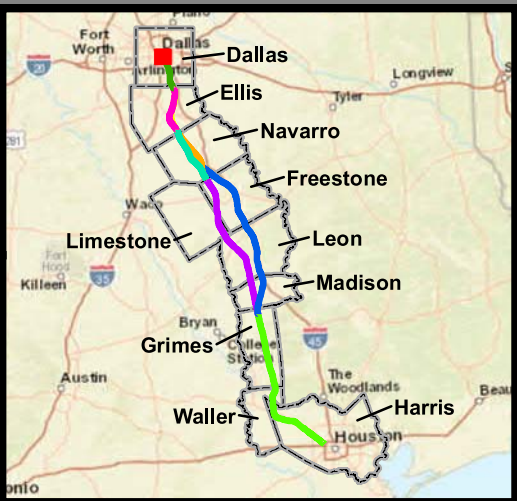
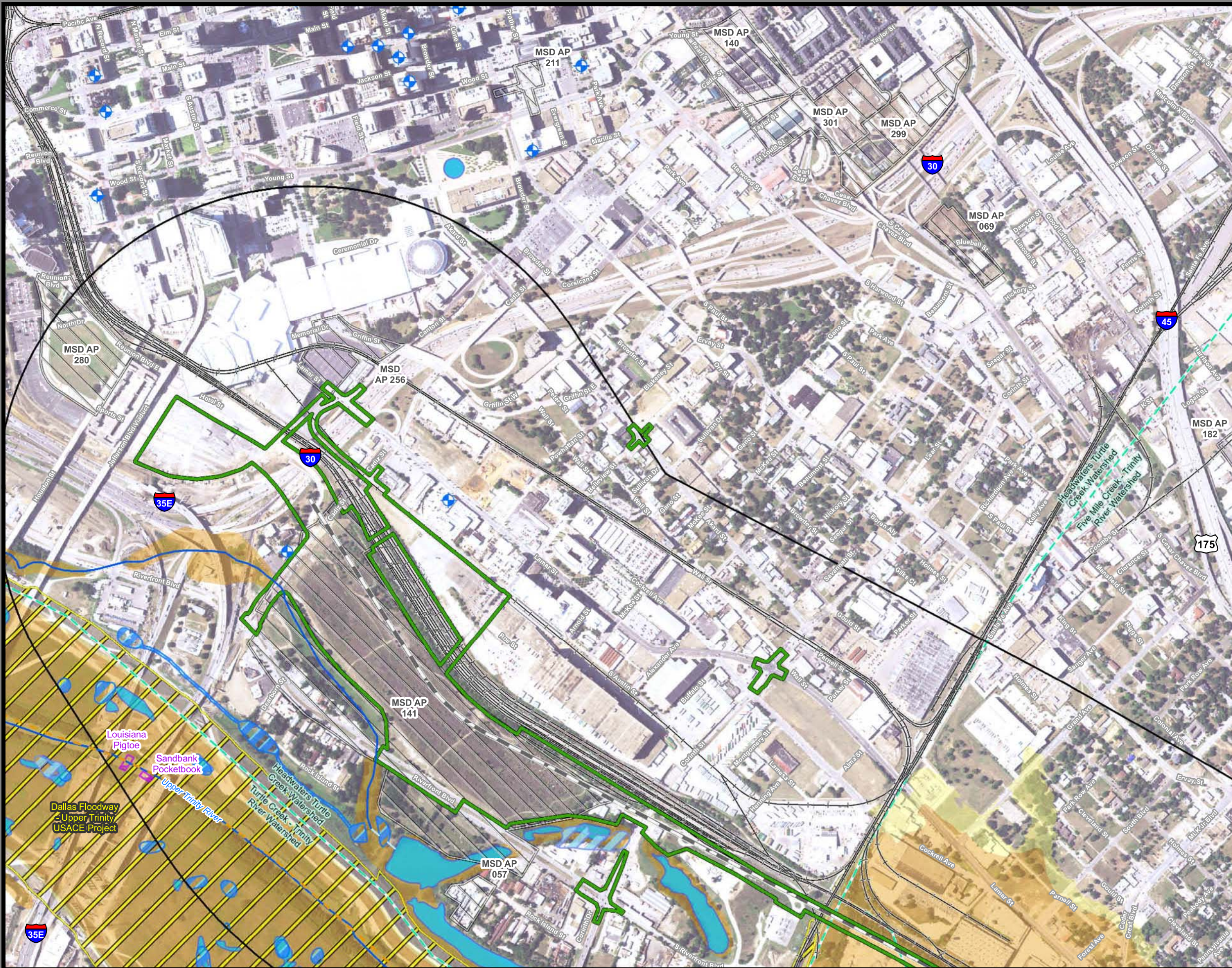


**Dallas to Houston High-Speed Rail
Draft Environmental Impact Statement**

**Appendix D:
Natural Resources
Mapbook Set 1 of 4**



**Federal Railroad
Administration**



**Dallas to Houston
High-Speed Rail Project**
Natural Resources
Segment 1, Dallas Terminal
Sheet 1 of 257

Legend

Limits of Disturbance

- Segment 1
- Segment 2A
- Segment 2B
- Segment 3A
- Segment 3B
- Segment 3C
- Segment 4
- Segment 5

Track Configuration

- Viaduct
- Embankment
- Cut
- Half Mile Buffer
- City Boundary
- County Boundary
- Railroad
- Municipal Setting Designation (MSD)

Potential Habitat

- Houston Toad
- Large-fruited Sand Verbena
- Navasota Ladies-tresses
- Endangered Species
- Threatened Species
- U.S. Army Corps of Engineers (USACE) Project Area
- Watershed (HUC 12) Boundary
- Public Water Supply
- Groundwater Well

Impaired Waters with Total Maximum Daily Load (TMDL)

- Impaired Waters

Federal Emergency Management Agency (FEMA) Flood Zone

- A - 1%
- AE - 1%
- AO - 1%
- X - 0.2%

Field-Collected Data

- Perennial Stream/River
- Intermittent Stream/River
- Ephemeral Stream/River
- Other Stream/River
- Lake/Pond
- Emergent Wetland
- Forested Wetland
- Scrub/Shrub Wetland

National Hydrography Dataset (NHD)

- Perennial Stream/River
- Intermittent Stream/River
- Artificial Stream/Canal
- Lake/Pond
- Reservoir
- Swamp/Marsh

National Wetlands Inventory (NWI)

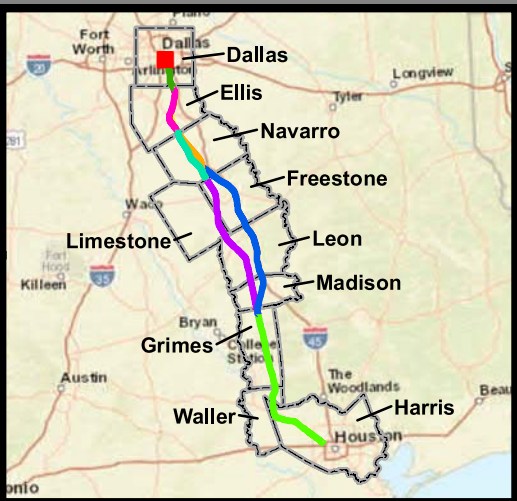
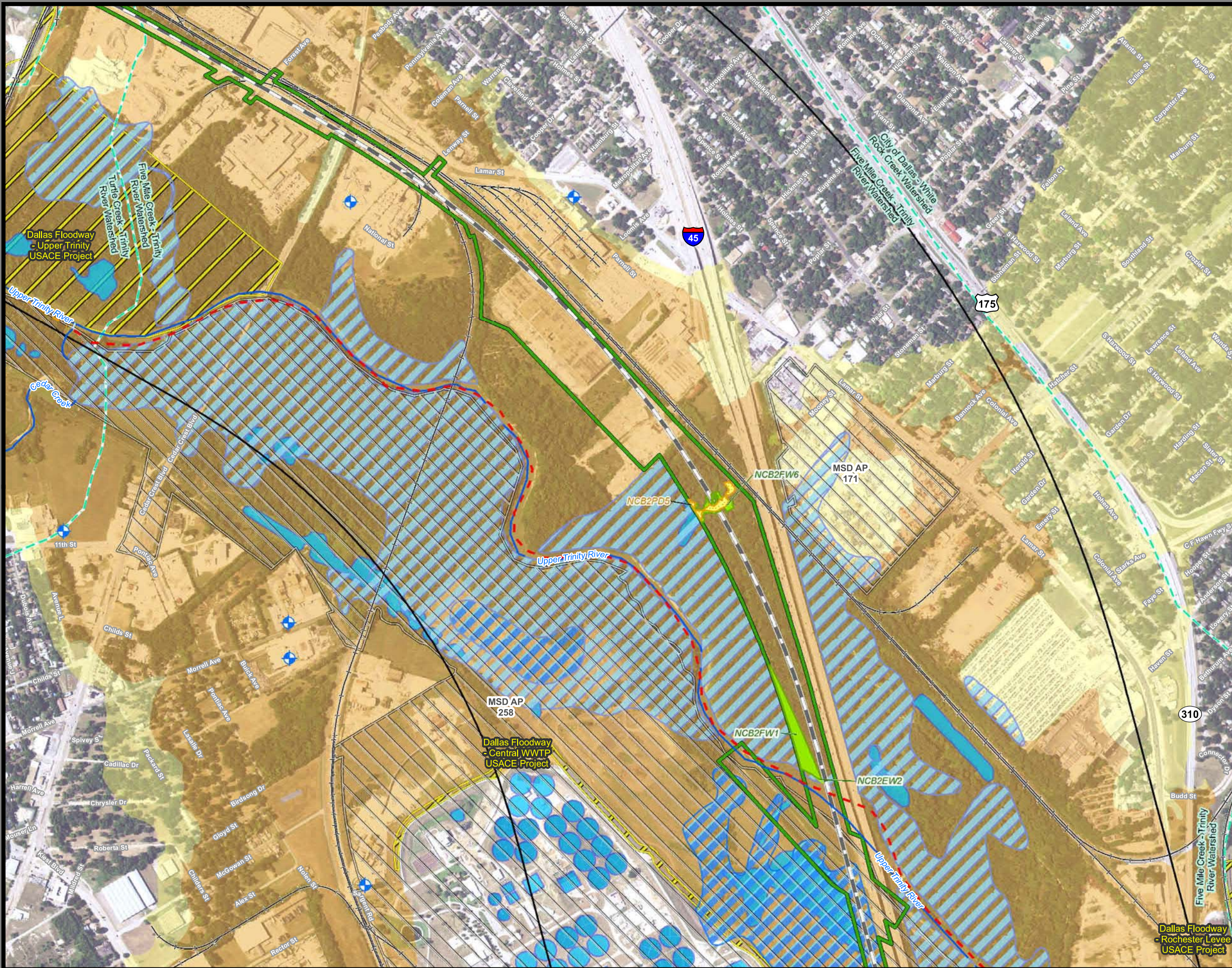
- Freshwater Emergent Wetland
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Aerial Imagery: USDA NAIP 2014

1 inch = 800 feet
0 400 800 Feet





**Dallas to Houston
High-Speed Rail Project
Natural Resources
Segment 1
Sheet 2 of 257**

Legend

Limits of Disturbance

- Segment 1
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- Segment 5

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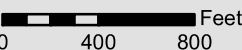
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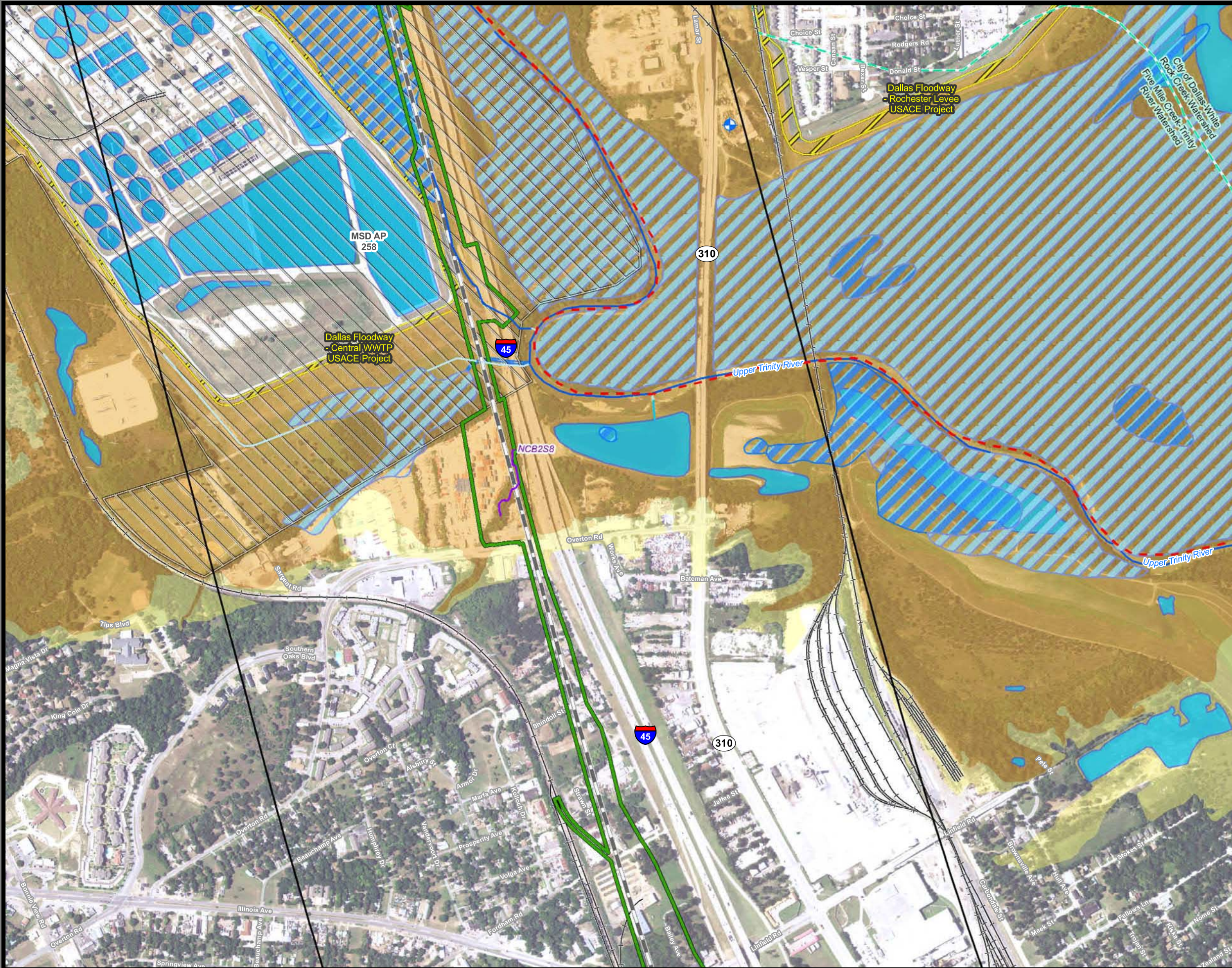
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**Dallas to Houston
High-Speed Rail Project**
Natural Resources
Segment 1
Sheet 3 of 257

- Legend**
- Limits of Disturbance**
- Segment 1
 - Segment 2A
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 - Segment 3A
 - Segment 3B
 - Segment 3C
 - Segment 4
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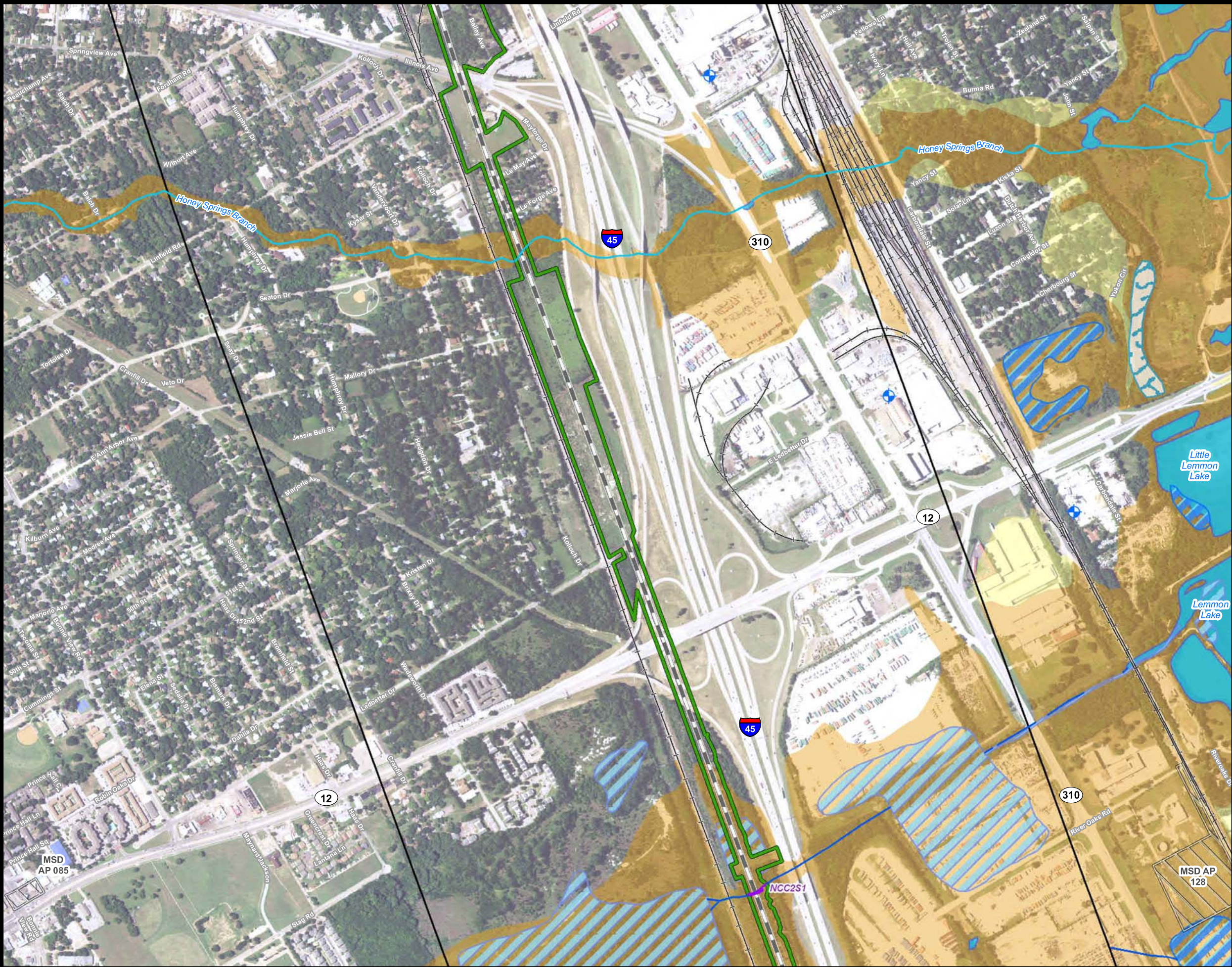
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Aerial Imagery: USDA NAIP 2014

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**Dallas to Houston
High-Speed Rail Project
Natural Resources
Segment 1
Sheet 4 of 257**

Legend

Limits of Disturbance

- Segment 1
- Segment 2A
- Segment 2B
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- Segment 3B
- Segment 3C
- Segment 4
- Segment 5

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Impaired Waters with Total Maximum Daily Load (TMDL)

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Field-Collected Data

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National Hydrography Dataset (NHD)

- Perennial Stream/River
- Intermittent Stream/River
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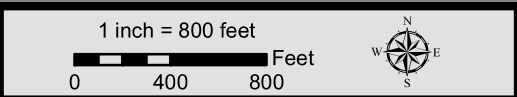
National Wetlands Inventory (NWI)

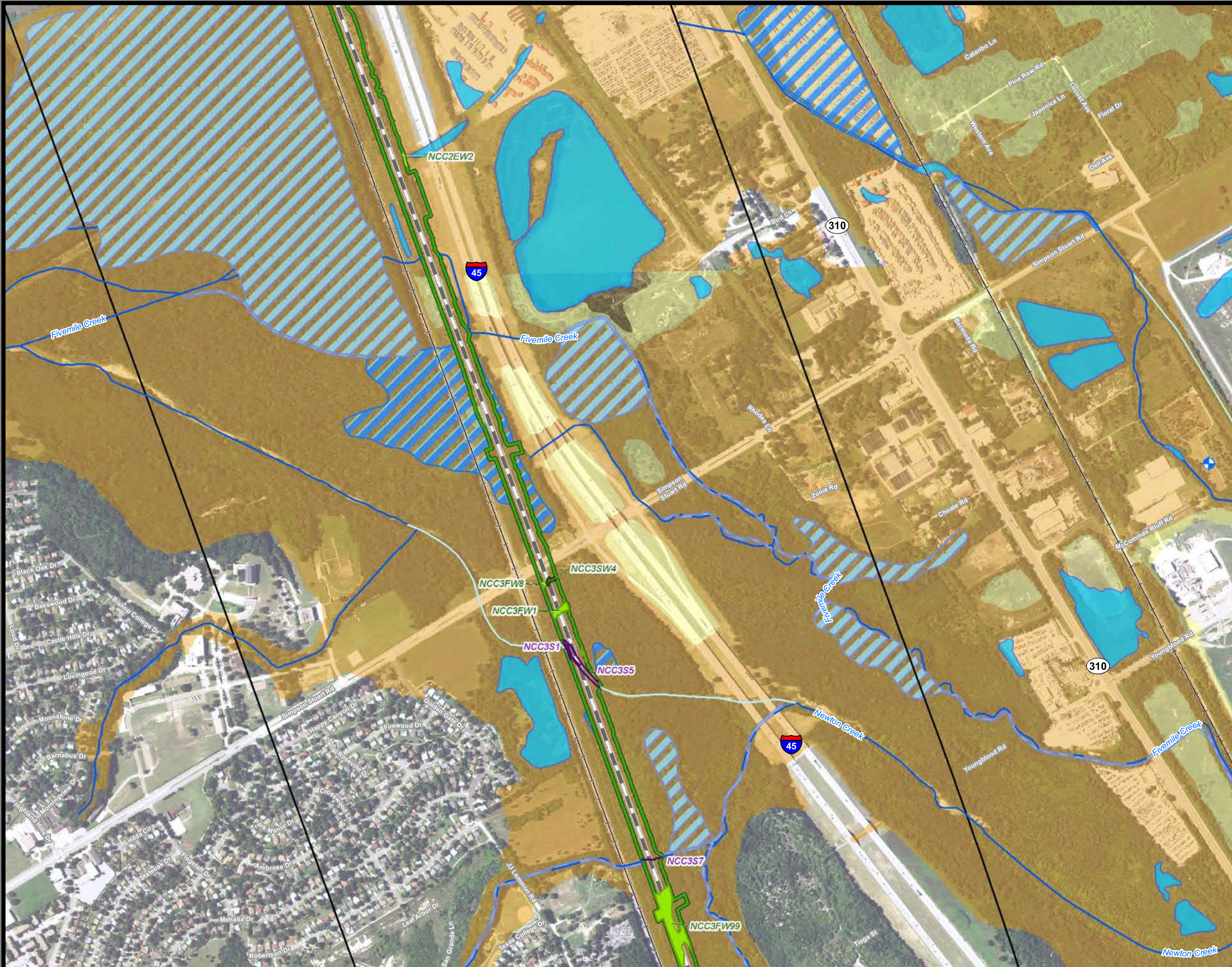
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Aerial Imagery: USDA NAIP 2014





**Dallas to Houston
High-Speed Rail Project
Natural Resources
Segment 1
Sheet 5 of 257**

Legend

Limits of Disturbance

- Segment 1
- Segment 2A
- Segment 2B
- Segment 3A
- Segment 3B
- Segment 3C
- Segment 4
- Segment 5

Track Configuration

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Potential Habitat

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Impaired Waters with Total Maximum Daily Load (TMDL)

Impaired Waters

Federal Emergency Management Agency (FEMA) Flood Zone

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Field-Collected Data

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National Hydrography Dataset (NHD)

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- Intermittent Stream/River
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National Wetlands Inventory (NWI)

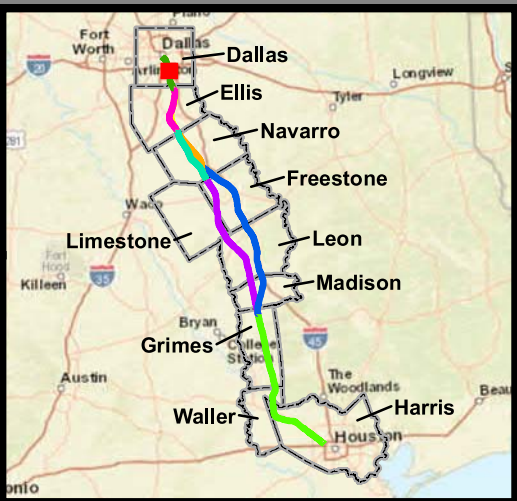
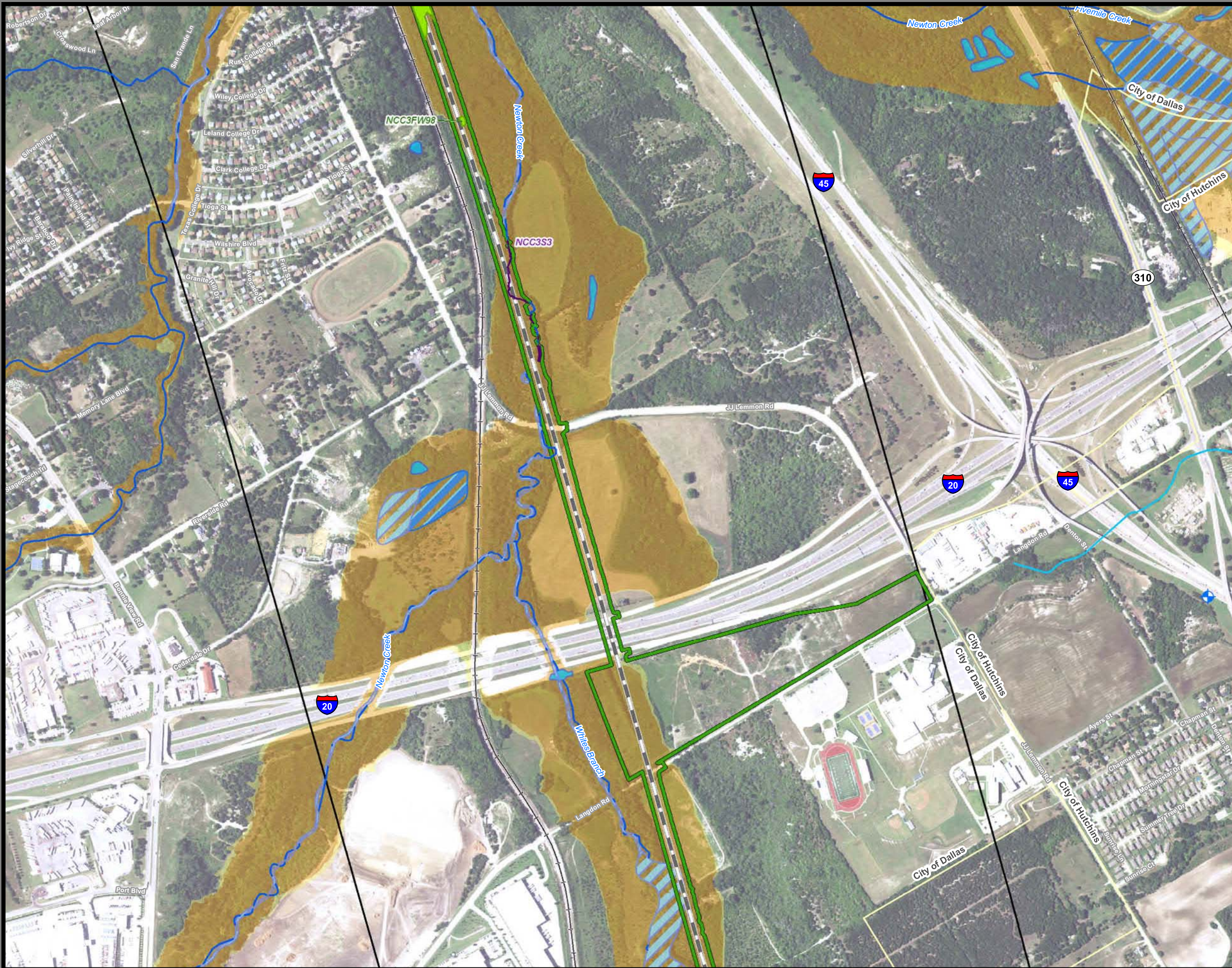
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**Dallas to Houston
High-Speed Rail Project
Natural Resources
Segment 1
Sheet 6 of 257**

Legend

Limits of Disturbance

- Segment 1
- Segment 2A
- Segment 2B
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- Segment 3B
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Track Configuration

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Impaired Waters with Total Maximum Daily Load (TMDL)

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Field-Collected Data

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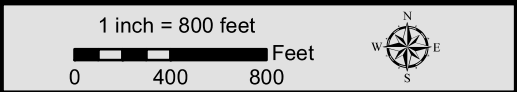
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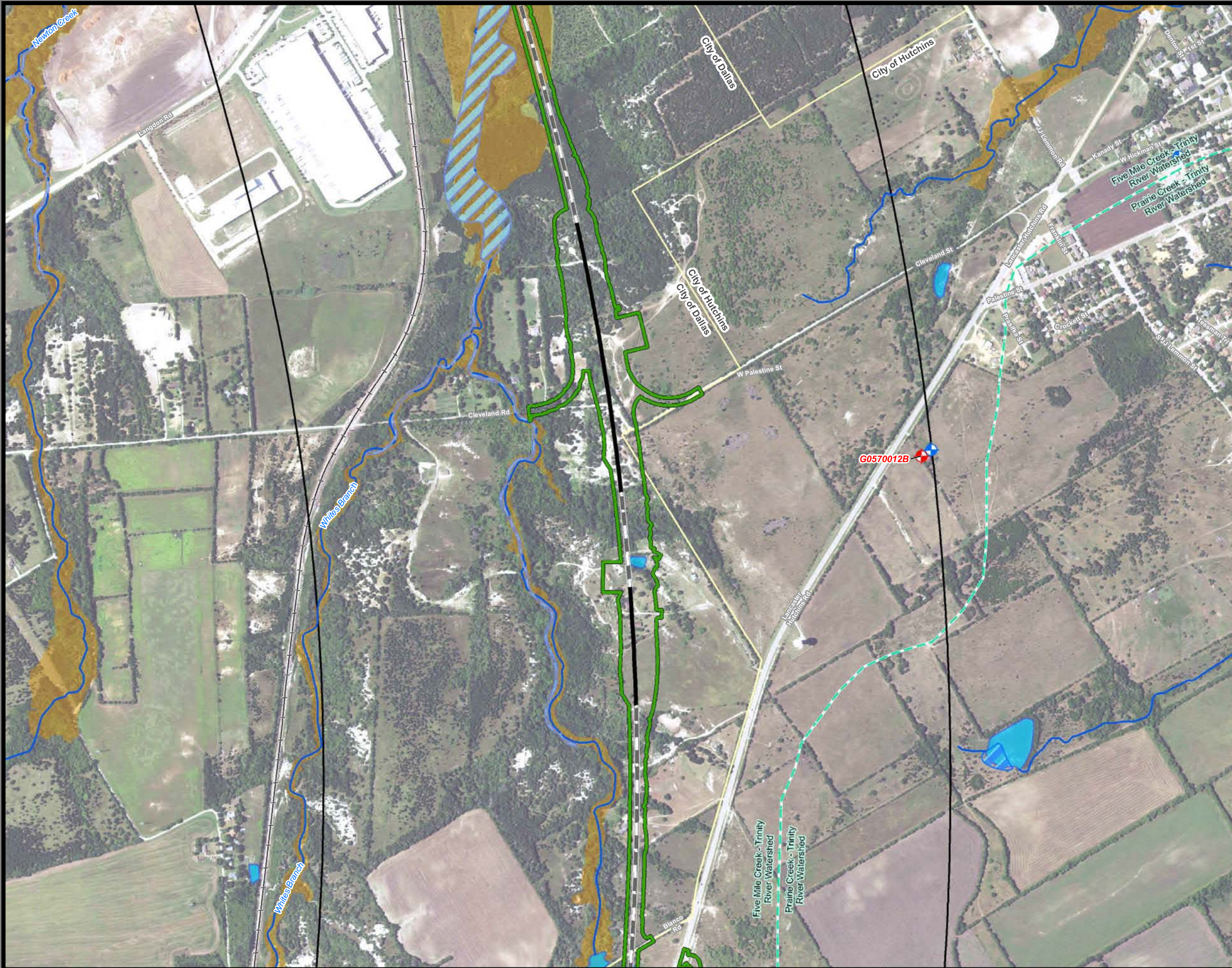
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Aerial Imagery: USDA NAIP 2014





**Dallas to Houston
High-Speed Rail Project
Natural Resources
Segment 1
Sheet 7 of 257**

Legend

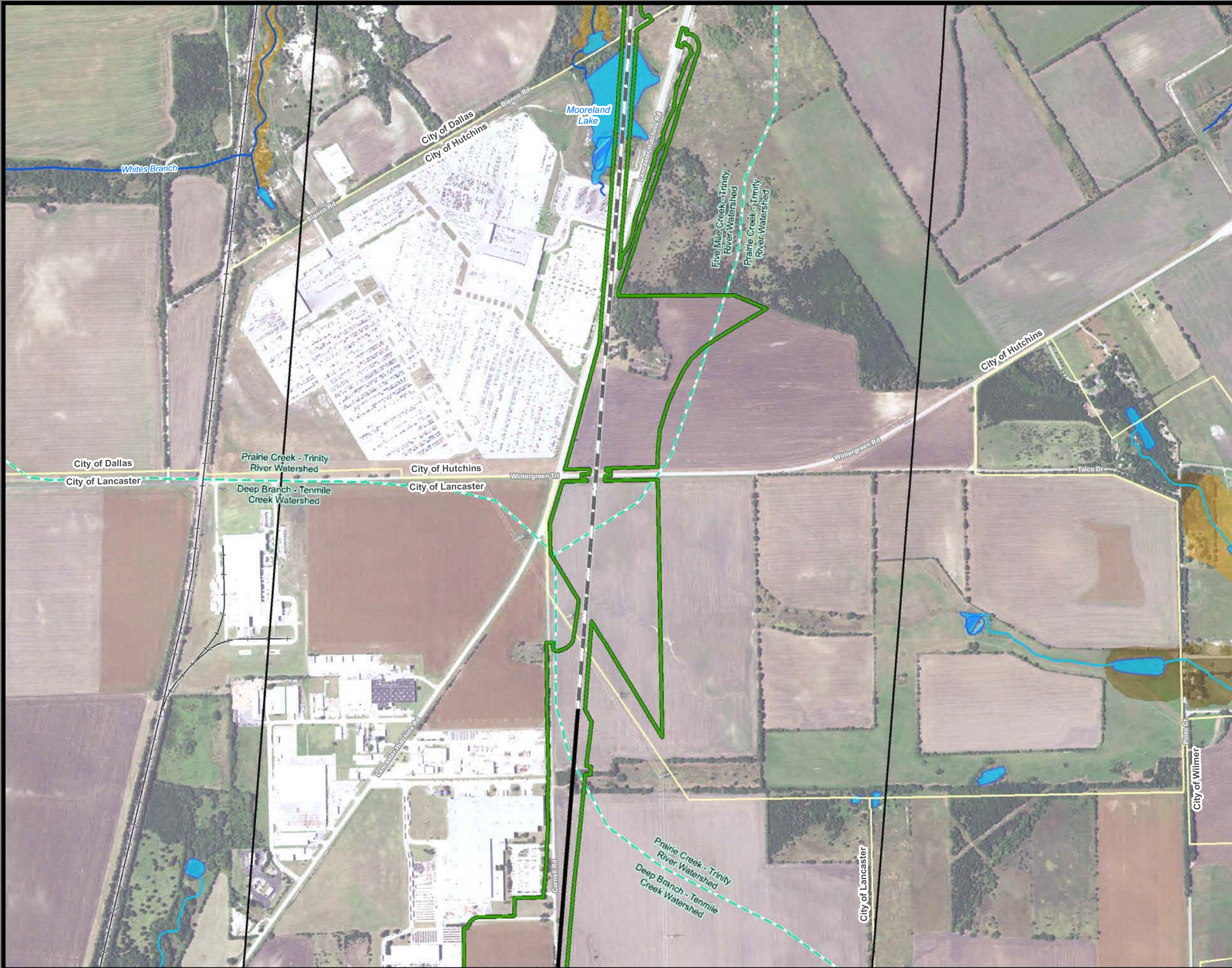
- Limits of Disturbance**
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**Dallas to Houston
High-Speed Rail Project
Natural Resources
Segment 1
Sheet 8 of 257**

Legend

- Limits of Disturbance**

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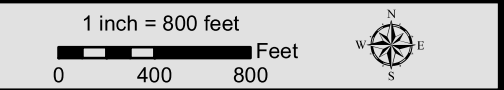
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**Dallas to Houston
High-Speed Rail Project
Natural Resources
Segment 1
Sheet 9 of 257**

Legend

Limits of Disturbance

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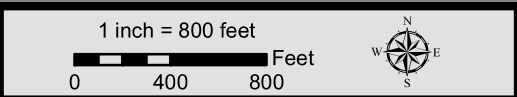
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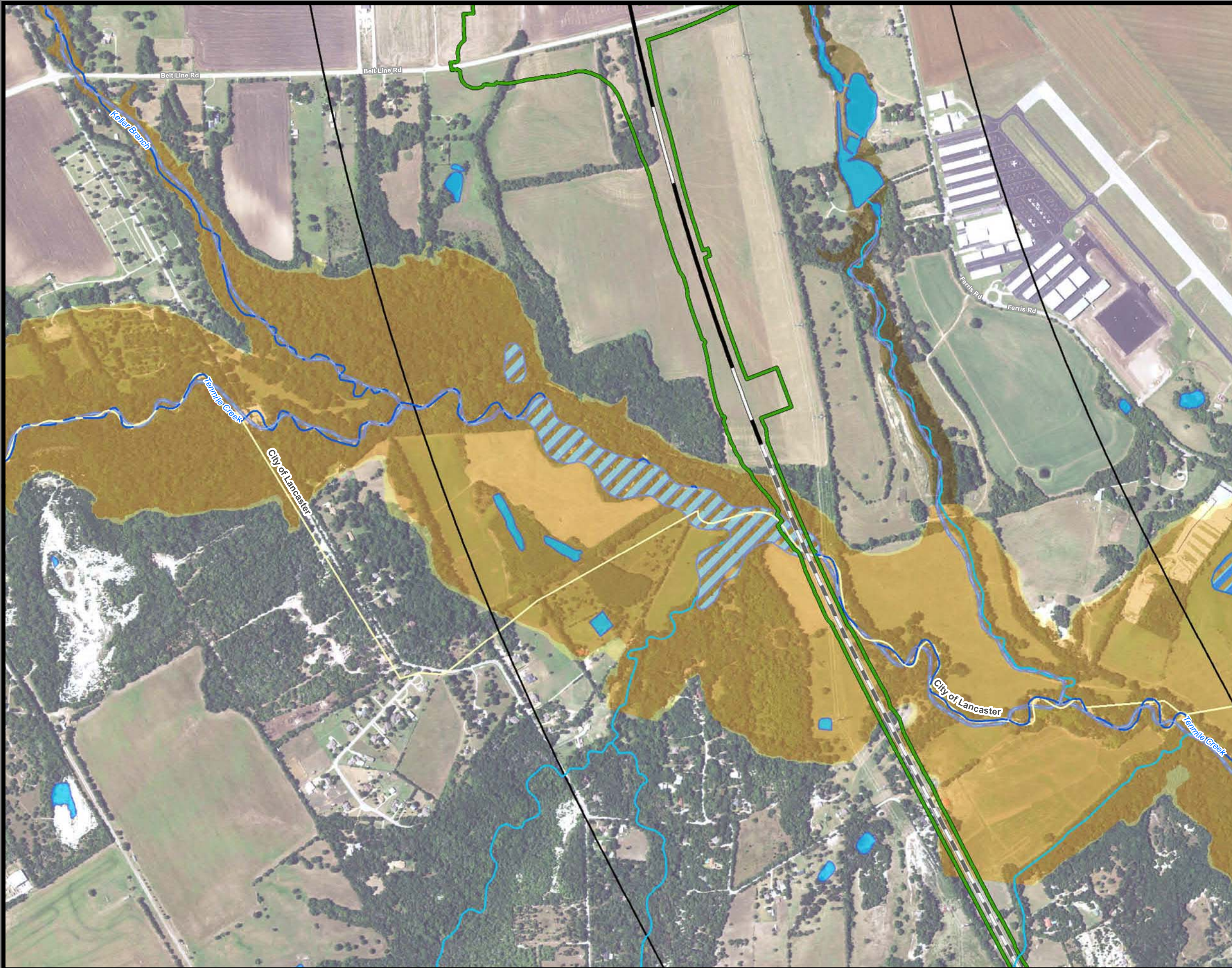
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Aerial Imagery: USDA NAIP 2014





**Dallas to Houston
High-Speed Rail Project
Natural Resources
Segment 1
Sheet 10 of 257**

Legend

- Limits of Disturbance**

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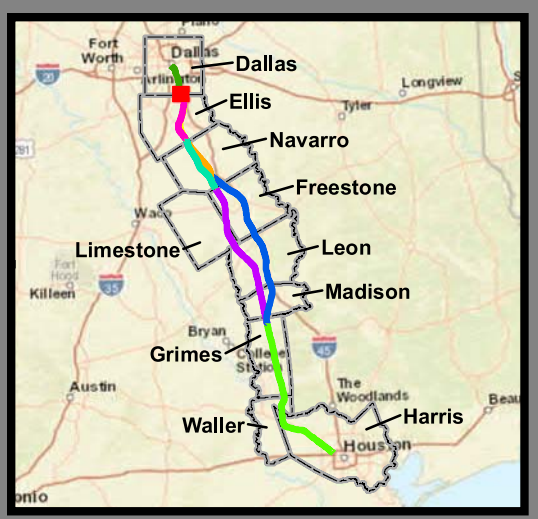
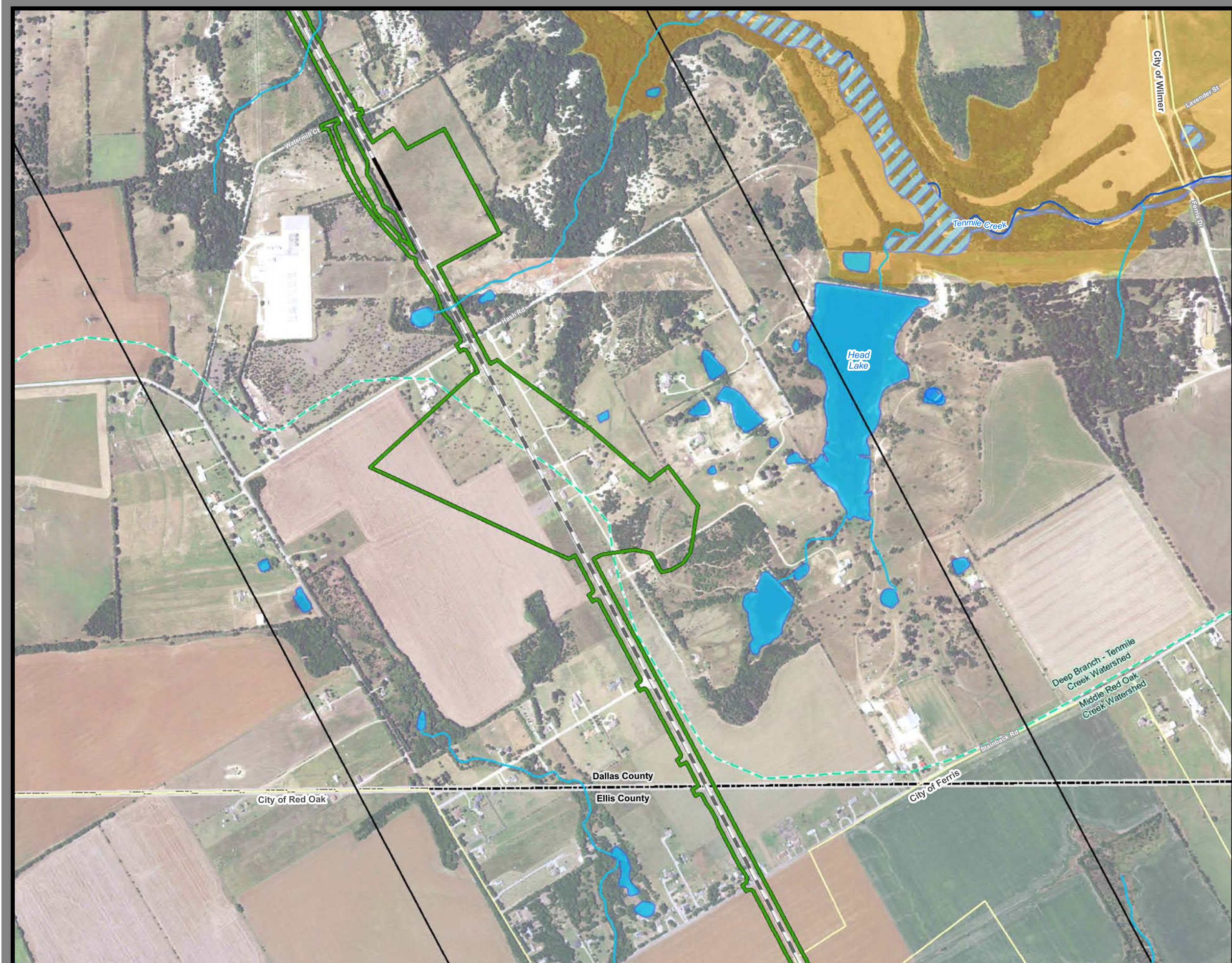
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Data Sources: County Boundaries - U.S. Census TIGER 2015; City Boundaries - TxDOT 2013; MSD - TCEQ 2015; USACE Project Areas - USACE 2014; Public Water Supply/Impaired Waters - EPA 2016; Groundwater Wells - TWDB 2015; NHD/HUC12 - USGS 2016; Reservoirs - TWDB 2014; NWI - USFWS 2016; Floodplains - FEMA 2016; Endangered/Threatened Species - TPWD TXNDD Element of Occurrence Records (EOR) 2017; ESRI World Street Map
Aerial Imagery: USDA NAIP 2014

1 inch = 800 feet
0 400 800 Feet





**Dallas to Houston
High-Speed Rail Project
Natural Resources
Segment
Sheet 11 of 257**

Legend

Limits of Disturbance

- Segment 1
- Segment 2A
- Segment 2B
- Segment 3A
- Segment 3B
- Segment 3C
- Segment 4
- Segment 5

Track Configuration

- Viaduct
- Embankment
- Cut
- Half Mile Buffer
- City Boundary
- County Boundary
- Railroad
- Municipal Setting Designation (MSD)

Potential Habitat

- Houston Toad
- Large-fruited Sand Verbena
- Navasota Ladies'-tresses
- Endangered Species
- Threatened Species
- U.S. Army Corps of Engineers (USACE) Project Area
- Watershed (HUC 12) Boundary
- Public Water Supply
- Groundwater Well

Impaired Waters with Total Maximum Daily Load (TMDL)

- Impaired Waters

Federal Emergency Management Agency (FEMA) Flood Zone

- A - 1%
- AE - 1%
- AO - 1%
- X - 0.2%

Field-Collected Data

- Perennial Stream/River
- Intermittent Stream/River
- Ephemeral Stream/River
- Other Stream/River
- Lake/Pond
- Emergent Wetland
- Forested Wetland
- Scrub/Shrub Wetland

National Hydrography Dataset (NHD)

- Perennial Stream/River
- Intermittent Stream/River
- Artificial Stream/Canal
- Lake/Pond
- Reservoir
- Swamp/Marsh

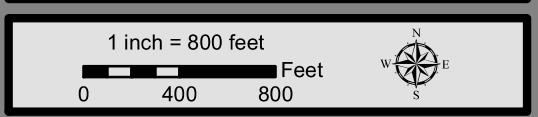
National Wetlands Inventory (NWI)

- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Other

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Aerial Imagery: USDA NAIP 2014





**Dallas to Houston
High-Speed Rail Project
Natural Resources
Segment 1, 2A
Sheet 12 of 257**

Legend

Limits of Disturbance

- Segment 1
- Segment 2A
- Segment 2B
- Segment 3A
- Segment 3B
- Segment 3C
- Segment 4
- Segment 5

Track Configuration

- Viaduct
- Embankment
- Cut
- Half Mile Buffer
- City Boundary
- County Boundary
- Railroad
- Municipal Setting Designation (MSD)

Potential Habitat

- Houston Toad
- Large-fruited Sand Verbena
- Navasota Ladies'-tresses
- Endangered Species
- Threatened Species
- U.S. Army Corps of Engineers (USACE) Project Area
- Watershed (HUC 12) Boundary
- Public Water Supply
- Groundwater Well

Impaired Waters with Total Maximum Daily Load (TMDL)

- Impaired Waters
- Federal Emergency Management Agency (FEMA) Flood Zone
 - A - 1%
 - AE - 1%
 - AO - 1%
 - X - 0.2%

Field-Collected Data

- Perennial Stream/River
- Intermittent Stream/River
- Ephemeral Stream/River
- Other Stream/River
- Lake/Pond
- Emergent Wetland
- Forested Wetland
- Scrub/Shrub Wetland

National Hydrography Dataset (NHD)

- Perennial Stream/River
- Intermittent Stream/River
- Artificial Stream/Canal
- Lake/Pond
- Reservoir
- Swamp/Marsh

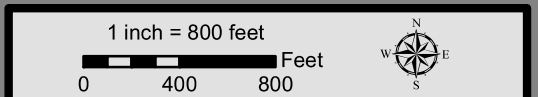
National Wetlands Inventory (NWI)

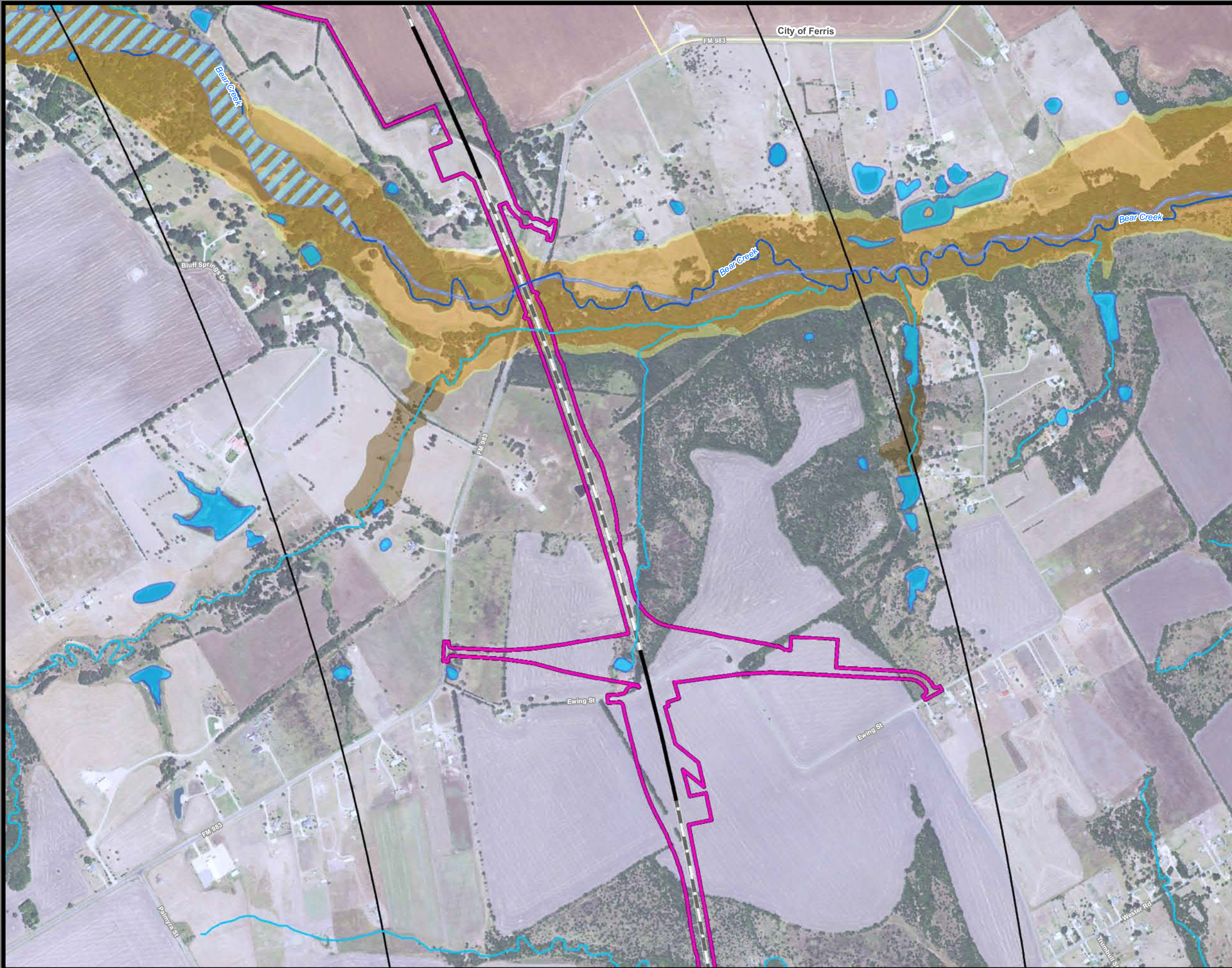
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Other

This Sheet only depicts Segment 2A; Segment 2B is also located in this same area and can be referenced on Sheet 28.

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Aerial Imagery: USDA NAIP 2014





**Dallas to Houston
High-Speed Rail Project
Natural Resources
Segment 2A
Sheet 13 of 257**

Legend

- Limits of Disturbance**

 - Segment 1
 - Segment 2A
 - Segment 2B
 - Segment 3A
 - Segment 3B
 - Segment 3C
 - Segment 4
 - Segment 5

Track Configuration

 - Viaduct
 - Embankment
 - Cut
 - Half Mile Buffer
 - City Boundary
 - County Boundary
 - Railroad
 - Municipal Setting Designation (MSD)

Potential Habitat

 - Houston Toad
 - Large-fruited Sand Verbena
 - Navasota Ladies-tresses
 - Endangered Species
 - Threatened Species
 - U.S. Army Corps of Engineers (USACE) Project Area
 - Watershed (HUC 12) Boundary
 - Public Water Supply
 - Groundwater Well
- Impaired Waters with Total Maximum Daily Load (TMDL)

Impaired Waters

Federal Emergency Management Agency (FEMA) Flood Zone

 - A - 1%
 - AE - 1%
 - AO - 1%
 - X - 0.2%

Field-Collected Data

 - Perennial Stream/River
 - Intermittent Stream/River
 - Ephemeral Stream/River
 - Other Stream/River
 - Lake/Pond
 - Emergent Wetland
 - Forested Wetland
 - Scrub/Shrub Wetland

National Hydrography Dataset (NHD)

 - Perennial Stream/River
 - Intermittent Stream/River
 - Artificial Stream/Canal
 - Lake/Pond
 - Reservoir
 - Swamp/Marsh

National Wetlands Inventory (NWI)

 - Freshwater Emergent Wetland
 - Freshwater Forested/Shrub Wetland
 - Other

This Sheet only depicts Segment 2A; Segment 2B is also located in this same area and can be referenced on Sheet 29.

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Aerial Imagery: USDA NAIP 2014

1 inch = 800 feet
0 400 800 Feet





**Dallas to Houston
High-Speed Rail Project
Natural Resources
Segment 2A
Sheet 14 of 257**

Legend

Limits of Disturbance

- Segment 1
- Segment 2A
- Segment 2B
- Segment 3A
- Segment 3B
- Segment 3C
- Segment 4
- Segment 5

Track Configuration

- Viaduct
- Embankment
- Cut
- Half Mile Buffer
- City Boundary
- County Boundary
- Railroad
- Municipal Setting Designation (MSD)

Potential Habitat

- Houston Toad
- Large-fruited Sand Verbena
- Navasota Ladies'-tresses
- Endangered Species
- Threatened Species
- U.S. Army Corps of Engineers (USACE) Project Area
- Watershed (HUC 12) Boundary
- Public Water Supply
- Groundwater Well

Impaired Waters with Total Maximum Daily Load (TMDL)

- Impaired Waters

Federal Emergency Management Agency (FEMA) Flood Zone

- A - 1%
- AE - 1%
- AO - 1%
- X - 0.2%

Field-Collected Data

- Perennial Stream/River
- Intermittent Stream/River
- Ephemeral Stream/River
- Other Stream/River
- Lake/Pond
- Emergent Wetland
- Forested Wetland
- Scrub/Shrub Wetland

National Hydrography Dataset (NHD)

- Perennial Stream/River
- Intermittent Stream/River
- Artificial Stream/Canal
- Lake/Pond
- Reservoir
- Swamp/Marsh

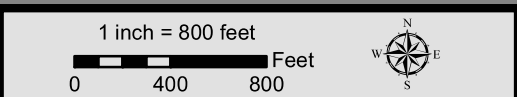
National Wetlands Inventory (NWI)

- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Other

This Sheet only depicts Segment 2A; Segment 2B is also located in this same area and can be referenced on Sheet 30.

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Aerial Imagery: USDA NAIP 2014





**Dallas to Houston
High-Speed Rail Project
Natural Resources
Segment 2A
Sheet 15 of 257**

Legend

Limits of Disturbance

- Segment 1
- Segment 2A
- Segment 2B
- Segment 3A
- Segment 3B
- Segment 3C
- Segment 4
- Segment 5

Track Configuration

- Viaduct
- Embankment
- Cut
- Half Mile Buffer
- City Boundary
- County Boundary
- Railroad
- Municipal Setting Designation (MSD)

Potential Habitat

- Houston Toad
- Large-fruited Sand Verbena
- Navasota Ladies'-tresses
- Endangered Species
- Threatened Species
- U.S. Army Corps of Engineers (USACE) Project Area
- Watershed (HUC 12) Boundary
- Public Water Supply
- Groundwater Well

Impaired Waters with Total Maximum Daily Load (TMDL)

Impaired Waters

Federal Emergency Management Agency (FEMA) Flood Zone

- A - 1%
- AE - 1%
- AO - 1%
- X - 0.2%

Field-Collected Data

- Perennial Stream/River
- Intermittent Stream/River
- Ephemeral Stream/River
- Other Stream/River
- Lake/Pond
- Emergent Wetland
- Forested Wetland
- Scrub/Shrub Wetland

National Hydrography Dataset (NHD)

- Perennial Stream/River
- Intermittent Stream/River
- Artificial Stream/Canal
- Lake/Pond
- Reservoir
- Swamp/Marsh

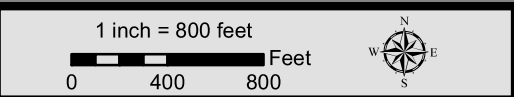
National Wetlands Inventory (NWI)

- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Other

This Sheet only depicts Segment 2A; Segment 2B is also located in this same area and can be referenced on Sheet 31.

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Aerial Imagery: USDA NAIP 2014





**Dallas to Houston
High-Speed Rail Project**
Natural Resources
Segment 2A
Sheet 16 of 257

Legend

Limits of Disturbance

- Segment 1
- Segment 2A
- Segment 2B
- Segment 3A
- Segment 3B
- Segment 3C
- Segment 4
- Segment 5

Track Configuration

- Viaduct
- Embankment
- Cut
- Half Mile Buffer
- City Boundary
- County Boundary
- Railroad
- Municipal Setting Designation (MSD)

Potential Habitat

- Houston Toad
- Large-fruited Sand Verbena
- Navasota Ladies'-tresses
- Endangered Species
- Threatened Species
- U.S. Army Corps of Engineers (USACE) Project Area
- Watershed (HUC 12) Boundary
- Public Water Supply
- Groundwater Well

Impaired Waters with Total Maximum Daily Load (TMDL)

- Impaired Waters
- Federal Emergency Management Agency (FEMA) Flood Zone
 - A - 1%
 - AE - 1%
 - AO - 1%
 - X - 0.2%

Field-Collected Data

- Perennial Stream/River
- Intermittent Stream/River
- Ephemeral Stream/River
- Other Stream/River
- Lake/Pond
- Emergent Wetland
- Forested Wetland
- Scrub/Shrub Wetland

National Hydrography Dataset (NHD)

- Perennial Stream/River
- Intermittent Stream/River
- Artificial Stream/Canal
- Lake/Pond
- Reservoir
- Swamp/Marsh

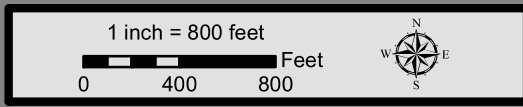
National Wetlands Inventory (NWI)

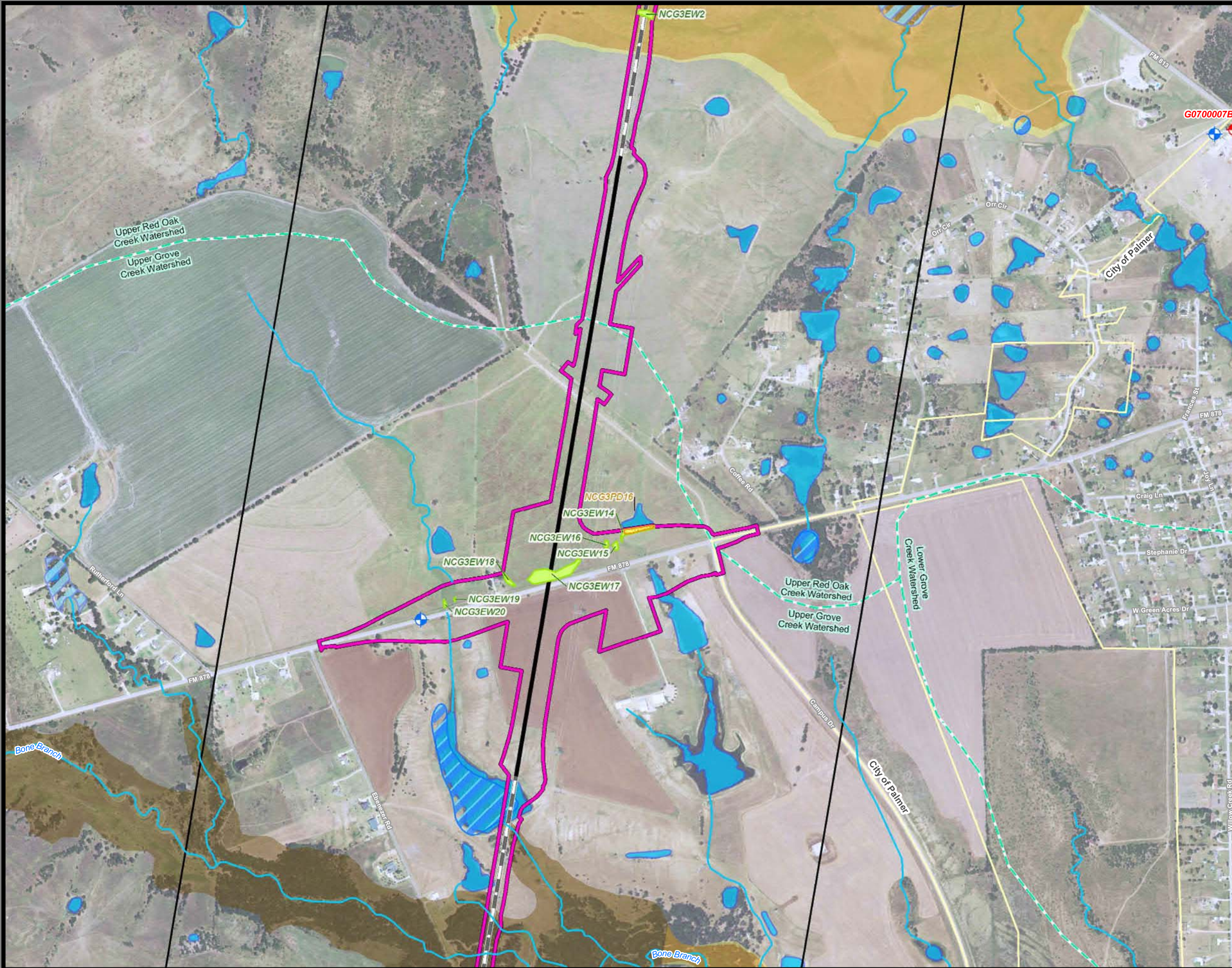
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Other

This Sheet only depicts Segment 2A; Segment 2B is also located in this same area and can be referenced on Sheet 32.

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Aerial Imagery: USDA NAIP 2014





**Dallas to Houston
High-Speed Rail Project
Natural Resources
Segment 2A
Sheet 17 of 257**

Legend

Limits of Disturbance

- Segment 1
- Segment 2A
- Segment 2B
- Segment 3A
- Segment 3B
- Segment 3C
- Segment 4
- Segment 5

Track Configuration

- Viaduct
- Embankment
- Cut
- Half Mile Buffer
- City Boundary
- County Boundary
- Railroad
- Municipal Setting Designation (MSD)

Potential Habitat

- Houston Toad
- Large-fruited Sand Verbena
- Navasota Ladies-tresses
- Endangered Species
- Threatened Species
- U.S. Army Corps of Engineers (USACE) Project Area
- Watershed (HUC 12) Boundary
- Public Water Supply
- Groundwater Well

Impaired Waters with Total Maximum Daily Load (TMDL)

- Impaired Waters
- A - 1%
- AE - 1%
- AO - 1%
- X - 0.2%

Federal Emergency Management Agency (FEMA) Flood Zone

- Perennial Stream/River
- Intermittent Stream/River
- Ephemeral Stream/River
- Other Stream/River
- Lake/Pond
- Emergent Wetland
- Forested Wetland
- Scrub/Shrub Wetland

Field-Collected Data

- Perennial Stream/River
- Intermittent Stream/River
- Ephemeral Stream/River
- Other Stream/River
- Lake/Pond
- Emergent Wetland
- Forested Wetland
- Scrub/Shrub Wetland

National Hydrography Dataset (NHD)

- Perennial Stream/River
- Intermittent Stream/River
- Artificial Stream/Canal
- Lake/Pond
- Reservoir
- Swamp/Marsh

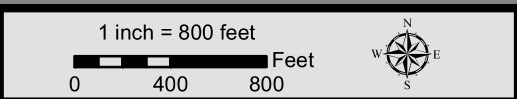
National Wetlands Inventory (NWI)

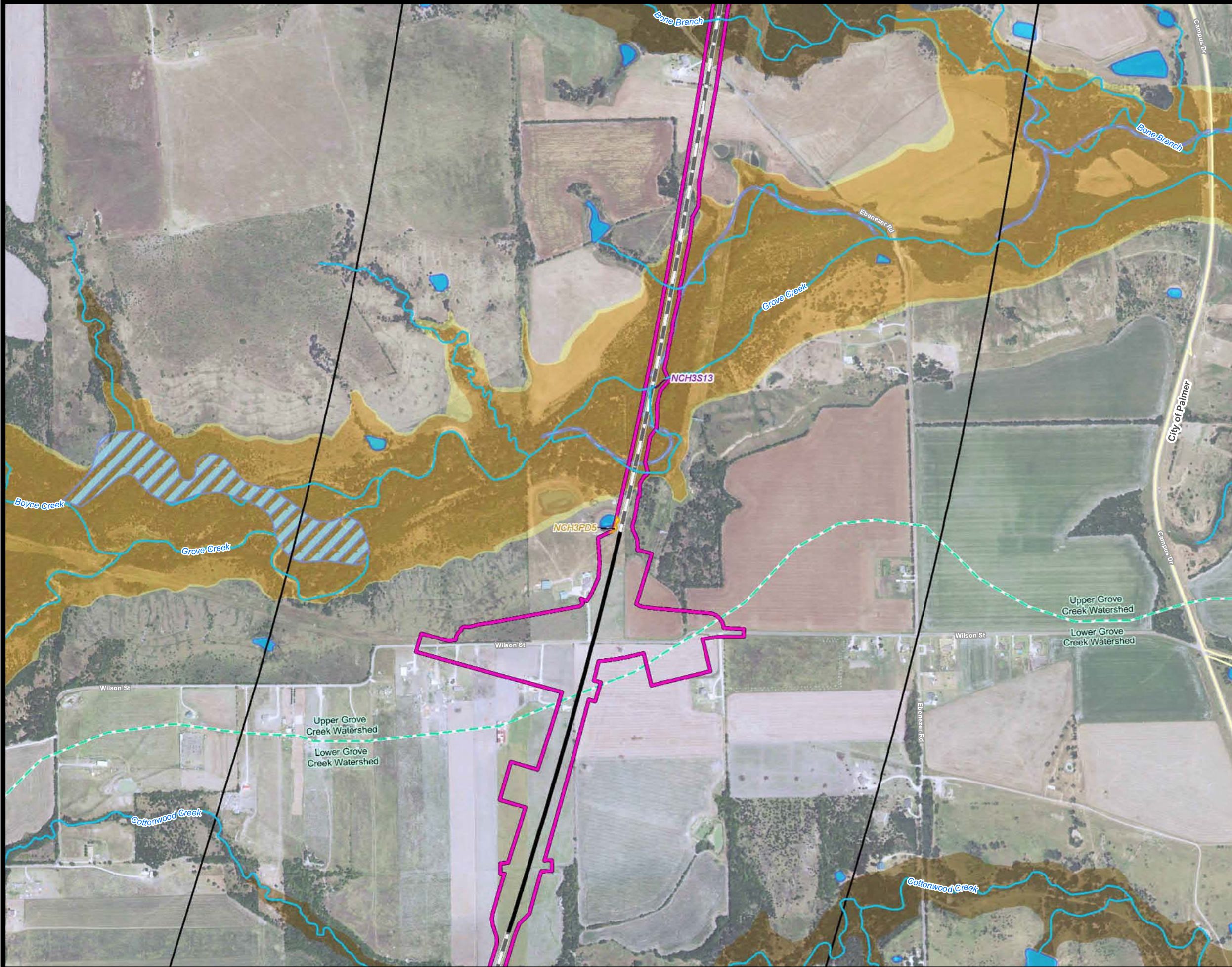
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Other

This Sheet only depicts Segment 2A; Segment 2B is also located in this same area and can be referenced on Sheet 33.

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Aerial Imagery: USDA NAIP 2014





**Dallas to Houston
High-Speed Rail Project
Natural Resources
Segment 2A
Sheet 18 of 257**

Legend

Limits of Disturbance

- Segment 1
- Segment 2A
- Segment 2B
- Segment 3A
- Segment 3B
- Segment 3C
- Segment 4
- Segment 5

Track Configuration

- Viaduct
- Embankment
- Cut
- Half Mile Buffer
- City Boundary
- County Boundary
- Railroad
- Municipal Setting Designation (MSD)

Potential Habitat

- Houston Toad
- Large-fruited Sand Verbena
- Navasota Ladies-tresses
- Endangered Species
- Threatened Species
- U.S. Army Corps of Engineers (USACE) Project Area
- Watershed (HUC 12) Boundary
- Public Water Supply
- Groundwater Well

Impaired Waters with Total Maximum Daily Load (TMDL)

- Impaired Waters

Federal Emergency Management Agency (FEMA) Flood Zone

- A - 1%
- AE - 1%
- AO - 1%
- X - 0.2%

Field-Collected Data

- Perennial Stream/River
- Intermittent Stream/River
- Ephemeral Stream/River
- Other Stream/River
- Lake/Pond
- Emergent Wetland
- Forested Wetland
- Scrub/Shrub Wetland

National Hydrography Dataset (NHD)

- Perennial Stream/River
- Intermittent Stream/River
- Artificial Stream/Canal
- Lake/Pond
- Reservoir
- Swamp/Marsh

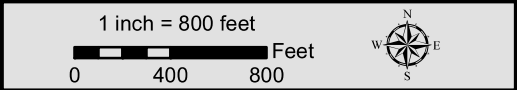
National Wetlands Inventory (NWI)

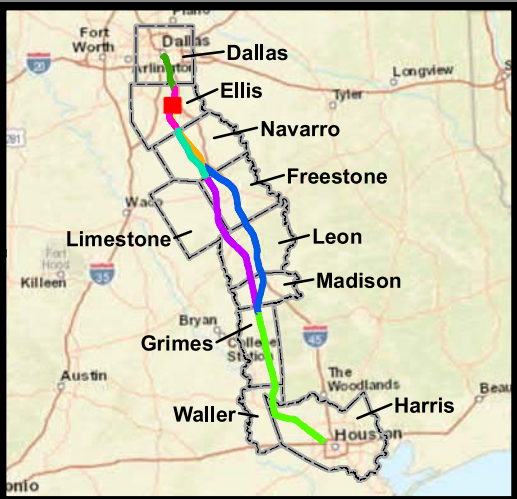
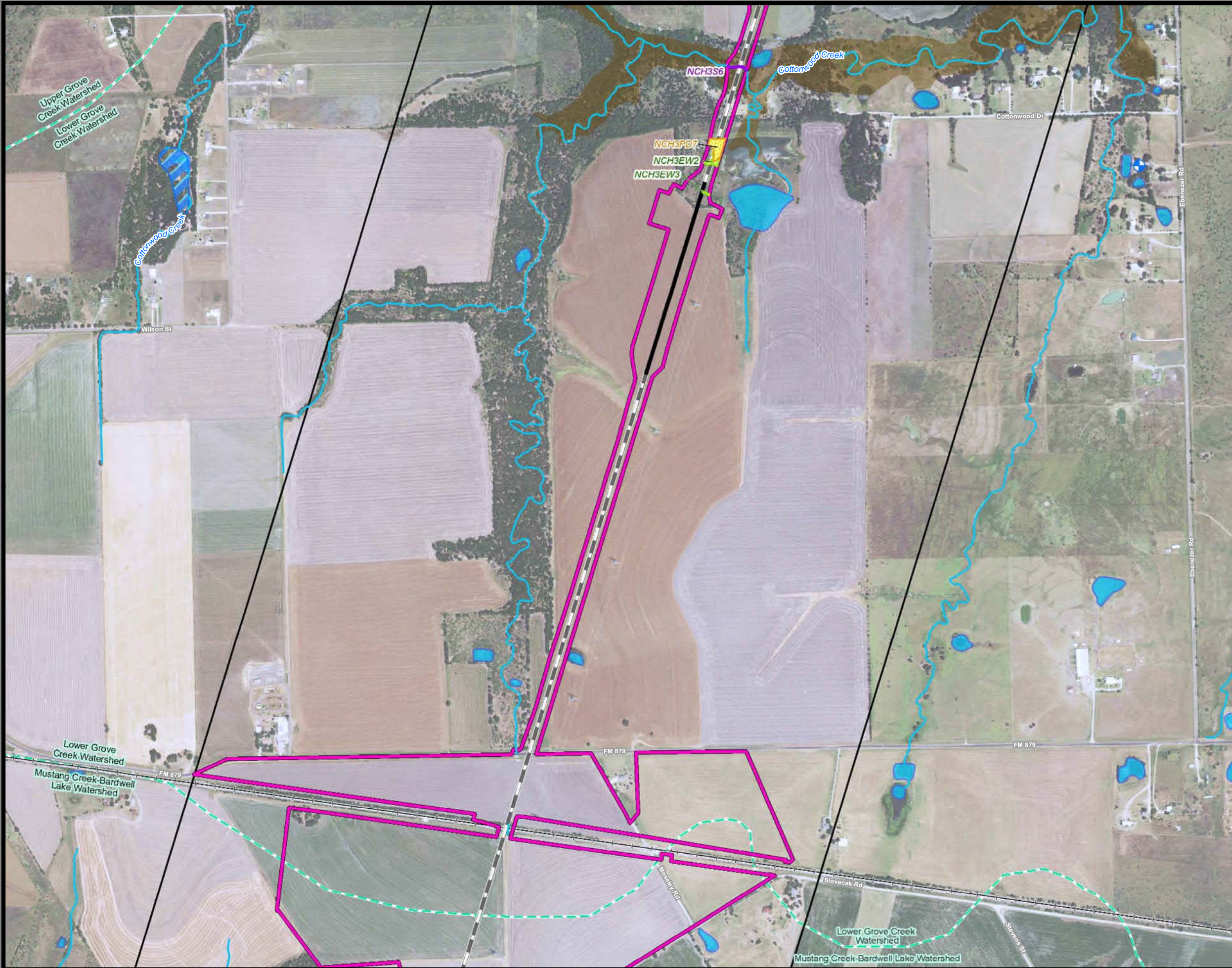
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Other

This Sheet only depicts Segment 2A; Segment 2B is also located in this same area and can be referenced on Sheet 34.

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Aerial Imagery: USDA NAIP 2014





**Dallas to Houston
High-Speed Rail Project
Natural Resources
Segment 2A
Sheet 19 of 257**

Legend

Limits of Disturbance

- Segment 1
- Segment 2A
- Segment 2B
- Segment 3A
- Segment 3B
- Segment 3C
- Segment 4
- Segment 5

Track Configuration

- Viaduct
- Embankment
- Cut
- Half Mile Buffer
- City Boundary
- County Boundary
- Railroad
- Municipal Setting Designation (MSD)

Potential Habitat

- Houston Toad
- Large-fruited Sand Verbena
- Navasota Ladies'-tresses
- Endangered Species
- Threatened Species
- U.S. Army Corps of Engineers (USACE) Project Area
- Watershed (HUC 12) Boundary
- Public Water Supply
- Groundwater Well

Impaired Waters with Total Maximum Daily Load (TMDL)

- Impaired Waters

Federal Emergency Management Agency (FEMA) Flood Zone

- A - 1%
- AE - 1%
- AO - 1%
- X - 0.2%

Field-Collected Data

- Perennial Stream/River
- Intermittent Stream/River
- Ephemeral Stream/River
- Other Stream/River
- Lake/Pond
- Emergent Wetland
- Forested Wetland
- Scrub/Shrub Wetland

National Hydrography Dataset (NHD)

- Perennial Stream/River
- Intermittent Stream/River
- Artificial Stream/Canal
- Lake/Pond
- Reservoir
- Swamp/Marsh

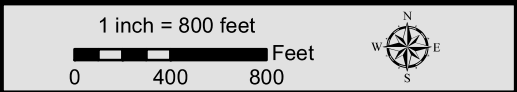
National Wetlands Inventory (NWI)

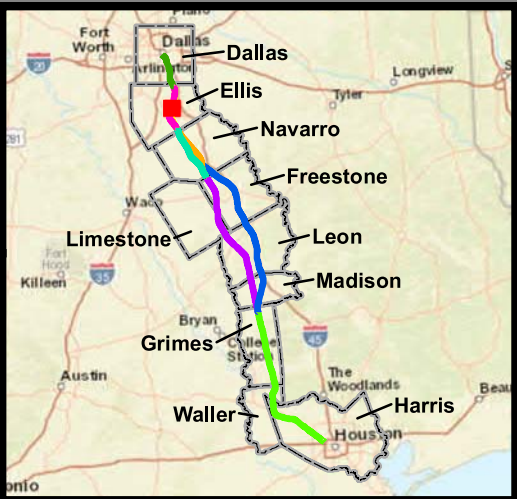
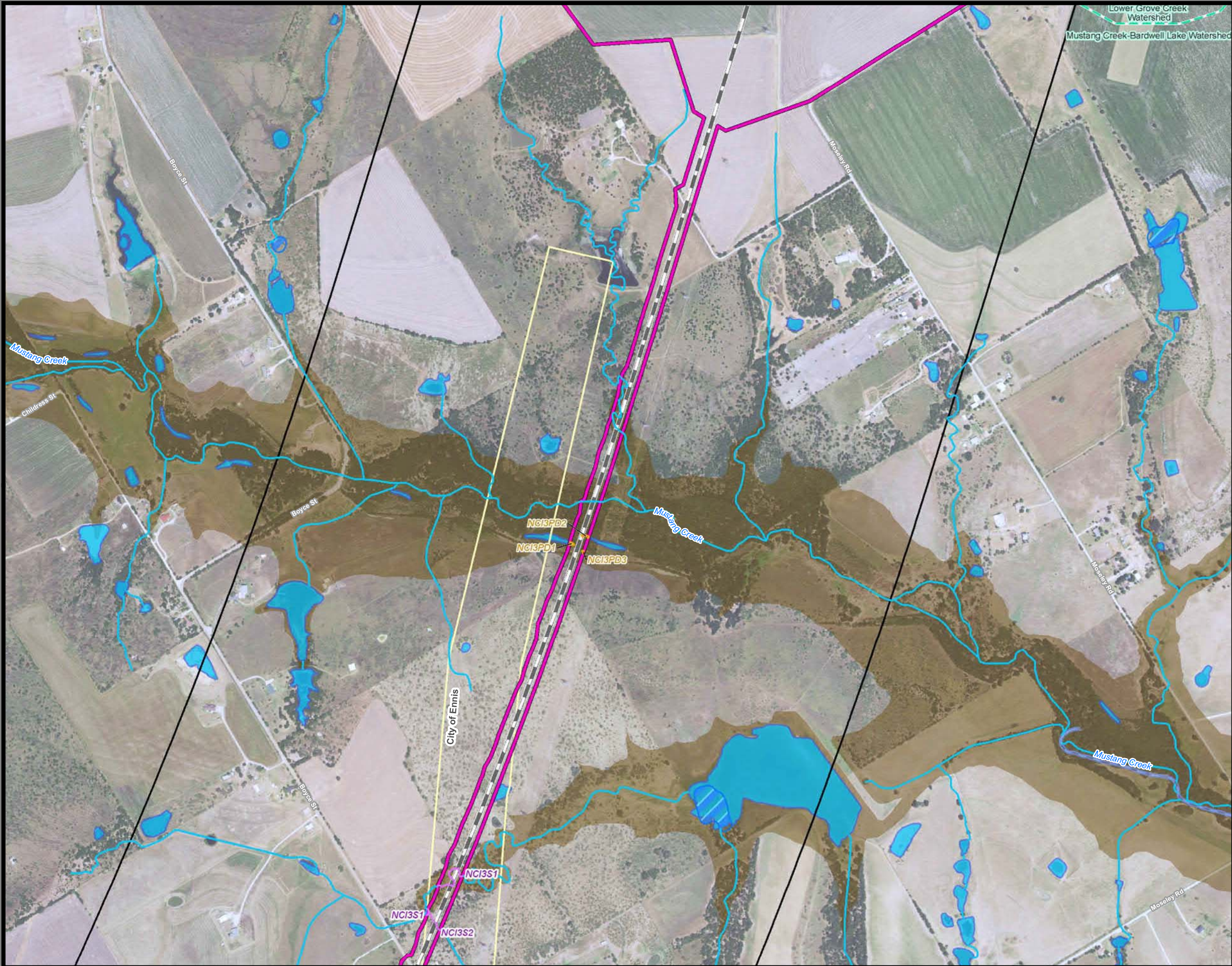
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Other

This Sheet only depicts Segment 2A; Segment 2B is also located in this same area and can be referenced on Sheet 35.

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Aerial Imagery: USDA NAIP 2014





**Dallas to Houston
High-Speed Rail Project
Natural Resources
Segment 2A
Sheet 20 of 257**

Legend

Limits of Disturbance

- Segment 1
- Segment 2A
- Segment 2B
- Segment 3A
- Segment 3B
- Segment 3C
- Segment 4
- Segment 5

Track Configuration

- Viaduct
- Embankment
- Cut
- Half Mile Buffer
- City Boundary
- County Boundary
- Railroad
- Municipal Setting Designation (MSD)

Potential Habitat

- Houston Toad
- Large-fruited Sand Verbena
- Navasota Ladies-tresses
- Endangered Species
- Threatened Species
- U.S. Army Corps of Engineers (USACE) Project Area
- Watershed (HUC 12) Boundary
- Public Water Supply
- Groundwater Well

Impaired Waters with Total Maximum Daily Load (TMDL)

- Impaired Waters

Federal Emergency Management Agency (FEMA) Flood Zone

- A - 1%
- AE - 1%
- AO - 1%
- X - 0.2%

Field-Collected Data

- Perennial Stream/River
- Intermittent Stream/River
- Ephemeral Stream/River
- Other Stream/River
- Lake/Pond
- Emergent Wetland
- Forested Wetland
- Scrub/Shrub Wetland

National Hydrography Dataset (NHD)

- Perennial Stream/River
- Intermittent Stream/River
- Artificial Stream/Canal
- Lake/Pond
- Reservoir
- Swamp/Marsh

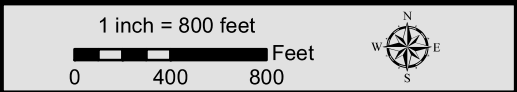
National Wetlands Inventory (NWI)

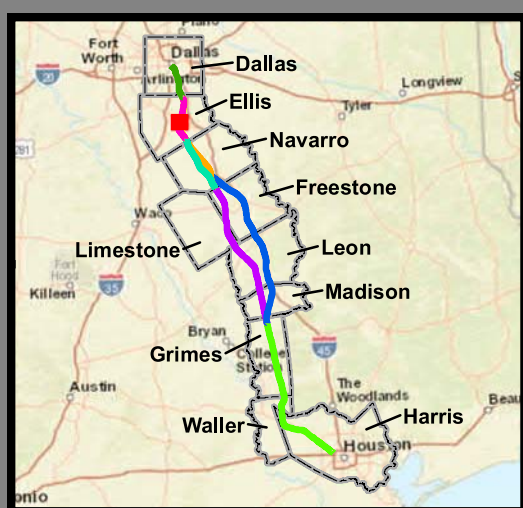
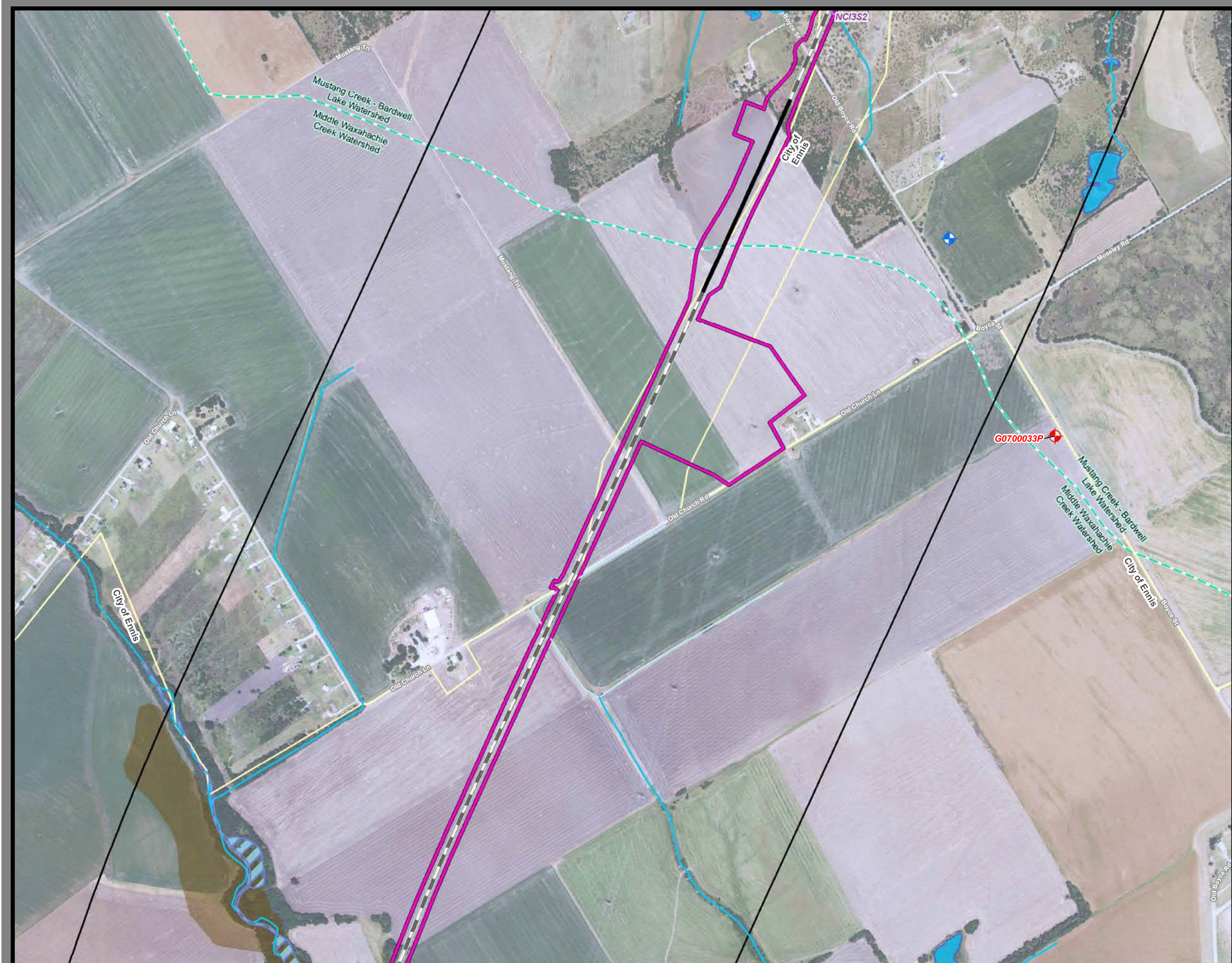
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Other

This Sheet only depicts Segment 2A; Segment 2B is also located in this same area and can be referenced on Sheet 36.

*Floodplains in Freestone and Madison Counties digitized from U.S. Dept of Housing and Urban Development 1978 and 1991 Flood Hazard Boundary Maps due to lack of digitally mapped FEMA floodplains.

Data Sources: County Boundaries - U.S. Census TIGER 2015; City Boundaries - TxDOT 2013; MSD - TCEQ 2015; USACE Project Areas - USACE 2014; Public Water Supply/Impaired Waters - EPA 2016; Groundwater Wells - TWDB 2015; NHD/HUC12 - USGS 2016; Reservoirs - TWDB 2014; NWI - USFWS 2016; Floodplains - FEMA 2016; Endangered/Threatened Species - TPWD TXNDD Element of Occurrence Records (EOR) 2017; ESRI World Street Map
Aerial Imagery: USDA NAIP 2014





**Dallas to Houston
High-Speed Rail Project
Natural Resources
Segment 2A
Sheet 21 of 257**

Legend

Limits of Disturbance

- Segment 1
- Segment 2A
- Segment 2B
- Segment 3A
- Segment 3B
- Segment 3C
- Segment 4
- Segment 5

Track Configuration

- Viaduct
- Embankment
- Cut
- Half Mile Buffer
- City Boundary
- County Boundary
- Railroad
- Municipal Setting Designation (MSD)

Potential Habitat

- Houston Toad
- Large-fruited Sand Verbena
- Navasota Ladies'-tresses
- Endangered Species
- Threatened Species
- U.S. Army Corps of Engineers (USACE) Project Area
- Watershed (HUC 12) Boundary
- Public Water Supply
- Groundwater Well

Impaired Waters with Total Maximum Daily Load (TMDL)

Impaired Waters

Federal Emergency Management Agency (FEMA) Flood Zone

- A - 1%
- AE - 1%
- AO - 1%
- X - 0.2%

Field-Collected Data

- Perennial Stream/River
- Intermittent Stream/River
- Ephemeral Stream/River
- Other Stream/River
- Lake/Pond
- Emergent Wetland
- Forested Wetland
- Scrub/Shrub Wetland

National Hydrography Dataset (NHD)

- Perennial Stream/River
- Intermittent Stream/River
- Artificial Stream/Canal
- Lake/Pond
- Reservoir
- Swamp/Marsh

National Wetlands Inventory (NWI)

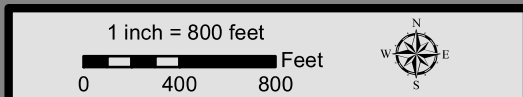
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Other

This Sheet only depicts Segment 2A; Segment 2B is also located in this same area and can be referenced on Sheet 37.

*Floodplains in Freestone and Madison Counties digitized from U.S. Dept of Housing and Urban Development 1978 and 1991 Flood Hazard Boundary Maps due to lack of digitally mapped FEMA floodplains.

Data Sources: County Boundaries - U.S. Census TIGER 2015; City Boundaries - TxDOT 2013; MSD - TCEQ 2015; USACE Project Areas - USACE 2014; Public Water Supply/Impaired Waters - EPA 2016; Groundwater Wells - TWDB 2015; NHD/HUC12 - USGS 2016; Reservoirs - TWDB 2014; NWI - USFWS 2016; Floodplains - FEMA 2016; Endangered/Threatened Species - TPWD TXNDD Element of Occurrence Records (EOR) 2017; ESRI World Street Map

Aerial Imagery: USDA NAIP 2014





**Dallas to Houston
High-Speed Rail Project**
Natural Resources
Segment 2A
Sheet 22 of 257

Legend

- Limits of Disturbance**
 - Segment 1
 - Segment 2A
 - Segment 2B
 - Segment 3A
 - Segment 3B
 - Segment 3C
 - Segment 4
 - Segment 5
- Track Configuration**
 - Viaduct
 - Embankment
 - Cut
 - Half Mile Buffer
 - City Boundary
 - County Boundary
 - Railroad
 - Municipal Setting Designation (MSD)
- Potential Habitat**
 - Houston Toad
 - Large-fruited Sand Verbena
 - Navasota Ladies-tresses
 - Endangered Species
 - Threatened Species
 - U.S. Army Corps of Engineers (USACE) Project Area
 - Watershed (HUC 12) Boundary
 - Public Water Supply
 - Groundwater Well
- Impaired Waters with Total Maximum Daily Load (TMDL)**
 - Impaired Waters
- Federal Emergency Management Agency (FEMA) Flood Zone**
 - A - 1%
 - AE - 1%
 - AO - 1%
 - X - 0.2%
- Field-Collected Data**
 - Perennial Stream/River
 - Intermittent Stream/River
 - Ephemeral Stream/River
 - Other Stream/River
 - Lake/Pond
 - Emergent Wetland
 - Forested Wetland
 - Scrub/Shrub Wetland
- National Hydrography Dataset (NHD)**
 - Perennial Stream/River
 - Intermittent Stream/River
 - Artificial Stream/Canal
 - Lake/Pond
 - Reservoir
 - Swamp/Marsh
- National Wetlands Inventory (NWI)**
 - Freshwater Emergent Wetland
 - Freshwater Forested/Shrub Wetland
 - Other

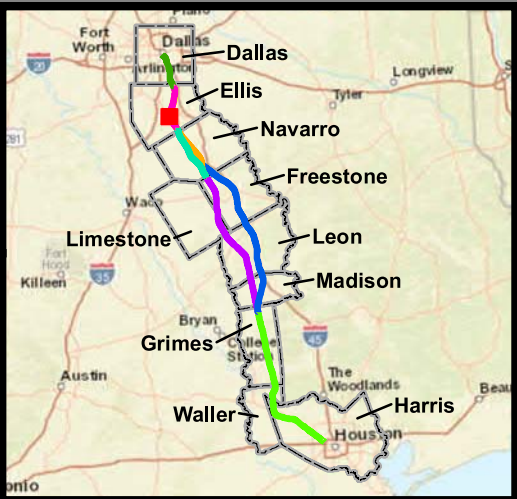
This Sheet only depicts Segment 2A; Segment 2B is also located in this same area and can be referenced on Sheet 38.

*Floodplains in Freestone and Madison Counties digitized from U.S. Dept of Housing and Urban Development 1978 and 1991 Flood Hazard Boundary Maps due to lack of digitally mapped FEMA floodplains.

Data Sources: County Boundaries - U.S. Census TIGER 2015; City Boundaries - TxDOT 2013; MSD - TCEQ 2015; USACE Project Areas - USACE 2014; Public Water Supply/Impaired Waters - EPA 2016; Groundwater Wells - TWDB 2015; NHD/HUC12 - USGS 2016; Reservoirs - TWDB 2014; NWI - USFWS 2016; Floodplains - FEMA 2016; Endangered/Threatened Species - TPWD TXNDD Element of Occurrence Records (EOR) 2017; ESRI World Street Map
Aerial Imagery: USDA NAIP 2014

1 inch = 800 feet
0 400 800 Feet





**Dallas to Houston
High-Speed Rail Project
Natural Resources
Segment 2A
Sheet 23 of 257**

Legend

Limits of Disturbance

- Segment 1
- Segment 2A
- Segment 2B
- Segment 3A
- Segment 3B
- Segment 3C
- Segment 4
- Segment 5

Track Configuration

- Viaduct
- Embankment
- Cut
- Half Mile Buffer
- City Boundary
- County Boundary
- Railroad
- Municipal Setting Designation (MSD)

Potential Habitat

- Houston Toad
- Large-fruited Sand Verbena
- Navasota Ladies'-tresses
- Endangered Species
- Threatened Species
- U.S. Army Corps of Engineers (USACE) Project Area
- Watershed (HUC 12) Boundary
- Public Water Supply
- Groundwater Well

Impaired Waters with Total Maximum Daily Load (TMDL)

- Impaired Waters

Federal Emergency Management Agency (FEMA) Flood Zone

- A - 1%
- AE - 1%
- AO - 1%
- X - 0.2%

Field-Collected Data

- Perennial Stream/River
- Intermittent Stream/River
- Ephemeral Stream/River
- Other Stream/River
- Lake/Pond
- Emergent Wetland
- Forested Wetland
- Scrub/Shrub Wetland

National Hydrography Dataset (NHD)

- Perennial Stream/River
- Intermittent Stream/River
- Artificial Stream/Canal
- Lake/Pond
- Reservoir
- Swamp/Marsh

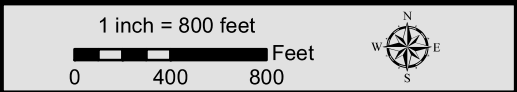
National Wetlands Inventory (NWI)

- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Other

This Sheet only depicts Segment 2A; Segment 2B is also located in this same area and can be referenced on Sheet 39.

*Floodplains in Freestone and Madison Counties digitized from U.S. Dept of Housing and Urban Development 1978 and 1991 Flood Hazard Boundary Maps due to lack of digitally mapped FEMA floodplains.

Data Sources: County Boundaries - U.S. Census TIGER 2015; City Boundaries - TxDOT 2013; MSD - TCEQ 2015; USACE Project Areas - USACE 2014; Public Water Supply/Impaired Waters - EPA 2016; Groundwater Wells - TWDB 2015; NHD/HUC12 - USGS 2016; Reservoirs - TWDB 2014; NWI - USFWS 2016; Floodplains - FEMA 2016; Endangered/Threatened Species - TPWD TXNDD Element of Occurrence Records (EOR) 2017; ESRI World Street Map
Aerial Imagery: USDA NAIP 2014





**Dallas to Houston
High-Speed Rail Project
Natural Resources
Segment 2A
Sheet 24 of 257**

Legend

Limits of Disturbance

- Segment 1
- Segment 2A
- Segment 2B
- Segment 3A
- Segment 3B
- Segment 3C
- Segment 4
- Segment 5

Track Configuration

- Viaduct
- Embankment
- Cut
- Half Mile Buffer
- City Boundary
- County Boundary
- Railroad
- Municipal Setting Designation (MSD)

Potential Habitat

- Houston Toad
- Large-fruited Sand Verbena
- Navasota Ladies'-tresses
- Endangered Species
- Threatened Species
- U.S. Army Corps of Engineers (USACE) Project Area
- Watershed (HUC 12) Boundary
- Public Water Supply
- Groundwater Well

Impaired Waters with Total Maximum Daily Load (TMDL)

- Impaired Waters

Federal Emergency Management Agency (FEMA) Flood Zone

- A - 1%
- AE - 1%
- AO - 1%
- X - 0.2%

Field-Collected Data

- Perennial Stream/River
- Intermittent Stream/River
- Ephemeral Stream/River
- Other Stream/River
- Lake/Pond
- Emergent Wetland
- Forested Wetland
- Scrub/Shrub Wetland

National Hydrography Dataset (NHD)

- Perennial Stream/River
- Intermittent Stream/River
- Artificial Stream/Canal
- Lake/Pond
- Reservoir
- Swamp/Marsh

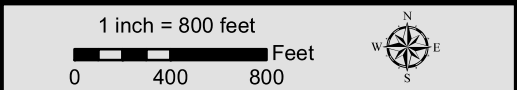
National Wetlands Inventory (NWI)

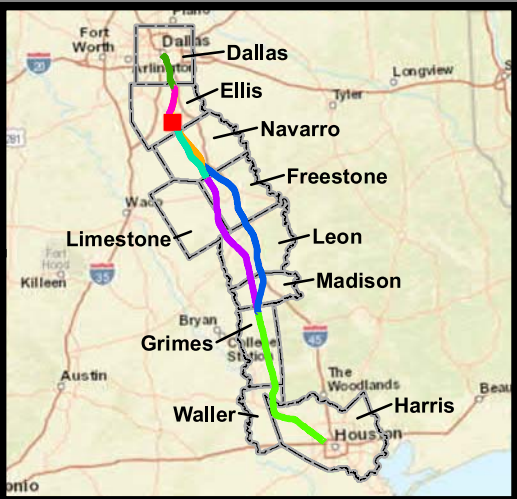
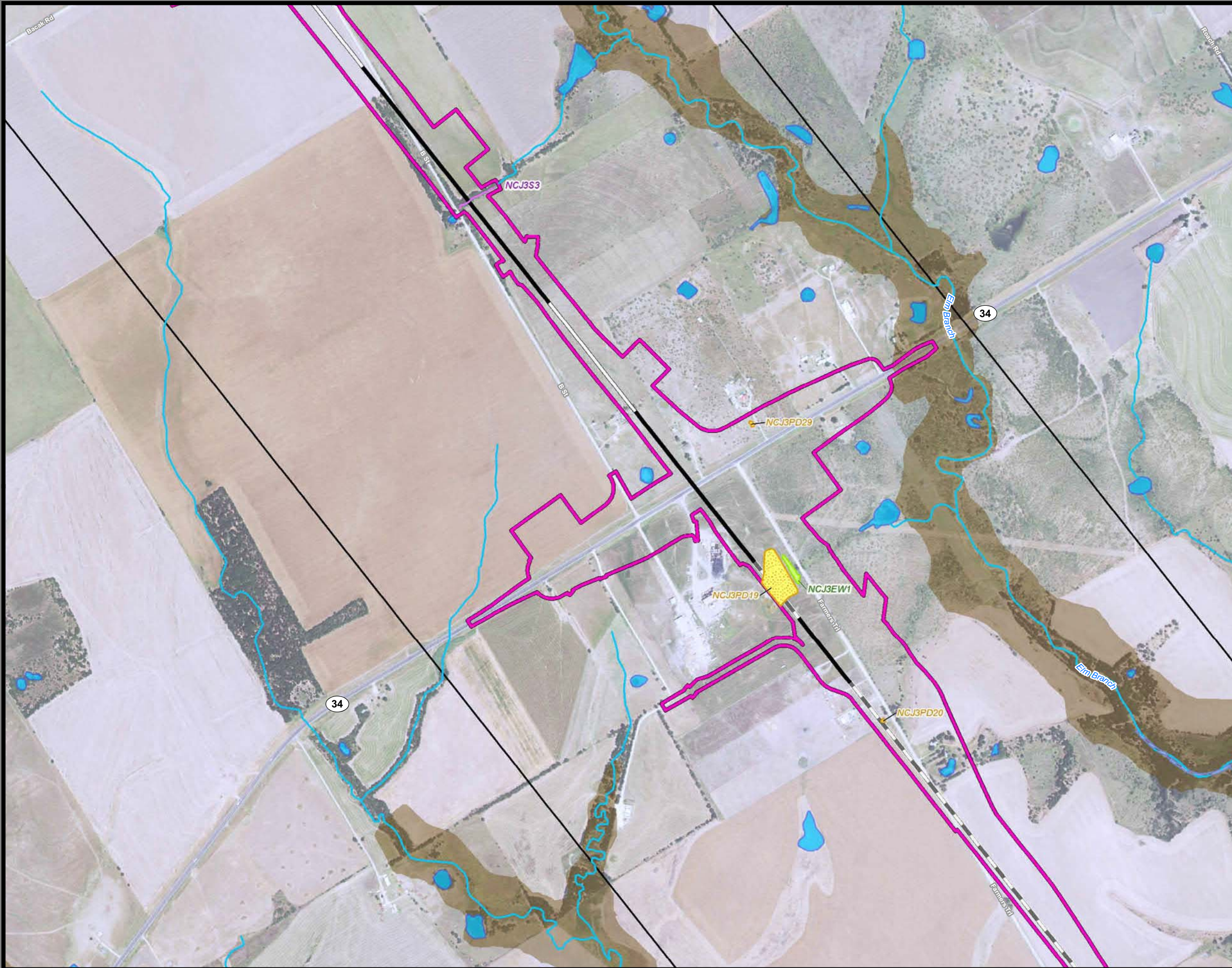
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Other

This Sheet only depicts Segment 2A; Segment 2B is also located in this same area and can be referenced on Sheet 40.

*Floodplains in Freestone and Madison Counties digitized from U.S. Dept of Housing and Urban Development 1978 and 1991 Flood Hazard Boundary Maps due to lack of digitally mapped FEMA floodplains.

Data Sources: County Boundaries - U.S. Census TIGER 2015; City Boundaries - TxDOT 2013; MSD - TCEQ 2015; USACE Project Areas - USACE 2014; Public Water Supply/Impaired Waters - EPA 2016; Groundwater Wells - TWDB 2015; NHD/HUC12 - USGS 2016; Reservoirs - TWDB 2014; NWI - USFWS 2016; Floodplains - FEMA 2016; Endangered/Threatened Species - TPWD TXNDD Element of Occurrence Records (EOR) 2017; ESRI World Street Map
Aerial Imagery: USDA NAIP 2014





**Dallas to Houston
High-Speed Rail Project
Natural Resources
Segment 2A
Sheet 25 of 257**

Legend

Limits of Disturbance

- Segment 1
- Segment 2A
- Segment 2B
- Segment 3A
- Segment 3B
- Segment 3C
- Segment 4
- Segment 5

Track Configuration

- Viaduct
- Embankment
- Cut
- Half Mile Buffer
- City Boundary
- County Boundary
- Railroad
- Municipal Setting Designation (MSD)

Potential Habitat

- Houston Toad
- Large-fruited Sand Verbena
- Navasota Ladies'-tresses
- Endangered Species
- Threatened Species
- U.S. Army Corps of Engineers (USACE) Project Area
- Watershed (HUC 12) Boundary
- Public Water Supply
- Groundwater Well

Impaired Waters with Total Maximum Daily Load (TMDL)

- Impaired Waters

Federal Emergency Management Agency (FEMA) Flood Zone

- A - 1%
- AE - 1%
- AO - 1%
- X - 0.2%

Field-Collected Data

- Perennial Stream/River
- Intermittent Stream/River
- Ephemeral Stream/River
- Other Stream/River
- Lake/Pond
- Emergent Wetland
- Forested Wetland
- Scrub/Shrub Wetland

National Hydrography Dataset (NHD)

- Perennial Stream/River
- Intermittent Stream/River
- Artificial Stream/Canal
- Lake/Pond
- Reservoir
- Swamp/Marsh

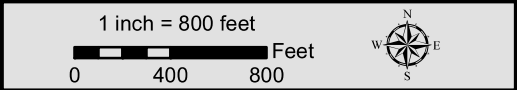
National Wetlands Inventory (NWI)

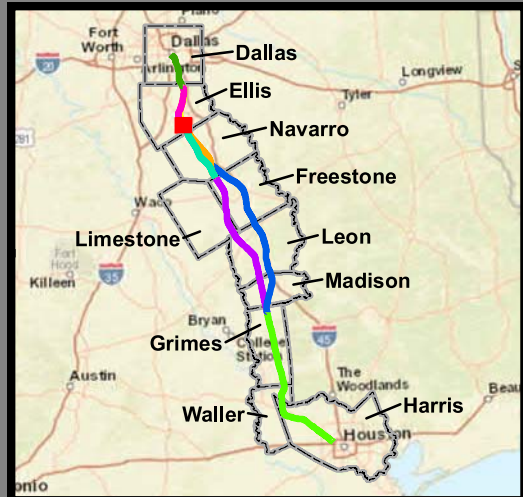
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Other

This Sheet only depicts Segment 2A; Segment 2B is also located in this same area and can be referenced on Sheet 41.

*Floodplains in Freestone and Madison Counties digitized from U.S. Dept of Housing and Urban Development 1978 and 1991 Flood Hazard Boundary Maps due to lack of digitally mapped FEMA floodplains.

Data Sources: County Boundaries - U.S. Census TIGER 2015; City Boundaries - TxDOT 2013; MSD - TCEQ 2015; USACE Project Areas - USACE 2014; Public Water Supply/Impaired Waters - EPA 2016; Groundwater Wells - TWDB 2015; NHD/HUC12 - USGS 2016; Reservoirs - TWDB 2014; NWI - USFWS 2016; Floodplains - FEMA 2016; Endangered/Threatened Species - TPWD TXNDD Element of Occurrence Records (EOR) 2017; ESRI World Street Map
Aerial Imagery: USDA NAIP 2014





**Dallas to Houston
High-Speed Rail Project
Natural Resources
Segment 2A
Sheet 26 of 257**

Legend

Limits of Disturbance

- Segment 1
- Segment 2A
- Segment 2B
- Segment 3A
- Segment 3B
- Segment 3C
- Segment 4
- Segment 5

Track Configuration

- Viaduct
- Embankment
- Cut
- Half Mile Buffer
- City Boundary
- County Boundary
- Railroad
- Municipal Setting Designation (MSD)

Potential Habitat

- Houston Toad
- Large-fruited Sand Verbena
- Navasota Ladies'-tresses
- Endangered Species
- Threatened Species
- U.S. Army Corps of Engineers (USACE) Project Area
- Watershed (HUC 12) Boundary
- Public Water Supply
- Groundwater Well

Impaired Waters with Total Maximum Daily Load (TMDL)

- Impaired Waters

Federal Emergency Management Agency (FEMA) Flood Zone

- A - 1%
- AE - 1%
- AO - 1%
- X - 0.2%

Field-Collected Data

- Perennial Stream/River
- Intermittent Stream/River
- Ephemeral Stream/River
- Other Stream/River
- Lake/Pond
- Emergent Wetland
- Forested Wetland
- Scrub/Shrub Wetland

National Hydrography Dataset (NHD)

- Perennial Stream/River
- Intermittent Stream/River
- Artificial Stream/Canal
- Lake/Pond
- Reservoir
- Swamp/Marsh

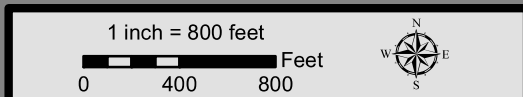
National Wetlands Inventory (NWI)

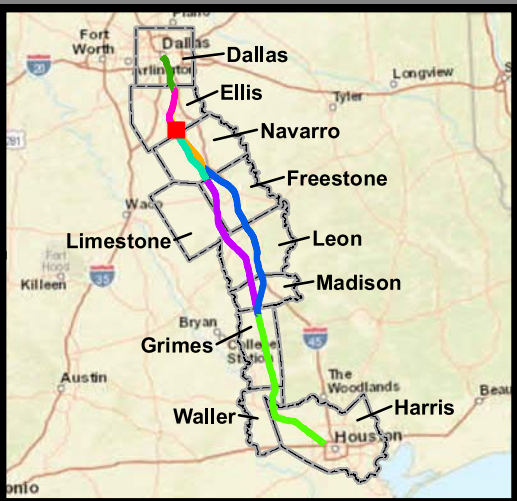
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Other

This Sheet only depicts Segment 2A; Segment 2B is also located in this same area and can be referenced on Sheet 42.

*Floodplains in Freestone and Madison Counties digitized from U.S. Dept of Housing and Urban Development 1978 and 1991 Flood Hazard Boundary Maps due to lack of digitally mapped FEMA floodplains.

Data Sources: County Boundaries - U.S. Census TIGER 2015; City Boundaries - TxDOT 2013; MSD - TCEQ 2015; USACE Project Areas - USACE 2014; Public Water Supply/Impaired Waters - EPA 2016; Groundwater Wells - TWDB 2015; NHD/HUC12 - USGS 2016; Reservoirs - TWDB 2014; NWI - USFWS 2016; Floodplains - FEMA 2016; Endangered/Threatened Species - TPWD TXNDD Element of Occurrence Records (EOR) 2017; ESRI World Street Map
Aerial Imagery: USDA NAIP 2014





**Dallas to Houston
High-Speed Rail Project
Natural Resources
Segment 2A, 3A
Sheet 27 of 257**

Legend

Limits of Disturbance

- Segment 1
- Segment 2A
- Segment 2B
- Segment 3A
- Segment 3B
- Segment 3C
- Segment 4
- Segment 5

Track Configuration

- Viaduct
- Embankment
- Cut
- Half Mile Buffer
- City Boundary
- County Boundary
- Railroad
- Municipal Setting Designation (MSD)

Potential Habitat

- Houston Toad
- Verbena
- Navasota Ladies'-tresses
- Endangered Species
- Threatened Species
- U.S. Army Corps of Engineers (USACE) Project Area
- Watershed (HUC 12) Boundary
- Public Water Supply
- Groundwater Well

Impaired Waters with Total Maximum Daily Load (TMDL)

- Impaired Waters

Federal Emergency Management Agency (FEMA) Flood Zone

- A - 1%
- AE - 1%
- AO - 1%
- X - 0.2%

Field-Collected Data

- Perennial Stream/River
- Intermittent Stream/River
- Ephemeral Stream/River
- Other Stream/River
- Lake/Pond
- Emergent Wetland
- Forested Wetland
- Scrub/Shrub Wetland

National Hydrography Dataset (NHD)

- Perennial Stream/River
- Intermittent Stream/River
- Artificial Stream/Canal
- Lake/Pond
- Reservoir
- Swamp/Marsh

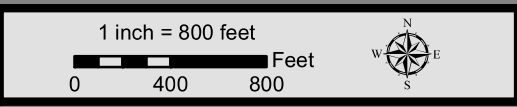
National Wetlands Inventory (NWI)

- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Other

This Sheet only depicts Segments 2A & 3A; Segment 2B, 3B & 3C are also located in this same area and can be referenced on Sheets 43, 62 & 81.

*Floodplains in Freestone and Madison Counties digitized from U.S. Dept of Housing and Urban Development 1978 and 1991 Flood Hazard Boundary Maps due to lack of digitally mapped FEMA floodplains.

Data Sources: County Boundaries - U.S. Census TIGER 2015; City Boundaries - TxDOT 2013; MSD - TCEQ 2015; USACE Project Areas - USACE 2014; Public Water Supply/Impaired Waters - EPA 2016; Groundwater Wells - TWDB 2015; NHD/HUC12 - USGS 2016; Reservoirs - TWDB 2014; NWI - USFWS 2016; Floodplains - FEMA 2016; Endangered/Threatened Species - TPWD TXNDD Element of Occurrence Records (EOR) 2017; ESRI World Street Map
Aerial Imagery: USDA NAIP 2014





**Dallas to Houston
High-Speed Rail Project
Natural Resources
Segment 2B
Sheet 28 of 257**

Legend

Limits of Disturbance

- Segment 1
- Segment 2A
- Segment 2B
- Segment 3A
- Segment 3B
- Segment 3C
- Segment 4
- Segment 5

Track Configuration

- Viaduct
- Embankment
- Cut
- Half Mile Buffer
- City Boundary
- County Boundary
- Railroad
- Municipal Setting Designation (MSD)

Potential Habitat

- Houston Toad
- Large-fruited Sand Verbena
- Navasota Ladies'-tresses
- Endangered Species
- Threatened Species
- U.S. Army Corps of Engineers (USACE) Project Area
- Watershed (HUC 12) Boundary
- Public Water Supply
- Groundwater Well

Impaired Waters with Total Maximum Daily Load (TMDL)

- Impaired Waters
- Federal Emergency Management Agency (FEMA) Flood Zone
 - A - 1%
 - AE - 1%
 - AO - 1%
 - X - 0.2%

Field-Collected Data

- Perennial Stream/River
- Intermittent Stream/River
- Ephemeral Stream/River
- Other Stream/River
- Lake/Pond
- Emergent Wetland
- Forested Wetland
- Scrub/Shrub Wetland

National Hydrography Dataset (NHD)

- Perennial Stream/River
- Intermittent Stream/River
- Artificial Stream/Canal
- Lake/Pond
- Reservoir
- Swamp/Marsh

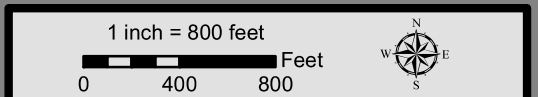
National Wetlands Inventory (NWI)

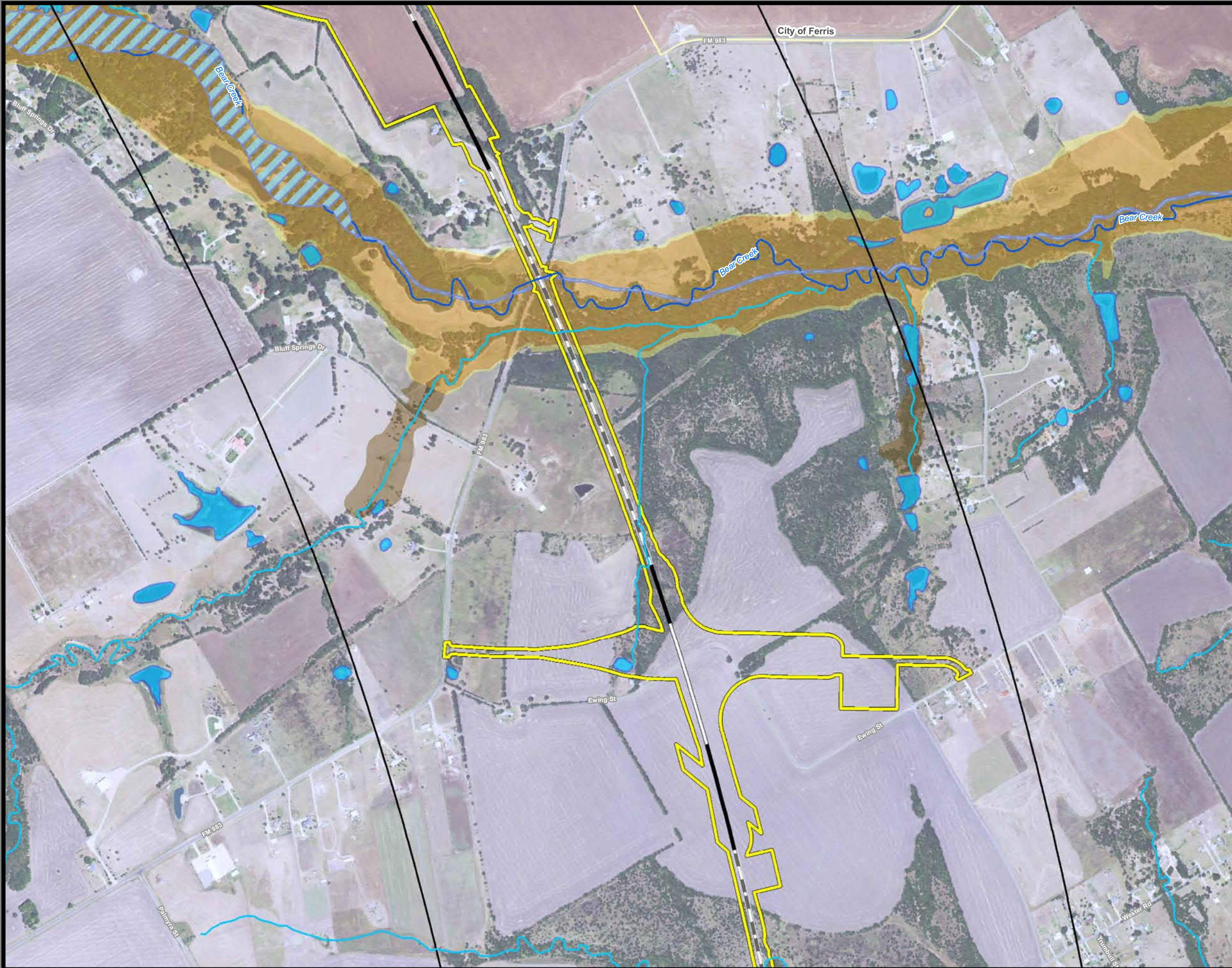
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Other

This Sheet only depicts Segment 2B; Segment 2A is also located in this same area and can be referenced on Sheet 12.

*Floodplains in Freestone and Madison Counties digitized from U.S. Dept of Housing and Urban Development 1978 and 1991 Flood Hazard Boundary Maps due to lack of digitally mapped FEMA floodplains.

Data Sources: County Boundaries - U.S. Census TIGER 2015; City Boundaries - TxDOT 2013; MSD - TCEQ 2015; USACE Project Areas - USACE 2014; Public Water Supply/Impaired Waters - EPA 2016; Groundwater Wells - TWDB 2015; NHD/HUC12 - USGS 2016; Reservoirs - TWDB 2014; NWI - USFWS 2016; Floodplains - FEMA 2016; Endangered/Threatened Species - TPWD TXNDD Element of Occurrence Records (EOR) 2017; ESRI World Street Map
Aerial Imagery: USDA NAIP 2014





**Dallas to Houston
High-Speed Rail Project
Natural Resources
Segment 2B
Sheet 29 of 257**

Legend

- Limits of Disturbance**

 - Segment 1
 - Segment 2A
 - Segment 2B
 - Segment 3A
 - Segment 3B
 - Segment 3C
 - Segment 4
 - Segment 5

Track Configuration

 - Viaduct
 - Embankment
 - Cut
 - Half Mile Buffer
 - City Boundary
 - County Boundary
 - Railroad
 - Municipal Setting Designation (MSD)

Potential Habitat

 - Houston Toad
 - Large-fruited Sand Verbena
 - Navasota Ladies'-tresses
 - Endangered Species
 - Threatened Species
 - U.S. Army Corps of Engineers (USACE) Project Area
 - Watershed (HUC 12) Boundary
 - Public Water Supply
 - Groundwater Well
- Impaired Waters with Total Maximum Daily Load (TMDL)

Impaired Waters

Federal Emergency Management Agency (FEMA) Flood Zone

 - A - 1%
 - AE - 1%
 - AO - 1%
 - X - 0.2%

Field-Collected Data

 - Perennial Stream/River
 - Intermittent Stream/River
 - Ephemeral Stream/River
 - Other Stream/River
 - Lake/Pond
 - Emergent Wetland
 - Forested Wetland
 - Scrub/Shrub Wetland

National Hydrography Dataset (NHD)

 - Perennial Stream/River
 - Intermittent Stream/River
 - Artificial Stream/Canal
 - Lake/Pond
 - Reservoir
 - Swamp/Marsh

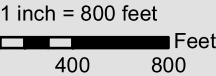
National Wetlands Inventory (NWI)

 - Freshwater Emergent Wetland
 - Freshwater Forested/Shrub Wetland
 - Other

This Sheet only depicts Segment 2B; Segment 2A is also located in this same area and can be referenced on Sheet 13.

*Floodplains in Freestone and Madison Counties digitized from U.S. Dept of Housing and Urban Development 1978 and 1991 Flood Hazard Boundary Maps due to lack of digitally mapped FEMA floodplains.

Data Sources: County Boundaries - U.S. Census TIGER 2015; City Boundaries - TxDOT 2013; MSD - TCEQ 2015; USACE Project Areas - USACE 2014; Public Water Supply/Impaired Waters - EPA 2016; Groundwater Wells - TWDB 2015; NHD/HUC12 - USGS 2016; Reservoirs - TWDB 2014; NWI - USFWS 2016; Floodplains - FEMA 2016; Endangered/Threatened Species - TPWD TXNDD Element of Occurrence Records (EOR) 2017; ESRI World Street Map
Aerial Imagery: USDA NAIP 2014





**Dallas to Houston
High-Speed Rail Project
Natural Resources
Segment 2B
Sheet 30 of 257**

Legend

Limits of Disturbance

- Segment 1
- Segment 2A
- Segment 2B
- Segment 3A
- Segment 3B
- Segment 3C
- Segment 4
- Segment 5

Track Configuration

- Viaduct
- Embankment
- Cut
- Half Mile Buffer
- City Boundary
- County Boundary
- Railroad
- Municipal Setting Designation (MSD)

Potential Habitat

- Houston Toad
- Large-fruited Sand Verbena
- Navasota Ladies'-tresses
- Endangered Species
- Threatened Species
- U.S. Army Corps of Engineers (USACE) Project Area
- Watershed (HUC 12) Boundary
- Public Water Supply
- Groundwater Well

Impaired Waters with Total Maximum Daily Load (TMDL)

- Impaired Waters

Federal Emergency Management Agency (FEMA) Flood Zone

- A - 1%
- AE - 1%
- AO - 1%
- X - 0.2%

Field-Collected Data

- Perennial Stream/River
- Intermittent Stream/River
- Ephemeral Stream/River
- Other Stream/River
- Lake/Pond
- Emergent Wetland
- Forested Wetland
- Scrub/Shrub Wetland

National Hydrography Dataset (NHD)

- Perennial Stream/River
- Intermittent Stream/River
- Artificial Stream/Canal
- Lake/Pond
- Reservoir
- Swamp/Marsh

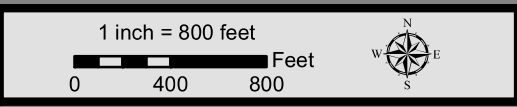
National Wetlands Inventory (NWI)

- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Other

This Sheet only depicts Segment 2B; Segment 2A is also located in this same area and can be referenced on Sheet 14.

*Floodplains in Freestone and Madison Counties digitized from U.S. Dept of Housing and Urban Development 1978 and 1991 Flood Hazard Boundary Maps due to lack of digitally mapped FEMA floodplains.

Data Sources: County Boundaries - U.S. Census TIGER 2015; City Boundaries - TxDOT 2013; MSD - TCEQ 2015; USACE Project Areas - USACE 2014; Public Water Supply/Impaired Waters - EPA 2016; Groundwater Wells - TWDB 2015; NHD/HUC12 - USGS 2016; Reservoirs - TWDB 2014; NWI - USFWS 2016; Floodplains - FEMA 2016; Endangered/Threatened Species - TPWD TXNDD Element of Occurrence Records (EOR) 2017; ESRI World Street Map
Aerial Imagery: USDA NAIP 2014





**Dallas to Houston
High-Speed Rail Project
Natural Resources
Segment 2B
Sheet 31 of 257**

Legend

Limits of Disturbance

- Segment 1
- Segment 2A
- Segment 2B
- Segment 3A
- Segment 3B
- Segment 3C
- Segment 4
- Segment 5

Track Configuration

- Viaduct
- Embankment
- Cut
- Half Mile Buffer
- City Boundary
- County Boundary
- Railroad
- Municipal Setting Designation (MSD)

Potential Habitat

- Houston Toad
- Large-fruited Sand Verbena
- Navasota Ladies'-tresses
- Endangered Species
- Threatened Species
- U.S. Army Corps of Engineers (USACE) Project Area
- Watershed (HUC 12) Boundary
- Public Water Supply
- Groundwater Well

Impaired Waters with Total Maximum Daily Load (TMDL)

- Impaired Waters
- Federal Emergency Management Agency (FEMA) Flood Zone
 - A - 1%
 - AE - 1%
 - AO - 1%
 - X - 0.2%

Field-Collected Data

- Perennial Stream/River
- Intermittent Stream/River
- Ephemeral Stream/River
- Other Stream/River
- Lake/Pond
- Emergent Wetland
- Forested Wetland
- Scrub/Shrub Wetland

National Hydrography Dataset (NHD)

- Perennial Stream/River
- Intermittent Stream/River
- Artificial Stream/Canal
- Lake/Pond
- Reservoir
- Swamp/Marsh

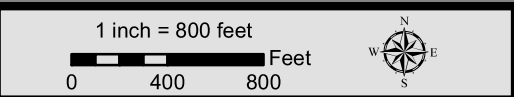
National Wetlands Inventory (NWI)

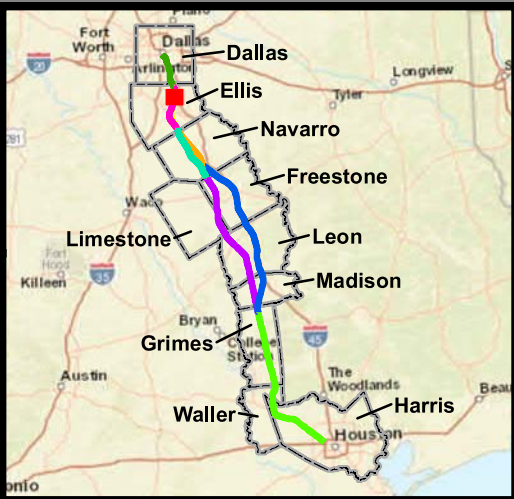
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Other

This Sheet only depicts Segment 2B; Segment 2A is also located in this same area and can be referenced on Sheet 15.

*Floodplains in Freestone and Madison Counties digitized from U.S. Dept of Housing and Urban Development 1978 and 1991 Flood Hazard Boundary Maps due to lack of digitally mapped FEMA floodplains.

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Aerial Imagery: USDA NAIP 2014





**Dallas to Houston
High-Speed Rail Project**
Natural Resources
Segment 2B
Sheet 32 of 257

Legend

- Limits of Disturbance**
- Segment 1
 - Segment 2A
 - Segment 2B
 - Segment 3A
 - Segment 3B
 - Segment 3C
 - Segment 4
 - Segment 5
- Track Configuration**
- Viaduct
 - Embankment
 - Cut
 - Half Mile Buffer
 - City Boundary
 - County Boundary
 - Railroad
 - Municipal Setting Designation (MSD)
- Potential Habitat**
- Houston Toad
 - Large-fruited Sand Verbena
 - Navasota Ladies'-tresses
 - Endangered Species
 - Threatened Species
 - U.S. Army Corps of Engineers (USACE) Project Area
 - Watershed (HUC 12) Boundary
 - Public Water Supply
 - Groundwater Well
- Impaired Waters with Total Maximum Daily Load (TMDL)**
- Impaired Waters
 - Federal Emergency Management Agency (FEMA) Flood Zone
 - A - 1%
 - AE - 1%
 - AO - 1%
 - X - 0.2%
- Field-Collected Data**
- Perennial Stream/River
 - Intermittent Stream/River
 - Ephemeral Stream/River
 - Other Stream/River
 - Lake/Pond
 - Emergent Wetland
 - Forested Wetland
 - Scrub/Shrub Wetland
- National Hydrography Dataset (NHD)**
- Perennial Stream/River
 - Intermittent Stream/River
 - Artificial Stream/Canal
 - Lake/Pond
 - Reservoir
 - Swamp/Marsh
- National Wetlands Inventory (NWI)**
- Freshwater Emergent Wetland
 - Freshwater Forested/Shrub Wetland
 - Other

This Sheet only depicts Segment 2B; Segment 2A is also located in this same area and can be referenced on Sheet 16.

*Floodplains in Freestone and Madison Counties digitized from U.S. Dept of Housing and Urban Development 1978 and 1991 Flood Hazard Boundary Maps due to lack of digitally mapped FEMA floodplains.

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Aerial Imagery: USDA NAIP 2014

1 inch = 800 feet
0 400 800 Feet





**Dallas to Houston
High-Speed Rail Project
Natural Resources
Segment 2B
Sheet 33 of 257**

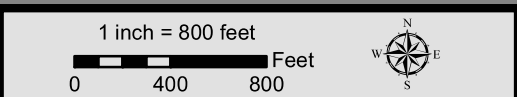
Legend

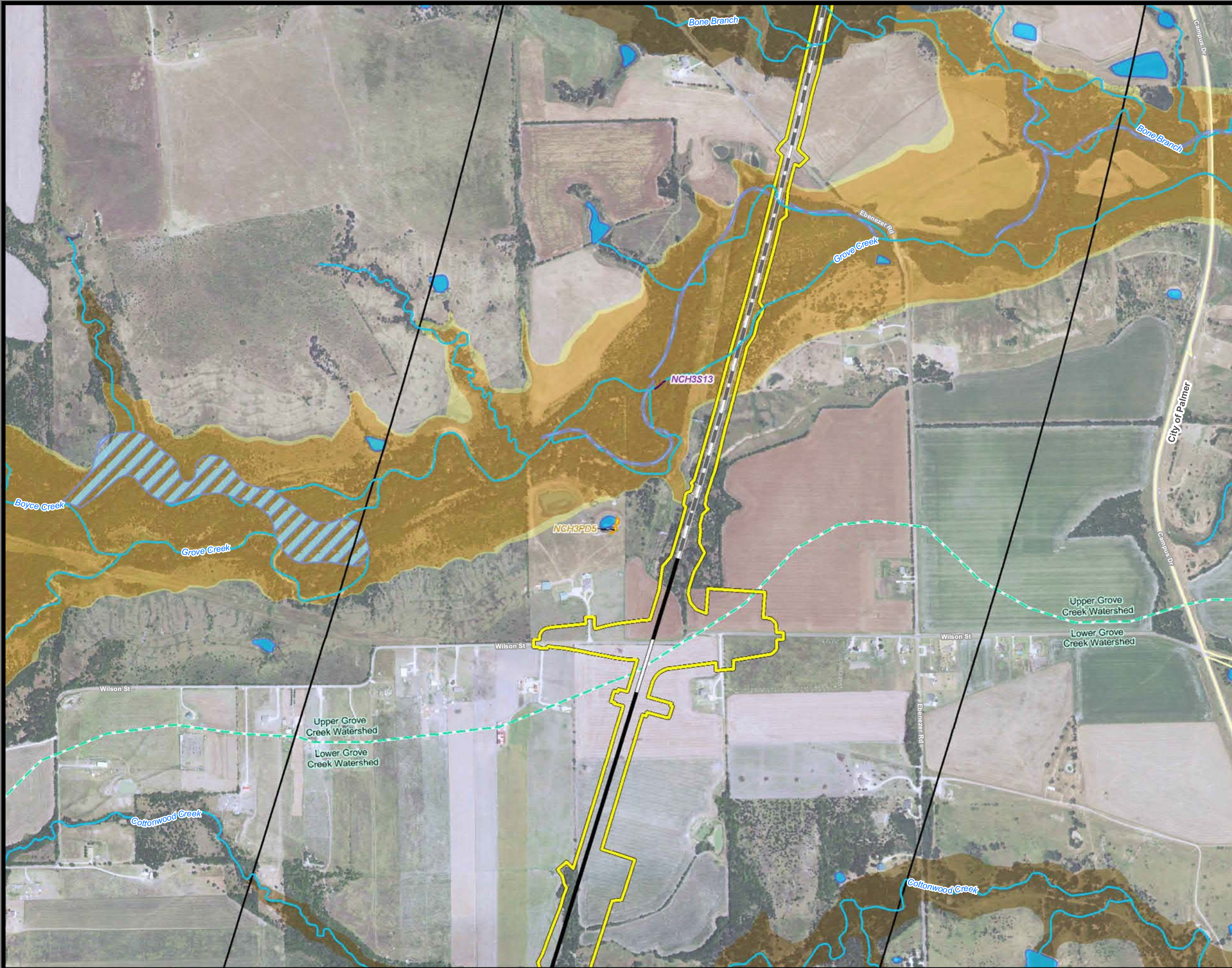
Limits of Disturbance	Impaired Waters with Total Maximum Daily Load (TMDL)
Segment 1	Impaired Waters
Segment 2A	Federal Emergency Management Agency (FEMA) Flood Zone
Segment 2B	A - 1%
Segment 3A	AE - 1%
Segment 3B	AO - 1%
Segment 3C	X - 0.2%
Segment 4	
Segment 5	
Track Configuration	Field-Collected Data
Viaduct	Perennial Stream/River
Embankment	Intermittent Stream/River
Cut	Ephemeral Stream/River
Half Mile Buffer	Other Stream/River
City Boundary	Lake/Pond
County Boundary	Emergent Wetland
Railroad	Forested Wetland
Municipal Setting Designation (MSD)	Scrub/Shrub Wetland
Potential Habitat	National Hydrography Dataset (NHD)
Houston Toad	Perennial Stream/River
Large-fruited Sand Verbena	Intermittent Stream/River
Navasota Ladies'-tresses	Artificial Stream/Canal
Endangered Species	Lake/Pond
Threatened Species	Reservoir
U.S. Army Corps of Engineers (USACE) Project Area	Swamp/Marsh
Watershed (HUC 12) Boundary	National Wetlands Inventory (NWI)
Public Water Supply	Freshwater Emergent Wetland
Groundwater Well	Freshwater Forested/Shrub Wetland
	Other

This Sheet only depicts Segment 2B; Segment 2A is also located in this same area and can be referenced on Sheet 17.

*Floodplains in Freestone and Madison Counties digitized from U.S. Dept of Housing and Urban Development 1978 and 1991 Flood Hazard Boundary Maps due to lack of digitally mapped FEMA floodplains.

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Aerial Imagery: USDA NAIP 2014





**Dallas to Houston
High-Speed Rail Project
Natural Resources
Segment 2B
Sheet 34 of 257**

Legend

Limits of Disturbance

- Segment 1
- Segment 2A
- Segment 2B
- Segment 3A
- Segment 3B
- Segment 3C
- Segment 4
- Segment 5

Track Configuration

- Viaduct
- Embankment
- Cut
- Half Mile Buffer
- City Boundary
- County Boundary
- Railroad
- Municipal Setting Designation (MSD)

Potential Habitat

- Houston Toad
- Large-fruited Sand Verbena
- Navasota Ladies-tresses
- Endangered Species
- Threatened Species
- U.S. Army Corps of Engineers (USACE) Project Area
- Watershed (HUC 12) Boundary
- Public Water Supply
- Groundwater Well

Impaired Waters with Total Maximum Daily Load (TMDL)

- Impaired Waters

Federal Emergency Management Agency (FEMA) Flood Zone

- A - 1%
- AE - 1%
- AO - 1%
- X - 0.2%

Field-Collected Data

- Perennial Stream/River
- Intermittent Stream/River
- Ephemeral Stream/River
- Other Stream/River
- Lake/Pond
- Emergent Wetland
- Forested Wetland
- Scrub/Shrub Wetland

National Hydrography Dataset (NHD)

- Perennial Stream/River
- Intermittent Stream/River
- Artificial Stream/Canal
- Lake/Pond
- Reservoir
- Swamp/Marsh

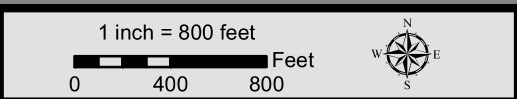
National Wetlands Inventory (NWI)

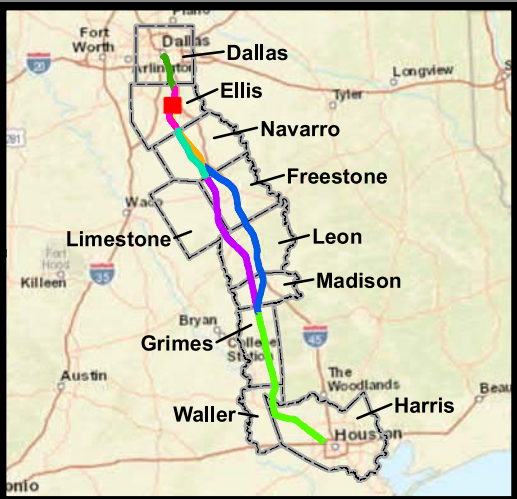
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Other

This Sheet only depicts Segment 2B; Segment 2A is also located in this same area and can be referenced on Sheet 18.

*Floodplains in Freestone and Madison Counties digitized from U.S. Dept of Housing and Urban Development 1978 and 1991 Flood Hazard Boundary Maps due to lack of digitally mapped FEMA floodplains.

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Aerial Imagery: USDA NAIP 2014





**Dallas to Houston
High-Speed Rail Project
Natural Resources
Segment 2B
Sheet 35 of 257**

Legend

Limits of Disturbance

- Segment 1
- Segment 2A
- Segment 2B
- Segment 3A
- Segment 3B
- Segment 3C
- Segment 4
- Segment 5

Track Configuration

- Viaduct
- Embankment
- Cut
- Half Mile Buffer
- City Boundary
- County Boundary
- Railroad
- Municipal Setting Designation (MSD)

Potential Habitat

- Houston Toad
- Large-fruited Sand Verbena
- Navasota Ladies'-tresses
- Endangered Species
- Threatened Species
- U.S. Army Corps of Engineers (USACE) Project Area
- Watershed (HUC 12) Boundary
- Public Water Supply
- Groundwater Well

Impaired Waters with Total Maximum Daily Load (TMDL)

- Impaired Waters

Federal Emergency Management Agency (FEMA) Flood Zone

- A - 1%
- AE - 1%
- AO - 1%
- X - 0.2%

Field-Collected Data

- Perennial Stream/River
- Intermittent Stream/River
- Ephemeral Stream/River
- Other Stream/River
- Lake/Pond
- Emergent Wetland
- Forested Wetland
- Scrub/Shrub Wetland

National Hydrography Dataset (NHD)

- Perennial Stream/River
- Intermittent Stream/River
- Artificial Stream/Canal
- Lake/Pond
- Reservoir
- Swamp/Marsh

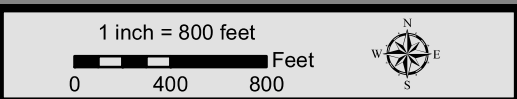
National Wetlands Inventory (NWI)

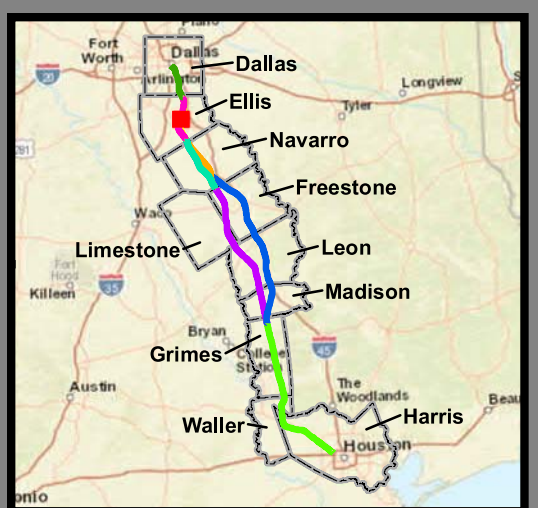
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Other

This Sheet only depicts Segment 2B; Segment 2A is also located in this same area and can be referenced on Sheet 19.

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Aerial Imagery: USDA NAIP 2014





**Dallas to Houston
High-Speed Rail Project
Natural Resources
Segment 2B
Sheet 36 of 257**

Legend

Limits of Disturbance

- Segment 1
- Segment 2A
- Segment 2B
- Segment 3A
- Segment 3B
- Segment 3C
- Segment 4
- Segment 5

Track Configuration

- Viaduct
- Embankment
- Cut
- Half Mile Buffer
- City Boundary
- County Boundary
- Railroad
- Municipal Setting Designation (MSD)

Potential Habitat

- Houston Toad
- Large-fruited Sand Verbena
- Navasota Ladies-tresses
- Endangered Species
- Threatened Species
- U.S. Army Corps of Engineers (USACE) Project Area
- Watershed (HUC 12) Boundary
- Public Water Supply
- Groundwater Well

Impaired Waters with Total Maximum Daily Load (TMDL)

- Impaired Waters

Federal Emergency Management Agency (FEMA) Flood Zone

- A - 1%
- AE - 1%
- AO - 1%
- X - 0.2%

Field-Collected Data

- Perennial Stream/River
- Intermittent Stream/River
- Ephemeral Stream/River
- Other Stream/River
- Lake/Pond
- Emergent Wetland
- Forested Wetland
- Scrub/Shrub Wetland

National Hydrography Dataset (NHD)

- Perennial Stream/River
- Intermittent Stream/River
- Artificial Stream/Canal
- Lake/Pond
- Reservoir
- Swamp/Marsh

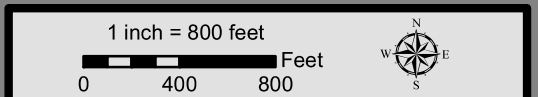
National Wetlands Inventory (NWI)

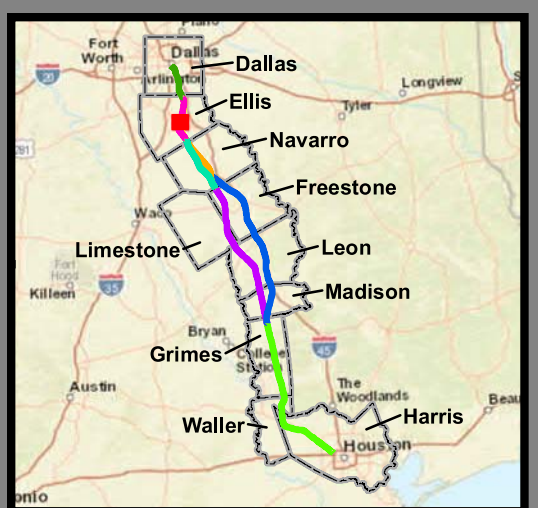
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Other

This Sheet only depicts Segment 2B; Segment 2A is also located in this same area and can be referenced on Sheet 20.

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Aerial Imagery: USDA NAIP 2014





**Dallas to Houston
High-Speed Rail Project
Natural Resources
Segment 2B
Sheet 37 of 257**

Legend

Limits of Disturbance

- Segment 1
- Segment 2A
- Segment 2B
- Segment 3A
- Segment 3B
- Segment 3C
- Segment 4
- Segment 5

Track Configuration

- Viaduct
- Embankment
- Cut
- Half Mile Buffer
- City Boundary
- County Boundary
- Railroad
- Municipal Setting Designation (MSD)

Potential Habitat

- Houston Toad
- Large-fruited Sand Verbena
- Navasota Ladies'-tresses
- Endangered Species
- Threatened Species
- U.S. Army Corps of Engineers (USACE) Project Area
- Watershed (HUC 12) Boundary
- Public Water Supply
- Groundwater Well

Impaired Waters with Total Maximum Daily Load (TMDL)

- Impaired Waters

Federal Emergency Management Agency (FEMA) Flood Zone

- A - 1%
- AE - 1%
- AO - 1%
- X - 0.2%

Field-Collected Data

- Perennial Stream/River
- Intermittent Stream/River
- Ephemeral Stream/River
- Other Stream/River
- Lake/Pond
- Emergent Wetland
- Forested Wetland
- Scrub/Shrub Wetland

National Hydrography Dataset (NHD)

- Perennial Stream/River
- Intermittent Stream/River
- Artificial Stream/Canal
- Lake/Pond
- Reservoir
- Swamp/Marsh

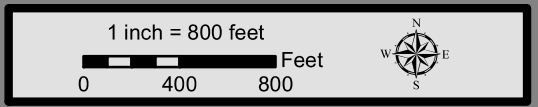
National Wetlands Inventory (NWI)

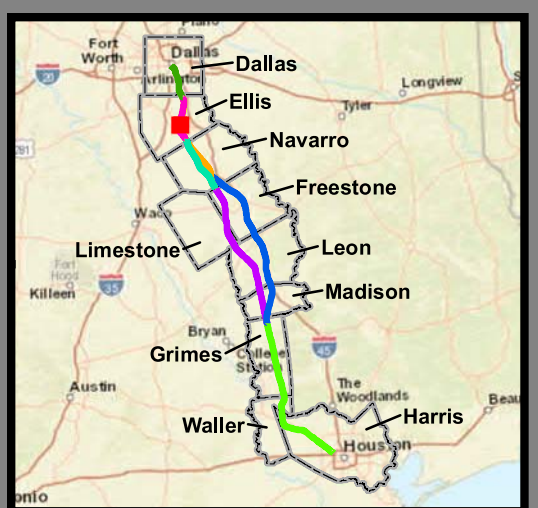
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Other

This Sheet only depicts Segment 2B; Segment 2A is also located in this same area and can be referenced on Sheet 21.

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Aerial Imagery: USDA NAIP 2014





**Dallas to Houston
High-Speed Rail Project
Natural Resources
Segment 2B
Sheet 38 of 257**

Legend

Limits of Disturbance

- Segment 1
- Segment 2A
- Segment 2B
- Segment 3A
- Segment 3B
- Segment 3C
- Segment 4
- Segment 5

Track Configuration

- Viaduct
- Embankment
- Cut
- Half Mile Buffer
- City Boundary
- County Boundary
- Railroad
- Municipal Setting Designation (MSD)

Potential Habitat

- Houston Toad
- Large-fruited Sand Verbena
- Navasota Ladies'-tresses
- Endangered Species
- Threatened Species
- U.S. Army Corps of Engineers (USACE) Project Area
- Watershed (HUC 12) Boundary
- Public Water Supply
- Groundwater Well

Impaired Waters with Total Maximum Daily Load (TMDL)

- Impaired Waters

Federal Emergency Management Agency (FEMA) Flood Zone

- A - 1%
- AE - 1%
- AO - 1%
- X - 0.2%

Field-Collected Data

- Perennial Stream/River
- Intermittent Stream/River
- Ephemeral Stream/River
- Other Stream/River
- Lake/Pond
- Emergent Wetland
- Forested Wetland
- Scrub/Shrub Wetland

National Hydrography Dataset (NHD)

- Perennial Stream/River
- Intermittent Stream/River
- Artificial Stream/Canal
- Lake/Pond
- Reservoir
- Swamp/Marsh

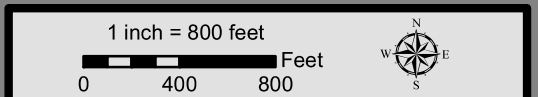
National Wetlands Inventory (NWI)

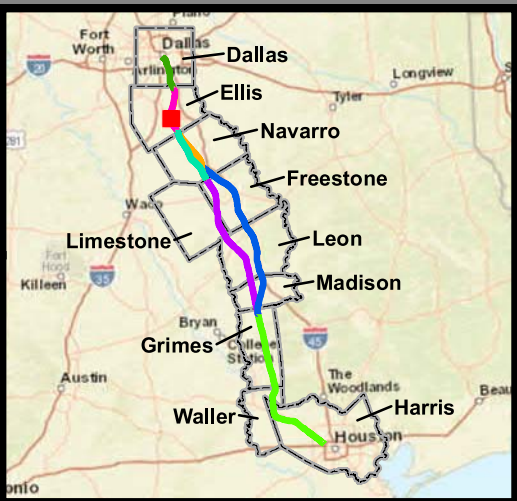
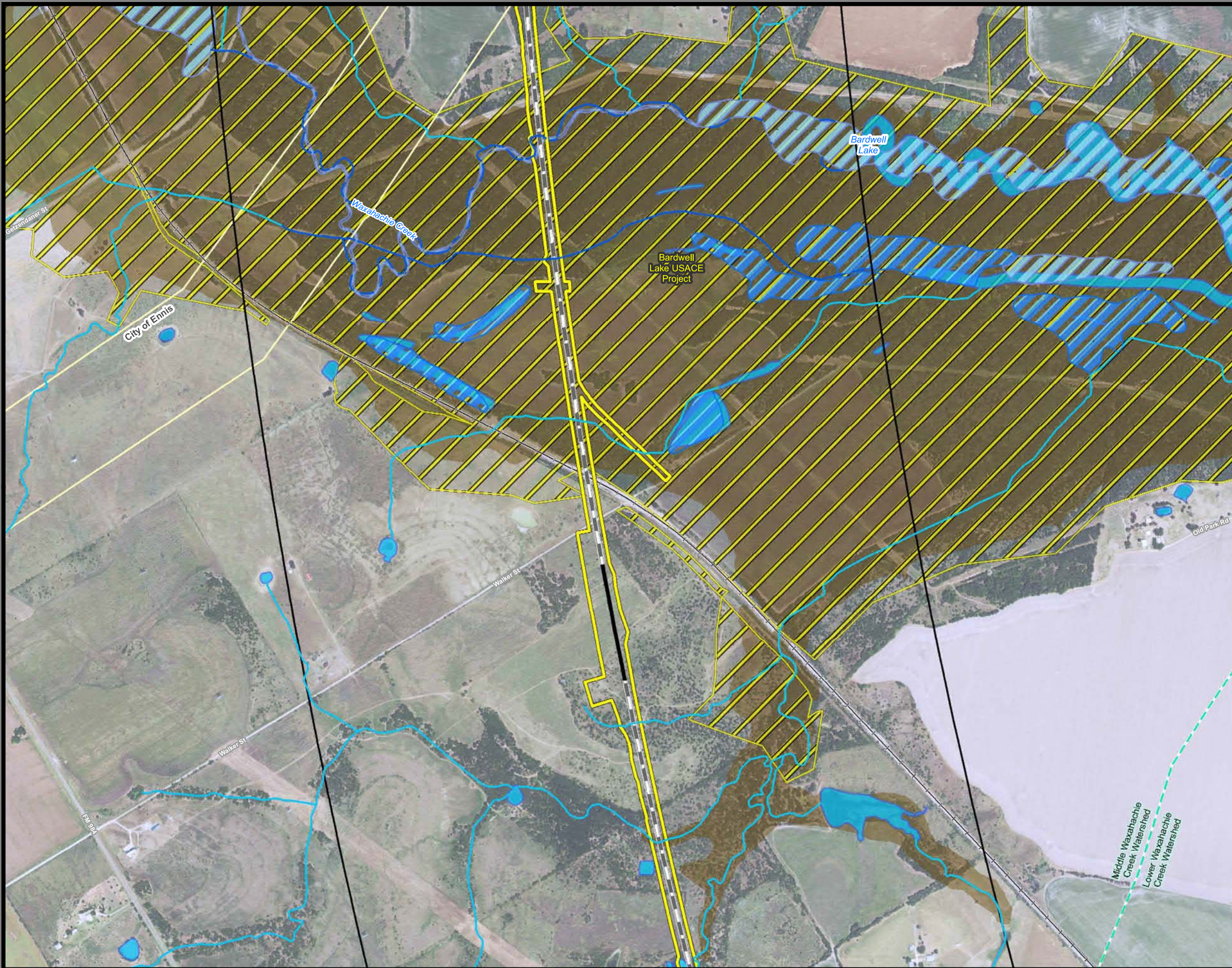
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Other

This Sheet only depicts Segment 2B; Segment 2A is also located in this same area and can be referenced on Sheet 22.

*Floodplains in Freestone and Madison Counties digitized from U.S. Dept of Housing and Urban Development 1978 and 1991 Flood Hazard Boundary Maps due to lack of digitally mapped FEMA floodplains.

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Aerial Imagery: USDA NAIP 2014





**Dallas to Houston
High-Speed Rail Project**
Natural Resources
Segment 2B
Sheet 39 of 257

Legend

- Limits of Disturbance**

 - Segment 1
 - Segment 2A
 - Segment 2B
 - Segment 3A
 - Segment 3B
 - Segment 3C
 - Segment 4
 - Segment 5

Track Configuration

 - Viaduct
 - Embankment
 - Cut
 - Half Mile Buffer
 - City Boundary
 - County Boundary
 - Railroad
 - Municipal Setting Designation (MSD)

Potential Habitat

 - Houston Toad
 - Large-fruited Sand Verbena
 - Navasota Ladies'-tresses
 - Endangered Species
 - Threatened Species
 - U.S. Army Corps of Engineers (USACE) Project Area
 - Watershed (HUC 12) Boundary
 - Public Water Supply
 - Groundwater Well
- Impaired Waters with Total Maximum Daily Load (TMDL)

Impaired Waters

Federal Emergency Management Agency (FEMA) Flood Zone

 - A - 1%
 - AE - 1%
 - AO - 1%
 - X - 0.2%

Field-Collected Data

 - Perennial Stream/River
 - Intermittent Stream/River
 - Ephemeral Stream/River
 - Other Stream/River
 - Lake/Pond
 - Emergent Wetland
 - Forested Wetland
 - Scrub/Shrub Wetland

National Hydrography Dataset (NHD)

 - Perennial Stream/River
 - Intermittent Stream/River
 - Artificial Stream/Canal
 - Lake/Pond
 - Reservoir
 - Swamp/Marsh

National Wetlands Inventory (NWI)

 - Freshwater Emergent Wetland
 - Freshwater Forested/Shrub Wetland
 - Other

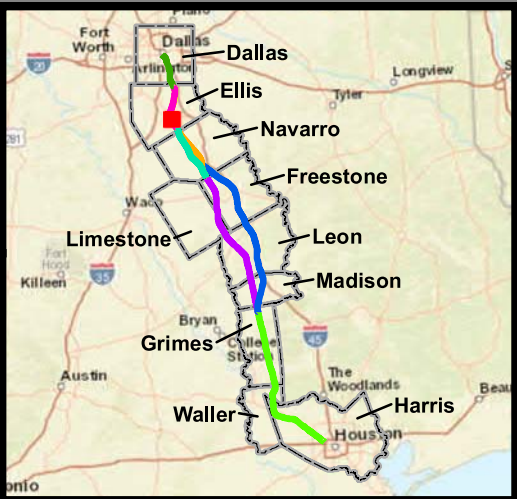
This Sheet only depicts Segment 2B; Segment 2A is also located in this same area and can be referenced on Sheet 23.

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Aerial Imagery: USDA NAIP 2014

1 inch = 800 feet
0 400 800 Feet





**Dallas to Houston
High-Speed Rail Project
Natural Resources
Segment 2B
Sheet 40 of 257**

Legend

Limits of Disturbance

- Segment 1
- Segment 2A
- Segment 2B
- Segment 3A
- Segment 3B
- Segment 3C
- Segment 4
- Segment 5

Track Configuration

- Viaduct
- Embankment
- Cut
- Half Mile Buffer
- City Boundary
- County Boundary
- Railroad
- Municipal Setting Designation (MSD)

Potential Habitat

- Houston Toad
- Large-fruited Sand Verbena
- Navasota Ladies'-tresses
- Endangered Species
- Threatened Species
- U.S. Army Corps of Engineers (USACE) Project Area
- Watershed (HUC 12) Boundary
- Public Water Supply
- Groundwater Well

Impaired Waters with Total Maximum Daily Load (TMDL)

- Impaired Waters

Federal Emergency Management Agency (FEMA) Flood Zone

- A - 1%
- AE - 1%
- AO - 1%
- X - 0.2%

Field-Collected Data

- Perennial Stream/River
- Intermittent Stream/River
- Ephemeral Stream/River
- Other Stream/River
- Lake/Pond
- Emergent Wetland
- Forested Wetland
- Scrub/Shrub Wetland

National Hydrography Dataset (NHD)

- Perennial Stream/River
- Intermittent Stream/River
- Artificial Stream/Canal
- Lake/Pond
- Reservoir
- Swamp/Marsh

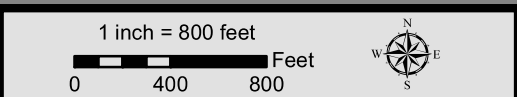
National Wetlands Inventory (NWI)

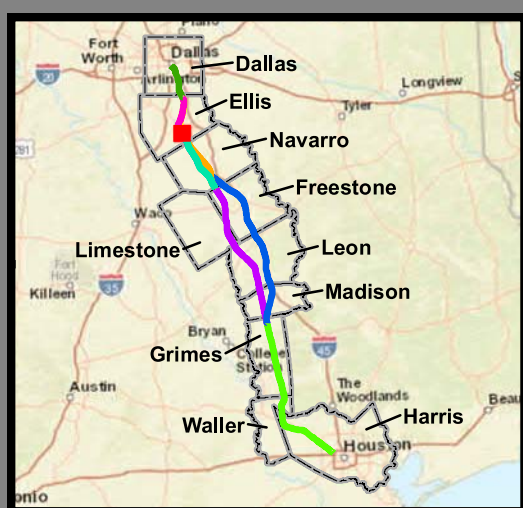
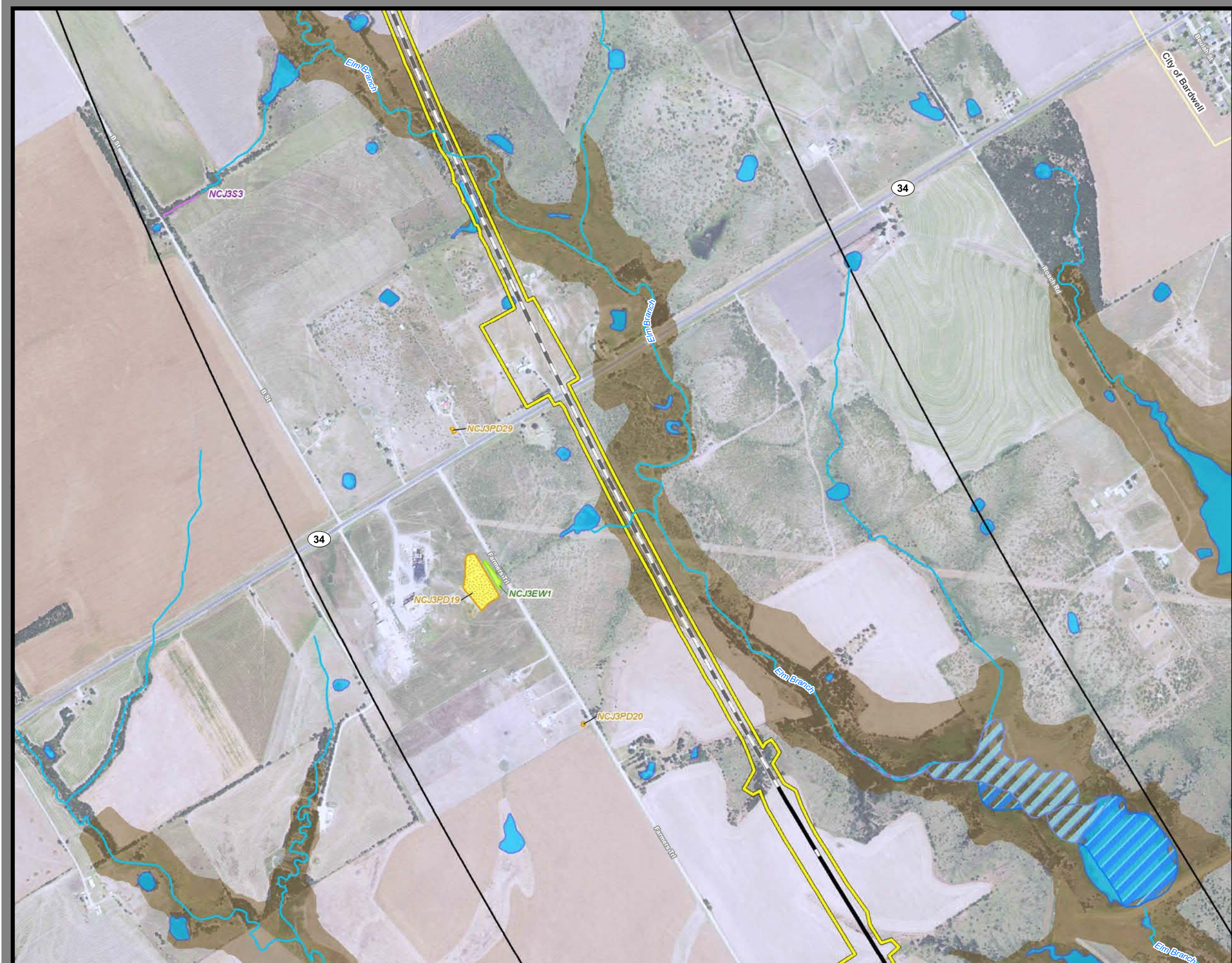
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Other

This Sheet only depicts Segment 2B; Segment 2A is also located in this same area and can be referenced on Sheet 24.

*Floodplains in Freestone and Madison Counties digitized from U.S. Dept of Housing and Urban Development 1978 and 1991 Flood Hazard Boundary Maps due to lack of digitally mapped FEMA floodplains.

Data Sources: County Boundaries - U.S. Census TIGER 2015; City Boundaries - TxDOT 2013; MSD - TCEQ 2015; USACE Project Areas - USACE 2014; Public Water Supply/Impaired Waters - EPA 2016; Groundwater Wells - TWDB 2015; NHD/HUC12 - USGS 2016; Reservoirs - TWDB 2014; NWI - USFWS 2016; Floodplains - FEMA 2016; Endangered/Threatened Species - TPWD TXNDD Element of Occurrence Records (EOR) 2017; ESRI World Street Map
Aerial Imagery: USDA NAIP 2014





**Dallas to Houston
High-Speed Rail Project
Natural Resources
Segment 2B
Sheet 41 of 257**

Legend

Limits of Disturbance

- Segment 1
- Segment 2A
- Segment 2B
- Segment 3A
- Segment 3B
- Segment 3C
- Segment 4
- Segment 5

Track Configuration

- Viaduct
- Embankment
- Cut
- Half Mile Buffer
- City Boundary
- County Boundary
- Railroad
- Municipal Setting Designation (MSD)

Potential Habitat

- Houston Toad
- Large-fruited Sand Verbena
- Navasota Ladies'-tresses
- Endangered Species
- Threatened Species
- U.S. Army Corps of Engineers (USACE) Project Area
- Watershed (HUC 12) Boundary
- Public Water Supply
- Groundwater Well

Impaired Waters with Total Maximum Daily Load (TMDL)

- Impaired Waters

Federal Emergency Management Agency (FEMA) Flood Zone

- A - 1%
- AE - 1%
- AO - 1%
- X - 0.2%

Field-Collected Data

- Perennial Stream/River
- Intermittent Stream/River
- Ephemeral Stream/River
- Other Stream/River
- Lake/Pond
- Emergent Wetland
- Forested Wetland
- Scrub/Shrub Wetland

National Hydrography Dataset (NHD)

- Perennial Stream/River
- Intermittent Stream/River
- Artificial Stream/Canal
- Lake/Pond
- Reservoir
- Swamp/Marsh

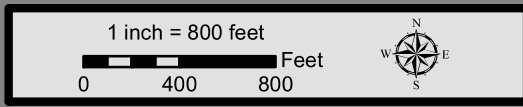
National Wetlands Inventory (NWI)

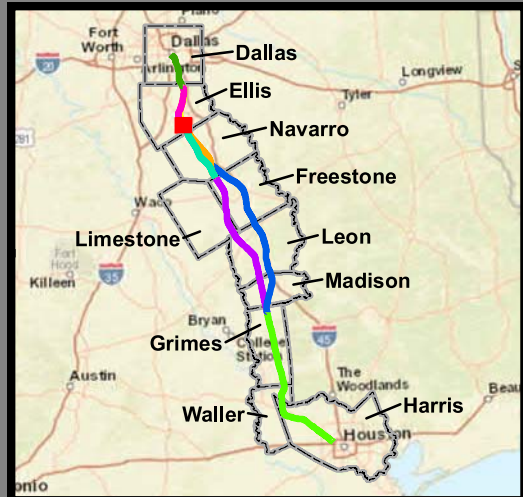
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Other

This Sheet only depicts Segment 2B; Segment 2A is also located in this same area and can be referenced on Sheet 25.

*Floodplains in Freestone and Madison Counties digitized from U.S. Dept of Housing and Urban Development 1978 and 1991 Flood Hazard Boundary Maps due to lack of digitally mapped FEMA floodplains.

Data Sources: County Boundaries - U.S. Census TIGER 2015; City Boundaries - TxDOT 2013; MSD - TCEQ 2015; USACE Project Areas - USACE 2014; Public Water Supply/Impaired Waters - EPA 2016; Groundwater Wells - TWDB 2015; NHD/HUC12 - USGS 2016; Reservoirs - TWDB 2014; NWI - USFWS 2016; Floodplains - FEMA 2016; Endangered/Threatened Species - TPWD TXNDD Element of Occurrence Records (EOR) 2017; ESRI World Street Map
Aerial Imagery: USDA NAIP 2014





**Dallas to Houston
High-Speed Rail Project
Natural Resources
Segment 2B
Sheet 42 of 257**

Legend

Limits of Disturbance

- Segment 1
- Segment 2A
- Segment 2B
- Segment 3A
- Segment 3B
- Segment 3C
- Segment 4
- Segment 5

Track Configuration

- Viaduct
- Embankment
- Cut
- Half Mile Buffer
- City Boundary
- County Boundary
- Railroad
- Municipal Setting Designation (MSD)

Potential Habitat

- Houston Toad
- Large-fruited Sand Verbena
- Navasota Ladies'-tresses
- Endangered Species
- Threatened Species
- U.S. Army Corps of Engineers (USACE) Project Area
- Watershed (HUC 12) Boundary
- Public Water Supply
- Groundwater Well

Impaired Waters with Total Maximum Daily Load (TMDL)

- Impaired Waters

Federal Emergency Management Agency (FEMA) Flood Zone

- A - 1%
- AE - 1%
- AO - 1%
- X - 0.2%

Field-Collected Data

- Perennial Stream/River
- Intermittent Stream/River
- Ephemeral Stream/River
- Other Stream/River
- Lake/Pond
- Emergent Wetland
- Forested Wetland
- Scrub/Shrub Wetland

National Hydrography Dataset (NHD)

- Perennial Stream/River
- Intermittent Stream/River
- Artificial Stream/Canal
- Lake/Pond
- Reservoir
- Swamp/Marsh

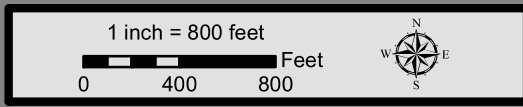
National Wetlands Inventory (NWI)

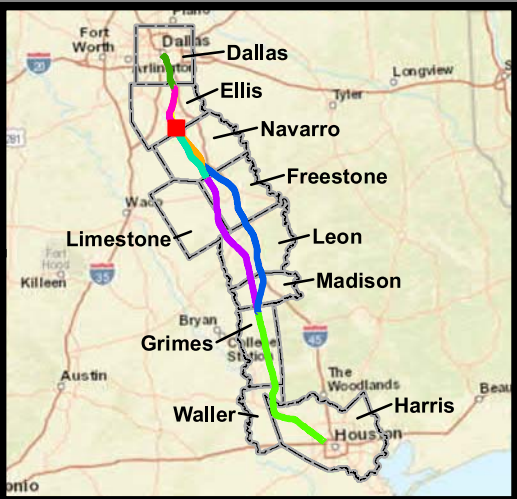
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Other

This Sheet only depicts Segment 2B; Segment 2A is also located in this same area and can be referenced on Sheet 26.

*Floodplains in Freestone and Madison Counties digitized from U.S. Dept of Housing and Urban Development 1978 and 1991 Flood Hazard Boundary Maps due to lack of digitally mapped FEMA floodplains.

Data Sources: County Boundaries - U.S. Census TIGER 2015; City Boundaries - TxDOT 2013; MSD - TCEQ 2015; USACE Project Areas - USACE 2014; Public Water Supply/Impaired Waters - EPA 2016; Groundwater Wells - TWDB 2015; NHD/HUC12 - USGS 2016; Reservoirs - TWDB 2014; NWI - USFWS 2016; Floodplains - FEMA 2016; Endangered/Threatened Species - TPWD TXNDD Element of Occurrence Records (EOR) 2017; ESRI World Street Map
Aerial Imagery: USDA NAIP 2014





**Dallas to Houston
High-Speed Rail Project
Natural Resources
Segment 2B, 3A
Sheet 43 of 257**

Legend

Limits of Disturbance

- Segment 1
- Segment 2A
- Segment 2B
- Segment 3A
- Segment 3B
- Segment 3C
- Segment 4
- Segment 5

Track Configuration

- Viaduct
- Embankment
- Cut
- Half Mile Buffer
- City Boundary
- County Boundary
- Railroad
- Municipal Setting Designation (MSD)

Potential Habitat

- Houston Toad
- Verbena
- Navasota Ladies'-tresses
- Endangered Species
- Threatened Species
- U.S. Army Corps of Engineers (USACE) Project Area
- Watershed (HUC 12) Boundary
- Public Water Supply
- Groundwater Well

Impaired Waters with Total Maximum Daily Load (TMDL)

- Impaired Waters

Federal Emergency Management Agency (FEMA) Flood Zone

- A - 1%
- AE - 1%
- AO - 1%
- X - 0.2%

Field-Collected Data

- Perennial Stream/River
- Intermittent Stream/River
- Ephemeral Stream/River
- Other Stream/River
- Lake/Pond
- Emergent Wetland
- Forested Wetland
- Scrub/Shrub Wetland

National Hydrography Dataset (NHD)

- Perennial Stream/River
- Intermittent Stream/River
- Artificial Stream/Canal
- Lake/Pond
- Reservoir
- Swamp/Marsh

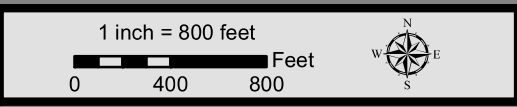
National Wetlands Inventory (NWI)

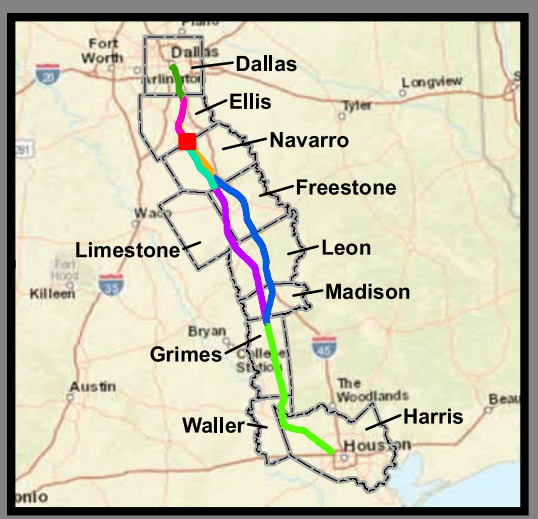
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Other

This Sheet only depicts Segments 2B & 3A; Segments 2A, 3B & 3C are also located in this same area and can be referenced on Sheets 27, 62 & 81.

*Floodplains in Freestone and Madison Counties digitized from U.S. Dept of Housing and Urban Development 1978 and 1991 Flood Hazard Boundary Maps due to lack of digitally mapped FEMA floodplains.

Data Sources: County Boundaries - U.S. Census TIGER 2015; City Boundaries - TxDOT 2013; MSD - TCEQ 2015; USACE Project Areas - USACE 2014; Public Water Supply/Impaired Waters - EPA 2016; Groundwater Wells - TWDB 2015; NHD/HUC12 - USGS 2016; Reservoirs - TWDB 2014; NWI - USFWS 2016; Floodplains - FEMA 2016; Endangered/Threatened Species - TPWD TXNDD Element of Occurrence Records (EOR) 2017; ESRI World Street Map
Aerial Imagery: USDA NAIP 2014





**Dallas to Houston
High-Speed Rail Project
Natural Resources
Segment 3A
Sheet 44 of 257**

Legend

Limits of Disturbance

- Segment 1
- Segment 2A
- Segment 2B
- Segment 3A
- Segment 3B
- Segment 3C
- Segment 4
- Segment 5

Track Configuration

- Viaduct
- Embankment
- Cut
- Half Mile Buffer
- City Boundary
- County Boundary
- Railroad
- Municipal Setting Designation (MSD)

Potential Habitat

- Houston Toad
- Large-fruited Sand Verbena
- Navasota Ladies'-tresses
- Endangered Species
- Threatened Species
- U.S. Army Corps of Engineers (USACE) Project Area
- Watershed (HUC 12) Boundary
- Public Water Supply
- Groundwater Well

Impaired Waters with Total Maximum Daily Load (TMDL)

- Impaired Waters

Federal Emergency Management Agency (FEMA) Flood Zone

- A - 1%
- AE - 1%
- AO - 1%
- X - 0.2%

Field-Collected Data

- Perennial Stream/River
- Intermittent Stream/River
- Ephemeral Stream/River
- Other Stream/River
- Lake/Pond
- Emergent Wetland
- Forested Wetland
- Scrub/Shrub Wetland

National Hydrography Dataset (NHD)

- Perennial Stream/River
- Intermittent Stream/River
- Artificial Stream/Canal
- Lake/Pond
- Reservoir
- Swamp/Marsh

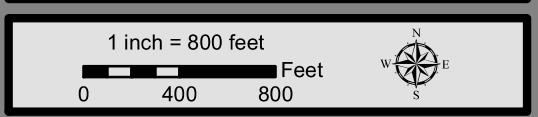
National Wetlands Inventory (NWI)

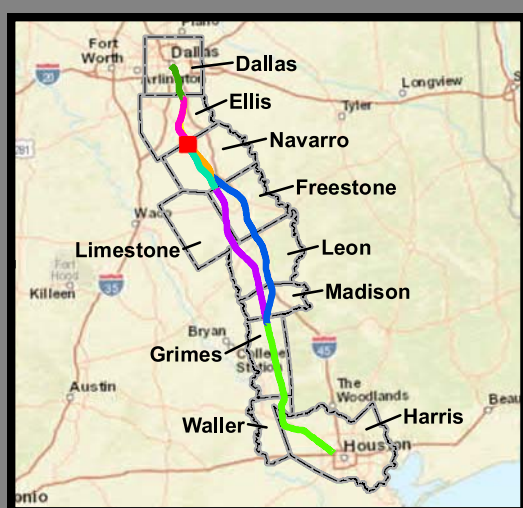
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Other

This Sheet only depicts Segment 3A; Segments 3B & 3C are also located in this same area and can be referenced on Sheets 63 & 82.

*Floodplains in Freestone and Madison Counties digitized from U.S. Dept of Housing and Urban Development 1978 and 1991 Flood Hazard Boundary Maps due to lack of digitally mapped FEMA floodplains.

Data Sources: County Boundaries - U.S. Census TIGER 2015; City Boundaries - TxDOT 2013; MSD - TCEQ 2015; USACE Project Areas - USACE 2014; Public Water Supply/Impaired Waters - EPA 2016; Groundwater Wells - TWDB 2015; NHD/HUC12 - USGS 2016; Reservoirs - TWDB 2014; NWI - USFWS 2016; Floodplains - FEMA 2016; Endangered/Threatened Species - TPWD TXNDD Element of Occurrence Records (EOR) 2017; ESRI World Street Map
Aerial Imagery: USDA NAIP 2014





**Dallas to Houston
High-Speed Rail Project
Natural Resources
Segment 3A
Sheet 45 of 257**

Legend

Limits of Disturbance

- Segment 1
- Segment 2A
- Segment 2B
- Segment 3A
- Segment 3B
- Segment 3C
- Segment 4
- Segment 5

Track Configuration

- Viaduct
- Embankment
- Cut
- Half Mile Buffer
- City Boundary
- County Boundary
- Railroad
- Municipal Setting Designation (MSD)

Potential Habitat

- Houston Toad
- Large-fruited Sand Verbena
- Navasota Ladies'-tresses
- Endangered Species
- Threatened Species
- U.S. Army Corps of Engineers (USACE) Project Area
- Watershed (HUC 12) Boundary
- Public Water Supply
- Groundwater Well

Impaired Waters with Total Maximum Daily Load (TMDL)

- Impaired Waters
- Federal Emergency Management Agency (FEMA) Flood Zone
 - A - 1%
 - AE - 1%
 - AO - 1%
 - X - 0.2%

Field-Collected Data

- Perennial Stream/River
- Intermittent Stream/River
- Ephemeral Stream/River
- Other Stream/River
- Lake/Pond
- Emergent Wetland
- Forested Wetland
- Scrub/Shrub Wetland

National Hydrography Dataset (NHD)

- Perennial Stream/River
- Intermittent Stream/River
- Artificial Stream/Canal
- Lake/Pond
- Reservoir
- Swamp/Marsh

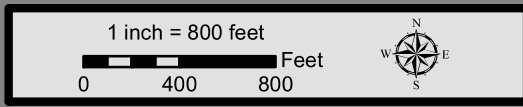
National Wetlands Inventory (NWI)

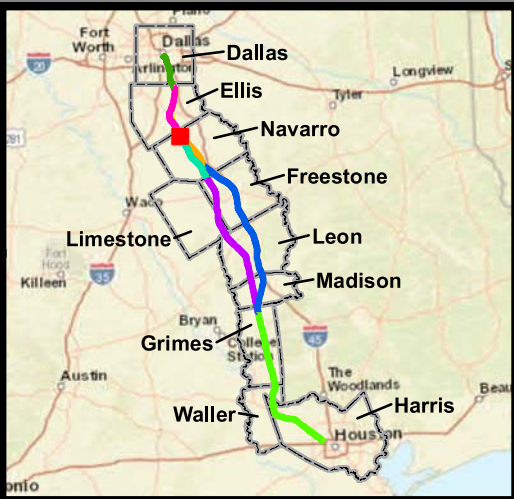
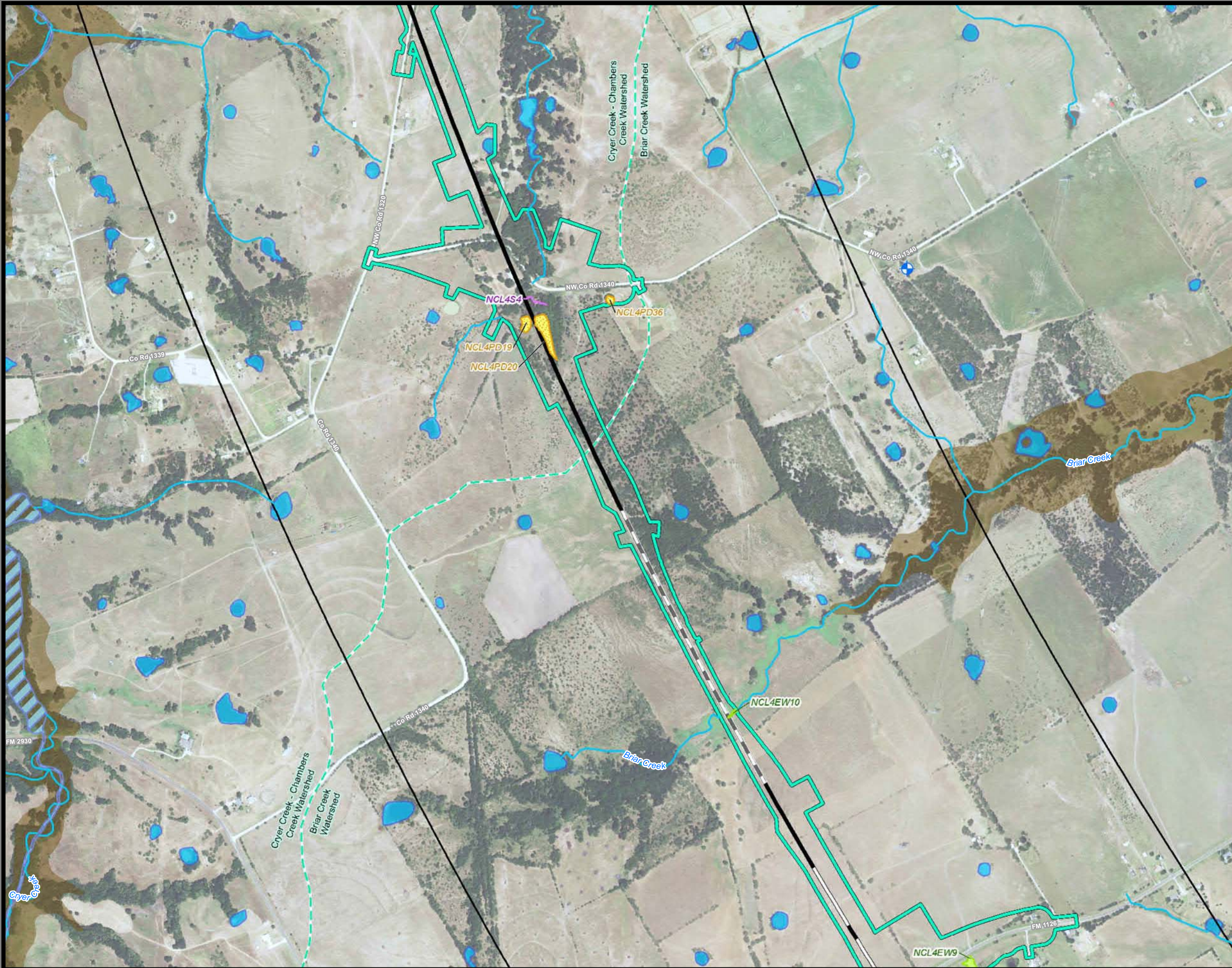
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Other

This Sheet only depicts Segment 3A; Segments 3B & 3C are also located in this same area and can be referenced on Sheets 64 & 83.

*Floodplains in Freestone and Madison Counties digitized from U.S. Dept of Housing and Urban Development 1978 and 1991 Flood Hazard Boundary Maps due to lack of digitally mapped FEMA floodplains.

Data Sources: County Boundaries - U.S. Census TIGER 2015; City Boundaries - TxDOT 2013; MSD - TCEQ 2015; USACE Project Areas - USACE 2014; Public Water Supply/Impaired Waters - EPA 2016; Groundwater Wells - TWDB 2015; NHD/HUC12 - USGS 2016; Reservoirs - TWDB 2014; NWI - USFWS 2016; Floodplains - FEMA 2016; Endangered/Threatened Species - TPWD TXNDD Element of Occurrence Records (EOR) 2017; ESRI World Street Map
Aerial Imagery: USDA NAIP 2014





**Dallas to Houston
High-Speed Rail Project
Natural Resources
Segment 3A
Sheet 46 of 257**

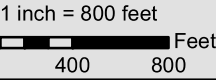
Legend

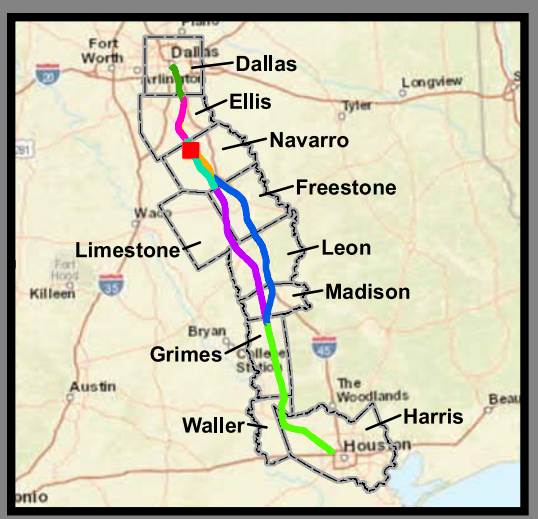
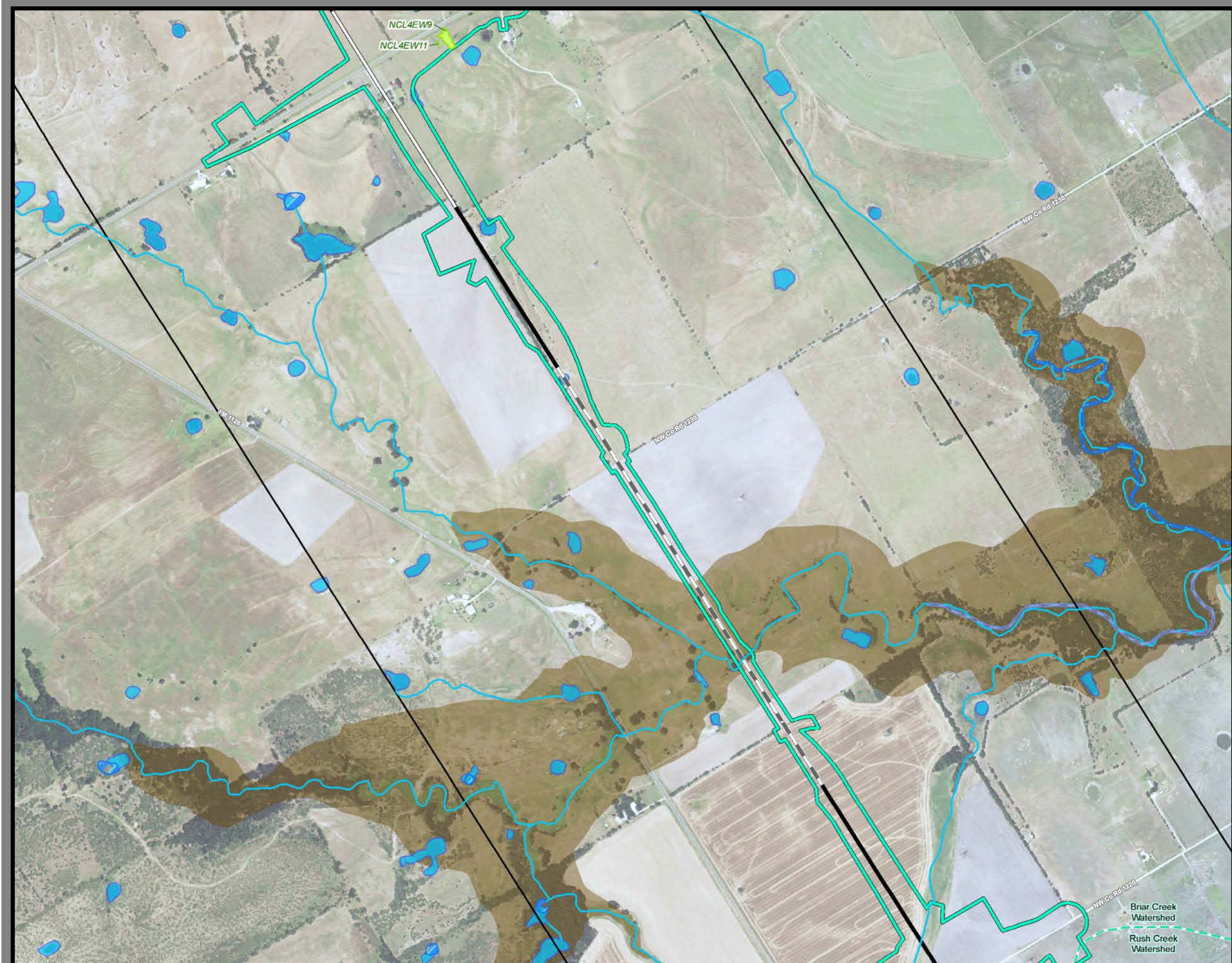
- Limits of Disturbance**
 - Segment 1
 - Segment 2A
 - Segment 2B
 - Segment 3A
 - Segment 3B
 - Segment 3C
 - Segment 4
 - Segment 5
- Track Configuration**
 - Viaduct
 - Embankment
 - Cut
 - Half Mile Buffer
 - City Boundary
 - County Boundary
 - Railroad
 - Municipal Setting
 - Designation (MSD)
- Potential Habitat**
 - Houston Toad
 - Large-fruited Sand Verbena
 - Navasota Ladies'-tresses
 - Endangered Species
 - Threatened Species
 - U.S. Army Corps of Engineers (USACE) Project Area
 - Watershed (HUC 12) Boundary
 - Public Water Supply
 - Groundwater Well
- Impaired Waters with Total Maximum Daily Load (TMDL)**
 - Impaired Waters
- Federal Emergency Management Agency (FEMA) Flood Zone**
 - A - 1%
 - AE - 1%
 - AO - 1%
 - X - 0.2%
- Field-Collected Data**
 - Perennial Stream/River
 - Intermittent Stream/River
 - Ephemeral Stream/River
 - Other Stream/River
 - Lake/Pond
 - Emergent Wetland
 - Forested Wetland
 - Scrub/Shrub Wetland
- National Hydrography Dataset (NHD)**
 - Perennial Stream/River
 - Intermittent Stream/River
 - Artificial Stream/Canal
 - Lake/Pond
 - Reservoir
 - Swamp/Marsh
- National Wetlands Inventory (NWI)**
 - Freshwater Emergent Wetland
 - Freshwater Forested/Shrub Wetland
 - Other

This Sheet only depicts Segment 3A; Segments 3B & 3C are also located in this same area and can be referenced on Sheets 65 & 84.

*Floodplains in Freestone and Madison Counties digitized from U.S. Dept of Housing and Urban Development 1978 and 1991 Flood Hazard Boundary Maps due to lack of digitally mapped FEMA floodplains.

Data Sources: County Boundaries - U.S. Census TIGER 2015; City Boundaries - TxDOT 2013; MSD - TCEQ 2015; USACE Project Areas - USACE 2014; Public Water Supply/Impaired Waters - EPA 2016; Groundwater Wells - TWDB 2015; NHD/HUC12 - USGS 2016; Reservoirs - TWDB 2014; NWI - USFWS 2016; Floodplains - FEMA 2016; Endangered/Threatened Species - TPWD TXNDD Element of Occurrence Records (EOR) 2017; ESRI World Street Map
Aerial Imagery: USDA NAIP 2014





**Dallas to Houston
High-Speed Rail Project
Natural Resources
Segment 3A
Sheet 47 of 257**

Legend

Limits of Disturbance

- Segment 1
- Segment 2A
- Segment 2B
- Segment 3A
- Segment 3B
- Segment 3C
- Segment 4
- Segment 5

Track Configuration

- Viaduct
- Embankment
- Cut
- Half Mile Buffer
- City Boundary
- County Boundary
- Railroad
- Municipal Setting Designation (MSD)

Potential Habitat

- Houston Toad
- Large-fruited Sand Verbena
- Navasota Ladies'-tresses
- Endangered Species
- Threatened Species
- U.S. Army Corps of Engineers (USACE) Project Area
- Watershed (HUC 12) Boundary
- Public Water Supply
- Groundwater Well

Impaired Waters with Total Maximum Daily Load (TMDL)

- Impaired Waters
- Federal Emergency Management Agency (FEMA) Flood Zone
 - A - 1%
 - AE - 1%
 - AO - 1%
 - X - 0.2%

Field-Collected Data

- Perennial Stream/River
- Intermittent Stream/River
- Ephemeral Stream/River
- Other Stream/River
- Lake/Pond
- Emergent Wetland
- Forested Wetland
- Scrub/Shrub Wetland

National Hydrography Dataset (NHD)

- Perennial Stream/River
- Intermittent Stream/River
- Artificial Stream/Canal
- Lake/Pond
- Reservoir
- Swamp/Marsh

National Wetlands Inventory (NWI)

- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Other

This Sheet only depicts Segment 3A; Segments 3B & 3C are also located in this same area and can be referenced on Sheets 66 & 85.

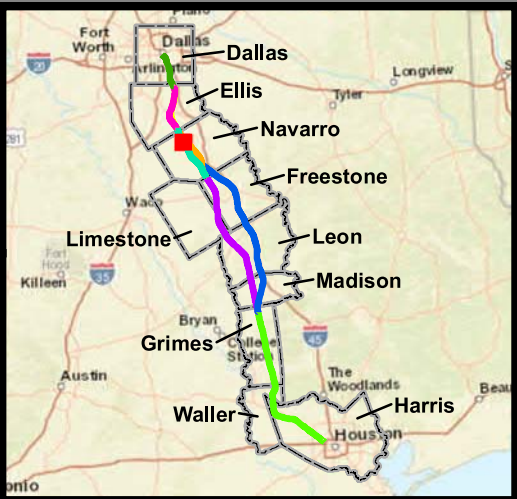
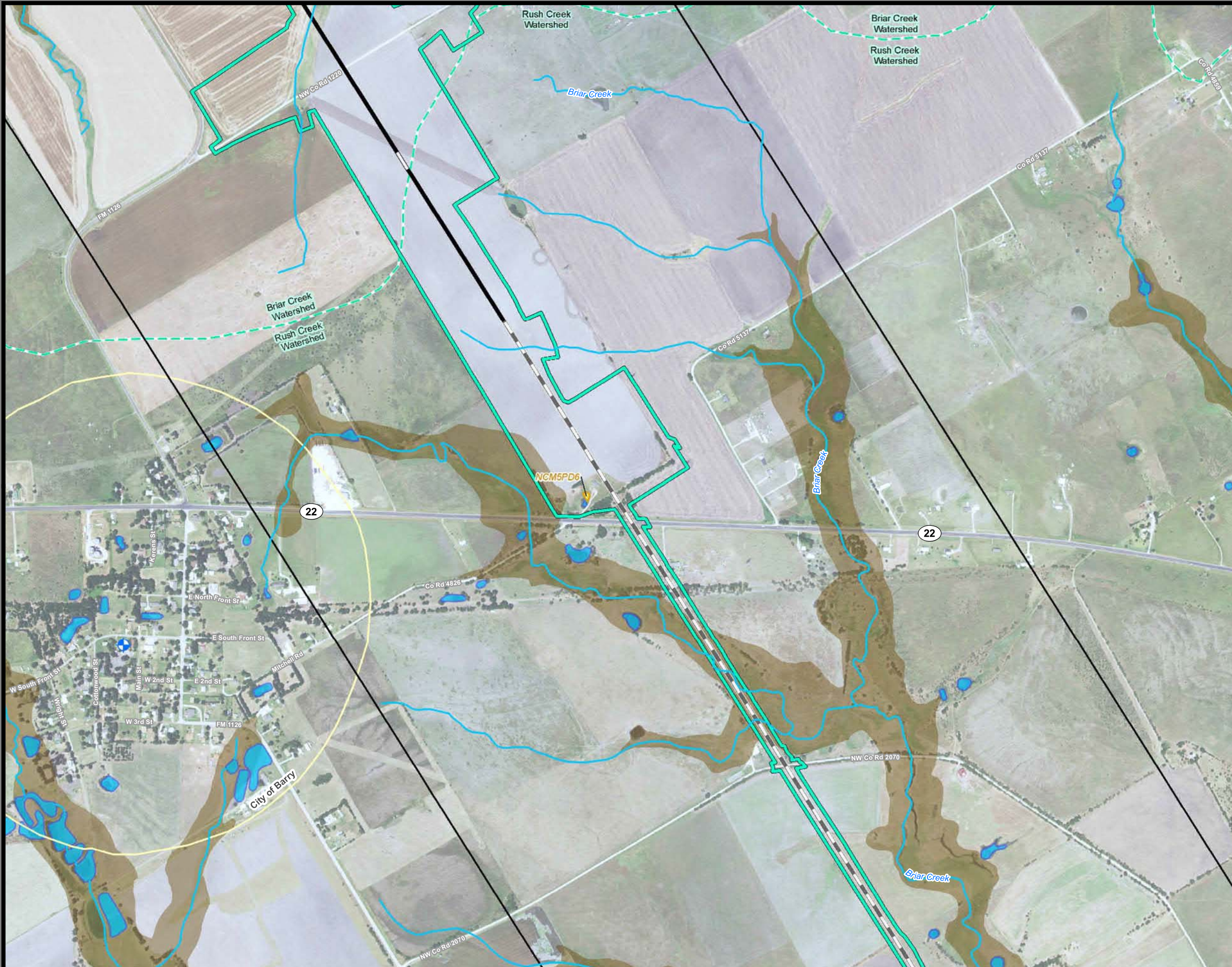
*Floodplains in Freestone and Madison Counties digitized from U.S. Dept of Housing and Urban Development 1978 and 1991 Flood Hazard Boundary Maps due to lack of digitally mapped FEMA floodplains.

Data Sources: County Boundaries - U.S. Census TIGER 2015; City Boundaries - TxDOT 2013; MSD - TCEQ 2015; USACE Project Areas - USACE 2014; Public Water Supply/Impaired Waters - EPA 2016; Groundwater Wells - TWDB 2015; NHD/HUC12 - USGS 2016; Reservoirs - TWDB 2014; NWI - USFWS 2016; Floodplains - FEMA 2016; Endangered/Threatened Species - TPWD TXNDD Element of Occurrence Records (EOR) 2017; ESRI World Street Map
Aerial Imagery: USDA NAIP 2014

1 inch = 800 feet

0 400 800 Feet

N
W E
S



**Dallas to Houston
High-Speed Rail Project
Natural Resources
Segment 3A
Sheet 48 of 257**

Legend

- Limits of Disturbance**

 - Segment 1
 - Segment 2A
 - Segment 2B
 - Segment 3A
 - Segment 3B
 - Segment 3C
 - Segment 4
 - Segment 5

Track Configuration

 - Viaduct
 - Embankment
 - Cut
 - Half Mile Buffer
 - City Boundary
 - County Boundary
 - Railroad
 - Municipal Setting Designation (MSD)

Potential Habitat

 - Houston Toad
 - Large-fruited Sand Verbena
 - Navasota Ladies'-tresses
 - Endangered Species
 - Threatened Species
 - U.S. Army Corps of Engineers (USACE) Project Area
 - Watershed (HUC 12) Boundary
 - Public Water Supply
 - Groundwater Well
- Impaired Waters with Total Maximum Daily Load (TMDL)

Impaired Waters

Federal Emergency Management Agency (FEMA) Flood Zone

 - A - 1%
 - AE - 1%
 - AO - 1%
 - X - 0.2%

Field-Collected Data

 - Perennial Stream/River
 - Intermittent Stream/River
 - Ephemeral Stream/River
 - Other Stream/River
 - Lake/Pond
 - Emergent Wetland
 - Forested Wetland
 - Scrub/Shrub Wetland

National Hydrography Dataset (NHD)

 - Perennial Stream/River
 - Intermittent Stream/River
 - Artificial Stream/Canal
 - Lake/Pond
 - Reservoir
 - Swamp/Marsh

National Wetlands Inventory (NWI)

 - Freshwater Emergent Wetland
 - Freshwater Forested/Shrub Wetland
 - Other

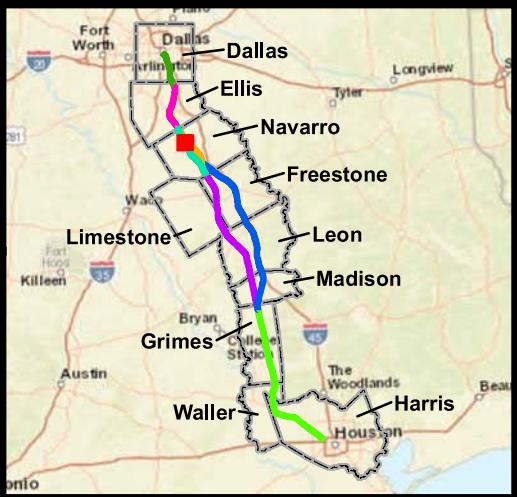
This Sheet only depicts Segment 3A; Segment 3C is also located in this same area and can be referenced on Sheet 86.

*Floodplains in Freestone and Madison Counties digitized from U.S. Dept of Housing and Urban Development 1978 and 1991 Flood Hazard Boundary Maps due to lack of digitally mapped FEMA floodplains.

Data Sources: County Boundaries - U.S. Census TIGER 2015; City Boundaries - TxDOT 2013; MSD - TCEQ 2015; USACE Project Areas - USACE 2014; Public Water Supply/Impaired Waters - EPA 2016; Groundwater Wells - TWDB 2015; NHD/HUC12 - USGS 2016; Reservoirs - TWDB 2014; NWI - USFWS 2016; Floodplains - FEMA 2016; Endangered/Threatened Species - TPWD TXNDD Element of Occurrence Records (EOR) 2017; ESRI World Street Map
Aerial Imagery: USDA NAIP 2014

1 inch = 800 feet
0 400 800 Feet





**Dallas to Houston
High-Speed Rail Project
Natural Resources
Segment 3A
Sheet 49 of 257**

Legend

- Limits of Disturbance**
 - Segment 1
 - Segment 2A
 - Segment 2B
 - Segment 3A
 - Segment 3B
 - Segment 3C
 - Segment 4
 - Segment 5
- Track Configuration**
 - Viaduct
 - Embankment
 - Cut
 - Half Mile Buffer
 - City Boundary
 - County Boundary
 - Railroad
 - Municipal Setting Designation (MSD)
- Potential Habitat**
 - Houston Toad
 - Large-fruited Sand Verbena
 - Navasota Ladies'-tresses
 - Endangered Species
 - Threatened Species
 - U.S. Army Corps of Engineers (USACE) Project Area
 - Watershed (HUC 12) Boundary
 - Public Water Supply
 - Groundwater Well
- Impaired Waters with Total Maximum Daily Load (TMDL)**
 - Impaired Waters
- Federal Emergency Management Agency (FEMA) Flood Zone**
 - A - 1%
 - AE - 1%
 - AO - 1%
 - X - 0.2%
- Field-Collected Data**
 - Perennial Stream/River
 - Intermittent Stream/River
 - Ephemeral Stream/River
 - Other Stream/River
 - Lake/Pond
 - Emergent Wetland
 - Forested Wetland
 - Scrub/Shrub Wetland
- National Hydrography Dataset (NHD)**
 - Perennial Stream/River
 - Intermittent Stream/River
 - Artificial Stream/Canal
 - Lake/Pond
 - Reservoir
 - Swamp/Marsh
- National Wetlands Inventory (NWI)**
 - Freshwater Emergent Wetland
 - Freshwater Forested/Shrub Wetland
 - Other

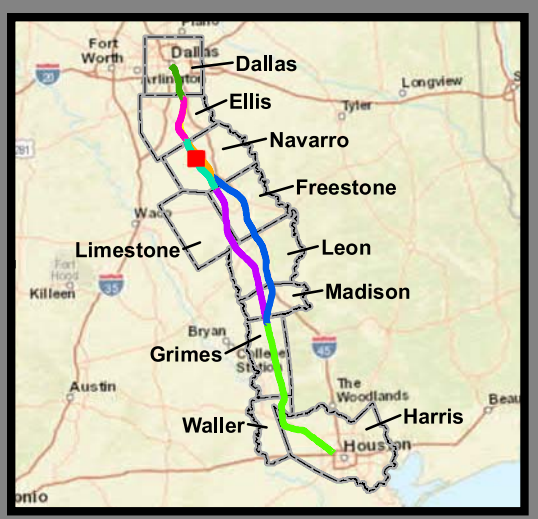
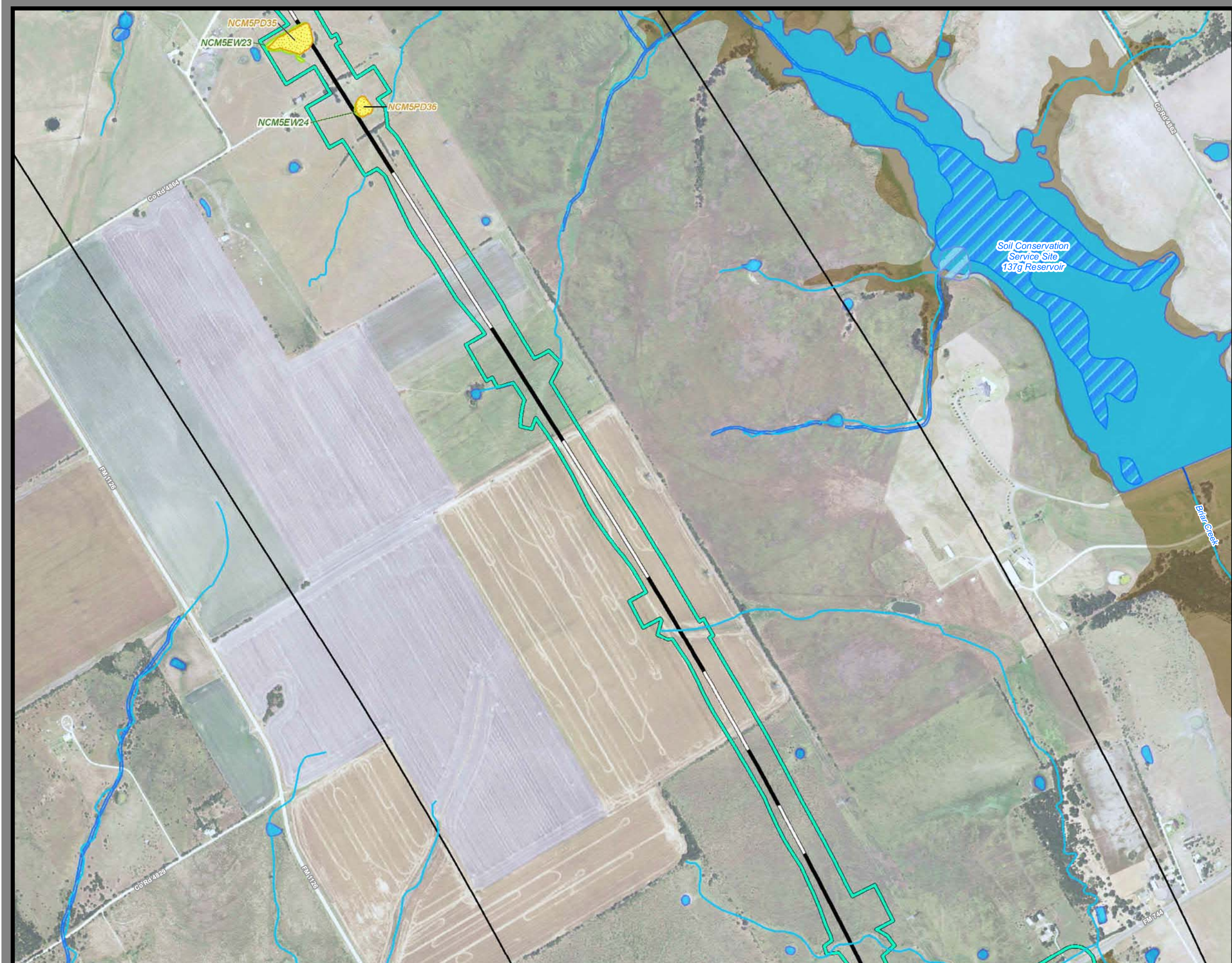
This Sheet only depicts Segment 3A; Segment 3C is also located in this same area and can be referenced on Sheet 87.

*Floodplains in Freestone and Madison Counties digitized from U.S. Dept of Housing and Urban Development 1978 and 1991 Flood Hazard Boundary Maps due to lack of digitally mapped FEMA floodplains.

Data Sources: County Boundaries - U.S. Census TIGER 2015; City Boundaries - TxDOT 2013; MSD - TCEQ 2015; USACE Project Areas - USACE 2014; Public Water Supply/Impaired Waters - EPA 2016; Groundwater Wells - TWDB 2015; NHD/HUC12 - USGS 2016; Reservoirs - TWDB 2014; NWI - USFWS 2016; Floodplains - FEMA 2016; Endangered/Threatened Species - TPWD TXNDD Element of Occurrence Records (EOR) 2017; ESRI World Street Map
Aerial Imagery: USDA NAIP 2014

1 inch = 800 feet
0 400 800 Feet





**Dallas to Houston
High-Speed Rail Project
Natural Resources
Segment 3A
Sheet 50 of 257**

Legend

Limits of Disturbance

- Segment 1
- Segment 2A
- Segment 2B
- Segment 3A
- Segment 3B
- Segment 3C
- Segment 4
- Segment 5

Track Configuration

- Viaduct
- Embankment
- Cut
- Half Mile Buffer
- City Boundary
- County Boundary
- Railroad
- Municipal Setting Designation (MSD)

Potential Habitat

- Houston Toad
- Large-fruited Sand Verbena
- Navasota Ladies'-tresses
- Endangered Species
- Threatened Species
- U.S. Army Corps of Engineers (USACE) Project Area
- Watershed (HUC 12) Boundary
- Public Water Supply
- Groundwater Well

Impaired Waters with Total Maximum Daily Load (TMDL)

- Impaired Waters

Federal Emergency Management Agency (FEMA) Flood Zone

- A - 1%
- AE - 1%
- AO - 1%
- X - 0.2%

Field-Collected Data

- Perennial Stream/River
- Intermittent Stream/River
- Ephemeral Stream/River
- Other Stream/River
- Lake/Pond
- Emergent Wetland
- Forested Wetland
- Scrub/Shrub Wetland

National Hydrography Dataset (NHD)

- Perennial Stream/River
- Intermittent Stream/River
- Artificial Stream/Canal
- Lake/Pond
- Reservoir
- Swamp/Marsh

National Wetlands Inventory (NWI)

- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Other

This Sheet only depicts Segment 3A; Segment 3C is also located in this same area and can be referenced on Sheet 88.

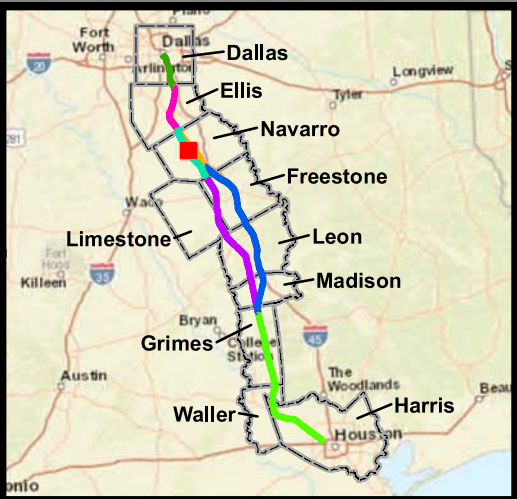
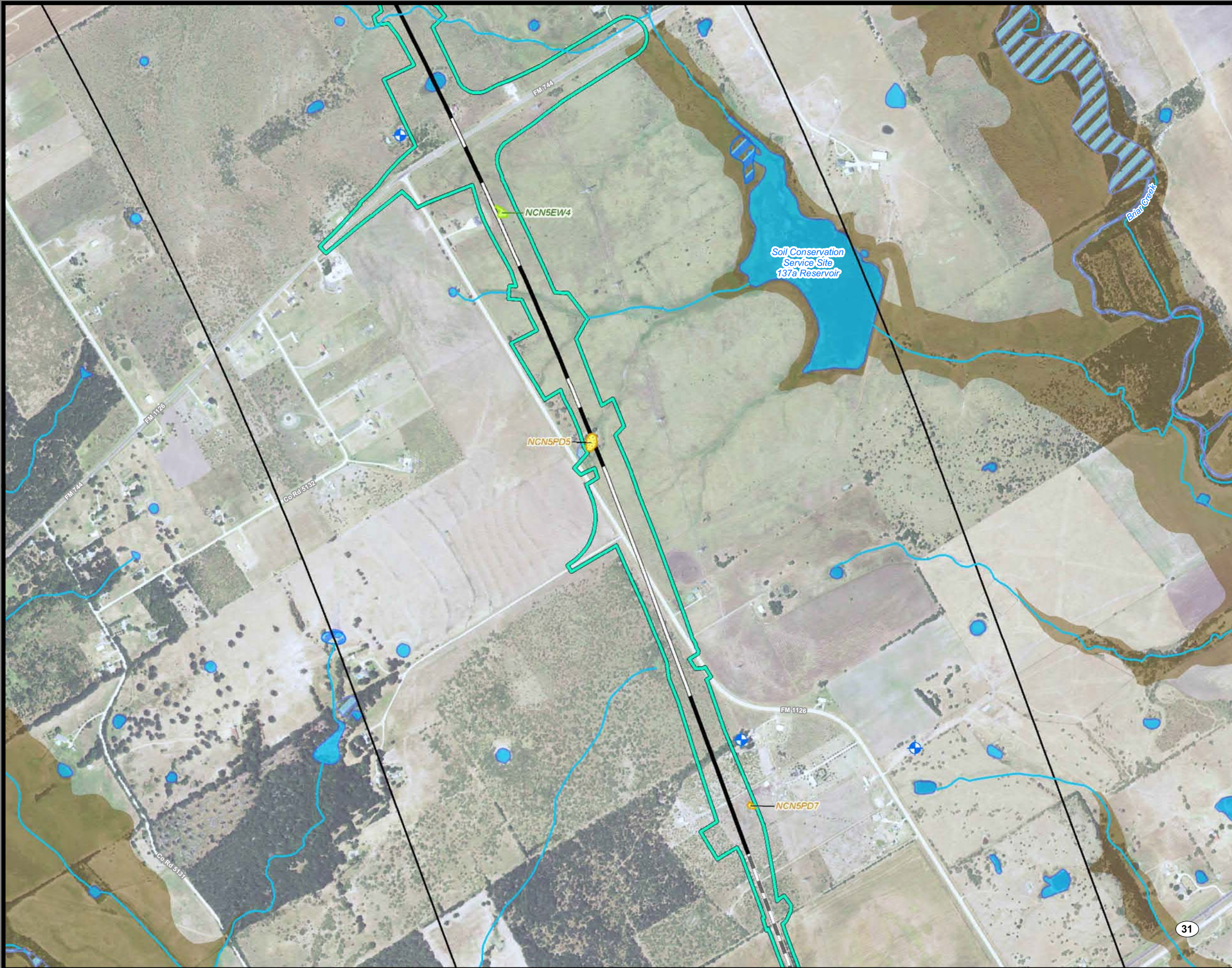
*Floodplains in Freestone and Madison Counties digitized from U.S. Dept of Housing and Urban Development 1978 and 1991 Flood Hazard Boundary Maps due to lack of digitally mapped FEMA floodplains.

Data Sources: County Boundaries - U.S. Census TIGER 2015; City Boundaries - TxDOT 2013; MSD - TCEQ 2015; USACE Project Areas - USACE 2014; Public Water Supply/Impaired Waters - EPA 2016; Groundwater Wells - TWDB 2015; NHD/HUC12 - USGS 2016; Reservoirs - TWDB 2014; NWI - USFWS 2016; Floodplains - FEMA 2016; Endangered/Threatened Species - TPWD TXNDD Element of Occurrence Records (EOR) 2017; ESRI World Street Map
Aerial Imagery: USDA NAIP 2014

1 inch = 800 feet

0 400 800 Feet

N
W E
S



**Dallas to Houston
High-Speed Rail Project**
Natural Resources
Segment 3A
Sheet 51 of 257

Legend

- Limits of Disturbance**
 - Segment 1
 - Segment 2A
 - Segment 2B
 - Segment 3A
 - Segment 3B
 - Segment 3C
 - Segment 4
 - Segment 5
- Track Configuration**
 - Viaduct
 - Embankment
 - Cut
 - Half Mile Buffer
 - City Boundary
 - County Boundary
 - Railroad
 - Municipal Setting Designation (MSD)
- Potential Habitat**
 - Houston Toad
 - Large-fruited Sand Verbena
 - Navasota Ladies'-tresses
 - Endangered Species
 - Threatened Species
 - U.S. Army Corps of Engineers (USACE) Project Area
 - Watershed (HUC 12) Boundary
 - Public Water Supply
 - Groundwater Well
- Impaired Waters with Total Maximum Daily Load (TMDL)**
- Impaired Waters**
- Federal Emergency Management Agency (FEMA) Flood Zone**
 - A - 1%
 - AE - 1%
 - AO - 1%
 - X - 0.2%
- Field-Collected Data**
 - Perennial Stream/River
 - Intermittent Stream/River
 - Ephemeral Stream/River
 - Other Stream/River
 - Lake/Pond
 - Emergent Wetland
 - Forested Wetland
 - Scrub/Shrub Wetland
- National Hydrography Dataset (NHD)**
 - Perennial Stream/River
 - Intermittent Stream/River
 - Artificial Stream/Canal
 - Lake/Pond
 - Reservoir
 - Swamp/Marsh
- National Wetlands Inventory (NWI)**
 - Freshwater Emergent Wetland
 - Freshwater Forested/Shrub Wetland
 - Other

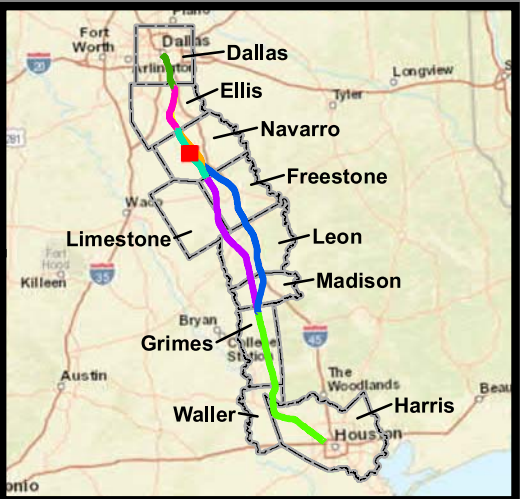
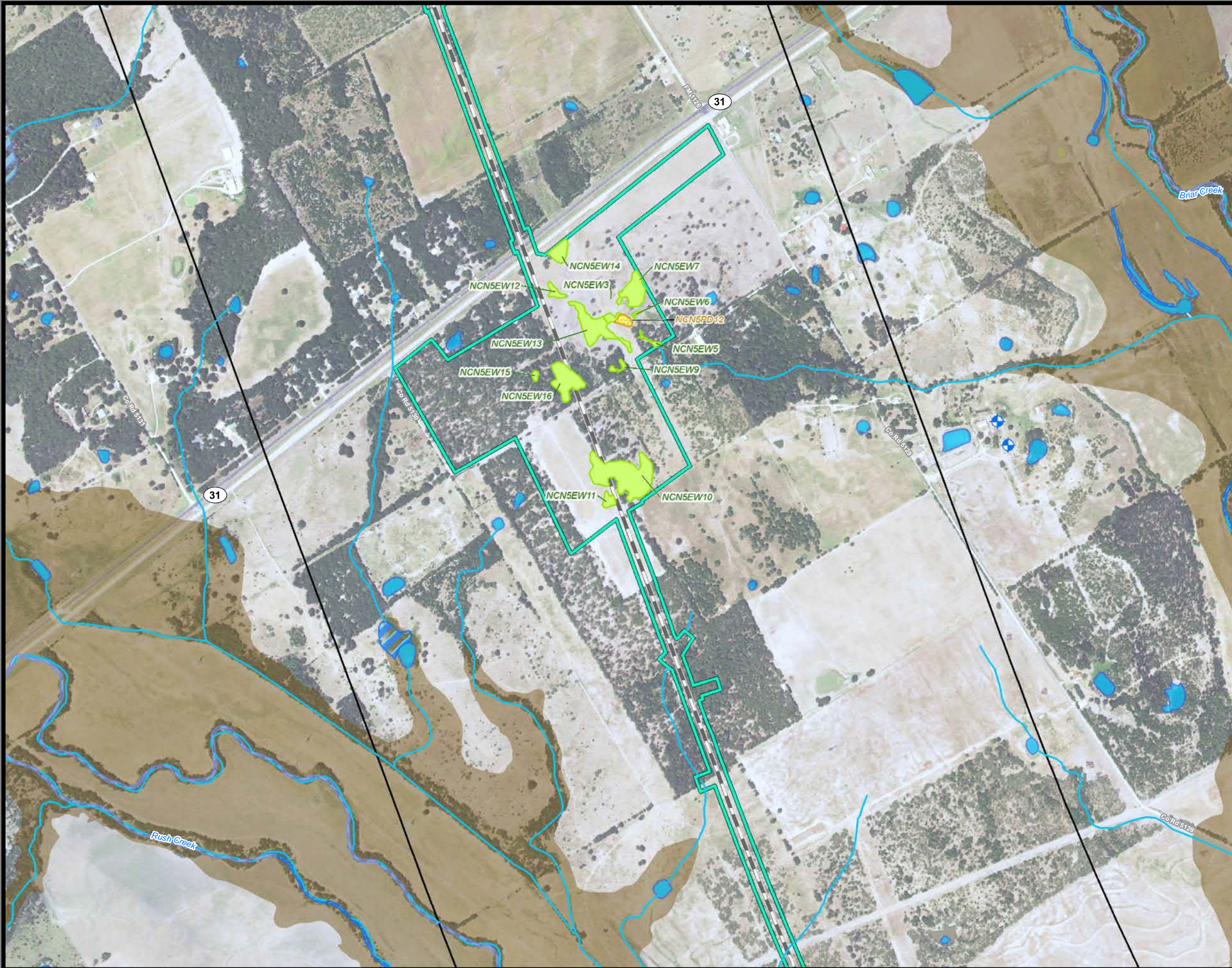
This Sheet only depicts Segment 3A; Segment 3C is also located in this same area and can be referenced on Sheet 89.

*Floodplains in Freestone and Madison Counties digitized from U.S. Dept of Housing and Urban Development 1978 and 1991 Flood Hazard Boundary Maps due to lack of digitally mapped FEMA floodplains.

Data Sources: County Boundaries - U.S. Census TIGER 2015; City Boundaries - TxDOT 2013; MSD - TCEQ 2015; USACE Project Areas - USACE 2014; Public Water Supply/Impaired Waters - EPA 2016; Groundwater Wells - TWDB 2015; NHD/HUC12 - USGS 2016; Reservoirs - TWDB 2014; NWI - USFWS 2016; Floodplains - FEMA 2016; Endangered/Threatened Species - TPWD TXNDD Element of Occurrence Records (EOR) 2017; ESRI World Street Map
Aerial Imagery: USDA NAIP 2014

1 inch = 800 feet
0 400 800 Feet





**Dallas to Houston
High-Speed Rail Project
Natural Resources
Segment 3A
Sheet 52 of 257**

Legend

- Limits of Disturbance**
 - Segment 1
 - Segment 2A
 - Segment 2B
 - Segment 3A
 - Segment 3B
 - Segment 3C
 - Segment 4
 - Segment 5
- Track Configuration**
 - Viaduct
 - Embankment
 - Cut
 - Half Mile Buffer
 - City Boundary
 - County Boundary
 - Railroad
 - Municipal Setting
 - Designation (MSD)
- Potential Habitat**
 - Houston Toad
 - Large-fruited Sand Verbena
 - Navasota Ladies'-tresses
 - Endangered Species
 - Threatened Species
 - U.S. Army Corps of Engineers (USACE) Project Area
 - Watershed (HUC 12) Boundary
 - Public Water Supply
 - Groundwater Well
- Impaired Waters with Total Maximum Daily Load (TMDL)**
 - Impaired Waters
- Federal Emergency Management Agency (FEMA) Flood Zone**
 - A - 1%
 - AE - 1%
 - AO - 1%
 - X - 0.2%
- Field-Collected Data**
 - Perennial Stream/River
 - Intermittent Stream/River
 - Ephemeral Stream/River
 - Other Stream/River
 - Lake/Pond
 - Emergent Wetland
 - Forested Wetland
 - Scrub/Shrub Wetland
- National Hydrography Dataset (NHD)**
 - Perennial Stream/River
 - Intermittent Stream/River
 - Artificial Stream/Canal
 - Lake/Pond
 - Reservoir
 - Swamp/Marsh
- National Wetlands Inventory (NWI)**
 - Freshwater Emergent Wetland
 - Freshwater Forested/Shrub Wetland
 - Other

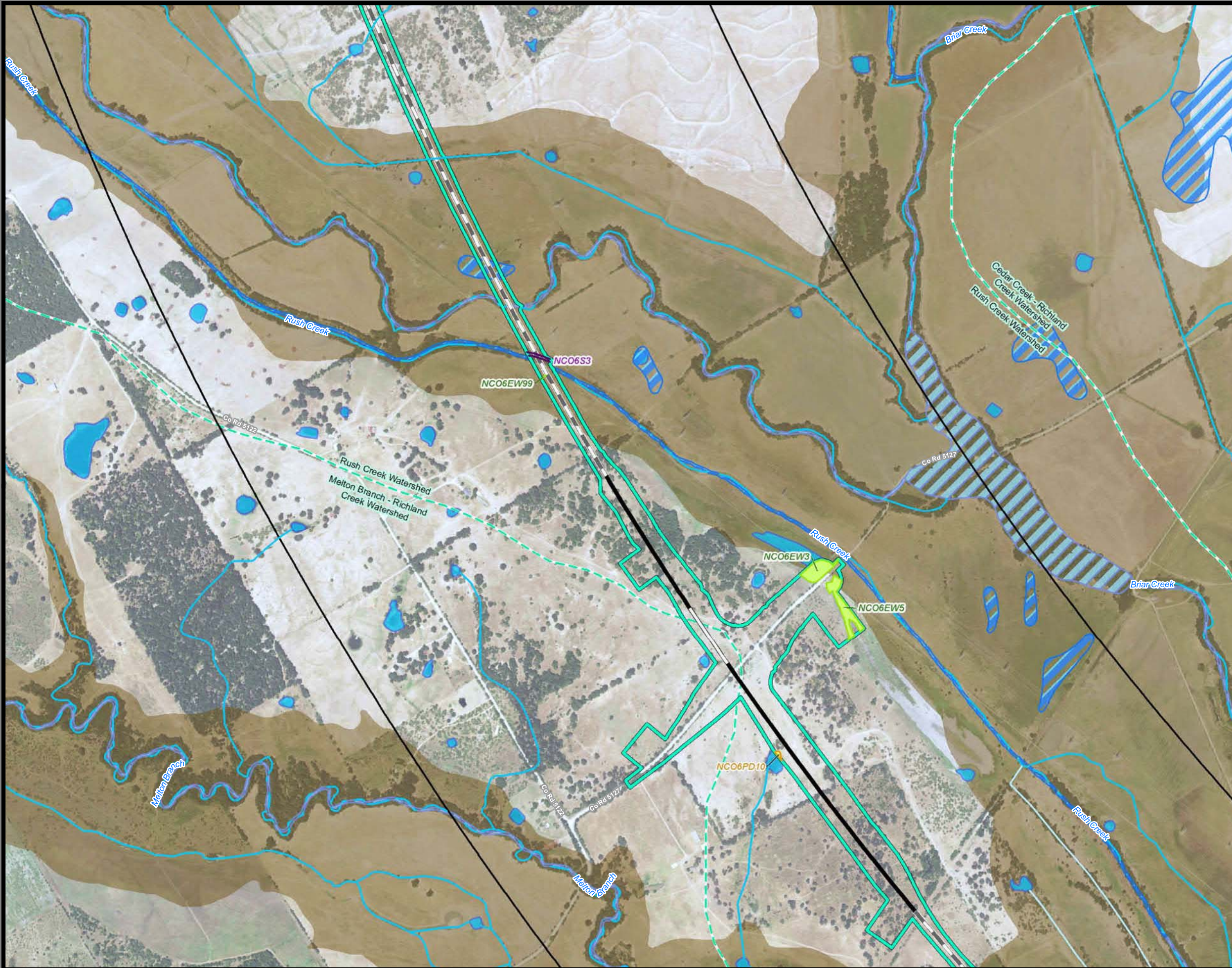
This Sheet only depicts Segment 3A; Segment 3C is also located in this same area and can be referenced on Sheet 90.

*Floodplains in Freestone and Madison Counties digitized from U.S. Dept of Housing and Urban Development 1978 and 1991 Flood Hazard Boundary Maps due to lack of digitally mapped FEMA floodplains.

Data Sources: County Boundaries - U.S. Census TIGER 2015; City Boundaries - TxDOT 2013; MSD - TCEQ 2015; USACE Project Areas - USACE 2014; Public Water Supply/Impaired Waters - EPA 2016; Groundwater Wells - TWDB 2015; NHD/HUC12 - USGS 2016; Reservoirs - TWDB 2014; NWI - USFWS 2016; Floodplains - FEMA 2016; Endangered/Threatened Species - TPWD TXNDD Element of Occurrence Records (EOR) 2017; ESRI World Street Map
Aerial Imagery: USDA NAIP 2014

1 inch = 800 feet
0 400 800 Feet





**Dallas to Houston
High-Speed Rail Project
Natural Resources
Segment 3A
Sheet 53 of 257**

Legend

- Limits of Disturbance**

 - Segment 1
 - Segment 2A
 - Segment 2B
 - Segment 3A
 - Segment 3B
 - Segment 3C
 - Segment 4
 - Segment 5

Track Configuration

 - Viaduct
 - Embankment
 - Cut
 - Half Mile Buffer
 - City Boundary
 - County Boundary
 - Railroad
 - Municipal Setting Designation (MSD)

Potential Habitat

 - Houston Toad
 - Large-fruited Sand Verbena
 - Navasota Ladies-tresses
 - Endangered Species
 - Threatened Species
 - U.S. Army Corps of Engineers (USACE) Project Area
 - Watershed (HUC 12) Boundary
 - Public Water Supply
 - Groundwater Well
- Impaired Waters with Total Maximum Daily Load (TMDL)

Impaired Waters

Federal Emergency Management Agency (FEMA) Flood Zone

 - A - 1%
 - AE - 1%
 - AO - 1%
 - X - 0.2%

Field-Collected Data

 - Perennial Stream/River
 - Intermittent Stream/River
 - Ephemeral Stream/River
 - Other Stream/River
 - Lake/Pond
 - Emergent Wetland
 - Forested Wetland
 - Scrub/Shrub Wetland

National Hydrography Dataset (NHD)

 - Perennial Stream/River
 - Intermittent Stream/River
 - Artificial Stream/Canal
 - Lake/Pond
 - Reservoir
 - Swamp/Marsh

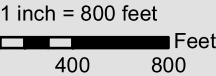
National Wetlands Inventory (NWI)

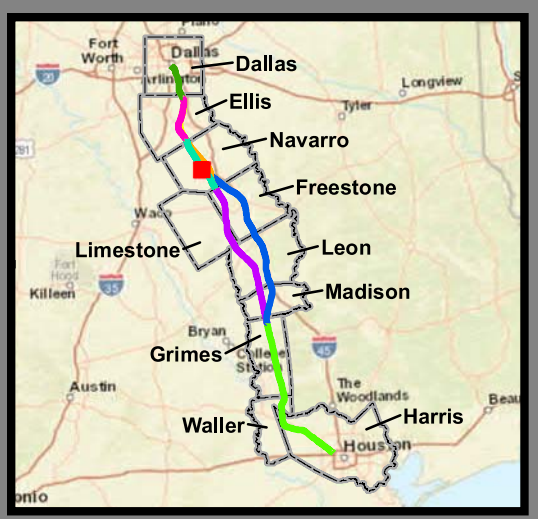
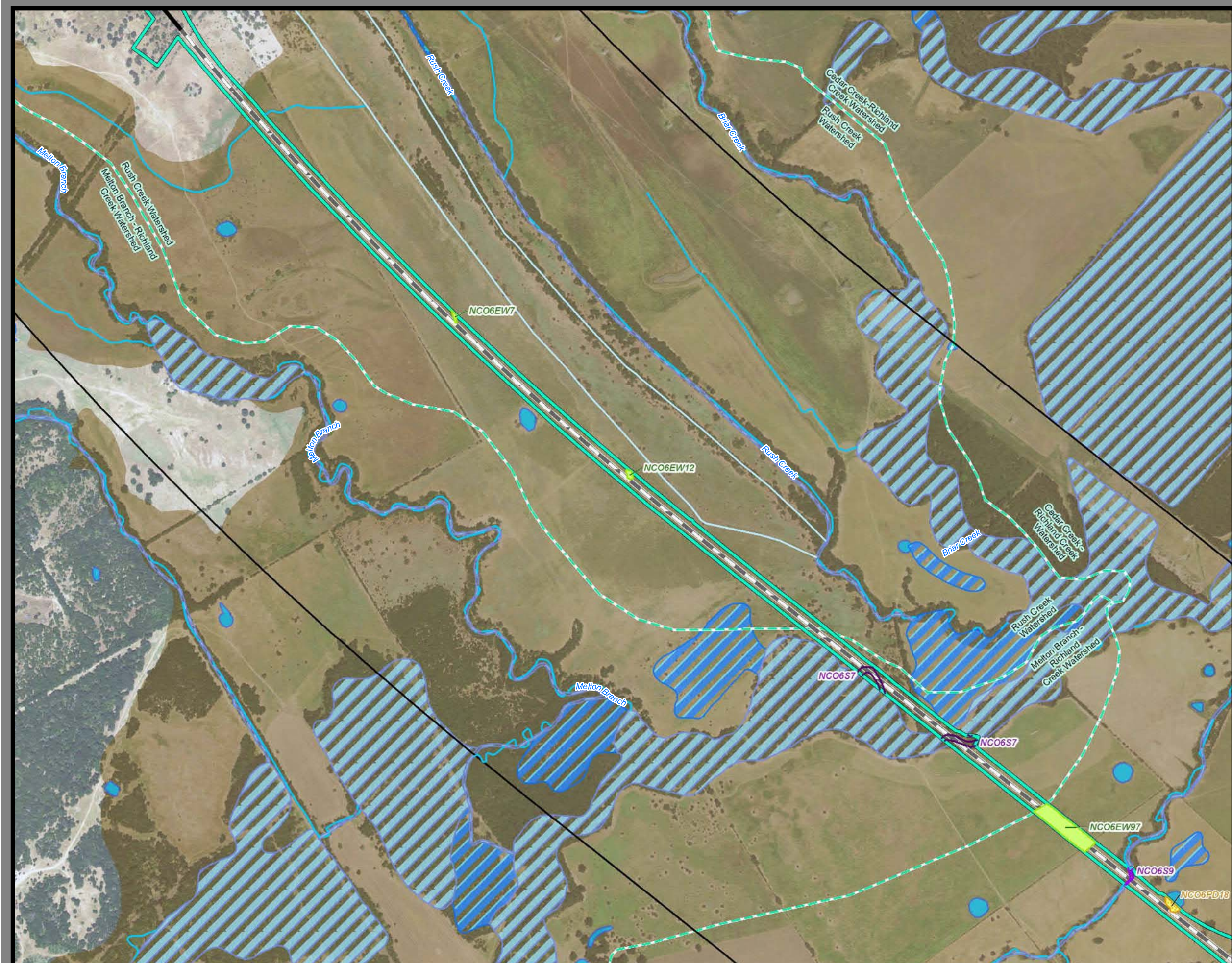
 - Freshwater Emergent Wetland
 - Freshwater Forested/Shrub Wetland
 - Other

This Sheet only depicts Segment 3A; Segment 3C is also located in this same area and can be referenced on Sheet 91.

*Floodplains in Freestone and Madison Counties digitized from U.S. Dept of Housing and Urban Development 1978 and 1991 Flood Hazard Boundary Maps due to lack of digitally mapped FEMA floodplains.

Data Sources: County Boundaries - U.S. Census TIGER 2015; City Boundaries - TxDOT 2013; MSD - TCEQ 2015; USACE Project Areas - USACE 2014; Public Water Supply/Impaired Waters - EPA 2016; Groundwater Wells - TWDB 2015; NHD/HUC12 - USGS 2016; Reservoirs - TWDB 2014; NWI - USFWS 2016; Floodplains - FEMA 2016; Endangered/Threatened Species - TPWD TXNDD Element of Occurrence Records (EOR) 2017; ESRI World Street Map
Aerial Imagery: USDA NAIP 2014





**Dallas to Houston
High-Speed Rail Project
Natural Resources
Segment 3A
Sheet 54 of 257**

Legend

Limits of Disturbance

- Segment 1
- Segment 2A
- Segment 2B
- Segment 3A
- Segment 3B
- Segment 3C
- Segment 4
- Segment 5

Track Configuration

- Viaduct
- Embankment
- Cut
- Half Mile Buffer
- City Boundary
- County Boundary
- Railroad
- Municipal Setting Designation (MSD)

Potential Habitat

- Houston Toad
- Large-fruited Sand Verbena
- Navasota Ladies'-tresses
- Endangered Species
- Threatened Species
- U.S. Army Corps of Engineers (USACE) Project Area
- Watershed (HUC 12) Boundary
- Public Water Supply
- Groundwater Well

Impaired Waters with Total Maximum Daily Load (TMDL)

- Impaired Waters

Federal Emergency Management Agency (FEMA) Flood Zone

- A - 1%
- AE - 1%
- AO - 1%
- X - 0.2%

Field-Collected Data

- Perennial Stream/River
- Intermittent Stream/River
- Ephemeral Stream/River
- Other Stream/River
- Lake/Pond
- Emergent Wetland
- Forested Wetland
- Scrub/Shrub Wetland

National Hydrography Dataset (NHD)

- Perennial Stream/River
- Intermittent Stream/River
- Artificial Stream/Canal
- Lake/Pond
- Reservoir
- Swamp/Marsh

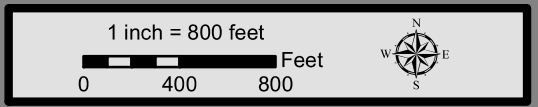
National Wetlands Inventory (NWI)

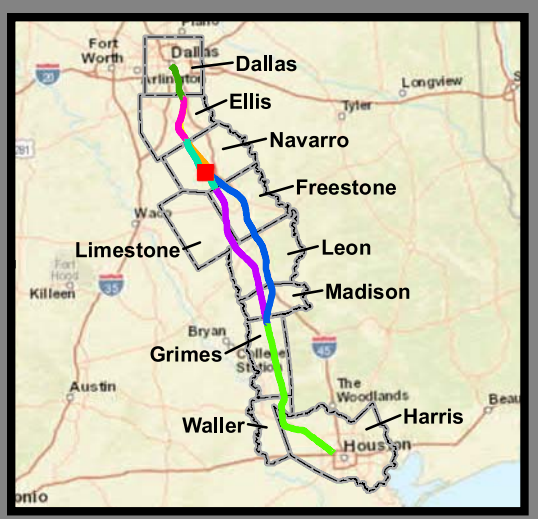
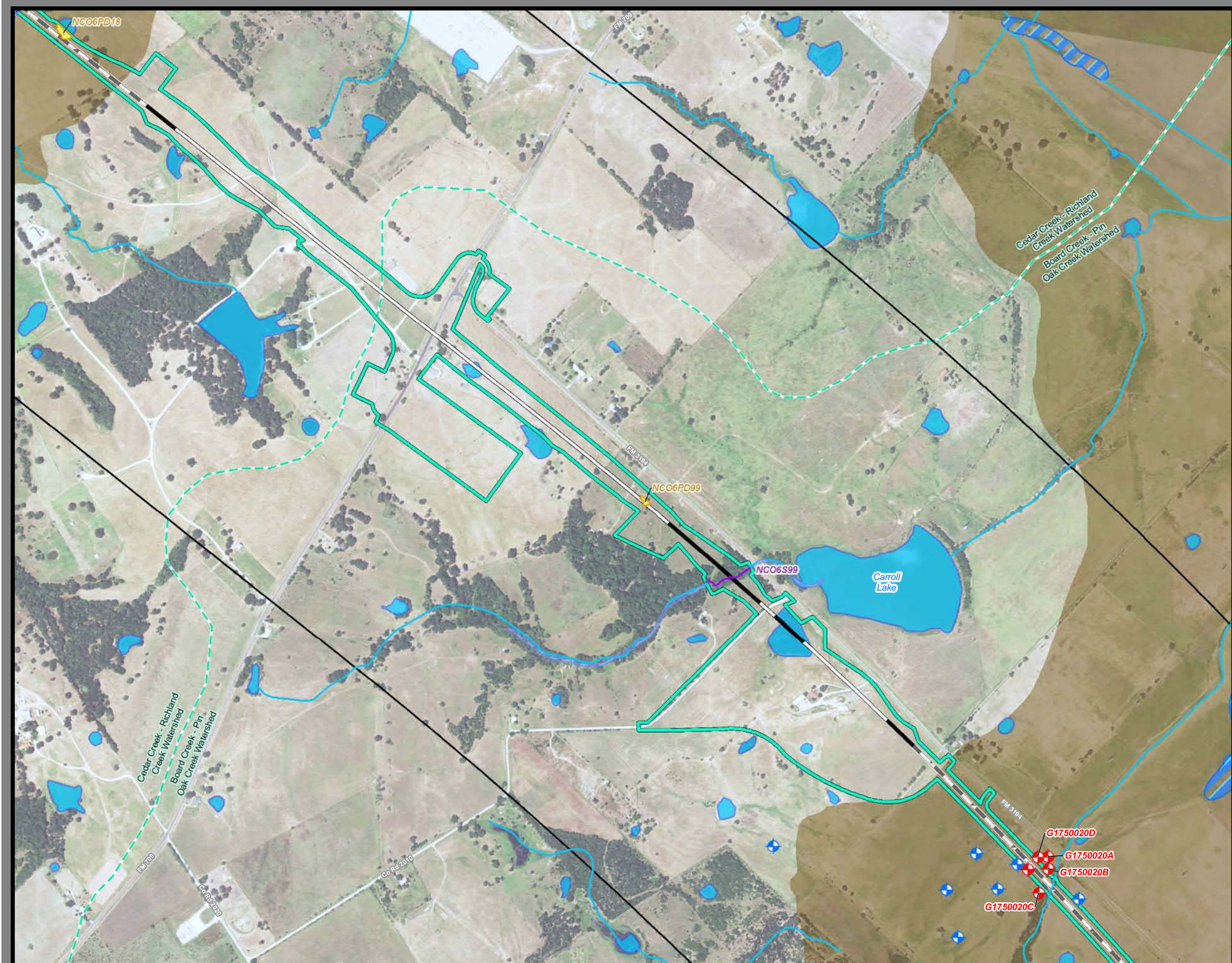
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Other

This Sheet only depicts Segment 3A; Segment 3C is also located in this same area and can be referenced on Sheet 92.

*Floodplains in Freestone and Madison Counties digitized from U.S. Dept. of Housing and Urban Development 1978 and 1991 Flood Hazard Boundary Maps due to lack of digitally mapped FEMA floodplains.

Data Sources: County Boundaries - U.S. Census TIGER 2015; City Boundaries - TxDOT 2013; MSD - TCEQ 2015; USACE Project Areas - USACE 2014; Public Water Supply/Impaired Waters - EPA 2016; Groundwater Wells - TWDB 2015; NHD/HUC12 - USGS 2016; Reservoirs - TWDB 2014; NWI - USFWS 2016; Floodplains - FEMA 2016; Endangered/Threatened Species - TPWD TXNDD Element of Occurrence Records (EOR) 2017; ESRI World Street Map
Aerial Imagery: USDA NAIP 2014





**Dallas to Houston
High-Speed Rail Project
Natural Resources
Segment 3A
Sheet 55 of 257**

Legend

Limits of Disturbance

- Segment 1
- Segment 2A
- Segment 2B
- Segment 3A
- Segment 3B
- Segment 3C
- Segment 4
- Segment 5

Track Configuration

- Viaduct
- Embankment
- Cut
- Half Mile Buffer
- City Boundary
- County Boundary
- Railroad
- Municipal Setting Designation (MSD)

Potential Habitat

- Houston Toad
- Large-fruited Sand Verbena
- Navasota Ladies-tresses
- Endangered Species
- Threatened Species
- U.S. Army Corps of Engineers (USACE) Project Area
- Watershed (HUC 12) Boundary
- Public Water Supply
- Groundwater Well

Impaired Waters with Total Maximum Daily Load (TMDL)

- Impaired Waters

Federal Emergency Management Agency (FEMA) Flood Zone

- A - 1%
- AE - 1%
- AO - 1%
- X - 0.2%

Field-Collected Data

- Perennial Stream/River
- Intermittent Stream/River
- Ephemeral Stream/River
- Other Stream/River
- Lake/Pond
- Emergent Wetland
- Forested Wetland
- Scrub/Shrub Wetland

National Hydrography Dataset (NHD)

- Perennial Stream/River
- Intermittent Stream/River
- Artificial Stream/Canal
- Lake/Pond
- Reservoir
- Swamp/Marsh

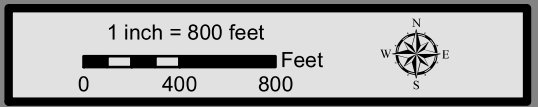
National Wetlands Inventory (NWI)

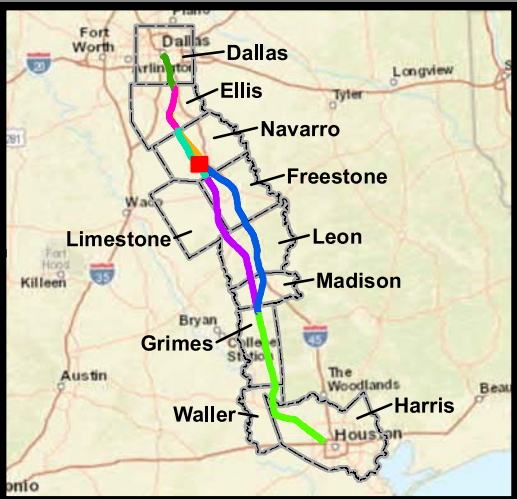
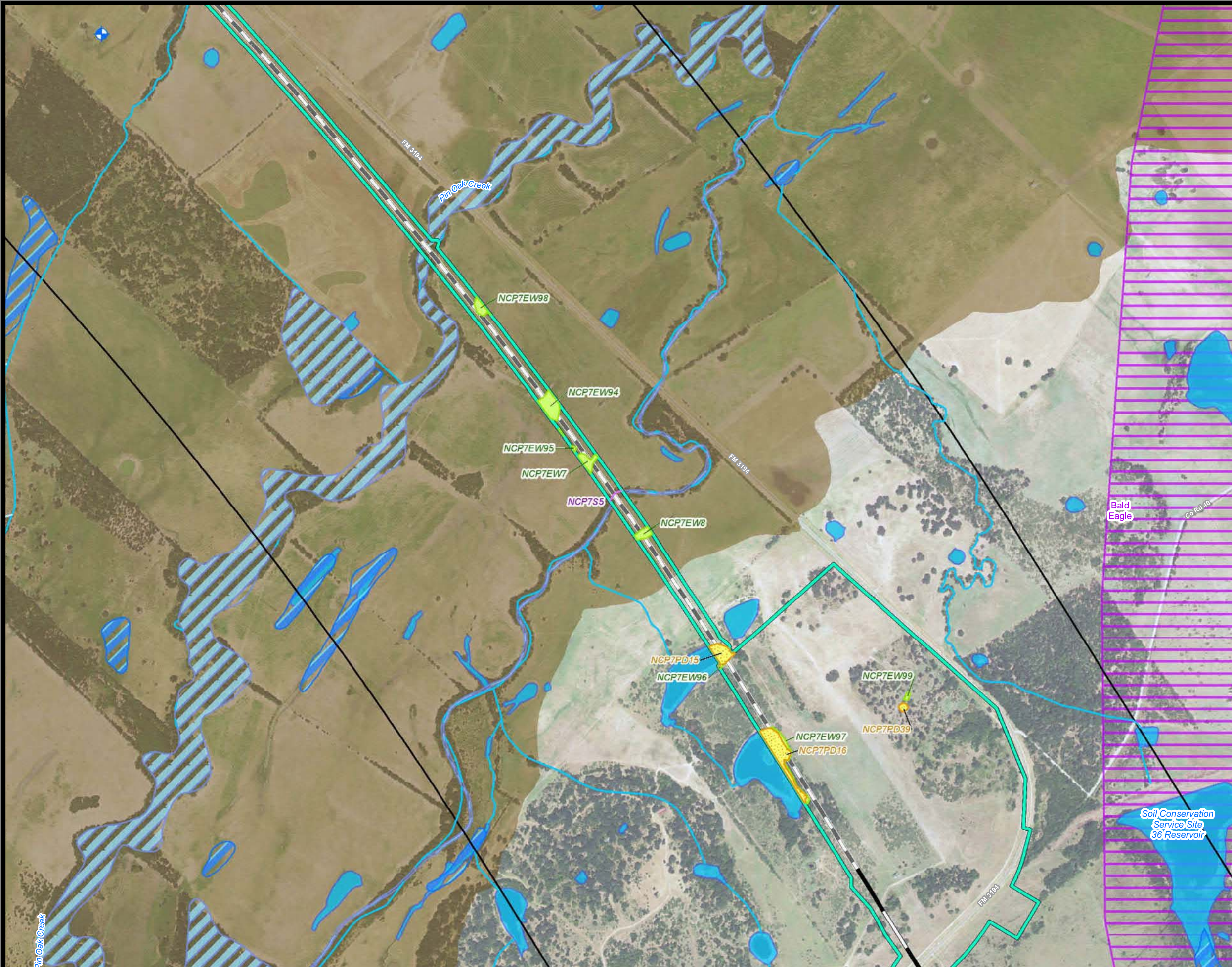
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Other

This Sheet only depicts Segment 3A; Segment 3C is also located in this same area and can be referenced on Sheet 93.

*Floodplains in Freestone and Madison Counties digitized from U.S. Dept of Housing and Urban Development 1978 and 1991 Flood Hazard Boundary Maps due to lack of digitally mapped FEMA floodplains.

Data Sources: County Boundaries - U.S. Census TIGER 2015; City Boundaries - TxDOT 2013; MSD - TCEQ 2015; USACE Project Areas - USACE 2014; Public Water Supply/Impaired Waters - EPA 2016; Groundwater Wells - TWDB 2015; NHD/HUC12 - USGS 2016; Reservoirs - TWDB 2014; NWI - USFWS 2016; Floodplains - FEMA 2016; Endangered/Threatened Species - TPWD TXNDD Element of Occurrence Records (EOR) 2017; ESRI World Street Map
Aerial Imagery: USDA NAIP 2014





**Dallas to Houston
High-Speed Rail Project
Natural Resources
Segment 3A
Sheet 56 of 257**

Legend

Limits of Disturbance

- Segment 1
- Segment 2A
- Segment 2B
- Segment 3A
- Segment 3B
- Segment 3C
- Segment 4
- Segment 5

Track Configuration

- Viaduct
- Embankment
- Cut
- Half Mile Buffer
- City Boundary
- County Boundary
- Railroad
- Municipal Setting Designation (MSD)

Potential Habitat

- Houston Toad
- Large-fruited Sand Verbena
- Navasota Ladies'-tresses
- Endangered Species
- Threatened Species
- U.S. Army Corps of Engineers (USACE) Project Area
- Watershed (HUC 12) Boundary
- Public Water Supply
- Groundwater Well

Impaired Waters with Total Maximum Daily Load (TMDL)

- Impaired Waters

Federal Emergency Management Agency (FEMA) Flood Zone

- A - 1%
- AE - 1%
- AO - 1%
- X - 0.2%

Field-Collected Data

- Perennial Stream/River
- Intermittent Stream/River
- Ephemeral Stream/River
- Other Stream/River
- Lake/Pond
- Emergent Wetland
- Forested Wetland
- Scrub/Shrub Wetland

National Hydrography Dataset (NHD)

- Perennial Stream/River
- Intermittent Stream/River
- Artificial Stream/Canal
- Lake/Pond
- Reservoir
- Swamp/Marsh

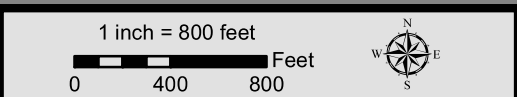
National Wetlands Inventory (NWI)

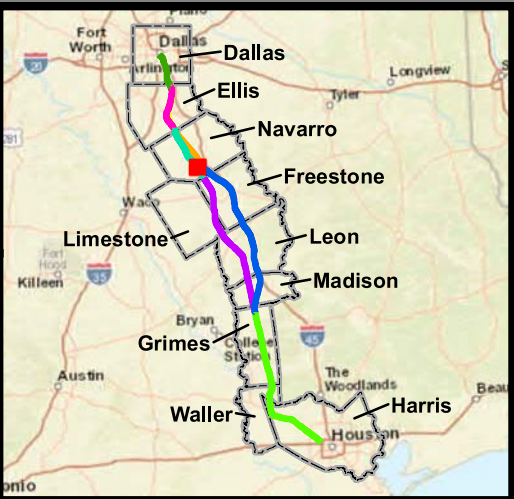
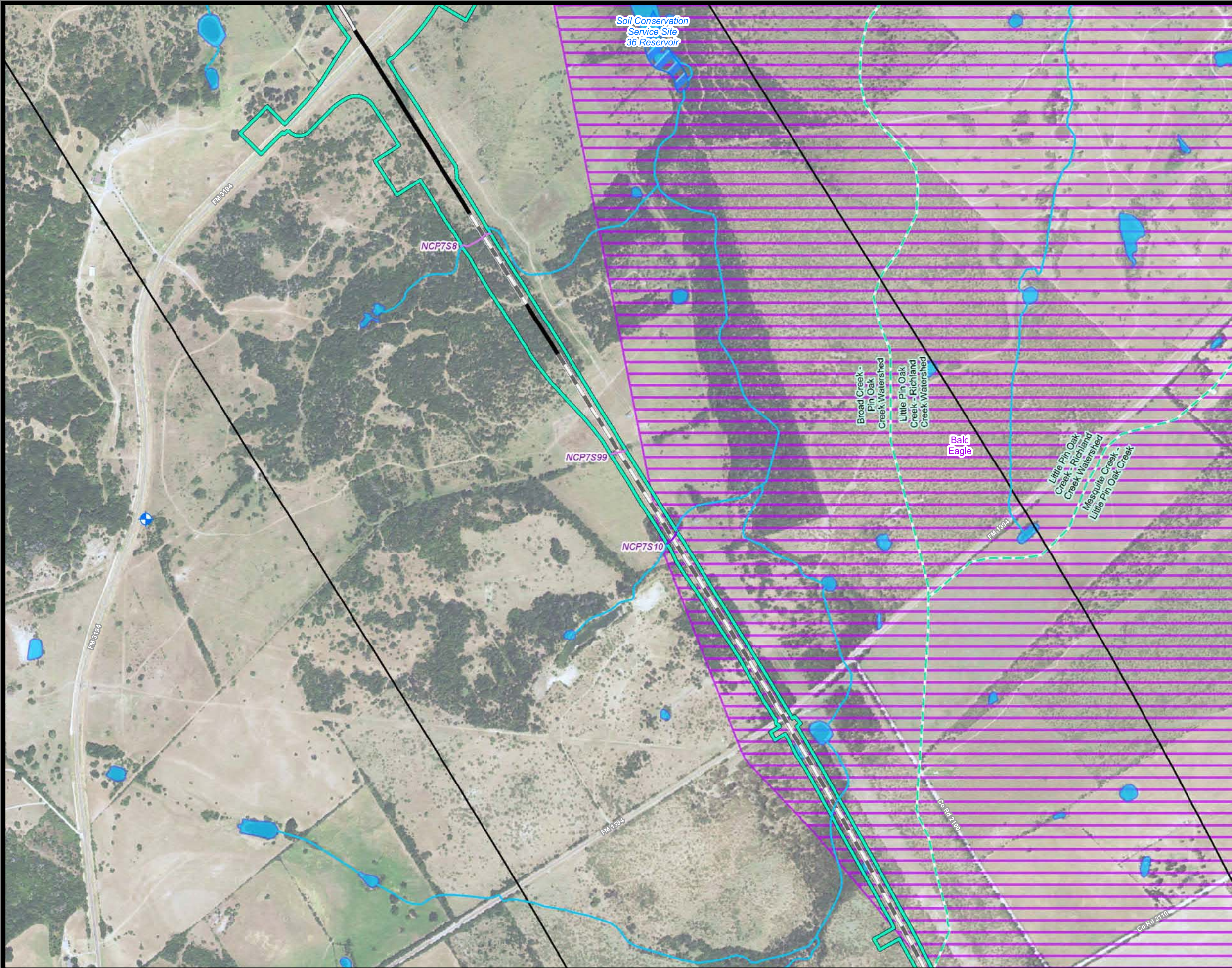
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Other

This Sheet only depicts Segment 3A; Segment 3C is also located in this same area and can be referenced on Sheet 94.

*Floodplains in Freestone and Madison Counties digitized from U.S. Dept of Housing and Urban Development 1978 and 1991 Flood Hazard Boundary Maps due to lack of digitally mapped FEMA floodplains.

Data Sources: County Boundaries - U.S. Census TIGER 2015; City Boundaries - TxDOT 2013; MSD - TCEQ 2015; USACE Project Areas - USACE 2014; Public Water Supply/Impaired Waters - EPA 2016; Groundwater Wells - TWDB 2015; NHD/HUC12 - USGS 2016; Reservoirs - TWDB 2014; NWI - USFWS 2016; Floodplains - FEMA 2016; Endangered/Threatened Species - TPWD TXNDD Element of Occurrence Records (EOR) 2017; ESRI World Street Map
Aerial Imagery: USDA NAIP 2014





**Dallas to Houston
High-Speed Rail Project
Natural Resources
Segment 3A
Sheet 57 of 257**

Legend

Limits of Disturbance

- Segment 1
- Segment 2A
- Segment 2B
- Segment 3A
- Segment 3B
- Segment 3C
- Segment 4
- Segment 5

Track Configuration

- Viaduct
- Embankment
- Cut
- Half Mile Buffer
- City Boundary
- County Boundary
- Railroad
- Municipal Setting Designation (MSD)

Potential Habitat

- Houston Toad
- Large-fruited Sand Verbena
- Navasota Ladies'-tresses
- Endangered Species
- Threatened Species
- U.S. Army Corps of Engineers (USACE) Project Area
- Watershed (HUC 12) Boundary
- Public Water Supply
- Groundwater Well

Impaired Waters with Total Maximum Daily Load (TMDL)

- Impaired Waters

Federal Emergency Management Agency (FEMA) Flood Zone

- A - 1%
- AE - 1%
- AO - 1%
- X - 0.2%

Field-Collected Data

- Perennial Stream/River
- Intermittent Stream/River
- Ephemeral Stream/River
- Other Stream/River
- Lake/Pond
- Emergent Wetland
- Forested Wetland
- Scrub/Shrub Wetland

National Hydrography Dataset (NHD)

- Perennial Stream/River
- Intermittent Stream/River
- Artificial Stream/Canal
- Lake/Pond
- Reservoir
- Swamp/Marsh

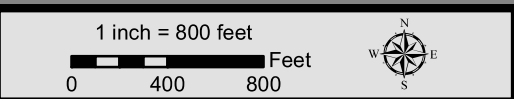
National Wetlands Inventory (NWI)

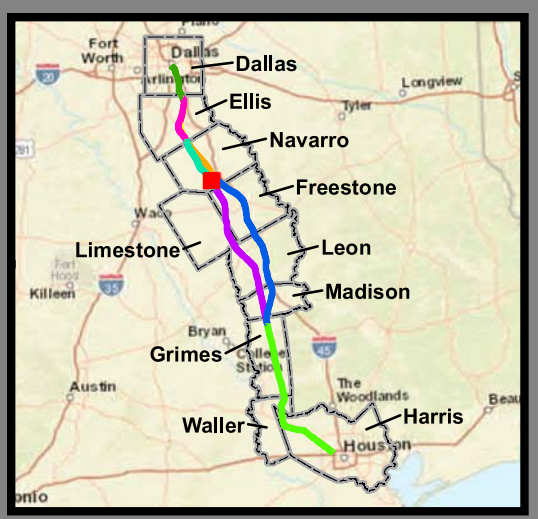
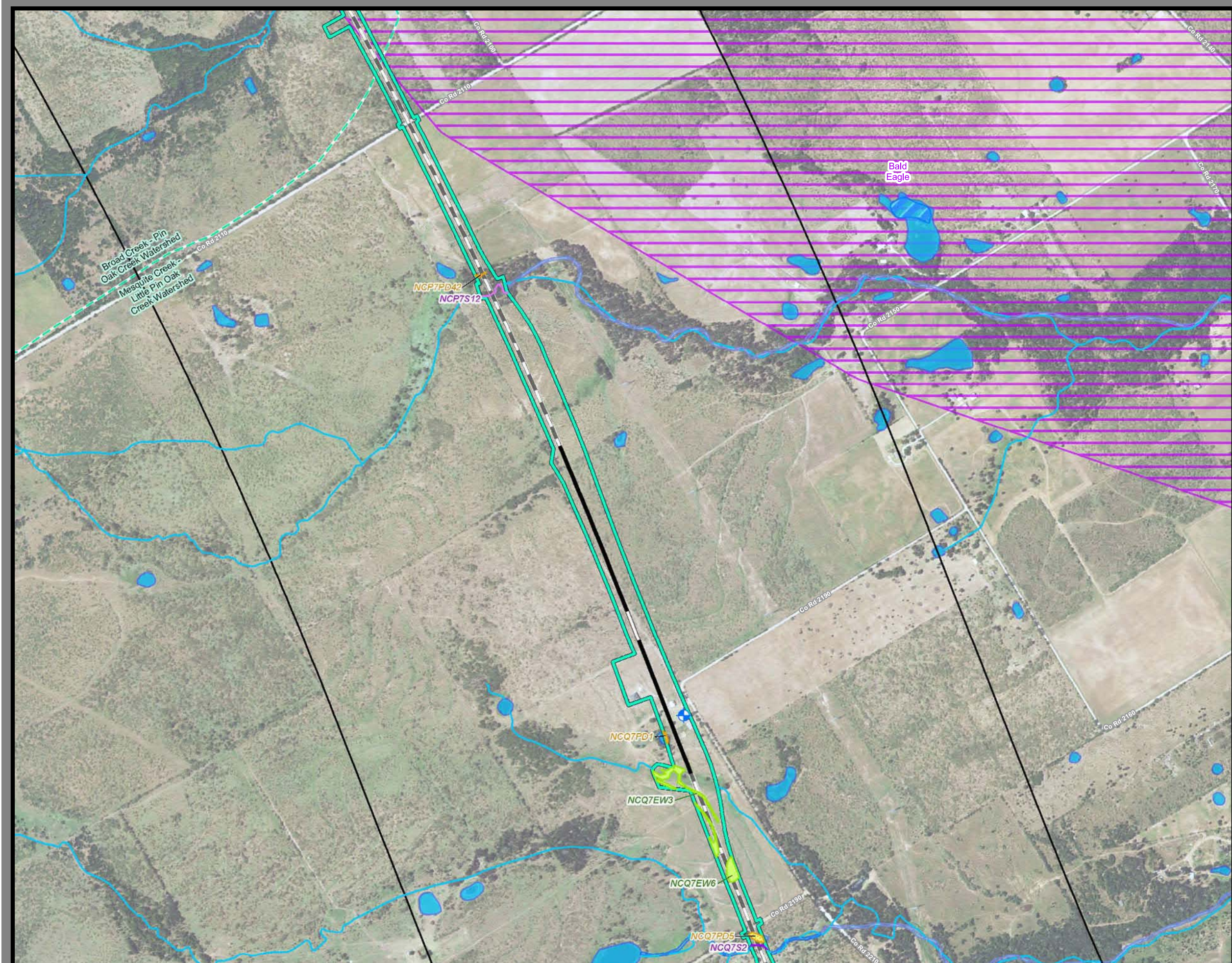
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Other

This Sheet only depicts Segment 3A; Segment 3B is also located in this same area and can be referenced on Sheet 76.

*Floodplains in Freestone and Madison Counties digitized from U.S. Dept of Housing and Urban Development 1978 and 1991 Flood Hazard Boundary Maps due to lack of digitally mapped FEMA floodplains.

Data Sources: County Boundaries - U.S. Census TIGER 2015; City Boundaries - TxDOT 2013; MSD - TCEQ 2015; USACE Project Areas - USACE 2014; Public Water Supply/Impaired Waters - EPA 2016; Groundwater Wells - TWDB 2015; NHD/HUC12 - USGS 2016; Reservoirs - TWDB 2014; NWI - USFWS 2016; Floodplains - FEMA 2016; Endangered/Threatened Species - TPWD TXNDD Element of Occurrence Records (EOR) 2017; ESRI World Street Map
Aerial Imagery: USDA NAIP 2014





**Dallas to Houston
High-Speed Rail Project
Natural Resources
Segment 3A
Sheet 58 of 257**

Legend

Limits of Disturbance

- Segment 1
- Segment 2A
- Segment 2B
- Segment 3A
- Segment 3B
- Segment 3C
- Segment 4
- Segment 5

Track Configuration

- Viaduct
- Embankment
- Cut
- Half Mile Buffer
- City Boundary
- County Boundary
- Railroad
- Municipal Setting Designation (MSD)

Potential Habitat

- Houston Toad
- Large-fruited Sand Verbena
- Navasota Ladies'-tresses
- Endangered Species
- Threatened Species
- U.S. Army Corps of Engineers (USACE) Project Area
- Watershed (HUC 12) Boundary
- Public Water Supply
- Groundwater Well

Impaired Waters with Total Maximum Daily Load (TMDL)

- Impaired Waters

Federal Emergency Management Agency (FEMA) Flood Zone

- A - 1%
- AE - 1%
- AO - 1%
- X - 0.2%

Field-Collected Data

- Perennial Stream/River
- Intermittent Stream/River
- Ephemeral Stream/River
- Other Stream/River
- Lake/Pond
- Emergent Wetland
- Forested Wetland
- Scrub/Shrub Wetland

National Hydrography Dataset (NHD)

- Perennial Stream/River
- Intermittent Stream/River
- Artificial Stream/Canal
- Lake/Pond
- Reservoir
- Swamp/Marsh

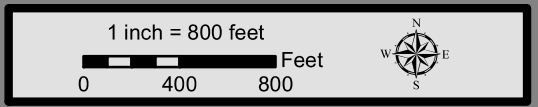
National Wetlands Inventory (NWI)

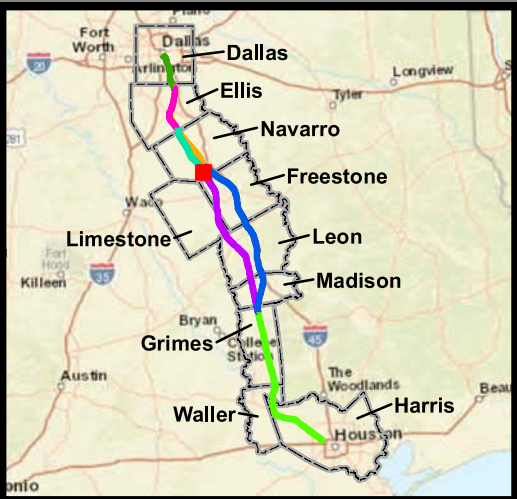
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Other

This Sheet only depicts Segment 3A; Segment 3B is also located in this same area and can be referenced on Sheet 77.

*Floodplains in Freestone and Madison Counties digitized from U.S. Dept of Housing and Urban Development 1978 and 1991 Flood Hazard Boundary Maps due to lack of digitally mapped FEMA floodplains.

Data Sources: County Boundaries - U.S. Census TIGER 2015; City Boundaries - TxDOT 2013; MSD - TCEQ 2015; USACE Project Areas - USACE 2014; Public Water Supply/Impaired Waters - EPA 2016; Groundwater Wells - TWDB 2015; NHD/HUC12 - USGS 2016; Reservoirs - TWDB 2014; NWI - USFWS 2016; Floodplains - FEMA 2016; Endangered/Threatened Species - TPWD TXNDD Element of Occurrence Records (EOR) 2017; ESRI World Street Map
Aerial Imagery: USDA NAIP 2014





**Dallas to Houston
High-Speed Rail Project
Natural Resources
Segment 3A
Sheet 59 of 257**

Legend

Limits of Disturbance

- Segment 1
- Segment 2A
- Segment 2B
- Segment 3A
- Segment 3B
- Segment 3C
- Segment 4
- Segment 5

Track Configuration

- Viaduct
- Embankment
- Cut
- Half Mile Buffer
- City Boundary
- County Boundary
- Railroad
- Municipal Setting Designation (MSD)

Potential Habitat

- Houston Toad
- Large-fruited Sand Verbena
- Navasota Ladies'-tresses
- Endangered Species
- Threatened Species
- U.S. Army Corps of Engineers (USACE) Project Area
- Watershed (HUC 12) Boundary
- Public Water Supply
- Groundwater Well

Impaired Waters with Total Maximum Daily Load (TMDL)

- Impaired Waters

Federal Emergency Management Agency (FEMA) Flood Zone

- A - 1%
- AE - 1%
- AO - 1%
- X - 0.2%

Field-Collected Data

- Perennial Stream/River
- Intermittent Stream/River
- Ephemeral Stream/River
- Other Stream/River
- Lake/Pond
- Emergent Wetland
- Forested Wetland
- Scrub/Shrub Wetland

National Hydrography Dataset (NHD)

- Perennial Stream/River
- Intermittent Stream/River
- Artificial Stream/Canal
- Lake/Pond
- Reservoir
- Swamp/Marsh

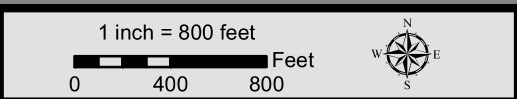
National Wetlands Inventory (NWI)

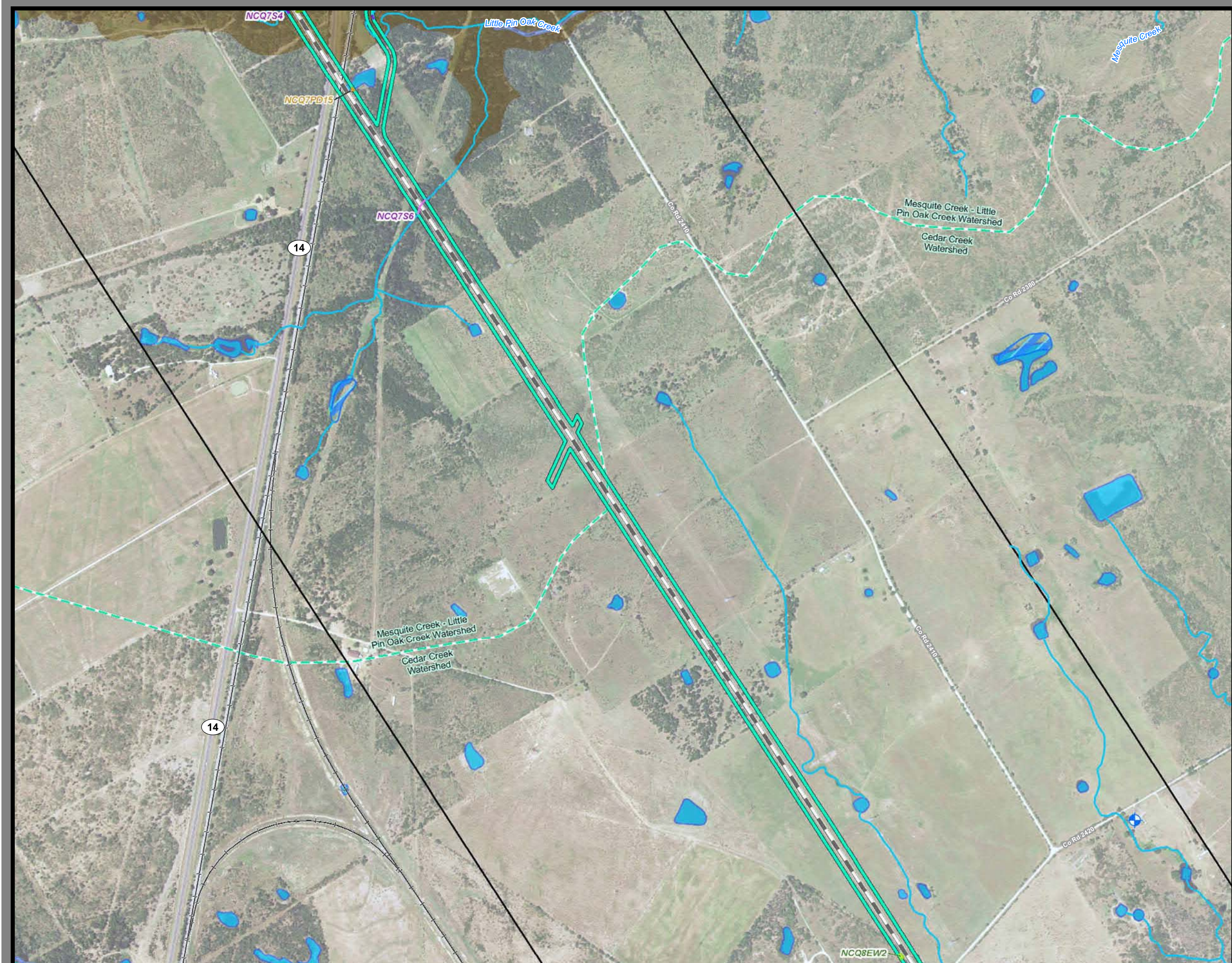
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Other

This Sheet only depicts Segment 3A; Segment 3B is also located in this same area and can be referenced on Sheet 78.

*Floodplains in Freestone and Madison Counties digitized from U.S. Dept of Housing and Urban Development 1978 and 1991 Flood Hazard Boundary Maps due to lack of digitally mapped FEMA floodplains.

Data Sources: County Boundaries - U.S. Census TIGER 2015; City Boundaries - TxDOT 2013; MSD - TCEQ 2015; USACE Project Areas - USACE 2014; Public Water Supply/Impaired Waters - EPA 2016; Groundwater Wells - TWDB 2015; NHD/HUC12 - USGS 2016; Reservoirs - TWDB 2014; NWI - USFWS 2016; Floodplains - FEMA 2016; Endangered/Threatened Species - TPWD TXNDD Element of Occurrence Records (EOR) 2017; ESRI World Street Map
Aerial Imagery: USDA NAIP 2014





**Dallas to Houston
High-Speed Rail Project
Natural Resources
Segment 3A
Sheet 60 of 257**

Legend

Limits of Disturbance

- Segment 1
- Segment 2A
- Segment 2B
- Segment 3A
- Segment 3B
- Segment 3C
- Segment 4
- Segment 5

Track Configuration

- Viaduct
- Embankment
- Cut
- Half Mile Buffer
- City Boundary
- County Boundary
- Railroad
- Municipal Setting Designation (MSD)

Potential Habitat

- Houston Toad
- Large-fruited Sand Verbena
- Navasota Ladies'-tresses
- Endangered Species
- Threatened Species
- U.S. Army Corps of Engineers (USACE) Project Area
- Watershed (HUC 12) Boundary
- Public Water Supply
- Groundwater Well

Impaired Waters with Total Maximum Daily Load (TMDL)

- Impaired Waters

Federal Emergency Management Agency (FEMA) Flood Zone

- A - 1%
- AE - 1%
- AO - 1%
- X - 0.2%

Field-Collected Data

- Perennial Stream/River
- Intermittent Stream/River
- Ephemeral Stream/River
- Other Stream/River
- Lake/Pond
- Emergent Wetland
- Forested Wetland
- Scrub/Shrub Wetland

National Hydrography Dataset (NHD)

- Perennial Stream/River
- Intermittent Stream/River
- Artificial Stream/Canal
- Lake/Pond
- Reservoir
- Swamp/Marsh

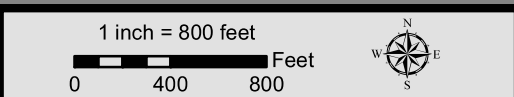
National Wetlands Inventory (NWI)

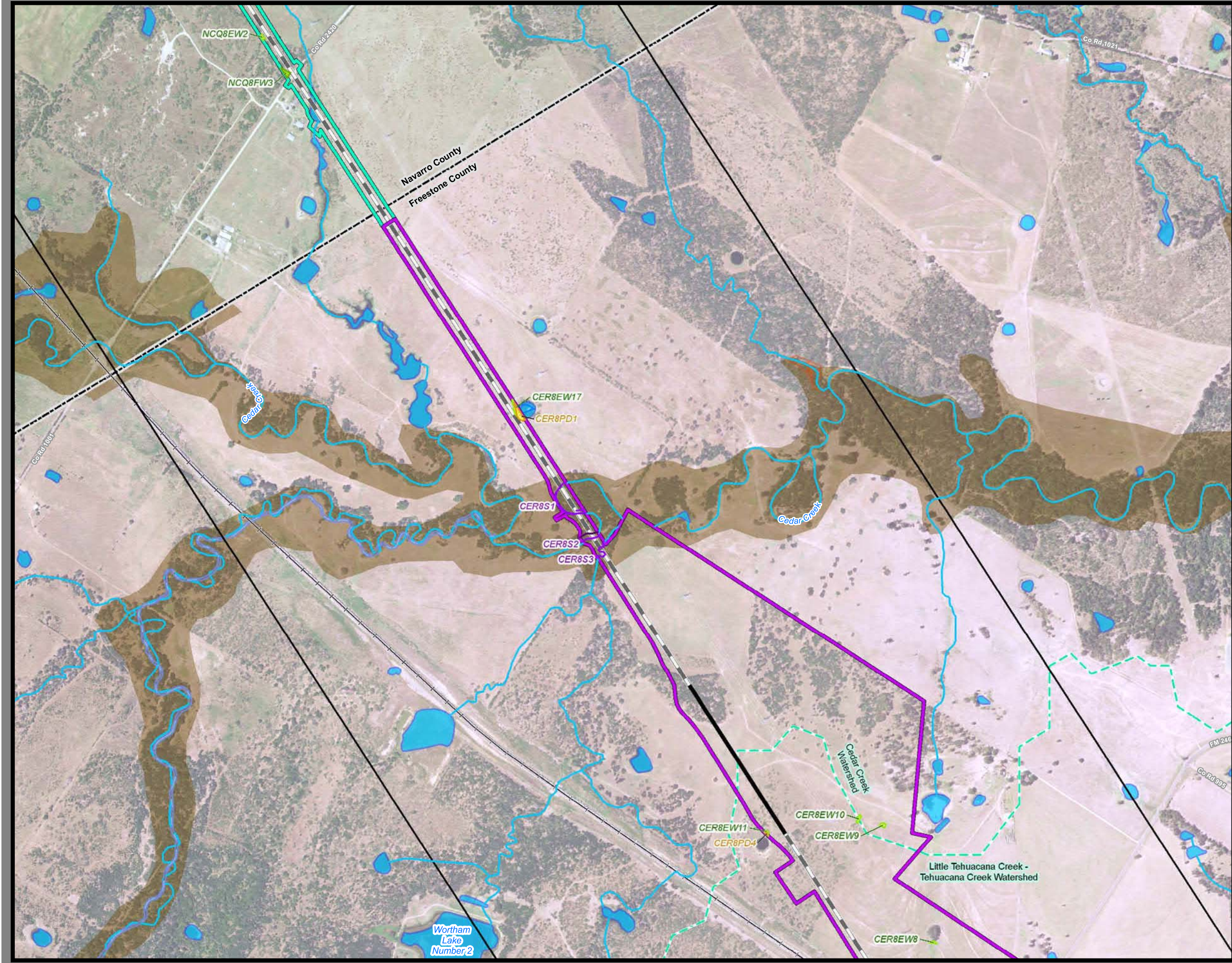
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Other

This Sheet only depicts Segment 3A; Segment 3B is also located in this same area and can be referenced on Sheet 79.

*Floodplains in Freestone and Madison Counties digitized from U.S. Dept of Housing and Urban Development 1978 and 1991 Flood Hazard Boundary Maps due to lack of digitally mapped FEMA floodplains.

Data Sources: County Boundaries - U.S. Census TIGER 2015; City Boundaries - TxDOT 2013; MSD - TCEQ 2015; USACE Project Areas - USACE 2014; Public Water Supply/Impaired Waters - EPA 2016; Groundwater Wells - TWDB 2015; NHD/HUC12 - USGS 2016; Reservoirs - TWDB 2014; NWI - USFWS 2016; Floodplains - FEMA 2016; Endangered/Threatened Species - TPWD TXNDD Element of Occurrence Records (EOR) 2017; ESRI World Street Map
Aerial Imagery: USDA NAIP 2014





**Dallas to Houston
High-Speed Rail Project
Natural Resources
Segment 3A, 4
Sheet 61 of 257**

Legend

Limits of Disturbance

- Segment 1
- Segment 2A
- Segment 2B
- Segment 3A
- Segment 3B
- Segment 3C
- Segment 4
- Segment 5

Track Configuration

- Viaduct
- Embankment
- Cut
- Half Mile Buffer
- City Boundary
- County Boundary
- Railroad
- Municipal Setting Designation (MSD)

Potential Habitat

- Houston Toad
- Large-fruited Sand Verbena
- Navasota Ladies'-tresses
- Endangered Species
- Threatened Species
- U.S. Army Corps of Engineers (USACE) Project Area
- Watershed (HUC 12) Boundary
- Public Water Supply
- Groundwater Well

Impaired Waters with Total Maximum Daily Load (TMDL)

- Impaired Waters

Federal Emergency Management Agency (FEMA) Flood Zone

- A - 1%
- AE - 1%
- AO - 1%
- X - 0.2%

Field-Collected Data

- Perennial Stream/River
- Intermittent Stream/River
- Ephemeral Stream/River
- Other Stream/River
- Lake/Pond
- Emergent Wetland
- Forested Wetland
- Scrub/Shrub Wetland

National Hydrography Dataset (NHD)

- Perennial Stream/River
- Intermittent Stream/River
- Artificial Stream/Canal
- Lake/Pond
- Reservoir
- Swamp/Marsh

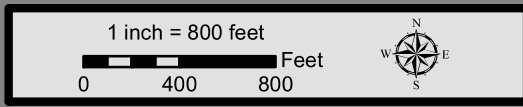
National Wetlands Inventory (NWI)

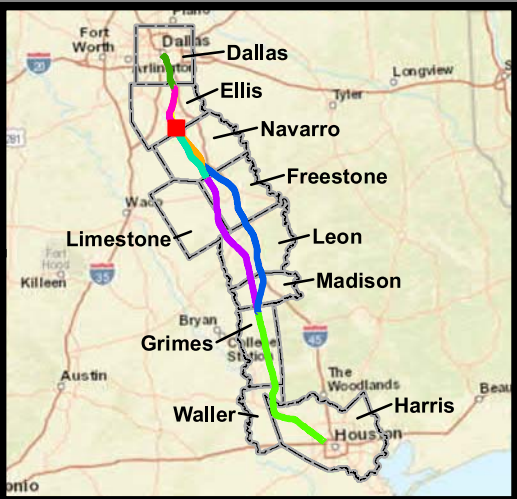
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Other

This Sheet only depicts Segments 3A & 4; Segment 3B is also located in this same area and can be referenced on Sheet 80.

*Floodplains in Freestone and Madison Counties digitized from U.S. Dept of Housing and Urban Development 1978 and 1991 Flood Hazard Boundary Maps due to lack of digitally mapped FEMA floodplains.

Data Sources: County Boundaries - U.S. Census TIGER 2015; City Boundaries - TxDOT 2013; MSD - TCEQ 2015; USACE Project Areas - USACE 2014; Public Water Supply/Impaired Waters - EPA 2016; Groundwater Wells - TWDB 2015; NHD/HUC12 - USGS 2016; Reservoirs - TWDB 2014; NWI - USFWS 2016; Floodplains - FEMA 2016; Endangered/Threatened Species - TPWD TXNDD Element of Occurrence Records (EOR) 2017; ESRI World Street Map
Aerial Imagery: USDA NAIP 2014





**Dallas to Houston
High-Speed Rail Project**
Natural Resources
Segment 2B, 3B
Sheet 62 of 257

- Legend**
- Limits of Disturbance**
- Segment 1
 - Segment 2A
 - Segment 2B
 - Segment 3A
 - Segment 3B
 - Segment 3C
 - Segment 4
 - Segment 5
- Track Configuration**
- Viaduct
 - Embankment
 - Cut
 - Half Mile Buffer
 - City Boundary
 - County Boundary
 - Railroad
 - Municipal Setting Designation (MSD)
- Potential Habitat**
- Houston Toad
 - Large-fruited Sand Verbena
 - Navasota Ladies'-tresses
 - Endangered Species
 - Threatened Species
 - U.S. Army Corps of Engineers (USACE) Project Area
 - Watershed (HUC 12) Boundary
 - Public Water Supply
 - Groundwater Well
- Impaired Waters with Total Maximum Daily Load (TMDL)**
- Impaired Waters
- Federal Emergency Management Agency (FEMA) Flood Zone**
- A - 1%
 - AE - 1%
 - AO - 1%
 - X - 0.2%
- Field-Collected Data**
- Perennial Stream/River
 - Intermittent Stream/River
 - Ephemeral Stream/River
 - Other Stream/River
 - Lake/Pond
 - Emergent Wetland
 - Forested Wetland
 - Scrub/Shrub Wetland
- National Hydrography Dataset (NHD)**
- Perennial Stream/River
 - Intermittent Stream/River
 - Artificial Stream/Canal
 - Lake/Pond
 - Reservoir
 - Swamp/Marsh
- National Wetlands Inventory (NWI)**
- Freshwater Emergent Wetland
 - Freshwater Forested/Shrub Wetland
 - Other

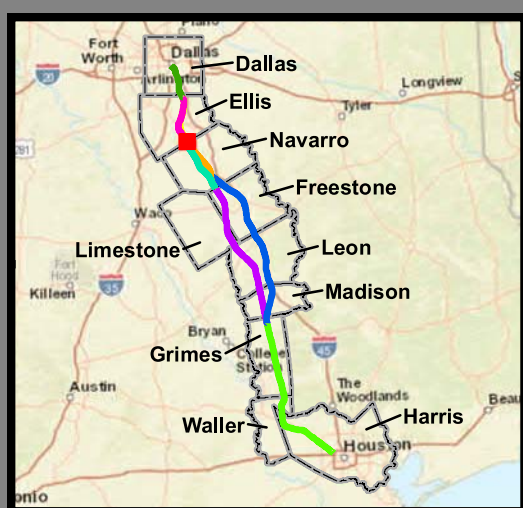
This Sheet only depicts Segments 2B & 3B; Segments 2A, 3A & 3C are also located in this same area and can be referenced on Sheets 27, 44 & 82.

*Floodplains in Freestone and Madison Counties digitized from U.S. Dept of Housing and Urban Development 1978 and 1991 Flood Hazard Boundary Maps due to lack of digitally mapped FEMA floodplains.

Data Sources: County Boundaries - U.S. Census TIGER 2015; City Boundaries - TxDOT 2013; MSD - TCEQ 2015; USACE Project Areas - USACE 2014; Public Water Supply/Impaired Waters - EPA 2016; Groundwater Wells - TWDB 2015; NHD/HUC12 - USGS 2016; Reservoirs - TWDB 2014; NWI - USFWS 2016; Floodplains - FEMA 2016; Endangered/Threatened Species - TPWD TXNDD Element of Occurrence Records (EOR) 2017; ESRI World Street Map
Aerial Imagery: USDA NAIP 2014

1 inch = 800 feet
0 400 800 Feet





**Dallas to Houston
High-Speed Rail Project**
Natural Resources
Segment 3B
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Legend

Limits of Disturbance

- Segment 1
- Segment 2A
- Segment 2B
- Segment 3A
- Segment 3B
- Segment 3C
- Segment 4
- Segment 5

Track Configuration

- Viaduct
- Embankment
- Cut
- Half Mile Buffer
- City Boundary
- County Boundary
- Railroad
- Municipal Setting Designation (MSD)

Potential Habitat

- Houston Toad
- Large-fruited Sand Verbena
- Navasota Ladies-tresses
- Endangered Species
- Threatened Species
- U.S. Army Corps of Engineers (USACE) Project Area
- Watershed (HUC 12) Boundary
- Public Water Supply
- Groundwater Well

Impaired Waters with Total Maximum Daily Load (TMDL)

- Impaired Waters

Federal Emergency Management Agency (FEMA) Flood Zone

- A - 1%
- AE - 1%
- AO - 1%
- X - 0.2%

Field-Collected Data

- Perennial Stream/River
- Intermittent Stream/River
- Ephemeral Stream/River
- Other Stream/River
- Lake/Pond
- Emergent Wetland
- Forested Wetland
- Scrub/Shrub Wetland

National Hydrography Dataset (NHD)

- Perennial Stream/River
- Intermittent Stream/River
- Artificial Stream/Canal
- Lake/Pond
- Reservoir
- Swamp/Marsh

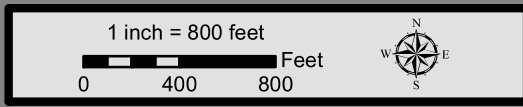
National Wetlands Inventory (NWI)

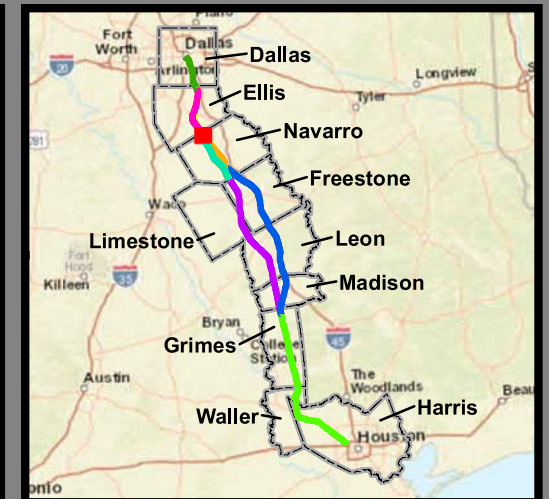
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Other

This Sheet only depicts Segment 3B; Segments 3A & 3C are also located in this same area and can be referenced on Sheets 44 & 82.

*Floodplains in Freestone and Madison Counties digitized from U.S. Dept of Housing and Urban Development 1978 and 1991 Flood Hazard Boundary Maps due to lack of digitally mapped FEMA floodplains.

Data Sources: County Boundaries - U.S. Census TIGER 2015; City Boundaries - TxDOT 2013; MSD - TCEQ 2015; USACE Project Areas - USACE 2014; Public Water Supply/Impaired Waters - EPA 2016; Groundwater Wells - TWDB 2015; NHD/HUC12 - USGS 2016; Reservoirs - TWDB 2014; NWI - USFWS 2016; Floodplains - FEMA 2016; Endangered/Threatened Species - TPWD TXNDD Element of Occurrence Records (EOR) 2017; ESRI World Street Map
Aerial Imagery: USDA NAIP 2014





**Dallas to Houston
High-Speed Rail Project**
Natural Resources
Segment 3B
Sheet 64 of 257

Legend

- Limits of Disturbance**

 - Segment 1
 - Segment 2A
 - Segment 2B
 - Segment 3A
 - Segment 3B
 - Segment 3C
 - Segment 4
 - Segment 5

Track Configuration

 - Viaduct
 - Embankment
 - Cut
 - Half Mile Buffer
 - City Boundary
 - County Boundary
 - Railroad
 - Municipal Setting Designation (MSD)

Potential Habitat

 - Houston Todd
 - Large-fruited Sand Verbena
 - Navasota Ladies'-tresses
 - Endangered Species
 - Threatened Species
 - U.S. Army Corps of Engineers (USACE) Project Area
 - Watershed (HUC 12) Boundary
 - Public Water Supply
 - Groundwater Well

Impaired Waters with Total Maximum Daily Load (TMDL)

 - Impaired Waters

Federal Emergency Management Agency (FEMA) Flood Zone

 - A - 1%
 - AE - 1%
 - AO - 1%
 - X - 0.2%

Field-Collected Data

 - Perennial Stream/River
 - Intermittent Stream/River
 - Ephemeral Stream/River
 - Other Stream/River
 - Lake/Pond
 - Emergent Wetland
 - Forested Wetland
 - Scrub/Shrub Wetland

National Hydrography Dataset (NHD)

 - Perennial Stream/River
 - Intermittent Stream/River
 - Artificial Stream/Canal
 - Lake/Pond
 - Reservoir
 - Swamp/Marsh

National Wetlands Inventory (NWI)

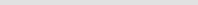
 - Freshwater Emergent Wetland
 - Freshwater Forested/Shrub Wetland
 - Other

This Sheet only depicts Segment 3B; Segments 3A & 3C are also located in this same area and can be referenced on Sheets 45 & 83.

*Floodplains in Freestone and Madison Counties digitized from U.S. Dept of Housing and Urban Development 1978 and 1991 Flood Hazard Boundary Maps due to lack of digitally mapped FEMA floodplains.

Data Sources: County Boundaries - U.S. Census TIGER 2015; City Boundaries - TxDOT 2019; MSD - TCEQ 2015; USACE Project Areas - USACE 2014; Public Water Supply/Unpaired Wastewater - EPA 2016; Groundwater Wells - TWDB 2015; NHD/HUC12 - USGS 2016; Reservoirs - TWDB 2014; NWI - USFWS 2016; Floodplains - FEMA 2016; Endangered/Threatened Species - TPWD TXNDD Element of Occurrence Records (EOR) 2017; ESR! World Street Map
Aerial Imagery: USDA NAIP 2014

1 inch = 800 feet



0 400 800 Feet