NDOR
Nebraska Department of Roads

Memorandum

Date: **March 23, 2016**

To: Tony Ringenberg, Tony Ringenberg, Bruce Barrett, Chris Dowding

From: Brian Goodbarn

Thru: Kirk Harvey DKH

Subj: Crawford South, 71-4(123), CN 51532
Floodplain Certification

Crawford South is a system preservation project along Highway 71 from the south junction of Highway 71 and Highway 2 (R.P. 110.10) to .24 miles south of the junction of Highway 71/2 and Highway 20 (R.P. 135.60) in Box Butte and Dawes, Nebraska. The project will mill 2 inches of pavement and then apply a 2 inch overlay. The project will result in a 0 inch grade raise.

The following Zone A Floodplains are conveyed through bridge-sized structures:

Sand Canyon Creek, Box Butte County, Section 29 T28N R51W (S071 11336)
The base flood (100 year storm event) is conveyed by a triple 10 foot x 5 foot concrete box culvert. The culvert will be used-in-place. The project does not affect the conveyance of the flow through the culvert 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.

Niobrara River, Box Butte County, Section 5/6 T28N R51W (S071 11727)
The base flood (100 year storm event) of 3,598 cubic feet per second (cfs) is conveyed by a concrete IT – 300 bridge and according to as-builts does not overtop the highway. Bridge work will consist of partial depth deck repairs, 2 inch overlay, and sealing the bridge rails. This will result in a 2 inch grade raise. The project work will not cause the base flood elevation to increase. This falls within the Zone A Floodplain regulations for changes in a floodplain.

Tributary to Niobrara River, Dawes county, Section 29 T29N R51W (S071 11957)
The base flood (100 year storm event) is conveyed by a 7-12 foot x 7 foot concrete box culvert. The culvert will be used-in-place. The project does not affect the conveyance of the flow through the culvert 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.

Tributary to Bozle Creek, Dawes County, Section 34/35 T31N R52W (S071 13199)
The base flood (100 year storm event) is conveyed by a twin 10 foot x 10 foot concrete box culvert. The culvert will be used-in-place. The project does not affect the conveyance of the flow through the culvert 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.

Tributary to Bozle Creek, Dawes County, Section 22/23 T31N R52W (S071 13373)
The base flood (100 year storm event) is conveyed by a 4 – 10 foot x 6 foot. The culvert will be used-in-place. The project does not affect the conveyance of the flow through the culvert 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.

Certification of Compliance: Floodplain and Floodway Regulations

ENCROACHMENT LOCATION

Project Name Crawford South

Project No. 71-4(123)

Control No. 51532

Structure No. S071 11336

Stream Sand Canyon Creek

County Box Butte

S 29/30 *T* 28 N *R* 51 W

FEMA LOCATION

County/Community Box Butte County

Panel No. 3104160001A

Effective Date August 23, 1977

TYPE OF IMPROVEMENT

☑ *Modify Existing* ☐ *Replace Existing* ☐ *Other*

Existing Structure *Triple 10 foot x 5 foot concrete box culvert*

Proposed Structure _____

Bridge Details: The culvert will be used-in-place

Roadway Details: Mill 2" and replace with 2" resulting in no grade raise. Culvert will be used-in-place.

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 elevation more than one foot at any location

☑ *Floodplain (without Designated Floodway) or Flood Fringe*
Proposed construction will not increase the base (100 year) flood elevation more than one foot at any location

☐ *Designated Floodway*
Proposed conditions will not increase the floodway elevation

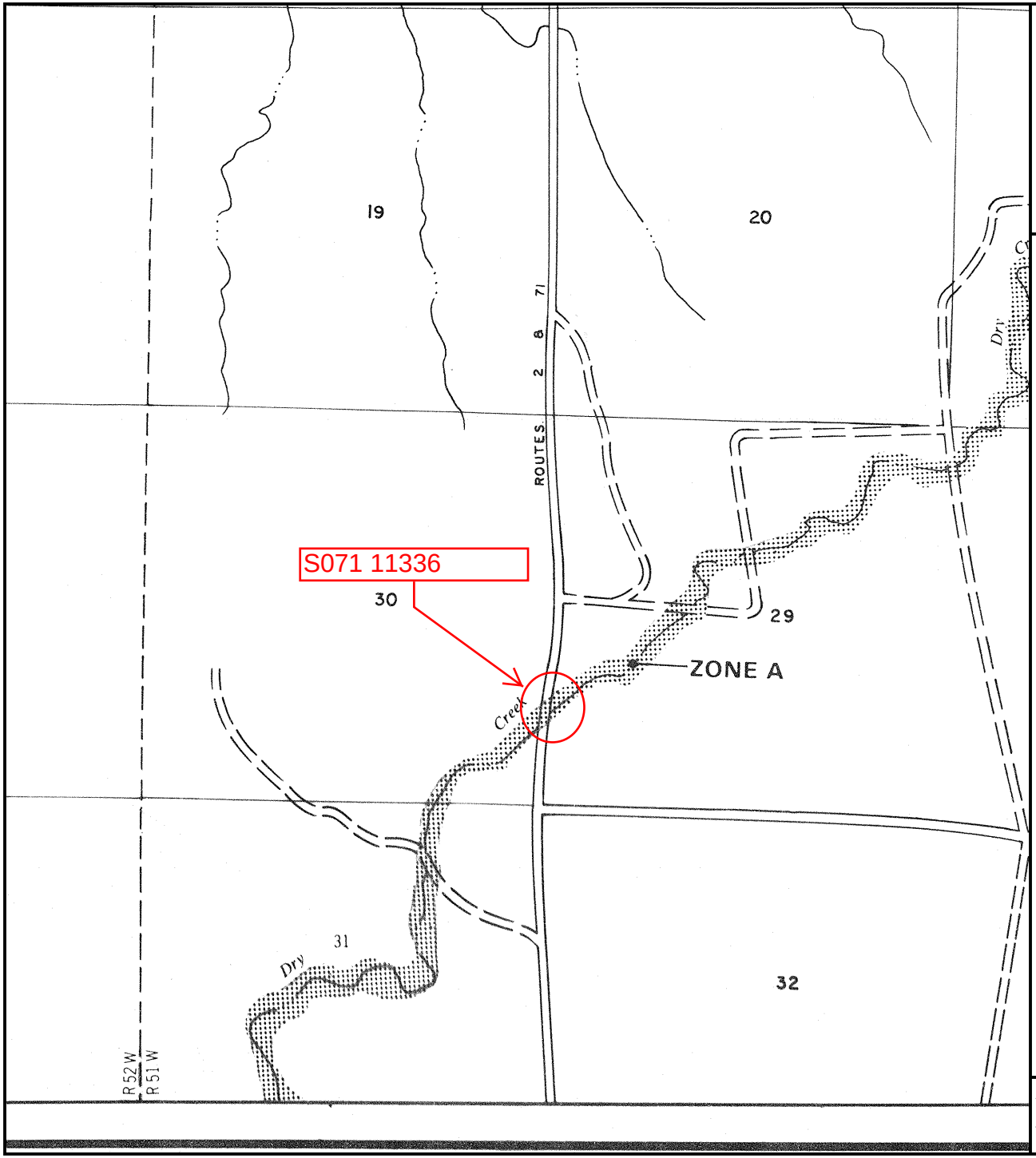
Signature

D. Kirk Harvey
Assistant Bridge Engineer - Hydraulics

PROFESSIONAL CIVIL ENGINEER
D. KIRK
HARVEY
E-11155
3/23/16
STATE OF NEBRASKA

Registration Number E-11155

Date 3/23/2016



APPROXIMATE SCALE IN FEET:

2000 0 2000

North

FLOOD HAZARD BOUNDARY MAP

BOX BUTTE COUNTY, NEBRASKA

UNINCORPORATED AREA

PAGE 1 OF 16

(SEE MAP INDEX FOR PAGES NOT PRINTED)

EFFECTIVE DATE:

AUGUST 23, 1977

COMMUNITY-PANEL NO.

310416 0001 A

U.S. DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT

FEDERAL INSURANCE ADMINISTRATION

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

Certification of Compliance: Floodplain and Floodway Regulations

ENCROACHMENT LOCATION

Project Name Crawford South

Project No. 71-4(123)

Control No. 51532

Structure No. S071 11727

Stream Niobrara River

County Box Butte

S 5/6 *T* 28 N *R* 51 W

FEMA LOCATION

County/Community Box Butte County

Panel No. 3104160001A

Effective Date August 23, 1977

TYPE OF IMPROVEMENT

☑ *Modify Existing* ☐ *Replace Existing* ☐ *Other*

Existing Structure IT - 300 bridge *Proposed Structure*

Bridge Details: Partial depth deck repairs, bridge rail sealing, and a 2 inch overlay.

Roadway Details: Roadway work is mill 2" and place 2" overlay. Total grade raise of 2" across the bridge.

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 elevation more than one foot at any location

☑ *Floodplain (without Designated Floodway) or Flood Fringe*
Proposed construction will not increase the base (100 year) flood elevation more than one foot at any location

☐ *Designated Floodway*
Proposed conditions will not increase the floodway elevation

Signature

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Assistant Bridge Engineer - Hydraulics

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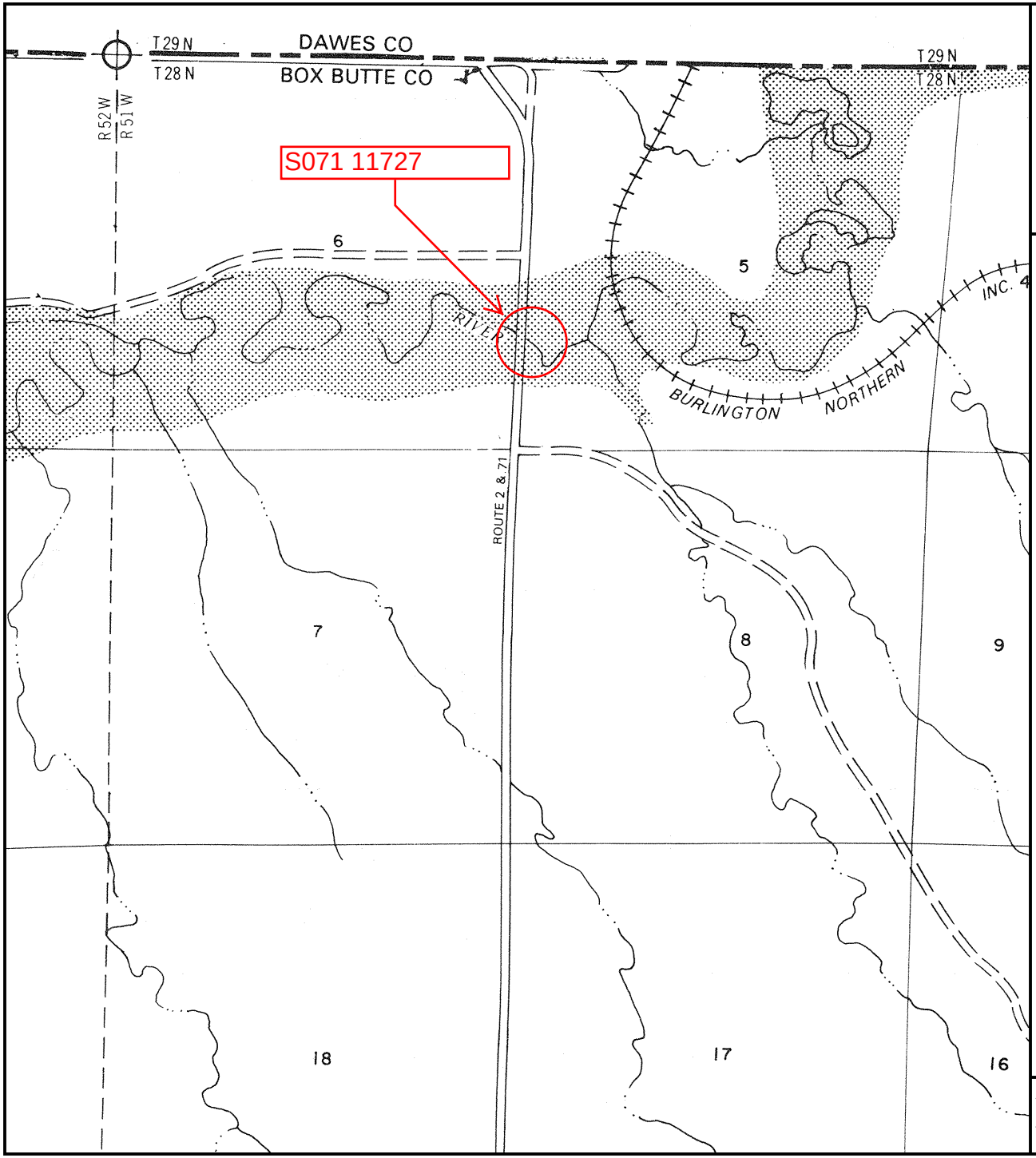

APPROXIMATE SCALE IN FEET:

2000 0 2000

North

FLOOD HAZARD BOUNDARY MAP

BOX BUTTE COUNTY, NEBRASKA

UNINCORPORATED AREA

PAGE 1 OF 16

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Certification of Compliance: Floodplain and Floodway Regulations

ENCROACHMENT LOCATION

Project Name Crawford South

Project No. 71-4(123)

Control No. 51532

Structure No. S071 11957

Stream Tributary to Niobrara River

County Dawes

S 29 *T* 29 N *R* 51 W

FEMA LOCATION

County/Community Dawes County

Panel No. 31045C0875C

Effective Date June 16, 2011

TYPE OF IMPROVEMENT

☑ *Modify Existing* ☐ *Replace Existing* ☐ *Other*

Existing Structure *7 - 12 foot x 7 foot concrete box culvert*

Proposed Structure

Bridge Details: Culvert will be used-in-place.

Roadway Details: Roadway work is mill 2" and place 2" overlay. No grade raise.

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 elevation more than one foot at any location

☑ *Floodplain (without Designated Floodway) or Flood Fringe*
Proposed construction will not increase the base (100 year) flood elevation more than one foot at any location

☐ *Designated Floodway*
Proposed conditions will not increase the floodway elevation

Signature

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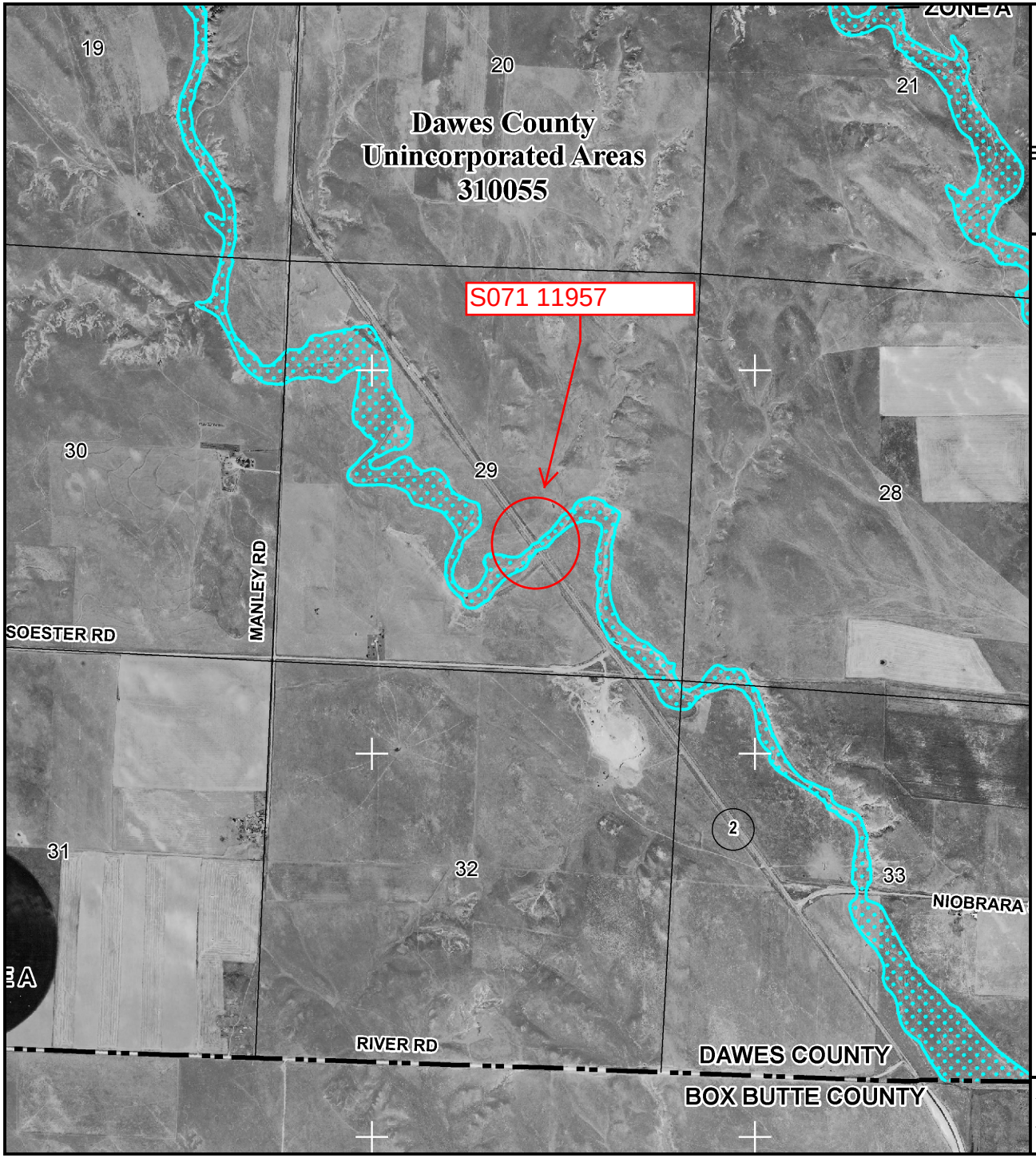

MAP SCALE 1" = 2000'

1000 0 2000 4000 FEET

0 600 1200 METER

NFIP

NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0875C

FIRM

FLOOD INSURANCE RATE MAP

Dawes County, Nebraska

AND INCORPORATED AREAS

PANEL 875 OF 975

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
DAWES COUNTY	310055	0875	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
31045C0875C

EFFECTIVE DATE
JUNE 16, 2011

Federal Emergency Management Agency

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Certification of Compliance: Floodplain and Floodway Regulations

ENCROACHMENT LOCATION

Project Name Crawford South

Project No. 71-4(123)

Control No. 51532

Structure No. S071 13199

Stream Tributary to Bozle Creek

County Dawes

S 34 *T* 31 N *R* 52 W

FEMA LOCATION

County/Community Dawes County

Panel No. 31045C0700C

Effective Date June 16, 2011

TYPE OF IMPROVEMENT

☑ *Modify Existing* ☐ *Replace Existing* ☐ *Other*

Existing Structure *twin - 10 foot x 10 foot concrete box culvert*

Proposed Structure _____

Bridge Details: Culvert will be used-in-place.

Roadway Details: Roadway work is mill 2" and place 2" overlay. No grade raise.

Highway Profile Change? ☐ *Yes* ☑ *No*

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☐ *Floodplain in Un-mapped Community (State Minimum Standards Apply)*
Proposed construction will not increase the base (100 year) flood elevation more than one foot at any location

☑ *Floodplain (without Designated Floodway) or Flood Fringe*
Proposed construction will not increase the base (100 year) flood elevation more than one foot at any location

☐ *Designated Floodway*
Proposed conditions will not increase the floodway elevation

Signature

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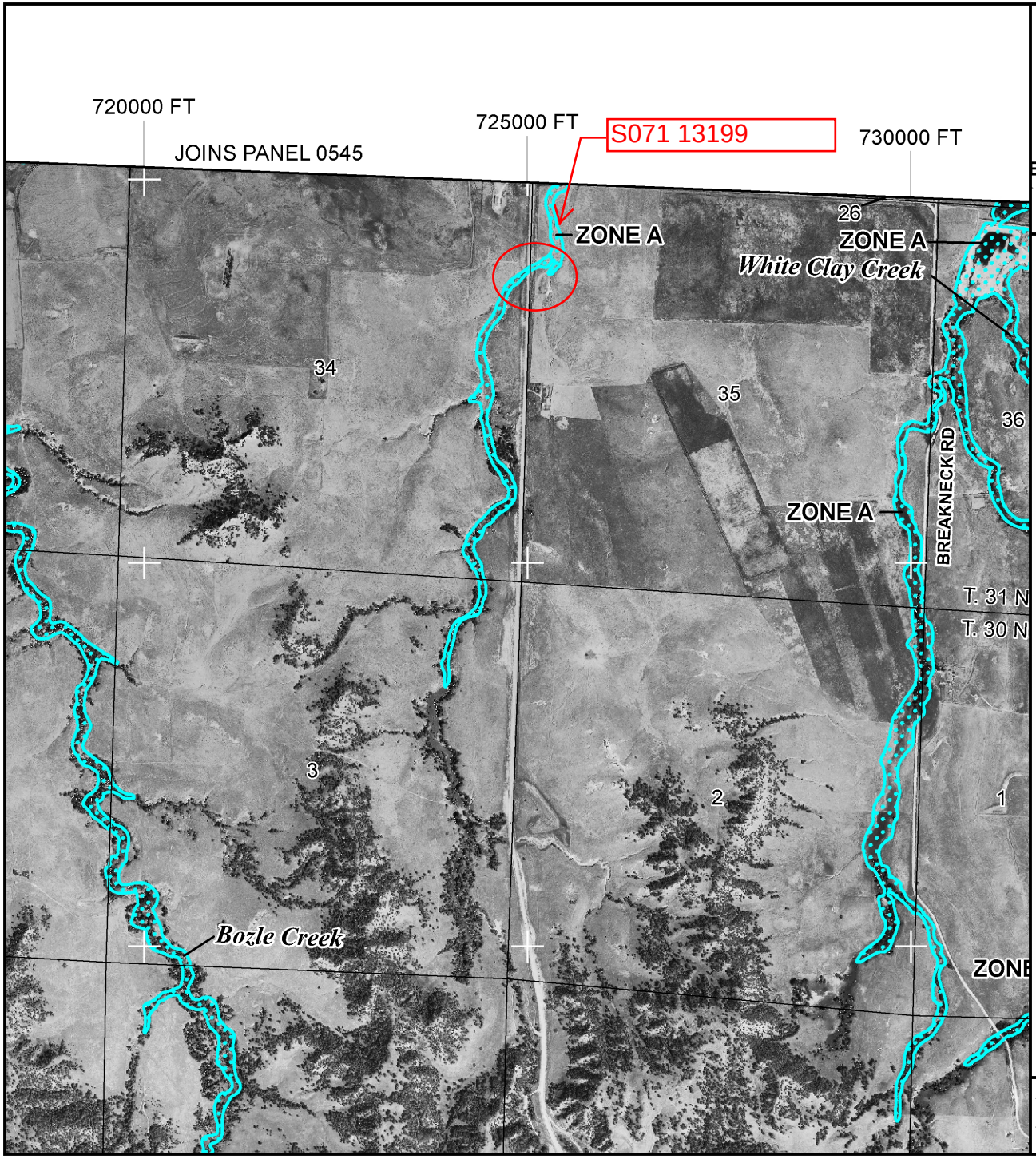

MAP SCALE 1" = 2000'

1000 0 2000 4000 FEET

METERS

NFIP

NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0700C

FIRM

FLOOD INSURANCE RATE MAP

Dawes County, Nebraska

AND INCORPORATED AREAS

PANEL 700 OF 975

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
DAWES COUNTY	310055	0700	C

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31045C0700C

EFFECTIVE DATE
JUNE 16, 2011

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Certification of Compliance: Floodplain and Floodway Regulations

ENCROACHMENT LOCATION

Project Name Crawford South

Project No. 71-4(123)

Control No. 51532

Structure No. S071 13373

Stream Tributary to Bozle Creek

County Dawes

S 22/23 *T* 31 N *R* 52 W

FEMA LOCATION

County/Community Dawes County

Panel No. 31045C0545C

Effective Date June 16, 2011

TYPE OF IMPROVEMENT

☑ *Modify Existing* ☐ *Replace Existing* ☐ *Other*

Existing Structure *4 - 10 foot x 6 foot concrete box culvert*

Proposed Structure

Bridge Details: Culvert will be used-in-place.

Roadway Details: Roadway work is mill 2" and place 2" overlay. No grade raise.

Highway Profile Change? ☐ *Yes* ☑ *No*

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Proposed construction will not increase the base (100 year) flood elevation more than one foot at any location

☑ *Floodplain (without Designated Floodway) or Flood Fringe*
Proposed construction will not increase the base (100 year) flood elevation more than one foot at any location

☐ *Designated Floodway*
Proposed conditions will not increase the floodway elevation

Signature

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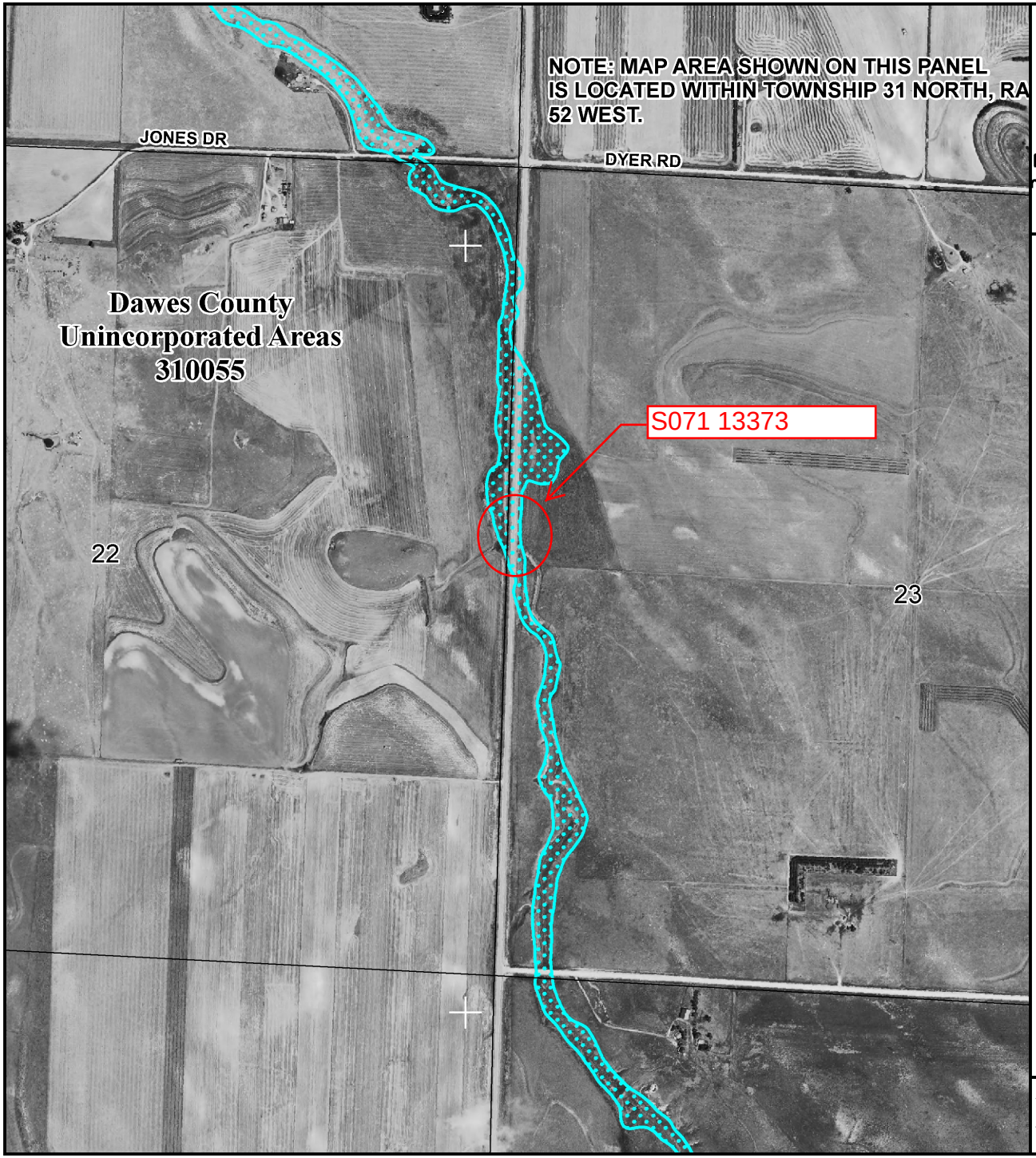

MAP SCALE 1" = 1000'

500 0 1000 2000 FEET

00 0 300 600 METERS

NFIP

NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0545C

FIRM

FLOOD INSURANCE RATE MAP

Dawes County, Nebraska

AND INCORPORATED AREAS

PANEL 545 OF 975

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
CRAWFORD, CITY OF	310056	0545	C
DAWES COUNTY	310055	0545	C

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31045C0545C

EFFECTIVE DATE
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