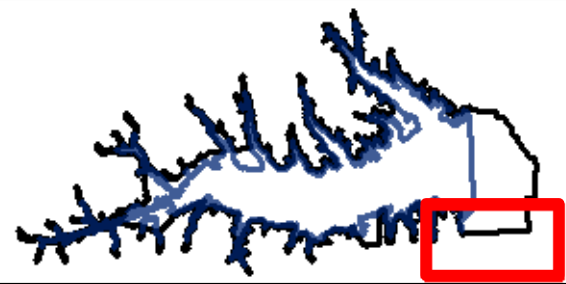


JURISDICTIONAL OPEN WATERS	NON-JURISDICTIONAL OPEN WATERS	STREAM LOCATION	SJD ASSESSMENT AREA
ON-CHANNEL IMPOUNDMENT	UPLAND POND	CONSERVATION POOL, DAM, SPILLWAY	CONSERVATION POOL
		ASSESSMENT AREA OUTSIDE OF CONSERVATION POOL	

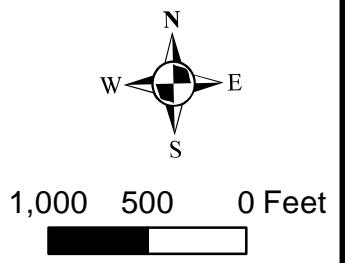


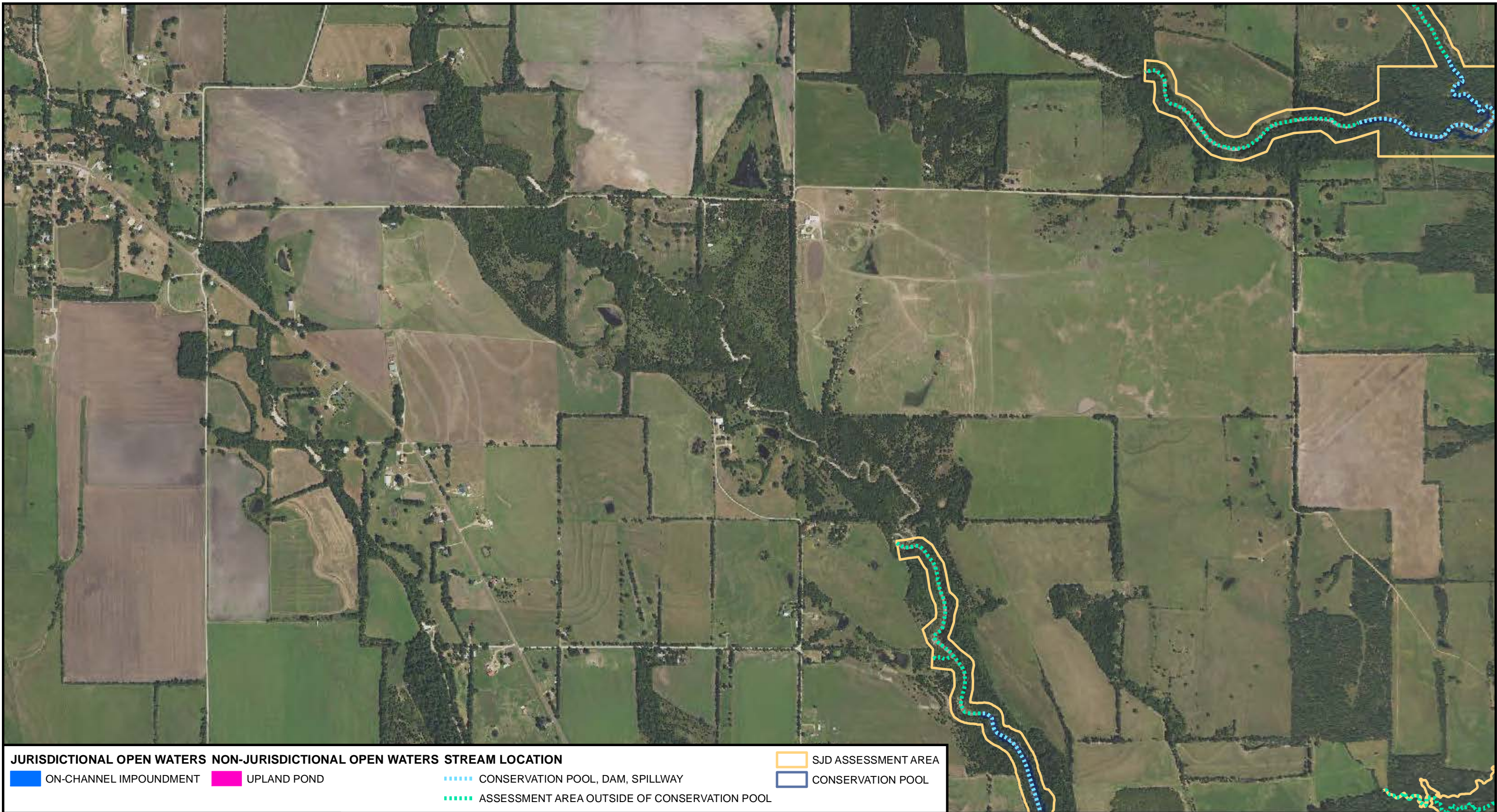
**FIGURE 6: DELINEATED OPEN WATERS
PROPOSED LAKE RALPH HALL
SUPPLEMENTAL JURISDICTIONAL DETERMINATION**

USACE PROJECT NO.:
SWF-2003-00336

PREPARED BY:
ALAN PLUMMER ASSOC., INC.

Date: 6/15/2017






JURISDICTIONAL OPEN WATERS NON-JURISDICTIONAL OPEN WATERS STREAM LOCATION

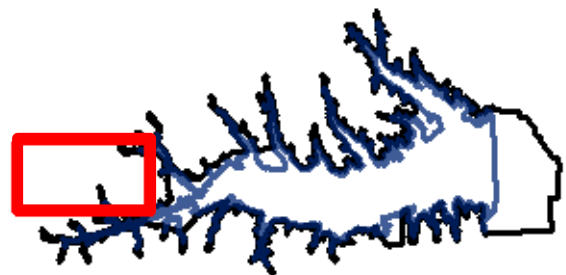
 ON-CHANNEL IMPOUNDMENT  UPLAND POND

 CONSERVATION POOL, DAM, SPILLWAY

 ASSESSMENT AREA OUTSIDE OF CONSERVATION POOL

 SJD ASSESSMENT AREA

 CONSERVATION POOL

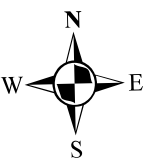


**FIGURE 7: DELINEATED OPEN WATERS
PROPOSED LAKE RALPH HALL
SUPPLEMENTAL JURISDICTIONAL DETERMINATION**


USACE PROJECT NO.:
SWF-2003-00336

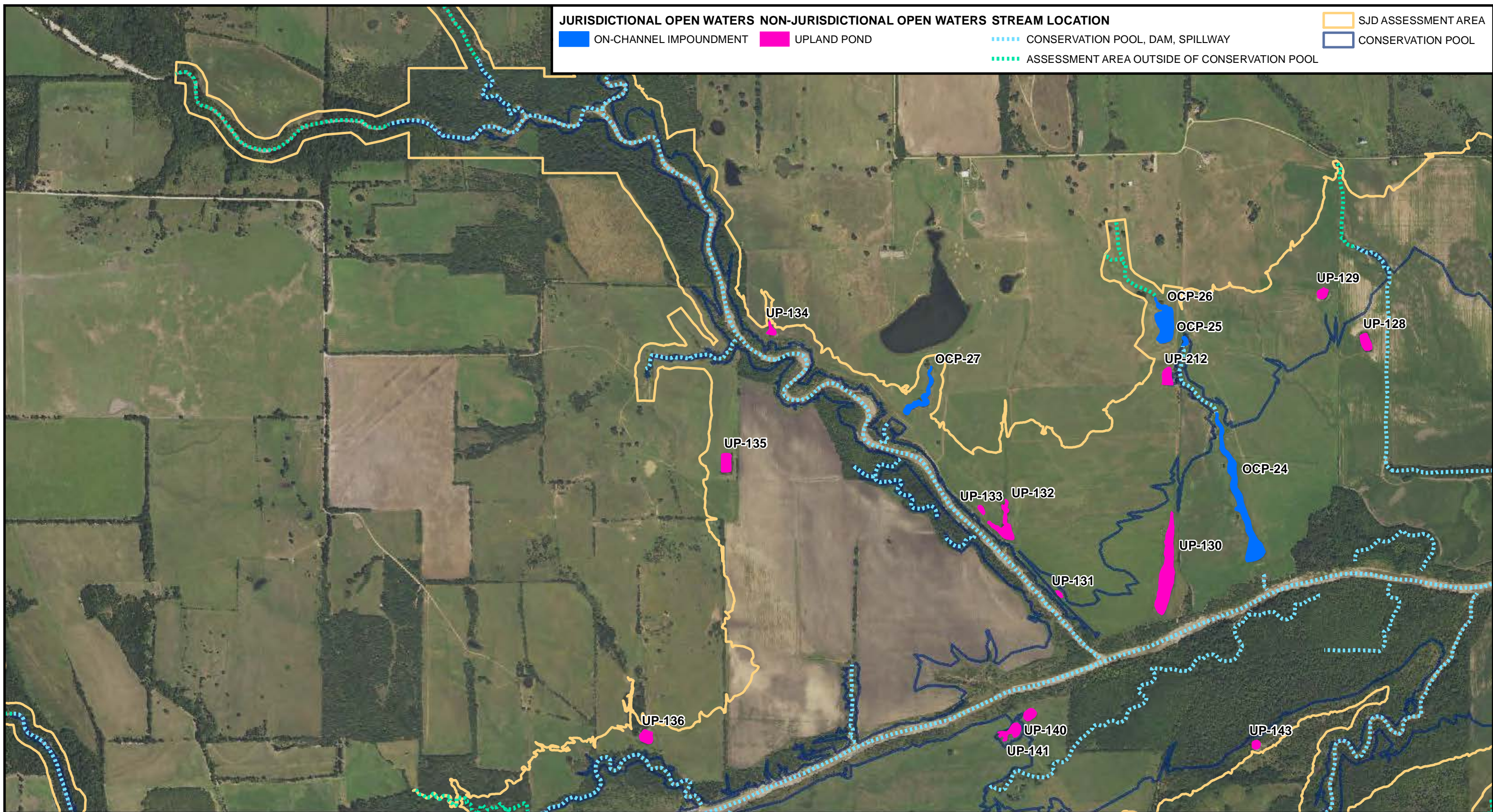
PREPARED BY:
ALAN PLUMMER ASSOC., INC.

Date: 6/15/2017



1,000 500 0 Feet



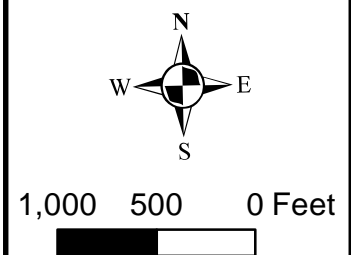


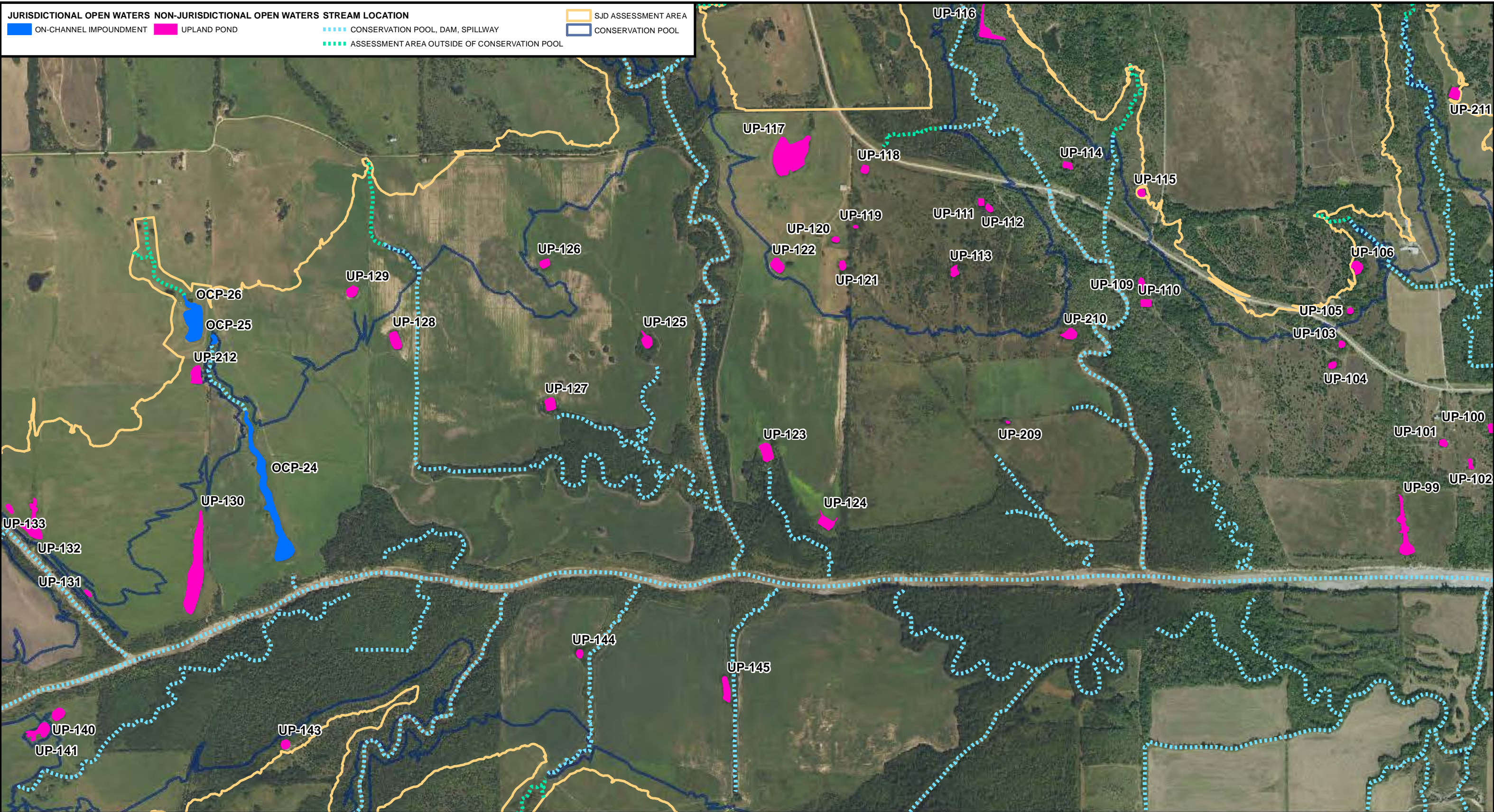
**FIGURE 8: DELINEATED OPEN WATERS
PROPOSED LAKE RALPH HALL
SUPPLEMENTAL JURISDICTIONAL DETERMINATION**

USACE PROJECT NO.:
SWF-2003-00336

PREPARED BY:
ALAN PLUMMER ASSOC., INC.

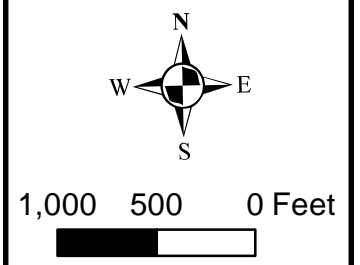
Date: 6/15/2017

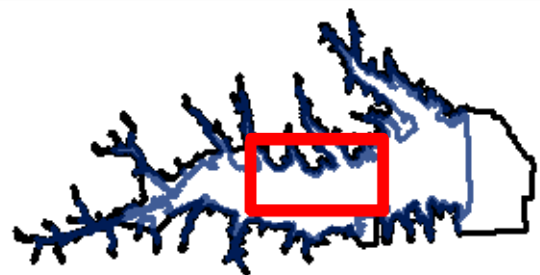
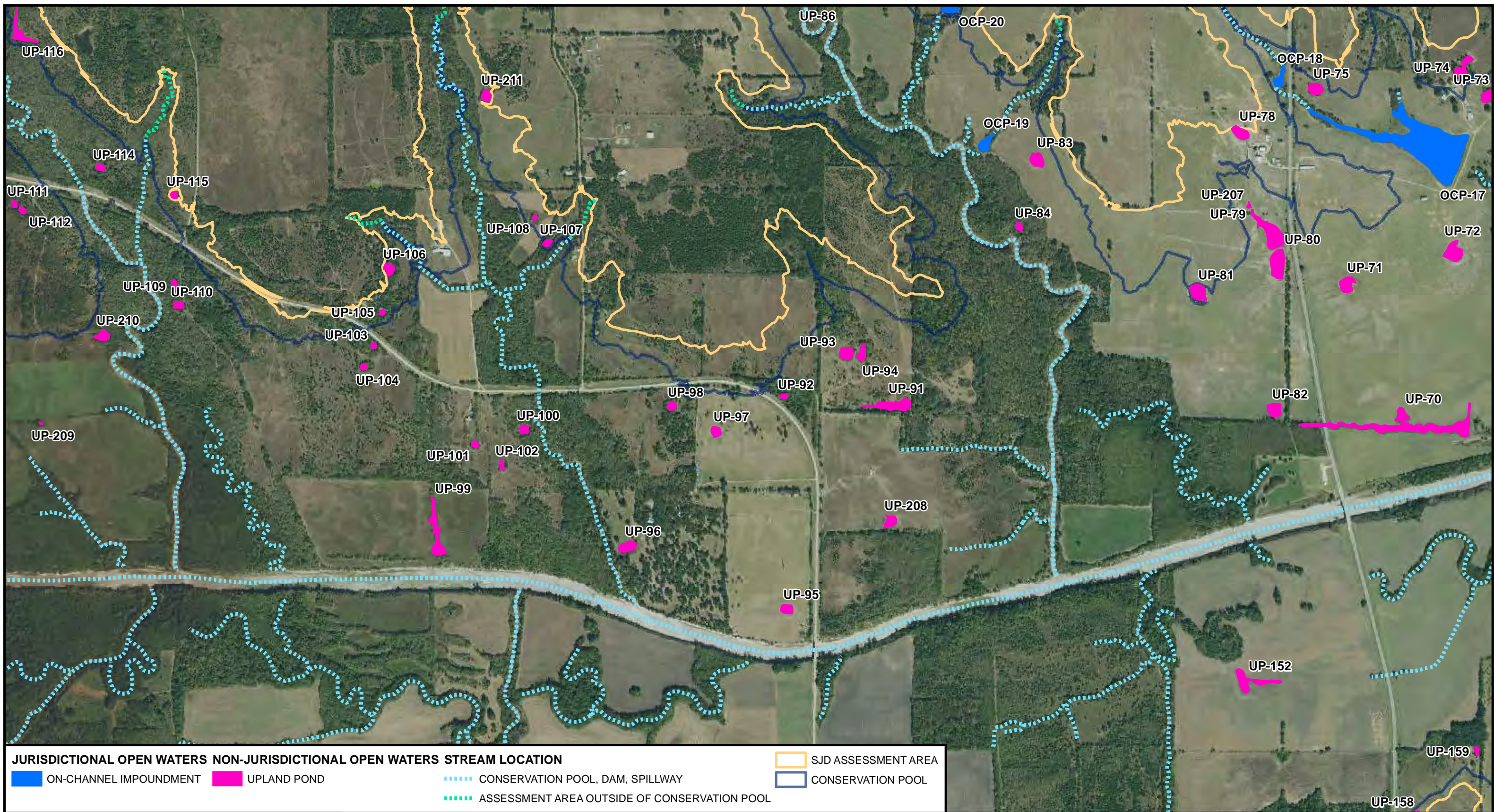




**FIGURE 9: DELINEATED OPEN WATERS
 PROPOSED LAKE RALPH HALL
 SUPPLEMENTAL JURISDICTIONAL DETERMINATION**

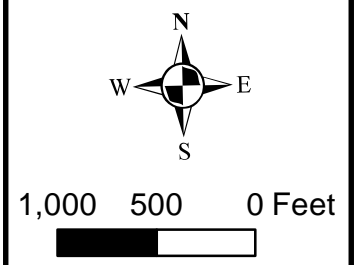
USACE PROJECT NO.:
 SWF-2003-00336
 PREPARED BY:
 ALAN PLUMMER ASSOC., INC.
 Date: 6/15/2017

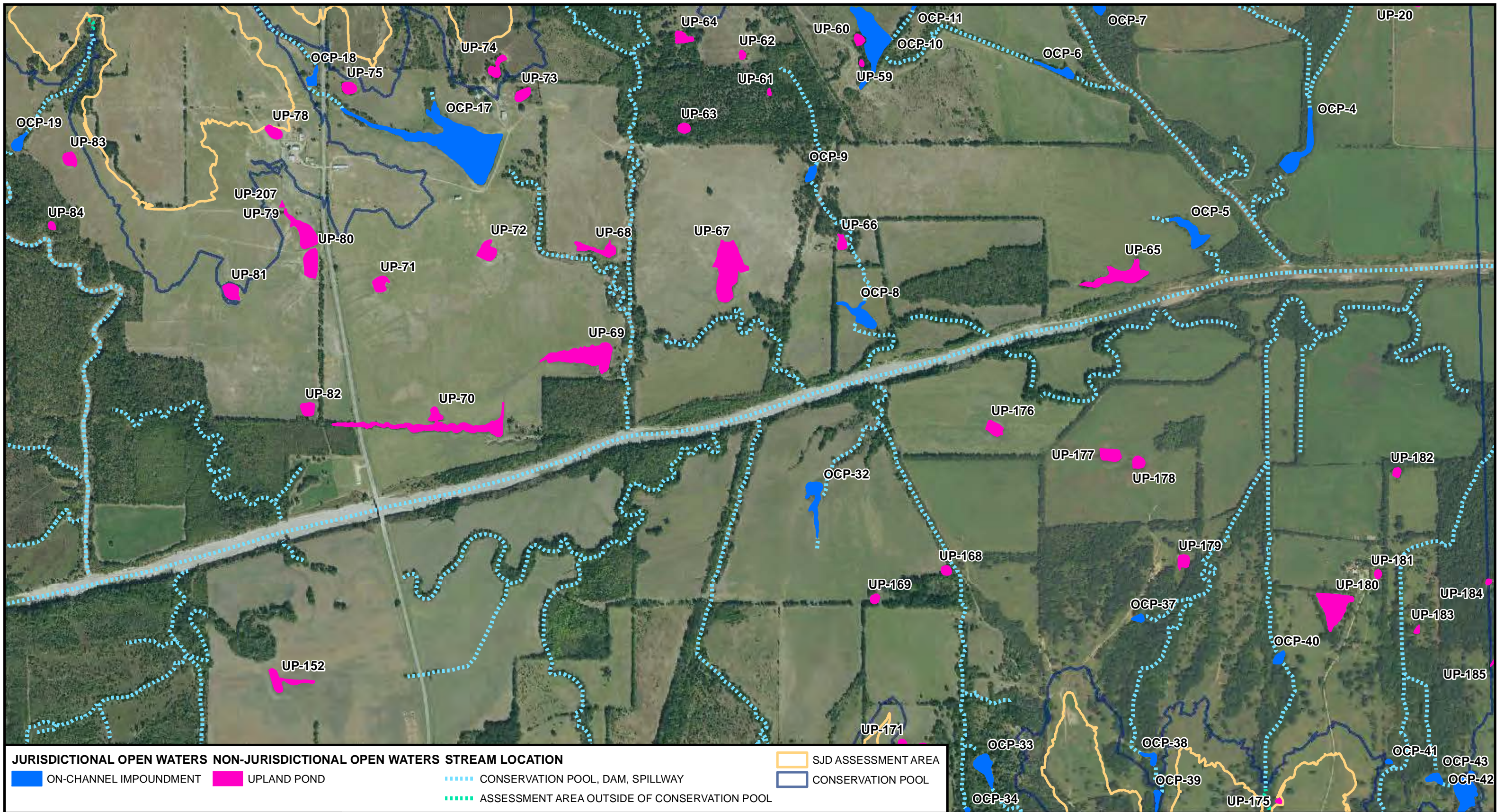




**FIGURE 10: DELINEATED OPEN WATERS
PROPOSED LAKE RALPH HALL
SUPPLEMENTAL JURISDICTIONAL DETERMINATION**

USACE PROJECT NO.:
SWF-2003-00336
PREPARED BY:
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Date: 6/15/2017

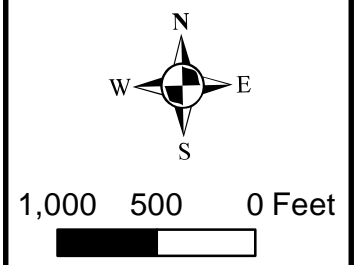


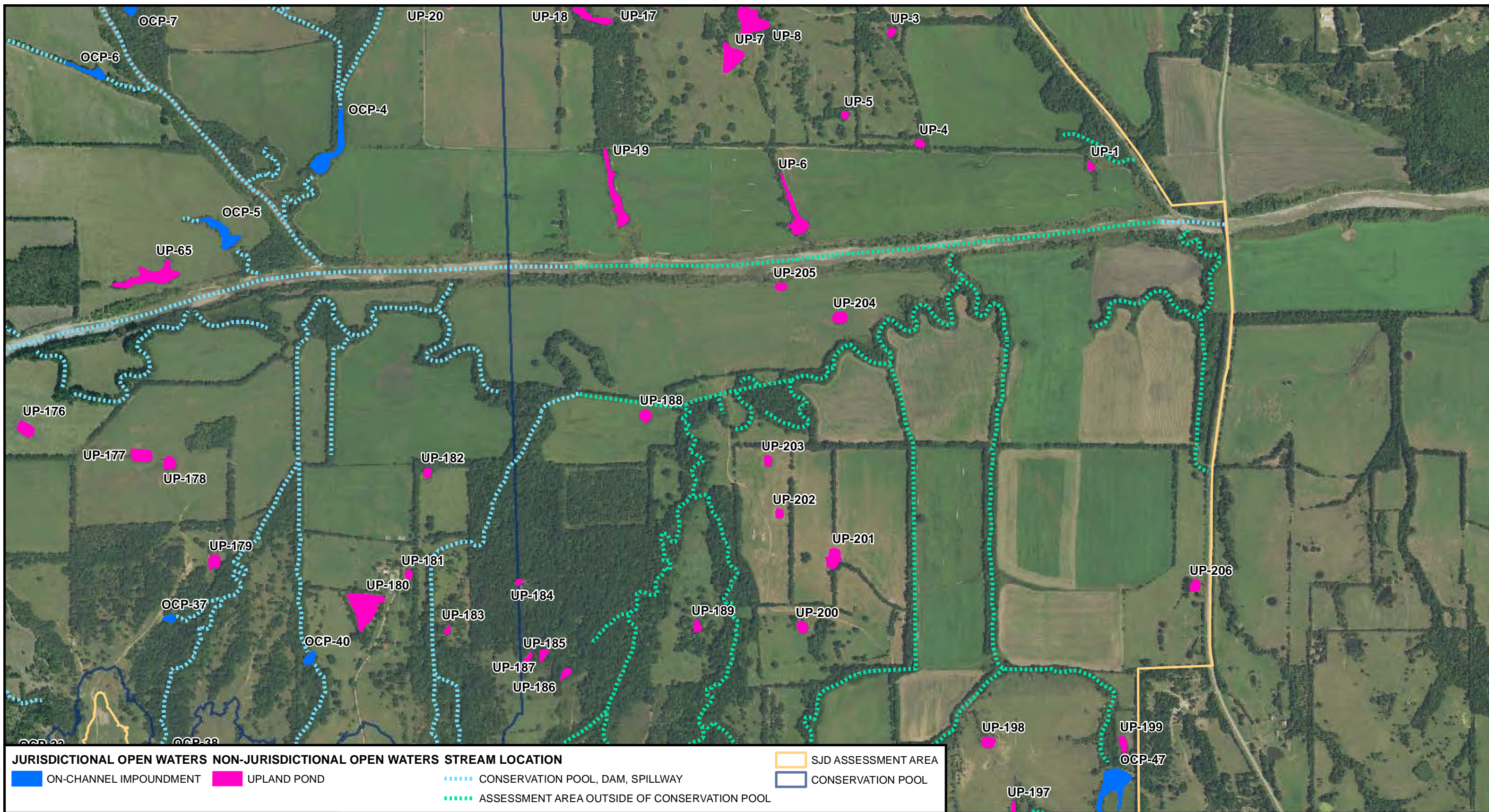


**FIGURE 11: DELINEATED OPEN WATERS
PROPOSED LAKE RALPH HALL
SUPPLEMENTAL JURISDICTIONAL DETERMINATION**

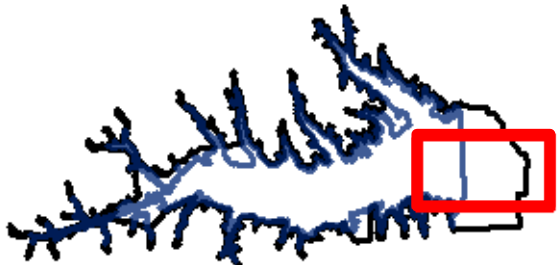


USACE PROJECT NO.:
SWF-2003-00336
PREPARED BY:
ALAN PLUMMER ASSOC., INC.
Date: 6/15/2017





JURISDICTIONAL OPEN WATERS	NON-JURISDICTIONAL OPEN WATERS	STREAM LOCATION	SJD ASSESSMENT AREA
ON-CHANNEL IMPOUNDMENT	UPLAND POND	CONSERVATION POOL, DAM, SPILLWAY	CONSERVATION POOL
		ASSESSMENT AREA OUTSIDE OF CONSERVATION POOL	

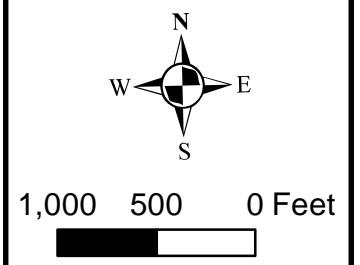


**FIGURE 12: DELINEATED OPEN WATERS
PROPOSED LAKE RALPH HALL
SUPPLEMENTAL JURISDICTIONAL DETERMINATION**

USACE PROJECT NO.:
SWF-2003-00336



PREPARED BY:
ALAN PLUMMER ASSOC., INC.



Date: 6/15/2017

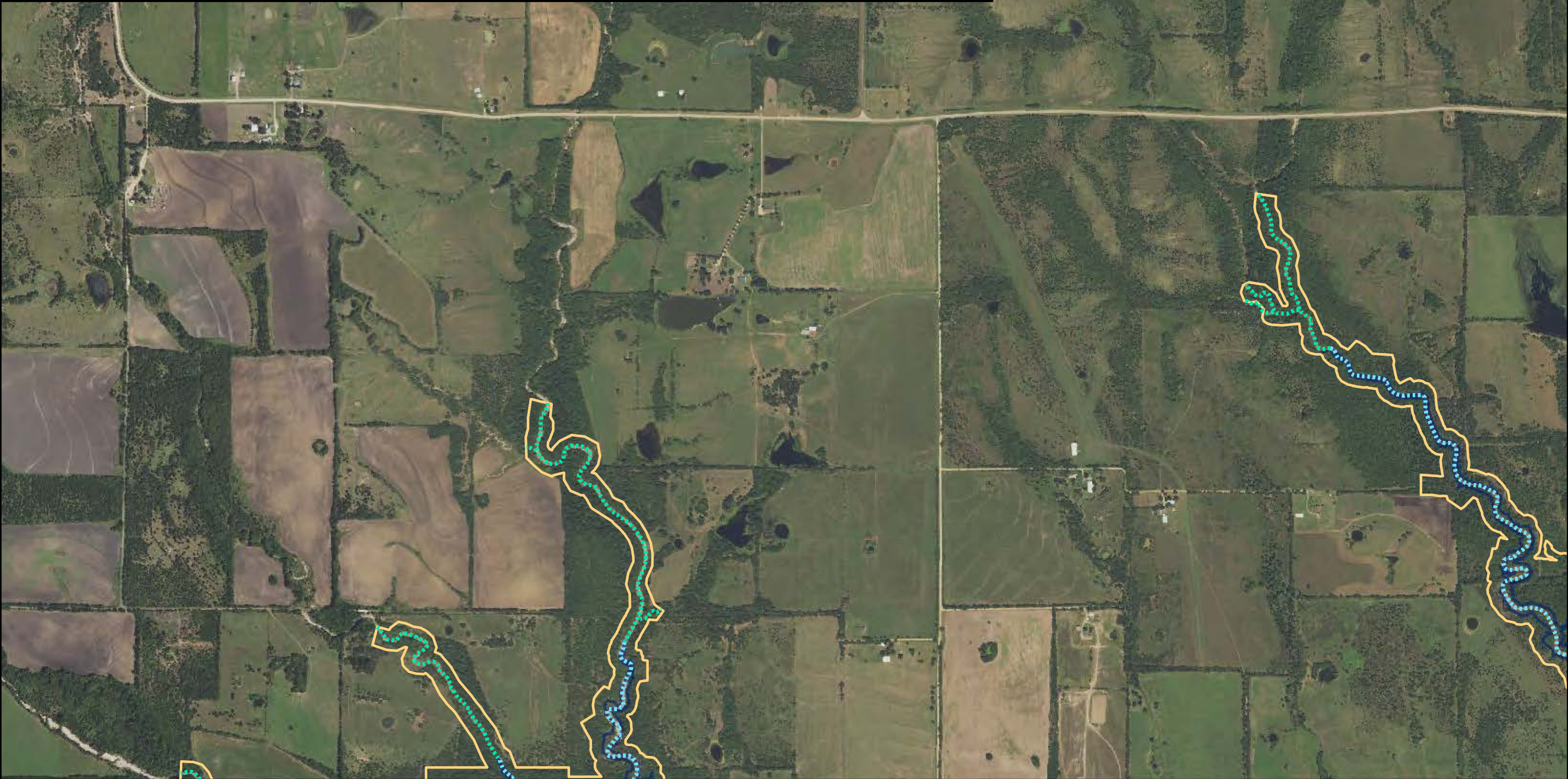


JURISDICTIONAL OPEN WATERS **NON-JURISDICTIONAL OPEN WATERS** **STREAM LOCATION**

 ON-CHANNEL IMPOUNDMENT  UPLAND POND

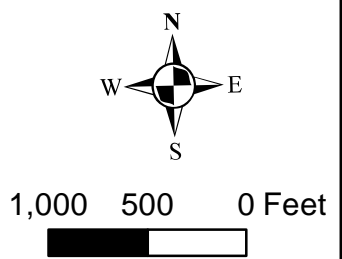
 CONSERVATION POOL, DAM, SPILLWAY
 ASSESSMENT AREA OUTSIDE OF CONSERVATION POOL

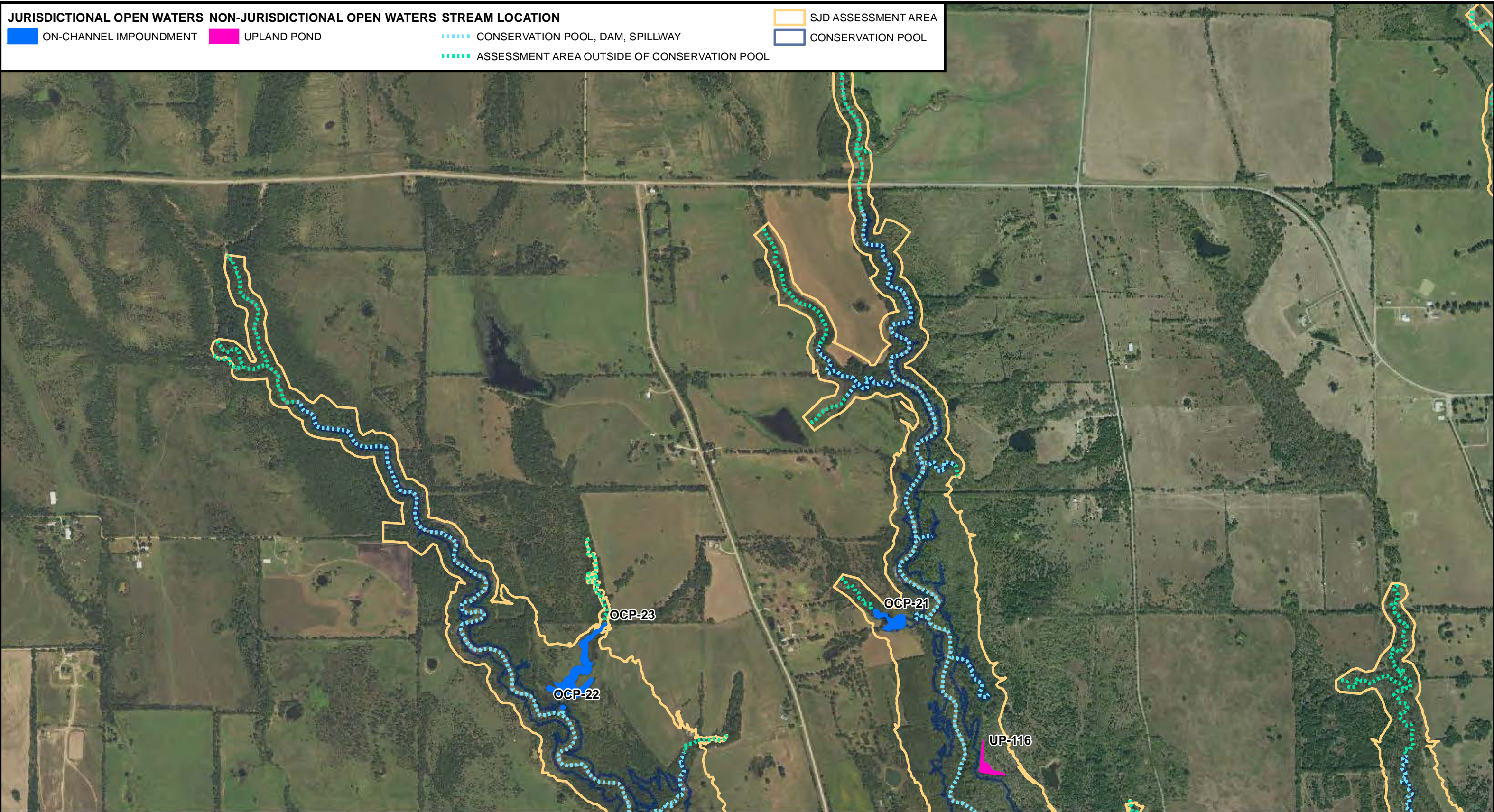
 SJD ASSESSMENT AREA
 CONSERVATION POOL



**FIGURE 13: DELINEATED OPEN WATERS
 PROPOSED LAKE RALPH HALL
 SUPPLEMENTAL JURISDICTIONAL DETERMINATION**

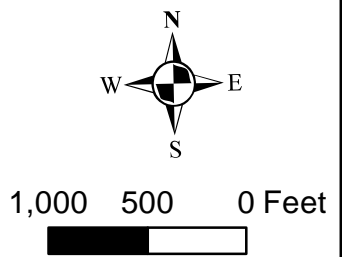
USACE PROJECT NO.:
 SWF-2003-00336
 PREPARED BY:
 ALAN PLUMMER ASSOC., INC.
 Date: 6/15/2017

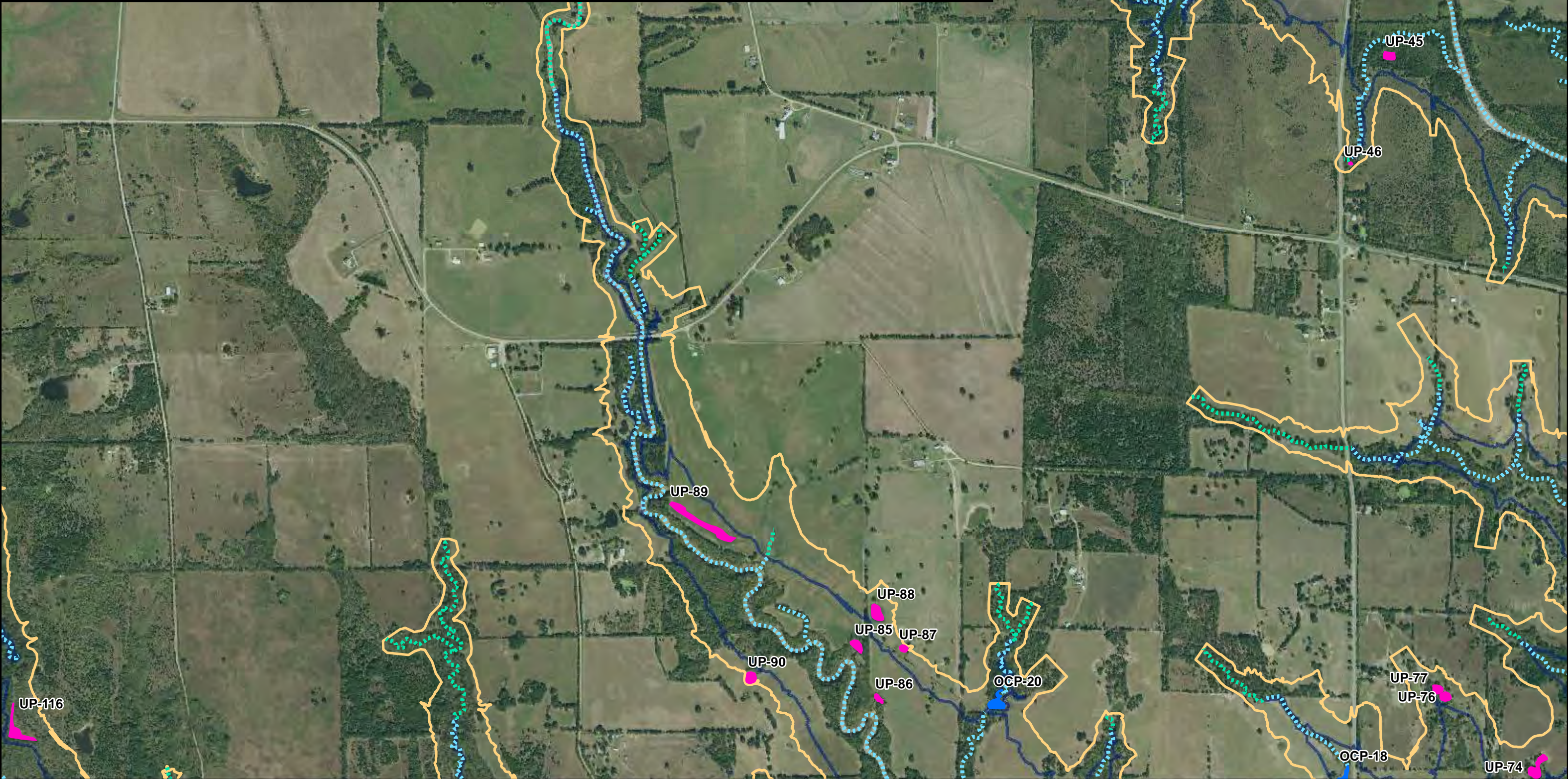




**FIGURE 14: DELINEATED OPEN WATERS
PROPOSED LAKE RALPH HALL
SUPPLEMENTAL JURISDICTIONAL DETERMINATION**

USACE PROJECT NO.:
SWF-2003-00336
PREPARED BY:
ALAN PLUMMER ASSOC., INC.
Date: 6/15/2017



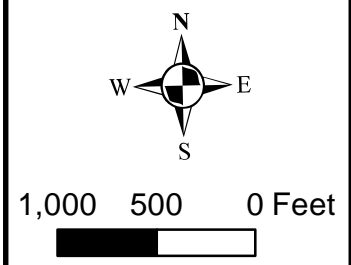


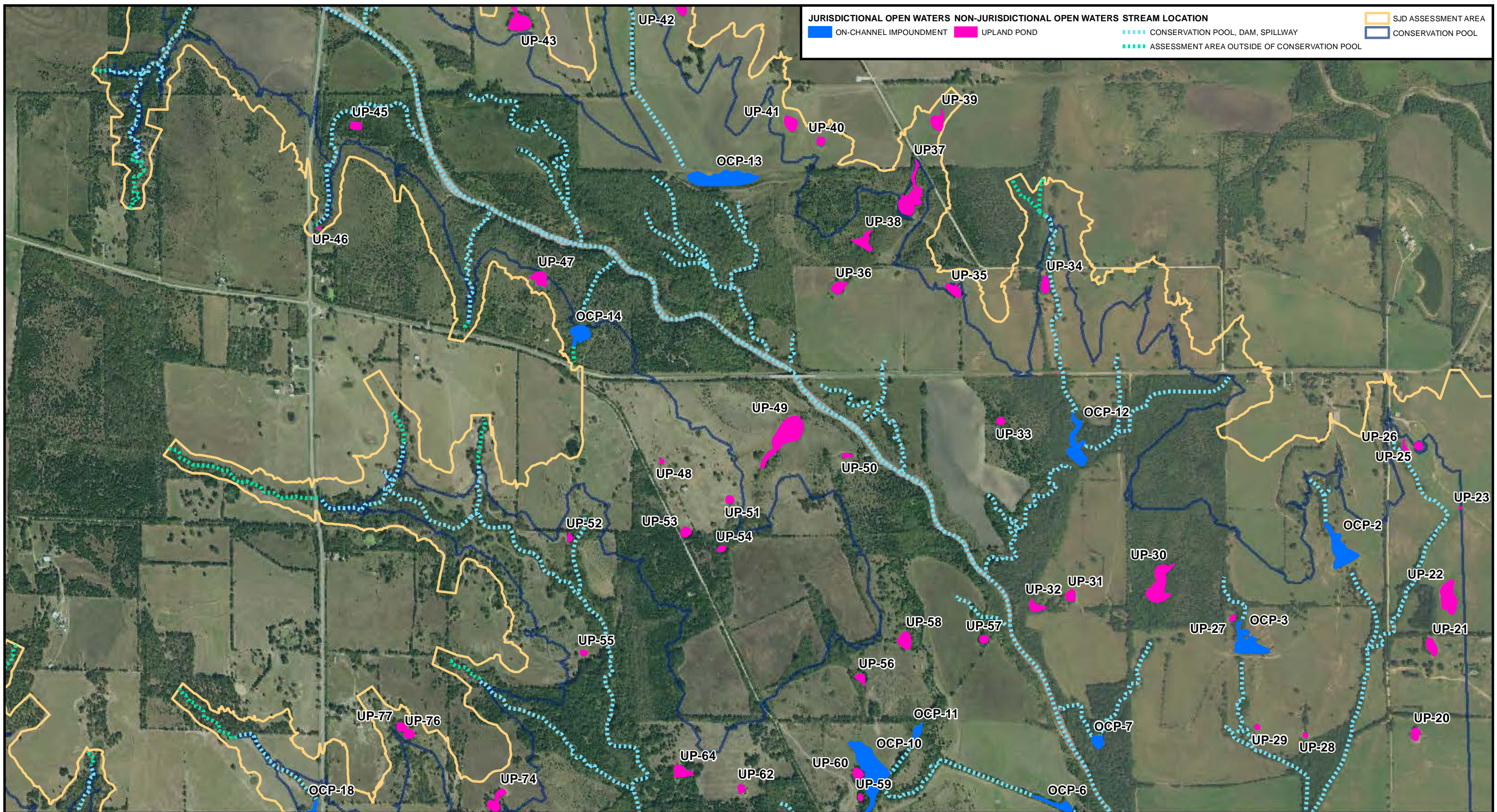
**FIGURE 15: DELINEATED OPEN WATERS
PROPOSED LAKE RALPH HALL
SUPPLEMENTAL JURISDICTIONAL DETERMINATION**

USACE PROJECT NO.:
SWF-2003-00336

PREPARED BY:
ALAN PLUMMER ASSOC., INC.

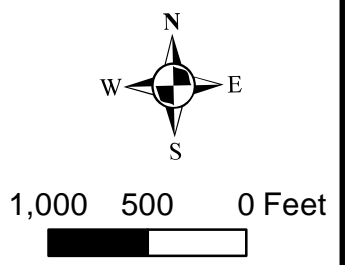
Date: 6/15/2017





**FIGURE 16: DELINEATED OPEN WATERS
 PROPOSED LAKE RALPH HALL
 SUPPLEMENTAL JURISDICTIONAL DETERMINATION**

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 SWF-2003-00336
 PREPARED BY:
 ALAN PLUMMER ASSOC., INC.
 Date: 6/15/2017



JURISDICTIONAL OPEN WATERS NON-JURISDICTIONAL OPEN WATERS STREAM LOCATION

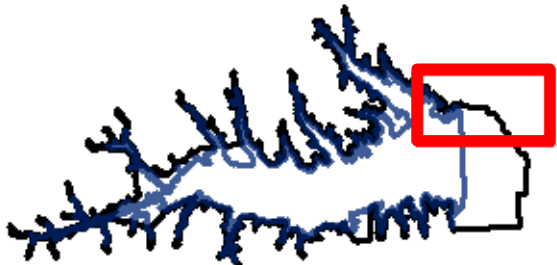
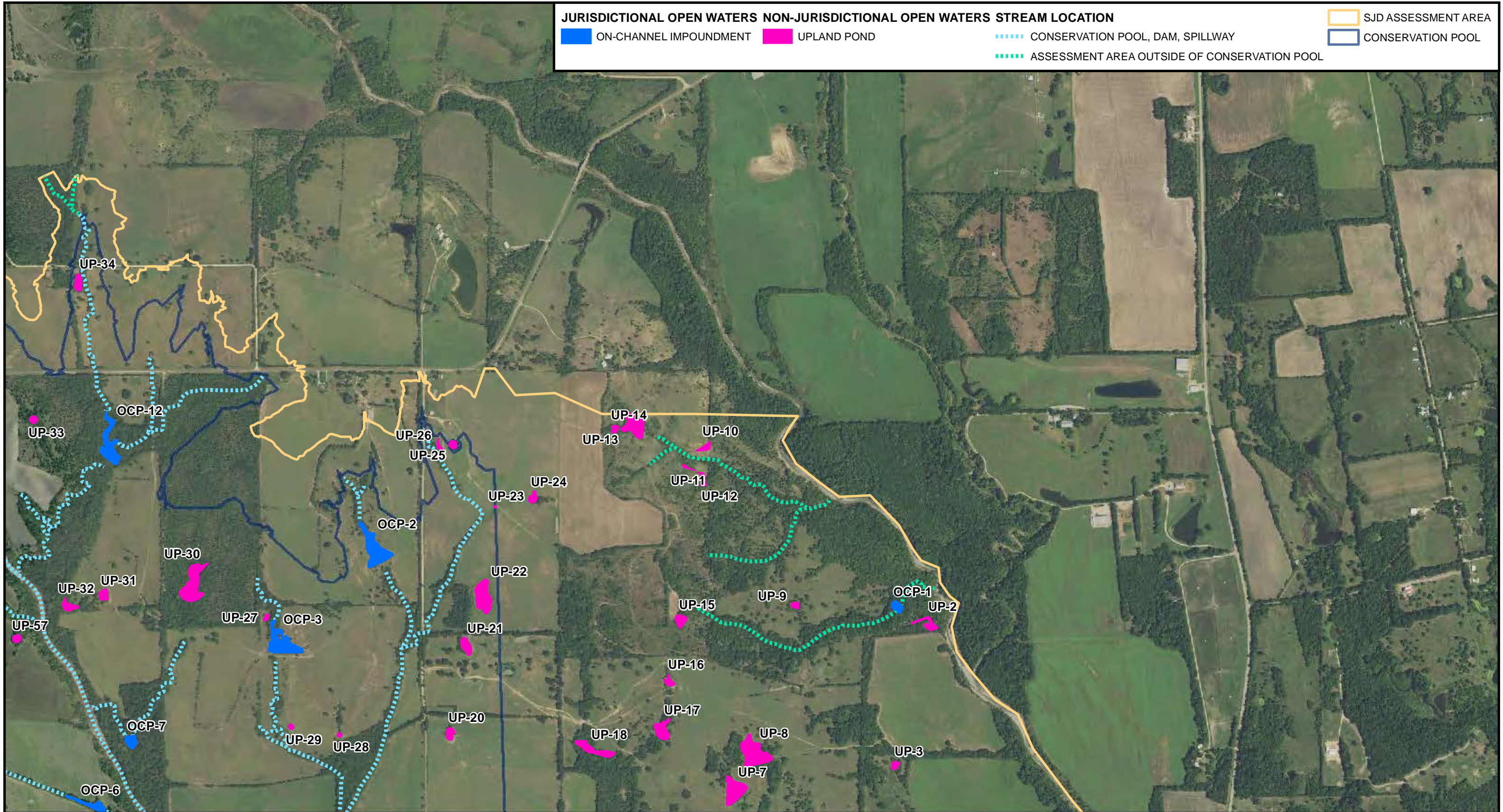
ON-CHANNEL IMPOUNDMENT UPLAND POND

CONSERVATION POOL, DAM, SPILLWAY

ASSESSMENT AREA OUTSIDE OF CONSERVATION POOL

SJD ASSESSMENT AREA

CONSERVATION POOL

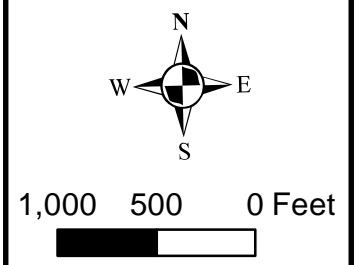


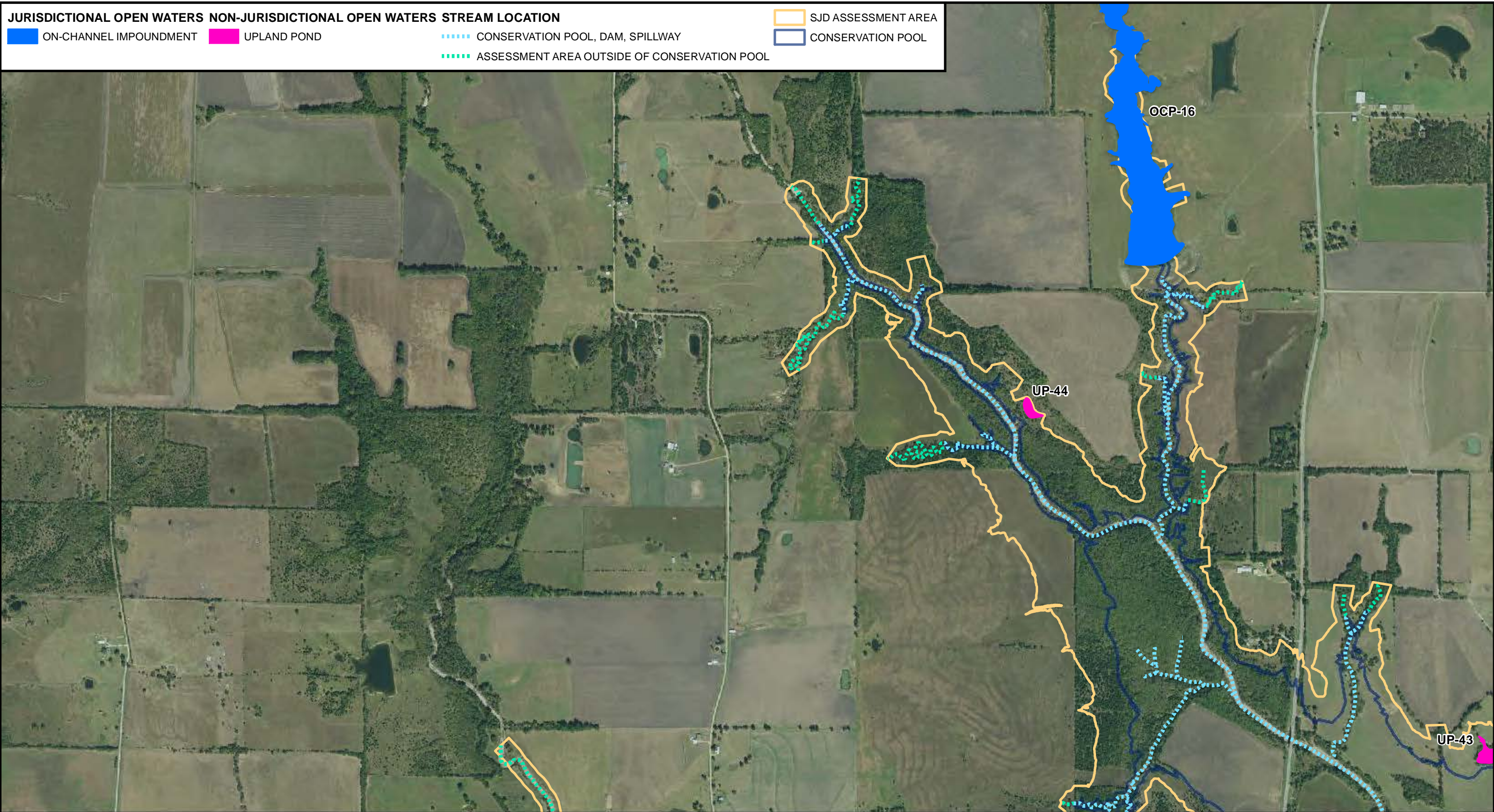
**FIGURE 17: DELINEATED OPEN WATERS
PROPOSED LAKE RALPH HALL
SUPPLEMENTAL JURISDICTIONAL DETERMINATION**

USACE PROJECT NO.:
SWF-2003-00336

PREPARED BY:
ALAN PLUMMER ASSOC., INC.

Date: 6/15/2017





**FIGURE 18: DELINEATED OPEN WATERS
PROPOSED LAKE RALPH HALL
SUPPLEMENTAL JURISDICTIONAL DETERMINATION**

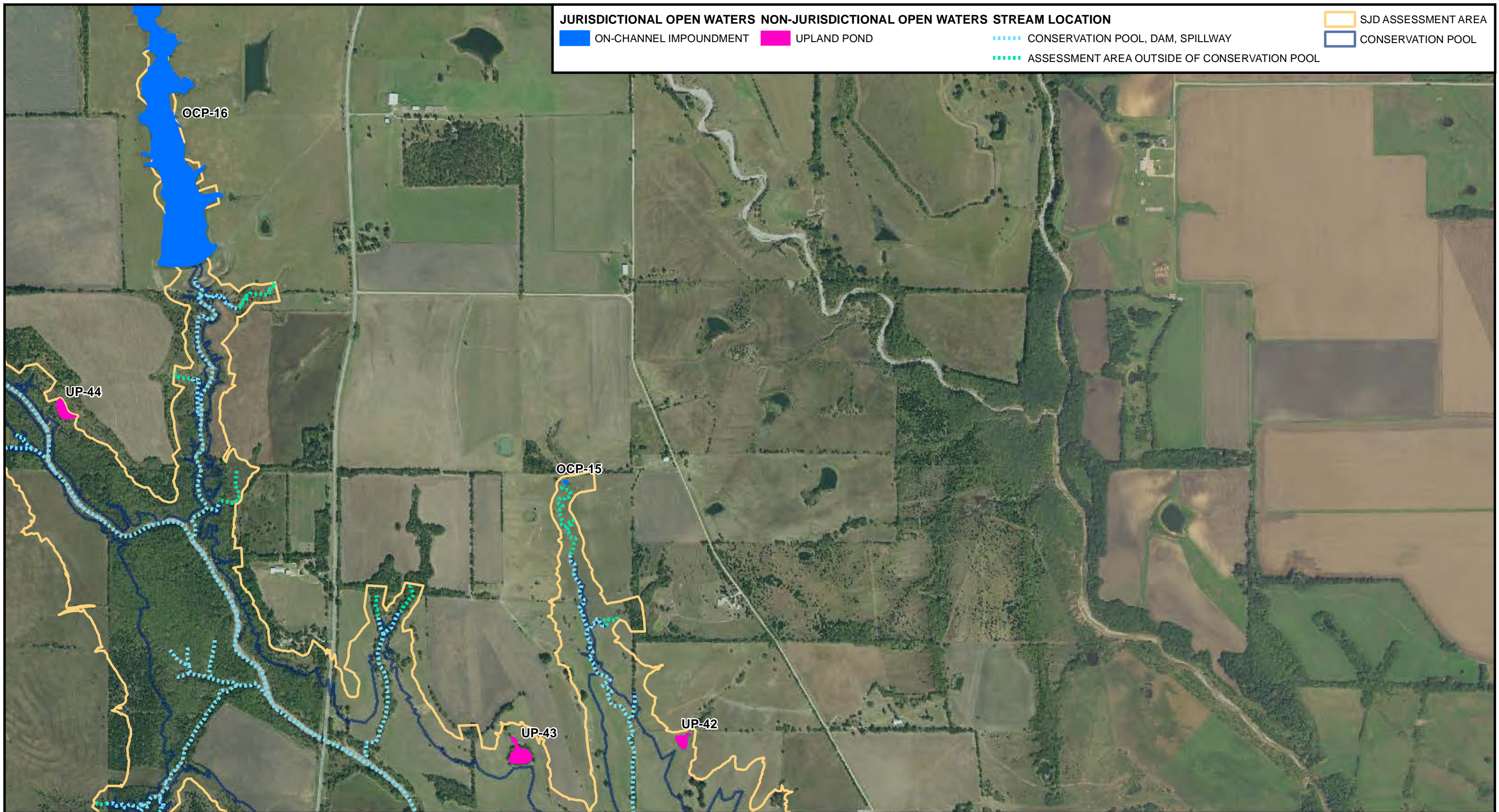
USACE PROJECT NO.:
SWF-2003-00336

PREPARED BY:
ALAN PLUMMER ASSOC., INC.

Date: 6/15/2017



1,000 500 0 Feet

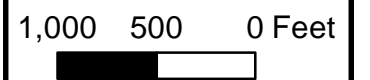
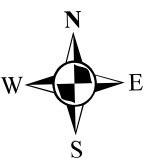


**FIGURE 19: DELINEATED OPEN WATERS
PROPOSED LAKE RALPH HALL
SUPPLEMENTAL JURISDICTIONAL DETERMINATION**

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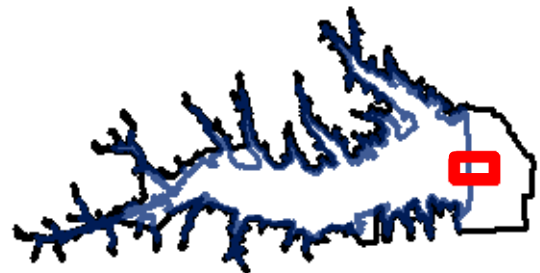


MAPBOOK
DELINEATED ISOLATED FORESTED WETLANDS



	FORESTED WETLANDS
	SJD ASSESSMENT AREA
	CONSERVATION POOL



**FIGURE 1: FORESTED WETLANDS
PROPOSED LAKE RALPH HALL
SUPPLEMENTAL JURISDICTIONAL DETERMINATION**

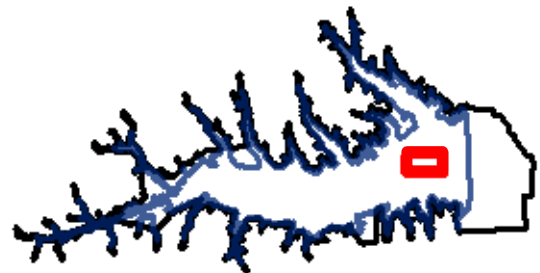


USACE PROJECT NO.:
SWF-2003-00336

PREPARED BY:
ALAN PLUMMER ASSOC., INC.

Date: 6/15/2017


 290 145 0 Feet


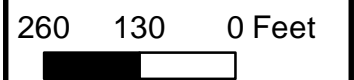


**FIGURE 2: FORESTED WETLANDS
 PROPOSED LAKE RALPH HALL
 SUPPLEMENTAL JURISDICTIONAL DETERMINATION**

USACE PROJECT NO.:
 SWF-2003-00336




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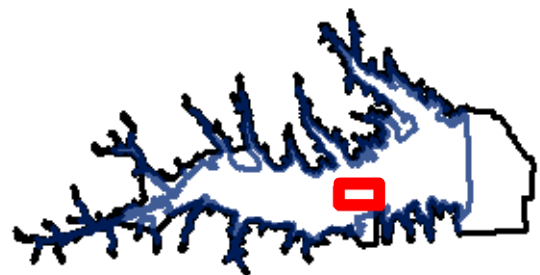
Date: 6/15/2017





FW-13

-  FORESTED WETLANDS
-  SJD ASSESSMENT AREA
-  CONSERVATION POOL

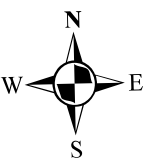


**FIGURE 3: FORESTED WETLANDS
PROPOSED LAKE RALPH HALL
SUPPLEMENTAL JURISDICTIONAL DETERMINATION**

USACE PROJECT NO.:
SWF-2003-00336

PREPARED BY:
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Date: 6/15/2017



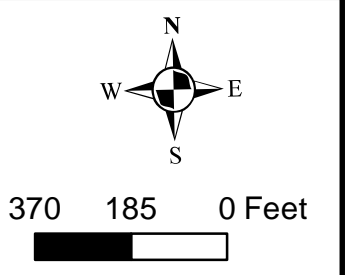
290 145 0 Feet








**FIGURE 4: FORESTED WETLANDS
 PROPOSED LAKE RALPH HALL
 SUPPLEMENTAL JURISDICTIONAL DETERMINATION**

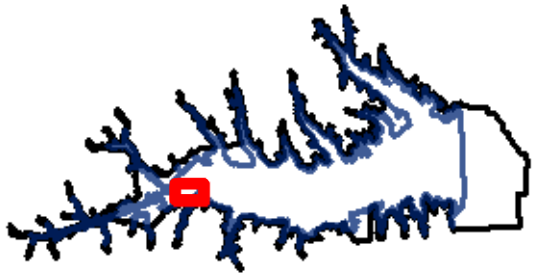
USACE PROJECT NO.:
 SWF-2003-00336
 PREPARED BY:
 ALAN PLUMMER ASSOC., INC.
 Date: 6/15/2017





	FORESTED WETLANDS
	SJD ASSESSMENT AREA
	CONSERVATION POOL


**FIGURE 5: FORESTED WETLANDS
PROPOSED LAKE RALPH HALL
SUPPLEMENTAL JURISDICTIONAL DETERMINATION**

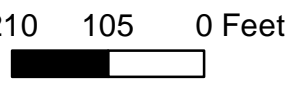


USACE PROJECT NO.:
SWF-2003-00336

PREPARED BY:
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Date: 6/15/2017

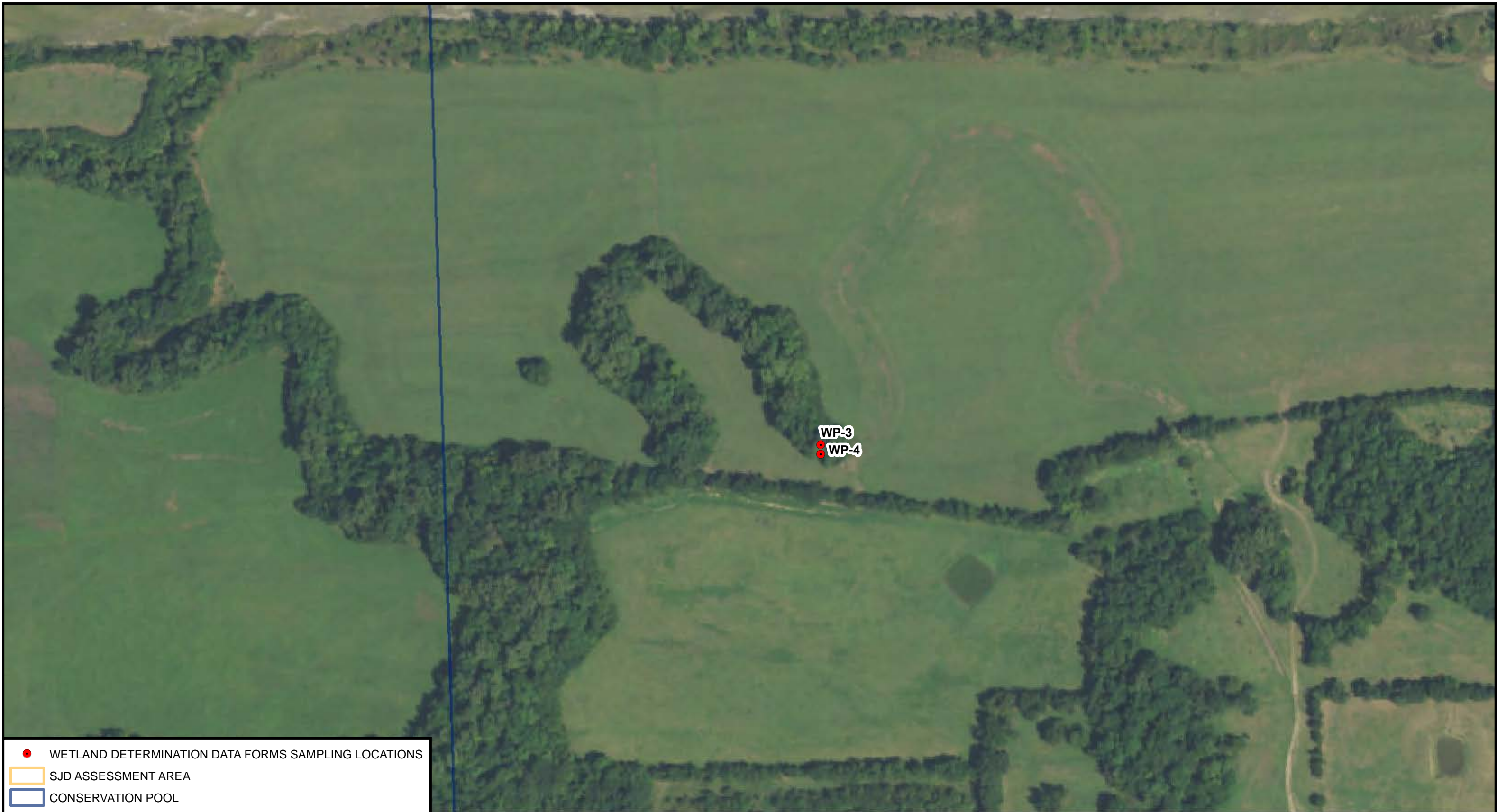

 W N E S


 210 105 0 Feet

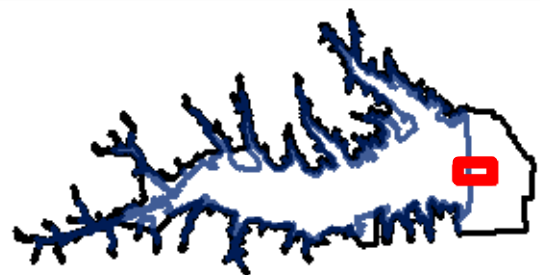
APPENDIX C
WETLAND DETERMINATION DATA FORMS

MAPBOOK

WETLAND DETERMINATION SAMPLING LOCATIONS



- WETLAND DETERMINATION DATA FORMS SAMPLING LOCATIONS
- SJD ASSESSMENT AREA
- CONSERVATION POOL

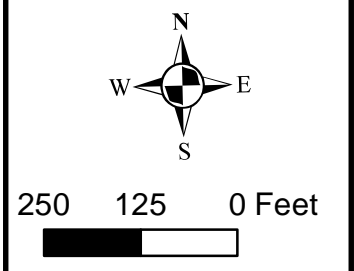


**FIGURE 1: WETLAND DETERMINATION DATA FORMS
SAMPLING LOCATIONS
PROPOSED LAKE RALPH HALL
SUPPLEMENTAL JURISDICTIONAL DETERMINATION**

USACE PROJECT NO.:
SWF-2003-00336

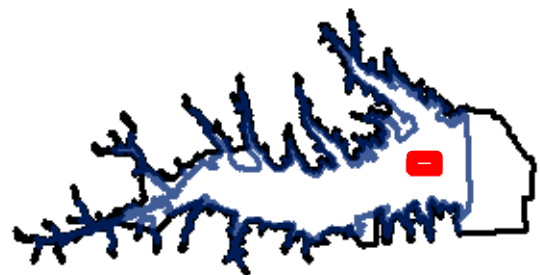
PREPARED BY:
ALAN PLUMMER ASSOC., INC.

Date: 6/15/2017

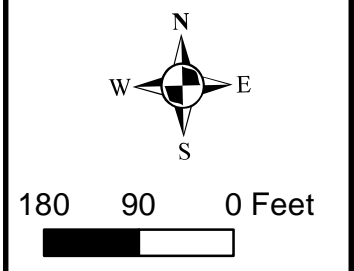


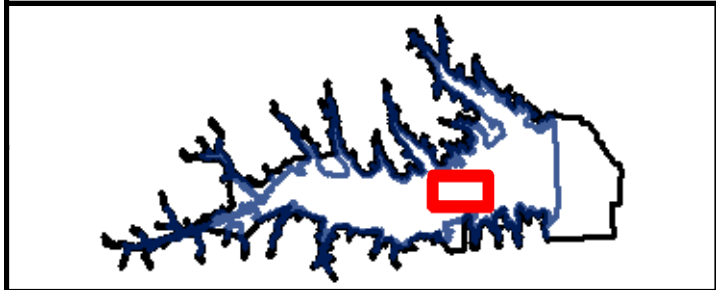


**FIGURE 2: WETLAND DETERMINATION DATA FORMS
 SAMPLING LOCATIONS
 PROPOSED LAKE RALPH HALL
 SUPPLEMENTAL JURISDICTIONAL DETERMINATION**



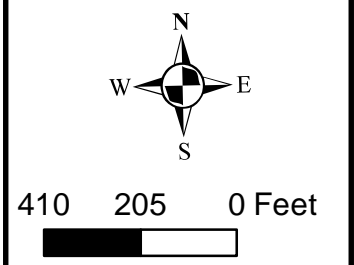
USACE PROJECT NO.:
 SWF-2003-00336
 PREPARED BY:
 ALAN PLUMMER ASSOC., INC.
 Date: 6/15/2017

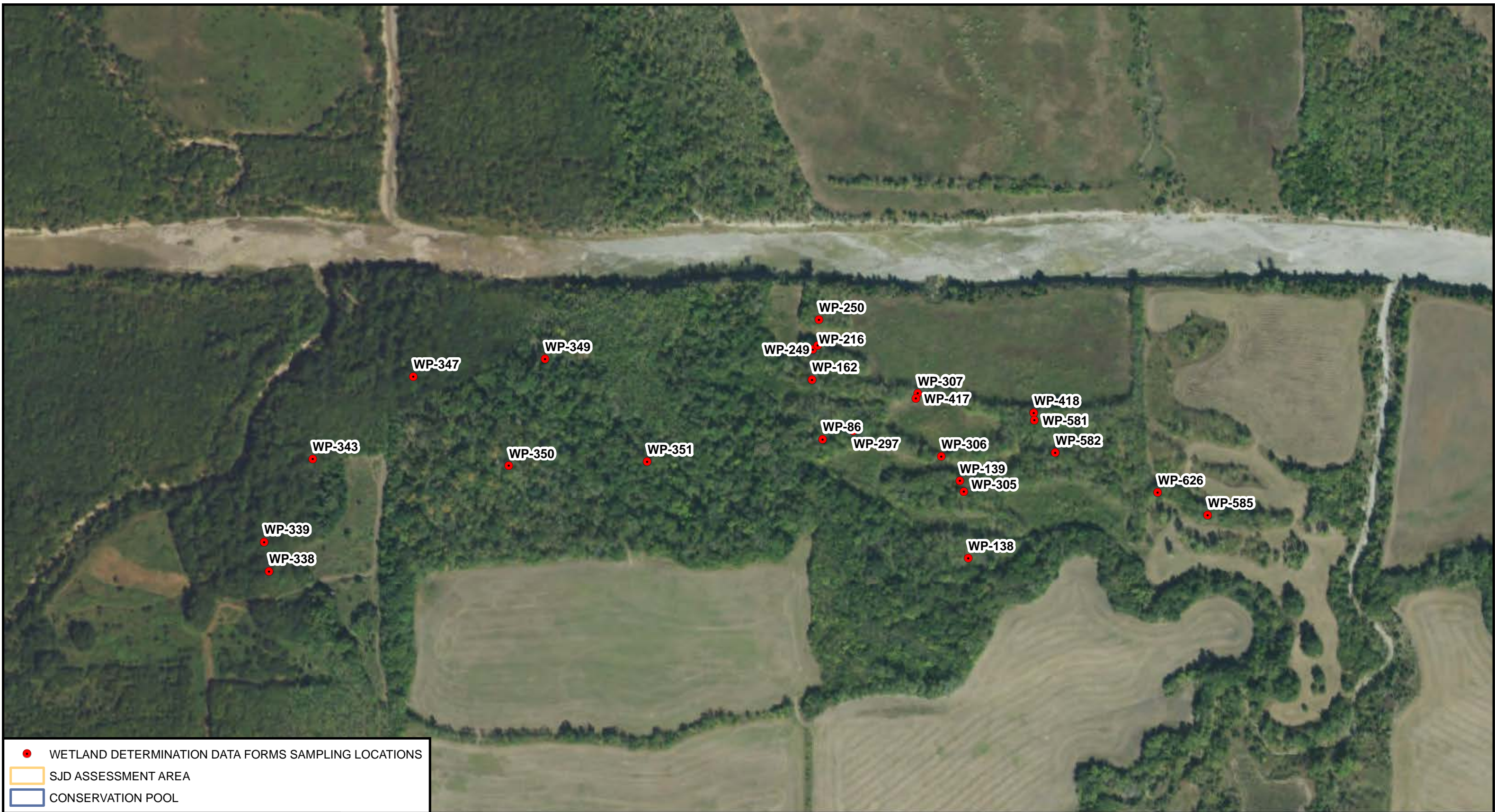




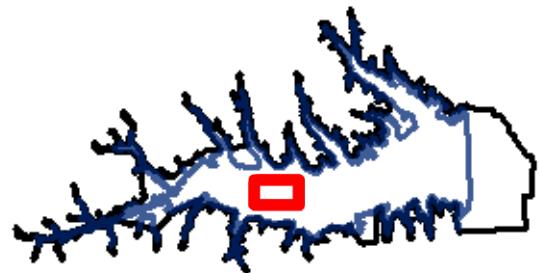
**FIGURE 3: WETLAND DETERMINATION DATA FORMS
 SAMPLING LOCATIONS
 PROPOSED LAKE RALPH HALL
 SUPPLEMENTAL JURISDICTIONAL DETERMINATION**

USACE PROJECT NO.:
 SWF-2003-00336
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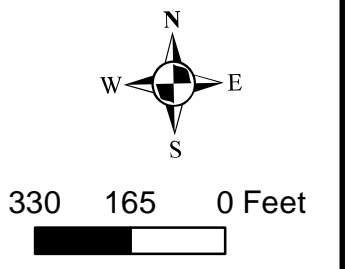




**FIGURE 4: WETLAND DETERMINATION DATA FORMS
 SAMPLING LOCATIONS
 PROPOSED LAKE RALPH HALL
 SUPPLEMENTAL JURISDICTIONAL DETERMINATION**



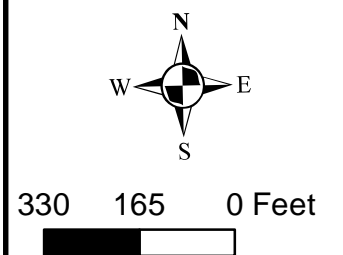
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 Date: 6/15/2017





**FIGURE 5: WETLAND DETERMINATION DATA FORMS
 SAMPLING LOCATIONS
 PROPOSED LAKE RALPH HALL
 SUPPLEMENTAL JURISDICTIONAL DETERMINATION**

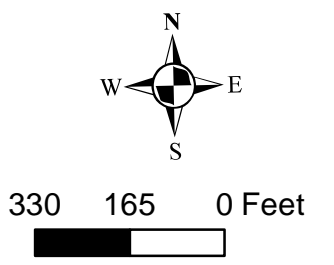
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 Date: 6/15/2017





**FIGURE 6: WETLAND DETERMINATION DATA FORMS
 SAMPLING LOCATIONS
 PROPOSED LAKE RALPH HALL
 SUPPLEMENTAL JURISDICTIONAL DETERMINATION**

USACE PROJECT NO.:
 SWF-2003-00336
 PREPARED BY:
 ALAN PLUMMER ASSOC., INC.
 Date: 6/15/2017



WETLAND DETERMINATION DATA FORMS

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Lake Ralph Hall City/County: Ladonia/Fannin Sampling Date: 6/2/2017
 Applicant/Owner: Upper Trinity Regional Water District State: TX Sampling Point: WP2
 Investigator(s): Jason Voight, Andrew Sample Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): Valley Local relief (concave, convex, none): Concave Slope (%): 0-1%
 Subregion (LRR): Southwest Prairies Lat: 33.45226 Long: -96.01460 Datum: NAD83
 Soil Map Unit Name: Tinn Clay, Occasionally Flooded NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____
 Are Vegetation _____, Soil X, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No _____ Hydric Soil Present? Yes _____ No <u>X</u> Wetland Hydrology Present? Yes _____ No <u>X</u>	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u>
Remarks: <p align="center">Heavy storms the previous day; wooded area near North Sulphur River channel</p>	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>700 sq ft</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Fraxinus pennsylvanica</u>	20	Yes	FAC	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): <u>4</u> (A) Total Number of Dominant Species Across All Strata: <u>5</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>80</u> (A/B)
2. <u>Ulmus crassifolia</u>	25	Yes	FAC	
3. <u>Celtis laevigata</u>	45	Yes	FAC	
4. <u>Malcura pomifera</u>	5	No	FACU	
95 = Total Cover				
Sapling/Shrub Stratum (Plot size: <u>700 sq ft</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Fraxinus pennsylvanica</u>	5	No	FAC	Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
2. <u>Celtis laevigata</u>	10	No	FAC	
3. <u>Ulmus crassifolia</u>	5	No	FACU	
4. <u>Juniperus virginiana</u>	3	No	UPL	
5. <u>Symphoricarpos orbiculatus</u>	5	No	FACU	
28 = Total Cover				
Herb Stratum (Plot size: <u>450 sq ft</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Elymus virginicus</u>	50	Yes	FAC	Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
2. <u>Toxicodendron radicans</u>	15	No	FACU	
3. <u>Torillia arvensis</u>	10	No	UPL	
4. <u>Carex planostachys</u>	25	Yes	UPL	
5. _____				
6. _____				
7. _____				
8. _____				
9. _____				
10. _____				
100 = Total Cover				
Woody Vine Stratum (Plot size: <u>450 sq ft</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Toxicodendron radicans</u>	5	No	FACU	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. <u>Smilax sp.</u>	2	No	FAC	
7 = Total Cover				
% Bare Ground in Herb Stratum <u>0</u>				Hydrophytic Vegetation Present? Yes <u>X</u> No _____
Remarks:				

SOIL

Sampling Point: WP2

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-18	10 YR 3/2	100					Clay	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- | | |
|--|--|
| <input type="checkbox"/> Histosol (A1) | <input type="checkbox"/> Sandy Gleyed Matrix (S4) |
| <input type="checkbox"/> Histic Epipedon (A2) | <input type="checkbox"/> Sandy Redox (S5) |
| <input type="checkbox"/> Black Histic (A3) | <input type="checkbox"/> Stripped Matrix (S6) |
| <input type="checkbox"/> Hydrogen Sulfide (A4) | <input type="checkbox"/> Loamy Mucky Mineral (F1) |
| <input type="checkbox"/> Stratified Layers (A5) (LRR F) | <input type="checkbox"/> Loamy Gleyed Matrix (F2) |
| <input type="checkbox"/> 1 cm Muck (A9) (LRR F, G, H) | <input type="checkbox"/> Depleted Matrix (F3) |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Redox Dark Surface (F6) |
| <input type="checkbox"/> Thick Dark Surface (A12) | <input type="checkbox"/> Depleted Dark Surface (F7) |
| <input type="checkbox"/> Sandy Mucky Mineral (S1) | <input type="checkbox"/> Redox Depressions (F8) |
| <input type="checkbox"/> 2.5 cm Mucky Peat or Peat (S2) (LRR G, H) | <input type="checkbox"/> High Plains Depressions (F16) |
| <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR F) | |
- (MLRA 72 & 73 of LRR H)**

Indicators for Problematic Hydric Soils³:

- 1 cm Muck (A9) (LRR I, J)
- Coast Prairie Redox (A16) (LRR F, G, H)
- Dark Surface (S7) (LRR G)
- High Plains Depressions (F16)
- (LRR H outside of MLRA 72 & 73)**
- Reduced Vertic (F18)
- Red Parent Material (TF2)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:

No redox features; Tinn clay, occasionally flooded is nationally listed hydric soil; naturally dark soil

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- | | |
|--|---|
| <input type="checkbox"/> Surface Water (A1) | <input type="checkbox"/> Salt Crust (B11) |
| <input type="checkbox"/> High Water Table (A2) | <input type="checkbox"/> Aquatic Invertebrates (B13) |
| <input type="checkbox"/> Saturation (A3) | <input type="checkbox"/> Hydrogen Sulfide Odor (C1) |
| <input type="checkbox"/> Water Marks (B1) | <input type="checkbox"/> Dry-Season Water Table (C2) |
| <input type="checkbox"/> Sediment Deposits (B2) | <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) |
| <input type="checkbox"/> Drift Deposits (B3) | (where not tilled) |
| <input type="checkbox"/> Algal Mat or Crust (B4) | <input type="checkbox"/> Presence of Reduced Iron (C4) |
| <input type="checkbox"/> Iron Deposits (B5) | <input type="checkbox"/> Thin Muck Surface (C7) |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) | <input type="checkbox"/> Other (Explain in Remarks) |
| <input type="checkbox"/> Water-Stained Leaves (B9) | |

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- Sparsely Vegetated Concave Surface (B8)
- Drainage Patterns (B10)
- Oxidized Rhizospheres on Living Roots (C3)
- (where tilled)**
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)
- Geomorphic Position (D2)
- FAC-Neutral Test (D5)
- Frost-Heave Hummocks (D7) (LRR F)

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches): _____
 Water Table Present? Yes _____ No X Depth (inches): _____
 Saturation Present? (includes capillary fringe) Yes _____ No X Depth (inches): _____

Wetland Hydrology Present? Yes _____ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:







WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Lake Ralph Hall Supplemental JD City/County: Ladonia/Fannin Sampling Date: 5/30/17
 Applicant/Owner: Upper Trinity Regional Water District State: TX Sampling Point: WP3
 Investigator(s): Jason Voight, Andrew Sample Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): Valley Local relief (concave, convex, none): Concave Slope (%): 0-1%
 Subregion (LRR): Southwest Prairies Lat: 33.45907 Long: -95.89972 Datum: NAD83
 Soil Map Unit Name: Tinn Clay, Occasionally Flooded NWI classification: R4SBC

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____
 Are Vegetation _____, Soil X, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No _____ Hydric Soil Present? Yes <u>X</u> No _____ Wetland Hydrology Present? Yes <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes <u>X</u> No _____
Remarks: Forested wetland, part of the remnant North Sulphur River channel; not hydraulically or hydrologically connected to any stream channel	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>700 sq ft</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Fraxinus pennsylvanica</u>	<u>90</u>	Yes	FAC	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
2. <u>Populus deltoides</u>	<u>5</u>	No	FAC	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
<u>95</u> = Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
Sapling/Shrub Stratum (Plot size: <u>700 sq ft</u>)				
1. <u>Fraxinus pennsylvanica</u>	<u>5</u>	No	FAC	
2. <u>Celtis laevigata</u>	<u>2</u>	No	FAC	
3. <u>Carya ovata</u>	<u>1</u>	No	FACU	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
<u>8</u> = Total Cover				
Herb Stratum (Plot size: <u>450 sq ft</u>)				
1. <u>Lolium multiflorum</u>	<u>5</u>	No	UPL	
2. <u>Ranunculus hispidus</u>	<u>1</u>	No	FACW	
3. <u>Torillia arvensis</u>	<u>1</u>	No	UPL	
4. <u>Ambrosia trifida</u>	<u>1</u>	No	FAC	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
<u>8</u> = Total Cover				
Woody Vine Stratum (Plot size: <u>450 sq ft</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
<u>0</u> = Total Cover				
% Bare Ground in Herb Stratum <u>92</u>				

Remarks:

SOIL

Sampling Point: WP3

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-18	10 YR 3/1	90	10 YR 4/6	10	C	M	Clay	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- | | |
|--|---|
| <input type="checkbox"/> Histosol (A1) | <input type="checkbox"/> Sandy Gleyed Matrix (S4) |
| <input type="checkbox"/> Histic Epipedon (A2) | <input type="checkbox"/> Sandy Redox (S5) |
| <input type="checkbox"/> Black Histic (A3) | <input type="checkbox"/> Stripped Matrix (S6) |
| <input type="checkbox"/> Hydrogen Sulfide (A4) | <input type="checkbox"/> Loamy Mucky Mineral (F1) |
| <input type="checkbox"/> Stratified Layers (A5) (LRR F) | <input type="checkbox"/> Loamy Gleyed Matrix (F2) |
| <input type="checkbox"/> 1 cm Muck (A9) (LRR F, G, H) | <input type="checkbox"/> Depleted Matrix (F3) |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input checked="" type="checkbox"/> Redox Dark Surface (F6) |
| <input type="checkbox"/> Thick Dark Surface (A12) | <input type="checkbox"/> Depleted Dark Surface (F7) |
| <input type="checkbox"/> Sandy Mucky Mineral (S1) | <input checked="" type="checkbox"/> Redox Depressions (F8) |
| <input type="checkbox"/> 2.5 cm Mucky Peat or Peat (S2) (LRR G, H) | <input type="checkbox"/> High Plains Depressions (F16) |
| <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR F) | |
- (MLRA 72 & 73 of LRR H)**

Indicators for Problematic Hydric Soils³:

- 1 cm Muck (A9) (LRR I, J)
- Coast Prairie Redox (A16) (LRR F, G, H)
- Dark Surface (S7) (LRR G)
- High Plains Depressions (F16)
- (LRR H outside of MLRA 72 & 73)**
- Reduced Vertic (F18)
- Red Parent Material (TF2)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes X No _____

Remarks:

Redox features observed; Tinn clay, occasionally flooded is nationally listed hydric soil; naturally dark soil

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- | | |
|--|---|
| <input type="checkbox"/> Surface Water (A1) | <input type="checkbox"/> Salt Crust (B11) |
| <input type="checkbox"/> High Water Table (A2) | <input type="checkbox"/> Aquatic Invertebrates (B13) |
| <input type="checkbox"/> Saturation (A3) | <input type="checkbox"/> Hydrogen Sulfide Odor (C1) |
| <input checked="" type="checkbox"/> Water Marks (B1) | <input type="checkbox"/> Dry-Season Water Table (C2) |
| <input type="checkbox"/> Sediment Deposits (B2) | <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) |
| <input type="checkbox"/> Drift Deposits (B3) | (where not tilled) |
| <input type="checkbox"/> Algal Mat or Crust (B4) | <input type="checkbox"/> Presence of Reduced Iron (C4) |
| <input type="checkbox"/> Iron Deposits (B5) | <input type="checkbox"/> Thin Muck Surface (C7) |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) | <input type="checkbox"/> Other (Explain in Remarks) |
| <input type="checkbox"/> Water-Stained Leaves (B9) | |

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- Sparsely Vegetated Concave Surface (B8)
- Drainage Patterns (B10)
- Oxidized Rhizospheres on Living Roots (C3)
- (where tilled)**
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)
- Geomorphic Position (D2)
- FAC-Neutral Test (D5)
- Frost-Heave Hummocks (D7) (LRR F)

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches): _____
 Water Table Present? Yes _____ No X Depth (inches): _____
 Saturation Present? (includes capillary fringe) Yes _____ No X Depth (inches): _____

Wetland Hydrology Present? Yes X No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:





WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Lake Ralph Hall Supplemental JD City/County: Ladonia/Fannin Sampling Date: 5/30/17
 Applicant/Owner: Upper Trinity Regional Water District State: TX Sampling Point: WP4
 Investigator(s): Jason Voight, Andrew Sample Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): Valley Local relief (concave, convex, none): Concave Slope (%): 0-1%
 Subregion (LRR): Southwest Prairies Lat: 33.45900 Long: -95.89973 Datum: NAD83
 Soil Map Unit Name: Tinn Clay, Occasionally Flooded NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____
 Are Vegetation _____, Soil X, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes _____ No <u>X</u> Hydric Soil Present? Yes _____ No <u>X</u> Wetland Hydrology Present? Yes _____ No <u>X</u>	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u>
Remarks: <u>Outside of forested wetland from sampling point WP3</u>	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>700 sq ft</u>)	Absolute % Cover	Dominant Species?	Indicator Status															
1. <u>Fraxinus pennsylvanica</u>	35	Yes	FAC	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>50</u> (A/B)														
2. <u>Ulmus americana</u>	15	No	FAC															
3. _____																		
4. _____																		
<u>50</u> = Total Cover																		
Sapling/Shrub Stratum (Plot size: <u>700 sq ft</u>)	Absolute % Cover	Dominant Species?	Indicator Status															
1. <u>Fraxinus pennsylvanica</u>	5	No	FAC	Prevalence Index worksheet: <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%; text-align: right;">Total % Cover of:</td> <td style="width: 50%; text-align: left;">Multiply by:</td> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>0</u></td> <td>x 2 = <u>0</u></td> </tr> <tr> <td>FAC species <u>57</u></td> <td>x 3 = <u>171</u></td> </tr> <tr> <td>FACU species <u>4</u></td> <td>x 4 = <u>16</u></td> </tr> <tr> <td>UPL species <u>97</u></td> <td>x 5 = <u>485</u></td> </tr> <tr> <td>Column Totals: <u>158</u> (A)</td> <td><u>672</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>4.25</u>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>0</u>	x 2 = <u>0</u>	FAC species <u>57</u>	x 3 = <u>171</u>	FACU species <u>4</u>	x 4 = <u>16</u>	UPL species <u>97</u>	x 5 = <u>485</u>	Column Totals: <u>158</u> (A)	<u>672</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>0</u>	x 1 = <u>0</u>																	
FACW species <u>0</u>	x 2 = <u>0</u>																	
FAC species <u>57</u>	x 3 = <u>171</u>																	
FACU species <u>4</u>	x 4 = <u>16</u>																	
UPL species <u>97</u>	x 5 = <u>485</u>																	
Column Totals: <u>158</u> (A)	<u>672</u> (B)																	
2. <u>Celtis laevigata</u>	2	No	FAC															
3. <u>Carya ovata</u>	1	No	FACU															
4. _____																		
5. _____																		
<u>8</u> = Total Cover																		
Herb Stratum (Plot size: <u>450sq ft</u>)	Absolute % Cover	Dominant Species?	Indicator Status															
1. <u>Lolium multiflorum</u>	95	Yes	UPL	Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)														
2. <u>Setaria italica</u>	2	No	FACU															
3. <u>Torillia arvensis</u>	2	No	UPL															
4. <u>Amaranthus sp.</u>	1	No	FACU															
5. _____																		
6. _____																		
7. _____																		
8. _____																		
9. _____																		
10. _____																		
<u>100</u> = Total Cover																		
Woody Vine Stratum (Plot size: <u>450 sq ft</u>)	Absolute % Cover	Dominant Species?	Indicator Status															
1. _____				Hydrophytic Vegetation Present? Yes _____ No <u>X</u>														
2. _____																		
<u>0</u> = Total Cover																		
% Bare Ground in Herb Stratum <u>0</u>																		

Remarks:

SOIL

Sampling Point: WP4

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-18	10 YR 3/1	100					Clay	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- | | |
|--|--|
| <input type="checkbox"/> Histosol (A1) | <input type="checkbox"/> Sandy Gleyed Matrix (S4) |
| <input type="checkbox"/> Histic Epipedon (A2) | <input type="checkbox"/> Sandy Redox (S5) |
| <input type="checkbox"/> Black Histic (A3) | <input type="checkbox"/> Stripped Matrix (S6) |
| <input type="checkbox"/> Hydrogen Sulfide (A4) | <input type="checkbox"/> Loamy Mucky Mineral (F1) |
| <input type="checkbox"/> Stratified Layers (A5) (LRR F) | <input type="checkbox"/> Loamy Gleyed Matrix (F2) |
| <input type="checkbox"/> 1 cm Muck (A9) (LRR F, G, H) | <input type="checkbox"/> Depleted Matrix (F3) |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Redox Dark Surface (F6) |
| <input type="checkbox"/> Thick Dark Surface (A12) | <input type="checkbox"/> Depleted Dark Surface (F7) |
| <input type="checkbox"/> Sandy Mucky Mineral (S1) | <input type="checkbox"/> Redox Depressions (F8) |
| <input type="checkbox"/> 2.5 cm Mucky Peat or Peat (S2) (LRR G, H) | <input type="checkbox"/> High Plains Depressions (F16) |
| <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR F) | |
- (MLRA 72 & 73 of LRR H)**

Indicators for Problematic Hydric Soils³:

- 1 cm Muck (A9) (LRR I, J)
- Coast Prairie Redox (A16) (LRR F, G, H)
- Dark Surface (S7) (LRR G)
- High Plains Depressions (F16)
- (LRR H outside of MLRA 72 & 73)**
- Reduced Vertic (F18)
- Red Parent Material (TF2)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:

No redox features; Tinn clay, occasionally flooded is nationally listed hydric soil; naturally dark soil

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- | | |
|--|---|
| <input type="checkbox"/> Surface Water (A1) | <input type="checkbox"/> Salt Crust (B11) |
| <input type="checkbox"/> High Water Table (A2) | <input type="checkbox"/> Aquatic Invertebrates (B13) |
| <input type="checkbox"/> Saturation (A3) | <input type="checkbox"/> Hydrogen Sulfide Odor (C1) |
| <input type="checkbox"/> Water Marks (B1) | <input type="checkbox"/> Dry-Season Water Table (C2) |
| <input type="checkbox"/> Sediment Deposits (B2) | <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) |
| <input type="checkbox"/> Drift Deposits (B3) | (where not tilled) |
| <input type="checkbox"/> Algal Mat or Crust (B4) | <input type="checkbox"/> Presence of Reduced Iron (C4) |
| <input type="checkbox"/> Iron Deposits (B5) | <input type="checkbox"/> Thin Muck Surface (C7) |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) | <input type="checkbox"/> Other (Explain in Remarks) |
| <input type="checkbox"/> Water-Stained Leaves (B9) | |

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- Sparsely Vegetated Concave Surface (B8)
- Drainage Patterns (B10)
- Oxidized Rhizospheres on Living Roots (C3)
- (where tilled)**
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)
- Geomorphic Position (D2)
- FAC-Neutral Test (D5)
- Frost-Heave Hummocks (D7) (LRR F)

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches): _____
 Water Table Present? Yes _____ No X Depth (inches): _____
 Saturation Present? (includes capillary fringe) Yes _____ No X Depth (inches): _____

Wetland Hydrology Present? Yes _____ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:



WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Lake Ralph Hall Supplemental JD City/County: Ladonia/Fannin Sampling Date: 6/2/2017
 Applicant/Owner: Upper Trinity Regional Water District State: TX Sampling Point: WP5
 Investigator(s): Jason Voight, Andrew Sample Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): Valley Local relief (concave, convex, none): Concave Slope (%): 0-1%
 Subregion (LRR): Southwest Prairies Lat: 33.45254 Long: -96.01153 Datum: NAD83
 Soil Map Unit Name: Tinn Clay, Occasionally Flooded NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____
 Are Vegetation _____, Soil X, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No _____ Hydric Soil Present? Yes _____ No <u>X</u> Wetland Hydrology Present? Yes _____ No <u>X</u>	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u>
Remarks: _____ _____ _____	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>700 sq ft</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Fraxinus pennsylvanica / Ulmus americana</u>	<u>5/5</u>	<u>No/No</u>	<u>FAC/FAC</u>	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): <u>4</u> (A) Total Number of Dominant Species Across All Strata: <u>5</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>80</u> (A/B)
2. <u>Ulmus crassifolia</u>	<u>15</u>	<u>Yes</u>	<u>FAC</u>	
3. <u>Celtis laevigata</u>	<u>30</u>	<u>Yes</u>	<u>FAC</u>	
4. <u>Maclura pomifera</u>	<u>15</u>	<u>Yes</u>	<u>FACU</u>	
<u>70</u> = Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
<u>70</u> = Total Cover				
Sapling/Shrub Stratum (Plot size: <u>700 sq ft</u>)				
1. <u>Celtis laevigata</u>	<u>5</u>	<u>No</u>	<u>FAC</u>	
2. <u>Maclura pomifera</u>	<u>10</u>	<u>No</u>	<u>FACU</u>	
3. <u>Ulmus crassifolia</u>	<u>5</u>	<u>No</u>	<u>FAC</u>	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>20</u> = Total Cover				
Herb Stratum (Plot size: <u>450 sq ft</u>)				
1. <u>Elymus virginicus</u>	<u>10</u>	<u>No</u>	<u>FAC</u>	
2. <u>Ptilimnium nutalli</u>	<u>15</u>	<u>Yes</u>	<u>FACW</u>	
3. <u>Amaranthus tuberculatus</u>	<u>20</u>	<u>Yes</u>	<u>FAC</u>	
4. <u>Viola missouriensis</u>	<u>5</u>	<u>No</u>	<u>FACW</u>	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
<u>50</u> = Total Cover				
Woody Vine Stratum (Plot size: <u>450 sq ft</u>)				
1. <u>Parthenocissus quinquefolia</u>	<u>5</u>	<u>No</u>	<u>FACU</u>	
2. _____	_____	_____	_____	
<u>5</u> = Total Cover				
% Bare Ground in Herb Stratum <u>50</u>				
Remarks: _____ _____ _____				

SOIL

Sampling Point: WP5

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-18	10 YR 3/1	100					Clay	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- | | |
|--|--|
| <input type="checkbox"/> Histosol (A1) | <input type="checkbox"/> Sandy Gleyed Matrix (S4) |
| <input type="checkbox"/> Histic Epipedon (A2) | <input type="checkbox"/> Sandy Redox (S5) |
| <input type="checkbox"/> Black Histic (A3) | <input type="checkbox"/> Stripped Matrix (S6) |
| <input type="checkbox"/> Hydrogen Sulfide (A4) | <input type="checkbox"/> Loamy Mucky Mineral (F1) |
| <input type="checkbox"/> Stratified Layers (A5) (LRR F) | <input type="checkbox"/> Loamy Gleyed Matrix (F2) |
| <input type="checkbox"/> 1 cm Muck (A9) (LRR F, G, H) | <input type="checkbox"/> Depleted Matrix (F3) |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Redox Dark Surface (F6) |
| <input type="checkbox"/> Thick Dark Surface (A12) | <input type="checkbox"/> Depleted Dark Surface (F7) |
| <input type="checkbox"/> Sandy Mucky Mineral (S1) | <input type="checkbox"/> Redox Depressions (F8) |
| <input type="checkbox"/> 2.5 cm Mucky Peat or Peat (S2) (LRR G, H) | <input type="checkbox"/> High Plains Depressions (F16) |
| <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR F) | |
- (MLRA 72 & 73 of LRR H)**

Indicators for Problematic Hydric Soils³:

- 1 cm Muck (A9) (LRR I, J)
- Coast Prairie Redox (A16) (LRR F, G, H)
- Dark Surface (S7) (LRR G)
- High Plains Depressions (F16)
- (LRR H outside of MLRA 72 & 73)**
- Reduced Vertic (F18)
- Red Parent Material (TF2)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:

No redox features; Tinn clay, occasionally flooded is nationally listed hydric soil; naturally dark soil

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- | | |
|--|---|
| <input type="checkbox"/> Surface Water (A1) | <input type="checkbox"/> Salt Crust (B11) |
| <input type="checkbox"/> High Water Table (A2) | <input type="checkbox"/> Aquatic Invertebrates (B13) |
| <input type="checkbox"/> Saturation (A3) | <input type="checkbox"/> Hydrogen Sulfide Odor (C1) |
| <input type="checkbox"/> Water Marks (B1) | <input type="checkbox"/> Dry-Season Water Table (C2) |
| <input type="checkbox"/> Sediment Deposits (B2) | <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) |
| <input type="checkbox"/> Drift Deposits (B3) | (where not tilled) |
| <input type="checkbox"/> Algal Mat or Crust (B4) | <input type="checkbox"/> Presence of Reduced Iron (C4) |
| <input type="checkbox"/> Iron Deposits (B5) | <input type="checkbox"/> Thin Muck Surface (C7) |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) | <input type="checkbox"/> Other (Explain in Remarks) |
| <input type="checkbox"/> Water-Stained Leaves (B9) | |

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- Sparsely Vegetated Concave Surface (B8)
- Drainage Patterns (B10)
- Oxidized Rhizospheres on Living Roots (C3)
- (where tilled)**
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)
- Geomorphic Position (D2)
- FAC-Neutral Test (D5)
- Frost-Heave Hummocks (D7) (LRR F)

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches): _____
 Water Table Present? Yes _____ No X Depth (inches): _____
 Saturation Present? (includes capillary fringe) Yes _____ No X Depth (inches): _____

Wetland Hydrology Present? Yes _____ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:





WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Lake Ralph Hall/Supplemental JD City/County: Ladonia/Fannin Sampling Date: 6/2/2017
 Applicant/Owner: Upper Trinity Regional Water District State: TX Sampling Point: WP6
 Investigator(s): Jason Voight, Andrew Sample Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): Valley Local relief (concave, convex, none): Concave Slope (%): 0-1%
 Subregion (LRR): Southwest Prairies Lat: 33.45295 Long: -96.01133 Datum: NAD83
 Soil Map Unit Name: Tinn Clay, Occasionally Flooded NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____
 Are Vegetation _____, Soil X, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No _____ Hydric Soil Present? Yes <u>X</u> No _____ Wetland Hydrology Present? Yes <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes <u>X</u> No _____
Remarks: Heavy storms the previous day; forested wetland in wooded area near North Sulphur River channel	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>700 sq ft</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Fraxinus pennsylvanica</u>	45	Yes	FAC	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): <u>3</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
2. <u>Ulmus crassifolia</u>	15	Yes	FAC	
3. <u>Celtis laevigata</u>	5	No	FAC	
4. _____				
<u>65</u> = Total Cover				
Sapling/Shrub Stratum (Plot size: <u>700 sq ft</u>)				
1. <u>Cercis canadensis</u>	10	No	UPL	Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
2. <u>Fraxinus pennsylvanica</u>	20	Yes	FAC	
3. <u>Ulmus crassifolia</u>	10	No	FAC	
4. _____				
5. _____				
<u>40</u> = Total Cover				
Herb Stratum (Plot size: <u>450 sq ft</u>)				
1. <u>Elymus virginicus</u>	5	No	FAC	Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. <u>Carex blanda</u>	2	No	FAC	
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
8. _____				
9. _____				
10. _____				
<u>7</u> = Total Cover				
Woody Vine Stratum (Plot size: <u>450 sq ft</u>)				
1. <u>Parthenocissus quinquefolia</u>	5		FACU	Hydrophytic Vegetation Present? Yes <u>X</u> No _____
2. _____			FAC	
<u>5</u> = Total Cover				
% Bare Ground in Herb Stratum <u>93</u>				
Remarks:				

SOIL

Sampling Point: WP6

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-2	10 YR 3/1	100					Clay	
2-18	10 YR 3/1	95	10 YR 5/4	5	C	M	Clay	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- | | |
|--|---|
| <input type="checkbox"/> Histosol (A1) | <input type="checkbox"/> Sandy Gleyed Matrix (S4) |
| <input type="checkbox"/> Histic Epipedon (A2) | <input type="checkbox"/> Sandy Redox (S5) |
| <input type="checkbox"/> Black Histic (A3) | <input type="checkbox"/> Stripped Matrix (S6) |
| <input type="checkbox"/> Hydrogen Sulfide (A4) | <input type="checkbox"/> Loamy Mucky Mineral (F1) |
| <input type="checkbox"/> Stratified Layers (A5) (LRR F) | <input type="checkbox"/> Loamy Gleyed Matrix (F2) |
| <input type="checkbox"/> 1 cm Muck (A9) (LRR F, G, H) | <input type="checkbox"/> Depleted Matrix (F3) |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input checked="" type="checkbox"/> Redox Dark Surface (F6) |
| <input type="checkbox"/> Thick Dark Surface (A12) | <input type="checkbox"/> Depleted Dark Surface (F7) |
| <input type="checkbox"/> Sandy Mucky Mineral (S1) | <input checked="" type="checkbox"/> Redox Depressions (F8) |
| <input type="checkbox"/> 2.5 cm Mucky Peat or Peat (S2) (LRR G, H) | <input type="checkbox"/> High Plains Depressions (F16) |
| <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR F) | |
- (MLRA 72 & 73 of LRR H)**

Indicators for Problematic Hydric Soils³:

- 1 cm Muck (A9) (LRR I, J)
- Coast Prairie Redox (A16) (LRR F, G, H)
- Dark Surface (S7) (LRR G)
- High Plains Depressions (F16)
- (LRR H outside of MLRA 72 & 73)**
- Reduced Vertic (F18)
- Red Parent Material (TF2)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes X No _____

Remarks:

Redox features present; Tinn clay, occasionally flooded is nationally listed hydric soil; naturally dark soil

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- | | |
|--|---|
| <input checked="" type="checkbox"/> Surface Water (A1) | <input type="checkbox"/> Salt Crust (B11) |
| <input type="checkbox"/> High Water Table (A2) | <input type="checkbox"/> Aquatic Invertebrates (B13) |
| <input checked="" type="checkbox"/> Saturation (A3) | <input type="checkbox"/> Hydrogen Sulfide Odor (C1) |
| <input checked="" type="checkbox"/> Water Marks (B1) | <input type="checkbox"/> Dry-Season Water Table (C2) |
| <input type="checkbox"/> Sediment Deposits (B2) | <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) |
| <input type="checkbox"/> Drift Deposits (B3) | (where not tilled) |
| <input type="checkbox"/> Algal Mat or Crust (B4) | <input type="checkbox"/> Presence of Reduced Iron (C4) |
| <input type="checkbox"/> Iron Deposits (B5) | <input type="checkbox"/> Thin Muck Surface (C7) |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) | <input type="checkbox"/> Other (Explain in Remarks) |
| <input type="checkbox"/> Water-Stained Leaves (B9) | |

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- Sparsely Vegetated Concave Surface (B8)
- Drainage Patterns (B10)
- Oxidized Rhizospheres on Living Roots (C3)
- (where tilled)**
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)
- Geomorphic Position (D2)
- FAC-Neutral Test (D5)
- Frost-Heave Hummocks (D7) (LRR F)

Field Observations:

Surface Water Present? Yes X No _____ Depth (inches): <2
 Water Table Present? Yes X No _____ Depth (inches): 0
 Saturation Present? (includes capillary fringe) Yes X No _____ Depth (inches): 0

Wetland Hydrology Present? Yes X No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:







WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Lake Ralph Hall Supplemental JD City/County: Ladonia/Fannin Sampling Date: 5/31/2017
 Applicant/Owner: Upper Trinity Regional Water District State: TX Sampling Point: WP 11
 Investigator(s): Jason Voight, Andrew Sample Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): Valley Local relief (concave, convex, none): Concave Slope (%): 0-1%
 Subregion (LRR): Southwest Prairies Lat: 33.45325 Long: -95.94321 Datum: NAD83
 Soil Map Unit Name: Tinn Clay, Occasionally Flooded NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____
 Are Vegetation _____, Soil X, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes _____ No <u>X</u> Hydric Soil Present? Yes _____ No <u>X</u> Wetland Hydrology Present? Yes _____ No <u>X</u>	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u>
Remarks: Remnant former North Sulphur River channel located within field west of SH 34; has been previously filled but still depressionally feature; not hydraulically or hydrologically connected to existing North Sulphur River channel	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>700 sq ft</u>)	Absolute % Cover	Dominant Species?	Indicator Status																						
1. <u>Salix nigra</u>	50	Yes	FACW	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>50%</u> (A/B)																					
2. _____	_____	_____	_____																						
3. _____	_____	_____	_____																						
4. _____	_____	_____	_____																						
50 = Total Cover				Prevalence Index worksheet: <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="text-align: right;">Total % Cover of:</td> <td style="text-align: right;">Multiply by:</td> <td></td> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 =</td> <td><u>0</u></td> </tr> <tr> <td>FACW species <u>50</u></td> <td>x 2 =</td> <td><u>100</u></td> </tr> <tr> <td>FAC species <u>20</u></td> <td>x 3 =</td> <td><u>60</u></td> </tr> <tr> <td>FACU species <u>20</u></td> <td>x 4 =</td> <td><u>80</u></td> </tr> <tr> <td>UPL species <u>50</u></td> <td>x 5 =</td> <td><u>250</u></td> </tr> <tr> <td>Column Totals: <u>140</u> (A)</td> <td></td> <td><u>490</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>3.5</u>	Total % Cover of:	Multiply by:		OBL species <u>0</u>	x 1 =	<u>0</u>	FACW species <u>50</u>	x 2 =	<u>100</u>	FAC species <u>20</u>	x 3 =	<u>60</u>	FACU species <u>20</u>	x 4 =	<u>80</u>	UPL species <u>50</u>	x 5 =	<u>250</u>	Column Totals: <u>140</u> (A)		<u>490</u> (B)
Total % Cover of:	Multiply by:																								
OBL species <u>0</u>	x 1 =	<u>0</u>																							
FACW species <u>50</u>	x 2 =	<u>100</u>																							
FAC species <u>20</u>	x 3 =	<u>60</u>																							
FACU species <u>20</u>	x 4 =	<u>80</u>																							
UPL species <u>50</u>	x 5 =	<u>250</u>																							
Column Totals: <u>140</u> (A)		<u>490</u> (B)																							
0 = Total Cover																									
Sapling/Shrub Stratum (Plot size: <u>700 sq ft</u>)																									
1. _____	_____	_____	_____																						
2. _____	_____	_____	_____																						
3. _____	_____	_____	_____																						
4. _____	_____	_____	_____																						
5. _____	_____	_____	_____																						
0 = Total Cover																									
Herb Stratum (Plot size: <u>450 sq ft</u>)																									
1. <u>Lolium multiflorum</u>	50	Yes	UPL	Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)																					
2. <u>Rumex altissimus</u>	10	No	FAC																						
3. <u>Helianthus annuus</u>	10	No	FACU																						
4. <u>Setaria parviflora</u>	10	No	FAC																						
5. <u>Rudbeckia hirta</u>	10	No	FACU																						
6. _____	_____	_____	_____																						
7. _____	_____	_____	_____																						
8. _____	_____	_____	_____																						
9. _____	_____	_____	_____																						
10. _____	_____	_____	_____																						
90 = Total Cover																									
Woody Vine Stratum (Plot size: <u>450 sq ft</u>)																									
1. _____	_____	_____	_____																						
2. _____	_____	_____	_____																						
0 = Total Cover																									
% Bare Ground in Herb Stratum <u>10</u>																									

Remarks:
 Remnant channel located within field recently tilled

SOIL

Sampling Point: WP 11

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-18	10 YR 2/1	90					Clay	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- | | |
|--|--|
| <input type="checkbox"/> Histosol (A1) | <input type="checkbox"/> Sandy Gleyed Matrix (S4) |
| <input type="checkbox"/> Histic Epipedon (A2) | <input type="checkbox"/> Sandy Redox (S5) |
| <input type="checkbox"/> Black Histic (A3) | <input type="checkbox"/> Stripped Matrix (S6) |
| <input type="checkbox"/> Hydrogen Sulfide (A4) | <input type="checkbox"/> Loamy Mucky Mineral (F1) |
| <input type="checkbox"/> Stratified Layers (A5) (LRR F) | <input type="checkbox"/> Loamy Gleyed Matrix (F2) |
| <input type="checkbox"/> 1 cm Muck (A9) (LRR F, G, H) | <input type="checkbox"/> Depleted Matrix (F3) |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Redox Dark Surface (F6) |
| <input type="checkbox"/> Thick Dark Surface (A12) | <input type="checkbox"/> Depleted Dark Surface (F7) |
| <input type="checkbox"/> Sandy Mucky Mineral (S1) | <input type="checkbox"/> Redox Depressions (F8) |
| <input type="checkbox"/> 2.5 cm Mucky Peat or Peat (S2) (LRR G, H) | <input type="checkbox"/> High Plains Depressions (F16) |
| <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR F) | |
- (MLRA 72 & 73 of LRR H)**

Indicators for Problematic Hydric Soils³:

- 1 cm Muck (A9) (LRR I, J)
- Coast Prairie Redox (A16) (LRR F, G, H)
- Dark Surface (S7) (LRR G)
- High Plains Depressions (F16)
- (LRR H outside of MLRA 72 & 73)**
- Reduced Vertic (F18)
- Red Parent Material (TF2)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes _____ No ^X _____

Remarks:

No redox features observed; Tinn clay, occasionally flooded is nationally listed hydric soil; naturally dark soil

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- | | |
|--|---|
| <input type="checkbox"/> Surface Water (A1) | <input type="checkbox"/> Salt Crust (B11) |
| <input type="checkbox"/> High Water Table (A2) | <input type="checkbox"/> Aquatic Invertebrates (B13) |
| <input type="checkbox"/> Saturation (A3) | <input type="checkbox"/> Hydrogen Sulfide Odor (C1) |
| <input type="checkbox"/> Water Marks (B1) | <input type="checkbox"/> Dry-Season Water Table (C2) |
| <input type="checkbox"/> Sediment Deposits (B2) | <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) |
| <input type="checkbox"/> Drift Deposits (B3) | (where not tilled) |
| <input type="checkbox"/> Algal Mat or Crust (B4) | <input type="checkbox"/> Presence of Reduced Iron (C4) |
| <input type="checkbox"/> Iron Deposits (B5) | <input type="checkbox"/> Thin Muck Surface (C7) |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) | <input type="checkbox"/> Other (Explain in Remarks) |
| <input type="checkbox"/> Water-Stained Leaves (B9) | |

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- Sparsely Vegetated Concave Surface (B8)
- Drainage Patterns (B10)
- Oxidized Rhizospheres on Living Roots (C3)
- (where tilled)**
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)
- Geomorphic Position (D2)
- FAC-Neutral Test (D5)
- Frost-Heave Hummocks (D7) (LRR F)

Field Observations:

Surface Water Present? Yes _____ No ^X _____ Depth (inches): _____
 Water Table Present? Yes _____ No ^X _____ Depth (inches): _____
 Saturation Present? (includes capillary fringe) Yes _____ No ^X _____ Depth (inches): _____

Wetland Hydrology Present? Yes _____ No ^X _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Remnant former North Sulphur River channel west of SH 34; previously filled but still depressional



WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Lake Ralph Hall Supplemental JD City/County: Ladonia/Fannin Sampling Date: 5/31/2017
 Applicant/Owner: Upper Trinity Regional Water District State: TX Sampling Point: WP 12
 Investigator(s): Jason Voight, Andrew Sample Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): Valley Local relief (concave, convex, none): Concave Slope (%): 0-1%
 Subregion (LRR): Southwest Prairies Lat: 33.45361 Long: -95.94423 Datum: NAD83
 Soil Map Unit Name: Tinn Clay, Occasionally Flooded NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____
 Are Vegetation _____, Soil X, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No _____ Hydric Soil Present? Yes _____ No <u>X</u> Wetland Hydrology Present? Yes _____ No <u>X</u>	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u>
Remarks: Remnant former North Sulphur River channel located within field west of SH 34; has been previously filled but still depressional feature; not hydraulically or hydrologically connected to existing North Sulphur River channel	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>700 sq ft</u>)	Absolute % Cover	Dominant Species?	Indicator Status		
1. <u>Salix nigra</u>	40	Yes	FACW	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): <u>5</u> (A) Total Number of Dominant Species Across All Strata: <u>7</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>71%</u> (A/B)	
2. <u>Celtis laevigata</u>	20	Yes	FAC		
3. _____	_____	_____	_____		
4. _____	_____	_____	_____		
		60 = Total Cover		Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____	
Sapling/Shrub Stratum (Plot size: <u>700 sq ft</u>)	Absolute % Cover	Dominant Species?	Indicator Status		
1. _____	_____	_____	_____		
2. _____	_____	_____	_____		
3. _____	_____	_____	_____		
4. _____	_____	_____	_____		
5. _____	_____	_____	_____		
		0 = Total Cover			
Herb Stratum (Plot size: <u>450 sq ft</u>)	Absolute % Cover	Dominant Species?	Indicator Status		
1. <u>Lolium multiflorum</u>	15	Yes	UPL	Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)	
2. <u>Sorghum halepense</u>	15	Yes	FACU		
3. <u>Eleocharis palustris</u>	15	Yes	OBL		
4. <u>Rumex altissimus</u>	15	Yes	FAC		
5. <u>Xanthium strumarium</u>	15	Yes	FAC		
6. _____	_____	_____	_____		
7. _____	_____	_____	_____		
8. _____	_____	_____	_____		
9. _____	_____	_____	_____		
10. _____	_____	_____	_____		
		75 = Total Cover			
Woody Vine Stratum (Plot size: <u>450 sq ft</u>)	Absolute % Cover	Dominant Species?	Indicator Status		
1. <u>Nekemias arborea</u>	5	No	FAC	Hydrophytic Vegetation Present? Yes <u>X</u> No _____	
2. _____	_____	_____	_____		
		5 = Total Cover			
% Bare Ground in Herb Stratum <u>25</u>					
Remarks: Remnant channel located within field recently tilled.					

SOIL

Sampling Point: WP 12

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-18	10 YR 2/1	90					Clay	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- | | |
|--|--|
| <input type="checkbox"/> Histosol (A1) | <input type="checkbox"/> Sandy Gleyed Matrix (S4) |
| <input type="checkbox"/> Histic Epipedon (A2) | <input type="checkbox"/> Sandy Redox (S5) |
| <input type="checkbox"/> Black Histic (A3) | <input type="checkbox"/> Stripped Matrix (S6) |
| <input type="checkbox"/> Hydrogen Sulfide (A4) | <input type="checkbox"/> Loamy Mucky Mineral (F1) |
| <input type="checkbox"/> Stratified Layers (A5) (LRR F) | <input type="checkbox"/> Loamy Gleyed Matrix (F2) |
| <input type="checkbox"/> 1 cm Muck (A9) (LRR F, G, H) | <input type="checkbox"/> Depleted Matrix (F3) |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Redox Dark Surface (F6) |
| <input type="checkbox"/> Thick Dark Surface (A12) | <input type="checkbox"/> Depleted Dark Surface (F7) |
| <input type="checkbox"/> Sandy Mucky Mineral (S1) | <input type="checkbox"/> Redox Depressions (F8) |
| <input type="checkbox"/> 2.5 cm Mucky Peat or Peat (S2) (LRR G, H) | <input type="checkbox"/> High Plains Depressions (F16) |
| <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR F) | |
- (MLRA 72 & 73 of LRR H)**

Indicators for Problematic Hydric Soils³:

- 1 cm Muck (A9) (LRR I, J)
- Coast Prairie Redox (A16) (LRR F, G, H)
- Dark Surface (S7) (LRR G)
- High Plains Depressions (F16)
- (LRR H outside of MLRA 72 & 73)**
- Reduced Vertic (F18)
- Red Parent Material (TF2)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes _____ No ^X _____

Remarks:

No redox features observed; Tinn clay, occasionally flooded is nationally listed hydric soil; naturally dark soil

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- | | |
|--|---|
| <input type="checkbox"/> Surface Water (A1) | <input type="checkbox"/> Salt Crust (B11) |
| <input type="checkbox"/> High Water Table (A2) | <input type="checkbox"/> Aquatic Invertebrates (B13) |
| <input type="checkbox"/> Saturation (A3) | <input type="checkbox"/> Hydrogen Sulfide Odor (C1) |
| <input type="checkbox"/> Water Marks (B1) | <input type="checkbox"/> Dry-Season Water Table (C2) |
| <input type="checkbox"/> Sediment Deposits (B2) | <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) |
| <input type="checkbox"/> Drift Deposits (B3) | (where not tilled) |
| <input type="checkbox"/> Algal Mat or Crust (B4) | <input type="checkbox"/> Presence of Reduced Iron (C4) |
| <input type="checkbox"/> Iron Deposits (B5) | <input type="checkbox"/> Thin Muck Surface (C7) |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) | <input type="checkbox"/> Other (Explain in Remarks) |
| <input type="checkbox"/> Water-Stained Leaves (B9) | |

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- Sparsely Vegetated Concave Surface (B8)
- Drainage Patterns (B10)
- Oxidized Rhizospheres on Living Roots (C3)
- (where tilled)**
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)
- Geomorphic Position (D2)
- FAC-Neutral Test (D5)
- Frost-Heave Hummocks (D7) (LRR F)

Field Observations:

Surface Water Present? Yes _____ No ^X _____ Depth (inches): _____
 Water Table Present? Yes _____ No ^X _____ Depth (inches): _____
 Saturation Present? (includes capillary fringe) Yes _____ No ^X _____ Depth (inches): _____

Wetland Hydrology Present? Yes _____ No ^X _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Remnant former North Sulphur River channel west of SH 34; previously filled but still depressional





WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Lake Ralph Hall Supplemental JD City/County: Ladonia/Fannin Sampling Date: 5/31/2017
 Applicant/Owner: Upper Trinity Regional Water District State: TX Sampling Point: WP 13
 Investigator(s): Jason Voight, Andrew Sample Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): Valley Local relief (concave, convex, none): Concave Slope (%): 0-1%
 Subregion (LRR): Southwest Prairies Lat: 33.45447 Long: -95.94407 Datum: NAD83
 Soil Map Unit Name: Tinn Clay, Occasionally Flooded NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____
 Are Vegetation _____, Soil X, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No _____ Hydric Soil Present? Yes _____ No <u>X</u> Wetland Hydrology Present? Yes <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u>
Remarks: Remnant former North Sulphur River channel located within field west of SH 34; has been previously filled but still depressionally feature; not hydraulically or hydrologically connected to existing North Sulphur River channel	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>700 sq ft</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Salix nigra</u>	50	Yes	FACW	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): <u>3</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100%</u> (A/B)
2. <u>Ulmus americana</u>	30	Yes	FAC	
3. _____				
4. _____				
				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
80 = Total Cover				
Sapling/Shrub Stratum (Plot size: <u>700 sq ft</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Ulmus americana</u>	10	No	FAC	
2. <u>Celtis laevigata</u>	5	No	FAC	
3. _____				
4. _____				
5. _____				
				Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
15 = Total Cover				
Herb Stratum (Plot size: <u>450 sq ft</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Lolium multiflorum</u>	10	No	UPL	
2. <u>Rumex altissimus</u>	5	No	FAC	
3. <u>Carex cros-corvi</u>	15	Yes	OBL	
4. <u>Sorghum halepense</u>	2	No	FACU	
5. <u>Toxicodendron radicans</u>	3	No	FACU	
6. _____				
7. _____				
8. _____				
9. _____				
10. _____				
				Hydrophytic Vegetation Present? Yes <u>X</u> No _____
35 = Total Cover				
Woody Vine Stratum (Plot size: <u>450 sq ft</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____				
2. _____				
				Hydrophytic Vegetation Present? Yes <u>X</u> No _____
0 = Total Cover				
% Bare Ground in Herb Stratum <u>65</u>				

Remarks:
 Remnant channel located within field where recent tillage occurred

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-18	10 YR 2/1	90					Clay	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- | | |
|--|--|
| <input type="checkbox"/> Histosol (A1) | <input type="checkbox"/> Sandy Gleyed Matrix (S4) |
| <input type="checkbox"/> Histic Epipedon (A2) | <input type="checkbox"/> Sandy Redox (S5) |
| <input type="checkbox"/> Black Histic (A3) | <input type="checkbox"/> Stripped Matrix (S6) |
| <input type="checkbox"/> Hydrogen Sulfide (A4) | <input type="checkbox"/> Loamy Mucky Mineral (F1) |
| <input type="checkbox"/> Stratified Layers (A5) (LRR F) | <input type="checkbox"/> Loamy Gleyed Matrix (F2) |
| <input type="checkbox"/> 1 cm Muck (A9) (LRR F, G, H) | <input type="checkbox"/> Depleted Matrix (F3) |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Redox Dark Surface (F6) |
| <input type="checkbox"/> Thick Dark Surface (A12) | <input type="checkbox"/> Depleted Dark Surface (F7) |
| <input type="checkbox"/> Sandy Mucky Mineral (S1) | <input type="checkbox"/> Redox Depressions (F8) |
| <input type="checkbox"/> 2.5 cm Mucky Peat or Peat (S2) (LRR G, H) | <input type="checkbox"/> High Plains Depressions (F16) |
| <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR F) | |
- (MLRA 72 & 73 of LRR H)**

Indicators for Problematic Hydric Soils³:

- 1 cm Muck (A9) (LRR I, J)
- Coast Prairie Redox (A16) (LRR F, G, H)
- Dark Surface (S7) (LRR G)
- High Plains Depressions (F16) (LRR H outside of MLRA 72 & 73)
- Reduced Vertic (F18)
- Red Parent Material (TF2)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes _____ No ^X _____

Remarks:

No redox features observed; Tinn clay, occasionally flooded is nationally listed hydric soil; naturally dark soil

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- | | |
|--|--|
| <input type="checkbox"/> Surface Water (A1) | <input type="checkbox"/> Salt Crust (B11) |
| <input type="checkbox"/> High Water Table (A2) | <input type="checkbox"/> Aquatic Invertebrates (B13) |
| <input type="checkbox"/> Saturation (A3) | <input type="checkbox"/> Hydrogen Sulfide Odor (C1) |
| <input checked="" type="checkbox"/> Water Marks (B1) | <input type="checkbox"/> Dry-Season Water Table (C2) |
| <input type="checkbox"/> Sediment Deposits (B2) | <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) (where tilled) |
| <input type="checkbox"/> Drift Deposits (B3) | <input type="checkbox"/> Presence of Reduced Iron (C4) (where not tilled) |
| <input type="checkbox"/> Algal Mat or Crust (B4) | <input type="checkbox"/> Thin Muck Surface (C7) |
| <input type="checkbox"/> Iron Deposits (B5) | <input type="checkbox"/> Other (Explain in Remarks) |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) | |
| <input type="checkbox"/> Water-Stained Leaves (B9) | |

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- Sparsely Vegetated Concave Surface (B8)
- Drainage Patterns (B10)
- Oxidized Rhizospheres on Living Roots (C3) (where tilled)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)
- Geomorphic Position (D2)
- FAC-Neutral Test (D5)
- Frost-Heave Hummocks (D7) (LRR F)

Field Observations:

Surface Water Present? Yes _____ No ^X _____ Depth (inches): _____
 Water Table Present? Yes _____ No ^X _____ Depth (inches): _____
 Saturation Present? (includes capillary fringe) Yes _____ No ^X _____ Depth (inches): _____

Wetland Hydrology Present? Yes ^X _____ No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Remnant former North Sulphur River channel west of SH 34; previously filled but still depressional





WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Lake Ralph Hall Supplemental JD City/County: Ladonia/Fannin Sampling Date: 5/31/2017
 Applicant/Owner: Upper Trinity Regional Water District State: TX Sampling Point: WP 14
 Investigator(s): Jason Voight, Andrew Sample Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): Valley Local relief (concave, convex, none): Concave Slope (%): 0-1%
 Subregion (LRR): Southwest Prairies Lat: 33.4532 Long: -95.9451 Datum: NAD83
 Soil Map Unit Name: Tinn Clay, Occasionally Flooded NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____
 Are Vegetation _____, Soil X, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No _____ Hydric Soil Present? Yes _____ No <u>X</u> Wetland Hydrology Present? Yes _____ No <u>X</u>	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u>
Remarks: Outside edge of forested wetland within remnant former North Sulphur River channel; former channel not hydraulically or hydrologically connected to existing North Sulphur River channel	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>700 sq ft</u>)	Absolute % Cover	Dominant Species?	Indicator Status		
1. <u>Carya illinoensis</u>	<u>90</u>	<u>Yes</u>	<u>FAC</u>	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100%</u> (A/B)	
2. <u>Celtis laevigata</u>	<u>5</u>	<u>No</u>	<u>FAC</u>		
3. <u>Ulmus americana</u>	<u>5</u>	<u>No</u>	<u>FAC</u>		
4. _____	_____	_____	_____		
<u>100</u> = Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____	
Sapling/Shrub Stratum (Plot size: <u>700 sq ft</u>)	Absolute % Cover	Dominant Species?	Indicator Status		
1. <u>Celtis laevigata</u>	<u>10</u>	<u>Yes</u>	<u>FAC</u>		Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. _____	_____	_____	_____		
3. _____	_____	_____	_____		
4. _____	_____	_____	_____		
5. _____	_____	_____	_____		
<u>10</u> = Total Cover					
Herb Stratum (Plot size: <u>450 sq ft</u>)	Absolute % Cover	Dominant Species?	Indicator Status		
1. <u>Lolium multiflorum</u>	<u>5</u>	<u>No</u>	<u>UPL</u>	Hydrophytic Vegetation Present? Yes <u>X</u> No _____	
2. _____	_____	_____	_____		
3. _____	_____	_____	_____		
4. _____	_____	_____	_____		
5. _____	_____	_____	_____		
6. _____	_____	_____	_____		
7. _____	_____	_____	_____		
8. _____	_____	_____	_____		
9. _____	_____	_____	_____		
10. _____	_____	_____	_____		
<u>5</u> = Total Cover					
Woody Vine Stratum (Plot size: <u>450 sq ft</u>)	Absolute % Cover	Dominant Species?	Indicator Status		
1. _____	_____	_____	_____	Hydrophytic Vegetation Present? Yes <u>X</u> No _____	
2. _____	_____	_____	_____		
<u>0</u> = Total Cover					
% Bare Ground in Herb Stratum <u>95</u>					

Remarks:
Outside edge of forested wetland within remnant former channel of North Sulphur River located within field west of SH 34

SOIL

Sampling Point: WP 14

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-18	10 YR 2/1	99	10 YR 4/6	1	C	M	Clay	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- | | |
|--|--|
| <input type="checkbox"/> Histosol (A1) | <input type="checkbox"/> Sandy Gleyed Matrix (S4) |
| <input type="checkbox"/> Histic Epipedon (A2) | <input type="checkbox"/> Sandy Redox (S5) |
| <input type="checkbox"/> Black Histic (A3) | <input type="checkbox"/> Stripped Matrix (S6) |
| <input type="checkbox"/> Hydrogen Sulfide (A4) | <input type="checkbox"/> Loamy Mucky Mineral (F1) |
| <input type="checkbox"/> Stratified Layers (A5) (LRR F) | <input type="checkbox"/> Loamy Gleyed Matrix (F2) |
| <input type="checkbox"/> 1 cm Muck (A9) (LRR F, G, H) | <input type="checkbox"/> Depleted Matrix (F3) |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Redox Dark Surface (F6) |
| <input type="checkbox"/> Thick Dark Surface (A12) | <input type="checkbox"/> Depleted Dark Surface (F7) |
| <input type="checkbox"/> Sandy Mucky Mineral (S1) | <input type="checkbox"/> Redox Depressions (F8) |
| <input type="checkbox"/> 2.5 cm Mucky Peat or Peat (S2) (LRR G, H) | <input type="checkbox"/> High Plains Depressions (F16) |
| <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR F) | |
- (MLRA 72 & 73 of LRR H)**

Indicators for Problematic Hydric Soils³:

- 1 cm Muck (A9) (LRR I, J)
- Coast Prairie Redox (A16) (LRR F, G, H)
- Dark Surface (S7) (LRR G)
- High Plains Depressions (F16)
- (LRR H outside of MLRA 72 & 73)**
- Reduced Vertic (F18)
- Red Parent Material (TF2)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes _____ No ^X _____

Remarks:

Insufficient redox features observed; Tinn clay, occasionally flooded is nationally listed hydric soil; naturally dark soil

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- | | |
|--|---|
| <input type="checkbox"/> Surface Water (A1) | <input type="checkbox"/> Salt Crust (B11) |
| <input type="checkbox"/> High Water Table (A2) | <input type="checkbox"/> Aquatic Invertebrates (B13) |
| <input type="checkbox"/> Saturation (A3) | <input type="checkbox"/> Hydrogen Sulfide Odor (C1) |
| <input type="checkbox"/> Water Marks (B1) | <input type="checkbox"/> Dry-Season Water Table (C2) |
| <input type="checkbox"/> Sediment Deposits (B2) | <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) |
| <input type="checkbox"/> Drift Deposits (B3) | (where not tilled) |
| <input type="checkbox"/> Algal Mat or Crust (B4) | <input type="checkbox"/> Presence of Reduced Iron (C4) |
| <input type="checkbox"/> Iron Deposits (B5) | <input type="checkbox"/> Thin Muck Surface (C7) |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) | <input type="checkbox"/> Other (Explain in Remarks) |
| <input type="checkbox"/> Water-Stained Leaves (B9) | |

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- Sparsely Vegetated Concave Surface (B8)
- Drainage Patterns (B10)
- Oxidized Rhizospheres on Living Roots (C3)
- (where tilled)**
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)
- Geomorphic Position (D2)
- FAC-Neutral Test (D5)
- Frost-Heave Hummocks (D7) (LRR F)

Field Observations:

Surface Water Present? Yes _____ No ^X _____ Depth (inches): _____
 Water Table Present? Yes _____ No ^X _____ Depth (inches): _____
 Saturation Present? (includes capillary fringe) Yes _____ No ^X _____ Depth (inches): _____

Wetland Hydrology Present? Yes _____ No ^X _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Outside edge of forested wetland within remnant former North Sulphur River channel west of SH 34







WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Lake Ralph Hall Supplemental JD City/County: Ladonia/Fannin Sampling Date: 6/2/2017
 Applicant/Owner: Upper Trinity Regional Water District State: TX Sampling Point: WP57
 Investigator(s): Jason Voight, Andrew Sample Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): Valley Local relief (concave, convex, none): Concave Slope (%): 0-1%
 Subregion (LRR): Southwest Prairies Lat: 33.45353 Long: -96.01078 Datum: NAD83
 Soil Map Unit Name: Tinn Clay, Occasionally Flooded NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____
 Are Vegetation _____, Soil X, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No _____ Hydric Soil Present? Yes <u>X</u> No _____ Wetland Hydrology Present? Yes <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes <u>X</u> No _____
Remarks: Heavy storms the previous day; forested wetland in wooded area near North Sulphur River channel	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>700 sq ft</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Fraxinus pennsylvanica</u>	85	Yes	FAC	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
85 = Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
Sapling/Shrub Stratum (Plot size: <u>700 sq ft</u>)				
1. <u>Fraxinus pennsylvanica</u>	10	No	FAC	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
10 = Total Cover				
Herb Stratum (Plot size: <u>450 sq ft</u>)				
1. <u>Ptilimnium nutalli</u>	85	Yes	FACW	Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
2. <u>Carex blanda</u>	5	No	FAC	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
90 = Total Cover				
Woody Vine Stratum (Plot size: <u>450 sq ft</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
0 = Total Cover				
% Bare Ground in Herb Stratum <u>10</u>				
Remarks:				

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

SOIL

Sampling Point: WP57

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-2	10 YR 3/2	100	10 YR 5/4	15	C	M	Clay	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- | | |
|--|---|
| <input type="checkbox"/> Histosol (A1) | <input type="checkbox"/> Sandy Gleyed Matrix (S4) |
| <input type="checkbox"/> Histic Epipedon (A2) | <input type="checkbox"/> Sandy Redox (S5) |
| <input type="checkbox"/> Black Histic (A3) | <input type="checkbox"/> Stripped Matrix (S6) |
| <input type="checkbox"/> Hydrogen Sulfide (A4) | <input type="checkbox"/> Loamy Mucky Mineral (F1) |
| <input type="checkbox"/> Stratified Layers (A5) (LRR F) | <input type="checkbox"/> Loamy Gleyed Matrix (F2) |
| <input type="checkbox"/> 1 cm Muck (A9) (LRR F, G, H) | <input type="checkbox"/> Depleted Matrix (F3) |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input checked="" type="checkbox"/> Redox Dark Surface (F6) |
| <input type="checkbox"/> Thick Dark Surface (A12) | <input type="checkbox"/> Depleted Dark Surface (F7) |
| <input type="checkbox"/> Sandy Mucky Mineral (S1) | <input checked="" type="checkbox"/> Redox Depressions (F8) |
| <input type="checkbox"/> 2.5 cm Mucky Peat or Peat (S2) (LRR G, H) | <input type="checkbox"/> High Plains Depressions (F16) |
| <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR F) | |
- (MLRA 72 & 73 of LRR H)**

Indicators for Problematic Hydric Soils³:

- 1 cm Muck (A9) (LRR I, J)
- Coast Prairie Redox (A16) (LRR F, G, H)
- Dark Surface (S7) (LRR G)
- High Plains Depressions (F16)
- (LRR H outside of MLRA 72 & 73)**
- Reduced Vertic (F18)
- Red Parent Material (TF2)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes X No _____

Remarks:

Redox features present; Tinn clay, occasionally flooded is nationally listed hydric soil; naturally dark soil

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- | | |
|--|---|
| <input checked="" type="checkbox"/> Surface Water (A1) | <input type="checkbox"/> Salt Crust (B11) |
| <input type="checkbox"/> High Water Table (A2) | <input type="checkbox"/> Aquatic Invertebrates (B13) |
| <input checked="" type="checkbox"/> Saturation (A3) | <input type="checkbox"/> Hydrogen Sulfide Odor (C1) |
| <input checked="" type="checkbox"/> Water Marks (B1) | <input type="checkbox"/> Dry-Season Water Table (C2) |
| <input type="checkbox"/> Sediment Deposits (B2) | <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) |
| <input type="checkbox"/> Drift Deposits (B3) | (where not tilled) |
| <input type="checkbox"/> Algal Mat or Crust (B4) | <input type="checkbox"/> Presence of Reduced Iron (C4) |
| <input type="checkbox"/> Iron Deposits (B5) | <input type="checkbox"/> Thin Muck Surface (C7) |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) | <input type="checkbox"/> Other (Explain in Remarks) |
| <input type="checkbox"/> Water-Stained Leaves (B9) | |

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- Sparsely Vegetated Concave Surface (B8)
- Drainage Patterns (B10)
- Oxidized Rhizospheres on Living Roots (C3)
- (where tilled)**
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)
- Geomorphic Position (D2)
- FAC-Neutral Test (D5)
- Frost-Heave Hummocks (D7) (LRR F)

Field Observations:

Surface Water Present? Yes X No _____ Depth (inches): 3
 Water Table Present? Yes X No _____ Depth (inches): 0
 Saturation Present? Yes X No _____ Depth (inches): 0
 (includes capillary fringe)

Wetland Hydrology Present? Yes X No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:







WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Lake Ralph Hall Supplemental JD City/County: Ladonia/Fannin Sampling Date: 6/2/2017
 Applicant/Owner: Upper Trinity Regional Water District State: TX Sampling Point: WP58
 Investigator(s): Jason Voight, Andrew Sample Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): Valley Local relief (concave, convex, none): Concave Slope (%): 0-1%
 Subregion (LRR): Southwest Prairies Lat: 33.45353 Long: -96.01074 Datum: NAD83
 Soil Map Unit Name: Tinn Clay, Occasionally Flooded NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____
 Are Vegetation _____, Soil X, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No _____ Hydric Soil Present? Yes _____ No <u>X</u> Wetland Hydrology Present? Yes _____ No <u>X</u>	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u>
Remarks: <u>Outside of the forested wetland delineated in wp57</u>	

VEGETATION – Use scientific names of plants.

Stratum	Absolute % Cover	Dominant Species?	Indicator Status	
Tree Stratum (Plot size: <u>700 sq ft</u>)				
1. <u>Fraxinus pennsylvanica</u>	<u>20</u>	Yes	FAC	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): <u>3</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
2. <u>Celtis laevigata</u>	<u>60</u>	Yes	FAC	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
<u>80</u> = Total Cover				
Sapling/Shrub Stratum (Plot size: <u>700 sq ft</u>)				
1. <u>Fraxinus pennsylvanica</u>	<u>10</u>	No	FAC	Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
2. <u>Celtis laevigata</u>	<u>15</u>	No	FAC	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>25</u> = Total Cover				
Herb Stratum (Plot size: <u>450 sq ft</u>)				
1. <u>Amaranthus tuberculatus</u>	<u>70</u>	Yes	FAC	Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. <u>Ptilimnium nutalli</u>	<u>5</u>	No	FACW	
3. <u>Elymus virginicus</u>	<u>5</u>	No	FAC	
4. <u>Carex blanda</u>	<u>5</u>	No	FAC	
5. <u>Viola missouriensis</u>	<u>5</u>	No	FACW	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
<u>90</u> = Total Cover				
Woody Vine Stratum (Plot size: <u>450 sq ft</u>)				
1. _____	_____	_____	_____	Hydrophytic Vegetation Present? Yes <u>X</u> No _____
2. _____	_____	_____	_____	
<u>0</u> = Total Cover				
% Bare Ground in Herb Stratum <u>10</u>				
Remarks:				

SOIL

Sampling Point: WP58

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-2	10 YR 3/2	100					Clay	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- | | |
|--|--|
| <input type="checkbox"/> Histosol (A1) | <input type="checkbox"/> Sandy Gleyed Matrix (S4) |
| <input type="checkbox"/> Histic Epipedon (A2) | <input type="checkbox"/> Sandy Redox (S5) |
| <input type="checkbox"/> Black Histic (A3) | <input type="checkbox"/> Stripped Matrix (S6) |
| <input type="checkbox"/> Hydrogen Sulfide (A4) | <input type="checkbox"/> Loamy Mucky Mineral (F1) |
| <input type="checkbox"/> Stratified Layers (A5) (LRR F) | <input type="checkbox"/> Loamy Gleyed Matrix (F2) |
| <input type="checkbox"/> 1 cm Muck (A9) (LRR F, G, H) | <input type="checkbox"/> Depleted Matrix (F3) |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Redox Dark Surface (F6) |
| <input type="checkbox"/> Thick Dark Surface (A12) | <input type="checkbox"/> Depleted Dark Surface (F7) |
| <input type="checkbox"/> Sandy Mucky Mineral (S1) | <input type="checkbox"/> Redox Depressions (F8) |
| <input type="checkbox"/> 2.5 cm Mucky Peat or Peat (S2) (LRR G, H) | <input type="checkbox"/> High Plains Depressions (F16) |
| <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR F) | |
- (MLRA 72 & 73 of LRR H)**

Indicators for Problematic Hydric Soils³:

- 1 cm Muck (A9) (LRR I, J)
- Coast Prairie Redox (A16) (LRR F, G, H)
- Dark Surface (S7) (LRR G)
- High Plains Depressions (F16)
- (LRR H outside of MLRA 72 & 73)**
- Reduced Vertic (F18)
- Red Parent Material (TF2)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:

No redox features present; Tinn clay, occasionally flooded is nationally listed hydric soil; naturally dark soil

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- | | |
|--|---|
| <input type="checkbox"/> Surface Water (A1) | <input type="checkbox"/> Salt Crust (B11) |
| <input type="checkbox"/> High Water Table (A2) | <input type="checkbox"/> Aquatic Invertebrates (B13) |
| <input type="checkbox"/> Saturation (A3) | <input type="checkbox"/> Hydrogen Sulfide Odor (C1) |
| <input type="checkbox"/> Water Marks (B1) | <input type="checkbox"/> Dry-Season Water Table (C2) |
| <input type="checkbox"/> Sediment Deposits (B2) | <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) |
| <input type="checkbox"/> Drift Deposits (B3) | (where not tilled) |
| <input type="checkbox"/> Algal Mat or Crust (B4) | <input type="checkbox"/> Presence of Reduced Iron (C4) |
| <input type="checkbox"/> Iron Deposits (B5) | <input type="checkbox"/> Thin Muck Surface (C7) |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) | <input type="checkbox"/> Other (Explain in Remarks) |
| <input type="checkbox"/> Water-Stained Leaves (B9) | |

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- Sparsely Vegetated Concave Surface (B8)
- Drainage Patterns (B10)
- Oxidized Rhizospheres on Living Roots (C3)
- (where tilled)**
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)
- Geomorphic Position (D2)
- FAC-Neutral Test (D5)
- Frost-Heave Hummocks (D7) (LRR F)

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches): _____
 Water Table Present? Yes _____ No X Depth (inches): _____
 Saturation Present? (includes capillary fringe) Yes _____ No X Depth (inches): _____

Wetland Hydrology Present? Yes _____ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:





WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Lake Ralph Hall Supplemental JD City/County: Ladonia/Fannin Sampling Date: 6/1/2017
 Applicant/Owner: Upper Trinity Regional Water District State: TX Sampling Point: WP86
 Investigator(s): Jason Voight, Andrew Sample Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): Valley Local relief (concave, convex, none): Concave Slope (%): 0-1%
 Subregion (LRR): Southwest Prairies Lat: 33.45293 Long: -95.97781 Datum: NAD83
 Soil Map Unit Name: Tinn Clay, Occasionally Flooded NWI classification: PFO1A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____
 Are Vegetation _____, Soil X, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No _____ Hydric Soil Present? Yes _____ No <u>X</u> Wetland Hydrology Present? Yes <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u>
Remarks: depressional area associated with former channel scar; not hydraulically connected to any existing stream channel	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>700 sq ft</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Fraxinus pennsylvanica</u>	5	No	FAC	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
2. <u>Celtis laevigata</u>	30	Yes	FAC	
3. <u>Ulmus crassifolia/Ulmus americana</u>	10/30	No/Yes	FAC/FAC	
4. <u>Quercus shumardii/Quercus macrocarpa</u>	5/5	No/No	FAC/FACU	
<u>85</u> = Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
<u>35</u> = Total Cover				
<u>4</u> = Total Cover				
<u>6</u> = Total Cover				
<u>6</u> = Total Cover				
Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)				
¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.				
Hydrophytic Vegetation Present? Yes <u>X</u> No _____				

Remarks:

SOIL

Sampling Point: WP86

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-1	10 YR 2/1	100					Clay	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- | | |
|--|--|
| <input type="checkbox"/> Histosol (A1) | <input type="checkbox"/> Sandy Gleyed Matrix (S4) |
| <input type="checkbox"/> Histic Epipedon (A2) | <input type="checkbox"/> Sandy Redox (S5) |
| <input type="checkbox"/> Black Histic (A3) | <input type="checkbox"/> Stripped Matrix (S6) |
| <input type="checkbox"/> Hydrogen Sulfide (A4) | <input type="checkbox"/> Loamy Mucky Mineral (F1) |
| <input type="checkbox"/> Stratified Layers (A5) (LRR F) | <input type="checkbox"/> Loamy Gleyed Matrix (F2) |
| <input type="checkbox"/> 1 cm Muck (A9) (LRR F, G, H) | <input type="checkbox"/> Depleted Matrix (F3) |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Redox Dark Surface (F6) |
| <input type="checkbox"/> Thick Dark Surface (A12) | <input type="checkbox"/> Depleted Dark Surface (F7) |
| <input type="checkbox"/> Sandy Mucky Mineral (S1) | <input type="checkbox"/> Redox Depressions (F8) |
| <input type="checkbox"/> 2.5 cm Mucky Peat or Peat (S2) (LRR G, H) | <input type="checkbox"/> High Plains Depressions (F16) |
| <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR F) | |
- (MLRA 72 & 73 of LRR H)**

Indicators for Problematic Hydric Soils³:

- 1 cm Muck (A9) (LRR I, J)
- Coast Prairie Redox (A16) (LRR F, G, H)
- Dark Surface (S7) (LRR G)
- High Plains Depressions (F16)
- (LRR H outside of MLRA 72 & 73)**
- Reduced Vertic (F18)
- Red Parent Material (TF2)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:

No redox features; Tinn clay, occasionally flooded is nationally listed hydric soil; naturally dark soil

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- | | |
|--|---|
| <input type="checkbox"/> Surface Water (A1) | <input type="checkbox"/> Salt Crust (B11) |
| <input type="checkbox"/> High Water Table (A2) | <input type="checkbox"/> Aquatic Invertebrates (B13) |
| <input type="checkbox"/> Saturation (A3) | <input type="checkbox"/> Hydrogen Sulfide Odor (C1) |
| <input checked="" type="checkbox"/> Water Marks (B1) | <input type="checkbox"/> Dry-Season Water Table (C2) |
| <input type="checkbox"/> Sediment Deposits (B2) | <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) |
| <input type="checkbox"/> Drift Deposits (B3) | (where not tilled) |
| <input type="checkbox"/> Algal Mat or Crust (B4) | <input type="checkbox"/> Presence of Reduced Iron (C4) |
| <input type="checkbox"/> Iron Deposits (B5) | <input type="checkbox"/> Thin Muck Surface (C7) |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) | <input type="checkbox"/> Other (Explain in Remarks) |
| <input type="checkbox"/> Water-Stained Leaves (B9) | |

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- Sparsely Vegetated Concave Surface (B8)
- Drainage Patterns (B10)
- Oxidized Rhizospheres on Living Roots (C3)
- (where tilled)**
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)
- Geomorphic Position (D2)
- FAC-Neutral Test (D5)
- Frost-Heave Hummocks (D7) (LRR F)

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches): _____
 Water Table Present? Yes _____ No X Depth (inches): _____
 Saturation Present? (includes capillary fringe) Yes _____ No X Depth (inches): _____

Wetland Hydrology Present? Yes X No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:





WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Lake Ralph Hall Supplemental JD City/County: Ladonia/Fannin Sampling Date: 6/2/2017
 Applicant/Owner: Upper Trinity Regional Water District State: TX Sampling Point: WP133
 Investigator(s): Jason Voight, Andrew Sample Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): Valley Local relief (concave, convex, none): Concave Slope (%): 0-1%
 Subregion (LRR): Southwest Prairies Lat: 33.45045 Long: -96.01480 Datum: NAD83
 Soil Map Unit Name: Tinn Clay, Occasionally Flooded NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____
 Are Vegetation _____, Soil X, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No _____ Hydric Soil Present? Yes _____ No <u>X</u> Wetland Hydrology Present? Yes _____ No <u>X</u>	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u>
Remarks: <p style="font-size: 1.2em; margin-top: 10px;">Heavy storms the previous day; wooded area near North Sulphur River channel</p>	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>700 sq ft</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Fraxinus pennsylvanica</u>	20	Yes	FAC	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): <u>3</u> (A) Total Number of Dominant Species Across All Strata: <u>4</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>75</u> (A/B)
2. <u>Celtis laevigata</u>	50	Yes	FAC	
3. <u>Maclura pomifera</u>	15	No	FACU	
4. _____				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
85 = Total Cover				
Sapling/Shrub Stratum (Plot size: <u>700 sq ft</u>)				
1. <u>Cornus drummondii</u>	5	No	FAC	
2. <u>Celtis laevigata</u>	15	No	FAC	
3. _____				
4. _____				Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
20 = Total Cover				
Herb Stratum (Plot size: <u>450 sq ft</u>)				
1. <u>Toxicodendron radicans</u>	15	No	FACU	
2. <u>Carex planostachys</u>	40	Yes	UPL	
3. <u>Elymus virginicus</u>	40	Yes	FAC	
4. _____				
5. _____				
6. _____				
7. _____				
8. _____				
9. _____				
10. _____				
95 = Total Cover				
Woody Vine Stratum (Plot size: <u>450 sq ft</u>)				
1. <u>Lonicera japonica</u>	5	No	FACU	
2. _____				
5 = Total Cover				
% Bare Ground in Herb Stratum <u>5</u>				

Remarks:

SOIL

Sampling Point: WP133

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-2	10 YR 3/2	100					Clay	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- | | |
|--|--|
| <input type="checkbox"/> Histosol (A1) | <input type="checkbox"/> Sandy Gleyed Matrix (S4) |
| <input type="checkbox"/> Histic Epipedon (A2) | <input type="checkbox"/> Sandy Redox (S5) |
| <input type="checkbox"/> Black Histic (A3) | <input type="checkbox"/> Stripped Matrix (S6) |
| <input type="checkbox"/> Hydrogen Sulfide (A4) | <input type="checkbox"/> Loamy Mucky Mineral (F1) |
| <input type="checkbox"/> Stratified Layers (A5) (LRR F) | <input type="checkbox"/> Loamy Gleyed Matrix (F2) |
| <input type="checkbox"/> 1 cm Muck (A9) (LRR F, G, H) | <input type="checkbox"/> Depleted Matrix (F3) |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Redox Dark Surface (F6) |
| <input type="checkbox"/> Thick Dark Surface (A12) | <input type="checkbox"/> Depleted Dark Surface (F7) |
| <input type="checkbox"/> Sandy Mucky Mineral (S1) | <input type="checkbox"/> Redox Depressions (F8) |
| <input type="checkbox"/> 2.5 cm Mucky Peat or Peat (S2) (LRR G, H) | <input type="checkbox"/> High Plains Depressions (F16) |
| <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR F) | |
- (MLRA 72 & 73 of LRR H)**

Indicators for Problematic Hydric Soils³:

- 1 cm Muck (A9) (LRR I, J)
- Coast Prairie Redox (A16) (LRR F, G, H)
- Dark Surface (S7) (LRR G)
- High Plains Depressions (F16)
- (LRR H outside of MLRA 72 & 73)**
- Reduced Vertic (F18)
- Red Parent Material (TF2)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:

No redox features present; Tinn clay, occasionally flooded is nationally listed hydric soil; naturally dark soil

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- | | |
|--|---|
| <input type="checkbox"/> Surface Water (A1) | <input type="checkbox"/> Salt Crust (B11) |
| <input type="checkbox"/> High Water Table (A2) | <input type="checkbox"/> Aquatic Invertebrates (B13) |
| <input type="checkbox"/> Saturation (A3) | <input type="checkbox"/> Hydrogen Sulfide Odor (C1) |
| <input type="checkbox"/> Water Marks (B1) | <input type="checkbox"/> Dry-Season Water Table (C2) |
| <input type="checkbox"/> Sediment Deposits (B2) | <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) |
| <input type="checkbox"/> Drift Deposits (B3) | (where not tilled) |
| <input type="checkbox"/> Algal Mat or Crust (B4) | <input type="checkbox"/> Presence of Reduced Iron (C4) |
| <input type="checkbox"/> Iron Deposits (B5) | <input type="checkbox"/> Thin Muck Surface (C7) |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) | <input type="checkbox"/> Other (Explain in Remarks) |
| <input type="checkbox"/> Water-Stained Leaves (B9) | |

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- Sparsely Vegetated Concave Surface (B8)
- Drainage Patterns (B10)
- Oxidized Rhizospheres on Living Roots (C3)
- (where tilled)**
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)
- Geomorphic Position (D2)
- FAC-Neutral Test (D5)
- Frost-Heave Hummocks (D7) (LRR F)

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches): _____
 Water Table Present? Yes _____ No X Depth (inches): _____
 Saturation Present? (includes capillary fringe) Yes _____ No X Depth (inches): _____

Wetland Hydrology Present? Yes _____ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:





WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Lake Ralph Hall Supplemental JD City/County: Ladonia/Fannin Sampling Date: 6/2/2017
 Applicant/Owner: Upper Trinity Regional Water District State: TX Sampling Point: WP134
 Investigator(s): Jason Voight, Andrew Sample Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): Valley Local relief (concave, convex, none): Concave Slope (%): 0-1%
 Subregion (LRR): Southwest Prairies Lat: 33.4464 Long: -95.99635 Datum: NAD83
 Soil Map Unit Name: Normangee Clay Loam, 2 to 5 percent slopes, eroded NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes _____ No <u>X</u> Hydric Soil Present? Yes _____ No <u>X</u> Wetland Hydrology Present? Yes _____ No <u>X</u>	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u>
Remarks: <p align="center">Heavy storms the previous day; wooded area near North Sulphur River channel</p>	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>700 sq ft</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Quercus stellata</u>	80	Yes	FACU	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>4</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>25</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
80 = Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
Sapling/Shrub Stratum (Plot size: <u>700 sq ft</u>)				
1. <u>Quercus stellata</u>	20	No	FAC	
2. <u>Celtis laevigata</u>	15	No	FAC	
3. <u>Symphoricarpos orbiculatus</u>	35	Yes	FACU	
4. <u>Ulmus crassifolia</u>	10	No	_____	
5. _____	_____	_____	_____	
80 = Total Cover				
Herb Stratum (Plot size: <u>450 sq ft</u>)				
1. <u>Toxicodendron radicans</u>	15	No	FACU	
2. <u>Carex planostachys</u>	40	Yes	UPL	
3. <u>Elymus virginicus</u>	30	Yes	FAC	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
85 = Total Cover				
Woody Vine Stratum (Plot size: <u>450 sq ft</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
0 = Total Cover				
% Bare Ground in Herb Stratum <u>15</u>				
Remarks:				

- Hydrophytic Vegetation Indicators:**
- 1 - Rapid Test for Hydrophytic Vegetation
 - 2 - Dominance Test is >50%
 - 3 - Prevalence Index is ≤3.0¹
 - 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
 - Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No X

SOIL

Sampling Point: WP134

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-18	10 YR 3/2	100					Clay	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- | | |
|--|--|
| <input type="checkbox"/> Histosol (A1) | <input type="checkbox"/> Sandy Gleyed Matrix (S4) |
| <input type="checkbox"/> Histic Epipedon (A2) | <input type="checkbox"/> Sandy Redox (S5) |
| <input type="checkbox"/> Black Histic (A3) | <input type="checkbox"/> Stripped Matrix (S6) |
| <input type="checkbox"/> Hydrogen Sulfide (A4) | <input type="checkbox"/> Loamy Mucky Mineral (F1) |
| <input type="checkbox"/> Stratified Layers (A5) (LRR F) | <input type="checkbox"/> Loamy Gleyed Matrix (F2) |
| <input type="checkbox"/> 1 cm Muck (A9) (LRR F, G, H) | <input type="checkbox"/> Depleted Matrix (F3) |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Redox Dark Surface (F6) |
| <input type="checkbox"/> Thick Dark Surface (A12) | <input type="checkbox"/> Depleted Dark Surface (F7) |
| <input type="checkbox"/> Sandy Mucky Mineral (S1) | <input type="checkbox"/> Redox Depressions (F8) |
| <input type="checkbox"/> 2.5 cm Mucky Peat or Peat (S2) (LRR G, H) | <input type="checkbox"/> High Plains Depressions (F16) |
| <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR F) | |
- (MLRA 72 & 73 of LRR H)**

Indicators for Problematic Hydric Soils³:

- 1 cm Muck (A9) (LRR I, J)
- Coast Prairie Redox (A16) (LRR F, G, H)
- Dark Surface (S7) (LRR G)
- High Plains Depressions (F16)
- (LRR H outside of MLRA 72 & 73)**
- Reduced Vertic (F18)
- Red Parent Material (TF2)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:

No redox features present

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- | | |
|--|---|
| <input type="checkbox"/> Surface Water (A1) | <input type="checkbox"/> Salt Crust (B11) |
| <input type="checkbox"/> High Water Table (A2) | <input type="checkbox"/> Aquatic Invertebrates (B13) |
| <input type="checkbox"/> Saturation (A3) | <input type="checkbox"/> Hydrogen Sulfide Odor (C1) |
| <input type="checkbox"/> Water Marks (B1) | <input type="checkbox"/> Dry-Season Water Table (C2) |
| <input type="checkbox"/> Sediment Deposits (B2) | <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) |
| <input type="checkbox"/> Drift Deposits (B3) | (where not tilled) |
| <input type="checkbox"/> Algal Mat or Crust (B4) | <input type="checkbox"/> Presence of Reduced Iron (C4) |
| <input type="checkbox"/> Iron Deposits (B5) | <input type="checkbox"/> Thin Muck Surface (C7) |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) | <input type="checkbox"/> Other (Explain in Remarks) |
| <input type="checkbox"/> Water-Stained Leaves (B9) | |

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- Sparsely Vegetated Concave Surface (B8)
- Drainage Patterns (B10)
- Oxidized Rhizospheres on Living Roots (C3)
- (where tilled)**
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)
- Geomorphic Position (D2)
- FAC-Neutral Test (D5)
- Frost-Heave Hummocks (D7) (LRR F)

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches): _____
 Water Table Present? Yes _____ No X Depth (inches): _____
 Saturation Present? (includes capillary fringe) Yes _____ No X Depth (inches): _____

Wetland Hydrology Present? Yes _____ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:



