

**STARK COUNTY, NORTH DAKOTA
FLOODPLAIN DEVELOPMENT PERMIT APPLICATION
NON-BUILDING SITUATION**

(Attach additional information as necessary)

1. GENERAL INFORMATION:

Community: Rural Stark County

PERMIT # _____ DATE: April 7, 2016

Applicant: John DiDonato, NextEra Energy
Address: 700 Universe Boulevard, Juno Beach, FL 33408
Telephone #: 561-304-5244

Contractor: Chris Ansari, Tetra Tech, Inc.
Address: 350 Indiana Street, Suite 500, Golden, CO 80401
Telephone #: 303-217-5700

Estimated Cost of project: \$ 270,500,000

Description and location of proposed development:

Brady Wind Energy Center (Project). Field surveys were completed October through February 2016. The Project includes the construction of wind turbines and an associated transmission line in Stark County, North Dakota.

Brady Wind, LLC (Brady Wind), a wholly-owned, indirect subsidiary of NextEra Energy Resources, LLC (NEER), is proposing to construct the Brady Wind Energy Center (Project) in southern Stark County, North Dakota (**Attachment 2, Map Sheets**). The Project area is the location within which Brady Wind has negotiated easements with landowners, and encompasses approximately 30,213 acres (47 square miles).

The Project will have a nameplate capacity of approximately 150 megawatts (MW), consisting of up to 87 wind turbines using both General Electric (GE) 1.715 MW Xle and GE 1.79 MW Xle wind turbine generators. Additional facilities include access roads, underground electrical collection systems and cabling, a collection substation, an operation and maintenance (O&M) building, meteorological towers, a construction laydown area, and a temporary turbine storage area. The Project also includes an approximately 19-mile, 230-kilovolt (kV) overhead transmission line and a switchyard to connect the Project to the Belfield to Rhame 230-kV transmission line, in Section 29 of Township 137 North, Range 98 West, approximately 19 miles southwest of the city of Dickinson and will transmit power into the Basin Electric Power Cooperative (Basin) transmission system. The switchyard will include a microwave tower, a control building, and four new transmission poles to interconnect to Basin's existing Belfield to Rhame Transmission Line. Temporary crane paths will be used to transport construction cranes in the Project area to erect turbines during construction.

Project infrastructure will cause minimal permanent impacts to floodplains in rural Stark County. Table 1 below lists the infrastructure type, permanent impact acreage, and the location on the attached Map Sheets.

Table 1. Permanent Floodplain Impacts

Infrastructure Type	Permanent Impact acreage	Latitude	Longitude	Map Sheet ¹	FIRM Map Panel ²
Transmission Pole 23	0.0009 (39 square feet)	46.645078	-102.79926	2	700
Transmission Pole 116	0.0009 (39 square feet)	46.644999	-103.064146	6	650
Transmission Pole 118	0.0007 (30.5 square feet)	46.644997	-103.070742	6	650
Transmission Pole 120	0.0009 (39 square feet)	46.646255	-103.072964	6	650
Access Road to Turbine 15	0.0101(440 square feet)	46.642284	-102.894632	3	675

¹ Maps Sheet located in Attachment 2.

² FIRM Maps located in Attachment 3.

2. FLOODPLAIN DETERMINATION: (fill-in the appropriate information)

Map information:

FIRM Date: See Attachment 3 FIRM Maps

FIRM Zone: _____

Project is located in:

100-year floodplain (Flood Fringe): yes

*Regulatory Floodway: Not applicable

(*a hydraulic analysis is needed by a registered professional engineer unless determined otherwise by the community, please explain.)

BFE at Development Site: _____ (MSL)

Development will be elevated to: _____ (MSL)

3. DEVELOPMENT ACTIVITIES: (check all that apply)

- Fill placement (fill brought in from outside the floodplain)
- Excavation (where subgrade fill is removed from the floodplain)
- Landscaping (cut and fill, fill borrow and placement)
- Construction or maintenance of a dike/levee/floodwall
- Removal of fill, embankment, or dikes
- Watercourse alterations (river, stream, lake - channel modifications, rip-rap)
- Road, street or bridge construction (new, repair or replacement, realignment)
- Drainage improvements (including culvert work)
- Mining (removal of gravel, rock, fill or other natural materials)
- Installation of utilities (water sewer, pipeline, gas, electric, communications)
- Tower construction (communications tower, antennae etc.)
- Pipeline construction (temporary construction activity)
- Well drilling (water, oil, natural gas etc.)
- Subdivision (new or expansion of existing subdivision)
- Other (please specify) _____
- _____
- _____

4. ADDITIONAL INFORMATION, PERMITS OR NOTIFICATION:
(Attach additional information)

See **Attachment 1** for additional information.

-Comments or further explanation of work:
-Copies of project description, plans, blueprints, etc.
-Wetlands - will the activity impact identified wetlands? Notify U.S. Army Corps of Engineers?
-Will the development aggravate flooding elsewhere? Notify Water Resource District and/or Neighboring political entity?

5. ELEVATION INFORMATION:

Attach information about the completed project elevations(s) with registered professional engineer or registered land surveyor certifications if part of the project.

The project is anticipated to have minimal impacts to the associated floodplains.

6. ACTION / APPROVAL:

The proposed development is in conformance with applicable community floodplain standards.

Comments or Conditions of the permit: _____

PERMIT IS APPROVED (Conditioned on receiving as-built information/certification)

Signature _____
(Floodplain Administrator):

Date: _____

PLEASE SUBMIT COMPLETED APPLICATION TO:
STARK COUNTYT DEPARTMENT OF EMERGENCY SERVICES
BILL FAHLSING
66 MUSEUM DRIVE WEST
DICKINSON, ND 58601
BFAHLSING@STARKCOUNTYND.GOV

Attachment 1:
**Supplement for Section 4. Additional
Information, Permits, or Notification**

4. Additional Information for the Floodplain Permit

- a. Comments or further explanation of work:

Transmission Line Construction

Permanent impacts from the installation of four transmission line poles (Transmission Line Poles 23, 116, 118, and 120) are the placement of the pole and the associated support for the transmission line pole. An estimated 38.5 square feet of permanent disturbance is anticipated for each transmission line pole. The poles will be installed at grade with no anticipated change in base elevation.

Access Road Construction

The access road to Turbine 15 (Sheet Map 3), will generally be built at grade, but may require a culvert where the new access road meets the existing county road. The permanent access road will be 16 feet wide and will consist of compacted soil, capped with rock for approximately 6 inches and then covered in gravel or other appropriate local material.

- b. Copies of project description, plans, blueprints, etc.

The project description is provided in Section 1 of the permit application. Attached are figures and FIRM maps of the project area.

- c. Wetlands – Will the activity impact identified wetlands? Notify the U.S. Army Corps of Engineers?

The Project is anticipated to have temporary impacts associated with transmission line poles, collector lines, the construction of the access road to Turbine 15, and crane paths. There is also anticipated permanent impacts associated with three transmission line poles. The temporary and permanent impacts from the Project would be less than the minimum permitting requirement from the U.S. Army Corps of Engineers. The Project has had several informal discussions with the USACE regarding permitting requirements for the Project resulting in a no formal permit requirement determination. The Project will be operating under the USACE Nationwide Permit 12 – Utility Lines and have agreed to abide by the general and regional conditions of the permit.

- d. Will the development aggravate flooding elsewhere? Notify Water Resource District and/or Neighboring political entity?









The Project is anticipated to have very minimal impacts on flooding. Cumulatively, the project will have 0.0135 acres (588.06 square feet) of permanent impact to floodplains. Notification of neighboring water resource districts or political entities has not been requested.

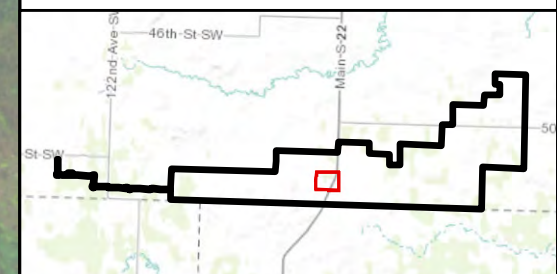
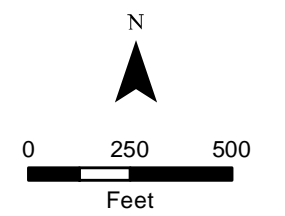
Attachment 2: Map Sheets

**Permanent Project Impacts in
100-year Floodplain
Sheet 1 of 3**

Brady Wind Energy Center
Stark County, North Dakota

Legend









-  Project Area
-  Proposed Turbine
-  Proposed Transmission Poles
-  Proposed Transmission Line
-  Proposed Service Roads
-  100-year Floodplain
-  Delineated Wetland
-  Permanent Impacts in Floodplain

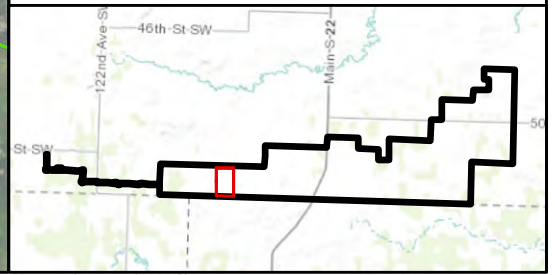
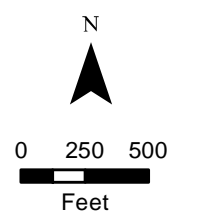
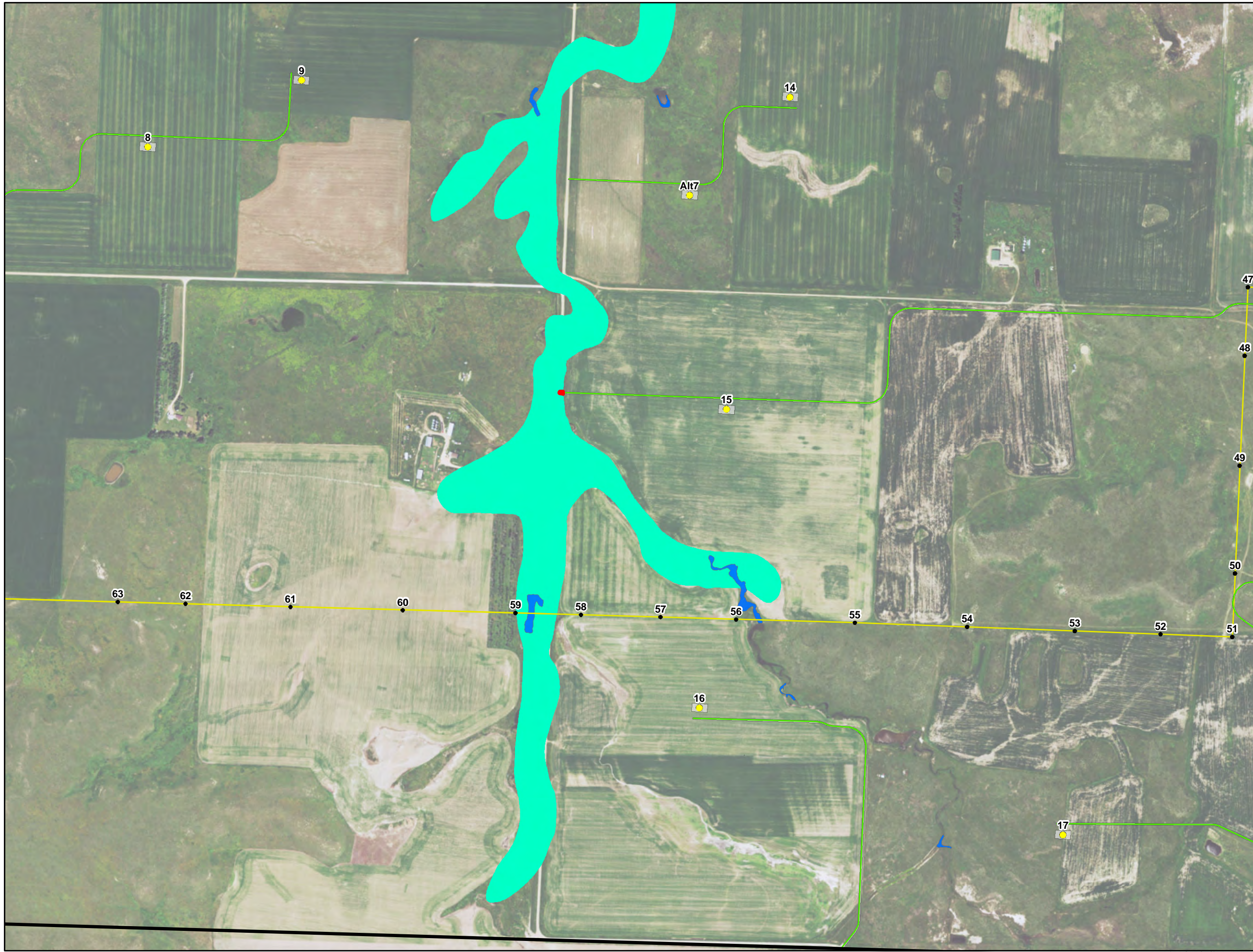


Permanent Project Impacts in 100-year Floodplain Sheet 2 of 3

Brady Wind Energy Center
Stark County, North Dakota

Legend









-  Project Area
-  Proposed Turbine
-  Proposed Transmission Poles
-  Proposed Transmission Line
-  Proposed Service Roads
-  100-year Floodplain
-  Delineated Wetland
-  Permanent Impacts in Floodplain

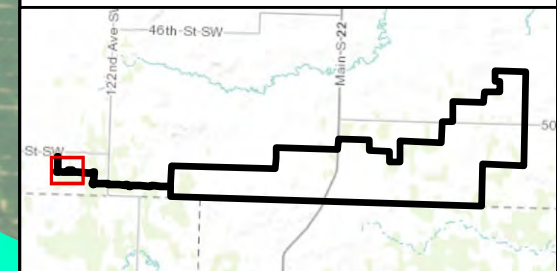
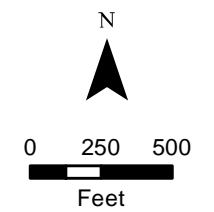
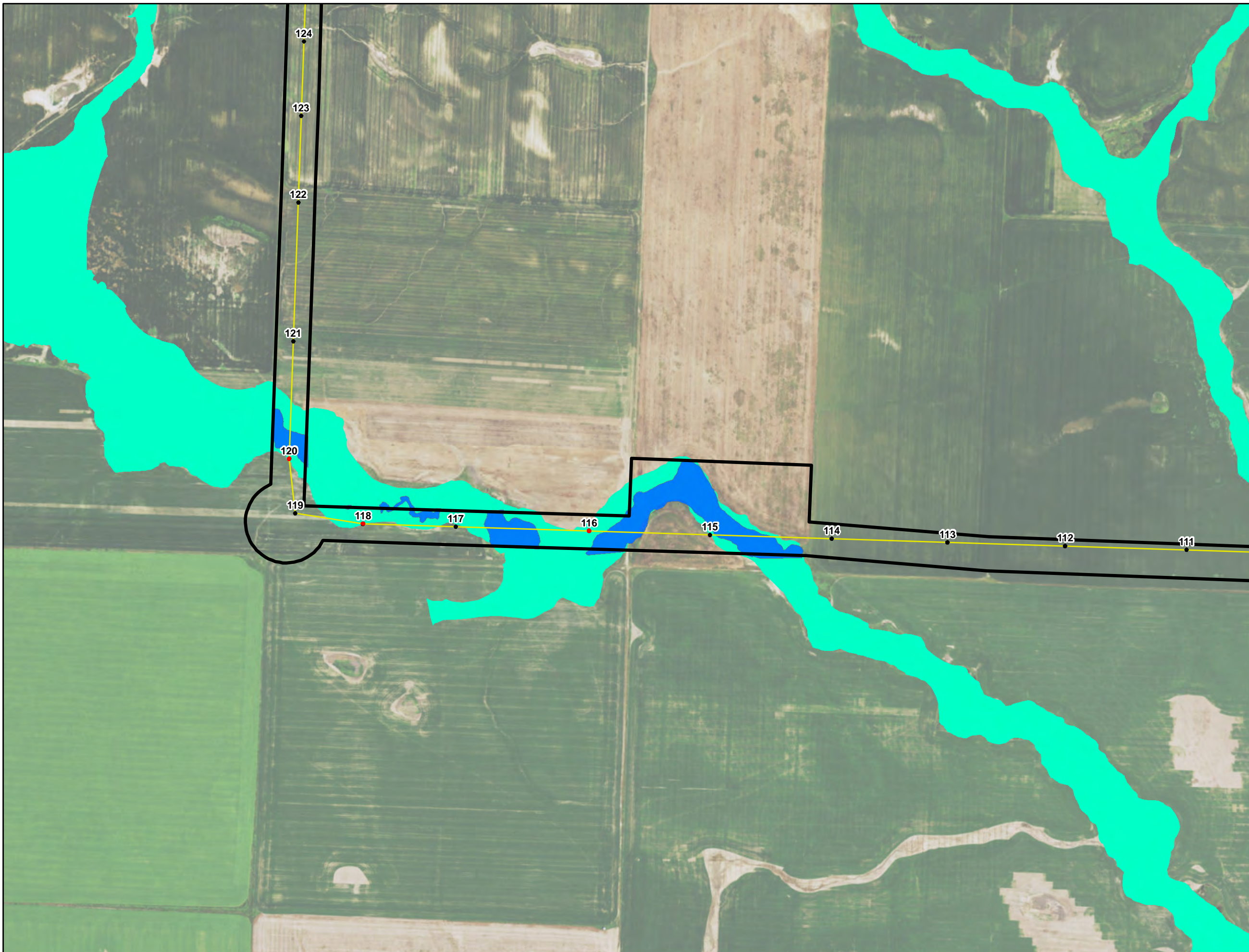


Permanent Project Impacts in 100-year Floodplain Sheet 3 of 3

Brady Wind Energy Center
Stark County, North Dakota

Legend

-  Project Area
-  Proposed Turbine
-  Proposed Transmission Poles
-  Proposed Transmission Line
-  Proposed Service Roads
-  100-year Floodplain
-  Delineated Wetland
-  Permanent Impacts in Floodplain



Attachment 3: FIRM Maps

drainage sources of small size. The community map repository should be consulted for possible updated or additional flood hazard information.

To obtain more detailed information in areas where **Base Flood Elevations (BFEs)** and/or **floodways** have been determined, users are encouraged to consult the Flood Profiles and Floodway Data and/or Summary of Stillwater Elevations tables contained within the Flood Insurance Study (FIS) report that accompanies this FIRM. Users should be aware that BFEs shown on the FIRM represent rounded whole-foot elevations. These BFEs are intended for flood insurance rating purposes only and should not be used as the sole source of flood elevation information. Accordingly, flood elevation data presented in the FIS report should be utilized in conjunction with the FIRM for purposes of construction and/or floodplain management.

Coastal Base Flood Elevations shown on this map apply only landward of 0.0' North American Vertical Datum (NAVD). Users of this FIRM should be aware that coastal flood elevations are also provided in the Summary of Stillwater Elevations table in the Flood Insurance Study report for this jurisdiction. Elevations shown in the Summary of Stillwater Elevations table should be used for construction and/or floodplain management purposes when they are higher than the elevations shown on this FIRM.

Boundaries of the **floodways** were computed at cross sections and interpolated between cross sections. The floodways were based on hydraulic considerations with regard to requirements of the National Flood Insurance Program. Floodway widths and other pertinent floodway data are provided in the Flood Insurance Study report for this jurisdiction.

Certain areas not in Special Flood Hazard Areas may be protected by **flood control structures**. Refer to Section 2.4 "Flood Protection Measures" of the Flood Insurance Study report for information on flood control structures in this jurisdiction.

The projection used in the preparation of this map is State Plane North Dakota South FIPS 3302. The horizontal datum was NAD 83, GRS 1980, spheroid. Differences in datum, spheroid, projection or UTM zones used in the production of FIRMs for adjacent jurisdictions may result in slight positional differences in map features across jurisdiction boundaries. These differences do not affect the accuracy of this FIRM.

Flood elevations on this map are referenced to North American Vertical Datum of 1988. These flood elevations must be compared to structure and ground elevations referenced to the same vertical datum. For information regarding conversion between the National Geodetic Vertical Datum of 1929 and the North American Vertical Datum of 1988, visit the National Geodetic Survey website at www.ngs.noaa.gov or contact the National Geodetic Survey at the following address:

Spatial Reference System Division
National Geodetic Survey, NOAA
Silver Spring Metro Center
1315 East-West Highway
Silver Spring, Maryland 20910
(301) 713-3191

To obtain current elevation, description, and/or location information for **bench marks** shown on this map, please contact the Information Services Branch of the National Geodetic Survey at (301) 713-3342, or visit their website at www.ngs.noaa.gov.

Base map information shown on this FIRM was provided in digital format by the U.S. Farm Service National Agriculture Imagery Program (NAIP), dated summer 2004, and by the U.S. Geological Survey Digital Orthophoto Quadrangles, dated 2005, produced at a scale of 1:40000. The data was obtained from the USDA Geospatial Data Gateway, maintained by the USDA-FSA Aerial Photography Field Office.

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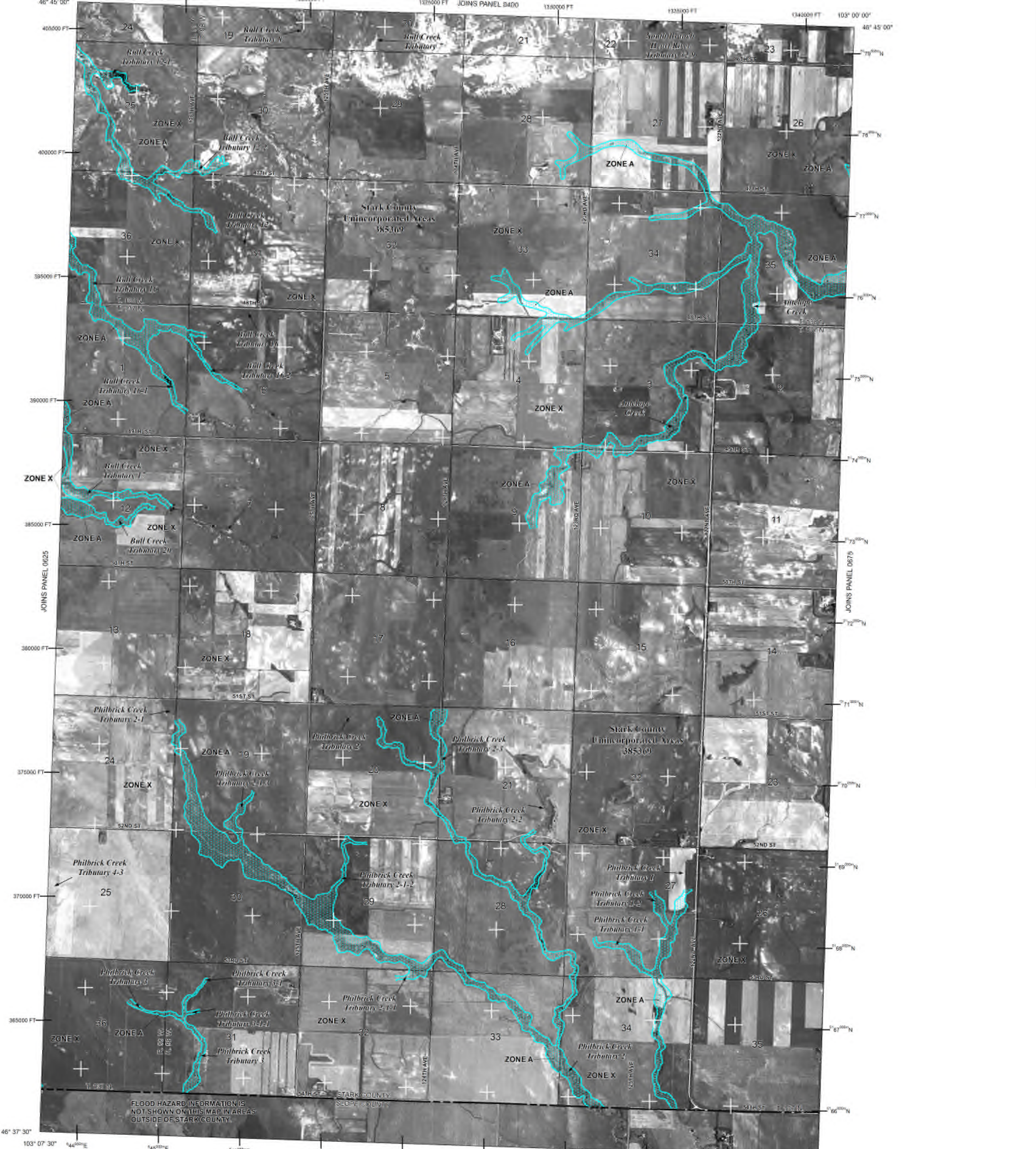
Please refer to the separately printed **Map Index** for an overview map showing the layout of map panels for this jurisdiction.

An accompanying Flood Insurance Study report, Letters of Map Revision or Letters of Map Amendment revising portions of this panel and digital versions of the PANEL may be available. Contact the **FEMA Map Information eXchange (FMIX)** at the following phone numbers and Internet address for information on all related products available from FEMA.

Phone: 877-336-2627
FAX: 800-358-9620
<http://msc.fema.gov>

If you **have questions about this map** or questions concerning the National Flood Insurance Program in general, please call **1-877-FEMA MAP** (1-877-336-2627) or visit the FEMA website at www.fema.gov.

This map reflects more detailed and up-to-date stream channel configurations than those shown on the previous FIRM for this jurisdiction. The floodplains and floodways that were transferred from the previous FIRM may have been adjusted to conform to these new stream channel configurations. As a result, the Flood Profiles and Floodway Data tables in the Flood Insurance Study report may reflect stream channel distances that differ from what is shown on this map.



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- ZONE A** No Base Flood Elevations determined.
- ZONE AE** Base Flood Elevations determined.
- ZONE AH** Flood depths of 1 to 3 feet (usually areas of ponding); Base Flood Elevations determined.
- ZONE AD** Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined. For areas of alluvial fan flooding, velocities also determined.
- ZONE AR** Special Flood Hazard Area formerly protected from the 1% annual chance flood by a flood control system that was subsequently decertified. Zone AR indicates that the former flood control system is being restored to provide protection from the 1% annual chance or greater flood.
- ZONE A99** Area to be protected from 1% annual chance flood by a Federal flood protection system under construction; no Base Flood Elevations determined.
- ZONE V** Coastal flood zone with velocity hazard (wave action); no Base Flood Elevations determined.
- ZONE VE** Coastal flood zone with velocity hazard (wave action); Base Flood Elevations determined.

FLOODWAY AREAS IN ZONE AE

- OTHER FLOOD AREAS**
- ZONE X** Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.
- OTHER AREAS**
- ZONE X** Areas determined to be outside the 0.2% annual chance floodplain.
- ZONE D** Areas in which flood hazards are undetermined, but possible.
- COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS**
- OTHERWISE PROTECTED AREAS (OPAs)**

- CBRS areas and OPAs are normally located within or adjacent to Special Flood Hazard Areas.
- 1% annual chance floodplain boundary
- 0.2% annual chance floodplain boundary
- Floodway boundary
- Zone D boundary
- CBRS and OPA boundary
- Boundary dividing Special Flood Hazard Areas of different Base Flood Elevations, flood depths or flood velocities.
- Base Flood Elevation line and value; elevation in feet*
- Base Flood Elevation value where uniform within zone; elevation in feet*

- * Referenced to the North American Vertical Datum of 1988
- ▲ Cross section line
- Transsect line
- 87° 07' 45", 32° 22' 30" Geographic coordinates referenced to the North American Datum of 1983 (NAD 83)
- 1:26 Contour
- 600000 FT 3000-meter Universal Transverse Mercator grid values, Zone 13
- 5000-foot grid ticks: North Dakota State Plane Coordinate System, South Zone (FIPSZONE 3302), Lambert Conformal Conic Projection
- DX5510 x Bench mark (see explanation in Notes to Users section of this FIRM panel)
- M1.5 River Mile

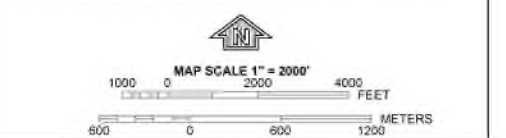
MAP REPOSITORY
Refer to listing of Map Repositories on Map Index

EFFECTIVE DATE OF COUNTYWIDE FLOOD INSURANCE RATE MAP
NOVEMBER 4, 2010

EFFECTIVE DATE(S) OF REVISION(S) TO THIS PANEL

For community map revision history prior to countywide mapping, refer to the Community Map History table located in the Flood Insurance Study report for this jurisdiction.

To determine if flood insurance is available in this community, contact your insurance agent or call the National Flood Insurance Program at 1-800-638-6620.



NFIP

PANEL 0650E

FIRM FLOOD INSURANCE RATE MAP

STARK COUNTY, NORTH DAKOTA AND INCORPORATED AREAS

PANEL 650 OF 850
(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
STARK COUNTY	38398	0650	E

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
38089C0650E

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FLOODWAY AREAS IN ZONE AE

The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights.

- OTHER FLOOD AREAS**
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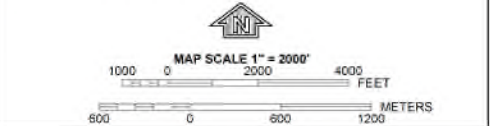
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NFIP

PANEL 0675E

FIRM FLOOD INSURANCE RATE MAP

STARK COUNTY, NORTH DAKOTA AND INCORPORATED AREAS

PANEL 675 OF 850
(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

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EFFECTIVE DATE

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Spatial Reference System Division
National Geodetic Survey, NOAA
Silver Spring Metro Center
1315 East-West Highway
Silver Spring, Maryland 20910
(301) 713-3191

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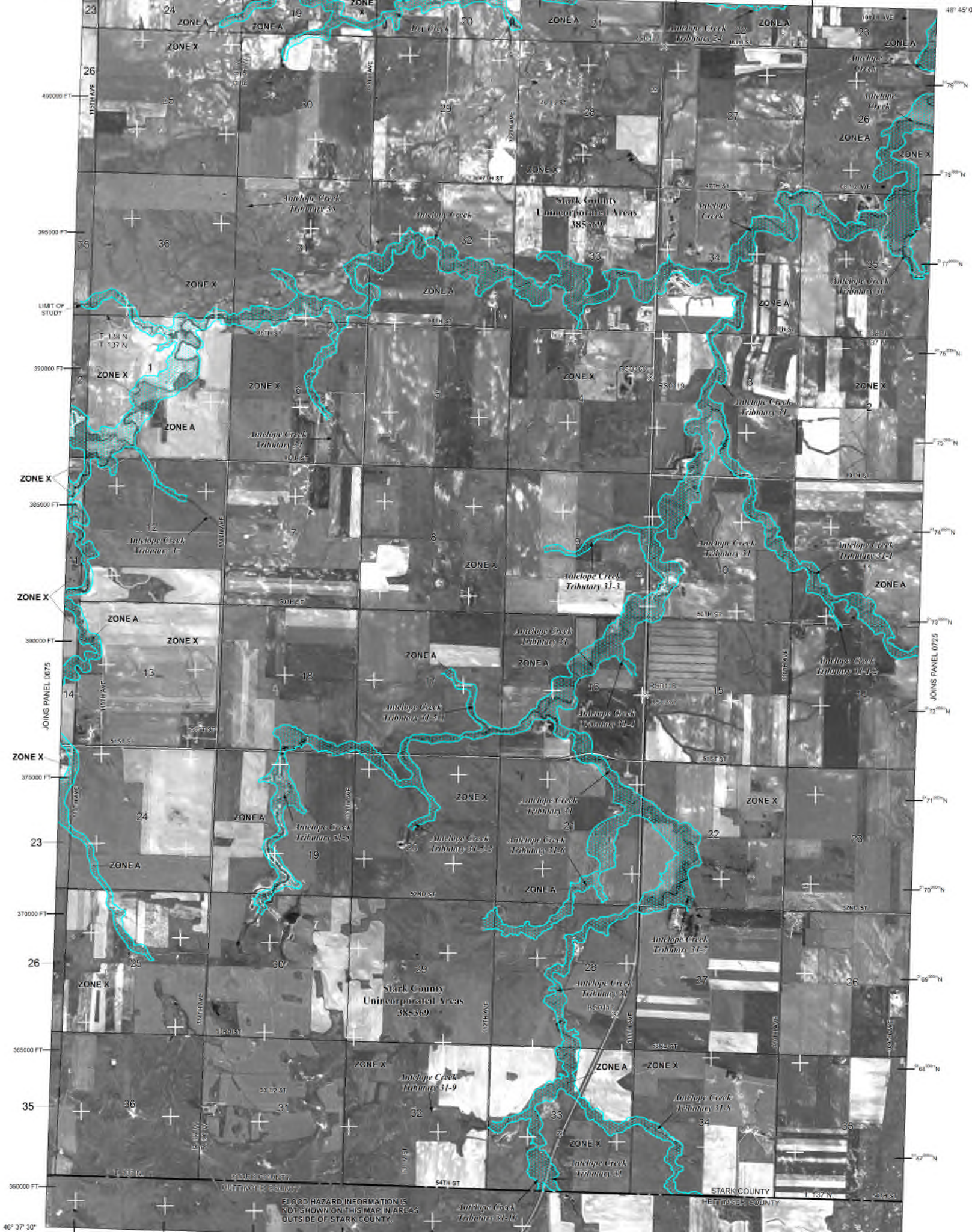
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Phone: 877-336-2627
FAX: 800-358-9620
<http://msc.fema.gov>

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The 1% annual chance flood (100-year flood), also known as the base flood, is the flood that has a 1% chance of being equaled or exceeded in any given year. The Special Flood Hazard Area is the area subject to flooding by the 1% annual chance flood. Areas of Special Flood Hazard include Zones A, AE, AH, AO, AR, A99, V, and VE. The Base Flood Elevation is the water-surface elevation of the 1% annual chance flood.

- ZONE A** No Base Flood Elevations determined.
- ZONE AE** Base Flood Elevations determined.
- ZONE AH** Flood depths of 1 to 3 feet (usually areas of ponding); Base Flood Elevations determined.
- ZONE AO** Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined. For areas of alluvial fan flooding, velocities also determined.
- ZONE AR** Special Flood Hazard Area formerly protected from the 1% annual chance flood by a flood control system that was subsequently derelict. Zone AR indicates that the former flood control system is being restored to provide protection from the 1% annual chance or greater flood.
- ZONE A99** Area to be protected from 1% annual chance flood by a Federal flood protection system under construction; no Base Flood Elevations determined.
- ZONE V** Coastal flood zone with velocity hazard (wave action); no Base Flood Elevations determined.
- ZONE VE** Coastal flood zone with velocity hazard (wave action); Base Flood Elevations determined.

FLOODWAY AREAS IN ZONE AE

The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights.

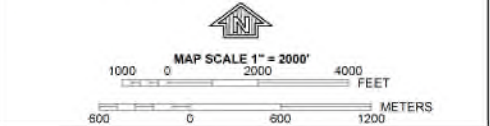
- OTHER FLOOD AREAS**
- ZONE X** Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.
- OTHER AREAS**
- ZONE X** Areas determined to be outside the 0.2% annual chance floodplain.
- ZONE D** Areas in which flood hazards are undetermined, but possible.
- COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS**
- OTHERWISE PROTECTED AREAS (OPAs)**

- CBRS areas and OPAs are normally located within or adjacent to Special Flood Hazard Areas.
- 1% annual chance floodplain boundary
- 0.2% annual chance floodplain boundary
- Floodway boundary
- Zone D boundary
- CBRS and OPA boundary
- Boundary dividing Special Flood Hazard Areas of different Base Flood Elevations, flood depths or flood velocities
- Base Flood Elevation line and value; elevation in feet*
- Base Flood Elevation value where uniform within zone; elevation in feet*

- * Referenced to the North American Vertical Datum of 1988
- ▲ Cross section line
- ▬ Transsect line
- 87° 07' 45", 32° 22' 30" Geographic coordinates referenced to the North American Datum of 1983 (NAD 83)
- 1000-meter Universal Transverse Mercator grid values, zone 13
- 3000-foot grid ticks: north Dakota State Plane Coordinate System, South Zone (FIPS ZONE 3302), Lambert Conformal Conic Projection
- Bench mark (see explanation in Notes to Users section of this FIRM panel)
- DX5510 x
- M1.5 River Mile

MAP REPOSITORY
Refer to listing of Map Repositories on Map Index
EFFECTIVE DATE OF COUNTYWIDE FLOOD INSURANCE RATE MAP
NOVEMBER 4, 2010
EFFECTIVE DATE(S) OF REVISION(S) TO THIS PANEL

For community map revision history prior to countywide mapping, refer to the Community Map History table located in the Flood Insurance Study report for this jurisdiction.
To determine if flood insurance is available in this community, contact your insurance agent or call the National Flood Insurance Program at 1-800-638-6620.



NFIP
NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0700E

FIRM FLOOD INSURANCE RATE MAP

STARK COUNTY, NORTH DAKOTA AND INCORPORATED AREAS

PANEL 700 OF 850
(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:
COMMUNITY: STARK COUNTY
NUMBER: 385369
PANEL: 0700
SUFFIX: E

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 38089C0700E
EFFECTIVE DATE

FLOOD HAZARD INFORMATION IS NOT SHOWN ON THIS MAP IN AREAS OUTSIDE OF STARK COUNTY.

drainage sources of small size. The community map repository will be consulted for possible updated or additional flood hazard information.

To obtain more detailed information in areas where **Base Flood Elevations (BFEs)** and/or **floodways** have been determined, users are encouraged to consult the Flood Profiles and Floodway Data and/or Summary of Stillwater Elevations tables contained within the Flood Insurance Study (FIS) report that accompanies this FIRM. Users should be aware that BFEs shown on the FIRM represent rounded whole-foot elevations. These BFEs are intended for flood insurance rating purposes only and should not be used as the sole source of flood elevation information. Accordingly, flood elevation data presented in the FIS report should be utilized in conjunction with the FIRM for purposes of construction and/or floodplain management.

Coastal Base Flood Elevations shown on this map apply only landward of 0.0' North American Vertical Datum (NAVD). Users of this FIRM should be aware that coastal flood elevations are also provided in the Summary of Stillwater Elevations table in the Flood Insurance Study report for this jurisdiction. Elevations shown in the Summary of Stillwater Elevations table should be used for construction and/or floodplain management purposes when they are higher than the elevations shown on this FIRM.

Boundaries of the **floodways** were computed at cross sections and interpolated between cross sections. The floodways were based on hydraulic considerations with regard to requirements of the National Flood Insurance Program. Floodway widths and other pertinent floodway data are provided in the Flood Insurance Study report for this jurisdiction.

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- FLOODWAY AREAS IN ZONE AE**
- OTHER FLOOD AREAS**
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- Base Flood Elevation line and value; elevation in feet*
- Base Flood Elevation value where uniform within zone; elevation in feet*

- * Referenced to the North American Vertical Datum of 1988
- ▲ Cross section line
- ⊞ Transect line
- 87° 07'45", 32° 22'30"
- 600000 FT
- 1000-meter Universal Transverse Mercator grid values, Zone 13
- 3000-foot grid ticks: north Dakota State Plane Coordinate System, South Zone (FIPSZONE 3302), Lambert Conformal Conic Projection
- Bench mark (see explanation in Notes to Users section of this FIRM panel)
- M1.5
- River Mile

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EFFECTIVE DATE OF COUNTYWIDE FLOOD INSURANCE RATE MAP
NOVEMBER 4, 2010
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MAP SCALE 1" = 2000'
1000 0 2000 4000 FEET
600 0 600 1200 METERS

NFIP
NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0725E

FIRM
FLOOD INSURANCE RATE MAP

STARK COUNTY, NORTH DAKOTA AND INCORPORATED AREAS

PANEL 725 OF 850
(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:
COMMUNITY NUMBER SUFFIX
STARK COUNTY 385369 0725 E

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MAP NUMBER
38089C0725E
EFFECTIVE DATE