

Memorandum

DATE **February 21, 2020**

TO Dillon Dittmer, Kyle Christensen, Kevin Krolikowski, Mary Schroer

FROM Brittany Trejo and Robert Carnazzo

THRU Julie Ramirez and Kirk Harvey

SUBJECT Floodplain Certification—Sutton – Grafton, 6-5(116), CN 42779

Sutton – Grafton is a mill and overlay project located in Clay and Fillmore Counties, Nebraska, along Highway US-6. The project will begin approximately 500 feet east of E Ash Street in the City of Sutton (Mile Marker (MM) 242.43) and extend east to Jefferson Avenue in the Village of Grafton (MM 249.83).

Improvements to the project include repair of underlying concrete pavement, milling and resurfacing the roadway and surfaced shoulders, resurfacing driveways and intersection, and culvert work. The project will remove by milling four (4) inches of existing asphalt and place a four (4) inch asphalt overlay, resulting in a zero (0) inch grade raise. Select culvert will be extended to both the north and south.

Please review the attached mapping showing where this project encroaches into flood zones. Enclosed you will find certifications for these encroachments:

Community of Fillmore County

School Creek Tributary, Section 33 T08N R04W

The project encroaches the Base Floodplain for a School Creek Tributary in Section 33, T08N R04W. The ordinary high water flows for the tributary are conveyed through the highway by a 10-foot wide by eight (8) foot high (10x8) box culvert. At this location the project will complete repair of the underlying concrete pavement, mill four (4) inches of existing asphalt and place a four (4) inch asphalt overlay resulting in no change in the highway pavement elevation. There will be no work completed on the box culvert. Since the project does not change how the base flood (100 year flood event) is conveyed through the box culvert, or the elevation it would be conveyed over the highway, the project will not affect the depth of flow in the tributary. The project will not cause a change in the base flood elevation (BFE) of the School Creek Tributary.

Elk Run - Backwater, Section 27 T08N R04W

The project encroaches the Base Floodplain for Elk Run in Section 27, T08N R04W. The area of the Zone A Floodplain that is encroached upon represents backwater, an area of the Elk Run floodplain that is shown to be flooded with water due to the depth of water in Elk Run, but which does not contribute to the actual capacity of Elk Run to convey the base flood (100 year flood event) flows. This area is separated from the Elk Run channel by the BNSF Railroad, which is several feet higher than the highway in this location. Water from a small tributary (approximately 350 acre watershed) of Elk Run does flow through the highway at this location, in a box culvert with two (2) six (6) foot wide by four (4) foot high openings (Twin 6x4 box culvert). At this location the project will complete repair of the underlying concrete pavement, mill four (4) inches of existing asphalt and place a four (4) inch asphalt overlay resulting in no change in the highway pavement elevation. The box culvert will be extended 19 feet to the south and 18 feet to the north. Since the project is located within a backwater area of the floodplain which does not impact the conveyance

February 21, 2020

of the base flood in Elk Run, the work completed in this location will not affect the depth of flow in Elk Run. The project will not cause a change in the base flood elevation (BFE) of Elk Run.

Elk Run, S006 24830, Section 35 T08N R04W

The project encroaches the Base Floodplain for Elk Run in Section 35, T08N R04W. The ordinary high water flows for the Elk Run are conveyed through the highway by a box culvert with three (3) eight (8) foot wide by five (5) foot high openings (Triple 8x5 box culvert), (structure S006 24830). At this location the project will complete repair of the underlying concrete pavement, mill four (4) inches of existing asphalt and place a four (4) inch asphalt overlay resulting in no change in the highway pavement elevation. There will be no work completed on the box culvert. Since the project does not change how the base flood (100 year flood event) is conveyed through the box culvert, or the elevation it would be conveyed over the highway, the project will not affect the depth of flow in Elk Run. The project will not cause a change in the base flood elevation (BFE) of Elk Run.

Enclosures: Certifications of Compliance (3)
 FIRMettes covering project (4)
 Location Map (1)

February 21, 2020

Permit Information:

Community of Fillmore County

School Creek Tributary, Section 33 T08N R04W

Is the work substantial improvement?	No
Is the work in an identified floodplain?	Yes
Elevation of the base flood (100-year event)?	No Change
Elevation/floodproofing requirement (if applicable)?	NA
Is the work in a designated floodway?	No

Elk Run - Backwater, Section 27 T08N R04W

Is the work substantial improvement?	No
Is the work in an identified floodplain?	Yes
Elevation of the base flood (100-year event)?	No Change
Elevation/floodproofing requirement (if applicable)?	NA
Is the work in a designated floodway?	No

Elk Run, S006 24830, Section 35 T08N R04W

Is the work substantial improvement?	No
Is the work in an identified floodplain?	Yes
Elevation of the base flood (100-year event)?	No Change
Elevation/floodproofing requirement (if applicable)?	NA
Is the work in a designated floodway?	No

*Certification of Compliance
Floodplain and Floodway Regulations*

FLOODPLAIN/ FLOODWAY LOCATION

Project Name Sutton - Grafton Stream School Creek Tributary
Project No. 6-5(116) County Fillmore
Control No. 42779 Section(s) 33 T 08 N R 04 W

FEMA LOCATION

County/Community Fillmore County, Nebraska
Panel No. 31059C 0150B
Effective Date 09/16/2004

TYPE OF STRUCTURE

☐ Bridge ☒ Culvert 10x8 Box Culvert ☐ Roadway

Structure No. _____ ☐ _____

TYPE OF IMPROVEMENT

☐ Modify Existing ☐ Replace Existing ☒ Other

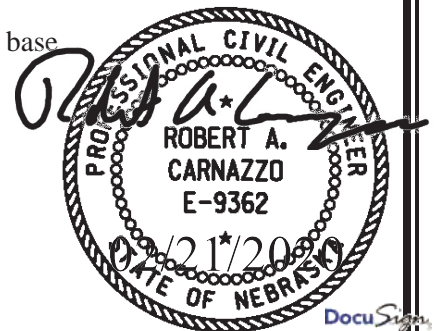
Details Repair underlying concrete, remove 4-inches of asphalt by milling, place 4-inch asphalt overlay, no change in pavement elevation. No culvert work.

Highway Profile Change: ☐ Yes ☒ No

THE FOLLOWING IS HEREBY CERTIFIED

- ☐ Floodplain in Un-mapped Community (State Minimum Standards Apply)
Proposed construction will not increase the base
(100 year) flood heights more than one foot at any location.
- ☒ Floodplain (without Designated Floodway) or Flood Fringe
Proposed construction will not increase the base
(100 year) flood heights more than one foot at any location.
- ☐ Designated Floodway
Proposed construction will result in no rise along the base
(100 year) floodway water surface profile.

Completed By: ROBERT A. CARNAZZO, P.E., CFM
NDOT Roadway Design Hydraulics



*Certification of Compliance
Floodplain and Floodway Regulations*

FLOODPLAIN/ FLOODWAY LOCATION

Project Name Sutton - Grafton Stream Elk Run – Backwater
Project No. 6-5(116) County Fillmore
Control No. 42779 Section(s) 27 T 08 N R 04 W

FEMA LOCATION

County/Community Fillmore County, Nebraska
Panel No. 31059C 0025B
Effective Date 09/16/2004

TYPE OF STRUCTURE

☐ Bridge ☒ Culvert Twin 6x4 Box Culvert ☐ Roadway

Structure No. _____ ☐ _____

TYPE OF IMPROVEMENT

☐ Modify Existing ☐ Replace Existing ☒ Other

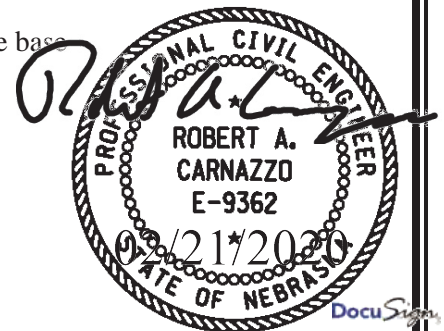
Details Repair underlying concrete, remove 4-inches of asphalt by milling, place 4-inch asphalt overlay, no change in pavement elevation. Extend Culvert 19-ft south, 18-ft north.

Highway Profile Change: ☐ Yes ☒ No

THE FOLLOWING IS HEREBY CERTIFIED

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(100 year) flood heights more than one foot at any location.
- ☒ Floodplain (without Designated Floodway) or Flood Fringe
Proposed construction will not increase the base
(100 year) flood heights more than one foot at any location.
- ☐ Designated Floodway
Proposed construction will result in no rise along the base
(100 year) floodway water surface profile.

Completed By: ROBERT A. CARNAZZO, P.E., CFM
NDOT Roadway Design Hydraulics



*Certification of Compliance
Floodplain and Floodway Regulations*

FLOODPLAIN/ FLOODWAY LOCATION

Project Name Sutton - Grafton Stream Elk Run
Project No. 6-5(116) County Fillmore
Control No. 42779 Section(s) 35 T 08 N R 04 W

FEMA LOCATION

County/Community Fillmore County, Nebraska
Panel No. 31059C 0050B
Effective Date 09/16/2004

TYPE OF STRUCTURE

☐ Bridge ☒ Culvert Triple 8x5 Box Culvert ☐ Roadway
Structure No. S006 24830 ☐

TYPE OF IMPROVEMENT

☐ Modify Existing ☐ Replace Existing ☒ Other

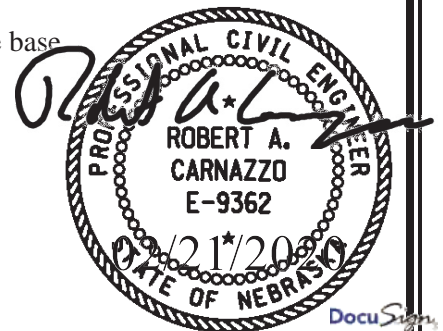
Details Repair underlying concrete, remove 4-inches of asphalt by milling, place 4-inch asphalt overlay, no change in pavement elevation. No culvert work.

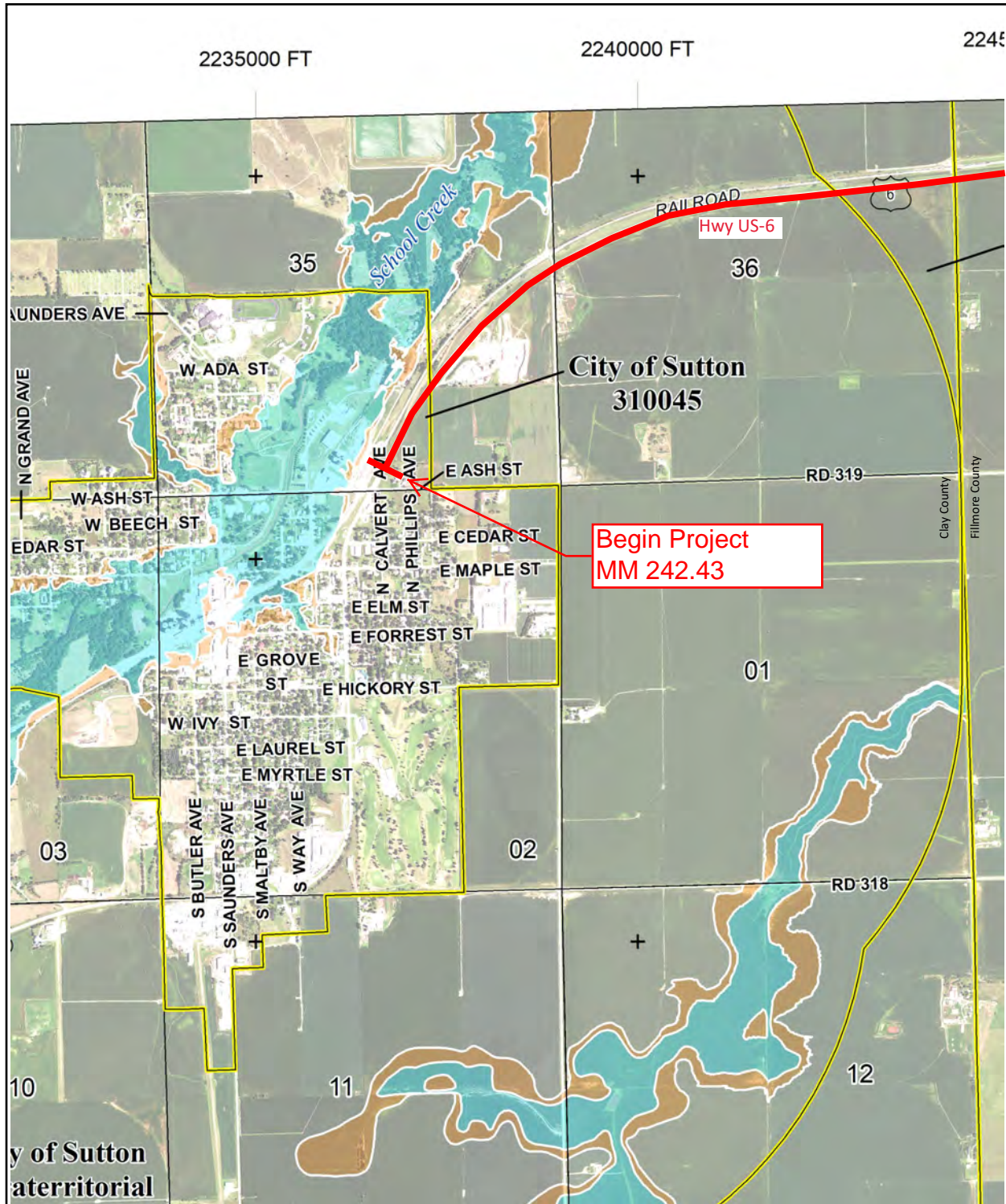
Highway Profile Change: ☐ Yes ☒ No

THE FOLLOWING IS HEREBY CERTIFIED

- ☐ Floodplain in Un-mapped Community (State Minimum Standards Apply)
Proposed construction will not increase the base
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- ☒ Floodplain (without Designated Floodway) or Flood Fringe
Proposed construction will not increase the base
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- ☐ Designated Floodway
Proposed construction will result in no rise along the base
(100 year) floodway water surface profile.

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NDOT Roadway Design Hydraulics





NAD 1983 StatePlane Nebraska FIPS 2600 Feet;
Western Hemisphere; Vertical Datum: NAVD 88

1 inch = 2,000 feet

0 2,000 4,000

National Flood Insurance Program

CLAY COUNTY, NEBRASKA
and Incorporated Areas

PANEL 250 of 500



Panel Contains:

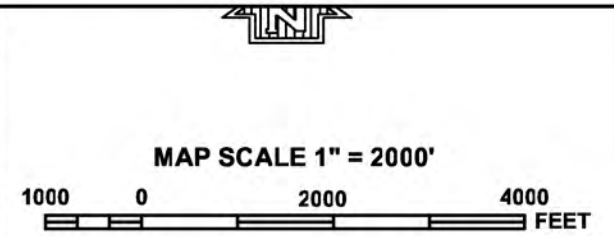
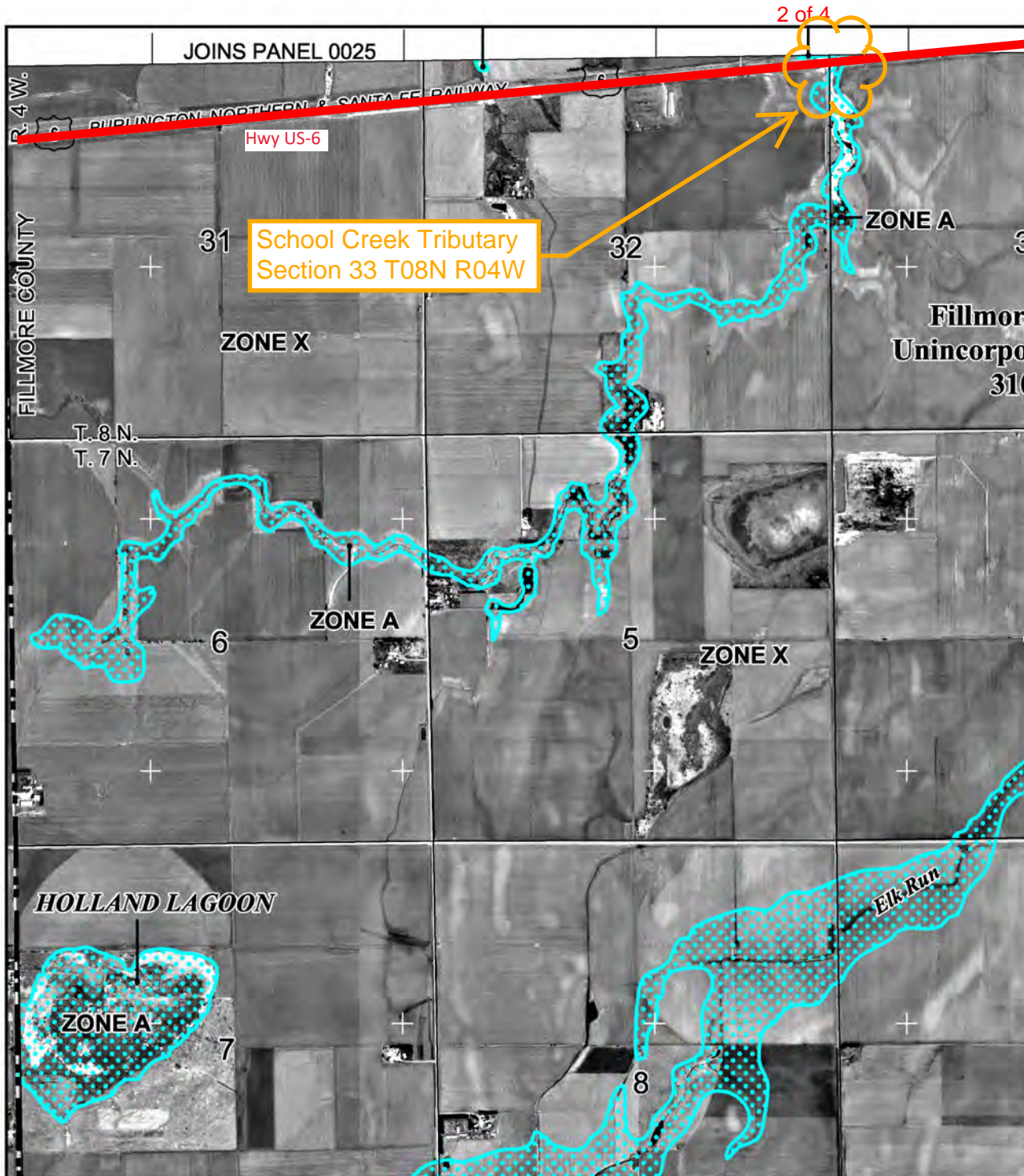
COMMUNITY	NUMBER	PANEL	SUFFIX
CLAY COUNTY	310425	0250	C
SUTTON, CITY OF	310045	0250	C

VERSION NUMBER
2.3.3.3

MAP NUMBER
31035C0250C

EFFECTIVE DATE
JULY 05, 2018

This is an official copy of a portion of the above referenced flood map. It was extracted using FIRMette - Desktop version 3.0. This map does not reflect changes or amendments which may have been made subsequent to the date on the title block. Further information about National Flood Insurance Program flood hazard maps is available at <http://www.msc.fema.gov/>.



NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0150B

FIRM

FLOOD INSURANCE RATE MAP

FILLMORE COUNTY,
NEBRASKA
AND INCORPORATED AREAS

PANEL 150 OF 500

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
FILLMORE COUNTY	310433	0150	B

Notice to User: The **Map Number** shown below should be used when placing map orders; the **Community Number** shown above should be used on insurance applications for the subject community.

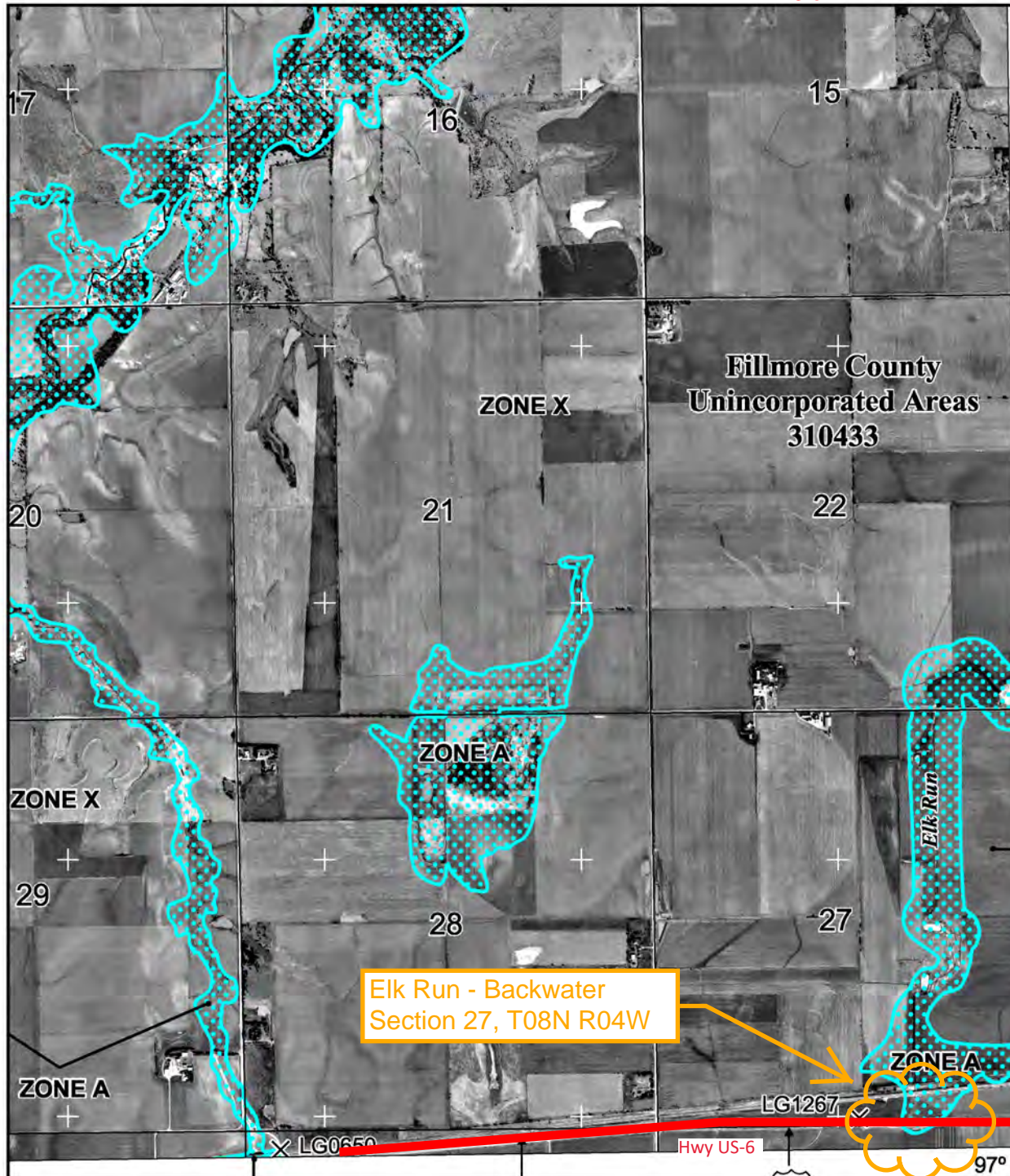


MAP NUMBER
31059C0150B

EFFECTIVE DATE
SEPTEMBER 16, 2004

Federal Emergency Management Agency

This is an official copy of a portion of the above referenced flood map. It was extracted using F-MIT On-Line. This map does not reflect changes or amendments which may have been made subsequent to the date on the title block. For the latest product information about National Flood Insurance Program flood maps check the FEMA Flood Map Store at www.msc.fema.gov



MAP SCALE 1" = 2000'

1000 0 2000 4000
FEET

NFP

PANEL 0025B

FIRM

FLOOD INSURANCE RATE MAP

**FILLMORE COUNTY,
NEBRASKA
AND INCORPORATED AREAS**

PANEL 25 OF 500

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
FILLMORE COUNTY	310433	0025	B

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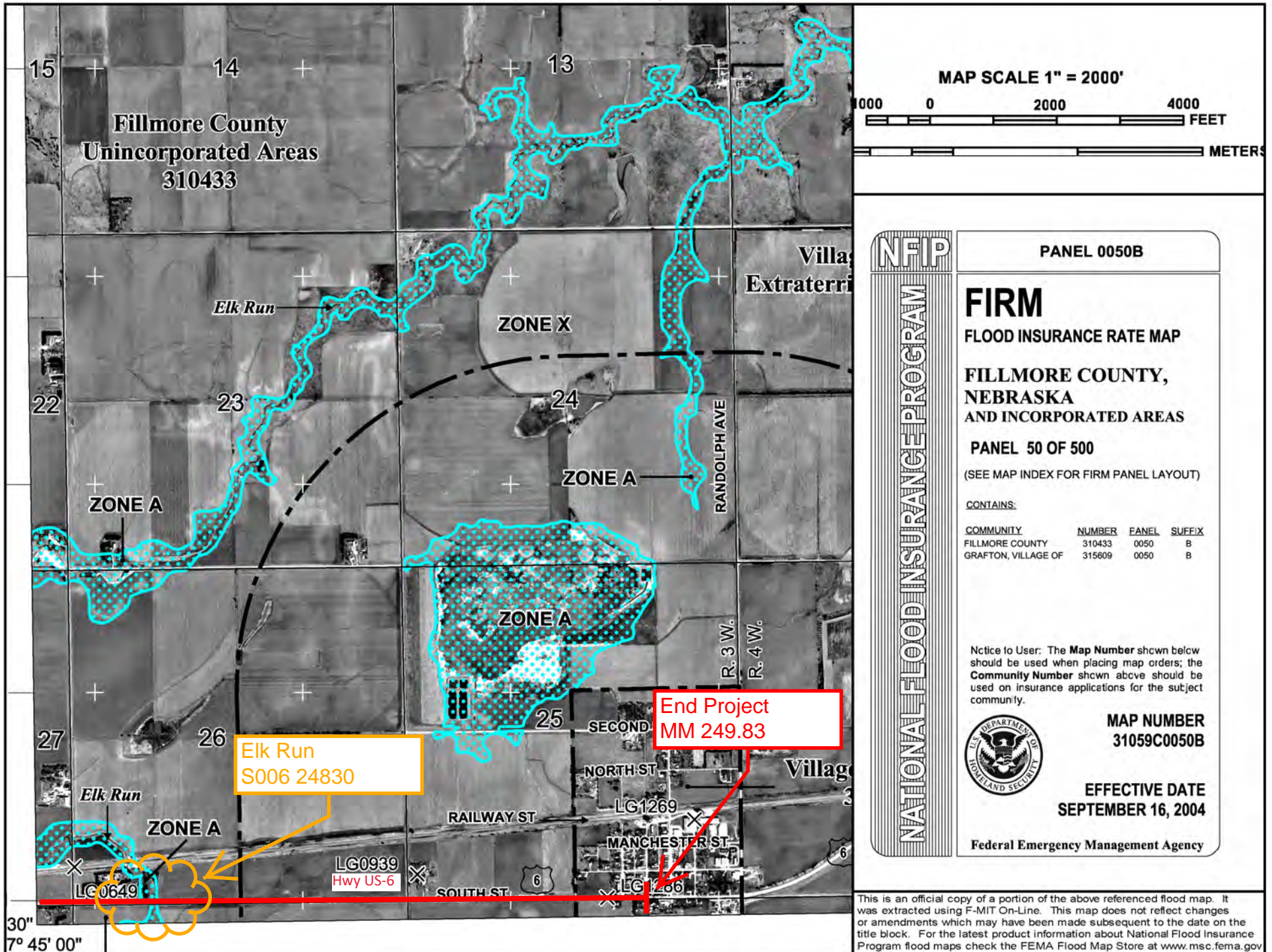


**MAP NUMBER
31059C0025B**

**EFFECTIVE DATE
SEPTEMBER 16, 2004**

Federal Emergency Management Agency

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SUTTON - GRAFTON 6-5(116)

C.N. 42779 BOOK 6254
CLAY & FILLMORE COUNTIES

