

## Memorandum

DATE **April 27, 2020**

TO Dillon Dittmer, Rich Geschwender, Tony Kessler, Brett Harbison

FROM Alexander Roth, Schemmer, and Robert Carnazzo

THRU Julie Ramirez and Jason Dayton

SUBJECT Floodplain Certification — In Stromsburg and North, 81-2(145), CN 42782

In Stromsburg and North is a Reconstruction and Overlay project located in Polk County, Nebraska, along Highway US-81. The project will begin at the Nebraska Central Railroad Company (NCRC RR) tracks in the City of Stromsburg (Mile Marker (MM) 78.26) and extends north to about 1000 feet east of the US-81 and N-92 junction (MM 83.11). The project includes about a quarter mile of Highway N-92, starting at the change in pavement about one-quarter mile west of the US-81 / N-92 junction to the junction itself (Hwy N-92 MM 395.65 to 395.90), and the east and west ramps of the junction.

The highway improvements on this project consist of:

- Reconstruction of the highway from the NCRC RR tracks to approximately 10<sup>th</sup> Street in the City of Stromsburg. This will include the removal of the existing pavement, grading, new storm sewer, new driveways and sidewalks. The new pavement elevation will generally be lower than the existing pavement, dropping between 0.1 to 1.0 feet.
- Concrete pavement repair and overlay of the highway from approximately 10<sup>th</sup> Street in the City of Stromsburg to the beginning of the US-81 / N-92 junction. Through the curbed section of the highway (approximately the first 700 feet north of 10<sup>th</sup> Street) the project will place a three (3) inch asphalt overlay, for the remainder it will place a four (4) inch overlay. The earth shoulders will be graded to be brought up to the new pavement elevation. The project work will increase the pavement elevation by three (3) or four (4) inches through these locations.
- The remainder of the project, the sections of US-81 and N-92 within and adjacent to the junction, including the ramps, will undergo repair of underlying concrete pavement, removal of three (3) inches of existing asphalt by milling followed by placement of a three (3) inch asphalt overlay. There will be no change in the pavement elevation within this section of the project.

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

### Community of City of Stromsburg

#### **Prairie Creek, Section 12 T13N R03W and Section 07 T13N R02W**

The south 206 feet of the project on the north side of the railroad crossing lies within a Zone A floodplain of Prairie Creek by way of longitudinal encroachment. The roadway profile will be designed such to match the existing roadway profile and avoid any impacts to the base flood elevations. The project does not affect the conveyance of flow or change the elevation of the highway, and therefore will not cause the base flood elevation to increase. This falls within the Zone A floodplain regulations for changes in a floodplain.

April 27, 2020

Community of Polk County

**Davis Creek, S081 08265**

The project encroaches upon the Base Floodplain for Davis Creek in Section 24, T14N R03W. The creek's ordinary high water flow is conveyed through the highway by a box culvert with four (4) of 10-foot wide by six (6) foot high openings, structure S081 08265. At this location the project will complete pavement repair followed by a four (4) inch asphalt overlay; there will be no culvert work. An analysis of the hydrology and hydraulics for the box culvert was completed for this certification. The base flood (100-year event) of 3400 cubic feet per second (cfs) is conveyed in part by the box culvert and in part by overtopping of the highway pavement at an elevation of 1651.3 feet (NAVD 88). The addition of the four (4) inch overlay causes a similar increase in the base flood elevation to a new elevation of 1651.6 feet. The project will cause a four (4) inch increase in the base flood elevation for Davis Creek at and immediately upstream of the highway.

Enclosures:      Certificates (2)  
                     FIRMettes covering project (4)  
                     Location Map

April 27, 2020

**Permit Information:**

Community of City of Stromsburg

**Prairie Creek, Section 12 T13N R03W and Section 07 T13N R02W**

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

Community of Polk County

**Davis Creek, S081 08265**

Is the work substantial improvement?	No
Is the work in an identified floodplain?	Yes
Elevation of the base flood (100-year event)?	1651.3 NAVD 88
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 In Stromsburg & North Stream Prarie Creek  
Project No. NH-81-2(145) County Polk  
Control No. 42782 Section(s) 7,12 T 13N R 2,3W

FEMA LOCATION

County/Community City of Stromsburg  
Panel No. 31143C0326C  
Effective Date August, 19, 2008

TYPE OF STRUCTURE

☐ Bridge ☐ Culvert ☒ Roadway

Structure No.                      ☐                     

TYPE OF IMPROVEMENT

☐ Modify Existing ☒ Replace Existing

☐ Other New and Reconstruction - No Grade Raise

Highway Profile Change: ☐ Yes ☒ No ☐ N/A

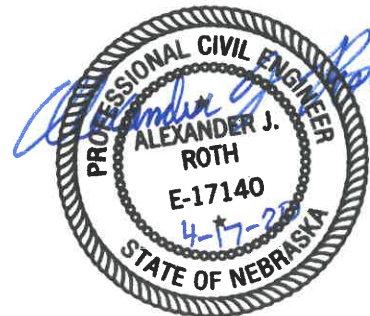
THE FOLLOWING IS HEREBY CERTIFIED

- ☐ 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.

Signature

Alexander J. Roth  
Alexander Roth, P.E.  
Transportation Engineer

Registration Number E-17140  
Date 04/17/2020



*Certification of Compliance  
Floodplain and Floodway Regulations*

FLOODPLAIN/ FLOODWAY LOCATION

Project Name In Stromsburg and North Stream Davis Creek  
Project No. 81-2(145) County Polk  
Control No. 42782 Section(s) 24 T 14 N R 03 W

FEMA LOCATION

County/Community Polk County, Nebraska  
Panel No. 31143C 0225C  
Effective Date 08/19/2008

TYPE OF STRUCTURE

☐ Bridge ☒ Culvert Quad 10x6 Box Culvert ☐ Roadway  
Structure No. S081 08265 ☐

TYPE OF IMPROVEMENT

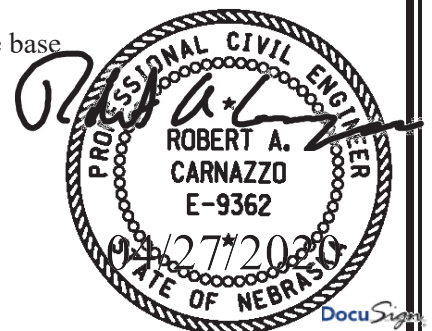
☐ Modify Existing ☐ Replace Existing ☒ Other  
Details Complete concrete repair, place 4-inch asphalt overlay. No culvert work.

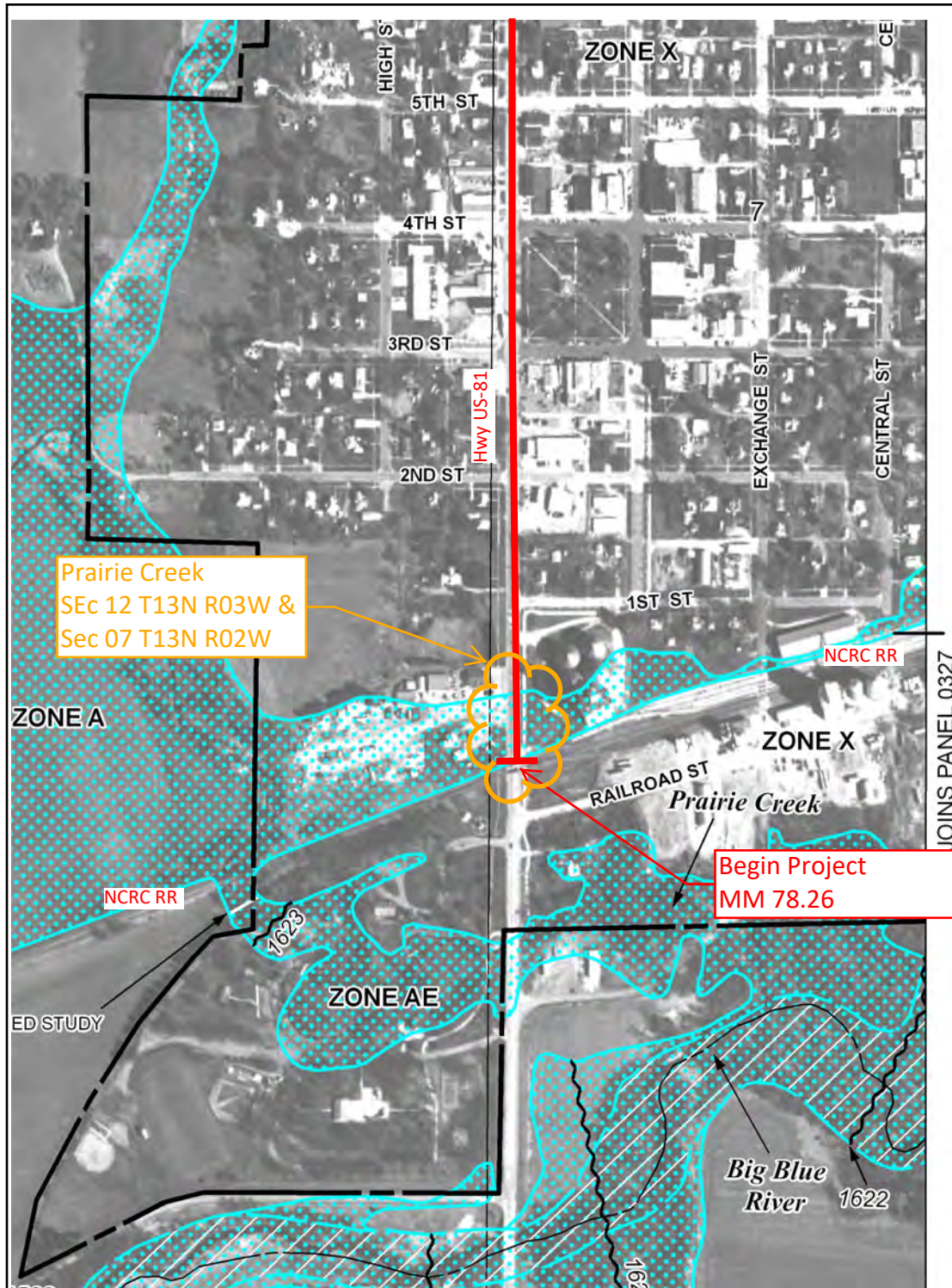
Highway Profile Change: ☒ Yes ☐ No

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





MAP SCALE 1" = 500'

250 0 250 500 1000  
FEET

**NFIP**

**NATIONAL FLOOD INSURANCE PROGRAM**

PANEL 0326C

**FIRM**  
FLOOD INSURANCE RATE MAP  
**POLK COUNTY,  
NEBRASKA**  
AND INCORPORATED AREAS

PANEL 326 OF 400

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

<u>COMMUNITY</u>	<u>NUMBER</u>	<u>PANEL</u>	<u>SUFFIX</u>
POLK COUNTY	310468	0326	C
STROMSBURG, CITY OF	310180	0326	C

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.

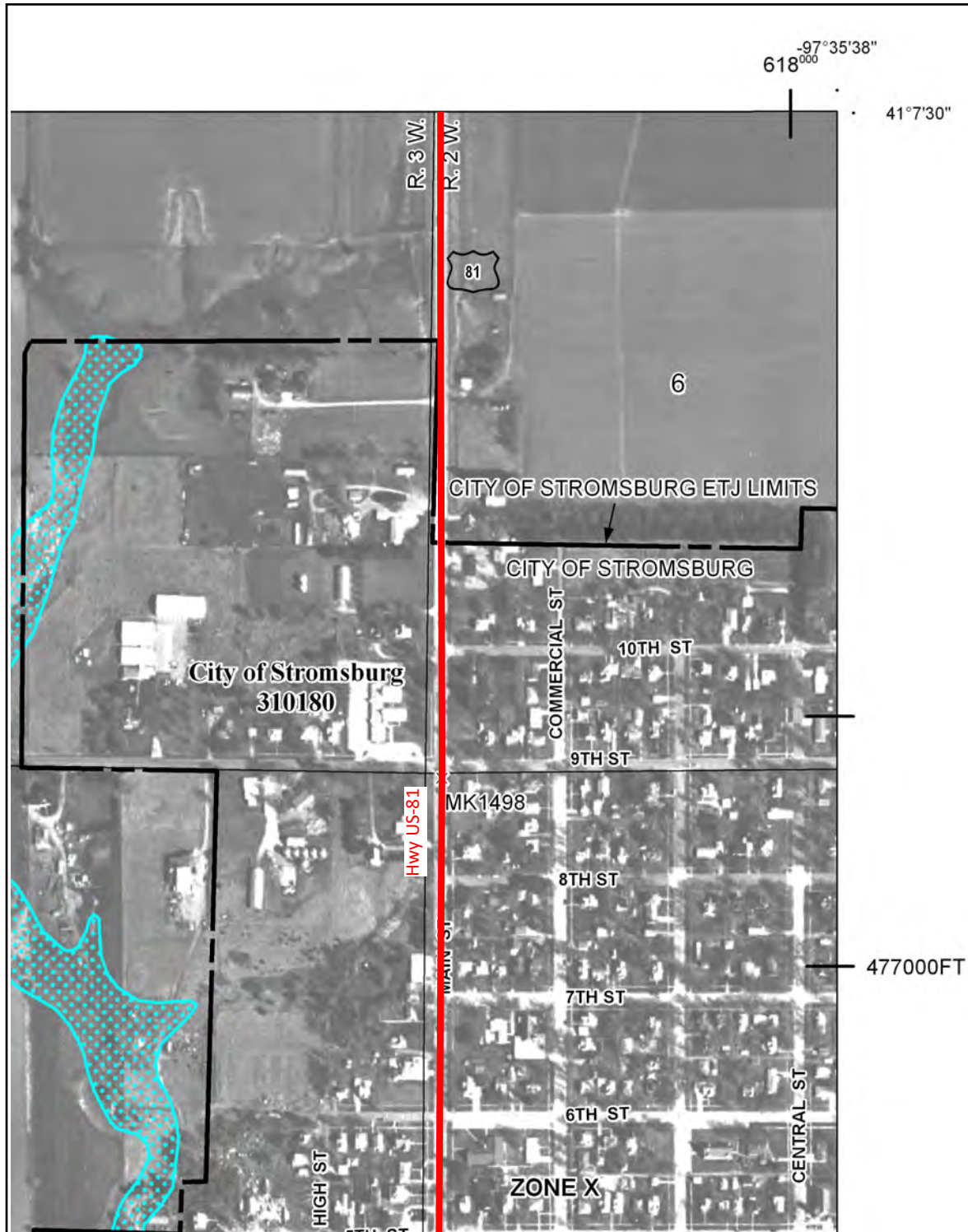


**MAP NUMBER**  
**31143C0326C**

**EFFECTIVE DATE**  
**AUGUST 19, 2008**

**Federal Emergency Management Agency**

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/>.



MAP SCALE 1" = 500'

250 0 250 500 1000  
FEET

NFIP

NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0326C

**FIRM**  
FLOOD INSURANCE RATE MAP  
**POLK COUNTY,  
NEBRASKA**  
AND INCORPORATED AREAS

**PANEL 326 OF 400**

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

<u>COMMUNITY</u>	<u>NUMBER</u>	<u>PANEL</u>	<u>SUFFIX</u>
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1000      0      1000      2000      4000      FEET

NFIP

# NATIONAL FLOOD INSURANCE PROGRAM

**FIRM**  
FLOOD INSURANCE RATE MAP  
**POLK COUNTY,**  
**NEBRASKA**  
**AND INCORPORATED AREAS**

**PANEL 225 OF 400**  
(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

<u>COMMUNITY</u>	<u>NUMBER</u>	<u>PANEL</u>	<u>SUFFIX</u>
OSCEOLA, CITY OF	310179	0225	C
POLK COUNTY	310468	0225	C
STROMSBURG, CITY OF	310180	0225	C

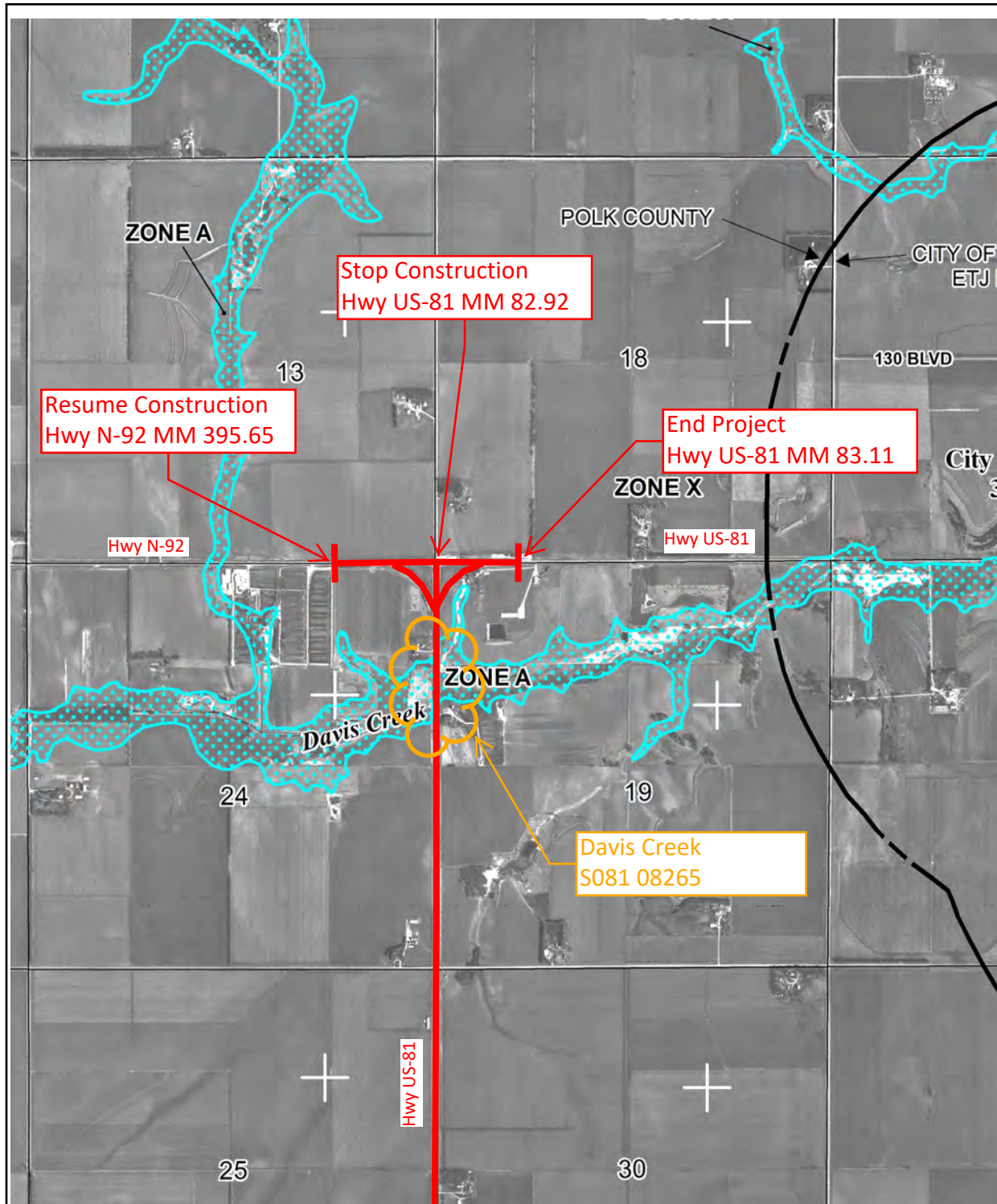
Notice to User: The **Map Number** shown below should be used when placing map orders; the **Community Number** shown above should be used on insurance applications for the subject community.



MAP NUMBER  
31143C0225C  
EFFECTIVE DATE  
AUGUST 19, 2008

**Federal Emergency Management Agency**

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MAP SCALE 1" = 2000'

1000 0 1000 2000 4000  
FEET

NFIP

PANEL 0225C

**FIRM**  
FLOOD INSURANCE RATE MAP  
**POLK COUNTY,  
NEBRASKA  
AND INCORPORATED AREAS**

**PANEL 225 OF 400**

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

<u>COMMUNITY</u>	<u>NUMBER</u>	<u>PANEL</u>	<u>SUFFIX</u>
OSCEOLA, CITY OF	310179	0225	C
POLK COUNTY	310468	0225	C
STROMSBURG, CITY OF	310180	0225	C

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**MAP NUMBER  
31143C0225C**

**EFFECTIVE DATE  
AUGUST 19, 2008**

Federal Emergency Management Agency

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# IN STROMSBURG AND NORTH NH-81-2(145)

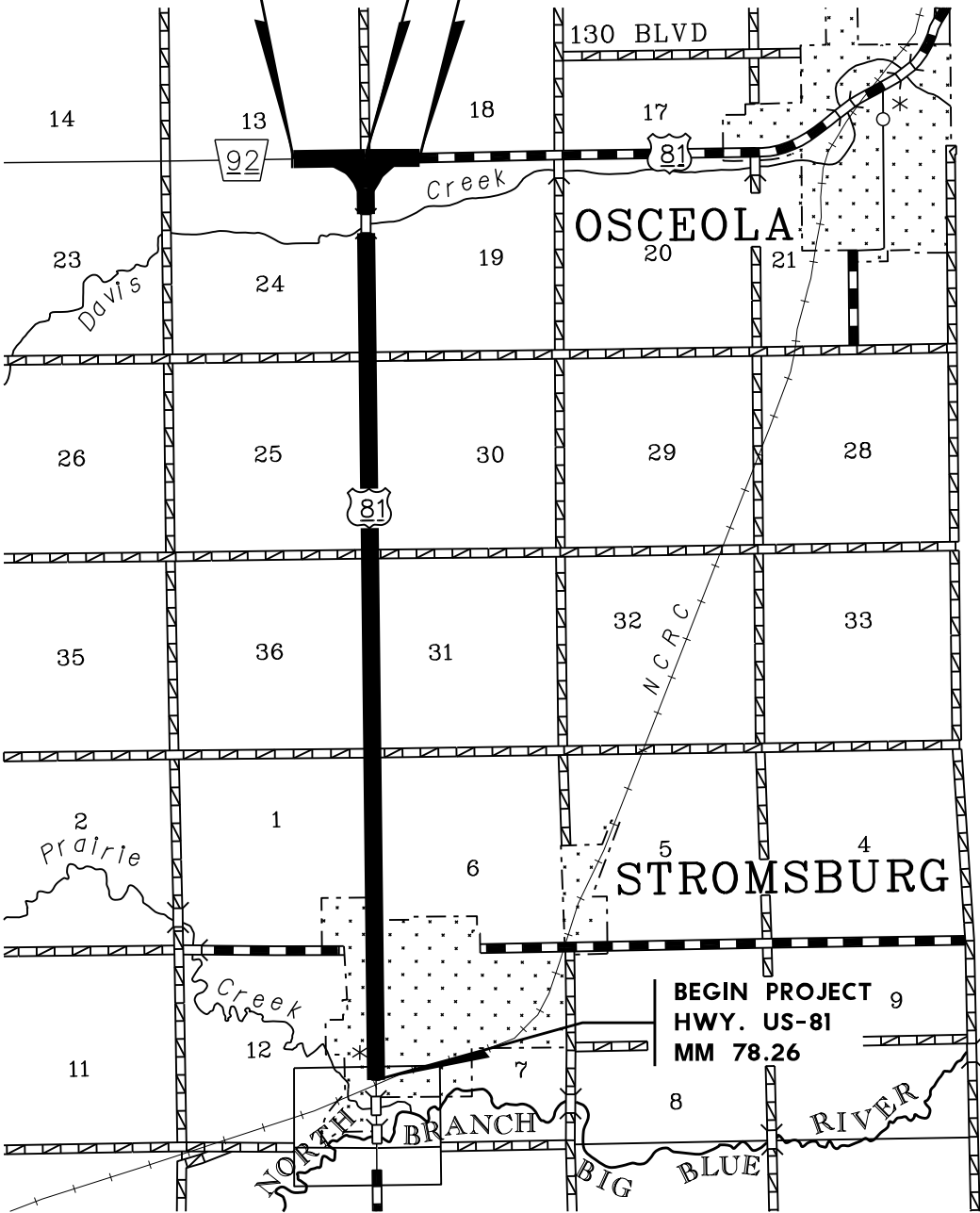
C.N. 42782  
POLK COUNTY

RESUME CONSTRUCTION  
HWY N-92  
MM 395.65

STOP PROJECT  
HWY N-92  
MM 495.90

END CONSTRUCTION  
HWY US-81  
MM 83.11

T 14 N



R 2 W