, referred to herein as "the Superintendent". In accordance with its action taken and recorded in the minutes of a duly advertised board meeting, the Board agrees to employ the Superintendent, and the Superintendent agrees to accept such employment, subject to the terms and conditions set forth herein.

Section 1. Term of Contract. The Superintendent shall be employed for a period of 2 year(s) beginning on July 1, 2020, and expiring on June 30, 2022. References to "contract year" shall mean the period from July 1st through June 30th and shall consist of all days except Saturdays and Sundays and any holidays or leave days listed in Section 11.

Section 2. Renewal of Contract. If a Board representative does not inform the Superintendent in writing on or before **the seventh day after the regular December board meeting** of the Board's intention to consider the nonrenewal or amendment of this contract, the contract will automatically renew for a period of **one year** from and after the expiration date provided in Section 1 of this contract. The Superintendent shall remind the Board in writing of this provision no later than **its regular November meeting** of each year of this contract and shall make the renewal of his employment contract an agenda item for the regular **January** board meeting during each year of this contract. At the time of each contract renewal and/or amendment, the Superintendent shall be responsible for taking all necessary steps to ensure that the district has complied with the Superintendent Pay Transparency Act.

Section 3. Salary. The Superintendent's salary for the 2020-2021 contract year shall be \$117,000.00 and \$117,000 for the 2021-2022 contract year which shall be paid in 12 equal monthly installments beginning in the month of August. The Board shall not reduce the Superintendent's salary during the term of the contract, but may increase it and/or the benefits during the term of this contract, as an amendment to the contract, without the amendment constituting a new contract, requiring a hearing, or extending the term of this contract.

Section 4. Deductions. This contract shall conform to the statutes and regulations governing deductions from compensation. The Superintendent authorizes the District to deduct or withhold from each and every period of pay any amounts necessary to offset any damages caused by the Superintendent or the value of property or money entrusted to the Superintendent or owed by the Superintendent to the District during the course of or as a result of the Superintendent's employment, if such property

or money have not properly been returned to the District. The school district shall withhold other deductions as the Superintendent and Board may agree.

Section 5. Professional Status. The Superintendent affirms that he is not under contract with any other board of education covering any part or all of the term provided in this contract. Throughout the contract term, he will hold a valid and appropriate certificate to act as a superintendent of schools in the State of Nebraska which he will register and maintain on file in the school district's central administrative office. This contract shall not be valid and the Board will not compensate the Superintendent for any service performed prior to the date that he registers his certificate. The Superintendent represents that: (1) all information he provided in connection with his application for employment with the District was true and accurate at the time of application, and if there is or has been a material change in such information, he will advise the Board immediately; (2) he has never been convicted of or plead no contest to, a felony as defined in Title 92, Chapter 21, Sections 003.11 and 003.13 of the Nebraska Administrative Code ("Rule 21"), or any offense involving moral turpitude, abuse, neglect, or sexual misconduct, as defined in Title 92, Chapter 21, Sections 003.12 and 003.13 of the Nebraska Administrative Code; and (3) he has not had any professional licenses or certificates suspended or revoked.

Section 6. Superintendent's Duties. The Superintendent's duties shall be as prescribed by statute and by Board policies, rules, regulations and directives. The Superintendent agrees to devote his time, skill, labor and attention to his duties throughout the contract term. He shall be subject to the direction and control of the Board at all times and shall perform such administrative duties as the Board assigns to him. By agreement with the Board, he may undertake consultative work, speaking engagements, writing, lecturing, or other professional duties and obligations as long as they do not interfere with carrying out his duties and obligations to the school district.

Section 7. Board-Superintendent Relationship. The Board shall be primarily responsible for formulating and adopting policy. The Superintendent shall be the chief administrative officer for the district and shall be responsible for implementing Board policy. He shall organize the administrative and supervisory staff, and select, place, and transfer personnel with the concurrence of the Board. He is responsible for administering the instruction of students and the business affairs of the school district. The Board members agree, individually and collectively, to promptly refer all criticisms, complaints, and suggestions called to their attention to the Superintendent for action, study and/or recommendation, as appropriate.

Section 8. Cancellation or Mid-Term Amendment. The Board may cancel or amend this contract during its term for any of the following reasons: (a) the cancellation, termination, revocation, or suspension of the Superintendent's certificate (Nebraska Administrative and Supervisory

Certificate, or the Nebraska Professional Administrative and Supervisory Certificate) by the State Board of Education: (b) any of the reasons set forth in this contract; (c) the breach of any of the material provisions of this contract; (d) incompetence; (e) neglect of duty; (f) unprofessional conduct; (g) insubordination; (h) conduct involving moral turpitude; (i) physical or mental incapacity; (j) immorality; (k) conviction of a felony; (l) any conduct that substantially interferes with the Superintendent's continued performance of his duties; (m) any arrest, criminal charge, or criminal conviction of Superintendent or the failure to report the same; (n) any filing against the Superintendent under Neb. Rev. Stat. Section 43-247 or any other provision of the Nebraska Juvenile Code for child abuse and/or neglect or the failure to report the same; (o) knowingly falsifying school district records or documents; (p) misrepresentation of fact to the district and its personnel in the conduct of the district's official business; (q) the use or possession of illegal drugs or controlled substances except as prescribed by a physician; or (r) being under the influence of illegal drugs, controlled substances, or alcohol while on school grounds, at school events, or in a vehicle owned, leased or contracted by the district except as prescribed by a physician. The procedures for cancellation or amendment shall be in accordance with state statutes. The parties agree that the Superintendent's failure to comply with his duties under Section 2 (Renewal of Contract) or Section 15 (Evaluation) shall constitute a material breach of this contract.

Section 9. Disability. If the Superintendent is unable to perform his duties by reason of illness, accident or other disability beyond his control, and the disability continues for a period of more than six (6) months or if the disability is permanent, irreparable, or of such a nature as to make performance of his duties impossible, the Board may initiate action to cancel this contract, whereupon the respective rights, duties and obligations of the parties hereunder shall terminate, with the exception of any benefits to be paid to the Superintendent under any insurance coverage furnished by the district.

Section 10. Transportation. The Board shall provide the Superintendent with transportation or reimburse him for mileage required in the performance of his official duties at the rate approved by the Board.

Section 11. Fringe Benefits. The Board shall provide the Superintendent with the following fringe benefits:

- a. Health Insurance.** Family health insurance that is provided to certificated staff through the District's health insurance carrier.

- b. Dental Insurance.** Family dental insurance that is available to certificated staff through the District's health insurance carrier.
- c. Sick Leave.** The Superintendent shall be entitled to ten (10) days of sick leave per year which may accumulate to a total of thirty (30) days. Sick leave may only be used for personal illness or as otherwise provided in District policy. If the Superintendent qualifies for disability pay under the long-term disability policy, he shall be required to take the disability pay instead of sick leave pay. The Superintendent shall keep complete and accurate records of his sick days and shall provide the Board of Education with a report of his accumulated sick days at least quarterly. The Superintendent shall not be compensated for unused days of sick leave upon the ending of his employment with the District.
- d. Disability Insurance.** The Superintendent will be provided with long-term disability insurance from the school district's carrier.
- e. Vacation.** The Superintendent shall have twenty (20) vacation days for each contract year which he may use at times he chooses so long as her absence does not interfere with the proper performance of his duties. Any extended vacation period while school is in session will require advance approval by the Board, and the parties will cooperate in arranging vacation time so as to cause the least inconvenience to the normal operation of the District. After each contract year the board will grant the superintendent the number of days necessary to restore his total to twenty (20) days. For example, if he uses 12 days of vacation one year, the board will provide him with 12 days the following year to bring his total to 20 days. The Superintendent shall develop a system for recording his use of vacation days and shall keep such records current and on file in the District's central office. The Superintendent shall keep complete and accurate records of his vacation days and shall provide the Board of Education with a report of his accumulated vacation days at least quarterly. The Board may require him to use his vacation days and shall compensate him for unused vacation days at a per diem rate upon the conclusion of his employment.

- f. Personal Days.** The Superintendent shall be entitled to three (3) personal days per contract year, non-accumulative.
- g. Professional Development.** The Superintendent is expected to continue his professional development and to participate in relevant learning experiences. With the approval of the Board, he may attend appropriate professional meetings at the local, state, regional and national level; and the Board will pay for valid expenses of attendance. If the Superintendent attends a national convention and does not return following the initial year of employment as Superintendent, the Superintendent agrees to repay the District in full for national convention expenses paid by the District.
- h. Professional Dues.** The school district will pay the annual dues for the Superintendent's membership in the following organizations: NCSA, WNA, Schoolmasters, NASA
- i. Physical Examination.** The Superintendent may voluntarily undergo a physical examination. The Superintendent agrees that he will authorize the physician performing each such examination to provide the Board with all records, results and medical judgments of the examination. Any amounts not covered by Blue Cross/Blue Shield shall be paid by the District.
- j. Bereavement Leave.** The Superintendent shall be permitted bereavement leave up to 4 days per year.
- k. Holidays.** The Superintendent shall receive the following paid holidays: New Year's Eve, New Year's Day, Memorial Day, Fourth of July, Labor Day, Thanksgiving Day and the Friday following, Christmas Eve, Christmas Day, the Friday before Easter and the Monday following.
- l. Cell Phone.** The Superintendent shall be required to purchase and maintain a cellular phone so that he can be reached at all times for work-related emergencies or while away from school grounds during the work day. The School District will reimburse the Superintendent up to a maximum of \$100 per month for the actual cost of a cellular phone service plan.
- m. Expense Reimbursement.** The Board shall pay or reimburse the Superintendent for expenses that are

actually, necessarily, and reasonably incurred in attending educational seminars, conventions, and workshops; conferences; training programs; official school functions, hearings or meetings, provided that (1) such payment or expense is authorized by the Local Government Miscellaneous Expenditures Act (Neb. Rev. Stat. § 13-2201 *et seq.*) or some other provision of law, and (2) the Superintendent shall secure the prior approval of the Board before incurring any such expense when the anticipated aggregate expense of any single event is \$400.00 or more.

Section 12. No Penalty for Release or Resignation. There shall not be a penalty for the release or resignation of the Superintendent from this contract; provided no resignation shall become effective until the expiration of the contract unless it is accepted by the Board, and the Board shall fix the date at which the resignation shall take effect.

Section 13. Compensation Upon Termination and Credit for Accrued Vacation. Upon lawful termination of this contract for any reason, the compensation to be paid hereunder shall be an amount which bears the same ratio to the annual salary specified as the number of months or fraction thereof to the date of such termination bears to the 12 months in the annual salary period in which termination occurs. The Superintendent shall refund any portion of the salary he was paid but had not earned prior to the date of termination of this contract. He shall be paid for any unused vacation days at the daily compensation rate then in effect at the termination of employment.

Section 14. Evaluation. The Board shall evaluate the Superintendent twice during his first year of employment and at least once each year thereafter in December.

Section 15. Legal Actions. The Board will support the Superintendent if there is a legal dispute caused by him carrying out his duties properly. If a legal action, including a professional practice complaint, is threatened or filed against the Superintendent as a result of his performance of his duties or his position as Superintendent of the district, the Board will provide him with a legal defense to the maximum extent permitted by law so long as he acted in good faith and in a manner which he reasonably believes to be in or not opposed to the best interests of the district and, with respect to any criminal action or proceeding, had no reasonable cause to believe that his conduct was unlawful.

Section 16. Physical or Mental Examination. The Superintendent agrees that, at the request of the Board, he will have a comprehensive physical and/or mental examination performed by one or more licensed physicians or psychologists of the Board's choosing during the term of this Contract. In deference to the requirements of the Americans with Disabilities Act and

HIPAA, the physician's report to the Board must address whether the Superintendent is able to perform the "essential functions" of his position.

Section 17. Disciplinary Action. The parties agree that the Board president may place the Superintendent on paid leave by delivering written notice of the same when the Board president determines it is in the best interests of the school district to do so. The paid leave shall continue unless and until a majority of the Board determines otherwise at a duly convened meeting. The Board may suspend the Superintendent without pay for a period not to exceed thirty (30) working days. Prior to suspending the Superintendent without pay, the Board president or secretary shall deliver a written notice to the Superintendent advising him of the alleged reasons for the proposed action and provided the opportunity to present his version of the facts. Within seven calendar days after receipt of such notice, the Superintendent may make a written request to the secretary of the school board for a formal due process hearing under section 79-832. If such a request is not delivered within such time, the action of the Board shall become final.

Section 18. Governing Laws. The parties shall be governed by all applicable state and federal laws, rules, and regulations in performance of their respective duties and obligations under this contact.

Section 19. Amendments to be in Writing. This contract may be modified or amended only by a writing duly authorized and executed by the Superintendent and the Board.

Section 20. Severability. If any portion of this contract is declared invalid or unenforceable by a court of competent jurisdiction, such declaration shall not affect the validity or enforcement of the remaining provisions of this contract.

IN WITNESS WHEREOF, the parties have executed this contract on the dates indicated below.

Executed by the Board this 13th day of January, 2020.

President, Board of Education

Secretary, Board of Education

Executed by the Superintendent this 13th day of January, 2020.

Superintendent

**2020-21 LICENSED MENTAL HEALTH PRACTITIONER SERVICE
AGREEMENT
EDUCATIONAL SERVICE UNIT NO. 16**

THIS AGREEMENT is entered into by and between Educational Service Unit No. 16 ("ESU"), and Mullen ("District").

In consideration of mutual covenants, the parties agree as follows:

1. **Term.** This Agreement is effective for the 2020-21 school year which begins on or about August 1, 2020 and shall continue until 12:00 midnight (CST) on or about July 31, 2021, unless terminated earlier as provided by this Agreement or by law.

2. **Payment Terms/Payment Schedule.** The District shall pay for services rendered on the terms and payment schedule as set forth in **Exhibit A** which is attached hereto and incorporated herein by this reference. **The parties shall initial Exhibit A.**

3. **Scope of the Contract.** The ESU shall provide to the District the mental health counseling as defined and specified in the exhibit which is attached hereto and incorporated herein.

4. **Acknowledgment.** The parties acknowledge that although state law authorizes the District to contract with the ESU to provide these services, state law also indicates that **the District ultimately remains responsible for compliance with state and federal laws including regulations for programs for children with disabilities.**

5. **Termination.**
 - A. Each party may terminate this Agreement if the other party breaches or is in default of any material obligation hereunder which default is incapable of cure, or which, being capable of cure, has not been cured within 30 days after receipt of written notice of such default or such additional cure period as the nondefaulting party may authorize in writing. Upon the termination of this Agreement, each party shall promptly return to the other party all papers, materials and other property of the other party then in its possession, including but not

limited to all work in progress as is appropriate in its then existing form to the other party.

- B. If the ESU is unable to render the services contracted for because it is unable to employ personnel who meet the criteria for employment of the ESU and/or the certification requirements of the State of Nebraska, or for other reasons which are determined by the ESU to be valid, the ESU may terminate this contract by providing notice to the District no later than September 1st of the contracted school year. The ESU will not assume liability for those services contracted for but not provided.
6. **Indemnification.** The parties agree to indemnify, defend, and hold each other harmless from any and all costs and liabilities arising from a breach or noncompliance of their obligations under this Agreement. The foregoing indemnification obligation shall continue notwithstanding the expiration or termination of this Agreement.
7. **Public Records.** The parties acknowledge that both parties must comply with NEB. REV. STAT. § 84-712 through § 84-713 and release public records as defined law upon request, which may include this Agreement and all records created and maintained in relation to this Agreement.
8. **Nondiscrimination.** The parties and all subcontractors, if any, shall not discriminate against any employee or applicant who is to be employed for performance of this Agreement with respect to his or her hire, tenure, terms, conditions, or privileges of employment, because of his race, color, religion, sex, disability, or national origin.
9. **Employment Eligibility Verification.** The parties shall use a federal immigration verification system to determine the work eligibility status of employees hired on or after October 1, 2009 and who are physically performing services within the State of Nebraska. If the parties employ or contract with any subcontractor in connection with this Agreement, the contracting party shall include a provision in the contract requiring the subcontractor to use a federal immigration verification system to determine the work eligibility status of new employees physically performing services within the State of Nebraska.

10. Notice. Each party giving any Notice ("Notice") under this Agreement must give written Notice by personal delivery, registered or certified Mail (in each case, return receipt requested and postage prepaid), or nationally recognized overnight courier (with all fees prepaid.) Notice shall be sent to the following addressees at the following addresses:

ESU: ESU No. 16
Attn: Administrator
314 W. First Street
Ogallala, NE 69153-0915

District: Chris Kuncl
Attn: Superintendent
PO Box 127
Mullen, NE 69152

Notice is effective only if the party giving the Notice has complied with this section.

11. Governing Law. This Agreement is governed by and construed in accordance with the laws of the State of Nebraska.

12. Entire Agreement. The Agreement is the complete and exclusive expression of the parties' agreement on the matters contained in this Agreement. All prior and contemporaneous negotiations and agreements between the parties on the matters contained in this Agreement are expressly merged into and superseded by this Agreement.

13. Amendments and Modifications. The parties may amend or modify this Agreement only by a signed, written agreement by both parties that identifies itself as an amendment or modification to this Agreement. No other alternations in the terms of this agreement shall be valid or binding.

14. Third Party Beneficiaries. This Agreement does not and is not intended to confer any rights or remedies upon any person other than the signatories.

15. Authority to Execute Agreement. The individuals signing below represent and warrant that they are duly authorized to execute and deliver this Agreement on behalf of their respective entity and that this Agreement is binding upon their entity in accordance with its terms.

16. Miscellaneous.

- A. Mental Health counseling services provided under the terms of this Agreement shall be by staff who are licensed and endorsed to provide such services in accordance with Nebraska state law, rules and regulations, or who are otherwise qualified, trained, or authorized by law to provide such services.
- B. A student whose special education program determined mental health counseling is needed for a free Appropriate Public Education shall not have his/her program changed or terminated by the ESU without a meeting of the student's IEP/IFSP Team which results in changes to or termination of the student's IEP/IFSP.
- C. The ESU and the District agree to abide by the mandated procedures for identification, verification, placement, development of the individualized program, inspection and review of student records, and other requirements as specified in 92 NAC 51, 92 NAC 52, Regulations and Standards for Special Education Programs Nebraska State Department of Education, Federal Regulations 20 U.S.C. 1401 *et seq.* (Individuals with Disabilities Education Act, (IDEA)).
- D. Mental health counseling services will extend beyond the regular school year provided by the ESU. Said costs of such extended programs are included in cost schedule identified in item two of this contract.

IN WITNESS WHEREOF the parties have executed this Agreement on the date last date written below.

ESU

By: _____
Name: _____
Title: _____
Date: _____

DISTRICT

By: _____
Name: _____
Title: _____
Date: _____



EXHIBIT A

1. Payments/Payment Schedule

- A. The District will pay for the services identified in Exhibit A and provided by the ESU under this Agreement as follows:
- (1) The estimated total cost of the services that the ESU will provide to the district is \$_16930_. The District shall pay one-eighth of this amount (or \$_2116.25_) on or before October 25, 2020, and on or before the 25th of the following six months (through April 25th).
 - (2) The District shall only pay for the actual cost of services rendered under this Agreement. Therefore, on the final bill, due on or before May 25th, the ESU shall make any necessary adjustments caused by prior overpayment or underpayment and issue a new billing statement accordingly.
 - (3) The final billing statement to the District shall serve as a final reconciliation of the amounts due from the District to the ESU.
 - (4) The District agrees that the final billing for special education services submitted to the District by the ESU for actual services rendered during the contract period shall be considered an amendment to the original contract and by reference made a part thereof.
- B. The District agrees to pay the ESU for all amounts due within thirty (30) days of receipt of invoice.
- C. The procedure for billing and payment for services products and deliverable shall be as specified in this exhibit.

2. Service Rates

LEVEL I SERVICES

<u>SERVICE</u>	<u>SERVICE CODE</u>	<u>APPROVED RATE 19-20</u>	<u>AMOUNT</u>
Mental Health	4071	\$58.99	\$16930
CONTRACT TOTAL			\$16930
<u>GRAND TOTAL \$16930</u>			

District Superintendent Signature: _____

ESU Administrator Signature: _____

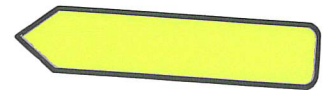


EXHIBIT L

LICENSED MENTAL HEALTH PRACTITIONER (LMHP)

1. The ESU will provide assistance to the District with the identification of children with mental health problems. These services include individual counseling for students with a verified mental health diagnosis and in need of counseling above the level of a school counselor.
2. The District, with assistance from ESU, shall obtain informed consent from the parent of the child as required by Rule 51/52 before any evaluation is conducted.
3. The LMHP will collaborate with the District educators, parents and other professionals to create a safe, healthy and supportive learning environment.
4. All testing instruments and materials necessary for evaluation, assessment, identification, and verification shall be provided by the ESU without any additional cost or charge to the District.
5. The ESU will prorate the charges under the Agreement or this Exhibit for time actual programs or services were delivered to the children in the District if programs or service requirements change during the year.

EDUCATIONAL SERVICE UNIT NO. 16

Telecommunications/Distance Education Contract

ESU 16- (Southwest Nebraska Distance Education Network)

THIS AGREEMENT is entered into by and between Educational Service Unit No. 16 ("ESU 16"), and Mullen Public Schools ("District").

In consideration of the mutual covenants, the parties agree as follows:

1. Scope of the Contract. ESU 16 shall provide to the District "Distance Educational Services" which may include, but are not limited to, the following:

- Maintaining and supporting the transport of audio and video on the IP network.*
- Maintaining and supporting IP codec.*
- Maintaining and supporting distance education classroom equipment including all other related hardware.*
- Maintaining and supporting the scheduling and clearinghouse software in the distance learning classroom.*
- Providing network and program coordination.*
- Providing network scheduling of classes and events.*
- Providing instructor training for teachers, administrators, other staff, and community members using the distance learning classroom.*
- Providing troubleshooting expertise on IP video network.*

2. Payment Terms/Payment Schedule. The District shall pay ESU 16 for the 2020-21 school year TWENTY-THREE THOUSAND DOLLARS (\$23,000.00) per distance learning site used by the District no later than September 15, 2020. The District has one distance learning site(s), and thus, the District shall pay ESU 16 a total of \$23,000.00 for the 2020-21 school year ("Yearly Payment"). Upon mutual written agreement, the parties may adjust the Yearly Payment before such payment is due to reflect the prospective costs ESU 16 may incur in providing Distance Learning Services to the District during the next coming year. **[Note: The Yearly Payments are**

in consideration for only the Distance Educational Services provided by ESU 16 as set forth in section 1 of this Agreement. ESU 16 may, to the extent allowed by law, pass through to the District the non-discount charges billed to ESU 16 by other service providers for telecommunications and Internet access services rendered to the District pursuant to the District's participation in the ESU 16 Distance Learning E-rate Agreement, as authorized by the District in a Letter of Agency.]

3. Reconciliation. If, at the end of the term, the total amount paid by the District pursuant to this Agreement exceeds the costs incurred by ESU 16 in providing Distance Learning Services to the District during the entire term, then ESU 16 shall transfer said funds into the depreciation account for the amount in which the District's payments exceed ESU 16's costs. If, at the end of the term, the costs incurred by ESU 16 in providing Distance Learning Services to the District during the entire term exceed the amount paid by the District pursuant to this Agreement, then upon request by ESU 16, the District shall pay ESU 16 the amount in which such costs exceed the District's payments.

4. Term. This Agreement is effective beginning

July 1, 2020, and shall continue until 12:00 midnight (CST) on June 30, 2021, unless terminated earlier as provided by this Agreement or by law.

5. Termination.

A. Each party may terminate this Agreement if the other party breaches or is in default of any material obligation hereunder which default is incapable of cure, or which, being capable of cure, has not been cured within 30 days after receipt of written notice of such default or such additional cure period as the non-defaulting party may authorize in writing. Upon the termination of this Agreement, each party shall promptly return to the other party all papers, materials and other property of the other

party then in its possession, including but not limited to all work in progress as is appropriate in its then existing form to the other party.

B. ESU 16 may terminate this Agreement without cause and cease offering Distance Learning Services at any time by providing thirty (30) days written notice to the District. Upon termination under this subparagraph, ESU 16 shall reimburse the District in an amount equal to the difference between (1) the total amount the District has paid to ESU 16 pursuant to the Agreement, minus (2) the total costs incurred by ESU 16 for the Distance Learning Services provided to the District. ESU 16 shall not otherwise be liable to District.

C. The District may terminate this Agreement without cause at any time by providing thirty (30) days written notice to ESU 16. In the event the District terminates this Agreement under this paragraph 8, the District shall immediately pay ESU 16 an amount equal to the difference between (1) the sum of (a) all Yearly Payments that have become due, plus (b) all Yearly Payments that would become due if this Agreement had not been terminated hereunder, minus (2) the total amount the District has paid to ESU 16 pursuant to the Agreement.

6. Indemnification. The parties agree to indemnify, defend, and hold each other harmless from any and all costs and liabilities arising from a breach or noncompliance of their obligations under this Agreement. The foregoing indemnification obligation shall continue notwithstanding the expiration or termination of this Agreement.

7. Public Records. The parties acknowledge that both parties must comply with Neb. Rev. Stat. § 84-712 through § 84-713 and release public records as defined law upon request, which may include this Agreement and all records created and maintained in relation to this Agreement.

8. Nondiscrimination. The parties and all subcontractors, if any, shall not discriminate against any employee or applicant who is to be employed for performance of this Agreement with respect to his or her hire, tenure, terms,

conditions, or privileges of employment, because of his race, color, religion, sex, disability, or national origin.

9. Employment Eligibility Verification. The parties shall use a federal immigration verification system to determine the work eligibility status of employees hired on or after October 1, 2009 and who are physically performing services within the State of Nebraska. If the parties employ or contract with any subcontractor in connection with this Agreement, the contracting party shall include a provision in the contract requiring the subcontractor to use a federal immigration verification system to determine the work eligibility status of new employees physically performing services within the State of Nebraska.

10. Notice. Each party giving any Notice ("Notice") under this Agreement must give written Notice by personal delivery, registered or certified Mail (in each case, return receipt requested and postage prepaid), or nationally recognized overnight courier (with all fees prepaid.) Notice shall be sent to the following addressees at the following addresses:

ESU: ESU No. 16

 Attn: Administrator

 314 W. First Street

 Ogallala, NE 69153

District: Mullen Public Schools

 Attn: Superintendent

 P.O. Box 127

 Mullen, NE 69152

Notice is effective only if the party giving the Notice has complied with this section.

11. Governing Law. This Agreement is governed by and construed in accordance with the laws of the State of Nebraska.

12. Entire Agreement. The Agreement is the complete and exclusive expression of the parties' agreement on the matters contained in this Agreement. All prior and contemporaneous negotiations and agreements between the parties on the matters contained in this Agreement are expressly merged into and superseded by this Agreement.

13. Amendments and Modifications. The parties may amend or modify this Agreement only by a signed, written agreement by both parties that identifies itself as an amendment or modification to this Agreement. No other alternations in the terms of this agreement shall be valid or binding.

14. Third Party Beneficiaries. This Agreement does not and is not intended to confer any rights or remedies upon any person other than the signatories.

15. Authority to Execute Agreement. The individuals signing below represent and warrant that they are duly authorized to execute and deliver this Agreement on behalf of their respective entity and that this Agreement is binding upon their entity in accordance with its terms.

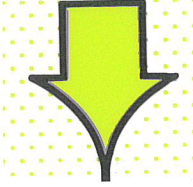
IN WITNESS WHEREOF the parties have executed this Agreement on the last date written below.

[FOLLOWING PAGE IS SIGNATURE PAGE]

**SIGN
HERE**

ESU

DISTRICT



Signature: _____

Signature: _____

Name: Debra Paulman

Name: Chris Kunc!

Title: Administrator

Title: Superintendent

Date: December 18, 2019

Date: _____

ESU 16-(Southwest Nebraska Distance Education Network)

SCOTT JONES
Network Operations Director

ALISON SMITH
Teaching & Learning Director

MARY PETERS
Director of Special Education



314 West 1st
Ogallala, NE 69153

Phone: 308-284-8481
Fax: 308-284-8483

1221 West 17th Street
North Platte, NE 69101

Phone: 308-534-2427
Fax: 308-534-5870

DEB PAULMAN
Administrator

DATE: December 27, 2019

TO: All School Districts With Special Education Contracts With ESU 16

FROM: Deb Paulman, Administrator
Mary Peters, Director of Special Education

SUBJECT: Special Education Contracts for the 2020-2021 School Year

NOTE: PLEASE RETURN BY MARCH 1, 2020

Enclosed are copies of contracts for Special Education programs. The contract blanks have been filled in showing contract costs for the school year beginning September 1, 2020 for the 2020-2021 school year. The contracts are being extended based on December 1 enrollment in Special Education programs being contracted from ESU 16 in the 2019-2020 school year.

Contracts must be returned by March 1, 2020 to Educational Service Unit 16 signed by the Board or officer of the school district designated by the Board. The contract format requires the administrative representative to sign in two locations. The administrative representative will need to sign the main contract and exhibit A. A copy of the signed contract will then be signed by the ESU16 Board or designated representative and returned to your district. **Note: No notary is required.**

Exhibits are for your file. The Educational Service Unit 16 Board needs this information to determine staff requirements for the requested contracted programs in Special Education for school districts requesting the Special Education appropriate programs.

Each school district approves all purchases for instructional material and equipment. All material approved will become and remain the property of the school district, except for \$400.00 allocated to regional purchase. All supplies and equipment will be reimbursed an estimated 50% excess cost to the school district for Level I programs. In-service is required, but will only be spent as approved by your school district.

If you have any questions concerning any of your special education contracts with ESU 16, or would like one of us to speak to your board in regards to the change of reimbursement for Special Education and the IDEA Part B Poverty and Enrollment dollars, we would be happy to. Please call Deb Paulman or Mary Peters at 284-8481.

BOARD OF DIRECTORS BY DISTRICT:

1 Julie Boettcher, Hershey
2 Rodney Rayburn, Brady
3 Bill McGahan, No Platte
4 Robert Jones, Stapleton

5 Nikki Bergeron, No Platte
6 Judy Thompson, No Platte
7 Mel McNea, No Platte
8 Margaret "Sooky" Marks, Mullen

9 Judy Seger, Wallace
10 Bill Eakins, Paxton
11 John Frates, Brule
12 Claudia Melvin, Arthur

**2020-21 SPECIAL EDUCATION SERVICE AGREEMENT
EDUCATIONAL SERVICE UNIT NO. 16**

THIS AGREEMENT is entered into by and between Educational Service Unit No. 16 ("ESU"), and Mullen ("District").

In consideration of mutual covenants, the parties agree as follows:

1. **Term.** This Agreement is effective for the 2020-21 school year which begins on or about August 15, 2020 and shall continue until 12:00 midnight (CST) on or about May 31, 2021, unless terminated earlier as provided by this Agreement or by law.

2. **Payment Terms/Payment Schedule.** The District shall pay for services rendered on the terms and payment schedule as set forth in **Exhibit A** which is attached hereto and incorporated herein by this reference. **The parties shall initial Exhibit A.**

3. **Scope of the Contract.** The ESU shall provide to the District the special education services as defined and specified in the exhibits which are attached hereto and incorporated herein.

4. **Acknowledgment.** The parties acknowledge that although state law authorizes the District to contract with the ESU to provide special education programs and support services, state law also indicates that **the District ultimately remains responsible for compliance with state and federal laws and regulations for programs for children with disabilities.**

5. **Termination.**
 - A. Each party may terminate this Agreement if the other party breaches or is in default of any material obligation hereunder which default is incapable of cure, or which, being capable of cure, has not been cured within 30 days after receipt of written notice of such default or such additional cure period as the nondefaulting party may authorize in writing. Upon the termination of this Agreement, each party shall promptly return to the other party all papers, materials and other property of the other party then in its possession, including but not

limited to all work in progress as is appropriate in its then existing form to the other party.

- B. If the ESU is unable to render the services contracted for because it is unable to employ personnel who meet the criteria for employment of the ESU and/or the certification requirements of the State of Nebraska, or for other reasons which are determined by the ESU to be valid, the ESU may terminate this contract by providing notice to the District no later than September 1st of the contracted school year. The ESU will not assume liability for those services contracted for but not provided.
6. **Indemnification.** The parties agree to indemnify, defend, and hold each other harmless from any and all costs and liabilities arising from a breach or noncompliance of their obligations under this Agreement. The foregoing indemnification obligation shall continue notwithstanding the expiration or termination of this Agreement.
7. **Public Records.** The parties acknowledge that both parties must comply with NEB. REV. STAT. § 84-712 through § 84-713 and release public records as defined law upon request, which may include this Agreement and all records created and maintained in relation to this Agreement.
8. **Nondiscrimination.** The parties and all subcontractors, if any, shall not discriminate against any employee or applicant who is to be employed for performance of this Agreement with respect to his or her hire, tenure, terms, conditions, or privileges of employment, because of his race, color, religion, sex, disability, or national origin.
9. **Employment Eligibility Verification.** The parties shall use a federal immigration verification system to determine the work eligibility status of employees hired on or after October 1, 2009 and who are physically performing services within the State of Nebraska. If the parties employ or contract with any subcontractor in connection with this Agreement, the contracting party shall include a provision in the contract requiring the subcontractor to use a federal immigration verification system to determine the work eligibility status of new employees physically performing services within the State of Nebraska.

10. **Notice.** Each party giving any Notice ("Notice") under this Agreement must give written Notice by personal delivery, registered or certified Mail (in each case, return receipt requested and postage prepaid), or nationally recognized overnight courier (with all fees prepaid.) Notice shall be sent to the following addressees at the following addresses:

ESU: ESU No. 16
 Attn: Administrator
 314 W. First Street
 Ogallala, NE 69153-0915

District: Chris Kuncl
 Attn: Superintendent
 PO Box 127
 Mullen, NE 69152

Notice is effective only if the party giving the Notice has complied with this section.

11. **Governing Law.** This Agreement is governed by and construed in accordance with the laws of the State of Nebraska.
12. **Entire Agreement.** The Agreement is the complete and exclusive expression of the parties' agreement on the matters contained in this Agreement. All prior and contemporaneous negotiations and agreements between the parties on the matters contained in this Agreement are expressly merged into and superseded by this Agreement.
13. **Amendments and Modifications.** The parties may amend or modify this Agreement only by a signed, written agreement by both parties that identifies itself as an amendment or modification to this Agreement. No other alternations in the terms of this agreement shall be valid or binding.
14. **Third Party Beneficiaries.** This Agreement does not and is not intended to confer any rights or remedies upon any person other than the signatories.
15. **Authority to Execute Agreement.** The individuals signing below represent and warrant that they are duly authorized to execute and deliver this Agreement on behalf of their respective entity and that this Agreement is binding upon their entity in accordance with its terms.

16. Miscellaneous.

- A. All special education and related services provided under the terms of this Agreement shall be by staff who are licensed and endorsed to provide such services in accordance with Nebraska state law, rules and regulations, or who are otherwise qualified, trained, or authorized by law to provide such services.
- B. A student's special education program shall not be changed or terminated by the ESU without a meeting of the student's IEP/IFSP Team which results in changes to or termination of the student's IEP/IFSP.
- C. The ESU and the District agree to abide by the mandated procedures for identification, verification, placement, development of the individualized program, inspection and review of student records, and other requirements as specified in 92 NAC 51, 92 NAC 52, Regulations and Standards for Special Education Programs Nebraska State Department of Education, Federal Regulations 20 U.S.C. 1401 *et seq.* (Individuals with Disabilities Education Act, (IDEA)).
- D. Special education programs or services which extend beyond the regular school year will be provided by the ESU upon request by the District. Said costs of such extended programs are not included in cost schedule identified in item two of this contract. Extended programs shall be covered by separate contract.

**SIGN
HERE**

IN WITNESS WHEREOF the parties have executed this Agreement on the date last date written below.

ESU

By: _____
Name: _____
Title: _____
Date: _____

DISTRICT

By: _____
Name: _____
Title: _____
Date: _____



EXHIBIT A

1. Payments/Payment Schedule

- A. The District will pay for the services identified in Exhibit A and provided by the ESU under this Agreement as follows:
- (1) The estimated total cost of the services that the ESU will provide to the district is \$187531. The District shall pay one-eighth of this amount (or \$23441.38) on or before October 25, 2020, and on or before the 25th of the following six months (through April 25th).
 - (2) The District shall only pay for the actual cost of services rendered under this Agreement. Therefore, on the final bill, due on or before May 25th, the ESU shall make any necessary adjustments caused by prior overpayment or underpayment and issue a new billing statement accordingly.
 - (3) The final billing statement to the District shall serve as a final reconciliation of the amounts due from the District to the ESU.
 - (4) The District agrees that the final billing for special education services submitted to the District by the ESU for actual services rendered during the contract period shall be considered an amendment to the original contract and by reference made a part thereof.
- B. The District agrees to pay the ESU for all amounts due within thirty (30) days of receipt of invoice.
- C. The procedure for billing and payment for services products and deliverable shall be as specified in this exhibit.

2. Service Rates

EARLY CHILDHOOD SERVICES

<u>SERVICE</u>	<u>SERVICE CODE</u>	<u>APPROVED RATE 19-20</u>	<u>AMOUNT</u>
Early Childhood Special Education Team	4011	\$70.40	\$20457
Indirect Costs	none	\$	\$950
Program Supervision	0001	\$120.80	\$1637
CONTRACT TOTAL			\$23044

LEVEL I SERVICES

<u>SERVICE</u>	<u>SERVICE CODE</u>	<u>APPROVED RATE 19-20</u>	<u>AMOUNT</u>
Speech Therapy	4001	\$62.64	\$54499
Speech Therapy Supplies	4001		\$1000
Speech Therapy Equipment	4001		\$1000
Teacher Consultant	2001	\$65.34	\$6792
Psychological Services	1002	\$61.46	\$26566
Inservice	7001	\$50	\$500
Technology Inservice	7003	\$430.47	\$452
Indirect Costs	none	none	\$721
Audiology Consultant	1003	\$62.17	\$1197
Behavior Consultant	2013	\$88.04	\$13602

Deaf Education Consultant	2014	\$75.71	\$4430
Inclusion Consultant	2015	\$67.04	\$12028
Occupational Therapy	4006	\$66	\$15666
Physical Therapy	4005	\$66	\$4225
Transition Consultant	2012	\$71.90	\$9211
Program Supervision	0001	\$120.80	\$12598

CONTRACT TOTAL
GRAND TOTAL \$ 187531

\$164487



District Superintendent Signature : _____

ESU Administrator Signature: _____

EXHIBIT B

EARLY CHILDHOOD SPECIAL EDUCATION (ECSE) PROGRAM

1. The ESU shall employ and provide an ECSE teacher, speech pathologist, occupational therapist, physical therapist, and school psychologist to provide services to the District's qualified children as required by each child's Individualized Family Service Plan (IFSP)/Individual Education Program (IEP), applicable laws and regulations, the Agreement, and this Exhibit. These are special education programs and related services designed to serve children below age five with verified disabilities, including: preschool classroom instruction, home instruction, instruction in hospitals and institutions and in other settings by the Early Childhood Special Education Team and evaluation, assessment, identification, and verification by the team.
2. Services that are ***not included*** in the ECSE Program but that are available under the Cooperative Agreement Program include audiology services, and deaf education. Other special education services or other services required by or listed in Rule 51 that are not listed in this Exhibit or any other Exhibit are not part of the Agreement.
3. The District shall pay its proportionate share for the cost of the ECSE teams instructional services, which shall include salary, all applicable taxes, retirement, mileage, and fringe benefits. The amount of services contracted will be based on the number of children and the average cost of services per child for the District. Preparation time will be the same as balance of the District's teaching staff. The special education services provided under the ECSE Program shall be billed at NDE's approved rate or, if none, as provided in Exhibit A.
4. Instructional materials and equipment will be purchased by the ESU for use by the ESU employees providing services under this Agreement. All instructional materials and equipment will be purchased for use on a regional basis with all school districts receiving ECSE services from the ESU. An additional amount of \$900.00 is charged to each district for regional purchase of materials and equipment.
5. The ESU shall assist with the development and submission of reports, budget documents, and payment applications to NDE as requested by the District.
6. The ESU will prorate the charges under the Agreement for time actual programs or services were delivered to the children in the District if program or service requirements change during the year.

EXHIBIT C

SCHOOL PSYCHOLOGY

1. The ESU will provide assistance to the District with the identification of children with disabilities, multidisciplinary teams and reporting of diagnostic data for ages birth through 21 by a school psychologist. These services include child find, initial evaluation and assessment, reevaluation as allowed by Rules 51/52 and requested by the District and/or required by Rule 51/52, verification/eligibility determination, and multidisciplinary evaluation team (MDT) requirements.
2. The District, with assistance from the ESU, shall obtain informed consent from the parent of the child as required by Rule 51/52 before any evaluation is conducted.
3. A school psychologist will assist the District in conducting Manifestation Determinations and Functional Behavioral Assessments in the context of Disciplinary Removals of Children with Disabilities.
4. All testing instruments and materials necessary for evaluation, assessment, identification, and verification shall be provided by the ESU without any additional cost or charge to the District.
5. The ESU will prorate the charges under the Agreement or this Exhibit for time actual programs or services were delivered to the children in the District if program or service requirements change during the year.

EXHIBIT D

LEVEL I SPEECH THERAPY

1. The ESU will employ and provide a speech language pathologist (SLP) and additional qualified individuals to provide speech therapy services to the District's qualified students as required by each student's Individualized Family Service Plan (IFSP)/Individual Education Program (IEP), applicable laws and regulations, the Agreement, and this Exhibit. The SLP will provide assistance to the District to develop, review, and revise IEPs and IFSPs. This includes attendance at all required IEP/IFSP meetings by the SLP as required by Rules 51/52 or as reasonably requested by the District.
2. The District will provide the necessary space for the ESU employee to provide the services to identified students. The District shall draft a schedule for the ESU employee which shall be subject to ESU approval.
3. The ESU will provide a list of students served and lesson taught to the District upon request.
4. School districts shall be responsible for providing, arranging, and/or paying for any student transportation if speech therapy services are provided at non-District locations.
5. A collaborative service delivery model will be provided upon the District's request. If the collaborative model is implemented, the District will provide the necessary release time to assure success of the program.
6. Speech-language pathologist will be subject to the direction of the District administrators while providing services to the District under the Agreement or this Exhibit.
7. As part of the Agreement cost/charge, the ESU will budget and bill up to \$50.00 per enrolled student for instructional materials and up to \$50.00 per enrolled pupil for equipment. An additional \$200.00 will be included for regional purchase of materials and equipment. The District shall be responsible for the purchase and/or cost of any materials or equipment that are required to provide speech therapy to its students. The ESU will make purchases on behalf of the District upon request and upon submission of a requisition sheet. Monthly billings from the ESU will reflect instructional materials and equipment purchased for the District along with other contract costs. The district may increase or decrease the budgeted amounts, and this increase or decrease will be reflected in the charge to the District. Only District-approved amounts will be purchased with your projected budget for instructional materials and equipment. Only

instructional materials or equipment that are not included in the regional buy become and remain the property of your school district. Consumable materials necessary for instruction including, but not necessarily limited to, paper and writing utensils, will be made available by the schools requiring the materials.

8. The ESU will prorate the charges under the Agreement or this Exhibit for time actual programs or services were delivered to the children in the District if program or service requirements change during the year.

EXHIBIT F

LEVEL I CONSULTANT

1. The ESU shall employ and provide a special education consultant to provide consultation to the District to review compliance with each student's Individual Education Program (IEP) and applicable laws and regulations. These services can include, but are not necessarily limited to, the following:

- **Scheduling and Referrals.** Assist with the scheduling of all programs and processing of all referrals for evaluation.
- **Special Education (Ages 5 and Above).** Assist with the development, adoption, and filing with NDE policies, procedures and forms for special education programs for all resident public and nonpublic school children with disabilities, in accordance with all applicable state and federal requirements.
- **Reports and Documents.** The ESU shall assist with the development and submission of reports, budget documents, and payment applications to NDE as requested by the District.
- **IEP/IFSP Assistance.** The ESU will provide assistance to the District to develop, review, and revise IEPs and IFSPs. This includes attendance at all required IEP/IFSP meetings by an ESU representative as required by Rules 51/52 or as reasonably requested by the District.

2. Consultation services will be coordinated with the Administrator for each district.

3. The ESU will provide the District with a detailed description of the program and services offered and the number of students receiving such service upon District request.

4. The ESU will not charge the District for the cost of the Consultant if it does not have any students enrolled and qualified for special education. All Consultant services provided prior to evaluation, identification, verification, and placement is provided at no charge to the District.

EXHIBIT G

LEVEL I IN-SERVICE TRAINING

1. The ESU shall employ, retain, and/or provide a qualified individual or individuals to train District employees regarding the requirements of 92 NAC 51, 92 NAC 52, the Special Education Act (NEB. REV. STAT. § 79-1110 through 79-1167), the Individuals with Disabilities Education Act (IDEA - 20 U.S.C. 1401 *et seq.*), and corresponding regulations.
2. The District will coordinate the release time necessary for ESU and District personnel to attend and participate in In-Service Training.
3. The District administration will assist the ESU to arrange specific onsite in-service activities for District personnel.
4. The ESU will prepare any additional contracts necessary to provide In-Service Training to District employees.
5. The ESU will make payments to workshop presenters, including mileage, meal allowance, presenter fees, and necessary workshop materials. The actual cost of the workshop will be reflected in the registration fee that is billed by the ESU to the District.
6. The ESU will provide In-Service Training only to a District that has children who have been identified and verified and are receiving special education.
7. The ESU's suggested budget of \$500.00 per school will entitle the District to about ten hours of special education In-Service Training Special expenditures qualifying for an estimated 50% reimbursement. The district may increase or decrease the budgeted amounts, and this increase or decrease will be reflected in the charge to the District.
8. An additional amount for the technology cost for the SRS System will be charged at the NDE approved rate based on the number of students in your District.

EXHIBIT H
INDIRECT COSTS

1. The District will share in the costs of special education services that are non-reimbursable through the Department of Education.
2. The Nebraska Department of Education outlines the allowable and reimbursable costs for Special Education services in Rule 51. The allowable and reimbursable costs for special education services are restricted to the following items (as may be amended or modified by NDE), which shall be documented and are subject to audit:
 - A. Salaries of special education personnel as per 92 NAC 51-010 and clerical personnel directly associated with special education services;
 - B. School district or approved cooperative share of fringe benefits for the special education staff:
 - a. Fringe benefits shall be limited to social security, retirement programs, workers' compensation, health, life, long term disability and unemployment insurance.
 - C. Inservice costs directly related to the special education programs provided that:
 - a. Allowable inservice expenditures are costs directly related to special education programs. Allowable activities must be designed to contribute to the professional growth and competence of staff serving children with a disability and their parents through workshops, demonstrations, and school visits. Tuition and expenses of attending special education courses for college credit are not allowed.
 - b. Allowable costs include: presenter fees and expenses; mileage; board and room of staff to attend inservice programs; costs of substitutes for staff attending inservice programs; cost of inservice programs which directly assist special and regular educators in providing appropriate programs for children with a verified disability in their classrooms; and costs of special education workshop attendance.
 - c. Costs of attending meetings conducted by organizations where only organizational business is conducted is not an allowable reimbursable expense.
 - D. Travel costs incurred by the ESU's special education staff in delivering the special education program and services.
 - E. Instructional equipment including assistive technology devices and equipment, supplies and publications necessary to aid the child in accomplishing the goals and objectives of the individual education program

(IEP)/IFSP are allowable reimbursable costs under this Chapter. The equipment, supplies and publications shall be used by the child in association with the implementation of the child's IEP or evaluation. This shall also include equipment, supplies and publications used by staff when instructing a child with a verified disability; when evaluating a child who is suspected of having a disability; or when reevaluating a child with a verified disability. Allowable and reimbursable costs shall include printing, publication and postage costs that are necessary to carry out the provisions of this Chapter. This shall not include equipment, supplies and publications used by staff for administrative purposes. This shall not include personal equipment and supplies or life support equipment. When equipment is used for purposes other than for special education, the school district or approved cooperative shall only claim the applicable prorated portion for special education payment.

EXHIBIT I

TEACHER CONSULTANT AGREEMENT PROGRAMS

1. The ESU shall employ and provide Special Education Consultants in the areas of: Deaf Education, Inclusion Facilitator, Transition Specialist, and Behavior Consultant. These consultants provide consultation to District Staff in meeting the unique needs of students, for program planning and compliance with students with low-incidence disabilities IEP and applicable laws and regulations.
2. These services can include but are not necessarily limited to, the following:
 - Assist paraprofessionals and classroom teachers in program planning, conduct staffings, inservice training, observation, consultation and collaboration, modify curriculum and provide resources for checkout and evaluating the effectiveness.
 - Assist resource teachers with the development of transition plans, coordinate career assessments, and consult with area agency personnel.
 - Assist with students having behavioral and/or emotional difficulty in the school system, developing behavioral intervention plans for IEPs and promotes modification and adaptation of regular classrooms.
 - Assist with verification and accommodation for students who are deaf and hard of hearing. Assess the needs of a sign language interpreter.
 - Provide assistance to the District to develop, review and revise IEPs and IFSPs. This includes attendance at all required IEP/IFSP meetings by an ESU representative as required by Rule 51/52 or as reasonably requested by the District.
 - Provide direct services, when needed, to students based upon an IEP team decision.
3. Consultation services will be coordinated with the Administrator for each district.
4. The ESU will provide the District with a detailed description of the program and services offered and the number of students receiving such service upon District request.
5. The formula distribution is based on the District's average daily membership and includes a weighted student fee.

EXHIBIT J

SPECIAL EDUCATION DIRECTOR FOR PROGRAM SUPERVISION

1. The ESU will employ, retain, and/or provide a qualified individual or individuals to serve as the District's Special Education Director and to provide the District with Program Supervision regarding the District's special education programs established and maintained under 92 NAC 51, 92 NAC 52, the Special Education Act (NEB. REV. STAT. § 79-1110 through 79-1167), the Individuals with Disabilities Education Act (IDEA - 20 U.S.C. 1401 *et seq.*), and corresponding regulations.
2. The Special Education Director will provide the following services:
 - A. Special assistance and information in completion of necessary forms for final financial reimbursement and budgets, IDEA Consolidated Grant, SRS/ADVISER upload, etc. for each school year, as required by NDE.
 - B. Coordinates all special education services available through the ESU such as assistance on referrals, placement, student progress and transportation.
 - C. Arrange appropriate staffing and Multidisciplinary Team conferences.
 - D. Assist District special education teachers with concerns that arise from student IEPs, curriculum planning, caseload size, SATs, transition requirements, Rule 51 compliance, SRS, etc.
 - E. Supervision and evaluation of all ESU personnel involved in delivery of special education services.
 - F. Additional services required by Rule 51, Rule 52, IDEA, or the Nebraska Special Education Act or otherwise reasonably requested by the District.
3. The ESU will provide the District with a more detailed description of the program and services offered under this Exhibit upon District request.
4. The cost of this service is 9% of the District's entire cost of services provided by the ESU pursuant to the Agreement.
5. Districts with their own Director of Special Education will pay for services outlined in paragraph 2.E. only. The cost of this service will be 8% of the District's entire cost of services provided by the ESU pursuant to the Agreement.

EXHIBIT L
AUDIOLOGY

1. The ESU will provide assistance to the District with students who might have hearing concerns. The Audiologist is responsible for providing a comprehensive diagnostic evaluation.
2. The District, with assistance from the ESU, shall obtain informed consent from the parent of the child as required by Rule 51/52 before any comprehensive diagnostic testing is done in a soundproof booth.
3. All testing instruments and materials necessary for evaluation, assessment, identification, and verification shall be provided by the ESU without any additional cost or charge to the District.
4. The ESU will prorate the charges under the Agreement or this Exhibit for time actual programs or services were delivered to the children in the District if program or service requirements change during the year.

EXHIBIT M

LEVEL I OT/PT

1. The ESU will employ/contract and provide an Occupational Therapist & Physical Therapist and additional qualified individuals to provide evaluation and services to the District's qualified students in the area of fine and gross motor movement as required by each student's Individualized Family Service Plan (IFSP)/Individual Education Program (IEP), applicable laws and regulations, the Agreement, and this Exhibit. The OT/PT will provide assistance to the District to develop, review, and revise IEPs and IFSPs. This includes attendance at all required IEP/IFSP meetings by the OT/PT as required by Rules 51/52 or as reasonably requested by the District.
2. The District will provide the necessary space for the ESU employee to provide the services to identified students.
3. The ESU will provide a list of students served and service provided to the District upon request.
4. School districts shall be responsible for providing, arranging, and/or paying for any student transportation if OT/PT services are provided at non-District locations.
5. Services will be provided in a direct and indirect model. Collaboration is done with regular classroom teachers and resource teachers, parents, and paraeducators.
6. OT/PT will be subject to the direction of the District administrators while providing services to the District under the Agreement or this Exhibit.
7. The ESU will prorate the charges under the Agreement or this Exhibit for time actual programs or services were delivered to the children in the District if program or service requirements change during the year.

SCOTT JONES
Network Operations Director

ALISON SMITH
Teaching & Learning Director

MARY PETERS
Director of Special Education



DEB PAULMAN
Administrator

314 West 1st
Ogallala, NE 69153

Phone: 308-284-8481
Fax: 308-284-8483

1221 West 17th Street
North Platte, NE 69101

Phone: 308-534-2416
Fax: 308-534-5870

December 16, 2019

TO: ESU 16 Schools
FROM: Mackenzie Carstens, Title I Coordinator
DATE: December 2019
RE: Title I Contract 2020-21

Enclosed please find the Title I Cooperative Agreement for 2020-21. We will continue to reimburse schools as we have for 2019-20. This procedure is bold and underlined in item #8 on both pages of the attached agreement.

Please check the appropriate intent box on page 2, complete the date of board approval and sign the enclosed agreement. Please return this original to the ESU 16 Ogallala Office by Feb. 28, 2020.

A copy with all signatures will be returned to you at a later date.

If you have any questions, please feel free to contact me. I am happy to assist you in any way I can.

Sincerely,

A handwritten signature in cursive script that reads 'Mackenzie Carstens'.

Mackenzie Carstens

Enclosure

BOARD OF DIRECTORS BY DISTRICT:

1 Julie Boettcher, Hershey
2 Rodney Rayburn, Brady
3 Bill McGahan, No Platte
4 Robert Jones, Stapleton

5 Nikki Bergeron, No Platte
6 Judy Thompson, No Platte
7 Mel McNea, No Platte
8 Margaret "Sooky" Marks, Mullen

9 Norma Mayer, Grant
10 Bill Eakens, Paxton
11 John Frates, Brule
12 Claudia Melvin, Arthur

**EDUCATIONAL SERVICE UNIT 16
TITLE I COOPERATIVE AGREEMENT**

WHEREAS, the above Nebraska school, hereinafter referred to as School District, wishes to be a part of the Educational Service Unit 16 Title I Cooperative for the **2020-21** school year, it is hereby agreed as follows:

Educational Service Unit 16 will act as the administrative and fiscal agent for the School District and the Cooperative will:

1. Assist in the development of the Title I program for the School District based on the funds available to the School District.
2. Provide information to the School District administration and staff so that the Title I program will be in compliance with State and Federal regulations under P.L. 107-110.
3. Coordinate all related activities with the State Department of Education Title I staff.
4. Be responsible for gathering the required statistical data from the School District, preparing the annual application and budget, meeting mandated requirements, and evaluation and closing out the program, as required by Title I ESSA-01.
5. Furnish the administrative personnel to manage the Cooperative.
6. Coordinate the purchasing of materials and supplies for school districts with available monies when applicable.
7. Assume the responsibility of the financial accounting and record keeping.
8. Reimburse school districts for salaries, social security, retirement, unemployment insurance, etc.
9. Provide inservice for Title I staff.
10. Assist the School District in developing the needs assessment and Schoolwide Plans.

In consideration, therefore, the School District will:

1. Authorize the Cooperative to receive all Title I funds allocated to the School District for the **2020-21** project year. In addition, the School District authorizes the Cooperative to use 15 percent of Title I allocation to provide administrative services as described herein.
2. Assume the responsibility of hiring, evaluating, and terminating Title I staff if the Title I program is terminated at the end of the **2020-21** school year.

ESU 16 Title I Cooperative Agreement

3. Conform to all rules and regulations for the Title I programs as set forth by federal and/or state legislation.
4. Bear full responsibility for any loss of funds caused by unilateral action(s) taken, against the advice of the Cooperative, that would cause the School District to incur audit exceptions. The Cooperative will make recommendations to the School District on matters that could result in audit exceptions. Should action on the part of the Cooperative cause audit exceptions, the Cooperative shall be responsible for the funds lost because of the audit exceptions.
5. Provide release time for teachers to attend regularly scheduled inservice programs.
6. Assist the program coordinator in all aspects of the Title I program.
7. Assume the responsibility of salary payment and fixed charges to Title I staff if amount of grant is not sufficient and reallocation request is denied.
8. **Provide ESU 16 the financial records necessary in order to reimburse the school district for salary, fixed charges and fringe benefits.**

In 2019-20, Mullen Public Schools **DID** participate in the ESU 16 Title 1 Cooperative.

The undersigned school district below chooses (please check one):

to **PARTICIPATE** in the ESU 16 Title 1 Cooperative for the 2020-21 school year.

to **NOT PARTICIPATE** in the ESU 16 Title 1 Cooperative for the 2020-21 school year.

DATED this _____ day of _____, 2020

**MULLEN PUBLIC SCHOOLS,
of Hooker County, NEBRASKA**

By _____

EDUCATIONAL SERVICE UNIT 16

By _____



November 1, 2019

Mr. Chris Kuncl
Superintendent
P.O. Box 127
Mullen, NE 69152

Dear Mr. Kuncl:

Please accept this letter as our request that First State Bank be designated as a depository bank for Mullen School District for 2020.

The Bank agrees to secure these funds in accordance with the statutes of the State of Nebraska.

We look forward to continuing to be of service to you in 2020. If you have any further questions, please feel free to contact me at 546-0600.

Sincerely,

A handwritten signature in blue ink that reads 'Ronald D. Boyer'.

Ronald D. Boyer

EVP\ Branch Manager



Mullen Public Schools

P.O. Box 127

Mullen, NE 69152-0127

Phone (308) 546-2223 FAX (308) 546-2209

CHRIS KUNCL
Superintendent / Elementary Principal
(308)546-2223 (308)546-2292

JUSTIN MOORE
Elementary Principal
(308)546-2292

MIKE KVANVIG
High School Principal
(308)546-2285

December 9, 2019

Mullen Public Schools
Board of Education
PO Box 127
Mullen, NE 69152

Dear Negotiations Committee:

The Mullen Education Association (MEA) requests that the school board of Mullen Public Schools take action to recognize Mullen Education Association as the exclusive bargaining agent for the district's non-supervisory certificated staff for the 2021-2022 contract year.

Please direct your response to the undersigned.

Sincerely,

Mellissa Donohoe, President
Mullen Education Association

Upper Loup
Natural Resources District

HAZARD MITIGATION PLAN

2019



PLAN PREPARED BY
JEO CONSULTING GROUP



HAZARD MITIGATION PLANNING TEAM

NAME TITLE

Alma Beland	Director, Region 26 Emergency Management
Anna Baum	General Manager, Upper Loup Natural Resources District
Gary Eng	Thomas County Emergency Manager
Sean Carson	Logan County Emergency Manager
Wynn Wiens	Hooker County Emergency Manager
*Brooke Welsh	JEO Consulting Group
*Mary Baker	JEO Consulting Group
*Ellana Haakenstad	JEO Consulting Group

THIS PAGE IS INTENTIONALLY BLANK

TABLE OF CONTENTS

HAZARD MITIGATION PLANNING TEAM	I
LIST OF FIGURES	V
LIST OF TABLES	VI
LIST OF ACRONYMS	VIII
EXECUTIVE SUMMARY	1
Introduction	1
Goals and Objectives	3
Summary of Changes	4
Plan Implementation	4
Hazard Profiles	5
Mitigation Strategies	8
SECTION ONE INTRODUCTION	9
Hazard Mitigation Planning	9
Disaster Mitigation Act of 2000	9
Hazard Mitigation Assistance	10
Plan Financing and Preparation	10
SECTION TWO PLANNING PROCESS	11
Introduction	11
Multi-Jurisdictional Approach	11
Hazard Mitigation Planning Process	12
Organization of Resources	12
Assessment of Risk	15
Mitigation Plan Development	17
Data Sources and Information	19
Public Review	21
Plan Adoption	21
Plan Implementation and Progress Monitoring	21
SECTION THREE PLANNING AREA PROFILE	23
Introduction	23
Planning Area Geographic Summary	23
Demographics and At-Risk Populations	24
At-risk Populations	24
Built Environment and Structural Inventory	29
Historical Sites	31
SECTION FOUR RISK ASSESSMENT	33
Introduction	33
Methodology	33
Average Annual Damages and Frequency	34
Hazard Identification	35
Hazard Assessment Summary Tables	37

Historical Disaster Declarations	38
Climate Adaptation	40
Hazard Profiles	44
Agricultural Animal and Plant Disease	45
Chemical Fixed Sites	49
Chemical Transportation	52
Civil Disorder	55
Dam Failure	57
Drought	61
Earthquakes	68
Extreme Heat	73
Flooding	77
Grass/Wildfire	84
Hail	91
High Winds	94
Severe Thunderstorms	98
Severe Winter Storms	101
Tornadoes	106
<u>SECTION FIVE MITIGATION STRATEGY</u>	<u>113</u>
Introduction	113
Summary of Changes	113
Goals	113
Mitigation Alternatives (Action Items)	113
<u>SECTION SIX PLAN IMPLEMENTATION AND MAINTENANCE</u>	<u>121</u>
Monitoring, Evaluating, and Updating the Plan	121
Incorporation into Existing Planning Mechanisms	122
<u>SECTION SEVEN: COMMUNITY PROFILES</u>	<u>123</u>
Purpose of Community Profiles	123

LIST OF FIGURES

Figure 1: Map of Planning Area.....	2
Figure 2: Project Timeline	12
Figure 3: Planning Area Topography.....	24
Figure 4: Regional School Districts	26
Figure 5: Housing Age in Planning Area	30
Figure 6: Average Temperature (1895-2018).....	41
Figure 7: Billion Dollar Disasters	41
Figure 8: Billion Dollar Weather and Climate Disasters.....	42
Figure 9: Plant Hardiness Zone Change	43
Figure 10: Climate Division 2, Minimum Temperature 1895 – 2018.....	43
Figure 11: Major Transportation Routes with Half Mile Buffer	52
Figure 12: Dam Locations	59
Figure 13: Sequence and Impacts of Drought Types	62
Figure 14: Palmer Drought Severity Index	63
Figure 15: U.S. Seasonal Drought Outlook	65
Figure 16: Fault Lines in Nebraska.....	69
Figure 17: Earthquakes in Planning Area.....	70
Figure 18: 2017 Probability of Damage from Earthquakes.....	71
Figure 19: Earthquake Probability	72
Figure 20: NOAA Heat Index.....	74
Figure 21: Number of Days Above 100°F.....	75
Figure 22: Dunning Floodplain	78
Figure 23: Localized Flooding in Blaine County	79
Figure 24: ULNRD Average Monthly Precipitation	80
Figure 25: Monthly Events for Floods/Flash Flood in the ULNRD	80
Figure 26: Rangeland Fire Danger.....	84
Figure 27: Mean Fire Return Interval.....	85
Figure 28: National Forest Area	86
Figure 29: FEMA Flood and Fire	87
Figure 30: Wildfires by Cause in the Planning Area	88
Figure 31: Number of Wildfires by Year in the Planning Area	88
Figure 32: Sign at Nebraska National Forest	89
Figure 33: Hail Events by Magnitude.....	92
Figure 34: Wind Zones in the U.S.	94
Figure 35: High Wind Events by Month.....	96
Figure 36: Average Number of Thunderstorms	98
Figure 37: Thunderstorm Wind Events by Month	99
Figure 38: SPIA Index	102
Figure 39: Wind Chill Index Chart	103
Figure 40: Monthly Climate Normals Temperature (1981-2010)	103
Figure 41: Monthly Normal (1981-2010) Snowfall in Inches.....	105
Figure 42: Tornado Activity in the United States	107
Figure 43: Historic Tornado Tracks	108
Figure 44: Tornadoes by Month in the Planning Area	111

LIST OF TABLES

Table 1: Participating Jurisdictions	1
Table 2: Hazard Occurrences	5
Table 3: Hazard Loss History	6
Table 4: Hazard Mitigation Planning Team	13
Table 5: Kick-off Meeting Attendees.....	13
Table 6: Meeting Locations and Times.....	13
Table 7: Notified Stakeholder Groups	14
Table 8: Notified Neighboring Jurisdictions	14
Table 9: Outreach Activity Summary	15
Table 10: Round 1 Meeting Dates and Locations	16
Table 11: Round 1 Meeting Attendees	16
Table 12: Round 1 One-on-One Meeting Attendees	17
Table 13: Round 1 Follow Up with Jurisdictions	17
Table 14: Round 2 Meeting Dates and Locations	18
Table 15: Round 2 Meeting Attendees	18
Table 16: Round 2 Follow Up with Jurisdictions	19
Table 17: General Plans, Documents, and Information.....	19
Table 17: Estimated Population for Planning Area	24
Table 18: School Inventory	25
Table 19: Inventory of Care Facilities	27
Table 20: ESL and Poverty At-Risk Populations	27
Table 21: Racial Composition Trends	28
Table 22: Selected Housing Characteristics.....	29
Table 23: State and Federally-Owned Facilities	30
Table 24: Term Definitions	33
Table 25: Hazards Addressed in the Plan	35
Table 26: Known Landslides in the Planning Area by County	35
Table 27: Regional Risk Assessment.....	37
Table 28: Loss Estimation for the Planning Area	38
Table 29: SBA Declarations	39
Table 30: Presidential Disaster Declarations.....	39
Table 31: Livestock Inventory.....	45
Table 32: Land and Value of Farms in the Planning Area	45
Table 33: Crop Values.....	46
Table 34: Livestock Diseases Reported in the Planning Area.....	46
Table 35: Common Crop Diseases in Nebraska by Crop Types	47
Table 36: Regional Agricultural Vulnerabilities	48
Table 37: Hazardous Material Classes.....	50
Table 39: Livestock Diseases Reported in the Planning Area.....	50
Table 38: Regional Chemical Fixed Site Vulnerabilities	51
Table 41: Historical Chemical Spills 1980-2018	53
Table 40: Chemical Transportation Losses	54
Table 41: Regional Chemical Transportation Vulnerabilities	54
Table 44: Regional Civil Disorder Vulnerabilities.....	56
Table 45: Dam Size Classification.....	57

Table 46: Dams in the Planning Area.....	58
Table 47: Regional Dam Failure Vulnerabilities	60
Table 47: Palmer Drought Severity Index Classification.....	62
Table 48: Historic Droughts.....	63
Table 49: Loss Estimate for Drought.....	64
Table 50: Period of Record in Drought.....	64
Table 52: Drought Impacts in Planning Area.....	65
Table 53:Regional Drought Vulnerabilities	67
Table 54: Richter Scale.....	68
Table 55: Modified Mercalli Intensity Scale	68
Table 56: Regional Earthquake Vulnerabilities.....	72
Table 56: Extreme Heat Loss Estimation	75
Table 57: Loss of Electricity - Assumed Damage by Jurisdiction	76
Table 58: Regional Extreme Heat Vulnerabilities	76
Table 60: FEMA FIRM Panel Status	78
Table 61: Flooding Stages	79
Table 61: NFIP Participants	81
Table 63: Flood Loss Estimate.....	82
Table 64:Regional Flooding Vulnerabilities	83
Table 65: Reported Wildfires by County.....	86
Table 66: Wildfire Loss Estimation	89
Table 67: Wildfire Threats	89
Table 68: Regional Wildfire Vulnerabilities	90
Table 69: TORRO Hail Scale	91
Table 70: Hail Loss Estimate.....	93
Table 71: Regional Hail Vulnerabilities.....	93
Table 72: Beaufort Wind Ranking	95
Table 73: High Wind Loss Estimate	96
Table 74: Regional High Wind Vulnerabilities	97
Table 75: Severe Thunderstorms Loss Estimate	100
Table 76: Regional Thunderstorm Vulnerabilities.....	100
Table 77: Severe Winter Storm Loss Estimate.....	104
Table 78: Regional Severe Winter Storm Vulnerabilities.....	105
Table 79: Enhanced Fujita Scale	109
Table 80: Enhanced Fujita Scale Damage Indicator	110
Table 81: Tornado Loss Estimate	111
Table 82: Regional Tornado Vulnerabilities.....	112
Table 83: Mitigation Alternatives Selected by Each Jurisdiction.....	116

LIST OF ACRONYMS

ACS – American Community Survey	PDSI – Palmer Drought Severity Index
BCA – Benefit Cost Analysis	PHMSA – U.S. Pipeline and Hazardous Material Safety Administration
CFR – Code of Federal Regulations	P.L. – Public Law
CRS – Community Rating System	PSHA – Probabilistic Seismic Hazard Analysis
DFIRM – Digital Flood Insurance Rate Map	RMA – Risk Management Agency
DHS – Department of Homeland Security	SBA – Small Business Administration
DMA 2000 – Disaster Mitigation Act of 2000	SFHA – Special Flood Hazard Area
EAP – Emergency Action Plan	SPEED – Social Political and Economic Event Database Project
ELAP – Emergency Assistance for Livestock, Honeybees, and Farm-Raised Fish Program	SPIA – Sperry-Piltz Ice Accumulation Index
EPA – Environmental Protection Agency	START – National Consortium for the Study of Terrorism and Responses to Terrorism
EPZ – Emergency Planning Zone	SURE – Supplemental Revenue Assistance Payments
ESL – English as Second Language	TAP – Tree Assistance Program
FEMA – Federal Emergency Management Agency	TORRO – Tornado and Storm Research Organization
FIRM – Flood Insurance Rate Map	ULNRD – Upper Loup Natural Resources District
FMA – Flood Mitigation Assistance Program	USDA – United States Department of Agriculture
FR – FEMA’s Final Rule	USGS – United States Geological Survey
GIS – Geographic Information Systems	WUI – Wildland Urban Interface
HMA – Hazard Mitigation Assistance	
HMGP – Hazard Mitigation Grant Program	
HMP – Hazard Mitigation Plan	
HPRCC – High Plains Regional Climate Center	
JEO – JEO Consulting Group, Inc.	
LEOP – Local Emergency Operations Plan	
LFD – Livestock Forage Disaster Assistance Program	
LGA – Liquid Gallon	
LIP – Livestock Indemnity Program	
MHSW – Mobile Home Single Wide	
MPH – miles per hour	
NCEI – National Centers for Environmental Information	
NDA – Nebraska Department of Agriculture	
NDEE – Nebraska Department of Environmental and Energy	
NDOT – Nebraska Department of Transportation	
NDMC – National Drought Mitigation Center	
NeDNR – Nebraska Department of Natural Resources	
NEMA – Nebraska Emergency Management Agency	
NFIP – National Flood Insurance Program	
NFS – Nebraska Forest Service	
NIST – National Institute of Standards and Technology	
NOAA – National Oceanic and Atmospheric Administration	
NPDP – National Performance of Dams Program	
NRC – National Response Center	
NRD – Natural Resources District	
NWS – National Weather Service	
PDM – Pre-Disaster Mitigation Program	

EXECUTIVE SUMMARY

INTRODUCTION

This plan is an update to the Upper Loup Natural Resources District (ULNRD) Multi-Hazard Mitigation Plan (HMP) approved in 2015. The plan update was developed in compliance with the requirements of the Disaster Mitigation Act of 2000 (DMA 2000).

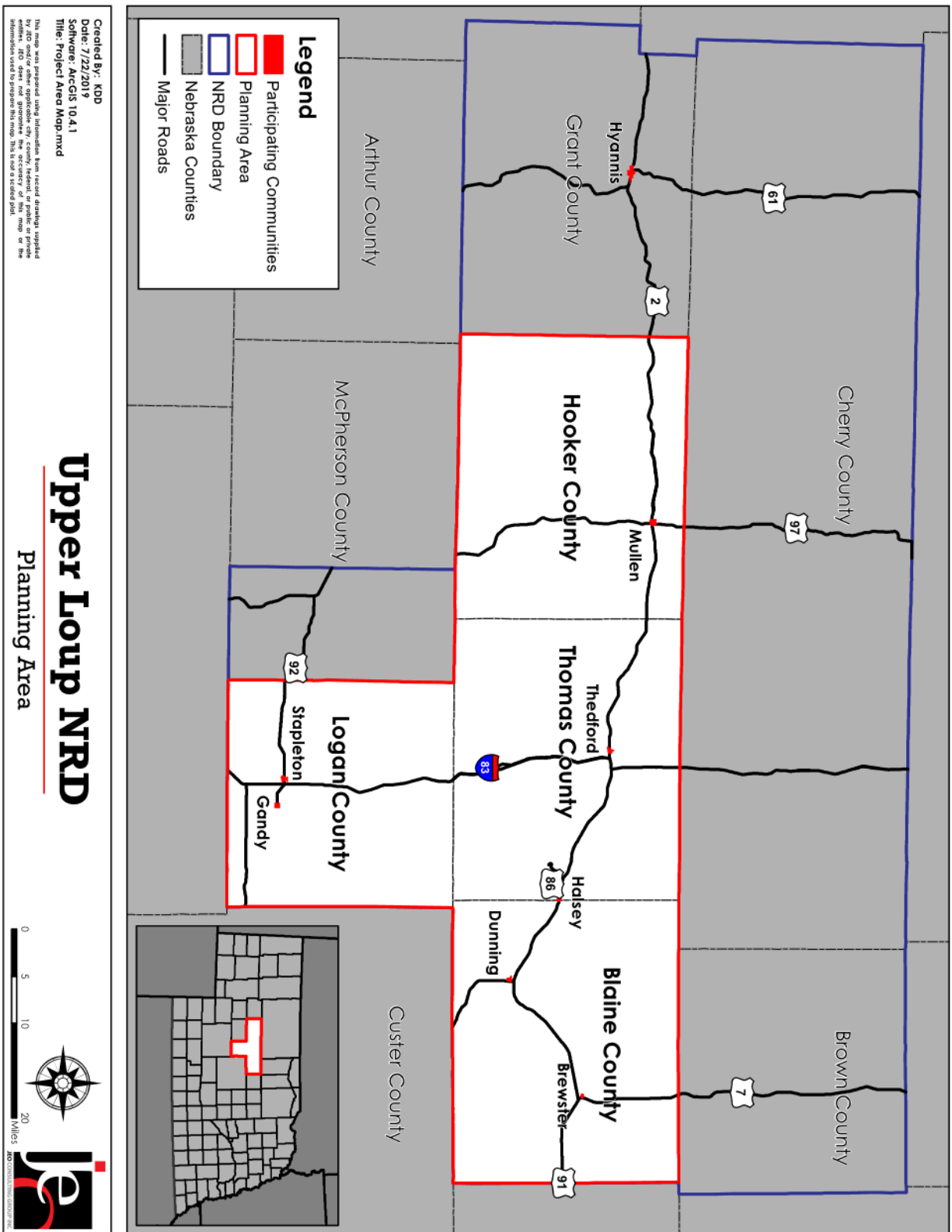
Hazard mitigation planning is a process in which hazards are identified and profiled; people and facilities at-risk are identified and assessed for threats and potential vulnerabilities; and strategies and mitigation measures are identified. Hazard mitigation planning increases the ability of communities to effectively function in the face of natural and human-caused disasters. The goal of the process is to reduce risk and vulnerability, in order to lessen impacts to life, the economy, and infrastructure. Plan participants are listed in the following table and illustrated in the following planning area map.

Table 1: Participating Jurisdictions

Participating Jurisdictions	
Upper Loup Natural Resources District	
Blaine County	Logan County
Village of Brewster	Village of Gandy
Village of Dunning	Village of Stapleton
Hooker County	Sandhills Public Schools
Village of Mullen	Thomas County
Mullen Public Schools	Village of Halsey
Village of Hyannis*	Village of Thedford

*Hyannis is a village located in Grant County. Grant County did not participate in this plan update.

Figure 1: Map of Planning Area



GOALS AND OBJECTIVES

The potential for disaster losses and the probability of occurrence of natural and human-caused hazards present a significant concern for the communities participating in this plan update. The driving motivation behind the update of this hazard mitigation plan is to reduce vulnerability and the likelihood of impacts to the health, safety, and welfare of all citizens in the planning area. To this end, the Planning Team reviewed and approved goals which helped guide the process of identifying both broad-based and community-specific mitigation strategies and projects that will, if implemented, reduce their vulnerability and help build stronger, more resilient communities.

Goals from the 2015 HMP were reviewed, and the Planning Team agreed that they are still relevant and applicable for this plan update. Jurisdictions that participated in this plan update agreed that the goals identified in 2015 would be carried forward and utilized for the 2020 plan. The goals for this plan update are as follows:

GOAL 1: PROTECT HEALTH AND SAFETY OF RESIDENTS

Objective 1.1: Reduce or prevent damage to property or prevent loss of life or serious injury (overall intent of the plan).

GOAL 2: REDUCE FUTURE LOSSES FROM HAZARD EVENTS

Objective 2.1: Provide protection for existing structures, future development, critical facilities, services, utilities, and trees to the greatest extent possible.

Objective 2.2: Develop hazard specific plans, conduct studies or assessments, and retrofit jurisdiction to mitigate for hazards and minimize their impact.

Objective 2.3: Minimize and control the impact of hazard events through enacting or updating ordinances, permits, laws, or regulations.

GOAL 3: INCREASE PUBLIC AWARENESS AND EDUCATION ON THE VULNERABILITY TO HAZARDS

Objective 3.1: Develop and provide information to residents and businesses about the types of hazards they are exposed to, what the effects may be, where they occur, and what they can do to be better prepared.

GOAL 4: IMPROVE EMERGENCY MANAGEMENT CAPABILITIES

Objective 4.1: Develop or improve Emergency Response Plan and procedures and abilities; increase the capability to respond.

Objective 4.2: Develop or improve Evacuation Plan and procedures.

Objective 4.3: Improve warning systems and ability to communicate to residents and businesses during and following a disaster or emergency.

GOAL 5: ENHANCE OVERALL RESILIENCE AND PROMOTE SUSTAINABILITY

Objective 5.1: Incorporate hazard mitigation and adaptation into updating other local planning endeavors (e.g., comprehensive plans, zoning ordinance, subdivision regulation, etc.)

GOAL 6: PURSUE MULTI-OBJECTIVE OPPORTUNITIES (WHENEVER POSSIBLE)

Objective 6.1: When possible, use existing resources, agencies, and programs to implement the projects.

Objective 6.2: When possible implement projects that achieve several goals.

SUMMARY OF CHANGES

Several changes were made to the 2015 Hazard Mitigation Plan and planning process, including: greater efforts to reach out to and include stakeholder groups; an expanded risk assessment for the entire area; and the inclusion of additional mitigation strategies. This update also works to unify the various planning mechanisms in place throughout the participating communities (i.e. comprehensive plans, local emergency operation plans, zoning ordinances, building codes, etc.) to ensure that the goals and objectives identified in those planning mechanisms are consistent with the strategies and projects included in this plan.

PLAN IMPLEMENTATION

Various communities across the planning area have implemented hazard mitigation projects following the 2015 Hazard Mitigation Plan. A few examples of completed projects include sharing relevant hazard relating information with residents, participating in a Community Wildfire Protection Plan, and improving warning siren systems and weather radio availability.

In order to build upon these prior successes and to continue implementing mitigation projects, despite limited resources, communities will need to continue relying upon multi-agency coordination as a means of leveraging resources. Communities across the ULNRD have been able to work with a range of entities to complete projects; potential partners for future project implementation include, but are not limited to: Nebraska Forest Service (NFS), Nebraska Department of Transportation (NDOT), Nebraska Department of Natural Resources (NeDNR); Nebraska Emergency Management Agency (NEMA); and United States Department of Agriculture (USDA).

HAZARD PROFILES

The hazard mitigation plan includes a description of the hazards considered, including a risk and vulnerability assessment. Data considered during the risk assessment process includes: historic occurrences and recurrence intervals; historic losses (physical and monetary); impacts to the built environment (including privately-owned structures as well as critical facilities); and the local risk assessment. The following tables provide an overview of the risk assessment for each hazard and the losses associated with each hazard.

Table 2: Hazard Occurrences

HAZARD	PREVIOUS OCCURRENCE EVENTS/YEARS	APPROXIMATE ANNUAL PROBABILITY	LIKELY EXTENT
AGRICULTURAL ANIMAL DISEASE	14/5	100%	~5 animals per event
AGRICULTURAL PLANT DISEASE	0/19	<1%	Unavailable
CHEMICAL FIXED SITES	0/29	<1%	Unknown
CHEMICAL TRANSPORTATION	8/39	20%	0 to 1,000 Gallons
CIVIL DISORDER	0/73	<1%	Unknown
DAM FAILURE	0/106	<1%	Varies by Structure
DROUGHT	483/1,486 months	33%	D1-D2
EARTHQUAKES	3/119	3%	>2.5 Magnitude
EXTREME HEAT	Avg 4 days per year	100%	>100°F
FLOODING	9/23	40%	Some inundation of structures (<1% of structures) and roads near streams. Some evacuations of people may be necessary (<1% of population)
GRASS/WILDFIRES	456/19	100%	<200 acres Some homes and structures threatened or at risk
HAIL	651/23	100%	H2-H5 Avg 1.17"; Range 0.75-4.0"
HIGH WINDS	75/23	100%	≤50 mph Avg 47mph; Range 35-59 EG
SEVERE THUNDERSTORMS	194/23	100%	≥1" rainfall Avg 55 mph winds; Range 50-87 EG
SEVERE WINTER STORMS	280/23	100%	0.25" – 0.5" Ice 10°-20° below zero (wind chill) 4-8" snow
TORNADOES	23/23	100%	35-50 mph winds Avg: EF0 Range EF0-EF2

**Quantification of vulnerable structures provided in Section Four: Risk Assessment and Section Seven: Community Profiles. EG – estimated gusts*

The following table provides loss estimates for hazards with sufficient data. Description of major events are included in *Section Seven: Community Profiles*.

Table 3: Hazard Loss History

HAZARD TYPE		Count	Property	Crop ²
Agricultural Disease	Animal Disease ¹	14	63 animals	N/A
	Plant Disease ²	0	\$0	\$0
Chemical Fixed Sites³		0	\$0	N/A
Chemical Transportation⁴ <i>1 injury</i>		8	\$80,826	N/A
Civil Disorder^{5,6}		0	\$0	N/A
Dam Failure⁷		0	\$0	N/A
Drought⁸		483/1,486 months	\$5,000,000	\$3,287,926
Earthquake⁹		3	\$0	\$0
Extreme Heat^{8,10}		Avg 4 days per year	\$0	\$572,800
Flooding⁸	Flash Flood	6	\$525,000	\$13,449
	Flood	3	\$230,000	
Grass/Wildfires¹¹		456	73,483 acres	\$139,538
Hail⁸		651	\$1,554,500	\$2,436,341
High Winds⁸		75	\$6,000	\$259,920
Severe Thunderstorms⁸	Thunderstorm Wind	189	\$522,000	\$181,163
	Heavy Rain	3	\$0	
	Lightning	2	\$3,000	
Severe Winter Storms⁸ <i>2 deaths, 1 injury</i>	Blizzard	39	\$145,000	\$293,368
	Extreme Cold/Wind Chill	34	\$0	
	Heavy Snow	22	\$10,000	
	Ice Storm	2	\$16,000	
	Winter Storm	183	\$315,000	
	Winter Weather	0	\$0	
Tornadoes⁸		23	\$104,500	\$0
Total		1,713	\$8,511,826	\$7,184,505

N/A: Data not available

1 NDA (2014-2018)

2 USDA RMA (2000-2018)

3 U.S. Coast Guard NRC (1990-2018)

4 PHMSA (1980-2018)

5 SPEED (1946-2018)

6 START (1970-2018)

7 Stanford NPDP (1911-2016)

8 NOAA (1895-2018)

9 USGS (1900-2018)

10 HPRCC (1902-2018)

11 NFS (2000-2018)

Events like agricultural disease, extreme heat, grass and wildfires, hail, severe thunderstorms, and severe winter storms will occur annually. Other hazards like drought, dam failure, earthquakes, and civil disorder will occur less often. The scope of events and how they will manifest themselves locally is not known regarding hazard occurrences. Historically, hail, grass/wildfire, drought, severe thunderstorms, and severe winter storms have resulted in the most significant damages within the planning area or are of top concern for the planning teams across the planning area. These hazards are summarized below.

HAIL

Hail occurs on an annual basis across the planning area, typically in conjunction with severe thunderstorms. Hail is one of the most frequently occurring hazards and impacts both the agricultural sector and physical properties. The National Centers for Environmental Information (NCEI) has recorded 651 hail events in 23 years. These events have caused over a million dollars in property damages and two million dollars in crop

losses. Common impacts resulting from hail include, but are not limited to: damage to roofs, windows, and siding; damage to mechanical systems located outdoors including HVAC systems; damage to vehicles; destruction of crops; and injuries or deaths to cattle.

GRASS/WILDFIRE

Grass/wildfire events can occur annually and have the ability to span between a few to millions of acres per event. Grass/wildfire events are closely tied to other hazard events, such as drought, flooding, or lightning in thunderstorms. Over 70,000 acres have burned due to grass/wildfire in the planning area since 2000 which has damaged rangeland, homes, structures, or other jurisdictional assets. Impacts from widespread grass/wildfire events can include, but are not limited to: economic loss in agricultural sector; damage to homes, buildings, and infrastructure; destruction of crops; injuries or death to cattle; obstruction of transportation routes; loss of power; and loss of recreational opportunities.

DROUGHT

Drought is a regular and reoccurring phenomenon in the planning area and the state of Nebraska. Historical data shows that droughts have occurred with regularity across the planning area and the state, with recent research indicating this trend will continue and potentially intensify. The most common impacts of drought affect the agricultural sector. Over three million dollars in total crop loss was reported for the planning area since 2000, but drought impacts rangeland as well by reducing the total amount of cattle pastures can support.

Prolonged drought events can have a profound effect on the planning area and the individual communities. Expected impacts from prolonged drought include, but are not limited to: economic loss in the agricultural sector; loss of employment in the agricultural sector; limited or strained water supplies for both residential and fire fighting uses; and decrease in recreational opportunities.

SEVERE THUNDERSTORMS

Thunderstorms differ from many other hazards in that they are generally large in magnitude, have a long duration, and travel across large areas and through multiple jurisdictions within a single region. Additionally, thunderstorms often occur in series, with one area potentially impacted multiple times in one day. Severe thunderstorms are most likely to occur between the months of May and August with the highest number of events occurring in June. The NCEI recorded 194 severe thunderstorm events in 23 years. These events caused \$525,000 in property damages. Typical impacts resulting from severe thunderstorms include, but are not limited to: loss of power; obstruction of transportation routes; grass/wildfires starting from lightning strikes; localized flooding; and damages discussed in the hazard profiles for hail and high winds.

Vulnerable populations related to severe thunderstorms include: residents of mobile homes (15% of housing units); citizens with decreased mobility; and those caught outside during storm events. Most residents within the planning area are familiar with severe thunderstorms and know how to appropriately prepare and respond to events. Several jurisdictions have reported updating or joining weather alert programs (CodeRed/AlertSense/Reverse 911) or have discussed a need for updates to emergency warning sirens.

SEVERE WINTER STORMS

Severe winter storms are an annual occurrence for the planning area. Winter storms can bring extreme cold temperatures, freezing rain and ice, and heavy or drifting snow. Blizzards are particularly dangerous and can have significant impacts throughout the planning area. Severe winter storms typically occur between November and March. The NCEI reported 280 severe winter storm events that caused over \$486,000 in property damages. Impacts resulting from severe winter storms include, but are not limited to: hypothermia and frost bite; closure of transportation routes; downed power lines and power outages; collapsed roofs from heavy snow loads; closure of critical facilities; and injury or death to cattle. The most vulnerable citizens within the planning area are children, the elderly, individuals and families below the poverty line, and those new to the area. Residents in this planning area may also be more at risk to severe winter storms due to occupations which require them to be outside despite hazardous weather conditions.

MITIGATION STRATEGIES

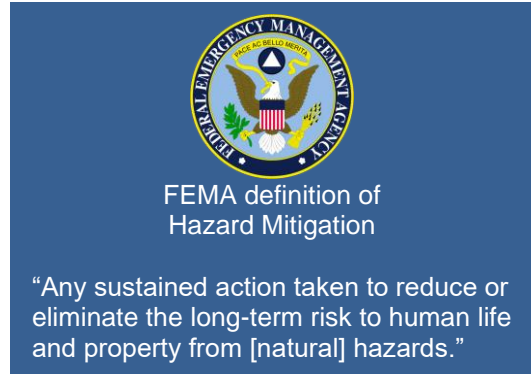
There are a wide variety of strategies that can be used to reduce the impacts of hazards for the built environment and planning area residents. *Section Five: Mitigation Strategy* shows the mitigation actions chosen by the participating jurisdictions to prevent future losses.

SECTION ONE INTRODUCTION

HAZARD MITIGATION PLANNING

Severe weather and hazardous events are becoming a more common occurrence in our daily lives. Pursuing mitigation strategies reduces risk and is a socially and economically responsible action to prevent long-term risks from natural and human-caused hazard events.

Natural hazards, such as severe winter storms, tornadoes and high winds, severe thunderstorms, flooding, extreme heat, drought, agriculture diseases (plant and animal), earthquakes, and wildfires are part of the world around us. Human-caused hazards are a product of the society and can occur with significant impacts to communities. Human-caused hazards include levee failure, dam failure, chemical fixed site hazards, major transportation incidents, terrorism, and/or civil disorder. These hazard events can occur as a part of normal operation or as a result of human error. All jurisdictions participating in this planning process are vulnerable to a wide range of natural and human-caused hazards that threaten the safety of residents, and have the potential to damage or destroy both public and private property, cause environmental degradation, or disrupt the local economy and overall quality of life.



The Upper Loup NRD (ULNRD) prepared this multi-jurisdictional hazard mitigation plan in an effort to reduce impacts from natural and human-caused hazards and to better protect the people and property of the region from the effects of these hazards. This plan demonstrates a regional commitment to reducing risks from hazards and serves as a tool to help decision makers establish mitigation activities and resources. Further, this plan was developed to make ULNRD and participating jurisdictions eligible for federal pre-disaster funding programs and to accomplish the following objectives:

- Minimize the disruption to each jurisdiction following a disaster.
- Establish actions to reduce or eliminate future damages in order to efficiently recover from disasters.
- Investigate, review, and implement activities or actions to ensure disaster related hazards are addressed by the most efficient and appropriate solution.
- Educate citizens about potential hazards.
- Facilitate development and implementation of hazard mitigation management activities to ensure a sustainable community.

DISASTER MITIGATION ACT OF 2000

The U.S. Congress passed the Disaster Mitigation Act 2000 to amend the Robert T. Stafford Disaster Relief and Emergency Assistance Act¹. Section 322 of the DMA 2000 requires that state and local governments develop, adopt, and routinely update a hazard mitigation plan to remain eligible for pre- and post-disaster mitigation funding.² These funds include the Hazard Mitigation Grant Program (HMGP)³, Pre-Disaster

¹ Federal Emergency Management Agency, Public Law 106-390. 2000. "Disaster Mitigation Act of 2000." Last modified September 26, 2013. <https://www.fema.gov/media-library/assets/documents/4596>.

² Federal Emergency Management Agency. June 2007. "Robert T. Stafford Disaster Relief and Emergency Assistance Act, as amended, and Related Authorities." Federal Emergency Management Agency 592: 22. Sec. 322. Mitigation Planning (42 U.S.C. 5165). https://www.fema.gov/pdf/about/stafford_act.pdf.

³ Federal Emergency Management Agency. "Hazard Mitigation Grant Program." Last modified July 8, 2017. <https://www.fema.gov/hazard-mitigation-grant-program>.

Mitigation Program (PDM)⁴, and the Flood Mitigation Assistance Program (FMA)⁵. The Federal Emergency Management Agency (FEMA) administers these programs under the Department of Homeland Security (DHS).⁶

This plan was developed in accordance with current state and federal rules and regulations governing local hazard mitigation plans. The plan shall be monitored and updated on a routine basis to maintain compliance with the legislation – Section 322, Mitigation Planning, of the Robert T. Stafford Disaster Relief and Emergency Assistance Act, as enacted by Section 104 of the DMA 2000 (P.L. 106-390)⁷ and by FEMA’s Final Rule (FR)⁸ published in the Federal Register on November 30, 2007, at 44 Code of Federal Regulations (CFR) Part 201.

HAZARD MITIGATION ASSISTANCE

On June 1, 2009, FEMA initiated the Hazard Mitigation Assistance (HMA) program integration, which aligned certain policies and timelines of the various mitigation programs. These HMA programs present a critical opportunity to minimize the risk to individuals and property from hazards while simultaneously reducing the reliance on federal disaster funds.⁹

Each HMA program was authorized by separate legislative actions, and as such, each program differs slightly in scope and intent.

Mitigation is the cornerstone of emergency management. Mitigation focuses on breaking the cycle of disaster damage, reconstruction, and repeated damage. Mitigation lessens the impact disasters have on people’s lives and property through damage prevention, appropriate development standards, and affordable flood insurance. Through measures such as avoiding building in damage-prone areas, stringent building codes, and floodplain management regulations, the impact on lives and communities is lessened.

- FEMA Mitigation Directorate

- **HMGP:** To qualify for post-disaster mitigation funds, local jurisdictions must have adopted a mitigation plan that is approved by FEMA. HMGP provides funds to states, territories, Indian tribal governments, local governments, and eligible private non-profits following a presidential disaster declaration. The DMA 2000 authorizes up to seven percent of HMGP funds available to a state after a disaster to be used for the development of state, tribal, and local mitigation plans.
- **FMA:** To qualify to receive grant funds to implement projects such as acquisition or elevation of flood-prone homes, local jurisdictions must prepare a mitigation plan. Furthermore, local jurisdictions must be participating communities in the National Flood Insurance Program (NFIP). The goal of FMA is to reduce or eliminate claims under the NFIP.
- **PDM:** To qualify for pre-disaster mitigation funds, local jurisdictions must adopt a mitigation plan that is approved by FEMA. PDM assists states, territories, Indian tribal governments, and local governments in implementing a sustained pre-disaster hazard mitigation program.

PLAN FINANCING AND PREPARATION

Regarding plan financing and preparation, in general, the ULNRD is the “sub-applicant” that is the eligible entity that submits a sub-application for FEMA assistance to the “Applicant.” The “Applicant,” in this case is the State of Nebraska. If HMA funding is awarded, the sub-applicant becomes the “sub-grantee” and is responsible for managing the sub-grant and complying with program requirements and other applicable federal, state, territorial, tribal, and local laws and regulation.

⁴ Federal Emergency Management Agency. “Pre-Disaster Mitigation Grant Program.” Last modified July 11, 2017. <https://www.fema.gov/pre-disaster-mitigation-grant-program>.

⁵ Federal Emergency Management Agency. “Flood Mitigation Assistance Grant Program.” Last modified July 11, 2017. <https://www.fema.gov/flood-mitigation-assistance-grant-program>.

⁶ Federal Emergency Management Agency. “Hazard Mitigation Assistance.” Last modified March 29, 2017. <https://www.fema.gov/hazard-mitigation-assistance>.

⁷ Federal Emergency Management Agency: Federal Register. 2002. “Section 104 of Disaster Mitigation Act 2000: 44 CFR Parts 201 and 206: Hazard Mitigation Planning and Hazard Mitigation Grant Programs; Interim Final Rule.” <https://www.fema.gov/pdf/help/fr02-4321.pdf>.

⁸ Federal Emergency Management Agency: Federal Register. 2002 “44 CFR Parts 201 and 206: Hazard Mitigation Planning and Hazard Mitigation Grant Programs; Interim Final Rule.” <https://www.fema.gov/pdf/help/fr02-4321.pdf>.

SECTION TWO PLANNING PROCESS

INTRODUCTION

The process utilized to develop a hazard mitigation plan is often as important as the final planning document. For this planning process, the ULNRD adapted the four-step hazard mitigation planning process outlined by FEMA to fit the needs of the participating jurisdictions. The following pages will outline how the Regional Planning Team was established; the function of the Regional Planning Team; critical project meetings and community representatives; outreach efforts to the general public; key stakeholders and neighboring jurisdictions; general information relative to the risk assessment process; general information relative to local/regional capabilities; plan review and adoption; and ongoing plan maintenance.

Requirement §201.6(b): Planning process. 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;

(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; and

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

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.

MULTI-JURISDICTIONAL APPROACH

According to FEMA, “A multi-jurisdictional hazard mitigation plan is a plan jointly prepared by more than one jurisdiction.” The term ‘jurisdiction’ means ‘local government.’ Title 44 Part 201, Mitigation Planning in the CFR, defines a ‘local government’ as “any county, municipality, city, town, township, public authority, school district, special district, intrastate district, council of governments, regional or interstate government entity, or agency or instrumentality of a local government; any Indian tribe or authorized tribal organization, any rural community, unincorporated town or village, or other public entity.” For the purposes of this plan, a ‘taxing authority’ was utilized as the qualifier for jurisdictional participation. FEMA recommends the multi-jurisdictional approach under the DMA 2000 for the following reasons:

- It provides a comprehensive approach to the mitigation of hazards that affect multiple jurisdictions;
- It allows economies of scale by leveraging individual capabilities and sharing cost and resources;
- It avoids duplication of efforts; and
- It imposes an external discipline on the process.

Both FEMA and NEMA recommend this multi-jurisdictional approach through the cooperation of counties, regional emergency management, and natural resource districts. The ULNRD utilized the multi-jurisdiction planning process recommended by FEMA (Local Mitigation Plan Review Guide¹⁰, Local Mitigation Planning Handbook¹¹, and Mitigation Ideas: A Resource for Reducing Risk to Natural Hazards¹²) to develop this plan.

¹⁰ Federal Emergency Management Agency. 2011. “Local Mitigation Plan Review Guide.” https://www.fema.gov/media-library-data/20130726-1809-25045-7498/plan_review_guide_final_9_30_11.pdf.

¹¹ Federal Emergency Management Agency. 2013. “Local Mitigation Planning Handbook.” https://www.fema.gov/media-library-data/20130726-1910-25045-9160/fema_local_mitigation_handbook.pdf.

¹² Federal Emergency Management Agency. 2013. “Mitigation Ideas: A Resource for Reducing Risk to Natural Hazards.” https://www.fema.gov/media-library-data/20130726-1904-25045-0186/fema_mitigation_ideas_final508.pdf.

HAZARD MITIGATION PLANNING PROCESS

The hazard mitigation planning process as outlined by FEMA has four general steps which are detailed in the figure below. The mitigation planning process is rarely a linear process. It's common that ideas developed during the initial assessment of risks may need revision later in the process, or that additional information may be identified while developing the mitigation plan or during the implementation of the plan that results in new goals or additional risk assessments.

Organization of Resources

- Focus on the resources needed for a successful mitigation planning process. Essential steps include: Organizing interested community members; and Identifying technical expertise needed.

Assessment of Risk

- Identify the characteristics and potential consequences of the hazard. Identify how much of the jurisdiction can be affected by specific hazards and the potential impacts on local assets.

Mitigation Plan Development

- Determine priorities and identify possible solutions to avoid or minimize the undesired effects. The result is the hazard mitigation plan and strategy for implementation.

Plan Implementation and Progress Monitoring

- Bring the plan to life by implementing specific mitigation projects and changing day-to-day operations. It is critical that the plan remains relevant to succeed. Thus, it is important to conduct periodic evaluations and revisions, as needed.

ORGANIZATION OF RESOURCES

PLAN UPDATE PROCESS

The ULNRD secured funding for their multi-jurisdictional hazard mitigation plan (HMP) in July 2018. JEO Consulting Group, INC. (JEO) was contracted in September 2018 to guide and facilitate the planning process and assemble the multi-jurisdictional hazard mitigation plan. For the planning area, Anna Baum (General Manager with ULNRD) led the development of the plan and served as the primary point-of-contact throughout the project. A clear timeline of this plan update process is provided in Figure 2.

Figure 2: Project Timeline



PLANNING TEAM

At the beginning of the planning process the ULNRD and JEO staff identified key contacts who would be the regional Hazard Mitigation Planning Team. This Planning Team, comprised of local participants and the consultant, was established to guide the planning process, review the existing plan, and serve as a liaison to plan participants throughout the planning area. A list of Planning Team members can be found in Table 4. Additional technical support was provided to the Planning Team by staff from NEMA and the NeDNR.

Table 4: Hazard Mitigation Planning Team

Name	Title	Jurisdiction
Anna Baum	General Manager	Upper Loup NRD
Alma Beland	Director	Region 26 (Blaine County)
Wynn Wiens	Emergency Manager/Sheriff	Hooker County
Sean Carson	Emergency Manager/Sheriff	Logan County
Gary Eng	Emergency Manager/Sheriff	Thomas County
*Brooke Welsh	Project Coordinator	JEO Consulting Group
*Ellana Haakenstad	Planner	JEO Consulting Group
*Mary Baker	Resiliency Strategist	JEO Consulting Group

*Served as a consultant or advisory role

A kick-off meeting was held on October 31st, 2018 to discuss an overview of the planning process between JEO staff and the Planning Team. Preliminary discussion was held over hazards to be included in this plan, changes to be incorporated since the last plan, goals and objectives, identification of key stakeholders to include in the planning process, and a general schedule for the plan update. This meeting also assisted in clarifying the role and responsibilities of the Planning Team and strategies for public engagement throughout the planning process. Table 5 shows Kick-off Meeting attendees.

Table 5: Kick-off Meeting Attendees

Name	Title	Jurisdiction
Ann Wurst	Region 26 Office Manager	Region 26 Emergency Management
Anna Baum	General Manager	Upper Loup NRD
Gary Eng	Emergency Manager/Sheriff	Thomas County
Lexi Hingtgen	Information and Education Coordinator	Upper Loup NRD
Wynn Wiens	Emergency Manager/Sheriff	Hooker County
Brooke Welsh	Project Coordinator	JEO Consulting Group
Mary Baker	Resiliency Strategist	JEO Consulting Group

Table 6 shows the data and location of meetings held for the Kick-off Meeting.

Table 6: Meeting Locations and Times

Location and Time	Agenda Items
Upper Loup NRD 39252 Hwy 2 Thedford, NE October 31 st , 2018 1:00pm	-Consultant and Planning Team Responsibilities -Overview of plan update process and changes from 2015 HMP -Dates/Locations for meetings -Plan Goals/Objectives

PUBLIC INVOLVEMENT AND OUTREACH

At the kick-off meeting, the Regional Planning Team worked to identify stakeholder groups that could serve as “hubs of communication” and should be involved throughout the planning process. A wide range of stakeholder groups were contacted and encouraged to participate. There were 41 stakeholder groups or entities that were identified and sent letters to participate. These included six airports, five assisted living facilities, three hospitals or health care providers, and nine fire and rescue departments. The following groups were also invited to participate in the planning process. While no other entities were incorporated as participating jurisdictions, the following entities attended meetings: Cherry County, Logan/Lincoln County, Pioneer Memorial Rest Home, and Sandhills Resource Conservation & Development. These entities provided input which was incorporated into the appropriate community profiles (see *Section Seven*).

Table 7: Notified Stakeholder Groups

Organizations		
American Red Cross	Grant County Airport	Purdum Rural Fire Department
Ashby Volunteer Fire Department	Great Plains Regional Medical Center	Region 23 Emergency Management
Brosius Field Airport	Greater Nebraska Medical and Surgical Services	Sandhills Area 4H
Brown County Hospital	Halsey Rural Fire District	Sandhills District Health Department
Central Sandhills Area Extension Office	Halsey Rural Fire District	Sandhills Fire Protection District
Consolidated Telephone	Halsey United Church of Christ	Sandhills Resource Conservation and Development
Custer Public Power District	Hooker County Airport	Stapleton Chamber of Commerce
Davis Ranch Airport	Loup Basin Health Department	Stapleton Volunteer Fire Department
Department of Roads	Loup Basin Health Department	Thedford Volunteer Fire Department
Diamond Bar Jones Airport	Loup Basin Resource Conservation and Development	Thomas County Airport
Dunning Volunteer Fire Department	Mullen Volunteer Fire Department	Thomas County Fair Board
Farm Service Agency	Panhandle Public Power District	USDA Forest Service
Glen Coble & Sons, Inc.	Pioneer Memorial Community Hospital Association	West Central Health Department

NEIGHBORING JURISDICTIONS

Neighboring jurisdictions were notified and invited to participate in the planning process. The following table indicates which neighboring communities or entities were notified of the planning process. Invitation and informational letters were sent to county/city/village clerks, county and regional emergency managers, and NRDs. Region 26 Emergency Management attended and represented Blaine County on their planning team and community members from Cherry County and Lincoln County attended meetings. There was no other participation from jurisdictions outside of the planning area.

Table 8: Notified Neighboring Jurisdictions

Notified Nebraska Jurisdictions	
Arthur County	Village of Arnold
Brown County	Village of Arthur
Cherry County	Village of Bassett
City of Broken Bow	Village of Berwyn
City of Gordon	Village of Brady
City of North Platte	Village of Callaway
City of Oshkosh	Village of Clinton
City of Rushville	Village of Cody
City of Sargent	Village of Comstock
City of Valentine	Village of Crookston
Custer County	Village of Hay Springs
Garden County	Village of Hershey
Lincoln County	Village of Johnstown
Loup County	Village of Kilgore
Lower Loup NRD	Village of Wellen
McPherson County	Village of Long Pine
Middle Niobrara NRD	Village of Mason City
North Platte NRD	Village of Maxwell

Notified Nebraska Jurisdictions	
Region 23 Emergency Management	Village of Merna
Region 24 Emergency Management	Village of Merriman
Region 26 Emergency Management	Village of Nenzel
Rock County	Village of Newport
Sheridan County	Village of Oconto
Twin Platte NRD	Village of Sutherland
Upper Elkhorn NRD	Village of Taylor
Village of Ainsworth	Village of Wallace
Village of Anselmo	Village of Wellfleet
Village of Ansley	Village of Wood Lake

PARTICIPANT INVOLVEMENT

Participants play a key role in reviewing goals and objectives, identifying hazards, providing a record of historical disaster occurrences and localized impacts, identification and prioritization of potential mitigation projects and strategies, and the development of annual review procedures.

To be a participant in the development of this plan update, jurisdictions were required to have at a minimum one representative present at the Round 1 and Round 2 meeting or attend a follow-up meeting with a JEO staff member. Some jurisdictions sent multiple representatives to meetings. For jurisdictions who had only one representative, they were encouraged to bring meeting materials back to their governing bodies, to include a diverse input on the meeting documents. Sign-in sheets from all public meetings can be found in *Appendix A*. Jurisdictions that were unable to attend the scheduled public meetings were able to request a meeting with JEO staff to satisfy the meeting attendance requirement. This effort enabled jurisdictions which could not attend a scheduled public meeting to participate in the planning process.

Outreach to eligible jurisdictions included notification prior to all public meetings, phone calls and email reminders of upcoming meetings, and invitations to complete surveys and worksheets required for the planning process. Table 9 provides a summary of outreach activities utilized in this process.

Table 9: Outreach Activity Summary

Action	Intent
Project Website	Informed the public and local/planning team members of past, current, and future activities (https://jeo.com/ulnrdhmp and http://www.upperloupnrd.org/hazard-mitigation-plan-update/)
Project Announcement	Project announcement posted on the project websites
Round 1 Meeting Letters or Postcards (30-day notification)	Sent to participants, stakeholders, and neighboring jurisdictions to discuss the agenda/dates/times/ locations of the first round of public meetings
Round 2 Meeting Letters or Postcards (30-day notification)	Sent to participants to discuss the agenda/dates/times/locations of the second round of public meetings
Press Release	Sent to local newspapers to announce the plan and describe the purpose of the plan
Notification Phone Calls	Called potential participants to remind them about upcoming meetings
Follow-up Emails and Phone Calls	Correspondence was provided to remind and assist participating jurisdictions with the collection and submission of required local data
Project Flyer	Flyers were posted about the ULNRD HMP and how to get involved. Flyers were posted at multiple locations throughout all counties
Word-of-Mouth	Staff discussed the plan with jurisdictions throughout the planning process

ASSESSMENT OF RISK

ROUND 1 MEETINGS: HAZARD IDENTIFICATION

At the Round 1 meetings, jurisdictional representatives (i.e. the local planning teams) reviewed the hazards consistent with the 2014 Nebraska State Hazard Mitigation Plan to conduct further risk and vulnerability assessments based on these hazards' previous occurrence and the communities' exposure to the various hazards. (For a complete list of hazards reviewed, see *Section Four: Risk Assessment*.)

Table 10 shows the date and location of meetings held for the Round 1 meeting phase of the project.

Table 10: Round 1 Meeting Dates and Locations

Agenda Items	
General overview of the HMP planning process, discuss participation requirements, begin the process of risk assessment and impact reporting, update critical facilities, capabilities assessment, and status update on current mitigation projects	
Location and Time	Date
Village Office, Mullen NE: 6:00PM MT	Tuesday, January 15 th , 2019
ULNRD Office, Thedford NE: 9:00AM CT	Wednesday, January 16 th , 2019
Logan County Courthouse, Stapleton NE: 3:00PM CT	Wednesday, January 16 th , 2019

The intent of these meetings was to familiarize the jurisdictional representatives with an overview of the work to be completed over the next several months, discuss the responsibilities of being a participant, and to collect preliminary information to update the HMP. Data collected at these meetings included: updates to mitigation actions from the 2015 ULNRD HMP; identify the top concerns from each jurisdiction; and to begin reviewing community profiles for demographics and capabilities.

These meetings also served as an opportunity to gather input on the identification of hazards, records of historical occurrences, establishment of goals and objectives, and potential future mitigation projects from jurisdictional representatives (refer to *Appendices A and B*). In addition to the primary data collection objectives for the workshop, representatives also identified critical facilities, and reviewed preliminary Community Profiles for each jurisdiction.

The following tables show the attendees for each jurisdiction who attended Round 1 meetings or had a one-on-one discussion for Round 1 information with JEO staff. Follow up one-on-one meetings were held for communities who did not have representatives present at public meetings. These one-on-one’s were held via conference call and covered information presented at the public meetings including a description of the planning process and what hazard mitigation plans are. Data was collected from the conference call and included: localized information about the community, identification of top hazards of concern, updates to past mitigation actions, and descriptions of past events which have impacted the jurisdiction.

Table 11: Round 1 Meeting Attendees

Name	Title	Jurisdiction
Mullen – Tuesday, January 15, 2019		
Deb Daly	Village Clerk	Village of Mullen
Tom Corbin	Utility Superintendent	Village of Mullen
Wade Marsh	Village Board	Village of Mullen
Joshua Barnes	Firefighter/Village Board	Village of Mullen/Mullen VFD
Dan Daly	Firefighter	Mullen VFD
Chris Kunel	Superintendent	Mullen Public Schools
Julie Krave	County Commissioner	Hooker County
Wynn Wiens	Sheriff/Emergency Manager	Hooker County
Anna Baum	Manager	Upper Loup NRD
Brooke Welsh	Project Coordinator	JEO Consulting Group
Ellana Haakenstad	HMEP Planner	JEO Consulting Group
Thedford – Wednesday, January 16, 2019		
Dianna Rodicher	Village Clerk	Village of Halsey
Dawn Bryant	Firefighter	Thedford VFD
Alma Beland	Emergency Manager	Region 26/Blaine County
Gary J. Eng	Sheriff	Thomas County
Lexi Hingtgen	Information and Education Coordinator	Upper Loup NRD
Anna Baum	Manager	Upper Loup NRD

Brooke Welsh	Project Coordinator	JEO Consulting Group
Ellana Haakenstad	HMEP Planner	JEO Consulting Group
Stapleton – Wednesday, January 16, 2019		
Bob Doyle	County Commissioner	Logan County
Rich Cook	Highway Superintendent	Logan County
Sean Carson	Emergency Manager	Logan County
Howard Gaffney	Superintendent	Stapleton Public Schools
Anna Baum	Manager	Upper Loup NRD
Brooke Welsh	Project Coordinator	JEO Consulting Group
Ellana Haakenstad	HMEP Planner	JEO Consulting Group

Table 12: Round 1 One-on-One Meeting Attendees

Name	Title	Jurisdiction
Grant County – Thursday, January 17, 2019		
Thomas L White	County Commissioner (Chair)	Grant County
Daniel Vinton	County Commissioner	Grant County
Mike Rath	Sheriff	Grant County
Amanda Macy	Planning and Zoning Administrator	Grant County
Elizabeth Sillasen	Emergency Manager	Grant County
Brooke Welsh	Project Coordinator	JEO Consulting Group
Ellana Haakenstad	HMEP Planner	JEO Consulting Group

While the local planning team for Grant County attended a one-on-one meeting with JEO staff, the County chose not to participate in this plan update. Future updates to this plan should engage with the County to discuss participation in the HMP.

Table 13: Round 1 Follow Up with Jurisdictions

Name	Title	Jurisdiction
Village of Brewster – Tuesday, January 29, 2019		
Ken Johnston	Village Clerk/Fire Chief	Village of Brewster
Brooke Welsh	Project Coordinator	JEO Consulting Group
Village of Stapleton – Wednesday, January 30, 2019		
Mark Frey	Village Maintenance	Village of Stapleton
Brooke Welsh	Project Coordinator	JEO Consulting Group
Village of Hyannis – Thursday, February 13, 2019		
Allison Ferguson	Village Clerk	Village of Hyannis
Darrell Seidler	Fire Chief	Village of Hyannis
Lee Ferguson	Board Member	Village of Hyannis
Make Rath	Sheriff/Emergency Manager	Grant County
Brooke Welsh	Project Coordinator	JEO Consulting Group
Village of Dunning – Monday, April 15, 2019		
Jason Coffman	Village Board Member	Village of Dunning
Brooke Welsh	Project Coordinator	JEO Consulting Group

MITIGATION PLAN DEVELOPMENT

ROUND 2 MEETINGS: MITIGATION STRATEGIES

The identification and prioritization of mitigation measures is an essential component in developing effective hazard mitigation plans. At the Round 2 meetings, participating jurisdictions identified new mitigation actions in addition to the mitigation actions continued from the 2015 HMP. Participating jurisdictions were also asked to review the information collected from the Round 1 meeting related to their community through this planning process. Local planning teams were asked to ensure all information included was up-to-date and

accurate. Information/data reviewed include, but was not limited to: local hazard prioritization results; identified critical facilities and their location within the community; future development areas; and expected growth trends (refer to *Appendix B*).

There was also a brief discussion about the planning process, when the plan would be available for public review and comment, annual review of the plan, the grant application process once the plan was approved, and submitting Notice of Intent forms for HMP related projects. Table 14 shows the date and location of meetings held for Round 2 Meetings. Meeting attendees are identified in Table 14.

Table 14: Round 2 Meeting Dates and Locations

Agenda Items		
Identify new mitigation actions, review of local data and community profile, discuss review process, complete plan integration tool.		
Location and Time	Date	
Village Office, Mullen NE: 6:00PM MT	Tuesday, April 23, 2019	
ULNRD Office, Thedford NE: 9:00AM CT	Wednesday, April 24, 2019	
Logan County Courthouse, Stapleton NE: 6:00PM CT	Wednesday, April 24, 2019	

Table 15: Round 2 Meeting Attendees

Name	Title	Jurisdiction
Mullen		
Anna Baum	General Manager	Upper Loup NRD
Bell Meyer		Logan/Lincoln County
Chris Kuncil	Superintendent	Mullen Public Schools
Dan Daly	Volunteer Fire Department	Village of Mullen
Deb Daly	Clerk	Village of Mullen
Dennis Bresion		Cherry County
Julie Kraye	County Commissioner	Hooker County
Lee Ferguson	Board Member	Village of Hyannis
Mike Peterson	County Commissioner	Blaine County
Nicole Hoffmann	Administrator	Pioneer Memorial Rest Home
Tony Corbin	Utility Superintendent	Village of Mullen
Twila Phillips	Secretary	Sandhills RC&D
Wade Marsin	Board Chairman	Village of Mullen
Wynn Wiens	Sheriff/EM	Hooker County
Brooke Welsh	Project Coordinator	JEO Consulting Group
Mary Baker	Resiliency Strategist	JEO Consulting Group
Thedford		
Alma Beland	Director	Region 26 Emergency Management
Anna Baum	General Manager	Upper Loup NRD
Dale Hafer	Superintendent	Sandhills Public Schools
Dan Sheets	Village Chairman	Village of Dunning
Dawn Bryant	Volunteer Fire Department	Village of Thedford
Dianna Rodocker	Village Clerk	Village of Halsey
Gary Eng	Sheriff	Thomas County
Brooke Welsh	Project Coordinator	JEO Consulting Group
Mary Baker	Resiliency Strategist	JEO Consulting Group
Stapleton		
Rich Cook	Highway Superintendent	Logan County/Village of Gandy
Sean Carson	Emergency Manager	Logan County
Brooke Welsh	Project Coordinator	JEO Consulting Group
Mary Baker	Resiliency Strategist	JEO Consulting Group

Table 16: Round 2 Follow Up with Jurisdictions

Name	Title	Jurisdiction
Village of Brewster – Thursday, May 9, 2019		
Ken Johnston	Village Clerk/Fire Chief	Village of Brewster
Brooke Welsh	Project Coordinator	JEO Consulting Group
Village of Stapleton – Wednesday, May 29, 2019		
Mark Frey	Village Maintenance	Village of Stapleton
Brooke Welsh	Project Coordinator	JEO Consulting Group

DATA SOURCES AND INFORMATION

Effective hazard mitigation planning requires the review and inclusion of a wide range of data, documents, plans, and studies. The following table identifies many of the sources utilized during this planning process. Individual examples of plan integration are identified in *Section Seven: Community Profiles*.

Table 17: General Plans, Documents, and Information

Documents	
Disaster Mitigation Act of 2000 DMA https://www.fema.gov/media-library/assets/documents/4596?id=1935	Mitigation Ideas: A Resource for Reducing Risk to Natural Hazards (2013) https://www.fema.gov/media-library/assets/documents/30627
Final Rule (2007) https://www.fema.gov/media-library/assets/documents/23672	National Flood Insurance Program Community Status Book (2018) https://www.fema.gov/national-flood-insurance-program-community-status-book
Hazard Mitigation Assistance Unified Guidance (2013) https://www.fema.gov/media-library/assets/documents/103279	National Response Framework (2016) https://www.fema.gov/media-library/assets/documents/117791
Hazard Mitigation Assistance Guidance and Addendum (2015) https://www.fema.gov/media-library/assets/documents/103279	Robert T. Stafford Disaster Relief and Emergency Assistance Act (2016) https://www.fema.gov/media-library/assets/documents/15271
Local Mitigation Plan Review Guide (2011) https://www.fema.gov/media-library/assets/documents/23194	The Census of Agriculture (2012) https://www.agcensus.usda.gov/Publications/2012/Full_Report/Census_by_State/Nebraska/
Local Mitigation Planning Handbook (2013) https://www.fema.gov/media-library/assets/documents/31598	What is a Benefit: Guidance on Benefit-Cost Analysis on Hazard Mitigation Projects http://www.fema.gov/benefit-cost-analysis
Mitigation Ideas: A Resource for Reducing Risk to Natural Hazards (2013) https://www.fema.gov/media-library/assets/documents/30627	
Plans and Studies	
Upper Loup NRD Hazard Mitigation Plan (2015) https://jeo.com/sites/default/files/inline-files/Upper-Loup-NRD-Hazard-Mitigation-Plan-Final-.pdf	National Climate Assessment (2014) https://nca2014.globalchange.gov/
Flood Insurance Studies http://www.fema.gov/floodplain-management/flood-insurance-study	Nebraska Drought Mitigation and Response Plan (2000) http://carc.nebraska.gov/docs/NebraskaDrought.pdf
Fourth National Climate Assessment (2018) https://nca2018.globalchange.gov/	State of Nebraska Hazard Mitigation Plan (2014) https://nema.nebraska.gov/sites/nema.nebraska.gov/files/doc/hazmitplan.pdf
Data Sources/Technical Resources	

Section Two | Planning Process

Arbor Day Foundation – Tree City Designation https://www.arborday.org/	Nebraska Department of Natural Resource – Geographic Information Systems (GIS) https://dnr.nebraska.gov/data
Environmental Protection Agency - Chemical Storage Sites https://myrtk.epa.gov/info/search.jsp	Nebraska Department of Natural Resources http://www.dnr.ne.gov
Federal Emergency Management Agency http://www.fema.gov	Nebraska Department of Natural Resources – Dam Inventory http://prodmaps2.ne.gov/html5DNR/?viewer=daminventory
FEMA Flood Map Service Center https://msc.fema.gov/portal/advanceSearch	Nebraska Department of Revenue – Property Assessment Division www.revenue.ne.gov/PAD
High Plains Regional Climate Center http://climod.unl.edu/	Nebraska Department of Transportation http://dot.nebraska.gov/
National Agricultural Statistics Service http://www.nass.usda.gov/	Nebraska Emergency Management Agency http://www.nema.ne.gov
National Centers for Environmental Information https://www.ncei.noaa.gov/	Nebraska Forest Service – Wildland Fire Protection Program http://nfs.unl.edu/fire
National Consortium for the Study of Terrorism and Responses to Terrorism (START) http://www.start.umd.edu/gtd/	Nebraska Forest Service (NFS) http://www.nfs.unl.edu/
National Drought Mitigation Center – Drought Impact Reporter http://droughtreporter.unl.edu/map/	Nebraska Public Power District Service http://econdev.nppd.com/
National Drought Mitigation Center – Drought Monitor http://droughtmonitor.unl.edu/	Nebraska State Historical Society http://www.nebraskahistory.org/histpres/index.shtml
National Environmental Satellite, Data, and Information Service http://www.nesdis.noaa.gov/	Stanford University - National Performance of Dams Program https://nppdp.stanford.edu/
National Fire Protection Association https://www.nfpa.org/	Storm Prediction Center Statistics http://www.spc.noaa.gov
National Flood Insurance Program https://www.fema.gov/national-flood-insurance-program	United States Army Corps of Engineers – National Levee Database http://nld.usace.army.mil/egis/f?p=471:1:0::NO
National Flood Insurance Program https://dnr.nebraska.gov/floodplain/flood-insurance	United States Census Bureau http://www.census.gov
National Historic Registry http://www.nps.gov/nr	United States Census Bureau https://factfinder.census.gov/faces/nav/jsf/pages/index.xhtml
National Oceanic Atmospheric Administration (NOAA) http://www.noaa.gov/	United States Department of Agriculture http://www.usda.gov
National Weather Service http://www.weather.gov/	United States Department of Agriculture – Risk Assessment Agency http://www.rma.usda.gov
Natural Resources Conservation Service www.ne.nrcs.usda.gov	United States Department of Agriculture – Web Soil Survey https://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx
Nebraska Association of Resources Districts http://www.nrdnet.org	United States Department of Commerce http://www.commerce.gov/

Nebraska Climate Assessment Response Committee http://carc.agr.ne.gov	United States Department of Transportation – Pipeline and Hazardous Materials Safety Administration https://www.phmsa.dot.gov/
Nebraska Department of Education http://nep.education.ne.gov/	United States Geological Survey http://www.usgs.gov/
Nebraska Department of Education http://educdirsrc.education.ne.gov/	United States National Response Center http://www.nrc.uscg.mil/
Nebraska Department of Environmental Quality http://www.deq.state.ne.us/	United States Small Business Administration http://www.sba.gov
Nebraska Department of Health and Human Services http://dhhs.ne.gov/Pages/default.aspx	UNL – College of Agricultural Sciences and Natural Resources – Schools of Natural Resources http://casnr.unl.edu

PUBLIC REVIEW

Once the draft of the HMP was completed, a public review period was opened to allow for participants and community members at large to review the plan and provide comments and changes. The public review period was open from July 29, 2019 through August 30, 2019. Participating jurisdictions were mailed a letter notifying them of this public review period. The HMP was also made available on the project website (<https://jeo.com/ulnrdhmp> or <http://www.upperloupnrd.org/hazard-mitigation-plan-update/>) to download the document, and a notification was posted to the ULNRD website. Received comments and suggested changes were incorporated into the plan.

PLAN ADOPTION

Based on FEMA requirements, this multi-jurisdictional hazard mitigation plan must be formally adopted by each participant through approval of a resolution. This approval will create ‘individual ownership’ of the plan by each participant. Formal adoption provides evidence of a participant’s full commitment to implement the plan’s goals, objectives, and action items. A copy of the resolution draft submitted to participating jurisdictions is located in *Appendix A*. Copies of adoption resolutions may be requested from the State Hazard Mitigation Officer.

Requirement §201.6(c)(5):
For multi-jurisdictional plans, each jurisdiction requesting approval of the plan must document that it has been formally adopted.

Once adopted, participants are responsible for implementing and updating the plan every five years. Those who participated directly in the planning process would be logical champions for updating the plan. In addition, the plan will need to be reviewed and updated annually or when a hazard event occurs that significantly affects the area or individual participants.

PLAN IMPLEMENTATION AND PROGRESS MONITORING

Hazard mitigation plans need to be living documents. To ensure this, the plan must be monitored, evaluated, and updated on a five-year or less cycle. This includes incorporating the mitigation plan into county and local comprehensive or capital improvement plans as they stand or are developed. *Section Six* describes the system that jurisdictions participating in the ULNRD HMP have established to monitor the plan; provides a description of how, when, and by whom the HMP process and mitigation actions will be evaluated; presents the criteria used to evaluate the plan; and explains how the plan will be maintained and updated.

THIS PAGE IS INTENTIONALLY BLANK

SECTION THREE

PLANNING AREA PROFILE

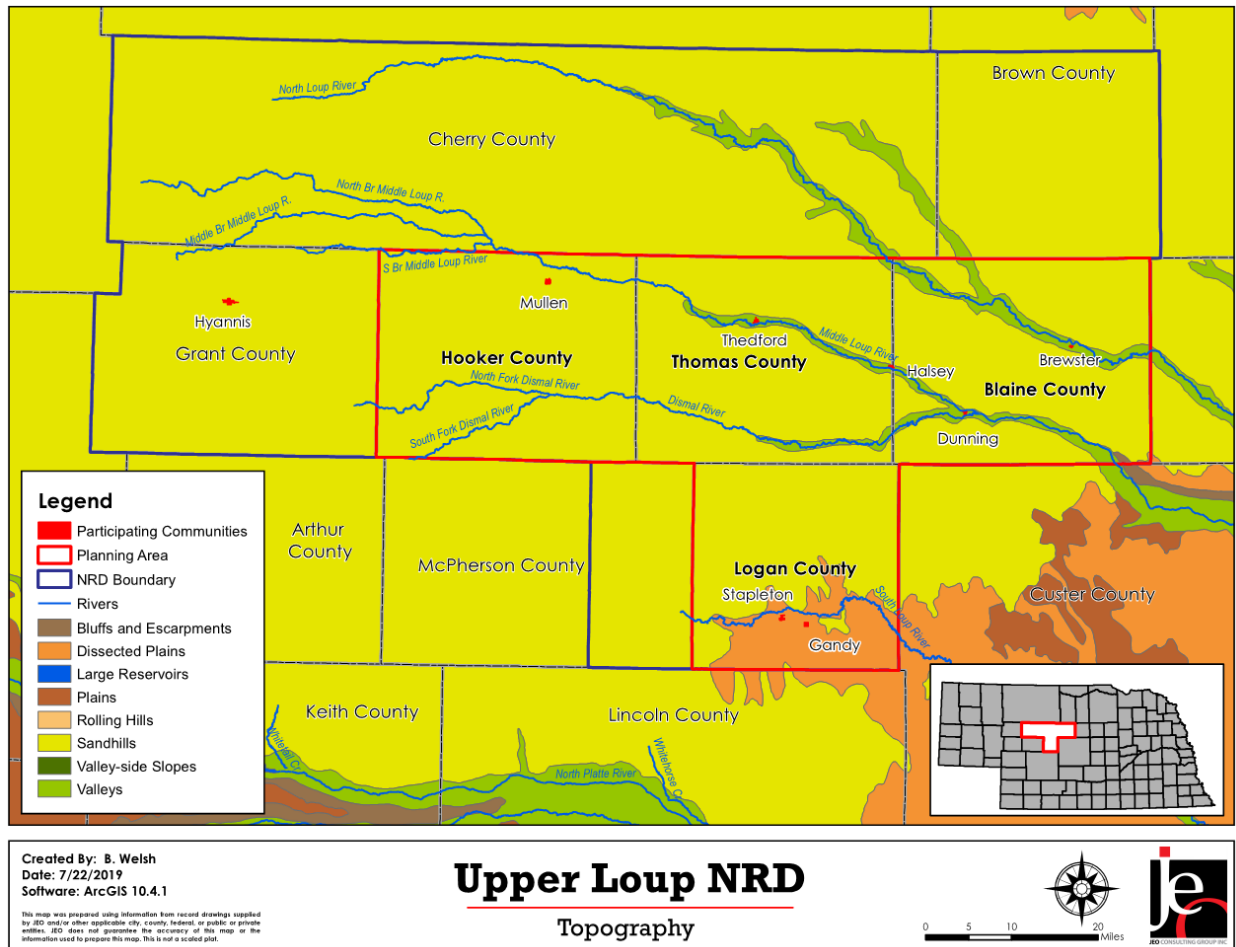
INTRODUCTION

To identify jurisdictional vulnerabilities, it is vitally important to understand the people and built environment of the planning area. The following section is meant to provide a description of the characteristics of the planning area to create an overall profile. Many characteristics are covered in each jurisdiction's community profile, including: demographics; transportation routes; and structural inventory. Redundant information will not be covered in this section. Therefore, this section will highlight at-risk populations and characteristics of the built environment that add to regional vulnerabilities.

PLANNING AREA GEOGRAPHIC SUMMARY

The ULNRD is located in central Nebraska and covers 6,690 square miles and includes all of Grant, Hooker, Thomas, Blaine, and Logan Counties and parts of McPherson, Brown, and Cherry Counties. For the purposes of this plan update, the planning area covers Blaine, Hooker, Logan, and Thomas Counties and the Village of Hyannis, which resides within Grant County. However, Grant County opted to not participate in the plan, and McPherson, Brown, and Cherry Counties are covered under other neighboring multi-jurisdictional HMPs. The majority of the over four million acres of land in the NRD lies within the Nebraska Sandhills region, with some small areas in the southeast corner including valleys and dissected plains topography (Figure 3). Dissected plains are represented by hilly land with moderate to steep slopes and sharp ridge crests. Valleys are flat-lying land along major streams and include stream-deposited silt, clay, sand, and gravel materials. There are five main rivers in the planning area, which include the North Loup, Middle Loup, South Loup, Calamus, and Dismal Rivers, as well as several important tributaries: Goose Creek, Calf Creek, Big Creek, Wild Horse Creek, and Rifle Creek. The planning area is comprised of primarily pasture and rangeland, with small amounts of cropland, national forest, and water bodies.

Figure 3: Planning Area Topography



DEMOGRAPHICS AND AT-RISK POPULATIONS

As noted above, the planning area includes all of Blaine, Hooker, Logan, and Thomas Counties. While neither the NRD or U.S. Census Bureau collects specific demographic information for the NRD, it serves an estimated population of 3,400. This population includes a range of demographics and persons at risk to natural and human-made disasters.

Table 18: Estimated Population for Planning Area

Age	Planning Area	State of Nebraska
<5	5.1%	6.9%
5-19	19.0%	20.7%
20-64	51.5%	57.6%
>64	24.5%	14.8%
Median	47.8	36.3

Source: U.S. Census Bureau

*Numbers include estimates from Blaine, Grant, Hooker, Logan, and Thomas Counties

AT-RISK POPULATIONS

In general, at-risk populations may have difficulty with medical issues, poverty, extremes in age, and communications due to language barriers. Several outliers may be considered when discussing potentially at-risk populations, including:

- Not all people who are considered “at-risk” are at-risk;

- Outward appearance does not necessarily mark a person as at-risk;
- A hazard event will, in many cases, impact at-risk populations in different ways.

The National Response Framework defines at-risk populations as "...populations whose members may have additional needs before, during, and after an incident in functional areas, including but not limited to: maintaining independence, communication, transportation, supervision, and medical care."¹³

Dependent children under 19 years old are one of the most vulnerable populations to disasters.¹⁴ The majority of people in this age group do not have access to independent financial resources, transportation, or cellular telephones. They also lack practical knowledge necessary to respond appropriately during a disaster. Despite this vulnerability, children are generally overlooked in disaster planning because the presence of a care-taker is assumed. With 24% of the planning area's population younger than 19, children are a key vulnerable group to address in the planning process. Nearly a quarter of these children are under the age of five, further exacerbating their vulnerability.

Schools house a high number of children within the planning area during the daytime hours of weekdays, as well as during special events on evenings and weekends. The following table identifies the various school districts located within the planning area, and Figure 4 is a map of the school district boundaries. This list is comprehensive and does not represent only the school districts participating in this plan.

Table 19: School Inventory

School District	Total Enrollment (2017-2018)
Ainsworth Public Schools	443
Anselmo Public Schools	273
Arnold Public Schools	169
Hyannis Public Schools	160
McPherson County Schools	73
Mullen Public Schools	154
Sandhills Public Schools	90
Stapleton Public Schools	199
Theftord Public Schools	115
Valentine Public Schools	572

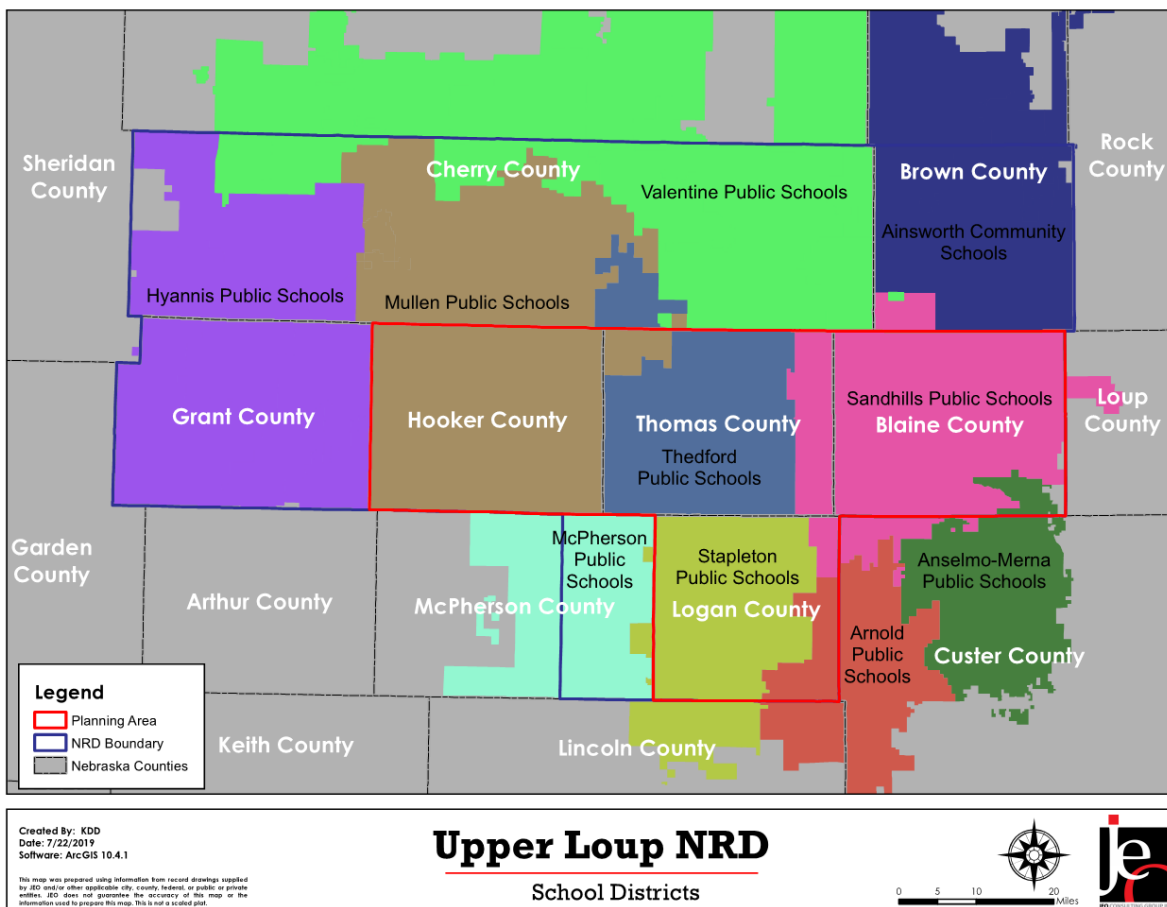
Source: Nebraska Department of Education¹⁵

¹³ United States Department of Homeland Security. June 2016. "National Response Framework Third Edition." https://www.fema.gov/media-library-data/1466014682982-9bcf8245ba4c60c120aa915abe74e15d/National_Response_Framework3rd.pdf.

¹⁴ Flanagan, Gregory, Hallisey, Heitgerd, & Lewis. 2011. "A Social Vulnerability Index for Disaster Management." *Journal of Homeland Security and Emergency Management*, 8(11): Article 3.

¹⁵ Nebraska Department of Education. 2018. "Nebraska Education Profile." Accessed December 2018. <http://nep.education.ne.gov/>.

Figure 4: Regional School Districts



Like minors, seniors (age 65 and greater) are often more significantly impacted by temperature extremes. During prolonged heat waves, seniors may lack resources to effectively address hazard conditions and as a result may incur injury or potentially death. Prolonged power outages (either standalone events or as the result of other contributing factors) can have significant impacts on any citizen relying on medical devices for proper bodily functions. One study conducted by the Center for Injury Research and Policy found that increases in vulnerability related to severe winter storms (with significant snow accumulations) begin at age 55.¹⁶ The study found that on average there are 11,500 injuries and 100 deaths annually related to snow removal. Males over the age of 55 are 4.25 times more likely to experience cardiac symptoms during snow removal.

While the previously identified populations do live throughout the planning area, there is the potential that they will be located in higher concentrations at care facilities. Table 20 identifies the number and capacity of care facilities throughout the planning area. In addition to the facilities listed below, there is one long-term care facility located in Mullen, Nebraska with 30 registered beds, and one rural health clinic in Hyannis, Nebraska. These facilities are the only health care facilities located within the planning area.

¹⁶ Center for Injury Research and Policy. January 2011. "Snow Shoveling Safety." Accessed July 2017. <http://www.nationwidechildrens.org/cirp-snow-shoveling>.

Table 20: Inventory of Care Facilities

Jurisdiction	Hospitals	Hospital Beds	Health Clinics	Adult Care Homes	Adult Care Beds	Assisted Living Homes	Assisted Living Beds
Blaine County	0	0	0	0	0	0	0
Grant County	0	0	0	0	0	0	0
Hooker County	0	0	0	1	30	0	0
Logan County	0	0	0	0	0	0	0
Thomas County	0	0	0	0	0	0	0

Source: Nebraska Department of Health and Human Services^{17,18,19,20}

In addition to residents being classified as at-risk by age, there are other specific groups within the planning area that experience vulnerabilities related to their ability to communicate or their economic status. Table 21 provide statistics per county regarding households with English as a second language (ESL) and population reported as in poverty within the past 12 months.

Table 21: ESL and Poverty At-Risk Populations

County	Percent That Speaks English as Second Language	Families Below Poverty Level
Blaine County	2.0%	14.7%
Grant County	0%	9.4%
Hooker County	1.4%	8.0%
Logan County	0.5%	6.5%
Thomas County	4.3%	6.6%

Source: U.S. Census Bureau^{21,22}

*Numbers include estimates from Blaine, Grant, Hooker, Logan, and Thomas Counties

Residents below the poverty line may lack resources to prepare for, respond to, or recover from hazard events. Residents with limited economic resources will struggle to prioritize the implementation of mitigation measures over more immediate needs. Further, residents with limited economic resources are more likely to live in older, more vulnerable structures. These structures could be: mobile homes; located in the floodplain; located near known hazard sites (i.e. chemical storage areas); or older poorly maintained structures. Residents below the poverty line will be more vulnerable to all hazards within the planning area.

Residents who speak English as a second language may struggle with a range of issues before, during, and after hazard events. General vulnerabilities revolve around what could be an inability to effectively communicate with others or an inability to comprehend materials aimed at notification and/or education. When presented with a hazardous situation it is important that all community members be able to receive, decipher, and act on relevant information. An inability to understand warnings and notifications may prevent non-native English speakers from reacting in a timely manner. Further, educational materials related to regional hazards are most often developed in the dominant language for the area, for the planning area that would be English. Residents who struggle with English in the written form may not have sufficient information related to local concerns to effectively mitigate potential impacts. Residents with limited English proficiency would be at an increased vulnerability to all hazards within the planning area.

Similar to residents below the poverty line, racial minorities tend to have access to fewer financial and systemic resources that would enable them to implement hazard mitigation projects and to respond and

¹⁷ Department of Health and Human Services. November 2018. "Assisted Living Facilities." <http://dhhs.ne.gov/publichealth/Documents/ALF%20Roster.pdf>.

¹⁸ Department of Health and Human Services. November 2018. "Hospitals." <http://dhhs.ne.gov/publichealth/Documents/Hospital%20Roster.pdf>.

¹⁹ Department of Health and Human Services. November 2018. "Long Term Care Facilities." <http://dhhs.ne.gov/publichealth/Documents/LTCRoster.pdf>.

²⁰ Department of Health and Human Services. November 2018. "Rural Health Clinic." http://dhhs.ne.gov/publichealth/Documents/RHC_Roster.pdf.

²¹ U.S. Census Bureau. 2018. "Language Spoken at Home: 2016 American Community Survey (ACS) 5-year estimates."

<https://factfinder.census.gov/faces/nav/jsf/pages/searchresults.xhtml?refresh=#>.

²² U.S. Census Bureau. 2018. "Selected Economic Characteristics: 2016 ACS 5-year estimate."

<https://factfinder.census.gov/faces/nav/jsf/pages/searchresults.xhtml?refresh=#>.

recover from hazard events, including residence in standard housing and possession of financial stability. The mostly homogenous racial profile of the planning area indicates that racial inequity will not significantly affect the community’s vulnerability to hazards (Table 22).

Table 22: Racial Composition Trends

RACE	2010		2017		% CHANGE
	NUMBER	% OF TOTAL	NUMBER	% OF TOTAL	
WHITE, NOT HISPANIC	3,233	97.2%	3,358	97.9%	0.7%
BLACK	1	0.03%	18	0.52%	0.49%
AMERICAN INDIAN AND ALASKAN NATIVE	15	0.45%	4	0.12%	-0.33%
ASIAN	9	0.27%	3	0.09%	-0.18%
NATIVE HAWAIIAN AND OTHER PACIFIC ISLANDER	0	0%	7	0.2%	0.2%
OTHER RACES	0	0%	14	0.41%	0.41%
TWO OR MORE RACES	70	2.1%	39	1.14%	-0.97%
TOTAL POPULATION	3,325	-	3,430	-	-

Source: U.S. Census Bureau^{23,24}

*Numbers include estimates from Blaine, Grant, Hooker, Logan, and Thomas Counties

²³ U.S. Census Bureau. 2018. "Race: 2010 ACS 5-year estimate." <https://factfinder.census.gov/faces/hav/jsf/pages/searchresults.xhtml?refresh=#>.

²⁴ U.S. Census Bureau. 2018. "Race: 2016 ACS 5-year estimate." <https://factfinder.census.gov/faces/hav/jsf/pages/searchresults.xhtml?refresh=#>.

BUILT ENVIRONMENT AND STRUCTURAL INVENTORY

The US Census provides information related to housing units and potential areas of vulnerability. The selected characteristics examined in Table 23 include: lacking complete plumbing facilities; lacking complete kitchen facilities; no telephone service available; housing units that are mobile homes; and housing units with no vehicles.

Table 23: Selected Housing Characteristics

	Blaine	Grant	Hooker	Logan	Thomas	Total
Occupied housing units	251 (71.3%)	272 (70.6%)	301 (70.5%)	353 (83.6%)	298 (76.2%)	1,475
Lacking complete plumbing facilities	2.4%	0.0%	0.0%	0.6%	0.7%	10
Lacking complete kitchen facilities	0.0%	0.0%	0.0%	0.6%	0.7%	4
No telephone service available	0.0%	1.5%	0.0%	0.6%	0.7%	8
Housing unit with no vehicles available	1.6%	2.9%	0%	1.7%	0.7%	20
Mobile Homes	11.4%	16.4%	11.0%	9.5%	7.4%	219

Source: U.S. Census Bureau, 2018²⁵

*Indicated percentages are determined based on total housing units

Less than one percent of housing units lack access to landline telephone service. This does not necessarily indicate that there is not a phone in the housing unit, as cellular telephones are increasingly a primary form of telephone service. However, this lack of access to landline telephone service does represent a population at increased risk to disaster impacts. Reverse 911 systems are designed to contact households via landline services and as a result, some homes in hazard prone areas may not receive notification of potential impacts in time to take protective actions. Emergency managers should continue to promote the registration of cell phone numbers with Reverse 911 systems.

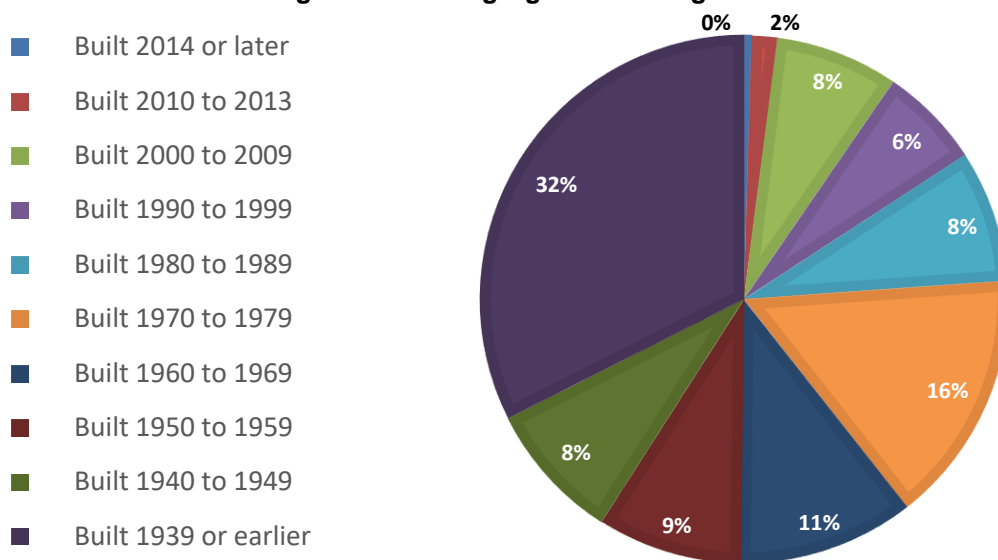
Approximately 15 percent of housing units in the planning area are mobile homes. While unincorporated Grant County has the highest rate of mobile homes, many of these are not located within the Village of Hyannis who is participating in this HMP. For the purpose of this plan, Blaine County has the highest rate of mobile homes in its housing stock at 11.4 percent. Mobile homes have a higher risk of sustaining damages during high wind events, tornadoes, severe thunderstorms, and severe winter storms. Mobile homes that are either not anchored or are anchored incorrectly can be overturned by 60 mph winds. A thunderstorm is classified as severe when wind speeds exceed 58 mph, placing improperly anchored mobile homes at risk.

Hooker County has the highest percentage of unoccupied housing units. Unoccupied homes may not be maintained as well as occupied housing, thus adding to their vulnerability. Furthermore, approximately one percent of all housing units in the planning area do not have a vehicle available. Households without vehicles may have difficulty evacuating during a hazardous event and a reduced ability to access resources in time of need.

The majority of homes within the planning area were built prior to 1970, with 32% of homes built prior to 1939 (Figure 5). Housing age can serve as an indicator of risk, as structures built prior to state building codes being developed may be more vulnerable. Residents living in these homes maybe at higher risk to the impacts of high winds, tornadoes, severe winter storms, and thunderstorms.

²⁵ U.S. Census Bureau. 2018. "Selected Housing Characteristics: 2016 ACS 5-year estimate."
<https://factfinder.census.gov/faces/nav/jsf/pages/searchresults.xhtml?refresh=#>

Figure 5: Housing Age in Planning Area



STATE AND FEDERALLY OWNED PROPERTIES

The following table provides an inventory of state and federally-owned properties within the planning area by county. Note that this list includes Cherry, Brown, and McPherson Counties which have parts of the county within the Upper Loup NRD’s jurisdictional boundaries. Only properties located within the NRD boundaries are included here.

Table 24: State and Federally-Owned Facilities

Facility	Nearest Community
Blaine County	
Nebraska Department of Roads	County-wide
Various Federal properties	Dunning
US Forest Service	Brewster
Grant County	
Avocet Wildlife Management Area	Hyannis
Various State-owned properties (Likely Department of Education)	County-wide
Nebraska Department of Roads	County-wide
Nebraska Game and Parks	County-wide
Various Federal properties	Whitman and Hyannis
Hooker County	
Various State-owned properties (Likely Department of Education)	County-wide
Nebraska Department of Roads	County-wide
Logan County	
Various State-owned properties (Likely Department of Education)	County wide
Thomas County	
Nebraska State Forest	Theford and Halsey
US Forest Service	Theford and Halsey
Nebraska Department of Roads	County-wide
Various State-owned properties (Likely Department of Education)	County-wide
McPherson County	
Various State-owned properties (Likely Department of Education)	County-wide
Cherry County	
Various State-owned properties (Likely Department of Education)	County-wide
Various Federal properties	County-wide
Nebraska Game and Parks	County-wide
Nebraska Department of Roads	County-wide

Facility	Nearest Community
Brown County	
US Fish and Wildlife Service	County-wide
Various Federal properties	County-wide
Nebraska Game and Parks	County-wide
Various State-owned properties (Likely Department of Education)	County-wide
Nebraska Department of Roads	County-wide

Source: County Assessors

HISTORICAL SITES

According to the National Register of Historic Places for Nebraska by the National Park Service (NPS), there are five historic sites located in the planning area.

Site Name	Date Listed	Nearest Community, County	In Floodplain?
Bessey Nursury	5/24/1978	Halsey, Thomas County	N
Hotel DeFair	10/29/1976	Hyannis, Grant County	N
Hooker County Courthouse	1/10/1990	Mullen, Hooker County	N
Humphrey Archeological Site	1/21/1974	Mullen, Hooker County	N
Kelso Site	1/21/1974	Mullen, Hooker County	N

Source: National Park Service²⁶

²⁶ National Park Service. January 2019. "National Register of Historic Places NPGallery Database." <https://npgallery.nps.gov/nrhp>.

THIS PAGE IS INTENTIONALLY BLANK

SECTION FOUR RISK ASSESSMENT

INTRODUCTION

The ultimate purpose of this hazard mitigation plan is to minimize the loss of life and property across the planning area. The basis for the planning process is the regional and local risk assessment. This section contains a description of potential hazards, regional vulnerabilities and exposures, probability of future occurrences, and potential impacts and losses. By conducting a regional and local risk assessment, participating jurisdictions can develop specific strategies to address areas of concern identified through this process. The following table defines terms that will be used throughout this section of the plan.

Table 25: Term Definitions

Term	Definition
Hazard	A potential source of injury, death, or damages
Asset	People, structures, facilities, and systems that have value to the community
Risk	The potential for damages, loss, or other impacts created by the interaction of hazards and assets
Vulnerability	Susceptibility to injury, death, or damages to a specific hazard
Impact	The consequence or effect of a hazard on the community or assets
Historical Occurrence	The number of hazard events reported during a defined period of time
Extent	The strength or magnitude relative to a specific hazard
Probability	Likelihood of a hazard occurring in the future

METHODOLOGY

The risk assessment methodology utilized for this plan follows the risk assessment methodology outlined in the FEMA Local Mitigation Planning Handbook. This process consists of four primary steps: 1) Describe the hazard; 2) Identify vulnerable community assets; 3) Analyze risk; and 4) Summarize vulnerability.

Requirement §201.6(c)(2): Risk assessment. The plan shall include a risk assessment that provides the factual basis for activities proposed in the strategy to reduce losses from identified hazards. Local risk assessments must provide sufficient information to enable the jurisdiction to identify and prioritize appropriate mitigation actions to reduce losses from identified hazards.

Requirement §201.6(c)(2)(i): The risk assessment shall include a] description of the type ... of all natural hazards that can affect the jurisdiction.

Requirement §201.6(c)(2)(i): The risk assessment shall include a] description of the ... location and extent of all natural hazards that can affect the jurisdiction. The plan shall include information on previous occurrences of hazard events and on the probability of future hazard events.

Requirement §201.6(c)(2)(ii): The risk assessment shall include a] description of the jurisdiction's vulnerability to the hazards described in paragraph (c)(2)(i) of this section. This description shall include an overall summary of each hazard and its impact on the community.

Requirement §201.6(c)(2)(ii): The risk assessment] must also address National Flood Insurance Program (NFIP) insured structures that have been repetitively damaged floods.

Requirement §201.6(c)(2)(ii)(A): The plan should describe vulnerability in terms of the types and numbers of existing and future buildings, infrastructure, and critical facilities located in the identified hazard area.

Requirement §201.6(c)(2)(iii): For multi-jurisdictional plans, the risk assessment must assess each jurisdiction's risks where they vary from the risks facing the entire planning area.

When describing the hazard, this plan will examine the following items: previous occurrences of the hazard within the planning area; locations where the hazard has occurred in the past or is likely to occur in the future; extent of past events and likely extent for future occurrences; and probability of future occurrences. While the identification of vulnerable assets will be conducted across the entire planning area, *Section Seven* will include discussion of community-specific assets at risk for relevant hazards. Analysis for regional risk will examine historic impacts and losses and what is possible should the hazard occur in the future. Risk analysis will include both qualitative (i.e. description of historic or potential impacts) and quantitative data (i.e. assigning values and measurements for potential loss of assets). Finally, each hazard identified the plan will provide a summary statement encapsulating the information provided during each of the previous steps of the risk assessment process.

For each of the hazards profiled the best and most appropriate data available will be considered. Further discussion relative to each hazard is discussed in the hazard profile portion of this section.

AVERAGE ANNUAL DAMAGES AND FREQUENCY

FEMA *Requirement §201.6(c)(2)(ii) (B)* suggests that when the appropriate data is available, hazard mitigation plans should also provide an estimate of potential dollar losses for structures in vulnerable areas. This risk assessment methodology includes an overview of assets at risk and provides historic average annual dollar losses for all hazards for which historic event data is available. Additional loss estimates are provided separately for those hazards for which sufficient data is available. These estimates can be found within the relevant hazard profiles.

Average annual losses from historical occurrences can be calculated for those hazards for which there is a robust historic record and for which monetary damages are recorded. There are three main pieces of data used throughout this formula.

- **Total Damages in Dollars:** This is the total dollar amount of all property damages and crop damages as recorded in federal, state, and local data sources. The limitation to these data sources is that dollar figures usually are estimates and often do not include all damages from every event, but only officially recorded damages from reported events.
- **Total Years of Record:** This is the span of years there is data available for recorded events. During this planning process, vetted and cleaned up National Centers for Environmental Information (NCEI) data is available for January 1996 to July 2018. Although some data is available back to 1950, this plan update only utilizes the more current and more accurate data available. Wildfire data is available from the Nebraska Forest Service from 2000 to 2018.
- **Number of Hazard Events:** This shows how often an event occurs. The frequency of a hazard event will affect how a community responds. A thunderstorm may not cause much damage each time, but multiple storms can have an incremental effect on housing and utilities. In contrast, a rare tornado can have a widespread effect on a city.

An example of the Event Damage Estimate is found below:

$$\text{Annual Frequency (\#)} = \frac{\text{Total Events Recorded (\#)}}{\text{Total Years of Record (\#)}}$$

$$\text{Annual Damages (\$)} = \frac{\text{Total Damages in Dollars (\$)}}{\text{Total Years Recorded (\#)}}$$

Each hazard will be included, while those which have caused significant damages or occurred in significant numbers are discussed in detail. It should be noted NCEI data is not all inclusive and it provides very limited information on crop losses. To provide a better picture of the crop losses associated with the hazards within the planning area, crop loss information provided by the Risk Management Agency (RMA) of the USDA was also utilized for this update of the plan for counties with available data. The collected data was from 2000 to 2018. Data for all the hazards are not always available, so only those with an available dataset are included in the loss estimation.

HAZARD IDENTIFICATION

The identification of relevant hazards for the planning area began with a review of the 2014 State of Nebraska Hazard Mitigation Plan. The Regional Planning Team and participating jurisdictions reviewed the list of hazards addressed in the state mitigation plan and determined which hazards were appropriate for discussion relative to the planning area. The hazards for which a risk assessment was completed are included in the following table.

Table 26: Hazards Addressed in the Plan

Hazards Addressed in the Plan		
Agricultural Disease (Animal and Plant)	Drought	Hail
Chemical Fixed Sites	Earthquakes	High Winds
Chemical Transportation	Extreme Heat	Severe Thunderstorms
Civil Disorder	Flooding	Severe Winter Storms
Dam Failure	Grass/Wildfires	Tornadoes

HAZARD ELIMINATION

Given the location and history of the planning area, several hazards from the 2015 Upper Loup NRD HMP as well as the State HMP were eliminated from further review. These hazards are listed below with a brief explanation of why the hazards were eliminated.

ELIMINATED HAZARDS FROM 2015 UPPER LOUP NRD HAZARD MITIGATION PLAN:

- **Landslides** - While there is data available related to landslides across the state, no events have occurred within the planning area. The following table outlines the number of recorded landslide events that have occurred in the planning area. This is consistent with the 2014 Nebraska State HMP.

Table 27: Known Landslides in the Planning Area by County

County	Number of Landslides	Total Estimated Damages
Blaine	0	\$0
Grant	0	\$0
Hooker	0	\$0
Logan	0	\$0
Thomas	0	\$0

Source: Nebraska Hazard Mitigation Plan, 2014²⁷; University of Nebraska-Lincoln, 2018²⁸

- **Levee Failure*** - There are no documented levees located in the planning area. Therefore, levee failures are not expected to occur in the planning area.
- **Radiological Fixed Facilities*** - Both state and local agencies have developed appropriate and extensive plans and protocols relative to the two nuclear facilities located in the state. The existing plans and protocols are reviewed, updated, and exercised on a regular basis. Due to the extensive planning and regulations related to this threat it will not be further profiled in this plan. This approach is consistent with the 2014 Nebraska State Hazard Mitigation Plan.
- **Radiological Transportation*** - There have been no incidents reported in the planning area or the state that have required assistance beyond what is considered regular roadside services. Further, the transportation of radiological materials is heavily regulated and monitored. There are other plans across the state that have thoroughly addressed this threat, therefore it will not be further profiled for this plan. This approach is consistent with the 2014 Nebraska HMP.

²⁷ Nebraska Emergency Management Agency. 2014. "State of Nebraska Hazard Mitigation Plan."

²⁸ University of Nebraska-Lincoln. 2018. "Database of Nebraska Landslides." <http://snr.unl.edu/data/geologysoils/landslides/landslidedatabase.aspx>.

- **Terrorism*** - The Planning Team indicated terrorism is not a hazard of top concern. The 2014 Nebraska State HMP identifies terrorism as a medium risk in Region 4 (which includes the entire planning area). Given that no acts of terrorism have been recorded in the planning area, this hazard will not be profiled further in this plan. Civil disorder is profiled in this plan with an emphasis on local concerns and capabilities.
- **Urban Fire*** - Fire departments across the planning area have mutual aid agreements in place to address this threat, and typically this hazard is addressed through existing plans and resources. As such, urban fire will not be fully profiled for this plan. Discussion relative to fire will be focused on wildfire and the potential impacts they could have on the built environment. This approach is consistent with the 2014 Nebraska State Hazard Mitigation Plan.

Note: Eliminated hazards marked with an Asterix () were also listed in the 2014 State of Nebraska HMP and were eliminated for further review.*

ELIMINATED HAZARDS FROM 2014 STATE OF NEBRASKA HAZARD MITIGATION PLAN

- **Power Failure** – Descriptions of power failure vulnerabilities and occurrences are included, as appropriate, in hazard profiles. Additionally, local power utilities across the state have extensive regulation and recovery plans related to power failure. Therefore, power failure will not be fully profiled for this plan.
- **Public Health Emergency** – The 2014 Nebraska HMP identifies Public Health Emergencies as low risk for Region 4 (which includes the entire planning area) with a composite ranking score of 0.00. Additionally, the Planning Team did not identify public health emergencies as a top priority. As such, this hazard will not be fully profiled in this plan.
- **Transportation** – The 2014 Nebraska HMP identifies Transportation as medium risk for Region 4 (which includes the entire planning area). However, descriptions of major transportation routes, airports, rail lines, uses, and significant accident events are described throughout the plan and in hazard profiles as appropriate. Due to this, this hazard is not fully profiled in this plan.

HAZARD ASSESSMENT SUMMARY TABLES

The following table provides an overview of the data contained in the hazard profiles. Hazards listed in this table and throughout the section are in alphabetical order. This table is intended to be a quick reference for people using the plan and does not contain source information. Source information and full discussion of individual hazards are included later in this section.

Table 28: Regional Risk Assessment

HAZARD	PREVIOUS OCCURRENCE EVENTS/YEARS	APPROXIMATE ANNUAL PROBABILITY	LIKELY EXTENT
AGRICULTURAL ANIMAL DISEASE	14/5	100%	~5 animals per event
AGRICULTURAL PLANT DISEASE	0/19	<1%	Unavailable
CHEMICAL FIXED SITES	0/29	<1%	Unknown
CHEMICAL TRANSPORTATION	8/39	20%	0 to 1,000 Gallons
CIVIL DISORDER	0/73	<1%	Unknown
DAM FAILURE	0/106	<1%	Varies by Structure
DROUGHT	483/1,486 months	33%	D1-D2
EARTHQUAKES	3/119	3%	>2.5 Magnitude
EXTREME HEAT	Avg 4 days per year	100%	>100°F
FLOODING	9/23	40%	Some inundation of structures (<1% of structures) and roads near streams. Some evacuations of people may be necessary (<1% of population)
GRASS/WILDFIRES	456/19	100%	<200 acres Some homes and structures threatened or at risk
HAIL	651/23	100%	H2-H5 Avg 1.17"; Range 0.75-4.0"
HIGH WINDS	75/23	100%	≤50 mph Avg 47mph; Range 35-59 EG
SEVERE THUNDERSTORMS	194/23	100%	≥1" rainfall Avg 55 mph winds; Range 50-87 EG
SEVERE WINTER STORMS	280/23	100%	0.25" – 0.5" Ice 10°-20° below zero (wind chill) 4-8" snow
TORNADOES	23/23	100%	35-50 mph winds Avg: EF0 Range EF0-EF2

*Quantification of vulnerable structures provided in Section Seven: Community Profiles

The following table provides loss estimates for hazards with sufficient data. Detailed descriptions of major events are included in *Section Seven: Community Profiles*.

Table 29: Loss Estimation for the Planning Area

HAZARD TYPE		Count	Property	Crop ²
Agricultural Disease	Animal Disease ¹	14	63 animals	N/A
	Plant Disease ²	0	0	\$0
Chemical Fixed Sites³		0	\$0	N/A
Chemical Transportation⁴ <i>1 injury</i>		8	\$80,826	N/A
Civil Disorder^{5,6}		0	0	N/A
Dam Failure⁷		0	\$0	N/A
Drought⁸		483/1,486 months	\$5,000,000	\$3,287,926
Earthquake⁹		3	\$0	\$0
Extreme Heat^{8,10}		Avg 4 days per year	\$0	\$572,800
Flooding⁸	Flash Flood	6	\$525,000	\$13,449
	Flood	3	\$230,000	
Grass/Wildfires¹¹		456	73,483 acres	\$139,538
Hail⁸		651	\$1,554,500	\$2,436,341
High Winds⁸		75	\$6,000	\$259,920
Severe Thunderstorms⁸	Thunderstorm Wind	189	\$522,000	\$181,163
	Heavy Rain	3	\$0	
	Lightning	2	\$3,000	
Severe Winter Storms⁸ <i>2 deaths, 1 injury</i>	Blizzard	39	\$145,000	\$293,368
	Extreme Cold/Wind Chill	34	\$0	
	Heavy Snow	22	\$10,000	
	Ice Storm	2	\$16,000	
	Winter Storm	183	\$315,000	
	Winter Weather	0	\$0	
Tornadoes⁸		23	\$104,500	\$0
Total		1,713	\$8,511,826	\$7,184,505

N/A: Data not available

1 NDA (2014-2018)

2 USDA RMA (2000-2018)

3 U.S. Coast Guard NRC (1990-2018)

4 PHMSA (1980-2018)

5 SPEED (1946-2018)

6 START (1970-2018)

7 Stanford NPDP (1911-2016)

8 NOAA (1895-2018)

9 USGS (1900-2018)

10 HPRCC (1902-2018)

11 NFS (2000-2018)

HISTORICAL DISASTER DECLARATIONS

The following tables show past disaster declarations that have been granted within the planning area.

FARM SERVICE AGENCY SMALL BUSINESS ADMINISTRATION DISASTERS

The U.S. Small Business Administration (SBA) was created in 1953 as an independent agency of the federal government to aid, counsel, assist, and protect the interests of small business concerns, to preserve free competitive enterprise, and maintain and strengthen the overall economy of our nation. A program of the SBA includes disaster assistance for those affected by major natural disasters. The following table summarizes the SBA Disasters involving the planning area in the last decade.

Table 30: SBA Declarations

Disaster Declaration Number	Declaration Date	Description	Primary Counties	Contiguous Counties
NE-00049	8/1/2012	Drought	Statewide	Statewide
NE-00021	6/20/2008	Severe Storms, Tornadoes, and Flooding	Blaine, Logan, Thomas	
NE-00020	6/20/2008	Severe Storms, Tornadoes, and Flooding		Blaine, Logan
NE-00014	7/24/2007	Severe Storms and Flooding	Logan	
NE-00013	6/6/2007	Severe Storms, Tornadoes, and Flooding	Thomas	
NE-00011	1/7/2007	Severe Winter Storms	Blaine, Logan	
NE-00007	7/13/2006	High Temperatures, High Winds, Excessive Heat, and Ongoing Drought	Blaine, Hooker, Logan, Thomas	
NE-00006	7/13/2006	High Winds, Excessive Heat, Late freeze, and Ongoing Drought		Blaine

Source: Small Business Administration, 2005-2018²⁹

PRESIDENTIAL DISASTER DECLARATIONS

Presidential disaster declarations are available via FEMA from 1953 to 2019. Declarations prior to 1962 are not designated by county on the FEMA website and are not included below. The following table describes presidential disaster declarations within the planning area for the period of record. Note that while data is available from 1953 onward, the planning area has only received 15 presidential disaster declarations since 2001.

Table 31: Presidential Disaster Declarations

Disaster Declaration Number	Declaration Date	Title	Affected Counties	Public Assistance
1373	5-16-2001	SEVERE WINTER STORMS, FLOODING AND TORNADOES	Hooker, Thomas, Logan, Blaine	\$2,982,075.51
1517	5-25-2004	SEVERE STORMS, TORNADOES AND FLOODING	Blaine	\$13,351,657.77
3245	9-13-2005	HURRICANE KATRINA EVACUEES	Grant, Logan, Blaine, Thomas, Hooker	\$393,813.27
1627	1-26-2006	SEVERE WINTER STORM	Logan	\$5,444,137.27
1674	1-7-2007	SEVERE WINTER STORMS	Blaine, Logan	\$124,357,843.32
1706	6-6-2007	SEVERE STORMS, FLOODING, AND TORNADOES	Thomas, Blaine	\$6,109,252.52
1714	7-24-2007	SEVERE STORMS AND FLOODING	Logan	\$2,306,258.82

²⁹ Small Business Administration. 2001-2018. "Office of Disaster Assistance | Resources." <https://www.sba.gov/offices/headquarters/oda/resources/1407821>.

Disaster Declaration Number	Declaration Date	Title	Affected Counties	Public Assistance
1770	6-20-2008	SEVERE STORMS, TORNADOES, AND FLOODING	Blaine, Logan, Thomas	\$36,258,650.19
1924	7-15-2010	SEVERE STORMS AND FLOODING	Logan, Hooker, Thomas, Blaine	\$49,926,354.50
2900	4-22-2011	THEDFORD FIRE	Thomas	N/A
4014	8-12-2011	SEVERE STORMS, TORNADOES, STRAIGHT LINE WINDS, AND FLOODING	Logan	\$3,362,468.45
4321	6-26-2017	SEVERE WINTER STORM AND STRAIGHT-LINE WINDS	Blaine	\$2,653,954.12
4375	6-29-2018	SEVERE WINTER STORM AND STRAIGHT-LINE WINDS	Logan, Blaine	\$83,371.64
4387	8-27-2018	SEVERE STORMS, TORNADOES, STRAIGHT-LINE WINDS, AND FLOODING	Thomas, Logan	\$252,445.02
4420	3-21-2019	SEVERE WINTER STORM, STRAIGHT-LINE WINDS, AND FLOODING	Blaine, Logan	\$1,872,997.37

Source: Federal Emergency Management Agency, 1953-2019³⁰

CLIMATE ADAPTATION

Long term climate trends have increased and will continue to increase the vulnerability to hazards across the planning area. Since 1895, Nebraska's overall average temperature has increased by about 2°F (Figure 6). This trend will likely contribute to an increase in the frequency and intensity of hazardous events, which will cause significant economic, social, and environmental impacts on Nebraskans.

As seen in Figure 7 and Figure 8, the United States is experiencing an increase in the number of billion-dollar natural disasters. Regardless of whether this trend is due to a change in weather patterns or due to increased development, the trend exists.

According to a recent University of Nebraska report (*Understanding and Assessing Climate Change: Implications for Nebraska, 2014*),³¹ Nebraskans can expect the following from the future climate:

- Increase in extreme heat events
- Decrease in soil moisture by 5-10%
- Increase in drought frequency and severity
- Increase in heavy rainfall events
- Increase in flood magnitude
- Decrease in water flow in the Missouri River from reduced snowpack in the Rocky Mountains
- Additional 30-40 days in the frost-free season

³⁰ Federal Emergency Management Agency. 2019. "Disaster Declarations." Accessed July 2019. <https://www.fema.gov/openfema-dataset-disaster-eclarations-summaries-v1>.

³¹ Rowe, C.M., Bathke, D.J., Wilhite, D.A., & Oglesby, R.J. 2014. "Understanding and Assessing Climate Change: Implications for Nebraska."

Figure 6: Average Temperature (1895-2018)
Nebraska, Average Temperature, January-December

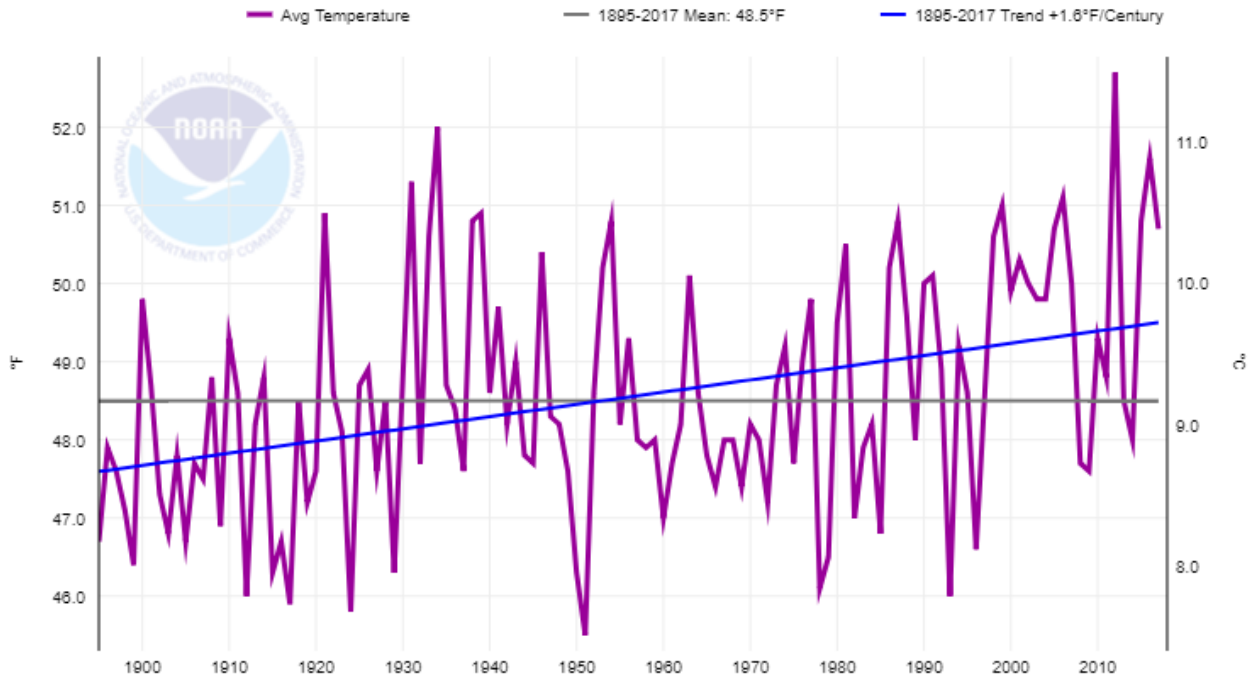
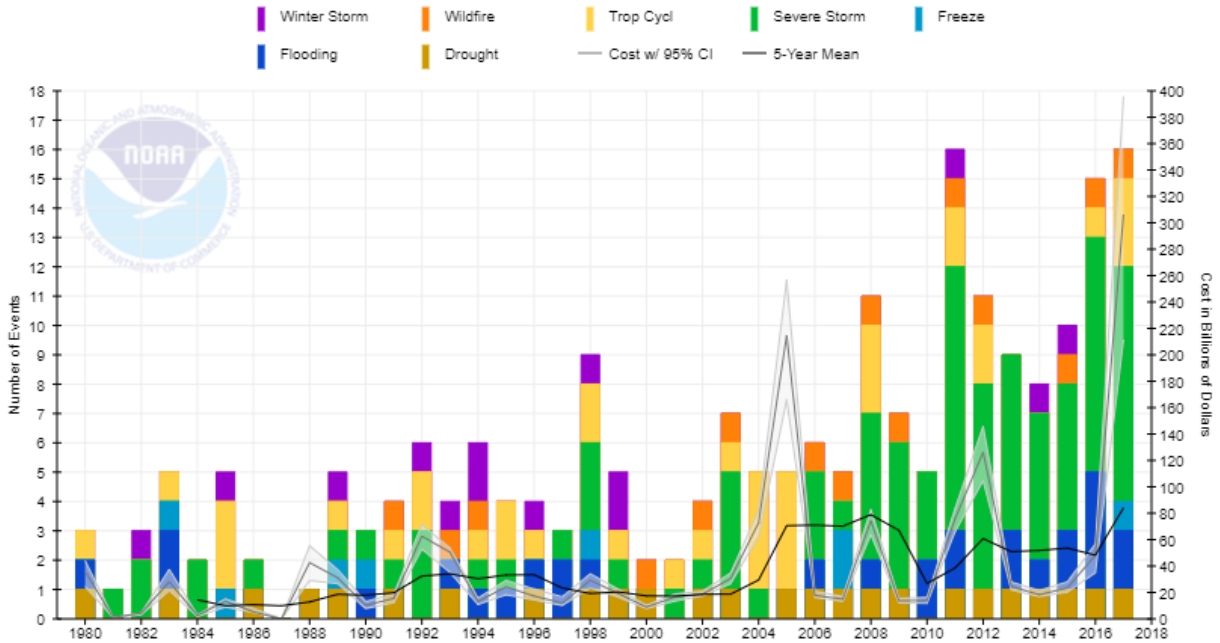


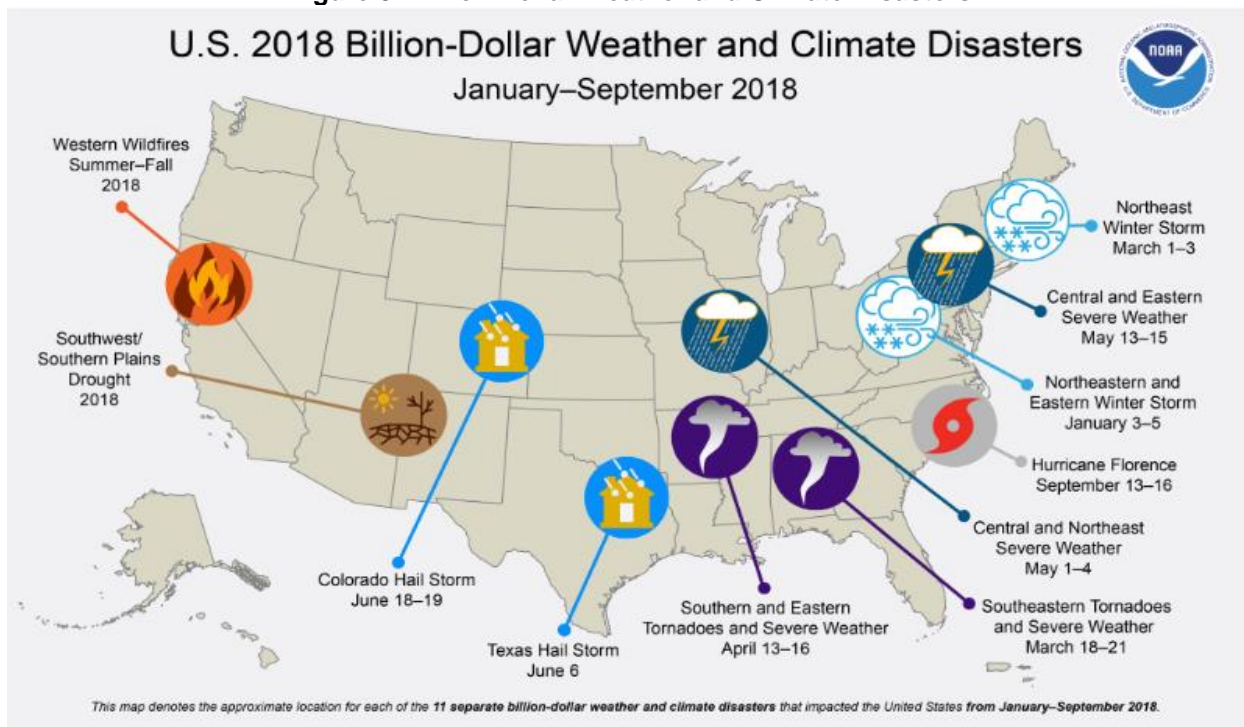
Figure 7: Billion Dollar Disasters

Billion-Dollar Disaster Event Types by Year (CPI-Adjusted)



Source: NOAA, 2018

Figure 8: Billion Dollar Weather and Climate Disasters



During the first 9 months of 2018, the U.S. has experienced an active year of billion-dollar disaster events. During 2018, the U.S. has experienced the fourth highest total number of events, only behind the very active years of 2017, 2011 and 2016.

Source: NOAA, 2018

These trends will have a direct impact on water and energy demands. As the number of 100°F days increase, along with warming nights, the stress placed on the energy grid will likely increase and possibly lead to more power outages. Critical facilities and vulnerable populations that are not prepared to handle periods of power outages, particularly during heat waves, will be at risk. Furthermore, the agricultural sector will experience an increase in droughts, an increase in grass and wildfires, changes in the growth cycle as winters warm, and changes in the timing and magnitude of rainfall. These added stressors on agriculture could have devastating economic effects if new agricultural and livestock management practices are not adopted.

HAZARD PROFILES

Based on research and experiences of the participating jurisdictions, the hazards profiled were determined to either have a historical record of occurrence or the potential for occurrence in the future. As the planning area is generally uniform in climate, topography, building characteristics, and development trends, overall hazards and vulnerability do not vary greatly across the planning area. The following profiles will broadly examine the identified hazards across the region. Hazards of local concern or events which have deviated from the norm are discussed in greater detail in its respective community profile (see *Section Seven* of this plan).

AGRICULTURAL ANIMAL AND PLANT DISEASE

Agriculture Disease is any biological disease or infection that can reduce the quality or quantity of either livestock or vegetative crops. This section looks at both animal disease and plant disease, as both make up a significant portion of Nebraska's and the planning area's economy.

The economy of the state of Nebraska is heavily vested in both livestock and crop sales. According to the Nebraska Department of Agriculture (NDA) in 2012, the market value of agricultural products sold was estimated at more than \$23 billion; this total is split between crops (estimated \$11.37 billion) and livestock (estimated \$11.69 billion). For the planning area, the market value of sold agricultural products exceeded \$145 million.³³

Table 32 shows the population of livestock within the planning area. This count does not include wild populations that are also at risk from animal diseases.

Table 32: Livestock Inventory

County	Market Value of 2012 Livestock Sales	Cattle and Calves	Hogs and Pigs	Poultry Egg Layers	Sheep and Lambs
Blaine	\$29,015,000	26,085	(D)	116	(D)
Grant	(D)	23,839	0	(D)	(D)
Hooker	\$15,382,000	14,267	68	56	0
Logan	\$15,764,000	17,326	0	246	(D)
Thomas	(D)	15,661	(D)	100	0
Total	\$60,161,000	97,178	68	518	0

Source: U.S. Census of Agriculture, 2012

*(D) Withheld to avoid disclosing data for individual farms

According to the NDA, the primary crops grown throughout the state include alfalfa, corn, sorghum, soybeans, and wheat. However, the majority of the planning area is comprised of ranchland and forage acreage. The following tables provide the value and acres of land in farms for the planning area.

Table 33: Land and Value of Farms in the Planning Area

County	Number of Farms	Land in Farms (acres)	Market Value of 2012 Crop Sales
Blaine	117	402,530	\$5,641,000
Grant	80	493,352	(D)
Hooker	82	436,820	\$1,879,000
Logan	149	330,151	\$26,232,000
Thomas	87	367,535	(D)
Total	515	\$2,030,388	\$33,752,000

Source: U.S. Census of Agriculture, 2012

*(D) Withheld to avoid disclosing data for individual farms

³³ US Department of Agriculture, National Agricultural Statistics Server. 2012. "2012 Census of Agriculture – County Data."

Table 34: Crop Values

County	Corn		Soybeans		Wheat	
	Acres Planted	Value (2012)	Acres Planted	Value (2012)	Acres Planted	Value (2012)
Blaine	2,491	(D)	(D)	(D)	-	-
Grant	-	-	-	-	-	-
Hooker	-	-	-	-	-	-
Logan	22,904	\$19,539,000	3,818	\$2,479,000	859	(D)
Thomas	1,638	\$1,596,000	-	-	-	-
Total	27,033	\$21,135,000	3,818	\$2,479,000		

Source: U.S. Census of Agriculture, 2012

*(D) Withheld to avoid disclosing data for individual farms

LOCATION

Given the agricultural presence in the planning area, animal and plant disease have the potential to occur across the planning area. If a major outbreak were to occur, the economy in the entire planning area would be affected, including urban areas.

The main land uses where animal and plant disease will be observed include: agricultural lands; range or pasture lands; and forests. It is possible that animal or plant disease will occur in domestic animals or crops in urban areas.

HISTORICAL OCCURRENCES

ANIMAL DISEASE

The NDA provides reports on diseases occurring in the planning area. There were 14 instances of animal diseases reported between January 2014 and September 2018 by the NDA (Table 35). These outbreaks affected 63 animals.

Table 35: Livestock Diseases Reported in the Planning Area

Year	County	Disease	Population Impacted
2014	Grant	Blue Tongue	1
2014	Grant	Paratuberculosis	1
2014	Logan	Enzootic Bovine Leukosis	1
2016	Grant	Paratuberculosis	3
2016	Grant	Leptospirosis	1
2016	Hooker	Blue Tongue	1
2016	Hooker	Paratuberculosis	1
2016	Logan	Enzootic Bovine Leukosis	1
2017	Grant	Paratuberculosis	5
2017	Logan	Enzootic Bovine Leukosis	1
2018	Grant	Paratuberculosis	5
2018	Grant	Leptospirosis	1
2018	Thomas	Paratuberculosis	40
2018	Thomas	Leptospirosis	1

Source: Nebraska Department of Agriculture, January 2014- Sept 2018³⁴

³⁴ Nebraska Department of Agriculture. 2018. "Livestock Disease Reporting." <http://www.nda.nebraska.gov/animal/reporting/index.html>.

PLANT DISEASE

A variety of diseases can impact crops and often vary from year to year. The NDA provides information on some of the most common plant diseases, which are listed below.

Table 36: Common Crop Diseases in Nebraska by Crop Types

CROP DISEASES		
Corn	Anthracnose	Southern Rust
	Bacterial Stalk Rot	Stewart’s Wilt
	Common Rust	Common Smut
	Fusarium Stalk Rot	Gross’s Wilt
	Fusarium Root Rot	Head Smut
	Gray Leaf Spot	Physoderma
	Maize Chlorotic Mottle Virus	
Soybeans	Anthracnose	Pod and Stem Blight
	Bacterial Blight	Purple Seed Stain
	Bean Pod Mottle	Rhizoctonia Root Rot
	Brown Spot	Sclerotinia Stem Rot
	Brown Stem Rot	Soybean Mosaic Virus
	Charcoal Rot	Soybean Rust
	Frogeye Leaf Spot	Stem Canker
	Phytophthora Root and Stem Rot	Sudden Death Syndrome
Wheat	Barley Yellow Dwarf	Leaf Rust
	Black Chaff	Tan Spot
	Crown and Root Rot	Wheat Soy-borne Mosaic
	Fusarium Head Blight	Wheat Streak Mosaic
Sorghum	Ergot	Zonate Leaf Spot
	Sooty Stripe	

AVERAGE ANNUAL LOSSES

According to the USDA RMA (2000-2018) there were no plant disease events or damages for the planning area. This does not mean that plant disease outbreaks did not occur, simply that they were not recorded. Additionally, Grant County and Hooker County do not have RMA data available. The RMA also does not track losses for livestock, so it is not possible to estimate losses due to animal disease.

EXTENT

There is no standard for measuring the magnitude of agricultural disease. Historical events have impacted a relatively small numbers of livestock and/or crops. The planning area is heavily dependent on the agricultural economy. Any severe plant or animal disease outbreak which may impact this sector would negatively impact the entire planning area.

PROBABILITY

Given the historic record of occurrence for animal disease (eight outbreaks reported in five years) and the role of agriculture in the planning area, for the purposes of this plan, the annual probability of agricultural disease occurrence is 100 percent.

REGIONAL VULNERABILITIES

The following table provides information related to regional vulnerabilities; for jurisdictional-specific vulnerabilities, refer to *Section Seven: Community Profiles*.

Table 37: Regional Agricultural Vulnerabilities

SECTOR	VULNERABILITY
PEOPLE	<ul style="list-style-type: none"> -Those in direct contact with infected livestock -Potential food shortage during prolonged events -Residents in poverty if food prices increase
ECONOMIC	<ul style="list-style-type: none"> -Regional economy is reliant on the agricultural industry -Large scale or prolonged events may impact tax revenues and local capabilities -Land value may largely drive population changes within the planning area
BUILT ENVIRONMENT	None
INFRASTRUCTURE	-Transportation routes can be closed during quarantine
CRITICAL FACILITIES	None

CHEMICAL FIXED SITES

The following description for hazardous materials is provided by FEMA:

Chemicals are found everywhere. They purify drinking water, increase crop production and simplify household chores. But chemicals also can be hazardous to humans or the environment if used or released improperly. Hazards can occur during production, storage, transportation, use or disposal. You and your community are at risk if a chemical is used unsafely or released in harmful amounts into the environment where you live, work or play.³⁵

Hazardous materials in various forms can cause fatalities, serious injury, long-lasting health effects, and damage to buildings, homes, and other property. Many products containing hazardous chemicals are used and stored in homes routinely. Chemicals posing a health hazard include carcinogens, toxic agents, reproductive toxins, irritants, and many other substances that can harm human organs or vital biological processes.

Chemical manufacturers are one source of hazardous materials, but there are many others, including service stations, hospitals, and hazardous materials waste sites.

Varying quantities of hazardous materials are manufactured, used, or stored in an estimated 4.5 million facilities in the United States—from major industrial plants to local dry-cleaning establishments or gardening supply stores.

Hazardous materials come in the form of explosives, flammable and combustible substances, poisons, and radioactive materials. Hazardous materials incidents are technological (meaning non-natural hazards created or influenced by humans) events that involve large-scale releases of chemical, biological or radiological materials. Hazardous materials incidents generally involve releases at fixed-site facilities that manufacture, store, process or otherwise handle hazardous materials or along transportation routes such as major highways, railways, navigable waterways and pipelines.

The Environmental Protection Agency (EPA) requires the submission of the types and locations of hazardous chemicals being stored at any facility within the state over the previous calendar year. This is completed by submitting a Tier II form to the EPA as a requirement of the Emergency Planning and Community Right-to-Know Act of 1986.³⁶

Fixed-sites are those that involve chemical manufacturing sites and stationary storage facilities. Table 35 demonstrates the nine classes of hazardous material according to the 2016 Emergency Response Guidebook.

³⁵ Federal Emergency Management Agency. 2017. "Hazardous Materials Incidents." <https://www.ready.gov/hazardous-materials-incidents>.

³⁶ Emergency Planning and Community Right-to-Know Act of 1986, Pub. L. No. 116 § 10904. 1986.

Table 38: Hazardous Material Classes

CLASS	TYPE OF MATERIAL	DIVISIONS
1	Explosives	Division 1.1 – Explosives with a mass explosion hazard Division 1.2 – Explosives with a projection hazard but not a mass explosion hazard Division 1.3 – Explosives which have a fire hazard and either a minor blast hazard or a minor projection hazard or both, but not a mass explosion hazard Division 1.4 – Explosives which present no significant blast hazard Division 1.5 – Very insensitive explosives with a mass explosion hazard Division 1.6 – Extremely insensitive articles which do not have a mass explosion hazard
2	Gases	Division 2.1 – Flammable gases Division 2.2 – Non-flammable, non-toxic gases Division 2.3 – Toxic gases
3	Flammable liquids (and Combustible liquids)	
4	Flammable solids; Spontaneously combustible materials	Division 4.1 – Flammable solids, self-reactive substances and solid desensitized explosives Division 4.2 – Substances liable to spontaneous combustion Division 4.3 – Substances which in contact with water emit flammable gases
5	Oxidizing substances and Organic peroxides	Division 5.1 – Oxidizing substances Division 5.2 – Organic peroxides
6	Toxic substances and infectious substances	Division 6.1 – Toxic substances Division 6.2 – Infectious substances
7	Radioactive materials	
8	Corrosive materials	
9	Miscellaneous hazardous materials/products, substances, or organisms	

Source: Emergency Response Guidebook, 2016³⁷

LOCATION

There are 11 locations across the planning area that house hazardous materials, according to the Tier II reports submitted to the Nebraska Department of Environmental and Energy (NDEE) in 2017. The following table lists all hazardous chemical fixed sites and a listing of chemical storage sites can be found in *Section Seven: Community Profiles* for each jurisdiction.

Table 39: Livestock Diseases Reported in the Planning Area

Facility Name	County	Address
Guggenmos River Ranch Ltd	Blaine	43778 N Pleasant Valley Rd, Brewster
Great Western Gas Co	Blaine	Jct Highways 91 & 7, Brewster
NDOT Hyannis Yard	Grant	401 E Highway 2, Hyannis
Grant County Airport	Grant	306 N Bal St, Hyannis
K S Plus Inc	Hooker	202 SW 1st St, Mullen

³⁷ U.S. Department of Transportation Pipeline and Hazardous Materials Safety Administration. 2016. "2016 Emergency Response Guidebook." <https://www.phmsa.dot.gov/hazmat/outreach-training/erg>.

NDOT Mullen Yard	Hooker	402 SE 1st St, Mullen
Neal Oil & Auto Center Inc	Hooker	E Railroad St, Mullen
Country Partners Cooperative	Logan	34 Highway 83, Stapleton
Eastside Service	Logan	504 3rd St, Stapleton
Frey Propane Inc	Logan	Old Slaughterhouse Rd, Stapleton
NDOT Stapleton Yard	Logan	122 Highway S57A, Stapleton

Source: NDEE, 2018³⁸

EXTENT

The extent of chemical spills at fixed sites varies and depends on the type of chemical that is released. According to the U.S. Coast Guard’s National Response Center (NRC) database, there have been no fixed site releases in the planning area. Based on historic records, it is likely that any spill involving hazardous materials will not affect an area larger than a quarter mile from the spill location.

HISTORICAL OCCURRENCES

CHEMICAL FIXED SITES

According to the NRC database, there have been no fixed site chemical spills between January 1990 – June 2018 in the planning area.

AVERAGE ANNUAL DAMAGES

As there were no chemical fixed site events in the planning area, it is not possible to determine average annual damages.

PROBABILITY

Chemical releases at fixed site storage areas are not likely in the future. Given the historic record of occurrence (zero chemical fixed site spills reported in 29 years), the probability of occurrence for chemical fixed site spills is less than one percent annually.

REGIONAL VULNERABILITIES

The following table provides information related to regional vulnerabilities; for jurisdictional-specific vulnerabilities, refer to *Section Seven: Community Profiles*.

Table 40: Regional Chemical Fixed Site Vulnerabilities

SECTOR	VULNERABILITY
PEOPLE	-Those in close proximity could have minor to moderate health impacts -Possible evacuation -Hospitals, nursing homes, and the elderly at greater risk due to low mobility
ECONOMIC	-A chemical plant shutdown in smaller communities would have significant impacts to the local economy -A long-term evacuation of the emergency planning zone (EPZ) would have a negative effect on the economy in the area
BUILT ENVIRONMENT	-Risk of fire or explosion
INFRASTRUCTURE	-Transportation routes can be closed during evacuations
CRITICAL FACILITIES	-Critical facilities are at risk of evacuation

³⁸ Nebraska Department of Environmental Quality. January 2018. "Nebraska DEQ Tier 2 Data Download: Blaine, Grant, Hooker, Logan, Thomas County 2017." <https://deq-iis.ne.gov/tier2/tier2Download.html>.

CHEMICAL TRANSPORTATION

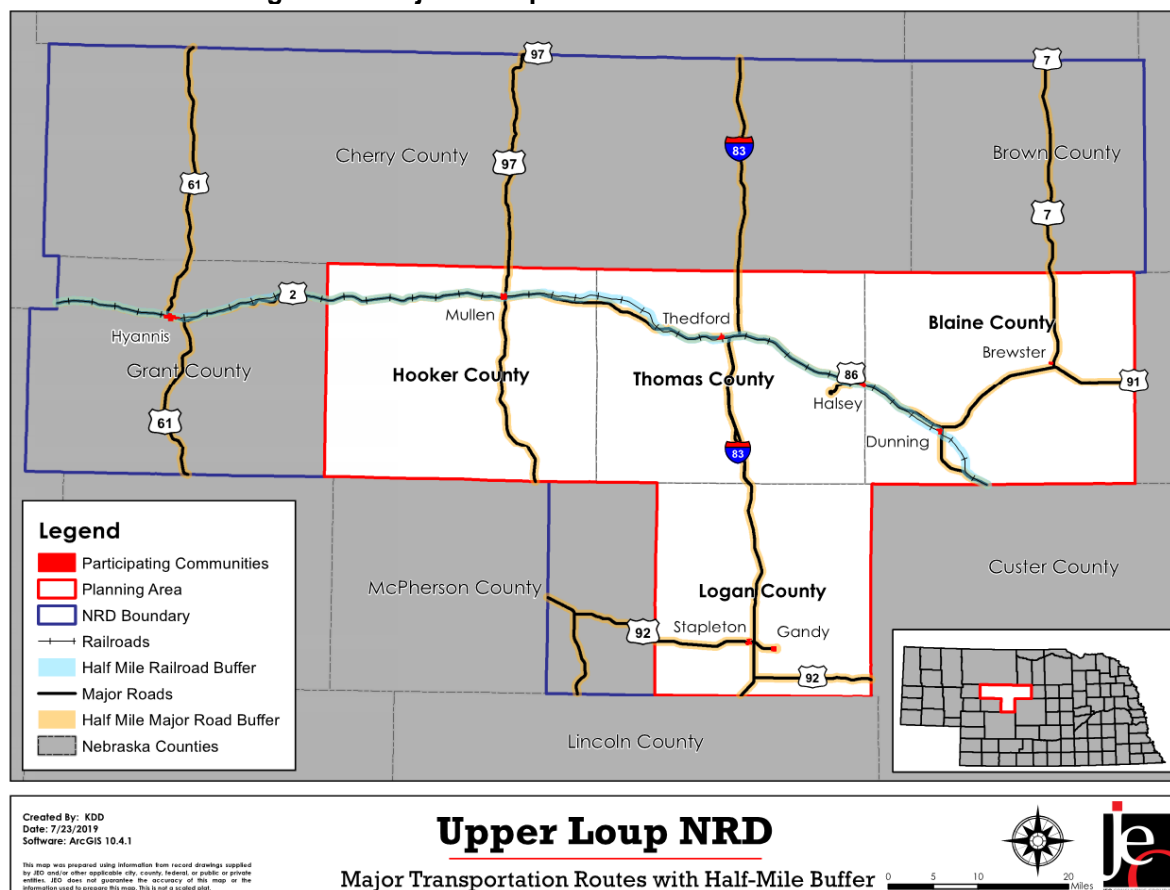
The transportation of hazardous materials is defined by the U.S. Pipeline and Hazardous Materials Safety Administration (PHMSA) as "...a substance that has been determined to be capable of posing an unreasonable risk to health, safety, and property when transported in commerce..."³⁹ According to PHMSA, hazardous materials traffic in the U.S. now exceeds 1,000,000 shipments per day.⁴⁰

Nationally, the U.S. has had 116 fatalities associated with the transport of hazardous materials between 2007 through 2017.⁴¹ While such fatalities are a low probability risk, even one event can harm many people. For example, a train derailment in Crete, Nebraska in 1969 allowed anhydrous ammonia to leak from a rupture tanker. The resulting poisonous fog killed nine people and injured 53.

LOCATION

Chemical releases can occur during transportation, primarily on major transportation routes as identified in Figure 11. A large number of spills also typically occur during the loading and unloading of chemicals. Participating communities specifically reported transportation along railroads as having the potential to impact communities. Railroads providing service through the planning area have developed plans to respond to chemical release along rail routes. According to PHMSA there are no gas transmission or hazardous liquid pipelines located in the planning area.⁴²

Figure 11: Major Transportation Routes with Half Mile Buffer



39 Pipeline and Hazardous Materials Safety Administration. 2018. "Hazmat Safety Community FAQ." <https://phmsa.dot.gov/regulations>.
 40 U.S. Department of Transportation. 2015. "2012 Economic Census: Transportation." <https://www.census.gov/econ/cfs/2012/ec12tcf-us-hm.pdf>.
 41 Pipeline and Hazardous Materials Safety Administration. 2017. "10 Year Incident Summary Reports." <https://www.phmsa.dot.gov/hazmat/library/data-stats/incidents>.
 42 Pipeline and Hazardous Materials Safety Administration. 2019. "National Pipeline Mapping System." <https://www.npms.phmsa.dot.gov/>.

EXTENT

The probable extent of chemical spills during transportation is difficult to anticipate and depends on the type and quantity of chemical released. Releases that have occurred during transportation in the planning area ranged from zero to 8,800 liquid gallons (LGA). One event led to injuries to a driver.

HISTORICAL OCCURRENCES

PHMSA reports that eight chemical spills occurred during transportation in the planning area between 1980 and 2018. During these events, there were no fatalities, one injury, and \$80,826 in damages.

The following table provides a list of historical chemical spills during transportation in the planning area.

Table 41: Historical Chemical Spills 1980-2018

Date of Event	Location of Release	Failure Description	Material Involved	Method of Transportation	Amount in Gallons	Total Damage	Injuries (Yes/No)
5/18/2001	Grant County	Loose Closure Component or Device	Flammable Liquids	Highway	0	\$0	No
1/7/2015	Hyannis	Valve Open	Argon	Rail	0	\$0	No
4/12/2006	Thedford	Loose Closure Component or Device	Ammonium Fertilizer	Rail	0.5	\$3,202	No
9/17/2006	Dunning	Vehicular Crash or Accident Damage	Phosphoric Acid	Highway	9	\$12,425	No
11/2/2015	Hooker County	Improper Preparation for Transportation	Fuel	Rail	46	\$4,675	No
1/16/2001	Hyannis	Loose Closure Component or Device; Derailment	Fuel	Rail	50	\$4,550	No
6/18/1996	Mullen	Unknown	Gasoline	Highway	100	\$2,150	No
4/2/1990	Thedford	Rollover Accident; Vehicular Crash or Accident Damage	Gasoline	Highway	8,800	\$53,824	Yes – 1

Source: PHMSA, April 1980– December 2018⁴³

AVERAGE ANNUAL DAMAGES

The average damage per event estimate was determined based upon PHMSA's Incidents Reports since 1980 and the number of historical occurrences. This does not include losses from displacement, functional downtime, economic loss, injury, or loss of life. This hazard causes an average of \$2,072 per year in property damages.

⁴³ Pipeline and Hazardous Materials Safety Administration. 2018. "Office of Hazardous Materials Safety: Incident Reports Database Search." Accessed December 6, 2018. <https://www.phmsa.dot.gov/hazmat/library/data-stats/incidents>.

Table 42: Chemical Transportation Losses

Hazard Type	Number of Events	Events Per Year	Total Property Loss	Average Annual Property Loss
Chemical Transportation Spills	8	0.2	\$80,826	\$2,072

Source: PHMSA April 1980 – December 2018

PROBABILITY

The historical record indicates that chemical releases during transport have a 20 percent chance of occurring annually in the planning area, with eight events over a 39-year period.

REGIONAL VULNERABILITIES

The following table provides information related to regional vulnerabilities; for jurisdictional-specific vulnerabilities, refer to *Section Seven: Community Profiles*.

Table 43: Regional Chemical Transportation Vulnerabilities

SECTOR	VULNERABILITY
PEOPLE	-Those in close proximity to transportation corridors -Possible evacuation -Hospitals, nursing homes, and the elderly at greater risk due to low mobility
ECONOMIC	-Evacuations and closed transportation routes could impact businesses near spill
BUILT ENVIRONMENT	-Risk of fire or explosion
INFRASTRUCTURE	-Transportation routes can be closed
CRITICAL FACILITIES	-Critical facilities near major transportation corridors are at risk

CIVIL DISORDER

Civil disorder is a broad term that is typically used by law enforcement to describe a group of people/protesting major socio-political problems by choosing not to observe a law or regulation. Though peaceful public demonstrations are allowed under US Federal law, any domestic situations such as a strike or riot involving three or more people could be considered civil disorder if the demonstration has devolved into having a potential for causing injuries, casualties, or property damage.⁴⁴

U.S. Code on civil disorder considers the following actions to be civil disorder:

- (1) Whoever teaches or demonstrates to any other person the use, application, or making of any firearm or explosive or incendiary device, or technique capable of causing injury or death to persons, knowing or having reason to know or intending that the same will be unlawfully employed for use in, or in furtherance of, a civil disorder which may in any way or degree obstruct, delay, or adversely affect commerce or the movement of any article or commodity in commerce or the conduct or performance of any federally protected function; or
- (2) Whoever transports or manufactures for transportation in commerce any firearm, or explosive or incendiary device, knowing or having reason to know or intending that the same will be used unlawfully in furtherance of a civil disorder; or
- (3) Whoever commits or attempts to commit any act to obstruct, impede, or interfere with any fireman or law enforcement officer lawfully engaged in the lawful performance of his official duties incident to and during the commission of a civil disorder which in any way or degree obstructs, delays, or adversely affects commerce or the movement of any article or commodity in commerce or the conduct or performance of any federally protected function

Threat assessment, mitigation, and response to civil disorder are federal and state directives that work in conjunction with local law enforcement. Civil disorder is addressed at the federal level by the US Department of Homeland Security and at the state level by the Nebraska Emergency Management Agency.

LOCATION

Civil disorder can occur throughout the entire planning area. Urban areas are more likely to see protesters, while rural areas may experience environmental justice protesters. Local concerns centered around the vulnerability of water systems located throughout the planning area and the tampering of water supplies.

EXTENT

Incidents of civil disorder can vary greatly in scale and magnitude, depending on the location of the attack, number of protesters, and reasoning for unrest.

HISTORICAL OCCURRENCES

To identify any incidence of civil disorder events, the University of Illinois Social, Political and Economic Event Database Project (SPEED), maintained since the end of World War II (1946-2018) was consulted.⁴⁵ For any identified events, details of the incidents were found in the Global Terrorism Database between 1970-2018, as maintained by the University of Maryland and National Consortium for the Study of Terrorism and Responses to Terrorism (START) database and archival newspaper reports.⁴⁶ According to these sources database, there have been no civil disorder events in the planning area. The Planning Team did not report any accounts of water supplies being tampered with to date.

⁴⁴ Civil Disorders, 18 U.S. Code § 231-233 (1992)

⁴⁵ The Social, Political and Economic Event Database Project (SPEED). 2018. Event Data File [Data file]. Retrieved from <https://clinecenter.illinois.edu/project/human-loop-event-data-projects/SPEED>.

⁴⁶ National Consortium for the Study of Terrorism and Responses to Terrorism (START). 2016. Global Terrorism Database [Data file]. Retrieved from <https://www.start.umd.edu/gtd>.

AVERAGE ANNUAL DAMAGES

According to the START Global Terrorism Database (1970-2018) and the SPEED database of civil disorder events (1946-2018), there have been no civil disorder events that have occurred in the planning area. As there were no terrorist events within the planning area, there were no average annual damages.

PROBABILITY

Given zero incidences over a 74-year period, the annual probability for civil disorder in the planning area has a less than one percent chance of occurring during any given year. This does not indicate that an event will never occur within the planning area, only that the likelihood of such an event is incredibly low.

REGIONAL VULNERABILITIES

The following table provides information related to regional vulnerabilities; for jurisdictional-specific vulnerabilities, refer to *Section Seven: Community Profiles*.

Table 44: Regional Civil Disorder Vulnerabilities

SECTOR	VULNERABILITY
PEOPLE	<ul style="list-style-type: none"> -Police officers and first responders at risk of injury or death -Protestors and civilians at risk of injury or death
ECONOMIC	<ul style="list-style-type: none"> -Damaged businesses can cause loss of revenue and loss of income for workers -Agricultural attacks could cause significant economic losses for the region -Severe civil disorder events are often accompanied by looting -Risk of violence in an area can reduce income flowing into and out of that area
BUILT ENVIRONMENT	<ul style="list-style-type: none"> -Targeted buildings may sustain heavy damage -Public property may be at risk of damage
INFRASTRUCTURE	<ul style="list-style-type: none"> -Water supply, power plants, utilities may be damaged -Public property including signs, community art, or public park facilities may be at risk to damage
CRITICAL FACILITIES	<ul style="list-style-type: none"> -Police stations and government offices are at a higher risk

DAM FAILURE

According to the Nebraska Administrative Code, dams are “any artificial barrier, including appurtenant works, with the ability to impound water, wastewater, or liquid-borne materials and which is:

- twenty-five feet or more in height from the natural bed of the stream or watercourse measured at the downstream toe of the barrier, or from the lowest elevation of the outside limit of the barrier if it is not across a stream channel or watercourse, to the maximum storage elevation or
- has an impounding capacity at maximum storage elevation of fifty acre-feet or more, except that any barrier described in this subsection which is not in excess of six feet in height or which has an impounding capacity at maximum storage elevation of not greater than fifteen acre-feet shall be exempt, unless such barrier, due to its location or other physical characteristics, is classified as a high hazard potential dam.

Dams do not include:

- an obstruction in a canal used to raise or lower water;
- a fill or structure for highway or railroad use, but if such structure serves, either primarily or secondarily, additional purposes commonly associated with dams it shall be subject to review by the department;
- canals, including the diversion structure, and levees; or
- water storage or evaporation ponds regulated by the United States Nuclear Regulatory Commission.”⁴⁷

The NeDNR uses a classification system for dams throughout the state, including those areas participating in this plan. The classification system includes three classes, which are defined in the table below.

Table 45: Dam Size Classification

SIZE	EFFECTIVE HEIGHT (FEET) X EFFECTIVE STORAGE (ACRE-FEET)	EFFECTIVE HEIGHT
SMALL	≤ 3,000 acre-feet	and ≤ 35 feet
INTERMEDIATE	> 3,000 acre-feet to < 30,000 acre-feet	or > 35 feet
LARGE	≥ 30,000 acre-feet	Regardless of Height

Source: NeDNR, 2013⁴⁸

The effective height of a dam is defined as the difference in elevation in feet between the natural bed of the stream or watercourse measured at the downstream toe (or from the lowest elevation of the outside limit of the barrier if it is not across stream) to the auxiliary spillway crest. The effective storage is defined as the total storage volume in acre-feet in the reservoir below the elevation of the crest of the auxiliary spillway. If the dam does not have an auxiliary spillway, the effective height and effective storage should be measured at the top of dam elevation.

⁴⁷ Nebraska Department of Natural Resources. “Department of Natural Resources Rules for Safety of Dam and Reservoirs.” Nebraska Administrative Code, Title 458, Chapter 1, Part 001.09.

⁴⁸ Nebraska Department of Natural Resources. 2013. “Classification of Dams: Dam Safety Section.” <https://dnr.nebraska.gov/sites/dnr.nebraska.gov/files/doc/dam-safety/resources/Classification-Dams.pdf>.

Dam failure, as a hazard, is described as a structural failure of a water impounding structure. Structural failure can occur during extreme conditions, which include, but are not limited to:

- Reservoir inflows in excess of design flows
- Flood pools higher than previously attained
- Unexpected drop in pool level
- Pool near maximum level and rising
- Excessive rainfall or snowmelt
- Large discharge through spillway
- Erosion, landslide, seepage, settlement, and cracks in the dam or area
- Earthquakes
- Vandalism
- Terrorism

The NeDNR regulates dam safety and has classified dams by the potential hazard each poses to human life and economic loss. The following are classifications and descriptions for each hazard class:

- **Minimal Hazard Potential** - failure of the dam expected to result in no economic loss beyond the cost of the structure itself and losses principally limited to the owner's property.
- **Low Hazard Potential** - failure of the dam expected to result in no probable loss of human life and in low economic loss. Failure may damage storage buildings, agricultural land, and county roads.
- **Significant Hazard Potential** - failure of the dam expected to result in no probable loss of human life but could result in major economic loss, environmental damage, or disruption of lifeline facilities. Failure may result in shallow flooding of homes and commercial buildings or damage to main highways, minor railroads, or important public utilities.
- **High Hazard Potential** - failure of the dam expected to result in loss of human life is probable. Failure may cause serious damage to homes, industrial or commercial buildings, four-lane highways, or major railroads. Failure may cause shallow flooding of hospitals, nursing homes, or schools.

In total, there are three dams located within the planning area, with classifications of Low and Minimal Hazard. Two dams are rated low with the remaining one classified as minimal hazard level. Figure 12 maps the location of these dams in the planning area.

Table 46: Dams in the Planning Area

County	Minimal Hazard	Low Hazard	Significant Hazard	High Hazard
Blaine	0	1	0	0
Grant	0	0	0	0
Hooker	0	0	0	0
Logan	0	0	0	0
Thomas	1	1	0	0
Total	1	2	0	0

Source: NeDNR, 2018⁴⁹

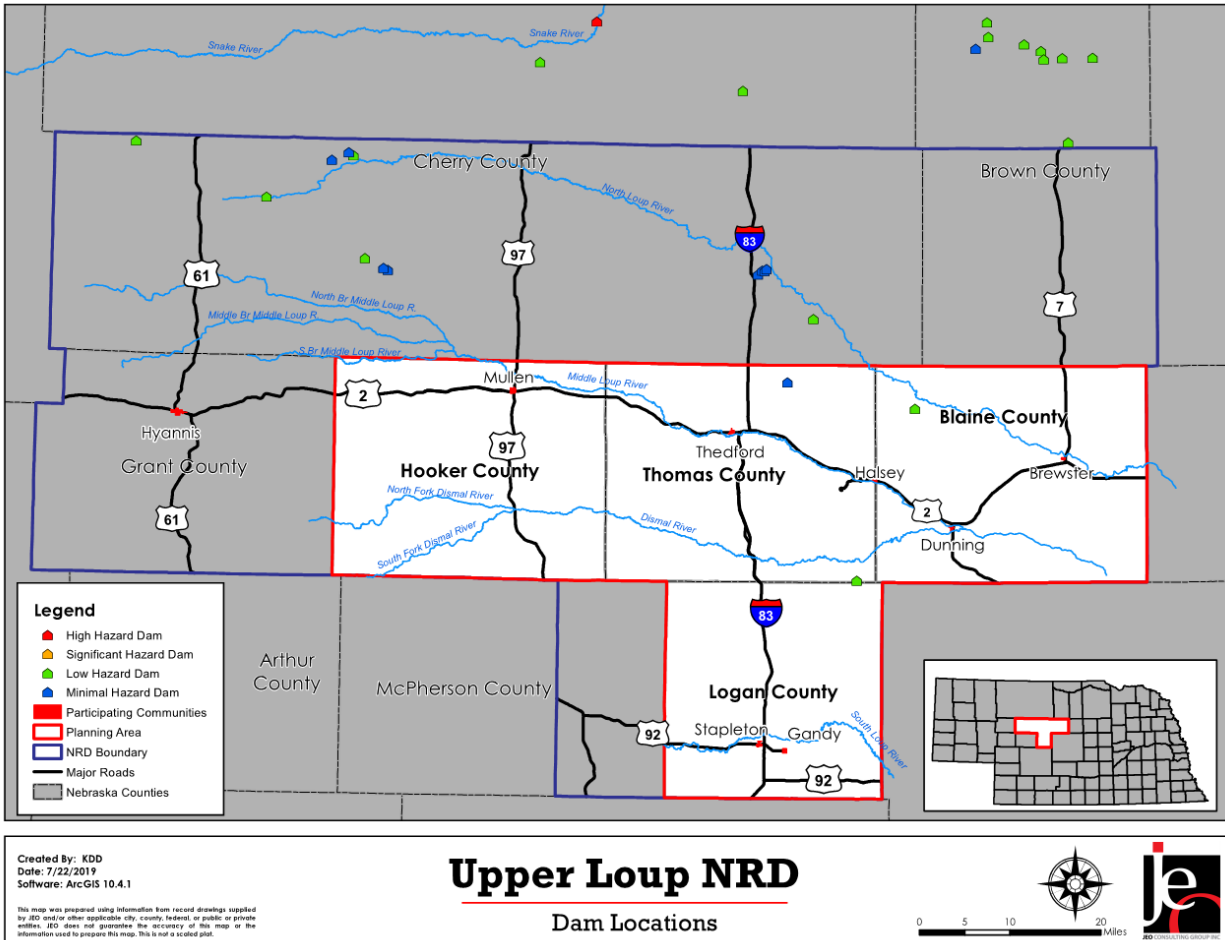
*The southern portions of Cherry County and Brown County are located within the NRD boundary, but outside of the planning area. Dams in these counties located outside of the Upper Loup NRD are not included here.

Dams classified with high hazard potential require the creation of an Emergency Action Plan (EAP). The EAP defines responsibilities and provides procedures designed to identify unusual and unlikely conditions

⁴⁹ Nebraska Department of Natural Resources. 2018. "Nebraska Dam Inventory." <https://dnr.nebraska.gov/dam-safety/nebraska-dam-inventory>.

which may endanger the structural integrity of the dam within sufficient time to take mitigating actions and to notify the appropriate emergency management officials of possible, impending, or actual failure of the dam. The EAP may also be used to provide notification when flood releases will create major flooding. An emergency situation can occur at any time; however, emergencies are more likely to happen when extreme conditions are present. While there are no high hazard dams located within the planning area, there is one high hazard dam in Cherry County north of the planning area.

Figure 12: Dam Locations



No dams in the planning area or surrounding areas are included in the 2014 Nebraska State HMP’s list of “Top 30 Ranked High Hazard Dams Based on Population at Risk.”

Upstream Dams Outside the Planning Area

According to the Counties’ Local Emergency Operations Plan (LEOPs),⁵⁰⁵¹⁵²⁵³ there are no upstream dams which could affect the planning area.

⁵⁰ Thomas County Emergency Management Agency. March 2015. “Thomas County Nebraska Local Emergency Operations Plan.”
⁵¹ Hooker County Emergency Management Agency. May 2015. “Hooker County Nebraska Local Emergency Operations Plan.”
⁵² Blaine County Emergency Management Agency. 2015. “Blaine County Nebraska Local Emergency Operations Plan.”
⁵³ Logan County Emergency Management Agency. 2019. “Logan County Nebraska Local Emergency Operations Plan.”

LOCATION

Areas (i.e. agricultural land, out buildings, and county roads) downstream of a dam in Blaine and Thomas Counties, are at greatest risk of dam failure. There are no dams in the planning area located in direct proximity to communities. Additionally, dam owners and the NeDNR have opted, at this time, to not include dam breach maps or inundation maps in hazard mitigation plans due to the sensitive nature of this information. Requests can be made of the dam owner or the Dam Safety Division of NeDNR to view an inundation map specific to a dam.

EXTENT

Inundation maps are not made publicly available for security reasons and there are no high hazard dams in the planning area. Any dam that were to fail in the planning area would likely produce minimal damages.

HISTORICAL OCCURRENCES

According to the Stanford University National Performance of Dams Program, there have been no dam failure events within the planning area.⁵⁴

AVERAGE ANNUAL DAMAGES

Due to lack of data and the sensitive nature of this hazard, potential losses are not calculated for this hazard. However, as the dams located within the planning area are low or minimal hazard dams, a failure would be confined to damage of storage buildings, agricultural land, and county roads. Community members in the planning area that wish to quantify the threat of dam failure should contact their County Emergency Management, ULNRD, or the NeDNR.

PROBABILITY

For the purpose of this plan, the probability of dam failure will be stated at less than one percent annually as no dams have failed in the planning area over the past 100 years.

REGIONAL VULNERABILITIES

The following table provides information related to regional vulnerabilities; for jurisdictional-specific vulnerabilities, refer to *Section Seven: Community Profiles*.

Table 47: Regional Dam Failure Vulnerabilities

SECTOR	VULNERABILITY
PEOPLE	-None as there are no significant or high hazard dams within the planning area and existing dams in the planning area are not located near residential areas or communities
ECONOMIC BUILT ENVIRONMENT	-Loss of downstream agricultural land -Damage to storage and out buildings
INFRASTRUCTURE CRITICAL FACILITIES	-Rural county transportation routes could be closed for extended period of time -None

⁵⁴ Stanford University. 1911-2016. "National Performance of Dams Program Dam Incident Database." Accessed August 2017. http://npdp.stanford.edu/dam_incidents.

DROUGHT

Drought is generally defined as a natural hazard that results from a substantial period of below normal precipitation. Although many erroneously consider it a rare and random event, drought is a normal, recurrent feature of climate. It occurs in virtually all climatic zones, but its characteristics vary significantly from one region to another. A drought often coexists with periods of extreme heat, which together can cause significant social stress, economic losses, and environmental degradation.

Drought is a slow-onset, creeping phenomenon that can affect a wide range of people and industries. While many drought impacts are non-structural, there is the potential that during extreme or prolonged drought events structural impacts can occur. Drought normally affects more people than other natural hazards, and its impacts are spread over a larger geographical area. As a result, the detection and early warning signs of drought conditions and assessment of impacts are more difficult to identify than that of quick-onset natural hazards (e.g., flood) that results in more visible impacts. According to the National Drought Mitigation Center (NDMC), droughts are classified into four major types:

Drought is a normal, recurrent feature of climate, although many erroneously consider it a rare and random event. It occurs in virtually all climatic zones, but its characteristics vary significantly from one region to another.

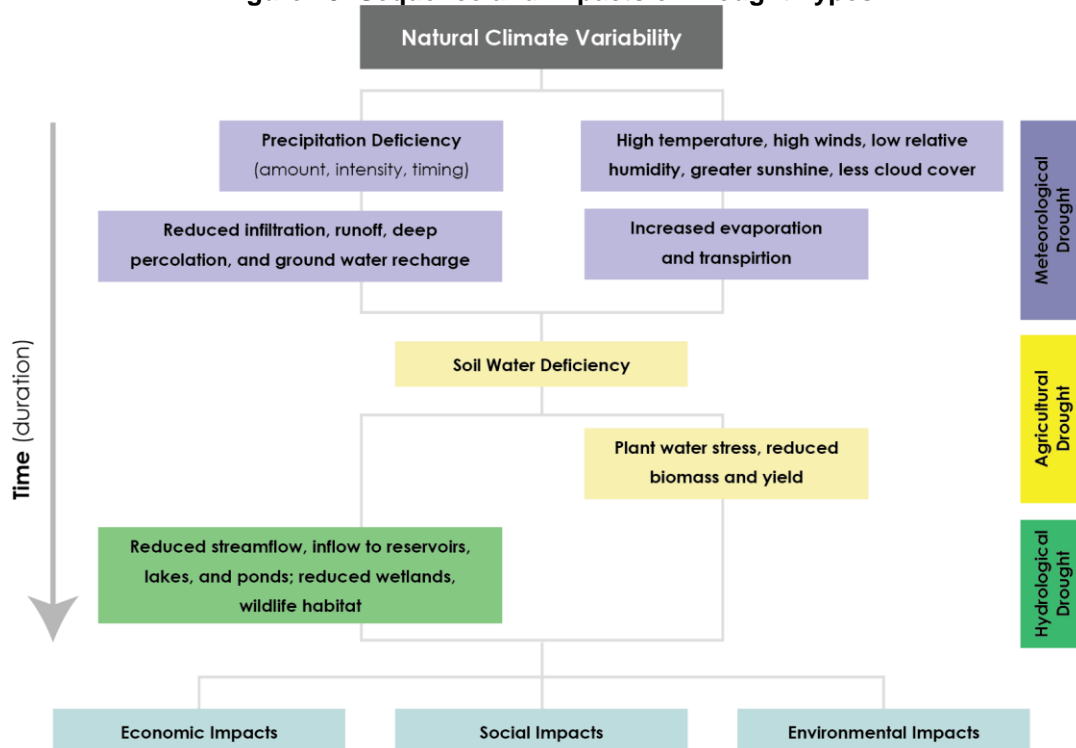
~National Drought Mitigation Center

- **Meteorological Drought** – is defined based on the degree of dryness and the duration of the dry period. Meteorological drought is often the first type of drought to be identified and should be defined regionally as precipitation rates and frequencies (norms) vary.
- **Agricultural Drought** – occurs when there is deficient moisture that hinders planting germination, leading to low plant population per hectare and a reduction of final yield. Agricultural drought is closely linked with meteorological and hydrological drought; as agricultural water supplies are contingent upon the two sectors.
- **Hydrologic Drought** – occurs when water available in aquifers, lakes, and reservoirs falls below the statistical average. This situation can arise even when the area of interest receives average precipitation. This is due to the reserves diminishing from increased water usage, usually from agricultural use or high levels of evapotranspiration, resulting from prolonged high temperatures. Hydrological drought often is identified later than meteorological and agricultural drought. Impacts from hydrological drought may manifest themselves in decreased hydropower production and loss of water-based recreation.
- **Socioeconomic Drought** – occurs when the demand for an economic good exceeds supply due to a weather-related shortfall in water supply. The supply of many economic goods includes, but are not limited to, water, forage, food grains, fish, and hydroelectric power.⁵⁵

The following figure indicates different types of droughts, their temporal sequence, and the various types of effects they can have on a community.

⁵⁵ National Drought Mitigation Center. 2017. "Drought Basics." <http://drought.unl.edu/DroughtBasics.aspx>.

Figure 13: Sequence and Impacts of Drought Types



Source: National Drought Mitigation Center, University of Nebraska-Lincoln, 2017⁵⁶

HISTORICAL OCCURRENCES

The Palmer Drought Severity Index (PDSI) is utilized by climatologists to standardize global long-term drought analysis. The data for the planning area was collected for Climate Division 2, which includes the planning area. This particular station's period of record started in 1895. Figure 14 shows the data from this time period. The negative Y axis represents a drought, for which '-2' indicates a moderate drought, '-3' a severe drought, and '-4' an extreme drought. Table 48 shows the details of the Palmer classifications.

Table 48: Palmer Drought Severity Index Classification

NUMERICAL VALUE	DESCRIPTION	NUMERICAL VALUE	DESCRIPTION
4.0 or more	Extremely wet	-0.5 to -0.99	Incipient dry spell
3.0 to 3.99	Very wet	-1.0 to -1.99	Mild drought
2.0 to 2.99	Moderately wet	-2.0 to -2.99	Moderate drought
1.0 to 1.99	Slightly wet	-3.0 to -3.99	Severe drought
0.5 to 0.99	Incipient wet spell	-4.0 or less	Extreme drought
0.49 to -0.49	Near normal	--	--

Source: Climate Prediction Center⁵⁷

⁵⁶ National Drought Mitigation Center. 2017. "Types of Drought." <http://drought.unl.edu/DroughtBasics/TypesofDrought.aspx>.

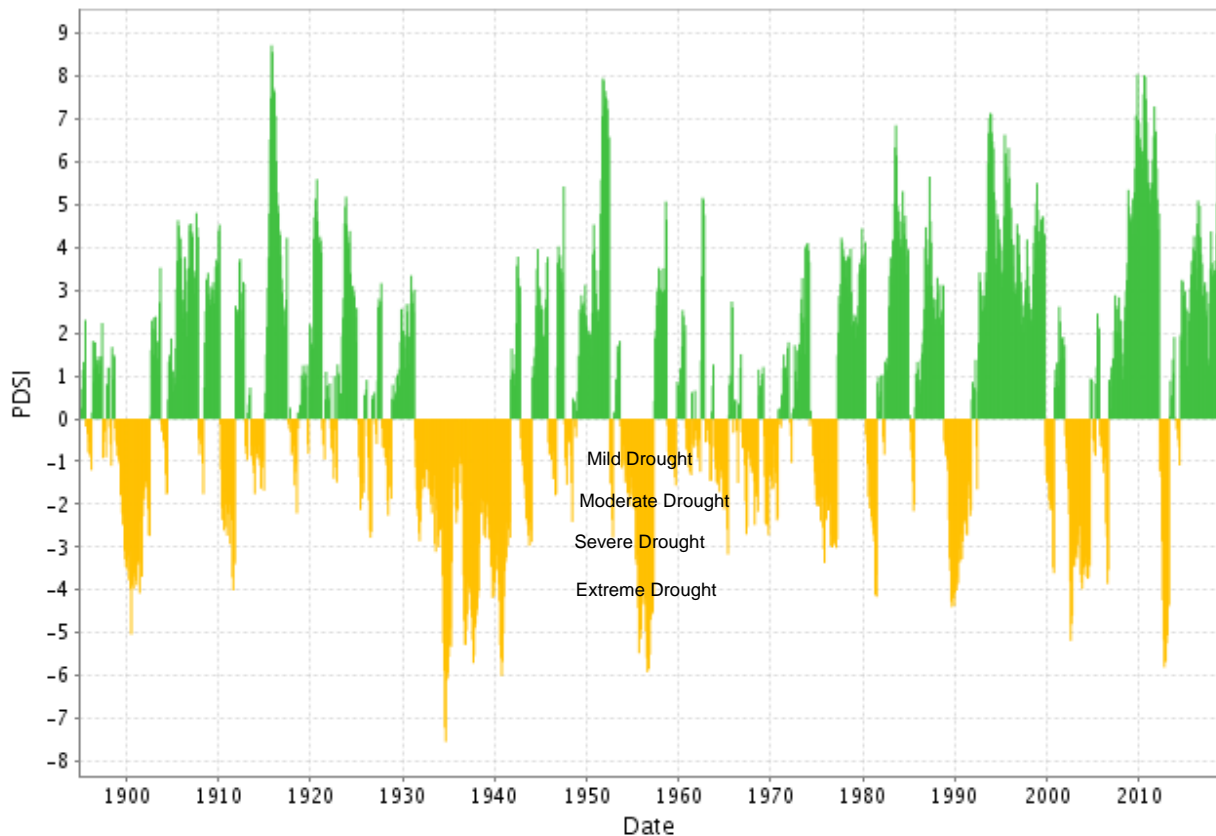
⁵⁷ National Weather Service. 2017. "Climate Prediction Center." <http://www.cpc.noaa.gov/>.

Table 49: Historic Droughts

DROUGHT MAGNITUDE	MONTHS IN DROUGHT	PERCENT CHANCE
-1 MAGNITUDE (MILD)	183/1,486	12.3%
-2 MAGNITUDE (MODERATE)	133/1,486	9.0%
-3 MAGNITUDE (SEVERE)	87/1,486	5.9%
-4 MAGNITUDE OR GREATER (EXTREME)	80/1,486	5.4%

Source: NCEI, Jan 1895-Oct 2018⁵⁸

**Figure 14: Palmer Drought Severity Index
NE North Central – PDSI
189501 – 201810**



Source: NCEI, Jan. 1895-Oct 2018

LOCATION

The entire planning area is susceptible to impacts resulting from drought.

EXTENT

Using the data from Table 49 it is reasonable to expect extreme drought to occur in 5.4 percent of years of months for the planning area (80 extreme drought months in 1,486 months). Severe drought occurred in 87 months of the 1,486 months of record (5.9 percent of months). Moderate drought occurred in 133 months of the 1,486 months of record (9.0 percent of months), and mild drought occurred in 183 of the 1,486 months of record (12.3 percent of months). Non-drought conditions (incipient dry spell, near normal, or incipient wet spell conditions) occurred in 332 months, or 22.3% percent of months. These statistics show that the drought conditions of the planning area are highly variable.

⁵⁸ National Centers for Environmental Information. 1895-2018. Accessed December 6, 2018. <https://www7.ncdc.noaa.gov/CDO/CDODivisionalSelect.jsp>.

AVERAGE ANNUAL LOSSES

The annual property estimate was determined based upon NCEI Storm Events Database since 1996. The annual crop loss was determined based upon the RMA Cause of Loss Historical Database since 2000. This does not include losses from displacement, functional downtime, economic loss, injury, or loss of life. Grant County and Hooker County do not have RMA data available.

Table 50: Loss Estimate for Drought

Hazard Type	Total Property Loss ¹	Average Annual Property Loss ¹	Total Crop Loss ²	Average Annual Crop Loss ²
Drought	\$5,000,000	\$217,391	\$3,287,926	\$173,049

Source: 1 Indicates data is from NCEI (January 1996 to July 2018); 2 Indicates data is from USDA RMA (2000 to 2018)

The extreme drought in 2012 significantly affected the agricultural sector of the state. According to the PDSI, 2012's average severity index was ranked at a -4.47, with extremes in August and September of -7.35 and -7.57 respectively. The Farm Credit Services reported total indemnity payments to Nebraska totaled \$1.49 billion from crop loss. Cattle ranching is a large driver of the local planning area's economy. The 2012 drought forced ranchers to cull herds by as much as 60% to cope with reduced forage production with an estimated loss of \$200 per head by taking cattle to market earlier than normal.⁵⁹

The USDA reported a total of \$139,957,809 in drought relief to Nebraska from 2008 to 2011 for all five disaster programs: Supplemental Revenue Assistance Payments (SURE); Livestock Forage Disaster Assistance Program (LFD); Emergency Assistance for Livestock, Honeybees, and Emergency Assistance for Livestock, Honey Bees, and Farm-Raised Fish Program (ELAP); Livestock Indemnity Program (LIP); and Tree Assistance Program (TAP).

PROBABILITY

The following table summarizes the magnitude of drought and monthly probability of occurrence.

Table 51: Period of Record in Drought

PDSI Value	Magnitude	Drought Occurrences by Month	Monthly Probability
4 or more to -0.99	No Drought	1,003/1,486	67.4%
-1.0 to -1.99	Mild Drought	183/1,486	12.3%
-2.0 to -2.99	Moderate Drought	133/1,486	9.0%
-3.0 to -3.99	Severe Drought	87/1,486	5.9%
-4.0 or less	Extreme Drought	80/1,486	5.4%

Source: NCEI, Jan 1895-Oct 2018

The U.S. Seasonal Drought Outlook (Figure 15) provides a short-term drought forecast that can be utilized by local officials and residents to examine the likelihood of drought developing or continuing depending on the current situation. The following figure provides the drought outlook for November 15, 2018 through February 28, 2019. According to the U.S. Seasonal Drought Outlook, drought is likely to persist in the southwest United States, but the planning area should experience seasonal norms relative to precipitation and temperatures.

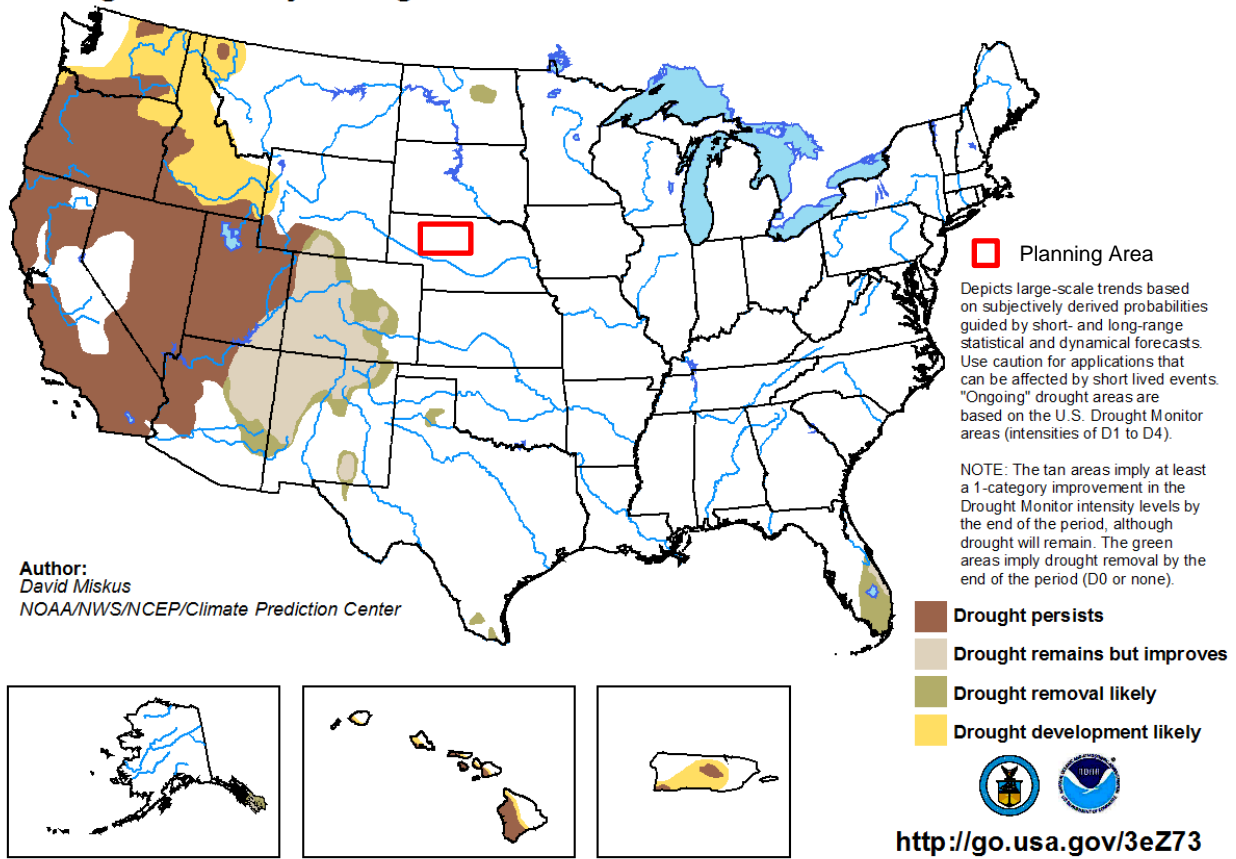
⁵⁹ National Integrated Drought Information System, National Drought Mitigation Center, and University of Nebraska-Lincoln. 2015. "From Too Much to Too Little: how the central U.S. drought of 2012 evolved out of one of the most devastating floods on record in 2011." https://www.drought.gov/drought/sites/drought.gov.drought/files/media/reports/regional_outlooks/CentralRegion2012DroughtAssessment_1-5-15.pdf.

Figure 15: U.S. Seasonal Drought Outlook

U.S. Seasonal Drought Outlook

Drought Tendency During the Valid Period

Valid for January 17 - April 30, 2019
Released January 17



Source: NCEI, January 2019

REGIONAL VULNERABILITIES

The Drought Impact Reporter is a database of drought impacts throughout the United States with data going back to 2000. The Drought Impact Reporter has recorded a total of 24 drought-related impacts throughout the region. This is not a comprehensive list of droughts which may have impacted the planning area. These impacts are summarized in the following table.

Table 52: Drought Impacts in Planning Area

Category	Date	Affected Counties	Title
Fire	7/31/2005	Thomas	Fire impact from Media submitted on 7/31/2005
Agriculture, Fire, Water Supply & Quality	9/28/2005	Grant	Agriculture, Fire, Water Supply & Quality impact from Public submitted on 9/28/2005
Relief, Response & Restrictions	9/30/2005	Blaine, Thomas	Relief, Response & Restrictions impact from Media submitted on 9/30/2005
Relief, Response & Restrictions	10/14/2005	Logan	Relief, Response & Restrictions impact from Media submitted on 10/14/2005

Category	Date	Affected Counties	Title
Relief, Response & Restrictions	11/1/2005	Blaine, Grant, Hooker, Logan, Thomas	Relief, Response & Restrictions impact from Media submitted on 11/1/2005
Relief, Response & Restrictions	11/7/2005	Grant	Relief, Response & Restrictions impact from Media submitted on 11/7/2005
Plants & Wildlife	11/7/2005	Blaine	Plants & Wildlife impact from Media submitted on 11/7/2005
Relief, Response & Restrictions	11/17/2005	Logan	Relief, Response & Restrictions impact from Media submitted on 11/17/2005
Relief, Response & Restrictions	12/15/2005	Grant, Hooker, Logan, Thomas	Relief, Response & Restrictions impact from Government submitted on 12/15/2005
Agriculture	2/17/2006	Blaine, Grant, Hooker, Logan, Thomas	Agriculture impact from Media submitted on 2/17/2006
Relief, Response & Restrictions	2/22/2006	Grant, Hooker, Logan, Thomas	Relief, Response & Restrictions impact from Government submitted on 2/22/2006
Relief, Response & Restrictions	3/1/2006	Blaine, Grant, Hooker, Logan, Thomas	Relief, Response & Restrictions impact from Media submitted on 3/1/2006
Relief, Response & Restrictions	7/17/2006	Blaine, Grant, Hooker, Logan, Thomas	Relief, Response & Restrictions impact from Media submitted on 7/17/2006
Relief, Response & Restrictions	9/14/2006	Blaine, Grant, Hooker, Logan, Thomas	Relief, Response & Restrictions impact from Media submitted on 9/14/2006
Fire	7/26/2007	Blaine, Thomas	Fire impact from Media submitted on 7/26/2007
Relief, Response & Restrictions	8/6/2007	Grant, Hooker, Logan, Thomas	Relief, Response & Restrictions impact from Media submitted on 8/6/2007
Agriculture	10/24/2007	Blaine, Grant, Hooker, Logan, Thomas	Agriculture impact from Media submitted on 10/24/2007
Agriculture, Society & Public Health	10/4/2012	Grant	A cattle rancher in western Nebraska was losing \$200 on the sale of each calf
Agriculture, Plants & Wildlife	12/17/2012	Blaine, Grant, Hooker, Logan, Thomas	Drought led ranchers in western Nebraska to cull cow herds by 25 to 60 percent
Agriculture, Relief, Response & Restrictions	5/17/2013	Blaine, Grant, Hooker, Logan, Thomas	Drought-related USDA disaster declarations in 2013
Plants & Wildlife	6/13/2013	Blaine, Grant, Hooker, Logan, Thomas	Many trees in western Nebraska died from drought, high temperatures and strong winds in 2012
Fire, Relief, Response & Restrictions, Tourism & Recreation	9/3/2013	Blaine, Grant, Hooker, Logan, Thomas	Campers in western Nebraska were urged to be particularly careful with campfires over the Labor Day weekend

Category	Date	Affected Counties	Title
Fire, Relief, Response & Restrictions	2/22/2018	Blaine, Grant, Hooker, Logan, Thomas	Nebraskans urged to leave the fireworks to the professionals

Source: NDMC, 2000-2018⁶⁰

*Numbers include estimates from Blaine, Grant, Hooker, Logan, and Thomas Counties

The following table provides information related to regional vulnerabilities. For jurisdictional-specific vulnerabilities, refer to *Section Seven: Community Profiles*.

Table 53: Regional Drought Vulnerabilities

SECTOR	VULNERABILITY
PEOPLE	-Insufficient water supply -Loss of jobs in agricultural sector -Residents in poverty if food prices increase
ECONOMIC	-Closure of water intensive businesses (carwashes, pools, etc.) -Loss of tourism dollars -Decrease in cattle prices -Decrease of land prices → jeopardizes educational funds
BUILT ENVIRONMENT	-Cracking of foundations (residential and commercial structures) -Damages to landscapes
INFRASTRUCTURE	-Damages to waterlines below ground -Damages to roadways (prolonged extreme events) -Stressing of electrical systems (brownouts during peak usage)
CRITICAL FACILITIES	None
OTHER	-Increased risk of grass and wildfire, damaging buildings and agricultural land

⁶⁰ National Drought Mitigation Center. 2018. "U.S. Drought Impact Reporter." <http://droughtreporter.unl.edu/map/>.

EARTHQUAKES

An earthquake is the result of a sudden release of energy in the Earth's tectonic plates that creates seismic waves. The seismic activity of an area refers to the frequency, type, and size of earthquakes experienced over a period of time. Although rather uncommon, earthquakes do occur in Nebraska and are usually small, generally not felt, and cause little to no damage. Earthquakes are measured by magnitude and intensity. Magnitude is measured by the Richter Scale, a base-10 logarithmic scale, which uses seismographs around the world to measure the amount of energy released by an earthquake. Intensity is measured by the Modified Mercalli Intensity Scale, which determines the intensity of an earthquake by comparing actual damage against damage patterns of earthquakes with known intensities. The following figure shows the fault lines in Nebraska and the following tables summarize the Richter Scale and Modified Mercalli Scale.

Table 54: Richter Scale

RICHTER MAGNITUDES	EARTHQUAKE EFFECTS
LESS THAN 3.5	Generally not felt, but recorded.
3.5 – 5.4	Often felt, but rarely causes damage.
UNDER 6.0	At most, slight damage to well-designed buildings. Can cause major damage to poorly constructed buildings over small regions.
6.1 – 6.9	Can be destructive in areas up to about 100 kilometers across where people live.
7.0 – 7.9	Major earthquake. Can cause serious damage over larger areas.
8 OR GREATER	Great earthquake. Can cause serious damage in areas several hundred kilometers across.

Source: FEMA, 2016⁶¹

Table 55: Modified Mercalli Intensity Scale

SCALE	INTENSITY	DESCRIPTION OF EFFECTS	CORRESPONDING RICHTER SCALE MAGNITUDE
I	Instrumental	Detected only on seismographs	
II	Feeble	Some people feel it	< 4.2
III	Slight	Felt by people resting, like a truck rumbling by	
IV	Moderate	Felt by people walking	
V	Slightly Strong	Sleepers awake; church bells ring	< 4.8
VI	Strong	Trees sway; suspended objects swing, objects fall off shelves	< 5.4
VII	Very Strong	Mild Alarm; walls crack; plaster falls	< 6.1
VIII	Destructive	Moving cars uncontrollable; masonry fractures, poorly constructed buildings damaged	
IX	Ruinous	Some houses collapse; ground cracks; pipes break open	< 6.9
X	Disastrous	Ground cracks profusely; many buildings destroyed; liquefaction and landslides widespread	< 7.3
XI	Very Disastrous	Most buildings and bridges collapse; roads, railways, pipes and cables destroyed; general triggering of other hazards	< 8.1
XII	Catastrophic	Total destruction; trees fall; ground rises and falls in waves	> 8.1

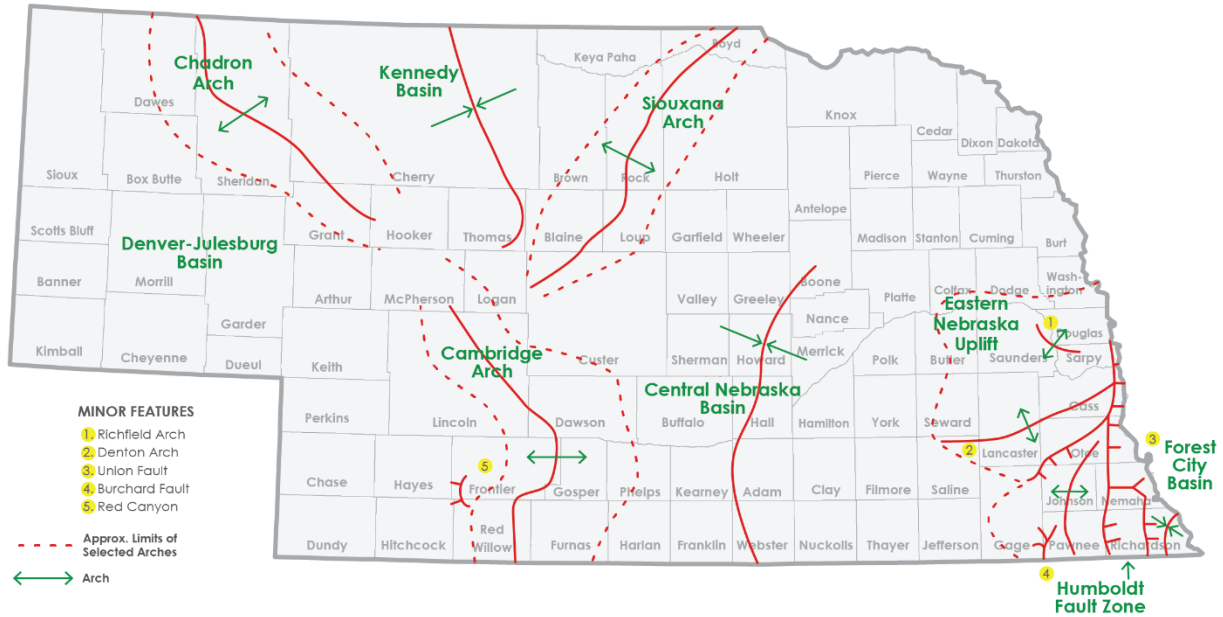
Source: FEMA, 2016

⁶¹ Federal Emergency Management Agency. 2016. "Earthquake." <https://www.fema.gov/earthquake>.

LOCATION

The most likely locations in the planning area to experience an earthquake are near a fault line (Figure 16). The Kennedy Basin, Chadron Arch, Siouxana Arch, and Cambridge Arch fault lines would affect the planning area.

Figure 16: Fault Lines in Nebraska



Source: Nebraska Department of Natural Resources

EXTENT

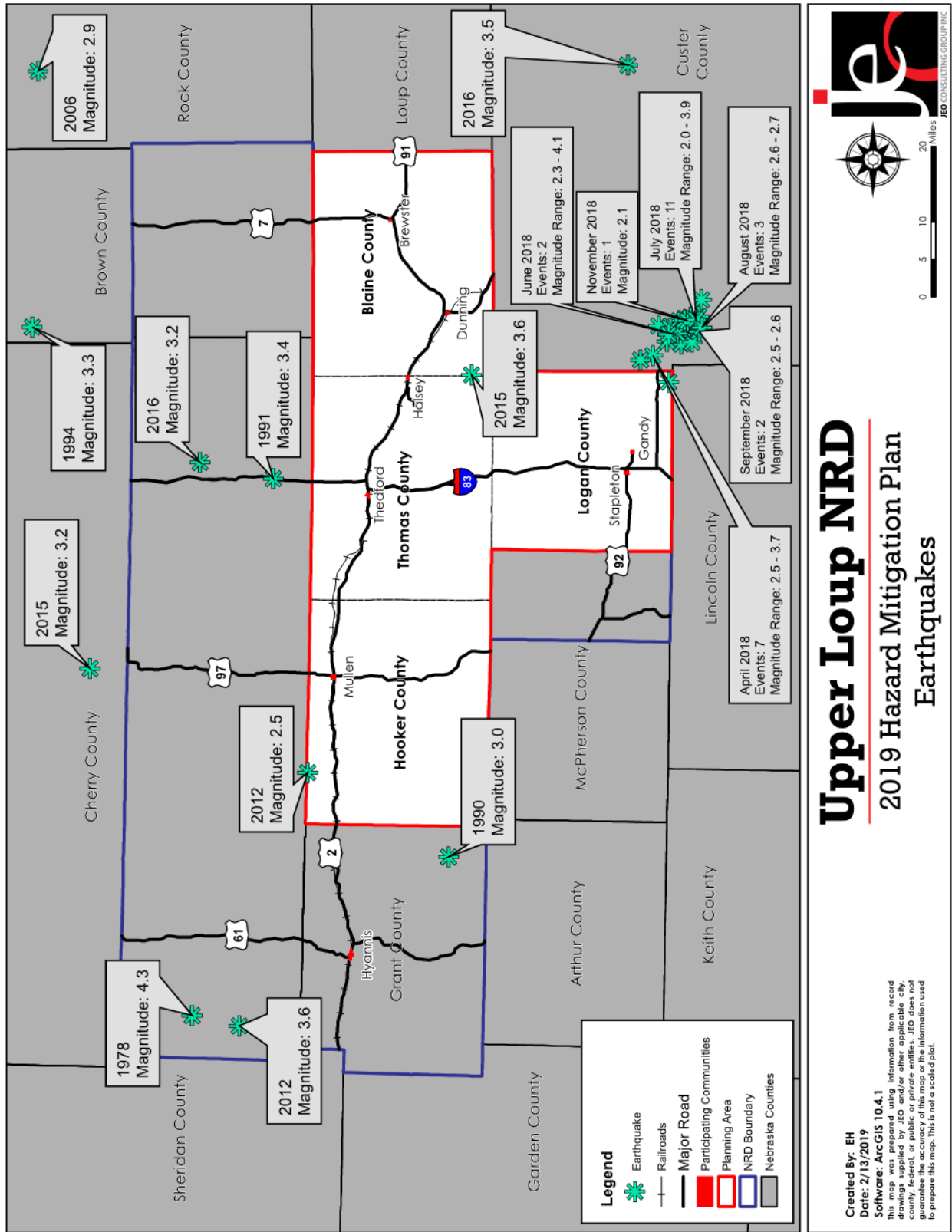
If an earthquake were to occur in the planning area, it would likely measure between 2.5 and 5.0 on the Richter Scale. Very little to no damage is anticipated from events of these magnitudes.

HISTORICAL OCCURRENCES

According to the United States Geological Survey (USGS), there have been three earthquakes that have occurred within the planning area since 1900 (Figure 17).⁶²

⁶² United States Geological Survey. 2018. "Information by Region – Nebraska." <https://earthquake.usgs.gov/earthquakes/byregion/nebraska.php>.

Figure 17: Earthquakes in Planning Area



Upper Loup NRD

2019 Hazard Mitigation Plan

Earthquakes

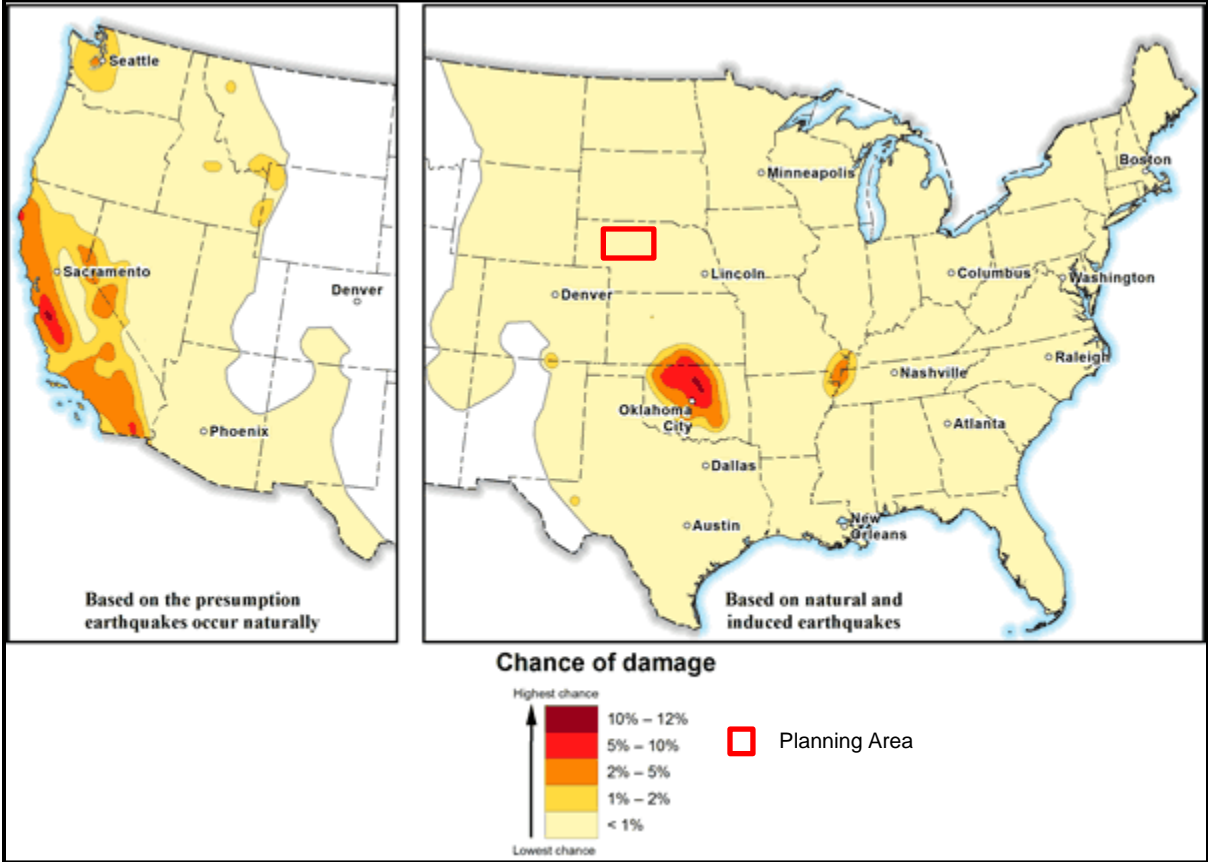


Created By: EH
 Date: 2/13/2019
 Software: ArcGIS 10.4.1
 This map was prepared using information from record drawings supplied by JEO and/or other applicable city, county, or state agencies. JEO does not warrant or guarantee the accuracy of this map or the information used to prepare this map. This is not a scaled plot.

AVERAGE ANNUAL LOSSES

Due to the lack of sufficient earthquake data, limited resources, low earthquake risk for the area, and no recorded damages with the reports of historical occurrences, it is not feasible to utilize the ‘event damage estimate formula’ to estimate potential losses for the planning area. Figure 18 shows the probability of damage from earthquakes, according to the USGS. The figure shows that the planning area has a less than one percent chance of damages from earthquakes.

Figure 18: 2017 Probability of Damage from Earthquakes



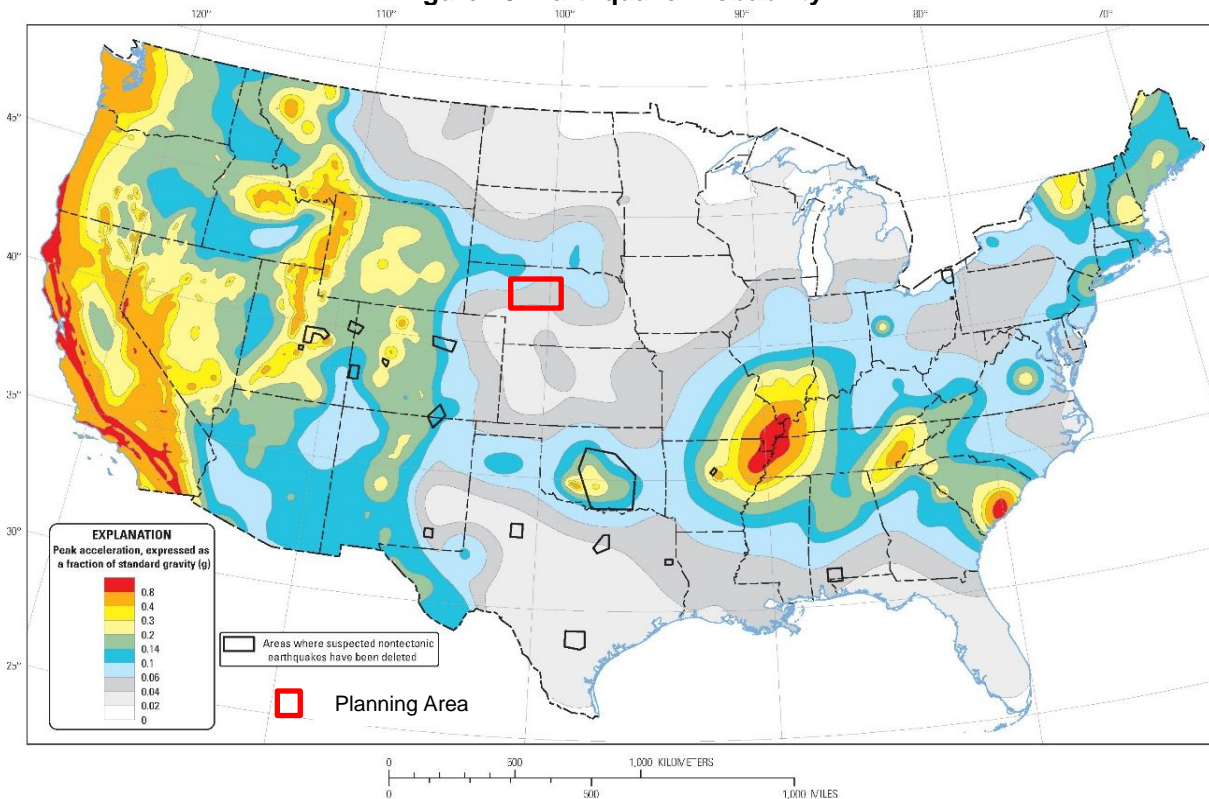
Source: USGS, 2017⁶³

PROBABILITY

The following figure summarizes the probability of a 5.0 or greater earthquake occurring in the planning area within 50 years. The planning area has experienced three earthquakes with no damages reported in 119 years, for the purposes of this plan, there is a three percent chance of an earthquake occurring in any given year.

⁶³ United States Geological Survey. 2017. "Short-term Induced Seismicity Models: 2017 One-Year Model." <https://earthquake.usgs.gov/hazards/induced/index.php#2017>.

Figure 19: Earthquake Probability



Source: USGS 2009 Probabilistic Seismic Hazard Analysis (PSHA) Model
 *Map shows the two-percent probability of exceedance in 50 years of peak ground acceleration

REGIONAL VULNERABILITIES

The following table provides information related to regional vulnerabilities; for jurisdictional-specific vulnerabilities, refer to *Section Seven: Community Profiles*.

Table 56: Regional Earthquake Vulnerabilities

SECTOR	VULNERABILITY
PEOPLE	-Risk of injury or death from falling objects and structures
ECONOMIC	-Short-term interruption of business
BUILT ENVIRONMENT	-Damage to buildings, homes, or other structures from foundation cracking, falling objects, shattered windows, etc.
INFRASTRUCTURE	-Damage to subterranean infrastructure (i.e. waterlines, gas lines, etc.)
CRITICAL FACILITIES	-Damage to roadways -Same as all other structures

EXTREME HEAT

Extreme heat is often associated with periods of drought, but can also be characterized by long periods of high temperatures in combination with high humidity. During these conditions, the human body has difficulty cooling through the normal method of the evaporation of perspiration. Health risks arise when a person is overexposed to heat. Extreme heat can also cause people to overuse air conditioners, which can lead to power failures. Power outages for prolonged periods increase the risk of heat stroke and subsequent fatalities due to loss of cooling and proper ventilation. The planning area is largely rural, which presents an added vulnerability to extreme heat events; those suffering from an extreme heat event may be farther away from medical resources as compared to those living in an urban setting.

Along with humans, animals also can be affected by high temperatures and humidity. For instance, cattle and other farm animals respond to heat by reducing feed intake, increasing their respiration rate, and increasing their body temperature. These responses assist the animal in cooling itself, but this is usually not sufficient. When animals overheat, they will begin to shut down body processes not vital to survival, such as milk production, reproduction, or muscle building.

Other secondary concerns connected to extreme heat hazards include water shortages brought on by drought-like conditions and high demand. Government authorities report that civil disturbances and riots are more likely to occur during heat waves. In cities, pollution becomes a problem because the heat traps pollutants in densely populated urban areas. Adding pollution to the stresses associated with the heat magnifies the health threat to the urban population.

For the planning area, the months with the highest temperatures are June, July, and August. The National Weather Service (NWS) is responsible for issuing excessive heat outlooks, excessive heat watches, and excessive heat warnings.

- **Excessive heat outlooks** are issued when the potential exists for an excessive heat event in the next 3 to 7 days. Excessive heat outlooks can be utilized by public utility staffs, emergency managers, and public health officials to plan for extreme heat events.
- **Excessive heat watches** are issued when conditions are favorable for an excessive heat event in the next 24 to 72 hours.
- **Excessive heat warnings** are issued when an excessive heat event is expected in the next 36 hours. Excessive heat warnings are issued when an extreme heat event is occurring, is imminent, or has a very high probability of occurring.

LOCATION

This hazard may occur throughout the planning area.

EXTENT

A key factor to consider regarding extreme heat situations is the humidity level relative to the temperature. As is indicated in the following figure from the National Oceanic and Atmospheric Administration (NOAA), as the relative humidity increases, the temperature needed to cause a dangerous situation decreases. For example, for 100 percent relative humidity, dangerous levels of heat begin at 86°F where as a relative humidity of 50 percent, require 94°F. The combination of relative humidity and temperature result in a Heat Index as demonstrated below:

$$100\% \text{ Relative Humidity} + 86^{\circ}\text{F} = 112^{\circ}\text{F Heat Index}$$

Figure 20: NOAA Heat Index Temperature (°F)

	80	82	84	86	88	90	92	94	96	98	100	102	104	106	108	110
40	80	81	83	85	88	91	94	97	101	105	109	114	119	124	130	136
45	80	82	84	87	89	93	96	100	104	109	114	119	124	130	137	
50	81	83	85	88	91	95	99	103	108	113	118	124	131	137		
55	81	84	86	89	93	97	101	106	112	117	124	130	137			
60	82	84	88	91	95	100	105	110	116	123	129	137				
65	82	85	89	93	98	103	108	114	121	128	136					
70	83	86	90	95	100	105	112	119	126	134						
75	84	88	92	97	103	109	116	124	132							
80	84	89	94	100	106	113	121	129								
85	85	90	96	102	110	117	126	135								
90	86	91	98	105	113	122	131									
95	86	93	100	108	117	127										
100	87	95	103	112	121	132										

Likelihood of Heat Disorders with Prolonged Exposure or Strenuous Activity

Caution
 Extreme Caution
 Danger
 Extreme Danger



Source: NOAA, 2017⁶⁴

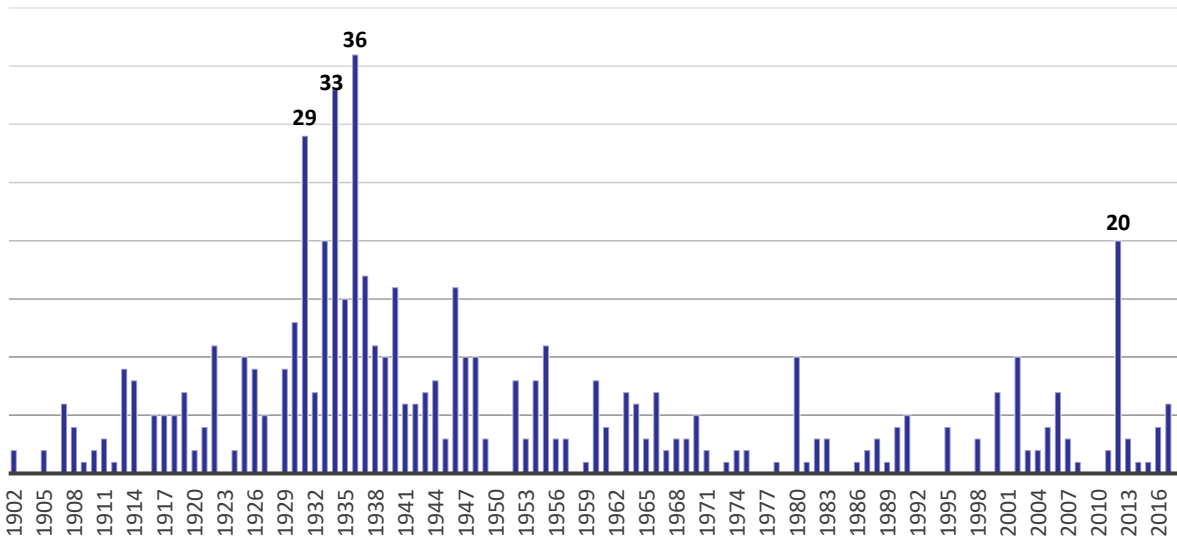
The figure above is designed for shady and light wind conditions. Exposure to full sunshine or strong winds can increase hazardous conditions and raise heat index values by up to 15°F. For the purposes of this plan, extreme heat is being defined as temperatures of 100°F or greater.

HISTORICAL OCCURRENCES

According to the High Plains Regional Climate Center (HPRCC), on average, the planning area experiences four days above 100°F per year. The planning area experienced the most days on record above 100°F in 1936 with 36 days. More recently, in 2002 and 2012 there were 10 and 20 days above 100°F respectively. Conversely, 2010 was the most recent “coolest” year on record, with zero days above 100°F.

⁶⁴ National Oceanic and Atmospheric Administration, National Weather Service. 2017. “Heat Index.” http://www.nws.noaa.gov/om/heat/heat_index.shtml.

Figure 21: Number of Days Above 100°F



Source: HPRCC, 1902-2018

AVERAGE ANNUAL LOSSES

The direct and indirect effects of extreme heat are difficult to quantify. Potential losses such as power outages could affect businesses, homes, and critical facilities. High demand and intense use of air conditioning can overload the electrical systems and cause damages to infrastructure.

The NCEI database did not report any property damage due to extreme heat events.

Table 57: Extreme Heat Loss Estimation

Hazard Type	Average Number of Days Above 100°F ¹	Property Damages ²	Average Annual Property Damage ²	Total Crop Loss ³	Annual Crop Loss ³
Extreme Heat	4	\$0	\$0	\$572,800	\$30,147

Sources: 1 HPRCC (1902-2018); 2 NCEI (1996-2018); 3 USDA RMA (2000-2018)

ESTIMATED LOSS OF ELECTRICITY

According to the FEMA Benefit Cost Analysis (BCA) Reference Guide, if an extreme heat event occurred within the planning area, the following table assumes the event could potentially cause a loss of electricity for 10 percent of the population at a cost of \$126 per person per day.⁶⁵ In rural areas, the percent of the population affected and duration may increase during extreme events. The assumed damages do not take into account physical damages to utility equipment and infrastructure.

⁶⁵ Federal Emergency Management Agency. June 2009. "BCA Reference Guide."

Table 58: Loss of Electricity - Assumed Damage by Jurisdiction

Jurisdiction	2016 Population	Population Affected (Assumed)	Electric Loss of Use Assumed Damage Per Day
Blaine	551	55	\$6,930
Grant	769	77	\$9,702
Hooker	669	67	\$8,442
Logan	669	67	\$8,442
Thomas	675	66	\$8,316

PROBABILITY

Extreme heat is a regular part of the climate for the planning area; there is a 100 percent probability that temperatures greater than 100°F will occur annually.

REGIONAL VULNERABILITIES

The following table provides information related to regional vulnerabilities; for jurisdictional-specific vulnerabilities, refer to *Section Seven: Community Profiles*.

Table 59: Regional Extreme Heat Vulnerabilities

SECTOR	VULNERABILITY
PEOPLE	-Heat exhaustion -Heat Stroke -Vulnerable populations include: - People working outdoors - People without air conditioning - Young children outdoors or without air conditioning -Elderly outdoors or without air conditioning
ECONOMIC	-Short-term interruption of business -Loss of power -Agricultural losses
BUILT ENVIRONMENT	-Damage to air conditioning units if overworked
INFRASTRUCTURE	-Overload of electrical systems -Damages to roadways
CRITICAL FACILITIES	-Loss of power
CLIMATE CHANGE	-Increases in extreme heat conditions are likely, adding stress on livestock, crops, people, and infrastructure

FLOODING

Flooding can occur on a local level, sometimes affecting only a few streets, but can also extend throughout an entire district, affecting whole drainage basins and impacting property in multiple states. Heavy accumulations of ice or snow can also cause flooding during the melting stage. These events are complicated by the freeze/thaw cycles characterized by moisture thawing during the day and freezing at night. There are four main types of flooding in the planning area: riverine flooding, flash flooding, sheet flooding, and ice jam flooding.

RIVERINE FLOODING

Riverine flooding, slower in nature, is defined as the overflow of rivers, streams, drains, and lakes due to excessive rainfall, rapid snowmelt or ice melt. The areas adjacent to rivers and stream banks that carry excess floodwater during rapid runoff are called floodplains. A floodplain or flood risk area is defined as the lowland and relatively flat area adjoining a river or stream. The terms “base flood” and “100-year flood” refer to the area in the floodplain that is subject to a one percent or greater chance of flooding in any given year. Floodplains are part of a larger entity called a basin or watershed, which is defined as all the land drained by a river and its tributaries.

FLASH FLOODING

Flash floods, faster in nature than the other types of floods, result from convective precipitation usually due to intense thunderstorms or sudden releases from an upstream impoundment created behind a dam, landslide, or levee. Flash floods are distinguished from regular floods by a timescale of fewer than six hours. Flash floods cause the most flood-related deaths as a result of this shorter timescale. Flooding from excessive rainfall in Nebraska usually occurs between late spring and early fall.

SHEET FLOODING

In some cases, flooding may not be directly attributable to a river, stream, or lake overflowing its banks. Rather, it may simply be the combination of excessive rainfall or snowmelt, saturated ground, and inadequate drainage. With no place to go, the water will find the lowest elevations – areas that are often not in a floodplain. This type of flooding, often referred to as sheet flooding, is becoming increasingly prevalent as development exceeds the capacity of the drainage infrastructure, therefore limiting its ability to properly carry and disburse the water flow. Flooding also occurs due to combined storm and sanitary sewers being overwhelmed by the tremendous flow of water that often accompanies storm events. Typically, the result is water backing into basements, which damages mechanical systems and can create serious public health and safety concerns.

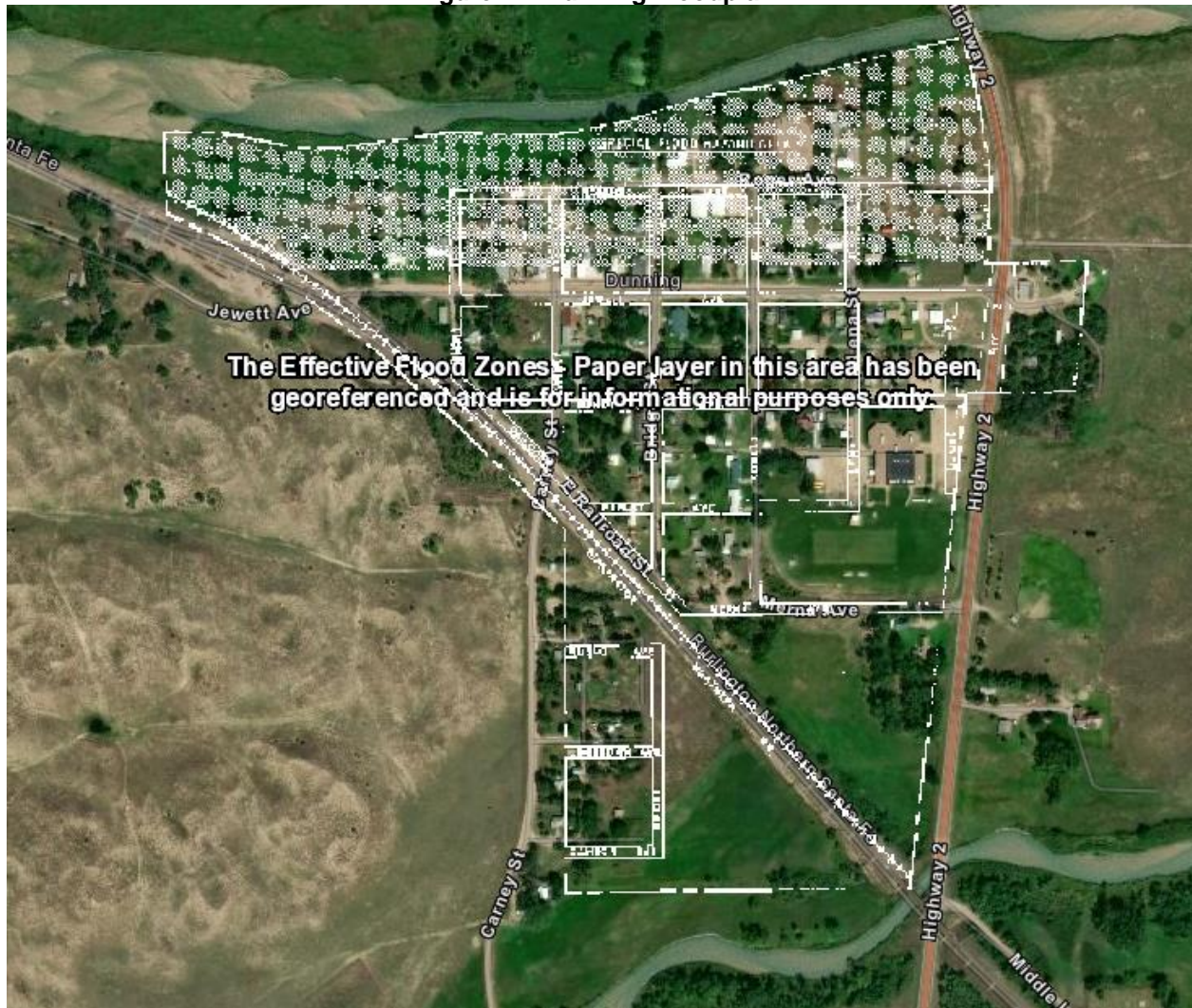
ICE JAM FLOODING

Ice jams occur when ice breaks up in moving waterways, and then stacks on itself where channels narrow or human-made obstructions constrict the channel. This creates an ice dam, often causing flooding within minutes of the dam formation. Ice formation in streams occurs during periods of cold weather when finely divided colloidal particles called “frazil ice” form. These particles combine to form what is commonly known as “sheet ice.” This type of ice covers the entire river. The thickness of this ice sheet depends upon the degree and duration of cold weather in the area. This ice sheet can freeze to the bottom of the channel in places. During spring thaw, rivers frequently become clogged with this winter accumulation of ice. Because of relatively low stream banks and channels blocked with ice, rivers overtop existing banks and flow overland.

LOCATION

Table 60 shows current statuses of Flood Insurance Rate Map (FIRM) panels. Only two jurisdictions in the planning area have FIRMs at the municipal level, the Village of Dunning in Blaine County and the Village of Thedford in Thomas County. There are no Digital Flood Insurance Rate Maps (DFIRMs) available for the planning area, but copies of paper maps can be viewed at the FEMA Flood Map Service Center (<https://msc.fema.gov/portal/advanceSearch>). The available map for the Village of Dunning is below. For additional jurisdictional-specific vulnerabilities and available maps, refer to *Section Seven: Community Profiles*.

Figure 22: Dunning Floodplain



Source: NeDNR, 2019⁶⁶

Table 60: FEMA FIRM Panel Status

Jurisdiction	Panel Number	Effective Date
Blaine County	-	-
Brewster	-	-
Dunning	310079999A, 31007A	07/01/1987
Grant County	-	-
Hyannis	-	-
Hooker County	-	-
Mullen	-	-
Logan County	-	-
Gandy	-	-
Stapleton	-	-
Thomas County	-	-
Halsey	-	-
Theford	310326	07/11/1975

Source: FEMA, 2017⁶⁷

⁶⁶ Nebraska Department of Natural Resources. 2018. "Floodplain Interactive Map." https://prodmaps2.ne.gov/Html5DNR/index.html?viewer=dnr_floodplain.

⁶⁷ Federal Emergency Management Agency. 2017. "FEMA Flood Map Service Center." <http://msc.fema.gov/portal/advanceSearch>.

EXTENT

The NWS has three categories to define the severity of a flood once a river reaches flood stage as indicated in Table 61.

Table 61: Flooding Stages

FLOOD STAGE	DESCRIPTION OF FLOOD IMPACTS
Minor Flooding	Minimal or no property damage, but possibly some public threat or inconvenience
Moderate Flooding	Some inundation of structures and roads near streams. Some evacuations of people and/or transfer of property to higher elevations are necessary
Major Flooding	Extensive inundation of structures and roads. Significant evacuations of people and/or transfer of property to higher elevations

Source: NOAA, 2017⁶⁸

Figure 24 shows the normal average monthly precipitation for the planning area, which is helpful in determining whether any given month is above, below, or near normal in precipitation. As indicated in Figure 25 and 26, the most common month for flooding within the planning area is in June. While it is possible that major flood events will occur, the likely extent of flood events within the planning area is classified as minor.

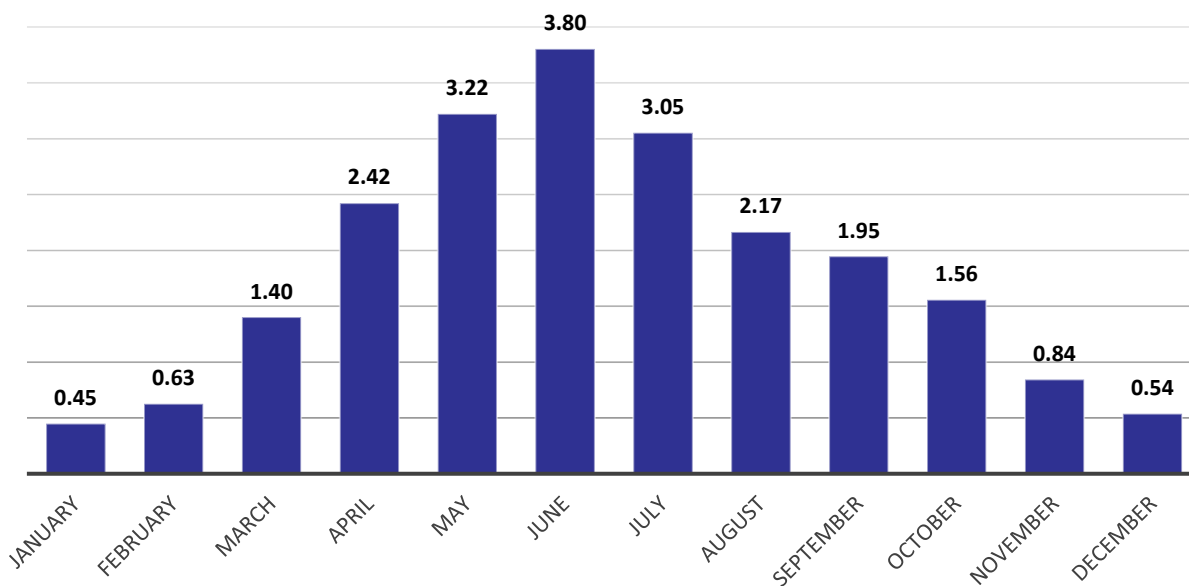
Figure 23: Localized Flooding in Blaine County



Source: Photos courtesy of Region 26 Emergency Management – past HMP 2015

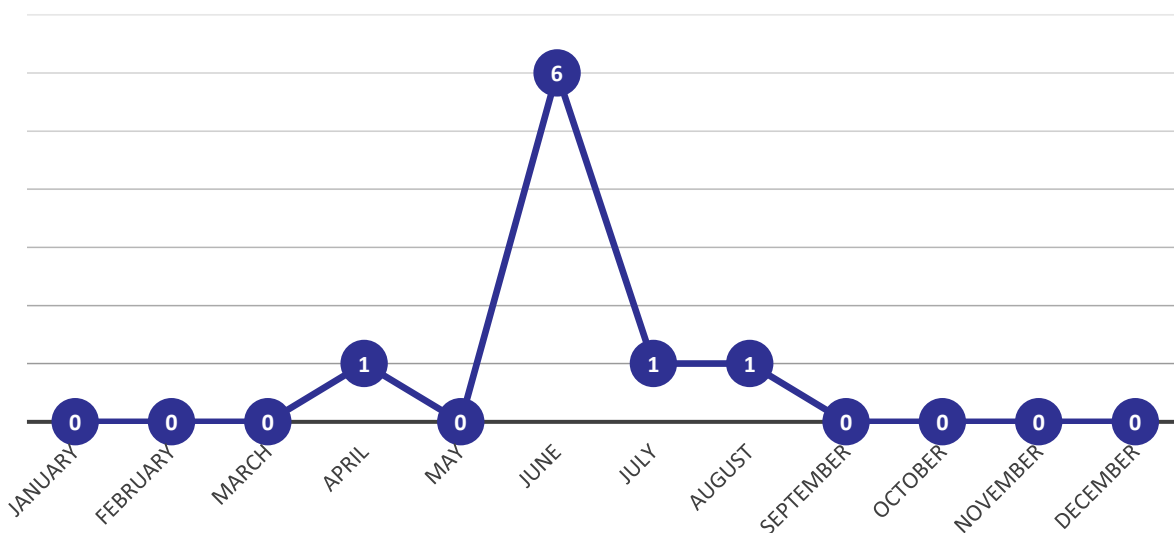
⁶⁸ National Weather Service. 2017. "Flood Safety." <http://www.floodsafety.noaa.gov/index.shtml>.

Figure 24: ULNRD Average Monthly Precipitation



Source: NCEI, 2018

Figure 25: Monthly Events for Floods/Flash Flood in the ULNRD



Source: NCEI, 1996-2018

NATIONAL FLOOD INSURANCE PROGRAM (NFIP)

The NFIP was established in 1968 to reduce flood losses and disaster relief costs by guiding future development away from flood hazard areas where feasible; by requiring flood resistant design and construction practices; and by transferring the costs of flood losses to the residents of floodplains through flood insurance premiums.

In return for availability of federally-backed flood insurance, jurisdictions participating in the NFIP must agree to adopt and enforce floodplain management standards to regulate development in special flood hazard areas (SFHA) as defined by FEMA’s flood maps. One of the strengths of the program has been keeping people away from flooding rather than keeping the flooding away from people – through historically expensive flood control projects.

The following tables summarize NFIP participation and active policies within the planning area.

Table 62: NFIP Participants

Jurisdiction	Eligible- Regular Program	Date Current Map	Sanction	Suspension	Rescinded	Participation in NFIP
Blaine County	--	--	--	--	--	No
Brewster	--	--	--	--	--	No
Dunning	12/20/1974	7/1/1987(L)	--	--	--	Yes
Grant County	--	--	--	--	--	No
Hyannis	--	--	--	--	--	No
Hooker County	--	--	--	--	--	No
Mullen	--	--	--	--	--	Yes (E)
Logan County	--	--	--	--	--	No
Gandy	--	--	--	--	--	No
Stapleton	--	--	--	--	--	No
Thomas County	--	--	--	--	--	No
Halsey	--	--	--	--	--	No
Theford	7/11/1975	7/11/1975	7/11/1976	--	--	No

Source: Federal Emergency Management Agency, National Flood Insurance Program, 2017

*(L) Indicates Original FIRM by Letter – All Zone A, C, and X; (E) Indicates Entry in Emergency Program - community is part of the Emergency Program and subject to limited coverage.

According to the NFIP Community Status Book, only the Village of Dunning currently participates in the program. The Village of Theford has participated in the NFIP in the past but was sanctioned in 1976 and the Village of Mullen participates in the Emergency Program.⁶⁹ The NFIP Emergency Program allows a community to voluntarily participate in the NFIP if: no flood hazard information is available for their area; the community has a Flood Hazard Boundary Map but no FIRM, or the community has been identified as flood-prone for less than a year.

This plan highly recommends and strongly encourages plan participants to enroll, participate, and remain in good standing with the NFIP. Compliance with the NFIP should remain a top priority for each participant, regardless of whether or not a flooding hazard area map has been delineated for the jurisdiction. Jurisdictions are encouraged to initiate activities above the minimum participation requirements, which are described in the Community Rating System (CRS) Coordinator's Manual (FIA-15/2017).⁷⁰ Currently no jurisdictions in the planning area participate in the CRS program.

NFIP REPETITIVE LOSS STRUCTURES

NeDNR was contacted to determine if any existing buildings, infrastructure, or critical facilities are classified as NFIP Repetitive Loss Structures. As of January 2019, there were no repetitive loss properties located in the planning area.

⁶⁹ Federal Emergency Management Agency: National Flood Insurance Program. April 2017. "Policy & Claim Statistics for Flood Insurance." Accessed August 2017. <https://www.fema.gov/policy-claim-statistics-flood-insurance>.

⁷⁰ Federal Emergency Management Agency. May 2017. "National Flood Insurance Program Community Rating System: Coordinator's Manual FIA-15/2017." Accessed August 2017. <https://www.fema.gov/media-library/assets/documents/8768>.

HISTORICAL OCCURRENCES

The NCEI reports events as they occur in each community. A single flooding event can affect multiple communities and counties at a time; the NCEI reports these large scale, multi-county events as separate events. The result is a single flood event covering a large portion of the planning area could be reported by the NCEI as several events. According to the NCEI, six flash flooding events resulted in \$525,000 in property damage, while three riverine flooding events caused \$230,000 in property damage. USDA RMA data does not distinguish the difference between riverine flooding damages and flash flooding damages. The total crop loss according to the RMA is \$13,449.

AVERAGE ANNUAL DAMAGES

The average damage per event estimate was determined based upon NCEI Storm Events Database since 1996 and the number of historical occurrences. This does not include losses from displacement, functional downtime, economic loss, injury, or loss of life. Flooding causes an average of \$32,826 in property damages and \$708 in crop losses per year for the planning area.

Table 63: Flood Loss Estimate

Hazard Type	Number of Events ¹	Average Events Per Year	Total Property Loss ¹	Average Annual Property Loss ¹	Total Crop Loss ²	Average Annual Crop Loss ²
Flood Events	9	0.4	\$755,00	\$32,826	\$13,449	\$708

Source: 1 Indicates data is from NCEI (January 1996 to July 2018); 2 Indicates data is from USDA RMA (2000 to 2018)

PROBABILITY

The NCEI reports three flooding and six flash flooding events for a total of nine events from January 1996 to July 2018. Based on the historic record and reported incidents by participating communities, there is a 40 percent probability that flooding will occur annually in the planning area.

REGIONAL VULNERABILITIES

A 2008 national study examining social vulnerability as it relates to flood events found that low-income and minority populations are disproportionately vulnerable to flood events. These groups may lack needed resources to mitigate potential flood events as well as resources that are necessary for evacuation and response. In addition, low-income residents are more likely to live in areas vulnerable to the threat of flooding, but lack the resources necessary to purchase flood insurance. The study found that flash floods are more often responsible for injuries and fatalities than prolonged flood events.

Other groups that may be more vulnerable to floods, specifically flash floods, include the elderly, those outdoors during rain events, and those in low-lying areas. Elderly residents may suffer from a decrease or complete lack of mobility and as a result, be caught in flood-prone areas. Residents in campgrounds or public parks may be more vulnerable to flooding events. Many of these areas exist in natural floodplains and can experience rapid rise in water levels resulting in injury or death.

On a state level, the Nebraska’s State National Flood Insurance Coordinator’s office has done some interesting work, studying who lives in special flood hazard areas. According to the NeDNR, floodplain areas have a few unique characteristics which differ from non-floodplain areas:

- Higher vacancy rates within floodplain
- Far higher percentage of renters within floodplain
- Higher percentage of non-family households in floodplain
- More diverse population in floodplain
- Much higher percentage of Hispanic/Latino populations in the floodplain

The following table is a summary of regional vulnerabilities. For jurisdictional-specific vulnerabilities, refer to *Section Seven: Community Profiles*.

Table 64:Regional Flooding Vulnerabilities

SECTOR	VULNERABILITY
PEOPLE	<ul style="list-style-type: none"> -Low income and minority populations may lack the resources needed for evacuation, response, or to mitigate the potential for flooding -Elderly or residents with decreased mobility may have trouble evacuating -Residents in low-lying areas, especially campgrounds, are vulnerable during flash flood events -Residents living in the floodplain may need to evacuate for extended periods
ECONOMIC	<ul style="list-style-type: none"> -Business closures or damages may have significant impacts -Agricultural losses from flooded fields or cattle loss -Closed roads and railways would impact commercial transportation of goods
BUILT ENVIRONMENT	<ul style="list-style-type: none"> -Building may be damaged
INFRASTRUCTURE	<ul style="list-style-type: none"> -Damages to roadways and railways
CRITICAL FACILITIES	<ul style="list-style-type: none"> -Wastewater facilities are at risk, particularly those in the floodplain -Critical facilities, especially those in the floodplain, are at risk to damage (critical facilities are noted within individual community profiles)

GRASS/WILDFIRE

Wildfires, also known as brushfires, forest fires, or wildland fires, are any uncontrolled fire that occurs in the countryside or wildland. Wildland areas may include, but are not limited to: grasslands; forests; woodlands; agricultural fields; pastures; and other vegetated areas. Wildfires differ from other fires by their extensive size, the speed at which they can spread from the original source, their ability to change direction unexpectedly, and to jump gaps (such as roads, rivers, and fire breaks). While some wildfires burn in remote forested regions, others can cause extensive destruction of homes and other property located in the wildland-urban interface (WUI), the zone of transition between developed areas and undeveloped wilderness.

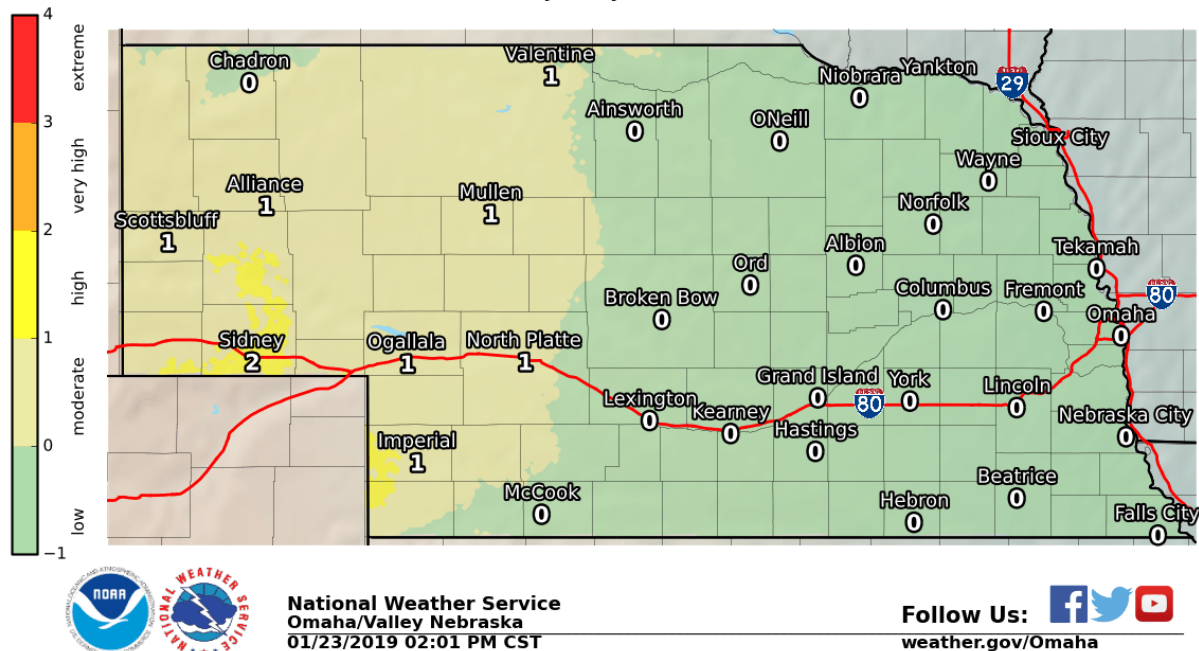
Lightning starts approximately 10,000 forest fires each year, yet ninety percent of forest fires are started by humans.

~National Park Service

Wildfires are a growing hazard in most regions of the United States, posing a threat to life and property, particularly where native ecosystems meet urban developed areas or where local economies are heavily dependent on open agricultural land. Although fire is a natural and often beneficial process, fire suppression can lead to more severe fires due to the buildup of vegetation, which creates more fuel and increases the intensity and devastation of future fires.

Wildfires are characterized in terms of their physical properties including topography, weather, and fuels. Wildfire behavior is often complex and variably dependent on factors such as fuel type, moisture content in the fuel, humidity, wind speed, topography, geographic location, ambient temperature, the effect of weather on the fire, and the cause of ignition. Fuel is the only physical property humans can control and is the target of most mitigation efforts. The NWS monitors the risk factors including high temperature, high wind speed, fuel moisture (greenness of vegetation), low humidity, and cloud cover in the state on a daily basis (Figure 26).

Figure 26: Rangeland Fire Danger
Valid: January 23, 2019



National Weather Service
Omaha/Valley Nebraska
01/23/2019 02:01 PM CST

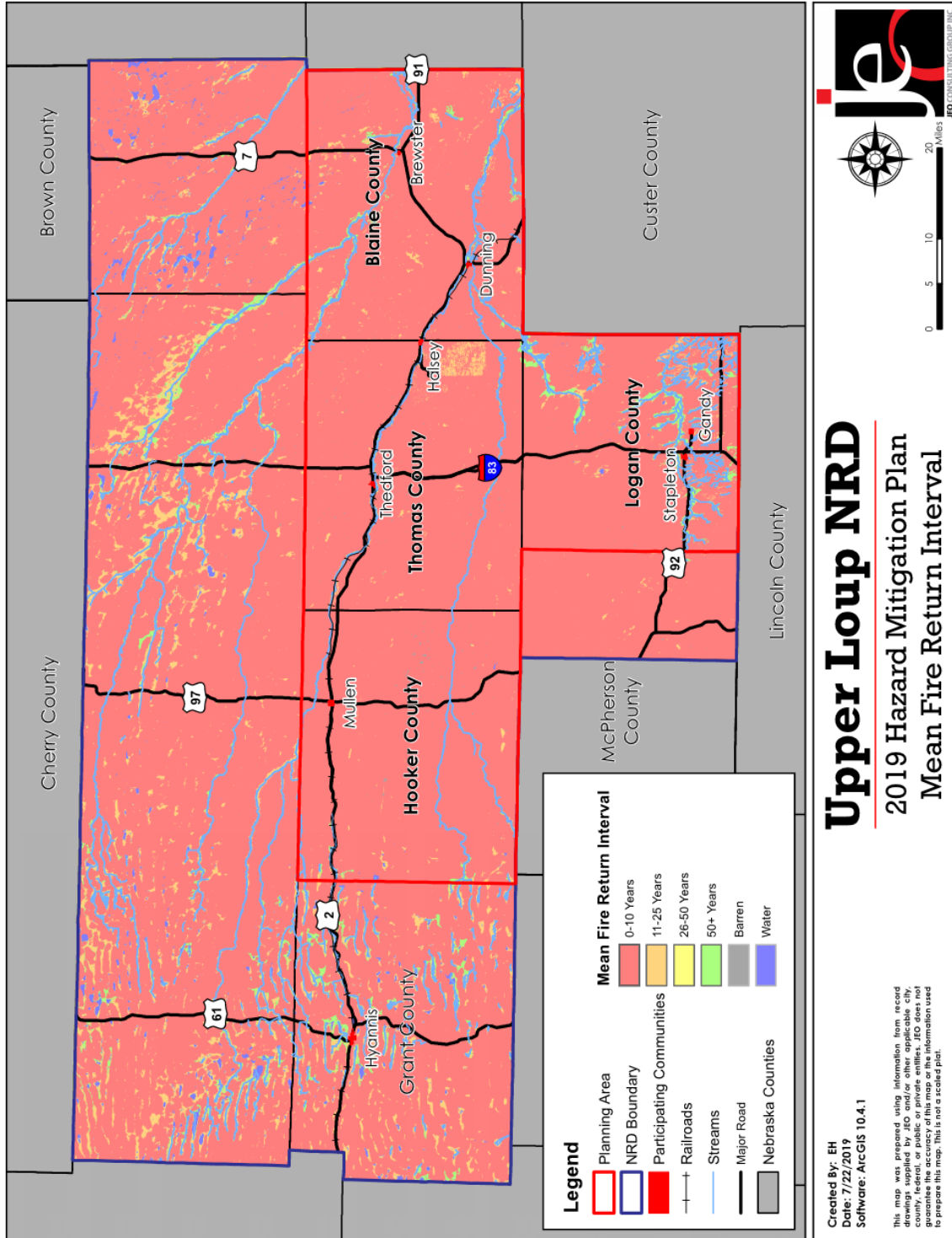
Follow Us:
weather.gov/Omaha

Source: NWS, 2019⁷¹

⁷¹ National Weather Service. January 2019. "Nebraska Fire Danger Map." <https://www.weather.gov/oax/fire>.

Figure 27 shows the USGS' Mean Fire Return Interval. This model considers a variety of factors, including landscape, fire dynamics, fire spread, fire effects, and spatial context. These values show how often fires occur in each area under natural conditions.

Figure 27: Mean Fire Return Interval



Source: USGS LANDFIRE Database⁷²

⁷² United States Geological Survey. 2017. "Landfire Data Distribution Site." <https://landfire.cr.usgs.gov/viewer/viewer.html>.

LOCATION

As the number of reported wildfires by county indicates, wildfire is nearly an equally great threat throughout the planning area. Blaine County has reported the greatest number of fires; however, Thomas County has had the greatest number of acres burned.

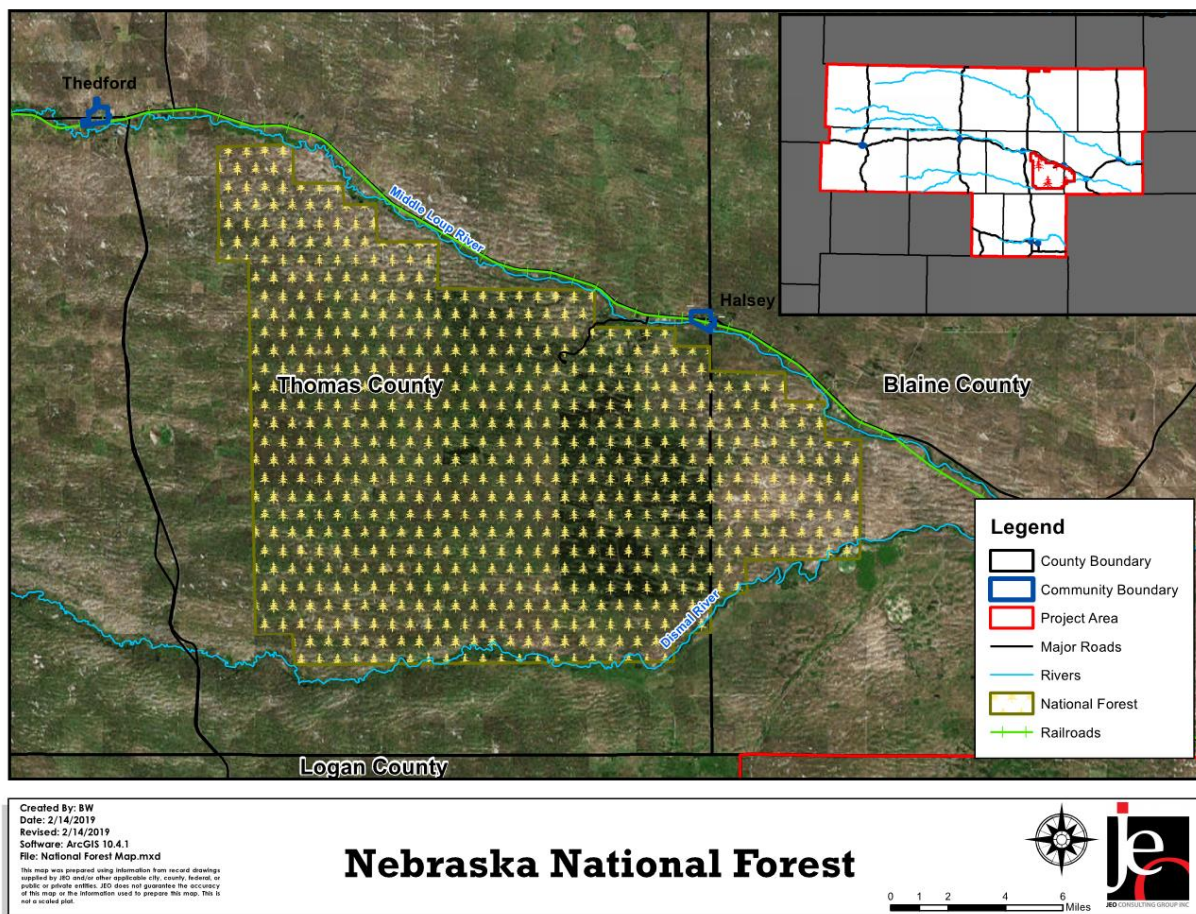
Table 65: Reported Wildfires by County

County	Reported Wildfires	Acres Burned
Blaine County	125	4,070
Grant County	95	18,182
Hooker County	113	19,012
Logan County	40	12,451
Thomas County	83	19,768
Total	456	73,483

Source: Nebraska Forest Service, 2000-2018⁷³

Additionally, the Nebraska National Forest is located in Thomas and Blaine Counties and covers 141,864 acres. The forest is at higher risk to wildfire due to high fuel loads. Wildfires that begin in the forest may spread into surrounding range land areas. The Nebraska Forestry Service conducts fuel load management programs in the forest areas.

Figure 28: National Forest Area



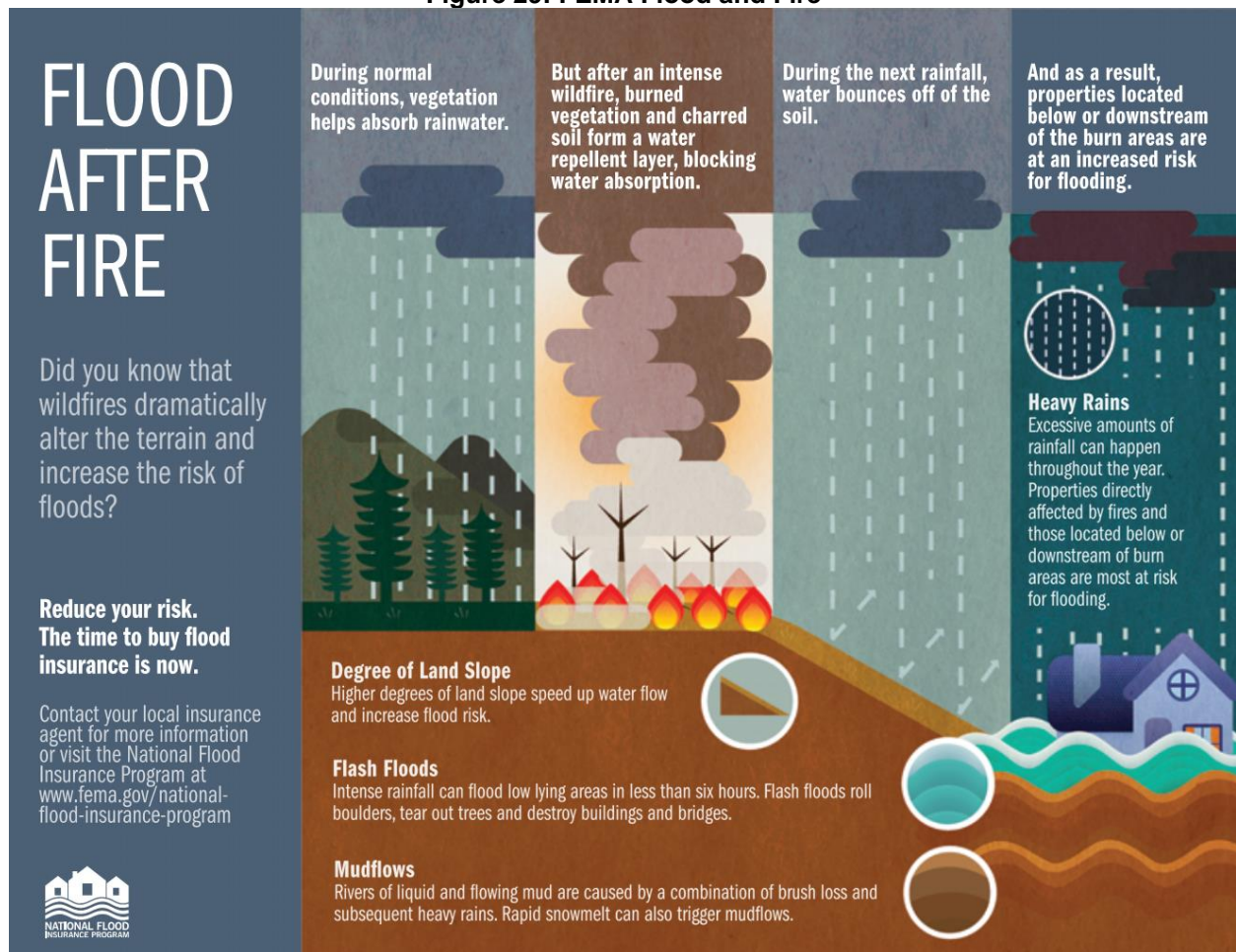
⁷³ Nebraska Forest Service. 2000-2014. "Fire Incident Type Summary." Data Files 2000-2018.

EXTENT

Figure 30 illustrates the number of wildfires by cause in the planning area from 2000 to 2018, which burned 73,483 acres in total. In total, there were 456 reported wildfires in the planning area. Of these, 58 fires burned 100 acres or more, with the largest wildfire burning 10,000 acres in Logan County in October of 2000.

Wildfire also contributes to an increased risk from other hazard events, compounding damages and straining resources. FEMA has provided additional information in recent years detailing the relationship between wildfire and flooding. Wildfire events remove vegetation and harden soil, reducing infiltration capabilities during heavy rain events. Subsequent severe storms that bring heavy precipitation can then escalate into flash flooding, dealing additional damage to jurisdictions.

Figure 29: FEMA Flood and Fire



Source: FEMA, 2018⁷⁴

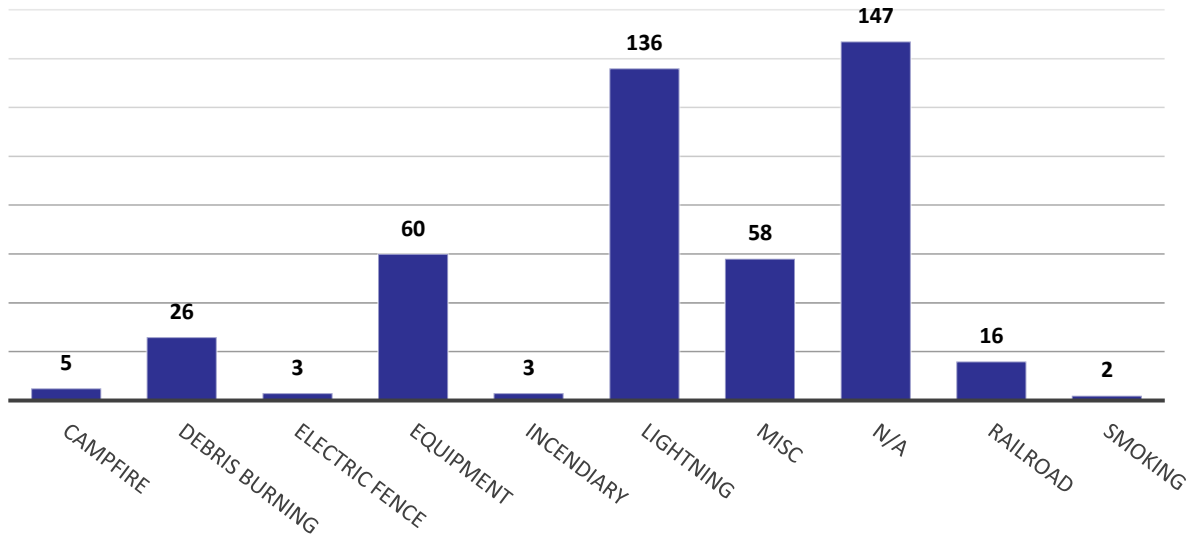
⁷⁴ Federal Emergency Management Agency. 2018. "Flood After Fire." <https://www.fema.gov/flood-after-fire>.

HISTORICAL OCCURRENCES

For the planning area, eight different fire departments reported a total of 456 wildfires, according to the National Forest Service (NFS), from 2000 to 2018. Most fires occurred in 2012 (Figure 31). The reported events burned 73,483 acres. While the RMA lists no damages from fire in the planning area, the NFS reported \$139,538 in crop loss.

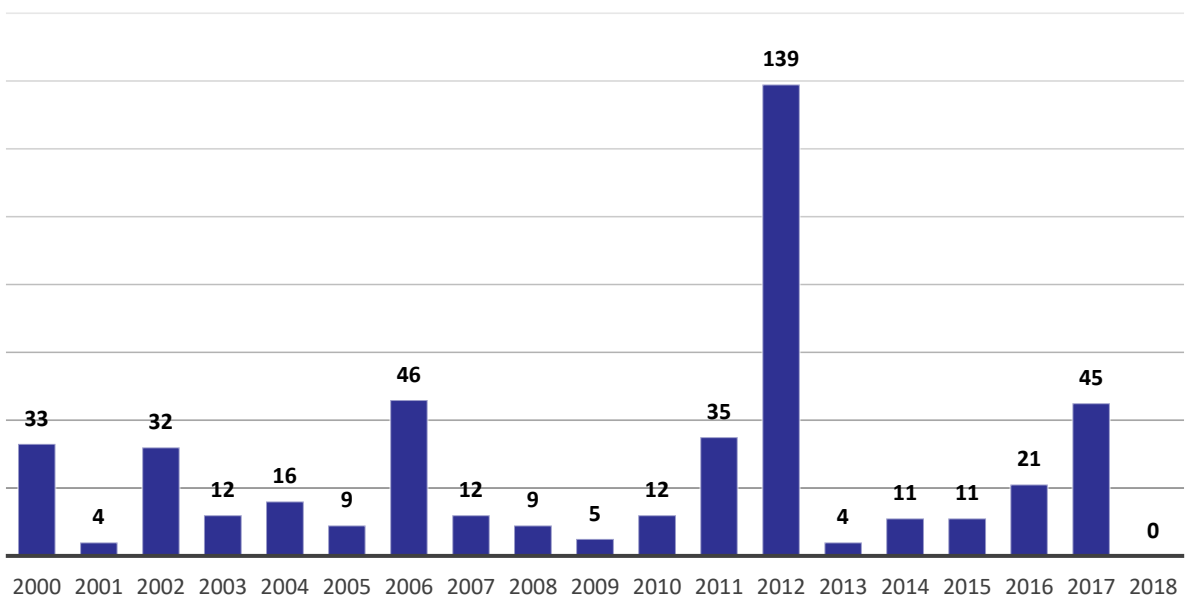
The majority of wildfires in the planning area do not have a listed cause, however lightning is the second most prevalent cause of wildfire in the planning area (Figure 30). Wildfires in the planning area have ranged from zero to 10,000 acres, with an average event burning 161 acres.

Figure 30: Wildfires by Cause in the Planning Area



Source: Nebraska Forest Service, 2000-2018

Figure 31: Number of Wildfires by Year in the Planning Area



Source: Nebraska Forest Service, 2000-2018

NEBRASKA THEDFORD FIRE

A presidentially declared disaster was issued on April 22, 2011 for what became known as the Nebraska Thedford Fire. Mid 60's temperatures, low relative humidity, and 30 to 50 mph winds contributed to a quickly growing wildfire which began mid-afternoon on private property. Fire-fighting response included over 28 fire departments throughout the north central region and airplane response. Two fire fighters from the Valentine Volunteer Fire Department in northern Cherry County were injured in the fire. Over the span of three hours, the wildfire burned over 11,000 acres in Thomas County.

Figure 32: Sign at Nebraska National Forest



AVERAGE ANNUAL DAMAGES

The average damage per event estimate was determined based upon records from the Nebraska Forest Service Wildfires Database from 2000 to 2018 and number of historical occurrences. This does not include losses from displacement, functional downtime, economic loss, injury, or loss of life. During the 19-year period, 456 wildfires burned 73,483 acres and caused \$139,538 in crop damage in the planning area.

Table 66: Wildfire Loss Estimation

Hazard Type	Number of Events	Events Per Year	Average Acres Per Fire	Total Property Loss	Total Crop Loss	Average Annual Crop Loss
Grass/Wildfires	456	24	161	73,483 acres	\$139,538	\$7,344

Source: Nebraska Forest Service, 2000-2018

Table 67: Wildfire Threats

Hazard Type	Injuries	Homes Threatened or Destroyed	Other Structures Threatened or Destroyed
Grass/Wildfires	0	20	19

Source: Nebraska Forest Service, 2000-2018

PROBABILITY

Probability of grass/wildfire occurrence is based on the historic record provided by the Nebraska Forest Service and reported potential by participating jurisdictions. Based on the historic record, there is a 100 percent annual probability of wildfires occurring in the planning area each year.

REGIONAL VULNERABILITIES

The following table provides information related to regional vulnerabilities; for jurisdictional-specific vulnerabilities, refer to *Section Seven: Community Profiles*.

Table 68: Regional Wildfire Vulnerabilities

SECTOR	VULNERABILITY
PEOPLE	<ul style="list-style-type: none"> -Risk of injury or death for residents and firefighting personnel -Displacement of people and loss of homes -Lack of transportation poses risk to low income individuals, families, and elderly -Transportation routes may be blocked by fire, preventing evacuation efforts
ECONOMIC	<ul style="list-style-type: none"> -Damages to buildings and property can cause significant losses to business owners -Loss of businesses
BUILT ENVIRONMENT	<ul style="list-style-type: none"> -Property damages
INFRASTRUCTURE	<ul style="list-style-type: none"> -Damage to power lines and utility structures
CRITICAL FACILITIES	<ul style="list-style-type: none"> -Risk of damages
OTHER	<ul style="list-style-type: none"> -Increase chance of landslides and erosion -May lead to poor water quality -Post fire, flash flooding events may be exacerbated

HAIL

Hail is commonly associated with severe thunderstorms, and this association makes hail just as unpredictable as severe thunderstorms. Additionally, hail events in thunderstorms often occur in series, with one area having the potential to be hit multiple times in one day. Severe thunderstorms usually occur in the evening during the spring and summer months. These, often large, storms can include heavy rain, hail, lightning, and high winds. Hail can destroy property and crops with sheer force, as some hail stones can fall at speeds up to 100 mph.

While the moisture from thunderstorms associated with hail events can be beneficial, when thunderstorms do produce hail, there is potential for crop losses, property losses due to building and automobile damages, injury or death to cattle and other livestock, and personal injury from people not seeking shelter during these events or standing near windows. The potential for damages increases as the size of the hail increases.

LOCATION

The entire planning area is at risk to hail due to the regional nature of this type of event.

EXTENT

The Tornado and Storm Research Organization (TORRO) scale is used to classify hailstones and provides some detail related to the potential impacts from hail. Table 69 outlines the TORRO Hail Scale.

Table 69: TORRO Hail Scale

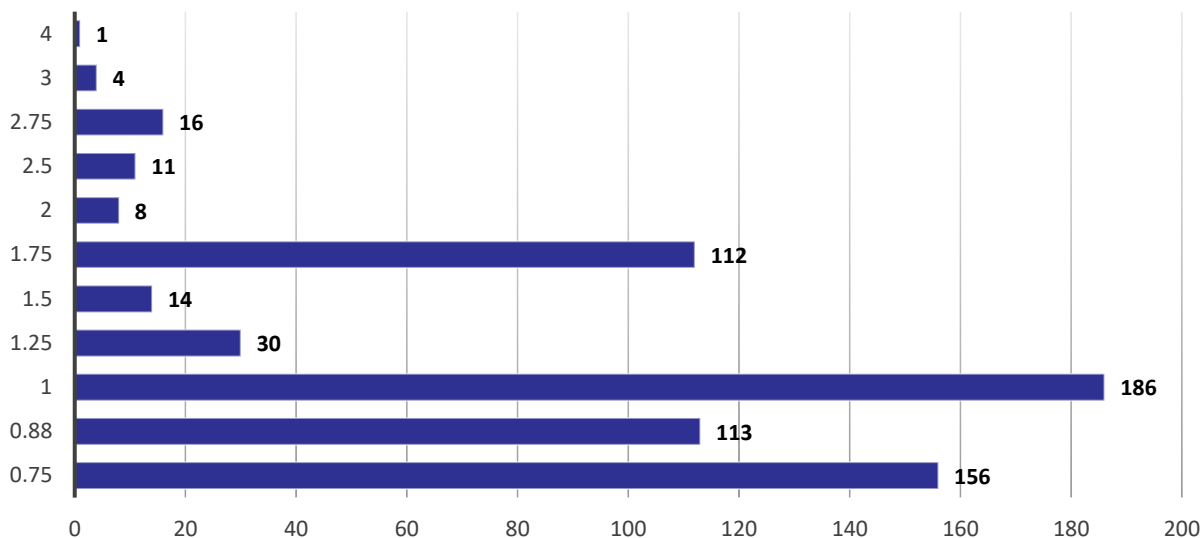
CLASS	TYPE OF MATERIAL	DIVISIONS
H0: Hard Hail	5 mm; (Pea size); 0.2 in	No damage
H1: Potentially Damaging	5 -15 mm (Marble); 0.2 – 0.6 in	Slight general damage to plants and crops
H2: Significant	10 -20 mm (Grape); 0.4 – 0.8 in.	Significant damage to fruit, crops, and vegetation
H3: Severe	20 -30 mm (Walnut); 0.8 – 1.2 in	Severe damage to fruit and crops, damage to glass and plastic structures
H4: Severe	30 -40 mm (Squash Ball); 1.2 – 1.6 in	Widespread damage to glass, vehicle bodywork damaged
H5: Destructive	40 – 50 mm (Golf ball); 1.6 – 2.0 in.	Wholesale destruction of glass, damage to tiled roofs; significant risk or injury
H6: Destructive	50 – 60 mm (chicken egg); 2.0 – 2.4 in	Grounded aircrafts damaged, brick walls pitted; significant risk of injury
H7: Destructive	60 – 75 mm (Tennis ball); 2.4 – 3.0 in	Severe roof damage; risk of serious injuries
H8: Destructive	75 – 90 mm (Large orange); 3.0 – 3.5 in.	Severe damage to structures, vehicles, airplanes; risk of serious injuries
H9: Super Hail	90 – 100 mm (Grapefruit); 3.5 – 4.0 in	Extensive structural damage; risk of severe or even fatal injuries to persons outdoors
H10: Super Hail	>100 mm (Melon); > 4.0 in	Extensive structural damage; risk or severe or even fatal injuries to persons outdoors

Source: TORRO, 2017⁷⁵

⁷⁵ Tornado and Storm Research Organization. 2017. "Hail Scale." <http://www.torro.org.uk/hyscale.php>.

Of the 651 hail events reported across the planning area, the average hailstone size was 1.17 inches. Events of this magnitude correlate to an H3 classification. It is reasonable to expect H3 classified events to occur several times in a year throughout the planning area. In addition, it is reasonable, based on the number of occurrences, to expect larger hailstones to occur in the planning area annually. The planning area has endured one H10 hail events (>4.0 inches) during the period of record. Figure 33 shows hail events based on the size of the hail.

Figure 33: Hail Events by Magnitude



Source: NCEI, 1996-2018

HISTORICAL OCCURRENCES

The NCEI reports events as they occur in each community. A single hail event can affect multiple communities and counties at a time; the NCEI reports these large scale, multi-county events as separate events. The result is a single hail event covering a large portion of the planning area could be reported by the NCEI as several events. The NCEI reports a total of 651 hail events in the planning area between January 1996 and July 2018. These events were responsible for \$1,554,500 in property damages and \$2,436,341 in crop damages. Hooker and Grant Counties do not have RMA data available, thus crop damage estimates are lower than may have actually occurred in the planning area. These events resulted in no injuries or fatalities.

Specific hail events from NCEI reported by each community are listed in *Section Seven: Community Profiles*.

AVERAGE ANNUAL DAMAGES

The average damage per event estimate was based on the NCEI Storm Events Database since 1996 and number of historical occurrences as described above. This does not include losses from displacement, functional downtime, economic loss, injury, or loss of life.

Table 70: Hail Loss Estimate

Hazard Type	Number of Events ¹	Average Events Per Year	Total Property Loss ¹	Average Annual Property Loss ¹	Total Crop Loss ²	Average Annual Crop Loss ²
Hail Events	651	28.3	\$1,554,500	\$67,587	\$2,436,341	\$128,228

Source: 1 Indicates data is from NCEI (January 1996 to July 2018); 2 Indicates data is from USDA RMA (2000 to 2018)

PROBABILITY

Based on historic records and reported events, hail events are likely to occur several times annually within the planning area. The NCEI reported 651 hail events between 1996 and 2018, or approximately 28 hail occurrences per year.

REGIONAL VULNERABILITIES

The following table provides information related to regional vulnerabilities; for jurisdictional-specific vulnerabilities, refer to *Section Seven: Community Profiles*.

Table 71: Regional Hail Vulnerabilities

SECTOR	VULNERABILITY
PEOPLE	-Injuries can occur from: not seeking shelter, standing near windows, and shattered windshields in vehicles
ECONOMIC	-Damages to buildings and property can cause significant losses to business owners
BUILT ENVIRONMENT	-Roofs, siding, windows, gutters, HVAC systems, etc. can incur damage
INFRASTRUCTURE	-Power lines and utilities can be damaged
CRITICAL FACILITIES	-Property damages and power outages
OTHER	-High winds, lightning, heavy rain, and possibly tornadoes can occur with this hazard

HIGH WINDS

High winds typically accompany severe thunderstorms, severe winter storms, and other large low-pressure systems, which can cause significant crop damage, downed power lines, loss of electricity, traffic flow obstructions, and significant property damage including to trees and center-pivot irrigation systems.

The National Weather Service (NWS) defines high winds as sustained wind speeds of 40 mph or greater lasting for 1 hour or longer, or winds of 58 mph or greater for any duration.⁷⁶ The NWS issues High Wind Advisories when there are sustained winds of 25 to 39 miles per hour and/or gusts to 57 mph. Figure 34 shows the wind zones in the United States. The wind zones are based on the maximum wind speeds that can occur from a tornado or hurricane event. The planning area is located in Zone III/IV which has maximum winds of 250 mph equivalent to an EF5 tornado.

Figure 34: Wind Zones in the U.S.



Source: FEMA, 2016

LOCATION

High winds commonly occur throughout the planning area.

EXTENT

The Beaufort Wind Scale can be used to classify wind strength. Table 72 outlines the scale, provides wind speed ranking, range of wind speeds per ranking, and a brief description of conditions for each ranking.

⁷⁶ National Weather Service. 2017. "Glossary." <http://w1.weather.gov/glossary/index.php?letter=h>.

Table 72: Beaufort Wind Ranking

BEAUFORT WIND		
FORCE RANKING	RANGE OF WIND	CONDITIONS
0	<1 mph	Smoke rises vertically
1	1 – 3 mph	Direction shown by smoke but not wind vanes
2	4 – 7 mph	Wind felt on face; leaves rustle; wind vanes move
3	8 – 12 mph	Leaves and small twigs in constant motion
4	13 – 18 mph	Raises dust and loose paper; small branches move
5	19 – 24 mph	Small trees in leaf begin to move
6	25 – 31 mph	Large branches in motion; umbrellas used with difficulty
7	32 – 38 mph	Whole trees in motion; inconvenience felt when walking against the wind
8	39 – 46 mph	Breaks twigs off tree; generally, impedes progress
9	47 – 54 mph	Slight structural damage; chimneypots and slates removed
10	55 – 63 mph	Trees uprooted; considerable structural damages; improperly or mobile homes with no anchors turned over
11	64 – 72 mph	Widespread damages; very rarely experienced
12 - 17	72 - > 200 mph	Hurricane; devastation

Source: Storm Prediction Center, 2017⁷⁷

Using the NCEI reported events, the most common high wind event is a level 9. The reported high wind events had an average of 47 mph winds. It is likely that this level of event will occur annually.

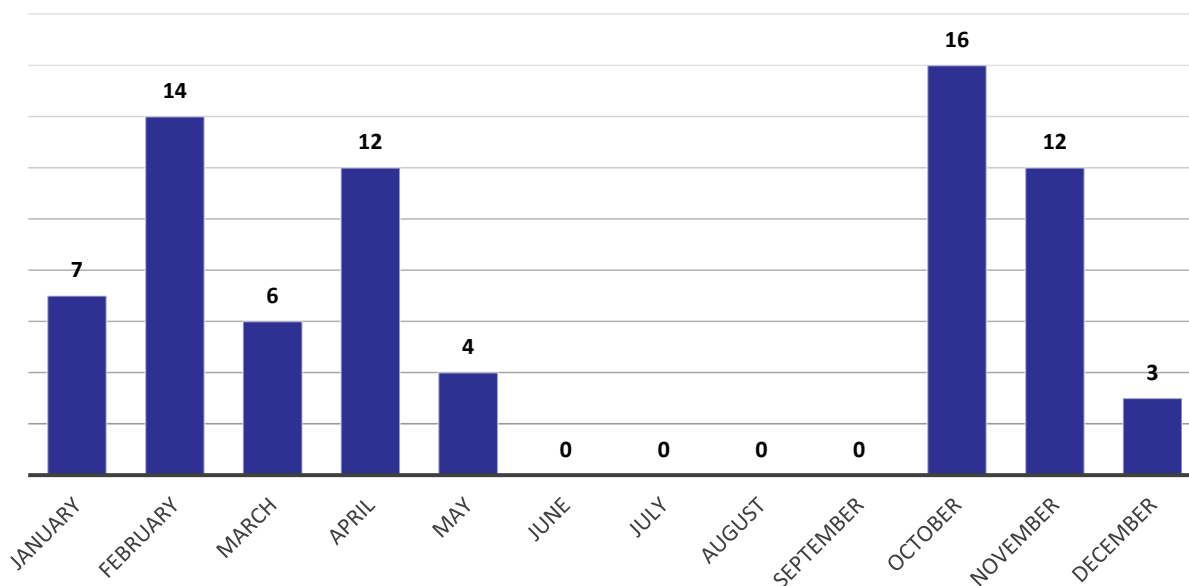
HISTORICAL OCCURRENCES

Due to the regional scale of high winds, the NCEI reports events as they occur in each county. While a single event can affect two or more counties at a time, the NCEI reports them as separate events.

There were 75 high wind events that occurred between January 1996 and July 2018. As seen in Figure 35, most high wind events occur in the spring and winter months. No high wind events led to injuries or fatalities. The events identified by the NCEI are listed in *Section Seven: Community Profiles* for each county.

⁷⁷ Storm Prediction Center: National Oceanic and Atmospheric Administration. 1805. "Beaufort Wind Scale." <http://www.spc.noaa.gov/faq/tomado/beaufort.html>.

Figure 35: High Wind Events by Month



Source: NCEI, 1996-2018

AVERAGE ANNUAL DAMAGES

The average damage per event estimate was determined based upon NCEI Storm Events Database since 1996 and number of historical occurrences. This does not include losses from displacement, functional downtime, economic loss, injury, or loss of life. It is estimated that high wind events can cause an average of \$260 per year in property damage, and an average of \$13,680 per year in crop damage for the planning area. Hooker and Grant Counties do not have RMA data, causing crop damage estimates to be lower than in reality.

Table 73: High Wind Loss Estimate

Hazard Type	Number of Events ¹	Average Events Per Year	Total Property Loss ¹	Average Annual Property Loss ¹	Total Crop Loss ²	Average Annual Crop Loss ²
High Winds	75	3.3	\$6,000	\$260	\$259,920	\$13,680

Source: 1 Indicates data is from NCEI (January 1996 to July 2018); 2 Indicates data is from USDA RMA (2000 to 2018)

PROBABILITY

Based on historical records and reported events, it is likely that high winds will occur within the planning area annually. For the 23 years examined, there were 75 reported high wind events reported.

REGIONAL VULNERABILITIES

The following table provides information related to regional vulnerabilities; for jurisdictional-specific vulnerabilities, refer to *Section Seven: Community Profiles*.

Table 74: Regional High Wind Vulnerabilities

SECTOR	VULNERABILITY
PEOPLE	<ul style="list-style-type: none"> -Vulnerable populations include those living in mobile homes, especially if they are not anchored properly -People outdoors during events
ECONOMIC	<ul style="list-style-type: none"> -Agricultural losses to both crops and livestock -Damages to businesses and prolonged power outages can cause significant impacts to the local economy
BUILT ENVIRONMENT	<ul style="list-style-type: none"> -All building stock are at risk to damages from high winds
INFRASTRUCTURE	<ul style="list-style-type: none"> -Downed power lines and power outages -Downed trees blocking road access
CRITICAL FACILITIES	<ul style="list-style-type: none"> -All critical facilities are at risk to damages from high winds

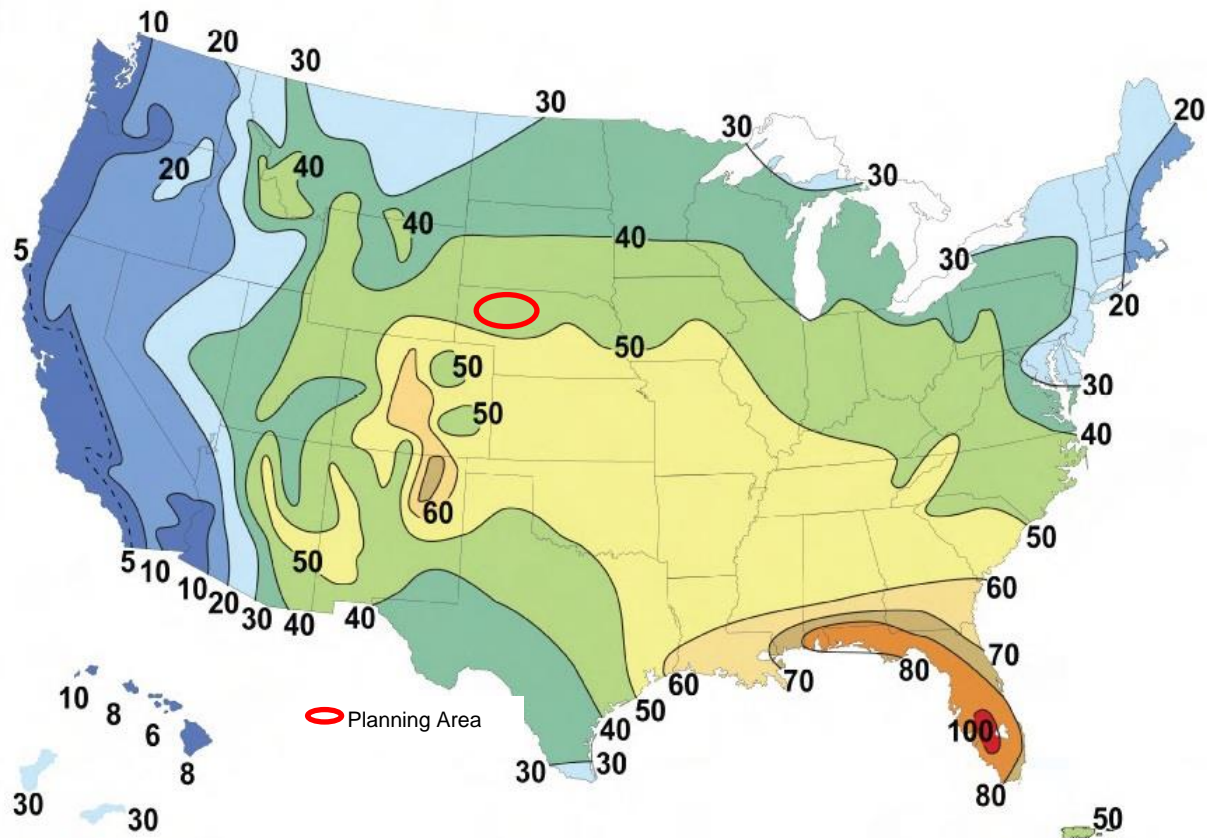
SEVERE THUNDERSTORMS

Severe thunderstorms are common and unpredictable seasonal events throughout Nebraska. A thunderstorm is defined as a storm that contains lightning and thunder, which is caused by unstable atmospheric conditions. When the cold upper air sinks and the warm, moist air rises, storm clouds or “thunderheads” develop, resulting in thunderstorms. This can occur singularly, in clusters, or in lines.

Thunderstorms can develop in fewer than 30 minutes and can grow to an elevation of eight miles into the atmosphere. Lightning, by definition, is present in all thunderstorms and can cause harm to humans and animals, fires to buildings and agricultural lands, and electrical outages in municipal electrical systems. Lightning can strike up to 10 miles from the portion of the storm depositing precipitation. There are three primary types of lightning: intra-cloud, inter-cloud, and cloud to ground. While intra and inter-cloud lightning are more common, communities are potentially impacted when lightning comes in contact with the ground. Lightning generally occurs when warm air mixes with colder air masses resulting in atmospheric disturbances necessary for polarizing the atmosphere.

Economically, thunderstorms are generally beneficial in that they provide moisture necessary to support Nebraska’s largest industry, agriculture. The majority of thunderstorms do not cause damage, but when they escalate to severe storms, the potential for damages increases. Damages can include: crop losses from wind and hail; property losses due to building and automobile damages from hail; high wind; flash flooding; and death or injury to humans and animals from lightning, drowning, or getting struck by falling or flying debris. Figure 36 displays the average number of days with thunderstorms across the country each year. The planning area experiences an average of 40 to 50 thunderstorms over the course of one year.

Figure 36: Average Number of Thunderstorms



Source: NWS, 2017⁷⁸

⁷⁸ National Weather Service. 2017. "Introduction to Thunderstorms." http://www.srh.noaa.gov/jetstream/tstorms/tstorms_intro.html.

LOCATION

The entire planning area is at risk of severe thunderstorms.

EXTENT

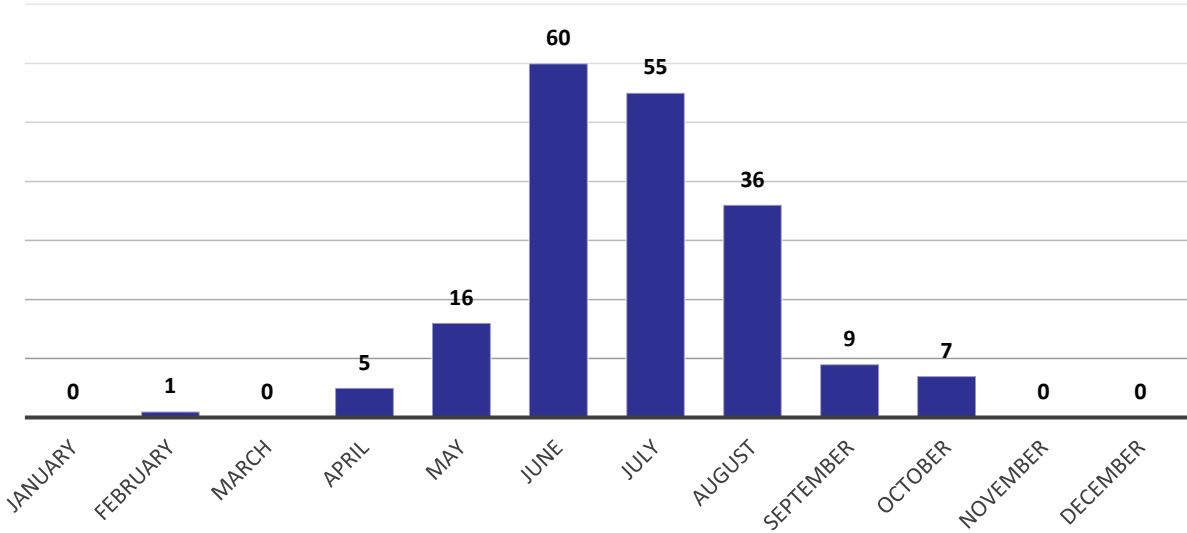
The geographic extent of a severe thunderstorm event may be large enough to impact the entire planning area (such as in the case of a squall line, derecho, or long-lived supercell) or just a few square miles, in the case of a single cell that marginally meets severe criteria.

The NWS defines a thunderstorm as severe if it contains hail that is one inch in diameter or capable of winds gusts of 58 mph or higher.

HISTORICAL OCCURRENCES

Severe thunderstorms in the planning area usually occur in the afternoon and evening during the summer months (Figure 37).

Figure 37: Thunderstorm Wind Events by Month



Source: NCEI, 1996-2018

The NCEI reports events as they occur in each community. A single severe thunderstorm event can affect multiple communities and counties at a time; the NCEI reports these large scale, multi-county events as separate events. The result is a single thunderstorm event covering the entire region could be reported by the NCEI as several events.

The NCEI reports a total of 189 thunderstorm wind, three heavy rain, and two lightning events in the planning area from January 1996 to July 2018. Severe thunderstorm events were responsible for \$525,000 in property damages. The USDA RMA data does not specify severe thunderstorms as a cause of loss, however heavy rains which may be associated with severe thunderstorms caused \$181,163 in crop damages. However, Hooker and Grant County do not have RMA data available so crop damages are likely higher than reported here. There were no injuries or deaths reported in association with these storms.

AVERAGE ANNUAL DAMAGES

The average damage per event estimate was determined based upon recorded damages from NCEI Storm Events Database since 1996 and number of historical occurrences. This does not include losses from displacement, functional downtime, economic loss, injury, or loss of life. Severe thunderstorms and lightning cause an average of \$22,826 per year in property damages.

Table 75: Severe Thunderstorms Loss Estimate

Hazard Type	Number of Events ¹	Average Events Per Year	Total Property Loss ¹	Average Annual Property Loss	Total Crop Loss ²	Average Annual Crop Loss
Thunderstorm Wind	189	8.3	\$522,000	\$22,696	N/A	N/A
Heavy Rain	3	0.1	\$0	\$0	\$181,163	\$9,535
Lightning	2	0.1	\$3,000	\$130	N/A	N/A
Total	194	8.5	\$525,000	\$22,826	\$181,163	\$9,535

Source: 1 Indicates data is from NCEI (January 1996 to July 2018); 2 Indicates data is from USDA RMA (2000 to 2018)

PROBABILITY

Based on historical records and reported events, severe thunderstorms are likely to occur on an annual basis. The NCEI reported 194 severe thunderstorm events between 1996 and 2018; resulting in 100 percent chance annually for thunderstorms.

REGIONAL VULNERABILITIES

The following table provides information related to regional vulnerabilities; for jurisdictional-specific vulnerabilities, refer to *Section Seven: Community Profiles*.

Table 76: Regional Thunderstorm Vulnerabilities

SECTOR	VULNERABILITY
PEOPLE	-Elderly citizens with decreased mobility may have trouble evacuating or seeking shelter -Mobile home residents are risk of injury and damage to their property if the mobile home is not anchored properly
ECONOMIC	-Damages to buildings and property can cause significant losses to business owners and employees
BUILT ENVIRONMENT	-Buildings are at risk to hail damage -Downed trees and tree limbs
INFRASTRUCTURE	-High winds and lightning can cause power outages and down power lines -Roads may wash out from heavy rains and become blocked from downed tree limbs
CRITICAL FACILITIES	-Power outages are possible -Critical facilities may sustain damage from hail, lightning, and wind

SEVERE WINTER STORMS

Severe winter storms are an annual occurrence in Nebraska. Winter storms can bring extreme cold, freezing rain, heavy or drifting snow, and blizzards. Blizzards are particularly dangerous due to drifting snow and the potential for rapidly occurring whiteout conditions which greatly inhibit vehicular traffic. Generally, winter storms occur between the months of November and March, but may occur as early as October and as late as April. Heavy snow is usually the most defining element of a winter storm. Large snow events can cripple an entire jurisdiction by hindering transportation, knocking down tree limbs and utility lines, and structurally damaging buildings.

EXTREME COLD

Along with snow and ice storm events, extreme cold is dangerous to the well-being of people and animals. What constitutes extreme cold varies from region to region, but is generally accepted as temperatures that are significantly lower than the average low temperature. For the planning area, the coldest months of the year are January, February, and December. The average low temperature for these months are all below freezing (average low for the three months is 13.5°F). The average high temperatures for the months of January, February, and December are near 39°F.⁷⁹

FREEZING RAIN

Along with snow events, winter storms also have the potential to deposit significant amounts of ice. Ice buildup on tree limbs and power lines can cause them to collapse. This is most likely to occur when rain falls that freezes upon contact, especially in the presence of wind. Freezing rain is the name given to rain that falls when surface temperatures are below freezing. Unlike a mixture of rain and snow, ice pellets or hail, freezing rain is made entirely of liquid droplets. Freezing rain can also lead to many problems on the roads, as it makes them slick, causing automobile accidents, and making vehicle travel difficult.

BLIZZARDS

Blizzards are particularly dangerous due to drifting snow and the potential for rapidly occurring whiteout conditions, which greatly inhibits vehicular traffic. Heavy snow is usually the most defining element of a winter storm. Large snow events can cripple an entire jurisdiction for several days by hindering transportation, knocking down tree limbs and utility lines, structurally damaging buildings, and injuring or killing crops and livestock.

LOCATION

The entire planning area is at risk of severe winter storms.

EXTENT

The Sperry-Piltz Ice Accumulation Index (SPIA) was developed by the NWS to predict the accumulation of ice and resulting damages. The SPIA assesses total precipitation, wind, and temperatures to predict the intensity of ice storms. Figure 38 shows the SPIA index.

⁷⁹ High Plains Regional Climate Center. 2017. "Monthly Climate Normals 1981-2010." <http://climod.unl.edu/>.

Figure 38: SPIA Index

ICE DAMAGE INDEX	*AVERAGE ICE AMOUNT (in inches) <i>Revised: Oct. 2011</i>	WIND (mph)	DAMAGE AND IMPACT DESCRIPTIONS
0	<0.25	<15	Minimal risk of damage to exposed utility systems; no alerts or advisories needed for crews, few outages.
1	0.10 – 0.25	15 – 25	Some isolated or localized utility interruptions are possible, typically lasting only a few hours. Roads and bridges may become slick and hazardous.
	0.25 – 0.50	>15	
2	0.10 – 0.25	25 – 35	Scattered utility interruptions expected, typically lasting 12 to 24 hours. Roads and travel conditions may be extremely hazardous due to ice accumulation.
	0.25 – 0.50	15 – 25	
	0.50 – 0.75	>15	
3	0.10 – 0.25	> – 35	Numerous utility interruptions with some damage to main feeder lines and equipment expected. Tree limb damage is excessive. Outages lasting 1 – 5 days.
	0.25 – 0.50	25 – 35	
	0.50 – 0.75	15 – 25	
	0.75 – 1.00	>15	
4	0.25 – 0.50	> – 35	Prolonged and widespread utility interruptions with extensive damage to main distribution feeder lines and some high voltage transmission lines/structures. Outages lasting 5 – 10 days.
	0.50 – 0.75	25 – 35	
	0.75 – 1.00	15 – 25	
	1.00 – 1.50	>15	
5	0.50 – 0.75	> – 35	Catastrophic damage to entire exposed utility systems, including both distribution and transmission networks. Outages could last several weeks in some areas. Shelters needed.
	0.75 – 1.00	> – 25	
	1.00 – 1.50	> – 15	
	> 1.50	Any	

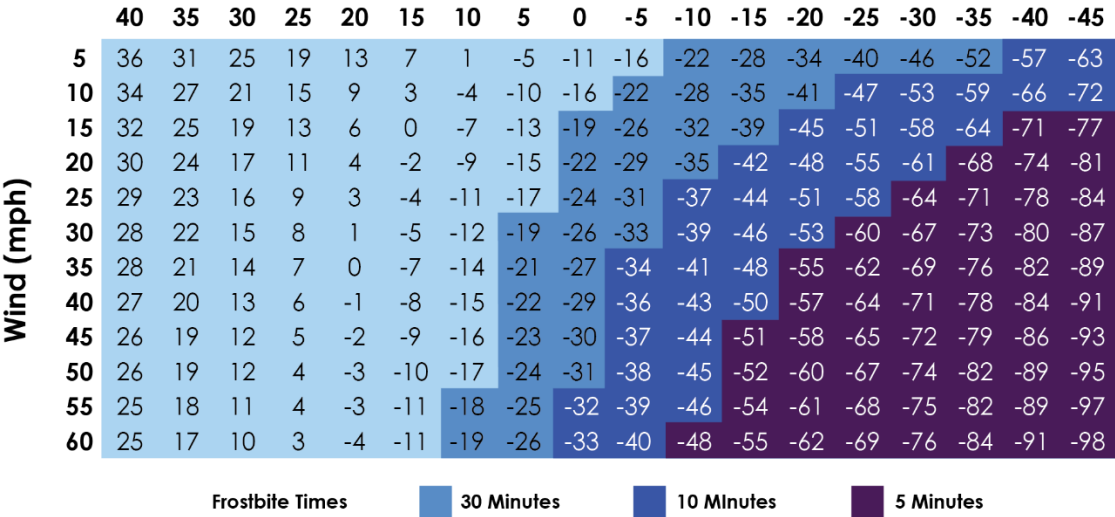
(Categories of damage are based upon combinations of precipitation totals, temperatures and wind speeds/directions.)

Source: SPIA-Index, 2017⁸⁰

The Wind Chill Index was developed by the NWS to determine the decrease in air temperature felt by the body on exposed skin due to wind. The wind chill is always lower than the air temperature and can quicken the effects of hypothermia or frost bite as it gets lower. Figure 39 shows the Wind Chill Index used by the NWS.

⁸⁰ SPIA-Index. 2009. "Sperry-Piltz Ice Accumulation Index." Accessed June 2017. <http://www.spia-index.com/index.php>.

Figure 39: Wind Chill Index Chart
Temperature (°F)



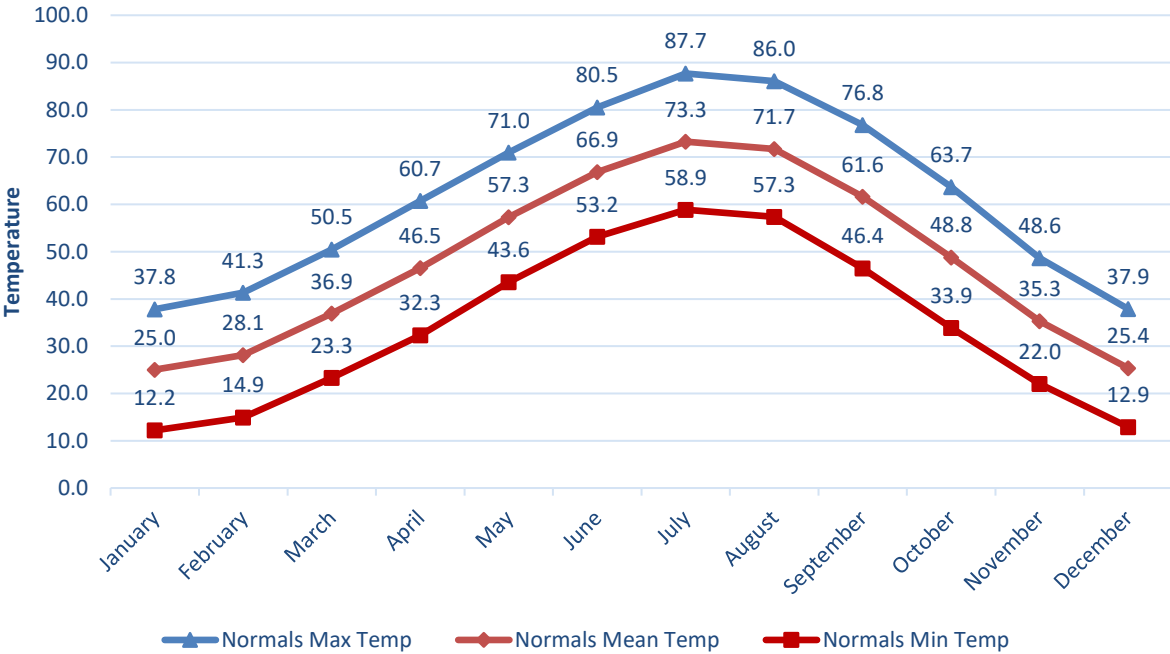
$$\text{Wind Chill (°F)} = 35.74 + 0.6215T - 35.75(V^{0.16}) + 0.4275T(V^{0.16})$$

T = Air Temperature (°F) V = Wind Speed (mph)



Source: NWS, 2017⁸¹

Figure 40: Monthly Climate Normals Temperature (1981-2010)



Source: NCEI, 2018

⁸¹ National Weather Service. 2001. "Wind Chill Chart." http://www.nws.noaa.gov/om/cold/wind_chill.shtml.

HISTORICAL OCCURRENCES

Due to the regional scale of severe winter storms, the NCEI reports events as they occur in each county. According to the NCEI, there were a combined 280 severe winter storm events for the planning area from January 1996 to July 2018. These recorded events caused a total of \$486,000 in property damages and \$293,368 in crop damages.

According to the NCEI, two ice storms were reported between January 1996 and July 2018 which caused \$16,000 in damages. One of these storms led to the deaths of two individuals and injured one other in vehicular accidents from icy road conditions. Ice accumulation was not reported.

Additional information from these events from NCEI and reported by each community are listed in *Section Seven: Community Profiles*.

AVERAGE ANNUAL DAMAGES

The average damage per event estimate was determined based upon NCEI Storm Events Database since 1996 and includes aggregated calculations for each of the six types of winter weather as provided in the database. This does not include losses from displacement, functional downtime, economic loss, injury, or loss of life. Severe winter storms have caused an average of \$21,131 per year in property damage for the planning area.

Table 77: Severe Winter Storm Loss Estimate

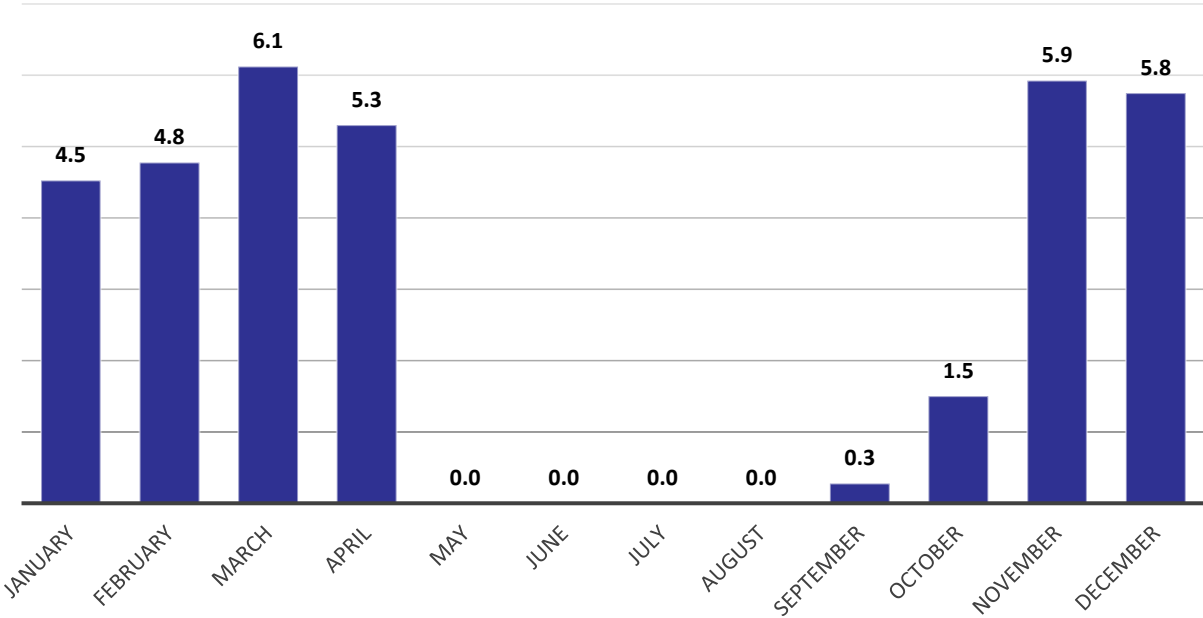
Hazard Type	Number of Events ¹	Average Events Per Year ¹	Total Property Loss ¹	Average Annual Property Loss ¹	Total Crop Loss ²	Average Annual Crop Loss ²
Blizzard	39	1.7	\$145,000	\$6,304		
Heavy Snow	22	1.0	\$10,000	\$435		
Ice Storm	2	0.1	\$16,000	\$696		
Winter Storm	183	8.0	\$315,000	\$13,696		
Winter Weather	0	0	\$0	\$0	\$293,368	\$15,440
Extreme Cold/Wind Chill	34	1.5	\$0	\$0		
Total	280	12.3	\$486,000	\$21,131	\$293,368	\$15,440

Source: 1 Indicates data is from NCEI (January 1996 to July 2018); 2 Indicates data is from USDA RMA (2000 to 2018)

PROBABILITY

Average monthly snowfall for the planning area is shown in Figure 41, which shows the snowiest months are between November and March. A common snow event (likely to occur annually) will result in accumulation totals between one and five inches. Often these snow events are accompanied by high winds. It is reasonable to expect wind speeds of 25 to 35 mph with gusts reaching 50 mph or higher. Strong winds and low temperatures can combine to produce extreme wind chills of 20°F to 40°F below zero.

Figure 41: Monthly Normal (1981-2010) Snowfall in Inches



Source: High Plains Regional Climate Center, 2018

REGIONAL VULNERABILITIES

The following table provides information related to regional vulnerabilities; for jurisdictional-specific vulnerabilities, refer to *Section Seven: Community Profiles*.

Table 78: Regional Severe Winter Storm Vulnerabilities

SECTOR	VULNERABILITY
PEOPLE	-Elderly citizens are at higher risk to injury or death, especially during extreme cold and heavy snow accumulations -Citizens without adequate heat and shelter at higher risk of injury or death
ECONOMIC	-Closed roads and power outages can cripple a region for days, leading to significant revenue loss and loss of income for workers
BUILT ENVIRONMENT	-Heavy snow loads can cause roofs to collapse -Significant tree damage possible, downing power lines and blocking roads
INFRASTRUCTURE	-Heavy snow and ice accumulation can lead to downed power lines and prolonged power outages -Transportation may be difficult or impossible during blizzards, heavy snow, and ice events
CRITICAL FACILITIES	-Emergency response and recovery operations, communications, water treatment plants, and others are at risk to power outages, impassable roads, and other damages

TORNADOES

A tornado is typically associated with a supercell thunderstorm. For a rotation to be classified as a tornado, three characteristics must be met:

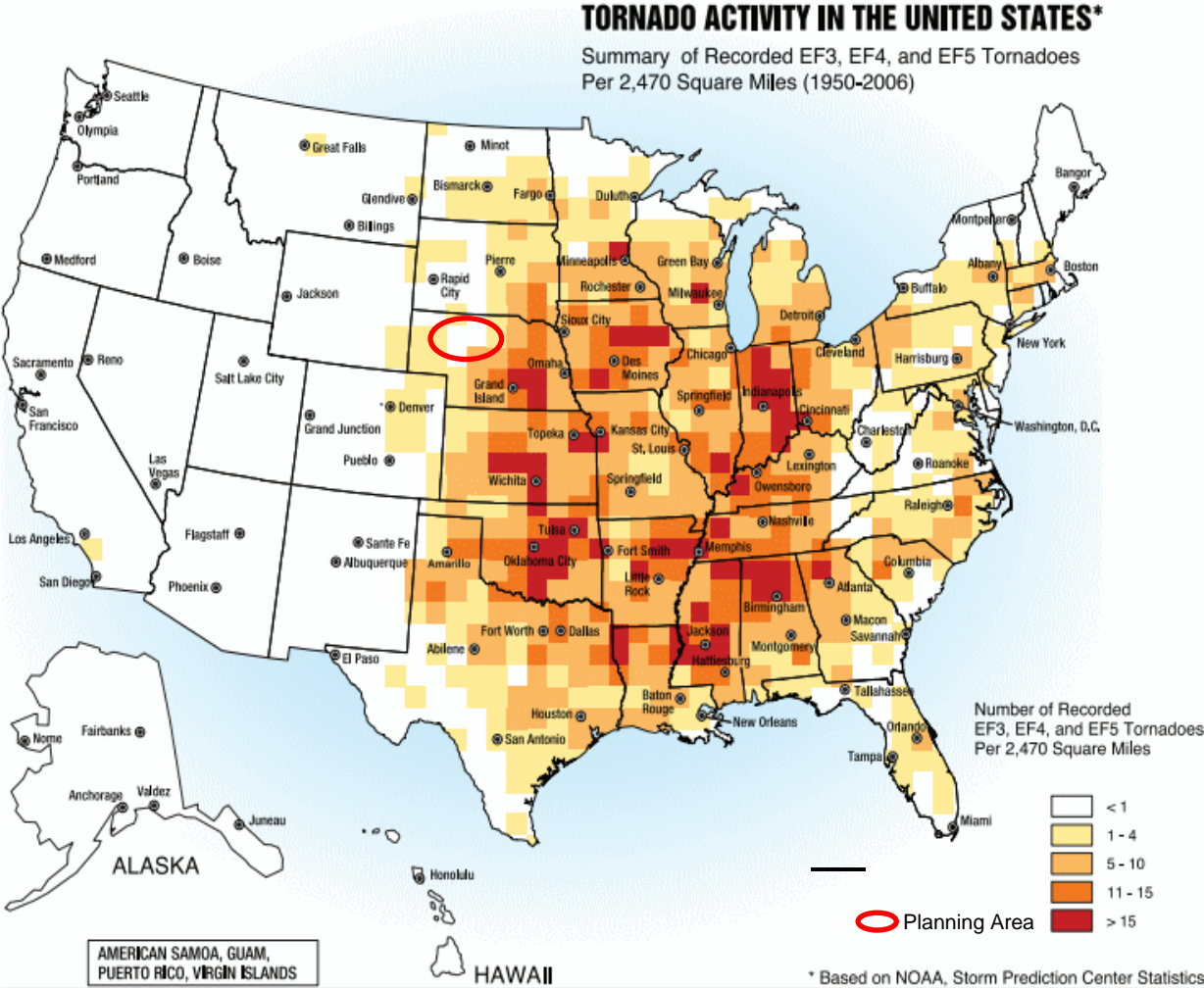
- There must be a microscale rotating area of wind, ranging in size from a few feet to a few miles wide;
- The rotating wind, or vortex, must be attached to a convective cloud base and must be in contact with the ground; and,
- The spinning vortex of air must have caused enough damage to be classified by the Fujita Scale as a tornado.

Once tornadoes are formed, they can be extremely violent and destructive. They have been recorded all over the world, but are most prevalent in the American Midwest and South, in an area known as “Tornado Alley.” Approximately 1,250 tornadoes are reported annually in the contiguous United States. Tornadoes can travel distances over 100 miles and reach over 11 miles above ground. Tornadoes usually stay on the ground no more than 20 minutes. Nationally, the tornado season typically occurs between April and July. On average, 80 percent of tornadoes occur between noon and midnight. In Nebraska, 77 percent of all tornadoes occur in the months of May, June, and July.

Nebraska is ranked fifth in the nation for tornado frequency with an annual average of 57 tornadoes between 1991 to 2010.⁸² The following figure shows the tornado activity in the United States as a summary of recorded EF3, EF4, and EF5 tornadoes per 2,470 square miles from 1950-2006.

⁸² National Centers for Environmental Information. 2013. “U.S. Tornado Climatology.” <https://www.ncdc.noaa.gov/climate-information/extreme-events/us-tornado-climatology>.

Figure 42: Tornado Activity in the United States



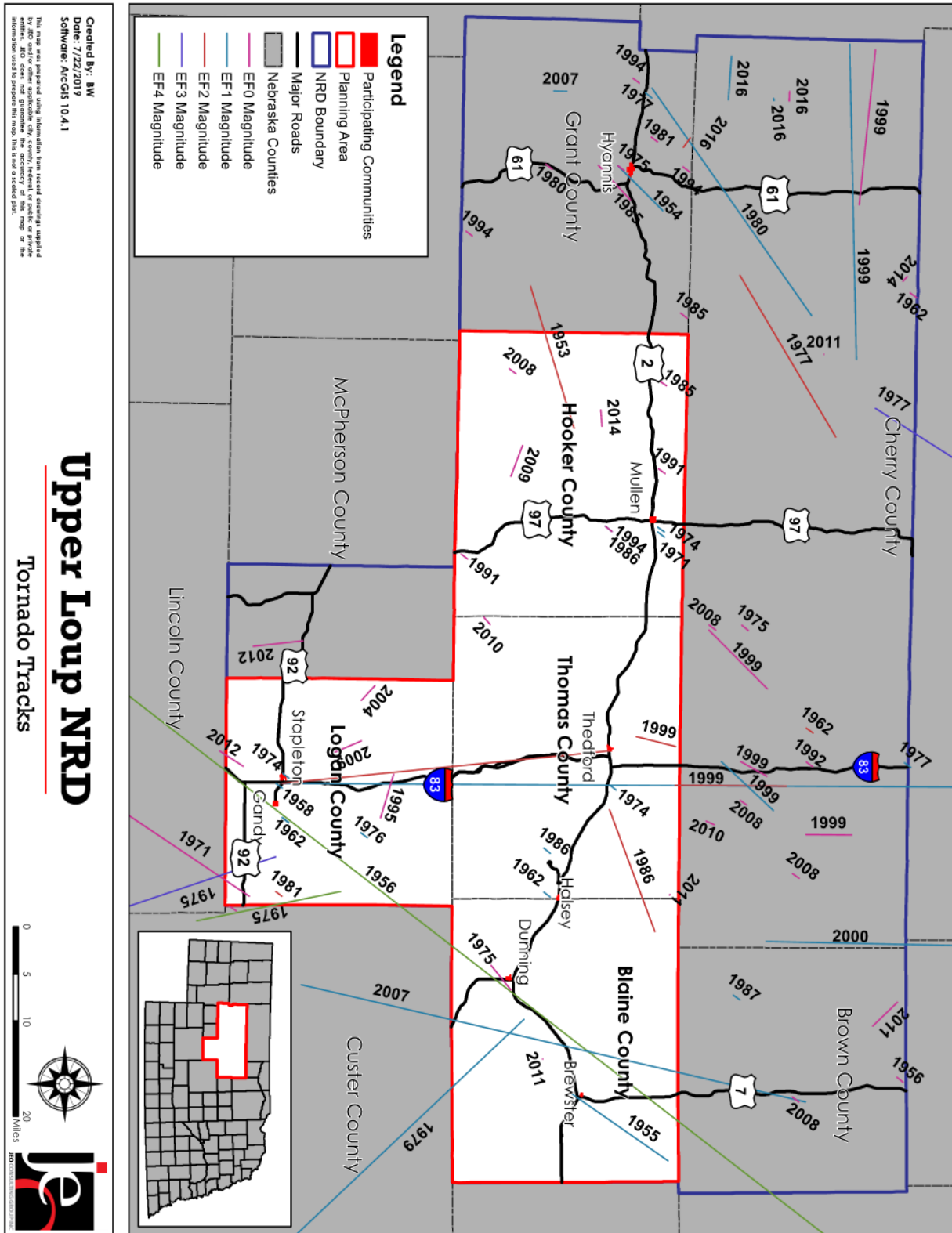
Source: FEMA, 2008⁸³

LOCATION

Tornadoes can occur anywhere in the planning area. The impacts would likely be greater in more densely populated areas. The following map shows the historical track locations across the region from 1950 to 2017 according to the Midwestern Regional Climate Center. Note that this map shows tornado tracks both within or that cross into the boundaries of the Upper Loup NRD, including southern Cherry and Brown Counties and eastern McPherson County.

⁸³ Federal Emergency Management Agency. August 2008. "Taking Shelter From the Storm: Building a Safe Room for Your Home or Small Business, 3rd edition."

Figure 43: Historic Tornado Tracks



EXTENT

After a tornado passes through an area, an official rating category is determined, which provides a common benchmark that allows comparisons to be made between different tornadoes. The magnitude of tornadoes is measured by the Enhanced Fujita Scale. The Enhanced Fujita Scale does not measure tornadoes by their size or width, but rather the amount of damage caused to human-built structures and trees. The Enhanced Fujita Scale replaced the Fujita Scale in 2007. The enhanced scale classifies EF0-EF5 damage as determined by engineers and meteorologists across 28 different types of damage indicators, including different types of building and tree damage. To establish a rating, engineers and meteorologists examine the damage, analyze the ground-swirl patterns, review damage imagery, collect media reports, and sometimes utilize photogrammetry and videogrammetry. Based on the most severe damage to any well-built frame house, or any comparable damage as determined by an engineer, an EF-Scale number is assigned to the tornado. Table 79 and Table 80 summarize the Enhanced Fujita Scale and damage indicators. According to a recent report from the National Institute of Science and Technology on the Joplin Tornado, tornadoes rated EF3 or lower account for around 96 percent of all tornado damages.⁸⁴

Table 79: Enhanced Fujita Scale

STORM CATEGORY	3 SECOND GUST (MPH)	DAMAGE LEVEL	DAMAGE DESCRIPTION
EF0	65-85 mph	Gale	Some damages to chimneys; breaks branches off trees; pushes over shallow-rooted trees; damages to sign boards.
EF1	86-110 mph	Weak	The lower limit is the beginning of hurricane wind speed; peels surface off roofs; mobile homes pushed off foundations or overturned; moving autos pushed off the roads; attached garages might be destroyed.
EF2	111-135 mph	Strong	Considerable damage. Roofs torn off frame houses; mobile homes demolished; boxcars pushed over; large trees snapped or uprooted; light object missiles generated.
EF3	136-165 mph	Severe	Roof and some walls torn off well-constructed houses; trains overturned; most trees in forest uprooted.
EF4	166-200 mph	Devastating	Well-constructed houses leveled; structures with weak foundations blown off some distance; cars thrown, and large missiles generated.
EF5	200+ mph	Incredible	Strong frame houses lifted off foundations and carried considerable distances to disintegrate; automobile sized missiles fly through the air in excess of 100 meters; trees debarked; steel re-enforced concrete structures badly damaged.
EF NO RATING	--	Inconceivable	Should a tornado with the maximum wind speed in excess of F5 occur, the extent and types of damage may not be conceived. A number of missiles such as iceboxes, water heaters, storage tanks, automobiles, etc. will create serious secondary damage on structures.

Source: NOAA; FEMA

⁸⁴ Kuligowski, E.D., Lombardo, F.T., Phan, L.T., Levitan, M.L., & Jorgensen, D.P. March 2014. "Final Report National Institute of Standards and Technology (NIST) Technical Investigation of the May 22, 2011, Tornado in Joplin, Missouri."

Table 80: Enhanced Fujita Scale Damage Indicator

NUMBER	DAMAGE INDICATOR	NUMBER	DAMAGE INDICATOR
1	Small barns, farm outbuildings	15	School - 1-story elementary (interior or exterior halls)
2	One- or two-family residences	16	School - Junior or Senior high school
3	Single-wide mobile home (MHSW)	17	Low-rise (1-4 story) bldg.
4	Double-wide mobile home	18	Mid-rise (5-20 story) bldg.
5	Apartment, condo, townhouse (3 stories or less)	19	High-rise (over 20 stories)
6	Motel	20	Institutional bldg. (hospital, govt. or university)
7	Masonry apartment or motel	21	Metal building system
8	Small retail bldg. (fast food)	22	Service station canopy
9	Small professional (doctor office, branch bank)	23	Warehouse (tilt-up walls or heavy timber)
10	Strip mall	24	Transmission line tower
11	Large shopping mall	25	Free-standing tower
12	Large, isolated ("big box") retail bldg.	26	Free standing pole (light, flag, luminary)
13	Automobile showroom	27	Tree - hardwood
14	Automotive service building	28	Tree - softwood

Source: NOAA; FEMA

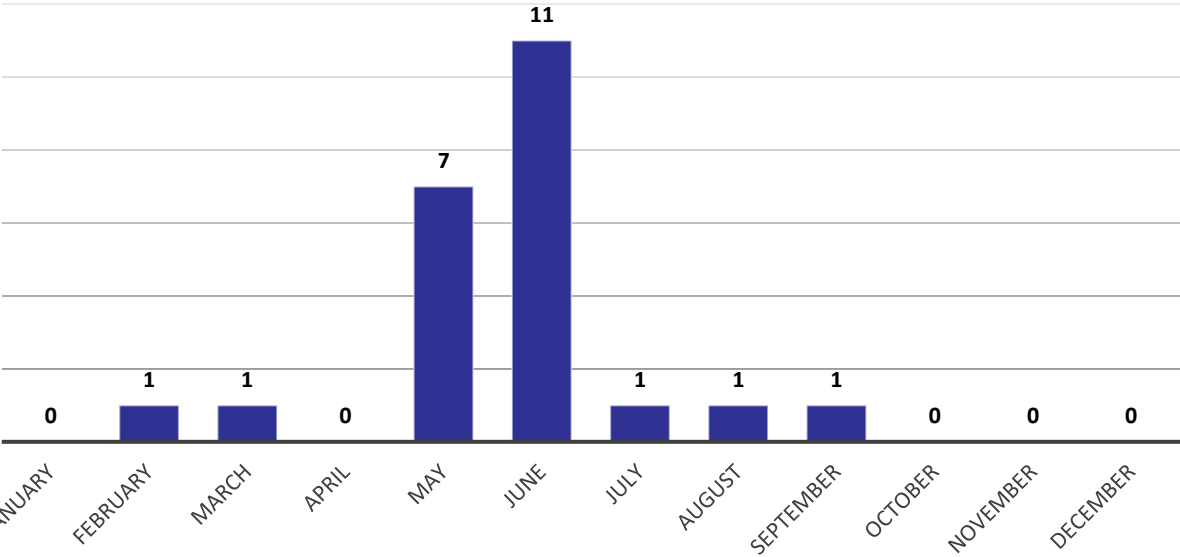
Based on the historic record, it is most likely that tornadoes that occur within the planning area will be of EF0 strength. Of the 23 reported events, two were EF1 and one was EF2.

HISTORICAL OCCURRENCES

NCEI cites 23 tornadic events ranging from a magnitude of EF0 to EF2 between 1996 and 2018. These events were responsible for \$104,500 in property damages. No deaths or injuries were reported for these events. The most damaging tornadoes occurred in Thomas County, an EF2 with \$50,000 in damages in 1999 and an EF1 with \$20,000 in damages in 2007.

The jurisdiction-specific events from NCEI and reported by each community are listed in *Section Seven: Community Profiles*. The following figure shows that the month of June is the busiest month of the year with the highest number of tornadoes in the planning area.

Figure 44: Tornadoes by Month in the Planning Area



Source: NCEI, 1996-2018

AVERAGE ANNUAL DAMAGES

The average damage per event estimate was determined based upon NCEI Storm Events Database since 1996 and number of historical occurrences. This does not include losses from displacement, functional downtime, economic loss, injury, or loss of life. Tornadoes cause an average of \$4,543 per year in property damage. The RMA did not report crop damages due to tornadic events, but damage to rangeland from tornadoes is still a concern for the planning area.

Table 81: Tornado Loss Estimate

Hazard Type	Number of Events ¹	Average Events Per Year	Total Property Loss ¹	Average Annual Property Loss ¹
Tornadoes	23	1	\$104,500	\$4,543

Source: 1 Indicates data is from NCEI (January 1996 to July 2018); 2 Indicates data is from USDA RMA (2000 to 2018)

PROBABILITY

Given the 23 events over the course of 23 years, there is roughly a 100 percent probability that a tornadic event will occur in the planning area in any given year.

REGIONAL VULNERABILITIES

The following table provides information related to regional vulnerabilities; for jurisdictional-specific vulnerabilities, refer to *Section Seven: Community Profiles*.

Table 82: Regional Tornado Vulnerabilities

SECTOR	VULNERABILITY
PEOPLE	<ul style="list-style-type: none"> -Citizens living in mobile homes are at risk to death or injury -Citizens without access to shelter below ground or in safe room -Elderly with decreased mobility or poor hearing may be higher risk -Vulnerable populations including nursing homes and children at schools -Lack of multiple ways of receiving weather warnings, especially at night
ECONOMIC	<ul style="list-style-type: none"> -Significant economic losses possible, especially with EF3 tornadoes or greater
BUILT ENVIRONMENT	<ul style="list-style-type: none"> -All building stock are at risk of significant damages
INFRASTRUCTURE	<ul style="list-style-type: none"> -All above ground infrastructure at risk to damages -Impassable roads due to debris blocking roadways
CRITICAL FACILITIES	<ul style="list-style-type: none"> -All critical facilities at risk to significant damages and power outages

SECTION FIVE MITIGATION STRATEGY

INTRODUCTION

The primary focus of the mitigation strategy is to establish goals and objectives, and identify action items to reduce the effects of hazards on existing infrastructure and property in a cost effective and technically feasible manner. The establishment of goals and objectives took place during the kick-off meeting with the regional planning team.

Meeting participants reviewed the goals from the 2015 HMP and discussed recommended additions and modifications. The intent of each goal and set of objectives is to develop strategies to account for risks associated with hazards and identify ways to reduce or eliminate those risks. Each goal and set of objectives is followed by 'mitigation alternatives,' or actions.

A preliminary list of goals and objectives was provided to the Planning Team and participants at the Round 1 public meetings. The Regional Planning Team voted to maintain the same list of goals from the 2015 HMP.

Requirement §201.6(c)(3)(i): [The hazard mitigation strategy shall include a] description of mitigation goals to reduce or avoid long-term vulnerabilities to the identified hazards.

Requirement §201.6(c)(3)(ii): [The mitigation strategy shall include a] section that identifies and analyzes a comprehensive range of specific mitigation actions and projects being considered to reduce the effects of each hazard, with particular emphasis on new and existing buildings and infrastructure.

Requirement: §201.6(c)(3)(ii): [The mitigation strategy] must also address the jurisdiction's participation in the National Flood Insurance Program (NFIP), and continued compliance with NFIP requirements, as appropriate.

Requirement: §201.6(c)(3)(iii): [The mitigation strategy section shall include] an action plan describing how the actions identified in section (c)(3)(ii) will be prioritized, implemented, and administered by the local jurisdiction. Prioritization shall include a special emphasis on the extent to which benefits are maximized according to a cost benefit review of the proposed projects and their associated costs.

Requirement §201.6(c)(3)(iv): For multi-jurisdictional plans, there must be identifiable action items specific to the jurisdiction requesting FEMA approval or credit of the plan.

SUMMARY OF CHANGES

The development of the mitigation strategy for this plan update includes the addition of new mitigation actions, updated status or removal of past mitigation actions, and revisions to the mitigation alternative selection process or descriptions of mitigation actions for consistency across the planning area.

GOALS

Below is the final list of goals as determined for this plan update. These goals provide direction to guide participants in reducing future hazard related losses.

- **GOAL 1: PROTECT HEALTH AND SAFETY OF RESIDENTS**
- **GOAL 2: REDUCE FUTURE LOSSES FROM HAZARD EVENTS**
- **GOAL 3: INCREASE PUBLIC AWARENESS AND EDUCATION ON THE VULNERABILITY TO HAZARDS**
- **GOAL 4: IMPROVE EMERGENCY MANAGEMENT CAPABILITIES**
- **GOAL 5: ENHANCE OVERALL RESILIENCE AND PROMOTE SUSTAINABILITY**
- **GOAL 6: PURSUE MULTI-OBJECTIVE OPPORTUNITIES (WHENEVER POSSIBLE)**

MITIGATION ALTERNATIVES (ACTION ITEMS)

After establishing the goals, mitigation alternatives were prioritized. The alternatives considered included: the mitigation actions identified per community/jurisdiction in the previous plan; additional mitigation actions discussed during the planning process; and recommendations from JEO for additional mitigation actions based on identified needs. JEO provided each participant a preliminary list of mitigation alternatives to be

used as a starting point which was tailored to the hazards of top concern identified by jurisdictions. This prioritized list of alternatives helped participants determine which actions will best assist their respective jurisdiction in alleviating damages in the event of a disaster. The listed priority does not indicate which actions will be implemented first, but will serve as a guide in determining the order in which each action should be implemented.

These projects are the core of a hazard mitigation plan. The planning teams were instructed that each alternative must be directly related to the goals of the plan. Alternatives must be specific activities that are concise and can be implemented individually. Mitigation alternatives were evaluated based on referencing the community's risk assessment and capability assessment. Communities were encouraged to choose mitigation actions that were realistic and relevant to the concerns identified.

A final list of alternatives was established including the following information: description of the action; which hazard(s) the action mitigated; responsible party; priority; cost estimate; potential funding sources; and estimated timeline. This information was established through input from participants and determination by JEO.

It is important to note that not all of the mitigation actions identified by a community may ultimately be implemented due to limited capabilities, prohibitive costs, low benefit/cost ratio, or other concerns. These factors may not be identified during the planning process. Participants have not committed to undertaking identified mitigation actions in the plan. The cost estimates, priority ranking, potential funding, and identified agencies are used to give communities an idea of what actions may be the most feasible over the next five years. This information will serve as a guide for the participants to assist in hazard mitigation for the future. Additionally, some jurisdictions may identify and pursue additional mitigation actions not identified in this HMP.

PARTICIPANT MITIGATION ALTERNATIVES

Mitigation alternatives identified by participants of the Upper Loup NRD HMP are found in the Mitigation Alternative Project Matrix below. Additional information about selected actions can be found in *Section Seven: Community Profiles*. Each action includes the following information in the respective community profile:

- Mitigation Action – general title of the action item
- Description – brief summary of what the action item(s) will accomplish
- Hazard(s) Addressed – which hazard the mitigation action aims to address
- Estimated Cost – a general cost estimate for implementing the mitigation action for the appropriate jurisdiction
- Potential funding – a list of any potential funding mechanisms to fund the action
- Timeline – a general timeline as established by planning participants
- Priority – a general description of the importance and workability in which an action may be implemented (high/medium/low); priority may vary between each community, mostly dependent on funding capabilities and the size of the local tax base
- Lead agency – listing of agencies or departments which may lead or oversee the implementation of the action item
- Status – a description of what has been done, if anything, to implement the action item

Implementation of the actions will vary between individual plan participants based upon the availability of existing information; funding opportunities and limitations; and administrative capabilities of communities. Establishment of a cost-benefit analysis is beyond the scope of this plan and could potentially be completed prior to submittal of a project grant application or as part of a five-year update. Completed, removed, and ongoing or new mitigation alternatives for each participating jurisdiction can be found in *Section Seven: Community Profiles*.

MITIGATION ALTERNATIVE PROJECT MATRIX

During public meetings, each participant was asked to review mitigation projects listed in the 2015 HMP and identify new potential mitigation alternatives, if needed, to reduce the effects of hazards. Selected projects varied from community to community depending upon the significance of each hazard present. The information listed in Table 83 is a compilation of new and on-going mitigation alternatives identified by jurisdiction. Completed and removed mitigation alternatives can be found in the respective community profile.

Table 83: Mitigation Alternatives Selected by Each Jurisdiction

Upper Loup NRD HMP Update - 2020		ULNRD	Hyannis	Hooker County	Mullen	Thomas County	Theftord	Halsey	Blaine County	Brewster	Dunning	Logan County	Stapleton	Gandy	Mullen Public Schools	Sandhills Public Schools
Mitigation Alternatives	Goal	ULNRD	Grant	Hooker		Thomas			Blaine	Blaine		Logan			Schools	
Acquire Identification Resources	3	X														
Alert/Warning Sirens	1, 4, 6			X	X	X	X	X	X		X	X	X		X	
Assess Vulnerability to Drought Risk	2, 5, 6					X										
Backup Generators	1, 5, 6	X	X	X	X	X	X	X	X	X	X	X	X			X
Backup Municipal Records	2							X								
Bury Power and Service Lines	2, 5, 6			X												
Civil Service Improvements	4							X	X			X				
Complete/Update Wildfire Protection Plan	2, 4, 5, 6															X
Continuity Planning	2, 5						X									
Develop a Drought Management Plan	2, 4, 5, 6	X				X										
Drainage Improvements	2, 5, 6				X	X			X		X	X	X			
Education Regarding CodeRed Warning Protocols	3	X														
Electrical System looped Distribution/Redundancies	2, 5, 6				X											
Emergency Communication	4			X					X							
Emergency Exercise: Hazardous Spill	3, 4, 6											X				X

Upper Loup NRD HMP Update - 2020		ULNRD	Hyannis	Hooker County	Mullen	Thomas County	Theford	Halsey	Blaine County	Brewster	Dunning	Logan County	Stapleton	Gandy	Mullen Public Schools	Sandhills Public Schools
Mitigation Alternatives	Goal	ULNRD	Grant	Hooker		Thomas			Blaine	Blaine		Logan			Schools	
Emergency Fuel Supply Plan	2, 4, 5, 6								X							
Emergency Operations Center	4						X									
Enroll in NFIP	2, 5, 6						X	X								
Fan and Air Conditioning Program	1	X														
Fire Wise Defensible Space	2			X	X	X	X	X	X	X				X		
Groundwater/Irrigation/Water Conservation Management Plan and Practices	2, 4, 5, 6	X														
Hail Resistant Building Materials	2, 5			X												
Hazardous Tree Removal Program	2							X			X			X	X	
Improve and Revise Snow/Ice Removal Program	1, 4, 6				X											
Improve Communications	4	X														
Improve/Provide Facilities for Vulnerable Populations	1			X												
Infrastructure Hardening	2						X									
Lightning Rods	2															X
Promote First Aid	1, 3, 6														X	X
Public Awareness/Education	1, 3, 4, 6	X			X	X	X	X	X	X	X	X	X	X		X

Section Five | Mitigation Strategy

Upper Loup NRD HMP Update - 2020		ULNRD	Hyannis	Hooker County	Mullen	Thomas County	Thedford	Halsey	Blaine County	Brewster	Dunning	Logan County	Stapleton	Gandy	Mullen Public Schools	Sandhills Public Schools
Mitigation Alternatives	Goal	ULNRD	Grant	Hooker		Thomas			Blaine			Logan			Schools	
Railroad Crossing Guard	1				X											
Replace Water Tower and Improve Water System	2		X													
Rescue/Snow Removal Resources	4		X								X	X				
Sheltering in Place	1, 4, 6						X									
Source Water Contingency Plan	2, 4, 5, 6			X												
Storm Shelters/Safe Rooms	1, 2, 6	X		X	X	X			X			X				
Surge Protectors	2															X
Training and Equipment for Volunteer Wildfire Fighters	2, 4							X								
Transportation System Improvements	2		X													
Tree City USA	3, 5, 6							X						X		
Tree Removal Equipment	2			X												
Update Comprehensive Plan	2, 4, 5, 6			X												
Warning Systems - Internet Signals	1, 3, 4, 6		X													
Warning Systems - Radio Signals	1, 3, 4, 6		X													
Warning Systems - TV and Telephone	1, 3, 4, 6							X								
Water Storage	2	X		X												

Upper Loup NRD HMP Update - 2020		ULNRD	Hyannis	Hooker County	Mullen	Thomas County	Theford	Halsey	Blaine County	Brewster	Dunning	Logan County	Stapleton	Gandy	Mullen Public Schools	Sandhills Public Schools
Mitigation Alternatives	Goal	ULNRD	Grant	Hooker		Thomas			Blaine	Blaine		Logan			Schools	
Water System Improvements	2				X				X							
Weather Radios	1, 4, 6										X			X		
Weather Spotter Training	3, 4, 6	X														
Well Improvements	2				X											
Wildfire and High Winds Emergency Response and Rescue Plan	2, 4, 5, 6							X								
Windbreaks and Snow Fences	2, 5, 6	X		X												

THIS PAGE IS INTENTIONALLY BLANK

SECTION SIX PLAN IMPLEMENTATION AND MAINTENANCE

MONITORING, EVALUATING, AND UPDATING THE PLAN

Participants of the ULNRD HMP will be responsible for monitoring (annually at a minimum), evaluating, and updating the plan during its five-year lifespan. Hazard mitigation projects will be prioritized by each participant's governing body with support and suggestions from the public and business owners. Unless otherwise specified by each participant's governing body, the governing body will be responsible for implementation of the recommended projects. The responsible party for the various implementation actions will report on the status of all projects and include which implementation processes worked well, any difficulties encountered, how coordination efforts are proceeding, and which strategies could be revised.

To assist with monitoring of the plan, as each recommended project is completed, a detailed timeline of how that project was completed will be written and attached to the plan in a format selected by the governing body. Information that will be included will address project timelines, agencies involved, area(s) benefited, total funding (if complete), etc. At the discretion of each governing body, a local task force will be used to review the original draft of the mitigation plan and to recommend changes.

Review and updating of this plan will occur at least every five years. At the discretion of each governing body, updates may be incorporated more frequently, especially in the event of a major hazard. The governing body will start meeting to discuss mitigation updates at least six months prior to the deadline for completing the plan review. The persons overseeing the evaluation process will review the goals and objectives of the previous plan and evaluate them to determine whether they are still pertinent and current. Among other questions, they may want to consider the following:

- Do the goals and objectives address current and expected conditions?
- If any of the recommended projects have been completed, did they have the desired impact on the goal for which they were identified? If not, what was the reason it was not successful (lack of funds/resources, lack of political/popular support, underestimation of the amount of time needed, etc.)?
- Have either the nature, magnitude, and/or type of risks changed?
- Are there implementation problems?
- Are current resources appropriate to implement the plan?
- Were the outcomes as expected?
- Did the plan partners participate as originally planned?
- Are there other agencies which should be included in the revision process?

Worksheets in *Appendix C* may also be used to assist with plan updates.

In addition, the governing body will be responsible for ensuring that the HMP's goals are incorporated into applicable revisions of each participant's comprehensive plan and any new planning projects undertaken

Requirement §201.6(c)(4)(i):
[The plan maintenance process shall include a] section describing the method and schedule of monitoring, evaluating, and updating the mitigation plan within a five-year cycle.

Requirement §201.6(c)(4)(ii):
[The plan shall include a] process by which local governments incorporate the requirements of the mitigation plan into other planning mechanisms such as comprehensive or capital improvement plans, when appropriate.

Requirement §201.6(c)(4)(iii):
[The plan maintenance process shall include a] discussion on how the community will continue public participation in the plan maintenance process.

by the participant. The HMP will also consider any changes in comprehensive plans, and incorporate the information accordingly in its next update.

CONTINUED PUBLIC INVOLVEMENT

To ensure continued plan support and input from the public and business owners, public involvement will remain a top priority for each participant. Notices for public meetings involving discussion of an action on mitigation updates will be published and posted in the following locations a minimum of two weeks in advance:

- Public spaces around the jurisdiction
- City/Village Hall
- Websites
- Local radio stations
- Local newspapers
- Regionally-distributed newspaper

UNFORESEEN OPPORTUNITIES

If new, innovative mitigation strategies arise that could impact the planning area or elements of this plan, which are determined to be of importance, a plan amendment may be proposed and considered separate from the annual review and other proposed plan amendments. The ULNRD will compile a list of proposed amendments received annually and prepare a report for NEMA, by providing applicable information for each proposal, and recommend action on the proposed amendments.

INCORPORATION INTO EXISTING PLANNING MECHANISMS

The Planning Team utilized a variety of plan integration tools to help communities determine how their existing planning mechanisms were related to the Hazard Mitigation Plan. Utilizing FEMA's *Integrating the Local Natural Hazard Mitigation Plan into a Community's Comprehensive Plan*⁸⁵ guidance, as well as FEMA's *2015 Plan Integration*⁸⁶ guide, each community engaged in a plan integration discussion. This discussion was facilitated by a Plan Integration Worksheet. This document offered an easy way for participants to notify the Planning Team of existing planning mechanisms, and if they interface with the HMP.

Each community referenced all relevant existing planning mechanisms and provided information on how these did or did not address hazards and vulnerability. Summaries of plan integration are found in each participant's *Community Profile*. For communities that lack existing planning mechanisms, especially smaller villages, the HMP may be used as a guide for future activity and development in the community.

⁸⁵ Federal Emergency Management Agency. November 2013. "FEMA Region X Integrating the Local Natural Hazard Mitigation Plan into a Community's Comprehensive Plan." <https://www.fema.gov/media-library-data/1388432170894-6f744a8afa8929171dc62d96da067b9a/FEMA-X-IntegratingLocalMitigation.pdf>.

⁸⁶ Federal Emergency Management Agency. July 2015. "Plan Integration: Linking Local Planning Efforts." https://www.fema.gov/media-library-data/1440522008134-ddb097cc285bf741986b48fdcef31c6e/R3_Plan_Integration_0812_508.pdf.

SECTION SEVEN: COMMUNITY PROFILES

PURPOSE OF COMMUNITY PROFILES

Community Profiles contain information specific to jurisdictions participating in the ULNRD planning effort. Community Profiles were developed with the intention of highlighting each jurisdiction's unique characteristics that affect its risk to hazards. Community Profiles may serve as a short reference of identified vulnerabilities and mitigation actions for a jurisdiction as they implement the mitigation plan. Information from individual communities was collected at public and one-on-one meetings and used to establish the plan. Community Profiles may include the following elements:

- Local Planning Team
- Location/Geography
- Climate (County Level)
- Demographics
- Transportation
- Future Development Trends
- Parcel Improvements and Valuations
- Critical Infrastructure and Key Resources
- Historical Hazard Events (County Level)
- Hazard Prioritization
- Governance
- Capability Assessment
- Plan Integration
- Mitigation Actions

In addition, maps specific to each jurisdiction are included such as: jurisdiction identified critical facilities; flood prone areas; and a future land use map (when available).

The hazard prioritization information, as provided by individual participants, in *Section Seven: Community Profiles* varies due in large part to the extent of the geographical area, the jurisdiction's designated representatives (who were responsible for completing meeting worksheets), identification of hazards, and occurrence and risk of each hazard type.

The overall risk assessment for the identified hazard types represents the presence and vulnerability to each hazard type area wide throughout the entire planning area. A discussion of certain hazards selected for each Community Profile were prioritized by the local planning team based on the identification of hazards of greatest concern, hazard history, and the jurisdiction's capabilities. The hazards not examined in depth can be found in *Section Four: Risk Assessment*.

COMMUNITY PROFILE

HOOKER COUNTY



Upper Loup Natural Resources District
Multi-Jurisdictional Hazard Mitigation Plan Update

2019

Local Planning Team

Table HKR.1: Hooker County Local Planning Team

Name	Title	Jurisdiction
Julie Kraye	County Commissioner	Hooker County
Wynn Wiens	Sheriff/Emergency Manager	Hooker County

Location, Geography, and Climate

Hooker County is located in north central Nebraska and is bordered by Thomas, Cherry, Grant, and McPherson counties. The total area of Hooker County is 721 square miles. The Middle Loup River crosses the northeast corner of the county, while the Dismal River splits into the North Fork and South Fork Dismal Rivers in south central Hooker County. The entirety of Hooker County lies in the Sand Hills topographic regionⁱ, with the majority of land used as rangeland for livestock.

CLIMATE

For Hooker County, the normal high temperature for the month of July is 89.4°F and the normal low temperature for the month of January is 14.2°F. On average, Hooker County receives 21.13 inches of precipitation and 41.6 inches of snowfall per year. The table below compares climate indicators with those of the entire state. Climate data is helpful in determining if certain events are higher or lower than normal. For example, if the high temperatures in the month of July are running well into the 90s, high heat events may be more likely which could impact vulnerable populations.

Table HKR.2: Hooker County Climate Normals

	Hooker County	State of Nebraska
July Normal High Temp	89.4°F	87.4°F
January Normal Low Temp	14.2°F	13.8°F
Annual Normal Precipitation	21.13"	23.8"
Annual Normal Snowfall	41.6"	25.9"

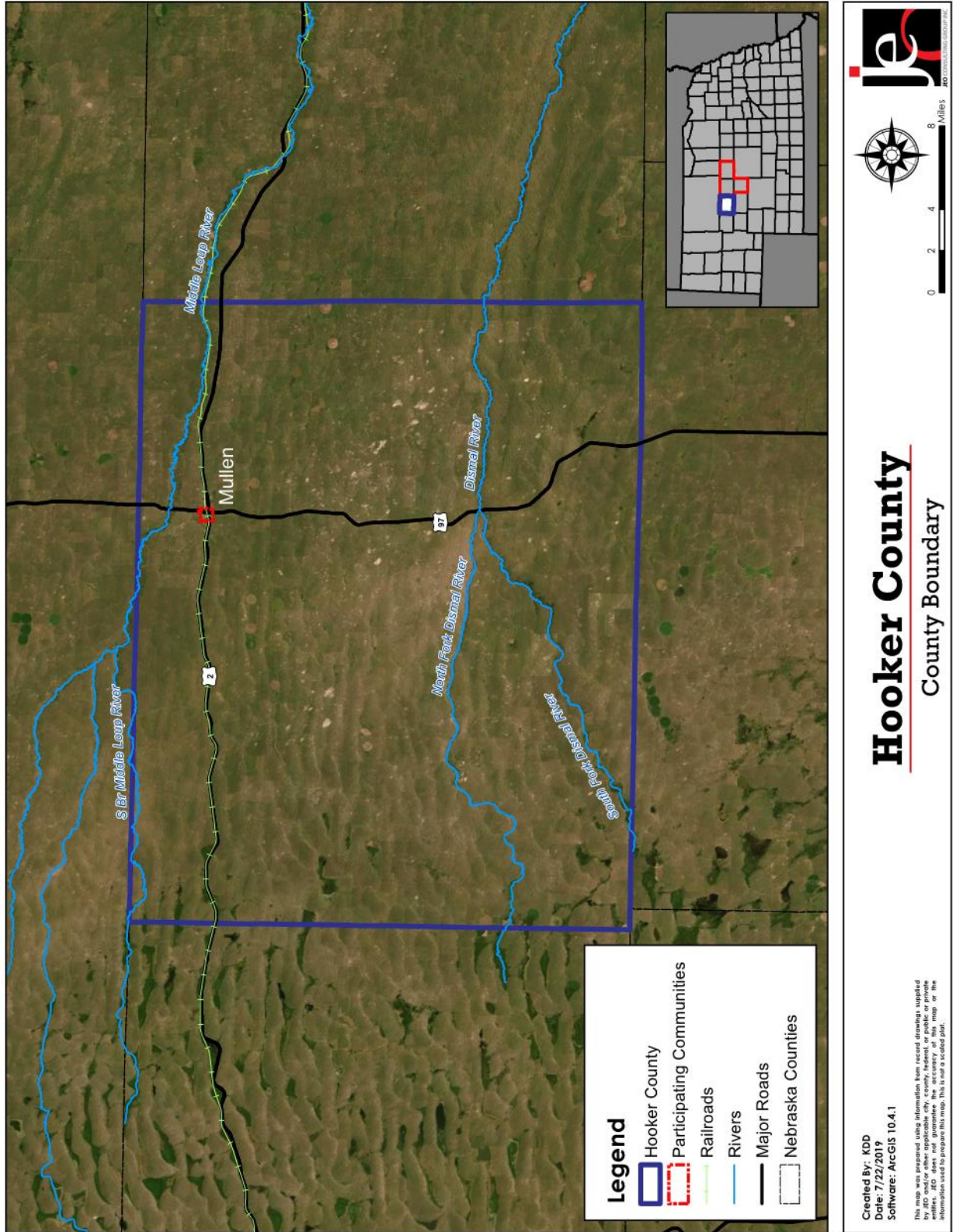
*Source: NCEI 1981-2010 Climate Normalsⁱⁱ, High Plains Regional Climate Center, 1981-2010ⁱⁱⁱ
Precipitation includes all rain and melted snow and ice.*

Transportation

Hooker County’s major transportation corridors include Nebraska Highway 2 running east to west and Nebraska Highway 97 running north to south. The local planning team identified Highway 97 as a major route to Interstate 80 or other larger communities. These major routes have experienced closures due to severe winter weather. Cellular network towers are located along both highways and are susceptible to damage from severe weather.

A Burlington Northern Santa Fe rail line also bisects the northern portion of the county and runs through the Village of Mullen. The rail line commonly transports hazardous materials through the county including coal, oil, or waste materials. Derailments have occurred in the planning area. The county also has an air landing strip located near the Village of Mullen. This information is important to hazard mitigation plans insofar as it suggests possible evacuation corridors in the county, as well as areas more at risk to transportation incidents.

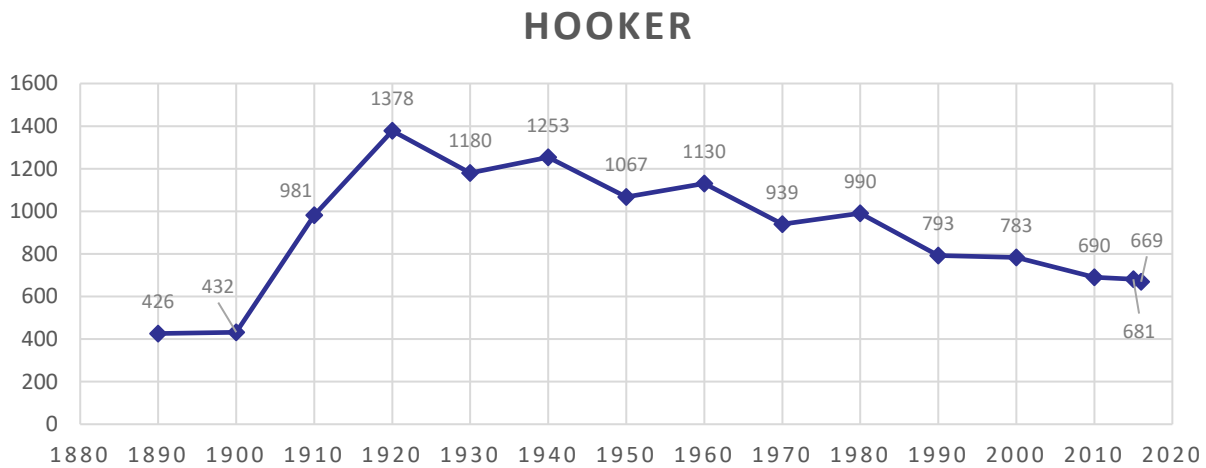
Figure HKR.1: Hooker County



Demographics

The following figure displays the historical population trend from 1890 to 2016. This figure indicates that the population of Hooker County has been declining since the 1920s. This is notable for hazard mitigation because communities with declining population may also have a higher level of unoccupied housing that is not being maintained. Furthermore, areas with declining population will be less prone to pursuing residential/commercial development in their areas, which may reduce the number of structures vulnerable to hazards in the future. Decreasing populations can also represent decreasing tax revenue for the county which could make implementation of mitigation actions more fiscally challenging.

Figure HKR.2: Population 1890 – 2016



Source: U.S. Census Bureau^{iv}

The following table indicates the State of Nebraska has a higher percentage of people under the age of five. This is relevant to hazard mitigation insofar as the very young and elderly populations may be at greater risk from certain hazards than others. For a more elaborate discussion of this vulnerability, please see *Section Four: Risk Assessment*.

Table HKR.3: Population by Age

Age	Hooker County	State of Nebraska
<5	2.2%	6.9%
5-64	60.4%	72.8%
>64	37.4%	20.3%
Median	59.4	36.2

Source: U.S. Census Bureau^v

The following table indicates that median household income and per capita income for the county is lower than the State of Nebraska. Median home value and rent are also both lower than the rest of the state. These economic indicators are relevant to hazard mitigation because they indicate the relative economic strength compared to the state as a whole. Areas with economic indicators which are relatively low may influence a county’s level of resilience during hazardous events.

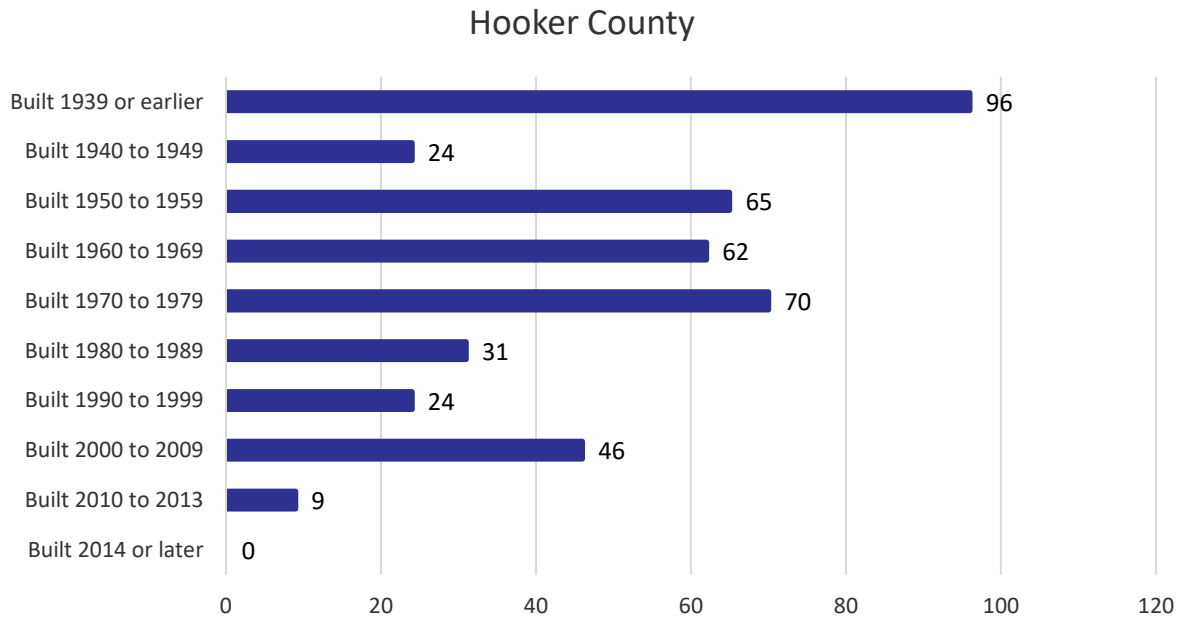
Table HKR.4: Housing and Income

	Hooker County	State of Nebraska
Median Household Income	\$38,616	\$71,166
Per Capita Income	\$22,094	\$28,596
Median Home Value	\$77,900	\$137,300
Median Rent	\$636	\$745

Source: U.S. Census Bureau^{vi, vii}

The following figure indicates that the majority of housing in Hooker County was built prior to 1970 (57.8%). According to 2016 ACS 5-year estimates, the county has 427 housing units with 70.5% percent of those units occupied. There are approximately 47 mobile homes in the county which are typically used for seasonal help. Housing age can serve as an indicator of risk as structures built prior to state building codes may be at greater risk. Finally, residents that live in mobile homes may be more vulnerable to the impacts of high winds, tornadoes, and severe winter storms.

Figure HKR.3: Housing Units by Year Built



Source: Source: U.S. Census Bureau^{viii}

Table HKR.5: Housing Units

Jurisdiction	Total Housing Units				Occupied Housing Units			
	Occupied		Vacant		Owner		Renter	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Hooker County	301	70.5%	126	29.5%	230	76.4%	71	23.6%
Nebraska	741,581	91%	73,425	9.0%	489,806	66.0%	251,775	34.0%

Source: U.S. Census Bureau^x

Major Employers

According to 2016 Business Patterns Census Data, Hooker County had 32 business establishments. The following table presents the number of establishments, number of paid employees, and the annual payroll in thousands of dollars. This information is relevant to hazard mitigation insofar as it indicates the diversification of industry. Communities which have a diverse economic makeup may be more resilient following a hazardous event, especially if certain industries are more impacted than others.

Table HKR.6: Business in Hooker County

	Total Businesses	Number of Paid Employees	Annual Payroll (in thousands)
Total for All Sectors	32	95	\$3,893,000

Source: U.S Census Bureau^x

Agriculture is also important to the economic fabric of Hooker County, and the state of Nebraska as a whole. Hooker County’s 80 farms cover 436,820 acres of land. Crop and livestock production are the visible parts of the agricultural economy, but many related businesses contribute as well by producing, processing, and marketing farm and food products. These businesses generate income, employment and economic activity throughout the region.

Table HKR.7: Hooker County Agricultural Inventory

Hooker County Agricultural Inventory	
Number of Farms	80
Land in Farms	436,820 acres

Source: USDA 2012 Census of Agriculture^{xi}

Future Development Trends

The local planning team indicated the population in the county has increased slightly in the past five years, spurring a need for new housing developments. The local planning team attributes this increase to two large golf clubs in the area expanding, bringing in more jobs and tourism. Various dilapidated buildings in the county have been demolished. No new housing developments are planned for the next five years, however a new small convenience store and other small business are expected in Mullen in the next five years.

Structural Inventory and Valuation

GIS parcel data as of December 2018 was requested from GIS Workshop, which the county hires to manage the County Assessor data. This data was analyzed for the location, number, and value of property improvements at the parcel level. The data did not contain the number of structures on each parcel. A summary of the results of this analysis is provided in the following table.

Number of Parcels	Number of Improvements	Total Improvement Value	Number of Improvements in Floodplain	Value of Improvements in Floodplain
1,906	533	\$27,097,882	0	\$0

Critical Infrastructure/Key Resources

Chemical Storage Fixed Sites

According to the Tier II System reports submitted to the Nebraska Department of Environmental Quality, there are no chemical storage sites in unincorporated Hooker County which house hazardous materials. The local planning team identified one fertilizer plant located in unincorporated Hooker County; however, chemicals stored here are minimal. The Mullen Volunteer Fire Department is trained in HazMat Operations with limited gear available. The nearest higher-level HazMat team is located in North Platte roughly 75 miles away. For a description and map of chemical sites located in incorporated areas, please see the jurisdiction's participant section.

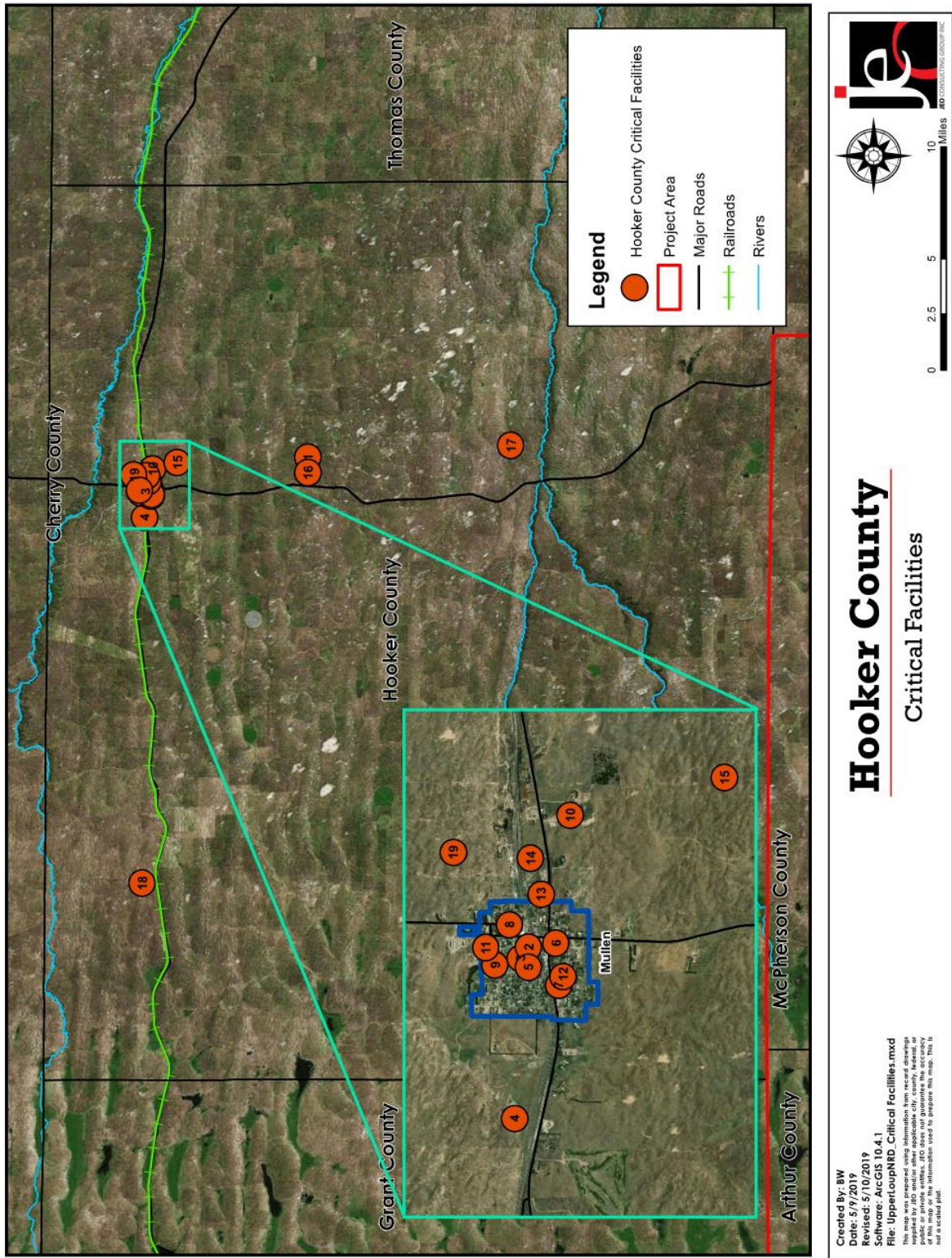
Critical Facilities

Each participating jurisdiction identified critical facilities vital for disaster response, providing shelter to the public (i.e. Red Cross Shelter), 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 HKR.8: Critical Facilities

CF Number	Name	Address	Red Cross Shelter (Y/N)	Generator (Y/N)
1	911 Communications Tower	4 mi south of Mullen, NE	No	Yes
2	Alert Siren	200 NW 1 St Mullen, NE	No	No
3	Assembly of God Church	208 NW 1 st	Yes	No
4	Community Center (new)	36530 Fairgrounds Rd	Yes	No
5	Hooker County Courthouse	303 NW 1 st St Mullen, NE	No	No
6	Lariat Auditorium	206 S Washington	Yes	No
7	Mullen Fire Hall	501 SW 1 st St	No	Yes
8	Mullen Grade School	106 NW 2 nd St	Yes	No
9	Mullen High School	404 N Blaine Ave	No	No
10	NDOT Yard	1 mi east of Mullen, NE	No	No
11	Pioneer Memorial Nursing Home	206 NW 4 th	No	No
12	St. Mary's Church	302 S Blaine Ave	Yes	No
13	State Maintenance Shop	S 1 st St	No	No
14	Sub-station	1.5 mi east of Mullen, NE	No	No
15	US Cellular Tower	Southeast of Mullen	No	No
16	Verizon Cell Tower	South of Mullen on Hwy 97	No	Yes
17	Viero Cell Tower	South of Mullen	No	Yes
18	Viero Cell Tower	West of Mullen on Highway 2	No	Yes
19	Viero Cell Tower	North Highway 97	No	Yes

Figure HKR.4: Critical Facilities



Historical Occurrences

The following table provides a statistical summary for hazards that have occurred in the county. The property damages from the NCEI Storm Events Database (January 1996 – July 2018) should be considered only as broad estimates. Sources include but are not limited to: emergency management; local law enforcement; Skywarn spotters; NWS damage surveys; newspaper clipping services; insurance industry; and the general public. Crop damages are not included as there are no crop damage reports from the USDA Risk Management Agency for Hooker County between 2000 and 2018.

Table HKR.9: Severe Weather Events

HAZARD TYPE		Count	Property	Crop
Agricultural Disease	Animal Disease ¹	2	N/A	N/A
	Plant Disease ²	0	N/A	N/A
Chemical Spills (Transportation) ³		2	\$6,825	\$0
Chemical Spills (Fixed Site) ⁴		0	\$0	\$0
Civil Disorder/Terrorism ^{5,6}		0	\$0	N/A
Dam Failure ⁷		0	\$0	N/A
Drought ⁸		483/1,486 months	\$1,000,000	\$0
Earthquake ⁹				
Extreme Heat ^{8,10}		Avg 4 days per year	\$0	\$0
Flooding ⁸	Flash Flood	1	\$500,000	N/A
	Flood	0	\$0	N/A
Grass/Wildfires ¹¹		113	19,012 acres	\$13,400
Hail ⁸ Average: 1.29" Range: 0.75-4.5"		90	\$417,000	N/A
High Winds ⁸ Average: 48 mph Range: 35-60 mph		8	\$0	N/A
Severe Thunderstorms ⁸	Thunderstorm Wind Average: 55 mph Range: 52-80 mph	53	\$88,000	N/A
	Heavy Rain	1	\$0	N/A
	Lightning	1	\$3,000	N/A
Severe Winter Storms ⁸	Blizzard	7	\$30,000	N/A
	Extreme Cold/Wind Chill	6	\$0	N/A
	Heavy Snow	5	\$5,000	N/A
	Ice Storm	0	\$0	N/A
	Winter Storm	39	\$282,000	N/A
Winter Weather		0	\$0	N/A
Tornadoes ⁸ Average: EF0 Range: EF0		8	\$5,000	N/A
		336	\$2,336,825	\$13,400

N/A: Data not available

¹ NDA (2014-2018)

Section Seven: Hooker County Community Profile

- 2 USDA RMA (2000-2018)
- 3 U.S. Coast Guard NRC (1990-2018)
- 4 PHMSA (1980-2018)
- 5 SPEED (XXXX-XXXX)
- 6 START (XXXX-XXXX)
- 7 Stanford NPDP (1911-2016)
- 8 NCEI (January 1996 to July 2018)
- 9 USGS (1900-2018)
- 10 HPRCC (1902-2018)
- 11 NFS (2000-2018)

County Hazard Prioritization

For more information regarding these area wide hazards, please see *Section Four: Risk Assessment*. The following discussion provides county-specific information, reported in Hooker County Risk Assessment Summary, relevant to each hazard. Only hazards identified either as a concern to the County by the local planning team, or based on the occurrence and risk of the hazard to the county are discussed in detail below.

Drought

Drought is a periodic occurrence across the state and planning area. Agriculture is a primary economic driver in the County and long-lasting droughts would greatly impact this industry. Wildfire is also of greater concern during times of drought with reduced water supplies and highly flammable landcover. Drought events in 2006 and 2012 significantly impacted the region with losses for local producers and wildfire activity substantially increased. County roads in 2012 deteriorated due to extreme dry conditions. Precipitation in the spring and early summer is particularly important for ranchers in the county to produce feed for livestock. The County has a drought response plan and works with the ULNRD to monitor water levels.

Grass/Wildfires

Grass/wildfires are particularly devastating across the County and planning area as the local economy is heavily dependent on the agriculture sector. Grass/wildfires occur on an annual basis and destroy rangeland crucial for livestock. The local planning team indicated fire fighting equipment may come from hundreds of miles away in order to respond to widespread events. Grass/wildfires in 1972, 1999, 2000, and 2006 burned significant tracts of land throughout the area. Lightning strikes are a common cause of wildfires, which can also be exacerbated by drought conditions and high winds. The Mullen Volunteer Fire Department averages 10-12 people and protects over 1.2 million acres.

Hail

The local planning team's concerns with hail regard property and agricultural damages, especially in conjunction with severe thunderstorms. A storm with significant hail in 2000 caused damages to homes in the County and in May of 2005 significant damages occurred to rangelands in the southern half of the county. A June 2015 hailstorm did major damage to local golf clubs and rangelands which impacted the local economy. The Hooker County Emergency Manager indicated no buildings have hail resistant building materials. Identified actions to reduce hail impacts include installing/updating warning sirens and installing hail resistant materials to critical facilities.

High Winds

High winds are common across the planning area and can cause damage to homes and infrastructure. The local planning team is particularly concerned with damages to power lines and cell towers which cause prolonged power outages and disrupt communications. High winds also contribute to the spread of grass/wildfires, another common hazard throughout the planning area.

Community shelter locations are located in the Village of Mullen and include local church basements and the basement of the County Courthouse. Many residents either have or live near neighbors with basements. The County has a text alert system to notify emergency responders and residents of hazardous weather.

Severe Thunderstorms

Severe thunderstorms are a common occurrence in the region and the planning area. They have caused damage to property, crops, and livestock due to the combination of hail, high winds, heavy rainfall, and lightning strikes. A severe thunderstorm with lightning strikes caused \$3,000 in damage in Mullen in 2014 and killed two cows. A local paging system amongst first responders which sends out alerts and updates for severe weather has been damaged from severe storms and is currently inoperable. There is concern that high winds can damage cell towers in the County. Weather radios have been distributed to critical facilities, but only the Fire Hall in Mullen has a back up generator.

Severe Winter Storms

Severe winter storms include heavy snow, blowing and drifting snow, and ice accumulation which can close major transportation routes, strand motorists, cause power outages, damage property, and kill livestock. A severe winter storm on April 13, 2018 had 15 inches of snow with wind gusts up to 70 mph and caused highways to be closed throughout the county. The local planning team emergency responders indicated resources were stretched during this storm and the local communities suffered high deaths amongst young livestock. Few power lines are buried throughout the county with concerns existing about prolonged power outages for residents, schools, and the nursing home in Mullen. The local planning team indicated local snow removal resources are sufficient between the Hooker County Roads Department, Village of Mullen Utilities, and the Nebraska Department of Transportation yard in Mullen.

Governance

A community's governance structure impacts its capability to implement mitigation actions. Hooker County is governed by a three member board of commissioners. The county also has the following offices and departments:

- County Clerk
- County Assessor
- County Treasurer
- County Attorney
- Emergency Management
- Highway Superintendent
- Sheriff's Office
- Planning and Zoning Commission

Capability Assessment

The capability assessment consisted of 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.

Section Seven: Hooker County Community Profile

Table HKR.10: Capability Assessment

Survey Components/Subcomponents		Yes/No
<i>Planning & Regulatory Capability</i>	Comprehensive Plan	Yes, 2005
	Capital Improvements Plan	Yes
	Economic Development Plan	No
	Emergency Operational Plan	Yes
	Floodplain Management Plan	No (no floodplains)
	Storm Water Management Plan	No
	Zoning Ordinance	Yes, 2005
	Subdivision Regulation/Ordinance	Yes
	Floodplain Ordinance	None
	Building Codes	No
	National Flood Insurance Program	No
	Community Rating System	No
	Other (if any)	
<i>Administrative & Technical Capability</i>	Planning Commission	Yes
	Floodplain Administration	No
	GIS Capabilities	Yes
	Chief Building Official	No
	Civil Engineering	No
	Local Staff Who Can Assess Community's Vulnerability to Hazards	Yes
	Grant Manager	No
	Mutual Aid Agreement	Yes, FD & Sherriff's Office
Other (if any)		
<i>Fiscal Capability</i>	Capital Improvement Plan/ 1 & 6 Year plan	Yes
	Applied for grants in the past	Yes
	Awarded a grant in the past	Yes
	Authority to Levy Taxes for Specific Purposes such as Mitigation Projects	Yes
	Gas/Electric Service Fees	Yes
	Storm Water Service Fees	Yes
	Water/Sewer Service Fees	Yes
	Development Impact Fees	No
	General Obligation Revenue or Special Tax Bonds	Yes
Other (if any)		
<i>Education & Outreach Capability</i>	Local citizen groups or non-profit organizations focused on environmental protection, emergency preparedness, access and functional needs populations, etc. Ex. CERT Teams, Red Cross, etc.	Yes (Volunteer fire department, Emergency Manager)
	Ongoing public education or information program (e.g., responsible water use, fire safety, household preparedness, environmental education)	Yes (Volunteer Fire Department)
	Natural Disaster or Safety related school programs	No

Survey Components/Subcomponents	Yes/No
StormReady Certification	No
Firewise Communities Certification	No
Tree City USA	No
Other (if any)	

Overall Capability	Limited/Moderate/High
Does your county have the financial resources need to implement mitigation projects?	Limited
Does your county have the staff/expertise to implement projects?	Moderate
Does your county have the community support to implement projects?	Moderate
Does your county staff have the time to devote to hazard mitigation?	Moderate

Plan Integration

The Hooker County Local Emergency Operations Plan (LEOP) was last updated in 2015 and is currently being updated with an estimated completion date of 2020. The LEOP incorporates hazard mitigation through the following: addresses hazards of top concern; assigns specific responsibilities to individual communities; identifies scenarios that would require evacuation; identifies sheltering locations; and provides clear assignment of responsibility during an emergency. Several departments are familiar with the County LEOP including fire departments, county officials, Village of Mullen officials, and EMS personnel.

Hooker County’s Comprehensive Plan was last updated in 2001 and has an update scheduled by 2021. Hooker County’s Zoning Ordinance was last updated in 2005 and includes subdivision regulations. The zoning ordinance includes wind tower regulations as of December 2016, but should be updated to prohibit development in the floodplain or high hazard areas.

There are currently no plans to further integrate existing or future planning mechanisms with this HMP.

Mitigation Strategy

New and Ongoing Actions:

MITIGATION ACTION		ALERT/WARNING SIRENS
DESCRIPTION	Perform an evaluation of existing alert sirens in order to determine sirens which should be replaced or upgraded. Install new sirens where lacking.	
HAZARD(S)	All Hazards	
ESTIMATED COST	\$15,000	
FUNDING	HMGP, Bonds, General Funds	
TIMELINE	1 year	
PRIORITY	High	
LEAD AGENCY	Hooker County	
STATUS	This is a new action.	

MITIGATION ACTION		BACKUP GENERATORS
DESCRIPTION	Provide a portable or stationary source of backup power to redundant power supplies, municipal wells, lift stations, and other critical facilities and shelters.	
HAZARD(S)	Tornadoes, high winds, severe winter storms, severe thunderstorms	
ESTIMATED COST	\$1,500,000 -\$2,000,000	
FUNDING	Local Sinking Funding; possibly a bond, General Funds	
LOCATION	Village of Mullen or substation	
TIMELINE	5+ years	
PRIORITY	High	
LEAD AGENCY	Hooker County Emergency Management, Village of Mullen	
STATUS	The County and the Village are currently pursuing funding for a backup generator.	

MITIGATION ACTION		BURY POWER AND SERVICE LINES
DESCRIPTION	Communities can work with their local Public Power District or Electricity Department to identify vulnerable transmission and distribution lines and plan to bury lines underground or retrofit existing structures to be less vulnerable to storm events. Electrical utilities shall be required to use underground construction methods where possible for future installation of power lines.	
HAZARD(S)	Tornadoes, severe winter storms, severe thunderstorms	
ESTIMATED COST	\$70,000/mile	
FUNDING	General Funds, Grants	
LOCATION	Countywide	
TIMELINE	5+ years	
PRIORITY	Low	
LEAD AGENCY	Local Public Power District, County Board, Utilities	
STATUS	This project has not yet been started.	

MITIGATION ACTION		EMERGENCY COMMUNICATION
DESCRIPTION	Establish an action plan to improve communication between agencies to better assist residents and businesses during and following emergencies. Develop/improve/implement Emergency Communication Action Plan. Establish inner-operable communications. Provide equipment such as satellite telephones and radios.	
HAZARD(S)	All Hazards	
ESTIMATED COST	\$1,000+ Staff Time	
FUNDING	General Funds	
TIMELINE	5+ years	
PRIORITY	Medium	
LEAD AGENCY	Hooker County	
STATUS	This is a new action.	

MITIGATION ACTION		FIRE WISE DEFENSIBLE SPACE
DESCRIPTION	Work with the Nebraska Forest Service and US Forest Service to become a Fire Wise Communities/USA participant. Develop a Community Wildfire Protection Plan. Train land owners about creating defensible space. Enact ordinances and building codes to increase defensible space, improve building materials to reduce structure ignitability, and increase access to structures by responders. Develop and implement brush and fuel thinning projects.	
HAZARD(S)	Grass/wildfire	
ESTIMATED COST	\$20,000	
FUNDING	HMGP, NFS, USFS, ULNRD, NGPC, Rural Fire Assistance, General Funds	
LOCATION	Countywide	
TIMELINE	5+ years	
PRIORITY	Low	
LEAD AGENCY	Hooker County Emergency Management, Mullen Fire Department	
STATUS	Hooker County and Village of Mullen are currently in the process of creating and sharing community education materials.	

MITIGATION ACTION		HAIL RESISTANT BUILDING MATERIALS
DESCRIPTION	Provide information related to hail resistant building materials to individuals constructing new buildings	
HAZARD(S)	Hail, severe thunderstorms, severe winter storms	
ESTIMATED COST	N/A	
FUNDING	PDM, HMGP, Municipal funds, General Funds	
LOCATION	Countywide	
TIMELINE	5+ years	
PRIORITY	Low	
LEAD AGENCY	County Clerk, Hooker County Emergency Management	
STATUS	This project has not yet been started.	

Section Seven: Hooker County Community Profile

IMPROVE/PROVIDE FACILITIES FOR VULNERABLE POPULATIONS	
MITIGATION ACTION	
DESCRIPTION	Evaluate vulnerable population or placement of vulnerable populations throughout the community. Ensure facilities which house vulnerable populations are placed in the least vulnerable areas of the community. Reinforce existing facilities housing vulnerable populations if unable to relocate.
HAZARD(S)	All Hazards
ESTIMATED COST	Adopt regulations
FUNDING	General Funds
TIMELINE	2-5 years
PRIORITY	Low
LEAD AGENCY	Hooker County
STATUS	This is a new action.

IMPROVE WARNING SYSTEMS	
MITIGATION ACTION	
DESCRIPTION	Improve/implement city cable TV interrupt warning system and telephone interrupt system such as Reverse911.
HAZARD(S)	Tornadoes, high winds, severe thunderstorms, severe winter storms, grass/wildfire
ESTIMATED COST	\$5,000+
FUNDING	General Funds
LOCATION	Hooker County
TIMELINE	2-5 years
PRIORITY	High
LEAD AGENCY	Hooker County Emergency Management
STATUS	This is an ongoing action. The County enrolls and utilizes Reverse 911 to send emergency alerts.

SOURCE WATER CONTINGENCY PLAN	
MITIGATION ACTION	
DESCRIPTION	Villages and cities can evaluate and locate new sources of groundwater to ensure adequate supplies to support the existing community and any additional growth which may occur.
HAZARD(S)	Drought
ESTIMATED COST	\$5,000+
FUNDING	CDBG, SRF, NDEE, HMGP, PDM, General Funds
LOCATION	Village of Mullen
TIMELINE	5+ years
PRIORITY	Medium
LEAD AGENCY	Hooker County Emergency Management, Village of Mullen
STATUS	This project has not yet been started.

MITIGATION ACTION		STORM SHELTER/SAFE ROOMS
DESCRIPTION	Design and construct fully supplied storm shelters and safe rooms in highly vulnerable areas such as mobile home parks, campgrounds, schools, and other areas.	
HAZARD(S)	Tornadoes, high winds, severe thunderstorms, severe winter storms	
ESTIMATED COST	\$200-\$300/sf stand alone; \$150-\$200/sf addition/retrofit	
FUNDING	Village of Mullen funds, perhaps with contributions from Mullen Public Schools and the County, PDM, HMGP	
LOCATION	Village of Mullen	
TIMELINE	5+ years	
PRIORITY	Medium	
LEAD AGENCY	Hooker County Emergency Management, Village of Mullen	
STATUS	No formal locations have been determined for storm shelters. Potential locations include: Mullen Public Schools, Village Office, Fire Hall, or Community Center	

MITIGATION ACTION		TREE REMOVAL EQUIPMENT
DESCRIPTION	Provide for equipment to remove hazardous trees.	
HAZARD(S)	Tornadoes, high winds, severe thunderstorms, severe winter storms	
ESTIMATED COST	\$20,000+	
FUNDING	PDM, HMGP, General Funds	
LOCATION	Village of Mullen	
TIMELINE	5+ years	
PRIORITY	Low	
LEAD AGENCY	Hooker County Emergency Management, Village of Mullen	
STATUS	This project has not been started.	

MITIGATION ACTION		UPDATE COMPREHENSIVE PLAN
DESCRIPTION	Update comprehensive plan. Integrate plan with Hazard Mitigation Plan components.	
HAZARD(S)	All hazards	
ESTIMATED COST	\$10,000	
FUNDING	General Funds	
TIMELINE	5+ years	
PRIORITY	Low	
LEAD AGENCY	Hooker County	
STATUS	This project has not been started. The update will occur in 2021.	

Section Seven: Hooker County Community Profile

MITIGATION ACTION		IMPROVE WARNING SYSTEMS
DESCRIPTION	Improve/implement city cable TV interrupt warning system and telephone interrupt system such as Reverse911.	
HAZARD(S)	Tornadoes, high winds, severe thunderstorms, severe winter storms, grass/wildfire	
ESTIMATED COST	\$5,000+	
FUNDING	General Funds	
LOCATION	Hooker County	
TIMELINE	2-5 years	
PRIORITY	High	
LEAD AGENCY	Hooker County Emergency Management	
STATUS	This is an ongoing action. The County enrolls and utilizes Reverse 911 to send emergency alerts.	

MITIGATION ACTION		WATER STORAGE
DESCRIPTION	Develop additional water storage alternatives.	
HAZARD(S)	Tornadoes, high winds, severe thunderstorms, severe winter storms, grass/wildfire	
ESTIMATED COST	\$30,000+	
FUNDING	General Funds, Municipal Funds	
LOCATION	Village of Mullen	
TIMELINE	5+ years	
PRIORITY	Low	
LEAD AGENCY	Hooker County Emergency Management, Village of Mullen	
STATUS	This project has not been started.	

MITIGATION ACTION		WINDBREAKS AND SNOW FENCE
DESCRIPTION	Install or plant living snow fences/construct snow fences to protect main transportation routes and critical facilities from excessive snow drifting and road closures. Snow fences also act as windbreaks and increase water storage capacity in soil.	
HAZARD(S)	High winds, severe winter storms	
ESTIMATED COST	\$2,000+	
FUNDING	ULNRD, NRCS, FST, Nebraska Game and Parks Commission, General Funds	
LOCATION	County-wide	
TIMELINE	5+ years	
PRIORITY	Medium	
LEAD AGENCY	Hooker County, Upper Loup Natural Resources District	
STATUS	In Progress. The ULNRD assists landowners and the County install living snow fences.	

Removed Actions:

MITIGATION ACTION		ANCHOR FERTILIZER, FUEL, AND PROPANE TANKS
DESCRIPTION	Anchor fuel tanks to prevent movement. If left unanchored, tanks could present a major threat to property and safety in a tornado or high wind event.	
HAZARD(S)	Tornadoes, high winds	
REASON FOR REMOVAL	Anchoring fuel tanks is no longer considered a priority project.	

MITIGATION ACTION		CONTINUITY PLANNING
DESCRIPTION	Develop continuity of operations plans for critical facilities.	
HAZARD(S)	All hazards	
REASON FOR REMOVAL	Continuity planning is covered by the Village LEOP.	

MITIGATION ACTION		DATABASE OF VULNERABLE POPULATIONS
DESCRIPTION	Work with communities to develop a database of vulnerable populations.	
HAZARD(S)	All hazards	
REASON FOR REMOVAL	The local planning team identified the maintenance of this action to be unreasonable for the Village.	

MITIGATION ACTION		EMERGENCY SIGNAGE
DESCRIPTION	Place signs around communities and vulnerable areas to warn of potential hazards and indicate locations of storm shelters, evacuation routes, or safest places to be during an event.	
HAZARD(S)	All hazards	
REASON FOR REMOVAL	The NDOT yard in Mullen has emergency signage that may be used if necessary on roads. Additional emergency signage is not needed.	

MITIGATION ACTION		NATURAL BENEFIT OF FLOODPLAINS
DESCRIPTION	Preserve the natural and beneficial functions of floodplains and flood prone areas through measures including but not limited to: retaining natural vegetation, restoring streambeds, and preserving open spaces.	
HAZARD(S)	Flooding	
REASON FOR REMOVAL	There is no floodplain in the County.	

MITIGATION ACTION		VEHICULAR BARRIERS
DESCRIPTION	Install vehicular barriers around critical facilities.	
HAZARD(S)	Terrorism	
REASON FOR REMOVAL	There is no reason to believe barriers are needed, and no place that would benefit from having them.	

Section Seven: Hooker County Community Profile

-
- ⁱ Center for Applied Rural Innovation. "Topographic Regions Map of Nebraska." 2001. <http://digitalcommons.unl.edu/caripubs/62>.
- ⁱⁱ National Centers for Environmental Information. "1981-2010 U.S. Climate Normals." Accessed November 2018. <https://www.ncdc.noaa.gov/cdo-web/datatools>.
- ⁱⁱⁱ High Plains Regional Climate Center. "Monthly Climate Normals 1981-2010 – Mullen NE." Accessed November 2018. <http://climod.unl.edu/>.
- ^{iv} United States Census Bureau. "2016 American Fact Finder: S0101: Age and Sex." [database file]. <https://factfinder.census.gov>.
- ^v United States Census Bureau. "2016 American Fact Finder: S0101: Age and Sex." [database file]. <https://factfinder.census.gov>.
- ^{vi} United States Census Bureau. "2016 American Fact Finder: DP04: Selected Housing Characteristics." [database file]. <https://factfinder.census.gov>.
- ^{vii} United States Census Bureau. "2016 American Fact Finder: DP03: Selected Economic Characteristics." [database file]. <https://factfinder.census.gov>.
- ^{viii} United States Census Bureau. "2016 American Fact Finder: DP04: Selected Housing Characteristics." [database file]. <https://factfinder.census.gov>.
- ^{ix} United States Census Bureau. "2016 American Fact Finder: DP04: Selected Housing Characteristics." [database file]. <https://factfinder.census.gov>.
- ^x United States Census Bureau. "2016 American Fact Finder: Geography Area Series County Business Patterns 2015 Business Patterns." [database file]. <https://factfinder.census.gov>.
- ^{xi} United States Department of Agriculture, National Agricultural Statistics Server. 2012. "2012 Census of Agriculture – County Data." <https://www.agcensus.usda.gov/Publications/2012/>.

COMMUNITY PROFILE

VILLAGE OF MULLEN



Upper Loup Natural Resources District
Multi-Jurisdictional Hazard Mitigation Plan Update

2019

Local Planning Team

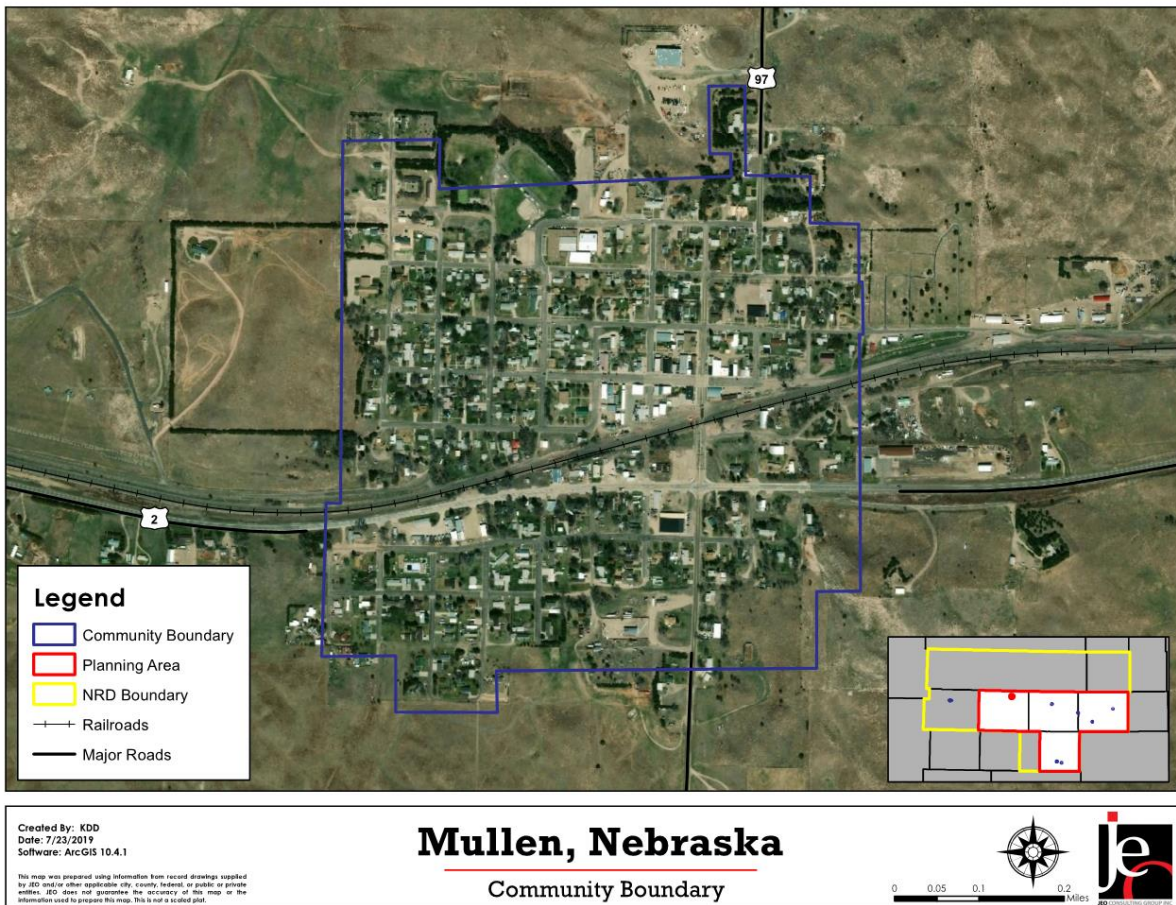
Table MUL.1: Mullen Local Planning Team

Name	Title	Jurisdiction
Josh Barnes	Fire Department	Village of Mullen
Tony Corbin	Utilities Superintendent	Village of Mullen
Wade Marsh	Village Board	Village of Mullen
Deb Daly	Village Clerk	Village of Mullen
Dan Daly	Fire Department	Village of Mullen

Location and Geography

The Village of Mullen is located in the north central portion of Hooker County and covers an area of 0.47 square miles. The Village is south of the Middle Loup River. The Village of Mullen is the county seat for Hooker County.

Figure MUL.1: Village of Mullen



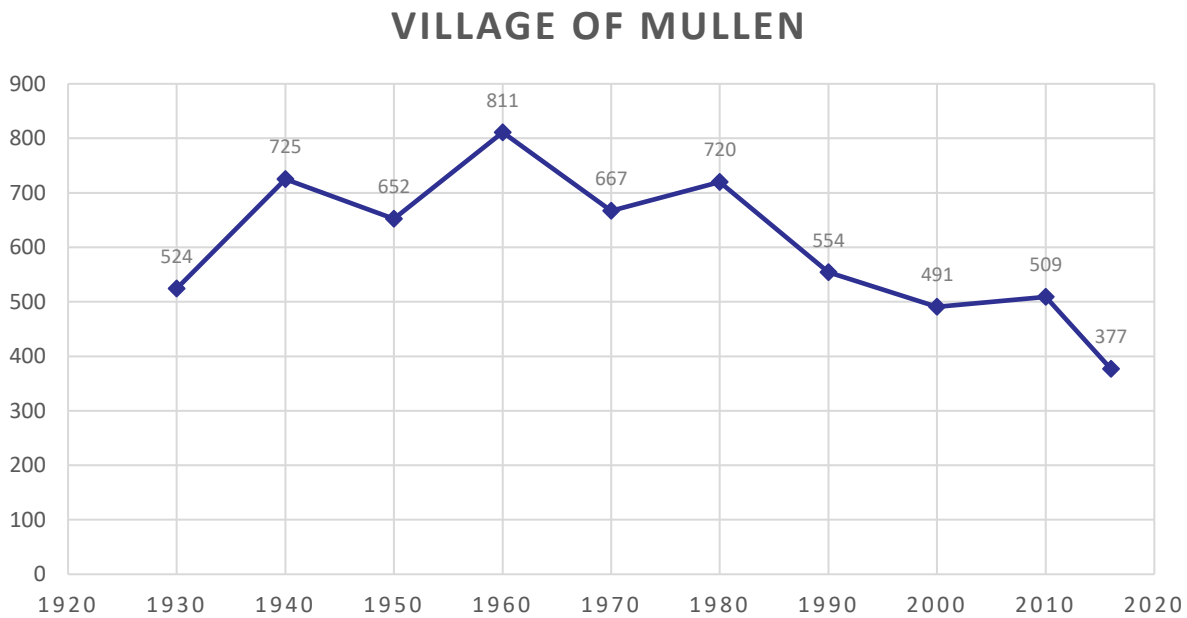
Transportation

Mullen’s major transportation corridors include Nebraska Highway 97 which averages 485 vehicles per day, and Nebraska Highway 2 which averages 780 vehicles per day.^{xii} A Burlington Northern Santa Fe rail line runs through the village and the Hooker County Airport is located in Mullen. The railroad commonly transports hazardous materials including coal, oil, and waste products through town. No derailments have occurred in Mullen, but it remains a concern for the community. 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.

Demographics

Mullen’s population declined from about 426 people in 2000 to 377 people in 2016, an average annual decrease of 0.7%. Declining populations make communities more vulnerable to hazards as it leads to more unoccupied or vacant housing units and decreasing tax revenues to pursue mitigation projects. Mullen’s population accounted for 56% percent of Hooker County’s population in 2016.^{xiii}

Figure MUL.2: Estimated Population 1930 - 2016



Source: U.S. Census Bureau

The young, elderly, minorities, and poor may be more vulnerable to certain hazards than other groups. In comparison to the County, Mullen’s population was:

- **Older.** The median age of Mullen was 63 years old in 2016, compared with the County average of 60 years. Mullen’s population grew older since 2010, when the median age was 57 years old. Mullen had a smaller proportion of people under 20 years old (12.8%) than the County (14.9%).^{xiv}
- **Similarly ethnically diverse.** Since 2010, Mullen grew more ethnically diverse. In 2010, 0% of Mullen’s population was Hispanic or Latino. By 2016, about 3.2% of Mullen’s population was Hispanic or Latino. During that time, the Hispanic population in the County grew from 0% in 2010 to 4.3% in 2016.^{xv}

- **Less likely to be below the federal poverty line.** The poverty rate in Mullen (7.3% of families living below the federal poverty line) was lower than the County's poverty rate (8.0%) in 2016.^{xvi}

Employment and Economics

The Village's economic base is a mixture of industries. In comparison to Hooker County, Mullen's economy had:

- **Similar mix of industries.** Mullen's major employment sectors, accounting for 10% or more of employment each, were: Professional/Scientific Services, Educational Services, and Arts/Entertainment. Hooker County's major employment sectors were Agriculture, Arts/Entertainment, and Education Services in 2016.^{xvii}
- **Lower household income.** Mullen's median household income in 2016 (\$37,386) was about \$1,230 lower than the County (\$38,616).^{xviii}
- **Fewer long-distance commuters.** About 77% percent of workers in Mullen commuted for fewer than 15 minutes, compared with about 73% of workers in Hooker County. About 13% of workers in Mullen commute 30 minutes or more to work, compared to about 14% of the County workers.^{xix}

Major Employers

The Sandhills Golf Course and Mullen Public Schools are the largest employers in the Village of Mullen. Many other residents work in the agriculture sector in the surrounding area. Some residents may commute to Thedford for work.

Housing

In comparison to Hooker County, Mullen's housing stock was:

- **Equally renter/owner-occupied.** Both the Village and the County had about 24% renter-occupied housing units and 76% owner-occupied housing units in 2016.^{xx}
- **Older housing stock.** Mullen had a greater share of housing built prior to 1970 than the County (68.3% compared to 57.8%).^{xxi}
- **Fewer multifamily homes.** Although the predominant housing type in the Village is single family detached, Mullen contains fewer multifamily housing with five or more units per structure compared to the County (0% compared to 0.5%). About 82.9% of housing in Mullen was single-family detached, compared with 83.8% of the County's housing. Mullen has a smaller share of mobile and manufactured housing (10.0%) compared to the County (11.0%).^{xxii}

This housing information is relevant to hazard mitigation insofar as the age of housing may indicate which housing units were built prior to state building codes being developed. Further, unoccupied housing may suggest that future development may be less likely to occur. Finally, communities with a substantial number of mobile homes may be more vulnerable to the impacts of high winds, tornadoes, and severe winter storms.

Future Development Trends

The Village of Mullen has experienced several changes over the past five years. A handful of small businesses have grown in the community, and new homes have been built throughout town. New homes are located at 2nd and SW Veteran, NW 3rd and Veteran, and SE 1st and Columbus, as well as a new trailer and camper park located at 1st and Lincoln. Additionally, the village has

removed several older trailer homes and replaced them with anchored double-wide trailers. The local planning team also indicated that several mobile homes are located throughout the community. The Sandhills Hotel purchased a new trailer which is anchored. A dilapidated building at 1st and Lincoln has been demolished.

In the next five years the village plans to demolish an additional two vacant and damaged homes near NW 1st and Veteran. Several small businesses are expected to move into the community. The local planning team indicated the local population is increasing and there is a need for additional housing stock. This population increase is attributed to teachers and college kids moving back to the area. Additionally, the aging population in the village bequeaths homes which remain in the family, but may not be used year-round, which ties up potentially available housing. While expanding along the edges of the village has been discussed, much of the land is privately owned already.

Structural Inventory and Valuation

The planning team requested GIS parcel data from the County Assessor as of December 2018. This data allowed the planning team to analyze the location, number, and value of property improvements at the parcel level. The data did not contain the number of structures on each parcel. A summary of the results of this analysis is provided in the following table.

Number of Parcels	Number of Improvements	Total Improvement Value	Number of Improvements in Floodplain	Value of Improvements in Floodplain
401	324	\$12,568,734	0	\$0

Critical Infrastructure/Key Resources

Chemical Storage Fixed Sites

According to the Tier II System reports submitted to the Nebraska Department of Environmental Quality, there are three chemical storage sites in Mullen that contain hazardous chemicals. Two facilities are located along major transportation routes. The planning team indicated that if chemical spills were to occur they may cause road closures along these main corridors. No chemical spills have occurred in the planning area.

Table MUL.2: Chemical Storage Fixed Sites

Facility Name	Address
K S Plus Inc	202 SW 1st St
NDOT Mullen Yard	402 SE 1st St
Neal Oil & Auto Center Inc	E Railroad St

Source: Nebraska Department of Environmental Quality^{xxiii}

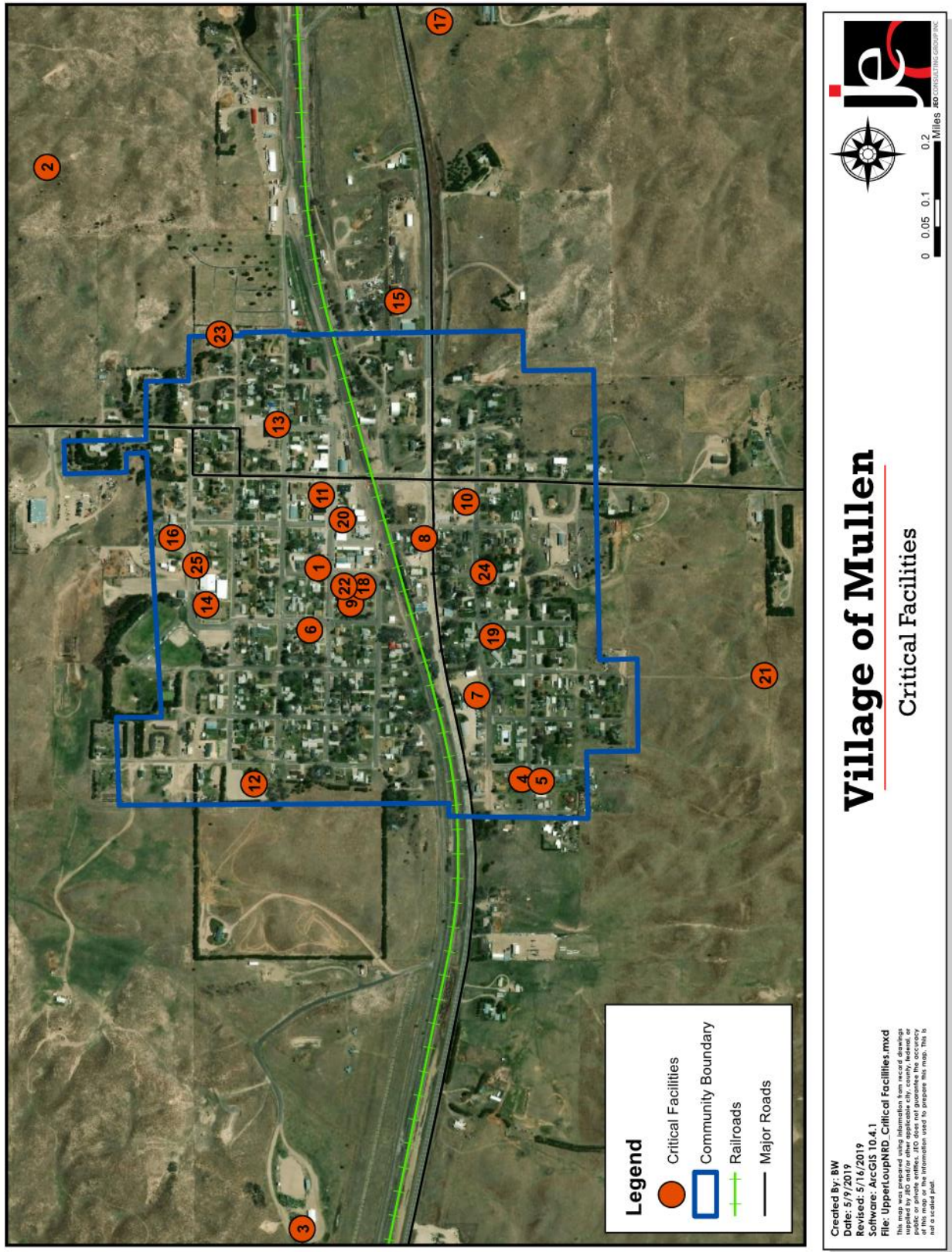
Critical Facilities

Each participating jurisdiction identified critical facilities vital for disaster response, providing shelter to the public (i.e. Red Cross Shelter), 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 MUL.3: Critical Facilities

<i>CF Number</i>	<i>Name</i>	<i>Address</i>	<i>Red Cross Shelter (Y/N)</i>	<i>Generator (Y/N)</i>
1	Assembly of God Church	208 NW 1 st	Yes	No
2	Cell Tower	North Hwy 97	No	No
3	Community Center (new)	36530 Fairgrounds Rd	Yes	No
4	Day Care 1	304 S Veteran Ave	No	No
5	Day Care 2	701 SW 3 rd St	No	No
6	Day Care 3	404 NW 1 st St	No	No
7	Fire Department	501 SW 1 st	No	No
8	Gas Station	202 SW 1 st	No	No
9	Hooker County Courthouse	303 NW 1 st	Yes	No
10	Lariat Auditorium	206 S Washington	Yes	No
11	Macke’s Grocery	104 NW 1 st	No	No
12	Methodist Church	304 N Veteran Ave	No	No
13	Mullen Grade School	106 NW 2 nd	Yes	No
14	Mullen High School	NW 4 th St	No	No
15	NDOT Yard/State Maintenance Yard	402 SE 1st	No	No
16	Nursing Home	206 NW 4 th	No	No
17	Power Substation	Hwy 2 and Kraye	No	No
18	Public Library	102 N Cleveland Ave	Yes	No
19	St. Mary’s Church	302 S Blaine Ave	Yes	No
20	Village Office	111 NW 1 st	No	No
21	Water Tower	South Hwy 97	No	No
22	Well Pump #1	103 N Cleveland Ave	No	Yes
23	Well Pump #2	NE 3 and NE Ave	No	Yes
24	Well Pump #3	303 SW 2 nd	No	Yes
25	Well Pump #4	402 N Cleveland	No	Yes

Figure MUL.3: Critical Facilities



Historical Occurrences

See the Hooker County community profile for historical hazard events.

Hazard Prioritization

For an in-depth discussion regarding area wide hazards, please see *Section Four: Risk Assessment*. The hazards discussed in detail below were prioritized by the local planning team based on the identification of hazards of greatest concern, hazard history, and the jurisdiction's capabilities.

Drought

Much of the local economy for the Village of Mullen is based on the agricultural sector. Drought poses a large risk to water supplies for residential, commercial, and agriculture. The drought in 2012 significantly impacted rangeland and pasture by reducing the amount of cattle which could be supported per acre. Water levels in municipal wells and the water tower were severely depleted. Reduced water supply also poses a risk to maintain fire fighting supplies throughout the area. The Village has a drought monitoring board and a drought response plan in place, as well as water restrictions which may be imposed on residents or businesses in the case of drought.

Extreme Heat

Extreme heat is a concern for the local planning team in regards to loss of power and impacts on residents. In 2006 during a high heat event power to the Village was shut off from Custer Public Power District due to an overloaded system. Loss of air conditioning and power is a concern for children at local schools and the elderly in Mullen's nursing home. There are no community cooling centers with a backup generator. The local planning team indicated that extreme heat also impacts the agricultural sector which the local economy is heavily tied to.

Grass/Wildfire

Grass/wildfires are a common occurrence for the planning area. The local planning team is concerned about limited firefighting equipment and impacts on the agricultural sector. The Mullen Fire Department is volunteer based with an average of 10-12 people who protect over 1.2 million acres. Grass/wildfires in 1999 and 2012 burned significant tracts of rangelands. A 2011 fire had one fatality in neighboring Cherry County and was declared a Presidentially Declared Disaster. At least 72,000 acres burned, two homes were destroyed, and thousands of cattle died across the planning area. In 2012 drought conditions exacerbated grass/wildfires and the fire department reported a marked increase in fire related calls during the summer.

Hail

Hail is often associated with severe thunderstorms and can cause significant damages to property and agricultural land. The local planning team indicated hail events in 2000, 2002, 2005, and 2015 caused damages to homes, vehicles, and other property throughout the community. Three of the four well pumping stations in town have hail resistant building materials. A significant hail event on Fathers Day in 2015 caused structural damages to homes, blocked roads, killed plants and trees, and shut down the Sandhills Golf Course for four days. The golf course is a major employer and tourism for the local economy. The 2002 hail storm stripped leaves from trees and other vegetation. Heavy precipitation affiliated with the storm flooded local roads where the vegetation had clogged the stormwater system. The village used snow plows to clear roads of hail and vegetation.

High Winds

High winds are a common occurrence in the Village and across the planning area. Concerns from high winds exist in regards to damages to trees, roofs, power lines, and the spread of grass/wildfire. Stripped leaves and vegetation from trees can fill ditches and the stormwater sewer, preventing appropriate drainage from heavy rains. Several trees located at north 2nd St and McShane, 3rd St and S Blaine, and 3rd and Grant need removed to reduce hazard potential. The local planning team indicated residents burn materials during high wind days, causing wildfires to spread. Damages to power lines can cause prolonged power outages to the community. The Hooker County Sheriff's office and Region 26 Emergency Management provide a CodeRed emergency alert system, but residents must sign up to receive alerts.

Severe Thunderstorms

Severe thunderstorms are a common occurrence in the region and have caused damage to property and agriculture. Power failure, potential wildfire from lightning strikes, and damages to property, agriculture, power lines, communication towers are identified concerns regarding severe thunderstorms for the Village. Shelter locations are located in the library, Catholic church, and Methodist church and the village office has surge protectors to protect municipal records. Municipal wells have portable generators in the case of power outages, but no other facilities in the village have generators. The nursing home, critical facilities, and some residents have weather radios. The Village has replaced a number of broken or old power poles to mitigate power line damage from storms. A severe thunderstorm in 2015 had a lightning strike blow out the water tower tank control panel. Municipal wells had to be turned on manually in order to maintain appropriate pressure in the water tower. A new cellphone-based system has been installed to address this scenario.

Severe Winter Storms

The Village of Mullen experiences severe winter storms every year which stretch local resources. Concerns from severe winter storms include power loss from downed or damaged power lines, property damage, and spring storms which impact calving season. Young calves are especially vulnerable to cold temperatures and heavy snow accumulation. The area experienced a heavy snow storm in December 2018 which killed hundreds of calves from exposure and suffocation under snow drifts. The local planning team indicated no facilities in town have backup generators and no power lines are buried. Snow removal resources are sufficient. There are no designated snow routes, but the Village does have designated parking areas to facilitate snow removal particularly around the nursing home.

Governance

A community's governance indicates the number of boards or offices that may be available to help implement hazard mitigation actions. Mullen has a number of offices or departments that may be involved in implementing hazard mitigation initiatives. The Village has a five member board and the following offices.

- Village Clerk
- Fire Department
- Utilities Department
- Sewer/Water/Street Commission
- Village Engineer
- Village Maintenance Staff
- Water Operator
- Sewage Plant Operator

Capability Assessment

The capability assessment consisted of 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.

Table MUL.4: Capability Assessment

<i>Survey Components/Subcomponents</i>		<i>Yes/No</i>
<i>Planning & Regulatory Capability</i>	Comprehensive Plan	Yes, 2010
	Capital Improvements Plan	Yes, 2010
	Economic Development Plan	No
	Emergency Operational Plan	Yes (County)
	Floodplain Management Plan	No
	Storm Water Management Plan	No
	Zoning Ordinance	Yes, 2007
	Subdivision Regulation/Ordinance	No
	Floodplain Ordinance	No
	Building Codes	Yes, 1999
	National Flood Insurance Program	Yes
	Community Rating System	No
	Other (if any)	
<i>Administrative & Technical Capability</i>	Planning Commission	Yes
	Floodplain Administration	Yes
	GIS Capabilities	Yes
	Chief Building Official	Yes (County)
	Civil Engineering	Yes
	Local Staff Who Can Assess Community's Vulnerability to Hazards	Yes
	Grant Manager	No
	Mutual Aid Agreement	Yes
	Other (if any)	
<i>Fiscal Capability</i>	Capital Improvement Plan/ 1 & 6 Year plan	Yes
	Applied for grants in the past	No
	Awarded a grant in the past	No
	Authority to Levy Taxes for Specific Purposes such as Mitigation Projects	Yes
	Gas/Electric Service Fees	Yes
	Storm Water Service Fees	Yes
	Water/Sewer Service Fees	Yes
	Development Impact Fees	No
	General Obligation Revenue or Special Tax Bonds	No
Other (if any)		

<i>Education & Outreach Capability</i>	Local citizen groups or non-profit organizations focused on environmental protection, emergency preparedness, access and functional needs populations, etc. Ex. CERT Teams, Red Cross, etc.	No
	Ongoing public education or information program (e.g., responsible water use, fire safety, household preparedness, environmental education)	Yes (County and NRD)
	Natural Disaster or Safety related school programs	No
	StormReady Certification	No
	Firewise Communities Certification	No
	Tree City USA	No
	Other (if any)	

<i>Overall Capability</i>	<i>Limited/Moderate/High</i>
Does your community have the financial resources need to implement mitigation projects?	Moderate
Does your community have the staff/expertise to implement projects?	Moderate
Does your community have the community support to implement projects?	Moderate
Does your community staff have the time to devote to hazard mitigation?	Moderate

Plan Integration

Mullen has an annex to the Hooker County Local Emergency Operations Plan (LEOP), last updated in 2015. The LEOP is currently being updated with an estimated completion date of 2020. The LEOP incorporates hazard mitigation through the following: addresses hazards of top concern; assigns specific responsibilities to individual communities; identifies scenarios that would require evacuation; identifies sheltering locations; and provides clear assignment of responsibility during an emergency.

Mullen’s Zoning Ordinance was last updated in 2007. The zoning ordinance includes natural hazard layers but should be updated to prohibit development in the floodplain or high hazard areas.

Mullen’s Comprehensive Plan, last updated in 2010, discusses natural hazards of top concern to the Village including winter storms, thunderstorms, and drought. Goals identified in the Comprehensive Plan are consistent with those identified in this HMP. The Comprehensive Plan also encourages infill development.

Mullen’s Wellhead Protection Plan was approved October of 2011 and includes a map and table of potential contaminant sources found within the wellhead protection area. Additionally, there are signs in the community to alert community members of the area, a zoning ordinance is in place for a wellhead protection district, and Mullen has a Water Drought Emergency Ordinance in place for water restrictions.

Mitigation Strategy

New and Ongoing Actions:

MITIGATION ACTION		ALERT/WARNING SIRENS
DESCRIPTION	Perform an evaluation of existing alert sirens in order to determine sirens which should be replaced or upgraded. Install new sirens where lacking.	
HAZARD(S)	All hazards	
ESTIMATED COST	\$15,000+	
FUNDING	Village and County funds	
LOCATION	Fire Hall	
TIMELINE	1 year	
PRIORITY	High	
LEAD AGENCY	Village Board; County Commission; Sherriff's Office	
STATUS	A new siren is needed at the firehall.	

MITIGATION ACTION		BACKUP GENERATORS
DESCRIPTION	Provide a portable or stationary source of backup power to redundant power supplies, municipal wells, lift stations, and other critical facilities and shelters.	
HAZARD(S)	Tornadoes, high winds, severe thunderstorms, severe winter storms	
ESTIMATED COST	\$100,000 - \$150,000	
FUNDING	Sinking Fund (\$100,000 over 10 years)	
LOCATION	East Mullen substation	
TIMELINE	5+ years	
PRIORITY	High	
LEAD AGENCY	Village Board	
STATUS	In Progress. The Mullen County Sheriff and Emergency Manager has applied for grant funding to assist in this project.	

MITIGATION ACTION		DRAINAGE IMPROVEMENTS
DESCRIPTION	The jurisdiction utilizes stormwater systems comprising of ditches, culverts, and drainage ponds to convey runoff. Undersized systems can contribute to localized flooding. Drainage improvements may include ditch upsizing, ditch cleanout and culvert improvements. Drainage ponds, both retention and detention, may also be implemented to decrease runoff rates while also decreasing the need for other stormwater system improvements.	
HAZARD(S)	Flooding	
ESTIMATED COST	\$10,000-\$20,000	
FUNDING	General Funds	
LOCATION	Village Drop-off Site	
TIMELINE	5+ years	
PRIORITY	Medium	
LEAD AGENCY	Village Board	
STATUS	This is an ongoing project.	

ELECTRICAL SYSTEM LOOPED DISTRIBUTION/REDUNDANCIES	
MITIGATION ACTION	
DESCRIPTION	Provide looped distribution service and other redundancies in the electrical system as a backup power supply in the event the primary system is destroyed or fails.
HAZARD(S)	Tornadoes, high winds, severe thunderstorms, severe winter storms
ESTIMATED COST	\$40,000/mile
FUNDING	HMGP, PDM, General Funds
TIMELINE	5+ years
PRIORITY	High
LEAD AGENCY	Village Board
STATUS	This project has not yet been started. Upgrades are needed on electrical service materials, specifically power poles.

FIRE WISE DEFENSIBLE SPACE	
MITIGATION ACTION	
DESCRIPTION	Work with the Nebraska Forest Service and US Forest Service to become a Fire Wise Communities/USA participant. Develop a Community Wildfire Protection Plan. Train land owners about creating defensible space. Enact ordinances and building codes to increase defensible space, improve building materials to reduce structure ignitability, and increase access to structures by responders. Develop and implement brush and fuel thinning projects.
HAZARD(S)	Grass/wildfire
ESTIMATED COST	\$20,000
FUNDING	Rural Fire District funds
LOCATION	Fire Hall
TIMELINE	2-5 years
PRIORITY	Medium
LEAD AGENCY	Fire Department
STATUS	This project has not yet been started.

IMPROVE AND REVISE SNOW/ICE REMOVAL PROGRAM	
MITIGATION ACTION	
DESCRIPTION	As needed, continue to revise and improve the snow and ice removal program for streets. Revisions should address situations such as plowing snow, ice removal, parking during snow and ice removal, and removal of associated storm debris. This would include equipment that is needed and paving routes.
HAZARD(S)	Severe Winter Storms
ESTIMATED COST	Varies
FUNDING	General Funds
TIMELINE	2-5 years
PRIORITY	Medium
LEAD AGENCY	Village Board
STATUS	This is a new mitigation action.

Section Seven: Village of Mullen Community Profile

MITIGATION ACTION		PUBLIC AWARENESS/EDUCATION
DESCRIPTION	Through activities such as outreach projects, distribution of maps and environmental education increase public awareness of natural hazards to both public and private property owners, renters, businesses, and local officials about hazards and ways to protect people and property from these hazards. In addition, educate citizens on erosion control and water conservation methods. Educate residents on response and rescue plans for all hazard types.	
HAZARD(S)	All hazards	
ESTIMATED COST	\$500+	
FUNDING	Village and County funds	
LOCATION	Village of Mullen and surrounding areas	
TIMELINE	5+ years	
PRIORITY	Low	
LEAD AGENCY	Village Board; County Commission; Sherriff's Office	
STATUS	This is an ongoing action for education and information shared. Region 26 Emergency Management provides CodeRed to the residents who sign up for the program.	

MITIGATION ACTION		RAILROAD CROSSING GUARD
DESCRIPTION	Install railroad crossing guard at sidewalk crossing.	
HAZARD(S)	Chemical Spill (Transportation)	
ESTIMATED COST	\$150,000-\$200,000	
FUNDING	BNSF Railroad; General Funds	
LOCATION	Railroad crossing at Highway 97	
TIMELINE	2-5 years	
PRIORITY	Medium	
LEAD AGENCY	Village Board	
STATUS	This project has not yet been started and is currently cost prohibitive.	

MITIGATION ACTION		STORM SHELTER/SAFE ROOMS
DESCRIPTION	Design and construct fully supplied storm shelters and safe rooms in highly vulnerable areas such as mobile home parks, campgrounds, schools, and other areas.	
HAZARD(S)	Tornadoes, high winds, severe thunderstorms, severe winter storms	
ESTIMATED COST	\$200-\$300/sf stand alone; \$150-\$200/sf addition/retrofit	
FUNDING	HMGP, PDM, Village and County General Funds	
TIMELINE	2-5 years	
PRIORITY	Medium	
LEAD AGENCY	Village Board; County Commission	
STATUS	This project has not yet been started.	

MITIGATION ACTION	WATER SYSTEM IMPROVEMENTS
DESCRIPTION	Make water system improvements, including additional fire hydrants/increase supply, and pressure to effectively fight fires and meet increasing demands. Update/improve water distribution system or upgrade water district infrastructure to decrease the likelihood of damages and improve water system for emergency use. (may include identifying and replacing leaky pipes, assisting residents in identifying inefficiencies, transitioning to smart irrigation systems, etc.)
HAZARD(S)	Grass/wildfire
ESTIMATED COST	\$15,000+ varies by need and project
FUNDING	General Funds
TIMELINE	2-5 years
PRIORITY	High
LEAD AGENCY	Village Board
STATUS	This is a new mitigation action.

MITIGATION ACTION	WELL IMPROVEMENTS
DESCRIPTION	Improve community well system.
HAZARD(S)	Grass/wildfire
ESTIMATED COST	Varies
FUNDING	General Funds
TIMELINE	2-5 years
PRIORITY	High
LEAD AGENCY	Village Board
STATUS	This is a new mitigation action.

Removed Actions:

MITIGATION ACTION	MAINTAIN GOOD STANDING IN THE NFIP
DESCRIPTION	Maintain good standing with National Flood Insurance Program (NFIP).
HAZARD(S)	Flooding
REASON FOR REMOVAL	Mullen is not located in a floodplain so participating in NFIP is not a priority for the community. If local conditions change, this mitigation action will be reevaluated in the future.

^{xii} Nebraska Department of Roads. "Traffic Flow Map of the State Highways: State of Nebraska." [map]. Scale 1"= 20 miles. State of Nebraska: Department of Roads, 2015. <http://www.roads.nebraska.gov/media/2510/2014-statewide-traffic-flow-map.pdf>

^{xiii} United States Census Bureau. "2016 American Fact Finder: S0101: Age and Sex." [database file]. <https://factfinder.census.gov/>.

^{xiv} United States Census Bureau. "2016 American Fact Finder: S0101: Age and Sex." [database file]. <https://factfinder.census.gov/>.

^{xv} United States Census Bureau. "2016 American Fact Finder: DP05: ACS Demographic and Housing Estimates." [database file]. <https://factfinder.census.gov/>.

^{xvi} United States Census Bureau. "2016 American Fact Finder: DP03: Selected Economic Characteristics." [database file]. <https://factfinder.census.gov/>.

^{xvii} United States Census Bureau. "2016 American Fact Finder: DP03: Selected Economic Characteristics." [database file]. <https://factfinder.census.gov/>.

^{xviii} United States Census Bureau. "2016 American Fact Finder: DP03: Selected Economic Characteristics." [database file]. <https://factfinder.census.gov/>.

^{xix} United States Census Bureau. "2016 American Fact Finder: S0802: Means of Transportation to Work by Selected Characteristics." [database file]. <https://factfinder.census.gov/>.

^{xx} United States Census Bureau. "2016 American Fact Finder: DP04: Selected Housing Characteristics." [database file]. <https://factfinder.census.gov/>.

^{xxi} United States Census Bureau. "2016 American Fact Finder: DP04: Selected Housing Characteristics." [database file]. <https://factfinder.census.gov/>.

^{xxii} United States Census Bureau. "2016 American Fact Finder: DP04: Selected Housing Characteristics." [database file]. <https://factfinder.census.gov/>.

^{xxiii} Nebraska Department of Environmental Quality. "Search Tier II Data." Accessed November 2018. <https://deq-its.ne.gov/tier2/search.faces>.



*Protecting Lives, Protecting Property,
Protecting the Future*

Upper Loup

Natural Resources District

39252 Highway 2 Thedford, NE 69166

Phone 308-645-2250 Fax 308-645-2308

www.upperloupnrd.org

ulnrd@upperloupnrd.org

December 12, 2019

RE: Upper Loup NRD
Multi-Jurisdictional Hazard Mitigation Plan (HMP) Update
Local Adoption of Hazard Mitigation Plan

Attention Mullen Public Schools

Dear Chris Kuncl,

Thank you for your participation throughout the last year with the Upper Loup NRD Hazard Mitigation Plan Update. The plan has been reviewed and approved by the state and FEMA. Now is the time for your jurisdiction to adopt the plan locally. Your jurisdictional governing body must adopt the plan via resolution to finalize your participation in the Upper Loup NRD Hazard Mitigation Plan Update. Attached is an example resolution that may be used or adapted to fit your local needs.

Once you adopt this plan, your jurisdiction will become eligible for project grant funding to assist with implementation of actions in this plan. **The adopted resolution should be returned to JEO Consulting Group, Inc. for submittal to NEMA/FEMA.** You may review the final plan at the project website: <https://jeo.com/ulnrhmp>.

Please return the signed, adopted resolution to:

Brooke Welsh
JEO Consulting Group, Inc.
2700 Fletcher Ave.
Lincoln NE 68504
bwelsh@jeo.com

Thank you again for your participation! If you have questions about approving the resolution or about the plan, please contact Brooke Welsh, JEO Project Coordinator, at (402) 474-8741 or bwelsh@jeo.com or Anna Baum at (308) 645-2250 or by email at abaum@upperloupnrd.org.

Sincerely,



Brooke Welsh | Planner

JEO CONSULTING GROUP INC

2700 Fletcher Avenue | Lincoln, Nebraska 68504-1113

d: 402.474.8741 | | o: 402.435.3080 | f: 402.435.4110

bwelsh@jeo.com

Mullen Public Schools

RESOLUTION NUMBER _____

WHEREAS, the Federal Disaster Mitigation Act of 2000 was signed in to law on October 30, 2000, placing new emphasis on state and local mitigation planning for natural hazards and requiring communities to adopt a hazard mitigation action plan to be eligible for pre-disaster and post-disaster federal funding for mitigation purposes; and

WHEREAS, a Hazard Mitigation Plan was prepared by the Upper Loup Natural Resources District, with assistance from JEO Consulting Group, Inc. of Lincoln, NE.

WHEREAS, the purpose of the mitigation plan was to lessen the effects of disasters by increasing the disaster resistance of the Natural Resources District and participating jurisdictions located within the planning boundary by identifying the hazards that affect Mullen Public Schools and prioritize mitigation strategies to reduce potential loss of life and property damage from those hazards, and

WHEREAS, FEMA regulations require documentation that the plan has been formally adopted by the governing body of Mullen Public Schools in the form of a resolution and further requesting approval of the plan at the Federal Level; and

NOW, THEREFORE, the governing body of Mullen Public Schools does herewith adopt the Upper Loup Natural Resources District Hazard Mitigation Plan Update in its entirety; and

PASSED AND APPROVED this _____ day of _____, 20____.

Superintendent

ATTEST:

NASB Monthly Update for Board Meetings - Agenda Item: JANUARY 2020

“NASB Update”

As a board, some items to be focused on during January include:

- Hold an annual Leadership Team Planning Retreat
- District Report Card
- Approve superintendent contract. Note: For current superintendents or ESU Administrators, before approval of contract/amendment, board must publish a copy of the proposed contract/amendment three days before approval along with estimate and description of all costs. Neb. Rev. Stat. § 79-2402(1). For new superintendents or ESU Administrators, the board must publish a copy of the contract two days after the meeting at which the contract was approved, along with estimate and description of all costs. Neb. Rev. Stat. § 79-2402(2).
- Review and revise superintendent evaluation instrument
- Develop new superintendent goals
- Appoint superintendent as the district’s Non-discrimination Compliance Coordinator
- Negotiations mandatory mediation if no agreement; Due February 8 – § 48-818.01
- Review Board Code of Conduct
- Sign and file Conflict of Interest form with Board Secretary
- Board must notify the Secretary of State, County Clerk/Election Commissioner of the number of officers to be elected, the length of terms of office, the vacancies to be filled by election and length of remaining term, and the number of votes to be cast by a registered voter for each office in the statewide primary election <https://nebraskalegislature.gov/laws/statutes.php?statute=32-404>
- Elect board officers

Networking & Events for 2020:

- <http://members.nasbonline.org/index.php/events>

Registration and more information can be found online and has already been mailed out for the below. To register for an NASB event, click on the 'My Membership' link, then navigate to the 'Events' dropdown and select 'Register'. If you do not have an email and password to log in or have forgotten it, please contact NASB at 800-422-4572 for assistance.

- **President’s Retreat** | Jan 26-27 in Nebraska City | Feb 16-17 in Sidney | Feb 16-17 in Kearney
- **Budget & Finance Workshop** | Jan 29 in Norfolk | Feb 5 in Kearney
- **Legislative Issues Conference** | Feb 9-10 in Lincoln
- **School Board Member Week in Nebraska** will be February 9-15 ... Thank You School Boards!

Advocacy/2020 Legislative Session:



The 2020 legislative session began Wednesday, January 8th. Stay engaged during the Session. The 2020 NASB Advocacy Handbook is now posted at <http://members.nasbonline.org/index.php/advocacy-handbook> This includes all of the items approved by YOU at this year's Delegate Assembly.

Follow NASB on twitter at www.twitter.com/NASBOnline using the hashtag #liveNASB
and on facebook at www.facebook.com/NASBOnline

To see a quick glimpse at the various items the NASB is involved in, check out pages 10 & 11 each month in the **Board Notes newsletter** for "This Month In ...". To access the latest newsletter, click here:

<http://members.nasbonline.org/index.php/news-resources/board-notes>

Thanks for all you do for your board, your community and the entire state by serving public education in Nebraska.

Principal's Report
Mullen Elementary School
Justin Moore
January 13th, 2020

CIP

Teams are and will be presenting at each school board meeting for the remainder of the year. Each team was to identify 1-2 goals to accomplish for the remainder of the year.

Evaluation of WIN time and adjustments will be looked at by the CIP team.

MTSS

Continuation of process

Security

Nightlock security pieces are being put into place on each door. Mark Ewoldt installed one over Christmas break and he said it went very smooth. The rest are on order and he will get them installed as soon as possible.

Report Cards

Kindergarten and 1st grade are using Standards Based Report Cards to go home to parents. Grades 2-5 are using traditional grading. Report cards went home on the last day of 1st semester.

Dates

1/15-MTSS Meeting & Early Childhood Meeting
1/29-CIP Meeting
1/30-2/3-Educlimber Conference
2/11-Hooker County Spelling Bee

Principal's Report
January 13, 2020

SECOND SEMESTER ENROLLMENT

We are currently at 90 students.

Science Curriculum Update

Scope and sequence is done K-12.

Working with Esu on next steps with total alignment and curriculum

Trying to work with Grand Island Northwest Principal to get some of their curriculum to work with also.

Upcoming Events

16- Jh BB vs AM @ Wrestling @ Maxwell

17- Mullen wrestling Quad

18- Wrestling @ Dunning / BB vs Arthur / Speech @ Valentine

21- JH bb vs ST / BB vs TL

23- BB vs Cody Varsity only

24- Callaway Wrestling

25 - Mullen Invite

27-Feb 1 - MNAC BB

29- (I Love Public School Day) / Leadership Council / FFA State Interviews

31 Wrestling @ Med Valley

Feb 1 - Wrestling @ Arapahoe / MNAC Art Show and Finals @ BB

Hooker County Spelling Bee Feb 11th

Take Picture for yearbook

Administrative Report – January 2020

Agenda Items:

2. Opening of Meeting, Reorganization of the Board

I have prepared a motion that the 2020 board officer team remain the same as 2019 board officer team. If there isn't any objection, I would suggest to follow through with that motion.

If there is an objection, I will begin by asking for nominations for the office of president. (A nomination does not require a second.) If there are two or more nominations for president, the board will vote via secret ballot (voting for board leadership is the only vote allowed by secret ballot.) If there is only one nomination, a board member can move that nominations cease, and a unanimous ballot be cast for that nominee (or elect that person by acclamation). Such a motion **does** require a second. The same process will occur for Vice President, Secretary, and Treasurer.

3. Assignment of board committees. 2019 Committee members are in italic. We need to assign Members or keep as is

Negotiations/Finance Committee - *Bryan Starr, Jason Coble, Barb Svoboda*

High School Building/Transportation Committee - *Bryan Starr, Jason Coble, Travis Hampton*

Elementary School Building/Technology Committee - *Barb Svoboda, Liza Simonson, Mike French*

Curriculum & Instruction Committee - *Liza Simonson (CIP Board Rep), Mike French*

Policy/Americanism Committee - *Travis Hampton, Barb Svoboda*

9) Discuss, consider and take all necessary action to approve renewal of policy 2012 Board Code of Ethics. The Mullen BOE has approved the renewal of this policy every January. ***I recommend approving the renewal of policy 2012.***

10) Discuss, consider and take all necessary action to approve the 2020-2021 Negotiated Agreement with the Mullen Education Association. This is to approve the negotiated agreement. ***I recommend/request approval of the 2020-21 Negotiated Agreement with the MEA.***

11) Discuss, consider and take all necessary action to approve the superintendent evaluation for Chris Kuncil for December 2019. This is just to approve the evaluation that was given last month. ***I recommend/request approval of the superintendent evaluation for Chris Kuncil for December 2019.***

12) Discuss, consider and take all necessary action to approve the superintendent contract for Chris Kuncil for the 2020-2022 school years. My contract is attached in the e-meetings is for 2020-22 with just a change in salary and years. ***I recommend/request approval of the superintendent's contract for Chris Kuncil.***

13) Discuss, consider and take all necessary action to approve contracts with ESU 16 for the 2020-2021 school year..

Overall the ESU 16 contracts went up a bit from last year. LMHP went up as we utilize her more. Here is a breakdown

	<u>19/20</u>	<u>20/21</u>
ESU SPED Services-	\$\$183,277	\$187,531
LMHP Services-	\$ 11,223	\$ 16,930
Tech Services-	\$23,000	\$23,000

I recommend approving the contracts with ESU 16.

14) Discuss, consider and take all necessary action to designate 1st State Bank of Mullen as the official depository for district funds for 2020. ***I recommend designating 1st State Bank of Mullen the official depository for 2020.***

15) Discuss, consider and take all necessary action to approve the request of the Mullen Education Association as the exclusive bargaining agent for the district's non supervisory certificated staff for the 2021-2022 contract year. This grants the MEA bargaining rights on the negotiated agreement for 2021-2022. ***I recommend MEA as the exclusive bargaining agent for the 2021-2022 contract year.***

16) Discuss, consider and take all necessary action to approve the adoption of the Upper Loup NRD Hazard Mitigation Plan Update. This need to be approved so that Mullen Public Schools can participate in the Upper Loup NRD Hazard Mitigation Plan update for the community of Mullen and surrounding areas.. ***I recommend approval of the Upper Loup NRD Hazard Mitigation Plan Update.***

Administrative Report – January 2020

Non-Agenda Items

For the remainder of January, I am planning on getting the administration together to start planning for the 2020-2021 school year. I would like to get a plan in place for the calendar, the schedule, and the program offerings at Mullen Public Schools.

Letters of intent are out to the staff and due back by January 31. Hopefully this will give us a good idea of who we may have to replace and who is returning.

February 10, 2020 Board Meeting- I would like to have the High School/Transportation committee meet prior to the meeting. Meet at 6:00 pm for a walk around with Mr. Ewoldt, Mr. Kvanvig, and myself on what we would like to look at accomplishing during the Summer of 2020 and talk about plans for transportation.

March 9, 2020 Board Meeting- I would like to have the Elementary School/Technology committee meet prior to the meeting. Meet at 5:45 pm for a walk around with Mr. Ewoldt, Mr. Moore, and myself on what we would like to look at accomplishing at the elementary school during the Summer of 2020. I would like to conclude this around 6:30 pm and meet with Ms. Donhoe and Mr. Moore at the high school to go over technology planning for 2020-2021.

April 13, 2020- I would like to have a Facilities Workshop at 6:00 pm to go over what each committee discovered on their walk around at the High School and Elementary school. This will allow us to have a proper plan of attack for Summer 2020.

