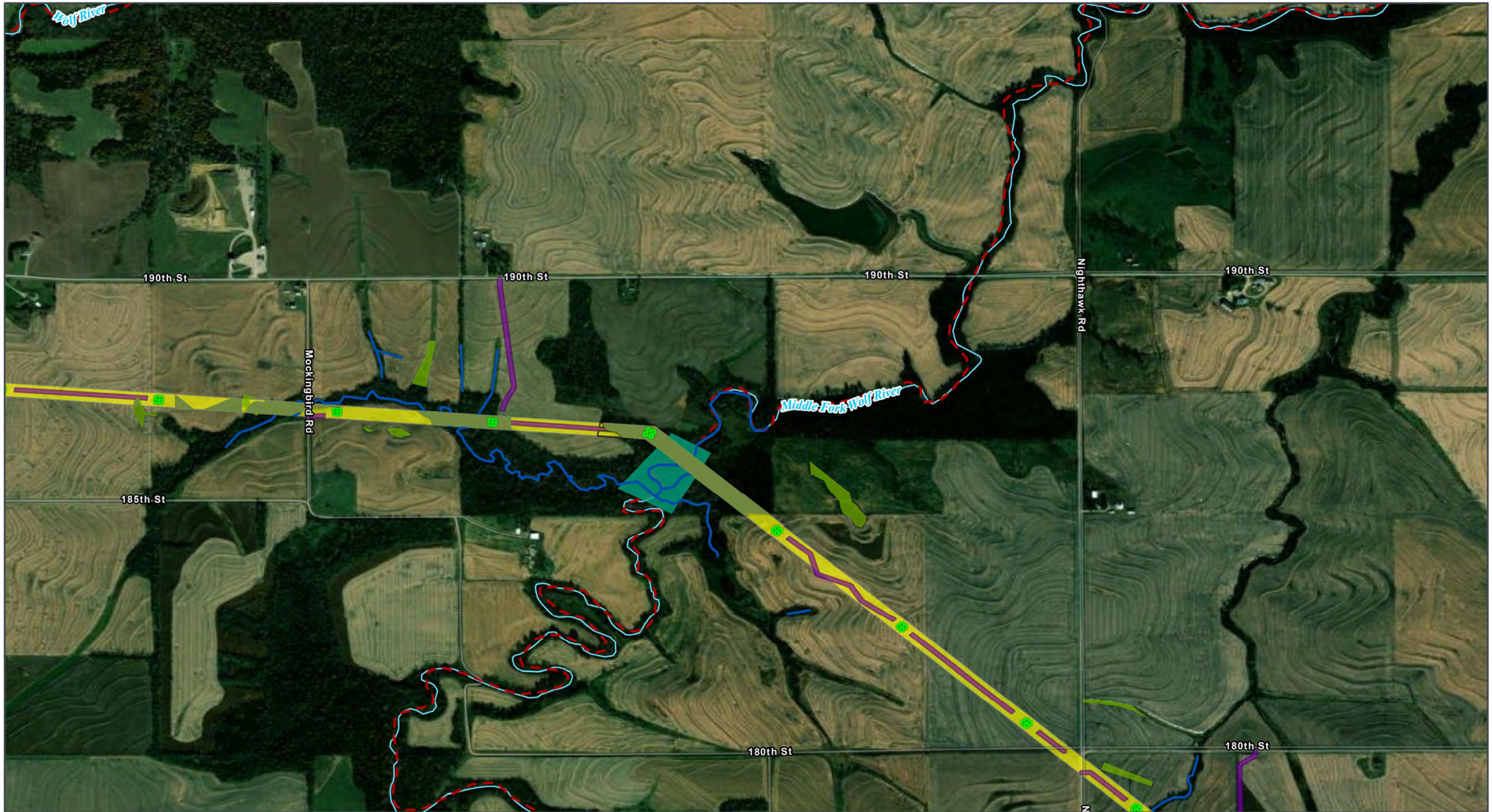


**Grain Belt Express Transmission Line  
Environmental Impact Statement  
Appendix 3.4: Wetlands and Waters Maps**

**Continued**





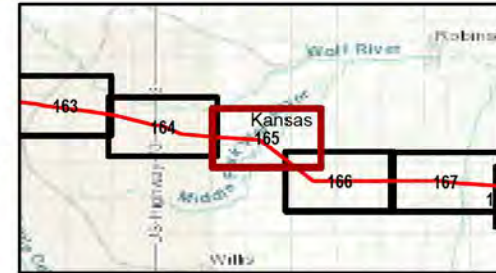
GRAIN BELT EXPRESS  
TRANSMISSION LINE PROJECT  
**Wetlands Map Book**  
Map 165 of 259

- ROW
- Permanent Project Component**
- Transmission Structure
- Habitat Conversion**
- Vegetation Clearing

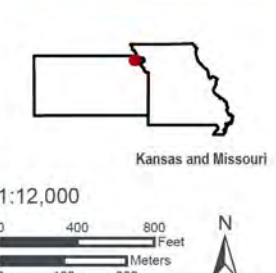
- Temporary Project Component**
- Access Road
- Pull Site/Tension Site
- Hydrology**
- Delineated Stream

- NHD Stream/River
- Impaired Waterway (303d)
- Delineated Wetland**
- Palustrine Emergent (PEM)
- Palustrine Forested (PFO)

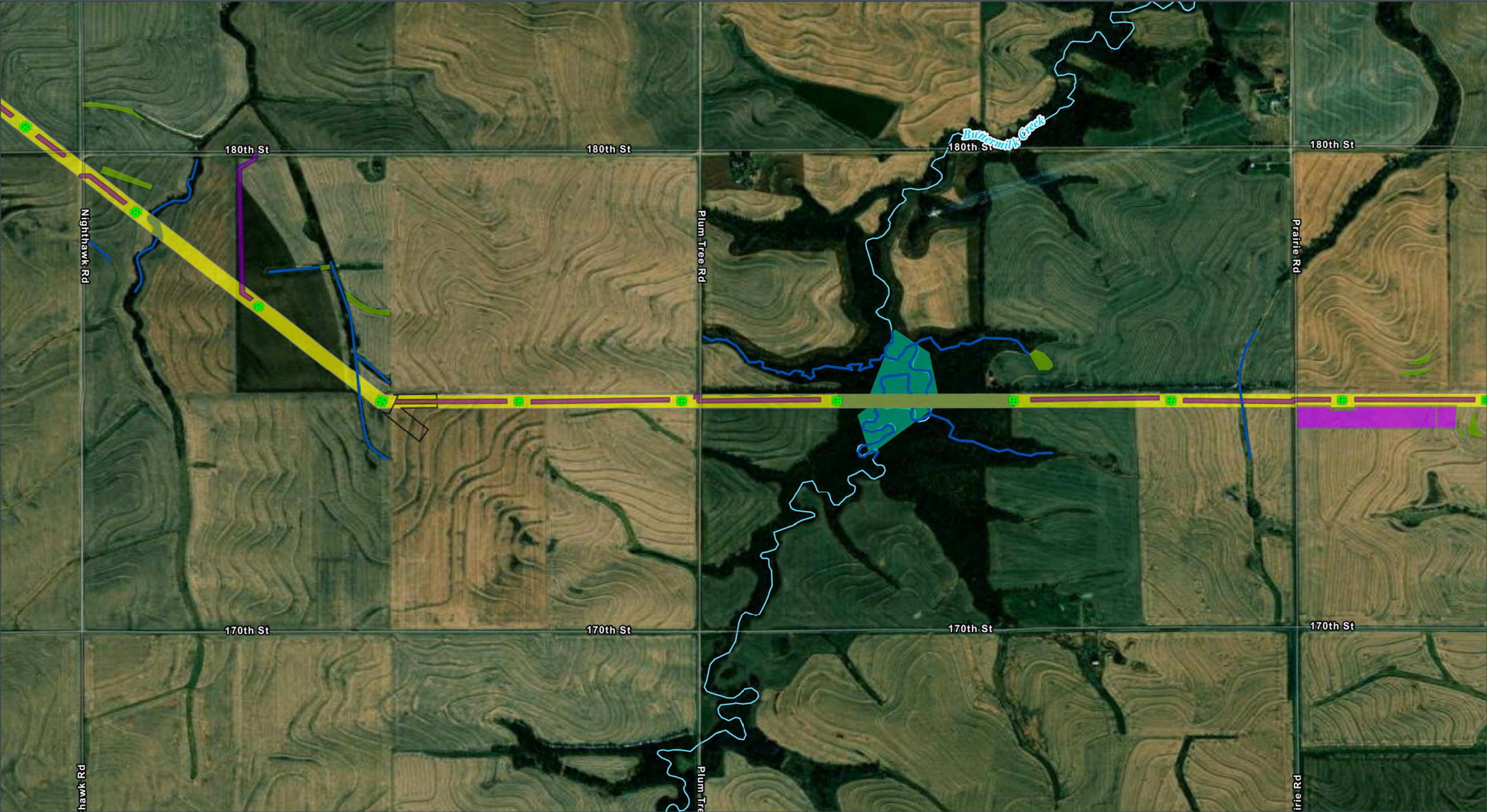
All disturbance areas are likely an over-estimation of direct impacts and based on assumptions presented in the Chapter 2 disturbance model (Table 2-1). These impact areas will be refined and finalized once field surveys are complete and avoidance and/or mitigation measures are implemented



Kansas and Missouri  
GCS North American 1983  
38.3365°N 95.5783°W  
Base Map: Esri ArcGIS Online,  
accessed November 2024  
Updated: 11/26/2024  
Project No. 60694559  
Layout: Wetland Mapbook 12k  
From: WetlandMapBook\_12k







GRAIN BELT EXPRESS  
TRANSMISSION LINE PROJECT

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Grain Belt Express  
An Inveneyr Project

**Permanent Project Component**

- Transmission Structure
- Habitat Conversion**
- Vegetation Clearing

**Temporary Project Component**

- Access Road
- Helipad / Fly Yard
- Pull Site/Tension Site

**Hydrology**

- Delineated Stream

NHD Stream/River

**Delineated Wetland**

- Palustrine Emergent (PEM)
- Palustrine Forested (PFO)

All disturbance areas are likely an over-estimation of direct impacts and based on assumptions presented in the Chapter 2 disturbance model (Table 2-1). These impact areas will be refined and finalized once field surveys are complete and avoidance and/or mitigation measures are implemented

Kansas and Missouri

GCS North American 1983  
38.3365°N 95.5783°W

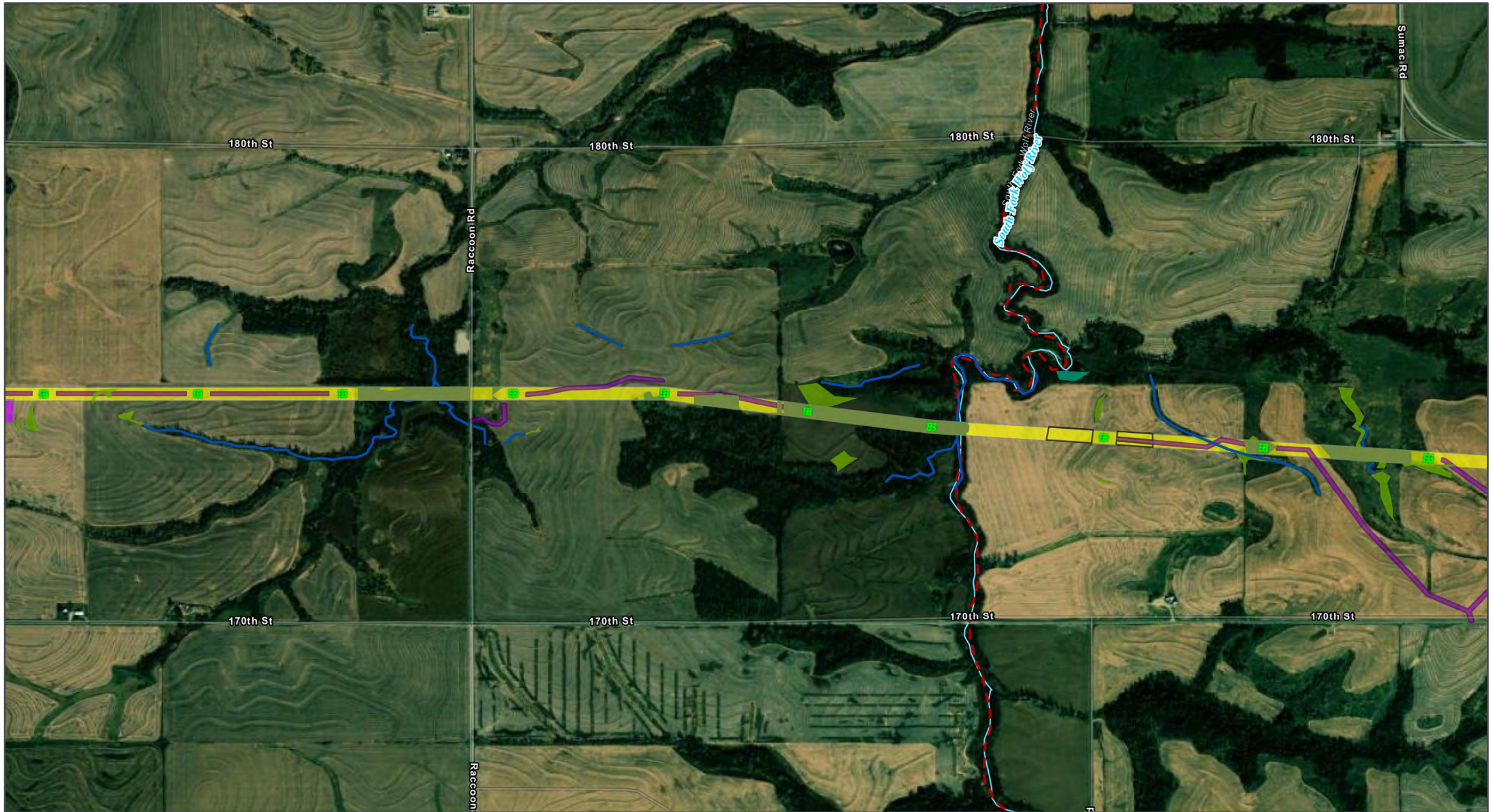
Base Map: Esri ArcGIS Online,  
accessed November 2024  
Updated: 11/26/2024  
Project No. 60694559  
Layout: Wetland Mapbook 12k  
Aron: WetlandMapBook\_12k

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0 400 800 Feet  
0 100 200 Meters

N





GRAIN BELT EXPRESS  
TRANSMISSION LINE PROJECT  
**Wetlands Map Book**  
Map 167 of 259

ROW

**Permanent Project Component**

Transmission Structure

**Habitat Conversion**

Vegetation Clearing

**Temporary Project Component**

Access Road

Helipad / Fly Yard

Pull Site/Tension Site

**Hydrology**

Delineated Stream

NHD Stream/River

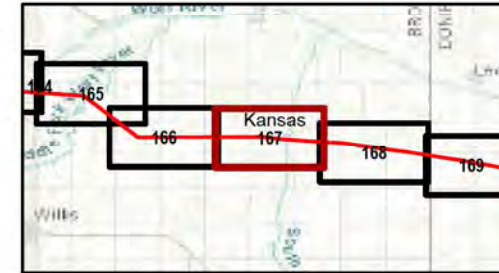
Impaired Waterway (303d)

**Delineated Wetland**

Palustrine Emergent (PEM)

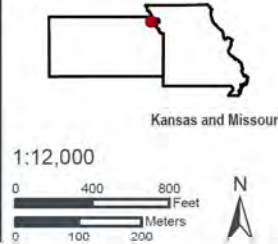
Palustrine Forested (PFO)

All disturbance areas are likely an over-estimation of direct impacts and based on assumptions presented in the Chapter 2 disturbance model (Table 2-1). These impact areas will be refined and finalized once field surveys are complete and avoidance and/or mitigation measures are implemented

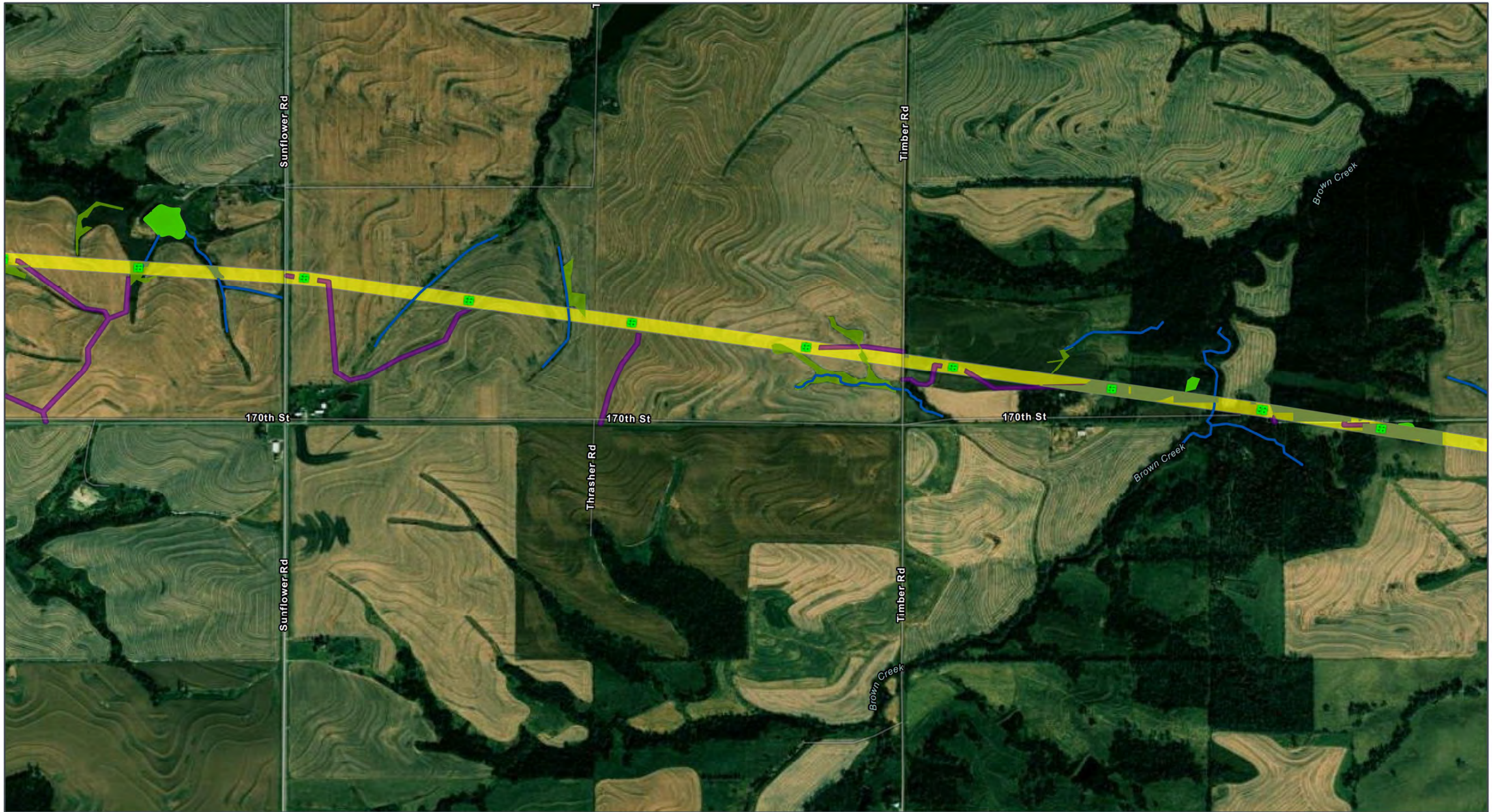


Kansas and Missouri  
GCS North American 1983  
38.3365°N 95.5783°W

Base Map: Esri ArcGIS Online,  
accessed November 2024  
Updated: 11/26/2024  
Project No: 60694559  
Layout: Wetland Mapbook 12k  
Apex: WetlandMapBook\_12k







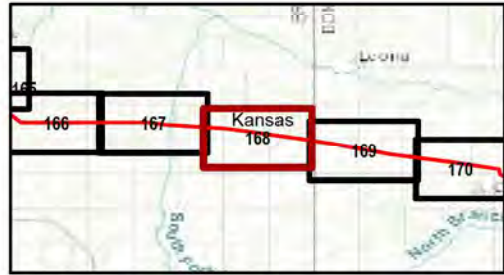
GRAIN BELT EXPRESS  
TRANSMISSION LINE PROJECT  
**Wetlands Map Book**  
Map 168 of 259

- ROW
- Permanent Project Component**
  - Transmission Structure
- Habitat Conversion**
  - Vegetation Clearing

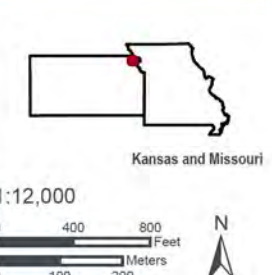
- Temporary Project Component**
  - Access Road
- Hydrology**
  - Delineated Stream

- Delineated Wetland**
  - Palustrine Emergent (PEM)
  - Palustrine Unconsolidated Bottom (PUB)

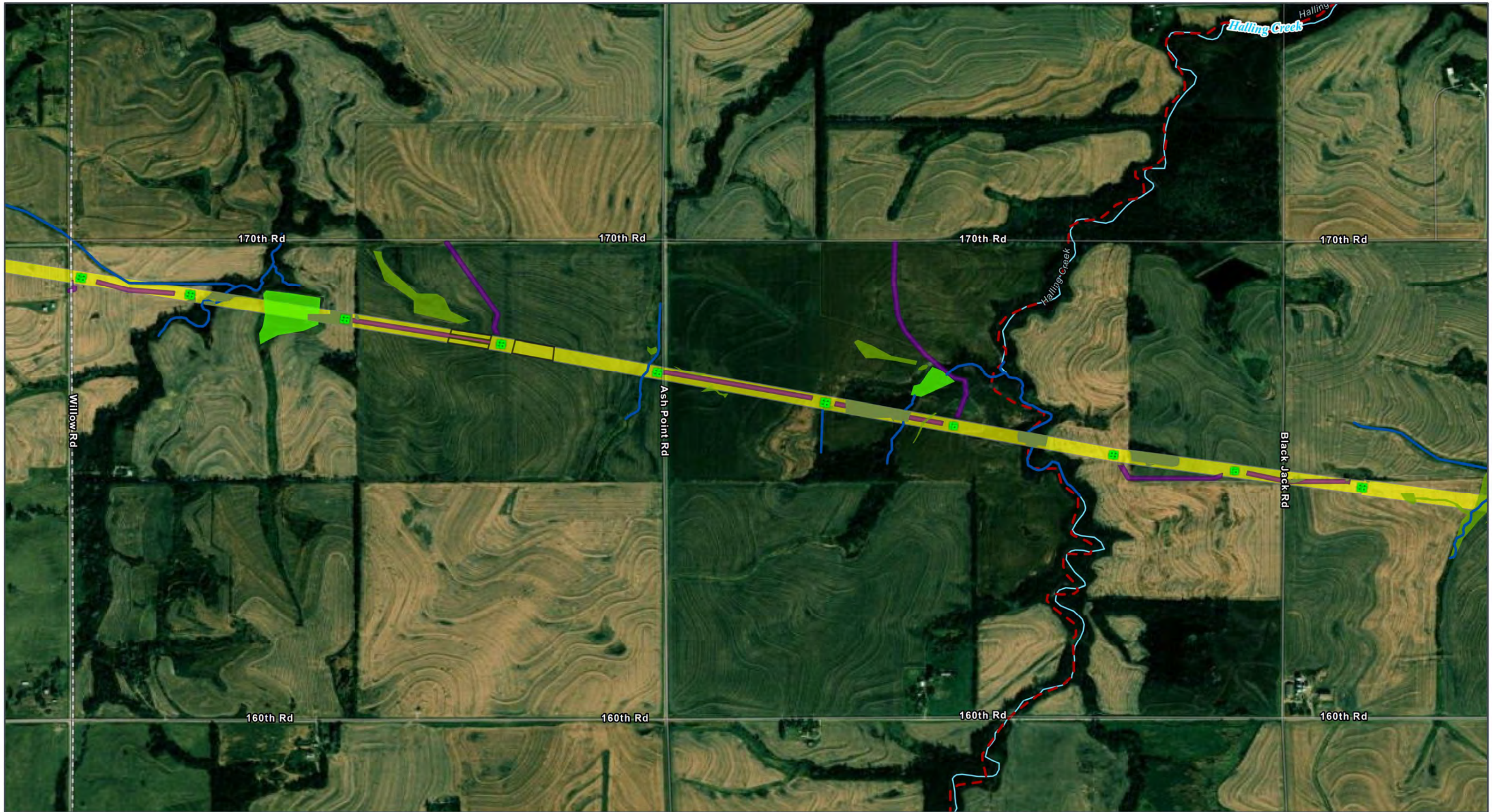
All disturbance areas are likely an over-estimation of direct impacts and based on assumptions presented in the Chapter 2 disturbance model (Table 2-1). These impact areas will be refined and finalized once field surveys are complete and avoidance and/or mitigation measures are implemented



Kansas and Missouri  
GCS North American 1983  
38.3365°N 95.5783°W  
  
Base Map: Esri ArcGIS Online,  
accessed November 2024  
Updated: 11/26/2024  
Project No. 60694559  
Layout: Wetland Mapbook 12k  
From: WetlandMapBook\_12k







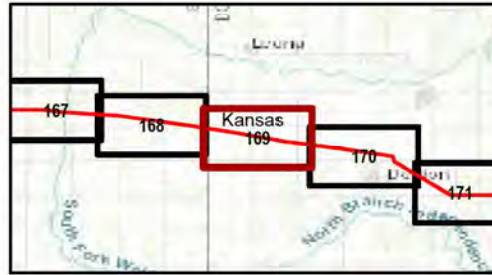
GRAIN BELT EXPRESS  
TRANSMISSION LINE PROJECT  
**Wetlands Map Book**  
Map 169 of 259

- ROW
- Permanent Project Component**
  - Transmission Structure
- Habitat Conversion**
  - Vegetation Clearing

- Temporary Project Component**
  - Access Road
  - Pull Site/Tension Site
- Hydrology**
  - Delineated Stream

- NHD Stream/River
- Impaired Waterway (303d)
- Delineated Wetland**
  - Palustrine Emergent (PEM)
  - Palustrine Unconsolidated Bottom (PUB)

All disturbance areas are likely an over-estimation of direct impacts and based on assumptions presented in the Chapter 2 disturbance model (Table 2-1). These impact areas will be refined and finalized once field surveys are complete and avoidance and/or mitigation measures are implemented



Kansas and Missouri  
GCS North American 1983  
38.3365°N 95.5783°W

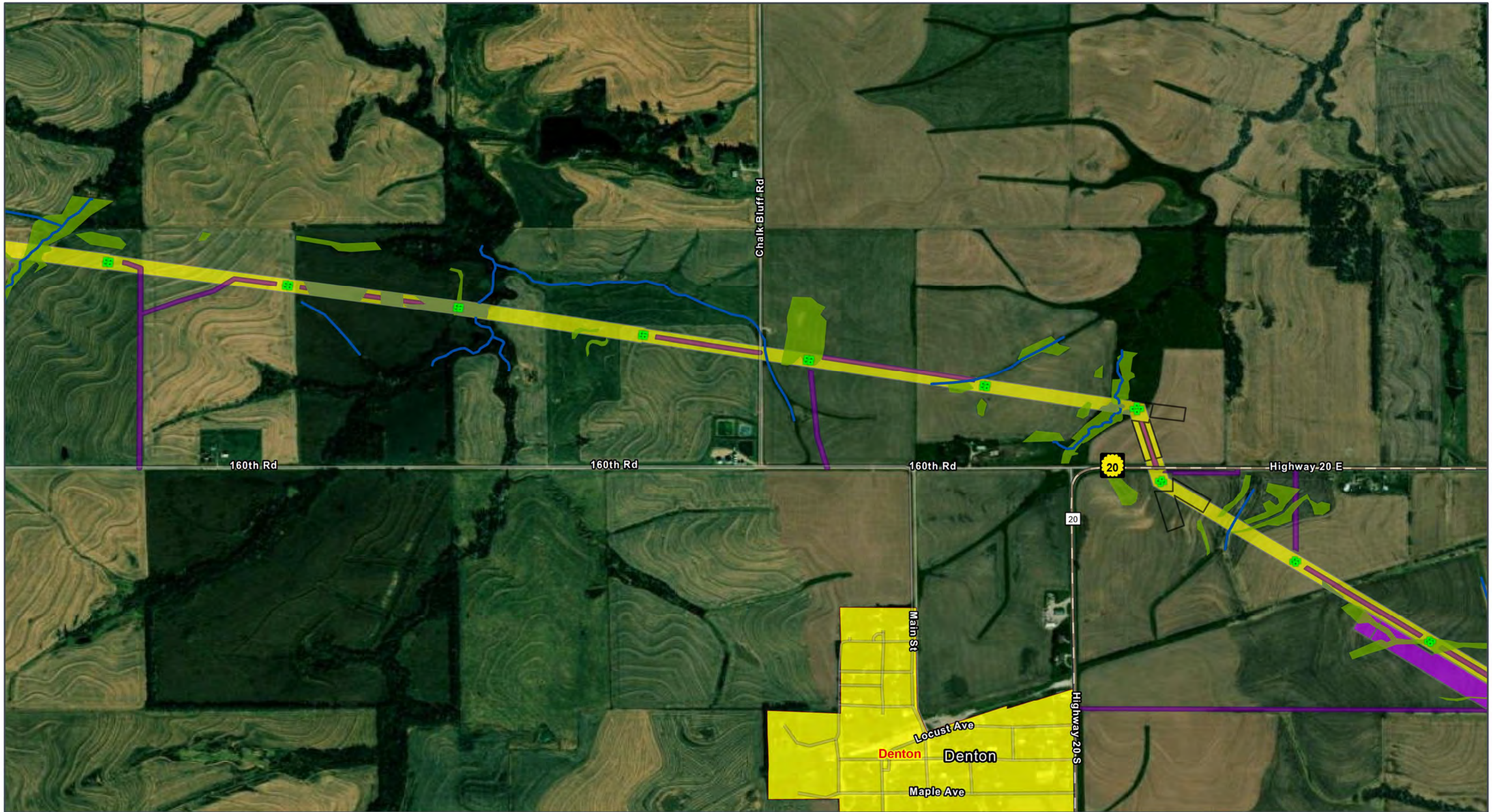
Base Map: Esri ArcGIS Online,  
accessed November 2024  
Updated: 11/26/2024  
Project No. 60694559  
Layout: Wetland Mapbook 12k  
Aero: WetlandMapBook\_12k

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0 400 800 Feet  
0 100 200 Meters

N





GRAIN BELT EXPRESS  
TRANSMISSION LINE PROJECT  
**Wetlands Map Book**  
Map 170 of 259

- Municipal Boundary Near the Project
- ROW
- Permanent Project Component**
  - Transmission Structure

- Habitat Conversion**
  - Vegetation Clearing
- Temporary Project Component**
  - Access Road
  - Helipad / Fly Yard
  - Pull Site/Tension Site

- Hydrology**
  - Delineated Stream
- Delineated Wetland**
  - Palustrine Emergent (PEM)
- Transportation**
  - State Highway

All disturbance areas are likely an over-estimation of direct impacts and based on assumptions presented in the Chapter 2 disturbance model (Table 2-1). These impact areas will be refined and finalized once field surveys are complete and avoidance and/or mitigation measures are implemented



Kansas and Missouri  
GCS North American 1983  
38.3365°N 95.5783°W

Base Map: Esri ArcGIS Online,  
accessed November 2024  
Updated: 11/26/2024  
Project No. 60694559  
Layout: Wetland Mapbook 12K  
Aero: WetlandMapBook\_12K

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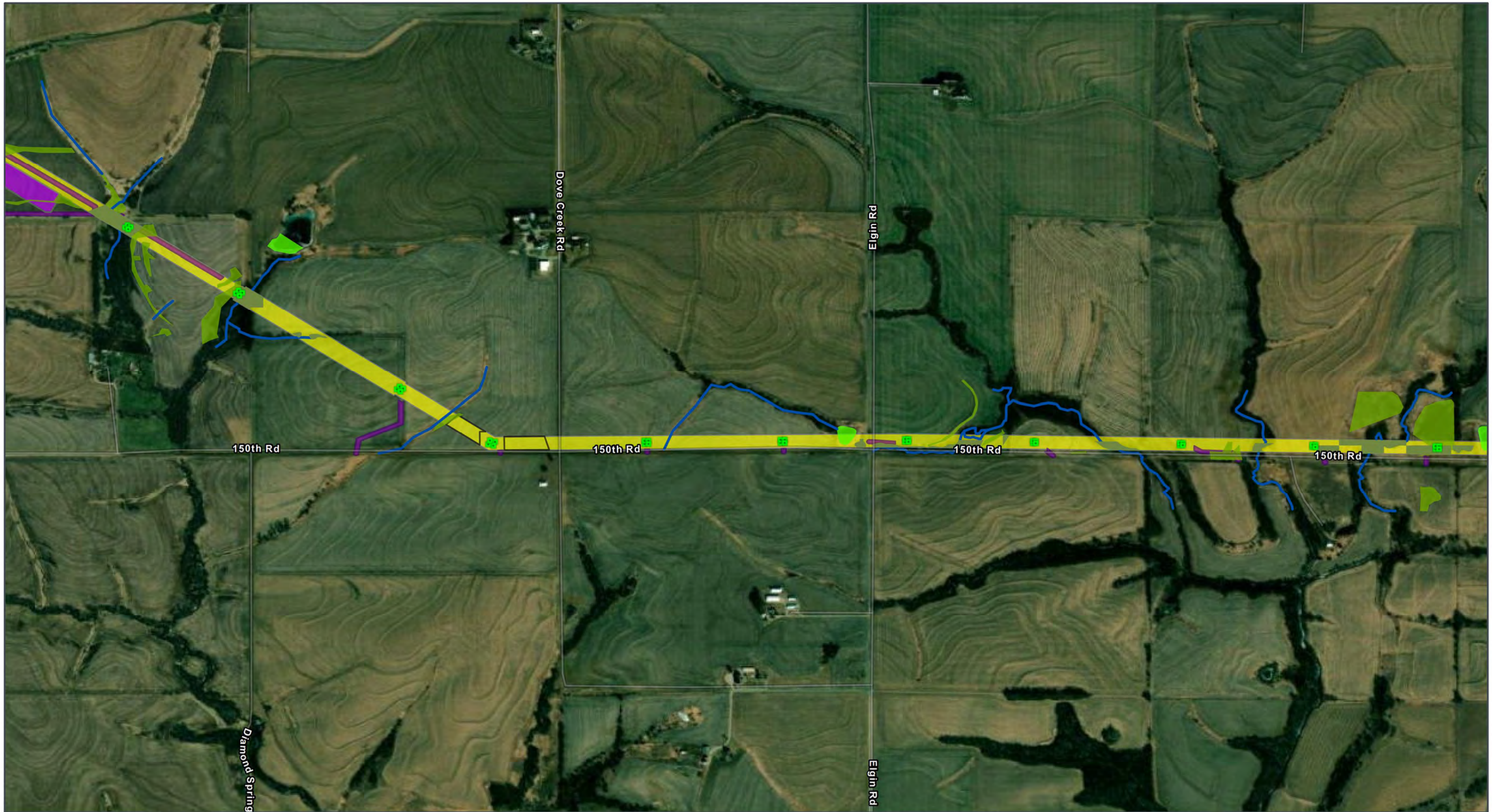
0 400 800 Feet

0 100 200 Meters

N

Kansas and Missouri





GRAIN BELT EXPRESS  
TRANSMISSION LINE PROJECT  
**Wetlands Map Book**  
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ROW

**Permanent Project Component**

Transmission Structure

**Habitat Conversion**

Vegetation Clearing

**Temporary Project Component**

Access Road

Helipad / Fly Yard

Pull Site/Tension Site

**Hydrology**

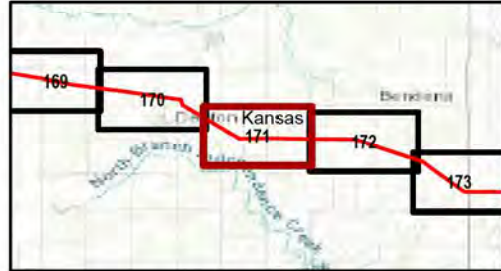
Delineated Stream

**Delineated Wetland**

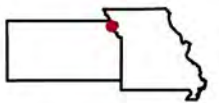
Palustrine Emergent (PEM)

Palustrine Unconsolidated Bottom (PUB)

All disturbance areas are likely an over-estimation of direct impacts and based on assumptions presented in the Chapter 2 disturbance model (Table 2-1). These impact areas will be refined and finalized once field surveys are complete and avoidance and/or mitigation measures are implemented



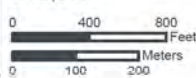
Kansas and Missouri  
GCS North American 1983  
38.3365°N 95.5783°W



Kansas and Missouri

Base Map: Esri ArcGIS Online,  
accessed November 2024  
Updated: 11/26/2024  
Project No. 60694559  
Layout: Wetland Mapbook 12k  
From: WetlandMapBook\_12k

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GRAIN BELT EXPRESS  
TRANSMISSION LINE PROJECT

**Wetlands Map Book**

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Grain Belt Express  
An Inveneyr Project

Muniioipal Boundary Near the Project

ROW

**Permanent Project Component**

- Transmission Structure
- Optical Regeneration
- OPGW Access

**Habitat Conversion**

- Vegetation Clearing

**Temporary Project Component**

- Access Road
- Pull Site/Tension Site

**Hydrology**

- Delineated Stream

**Delineated Wetland**

- Palustrine Emergent (PEM)
- Palustrine Unconsolidated Bottom (PUB)

**NHD Stream/River**

- NHD Stream/River

**Impaired Waterway (303d)**

- Impaired Waterway (303d)

All disturbance areas are likely an over-estimation of direct impacts and based on assumptions presented in the Chapter 2 disturbance model (Table 2-1). These impact areas will be refined and finalized once field surveys are complete and avoidance and/or mitigation measures are implemented

Kansas and Missouri

GCS North American 1983  
38.3365°N 95.5783°W

Base Map: Esri ArcGIS Online,  
accessed November 2024  
Updated: 11/26/2024  
Project No: 60694559  
Layout: Wetland Mapbook 12k  
Aron: WetlandMapBook\_12k

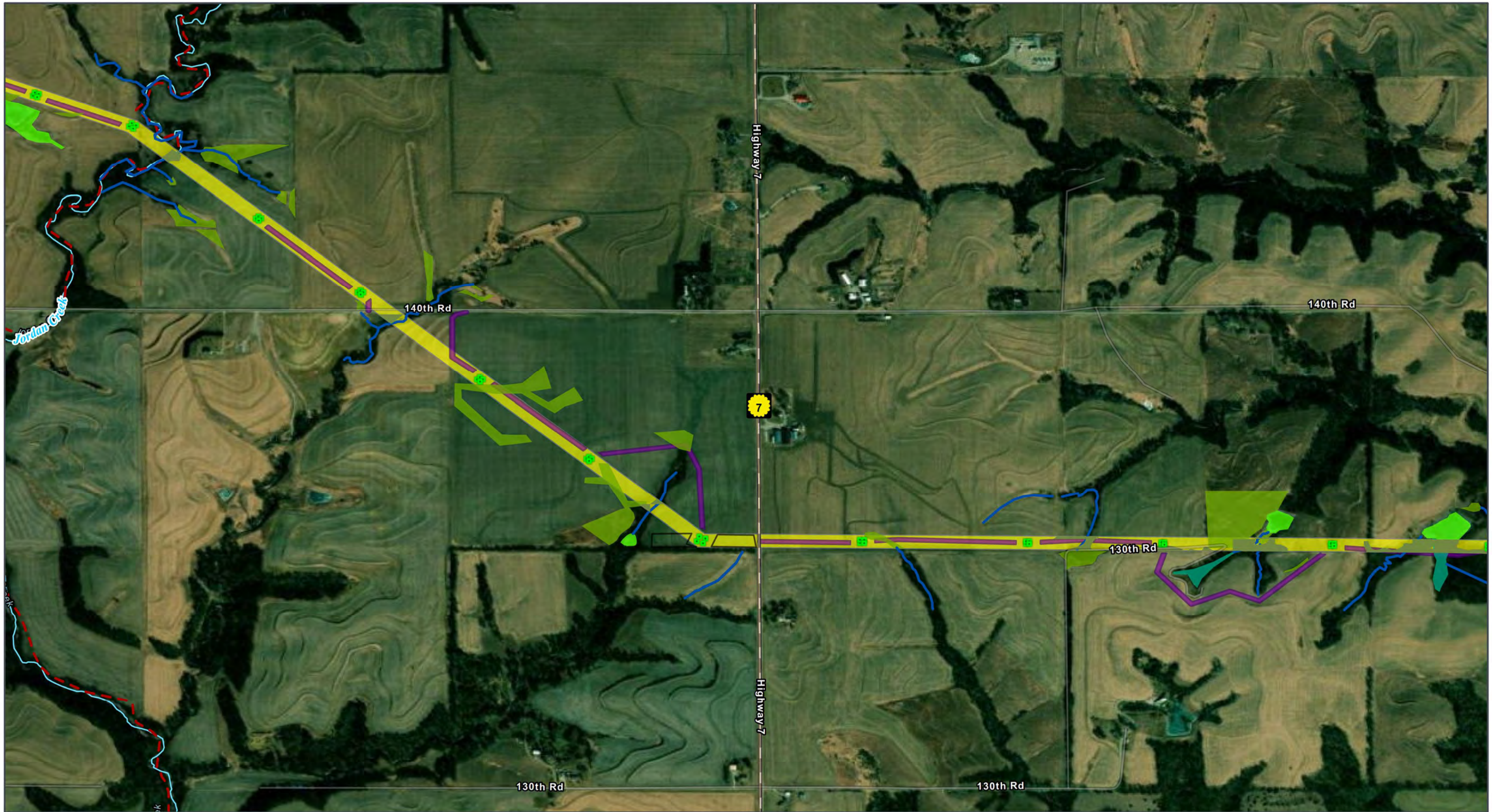
1:12,000

0 400 800 Feet











0 100 200 Meters

Kansas and Missouri

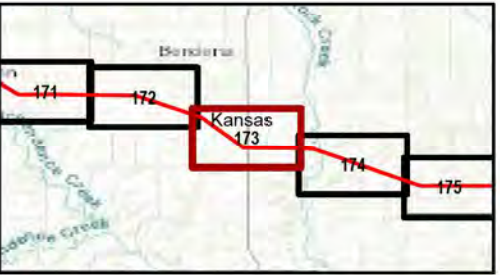




GRAIN BELT EXPRESS  
TRANSMISSION LINE PROJECT  
**Wetlands Map Book**  
Map 173 of 259

- |   |   |   |
|---|---|---|
| <b>ROW</b>  |  | <b>Palustrine Forested (PFO)</b>  |
| <b>Permanent Project Component</b>  | <b>Hydrology</b>  |  |
|  |  | <b>Transportation</b>   |
| <b>Habitat Conversion</b>   |  |  |
|  |  |   |
| <b>Temporary Project Component</b>  | <b>Delineated Wetland</b>   |   |
|  |  |   |

All disturbance areas are likely an over-estimation of direct impacts and based on assumptions presented in the Chapter 2 disturbance model (Table 2-1). These impact areas will be refined and finalized once field surveys are complete and avoidance and/or mitigation measures are implemented




Kansas and Missouri  
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Base Map: Esri ArcGIS Online,  
accessed November 2024  
Updated: 11/26/2024  
Project No. 60694559  
Layout: Wetland Mapbook 12k  
From: WetlandMapBook\_12k

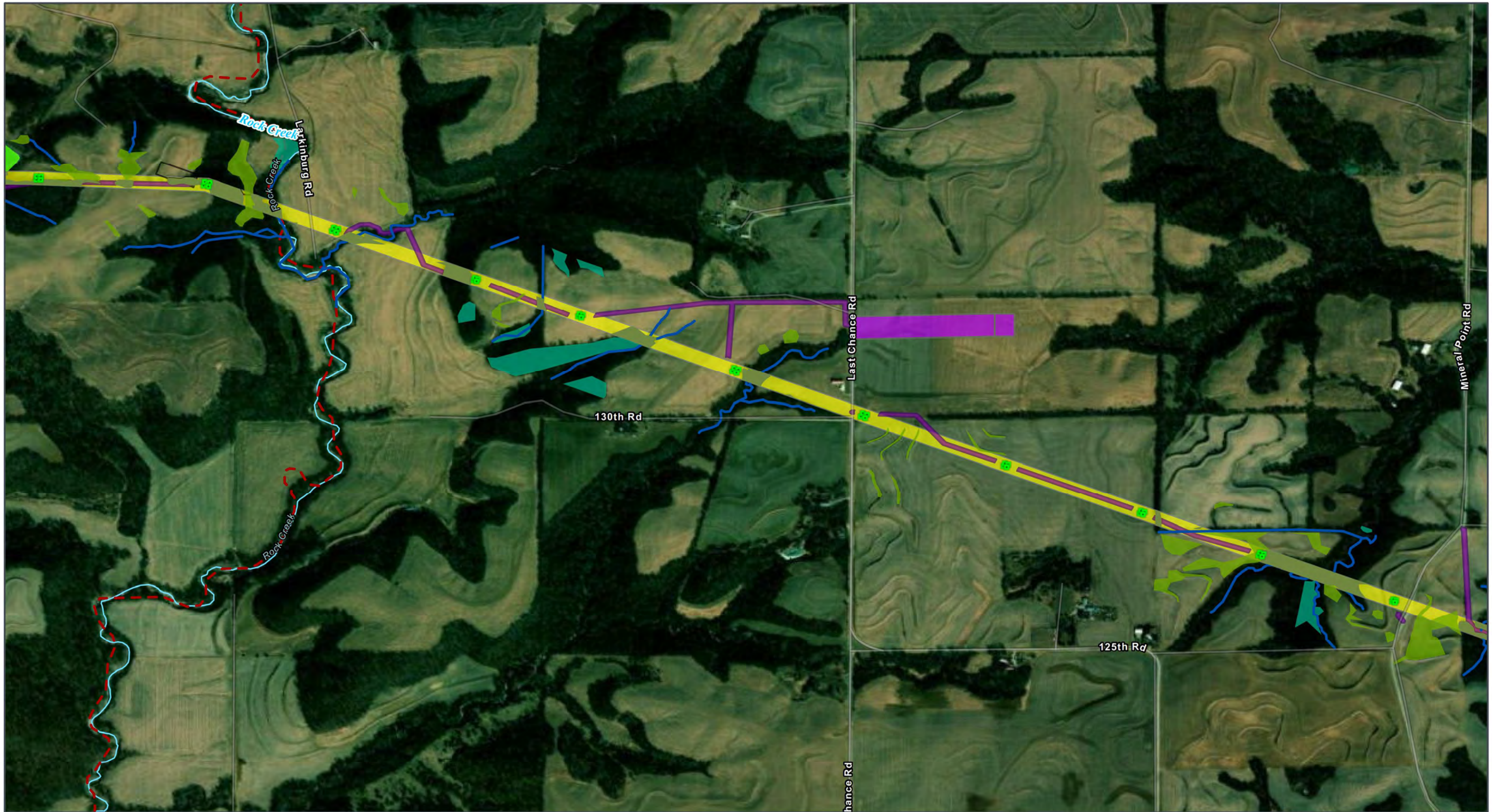
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0 400 800 Feet  
0 100 200 Meters



Kansas and Missouri





GRAIN BELT EXPRESS  
TRANSMISSION LINE PROJECT  
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ROW

**Permanent Project Component**

- Transmission Structure
- Habitat Conversion
- Vegetation Clearing

**Temporary Project Component**

- Access Road
- Helipad / Fly Yard
- Pull Site/Tension Site
- Hydrology**
- Delineated Stream

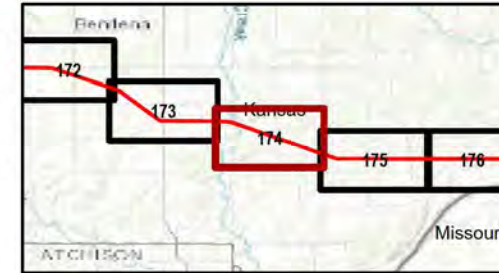
NHD Stream/River

Impaired Waterway (303d)

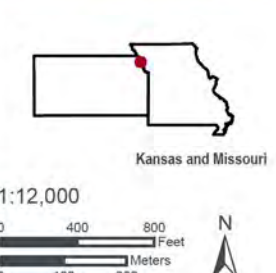
**Delineated Wetland**

- Palustrine Emergent (PEM)
- Palustrine Forested (PFO)
- Palustrine Unconsolidated Bottom (PUB)

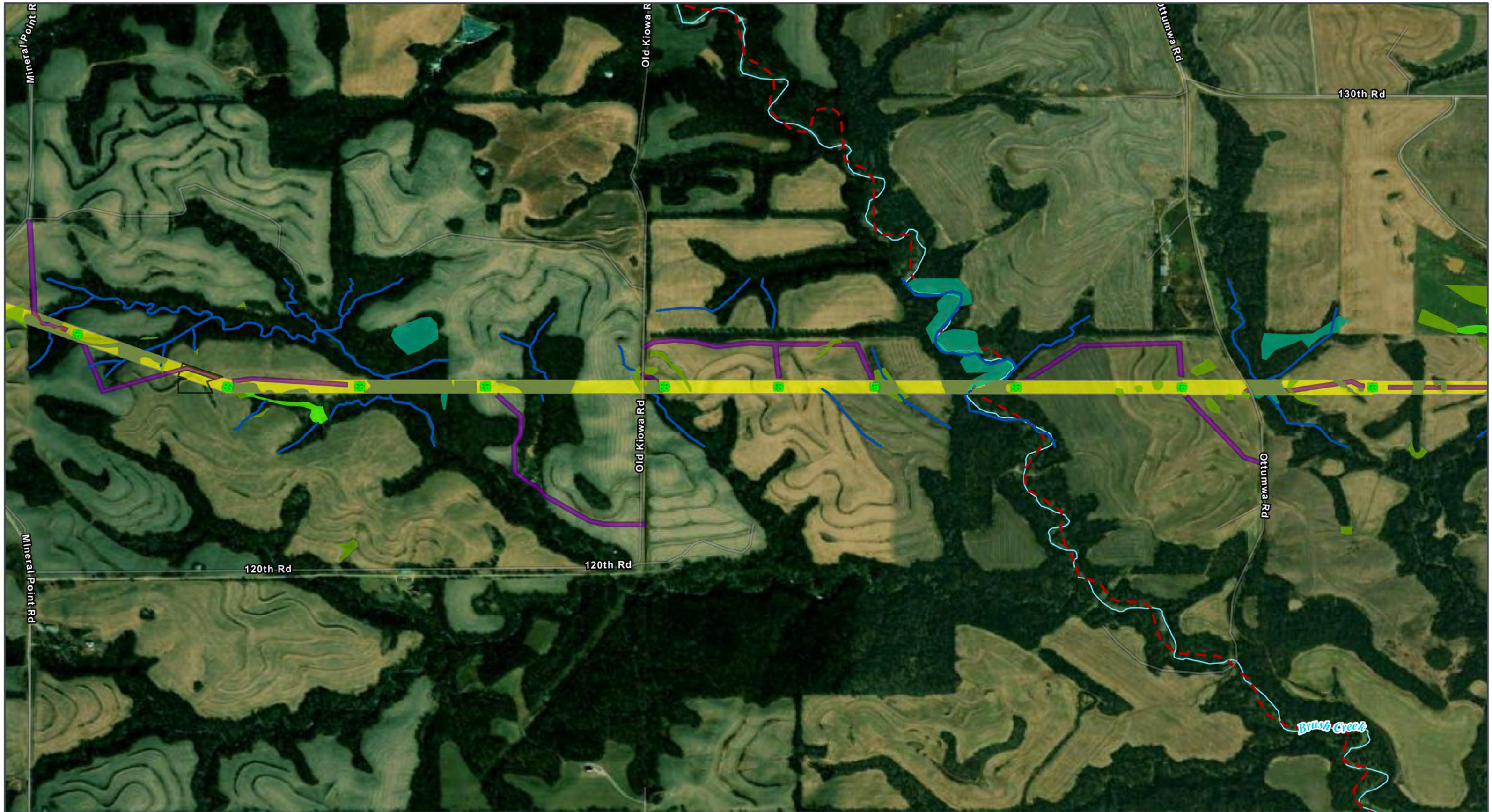
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Kansas and Missouri  
GCS North American 1983  
38.3365°N 95.5783°W  
Base Map: Esri ArcGIS Online,  
accessed November 2024  
Updated: 11/26/2024  
Project No. 60694559  
Layout: Wetland Mapbook 12k  
From: WetlandMapBook\_12k







GRAIN BELT EXPRESS  
TRANSMISSION LINE PROJECT  
**Wetlands Map Book**  
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ROW

**Permanent Project Component**

Transmission Structure

**Habitat Conversion**

Vegetation Clearing

**Temporary Project Component**

Access Road

Pull Site/Tension Site

**Hydrology**

Delineated Stream

NHD Stream/River

Impaired Waterway (303d)

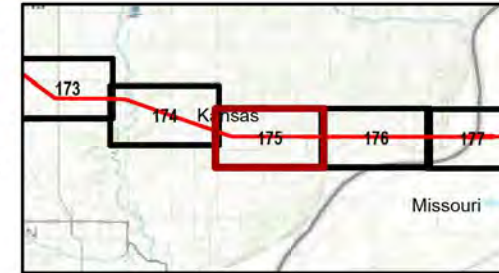
**Delineated Wetland**

Palustrine Emergent (PEM)

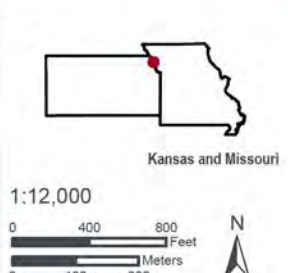
Palustrine Forested (PFO)

Palustrine Unconsolidated Bottom (PUB)

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Kansas and Missouri  
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Base Map: Esri ArcGIS Online,  
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Updated: 11/26/2024  
Project No. 60694559  
Layout: Wetland Mapbook 12k  
Apoc: WetlandMapBook\_12k







GRAIN BELT EXPRESS  
TRANSMISSION LINE PROJECT  
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ROW

**Permanent Project Component**

Transmission Structure

**Habitat Conversion**

Vegetation Clearing

**Temporary Project Component**

Access Road

**Hydrology**

Delineated Stream

NHD Stream/River

Impaired Waterway (303d)

**Delineated Wetland**

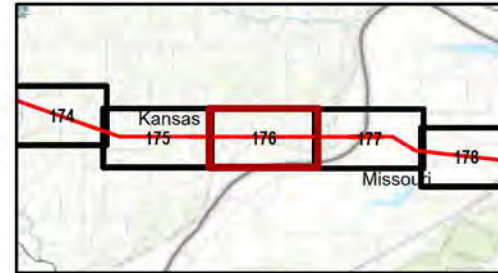
Palustrine Aquatic Bed (PAB)

Palustrine Emergent (PEM)

Palustrine Forested (PFO)

Palustrine Unconsolidated Bottom (PUB)

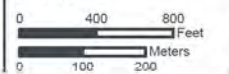
All disturbance areas are likely an over-estimation of direct impacts and based on assumptions presented in the Chapter 2 disturbance model (Table 2-1). These impact areas will be refined and finalized once field surveys are complete and avoidance and/or mitigation measures are implemented



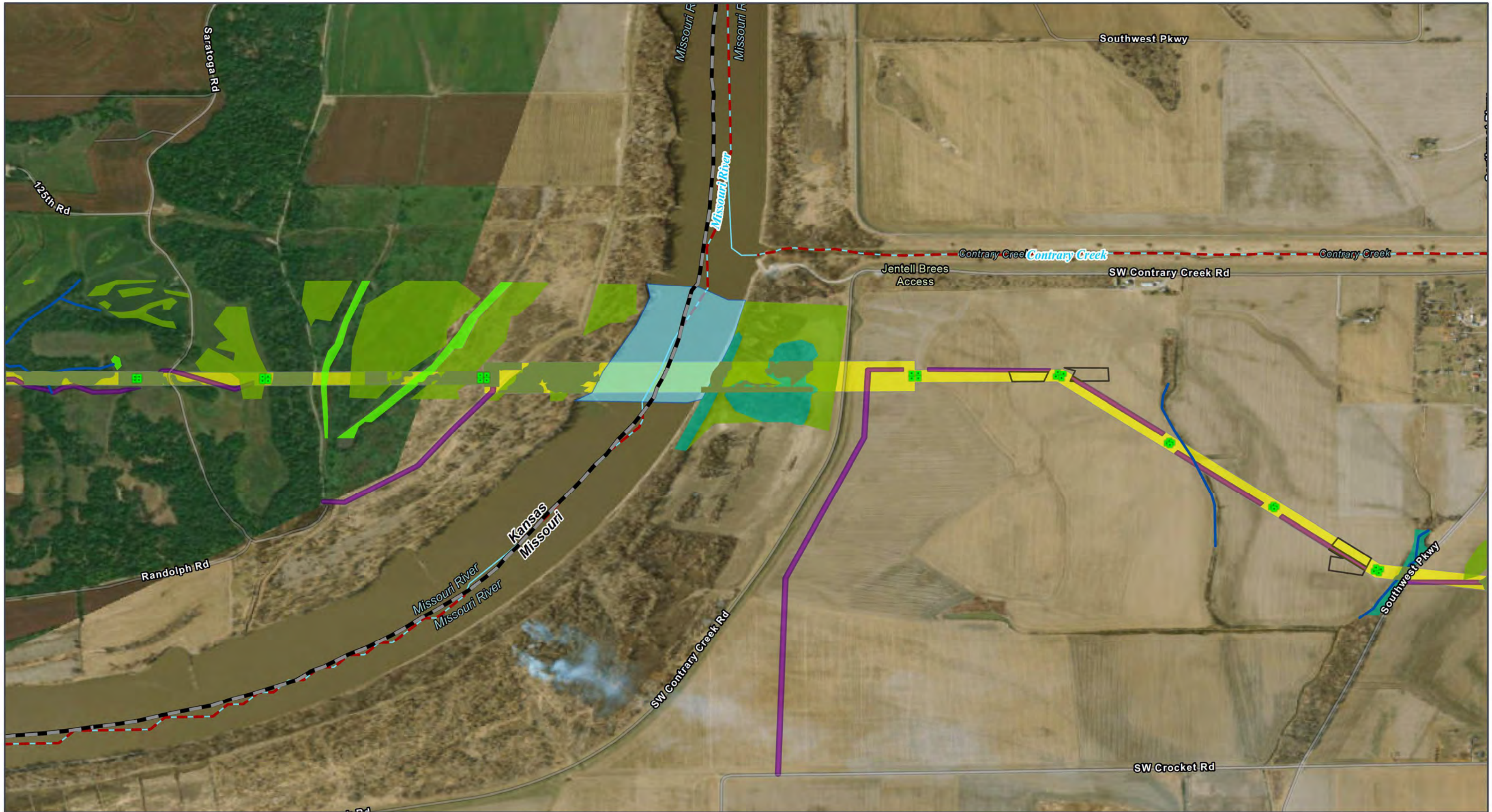
Kansas and Missouri  
GCS North American 1983  
38.3365°N 95.5783°W

Base Map: Esri ArcGIS Online,  
accessed November 2024  
Updated: 11/26/2024  
Project No. 60694559  
Layout: Wetland Mapbook 12k  
From: WetlandMapBook\_12k

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GRAIN BELT EXPRESS  
TRANSMISSION LINE PROJECT  
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ROW

**Permanent Project Component**

Transmission Structure

**Habitat Conversion**

Vegetation Clearing

**Temporary Project Component**

Access Road

Pull Site/Tension Site

**Hydrology**

Delineated Stream

NHD Stream/River

Impaired Waterway (303d)

**Delineated Wetland**

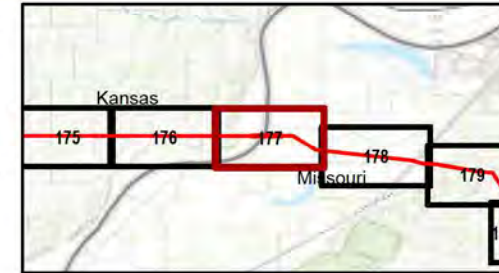
Palustrine Emergent (PEM)

Palustrine Forested (PFO)

Palustrine Unconsolidated Bottom (PUB)

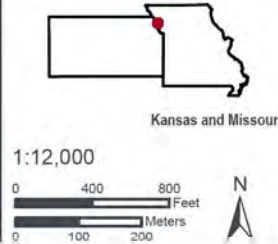
Delineated Waterbody

All disturbance areas are likely an over-estimation of direct impacts and based on assumptions presented in the Chapter 2 disturbance model (Table 2-1). These impact areas will be refined and finalized once field surveys are complete and avoidance and/or mitigation measures are implemented

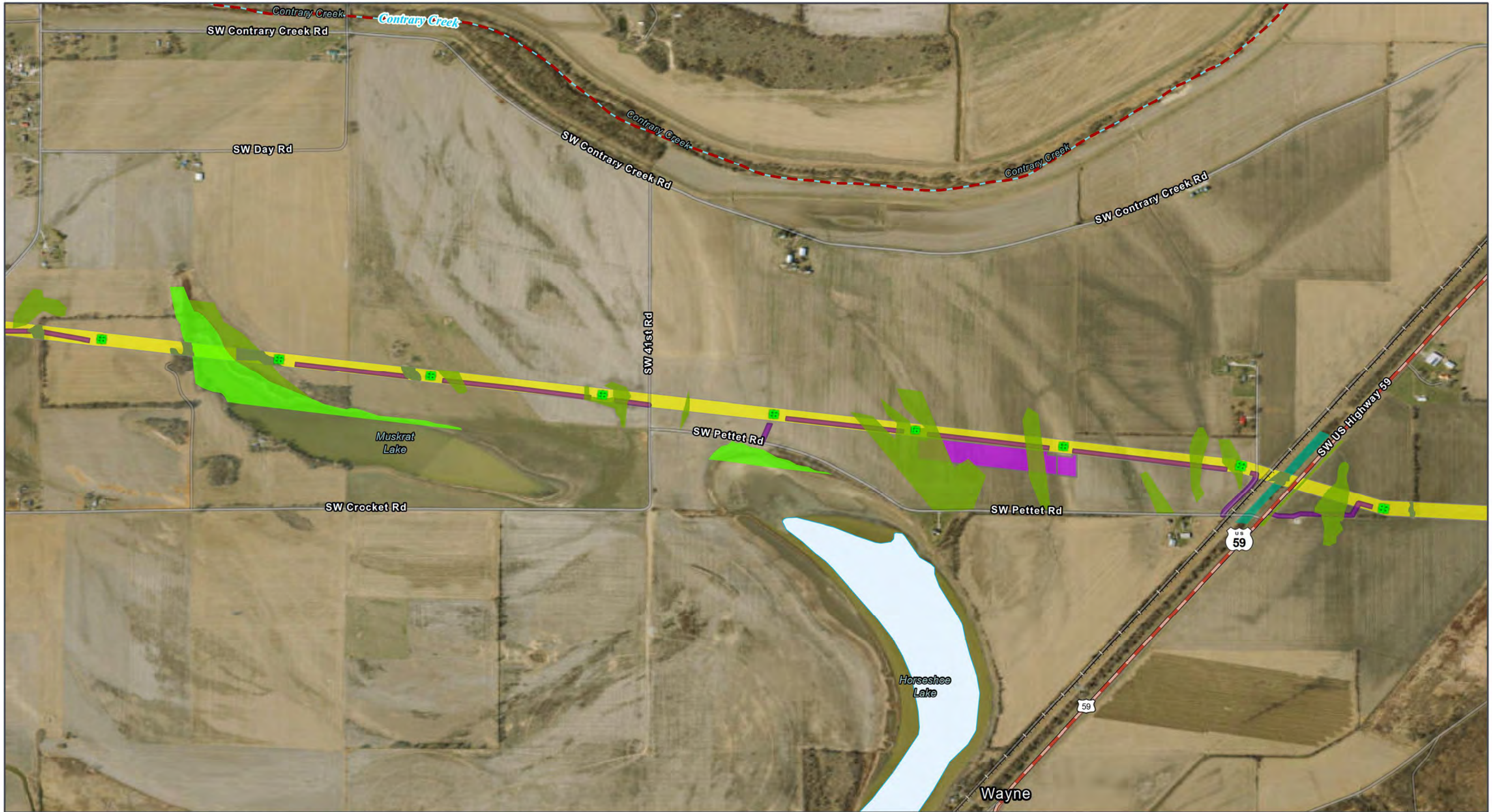


Kansas and Missouri  
GCS North American 1983  
38.3365°N 95.5783°W

Base Map: Esri ArcGIS Online,  
accessed November 2024  
Updated: 11/26/2024  
Project No. 60694559  
Layout: Wetland Mapbook 12k  
From: WetlandMapBook\_12k



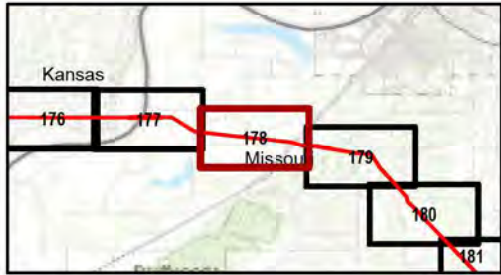




GRAIN BELT EXPRESS  
TRANSMISSION LINE PROJECT  
**Wetlands Map Book**  
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- |  |  |   |
|--|--|---|
| <span style="background-color: yellow; border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span> ROW                   | <span style="background-color: purple; border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span> Helipad / Fly Yard            | <span style="background-color: lightgreen; border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span> Palustrine Unconsolidated Bottom (PUB) |
| <b>Permanent Project Component</b>   | <b>Hydrology</b>   | <span style="background-color: lightblue; border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span> NHD Waterbody                           |
| <span style="background-color: green; border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span> Transmission Structure | <span style="border-bottom: 2px dashed red; display: inline-block; width: 20px;"></span> NHD Stream/River  | <b>Transportation</b>   |
| <b>Habitat Conversion</b>  | <span style="border-bottom: 2px dashed red; display: inline-block; width: 20px;"></span> Impaired Waterway (303d)  | <span style="border-bottom: 2px solid red; display: inline-block; width: 20px;"></span> U.S. Highway  |
| <span style="background-color: brown; border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span> Vegetation Clearing    | <b>Delineated Wetland</b>  | <span style="border-bottom: 2px solid black; display: inline-block; width: 20px;"></span> Railroad  |
| <b>Temporary Project Component</b>   | <span style="background-color: lightgreen; border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span> Palustrine Emergent (PEM) |   |
| <span style="background-color: purple; border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span> Access Road           | <span style="background-color: lightblue; border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span> Palustrine Forested (PFO)  |   |

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Kansas and Missouri  
GCS North American 1983  
38.3365°N 95.5783°W

Base Map: Esri ArcGIS Online,  
accessed November 2024  
Updated: 11/26/2024  
Project No. 60694559  
Layout: Wetland Mapbook 12k  
From: WetlandMapBook\_12k

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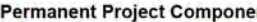
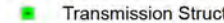
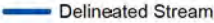

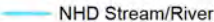


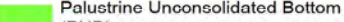

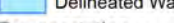
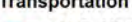
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0 100 200 Meters

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GRAIN BELT EXPRESS  
TRANSMISSION LINE PROJECT  
**Wetlands Map Book**  
Map 179 of 259

- |                                    |  |  |
|------------------------------------|--|--|
| <b>ROW</b>                         |  ROW                    |  Pull Site/Tension Site                   |
| <b>Permanent Project Component</b> |  Transmission Structure | <b>Hydrology</b>   |
| <b>Habitat Conversion</b>          |  Vegetation Clearing    |  Delineated Stream                        |
| <b>Temporary Project Component</b> |  Access Road            |  NHD Stream/River                         |
|                                    |  |  Impaired Waterway (303d)                 |
|                                    |  | <b>Delineated Wetland</b>  |
|                                    |  |  Palustrine Emergent (PEM)                |
|                                    |  |  Palustrine Unconsolidated Bottom (PUB) |
|                                    |  |  Delineated Waterbody                   |
|                                    |  | <b>Transportation</b>  |
|                                    |  |  U.S. Highway                           |
|                                    |  |  Railroad                               |

All disturbance areas are likely an over-estimation of direct impacts and based on assumptions presented in the Chapter 2 disturbance model (Table 2-1). These impact areas will be refined and finalized once field surveys are complete and avoidance and/or mitigation measures are implemented




Kansas and Missouri  
GCS North American 1983  
38.3365°N 95.5783°W

Base Map: Esri ArcGIS Online,  
accessed November 2024  
Updated: 11/26/2024  
Project No. 60694559  
Layout: Wetland Mapbook 12k  
From: WetlandMapBook\_12k

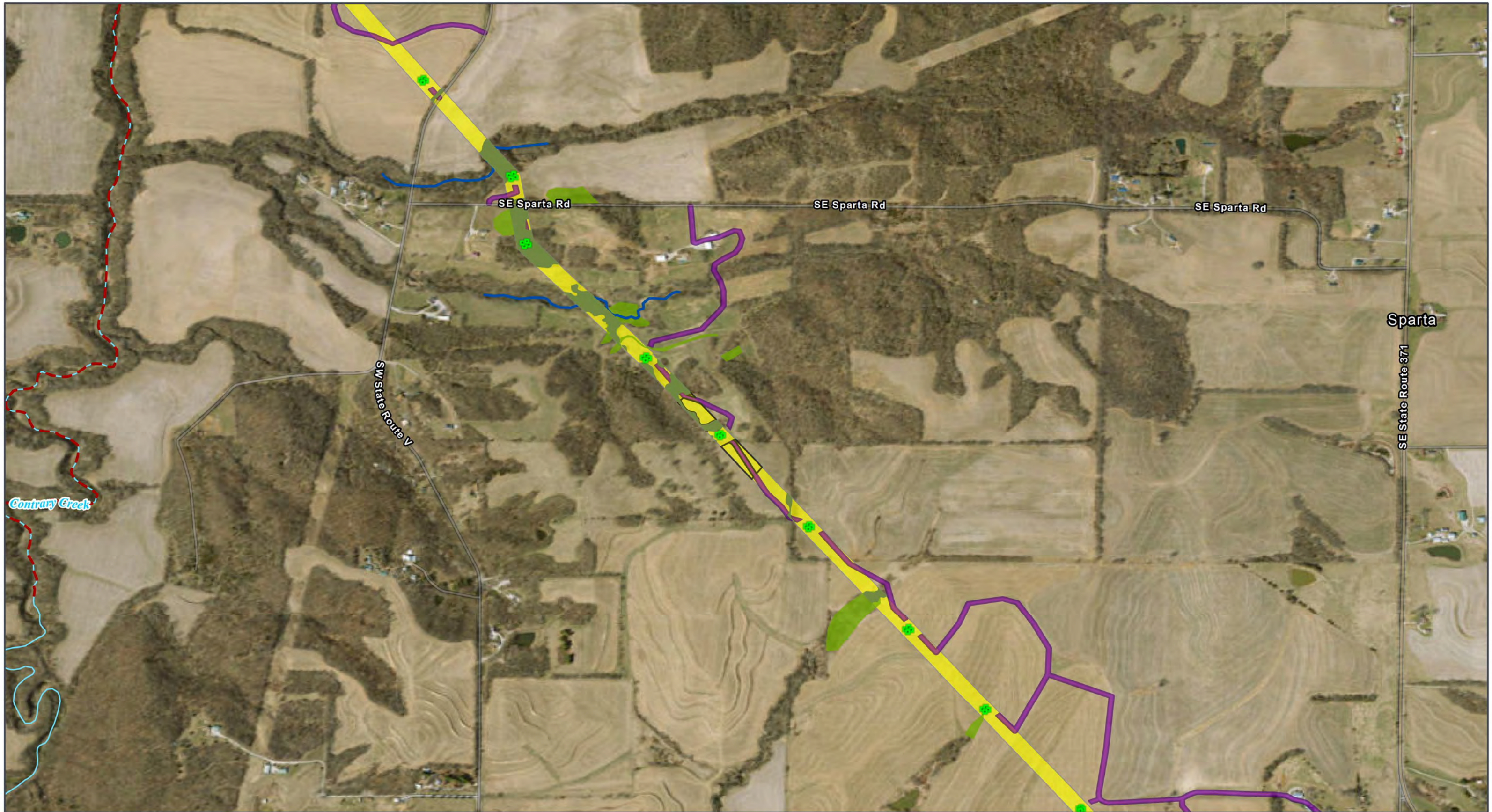
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Kansas and Missouri





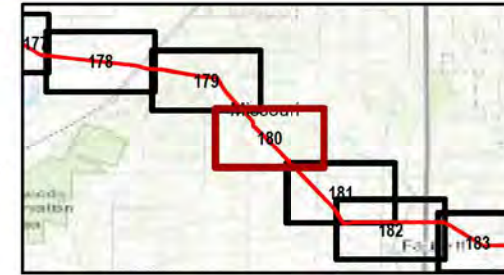
GRAIN BELT EXPRESS  
TRANSMISSION LINE PROJECT  
**Wetlands Map Book**  
Map 180 of 259

- Permanent Project Component**
- Transmission Structure
- Habitat Conversion**
- Vegetation Clearing

- Temporary Project Component**
- Access Road
  - Pull Site/Tension Site
- Hydrology**
- Delineated Stream

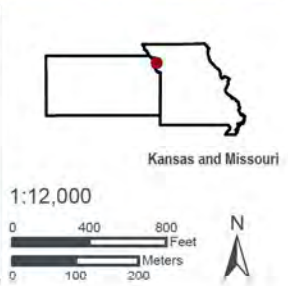
- NHD Stream/River
  - Impaired Waterway (303d)
- Delineated Wetland**
- Palustrine Emergent (PEM)

All disturbance areas are likely an over-estimation of direct impacts and based on assumptions presented in the Chapter 2 disturbance model (Table 2-1). These impact areas will be refined and finalized once field surveys are complete and avoidance and/or mitigation measures are implemented



Kansas and Missouri  
GCS North American 1983  
38.3365°N 95.5783°W

Base Map: Esri ArcGIS Online,  
accessed November 2024  
Updated: 11/26/2024  
Project No. 60694559  
Layout: Wetland Mapbook 12k  
From: WetlandMapBook\_12k







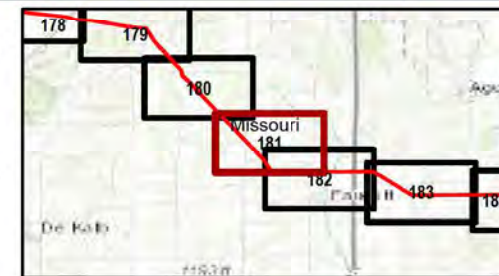
GRAIN BELT EXPRESS  
TRANSMISSION LINE PROJECT  
**Wetlands Map Book**  
Map 181 of 259

- ROW
- Permanent Project Component**
- Transmission Structure
- Habitat Conversion**
- Vegetation Clearing

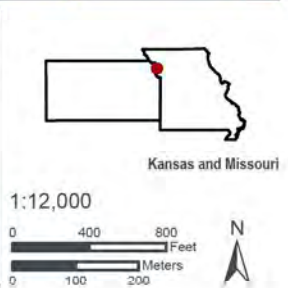
- Temporary Project Component**
- Access Road
- Hydrology**
- Delineated Stream
- NHD Stream/River

- Delineated Wetland**
- Palustrine Emergent (PEM)
- Delineated Waterbody

All disturbance areas are likely an over-estimation of direct impacts and based on assumptions presented in the Chapter 2 disturbance model (Table 2-1). These impact areas will be refined and finalized once field surveys are complete and avoidance and/or mitigation measures are implemented



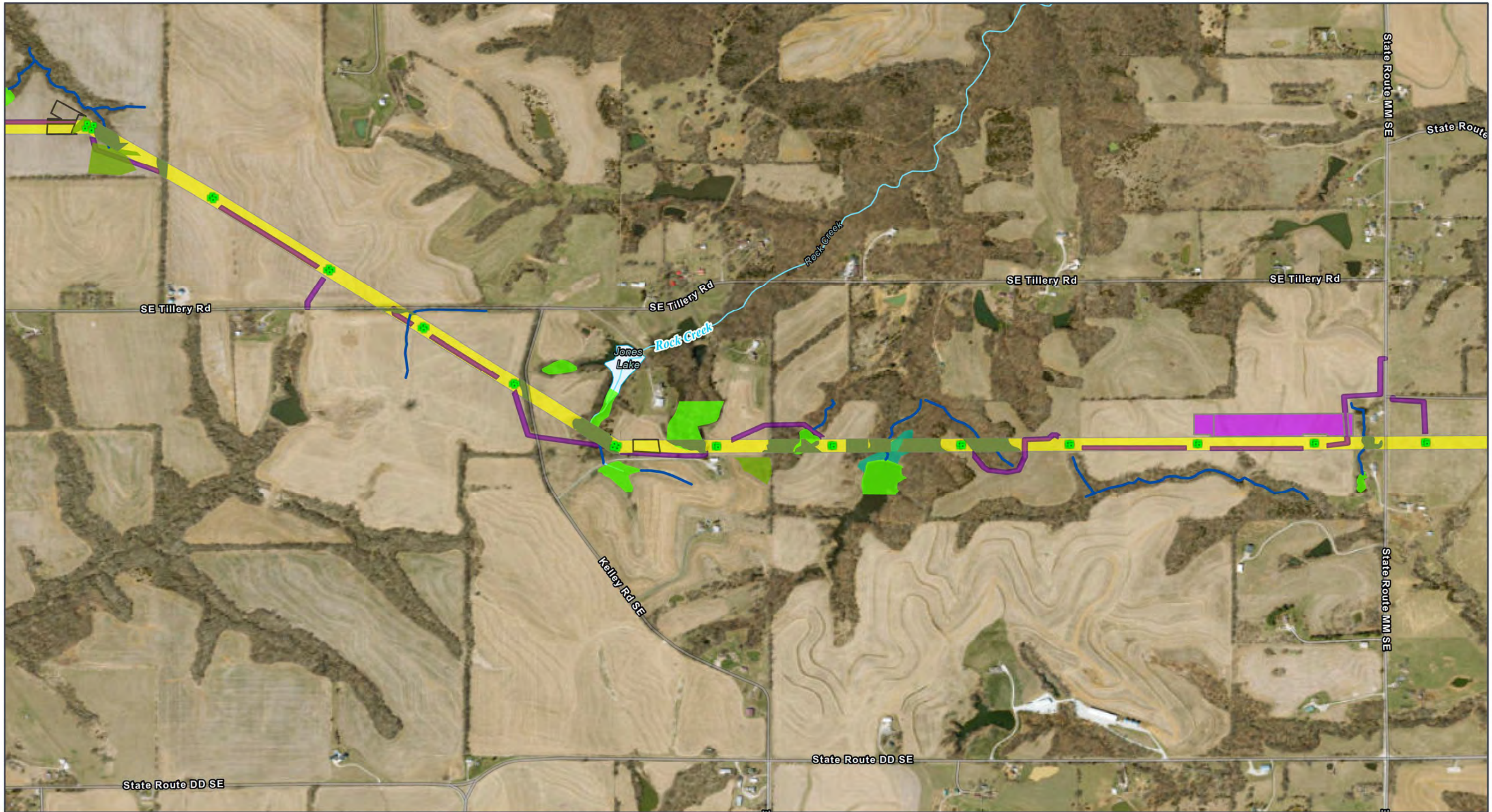
Kansas and Missouri  
GCS North American 1983  
38.3365°N 95.5783°W  
Base Map: Esri ArcGIS Online,  
accessed November 2024  
Updated: 11/26/2024  
Project No. 60694559  
Layout: Wetland Mapbook 12k  
Aron: WetlandMapBook\_12k











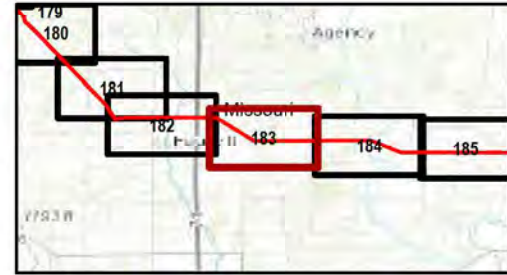
GRAIN BELT EXPRESS  
TRANSMISSION LINE PROJECT  
**Wetlands Map Book**  
Map 183 of 259

- ROW
- Permanent Project Component**
- Transmission Structure
- Habitat Conversion**
- Vegetation Clearing

- Temporary Project Component**
- Access Road
- Helipad / Fly Yard
- Pull Site/Tension Site
- Hydrology**
- Delineated Stream

- NHD Stream/River
- Delineated Wetland**
- Palustrine Emergent (PEM)
- Palustrine Forested (PFO)
- Palustrine Unconsolidated Bottom (PUB)
- NHD Waterbody

All disturbance areas are likely an over-estimation of direct impacts and based on assumptions presented in the Chapter 2 disturbance model (Table 2-1). These impact areas will be refined and finalized once field surveys are complete and avoidance and/or mitigation measures are implemented



Kansas and Missouri  
GCS North American 1983  
38.3365°N 95.5783°W

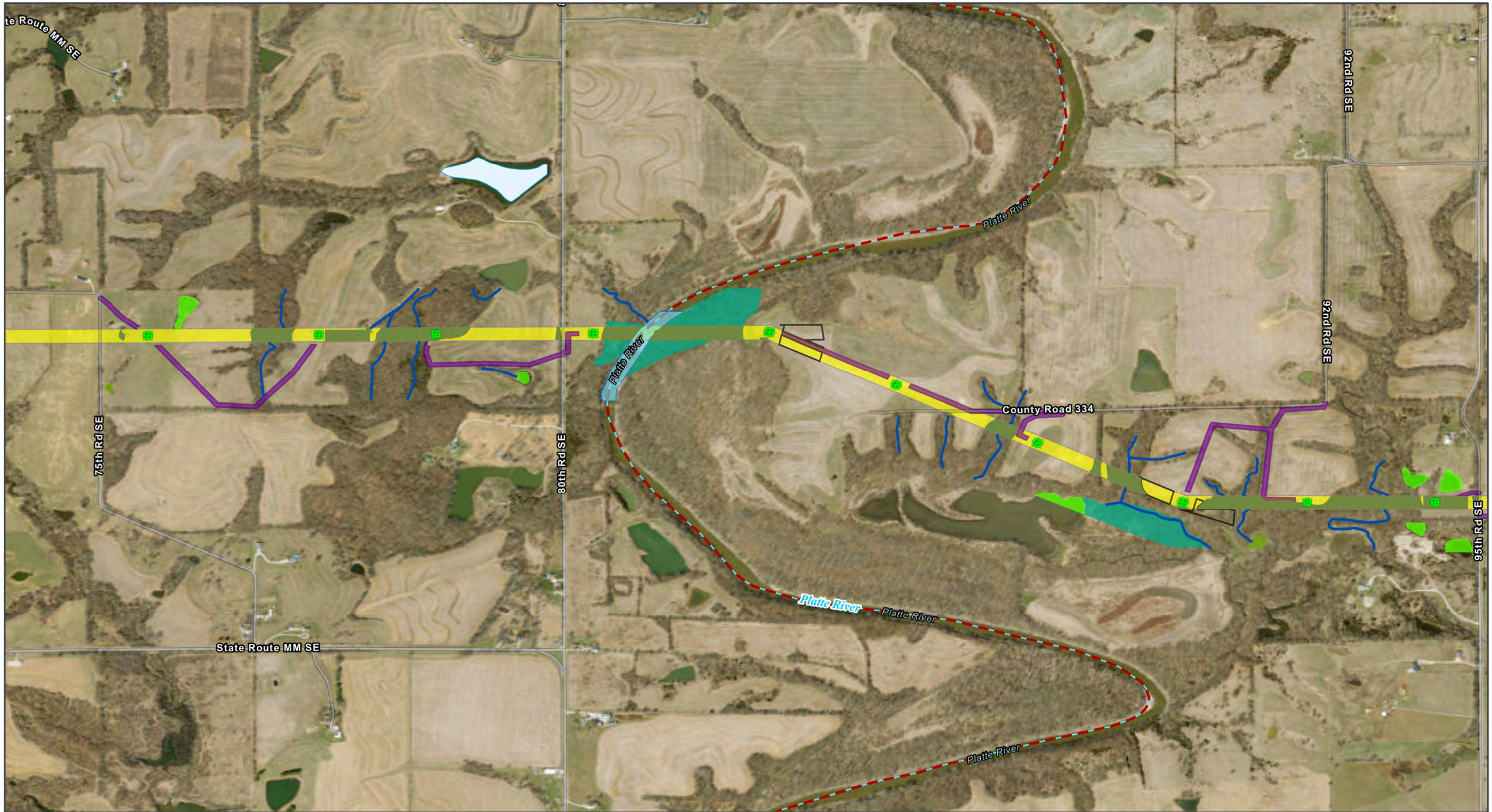
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Project No. 60694559  
Layout: Wetland Mapbook 12k  
From: WetlandMapBook\_12k

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Kansas and Missouri

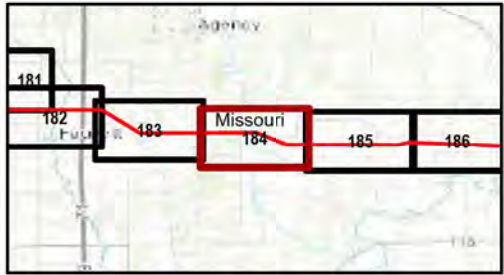




GRAIN BELT EXPRESS  
TRANSMISSION LINE PROJECT  
**Wetlands Map Book**  
Map 184 of 259

- |  |  |  |
|--|--|--|
| <b>ROW</b><br>Permanent Project Component<br>Transmission Structure<br>Habitat Conversion<br>Vegetation Clearing<br>Temporary Project Component<br>Access Road | <b>Pull Site/Tension Site</b><br><b>Hydrology</b><br>Delineated Stream<br>NHD Stream/River<br>Impaired Waterway (303d)<br><b>Delineated Wetland</b><br>Palustrine Emergent (PEM) | <b>Palustrine Forested (PFO)</b><br><b>Palustrine Unconsolidated Bottom (PUB)</b><br>Delineated Waterbody<br>NHD Waterbody |
|--|--|--|

All disturbance areas are likely an over-estimation of direct impacts and based on assumptions presented in the Chapter 2 disturbance model (Table 2-1). These impact areas will be refined and finalized once field surveys are complete and avoidance and/or mitigation measures are implemented



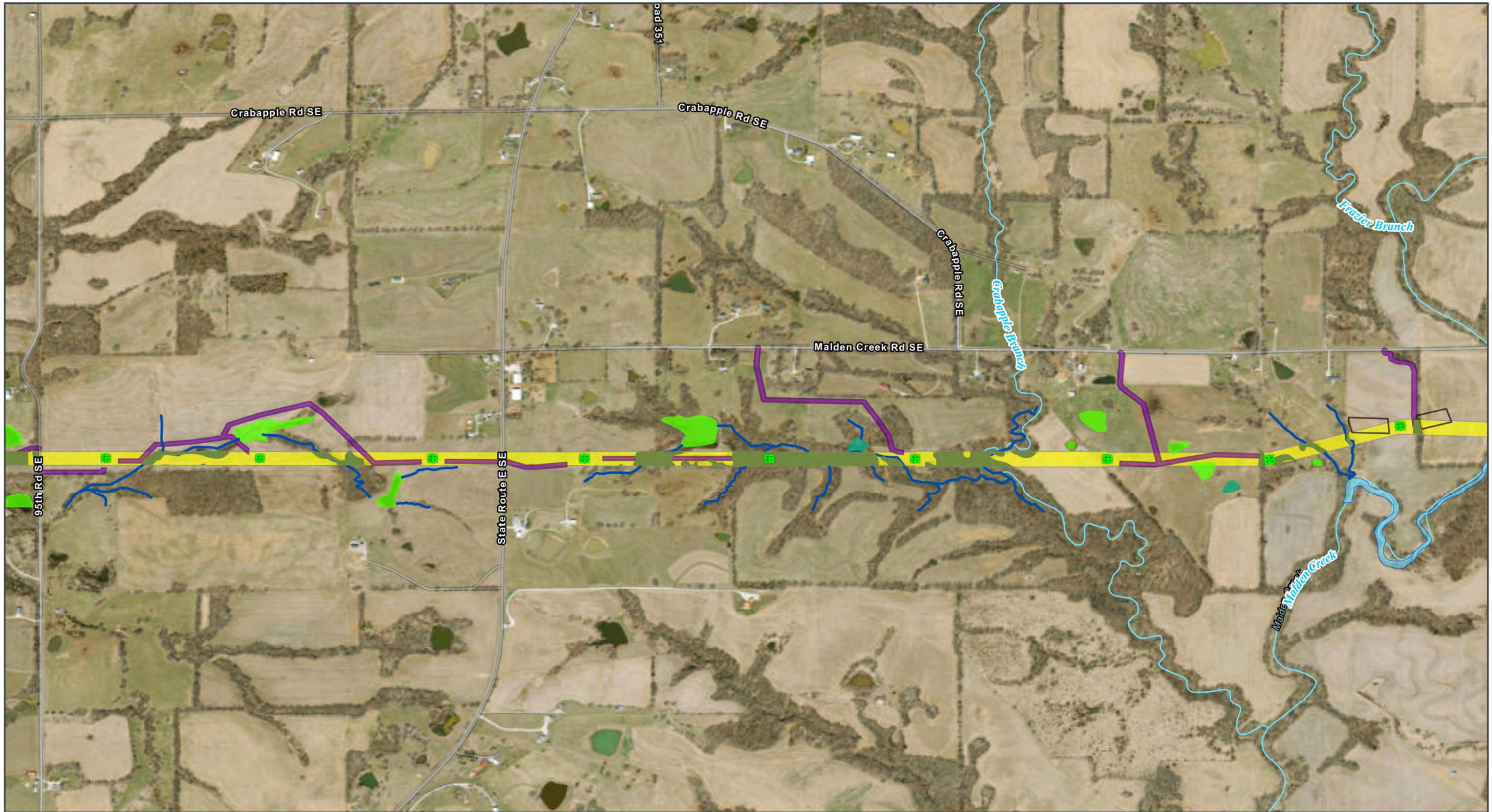
Kansas and Missouri  
GCS North American 1983  
38.3365°N 95.5783°W

Base Map: Esri ArcGIS Online,  
accessed November 2024  
Updated: 11/26/2024  
Project No. 60694559  
Layout: Wetland Mapbook 12k  
From: WetlandMapBook\_12k

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0 400 800 Feet  
0 100 200 Meters

Kansas and Missouri





GRAIN BELT EXPRESS  
TRANSMISSION LINE PROJECT  
**Wetlands Map Book**  
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ROW

**Permanent Project Component**

Transmission Structure

**Habitat Conversion**

Vegetation Clearing

**Temporary Project Component**

Access Road

Pull Site/Tension Site

**Hydrology**

Delineated Stream

NHD Stream/River

**Delineated Wetland**

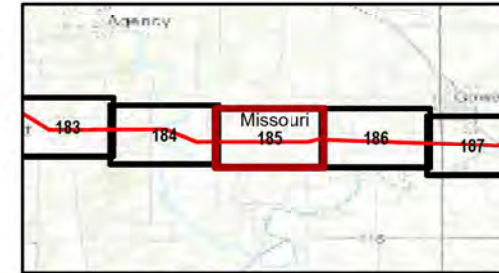
Palustrine Emergent (PEM)

Palustrine Forested (PFO)

Palustrine Unconsolidated Bottom (PUB)

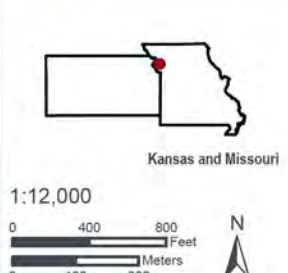
Delineated Waterbody

All disturbance areas are likely an over-estimation of direct impacts and based on assumptions presented in the Chapter 2 disturbance model (Table 2-1). These impact areas will be refined and finalized once field surveys are complete and avoidance and/or mitigation measures are implemented

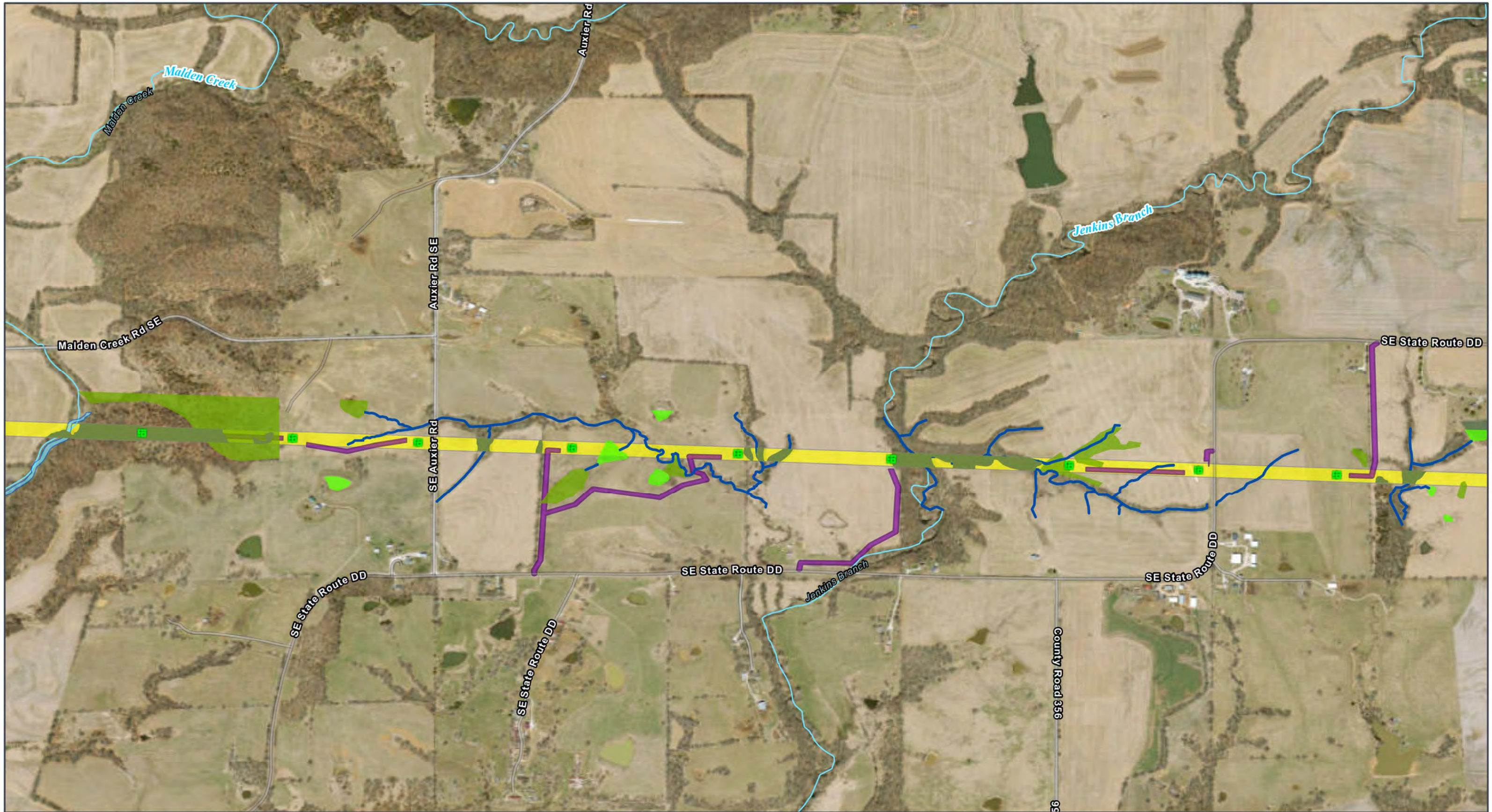


Kansas and Missouri  
GCS North American 1983  
38.3365°N 95.5783°W

Base Map: Esri ArcGIS Online,  
accessed November 2024  
Updated: 11/26/2024  
Project No. 60694559  
Layout: Wetland Mapbook 12k  
Aron: WetlandMapBook\_12k







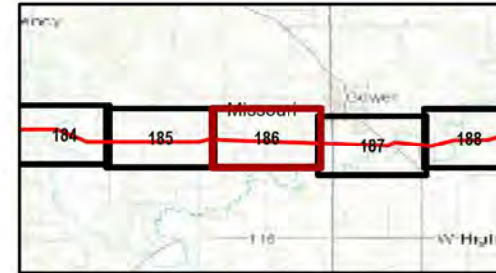
GRAIN BELT EXPRESS  
TRANSMISSION LINE PROJECT  
**Wetlands Map Book**  
Map 186 of 259

- Permanent Project Component**
- Transmission Structure
- Habitat Conversion**
- Vegetation Clearing

- Temporary Project Component**
- Access Road
- Hydrology**
- Delineated Stream
  - NHD Stream/River

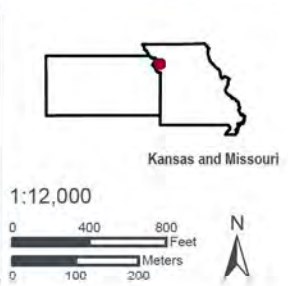
- Delineated Wetland**
- Palustrine Emergent (PEM)
  - Palustrine Unconsolidated Bottom (PUB)
  - Delineated Waterbody

All disturbance areas are likely an over-estimation of direct impacts and based on assumptions presented in the Chapter 2 disturbance model (Table 2-1). These impact areas will be refined and finalized once field surveys are complete and avoidance and/or mitigation measures are implemented

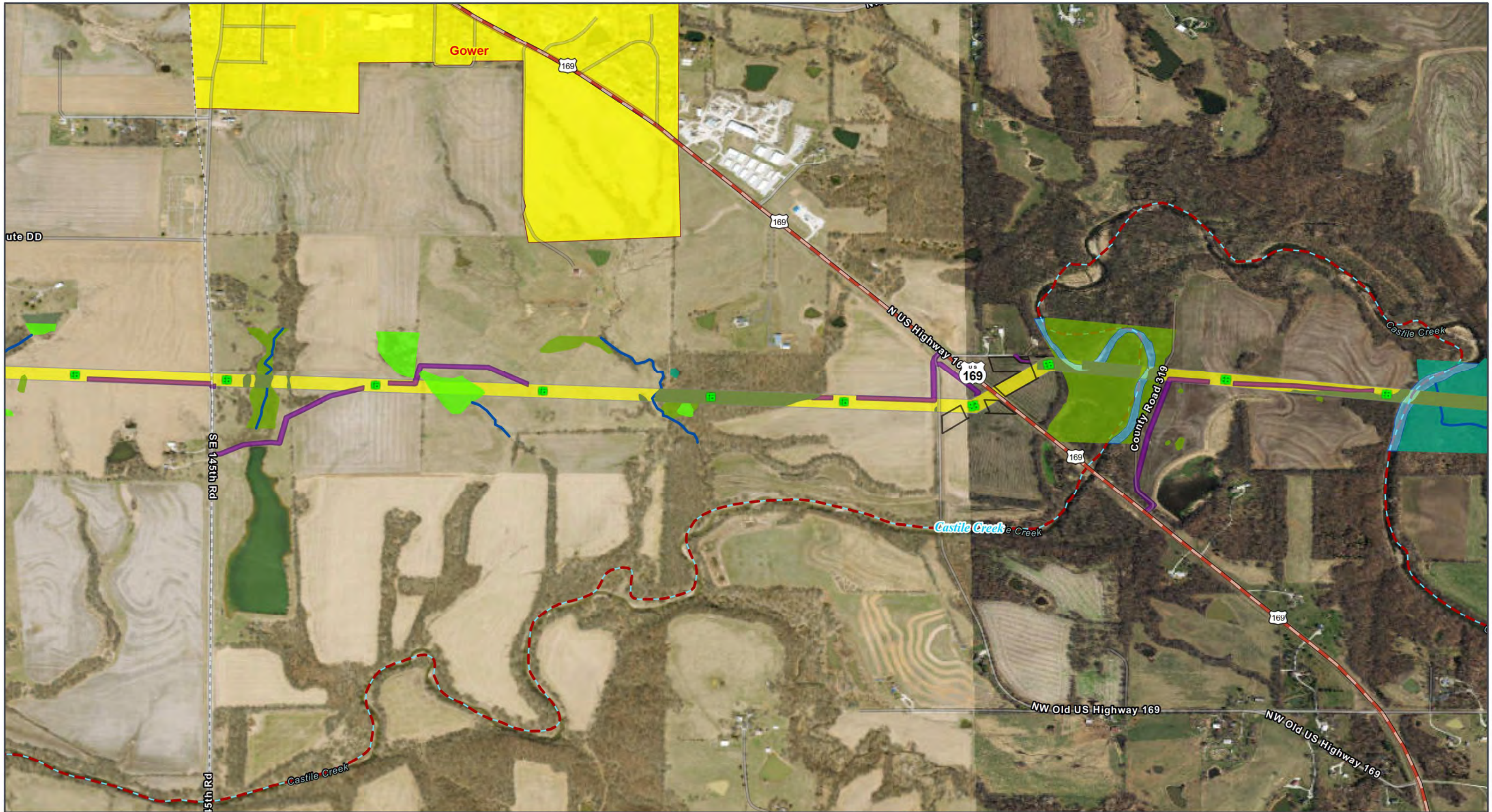


Kansas and Missouri  
GCS North American 1983  
38.3365°N 95.5783°W

Base Map: Esri ArcGIS Online,  
accessed November 2024  
Updated: 11/26/2024  
Project No. 60694559  
Layout: Wetland Mapbook 12k  
Aron: WetlandMapBook\_12k







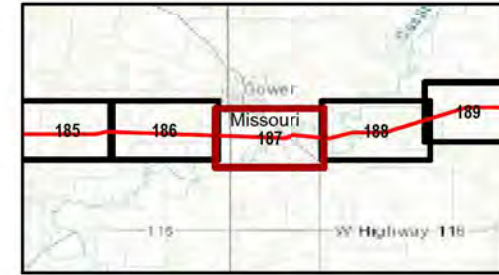
GRAIN BELT EXPRESS  
TRANSMISSION LINE PROJECT  
**Wetlands Map Book**  
Map 187 of 259

- Municipal Boundary Near the Project
- ROW
- Permanent Project Component**
- Transmission Structure
- Habitat Conversion**
- Vegetation Clearing

- Temporary Project Component**
- Access Road
- Pull Site/Tension Site
- Hydrology**
- Delineated Stream
- NHD Stream/River
- Impaired Waterway (303d)

- Delineated Wetland**
- Palustrine Emergent (PEM)
- Palustrine Forested (PFO)
- Palustrine Unconsolidated Bottom (PUB)
- Delineated Waterbody
- Transportation**
- U.S. Highway

All disturbance areas are likely an over-estimation of direct impacts and based on assumptions presented in the Chapter 2 disturbance model (Table 2-1). These impact areas will be refined and finalized once field surveys are complete and avoidance and/or mitigation measures are implemented



Kansas and Missouri

GCS North American 1983  
38.3365°N 95.5783°W

Base Map: Esri ArcGIS Online,  
accessed November 2024  
Updated: 11/26/2024  
Project No. 60694559  
Layout: Wetland Mapbook 12k  
From: WetlandMapBook\_12k

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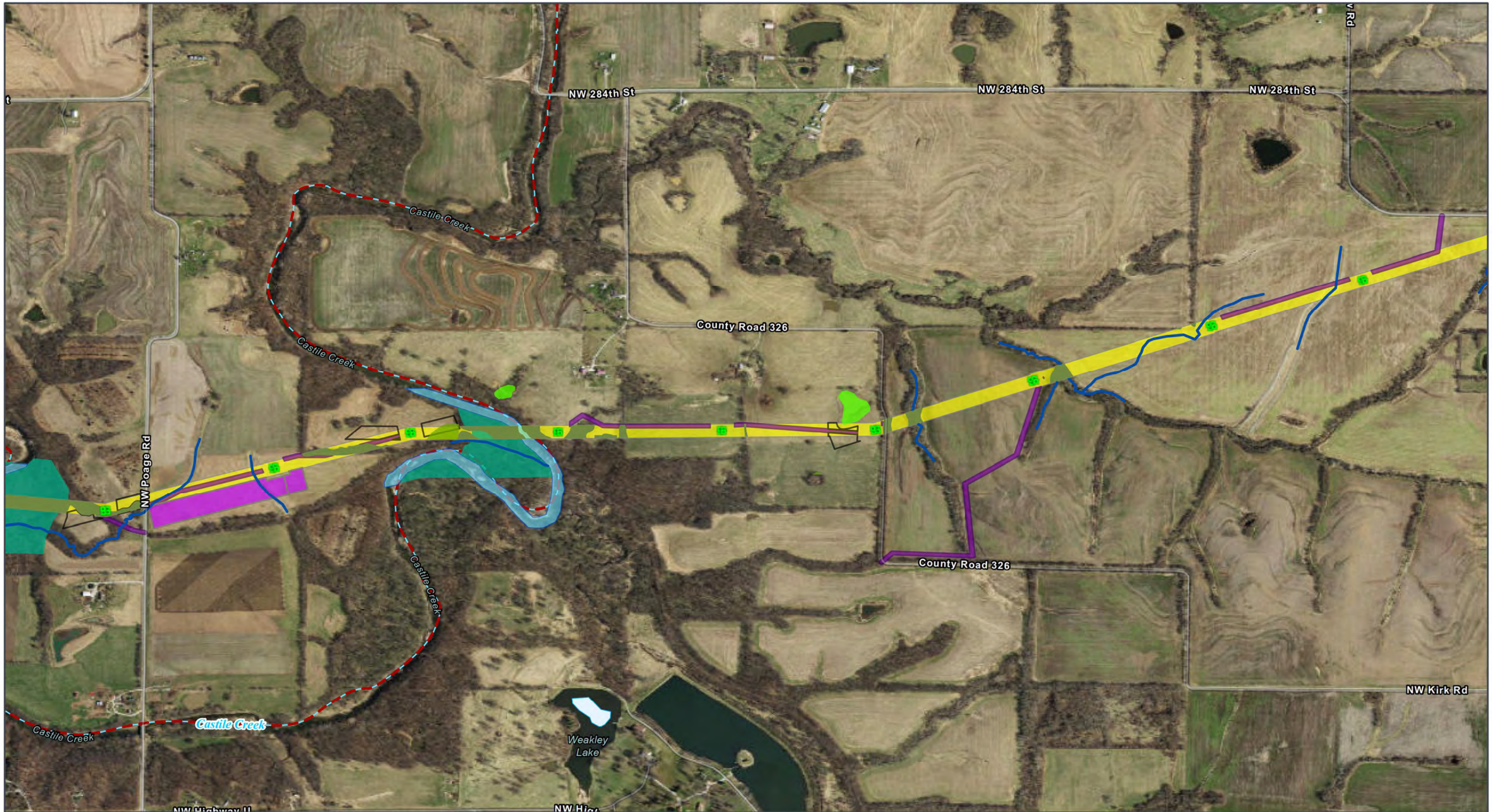
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Kansas and Missouri





GRAIN BELT EXPRESS  
TRANSMISSION LINE PROJECT  
**Wetlands Map Book**  
Map 188 of 259

- |                                    |                          |
|------------------------------------|--------------------------|
| <b>Permanent Project Component</b> | <b>Hydrology</b>         |
| Transmission Structure             | Delineated Stream        |
| <b>Habitat Conversion</b>          | NHD Stream/River         |
| Vegetation Clearing                | Impaired Waterway (303d) |
| <b>Temporary Project Component</b> |                          |
| Access Road                        |                          |

- Delineated Wetland**
- Palustrine Emergent (PEM)
  - Palustrine Forested (PFO)
  - Palustrine Unconsolidated Bottom (PUB)
  - Delineated Waterbody
  - NHD Waterbody

All disturbance areas are likely an over-estimation of direct impacts and based on assumptions presented in the Chapter 2 disturbance model (Table 2-1). These impact areas will be refined and finalized once field surveys are complete and avoidance and/or mitigation measures are implemented



Kansas and Missouri  
GCS North American 1983  
38.3365°N 95.5783°W

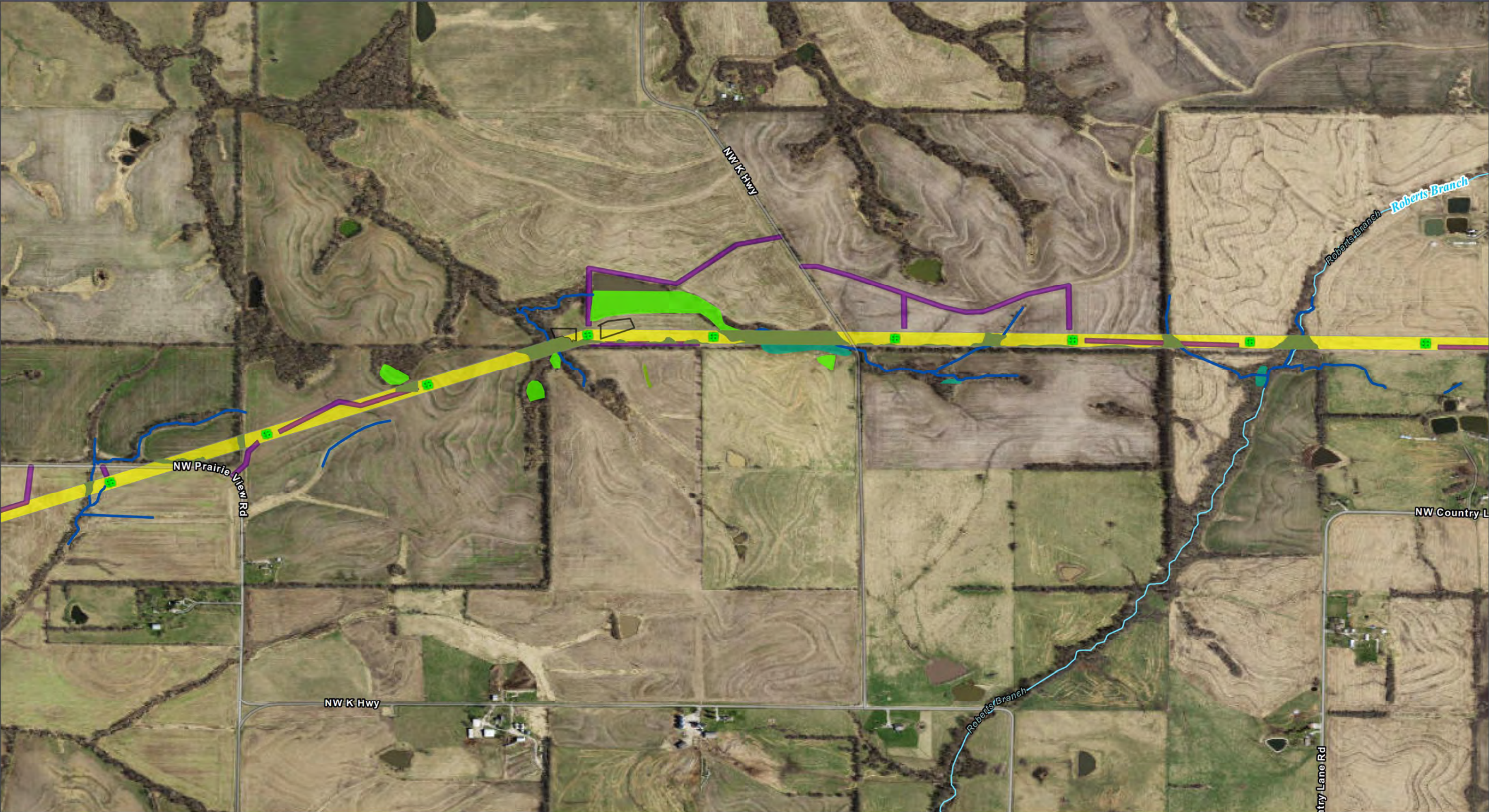
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accessed November 2024  
Updated: 11/26/2024  
Project No. 60694559  
Layout: Wetland Mapbook 12k  
Aero: WetlandMapBook\_12k

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GRAIN BELT EXPRESS  
TRANSMISSION LINE PROJECT

**Wetlands Map Book**

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Grain Belt Express  
An Invenenergy Project

**ROW**

**Permanent Project Component**

- Transmission Structure
- Habitat Conversion
- Vegetation Clearing

**Temporary Project Component**

- Access Road
- Pull Site/Tension Site

**Hydrology**

- Delineated Stream

**Delineated Wetland**

- Palustrine Emergent (PEM)
- Palustrine Forested (PFO)
- Palustrine Unconsolidated Bottom (PUB)

**NHD Stream/River**

**Delineated Stream**

All disturbance areas are likely an over-estimation of direct impacts and based on assumptions presented in the Chapter 2 disturbance model (Table 2-1). These impact areas will be refined and finalized once field surveys are complete and avoidance and/or mitigation measures are implemented

Kansas and Missouri

GCS North American 1983  
38.3365°N 95.5783°W

Base Map: Esri ArcGIS Online,  
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Updated: 11/26/2024  
Project No. 60694559  
Layout: Wetland Mapbook 12k  
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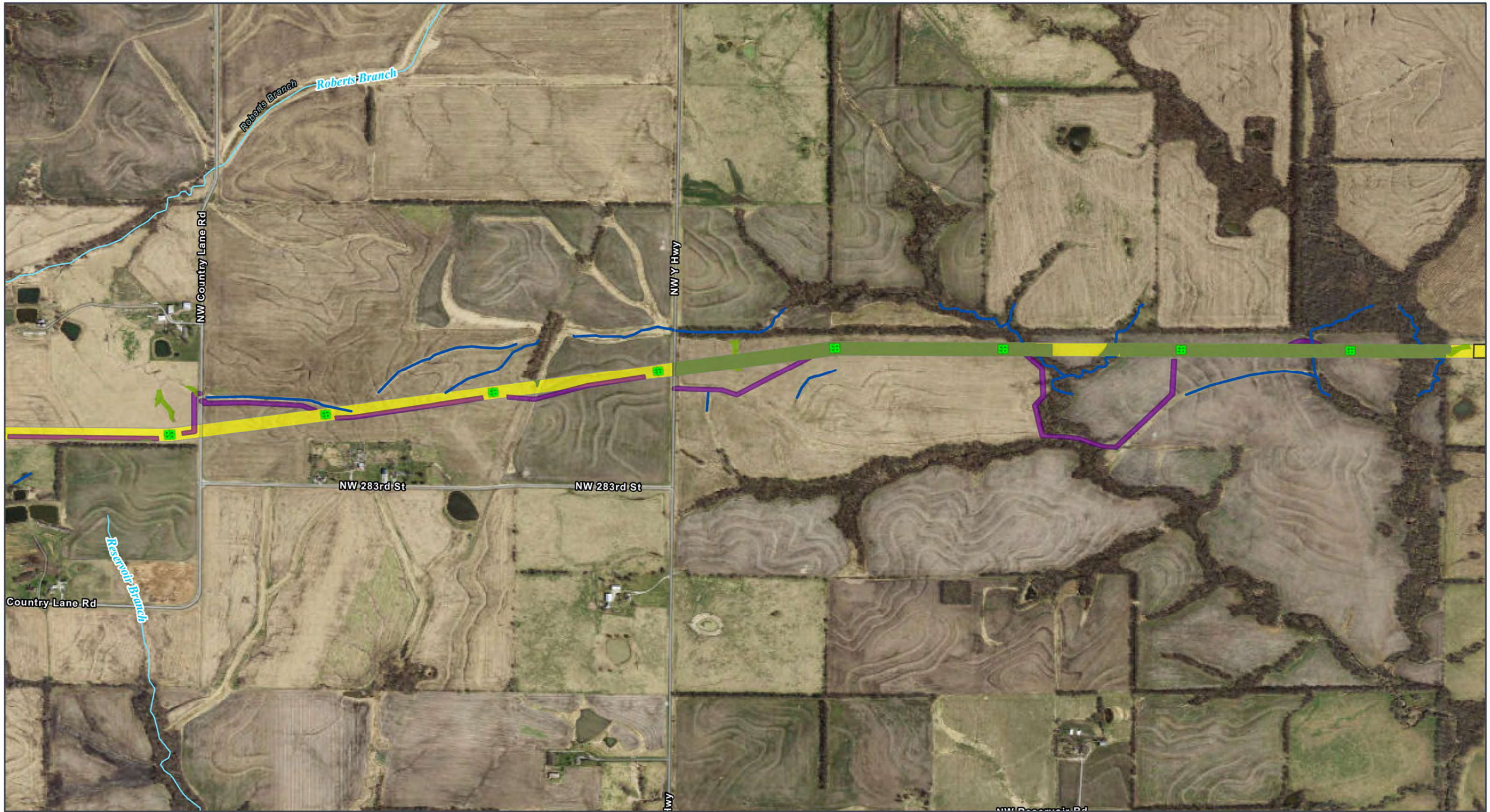
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Kansas and Missouri





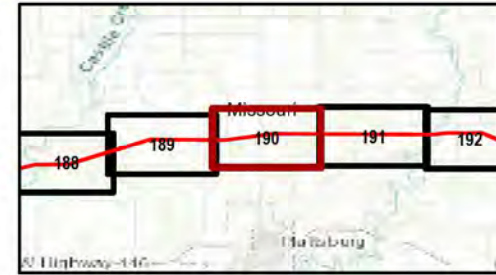
GRAIN BELT EXPRESS  
TRANSMISSION LINE PROJECT  
**Wetlands Map Book**  
Map 190 of 259

- Permanent Project Component**
- Transmission Structure
- Habitat Conversion**
- Vegetation Clearing

- Temporary Project Component**
- Access Road
  - Pull Site/Tension Site
- Hydrology**
- Delineated Stream

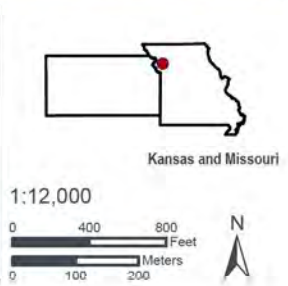
- NHD Stream/River**
- Delineated Wetland**
- Palustrine Emergent (PEM)

All disturbance areas are likely an over-estimation of direct impacts and based on assumptions presented in the Chapter 2 disturbance model (Table 2-1). These impact areas will be refined and finalized once field surveys are complete and avoidance and/or mitigation measures are implemented



Kansas and Missouri  
GCS North American 1983  
38.3365°N 95.5783°W

Base Map: Esri ArcGIS Online,  
accessed November 2024  
Updated: 11/26/2024  
Project No. 60694559  
Layout: Wetland Mapbook 12k  
Aero: WetlandMapBook\_12k



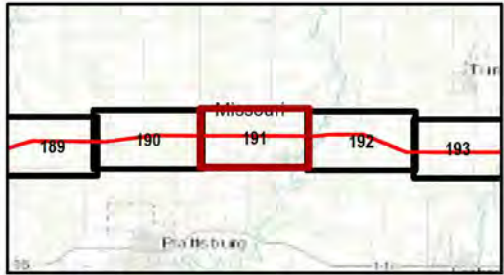




GRAIN BELT EXPRESS  
TRANSMISSION LINE PROJECT  
**Wetlands Map Book**  
Map 191 of 259

- |                                    |                        |  |
|------------------------------------|------------------------|--|
| <b>ROW</b>                         | Pull Site/Tension Site | Palustrine Forested (PFO)              |
| <b>Permanent Project Component</b> | Transmission Structure | Palustrine Unconsolidated Bottom (PUB) |
| <b>Habitat Conversion</b>          | Vegetation Clearing    | Delineated Waterbody                   |
| <b>Temporary Project Component</b> | Access Road            | NHD Waterbody                          |
|                                    | Delineated Stream      | Impaired Waterway (303d)               |
|                                    | NHD Stream/River       | Palustrine Emergent (PEM)              |

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Kansas and Missouri  
GCS North American 1983  
38.3365°N 95.5783°W

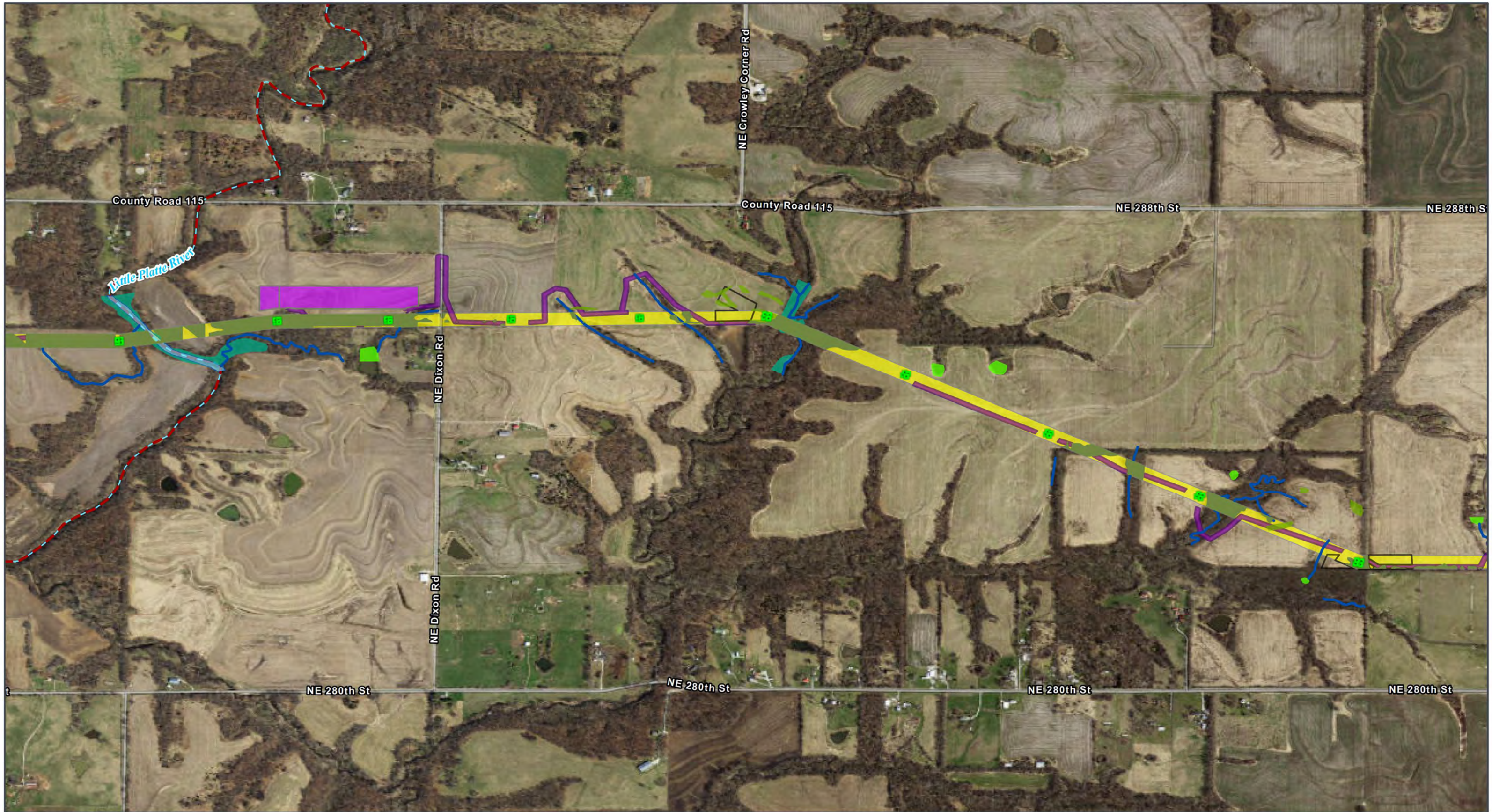
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From: WetlandMapBook\_12K

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Kansas and Missouri



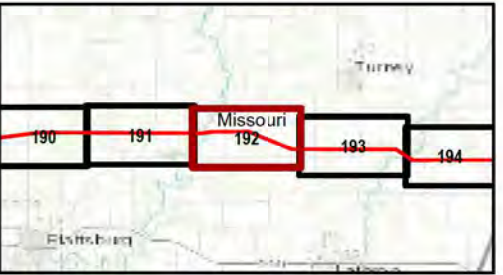


GRAIN BELT EXPRESS  
TRANSMISSION LINE PROJECT  
**Wetlands Map Book**  
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- |                                    |                               |
|------------------------------------|-------------------------------|
| <b>ROW</b>                         | <b>Helipad / Fly Yard</b>     |
| <b>Permanent Project Component</b> | <b>Pull Site/Tension Site</b> |
| ■ Transmission Structure           |                               |
| <b>Habitat Conversion</b>          | <b>Hydrology</b>              |
| ■ Vegetation Clearing              | — Delineated Stream           |
| <b>Temporary Project Component</b> | — NHD Stream/River            |
| ■ Access Road                      | — Impaired Waterway (303d)    |

- Delineated Wetland**
- Palustrine Emergent (PEM)
  - Palustrine Forested (PFO)
  - Palustrine Unconsolidated Bottom (PUB)
  - Delineated Waterbody

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Kansas and Missouri  
GCS North American 1983  
38.3365°N 95.5783°W

Base Map: Esri ArcGIS Online,  
accessed November 2024  
Updated: 11/26/2024  
Project No: 60694559  
Layout: Wetland Mapbook 12k  
From: WetlandMapBook\_12k

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Kansas and Missouri





GRAIN BELT EXPRESS  
TRANSMISSION LINE PROJECT  
**Wetlands Map Book**  
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ROW

**Permanent Project Component**

- Transmission Structure
- Habitat Conversion**
- Vegetation Clearing

**Temporary Project Component**

- Access Road
- Pull Site/Tension Site
- Hydrology**
- Delineated Stream

NHD Stream/River

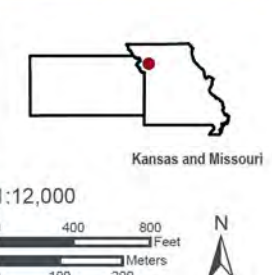
**Delineated Wetland**

- Palustrine Emergent (PEM)
- Palustrine Forested (PFO)
- Palustrine Unconsolidated Bottom (PUB)

All disturbance areas are likely an over-estimation of direct impacts and based on assumptions presented in the Chapter 2 disturbance model (Table 2-1). These impact areas will be refined and finalized once field surveys are complete and avoidance and/or mitigation measures are implemented



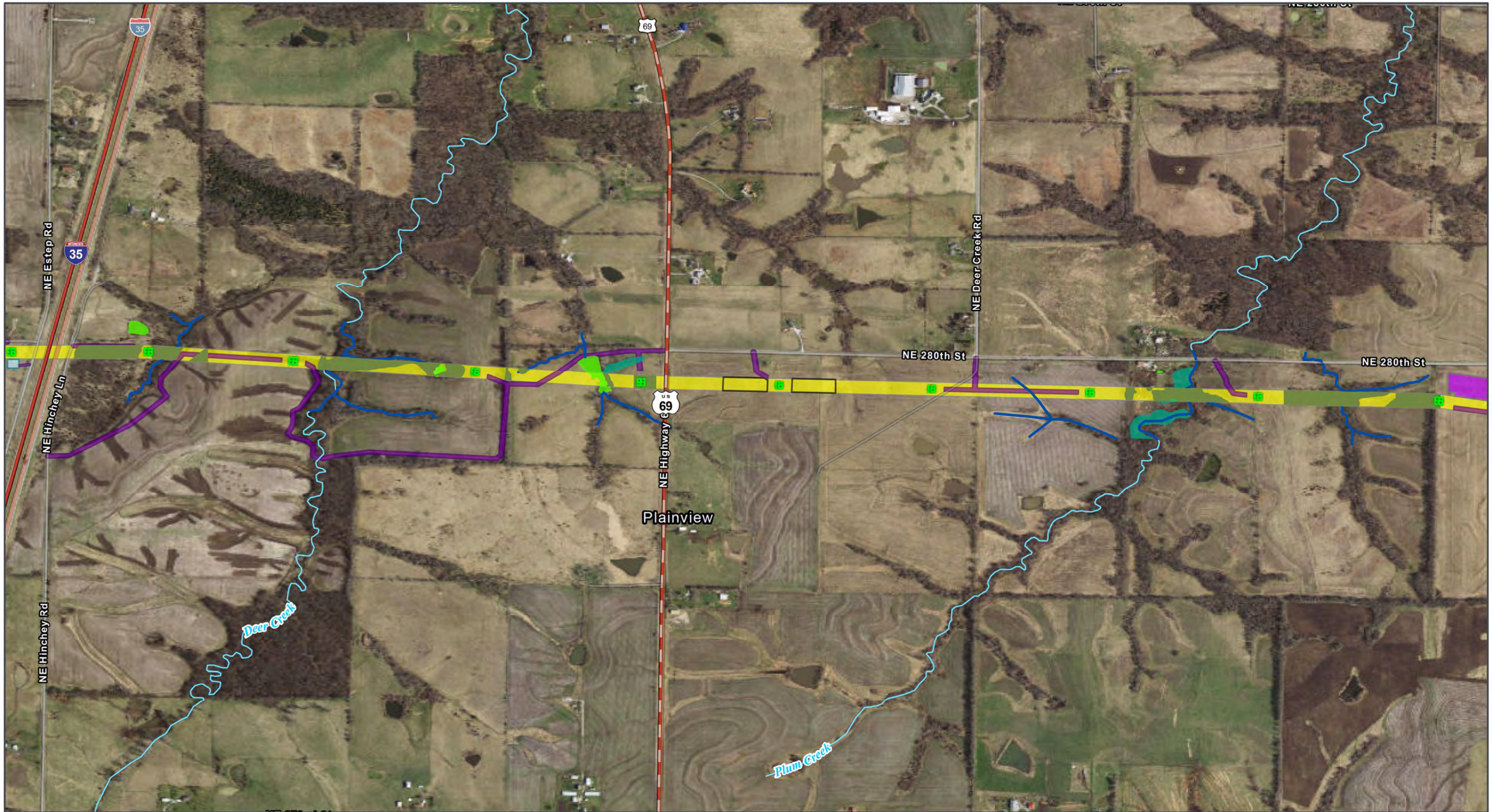
Kansas and Missouri  
GCS North American 1983  
38.3365°N 95.5783°W  
  
Base Map: Esri ArcGIS Online,  
accessed November 2024  
Updated: 11/26/2024  
Project No. 60694559  
Layout: Wetland Mapbook 12k  
From: WetlandMapBook\_12k











GRAIN BELT EXPRESS  
TRANSMISSION LINE PROJECT  
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- ROW**
- Permanent Project Component**
- Transmission Structure
  - Optical Regeneration
  - OPGW Access
  - Habitat Conversion**
  - Vegetation Clearing

- Temporary Project Component**
- Access Road
  - Helipad / Fly Yard
  - Pull Site/Tension Site
- Hydrology**
- Delineated Stream
  - NHD Stream/River

- Delineated Wetland**
- Palustrine Forested (PFO)
  - Palustrine Unconsolidated Bottom (PUB)
- Transportation**
- Interstate Highway
  - U.S. Highway

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Kansas and Missouri  
GCS North American 1983  
38.3365°N 95.5783°W

Base Map: Esri ArcGIS Online,  
accessed November 2024  
Updated: 11/26/2024  
Project No. 60694559  
Layout: Wetland Mapbook 12K  
From: WetlandMapBook\_12K

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0 400 800 Feet  
0 100 200 Meters



Kansas and Missouri





GRAIN BELT EXPRESS  
TRANSMISSION LINE PROJECT  
**Wetlands Map Book**  
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- ROW
- Permanent Project Component**
  - Transmission Structure
- Habitat Conversion**
  - Vegetation Clearing

- Temporary Project Component**
  - Access Road
  - Helipad / Fly Yard
  - Pull Site/Tension Site
- Hydrology**
  - Delineated Stream

- NHD Stream/River
- Delineated Wetland**
  - Palustrine Emergent (PEM)
  - Palustrine Unconsolidated Bottom (PUB)

All disturbance areas are likely an over-estimation of direct impacts and based on assumptions presented in the Chapter 2 disturbance model (Table 2-1). These impact areas will be refined and finalized once field surveys are complete and avoidance and/or mitigation measures are implemented



Kansas and Missouri  
GCS North American 1983  
38.3365°N 95.5783°W

Base Map: Esri ArcGIS Online,  
accessed November 2024  
Updated: 11/26/2024  
Project No. 60694559  
Layout: Wetland Mapbook 12k  
From: WetlandMapBook\_12k

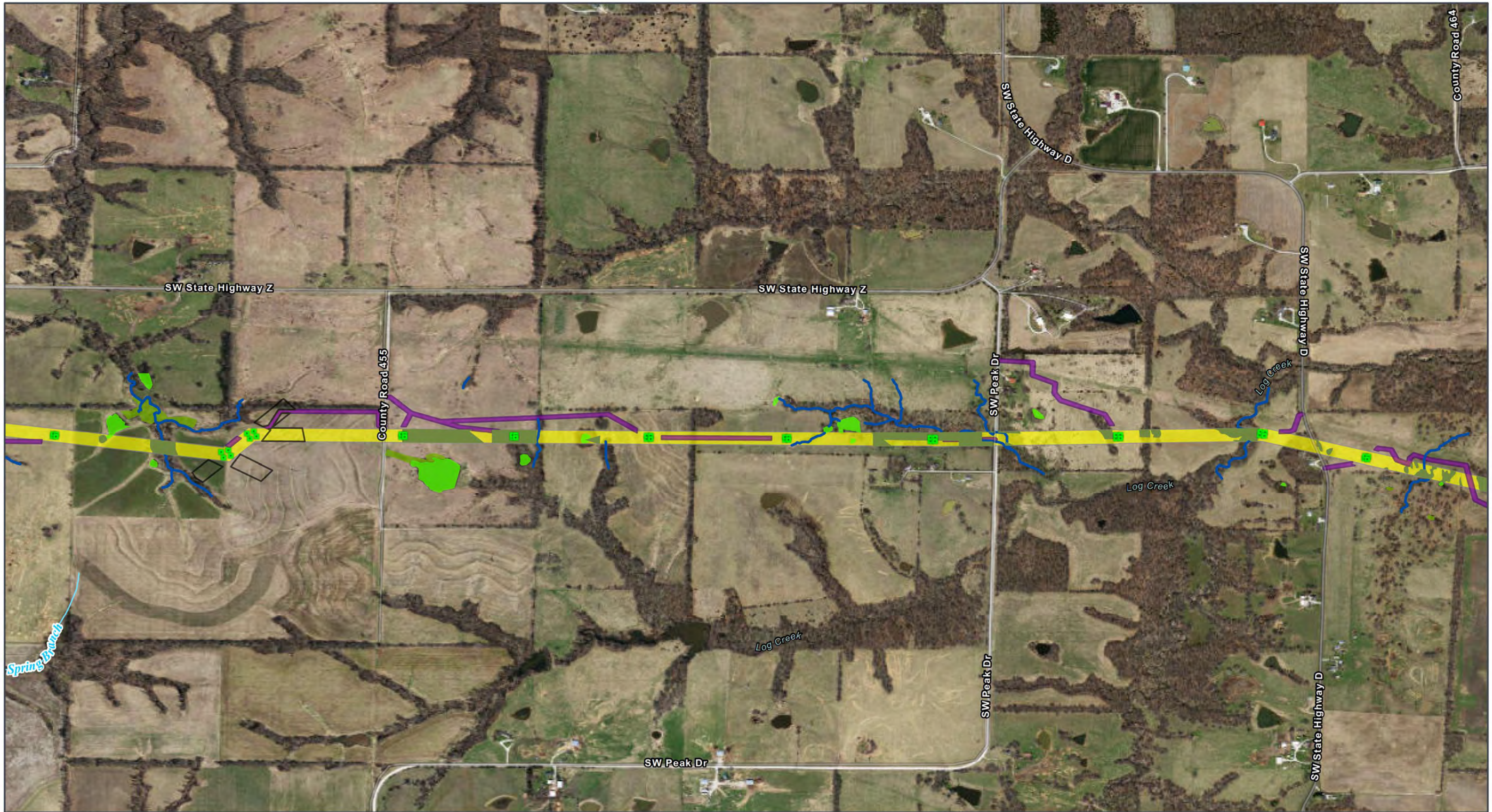
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Kansas and Missouri





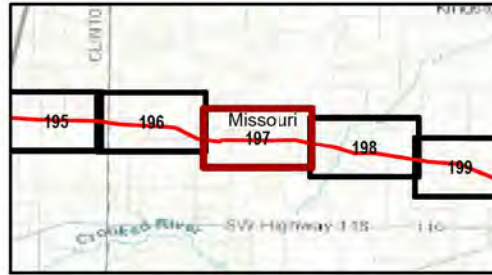
GRAIN BELT EXPRESS  
TRANSMISSION LINE PROJECT  
**Wetlands Map Book**  
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- ROW
- Permanent Project Component**
  - Transmission Structure
- Habitat Conversion**
  - Vegetation Clearing

- Temporary Project Component**
  - Access Road
  - Pull Site/Tension Site
- Hydrology**
  - Delineated Stream

- NHD Stream/River
- Delineated Wetland**
  - Palustrine Emergent (PEM)
  - Palustrine Unconsolidated Bottom (PUB)

All disturbance areas are likely an over-estimation of direct impacts and based on assumptions presented in the Chapter 2 disturbance model (Table 2-1). These impact areas will be refined and finalized once field surveys are complete and avoidance and/or mitigation measures are implemented



Kansas and Missouri

GCS North American 1983  
38.3365°N 95.5783°W

Base Map: Esri ArcGIS Online,  
accessed November 2024  
Updated: 11/26/2024  
Project No. 60694559  
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From: WetlandMapBook\_12K

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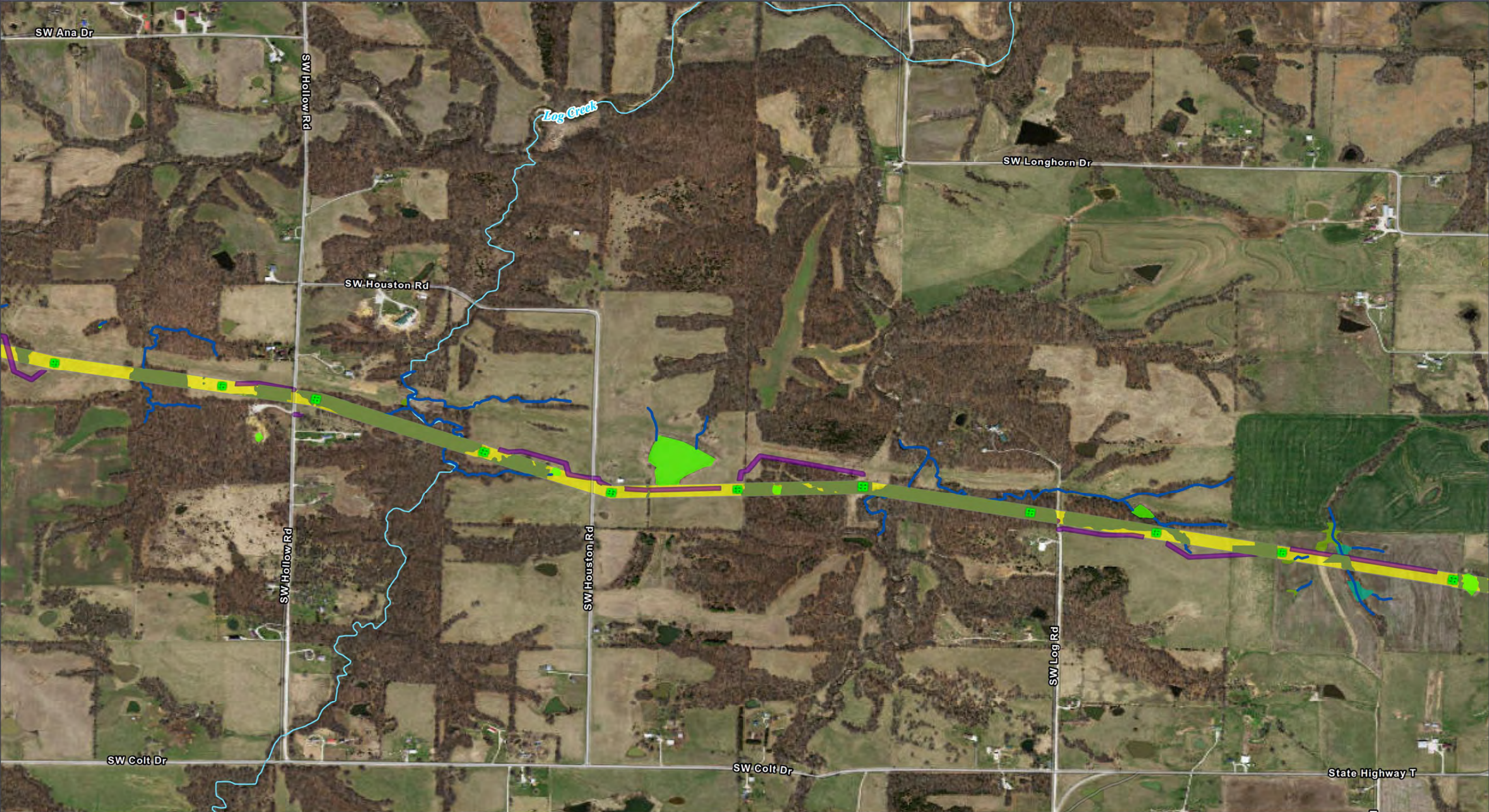
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N

Kansas and Missouri





GRAIN BELT EXPRESS  
TRANSMISSION LINE PROJECT

**Wetlands Map Book**

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**Legend**

**Permanent Project Component**

- Transmission Structure
- Habitat Conversion
- Vegetation Clearing

**Temporary Project Component**

Access Road

**Hydrology**

- Delineated Stream
- NHD Stream/River

**Delineated Wetland**

- Palustrine Emergent (PEM)
- Palustrine Forested (PFO)
- Palustrine Unconsolidated Bottom (PUB)

All disturbance areas are likely an over-estimation of direct impacts and based on assumptions presented in the Chapter 2 disturbance model (Table 2-1). These impact areas will be refined and finalized once field surveys are complete and avoidance and/or mitigation measures are implemented

Kansas and Missouri

GCS North American 1983  
38.3365°N 95.5783°W

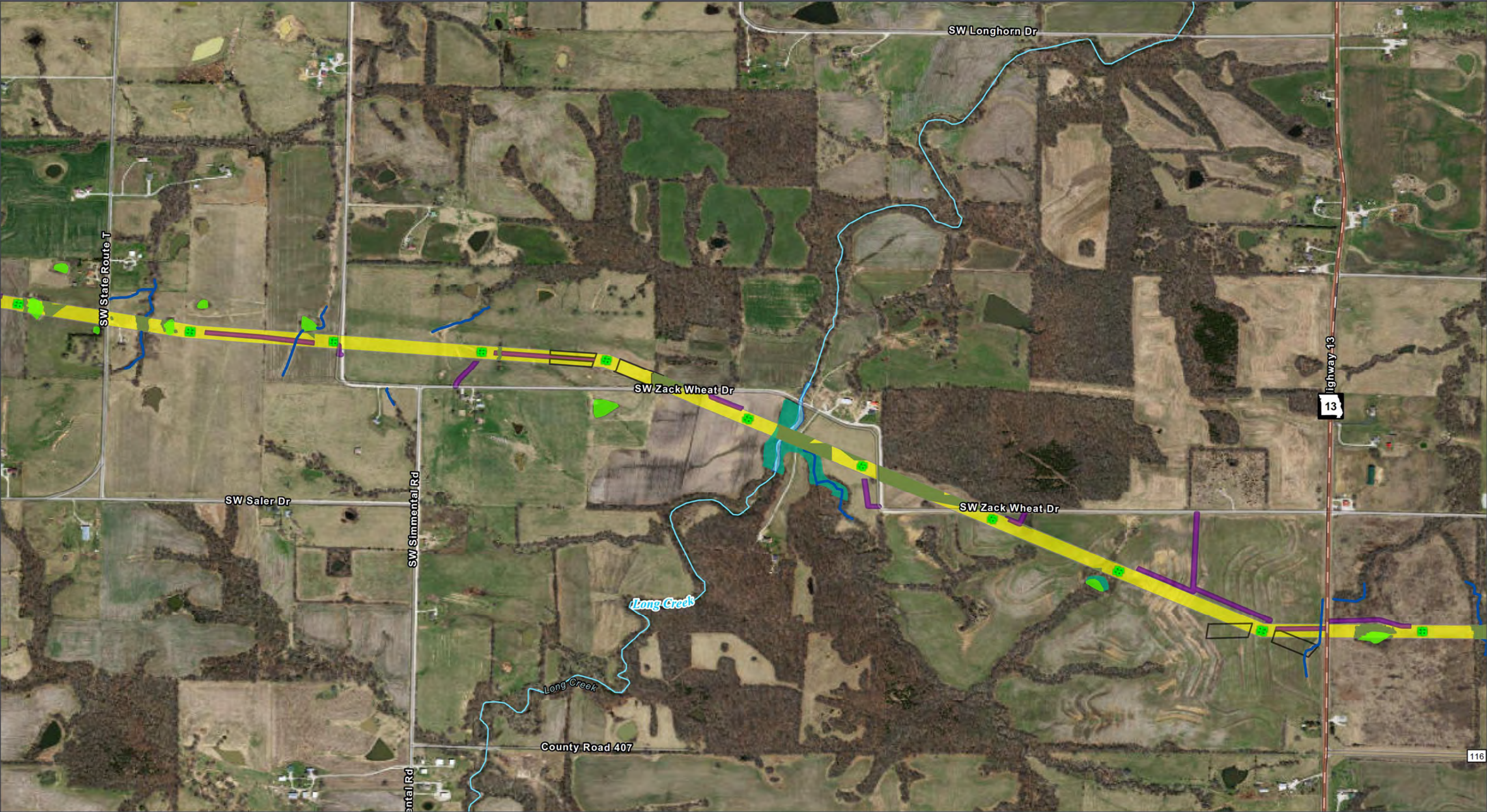
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accessed November 2024  
Updated: 11/26/2024  
Project No. 60694559  
Layout: Wetland Mapbook 12k  
Aron: WetlandMapBook\_12k

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GRAIN BELT EXPRESS  
TRANSMISSION LINE PROJECT

**Wetlands Map Book**

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Grain Belt Express  
An Inveney Project

**Permanent Project Component**

- Transmission Structure
- Habitat Conversion
- Vegetation Clearing

**Temporary Project Component**

- Access Road
- Pull Site/Tension Site
- Hydrology**
- Delineated Stream
- NHD Stream/River

**Delineated Wetland**

- Palustrine Forested (PFO)
- Palustrine Unconsolidated Bottom (PUB)
- Delineated Waterbody
- Transportation**
- State Highway

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Kansas and Missouri

GCS North American 1983  
38.3365°N 95.5783°W

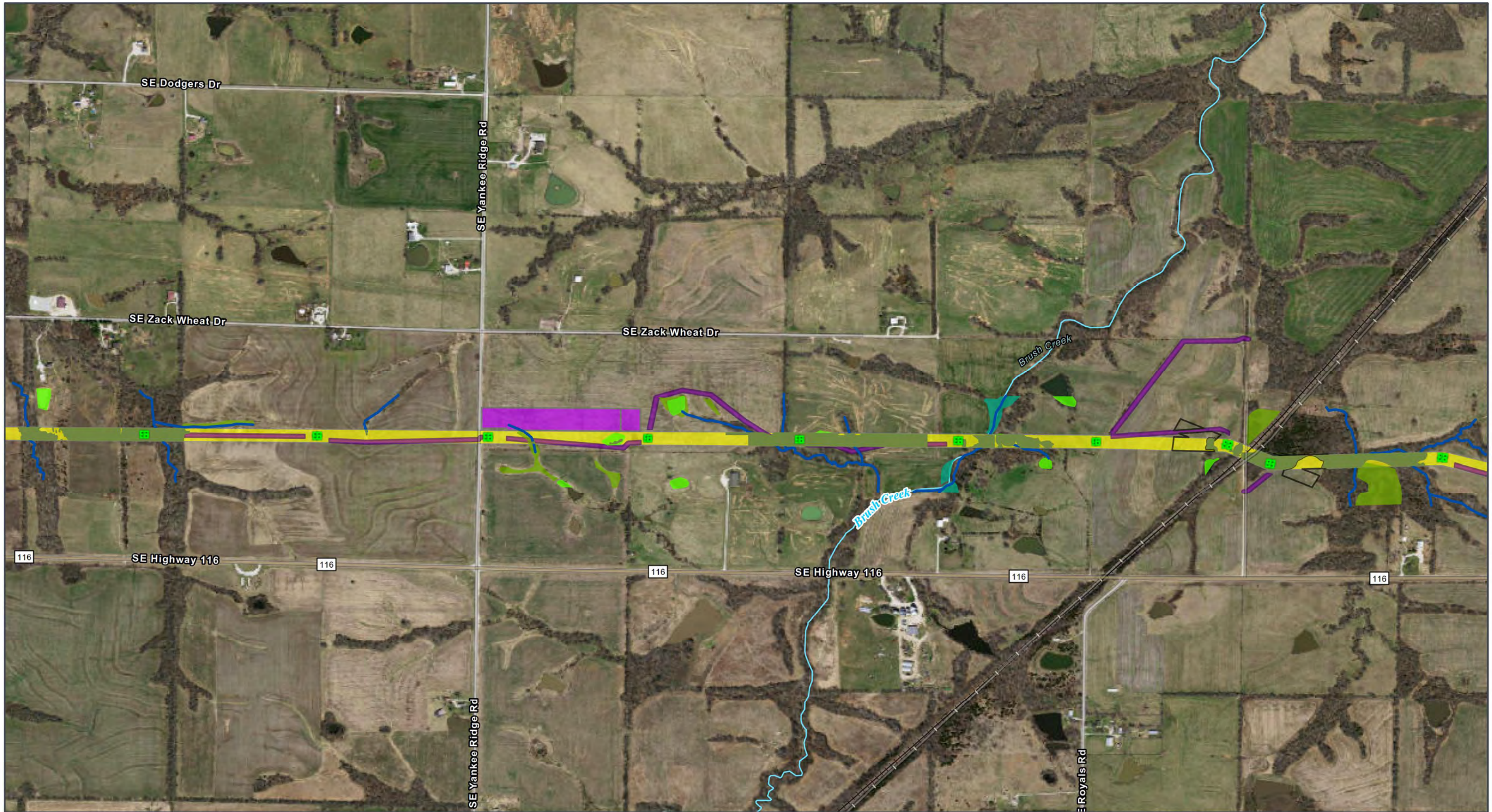
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Layout: Wetland Mapbook 12k  
Aron: WetlandMapBook\_12k

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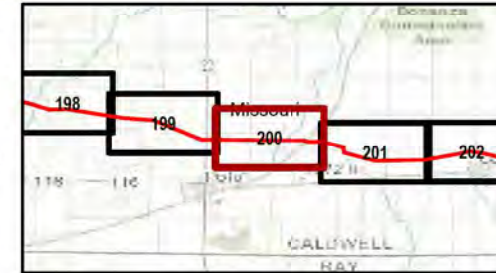
GRAIN BELT EXPRESS  
TRANSMISSION LINE PROJECT  
**Wetlands Map Book**  
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- |                                    |   |
|------------------------------------|---|
| <b>ROW</b>                         | <b>Palustrine Forested (PFO)</b>              |
| <b>Permanent Project Component</b> | <b>Palustrine Unconsolidated Bottom (PUB)</b> |
| Transmission Structure             | <b>Transportation</b>                         |
| <b>Habitat Conversion</b>          | +++ Railroad                                  |
| Vegetation Clearing                |   |
| <b>Temporary Project Component</b> |   |
| Access Road                        |   |
| <b>Hydrology</b>                   |   |
| Delineated Stream                  |   |
| NHD Stream/River                   |   |
| <b>Delineated Wetland</b>          |   |
| Palustrine Emergent (PEM)          |   |

- |                           |   |
|---------------------------|---|
| <b>Helipad / Fly Yard</b> | <b>Palustrine Forested (PFO)</b>              |
| Pull Site/Tension Site    | <b>Palustrine Unconsolidated Bottom (PUB)</b> |
| <b>Hydrology</b>          | <b>Transportation</b>                         |
| Delineated Stream         | +++ Railroad                                  |
| NHD Stream/River          |   |
| <b>Delineated Wetland</b> |   |
| Palustrine Emergent (PEM) |   |

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Kansas and Missouri  
GCS North American 1983  
38.3365°N 95.5783°W

Base Map: Esri ArcGIS Online, accessed November 2024  
Updated: 11/26/2024  
Project No: 60694559  
Layout: Wetland Mapbook 12k  
From: WetlandMapBook\_12k

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Kansas and Missouri





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TRANSMISSION LINE PROJECT  
**Wetlands Map Book**  
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ROW

**Permanent Project Component**

Transmission Structure

**Habitat Conversion**

Vegetation Clearing

**Temporary Project Component**

Access Road

Pull Site/Tension Site

**Hydrology**

Delineated Stream

**Delineated Wetland**

Palustrine Emergent (PEM)

Palustrine Scrub-Shrub (PSS)

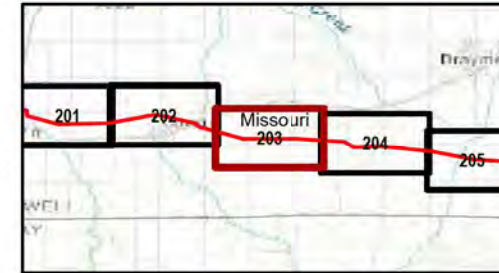
Palustrine Unconsolidated Bottom (PUB)

NHD Waterbody

**Transportation**

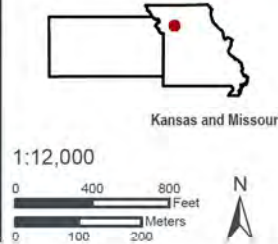
Railroad

All disturbance areas are likely an over-estimation of direct impacts and based on assumptions presented in the Chapter 2 disturbance model (Table 2-1). These impact areas will be refined and finalized once field surveys are complete and avoidance and/or mitigation measures are implemented

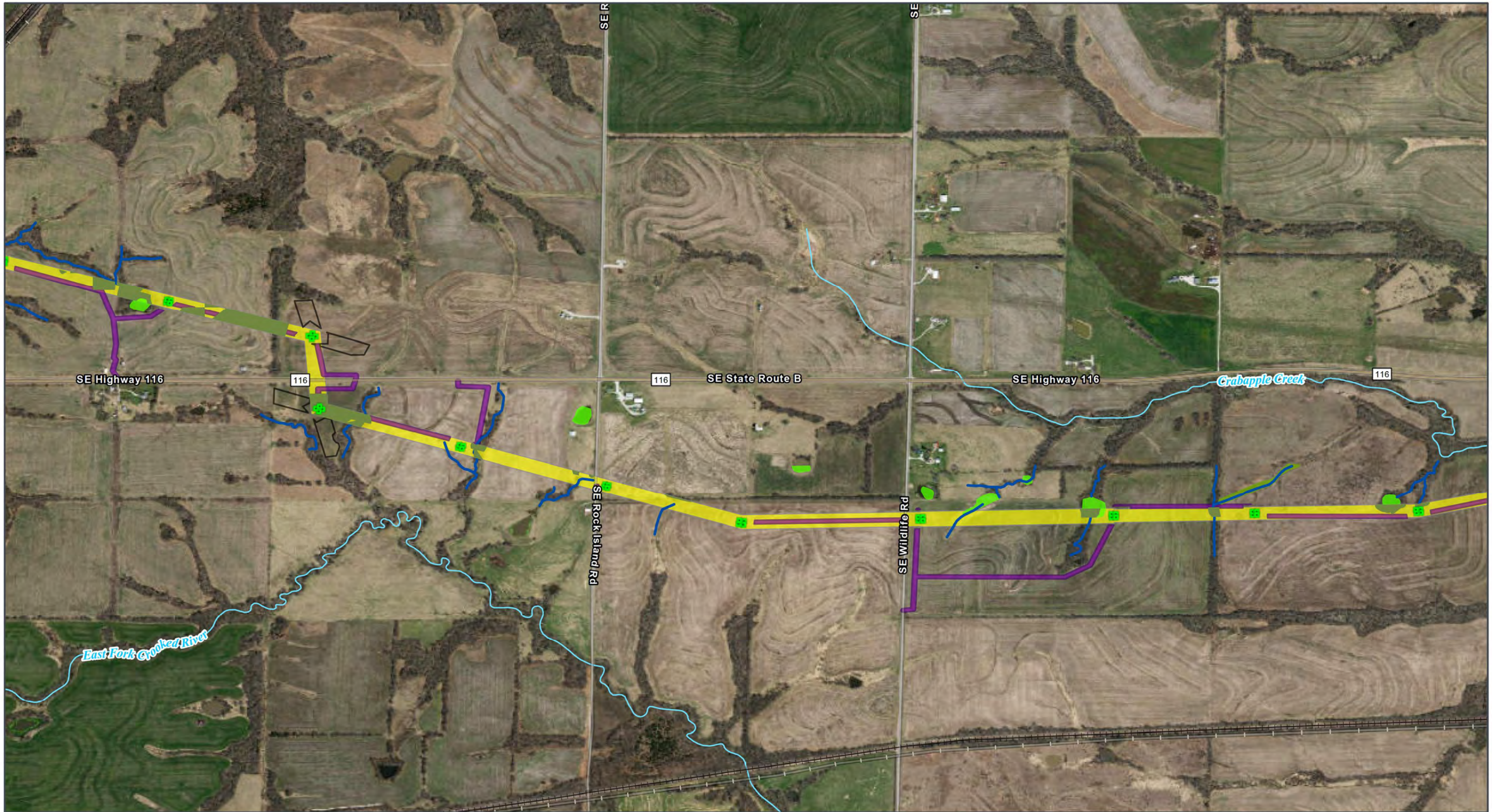


Kansas and Missouri  
GCS North American 1983  
38.3365°N 95.5783°W

Base Map: Esri ArcGIS Online,  
accessed November 2024  
Updated: 11/26/2024  
Project No. 60694559  
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From: WetlandMapBook\_12k







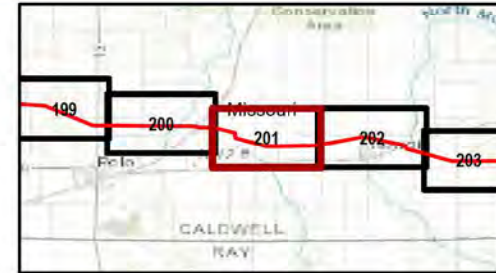
GRAIN BELT EXPRESS  
TRANSMISSION LINE PROJECT  
**Wetlands Map Book**  
Map 202 of 259

- ROW
- Permanent Project Component**
  - Transmission Structure
- Habitat Conversion**
  - Vegetation Clearing

- Temporary Project Component**
  - Access Road
  - Pull Site/Tension Site
- Hydrology**
  - Delineated Stream
  - NHD Stream/River

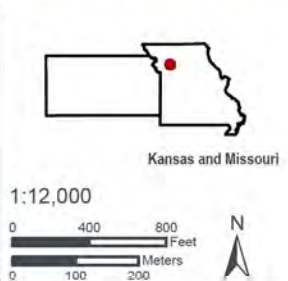
- Delineated Wetland**
  - Palustrine Emergent (PEM)
  - Palustrine Unconsolidated Bottom (PUB)
- Transportation**
  - Railroad

All disturbance areas are likely an over-estimation of direct impacts and based on assumptions presented in the Chapter 2 disturbance model (Table 2-1). These impact areas will be refined and finalized once field surveys are complete and avoidance and/or mitigation measures are implemented

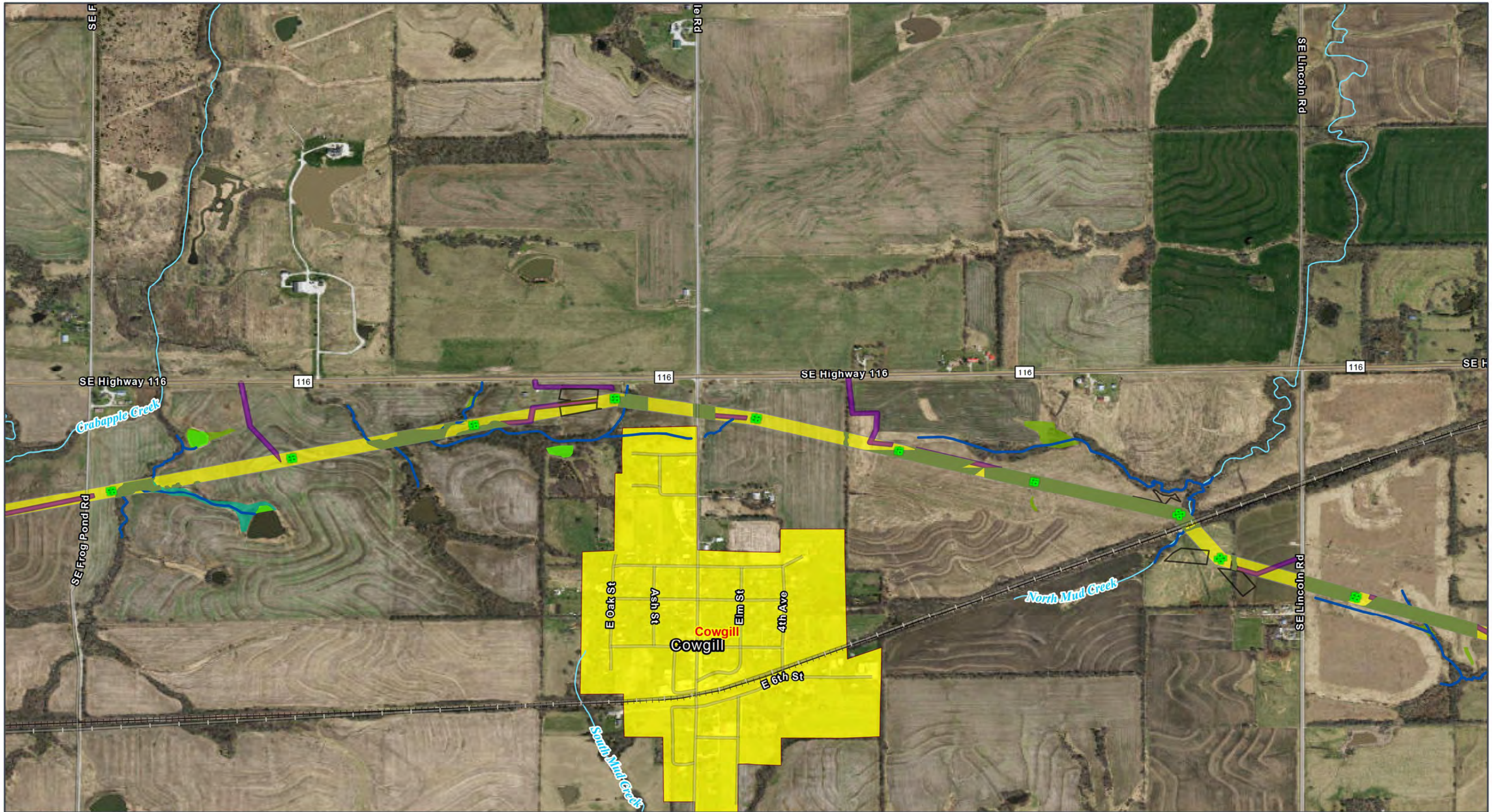


Kansas and Missouri  
GCS North American 1983  
38.3365°N 95.5783°W

Base Map: Esri ArcGIS Online,  
accessed November 2024  
Updated: 11/26/2024  
Project No. 60694559  
Layout: Wetland Mapbook 12k  
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GRAIN BELT EXPRESS  
TRANSMISSION LINE PROJECT  
**Wetlands Map Book**  
Map 203 of 259

- Permanent Project Component**
  - Transmission Structure
  - Habitat Conversion
  - Vegetation Clearing
- Temporary Project Component**
  - Access Road
  - Pull Site/Tension Site
- Hydrology**
  - Delineated Stream
  - NHD Stream/River
- Delineated Wetland**
  - Palustrine Emergent (PEM)
  - Palustrine Forested (PFO)
  - Palustrine Unconsolidated Bottom (PUB)
- Transportation**
  - Railroad

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Kansas and Missouri  
GCS North American 1983  
38.3365°N 95.5783°W

Base Map: Esri ArcGIS Online,  
accessed November 2024  
Updated: 11/26/2024  
Project No. 60694559  
Layout: Wetland Mapbook 12K  
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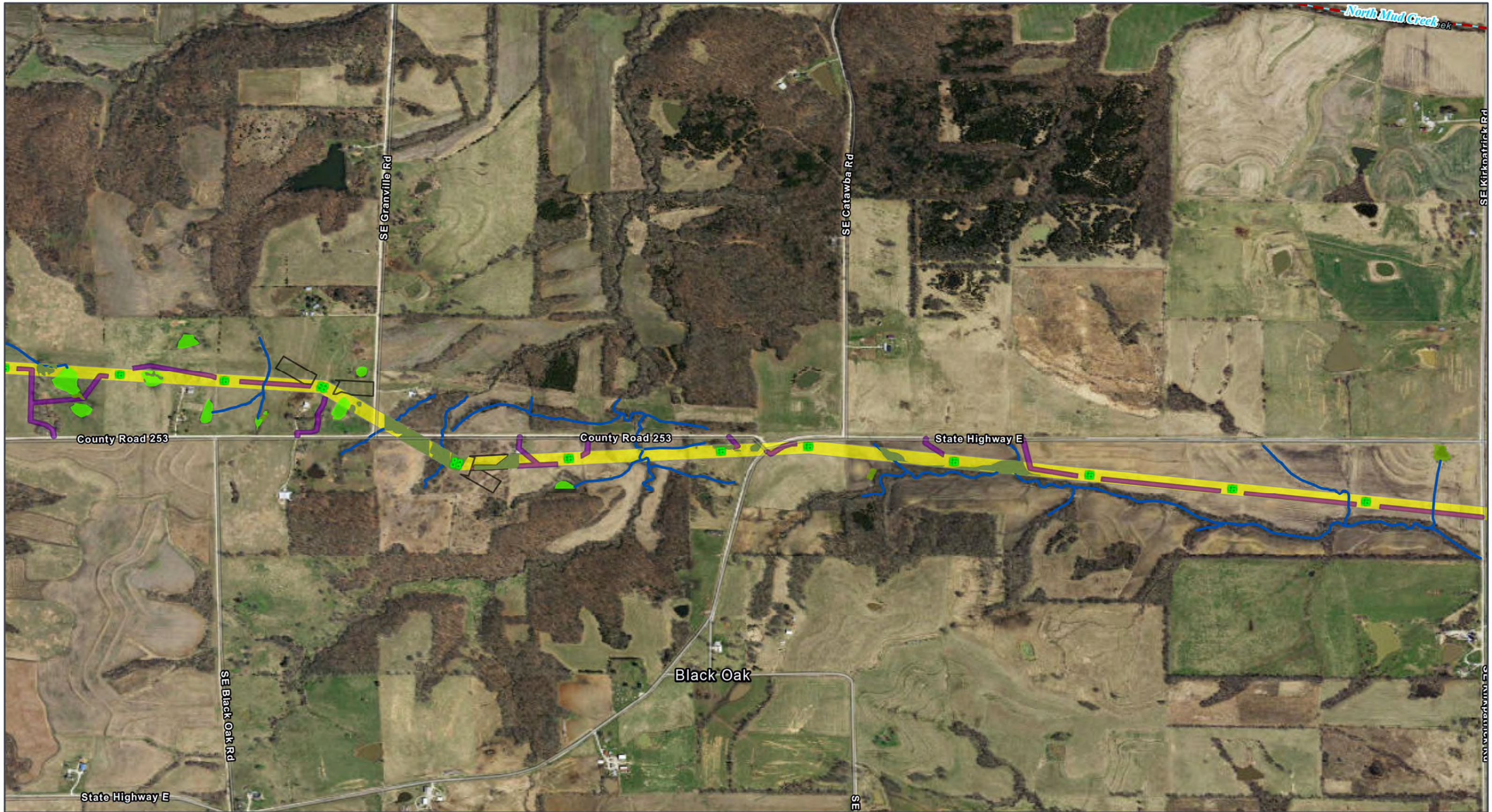
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Kansas and Missouri

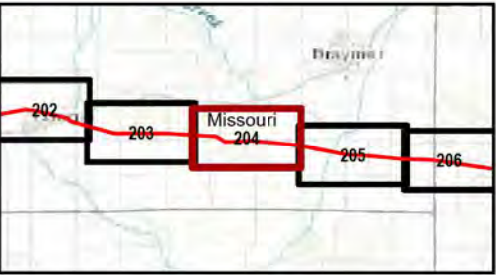




GRAIN BELT EXPRESS  
TRANSMISSION LINE PROJECT  
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- |  |   |   |
|--|---|---|
| <p><b>Permanent Project Component</b></p> <ul style="list-style-type: none"> <li><span style="color: green;">■</span> Transmission Structure</li> <li><span style="color: green;">■</span> Habitat Conversion</li> <li><span style="color: green;">■</span> Vegetation Clearing</li> </ul> | <p><b>Temporary Project Component</b></p> <ul style="list-style-type: none"> <li><span style="color: purple;">■</span> Access Road</li> <li><span style="color: purple;">■</span> Pull Site/Tension Site</li> </ul> <p><b>Hydrology</b></p> <ul style="list-style-type: none"> <li><span style="color: blue;">—</span> Delineated Stream</li> </ul> | <p><span style="color: blue;">—</span> NHD Stream/River</p> <p><span style="color: red;">—</span> Impaired Waterway (303d)</p> <p><b>Delineated Wetland</b></p> <ul style="list-style-type: none"> <li><span style="color: green;">■</span> Palustrine Emergent (PEM)</li> <li><span style="color: green;">■</span> Palustrine Unconsolidated Bottom (PUB)</li> </ul> |
|--|---|---|

All disturbance areas are likely an over-estimation of direct impacts and based on assumptions presented in the Chapter 2 disturbance model (Table 2-1). These impact areas will be refined and finalized once field surveys are complete and avoidance and/or mitigation measures are implemented



Kansas and Missouri

GCS North American 1983  
38.3365°N 95.5783°W

Base Map: Esri ArcGIS Online,  
accessed November 2024  
Updated: 11/26/2024  
Project No. 60694559  
Layout: Wetland Mapbook 12k  
From: WetlandMapBook\_12k

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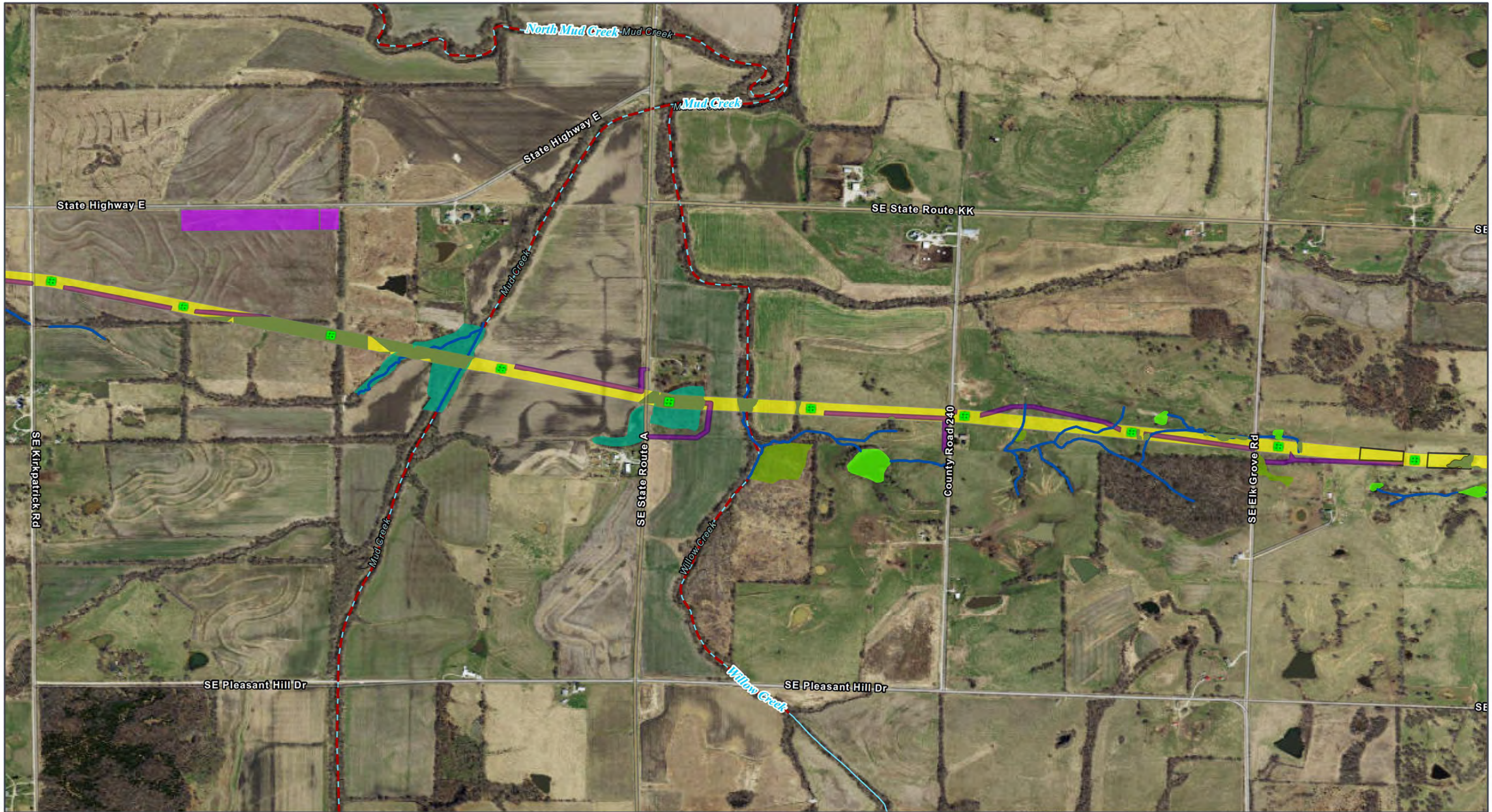
0 400 800 Feet

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Kansas and Missouri





GRAIN BELT EXPRESS  
TRANSMISSION LINE PROJECT  
**Wetlands Map Book**  
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ROW

**Permanent Project Component**

Transmission Structure

**Habitat Conversion**

Vegetation Clearing

**Temporary Project Component**

Access Road

Helipad / Fly Yard

Pull Site/Tension Site

**Hydrology**

Delineated Stream

NHD Stream/River

Impaired Waterway (303d)

**Delineated Wetland**

Palustrine Emergent (PEM)

Palustrine Forested (PFO)

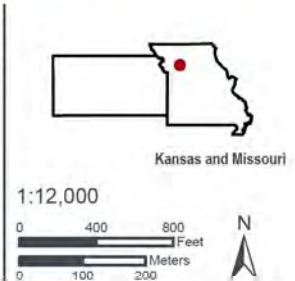
Palustrine Unconsolidated Bottom (PUB)

All disturbance areas are likely an over-estimation of direct impacts and based on assumptions presented in the Chapter 2 disturbance model (Table 2-1). These impact areas will be refined and finalized once field surveys are complete and avoidance and/or mitigation measures are implemented

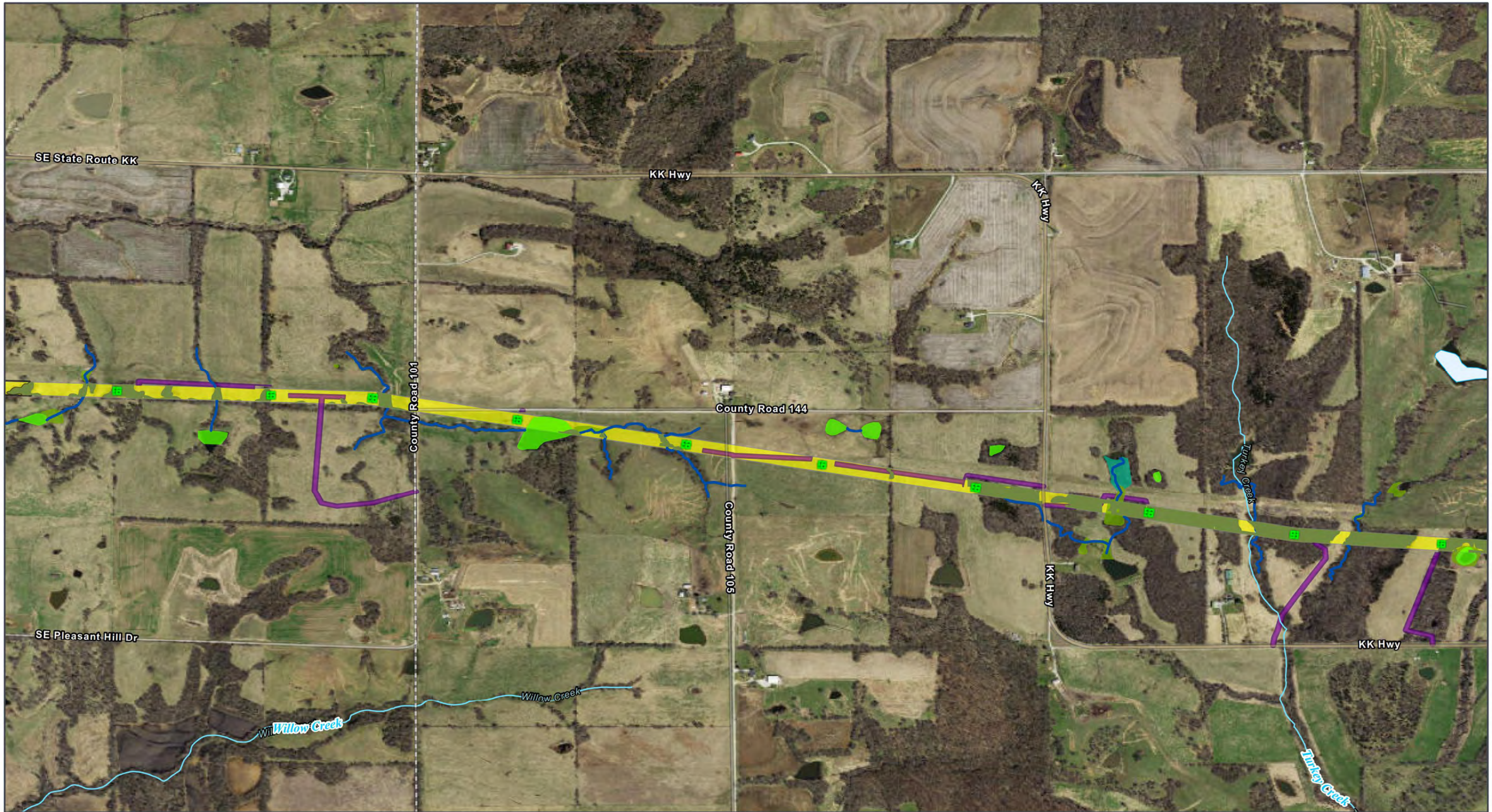


Kansas and Missouri  
GCS North American 1983  
38.3365°N 95.5783°W

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Updated: 11/26/2024  
Project No. 60694559  
Layout: Wetland Mapbook 12k  
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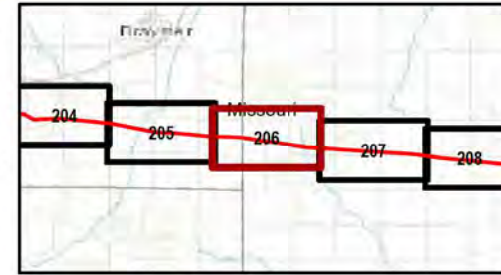
GRAIN BELT EXPRESS  
TRANSMISSION LINE PROJECT  
**Wetlands Map Book**  
Map 206 of 259

- ROW
- Permanent Project Component**
- Transmission Structure
- Habitat Conversion**
- Vegetation Clearing

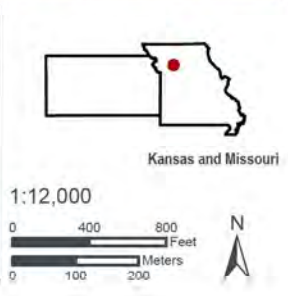
- Temporary Project Component**
- Access Road
- Pull Site/Tension Site
- Hydrology**
- Delineated Stream
- NHD Stream/River

- Delineated Wetland**
- Palustrine Emergent (PEM)
- Palustrine Forested (PFO)
- Palustrine Unconsolidated Bottom (PUB)
- NHD Waterbody

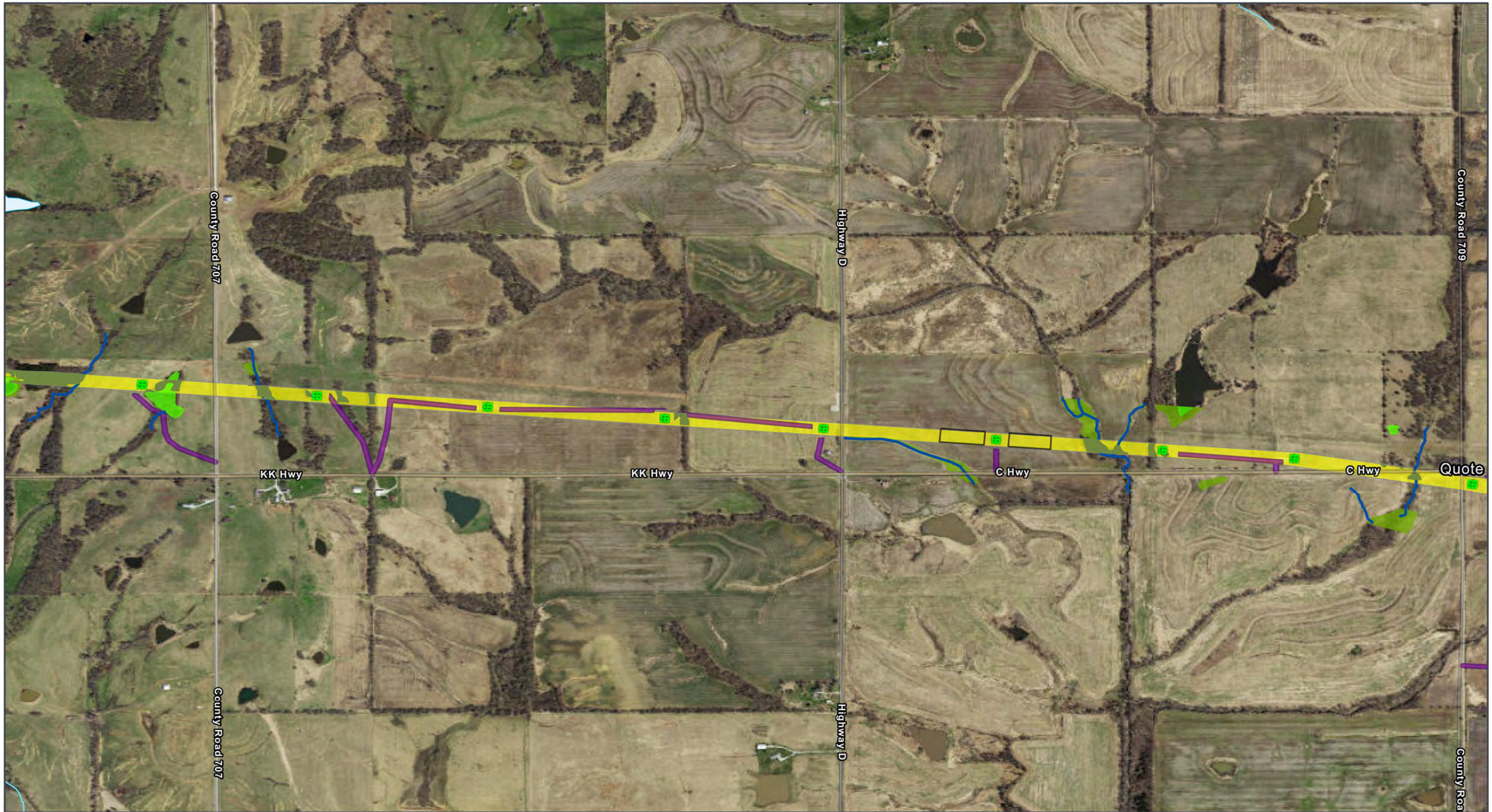
All disturbance areas are likely an over-estimation of direct impacts and based on assumptions presented in the Chapter 2 disturbance model (Table 2-1). These impact areas will be refined and finalized once field surveys are complete and avoidance and/or mitigation measures are implemented



Kansas and Missouri  
GCS North American 1983  
38.3365°N 95.5783°W  
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Project No. 60694559  
Layout: Wetland Mapbook 12k  
From: WetlandMapBook\_12k







GRAIN BELT EXPRESS  
TRANSMISSION LINE PROJECT  
**Wetlands Map Book**  
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ROW

**Permanent Project Component**

- Transmission Structure
- Habitat Conversion**
- Vegetation Clearing

**Temporary Project Component**

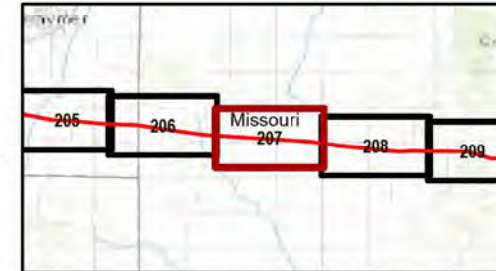
- Access Road
- Pull Site/Tension Site
- Hydrology**
- Delineated Stream

NHD Stream/River

**Delineated Wetland**

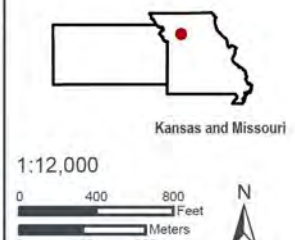
- Palustrine Emergent (PEM)
- Palustrine Unconsolidated Bottom (PUB)
- NHD Waterbody

All disturbance areas are likely an over-estimation of direct impacts and based on assumptions presented in the Chapter 2 disturbance model (Table 2-1). These impact areas will be refined and finalized once field surveys are complete and avoidance and/or mitigation measures are implemented

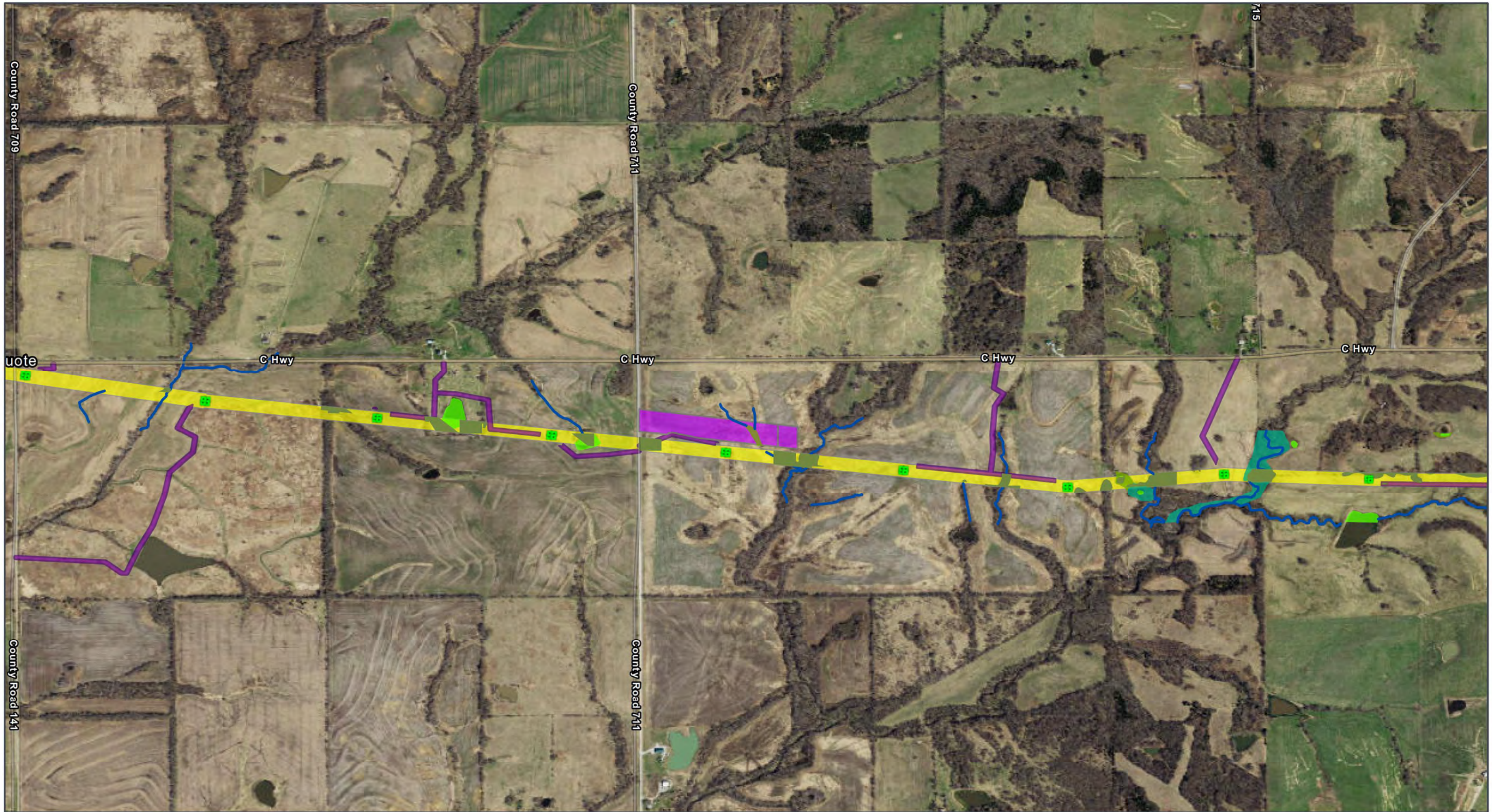


Kansas and Missouri  
GCS North American 1983  
38.3365°N 95.5783°W

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Project No. 60694559  
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From: WetlandMapBook\_12k







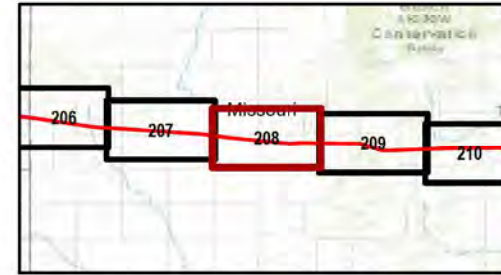
GRAIN BELT EXPRESS  
TRANSMISSION LINE PROJECT  
**Wetlands Map Book**  
Map 208 of 259

**Permanent Project Component**  
Transmission Structure  
**Habitat Conversion**  
Vegetation Clearing

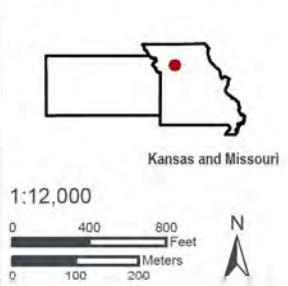
**Temporary Project Component**  
Access Road  
Helipad / Fly Yard  
**Hydrology**  
Delineated Stream

**Delineated Wetland**  
Palustrine Emergent (PEM)  
Palustrine Forested (PFO)  
Palustrine Unconsolidated Bottom (PUB)

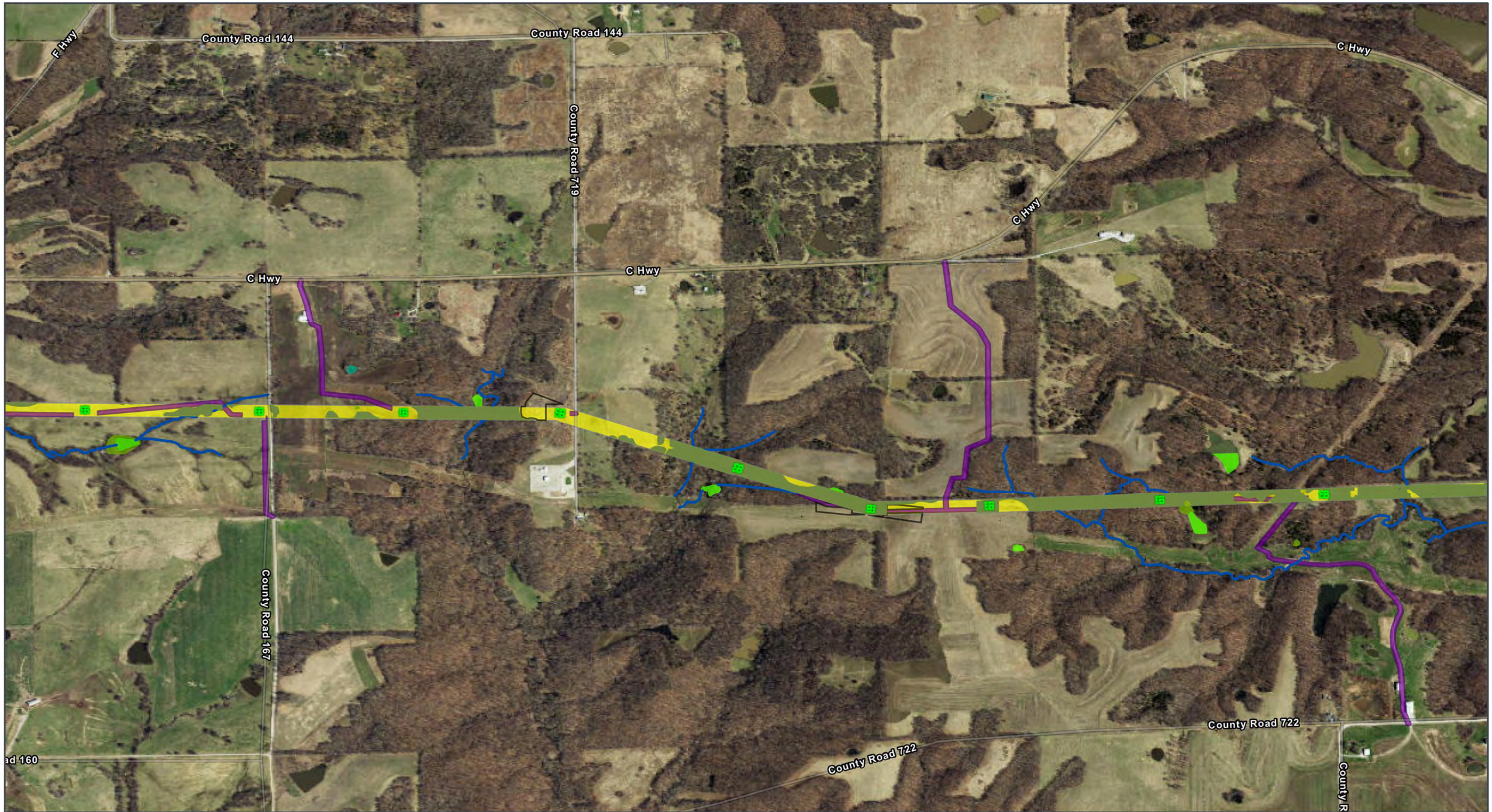
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Kansas and Missouri  
GCS North American 1983  
38.3365°N 95.5783°W  
Base Map: Esri ArcGIS Online,  
accessed November 2024  
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Project No. 60694559  
Layout: Wetland Mapbook 12k  
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GRAIN BELT EXPRESS  
TRANSMISSION LINE PROJECT  
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- ROW
- Permanent Project Component**
  - Transmission Structure
- Habitat Conversion**
  - Vegetation Clearing

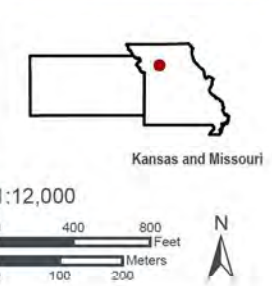
- Temporary Project Component**
  - Access Road
  - Pull Site/Tension Site
- Hydrology**
  - Delineated Stream

- Delineated Wetland**
  - Palustrine Emergent (PEM)
  - Palustrine Forested (PFO)
  - Palustrine Unconsolidated Bottom (PUB)

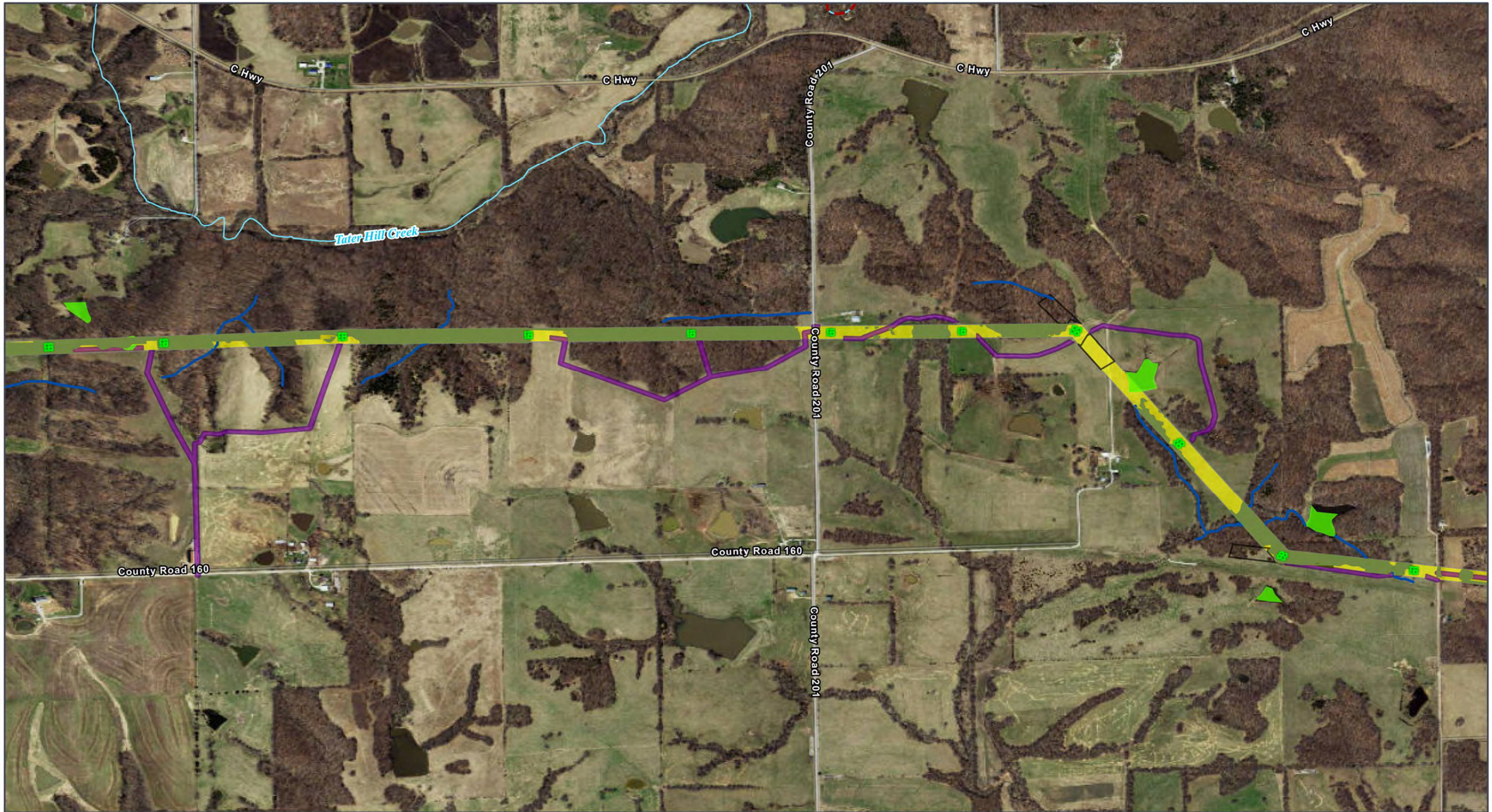
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Kansas and Missouri  
GCS North American 1983  
38.3365°N 95.5783°W  
Base Map: Esri ArcGIS Online,  
accessed November 2024  
Updated: 11/26/2024  
Project No. 60694559  
Layout: Wetland Mapbook 12k  
From: WetlandMapBook\_12k







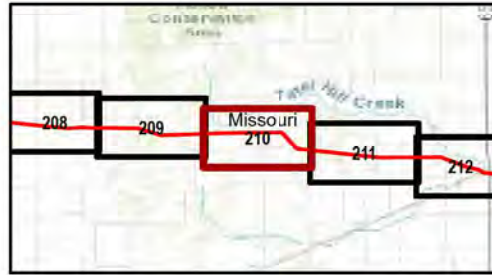
GRAIN BELT EXPRESS  
TRANSMISSION LINE PROJECT  
**Wetlands Map Book**  
Map 210 of 259

- ROW
- Permanent Project Component**
  - Transmission Structure
- Habitat Conversion**
  - Vegetation Clearing

- Temporary Project Component**
  - Access Road
  - Pull Site/Tension Site
- Hydrology**
  - Delineated Stream

- NHD Stream/River
- Impaired Waterway (303d)
- Delineated Wetland**
  - Palustrine Unconsolidated Bottom (PUB)

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Kansas and Missouri

GCS North American 1983  
38.3365°N 95.5783°W

Base Map: Esri ArcGIS Online,  
accessed November 2024  
Updated: 11/26/2024  
Project No: 60694559  
Layout: Wetland Mapbook 12k  
From: WetlandMapBook\_12k

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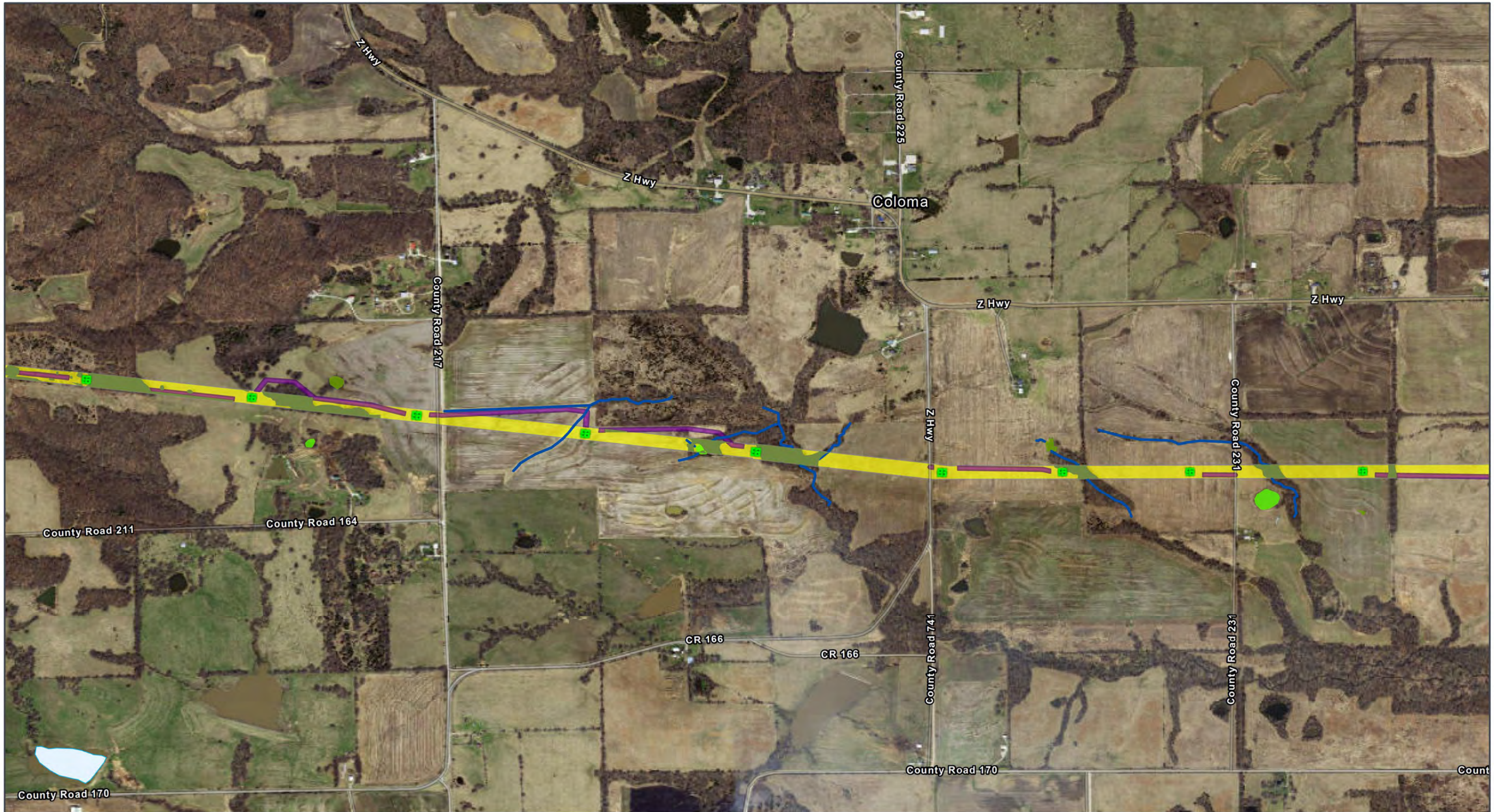
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Kansas and Missouri





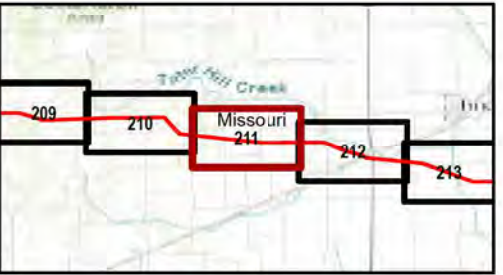
GRAIN BELT EXPRESS  
TRANSMISSION LINE PROJECT  
**Wetlands Map Book**  
Map 211 of 259

- ROW
- Permanent Project Component**
- Transmission Structure
- Habitat Conversion**
- Vegetation Clearing

- Temporary Project Component**
- Access Road
- Hydrology**
- Delineated Stream

- Delineated Wetland**
- Palustrine Emergent (PEM)
- Palustrine Unconsolidated Bottom (PUB)
- NHD Waterbody

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Kansas and Missouri  
GCS North American 1983  
38.3365°N 95.5783°W

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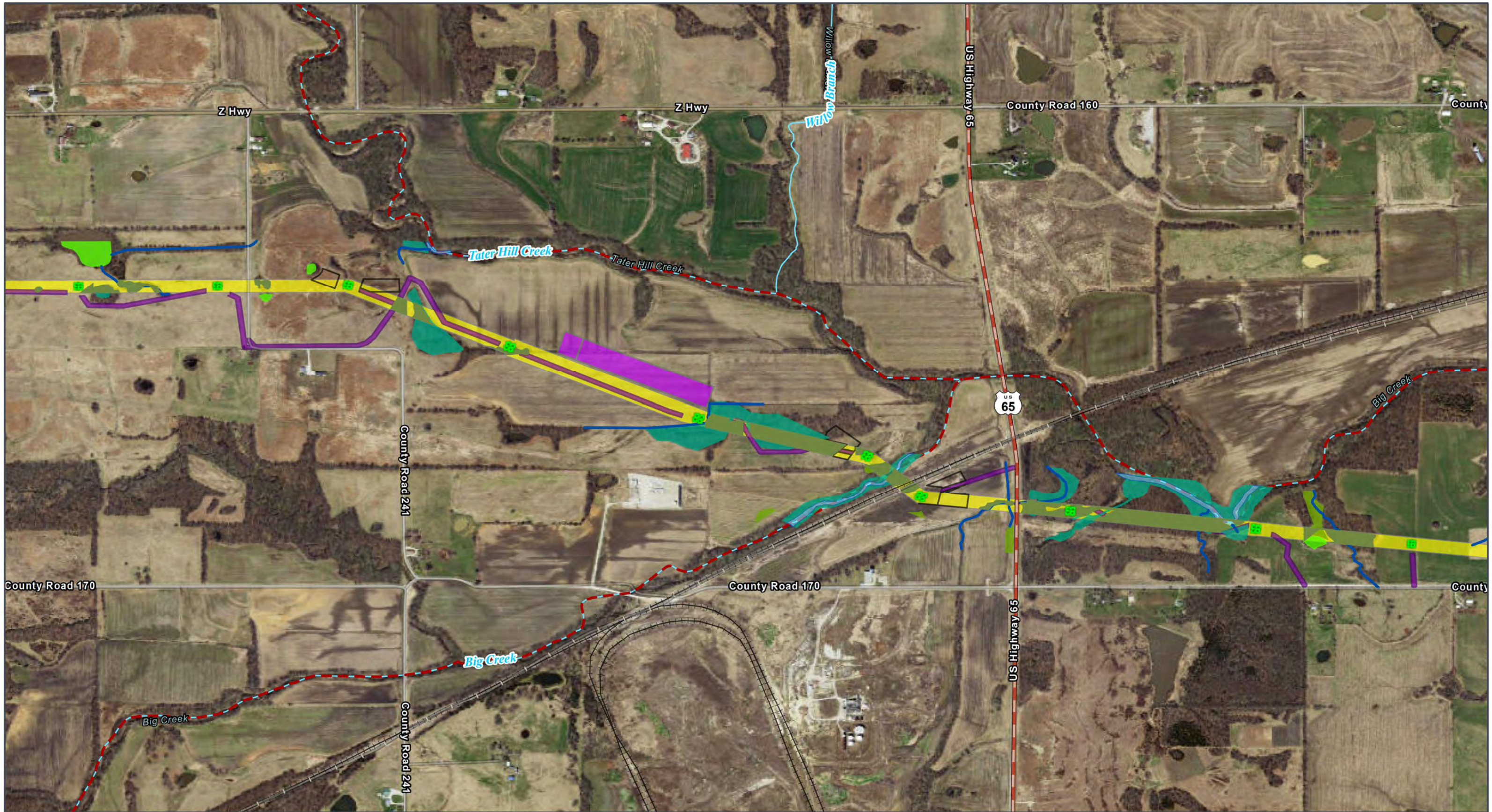
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N

Kansas and Missouri





GRAIN BELT EXPRESS  
TRANSMISSION LINE PROJECT  
**Wetlands Map Book**  
Map 212 of 259

- ROW
- Permanent Project Component**
- Transmission Structure
- Habitat Conversion**
- Vegetation Clearing

- Temporary Project Component**
- Access Road
- Helipad / Fly Yard
- Pull Site/Tension Site
- Hydrology**
- Delineated Stream

- NHD Stream/River
- Impaired Waterway (303d)
- Delineated Wetland**
- Palustrine Emergent (PEM)
- Palustrine Forested (PFO)

- Palustrine Unconsolidated Bottom (PUB)
- Delineated Waterbody
- Transportation**
- U.S. Highway
- Railroad

All disturbance areas are likely an over-estimation of direct impacts and based on assumptions presented in the Chapter 2 disturbance model (Table 2-1). These impact areas will be refined and finalized once field surveys are complete and avoidance and/or mitigation measures are implemented



Kansas and Missouri

GCS North American 1983  
38.3365°N 95.5783°W

Base Map: Esri ArcGIS Online,  
accessed November 2024  
Updated: 11/26/2024  
Project No. 60694559  
Layout: Wetland Mapbook 12K  
Aero: WetlandMapBook\_12K

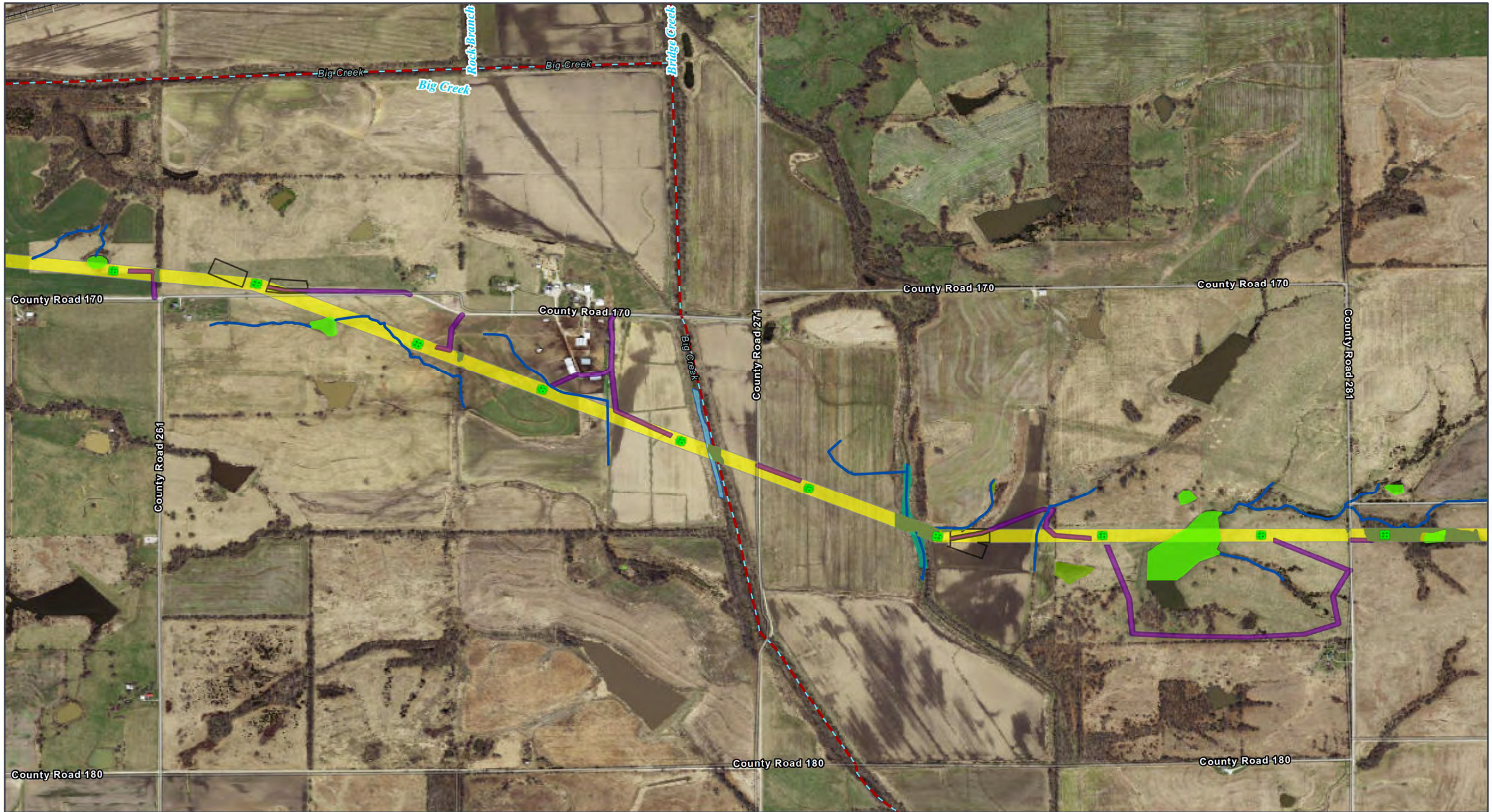
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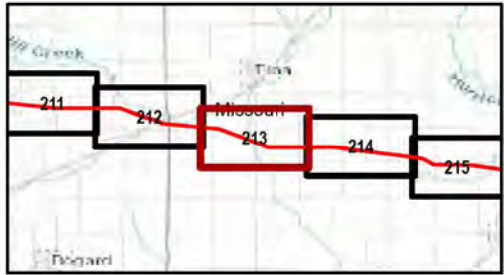




GRAIN BELT EXPRESS  
TRANSMISSION LINE PROJECT  
**Wetlands Map Book**  
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- |                                    |                           |  |
|------------------------------------|---------------------------|--|
| <b>ROW</b>                         | Pull Site/Tension Site    | Palustrine Forested (PFO)              |
| <b>Permanent Project Component</b> | <b>Hydrology</b>          | Palustrine Unconsolidated Bottom (PUB) |
| Transmission Structure             | Delineated Stream         | Delineated Waterbody                   |
| <b>Habitat Conversion</b>          | NHD Stream/River          | <b>Transportation</b>                  |
| Vegetation Clearing                | Impaired Waterway (303d)  | Railroad                               |
| <b>Temporary Project Component</b> | <b>Delineated Wetland</b> |  |
| Access Road                        | Palustrine Emergent (PEM) |  |

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Kansas and Missouri  
GCS North American 1983  
38.3365°N 95.5783°W

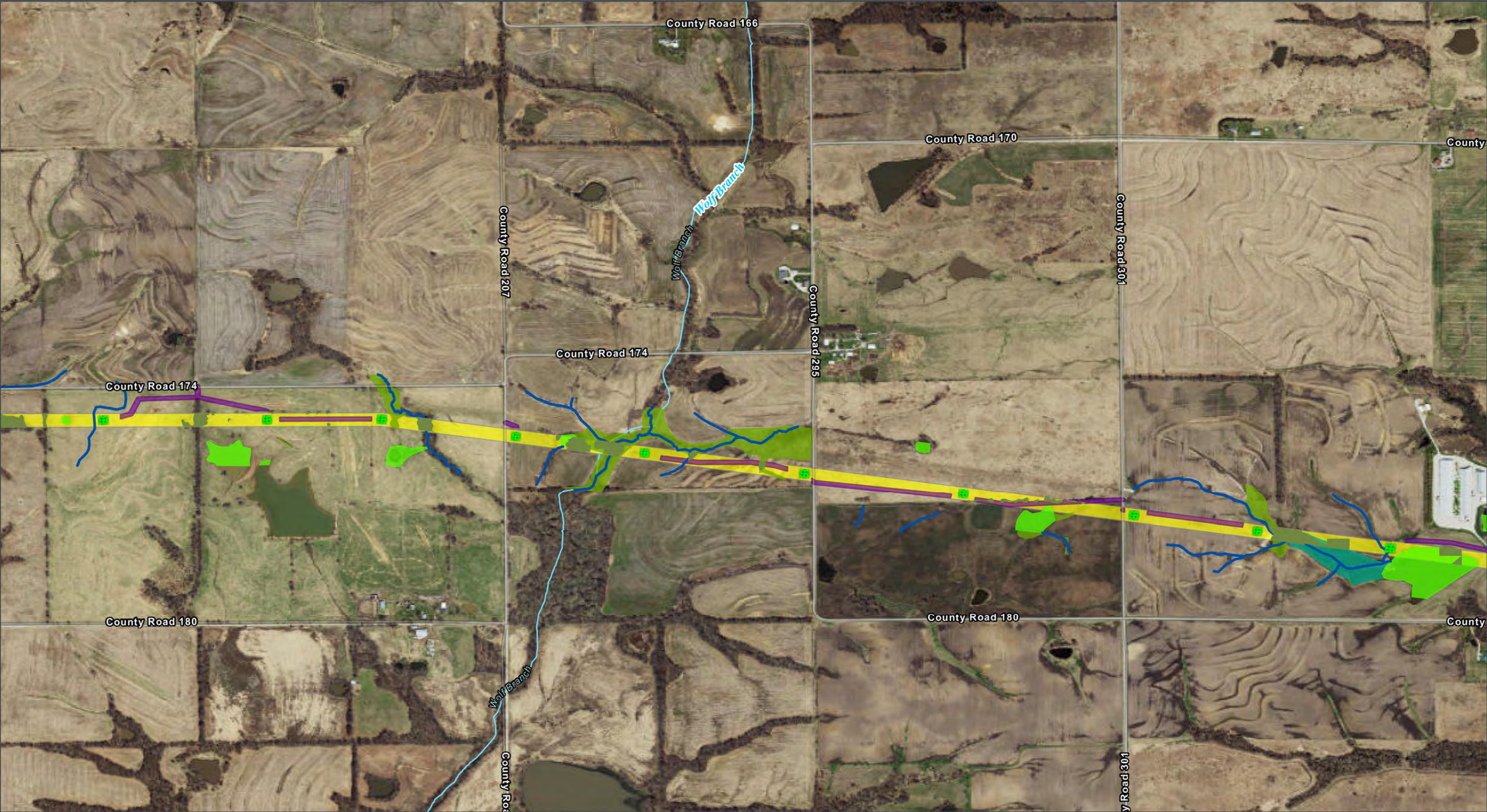
Base Map: Esri ArcGIS Online,  
accessed November 2024  
Updated: 11/26/2024  
Project No. 60694559  
Layout: Wetland Mapbook 12k  
From: WetlandMapBook\_12k

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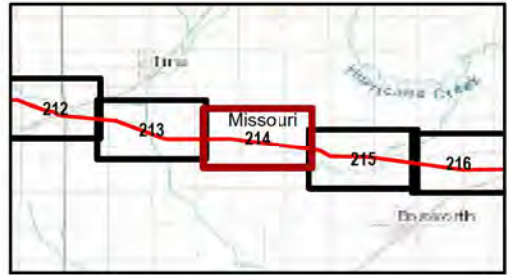
GRAIN BELT EXPRESS  
TRANSMISSION LINE PROJECT  
**Wetlands Map Book**  
Map 214 of 259

- ROW
- Permanent Project Component**
- Transmission Structure
- Habitat Conversion**
- Vegetation Clearing

- Temporary Project Component**
- Access Road
- Hydrology**
- Delineated Stream
- NHD Stream/River

- Delineated Wetland**
- Palustrine Emergent (PEM)
- Palustrine Forested (PFO)
- Palustrine Unconsolidated Bottom (PUB)

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Kansas and Missouri  
GCS North American 1983  
38.3365°N 95.5783°W

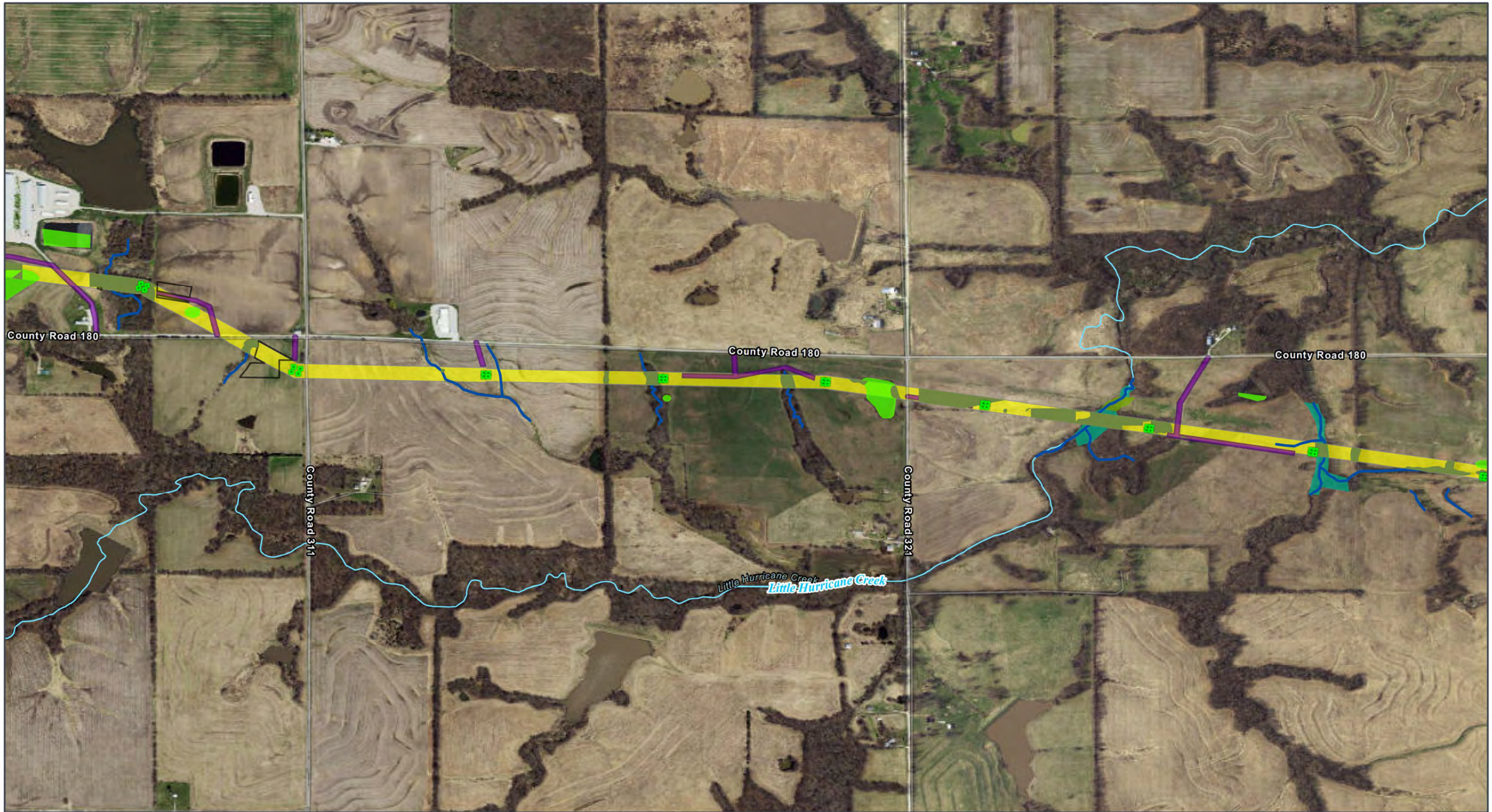
Base Map: Esri ArcGIS Online,  
accessed November 2024  
Updated: 11/26/2024  
Project No: 60694559  
Layout: Wetland Mapbook 12k  
From: WetlandMapBook\_12k

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0 100 200 Meters

N





GRAIN BELT EXPRESS  
TRANSMISSION LINE PROJECT  
**Wetlands Map Book**  
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ROW

**Permanent Project Component**

Transmission Structure

**Habitat Conversion**

Vegetation Clearing

**Temporary Project Component**

Access Road

Pull Site/Tension Site

**Hydrology**

Delineated Stream

NHD Stream/River

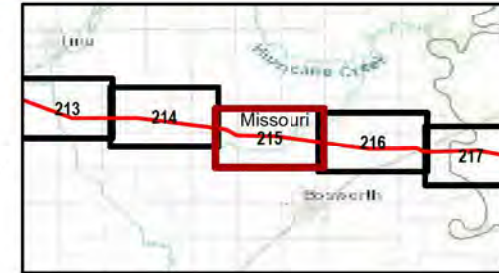
**Delineated Wetland**

Palustrine Emergent (PEM)

Palustrine Forested (PFO)

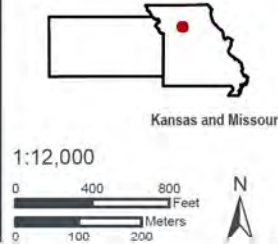
Palustrine Unconsolidated Bottom (PUB)

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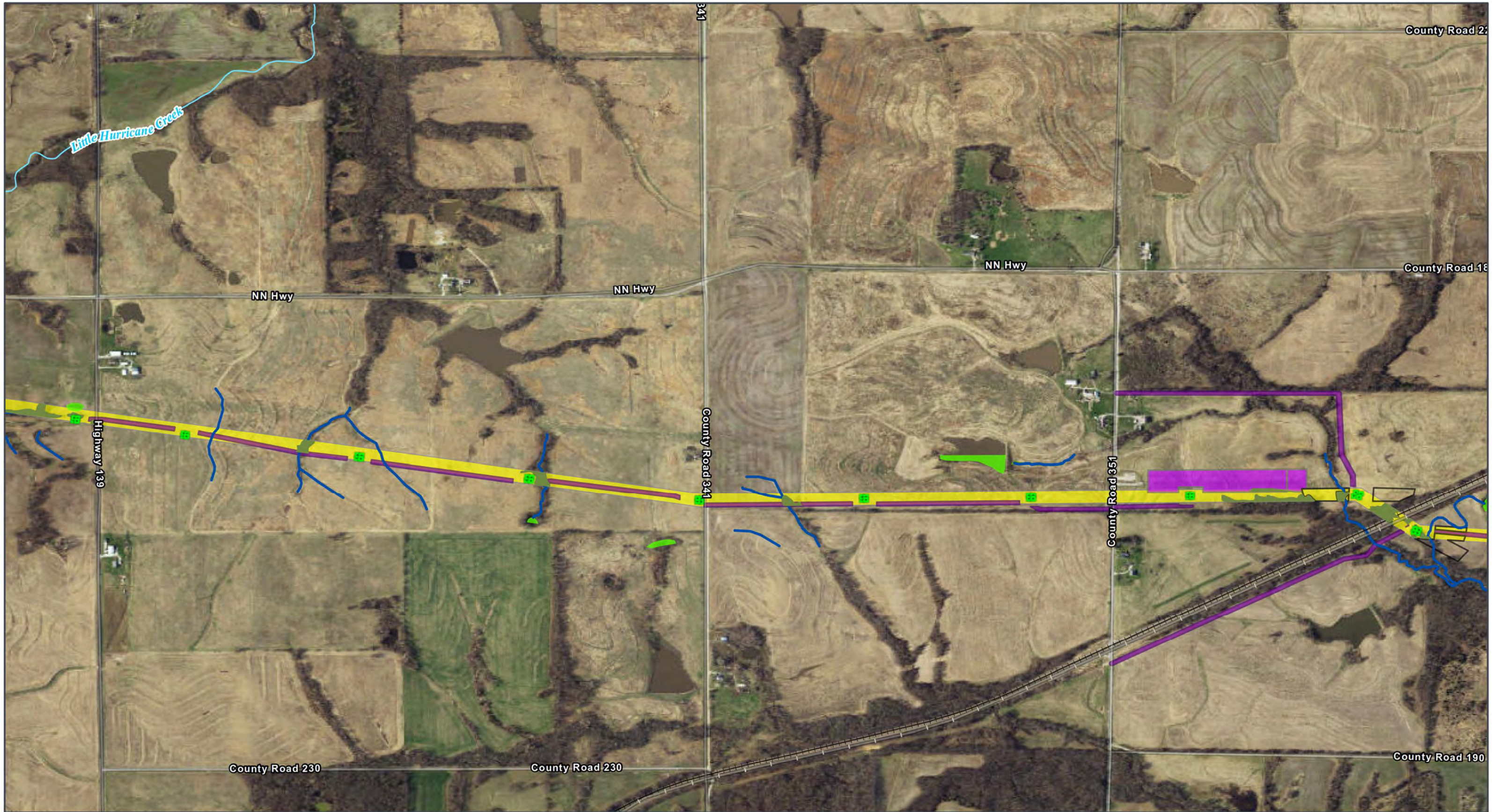


Kansas and Missouri  
GCS North American 1983  
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Base Map: Esri ArcGIS Online,  
accessed November 2024  
Updated: 11/26/2024  
Project No. 60694559  
Layout: Wetland Mapbook 12k  
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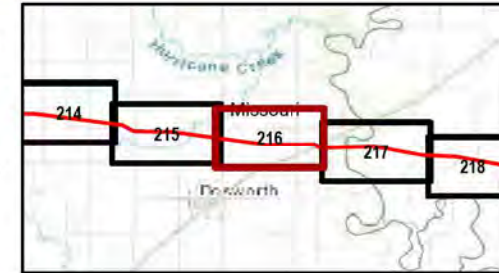
GRAIN BELT EXPRESS  
TRANSMISSION LINE PROJECT  
**Wetlands Map Book**  
Map 216 of 259

- ROW
- Permanent Project Component**
- Transmission Structure
- Habitat Conversion**
- Vegetation Clearing

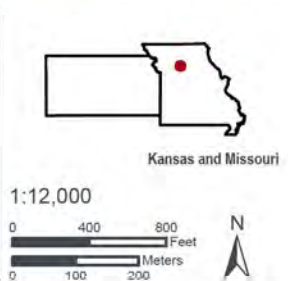
- Temporary Project Component**
- Access Road
- Helipad / Fly Yard
- Pull Site/Tension Site
- Hydrology**
- Delineated Stream

- NHD Stream/River
- Delineated Wetland**
- Palustrine Emergent (PEM)
- Palustrine Unconsolidated Bottom (PUB)
- Transportation**
- Railroad

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GRAIN BELT EXPRESS  
TRANSMISSION LINE PROJECT  
**Wetlands Map Book**  
Map 217 of 259

- Municipal Boundary Near the Project
- ROW
- Permanent Project Component**
- Transmission Structure
- Habitat Conversion**
- Vegetation Clearing

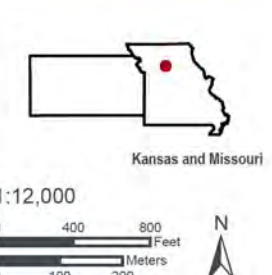
- Temporary Project Component**
- Access Road
- Pull Site/Tension Site
- Hydrology**
- Delineated Stream
- NHD Stream/River

- Impaired Waterway (303d)
- Delineated Wetland**
- Palustrine Forested (PFO)
- Palustrine Unconsolidated Bottom (PUB)
- Delineated Waterbody

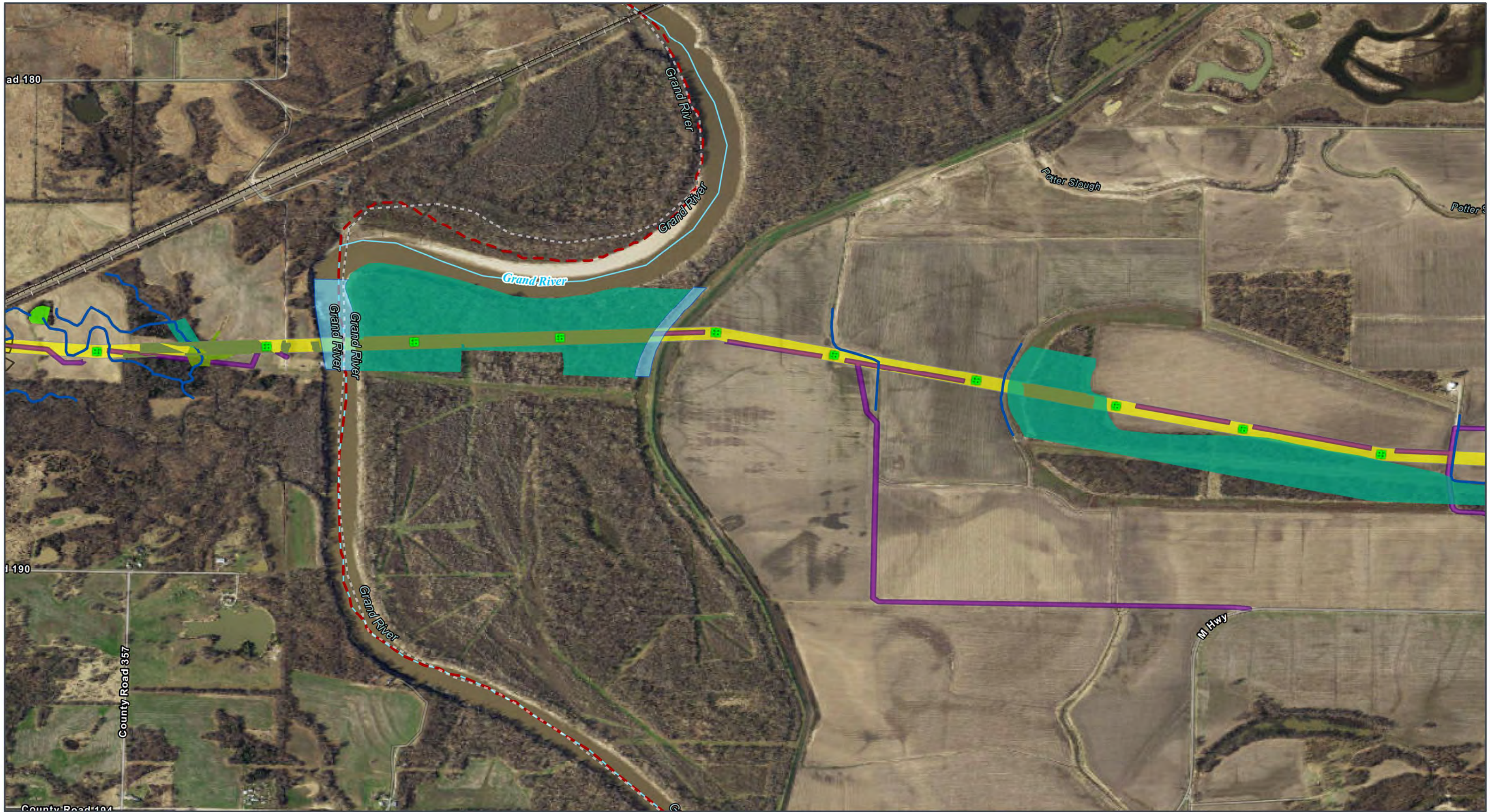
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GRAIN BELT EXPRESS  
TRANSMISSION LINE PROJECT

**Wetlands Map Book**

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**Legend**

**Permanent Project Component**

- Transmission Structure

**Habitat Conversion**

- Vegetation Clearing

**Temporary Project Component**

- Access Road

**Hydrology**

- Pull Site/Tension Site
- Delineated Stream
- NHD Stream/River
- Impaired Waterway (303d)

**Delineated Wetland**

- Palustrine Emergent (PEM)

**Palustrine Forested (PFO)**

- Palustrine Unconsolidated Bottom (PUB)
- Delineated Waterbody

**Transportation**

- Railroad

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**Map Information**

Kansas and Missouri

GCS North American 1983  
38.3365°N 95.5783°W

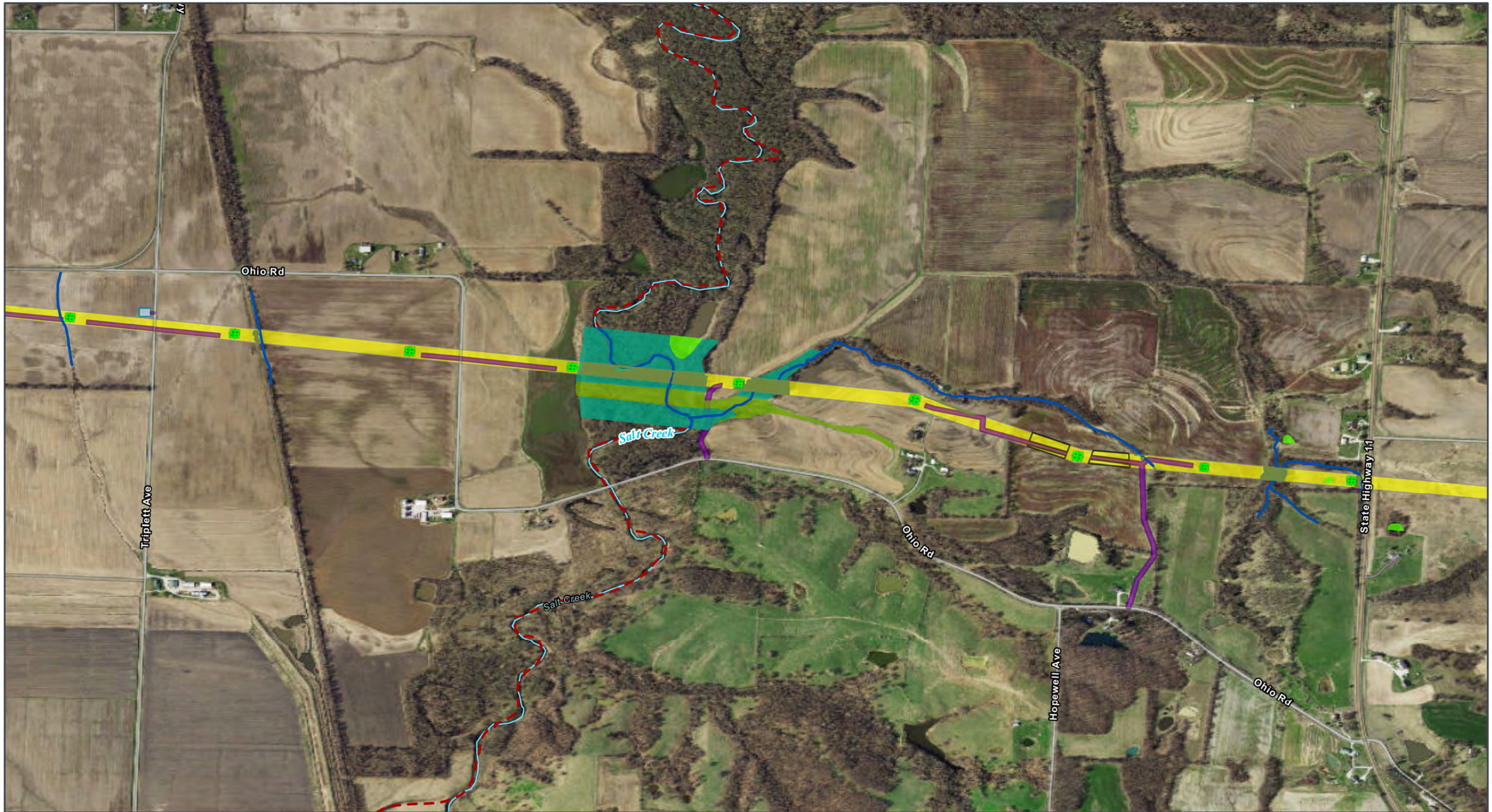
Base Map: Esri ArcGIS Online, accessed November 2024  
Updated: 11/26/2024  
Project No. 60694559  
Layout: Wetland Mapbook 12k  
From: WetlandMapBook\_12k

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0 400 800 Feet  
0 100 200 Meters

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GRAIN BELT EXPRESS  
TRANSMISSION LINE PROJECT  
**Wetlands Map Book**  
Map 219 of 259

- ROW**
- Permanent Project Component**
- Transmission Structure
  - Optical Regeneration
  - OPGW Access

- Habitat Conversion**
- Vegetation Clearing
- Temporary Project Component**
- Access Road
  - Pull Site/Tension Site
- Hydrology**
- Delineated Stream

- NHD Stream/River**
- Impaired Waterway (303d)
- Delineated Wetland**
- Palustrine Emergent (PEM)
  - Palustrine Forested (PFO)
  - Palustrine Unconsolidated Bottom (PUB)

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Kansas and Missouri  
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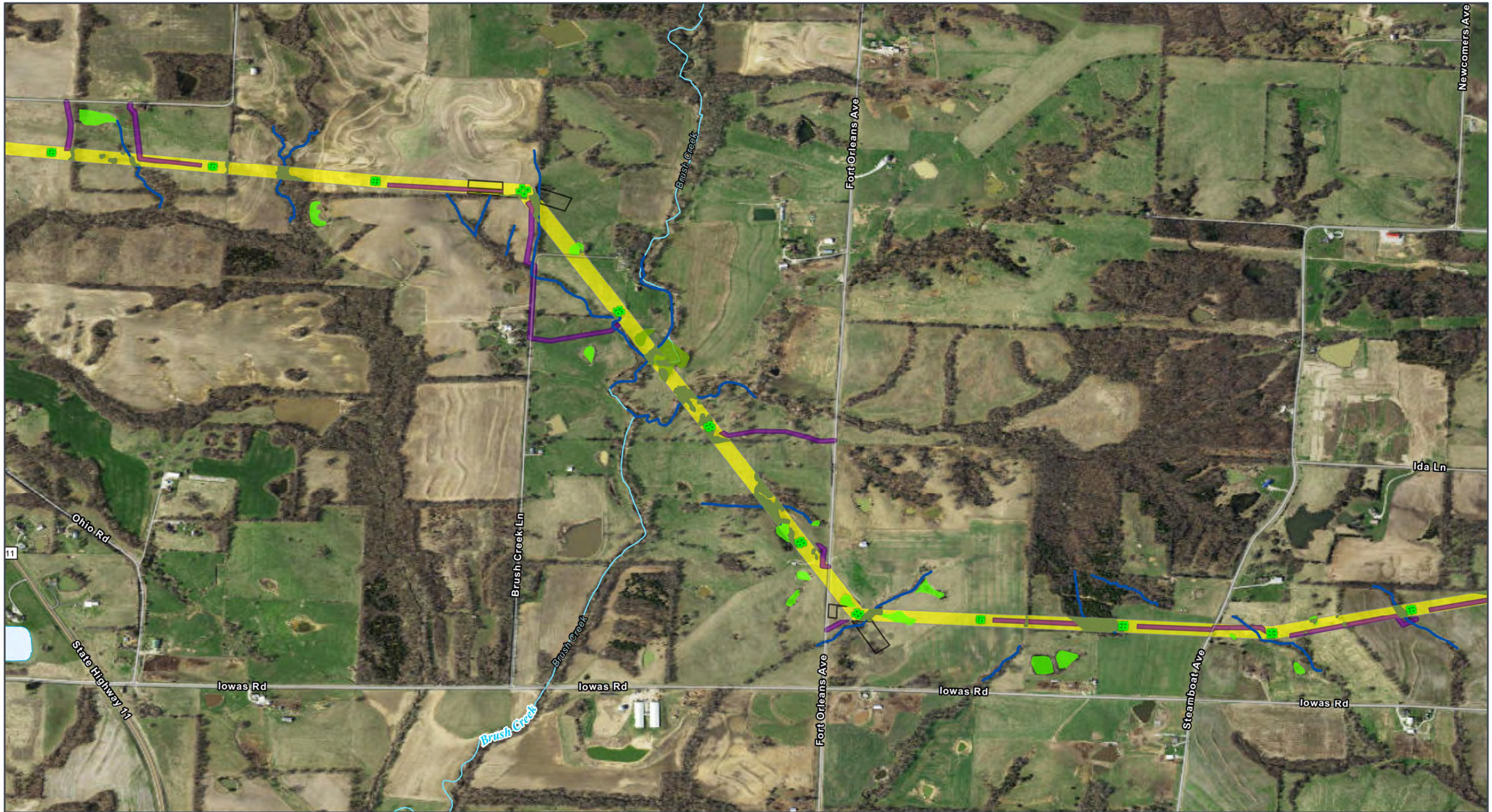
Base Map: Esri ArcGIS Online,  
accessed November 2024  
Updated: 11/26/2024  
Project No. 60694559  
Layout: Wetland Mapbook 12k  
Aero: WetlandMapBook\_12k

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0 400 800 Feet  
0 100 200 Meters

Kansas and Missouri





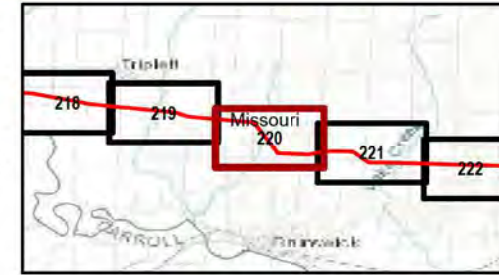
GRAIN BELT EXPRESS  
TRANSMISSION LINE PROJECT  
**Wetlands Map Book**  
Map 220 of 259

**Permanent Project Component**  
Transmission Structure  
**Habitat Conversion**  
Vegetation Clearing

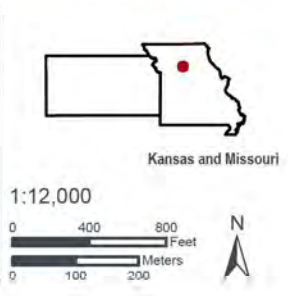
**Temporary Project Component**  
Access Road  
Pull Site/Tension Site  
**Hydrology**  
Delineated Stream

**Delineated Wetland**  
Palustrine Emergent (PEM)  
Palustrine Unconsolidated Bottom (PUB)  
NHD Waterbody

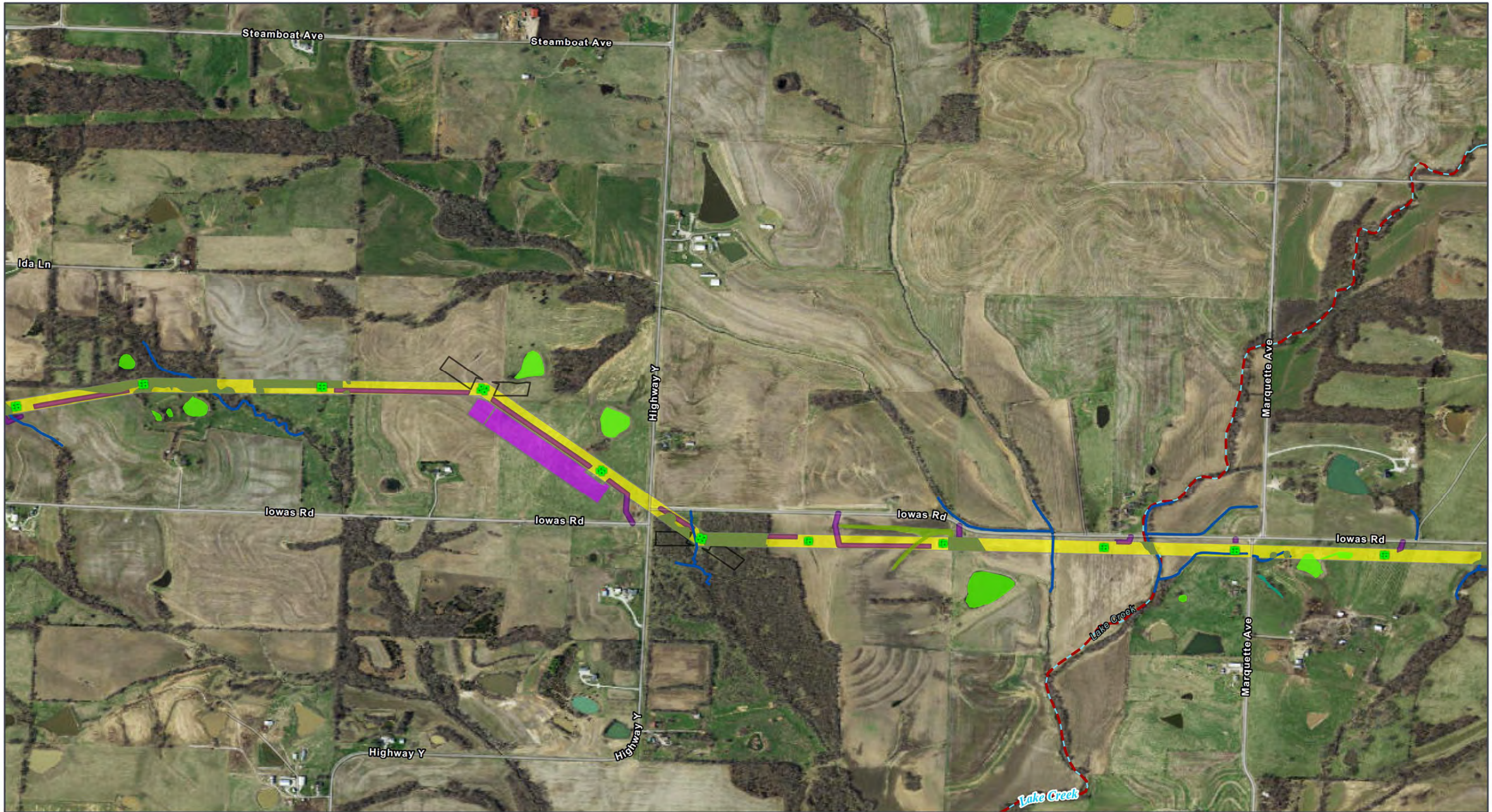
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GRAIN BELT EXPRESS  
TRANSMISSION LINE PROJECT  
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ROW

**Permanent Project Component**

Transmission Structure

**Habitat Conversion**

Vegetation Clearing

**Temporary Project Component**

Access Road

Helipad / Fly Yard

Pull Site/Tension Site

**Hydrology**

Delineated Stream

NHD Stream/River

Impaired Waterway (303d)

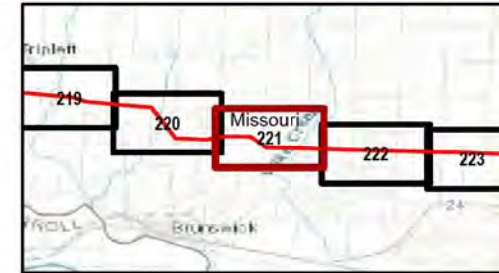
**Delineated Wetland**

Palustrine Emergent (PEM)

Palustrine Forested (PFO)

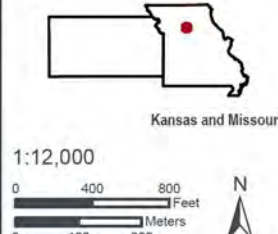
Palustrine Unconsolidated Bottom (PUB)

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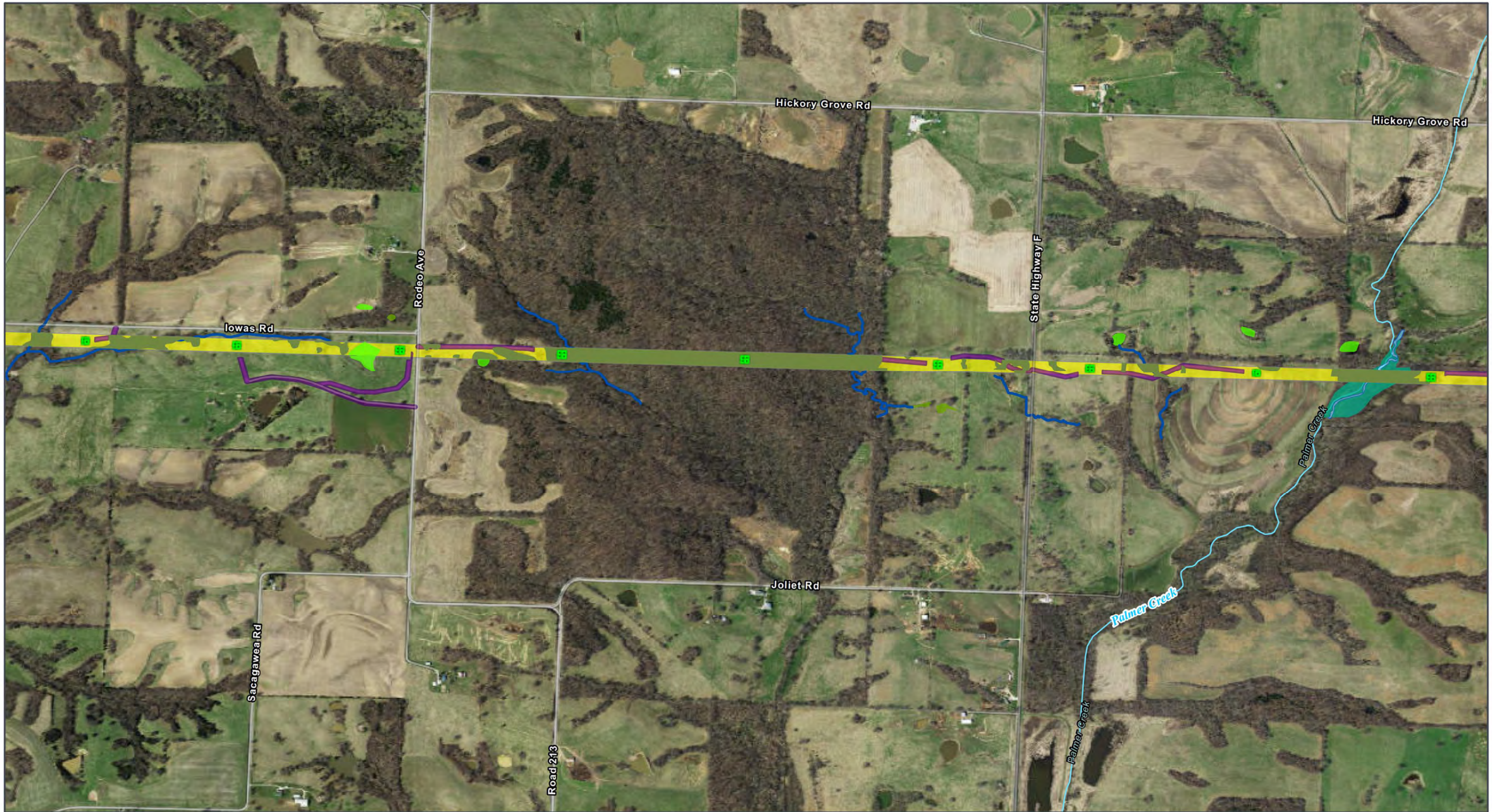


Kansas and Missouri  
GCS North American 1983  
38.3365°N 95.5783°W

Base Map: Esri ArcGIS Online,  
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Project No. 60694559  
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GRAIN BELT EXPRESS  
TRANSMISSION LINE PROJECT  
**Wetlands Map Book**  
Map 222 of 259

- ROW
- Permanent Project Component**
  - Transmission Structure
- Habitat Conversion**
  - Vegetation Clearing

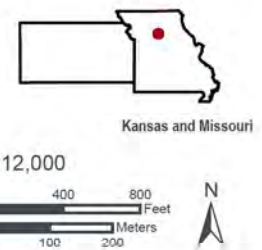
- Temporary Project Component**
  - Access Road
- Hydrology**
  - Delineated Stream
  - NHD Stream/River

- Delineated Wetland**
  - Palustrine Emergent (PEM)
  - Palustrine Forested (PFO)
  - Palustrine Unconsolidated Bottom (PUB)
  - Delineated Waterbody

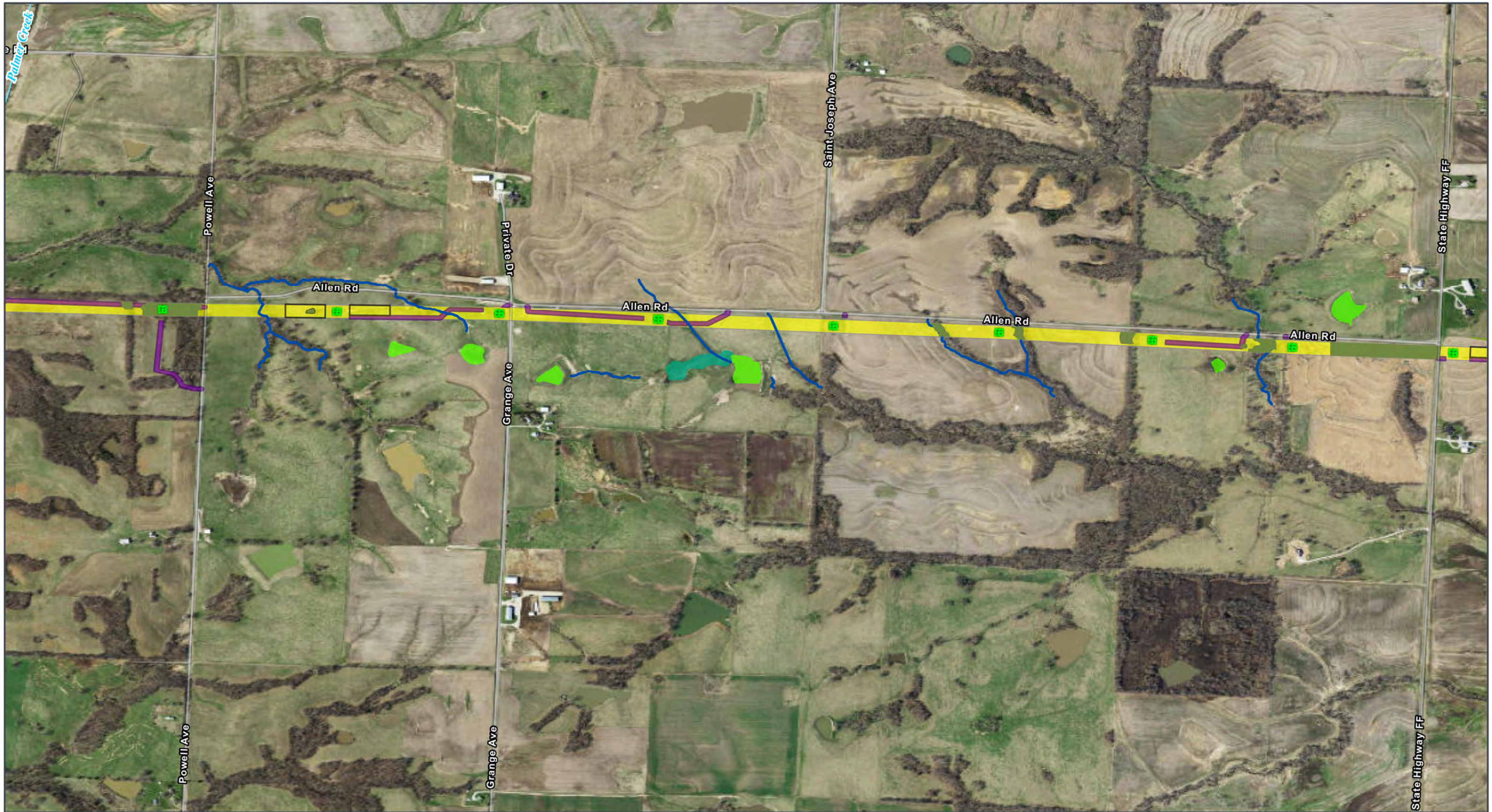
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GRAIN BELT EXPRESS  
TRANSMISSION LINE PROJECT  
**Wetlands Map Book**  
Map 223 of 259

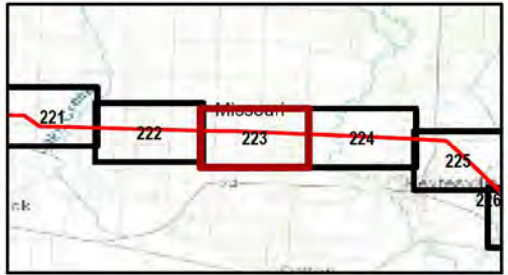
**Permanent Project Component**  
Transmission Structure  
**Habitat Conversion**  
Vegetation Clearing

**Temporary Project Component**  
Access Road  
Pull Site/Tension Site  
**Hydrology**  
Delineated Stream

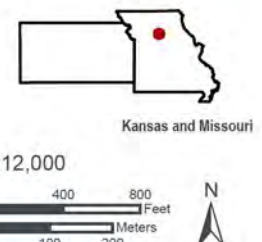
**Delineated Wetland**  
Palustrine Emergent (PEM)  
Palustrine Forested (PFO)  
Palustrine Unconsolidated Bottom (PUB)

NHD Stream/River

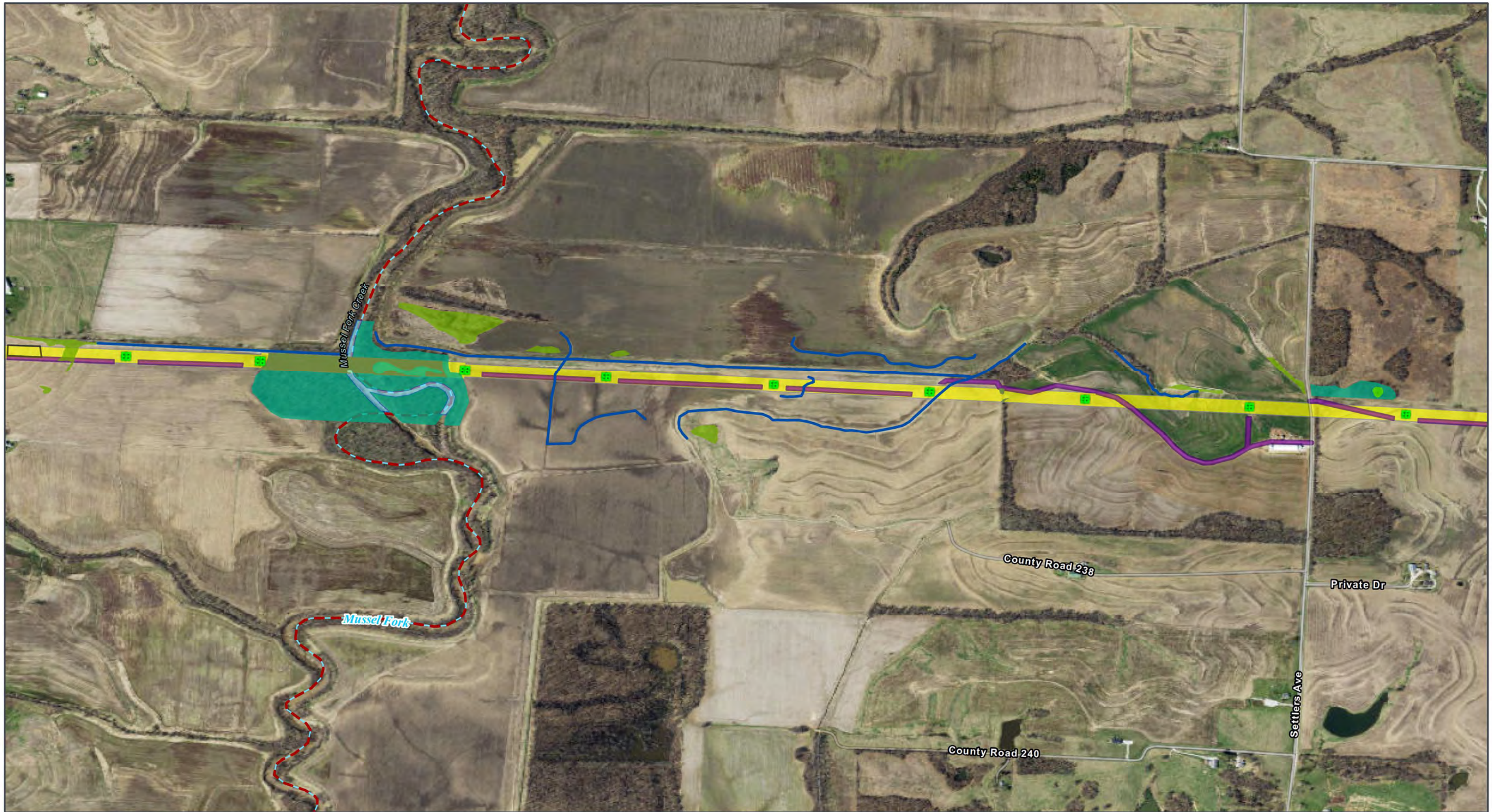
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GRAIN BELT EXPRESS  
TRANSMISSION LINE PROJECT  
**Wetlands Map Book**  
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- |   |   |
|---|---|
| <p><b>ROW</b></p> <p><b>Permanent Project Component</b></p> <ul style="list-style-type: none"> <li>■ Transmission Structure</li> </ul> <p><b>Habitat Conversion</b></p> <ul style="list-style-type: none"> <li>■ Vegetation Clearing</li> </ul> | <p><b>Temporary Project Component</b></p> <ul style="list-style-type: none"> <li>■ Access Road</li> <li>□ Pull Site/Tension Site</li> </ul> <p><b>Hydrology</b></p> <ul style="list-style-type: none"> <li>— Delineated Stream</li> <li>— NHD Stream/River</li> <li>— Impaired Waterway (303d)</li> </ul> |
|---|---|

- Delineated Wetland**
- Palustrine Emergent (PEM)
  - Palustrine Forested (PFO)
  - Palustrine Unconsolidated Bottom (PUB)
  - Delineated Waterbody

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Kansas and Missouri

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Layout: Wetland Mapbook 12k  
From: WetlandMapBook\_12k

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0 400 800 Feet

0 100 200 Meters

N

Kansas and Missouri





GRAIN BELT EXPRESS  
TRANSMISSION LINE PROJECT  
**Wetlands Map Book**  
Map 225 of 259

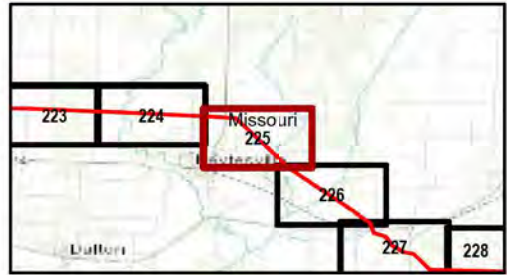
- Municipal Boundary Near the Project
- ROW
- Permanent Project Component**
- Transmission Structure
- Habitat Conversion**
- Vegetation Clearing

- Temporary Project Component**
- Access Road
- Helipad / Fly Yard
- Pull Site/Tension Site
- Hydrology**
- Delineated Stream

- NHD Stream/River
- Impaired Waterway (303d)
- Delineated Wetland**
- Palustrine Emergent (PEM)
- Palustrine Forested (PFO)
- Palustrine Scrub-Shrub (PSS)

- Palustrine Unconsolidated Bottom (PUB)
- Delineated Waterbody
- Transportation**
- State Highway

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0 400 800 Feet  
0 100 200 Meters

N

Kansas and Missouri





GRAIN BELT EXPRESS  
TRANSMISSION LINE PROJECT  
**Wetlands Map Book**  
Map 226 of 259

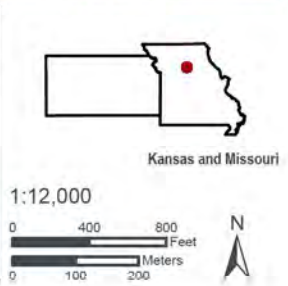
- |  |  |  |
|--|--|--|
| <b>ROW</b><br>Permanent Project Component<br>Transmission Structure<br>Habitat Conversion<br>Vegetation Clearing<br>Temporary Project Component<br>Access Road | <b>Hydrology</b><br>Delineated Stream<br>NHD Stream/River<br>Impaired Waterway (303d)<br>Delineated Wetland<br>Palustrine Emergent (PEM) | <b>Palustrine Forested (PFO)</b><br><b>Palustrine Scrub-Shrub (PSS)</b><br><b>Palustrine Unconsolidated Bottom (PUB)</b><br><b>Delineated Waterbody</b><br><b>Transportation</b><br>U.S. Highway |
|--|--|--|

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| <b>Palustrine Forested (PFO)</b><br><b>Palustrine Scrub-Shrub (PSS)</b><br><b>Palustrine Unconsolidated Bottom (PUB)</b><br><b>Delineated Waterbody</b><br><b>Transportation</b><br>U.S. Highway |
|--|

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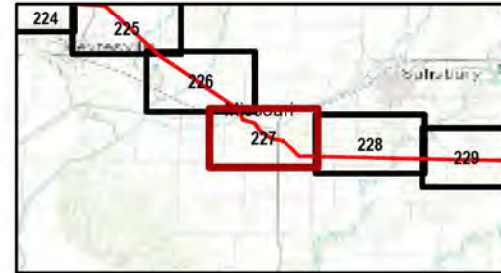


GRAIN BELT EXPRESS  
TRANSMISSION LINE PROJECT  
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- |   |  |
|---|--|
| <span style="background-color: yellow; border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span> ROW                | <span style="border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span> Pull Site/Tension Site                                  |
| <b>Permanent Project Component</b>  | <b>Hydrology</b>   |
| <span style="color: green;">■</span> Transmission Structure   | <span style="color: blue;">—</span> Delineated Stream  |
| <b>Habitat Conversion</b>   | <span style="color: lightblue;">—</span> NHD Stream/River  |
| <span style="background-color: green; border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span> Vegetation Clearing | <b>Delineated Wetland</b>  |
| <b>Temporary Project Component</b>  | <span style="background-color: lightgreen; border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span> Palustrine Emergent (PEM) |
| <span style="background-color: purple; border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span> Access Road        | <span style="background-color: teal; border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span> Palustrine Forested (PFO)       |

- |   |
|---|
| <span style="background-color: lightgreen; border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span> Palustrine Unconsolidated Bottom (PUB) |
| <span style="background-color: lightblue; border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span> NHD Waterbody                           |
| <b>Transportation</b>   |
| <span style="color: red;">—</span> U.S. Highway   |
| <span style="color: black;">—</span> State Highway  |
| <span style="color: black;">+ + +</span> Railroad   |

All disturbance areas are likely an over-estimation of direct impacts and based on assumptions presented in the Chapter 2 disturbance model (Table 2-1). These impact areas will be refined and finalized once field surveys are complete and avoidance and/or mitigation measures are implemented



Kansas and Missouri  
GCS North American 1983  
38.3365°N 95.5783°W

Base Map: Esri ArcGIS Online,  
accessed November 2024  
Updated: 11/26/2024  
Project No. 60694559  
Layout: Wetland Mapbook 12K  
From: WetlandMapBook\_12K

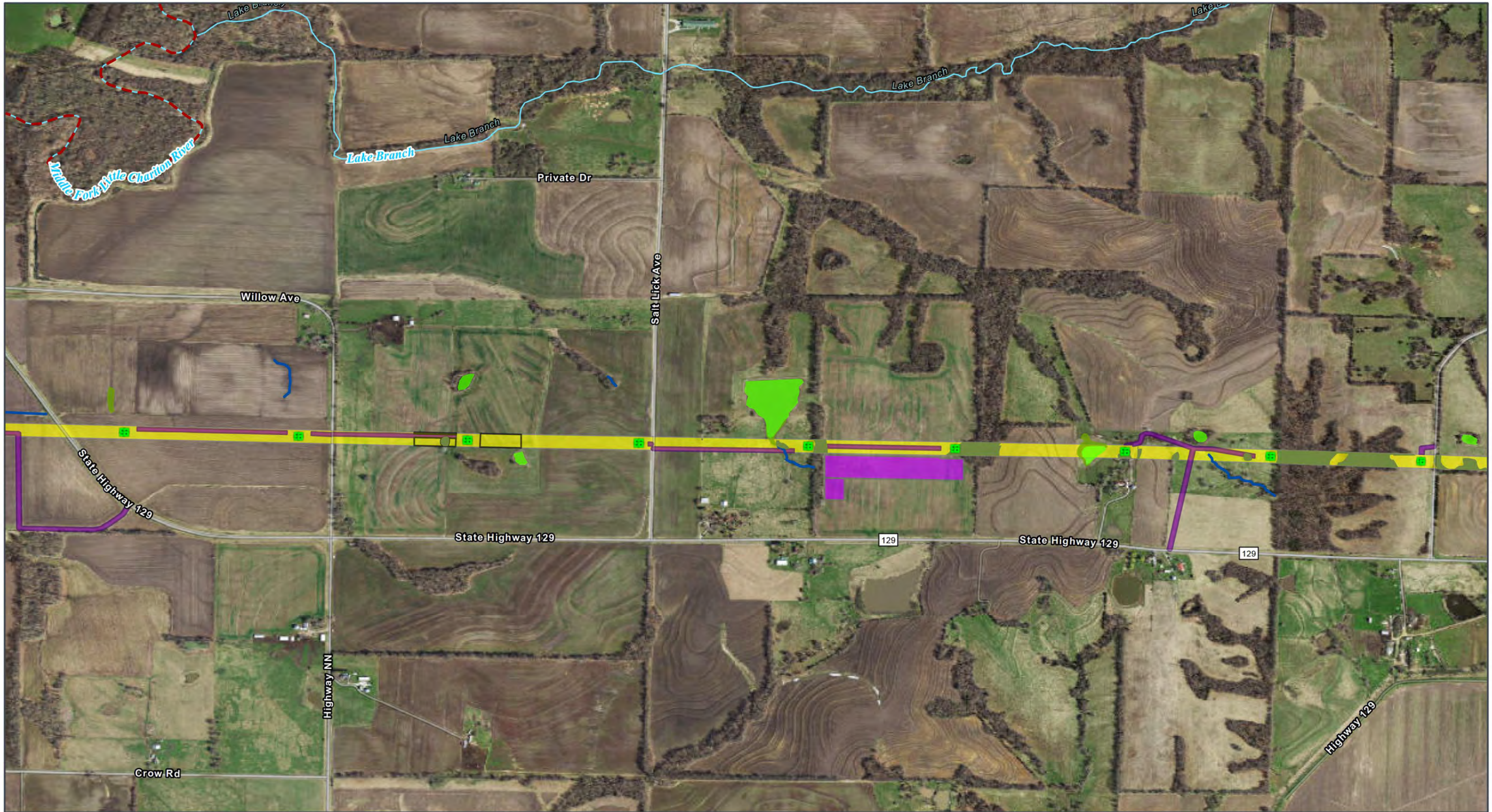
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N

Kansas and Missouri





GRAIN BELT EXPRESS  
TRANSMISSION LINE PROJECT  
**Wetlands Map Book**  
Map 228 of 259

- ROW
- Permanent Project Component**
- Transmission Structure
- Habitat Conversion**
- Vegetation Clearing

- Temporary Project Component**
- Access Road
- Helipad / Fly Yard
- Pull Site/Tension Site
- Hydrology**
- Delineated Stream

- NHD Stream/River
- Impaired Waterway (303d)
- Delineated Wetland**
- Palustrine Emergent (PEM)
- Palustrine Unconsolidated Bottom (PUB)

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Layout: Wetland Mapbook 12K  
Apo: WetlandMapBook\_12K

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0 100 200 Meters

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Kansas and Missouri





GRAIN BELT EXPRESS  
TRANSMISSION LINE PROJECT  
**Wetlands Map Book**  
Map 229 of 259

ROW

**Permanent Project Component**

Transmission Structure

**Habitat Conversion**

Vegetation Clearing

**Temporary Project Component**

Access Road

**Hydrology**

Delineated Stream

NHD Stream/River

Impaired Waterway (303d)

**Delineated Wetland**

Palustrine Emergent (PEM)

Palustrine Forested (PFO)

Palustrine Unconsolidated Bottom (PUB)

Delineated Waterbody

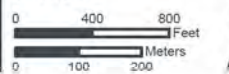
All disturbance areas are likely an over-estimation of direct impacts and based on assumptions presented in the Chapter 2 disturbance model (Table 2-1). These impact areas will be refined and finalized once field surveys are complete and avoidance and/or mitigation measures are implemented



Kansas and Missouri  
GCS North American 1983  
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GRAIN BELT EXPRESS  
TRANSMISSION LINE PROJECT  
**Wetlands Map Book**  
Map 230 of 259

- ROW
- Permanent Project Component**
  - Transmission Structure
- Habitat Conversion**
  - Vegetation Clearing

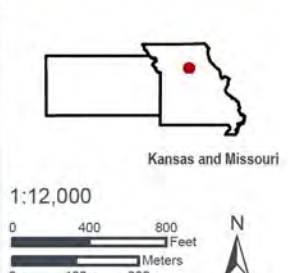
- Temporary Project Component**
  - Access Road
  - Pull Site/Tension Site
- Hydrology**
  - Delineated Stream
  - NHD Stream/River

- Impaired Waterway (303d)
- Delineated Wetland**
  - Palustrine Emergent (PEM)
  - Palustrine Unconsolidated Bottom (PUB)
  - Delineated Waterbody

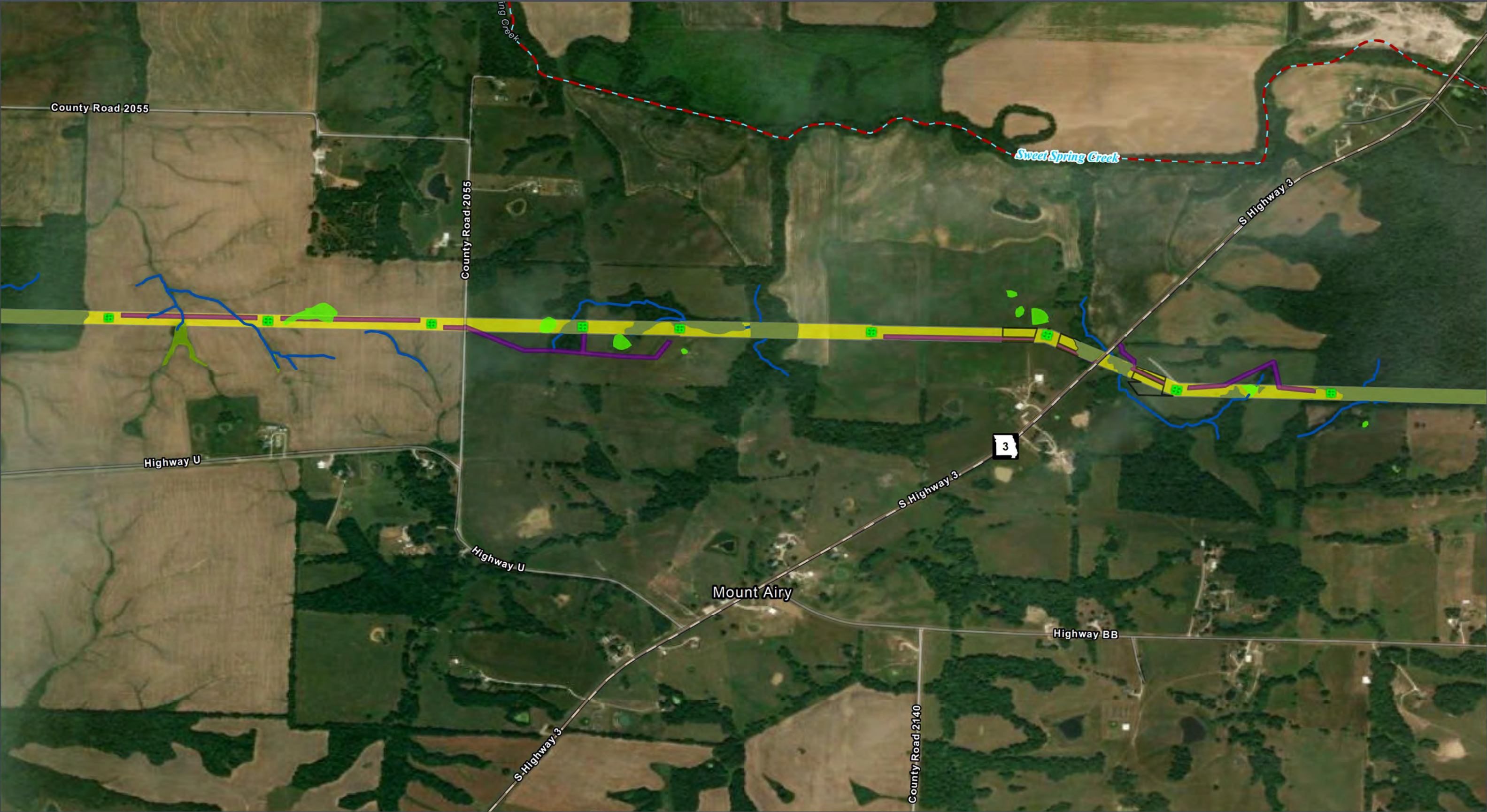
All disturbance areas are likely an over-estimation of direct impacts and based on assumptions presented in the Chapter 2 disturbance model (Table 2-1). These impact areas will be refined and finalized once field surveys are complete and avoidance and/or mitigation measures are implemented



Kansas and Missouri  
GCS North American 1983  
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GRAIN BELT EXPRESS  
TRANSMISSION LINE PROJECT

**Wetlands Map Book**

Map 231 of 259

Grain Belt Express  
An Inveney Project

**Permanent Project Component**

- Transmission Structure

**Habitat Conversion**

- Vegetation Clearing

**Temporary Project Component**

- Access Road

**Hydrology**

- Delineated Stream
- NHD Stream/River
- Impaired Waterway (303d)

**Delineated Wetland**

- Palustrine Emergent (PEM)

**Transportation**

- State Highway

**Palustrine Unconsolidated Bottom (PUB)**

- NHD Waterbody

**Pull Site/Tension Site**

-

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Kansas and Missouri

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Project No. 60694559  
Layout: Wetland Mapbook 12k  
From: WetlandMapBook\_12k

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0 100 200 Meters

Kansas and Missouri





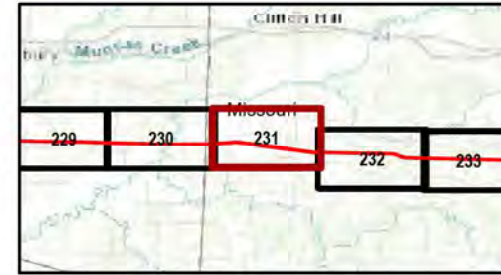
GRAIN BELT EXPRESS  
TRANSMISSION LINE PROJECT  
**Wetlands Map Book**  
Map 232 of 259

- Permanent Project Component**
- Transmission Structure
  - Habitat Conversion**
  - Vegetation Clearing

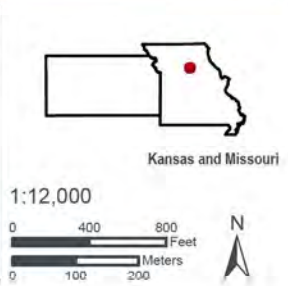
- Temporary Project Component**
- Access Road
  - Pull Site/Tension Site
  - Hydrology**
  - Delineated Stream

- Delineated Wetland**
- Palustrine Emergent (PEM)
  - Palustrine Forested (PFO)
  - Palustrine Unconsolidated Bottom (PUB)
  - NHD Waterbody

All disturbance areas are likely an over-estimation of direct impacts and based on assumptions presented in the Chapter 2 disturbance model (Table 2-1). These impact areas will be refined and finalized once field surveys are complete and avoidance and/or mitigation measures are implemented




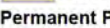




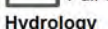

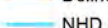
Kansas and Missouri  
GCS North American 1983  
38.3365°N 95.5783°W  
Base Map: Esri ArcGIS Online,  
accessed November 2024  
Updated: 11/26/2024  
Project No. 60694559  
Layout: Wetland Mapbook 12k  
From: WetlandMapBook\_12k







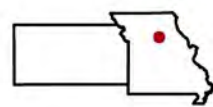
GRAIN BELT EXPRESS  
TRANSMISSION LINE PROJECT  
**Wetlands Map Book**  
Map 233 of 259

- |  |  |
|--|--|
| <b>ROW</b>   |  ROW                    |
| <b>Permanent Project Component</b>   |  Transmission Structure |
| <b>Habitat Conversion</b>  |  Vegetation Clearing    |
| <b>Temporary Project Component</b>   |  Access Road            |
|  Helipad / Fly Yard       |  |
|  Pull Site/Tension Site   |  |
| <b>Hydrology</b>   |  |
|  Delineated Stream        |  |
|  NHD Stream/River         |  |
|  Impaired Waterway (303d) |  |

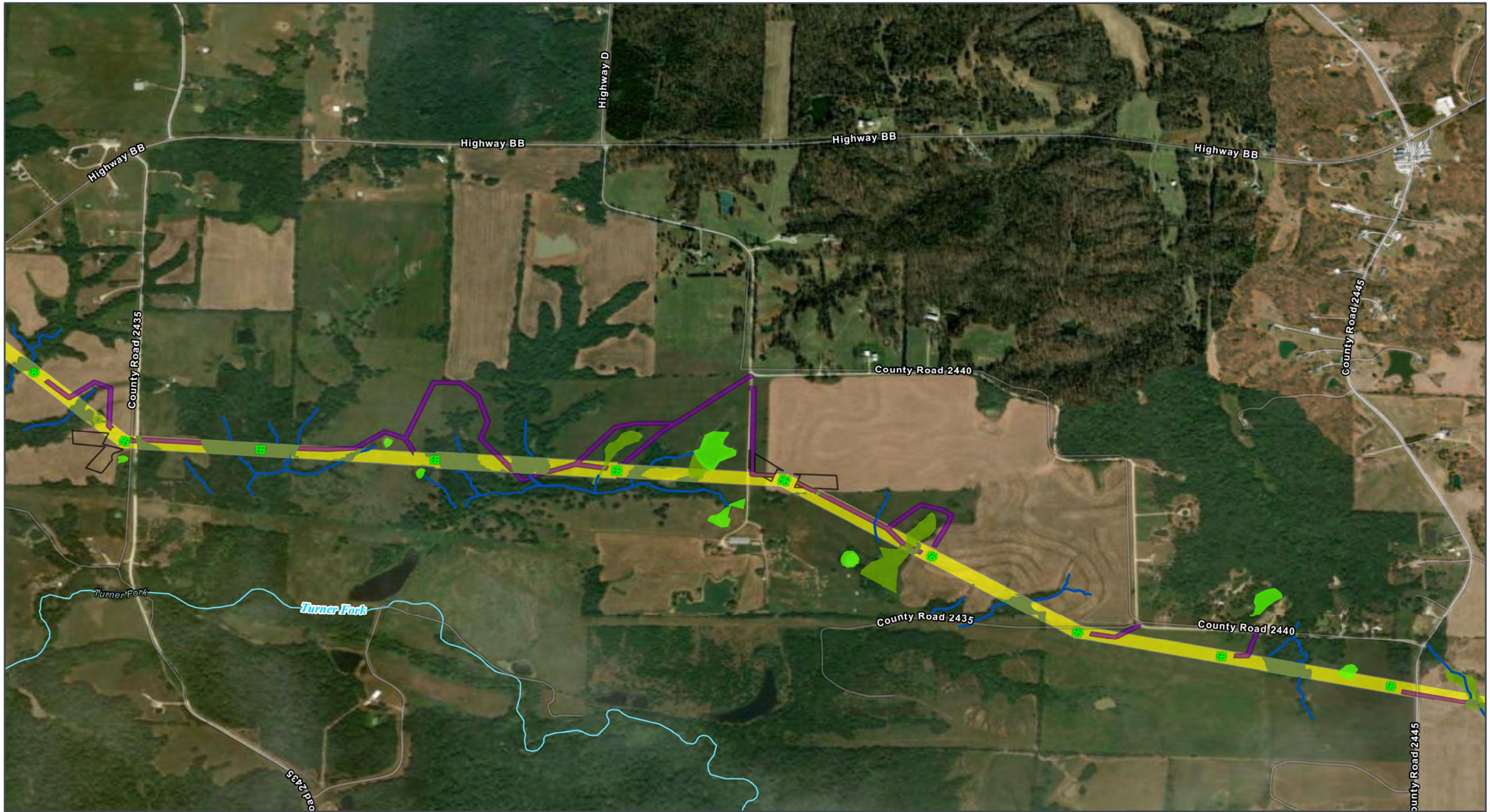
- |  |  |
|--|--|
| <b>Delineated Wetland</b>  |  |
|  Palustrine Emergent (PEM)              |  |
|  Palustrine Unconsolidated Bottom (PUB) |  |
|  NHD Waterbody                          |  |
| <b>Transportation</b>  |  |
|  State Highway                          |  |

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<p>Kansas and Missouri</p> <p>GCS North American 1983 38.3365°N 95.5783°W</p> <p>Base Map: Esri ArcGIS Online, accessed November 2024 Updated: 11/26/2024 Project No. 60694559 Layout: Wetland Mapbook 12k From: WetlandMapBook_12k</p>	 <p>Kansas and Missouri</p> <p>1:12,000</p> <p>0 400 800 Feet</p> <p>0 100 200 Meters</p> <p>N</p>
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GRAIN BELT EXPRESS  
TRANSMISSION LINE PROJECT  
**Wetlands Map Book**  
Map 234 of 259

- |                           |  |   |  |  |  |  |  |   |
|---------------------------|--|---|--|--|--|--|--|---|
| <b>ROW</b><br>Yellow line | <b>Permanent Project Component</b><br>Transmission Structure<br>Green square | <b>Habitat Conversion</b><br>Vegetation Clearing<br>Dark green area | <b>Temporary Project Component</b><br>Access Road<br>Purple line | <b>Pull Site/Tension Site</b><br>White rectangle | <b>Hydrology</b><br>Delineated Stream<br>Blue line | <b>NHD Stream/River</b><br>Light blue line | <b>Delineated Wetland</b><br>Palustrine Emergent (PEM)<br>Light green area | Palustrine Unconsolidated Bottom (PUB)<br>Bright green area |
|---------------------------|--|---|--|--|--|--|--|---|

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GCS North American 1983  
38.3365°N 95.5783°W

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Project No. 60694559  
Layout: Wetland Mapbook 12k  
From: WetlandMapBook\_12k

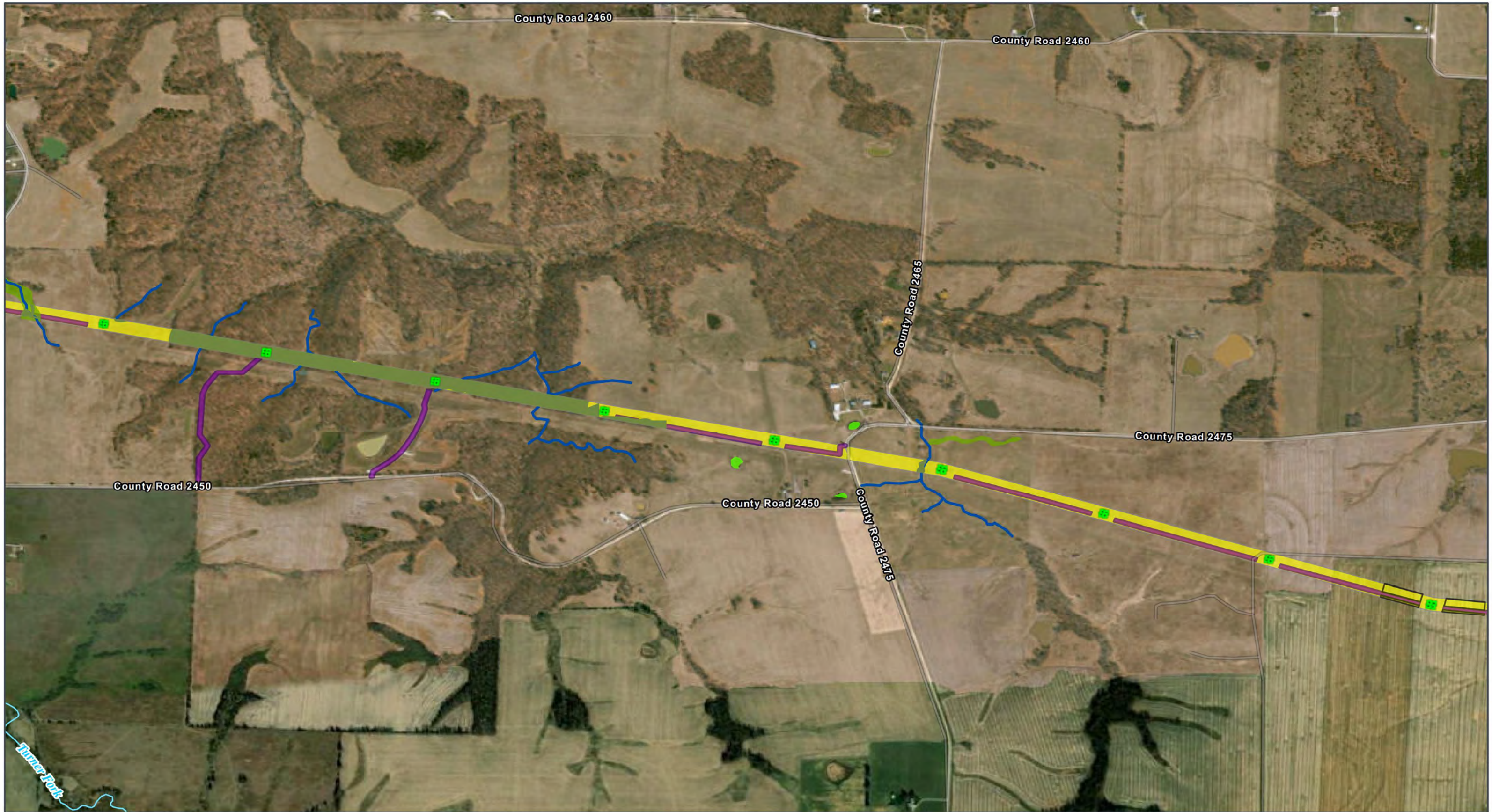
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0 400 800 Feet  
0 100 200 Meters



Kansas and Missouri





GRAIN BELT EXPRESS  
TRANSMISSION LINE PROJECT  
**Wetlands Map Book**  
Map 235 of 259

**Permanent Project Component**  
Transmission Structure  
**Habitat Conversion**  
Vegetation Clearing

**Temporary Project Component**  
Access Road  
Pull Site/Tension Site  
**Hydrology**  
Delineated Stream

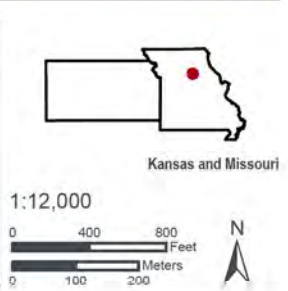
**NHD Stream/River**  
**Delineated Wetland**  
Palustrine Emergent (PEM)  
Palustrine Unconsolidated Bottom (PUB)

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38.3365°N 95.5783°W

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Project No. 60694559  
Layout: Wetland Mapbook 12k  
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GRAIN BELT EXPRESS  
TRANSMISSION LINE PROJECT  
**Wetlands Map Book**  
Map 236 of 259

- Municipal Boundary Near the Project
- ROW
- Permanent Project Component**
- Transmission Structure
- Habitat Conversion**
- Vegetation Clearing

- Temporary Project Component**
- Access Road
- Pull Site/Tension Site
- Hydrology**
- Delineated Stream
- NHD Stream/River

- Delineated Wetland**
- Palustrine Emergent (PEM)
- Palustrine Unconsolidated Bottom (PUB)
- Transportation**
- U.S. Highway
- Railroad

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Kansas and Missouri

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Updated: 11/26/2024  
Project No. 60694559  
Layout: Wetland Mapbook 12k  
From: WetlandMapBook\_12k

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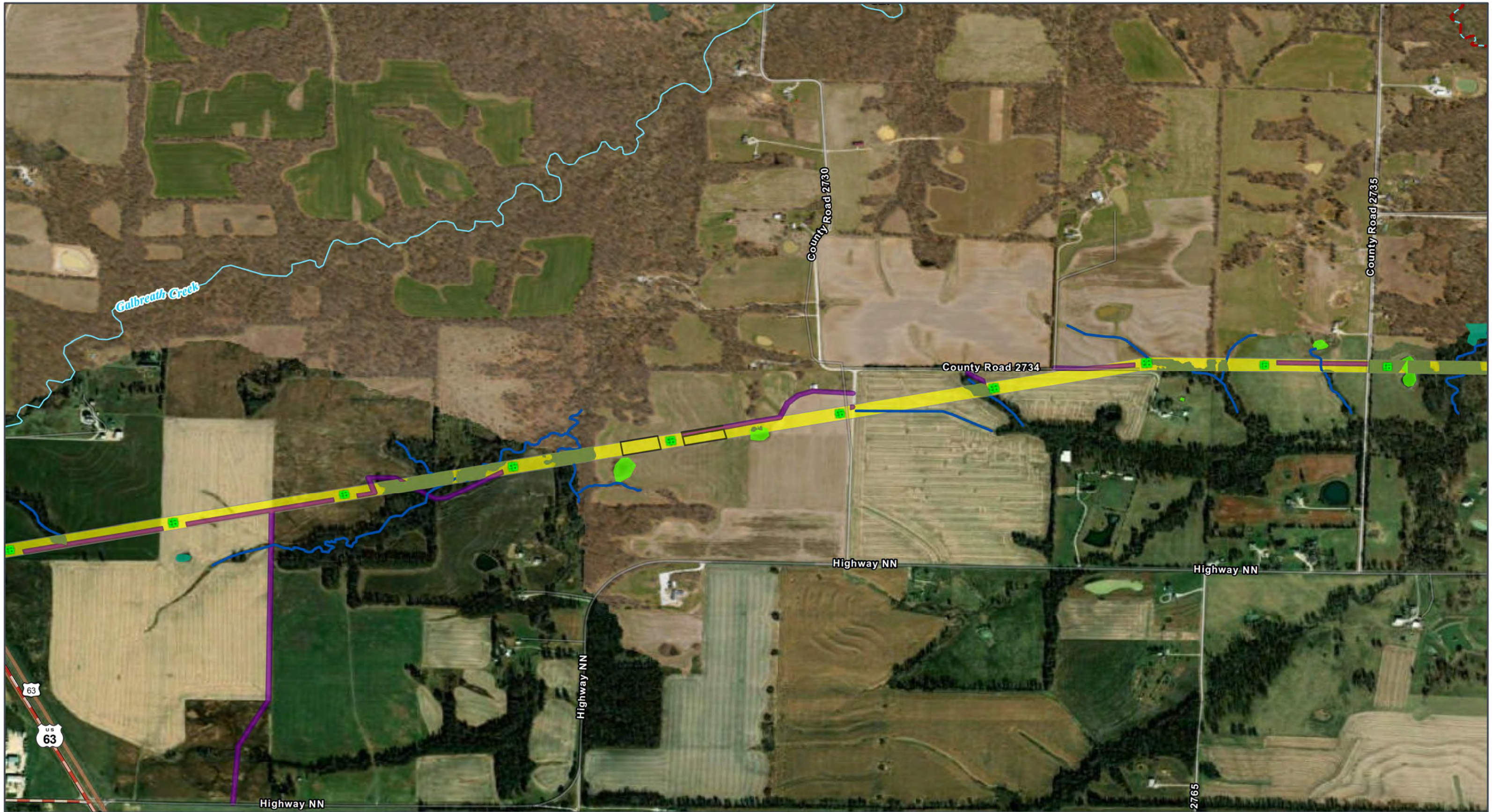
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Kansas and Missouri





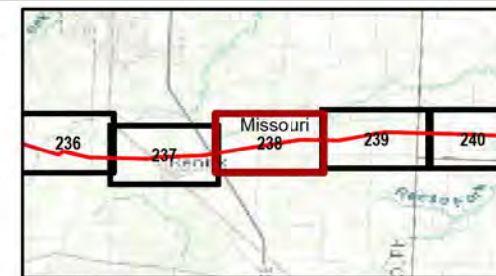
GRAIN BELT EXPRESS  
TRANSMISSION LINE PROJECT  
**Wetlands Map Book**  
Map 237 of 259

- ROW
- Permanent Project Component**
- Transmission Structure
- Habitat Conversion**
- Vegetation Clearing

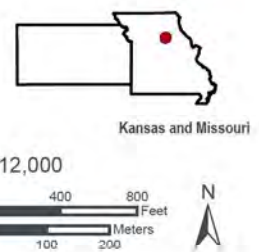
- Temporary Project Component**
- Access Road
- Pull Site/Tension Site
- Hydrology**
- Delineated Stream
- NHD Stream/River

- Impaired Waterway (303d)
- Delineated Wetland**
- Palustrine Forested (PFO)
- Palustrine Unconsolidated Bottom (PUB)
- Transportation**
- U.S. Highway

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Layout: Wetland Mapbook 12k  
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GRAIN BELT EXPRESS  
TRANSMISSION LINE PROJECT  
**Wetlands Map Book**  
Map 238 of 259

- Municipal Boundary Near the Project
- ROW
- Permanent Project Component**
- Transmission Structure
- Habitat Conversion**
- Vegetation Clearing

- Temporary Project Component**
- Access Road
- Helipad / Fly Yard
- Pull Site/Tension Site
- Hydrology**
- Delineated Stream
- NHD Stream/River

- Delineated Wetland**
- Palustrine Emergent (PEM)
- Palustrine Unconsolidated Bottom (PUB)
- Transportation**
- U.S. Highway
- Railroad

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Kansas and Missouri  
GCS North American 1983  
38.3365°N 95.5783°W

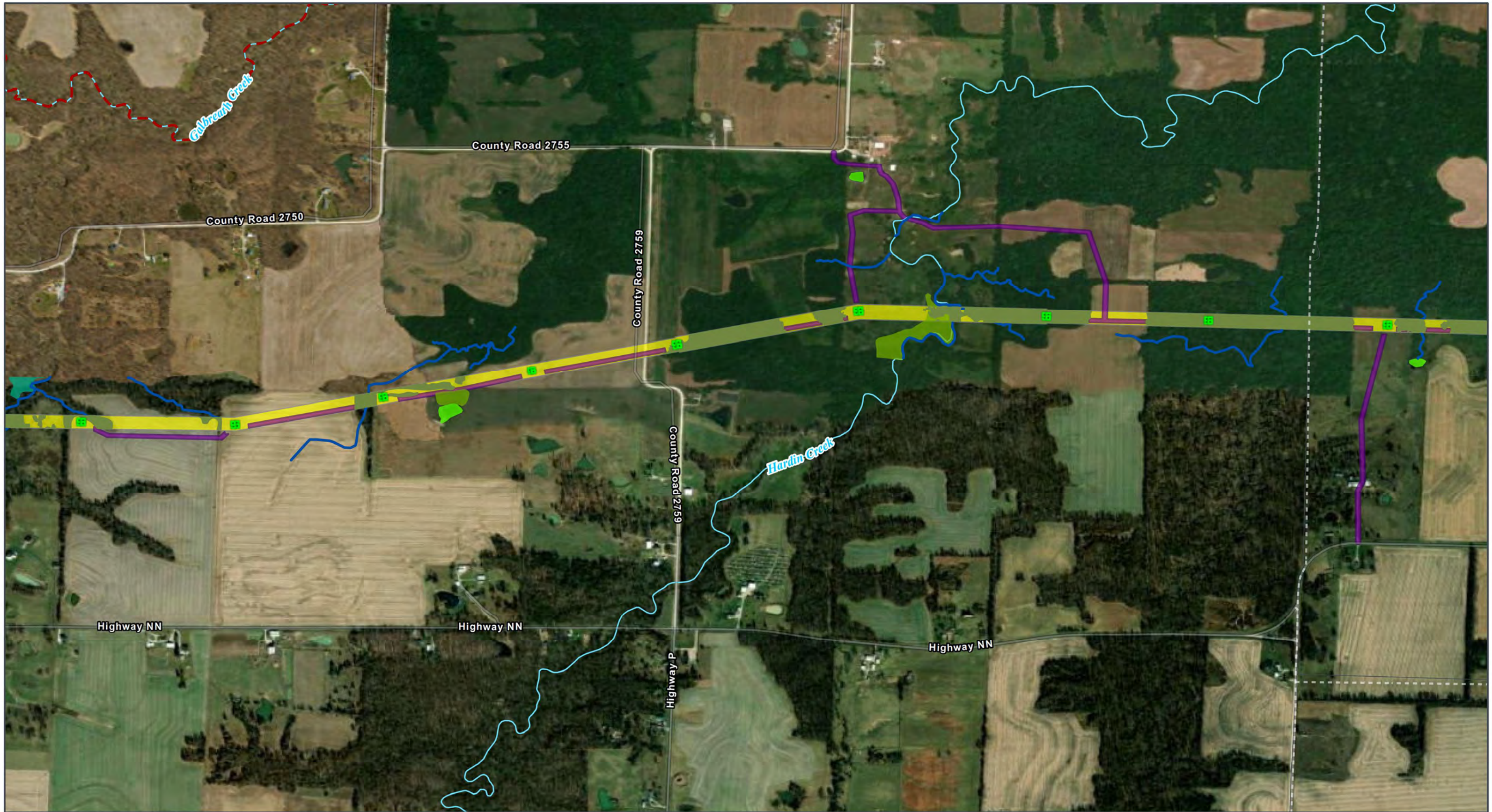
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accessed November 2024  
Updated: 11/26/2024  
Project No. 60694559  
Layout: Wetland Mapbook 12k  
Aero: WetlandMapBook\_12k

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0 400 800 Feet  
0 100 200 Meters

Kansas and Missouri





GRAIN BELT EXPRESS  
TRANSMISSION LINE PROJECT  
**Wetlands Map Book**  
Map 239 of 259

- ROW
- Permanent Project Component**
- Transmission Structure
- Habitat Conversion**
- Vegetation Clearing

- Temporary Project Component**
- Access Road
- Hydrology**
- Delineated Stream
- NHD Stream/River
- Impaired Waterway (303d)

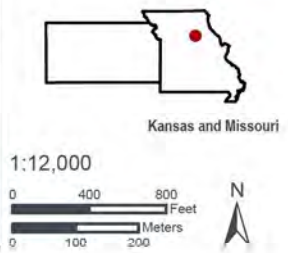
- Delineated Wetland**
- Palustrine Emergent (PEM)
- Palustrine Forested (PFO)
- Palustrine Unconsolidated Bottom (PUB)

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GRAIN BELT EXPRESS  
TRANSMISSION LINE PROJECT  
**Wetlands Map Book**  
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**ROW**  
Permanent Project Component  
Transmission Structure  
Habitat Conversion  
Vegetation Clearing

**Temporary Project Component**  
Access Road  
Pull Site/Tension Site  
**Hydrology**  
Delineated Stream

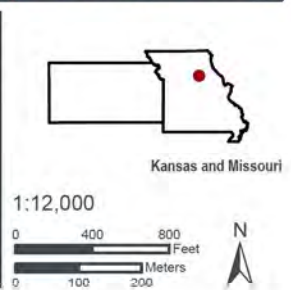
**NHD Stream/River**  
**Delineated Wetland**  
Palustrine Unconsolidated Bottom (PUB)

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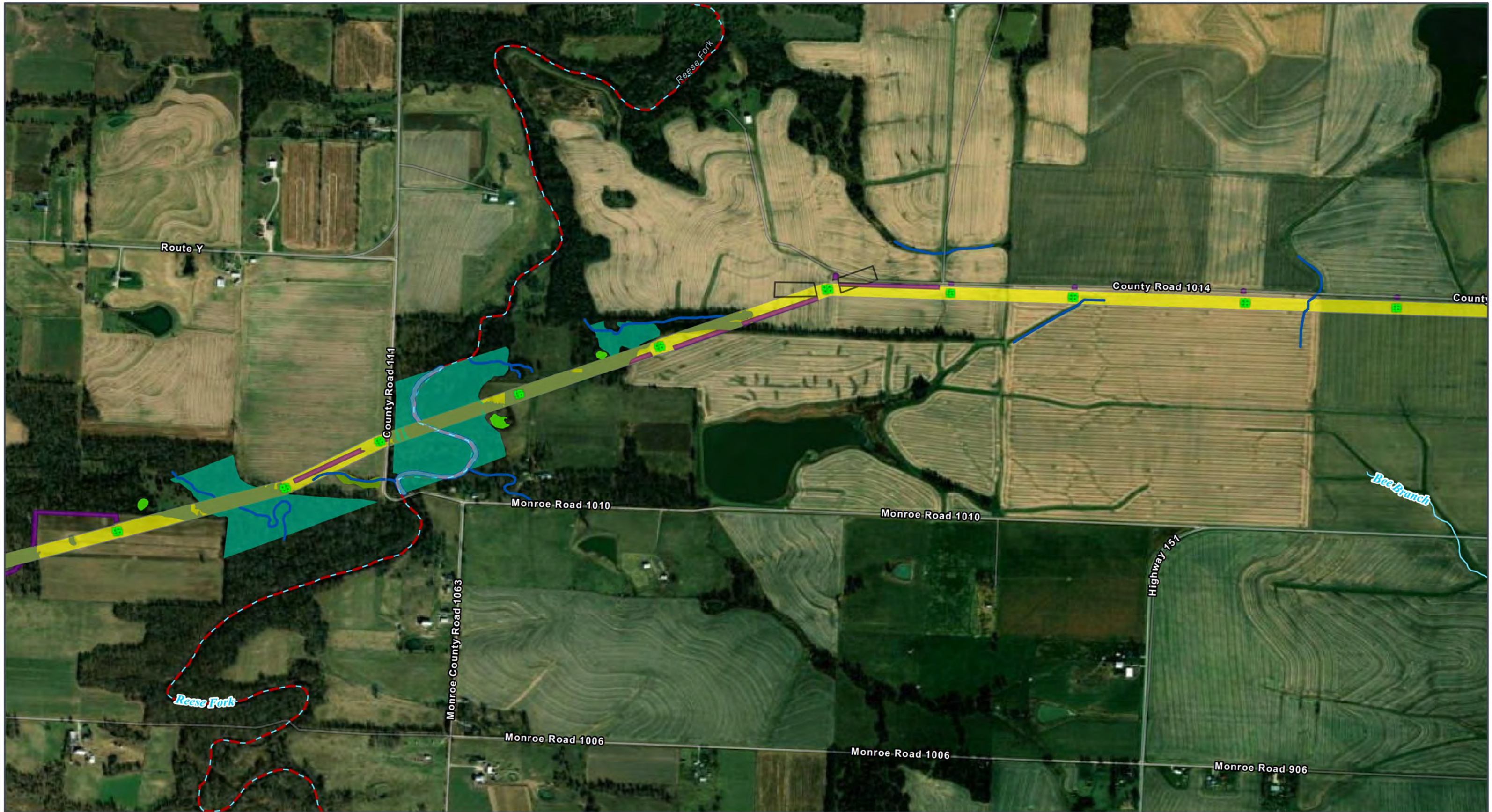


Kansas and Missouri  
GCS North American 1983  
38.3365°N 95.5783°W

Base Map: Esri ArcGIS Online,  
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Updated: 11/26/2024  
Project No. 60694559  
Layout: Wetland Mapbook 12K  
Aron: WetlandMapBook\_12k







GRAIN BELT EXPRESS  
TRANSMISSION LINE PROJECT  
**Wetlands Map Book**  
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ROW

**Permanent Project Component**

Transmission Structure

**Habitat Conversion**

Vegetation Clearing

**Temporary Project Component**

Access Road

Pull Site/Tension Site

**Hydrology**

Delineated Stream

NHD Stream/River

Impaired Waterway (303d)

**Delineated Wetland**

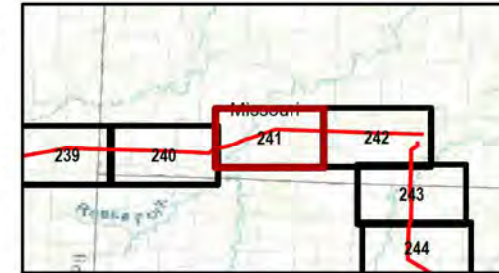
Palustrine Emergent (PEM)

Palustrine Forested (PFO)

Palustrine Unconsolidated Bottom (PUB)

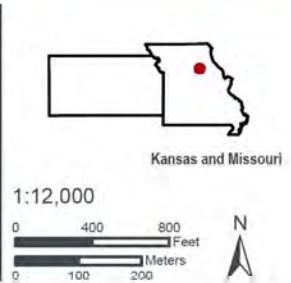
Delineated Waterbody

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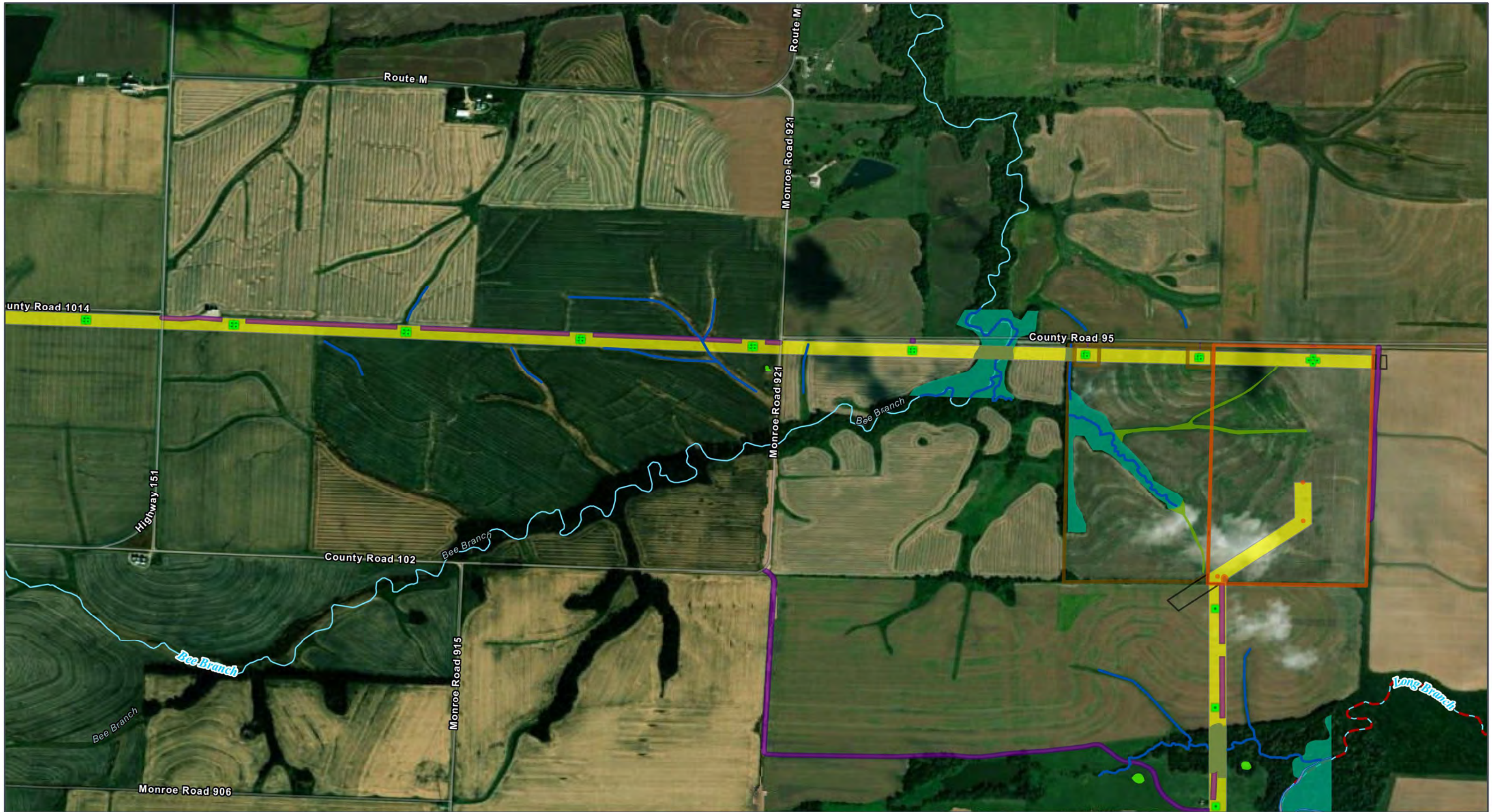


Kansas and Missouri  
GCS North American 1983  
38.3365°N 95.5783°W

Base Map: Esri ArcGIS Online,  
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Project No. 60694559  
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From: WetlandMapBook\_12k







GRAIN BELT EXPRESS  
TRANSMISSION LINE PROJECT  
**Wetlands Map Book**  
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ROW

**Permanent Project Component**

Transmission Structure

Converter Station

**Habitat Conversion**

Vegetation Clearing

**Temporary Project Component**

Access Road

Converter Station

Pull Site/Tension Site

**Hydrology**

Delineated Stream

NHD Stream/River

Impaired Waterway (303d)

Delineated Stream

**Delineated Wetland**

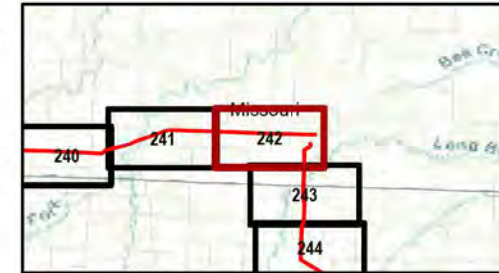
Palustrine Emergent (PEM)

Palustrine Forested (PFO)

Palustrine Unconsolidated Bottom (PUB)

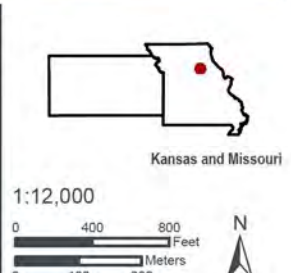
Delineated Waterbody

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Kansas and Missouri  
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38.3365°N 95.5783°W

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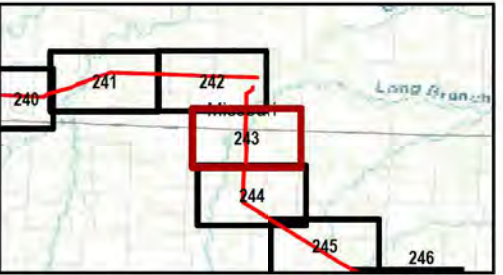
GRAIN BELT EXPRESS  
TRANSMISSION LINE PROJECT  
**Wetlands Map Book**  
Map 243 of 259

- ROW
- Permanent Project Component**
- Transmission Structure
- Habitat Conversion**
- Vegetation Clearing

- Temporary Project Component**
- Access Road
- Hydrology**
- NHD Stream/River
- Impaired Waterway (303d)
- Delineated Stream

- Delineated Wetland**
- Palustrine Emergent (PEM)
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0 400 800 Feet  
0 100 200 Meters

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Kansas and Missouri





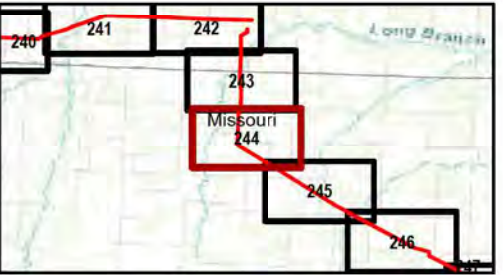
GRAIN BELT EXPRESS  
TRANSMISSION LINE PROJECT  
**Wetlands Map Book**  
Map 244 of 259

- Permanent Project Component**
- Transmission Structure
  - Habitat Conversion**
  - Vegetation Clearing

- Temporary Project Component**
- Access Road
  - Pull Site/Tension Site
  - Hydrology**
  - NHD Stream/River
  - Impaired Waterway (303d)
  - Delineated Stream

- Delineated Wetland**
- Palustrine Emergent (PEM)
  - Palustrine Forested (PFO)
  - Palustrine Scrub-Shrub (PSS)
  - Palustrine Unconsolidated Bottom (PUB)

All disturbance areas are likely an over-estimation of direct impacts and based on assumptions presented in the Chapter 2 disturbance model (Table 2-1). These impact areas will be refined and finalized once field surveys are complete and avoidance and/or mitigation measures are implemented



Kansas and Missouri  
GCS North American 1983  
38.3365°N 95.5783°W

Base Map: Esri ArcGIS Online,  
accessed November 2024  
Updated: 11/26/2024  
Project No. 60694559  
Layout: Wetland Mapbook 12k  
From: WetlandMapBook\_12k

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Kansas and Missouri





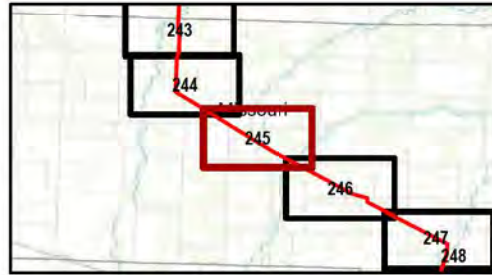
GRAIN BELT EXPRESS  
TRANSMISSION LINE PROJECT  
**Wetlands Map Book**  
Map 245 of 259

- ROW
- Permanent Project Component**
  - Transmission Structure
- Habitat Conversion**
  - Vegetation Clearing

- Temporary Project Component**
  - Access Road
- Hydrology**
  - NHD Stream/River
  - Delineated Stream

- Delineated Wetland**
  - Palustrine Emergent (PEM)
  - Palustrine Forested (PFO)
  - Palustrine Unconsolidated Bottom (PUB)

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Kansas and Missouri  
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38.3365°N 95.5783°W

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Kansas and Missouri





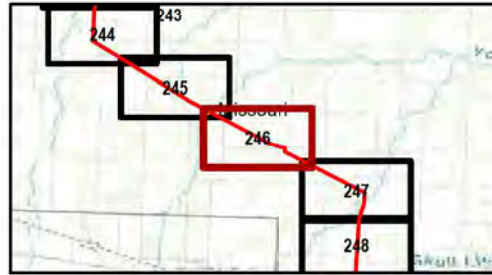
GRAIN BELT EXPRESS  
TRANSMISSION LINE PROJECT  
**Wetlands Map Book**  
Map 246 of 259

- ROW**
- Permanent Project Component**
- Transmission Structure
- Habitat Conversion**
- Vegetation Clearing

- Temporary Project Component**
- Access Road
  - Pull Site/Tension Site
- Hydrology**
- NHD Stream/River

- Delineated Stream**
- Delineated Stream
- Delineated Wetland**
- Palustrine Emergent (PEM)
  - Palustrine Forested (PFO)
  - Palustrine Unconsolidated Bottom (PUB)

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Kansas and Missouri  
GCS North American 1983  
38.3365°N 95.5783°W

Base Map: Esri ArcGIS Online,  
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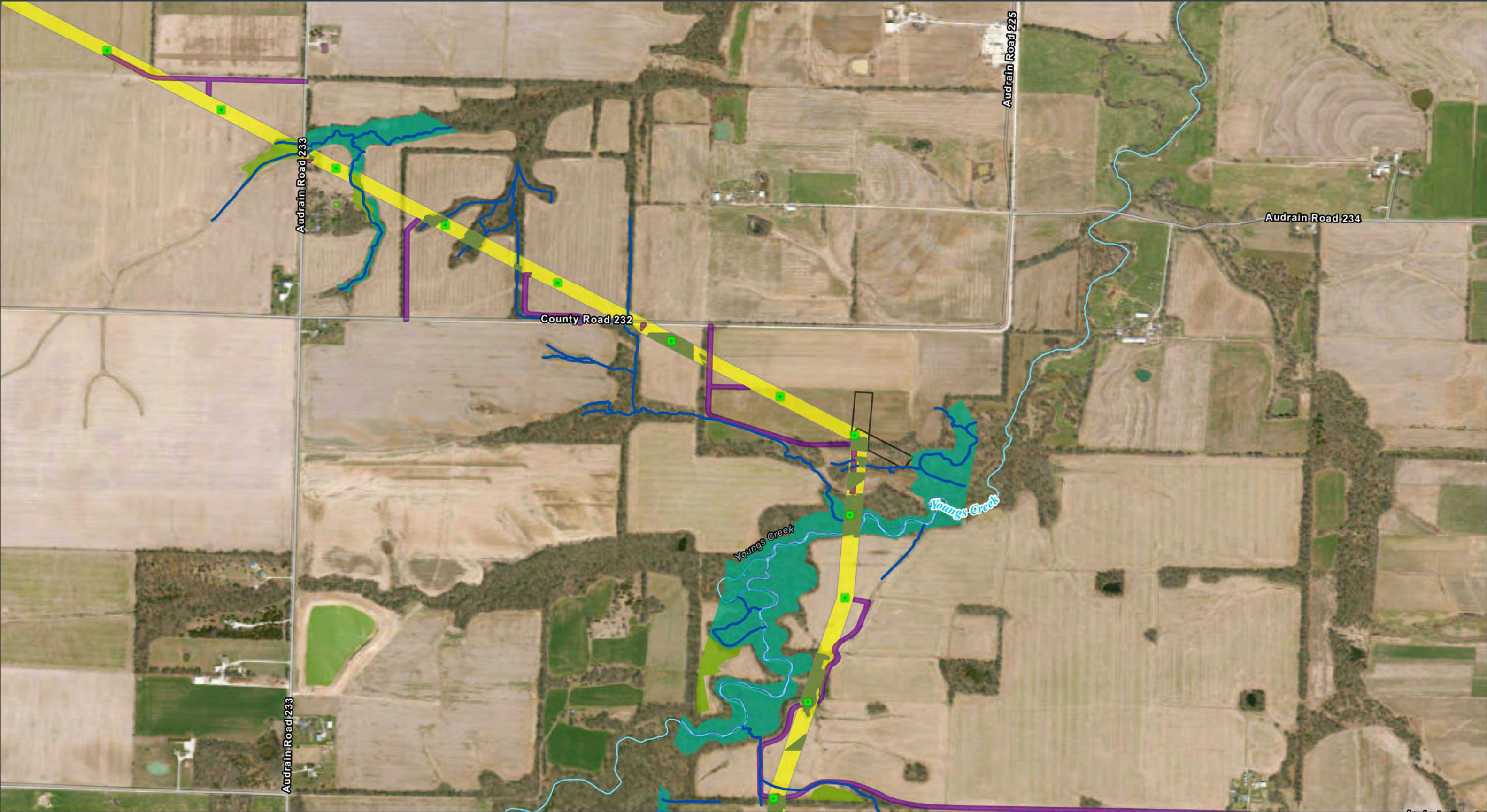
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Kansas and Missouri





GRAIN BELT EXPRESS  
TRANSMISSION LINE PROJECT  
**Wetlands Map Book**  
Map 247 of 259

- ROW**
- Permanent Project Component**
- Transmission Structure
- Habitat Conversion**
- Vegetation Clearing

- Temporary Project Component**
- Access Road
  - Pull Site/Tension Site
- Hydrology**
- NHD Stream/River
  - Delineated Stream

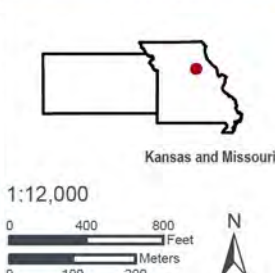
- Delineated Wetland**
- Palustrine Emergent (PEM)
  - Palustrine Forested (PFO)
  - Palustrine Unconsolidated Bottom (PUB)
  - Delineated Waterbody

All disturbance areas are likely an over-estimation of direct impacts and based on assumptions presented in the Chapter 2 disturbance model (Table 2-1). These impact areas will be refined and finalized once field surveys are complete and avoidance and/or mitigation measures are implemented

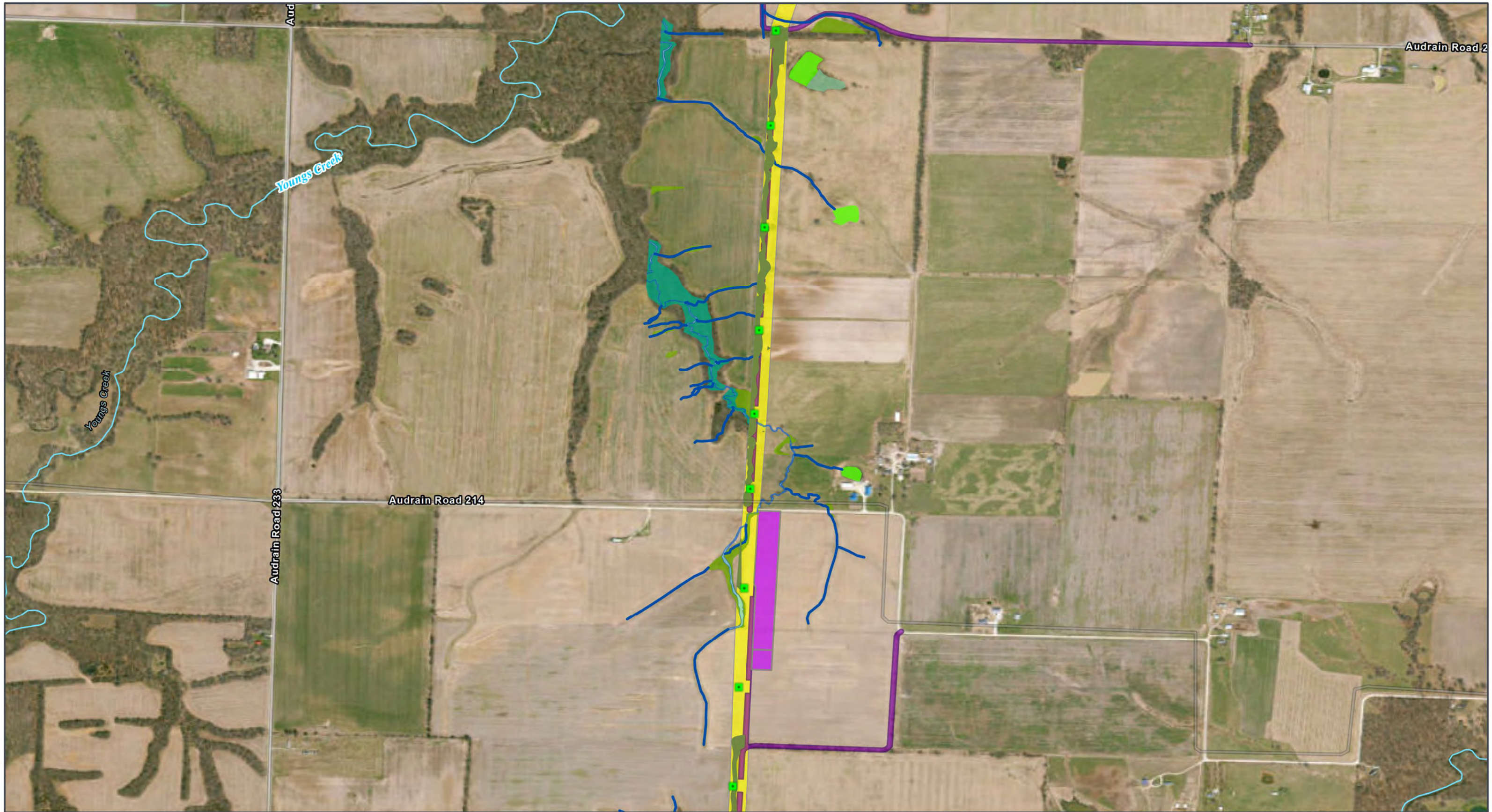


Kansas and Missouri  
GCS North American 1983  
38.3365°N 95.5783°W

Base Map: Esri ArcGIS Online,  
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Updated: 11/26/2024  
Project No. 60694559  
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GRAIN BELT EXPRESS  
TRANSMISSION LINE PROJECT  
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Map 248 of 259

- ROW
- Permanent Project Component**
- Transmission Structure
- Habitat Conversion**
- Vegetation Clearing

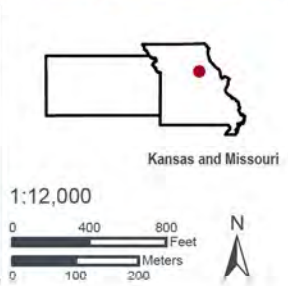
- Temporary Project Component**
- Access Road
- Helipad / Fly Yard
- Hydrology**
- NHD Stream/River
- Delineated Stream

- Delineated Wetland**
- Palustrine Emergent (PEM)
- Palustrine Forested (PFO)
- Palustrine Scrub-Shrub (PSS)
- Palustrine Unconsolidated Bottom (PUB)
- Delineated Waterbody

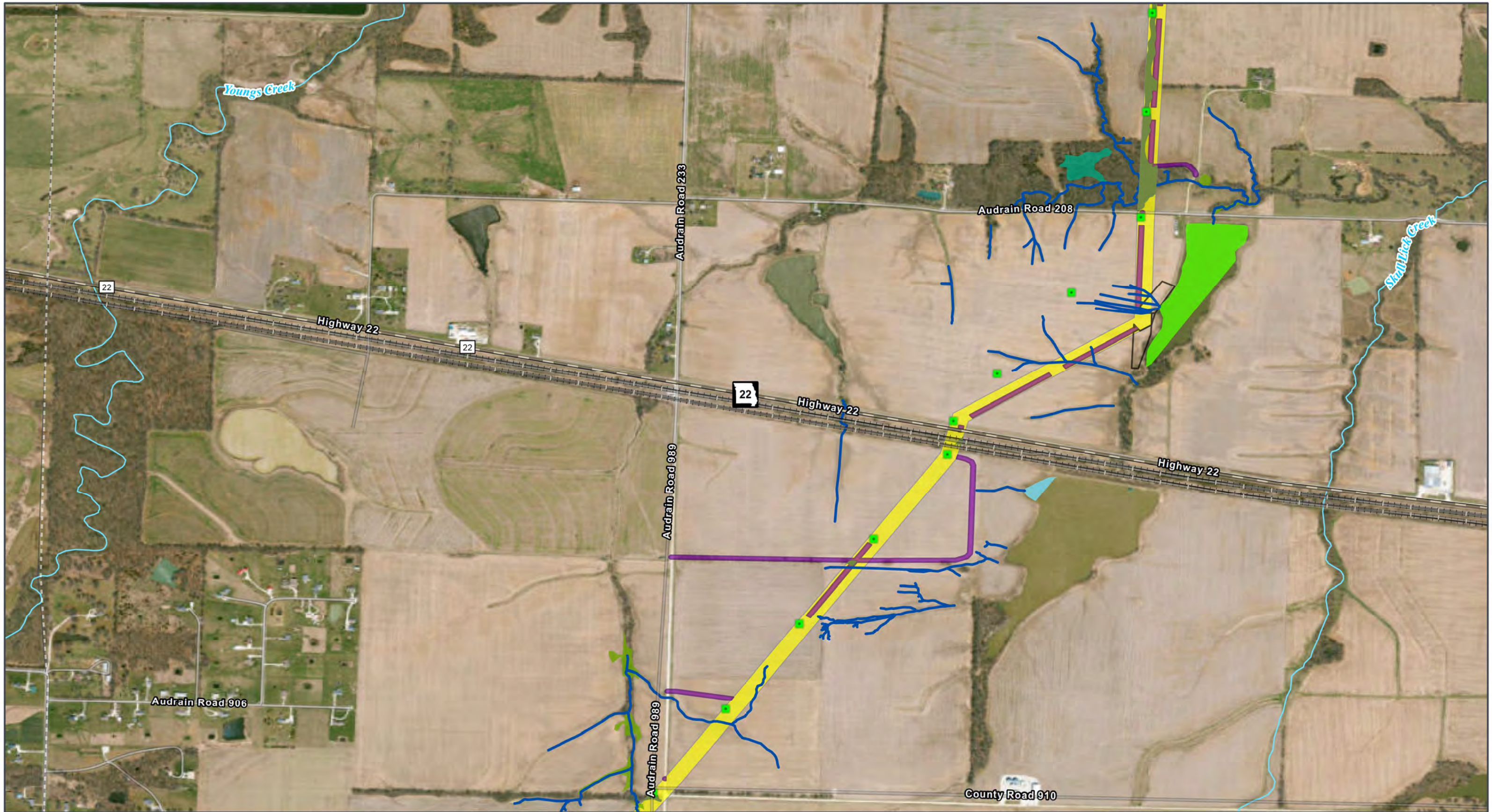
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Kansas and Missouri  
GCS North American 1983  
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Aron: WetlandMapBook\_12K







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- ROW
- Permanent Project Component**
  - Transmission Structure
- Habitat Conversion**
  - Vegetation Clearing
- Temporary Project Component**
  - Access Road

- Pull Site/Tension Site
- Hydrology**
  - NHD Stream/River
  - Delineated Stream
- Delineated Wetland**
  - Lacustrine Unconsolidated Bottom (L1U)

- Palustrine Emergent (PEM)
- Palustrine Forested (PFO)
- Palustrine Unconsolidated Bottom (PUB)
- Transportation**
  - State Highway
  - Railroad

All disturbance areas are likely an over-estimation of direct impacts and based on assumptions presented in the Chapter 2 disturbance model (Table 2-1). These impact areas will be refined and finalized once field surveys are complete and avoidance and/or mitigation measures are implemented



Kansas and Missouri

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Updated: 11/26/2024  
Project No. 60694559  
Layout: Wetland Mapbook 12K  
Aero: WetlandMapBook\_12K

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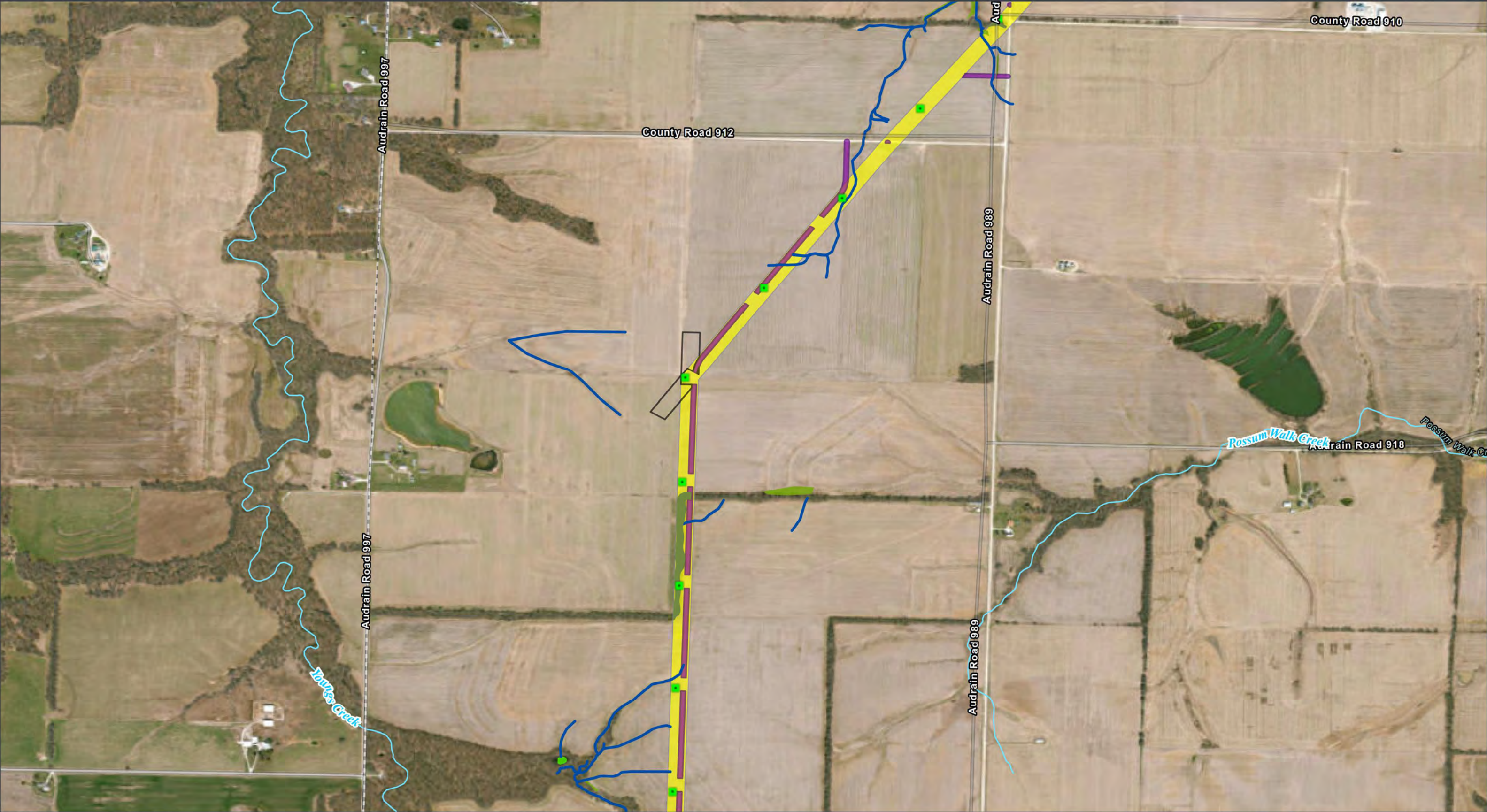
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Kansas and Missouri





GRAIN BELT EXPRESS  
TRANSMISSION LINE PROJECT

**Wetlands Map Book**

Map 250 of 259

**Permanent Project Component**

- Transmission Structure

**Habitat Conversion**

- Vegetation Clearing

**Temporary Project Component**

- Access Road
- Pull Site/Tension Site

**Hydrology**

- NHD Stream/River

**Delineated Stream**

- Delineated Stream

**Delineated Wetland**

- Palustrine Emergent (PEM)
- Palustrine Unconsolidated Bottom (PUB)

All disturbance areas are likely an over-estimation of direct impacts and based on assumptions presented in the Chapter 2 disturbance model (Table 2-1). These impact areas will be refined and finalized once field surveys are complete and avoidance and/or mitigation measures are implemented

Kansas and Missouri

GCS North American 1983  
38.3365°N 95.5783°W

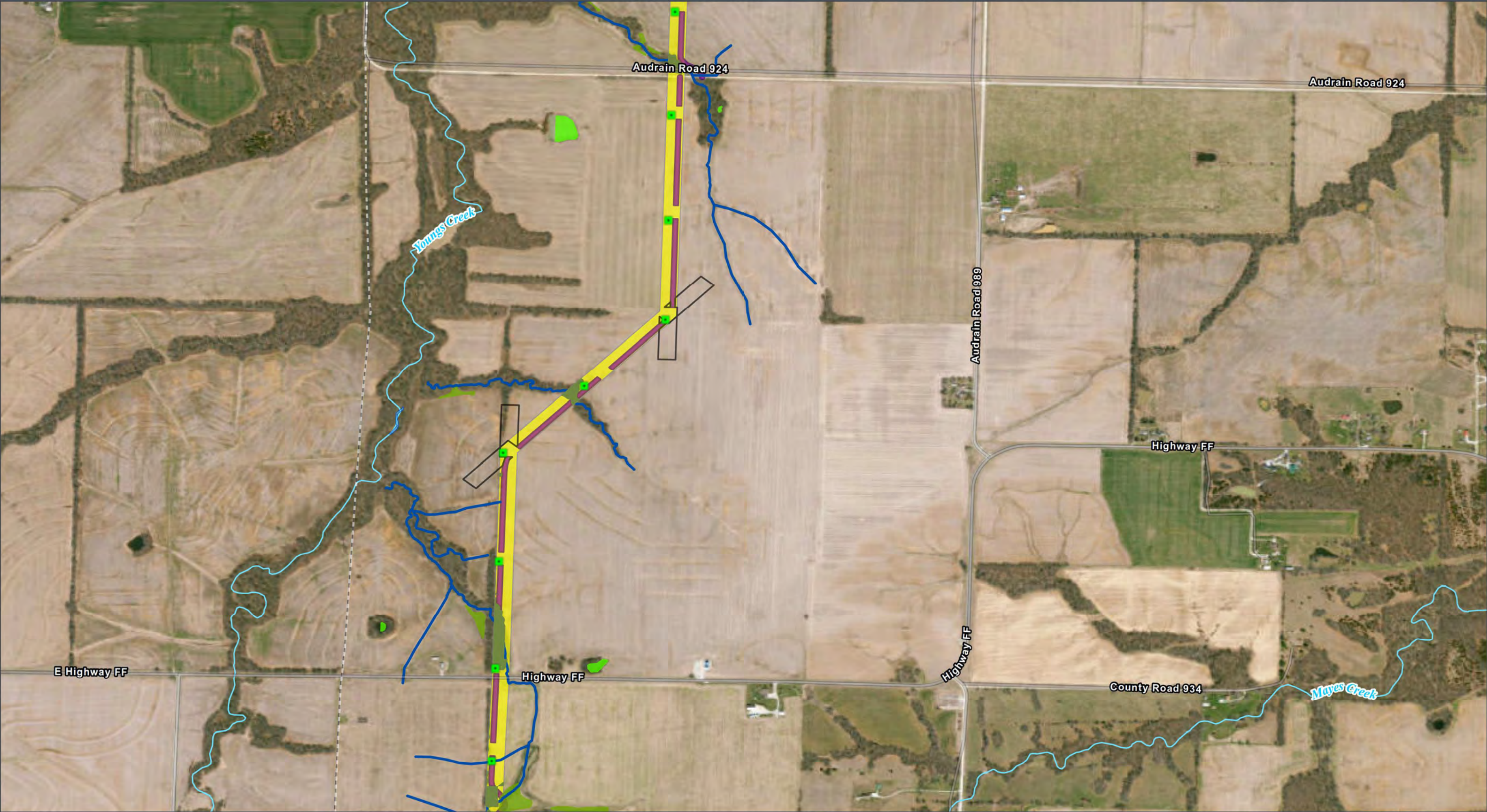
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GRAIN BELT EXPRESS  
TRANSMISSION LINE PROJECT

**Wetlands Map Book**

Map 251 of 259

**Permanent Project Component**

- Transmission Structure
- Habitat Conversion
  - Vegetation Clearing

**Temporary Project Component**

- Access Road
- Pull Site/Tension Site

**Hydrology**

- NHD Stream/River

**Delineated Wetland**

- Palustrine Emergent (PEM)
- Palustrine Unconsolidated Bottom (PUB)
- Delineated Waterbody

**Delineated Stream**

- Delineated Stream

All disturbance areas are likely an over-estimation of direct impacts and based on assumptions presented in the Chapter 2 disturbance model (Table 2-1). These impact areas will be refined and finalized once field surveys are complete and avoidance and/or mitigation measures are implemented

Missouri 251

Kansas and Missouri

GCS North American 1983  
38.3365°N 95.5783°W

Base Map: Esri ArcGIS Online,  
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Updated: 11/26/2024  
Project No. 60694559  
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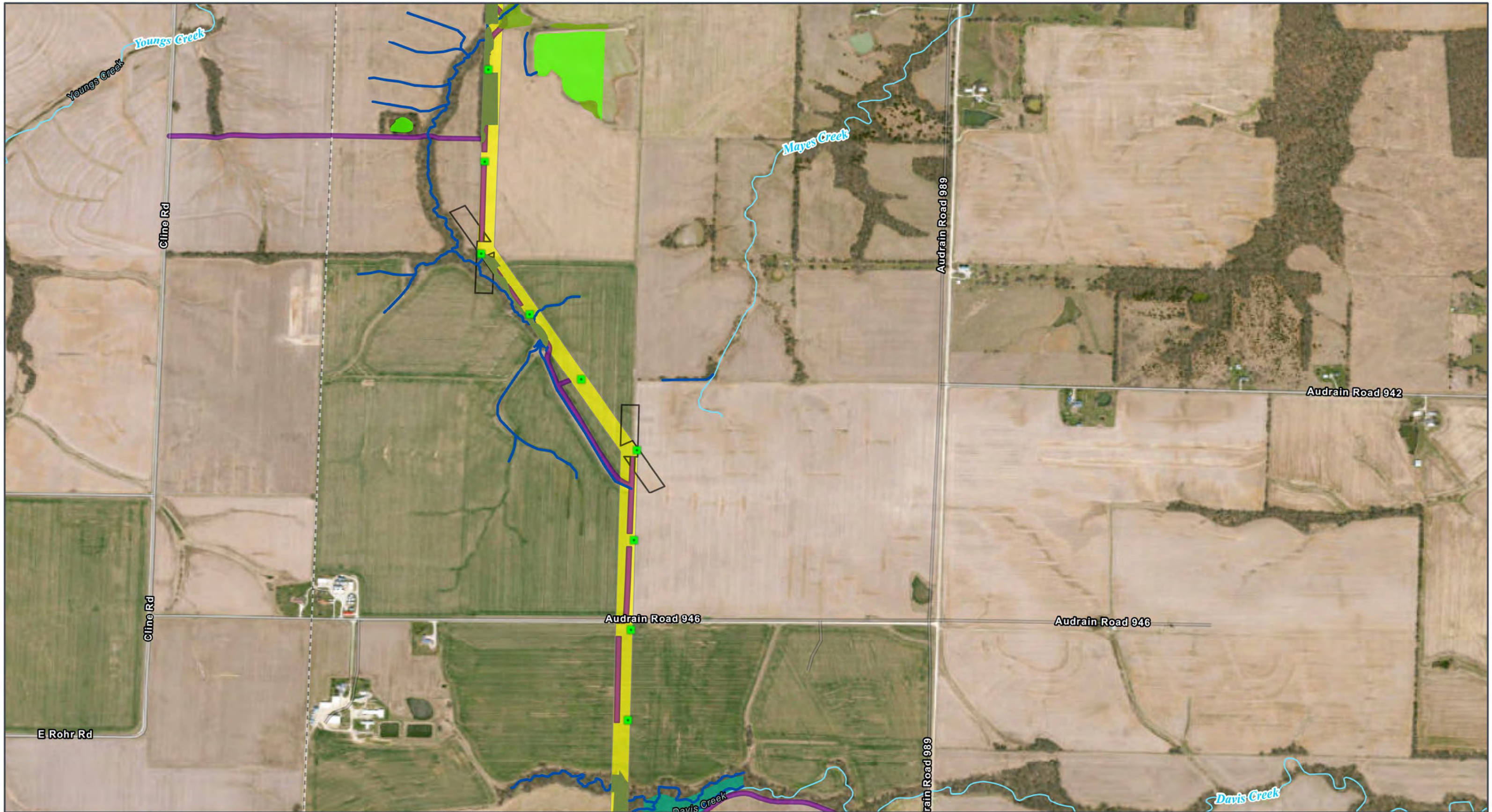
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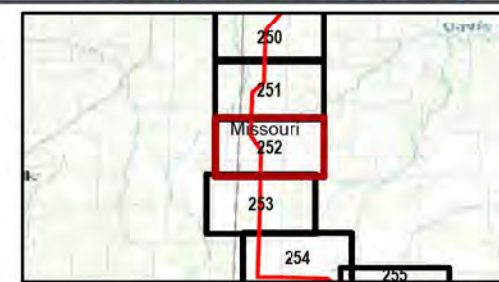
GRAIN BELT EXPRESS  
TRANSMISSION LINE PROJECT  
**Wetlands Map Book**  
Map 252 of 259

- Permanent Project Component**
- Transmission Structure
  - Habitat Conversion**
  - Vegetation Clearing

- Temporary Project Component**
- Access Road
  - Pull Site/Tension Site
  - Hydrology**
  - NHD Stream/River

- Delineated Wetland**
- Palustrine Emergent (PEM)
  - Palustrine Forested (PFO)
  - Palustrine Unconsolidated Bottom (PUB)

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Kansas and Missouri  
GCS North American 1983  
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Base Map: Esri ArcGIS Online,  
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Project No. 60694559  
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From: WetlandMapBook\_12k

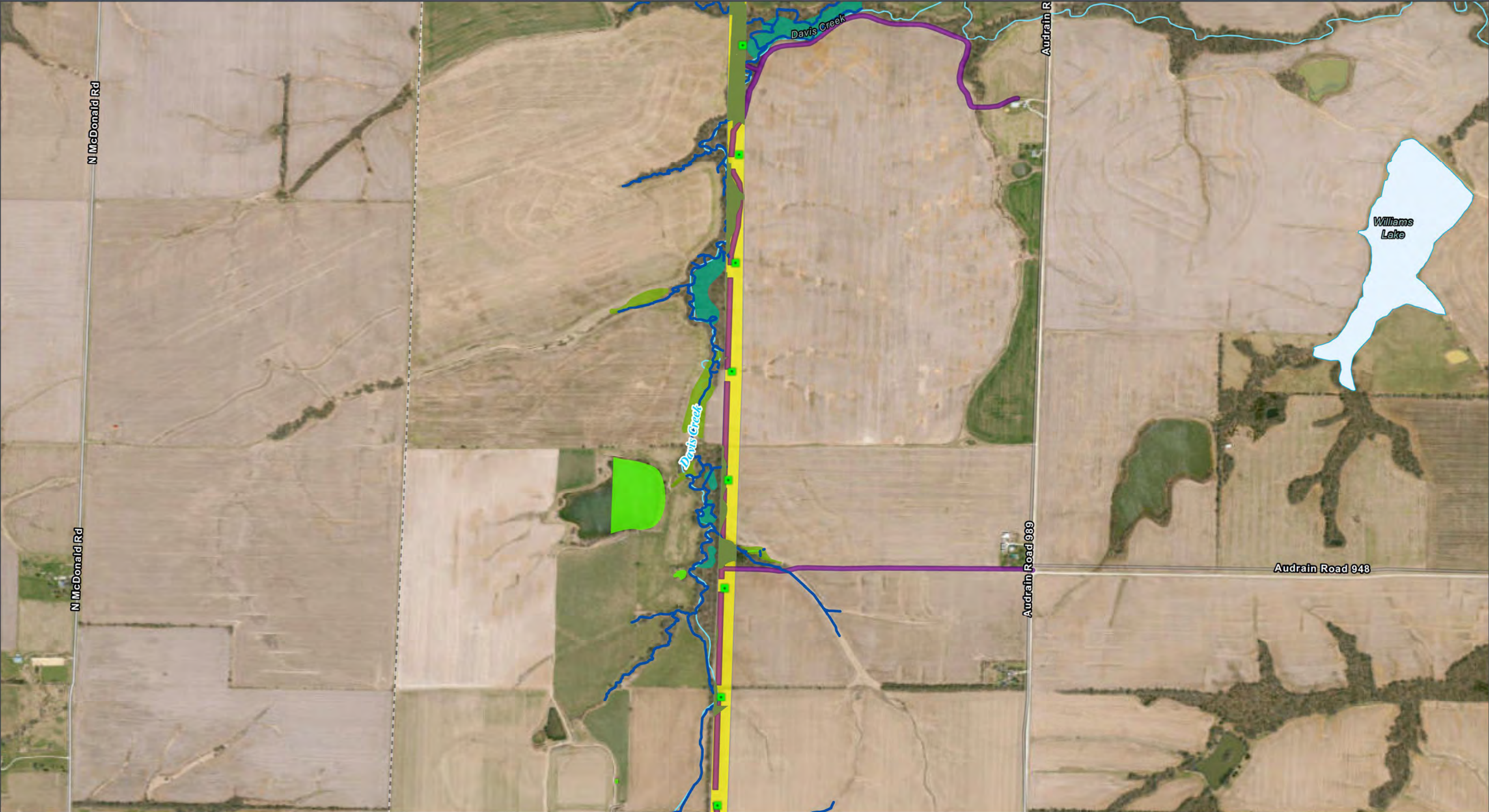
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Kansas and Missouri





GRAIN BELT EXPRESS  
TRANSMISSION LINE PROJECT

**Wetlands Map Book**

Map 253 of 259

**ROW**

**Permanent Project Component**

- Transmission Structure

**Habitat Conversion**

- Vegetation Clearing

**Temporary Project Component**

- Access Road

**Hydrology**

- NHD Stream/River
- Delineated Stream

**Delineated Wetland**

- Palustrine Emergent (PEM)
- Palustrine Forested (PFO)
- Palustrine Unconsolidated Bottom (PUB)
- NHD Waterbody

All disturbance areas are likely an over-estimation of direct impacts and based on assumptions presented in the Chapter 2 disturbance model (Table 2-1). These impact areas will be refined and finalized once field surveys are complete and avoidance and/or mitigation measures are implemented

Kansas and Missouri

GCS North American 1983  
38.3365°N 95.5783°W

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accessed November 2024  
Updated: 11/26/2024  
Project No. 60694559  
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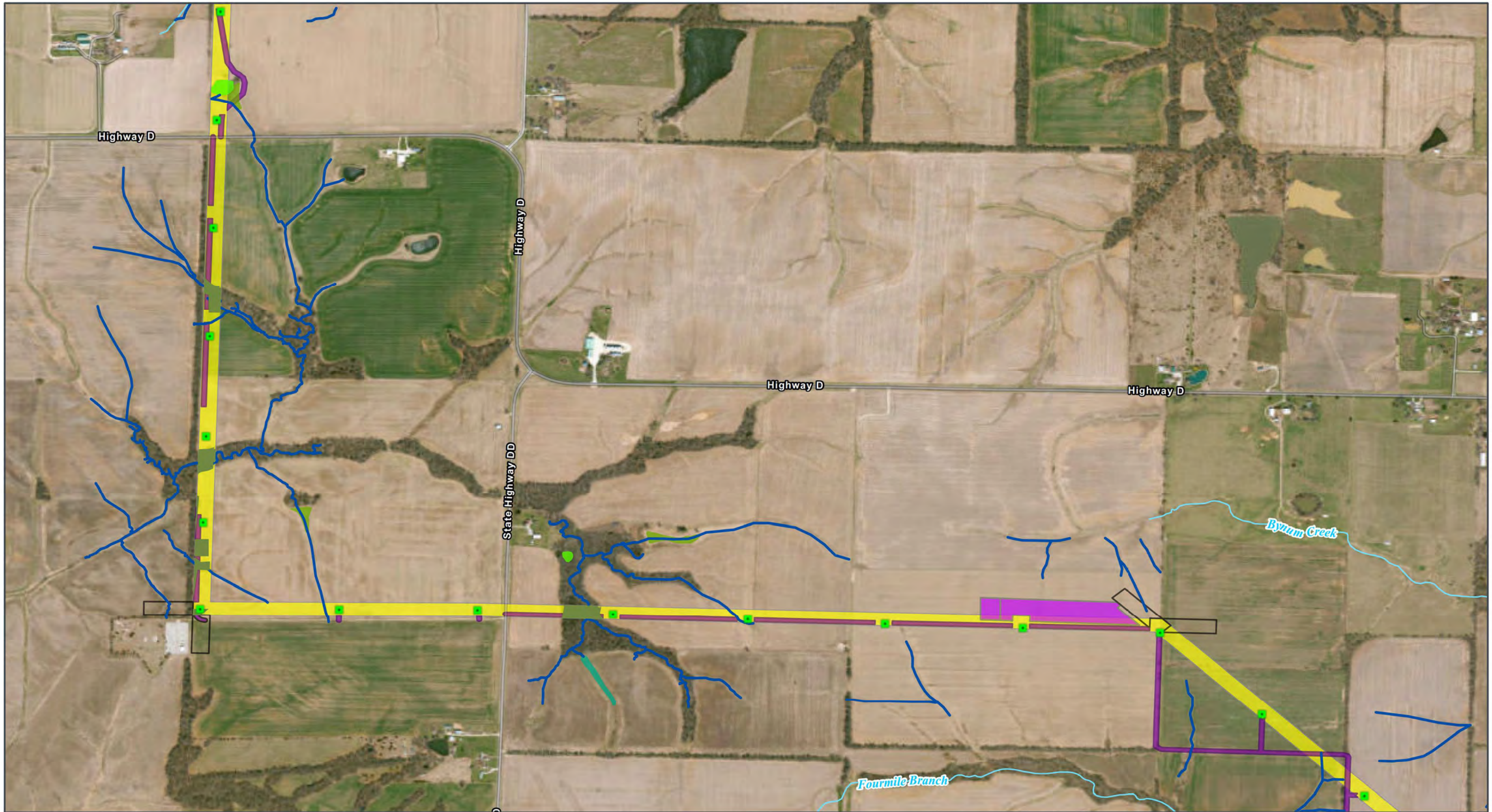
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Kansas and Missouri





GRAIN BELT EXPRESS  
TRANSMISSION LINE PROJECT  
**Wetlands Map Book**  
Map 254 of 259

ROW

**Permanent Project Component**

Transmission Structure

**Habitat Conversion**

Vegetation Clearing

**Temporary Project Component**

Access Road

Helipad / Fly Yard

Pull Site/Tension Site

**Hydrology**

NHD Stream/River

Delineated Stream

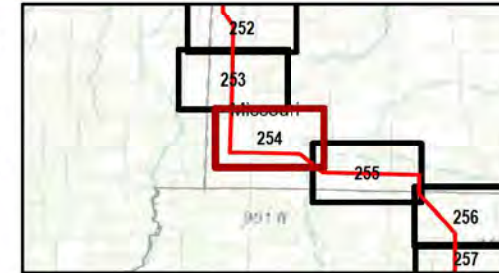
**Delineated Wetland**

Palustrine Emergent (PEM)

Palustrine Forested (PFO)

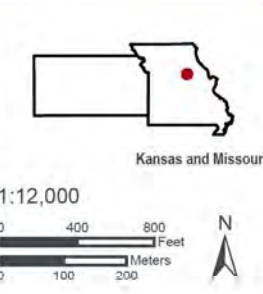
Palustrine Unconsolidated Bottom (PUB)

All disturbance areas are likely an over-estimation of direct impacts and based on assumptions presented in the Chapter 2 disturbance model (Table 2-1). These impact areas will be refined and finalized once field surveys are complete and avoidance and/or mitigation measures are implemented

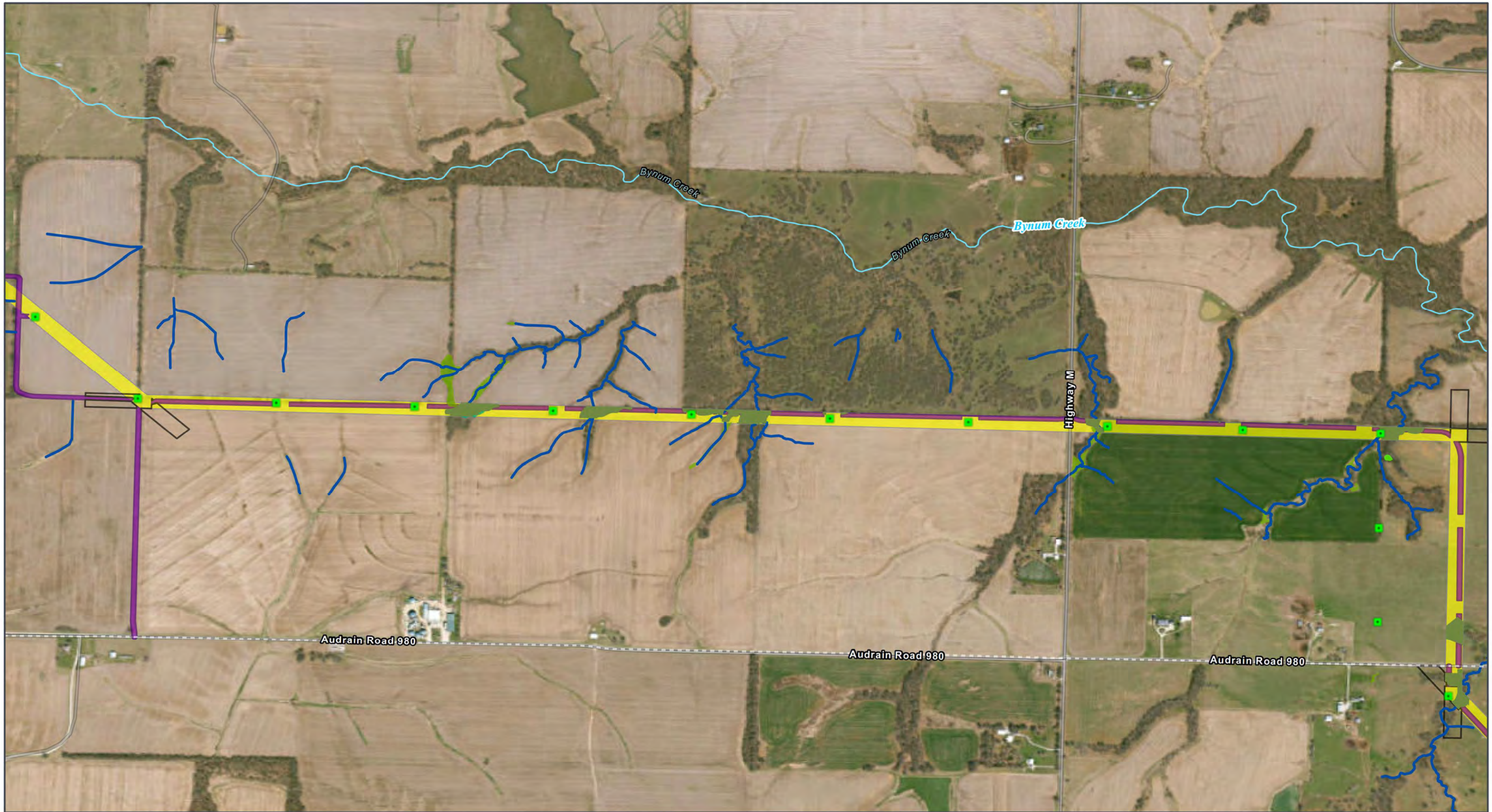


Kansas and Missouri  
GCS North American 1983  
38.3365°N 95.5783°W

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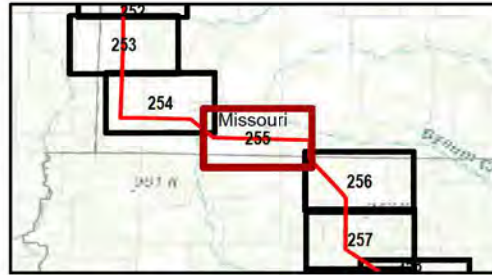
GRAIN BELT EXPRESS  
TRANSMISSION LINE PROJECT  
**Wetlands Map Book**  
Map 255 of 259

- ROW
- Permanent Project Component**
  - Transmission Structure
- Habitat Conversion**
  - Vegetation Clearing

- Temporary Project Component**
  - Access Road
  - Pull Site/Tension Site
- Hydrology**
  - NHD Stream/River

- Delineated Stream
- Delineated Wetland**
  - Palustrine Emergent (PEM)
  - Palustrine Forested (PFO)
  - Palustrine Unconsolidated Bottom (PUB)

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Kansas and Missouri

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Kansas and Missouri

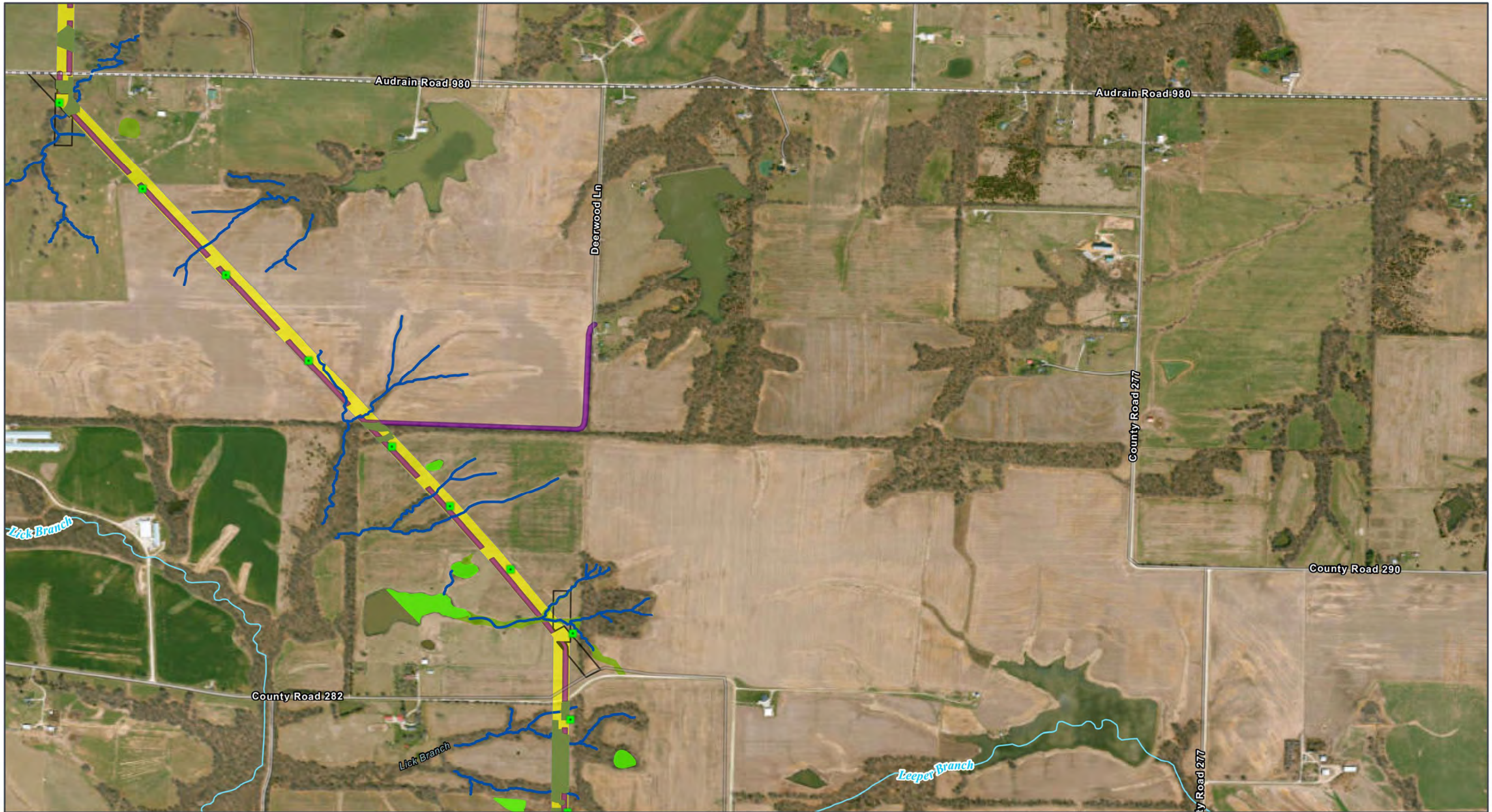
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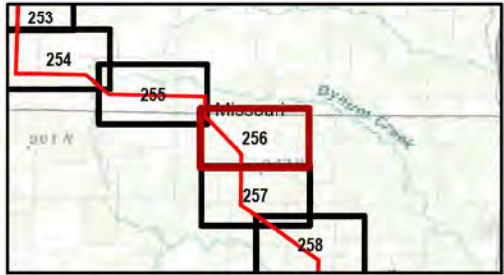
GRAIN BELT EXPRESS  
TRANSMISSION LINE PROJECT  
**Wetlands Map Book**  
Map 256 of 259

**ROW**  
Permanent Project Component  
Transmission Structure  
**Habitat Conversion**  
Vegetation Clearing

**Temporary Project Component**  
Access Road  
Pull Site/Tension Site  
**Hydrology**  
NHD Stream/River

**Delineated Stream**  
Delineated Wetland  
Palustrine Emergent (PEM)  
Palustrine Unconsolidated Bottom (PUB)

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Project No. 60694559  
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GRAIN BELT EXPRESS  
TRANSMISSION LINE PROJECT  
**Wetlands Map Book**  
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ROW

**Permanent Project Component**

- Transmission Structure
- Habitat Conversion
- Vegetation Clearing

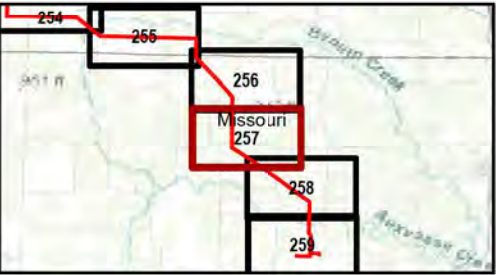
**Temporary Project Component**

- Access Road
- Pull Site/Tension Site
- Hydrology
- NHD Stream/River

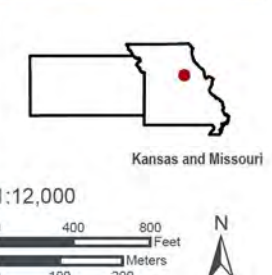
**Delineated Stream**

- Palustrine Emergent (PEM)
- Palustrine Forested (PFO)
- Palustrine Unconsolidated Bottom (PUB)

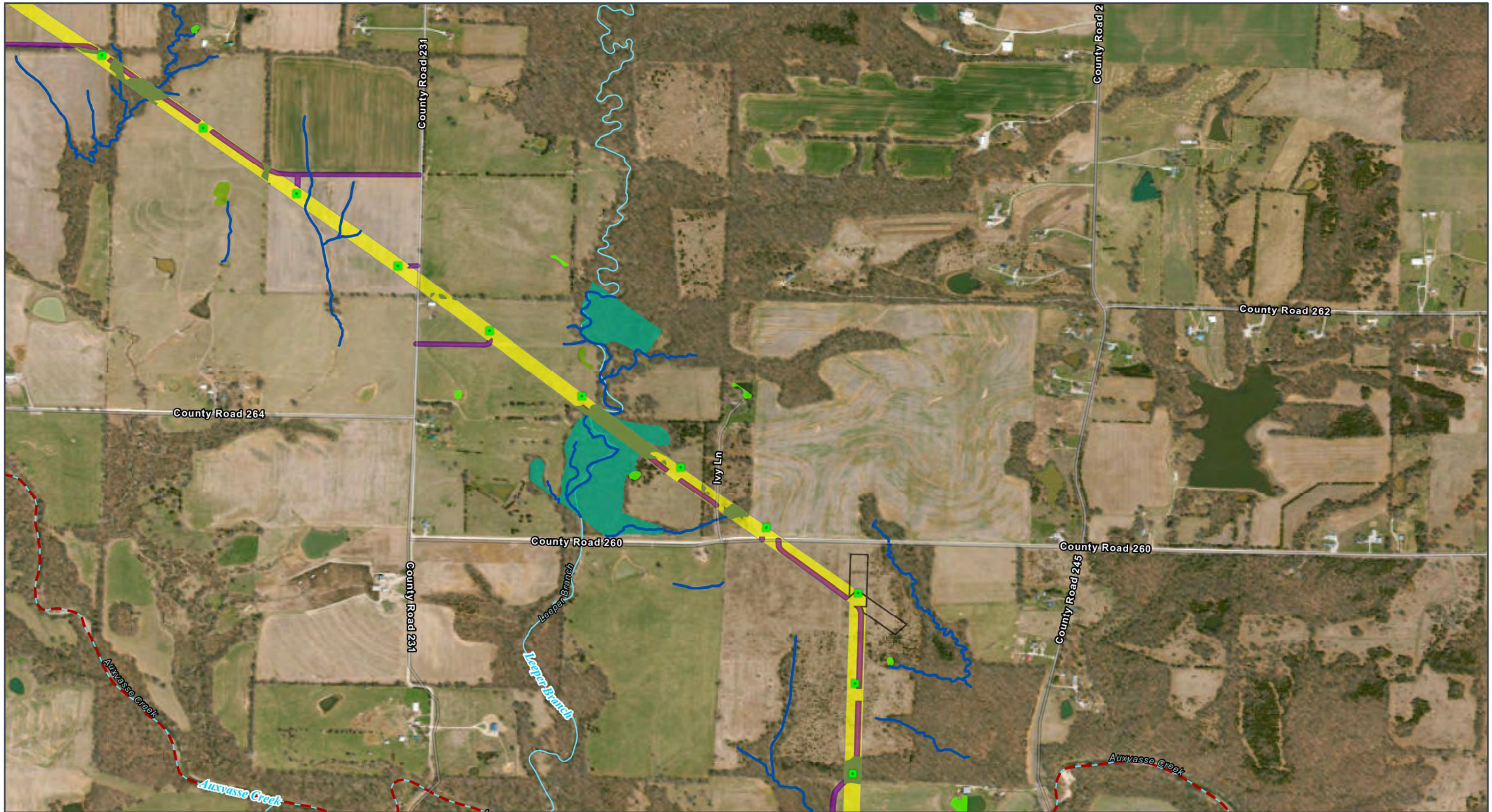
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Kansas and Missouri  
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Project No. 60694559  
Layout: Wetland Mapbook 12k  
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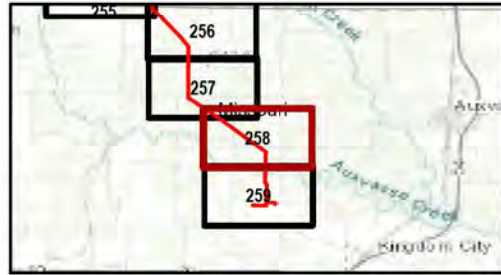
GRAIN BELT EXPRESS  
TRANSMISSION LINE PROJECT  
**Wetlands Map Book**  
Map 258 of 259

- ROW
- Permanent Project Component**
- Transmission Structure
- Habitat Conversion**
- Vegetation Clearing

- Temporary Project Component**
- Access Road
- Pull Site/Tension Site
- Hydrology**
- NHD Stream/River
- Impaired Waterway (303d)

- Delineated Stream**
- Delineated Wetland
- Palustrine Emergent (PEM)
- Palustrine Forested (PFO)
- Palustrine Unconsolidated Bottom (PUB)

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Project No. 60694559  
Layout: Wetland Mapbook 12k  
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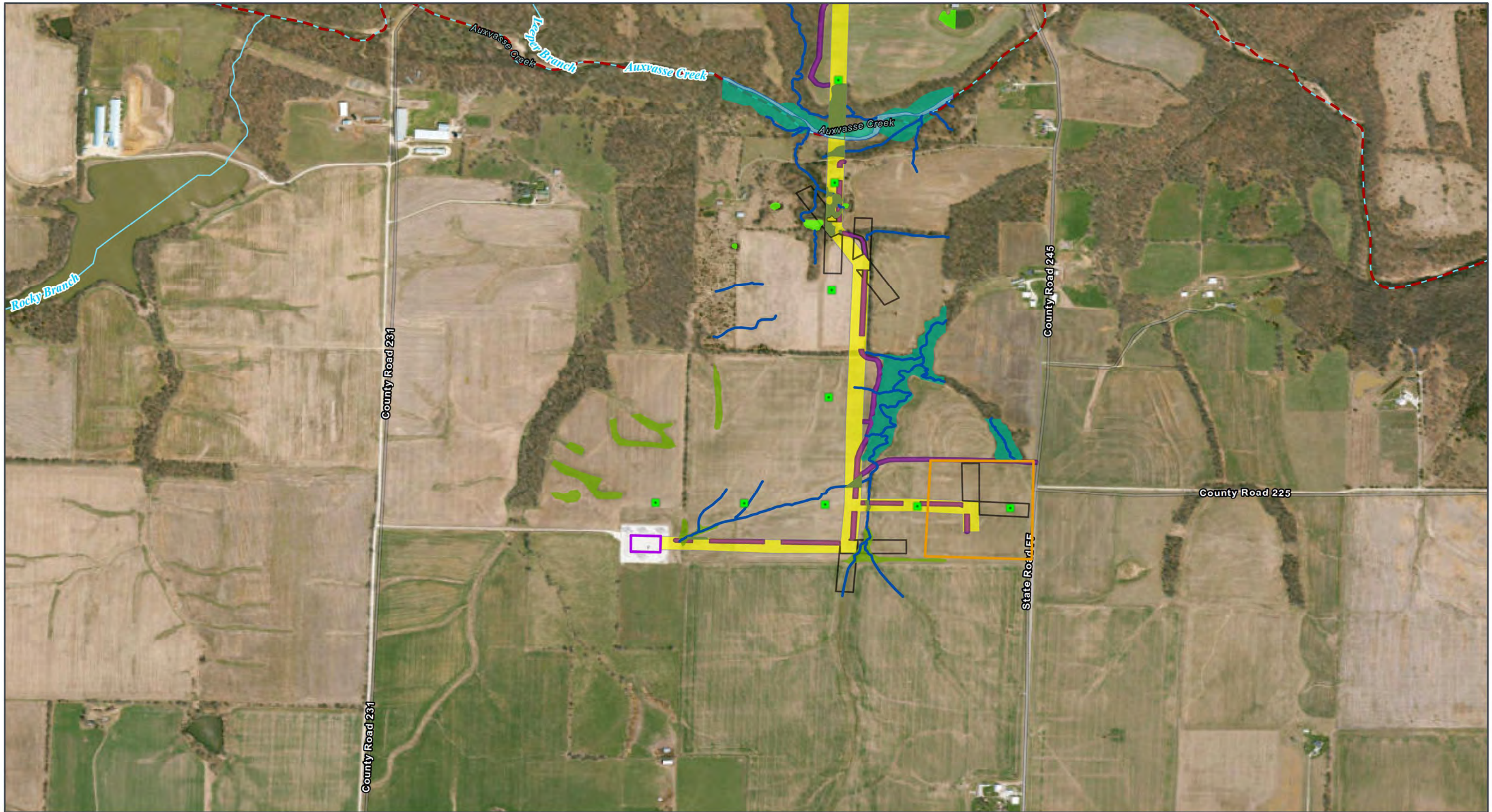
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Kansas and Missouri





GRAIN BELT EXPRESS  
TRANSMISSION LINE PROJECT  
**Wetlands Map Book**  
Map 259 of 259

- Existing Burns Substation
- Existing McCredie Substation
- ROW
- Permanent Project Component**
  - Transmission Structure
- Habitat Conversion**
  - Vegetation Clearing

- Temporary Project Component**
  - Access Road
  - Pull Site/Tension Site
- Hydrology**
  - NHD Stream/River
  - Impaired Waterway (303d)
  - Delineated Stream

- Delineated Wetland**
  - Palustrine Emergent (PEM)
  - Palustrine Forested (PFO)
  - Palustrine Unconsolidated Bottom (PUB)
  - Delineated Waterbody

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Project No. 60694559  
Layout: Wetland Mapbook 12k  
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Kansas and Missouri



**Grain Belt Express Transmission Line  
Environmental Impact Statement**

**Appendix 3.6-1: Cultural Resources Present in  
the Analysis Areas**



**Table 1. State-Inventoried Archaeological Sites in the Archaeological Analysis Area**

<b>Site ID</b>	<b>Location</b>	<b>Site Type/Function/Cultural Affiliation</b>	<b>National Register of Historic Places Status</b>
14DP0118	Doniphan County, Kansas	Precontact - Isolated Findspot; Historic - Agrarian	Unknown
14RU0004	Russell County, Kansas	Precontact - Village Site	Unknown
14WH0340	Washington County, Kansas	Precontact - Unknown Function	Unknown
23CY0127	Callaway County, Missouri	Precontact - Habitation Site	Unknown
23CW1041	Caldwell County, Missouri	Historic - 19th/20th Century Dump Site	Unknown
23CW0060	Caldwell County, Missouri	Historic - Late 19th Century Farmstead	Not Evaluated
23CW0058	Caldwell County, Missouri	Historic - 20th Century Farmstead	Not Evaluated
23CW0061	Caldwell County, Missouri	Historic - Indeterminate Scatter	Not Evaluated
23CA1171	Carroll County, Missouri	Precontact - Unknown Function	Not Eligible
23CA1172	Carroll County, Missouri	Precontact - Unknown Function	Unknown
23CA0104	Carroll County, Missouri	Precontact - Unknown Function	Unknown
23CH0073	Chariton County, Missouri	Precontact - Habitation; Historic-Artifact Scatter	Unknown
23CH1349	Chariton County, Missouri	Precontact - Lithic Scatter; Historic - 19th-20th Century Habitation	Unknown
23MN1182	Monroe County, Missouri	Precontact - Habitation	Not Evaluated
23MN1183	Monroe County, Missouri	Precontact - Habitation	Not Evaluated
23CY0127	Callaway County, Missouri	Precontact - Habitation Site	Unknown

Source: Kansas Historical Society 2023a; Missouri State Historic Preservation Office 2023



**Table 2. Archaeological Resources Identified Within the Archaeological Analysis Area of the HVDC Converter Station Sites**

<b>Resource ID</b>	<b>County</b>	<b>Resource Type</b>	<b>Resource Address/ Description</b>	<b>National Register of Historic Places Status</b>
Field ID MO-024-001	Monroe County, MO	Archaeological Site	Historic-era Artifact Scatter	Recommended Not Eligible
Field ID MO-024-002	Monroe County, MO	Archaeological Site	Historic-era Artifact Scatter	Recommended Not Eligible
Field ID MO-024-003	Monroe County, MO	Archaeological Site	Precontact Isolated Findspot	Recommended Not Eligible
Field ID FO-001-001	Ford County, KS	Archaeological Site	Precontact Isolated Findspot	Recommended Not Eligible
Field ID FO-001-002	Ford County, KS	Archaeological Site	Historic Surface and Plowzone Artifact Scatter, Late Nineteenth- Twentieth Century Occupation	Recommended Not Eligible
Field ID FO-001-003	Ford County, KS	Archaeological Site	Precontact Isolated Findspot	Recommended Not Eligible
Field ID FO-001-004	Ford County, KS	Archaeological Site	Precontact Isolated Findspot	Recommended Not Eligible
Field ID FO-001-005	Ford County, KS	Archaeological Site	Precontact Isolated Findspot	Recommended Not Eligible
Field ID FO-001-006	Ford County, KS	Archaeological Site	Precontact Isolated Findspot	Recommended Not Eligible

Source: AECOM 2023a, 2023b



**Table 3. State-Inventoried Historic Aboveground Resources in the Historic Built Environment Analysis Area**

<b>Resource ID</b>	<b>Resource Name</b>	<b>Address</b>	<b>Resource Type/ Date</b>	<b>National Register of Historic Places Status</b>
057-1370	Israel Farm	Garrett Road, Bellefont, Ford County, Kansas	Farmstead, circa 1920	Not Assessed
047-0000-0008	Little Coon Creek Masonry Arch Bridge	00 40th Avenue, Offerle, Edwards County, Kansas	Stone Arch Bridge, circa 1935, possible CCC construction	Potentially Eligible
047-0000-00003	St. Peter and St. Paul Church	00 70th Road, Kinsley, Edwards County, Kansas	Church, circa 1892	Not Assessed
047-0000-00004	St. Peter and St. Paul School	00 G Road, Kinsley, Edwards County, Kansas	Religious School, Construction Date Unknown	Not Assessed
091-1774	Farmstead	18385 US 169, Olathe, Russell County, Kansas	Farmstead, circa 1920	Unknown
123-0000-00228	Brown's Creek Tributary Masonry Arch Bridge	00 Road B, Beloit, Mitchell County, Kansas	Stone Arch Bridge, circa 1936	Listed
123-0000-00217	Cather Farm	2312 K-14 Hwy, Beloit, Mitchell County, Kansas	Farmstead, circa 1900	Listed
123-253	Black Barn	2409 340 RD, Beloit, Mitchell County, Kansas	Farmstead, circa 1900	Not Assessed
029-107	Wolf Creek Bridge	00 K-28 Highway, Concordia, Cloud County, Kansas	Concrete Bridge, circa 1960	Not Assessed (Scheduled for Demolition)
029-109	POW Camp Concordia – Stone Guard Tower	1501 Union Road, Concordia, Cloud County, Kansas	WWII POW Camp Stone Tower, circa 1943	Not Assessed
029-1120-0017	POW Camp Concordia	1555 Union Road, Concordia, Cloud County, Kansas	WWII POW Camp	Not Eligible
029-45	POW Camp Concordia – Building T-9	1541 UTE Street, Concordia, Cloud County, Kansas	WWII POW Camp Warehouse, circa 1942	State Listed
201-86	Stone Culvert	Between 4th and 5th Roads, Sheridan Township, Washington County, Kansas	Stone Culvert, circa 1920	Not Assessed (Likely Demolished)
117-0000-00019	Life Schoolhouse	1299 19th Terrace Beattie, Marshall County, Kansas	One-Room Schoolhouse, circa 1860	Not Eligible
013-215	Tyler Bridge	00 Bobcat Road, Brown County, Kansas	Truss Bridge, circa 1905	Demolished
013-247	Coral Berry Road Concrete Bridge	00 Coral Berry Road Fairview, Brown County, Kansas	Concrete Bridge, circa 1930	Not Assessed



<b>Resource ID</b>	<b>Resource Name</b>	<b>Address</b>	<b>Resource Type/ Date</b>	<b>National Register of Historic Places Status</b>
013-252	Tributary to Wolf River Concrete Bridge	00 Kingfisher Road, Hiawatha, Brown County, Kansas	Concrete Bridge, circa 1900	Not Assessed
043-578	Denton RWD #3 Water Tower	00 Ashland Street, Denton, Doniphan County, Kansas	Water Tower, circa 1966	Not Assessed
043-0000-00199	St. Benedict's Church	684 St. Benedict's Road, Bendena, Doniphan County, Kansas	Church, circa 1903	Listed
043-0000-00200	St. Benedict's Rectory	684 St. Benedict's Road, Bendena, Doniphan County, Kansas	Church Rectory, circa 1903	Not Assessed

Source: *Kansas Historical Society 2023b*

CCC: *Civilian Conservation Corps*; POW: *Prisoner of War*; RWD: *Rural Water District*; WWII: *World War II*



**Table 4. Historic Aboveground Resources Identified Within the Historic Built Environment Analysis Area of the HVDC Converter Station Sites**

<b>Resource ID</b>	<b>Resource Type</b>	<b>Resource Address/ Description</b>	<b>National Register of Historic Places Status</b>
Field ID MN-AS-001-001	Agricultural Complex	Farmstead, circa 1900-1920, at 16019 State Highway M	Recommended Not Eligible
Field ID MN-AS-001-002	Agricultural Complex	Farmhouse and Garage, circa 1965, at County Road 921 S	Recommended Not Eligible
Field ID MN-AS-001-003	Agricultural Complex	Farmstead, circa 1900, at State Highway M, East of County Road 921	Recommended Not Eligible
Field ID MN-AS-001-004	Agricultural Complex	Farmstead, circa 1900-1950s, at 16667 State Highway M	Recommended Not Eligible
Field ID MN-AS-001-005	Agricultural Complex	Farmstead, circa 1900-1960s, at County Road 916 of State Highway M	Recommended Not Eligible
Field ID MN-AS-001-006	Agricultural Complex	Farmstead, circa 1900 and 1950s, at County Road 959 S of State Highway M	Recommended Not Eligible
Field ID MN-AS-001-007	Agricultural Complex	Farmstead, circa 1940s-1970s, at County Road 959 N of Audrain Road 156	Recommended Not Eligible
Field ID MN-AS-001-008	Agricultural Complex	Farmstead, circa 1945-1970s, at 16946 Audrain Road 156	Recommended Not Eligible
Field ID MN-AS-001-009	Agricultural Complex	Farmstead, circa 1949-1970s, North of Audrain Road 156	Recommended Not Eligible
Field ID 01	Agricultural Complex	Farmstead, circa 1900-1960s, at 11747 117 Road	Recommended Not Eligible
Field ID 02	Agricultural Complex	Farmstead, circa 1950-1978, at 11712 117 Road	Recommended Not Eligible
Field ID 03	Agricultural Complex	Auxiliary Farm Equipment, circa 1970s, on East Side of 117 Road	Recommended Not Eligible
Field ID 04	Agricultural Complex	Farmstead, circa 1910s-1920s and 1970s, at 119 Road and Saddle Road	Recommended Not Eligible
Field ID 05	Agricultural Complex	Farmstead, circa 1900-1940, South Side of Saddle Road	Recommended Not Eligible

Source: AECOM 2023c, 2023d



**Table 5. National Historic Sites and National Historic Trail Properties within the Historic Built Environment and Native American Traditional Values Analysis Areas**

<b>Resource Name</b>	<b>Type</b>	<b>Location Relative to Project</b>
Fort Larned NHS	Frontier Military Fort, circa 1859-1878	1.2 miles from the planned Project ROW and Pawnee County, Kansas
Santa Fe NHT	Historic Trail, circa 1821-1880	Within the planned Project ROW in Ford County, Kansas; visible from the planned Project ROW in Pawnee County, Kansas
Oregon NHT	Historic Trail, circa 1810	Within the planned Project ROW in Marshall County, Kansas
California NHT	Historic Trail, circa 1841	Within the planned Project ROW in Marshall County, Kansas; visible from the planned Project ROW in Brown County, Kansas
Pony Express NHT	Historic Trail, circa 1860	Within the planned Project ROW in Nemaha County, Kansas; visible from the planned Project ROW in Doniphan County, Kansas
Lewis and Clark NHT	Historic Trail, circa 1803-1806	Within the planned Project ROW at the Kansas/Missouri border

Source: National Park Service 2023

NHS: National Historic Site; NHT: National Historic Trail

## REFERENCES

AECOM. 2023a. *Grain Belt Express Transmission Line, Phase I Archaeological Survey, Proposed Converter Station, Ford County, Kansas.*

AECOM. 2023b. *Grain Belt Express Transmission Line, Phase I Archaeological Survey, Proposed Converter Station, Monroe County, Missouri.*

AECOM. 2023c. *Grain Belt Express Transmission Line, Architectural Reconnaissance Survey, Proposed Converter Station, Ford County, Kansas.*

AECOM. 2023d. *Grain Belt Express Transmission Line, Architectural Reconnaissance Survey. Proposed Converter Station, Monroe County, Missouri.*

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Kansas Historical Society. 2023b. *Kansas Historic Resources Inventory.* Accessed March 13, 2023. <https://khri.kansasgis.org/>.

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National Park Service. 2023 *National Trails System.* Accessed March 15, 2023. <https://www.nps.gov/subjects/nationaltrailssystem/national-historic-trails.htm>.



**Grain Belt Express Transmission Line**  
**Environmental Impact Statement**  
**Appendix 3.6-2: Tribal Consultation**



## 1. TRIBAL CONSULTATION

Consideration of Native American tribal thoughts and concerns represents a critical component of the affected environment for cultural resources. Under Section 106 of the National Historic Preservation Act (NHPA), consultation with potential tribal nations is fundamental to identifying and, where necessary, minimizing the potential for impacts on tribal properties, including Traditional Cultural Properties. Preliminary outreach to tribal entities who have interest in the region crossed by Project activities was initiated by Department of Energy's (DOE) Loan Program Office (LPO) in late 2022, through invitation to participate on the Project with the 34 tribal entities. Those tribal entities include the following:

- Absentee-Shawnee Tribe of Indians of Oklahoma
- Apache Tribe of Oklahoma
- Caddo Nation of Oklahoma
- Cheyenne and Arapaho Tribes, Oklahoma
- Comanche Nation, Oklahoma
- Delaware Nation, Oklahoma
- Delaware Tribe of Indians
- Eastern Shawnee Tribe of Oklahoma
- Fort Sill Apache Tribe of Oklahoma
- Ho-Chunk Nation of Wisconsin
- Iowa Tribe of Kansas and Nebraska
- Iowa Tribe of Oklahoma
- Kaw Nation, Oklahoma
- Kickapoo Tribe of Indians of the Kickapoo Reservation in Kansas
- Kickapoo Tribe of Oklahoma
- Kiowa Indian Tribe of Oklahoma
- Miami Tribe of Oklahoma
- Northern Arapaho Tribe of the Wind River Reservation, Wyoming
- Northern Cheyenne Tribe of the Northern Cheyenne Indian Reservation, Montana
- Oglala Sioux Tribe
- Omaha Tribe of Nebraska
- Otoe-Missouria Tribe of Indians, Oklahoma
- Pawnee Nation of Oklahoma
- Ponca Tribe of Indians of Oklahoma
- Ponca Tribe of Nebraska
- Prairie Band Potawatomi Nation
- Sac & Fox Nation of Missouri in Kansas and Nebraska
- Sac & Fox Nation, Oklahoma
- Sac & Fox Tribe of the Mississippi in Iowa



- Seneca-Cayuga Nation
- Shawnee Tribe
- The Osage Nation
- Wichita and Affiliated Tribes (Wichita, Keechi, Waco & Tawakonie), Oklahoma
- Wyandotte Nation

## 2. STATUS OF TRIBAL CONSULTATION

To date, DOE LPO has received response from eight tribes, requesting participation in the Project.

- Delaware Nation, Oklahoma
- Iowa Tribe of Kansas and Nebraska
- Northern Arapaho Tribe of the Wind River Reservation, Wyoming
- Northern Cheyenne Tribe of the Northern Cheyenne Indian Reservation, Montana
- Pawnee Nation of Oklahoma
- Ponca Tribe of Indians of Oklahoma
- Osage Nation
- Wichita and Affiliated Tribes (Wichita, Keechi, Waco, & Tawakonie), Oklahoma

Records of the Project prior to its acquisition by Invenenergy Transmission LLC indicate that there was limited correspondence with Native American tribes during the Project's route selection process. The Applicant under Invenenergy Transmission LLC ownership began engaging with tribes in June 2021. The Applicant conferred with U.S. Army Corps of Engineers archaeological staff, the Kansas and Missouri State Historic Preservation Offices (SHPO), and National Parks Service (NPS) to identify tribes with potential interest in the Project area. The Applicant invited twenty-two tribes to engage on the Project and hosted an August 2021 introduction meeting that three tribes attended (Wichita and Affiliated Tribes, Iowa Tribe of Kansas and Nebraska, and The Osage Nation). Pawnee Nation could not attend the meeting but requested Project information. During this meeting, and in follow-up correspondence, the Applicant requested that the Tribes review project information and design and provide input regarding tribal interests, including Tribal Historic Preservation Office records and areas of interest in the vicinity of the Project corridor. In response to this request, the Osage Nation provided several Areas of Interest (AOIs) and Areas of Avoidance (AOAs), and Pawnee Nation provided AOIs. No specific AOIs or AOAs were received from other Tribes.

The Applicant invited all tribes to take part in cultural resources field surveys. Representatives from two tribes (Iowa Tribe of Kansas and Nebraska and the Kiowa Indian Tribe of Oklahoma) assisted in the 2021 archaeological field survey. The Applicant extended an invitation to tribes when re-initiating field survey in 2022; however, none of the tribes had availability and/or expressed interest.

On December 28, 2022, DOE LPO issued consultation letters to 34 federally recognized Tribes notifying them of the Project and providing the opportunity to participate in the NEPA process and NHPA Section 106 consultation process, as well as engage DOE LPO in formal government-to-government consultation. The following eight federally recognized Tribes accepted DOE LPO's invitation to consult: Delaware Nation, Oklahoma; Iowa Tribe of Kansas and Nebraska; Northern Arapaho Tribe of the Wind River Reservation, Wyoming; Northern Cheyenne Tribe of the Northern Cheyenne Indian Reservation, Montana; Pawnee Nation of Oklahoma; Ponca Tribe of Indians of Oklahoma; The Osage Nation; and Wichita and Affiliated Tribes (Wichita, Keechi, Waco & Tawakonie), Oklahoma.



In February 2024, the Applicant initiated outreach to the eight tribes that are consulting on the Project, for the purpose of seeking information about areas of interest (AOIs) and areas of avoidance (AOAs) within the proposed Tiger Connector corridor and associated property parcels. Four tribes responded to the request. The Iowa Tribe of Kansas and Nebraska noted that any known resources of interest to the tribe in that geography would be included in the Missouri SHPO records. The Northern Cheyenne Tribe and Pawnee Nation both indicated that the Tiger Connector is outside of their cultural landscape. The Osage Nation identified an AOI. No additional AOAs were identified for the Tiger Connector.

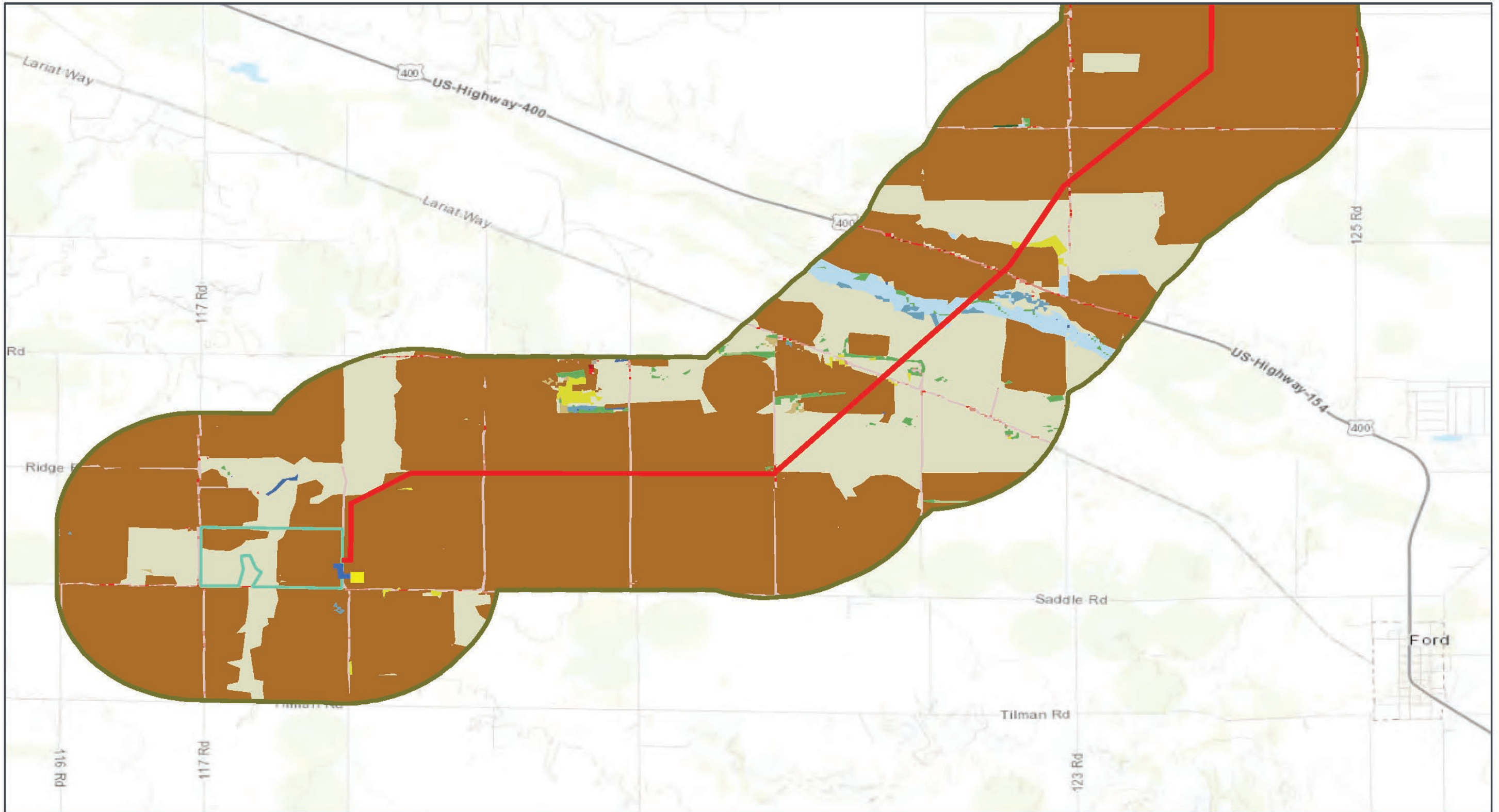
In March 2024, the Applicant initiated outreach to the eight tribes that are consulting on the Project, for the purpose of sharing locations of contemplated laydown and material yards in Kansas and Missouri and to identify if any of the contemplated yards intersect tribal AOIs and AOAs. Four tribes (Iowa Tribe of Kansas and Nebraska, Northern Cheyenne Tribe of the Northern Cheyenne Indian Reservation, Pawnee Nation, and The Osage Nation) responded to the request. The Pawnee Nation and The Osage Nation identified AOIs that intersect with contemplated yards and requested that the Applicant conduct archaeological surveys if continuing to consider those yards. None of the tribes identified AOAs that intersect the contemplated yards. The Applicant invited all tribes to take part in cultural resources field surveys.

In April 2024, the Northern Cheyenne Tribe of the Northern Cheyenne Indian Reservation expressed interest in taking part in the Project's archaeological field survey in Kansas and the Applicant continues to follow up with that tribe to coordinate logistics and schedule before the tribal members engage in survey. The Osage Nation is monitoring archaeological surveys within its identified AOI (approximately 45 percent of the Project). The Osage Nation monitoring activities have been ongoing since October 2023. At the request of The Osage Nation, the Applicant, together with DOE LPO, developed archaeological survey methods for areas outside of Osage Nation AOIs that are memorialized in a work plan that was reviewed and approved by The Osage Nation.



**Grain Belt Express Transmission Line  
Environmental Impact Statement  
Appendix 3.10: National Land Cover Database  
Maps**





GRAIN BELT EXPRESS  
TRANSMISSION LINE PROJECT  
**National Land Cover  
Database**

Map 1 of 61



- Proposed Grain Belt Express Phase 1 Converter Station
- Existing Saddle Substation
- Proposed Grain Belt Express Phase 1 Ford County Interconnect ROW

- Proposed Grain Belt Express Phase 1 HVDC Line ROW
- Land Use Analysis Area
- National Land Cover Dataset**
- Barren Land
- Cultivated Crops

- Deciduous Forest
- Developed, High Intensity
- Developed, Medium Intensity
- Developed, Low Intensity

- Developed, Open Space
- Emergent Herbaceous Wetlands
- Evergreen Forest
- Grassland/Herbaceous
- Mixed Forest

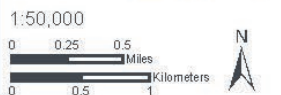
- Open Water
- Pasture/Hay
- Shrub/Scrub
- Woody Wetlands



Ford County, Kansas  
GCS North American 1983  
37.6699°N 99.8375°W



Base Map: Esri ArcGIS Online,  
accessed November 2024  
Updated: 11/26/2024  
Project No. 68102  
Layout: GBX\_LandUse\_NLCD  
Apoc:







GRAIN BELT EXPRESS  
TRANSMISSION LINE PROJECT  
**National Land Cover  
Database**  
Map 2 of 61



- |   |                             |                              |                |
|---|-----------------------------|------------------------------|----------------|
| Proposed Grain Belt Express Phase 1 HVDC Line ROW | Deciduous Forest            | Developed, Open Space        | Mixed Forest   |
| Land Use Analysis Area                            | Developed, High Intensity   | Emergent Herbaceous Wetlands | Open Water     |
| <b>National Land Cover Dataset</b>                | Developed, Medium Intensity | Evergreen Forest             | Pasture/Hay    |
| Cultivated Crops                                  | Developed, Low Intensity    | Grassland/Herbaceous         | Shrub/Scrub    |
|   |                             |                              | Woody Wetlands |



Ford County, Kansas  
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37.747°N 99.7449°W

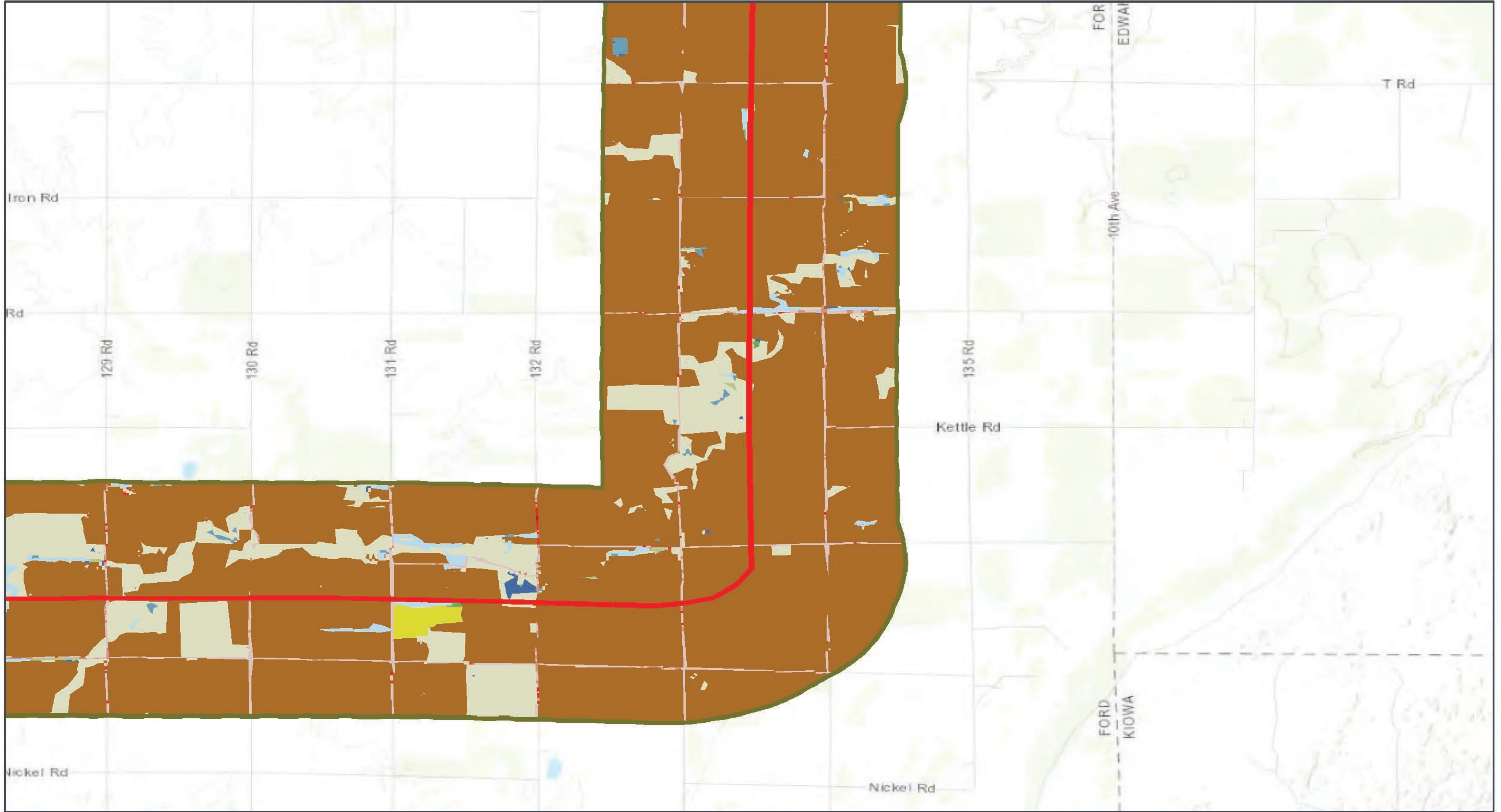
Kansas and Missouri

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Updated: 11/26/2024  
Project No. 68102  
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Apoc:

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0 0.5 1 Kilometers





GRAIN BELT EXPRESS  
TRANSMISSION LINE PROJECT  
**National Land Cover  
Database**  
Map 3 of 61

- |   |                             |                              |                      |
|---|-----------------------------|------------------------------|----------------------|
| Proposed Grain Belt Express Phase 1 HVDC Line ROW | Deciduous Forest            | Developed, Low Intensity     | Grassland/Herbaceous |
| Land Use Analysis Area                            | Developed, High Intensity   | Developed, Open Space        | Mixed Forest         |
| <b>National Land Cover Dataset</b>                | Developed, Medium Intensity | Emergent Herbaceous Wetlands | Open Water           |
| Cultivated Crops                                  |                             | Pasture/Hay                  | Woody Wetlands       |



Ford County, Kansas  
GCS North American 1983  
37.7661°N 99.6059°W

Kansas and Missouri

Base Map: Esri ArcGIS Online, accessed November 2024  
Updated: 11/26/2024  
Project No: 68102  
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Apoc:

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GRAIN BELT EXPRESS  
TRANSMISSION LINE PROJECT  
**National Land Cover  
Database**

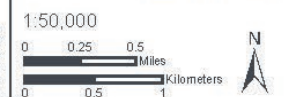
Map 4 of 61



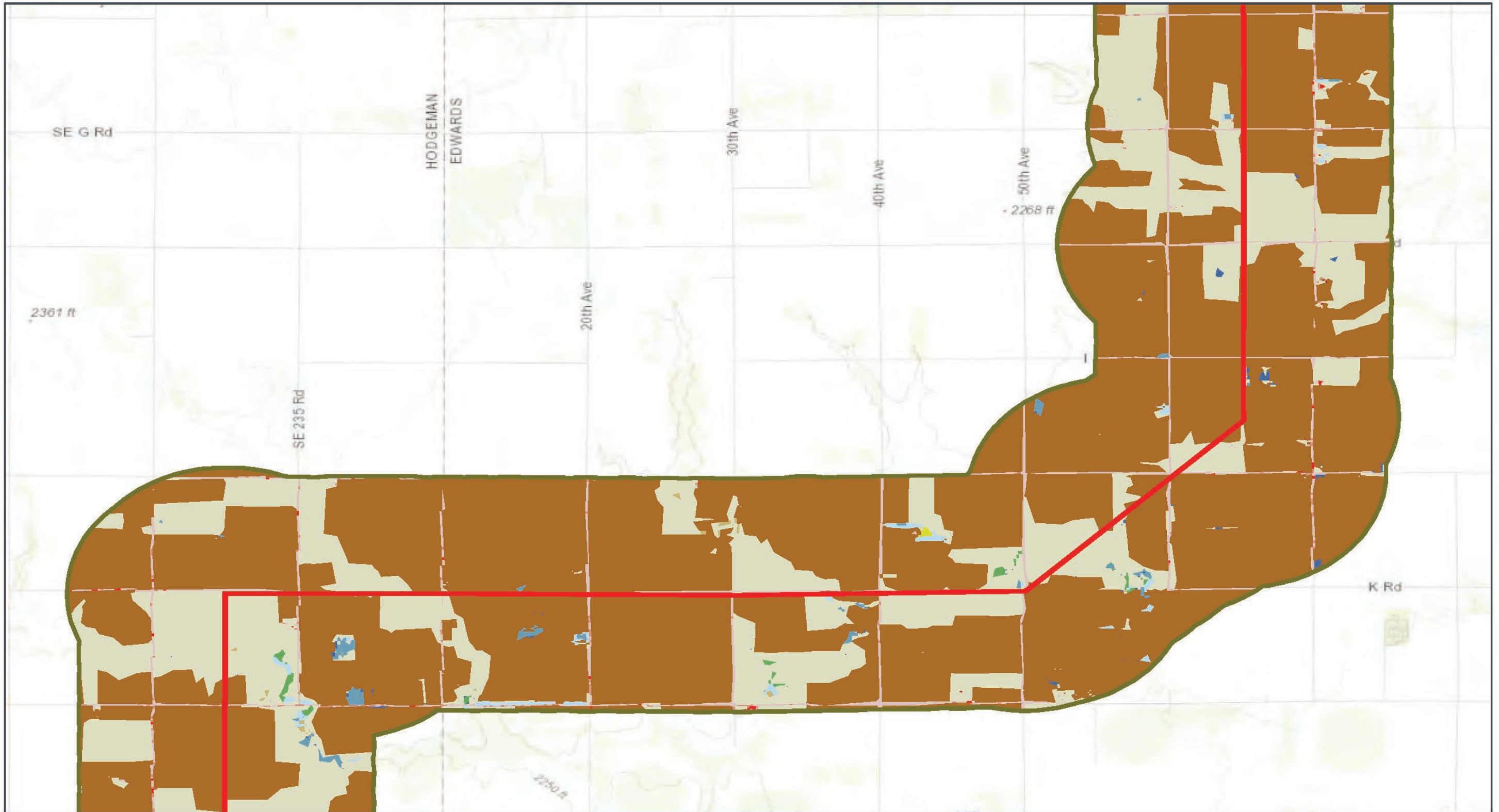
Ford and Hodgeman Counties,  
Kansas  
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Project No. 68102  
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Apoc:



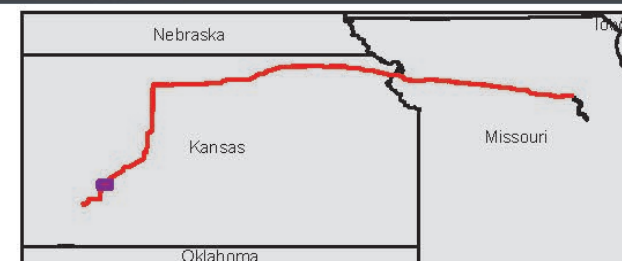




GRAIN BELT EXPRESS  
TRANSMISSION LINE PROJECT  
**National Land Cover  
Database**  
Map 5 of 61

- |   |                             |
|---|-----------------------------|
| Proposed Grain Belt Express Phase 1 HVDC Line ROW | Deciduous Forest            |
| Land Use Analysis Area                            | Developed, High Intensity   |
| <b>National Land Cover Dataset</b>                | Developed, Medium Intensity |
| Cultivated Crops                                  | Developed, Low Intensity    |

- |                              |                |
|------------------------------|----------------|
| Developed, Open Space        | Open Water     |
| Emergent Herbaceous Wetlands | Pasture/Hay    |
| Grassland/Herbaceous         | Shrub/Scrub    |
| Mixed Forest                 | Woody Wetlands |



Hodgeman and Edwards  
Counties, Kansas  
GCS North American 1983  
37.9651°N 99.5312°W

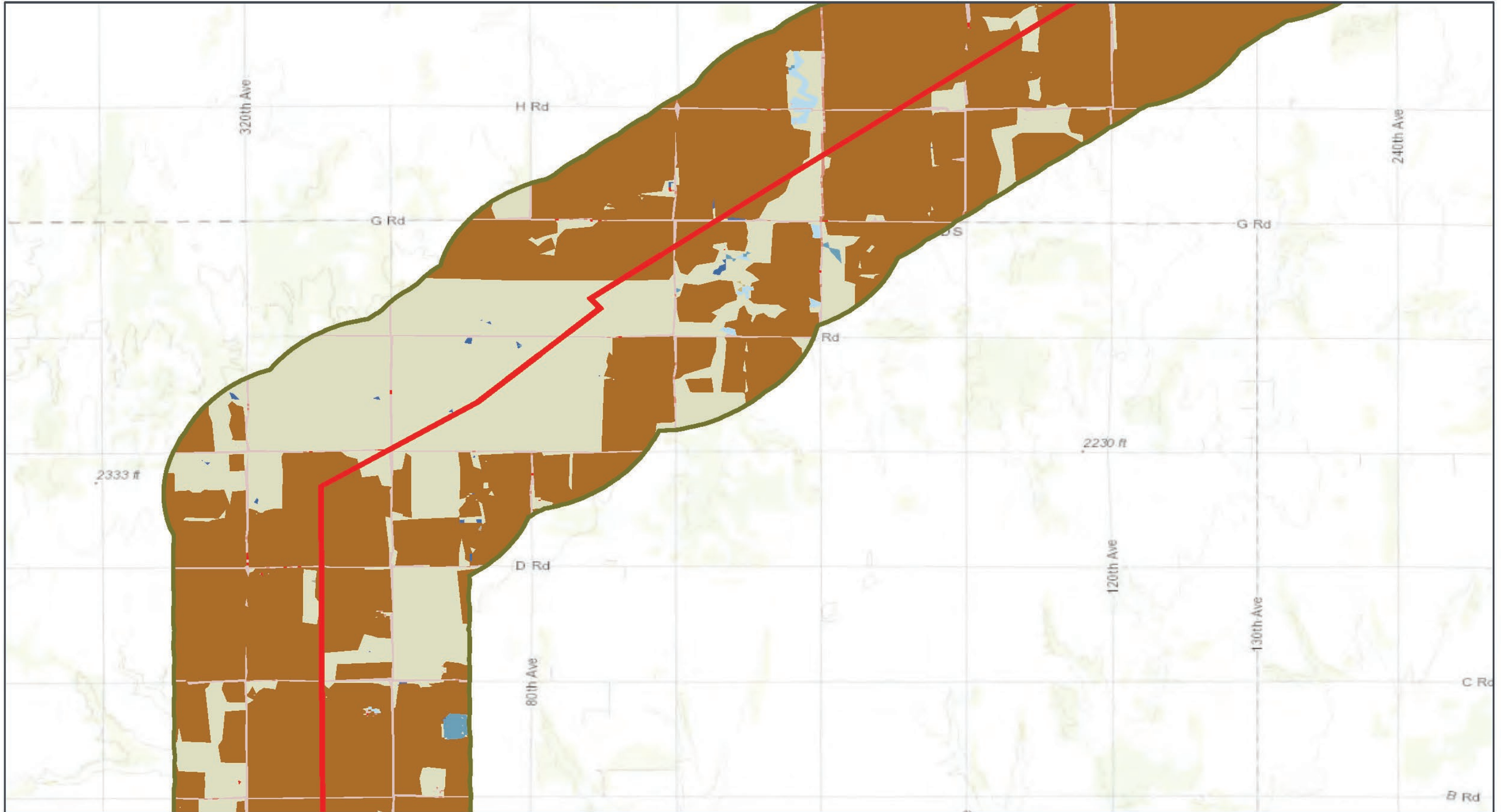


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0 0.5 1 Kilometers

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GRAIN BELT EXPRESS  
TRANSMISSION LINE PROJECT  
**National Land Cover  
Database**  
Map 6 of 61

- |   |  |  |   |   |
|---|--|--|---|---|
| Proposed Grain Belt Express Phase 1 HVDC Line ROW<br>Land Use Analysis Area | <b>National Land Cover Dataset</b><br>Barren Land<br>Cultivated Crops<br>Developed, Medium Intensity |  | Developed, Low Intensity<br>Developed, Open Space<br>Emergent Herbaceous Wetlands | Grassland/Herbaceous<br>Open Water<br>Shrub/Scrub<br>Woody Wetlands |
|---|--|--|---|---|



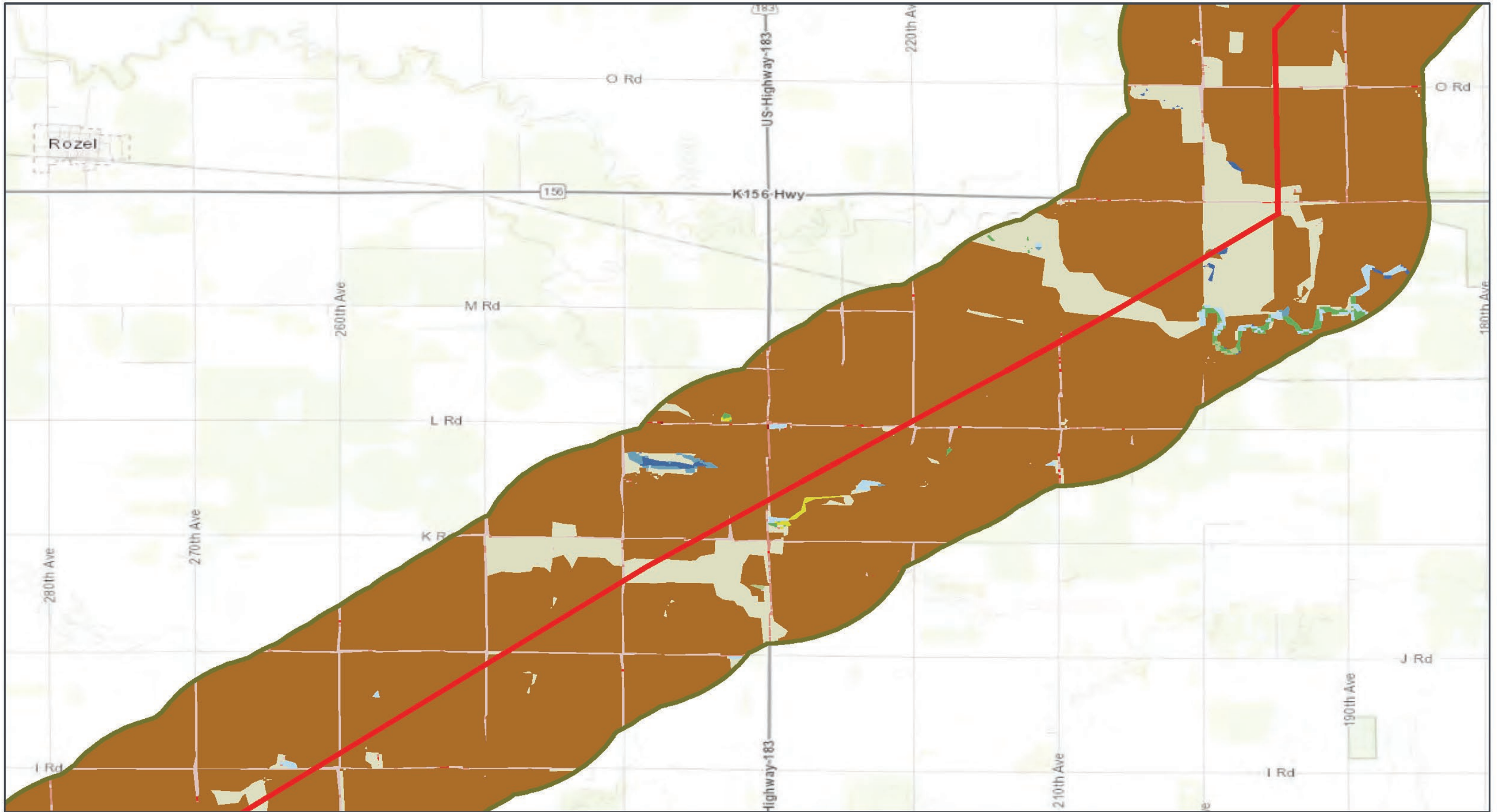
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Kansas  
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Base Map: Esri ArcGIS Online,  
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GRAIN BELT EXPRESS  
TRANSMISSION LINE PROJECT  
**National Land Cover  
Database**

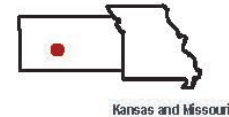
Map 7 of 61



- |   |                             |                              |                      |
|---|-----------------------------|------------------------------|----------------------|
| Proposed Grain Belt Express Phase 1 HVDC Line ROW | Cultivated Crops            | Developed, Low Intensity     | Grassland/Herbaceous |
| Land Use Analysis Area                            | Deciduous Forest            | Developed, Open Space        | Mixed Forest         |
| <b>National Land Cover Dataset</b>                | Developed, High Intensity   | Emergent Herbaceous Wetlands | Open Water           |
| Barren Land                                       | Developed, Medium Intensity | Pasture/Hay                  | Woody Wetlands       |



Pawnee County, Kansas  
GCS North American 1983  
38.1625°N 99.317°W



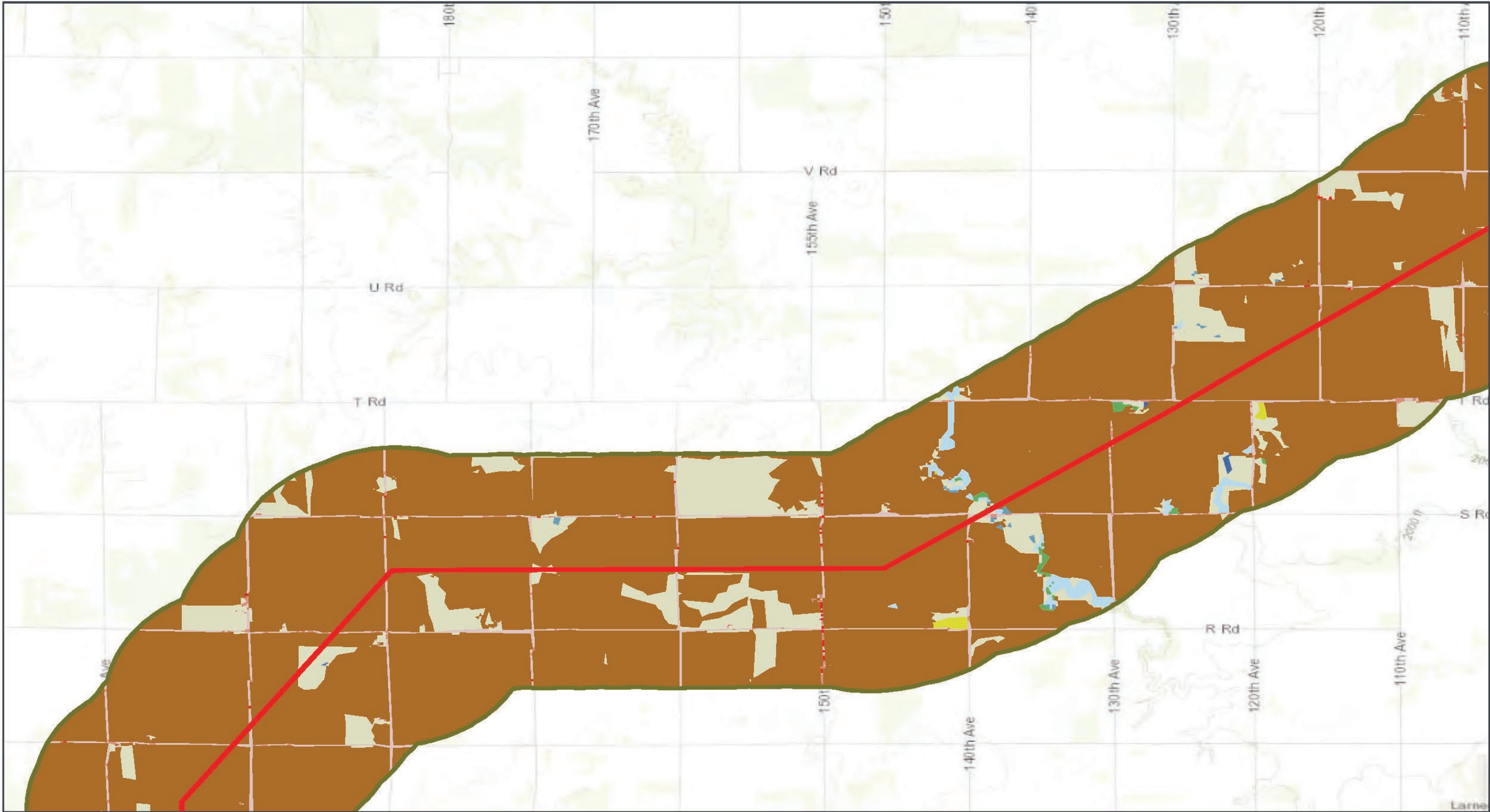
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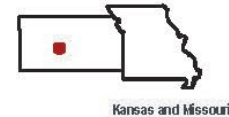


GRAIN BELT EXPRESS  
TRANSMISSION LINE PROJECT  
**National Land Cover  
Database**  
Map 8 of 61

- |   |                             |                              |                      |
|---|-----------------------------|------------------------------|----------------------|
| Proposed Grain Belt Express Phase 1 HVDC Line ROW | Deciduous Forest            | Developed, Low Intensity     | Grassland/Herbaceous |
| Land Use Analysis Area                            | Developed, High Intensity   | Developed, Open Space        | Open Water           |
| <b>National Land Cover Dataset</b>                | Developed, Medium Intensity | Emergent Herbaceous Wetlands | Pasture/Hay          |
| Cultivated Crops                                  |                             | Woody Wetlands               |                      |

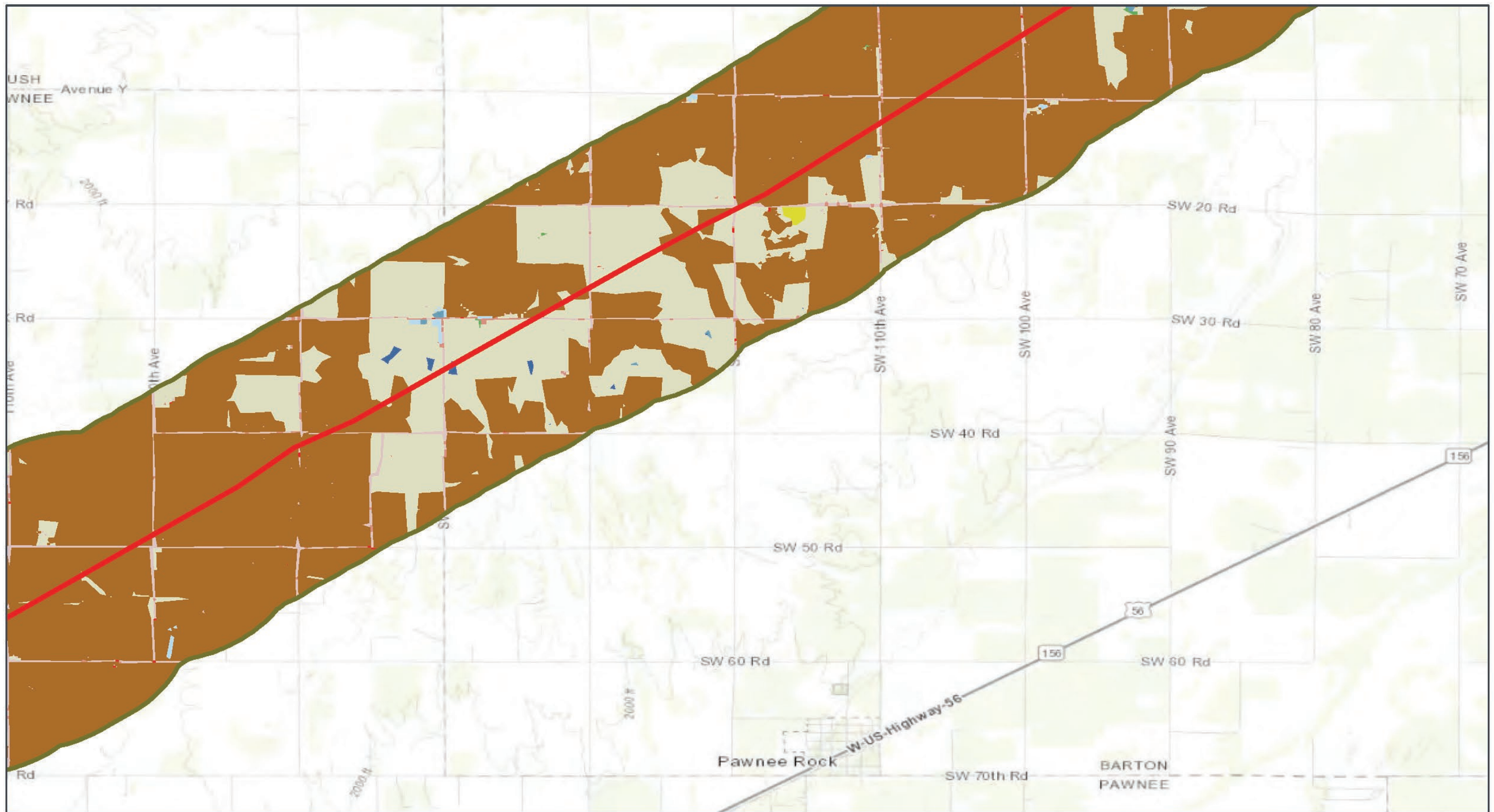


Pawnee County, Kansas  
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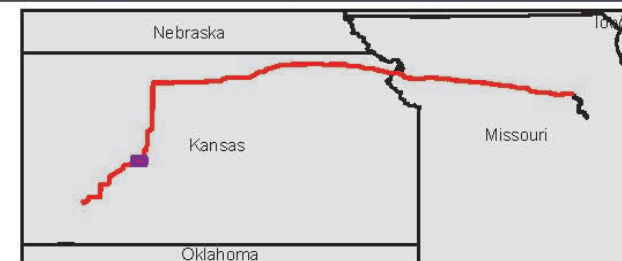


GRAIN BELT EXPRESS  
TRANSMISSION LINE PROJECT  
**National Land Cover  
Database**

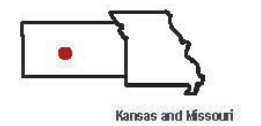
Map 9 of 61

- Proposed Grain Belt Express Phase 1 HVDC Line ROW
- Land Use Analysis Area
- National Land Cover Dataset
- Cultivated Crops
- Deciduous Forest
- Developed, Medium Intensity
- Developed, Low Intensity

- Developed, Open Space
- Emergent Herbaceous Wetlands
- Grassland/Herbaceous
- Mixed Forest
- Open Water
- Pasture/Hay
- Woody Wetlands



Pawnee and Barton Counties,  
Kansas  
GCS North American 1983  
38.3076°N 96.9936°W



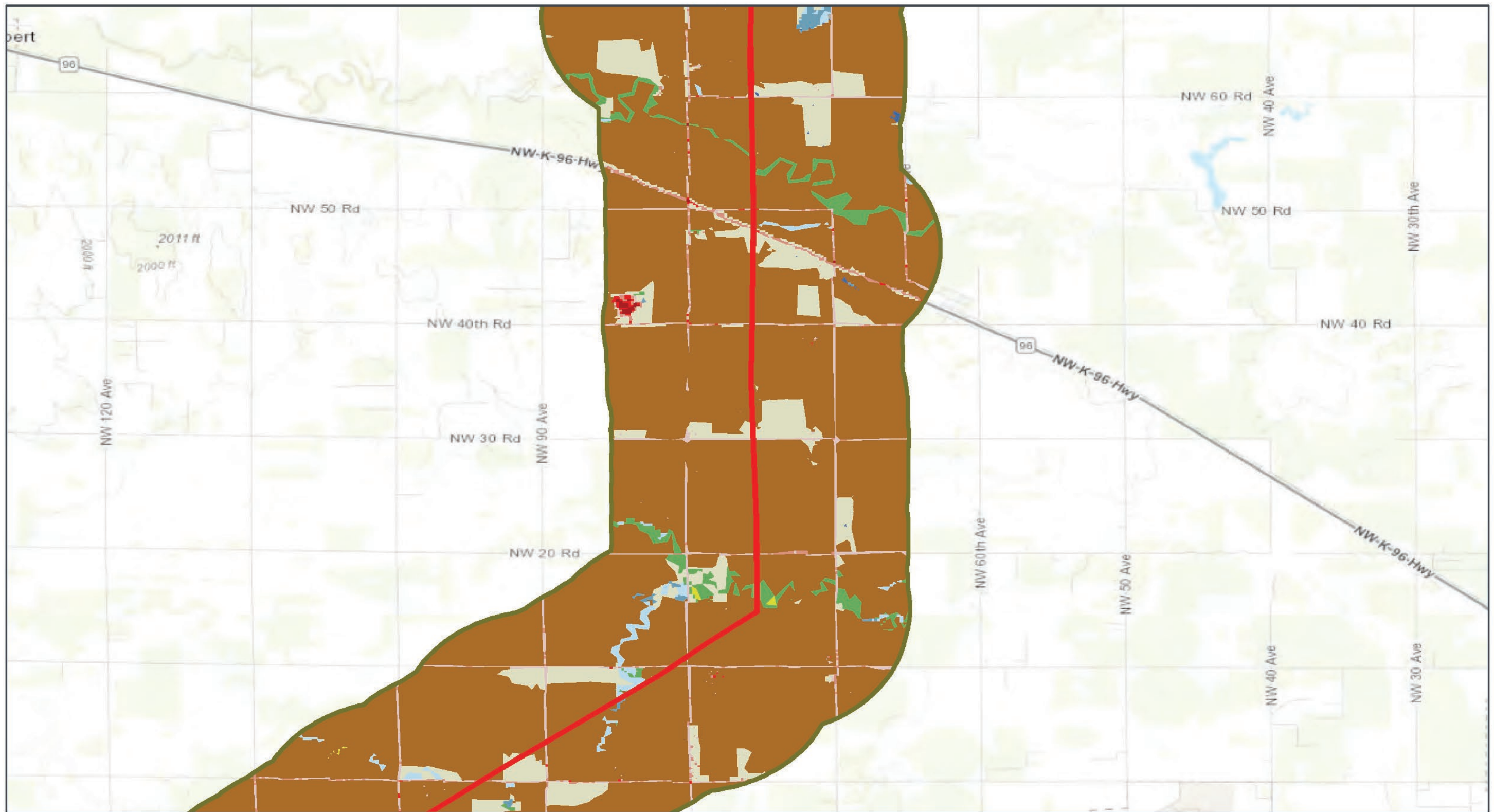
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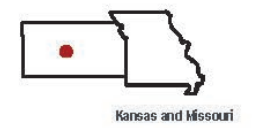
GRAIN BELT EXPRESS  
TRANSMISSION LINE PROJECT  
**National Land Cover  
Database**

Map 10 of 61

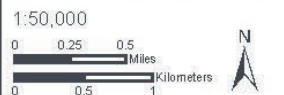
- Proposed Grain Belt Express Phase 1 HVDC Line ROW
- Cultivated Crops
- Deciduous Forest
- Developed, High Intensity
- Developed, Medium Intensity
- Developed, Low Intensity
- Developed, Open Space
- Open Water
- Pasture/Hay
- Woody Wetlands
- Barren Land
- Emergent Herbaceous Wetlands
- Grassland/Herbaceous



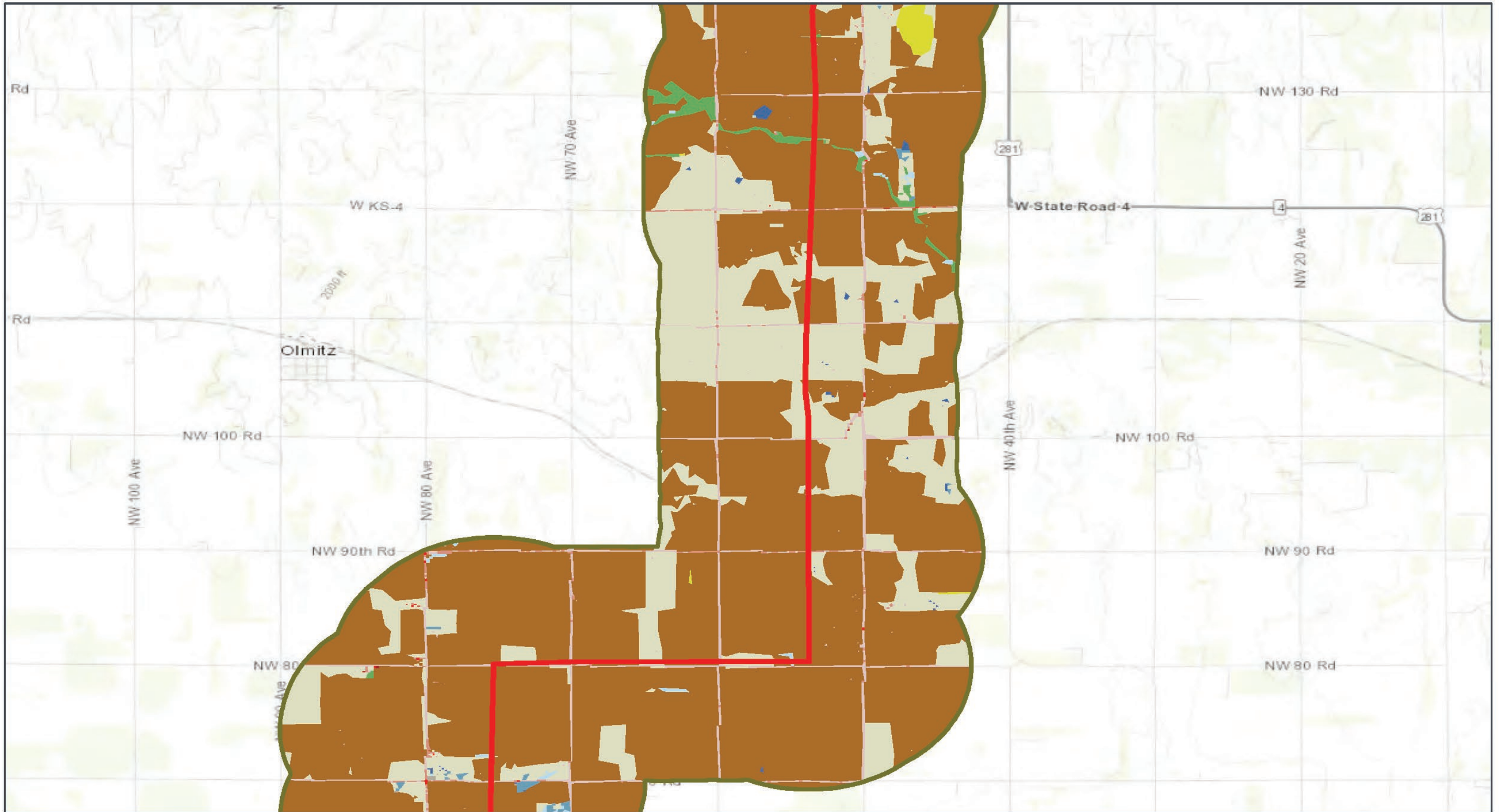
Barton County, Kansas  
GCS North American 1983  
38.409°N 96.9148°W



Base Map: Esri ArcGIS Online,  
accessed November 2024  
Updated: 11/26/2024  
Project No: 68102  
Layout: GBX\_LandUse\_NLCD  
Apoc:







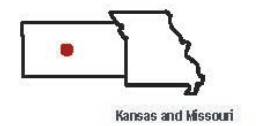
GRAIN BELT EXPRESS  
TRANSMISSION LINE PROJECT  
**National Land Cover  
Database**

Map 11 of 61

- Proposed Grain Belt Express Phase 1 HVDC Line ROW
- Land Use Analysis Area
- National Land Cover Dataset
- Barren Land
- Cultivated Crops
- Deciduous Forest
- Developed, High Intensity
- Developed, Medium Intensity
- Developed, Low Intensity
- Developed, Open Space
- Emergent Herbaceous Wetlands
- Grassland/Herbaceous
- Mixed Forest
- Open Water
- Pasture/Hay
- Woody Wetlands



Barton County, Kansas  
GCS North American 1983  
38.5105°N 98.8817°W



Base Map: Esri ArcGIS Online,  
accessed November 2024  
Updated: 11/20/2024  
Project No: 68102  
Layout: GBX\_LandUse\_NLCD  
Apoc:

