***e Memorandum***

DATE **June 18, 2020**

TO Dillon Dittmer, DESIGNER, UNIT HEAD, EPU COORDINATOR

FROM YOU and/or CERTIFYING ENGINEER

THRU Julie Ramirez and Jason Dayton

SUBJECT Floodplain Certification — PROJECT NAME, 000-0(0000), CN 00000

PROJECT NAME is a PROJECT TYPE (e.g., Mill and Overlay, Resurfacing, New & Reconstruction, etc.) project located in COUNTY County, Nebraska, along Highway NUMBER (e.g. N-21, US-183, L-53A , S-14C, I-480). The project will begin DESCRIBE WHERE PROJECT BEGINS (Mile Marker (MM) 000.00) and extends DIRECTION to DESCRIBE WHERE PROJECT ENDS (MM 000.00).

EXAMPLES:

In Gordon & South is a resurfacing, restoration, and rehabilitation project located in Sheridan County, Nebraska, along Highway N-27. The project will begin approximately 2000 feet south of the Niobrara River (MM 210.14) in the SW SE Section 26 T31N R42W, and extends north to just north of 10th Street in the City of Gordon (MM 222.65).

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Auburn North is a shoulder reconstruction project located along Highway US-75 in Nemaha and Otoe Counties, Nebraska. The project begins just north of Nemaha County Road 730 (Mile Marker (MM) 28.80) and extends north to the start of the four lane highway approximately 1700 feet south of Otoe County Road N (Highway N-128) (MM 42.20).

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Potter East and West is a Mill and Overlay project located in Cheyenne County, Nebraska, along Highways US-30, L-17B (Potter Link) and L-17C. The project begins at the Cheyenne/Kimball County Line (Mile Marker (MM) 37.11) and extends along Hwy US-30 to the junction of US-30 & L-17C (MM 50.73). The project includes work along Hwy L-17B (Potter Link) from the north I-80 ramps (MM 0.17) to its junction with US-30 (MM 0.72), and Hwy L-17C (Brownson) from just north of the I-80 ramps (MM 0.36) to its junction with US-30 (MM 1.07).

The highway improvements on this project consist of DESCRIBE.

(EXAMPLES:

Improvements to the project include repair of underlying concrete pavement, milling and resurfacing the roadway and surfaced shoulders, resurfacing driveways and intersections, and culvert work. The project will remove by milling four (4) inches of existing asphalt pavement and place a four (4) inch asphalt overlay, resulting in a no change to the pavement elevation. Select culverts will be extended to both the north and south.

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The improvements on this project consist of removing and replacing surfaced shoulders from Nemaha County Road 730 to the south junction of US-75 with Highway N-67, and installing centerline rumble strips from the south junction of US-75 and N-67 to south of Otoe County Road N. No other work is planned. There will be no change in the pavement overtopping elevation.

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The improvements on this project consist of removing four (4) inches of existing asphalt pavement by milling, followed by placement of a five (5) inch asphalt overlay, for a one (1) inch increase in pavement elevation. The existing paved shoulder will also be milled and overlaid. The bridge over the Republican River (S010 00548) will undergo deck repair, replacement of the expansion joints, removal and replacement of the guardrail including remodeling of the bridge connection, and placement of a two (2) inch asphalt overlay. The deck elevation will be increased two (2) inches. In select locations along the highway new asphalt shoulders will be constructed, and flumes built. Where there are earth shoulders the pavement edges will be improved and the earth shoulders regraded to meet the new pavement edges. There will be embankment grading in these locations. Also in select locations rock subdrains will be trenched in to the shoulder material. Select culverts will be extended.

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This improvements on this project consist of:

* From south of Highway N-4 in Harlan County to the BNSF RR in the City of Holdrege;

Remove four (4) inches of asphalt pavement by milling and then placing a five (5) inch asphalt overlay, resulting in a one (1) inch increase in pavement elevation. The surface shoulders will also be completed removed and replaced. The earth shoulders will be regraded. Select culverts will be removed and replace or extended.

* + The bridge over Turkey Creek (S0183 02243) will undergo deck repair, replacement of the expansion joints, removal and replacement of the guardrail including remodeling of the bridge connection, and placement of a two (2) inch asphalt overlay. The deck elevation will be increased two (2) inches.
* From the BNSF RR to just north of Park Road, all within the City of Holdrege;

Remove two and three-quarter (2.75) inches of asphalt by milling, complete concrete pavement repair, and then place a three and one-half (3.5) inch asphalt overlay, all between the existing concrete curbs, resulting in a three-quarter (0.75) inch increase in pavment elevation.

* Highway N-4;

Remove four (4) inches of asphalt pavement by milling and then placing a four (4) inch asphalt overlay, resulting in no change in pavement elevation. The surface shoulders will also be milled and overlaid.

(Add this paragraph for Communities without mapping and ARE NOT participating in NFIP)

COMMUNITY NAME has no FEMA Floodplain mapping and does not participate in the National Flood Insurance Program (NFIP). NDOT policy in unmapped communities is to classify drainages with greater than 640 acres of watershed upstream of the highway and drainages that the Nebraska Department of Natural Resources has identified as Flood Awareness Areas as Potential Base Floodplains. State Minimum Standards require that all activity within potential Base Floodplains meet a “Less Than 1-foot Rise” criteria. A Permit is not required from the non-participating community, the certification(s) provided for the location(s) discussed below that meet this criteria will be retained in its stead.

(Add this paragraph for Communities without mapping, but ARE participating in the NFIP)

COMMUNITY NAME has no FEMA Floodplain mapping, but does participate in the National Flood Insurance Program (NFIP). NDOT policy in unmapped communities is to classify drainages with greater than 640 acres of watershed upstream of the highway and drainages that the Nebraska Department of Natural Resources has identified as Flood Awareness Areas as Potential Base Floodplains. State Minimum Standards require that all activity within potential Base Floodplains meet a “Less Than 1-foot Rise” criteria. Certifications are provided for such locations.

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

Community of COMMUNITY NAME

(non-bridge sized culverts conveying floodwater through the roadway)

**WATERBODY NAME, Section 00 T00N R00E/W, (optional: culvert size and shape )**

The project encroaches upon the Base Floodplain for WATERBODY in Section 00, T00N R00E/W. The waterway’s ordinary high water flow is conveyed through the highway by a pipe/box culvert with NUMBER (#) of SIZE openings. At this location the project will SUMMARIZE PROJECT WORK OCCURING WITHIN THE FLOODPLAIN. EXPLAIN THE HYDROLOGY AND HYDRAULICS OF THE ENCROACHMENT. SUMMARIZE THE IMPACT OF THE PROJECT ON THE BASE FLOOD ELEVATION OF THE WATERBODY.

(bridge sized structures conveying floodwater through the roadway)

**WATERBODY NAME, S000 00000, Section 00 T00N R00E/W**

The project encroaches upon the Base Floodplain for WATERBODY in Section 00, T00N R00E/W. The waterway’s ordinary high water flow is conveyed through the highway by a ( 000-foot long bridge OR pipe/box culvert with NUMBER (#) of SIZE openings ), structure S000 00000. At this location the project will SUMMARIZE PROJECT WORK OCCURING WITHIN THE FLOODPLAIN. EXPLAIN THE HYDROLOGY AND HYDRAULICS OF THE ENCROACHMENT. SUMMARIZE THE IMPACT OF THE PROJECT ON THE BASE FLOOD ELEVATION OF THE WATERBODY.

(for project work that encroaches upon a FLOODWAY)

**WATERBODY NAME, S000 00000, Section 00 T00N R00E/W**

The project encroaches upon the Regulated Floodway for WATERBODY in Section 00, T00N R00E/W. The waterway’s ordinary high water flow is conveyed through the highway by a ( 000-foot long bridge OR pipe/box culvert with NUMBER (#) of SIZE openings ), structure S000 00000. At this location the project will SUMMARIZE PROJECT WORK OCCURING WITHIN THE FLOODPLAIN. EXPLAIN THE HYDROLOGY AND HYDRAULICS OF THE ENCROACHMENT. SUMMARIZE THE IMPACT OF THE PROJECT ON THE BASE FLOOD ELEVATION OF THE WATERBODY (this should be zero or no change). This meets the Floodplain regulations for no-rise in the floodway elevation.

Enclosures: Certificates (#)

FIRMettes covering project (#)

Location Map

(EXAMPLES:

Community of Franklin County

**Calumet Creek, S010 00377, Section 18 T01N R14W**

The project encroaches upon the Base Floodplain for Calumet Creek in Section 18 T01N R14W. The waterway’s ordinary high water flow is conveyed through the highway by a box culvert with four (4) 10-foot wide by 10-foot high (Quad 10x10 box culvert) openings, structure S010 00377. At this location the project will remove four (4) inches of existing asphalt by milling and then place a five (5) inch asphalt overlay, resulting in a one (1) inch change in pavement elevation. The pavement edges will be improved and the earth shoulders regraded. No work will be completed on the culvert. An analysis completed for the construction of the box culvert in 2002 indicates that the base flood (100 year event) of 2600 cfs is conveyed by the box culvert at a base flood elevation (BFE) of 1860.6 feet (NGVD 29), which is below the highway elevation of 1871.5 feet. Since the project will not affect a change in the creek’s conveyance through the box culvert, the project will not affect the depth of flow in the creek. The project will not cause a change in the base flood elevation of the Calumet Creek.

Communities of Franklin County and City of Franklin

**Republican River, S010 00548, Section 01 T01N R15W**

The project encroaches upon the Base Floodplain for the Republican River in Section 01 T01N R15W. The waterway’s ordinary high water flow is conveyed through the highway by a 460-foot bridge, structure S010 00548. At this location the project will complete deck repair, replacement of expansion joints, removal and replacement of the guardrail including remodeling of the bridge connection, and placement of a two (2) inch overlay. The bridge deck elevation will increase two (2) inches. An analysis completed for the construction of the bridge in 2002 indicates that the base flood (100 year event) of 30,000 cfs is conveyed by the bridge at a base flood elevation (BFE) of 1815.1 feet (NGVD 29), which is below the bridge deck elevation of 1820.4 feet. Since the project will not affect a change in the creek’s conveyance through the bridge, the project will not affect the depth of flow in the river. The project will not cause a change in the base flood elevation of the Republican River.

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**Lodgepole Creek Tributary, S030 04750, Section 08 T14N R51W**

The project encroaches upon the Base Floodplain for a Tributary to Lodgepole Creek in Section 08 T14N R51W. The waterway’s ordinary high water flow is conveyed through the highway by a box culvert with four (4) 12-foot wide by 10-foot high openings (Quad 12x10 Box Culvert), structure S030 04750. The project will remove two (2) inches of asphalt pavement by milling, repair of the underlying concrete pavement, and then place three (3) inches of an asphalt overlay, for an increase of one (1) inch in pavement elevation. There will be no culvert work. Assuming the base flood overtops the highway, the one (1) inch increase in the pavement elevation will cause an equivalent one (1) inch increase in the base flood elevation. The project will cause a one (1) inch increase in the base flood elevation of the Lodgepole Creek

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Community of Morrill County

Morrill County has no FEMA Floodplain mapping and does not participate in the National Flood Insurance Program (NFIP). NDOT policy in unmapped communities is to classify drainages with greater than 640 acres of watershed upstream of the highway as potential Base Floodplains. State Minimum Standards require that all activity within potential Base Floodplains meet a “Less Than 1-foot Rise” criteria. A Permit is not required from the non-participating county, the certification provided for the locations below will be retained in its stead.

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

**Deep Hole Creek Tributary, Section 28 & 21 T18N R49W**

The project encroaches upon the potential Base Floodplain for the Deep Hole Creek Tributary in Sections 28 and 21, T18N R49W. The waterway’s ordinary high water flow is conveyed along the east side of the highway in the drainage’s natural channel. At this location the project will remove three (3) inches of existing pavement by milling followed by a five (5) inch asphalt overlay, for a two (2) inch increase in pavement elevation. The surface shoulders will also be milled and overlaid, and the earth shoulders regraded to the new pavement edge elevation. No other work will be completed. No work will be completed in the drainage’s natural channel. Since the project will not affect a change in the drainage’s channel, the project will not affect the depth of flow in the tributary. The project will not cause a change in the base flood elevation of the tributary.

**Deep Hole Creek Tributary, Section 21 T18N R49W**

The project encroaches upon the potential Base Floodplain for the Deep Hole Creek Tributary in Sections 21, T18N R49W. The waterway’s ordinary high water flow is conveyed through the highway by a box culvert with three (3) - five (5) foot wide by five (5) foot high openings (Triple 5x5 Box Culvert). At this location the project will remove three (3) inches of existing pavement by milling followed by a five (5) inch asphalt overlay, for a two (2) inch increase in pavement elevation. The surface shoulders will also be milled and overlaid, and the earth shoulders regraded to the new pavement edge elevation. No other work will be completed. Assuming the base flood exceeds the capacity of the Triple 5x5 box culvert and overtops the highway, the two (2) inch increase in pavement elevation will cause a similar two (2) inch increase in the Base Flood Elevation (BFE) of the tributary. This increase will occur at and immediately upstream of the highway.

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**Unnamed Tributary, Section 02 T31N R42W, 72-inch Pipe Culvert**

The project encroaches upon the Base Floodplain for an unnamed tributary in Section 02 T31N R42W. The waterway’s ordinary high water flow is conveyed through the highway by a 72-inch pipe culvert. At this location the project will remove two and one-half (2.5) inches of existing asphalt by milling and then place a four (4) inch asphalt overlay, resulting in a one and one-half (1.5) inch change in pavement elevation. The pavement edges will be improved and the earth shoulders regraded to the new elevation. No other work will be completed. An analysis completed for this certification indicates that the base flood (100 year event) of 560 cfs overtops the highway at a base flood elevation (BFE) of 3597.3 feet (NAVD 88). The one and one-half (1.5) inch increase in pavement elevation will increase the BFE by an equivalent one and one-half (1.5) inches to an elevation of 3597.4 feet (NAVD 88)

**Antelope Creek, Section 25 T33N R42W**

The project encroaches upon the potential Base Floodplain for Antelope Creek in Section 25 T33N R42W. The waterway’s ordinary high water flow is conveyed through the highway by the City of Gordon’s storm sewer system at this location. Within the City of Gordon, the NDOT project will remove two (2) inches of existing pavement between the concrete curbs by milling followed by a two (2) inch overlay, for no change in the pavement elevation. Select locations of curb and gutter will be removed and reconstructed. Sidewalk curb ramps will be removed and reconstructed. Driveways will be repaved. No storm sewer or culvert work will be completed. Assuming that the City’s storm sewer is not able to contain the base flood (100 year event), the base flood will flow through town along the city streets and cross the highway as overland flow. None of the project work will change the street conveyance of the overland flow or the direction of its flow. Since the project will not affect a change in the Creek’s conveyance or direction of flow, the project will not affect the depth of the flow. The project will not cause a change in the potential base flood elevation of Antelope Creek.

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Community of Keya Paha County

**Dry Creek Section, 14 T32N R21W**

The project encroaches upon the potential Base Floodplain for Dry Creek in Section 14, T32N R21W. The waterway’s ordinary high water flow is conveyed through the highway by a box culvert with a 12-foot wide by 12-foot high opening. At this location the project will mill four (4) inches of existing asphalt and place four (4) inches of asphaltic concrete, resulting in no change to the pavement elevation, widen the existing pavement two (2) feet on each side, and remove and replace existing guardrail. No culvert work will occur. Keya Paha County has no FEMA Floodplain mapping and does not participate in the National Flood Insurance Program (NFIP). NDOT policy in unmapped communities is to classify drainages with greater than 640 acres of watershed upstream of the highway as Potential Base Floodplains. State Minimum Standards require that all activity within potential Base Floodplains meet a “Less Than 1-foot Rise” criteria. The watershed for Dry Creek exceeds 640 acres. Since the project will not affect a change in the creek’s conveyance through the box culvert or the overtopping elevation of the highway, the project will not affect the depth of flow in the creek. The project will not cause a change in the base flood elevation of Dry Creek. A Permit is not required from this non-participating community. The certification provided for this location will be retained in its stead.

**Permit Information:**

Community of COMMUNITY NAME

**WATERBODY NAME, Section 00 T00N R00E/W, (optional: culvert size and shape )**

Is the work substantial improvement? No/Yes

Is the work in an identified floodplain? No/Yes

Elevation of the base flood (100-year event)? 0000.0 NGVD 29/NAVD 88

Elevation/floodproofing requirement (if applicable)? NA

Is the work in a designated floodway? No/Yes