

**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 have temporary impacts to floodplains in rural Stark County. Table 1 below lists the infrastructure type, temporary impact acreage, and the location on the Map Sheets (Attachment 2).

Table 1. Temporary Floodplain Impacts

Infrastructure Type	Temporary Impact acreage	Latitude	Longitude	Map Sheet <sup>1</sup>	FIRM Map Panel <sup>2</sup>
Collection Line	0.35	46.63726526450	-102.68286023600	1	725
Crane Path/Collection Lines	1.20	46.63803324390	-102.68356314900	1	725
Collection Lines	1.42	46.64427377160	-102.79958424200	2	700
Transmission Pole 23	1.43	46.64507753960	-102.79925969600	2	700
Turbine Storage Area	0.03	46.64934266710	-102.79988159800	2	700
Transmission Pole 59	0.66	46.63734465930	-102.89563199500	3	675
Collection Line	0.34	46.63843770650	-102.88936436900	3	675
Access Road to Turbine 15	0.08	46.64228376200	-102.89465791800	3	675
Crane Path/Collection Line	0.60	46.64862665250	-102.89535271300	3	675
Crane Path/Collection Line	0.72	46.63292532320	-102.93926707200	4	675
Collection Line	< 0.01	46.64263661200	-102.92736405500	4	675
Collection Line	0.26	46.64256288060	-102.92575364000	4	675
Crane Path	0.57	46.64559232110	-102.92426997000	4	675
Collection Line	0.37	46.64667997620	-102.92281271400	4	675
Transmission Pole 98	0.28	46.63721388820	-103.02557655600	5	650
Transmission Pole 99	0.05	46.63758064240	-103.02683467000	5	650
Transmission Pole 87	0.23	46.63686756970	-102.99048416500	5	650
Transmission Pole 118	0.74	46.64515716640	-103.07078468000	6	650
Transmission Pole 117	0.67	46.64517429990	-103.06799495600	6	650
Transmission Pole 116	1.13	46.64494044690	-103.06408269400	6	650
Transmission Pole 115	0.72	46.64510114660	-103.06042905000	6	650
Transmission Pole 120	0.87	46.64634815060	-103.07283776500	6	650

<sup>1</sup> Map Sheets are located in Attachment 2.

<sup>2</sup> FIRM Maps are located in Attachment 3.

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

Map information:

FIRM Date: 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 Pole Construction

Temporary impacts from the installation of the transmission line poles are associated with the installation of the pole and associated construction equipment. All temporary disturbance will be returned to the original contour and grade once construction is completed. No change in base elevation is anticipated from the installation of the transmission line poles.

##### Collection Line Construction

Collection lines are the conduits for distribution of power between the wind turbines and the switchyard. Collection lines are installed below the surface typically with the use of trenching equipment. The equipment typically requires a 50 foot right-of-way (ROW) to install the lines. Once the lines are installed, the temporary disturbance will be returned to the original contour and grade. No change in base elevation is anticipated from the installation of the collector lines.

##### Crane Paths

Crane Paths are temporary overland travel used for accessing the wind turbine locations during installation. The paths typically require an 80 foot ROW. The equipment using the crane path can cause temporary disturbances to the land. Crane paths will be returned to the original contour and grade after use. No change in base elevation is anticipated from the use of the crane paths.

##### Access Road

Temporary disturbance associated with the installation of a permanent access road will be required for this project. A floodplain permit for the permanent disturbance associated with this access road is being submitted separately. Once construction of the access road is completed, the area will be returned to the original contour and grade. No change in base elevation is anticipated from the installation of the access road.

- 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, access roads, and crane paths. A separate permit application is being submitted for the minimal permanent impacts to the floodplains. 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.

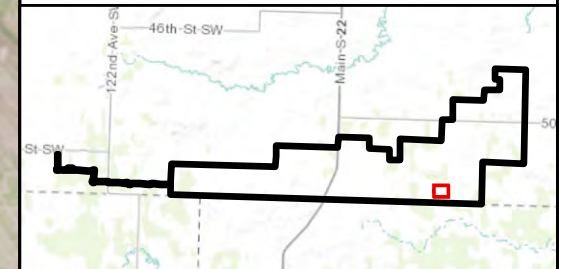
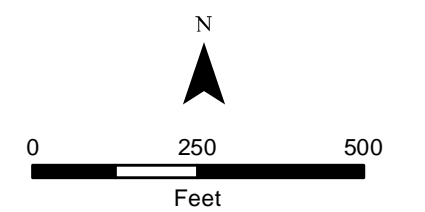
# **Attachment 2: Map Sheets**

# Temporary Project Impacts in 100-year Floodplain Sheet 1 of 6

Brady Wind Energy Center  
Stark County, North Dakota

## Legend













-  Project Area
-  Proposed Turbine
-  Proposed Transmission Poles
-  Proposed Transmission Line
-  Proposed Service Roads
-  Proposed Collection Line
-  Proposed Turbine Storage Area
-  Proposed Crane Paths
-  Temporary Impact Footprint
-  100-year Floodplain
-  Delineated Wetland
-  Temporary Impacts In Floodplain

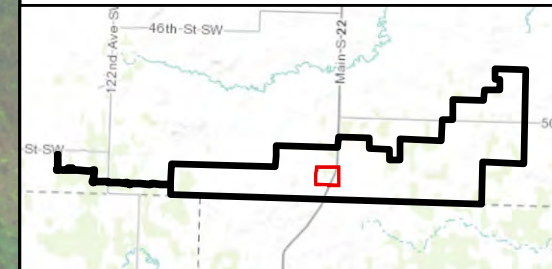
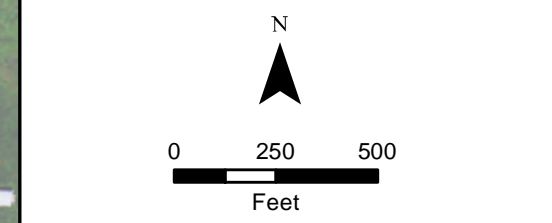
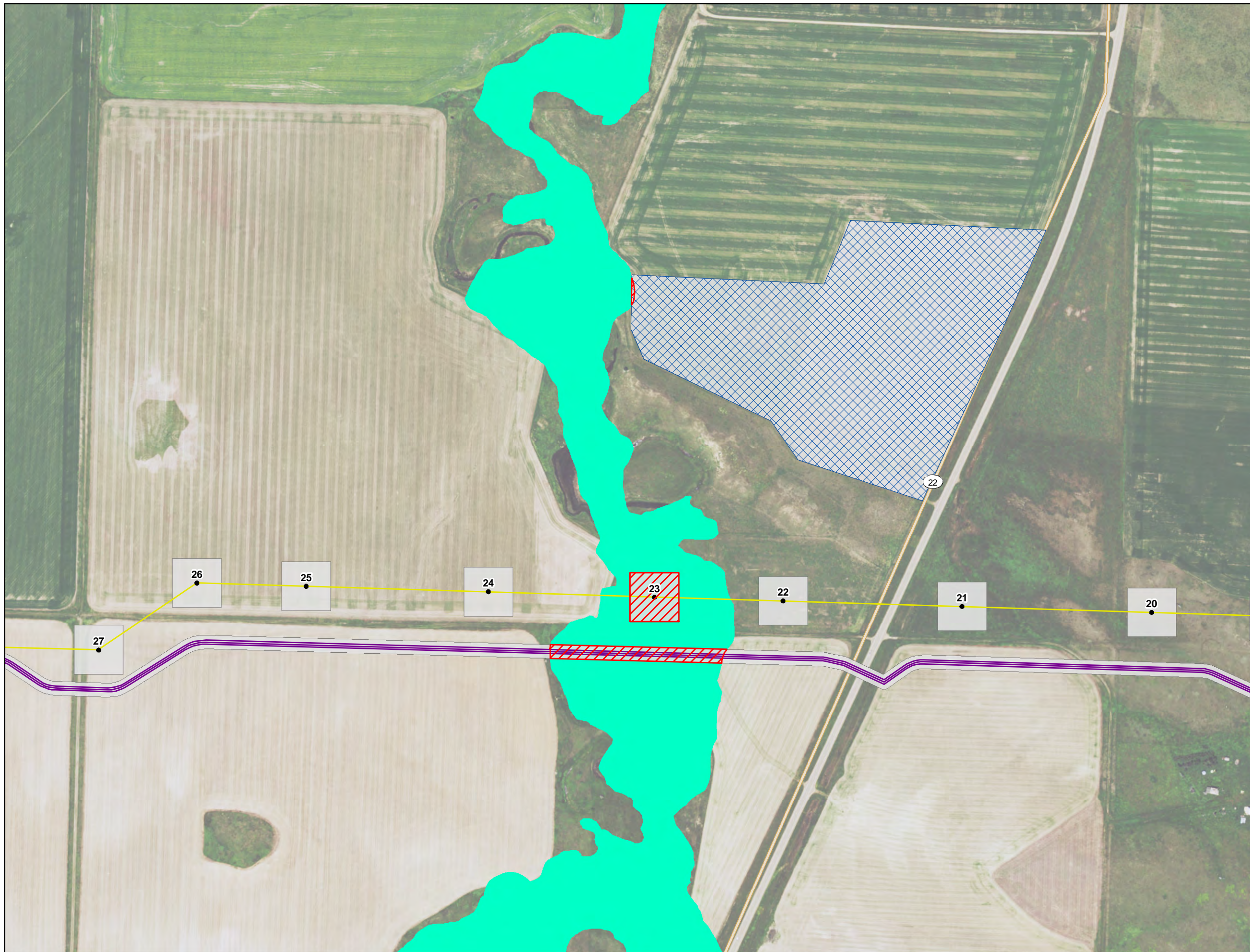


**Temporary Project Impacts in  
100-year Floodplain  
Sheet 2 of 6**

Brady Wind Energy Center  
Stark County, North Dakota

**Legend**

-  Project Area
-  Proposed Turbine
-  Proposed Transmission Poles
-  Proposed Transmission Line
-  Proposed Service Roads
-  Proposed Collection Line
-  Proposed Turbine Storage Area
-  Proposed Crane Paths
-  Temporary Impact Footprint
-  100-year Floodplain
-  Delineated Wetland
-  Temporary Impacts In Floodplain















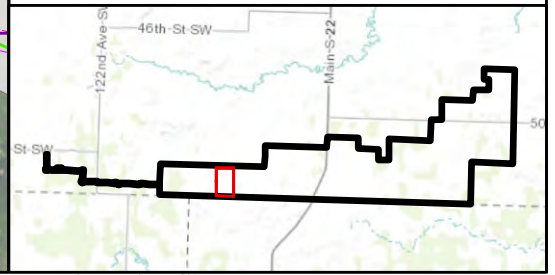
# Temporary Project Impacts in 100-year Floodplain

## Sheet 3 of 6

Brady Wind Energy Center  
Stark County, North Dakota

### Legend













-  Project Area
-  Proposed Turbine
-  Proposed Transmission Poles
-  Proposed Transmission Line
-  Proposed Service Roads
-  Proposed Collection Line
-  Proposed Turbine Storage Area
-  Proposed Crane Paths
-  Temporary Impact Footprint
-  100-year Floodplain
-  Delineated Wetland
-  Temporary Impacts In Floodplain

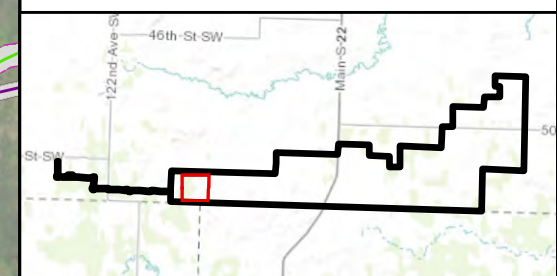
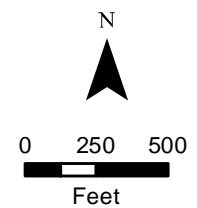


# Temporary Project Impacts in 100-year Floodplain Sheet 4 of 6

Brady Wind Energy Center  
Stark County, North Dakota

## Legend











-  Project Area
-  Proposed Turbine
-  Proposed Transmission Poles
-  Proposed Transmission Line
-  Proposed Service Roads
-  Proposed Collection Line
-  Proposed Turbine Storage Area
-  Proposed Crane Paths
-  Temporary Impact Footprint
-  100-year Floodplain
-  Delineated Wetland
-  Temporary Impacts In Floodplain

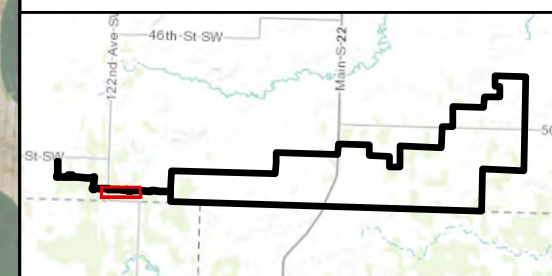
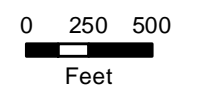


# Temporary Project Impacts in 100-year Floodplain Sheet 5 of 6

Brady Wind Energy Center  
Stark County, North Dakota

## Legend













-  Project Area
-  Proposed Turbine
-  Proposed Transmission Poles
-  Proposed Transmission Line
-  Proposed Service Roads
-  Proposed Collection Line
-  Proposed Turbine Storage Area
-  Proposed Crane Paths
-  Temporary Impact Footprint
-  100-year Floodplain
-  Delineated Wetland
-  Temporary Impacts In Floodplain

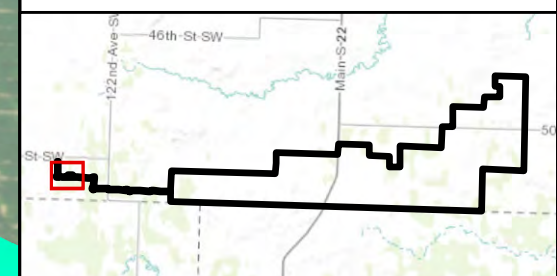
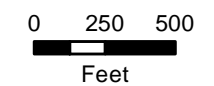
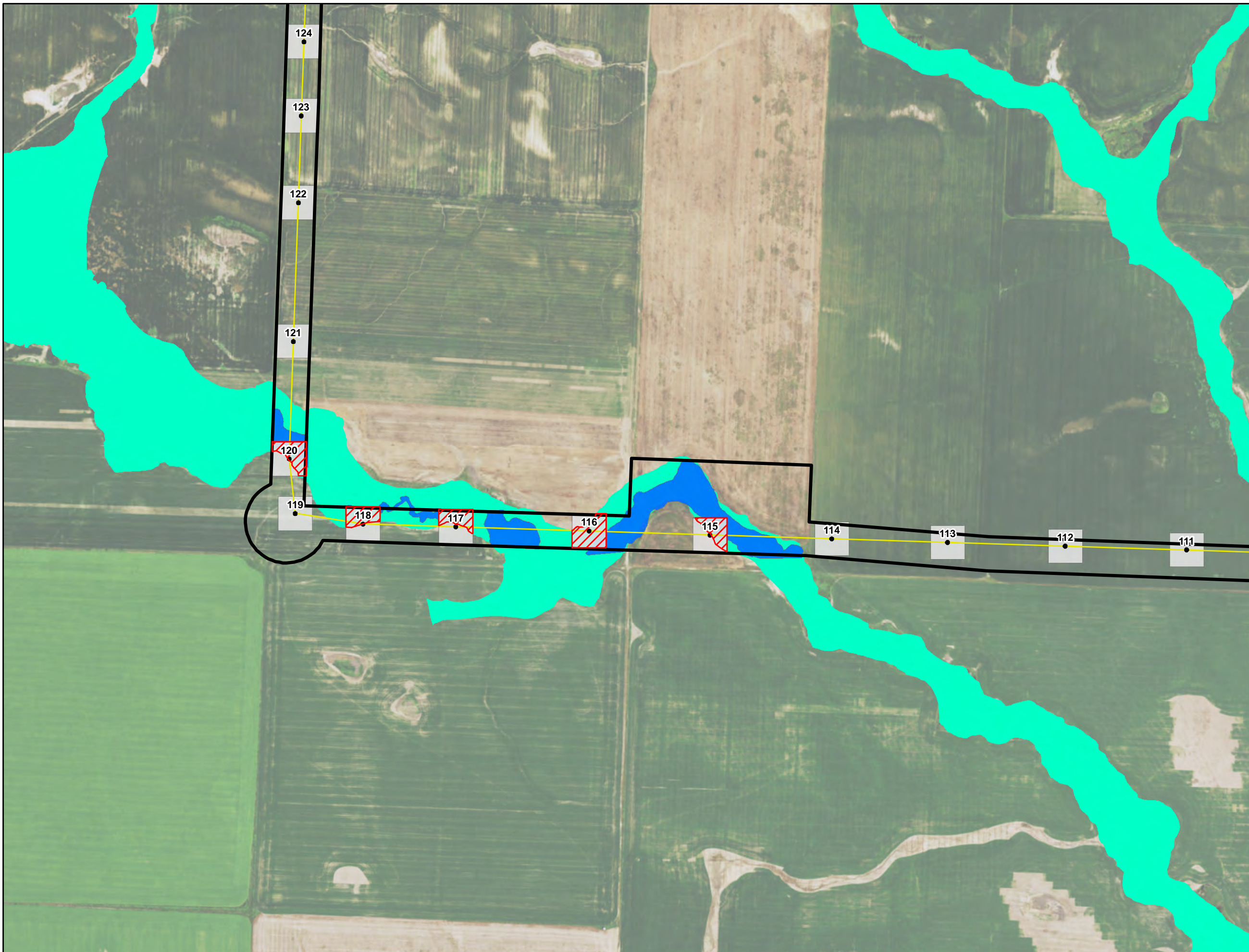


# Temporary Project Impacts in 100-year Floodplain Sheet 6 of 6

Brady Wind Energy Center  
Stark County, North Dakota

## Legend

-  Project Area
-  Proposed Turbine
-  Proposed Transmission Poles
-  Proposed Transmission Line
-  Proposed Service Roads
-  Proposed Collection Line
-  Proposed Turbine Storage Area
-  Proposed Crane Paths
-  Temporary Impact Footprint
-  100-year Floodplain
-  Delineated Wetland
-  Temporary 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](http://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](http://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.

**Corporate limits** shown on this map are based on the best data available at the time of publication. Because changes due to annexations or de-annexations may have occurred after this map was published, map users should contact appropriate community officials to verify current corporate limit locations.

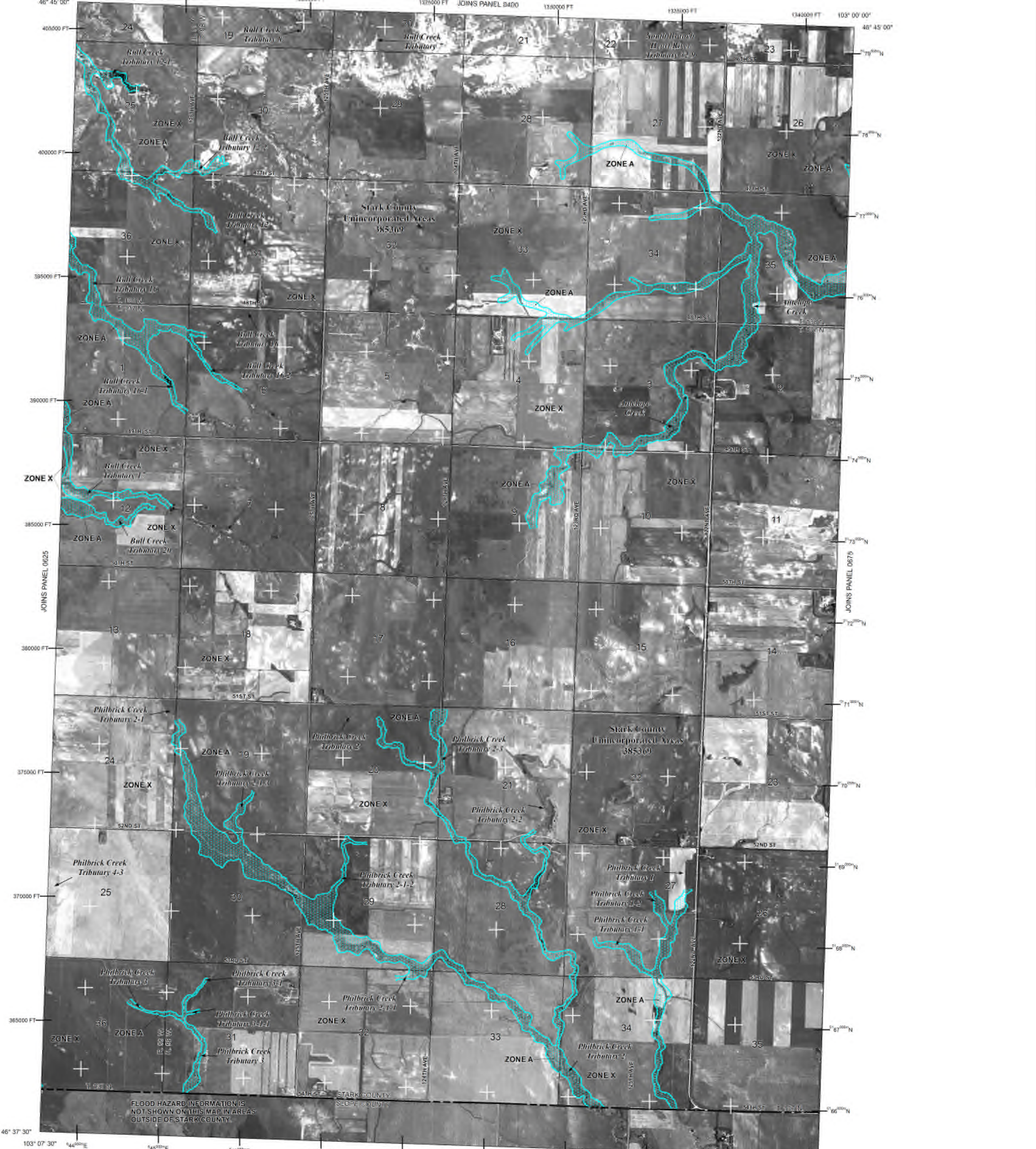
Please refer to the separately printed **Map Index** for an overview map showing the layout of map panels for this jurisdiction.

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](http://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.



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, AD, 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 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
- Transient 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

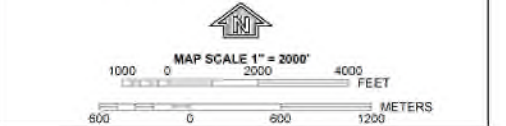
**MAP REPOSITORY**  
Refer to listing of Map Repositories on Map Index

**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

**EFFECTIVE DATE**

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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.

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Spatial Reference System Division  
National Geodetic Survey, NOAA  
Silver Spring Metro Center  
1515 East-West Highway  
Silver Spring, Maryland 20910  
(301) 713-3191

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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.
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- 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 decertified. Zone AR indicates that the former flood control system is being retained 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
- A Cross section line
- B Transient line
- Geographic coordinates referenced to the North American Datum of 1983 (NAD 83)
- 3000-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)
- DX5510 x
- M1.5 River Mile

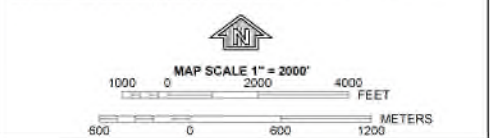
MAP REPOSITORY  
Refer to listing of Map Repositories on Map Index

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**

**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:

COMMUNITY	NUMBER	PANEL	SUFFIX
STARK COUNTY	38089	0675	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**  
38089C0675E

**EFFECTIVE DATE**

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 Datum of 1929 and the North American Vertical Datum of 1988, visit the National Geodetic Survey website at [www.ngs.noaa.gov](http://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](http://www.ngs.noaa.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.
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- 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.

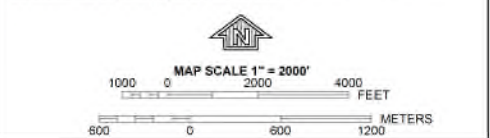
- OTHER FLOOD AREAS**
- ZONE X** Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.
- OTHER AREAS**
- ZONE X** Areas determined to be outside 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
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- 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

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**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.

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- ZONE VE** Coastal flood zone with velocity hazard (wave action); Base Flood Elevations determined.

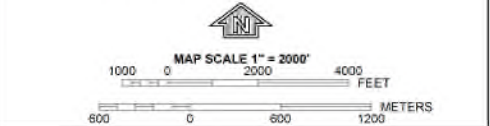
- FLOODWAY AREAS IN ZONE AE**
- OTHER FLOOD AREAS**
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- ⊞ Transect line
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- 600000 FT
- 1000-meter Universal Transverse Mercator grid values, Zone 13
- 3000-foot grid ticks: North Dakota State Plane 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

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

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**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	PANEL	SUFFIX
STARK COUNTY	385369	0725	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  
38089C0725E**

**EFFECTIVE DATE**