

# **ENVIRONMENTAL ASSESSMENT**

## **APPENDIX H**

### **Preliminary Jurisdictional Determination (PJD) and Wetland Delineation Report**



**DEPARTMENT OF THE ARMY**  
**LITTLE ROCK DISTRICT, CORPS OF ENGINEERS**  
**POST OFFICE BOX 867**  
**LITTLE ROCK, ARKANSAS 72203-0867**  
[www.swl.usace.army.mil/](http://www.swl.usace.army.mil/)

March 25, 2019

Regulatory Division

FILE No. **SWL-2018-00444**

Ms. Cassie Schmidt  
Garver  
4701 Northshore Drive  
North Little Rock, Arkansas 72118

Dear Ms. Schmidt:

Please refer to your letter dated November 9, 2018, concerning a waters of the United States (WoUS) determination of the subject property, in sections 26, 34, and 35, T. 1 S., R. 14 W., Bryant, Saline County, Arkansas. In response to your informed, voluntary request, this letter provides a preliminary jurisdictional determination (PJD) that identifies aquatic resources that may be WoUS on the property and the Department of the Army (DA) permit requirements pursuant to Section 404 of the Clean Water Act (33 U.S. Code 1344).

My review revealed that the property may contain areas that may be WoUS. Approximately 4.39 acres of wetlands and 2,039 linear feet of stream were identified. The approximate location of these areas is shown on the enclosed map of the site.

This PJD is advisory in nature. If you wish to receive an approved jurisdictional determination (AJD) for the property, you must request one. In order to expedite the review, we suggest you provide our office with a delineation of all WoUS within the property using Corps approved methodology. An AJD is generally valid for a 5-year period, incorporates administrative appeal rights, and specifically identifies the presence or absence, the location, and the extent of WoUS on the property. Delineations done by consultants are not official until approved by the Corps of Engineers.

Please be advised that the discharge of dredged or fill material in WoUS, requires a DA permit prior to beginning work in most situations. A permit is required pursuant to Section 404 of the Clean Water Act. The clearing of wetlands with mechanized equipment; landleveling; construction of ditches, dikes, and dams; placement of fill to raise the elevation of a site; and stabilization of banks are examples of activities that may require a permit. All of these activities typically involve the discharge of dredged or fill material in WoUS.

-2-

Your cooperation in the Regulatory Program is appreciated. If you have any questions, please contact me at (501) 340-1385 and refer to No. **SWL-2018-00444**.

Sincerely,

A handwritten signature in black ink, appearing to read 'L. Boyle', with a stylized flourish at the end.

Lisa Boyle  
Project Manager

Enclosures

cc:  
Pine Bluff PO  
Ch, Regulatory Enf

## **PRELIMINARY JURISDICTIONAL DETERMINATION (PJD) FORM**

### **BACKGROUND INFORMATION**

**A. REPORT COMPLETION DATE FOR PRELIMINARY JURISDICTIONAL DETERMINATION (JD):** November 9, 2018

**B. NAME AND ADDRESS OF PERSON REQUESTING PRELIMINARY JD:**

Mrs. Cassie P. Schmidt  
2049 E. Joyce Blvd  
Suite 400  
Fayetteville, AR 72703

**C. DISTRICT OFFICE, FILE NAME, AND NUMBER:** CESWL, Little Rock District,  
City of Bryant, Bryant Parkway, Alternative B, 2018-00444

**D. PROJECT LOCATION(S) AND BACKGROUND INFORMATION:**

*(USE THE ATTACHED TABLE TO DOCUMENT MULTIPLE WATERBODIES AT DIFFERENT SITES)*

State: Arkansas                      County: Saline Co.                      City: Bryant

Center coordinates of site: Latitude and Longitude (NAD 83):

Latitude: 34.601090 North, Longitude: -92.477833 West

Name of nearest waterbody: Crooked Creek

**E. REVIEW PERFORMED FOR SITE EVALUATION (CHECK ALL THAT APPLY):**

☐ Office (Desk) Determination.

Date: *Date*

☐ Field Determination.

Date(s): *February 1, 2019*



**TABLE OF AQUATIC RESOURCES IN REVIEW ARE WHICH “MAY BE”  
SUBJECT TO REGULATORY JURISDICTION**

Site Number	Latitude (decimal degrees)	Longitude (decimal degrees)	Estimated Amount of Aquatic Resource in Review Area (acreage and linear feet, if applicable)	Type of Aquatic Resource (i.e. wetland, stream, impoundment, etc.)	Geographic authority to which the aquatic resource “may be” subject (i.e., Section 404 or Section 10/404)
Wetland 1	34.587978	-92.486975	0.04 ac	PEM	Section 404
Wetland 2	34.591940	-92.482648	0.02 ac	PEM	Section 404
Wetland 3	34.597070	-92.481068	0.90 ac	PFO	Section 404
Wetland 4a	34.598614	-92.479237	0.22 ac	PFO	Section 404
Wetland 4b	34.598522	-92.479416	0.21 ac	PEM	Section 404
Wetland 5	34.600717	-92.477828	0.10 ac	PFO	Section 404
Wetland 6	34.603165	-92.476944	0.19 ac	PEM	Section 404
Wetland 7	34.605476	-92.475279	0.11 ac	PEM	Section 404
Wetland 8	34.608383	-92.474618	0.61 ac	PFO	Section 404
Wetland 9	34.609277	-92.476149	1.99 ac	PFO	Section 404
OW 2a	34.596931	-92.481354	111 LF	Ephemeral	Section 404
OW 2b	34.597176	-92.480988	134 LF	Ephemeral	Section 404

OW 3	34.598907	-92.479108	57 LF	Ephemeral	Section 404
OW 4a	34.598929	-92.478958	248 LF	Ephemeral	Section 404
OW 4b	34.600004	-92.478519	77 LF	Ephemeral	Section 404
OW 5a	34.608790	-92.475944	94 LF	Perennial	Section 404
OW 5b	34.608775	-92.475289	131 LF	Perennial	Section 404
OW 6	34.609791	-92.476543	1,187 LF	Ephemeral	Section 404

- 1) The Corps of Engineers believes that there may be jurisdictional aquatic resources in the review area, and the requestor of this PJD is hereby advised of his or her option to request and obtain an approved JD (AJD) for that review area based on an informed decision after having discussed the various types of JDs and their characteristics and circumstances when they may be appropriate.
- 2) In any circumstance where a permit applicant obtains an individual permit, or a Nationwide General Permit (NWP) or other general permit verification requiring "pre-construction notification" (PCN), or requests verification for a non-reporting NWP or other general permit, and the permit applicant has not requested an AJD for the activity, the permit applicant is hereby made aware that: (1) the permit applicant has elected to seek a permit authorization based on a PJD, which does not make an official determination of jurisdictional aquatic resources; (2) the applicant has the option to request an AJD before accepting the terms and conditions of the permit authorization, and that basing a permit authorization on an AJD could possibly result in less compensatory mitigation being required or different special conditions; (3) the applicant has the right to request an individual permit rather than accepting the terms and conditions of the NWP or other general permit authorization; (4) the applicant can accept a permit authorization and thereby agree to comply with all the terms and conditions of that permit, including whatever mitigation requirements the Corps has determined to be necessary; (5) undertaking any activity in reliance upon the subject permit authorization without requesting an AJD constitutes the applicant's acceptance of the use of the PJD; (6) accepting a permit authorization (e.g., signing a proffered individual permit) or undertaking any activity in reliance on any form of Corps permit authorization based on a PJD constitutes agreement that all aquatic resources in the review area affected in any way by that activity will be treated as jurisdictional, and waives any challenge to such jurisdiction in any administrative or judicial compliance or enforcement action, or in any administrative appeal or in any Federal court; and (7)

whether the applicant elects to use either an AJD or a PJD, the JD will be processed as soon as practicable. Further, an AJD, a proffered individual permit (and all terms and conditions contained therein), or individual permit denial can be administratively appealed pursuant to 33 C.F.R. Part 331. If, during an administrative appeal, it becomes appropriate to make an official determination whether geographic jurisdiction exists over aquatic resources in the review area, or to provide an official delineation of jurisdictional aquatic resources in the review area, the Corps will provide an AJD to accomplish that result, as soon as is practicable. This PJD finds that there “*may be*” waters of the U.S. and/or that there “*may be*” navigable waters of the U.S. on the subject review area, and identifies all aquatic features in the review area that could be affected by the proposed activity, based on the following information:

**SUPPORTING DATA. Data reviewed for preliminary JD (check all that apply)- checked items should be included in case file and, where checked and requested, appropriately reference sources below):**

- ☒ Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant: see attached Wetland Delineation
- ☒ Data sheets prepared/submitted by or on behalf of the applicant/consultant.
  - ☐ Office concurs with data sheets/delineation report.
  - ☐ Office does not concur with data sheets/delineation report.
- ☐ Data sheets prepared by the Corps: [Click here to enter text.](#)
- ☐ Corps navigable waters' study: [Click here to enter text.](#)
- ☐ U.S. Geological Survey Hydrologic Atlas: [Click here to enter text.](#)
  - ☐ USGS NHD data.
  - ☐ USGS 8 and 12 digit HUC maps.
- ☒ U.S. Geological Survey map(s). Cite scale & quad name: 1:24,000 Bryant, AR
- ☒ USDA Natural Resources Conservation Service Soil Survey. Citation: NRCS Websoil survey & Haley et al, 1979.
- ☒ National wetlands inventory map(s). Cite name: USFWS Online NWI Mapper
- ☐ State/Local wetland inventory map(s): [Click here to enter text.](#)
- ☒ FEMA/FIRM maps: FIRM Panel 0380D for Saline Co.; Panel 380 of 575
- ☒ 100-year Floodplain Elevation is: 352 feet  
(National Geodetic Vertical Datum of 1929)
- ☒ Photographs: ☒ Aerial (Name & Date): 2017
  - ☐ or ☐ Other (Name & Date): [Click here to enter text.](#)
- ☐ Previous determination(s). File no. and date of response letter: [Click here to enter text.](#)
- ☐ Applicable/supporting case law: [Click here to enter text.](#)
- ☐ Applicable/supporting scientific literature: [Click here to enter text.](#)
- ☐ Other information (please specify): [Click here to enter text.](#)

**IMPORTANT NOTE: The information recorded on this form has not necessarily been verified by the Corps and should not be relied upon for later jurisdictional determinations.**

*Lisa Boyle*

3/25/2019

Signature and date of Regulatory Project  
Manager (REQUIRED)

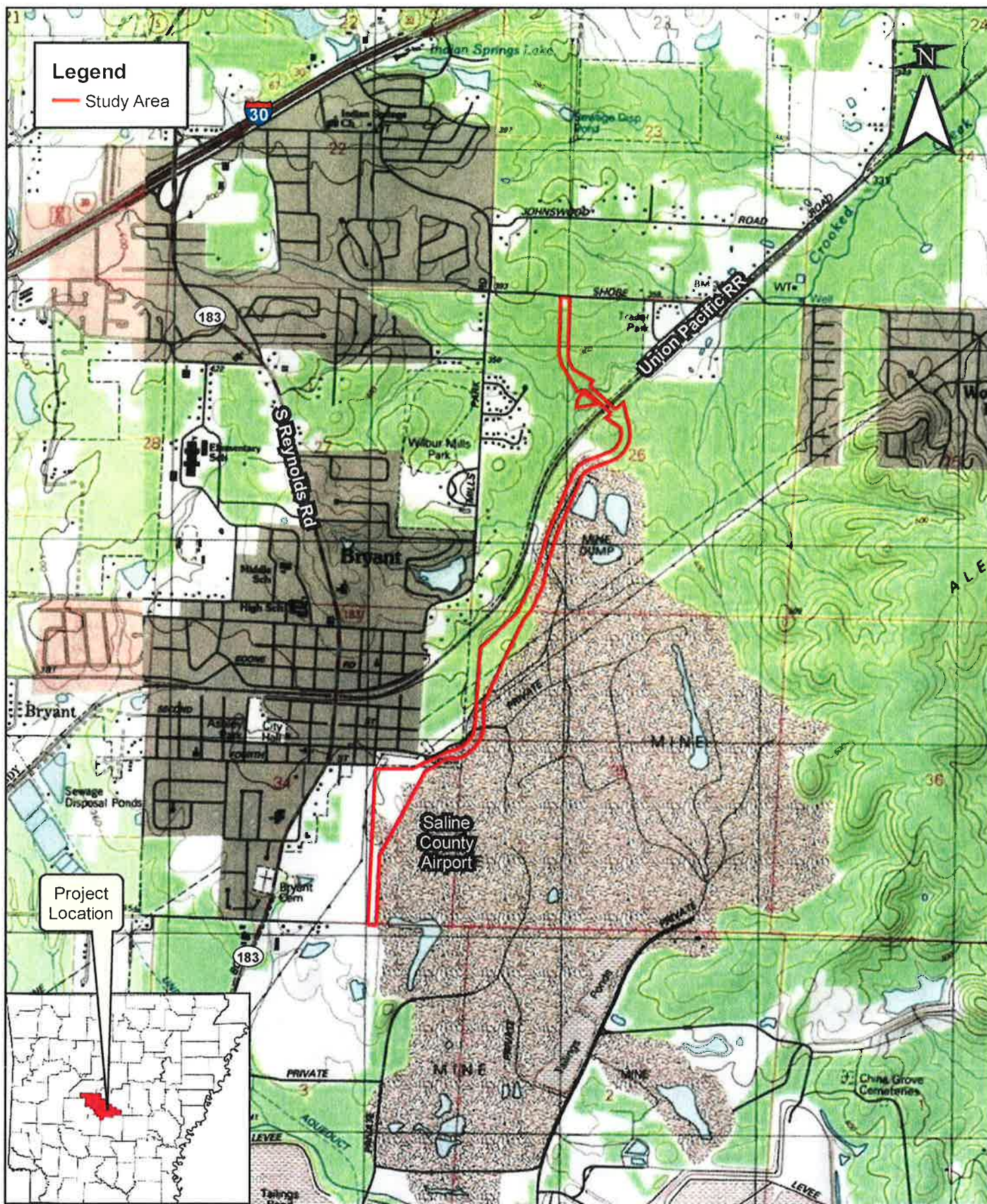
*Carmen Salas*

11/9/2018

Signature and date of  
person requesting preliminary JD  
(REQUIRED, unless obtaining  
the signature is impracticable)<sup>1</sup>

<sup>1</sup> Districts may establish timeframes for requestor to return signed PJD forms. If the requestor does not respond within the established time frame, the district may presume concurrence and no additional follow up is necessary prior to finalizing an action.





SITE LOCATION MAP

Bryant Parkway, Project 2B, Alternative B  
 Saline County, Bryant, Arkansas

ESRI Topographic Map; ESRI GIS INFORMATION

Start o  
 34.61

End o  
 34.58

ACTION NO. SWL-2018-00444

City of Bryant

Bryant Parkway – Shobe to Airport

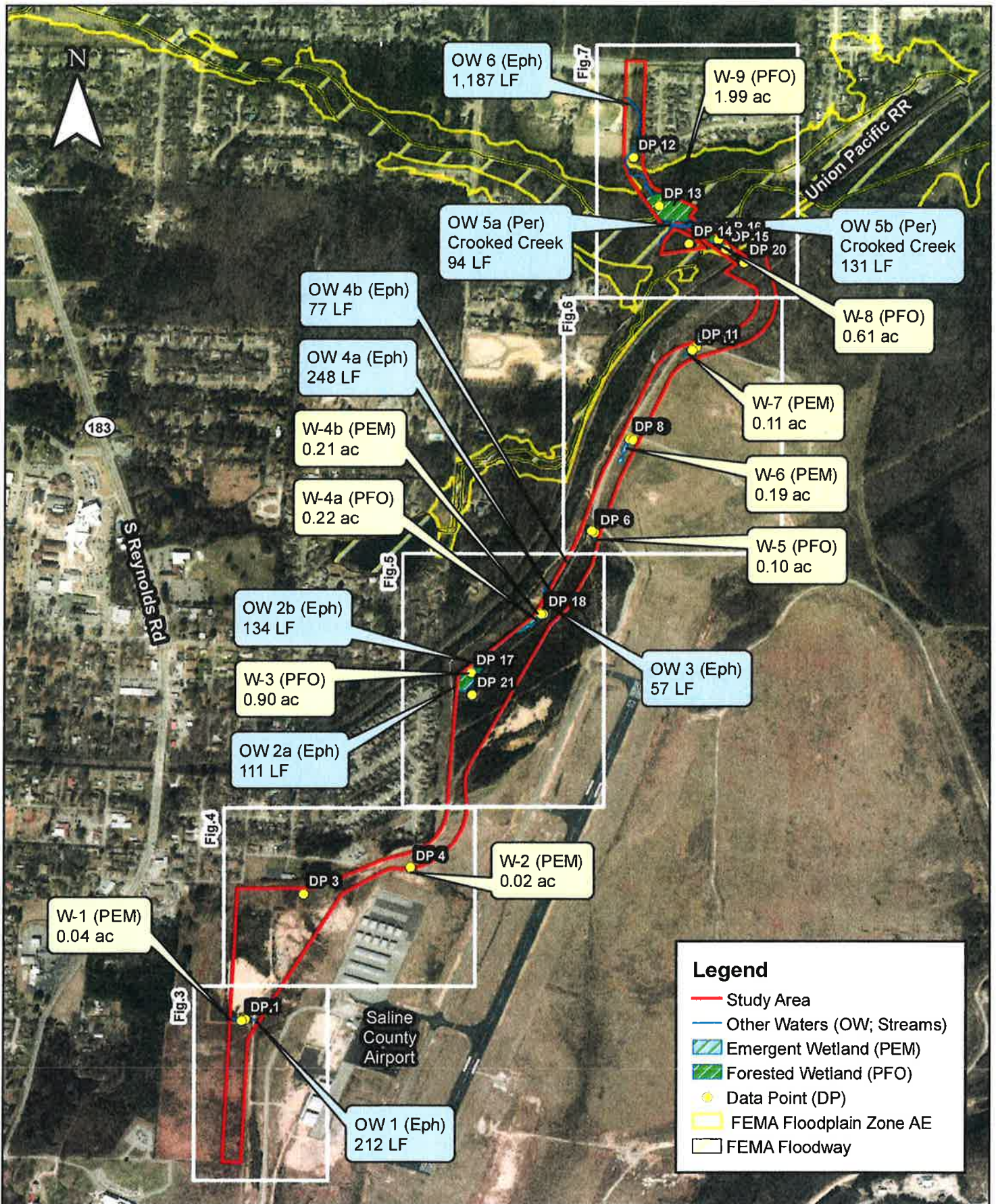
Secs. 26, 34, 35, T. 1 S., R. 14 W.

March 2019

Sheet 1 of 8







## PRELIMINARY WETLAND DELINEATION OVERVIEW

Bryant Parkway, Project 2B, Alternative B  
Saline County, Bryant, Arkansas

2017 Aerial Image; AR GIS Office

Start of  
34.613

End of  
34.584

ACTION NO. SWL-2018-00444

City of Bryant

Bryant Parkway – Shobe to Airport

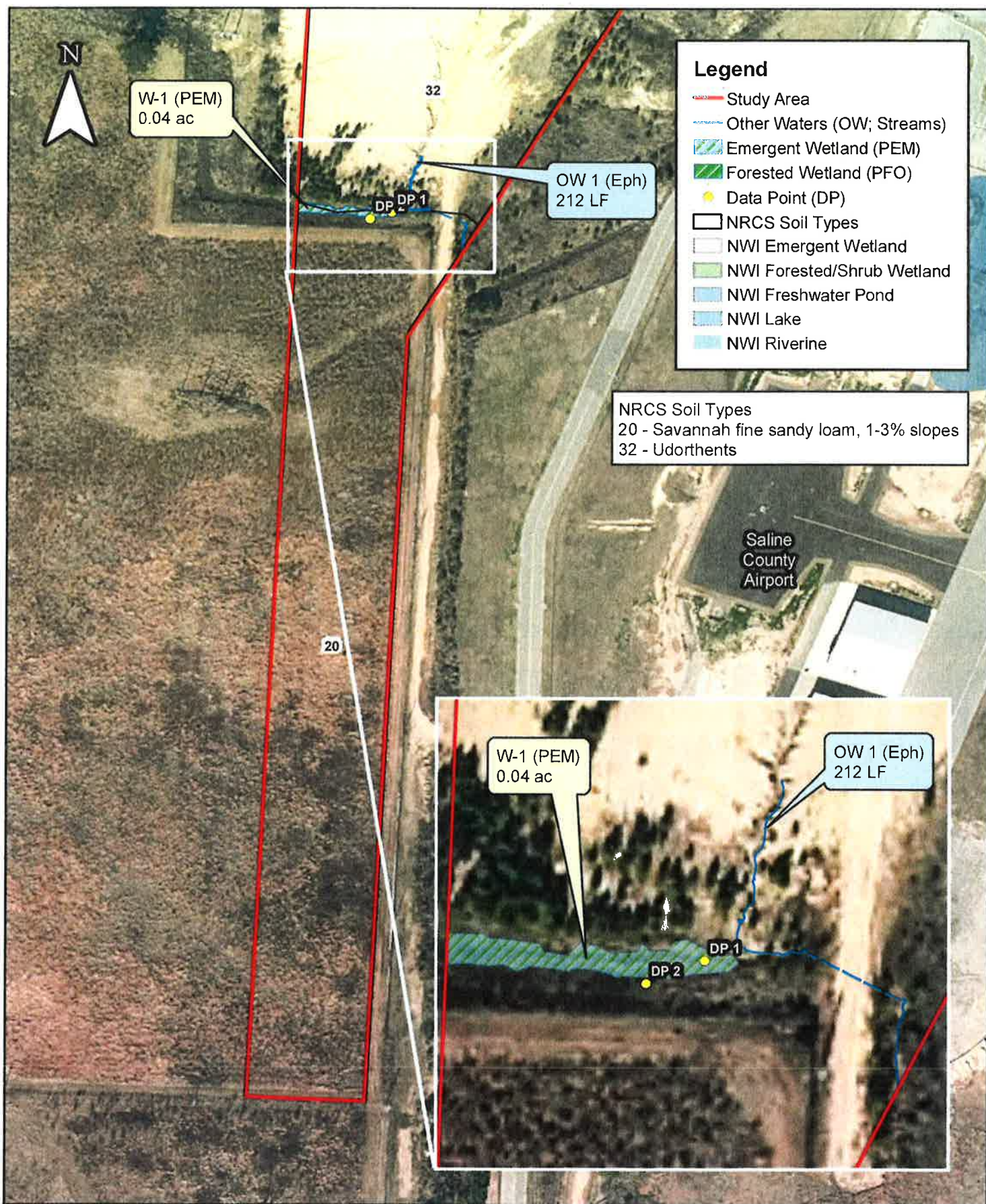
Secs. 26, 34, 35, T. 1 S., R. 14 W.

March 2019

Sheet 2 of 8







PRELIMINARY WETLAND DELINEATION DETAILED VIEW

Bryant Parkway, Project 2B, Alternative B  
 Saline County, Bryant, Arkansas

2017 Aerial Image; AR GIS Office

Start c  
34.61

End c  
34.56

ACTION NO. SWL-2018-00444

City of Bryant

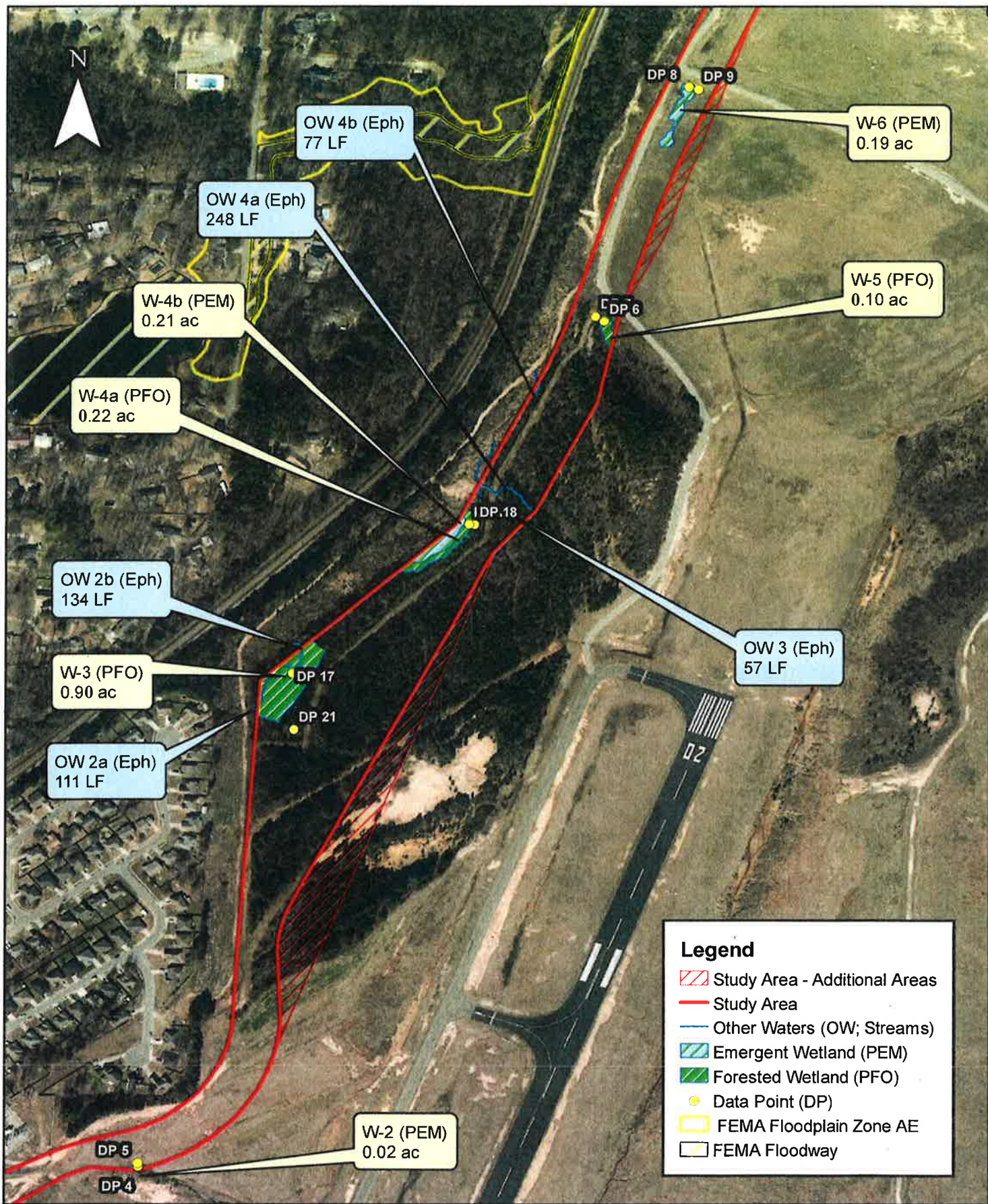
Bryant Parkway – Shobe to Airport

Secs. 26, 34, 35, T. 1 S., R. 14 W.

March 2019

Sheet 3 of 8





WETLAND DELINEATION STUDY AREA

Bryant Parkway, Project 2B, Alternative B  
Saline County, Bryant, Arkansas

2017 Aerial Image; AR GIS Office

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34.1

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34.1

ACTION NO. SWL-2018-00444

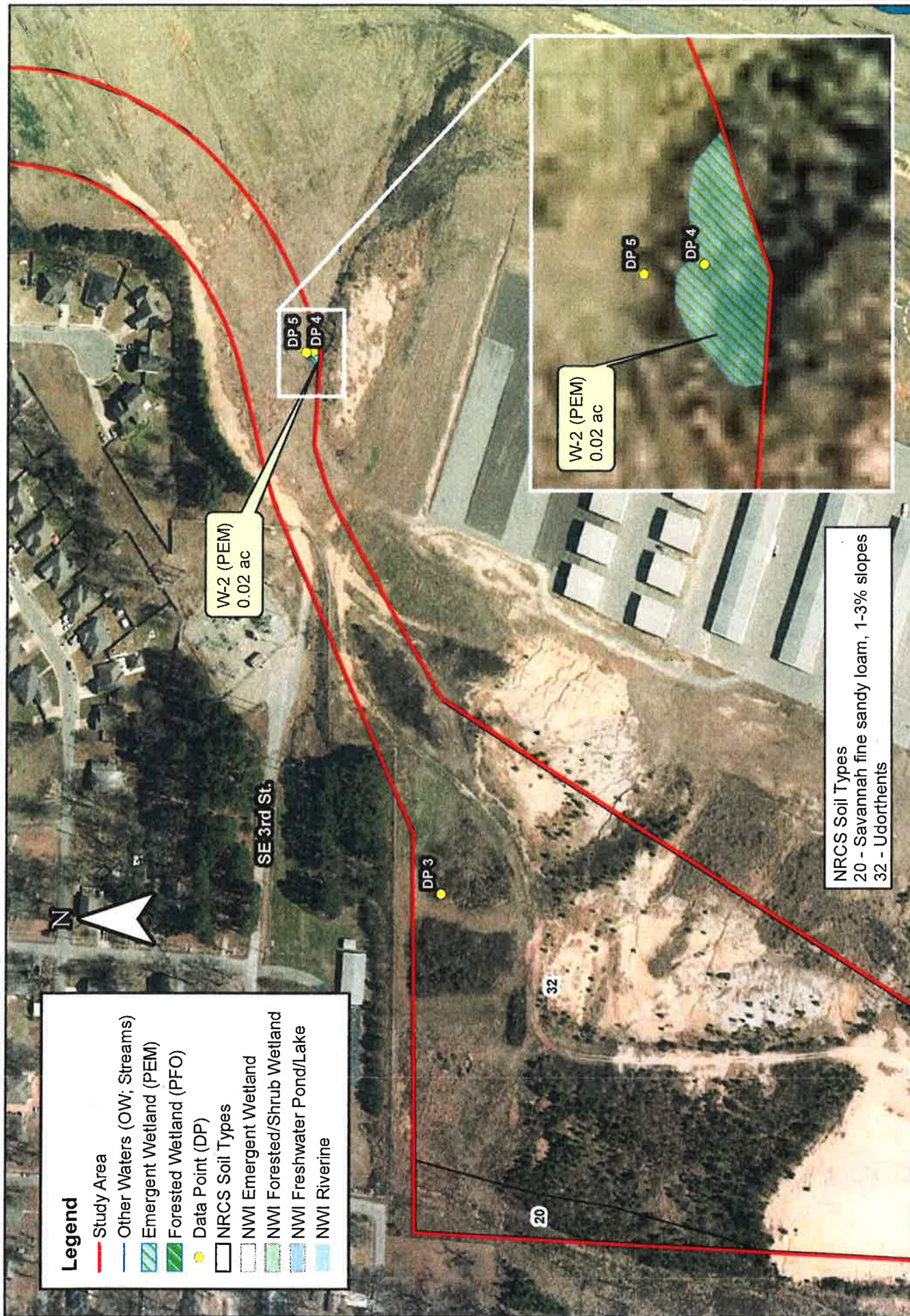
City of Bryant

Bryant Parkway – Shobe to Airport  
Secs. 26, 34, 35, T. 1 S., R. 14 W.

March 2019

Sheet 4 of 8





PRELIMINARY WETLAND DELINEATION DETAILED VIEW

Bryant Parkway, Project 2B, Alternative B  
Saline County, Bryant, Arkansas

2017 Aerial Image; AR GIS Office

Start of  
34.612

End of  
34.584

ACTION NO. SWL-2018-00444

City of Bryant

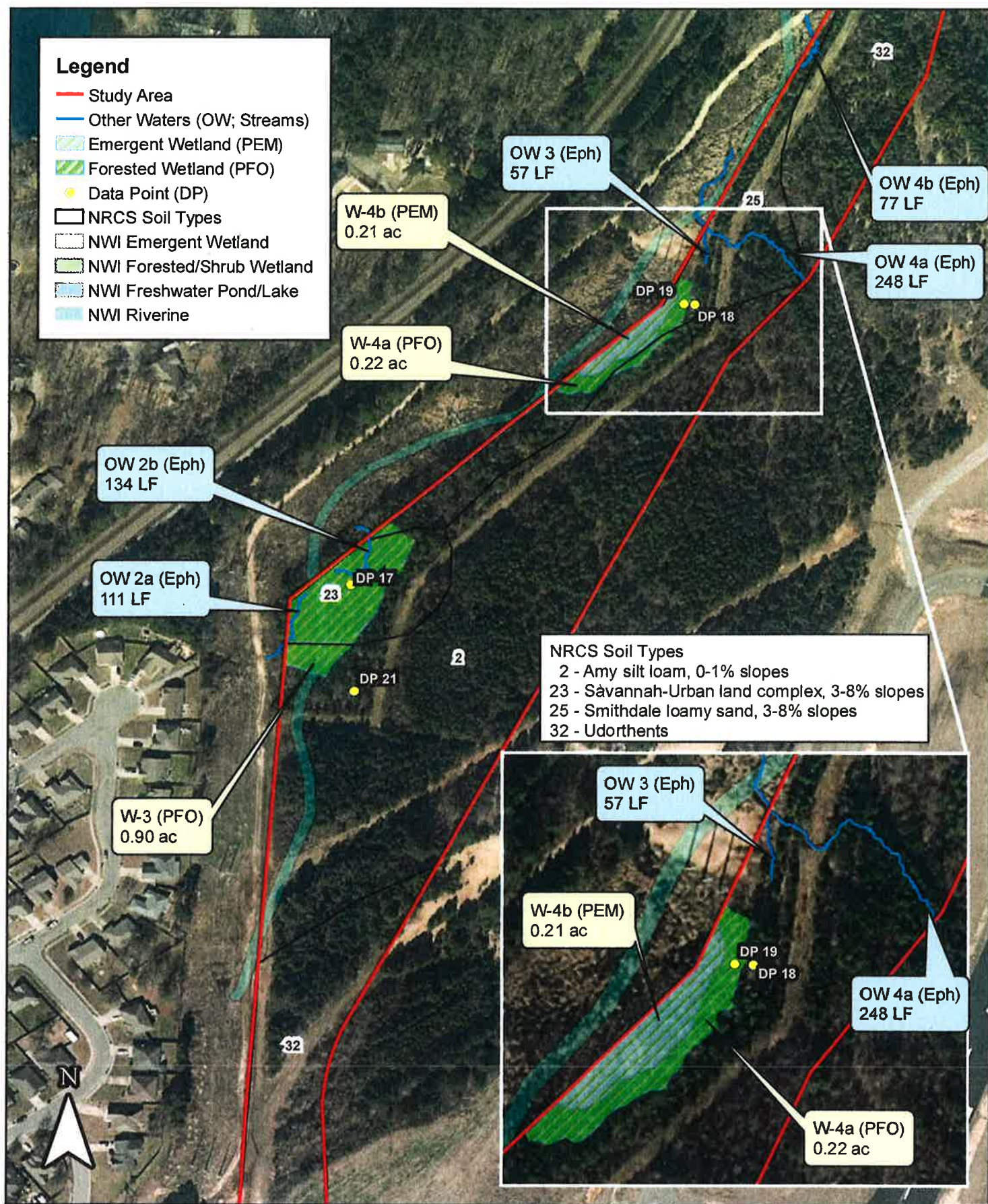
Bryant Parkway - Shobe to Airport

Secs. 26, 34, 35, T. 1 S., R. 14 W.

March 2019

Sheet 5 of 8





PRELIMINARY WETLAND DELINEATION DETAILED VIEW

Bryant Parkway, Project 2B, Alternative B  
Saline County, Bryant, Arkansas

2017 Aerial Image; AR GIS Office

Start of  
34.61End of  
34.58

ACTION NO. SWL-2018-00444

City of Bryant

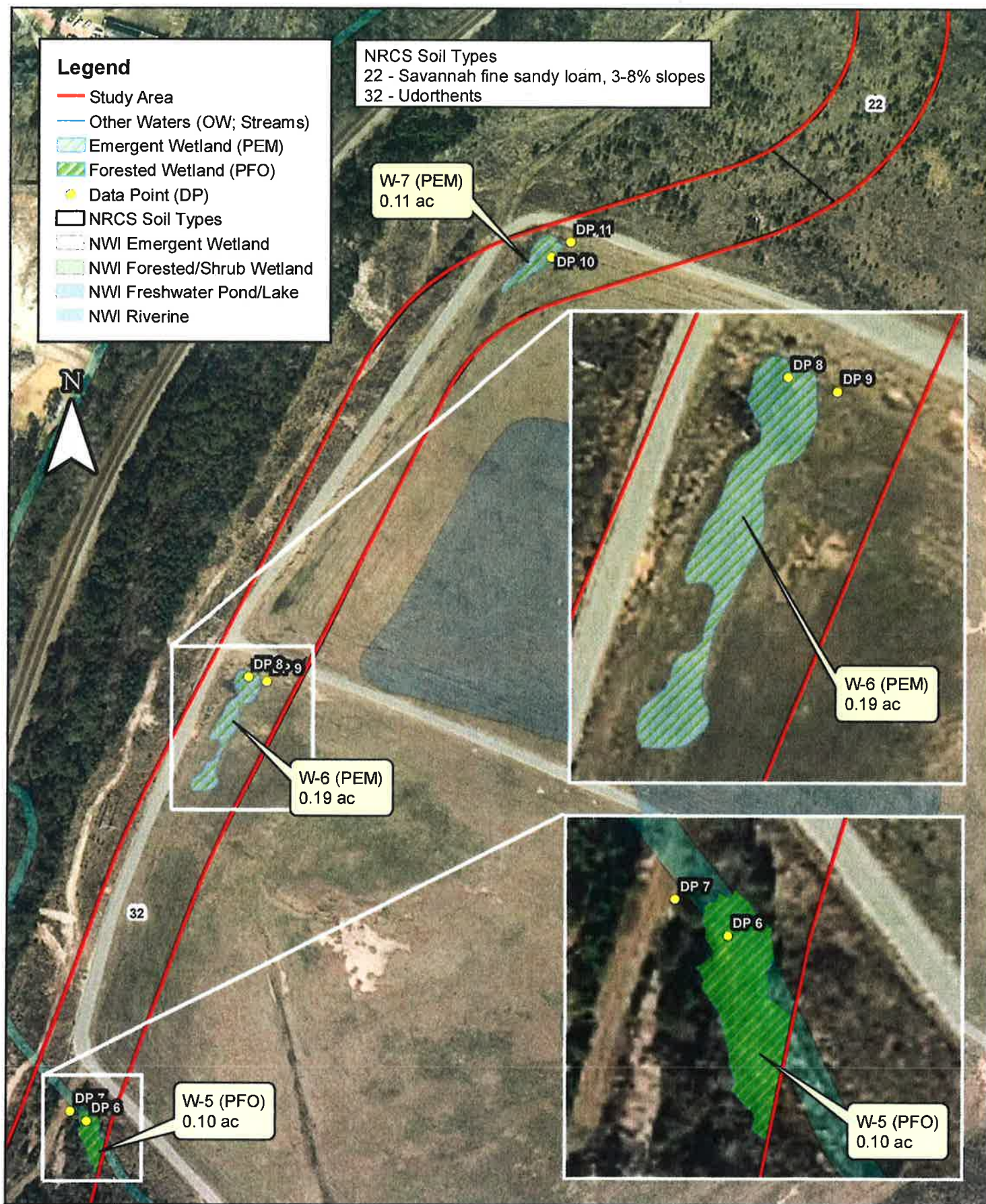
Bryant Parkway – Shobe to Airport

Secs. 26, 34, 35, T. 1 S., R. 14 W.

March 2019

Sheet 6 of 8





PRELIMINARY WETLAND DELINEATION DETAILED VIEW

Bryant Parkway, Project 2B, Alternative B  
 Saline County, Bryant, Arkansas

2017 Aerial Image; AR GIS Office

Start of  
34.61:End of  
34.58:

ACTION NO. SWL-2018-00444

City of Bryant

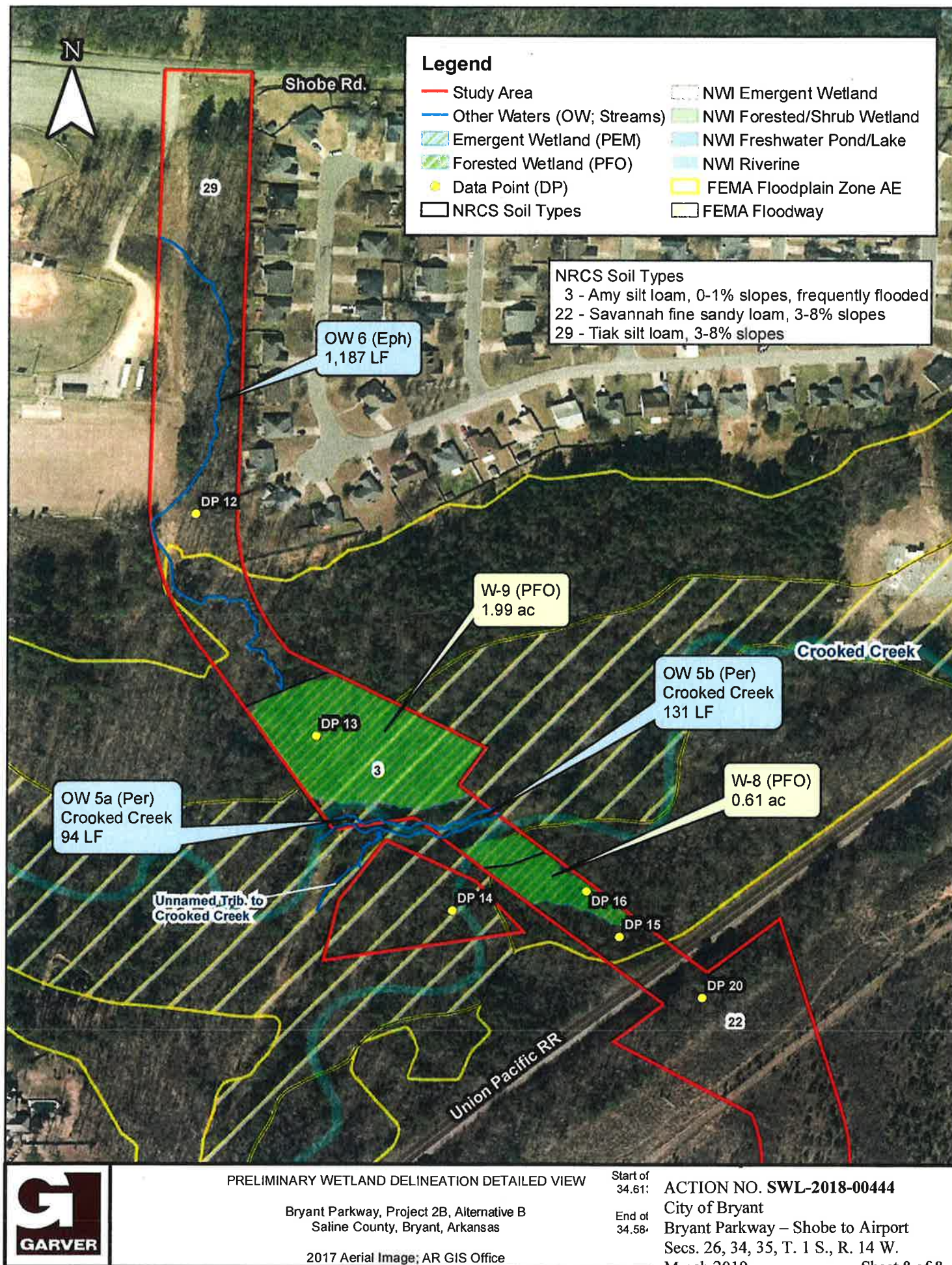
Bryant Parkway – Shobe to Airport

Secs. 26, 34, 35, T. 1 S., R. 14 W.

March 2019

Sheet 7 of 8









# Preliminary Wetland Delineation

Bryant Parkway, Alternative B



Prepared For:

**City of Bryant**

November 2, 2018



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**Bryant Parkway, Alternative B**

**Environmental Scientist's Certification**

I hereby certify that this Preliminary Wetland Delineation for the Bryant Parkway, Alternative B Project was prepared by Garver under my direct supervision for the City of Bryant.

Prepared by: Cassie Schmidt  
Cassie Schmidt  
Environmental Scientist

Reviewed by: Ryan Mountain  
Ryan Mountain, PWS  
Senior Environmental Scientist

**Bryant Parkway, Alternative B****Table of Contents**

Environmental Scientist's Certification .....	1
Table of Contents.....	2
List of Appendices.....	2
1.0 Introduction .....	3
1.1 Project Area.....	3
1.2 Regulatory Basis.....	3
2.0 Methodology.....	4
3.0 Results .....	5
3.1 Wetlands and Ponds.....	5
3.2 Other Waters (OW) .....	8
3.3 Summary .....	10
4.0 References.....	11

**List of Appendices**

Appendix A	Site Location Map
Appendix B	Preliminary Wetland Delineation - Overview
Appendix C	Preliminary Wetland Delineation - Detailed Views
Appendix D	Data Forms
Appendix E	Site Photographs
Appendix F	Weather History Data



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**Bryant Parkway, Alternative B**

## **1.0 Introduction**

The City of Bryant (City) is proposing to extend Bryant Parkway from Hill Road east then north to Shobe Road in Bryant, Arkansas. The purpose of the project is to provide a south to north minor arterial on the eastern side of the City of Bryant in order to alleviate traffic and improve safety on Reynolds Road (Highway 183). Additionally, the project will improve safety by providing emergency vehicles with a grade separation over Union Pacific Railroad and Crooked Creek. The exact alignment of the new road has not yet been established, but any areas of potential disturbance are included in the Study Area shown in Appendix A. The City is assessing the environmental features present in the Study Area for evaluation of avoidance and minimization of potential wetland and stream impacts. As a result, the City of Bryant has retained Garver, LLC to develop documents and conduct a preliminary wetland delineation and an Environmental Assessment (EA).

### **1.1 Project Area**

The proposed improvements are located in the Tertiary Uplands ecoregion (EPA Level IV Ecoregion) of Saline County, Arkansas. A large portion of the Study Area is located on property owned by the Saline County Regional Airport and much of the Study Area within airport property was previously mined. The general topography of the land varies from flat (for example near the south and north ends) to areas with steep hills. Elevations within the Study Area range from 348 to 423 feet National Geodetic Vertical Datum (NGVD). The Study Area is comprised of two distinct areas totaling approximately 61 acres. The Study Area includes Crooked Creek and unnamed tributaries, undeveloped fields and wooded areas, and maintained Airport grounds (refer to Appendix B – Preliminary Wetland Delineation Overview Map).

### **1.2 Regulatory Basis**

Discharges of dredged or fill material into waters of the United States are regulated under Section 404 of the Clean Water Act. Any such action proposed in wetlands or other waters of the U.S. are subject to review by the U.S. Army Corps of Engineers (USACE) and other federal and state agencies and require authorization by USACE. For jurisdictional purposes, USACE



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**Bryant Parkway, Alternative B**

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and the U.S. Environmental Protection Agency (EPA) jointly define wetlands as follows: *Those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas* (USACE 1987).

## **2.0 Methodology**

A field investigation of the proposed project site was performed by Cassie Schmidt of Garver on October 4-5, 2018. The entire Study Area was visually inspected to locate areas of potentially-jurisdictional wetlands and waterways. An overview of the hydrology features mapped on the site is included in Appendix B. Detailed delineation exhibits are provided in Appendix C. Detailed information was collected at 21 locations to document the wetland and upland characteristics observed on the site. In addition to these 21 data points (DPs), as recorded in the data forms in this report, observation points were taken throughout the site. Wetland determinations were made using observable vegetation, hydrology, and soils in accordance with the routine approach described in the USACE Wetland Delineation Manual (1987) and the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Atlantic and Gulf Coastal Plain Region (Version 2.0). Wetland data forms can be found in Appendix D.

The U.S. Fish and Wildlife Service (USFWS) in cooperation with Cowardin, et al. (1979), have identified a classification system that is widely accepted by the USACE and USFWS in relation to classifying wetland and stream habitats (i.e., *Classification of Wetlands and Deepwater Habitats of the United States*). Using the Cowardin system, USFWS provides preliminary wetland data for the U.S. through the National Wetlands Inventory (NWI). According to the NWI, there are four riverine wetlands within the Study Area (see Appendix C). Three of the four riverine wetlands identified by NWI are not present on the site in the location mapped by NWI. Wetlands and streams on the project site have been identified utilizing the methodology presented in this classification system. Garver also reviewed United States Geological Survey (USGS) topographic quadrangle maps for the presence of streams and other waterbodies. Tributary assessment locations are marked with an "OW" (Other Waters). Photographs of the

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**Bryant Parkway, Alternative B**

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aquatic features present on the site were taken during the wetland delineation and are provided in Appendix E. The closest weather station with recorded data is Adams Field, located in Little Rock, Arkansas (approximately 33 miles northeast of Bryant). Precipitation data (Appendix F) for the area indicates approximately 3.7 inches of rainfall was received two weeks prior to the field investigation. During the delineation tributaries appeared to be flowing from the recent rain events.

### 3.0 Results

#### 3.1 Wetlands and Ponds

**Wetland 1** is classified as a PEM1H (Palustrine, Emergent, Permanent, Permanently Flooded Wetland) and is located west of OW 1 near the south end of the Study Area. Vegetation observed included blackeyed Susan (*Rudbeckia hirta*), broomsedge bluestem (*Andropogon virginicus*), common boneset (*Eupatorium perfoliatum*), common buttonbush (*Cephalanthus occidentalis*), common rush (*Juncus effuses*), velvet panicum (*Dichanthelium scoparium*), and woolgrass (*Scirpus cyperinus*). This area exhibited hydric soils (10YR 5/2 with redoximorphic features) and wetland hydrology. An estimated 0.04 acre of Wetland 1 is located within the Study Area. This feature is likely subject to regulation by the USACE due to its off-site hydrologic connection to an unnamed tributary to Hurricane Creek.

**Wetland 2** is classified as PEM1E (Palustrine, Emergent, Permanent, Seasonally Flooded/Saturated Wetland) and is located on a small hillslope north of the Airport hangars. Vegetation observed included black willow (*Salix nigra*), sweetgum (*Liquidambar styraciflua*), broadleaf cattail (*Typha latifolia*), bushy bluestem (*Andropogon glomeratus*), common rush, and woolgrass. This area exhibited hydric soils (10YR 5/1 with redoximorphic features) and wetland hydrology. An estimated 0.02 acre of Wetland 2 is located within the Study Area. This feature is likely subject to regulation by the USACE due to its off-site hydrologic connection to an unnamed tributary to Hurricane Creek.

**Wetland 3** is classified as PFO1C (Palustrine, Forested, Broad-Leaved Deciduous, Seasonally Flooded Wetland) and is located adjacent to OW 2. An ephemeral stream (OW 2) flows through this feature. Vegetation observed included American elm (*Ulmus americana*), black willow,

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**Bryant Parkway, Alternative B**

Chinese privet (*Ligustrum sinense*), loblolly pine (*Pinus taeda*), pignut hickory (*Carya glabra*), red maple (*Acer rubrum*), sweetgum, smartweed (*Persicaria* species), and roundleaf greenbrier (*Smilax rotundifolia*). This area exhibited hydric soils (10YR 4/2 with redoximorphic features) and wetland hydrology. An estimated 0.90 acre of Wetland 3 is located within the Study Area. This feature is likely subject to regulation by the USACE due to its off-site hydrologic connection with Crooked Creek.

**Wetland 4a** is classified as PFO1E (Palustrine, Forested, Broad-Leaved Deciduous, Seasonally Flooded/Saturated Wetland) and **Wetland 4b** is classified as PEM1E (Palustrine, Emergent, Permanent, Seasonally Flooded/Saturated Wetland). These adjacent wetlands are located along the west edge of the Study Area. Vegetation observed within Wetland 4a included American elm, common buttonbush, loblolly pine, pignut hickory, sweetgum, red maple, and woolgrass. This area exhibited hydric soils (met by the hydrogen sulfide indicator) and wetland hydrology. An estimated 0.22 acre of Wetland 4a and 0.21 acre of Wetland 4b, which total 0.43 acre of Wetland 4, are located within the Study Area. This feature is likely subject to regulation by the USACE due to its off-site hydrologic connection with Crooked Creek.

**Wetland 5** is classified as PFO1C (Palustrine, Forested, Broad-Leaved Deciduous, Seasonally Flooded Wetland) and is located approximately 0.27 mile northwest of the north end of the runway. The NWI map shows a riverine wetland flowing through this location. Vegetation observed included black willow, brookside alder (*Alnus serrulata*), common buttonbush, loblolly pine, red maple, sweetgum, common rush, spike rush (*Eleocharis* species), and woolgrass. This area exhibited hydric soils (10YR 5/1 with redoximorphic features) and wetland hydrology. An estimated 0.10 acre of Wetland 5 is located within the Study Area. This feature is likely subject to regulation by the USACE due to its off-site hydrologic connection with Crooked Creek.

**Wetland 6** is classified as PEM1E (Palustrine, Emergent, Permanent, Seasonally Flooded/Saturated Wetland) and is located in a depression at the west edge of a field. A large vertical drain is present at the north end of this wetland and this drain presumably transfers excess water that accumulates here off-site. Vegetation observed included barnyardgrass (*Echinochloa crus-galli*), broadleaf cattail, flat sedge (*Cyperus* species), and switchgrass

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**Bryant Parkway, Alternative B**

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(*Panicum virgatum*). This area exhibited hydric soils (met by the hydrogen sulfide indicator) and wetland hydrology. An estimated 0.19 acre of Wetland 6 is located within the Study Area. This feature is likely subject to regulation by the USACE due to its off-site hydrologic connection with Crooked Creek.

**Wetland 7** is classified as PEM1E (Palustrine, Emergent, Permanent, Seasonally Flooded/Saturated Wetland) and is located in a depression at the north edge of a field. A large vertical drain is present at the west end of this wetland and this drain presumably transfers excess water that accumulates here off-site. Vegetation observed included black willow, broadleaf cattail, fowl mannagrass (*Glyceria striata*), primrose-willow (*Ludwigia* species), and woolgrass. This area exhibited hydric soils (met by the hydrogen sulfide and redox depression indicators) and wetland hydrology. An estimated 0.11 acre of Wetland 7 is located within the Study Area. This feature is likely subject to regulation by the USACE due to its off-site hydrologic connection with Crooked Creek.

**Wetland 8** is classified as PFO1A (Palustrine, Forested, Broad-Leaved Deciduous, Temporarily Flooded Wetland) and is located in a floodplain south of Crooked Creek. Wetland 8 hydrology appears to be maintained from storm events and overflow from Crooked Creek (OW 5). Vegetation observed included American elm, loblolly pine, sweetgum, water oak (*Quercus nigra*), and roundleaf greenbrier. This area exhibited hydric soils (10YR 4/2 and 5/2 with redoximorphic features) and wetland hydrology. An estimated 0.61 acre of Wetland 8 is located within the Study Area. This feature is likely subject to regulation by the USACE due to its hydrologic floodplain connection with Crooked Creek (OW 5).

**Wetland 9** is classified as PFO1A (Palustrine, Forested, Broad-Leaved Deciduous, Temporarily Flooded Wetland) and is located in a floodplain north of Crooked Creek. Wetland 9 hydrology appears to be maintained from storm events and overflow from Crooked Creek (OW 5). A maintained utility grass road (approximately 15 feet wide) is located south of Wetland 9 and separates the wetland from Crooked Creek, which is immediately south of the utility road. Vegetation observed included American elm, black willow, Chinese privet, green ash (*Fraxinus pennsylvanica*), pignut hickory, Shumard's oak (*Quercus shumardii*), sweetgum, smartweed,

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**Bryant Parkway, Alternative B**

and Virginia dayflower (*Commelina virginica*). This area exhibited hydric soils (10YR 4/2 and 5/2 with redoximorphic features) and wetland hydrology. An estimated 1.99 acres are located within the Study Area. This feature is likely subject to regulation by the USACE due to its hydrologic floodplain connection with Crooked Creek (OW 5).

### **3.2 Other Waters (OW)**

**OW 1 – Unnamed Tributary to Hurricane Creek** is an ephemeral stream that originates in the Study Area, flows generally north to south, and then flows off-site where it eventually drains to Hurricane Creek. This feature is not mapped by the USGS. The ordinary high water mark (OHWM) associated with this feature was observed to be approximately 7 feet wide and 6 inches deep. Observed riparian zone vegetation included silk tree (*Albizia julibrissin*), loblolly pine, sericea lespedeza (*Lespedeza cuneata*), Canada goldenrod (*Solidago altissima*), and blackeyed Susan. Approximately 212 linear feet of OW 1 occur within the Study Area.

**OW 2 – Unnamed Tributary to Crooked Creek** is an ephemeral stream that flows generally southwest to northeast through the Study Area. This feature is mapped by the USGS as a perennial stream (Crooked Creek), but was observed in the field as ephemeral (see description of OW 5 for details on USGS mapping). The OHWM associated with this feature was observed to be approximately 4 feet wide and 6 inches deep. OW 2a originates off-site, flows north-northeast into the Study Area, and then after 111 linear feet, all OHWMs dissipate. Evidence of OHWMs associated with the stream resume farther northeast and this stream (OW 2b) flows for an additional 134 linear feet before leaving the Study Area. Observed riparian zone vegetation included American elm, black willow, Chinese privet, loblolly pine, pignut hickory, red maple, sweetgum, smartweed, roundleaf greenbrier, and Japanese honeysuckle (*Lonicera japonica*). A total of approximately 245 linear feet of OW 2 occur within the Study Area.

**OW 3 – Unnamed Tributary to Crooked Creek** is an ephemeral stream that originates within the Study Area, flows north, and confluences at the west edge of the Study Area with OW 4. This feature is not a USGS-mapped stream. The OHWM associated with OW 3 was observed to be approximately 3 feet wide and 6 inches deep. Observed riparian zone vegetation included

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**Bryant Parkway, Alternative B**

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loblolly pine, broomsedge bluestem, bushy bluestem, prickly lettuce (*Lactuca serriola*), roundleaf greenbrier, and switchgrass. Approximately 57 linear feet of OW 3 occur within the Study Area.

**OW 4 – Unnamed Tributary to Crooked Creek** is an ephemeral stream that flows generally southeast to northwest through the Study Area. A portion of this feature is mapped by the USGS as a perennial stream (Crooked Creek), but was observed in the field as ephemeral (see description of OW 5 for details on USGS mapping). The OHWM associated with this feature was observed to average approximately 3 feet wide and 6 inches deep. OW 4a originates off-site then flows west-northwest through the Study Area for 248 linear feet. Approximately 390 linear feet downstream from the point where OW 4a exits the Study Area, the stream re-enters the Study Area and flows northeast for an additional 77 linear feet before once again flowing off-site. Observed riparian zone vegetation included loblolly pine, red maple, broomsedge bluestem, bushy bluestem, Japanese honeysuckle, prickly lettuce, roundleaf greenbrier, and switchgrass. A total of approximately 325 linear feet of OW 4 occur within the Study Area.

**OW 5 – Crooked Creek** is a perennial stream that flows west to east through the Study Area. This feature is mapped by the USGS as a perennial stream and was confirmed as such during the field investigation. According to the USGS map, an unnamed tributary to Crooked Creek originates from the north/west while Crooked Creek originates from the south. The two streams confluence near the Study Area then Crooked Creek continues to flow east. However, based on the field investigation, the main channel of the creek originates from the north/west and the small intermittent stream that confluent with Crooked Creek from the south was identified as an unnamed tributary to Crooked Creek, not Crooked Creek itself. This small unnamed tributary to Crooked Creek did not pass through the Study Area (thus was not assigned an OW identifier). A maintained utility grass road (approximately 15 feet wide) is located parallel to the north bank of Crooked Creek and a sewer utility clearing/easement (approximately 30 feet wide) is located parallel to the south bank of Crooked Creek. In summary, this report has identified Crooked Creek (OW 5) as being the large primary channel flowing west to east through the Study Area. The OHWM associated with Crooked Creek was observed to be approximately 17-20 feet wide and 1.5-2.0 feet deep. Observed riparian zone vegetation included American elm, Chinese privet, loblolly pine, pignut hickory, sweetgum, water oak, white oak (*Quercus alba*), American



**Bryant Parkway, Alternative B**

beautyberry (*Callicarpa americana*), eastern poison ivy (*Toxicodendron radicans*), Japanese honeysuckle, and roundleaf greenbrier. A total of approximately 225 linear feet of Crooked Creek occur within the Study Area.

**OW 6 – Unnamed tributary to Caney Creek** is an ephemeral stream that flows north to south through the north end of the Study Area and terminates near Wetland 9 when it loses OHWMS. This feature is not mapped by the USGS. The OHWM associated with OW 6 was observed to be approximately 3 feet wide and 6 inches deep. Observed riparian zone vegetation included eastern redcedar (*Juniperus virginiana*), pignut hickory, Shumard's oak, sweetgum, water oak, white oak, American beautyberry, eastern poison ivy, Japanese honeysuckle, roundleaf greenbrier, and slender woodoats (*Chasmanthium laxum*). Approximately 1,187 linear feet of OW 6 occur within the Study Area.

### 3.3 Summary

In summary, 9 wetlands (totaling 4.39 acres) and 6 streams (totaling 2,251 linear feet) were identified within the Study Area. This report is to be presented to the USACE for concurrence and determination of appropriate 404 permitting after impacts have been determined.

**Table 1: Wetlands**

Wetland	Cowardin Classification	Acreage Within the Study Area
<b>Wetland 1</b>	PEM1H	0.04
<b>Wetland 2</b>	PEM1E	0.02
<b>Wetland 3</b>	PFO1C	0.90
<b>Wetland 4a</b>	PFO1E	0.22
<b>Wetland 4b</b>	PEM1E	0.21
<b>Wetland 5</b>	PFO1C	0.10
<b>Wetland 6</b>	PEM1E	0.19
<b>Wetland 7</b>	PEM1E	0.11
<b>Wetland 8</b>	PFO1A	0.61
<b>Wetland 9</b>	PFO1A	1.99

**Bryant Parkway, Alternative B****Table 2: Jurisdictional Waters**

Hydrology Feature	Stream Classification	Ordinary High Water Mark (width x depth)	Linear Feet Within the Study Area
<b>OW 1</b>	Ephemeral	7 ft. x 6 inches	212
<b>OW 2a</b>	Ephemeral	4 ft. x 6 inches	111
<b>OW 2b</b>	Ephemeral	4 ft. x 6 inches	134
<b>OW 3</b>	Ephemeral	3 ft. x 6 inches	57
<b>OW 4a</b>	Ephemeral	3 ft. x 6 inches	248
<b>OW 4b</b>	Ephemeral	3 ft. x 6 inches	77
<b>OW 5a (Crooked Creek)</b>	Perennial	17-20 ft. x 1.5-2 ft.	94
<b>OW 5b (Crooked Creek)</b>	Perennial	17-20 ft. x 1.5-2 ft.	131
<b>OW 6</b>	Ephemeral	3 ft. x 6 inches	1,187

**4.0 References**

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***Bryant Parkway, Alternative B***

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**Bryant Parkway, Alternative B**

# APPENDIX A

## Site Location Map







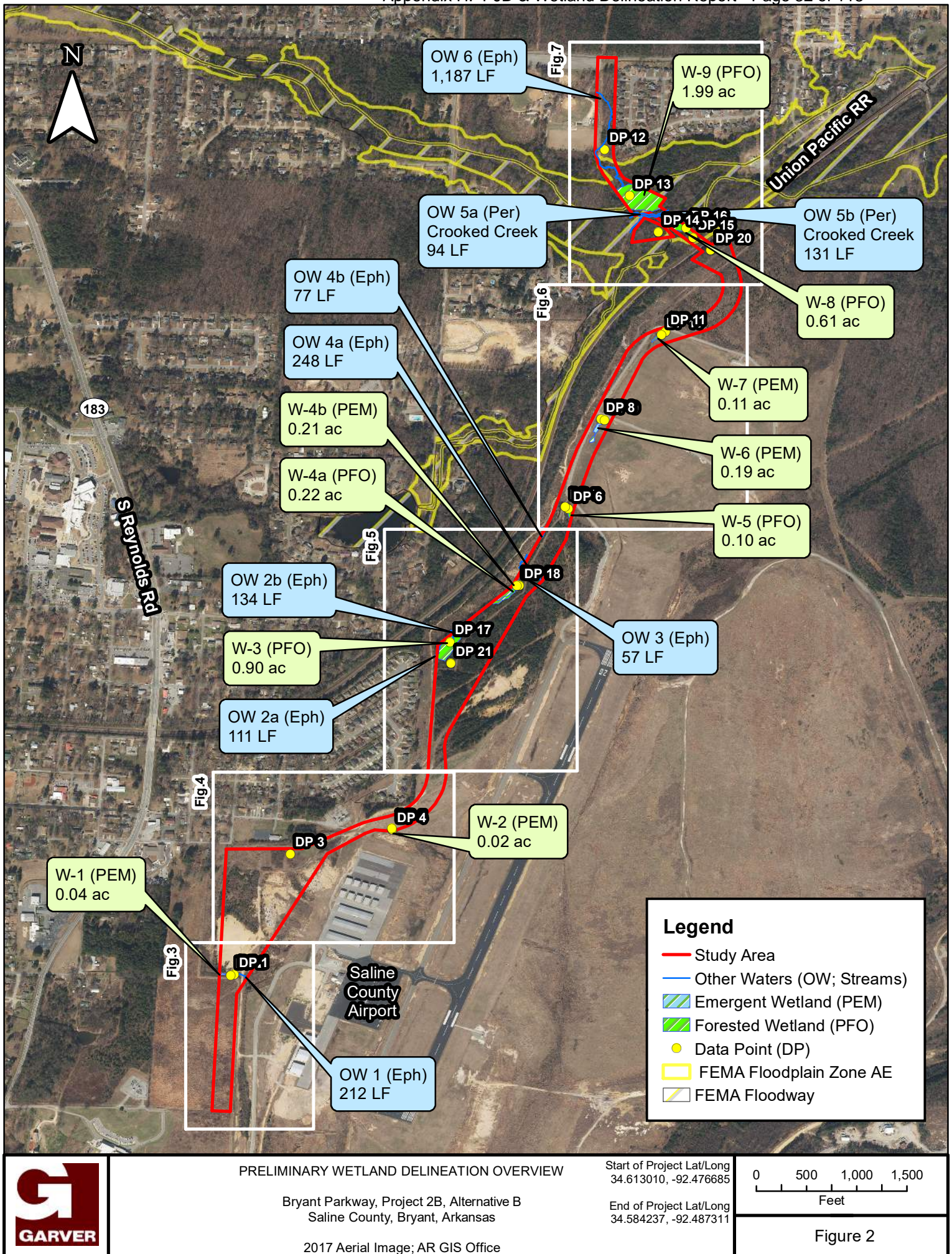
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**Bryant Parkway, Alternative B**

# **APPENDIX B**

## **Preliminary Wetland Delineation Overview**





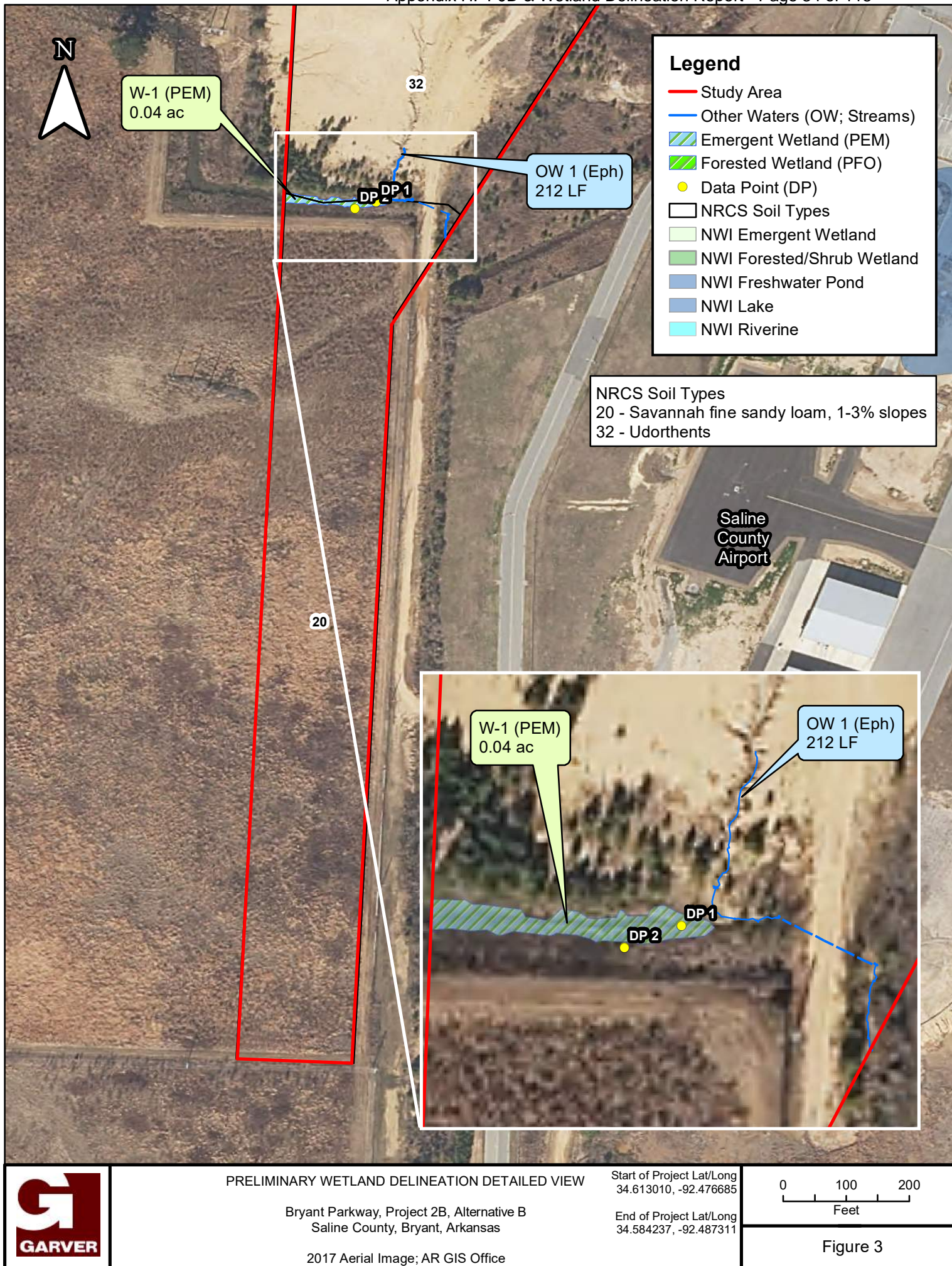


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**Bryant Parkway, Alternative B**

# **APPENDIX C**

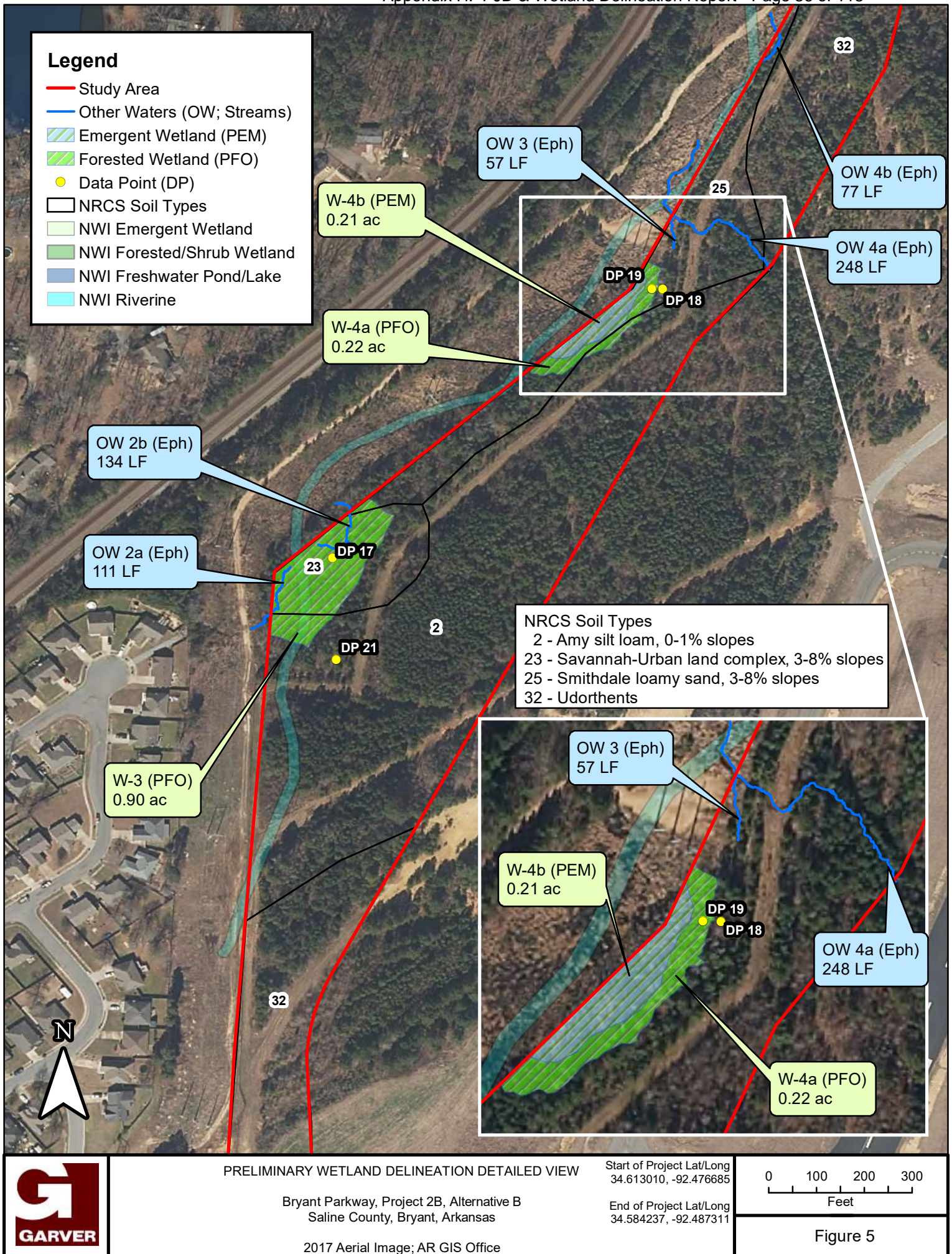
## **Preliminary Wetland Delineation Detailed Views**



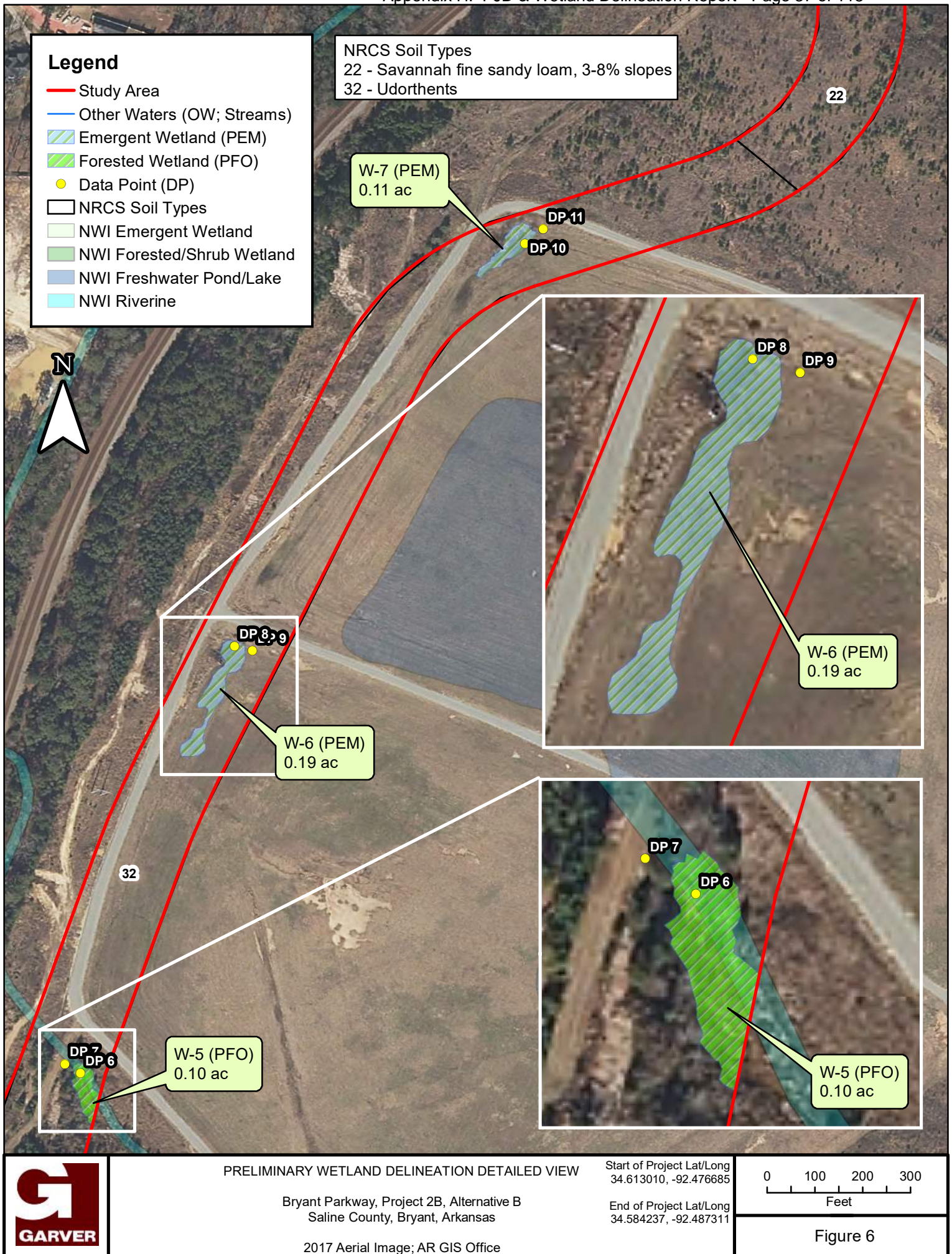




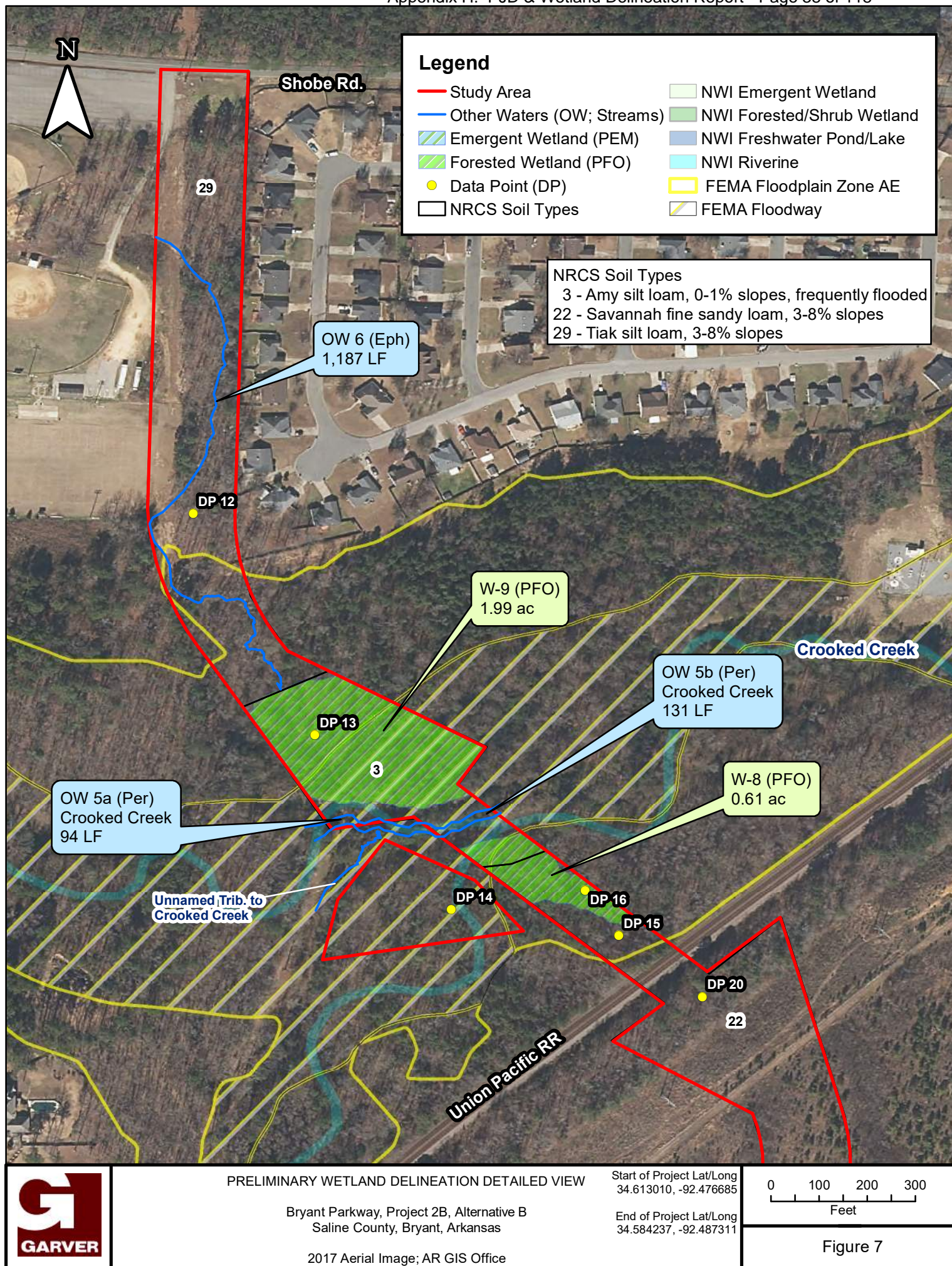












***Bryant Parkway, Alternative B***

# APPENDIX D

## Data Forms



**WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region**

Project/Site: Bryant Parkway Alternative B City/County: Bryant / Saline Sampling Date: 10/4/2018  
 Applicant/Owner: City of Bryant State: AR Sampling Point: DP 1  
 Investigator(s): Cassie Schmidt Section, Township, Range: Sec 34, T 1S, R14W  
 Landform (hillslope, terrace, etc.): linear drainage Local relief (concave, convex, none): concave Slope (%): 0  
 Subregion (LRR or MLRA): \_\_\_\_\_ Lat: 34.587978 Long: -92.486975 Datum: NAD83  
 Soil Map Unit Name: 20 - Savannah fine sandy loam, 1-3% slopes NWI classification: N/A

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 <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes <u>X</u> No _____
Hydric Soil Present? Yes <u>X</u> No _____	
Wetland Hydrology Present? Yes <u>X</u> No _____	
Remarks: Site meets all three wetland criteria.	

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b> <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input checked="" type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Aquatic Fauna (B13) <input checked="" type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Marl Deposits (B15) ( <b>LRR U</b> ) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Presence of Reduced Iron (C4) <input checked="" type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <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 checked="" type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)		<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input checked="" type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Sphagnum moss (D8) ( <b>LRR T, U</b> )
<b>Field Observations:</b> Surface Water Present? Yes <u>X</u> No _____ Depth (inches): <u>0-1'</u> Water Table Present? Yes <u>X</u> No _____ Depth (inches): <u>18"</u> Saturation Present? Yes <u>X</u> No _____ Depth (inches): <u>surface</u> (includes capillary fringe)		<b>Wetland Hydrology Present?</b> Yes <u>X</u> No _____
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:  Remarks: Site meets wetland hydrology criteria.  Appears to have originated as a man-made drainage that now holds water due to downstream gradient (higher) as a result of sediment displacement from the nearby stream.		

**VEGETATION (Four Strata) – Use scientific names of plants.**Sampling Point: DP 1

Tree Stratum (Plot size: _____ )	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. <u>None Observed</u>	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
_____ = Total Cover				
50% of total cover: _____ 20% of total cover: _____				
Sapling/Shrub Stratum (Plot size: <u>15' linear</u> )				
1. <u>common buttonbush, Cephalanthus occidentalis</u>	15	Y	OBL	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
15 = Total Cover				
50% of total cover: <u>7.5</u> 20% of total cover: <u>3</u>				
Herb Stratum (Plot size: <u>15' linear</u> )				
1. <u>woolgrass, Scirpus cyperinus</u>	50	Y	OBL	
2. <u>common rush, Juncus effusus</u>	10	N	OBL	
3. <u>velvet panicum, Dichanthelium scoparium</u>	20	Y	FACW	
4. <u>blackeyed Susan, Rudbeckia hirta</u>	5	N	FACU	
5. <u>common boneset, Eupatorium perfoliatum</u>	5	N	FACW	
6. <u>broomsedge bluestem, Andropogon virginicus</u>	5	N	FAC	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
12. _____	_____	_____	_____	
95 = Total Cover				
50% of total cover: <u>47.5</u> 20% of total cover: <u>19</u>				
Woody Vine Stratum (Plot size: _____ )				
1. _____	_____	_____	_____	
2. <u>None Observed</u>	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover				
50% of total cover: _____ 20% of total cover: _____				
Remarks: (If observed, list morphological adaptations below). <b>Site meets hydrophytic vegetation criteria.</b>				

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

**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 = \_\_\_\_\_

**Hydrophytic Vegetation Indicators:**

☐ 1 - Rapid Test for Hydrophytic Vegetation

☒ 2 - Dominance Test is >50%

☐ 3 - Prevalence Index is ≤3.0<sup>1</sup>

☐ Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)

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

**Definitions of Four Vegetation Strata:**

**Tree** – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

**Sapling/Shrub** – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

**Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

**Woody vine** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** Yes x No \_\_\_\_\_

## SOIL

Sampling Point: DP 1

**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 <sup>1</sup>	Loc <sup>2</sup>		
0-4	10 YR 4/4	90	7.5 YR 5/6	10	C	PL		sandy loam
4-18	10 YR 5/2	80	7.5 YR 5/6	20	C	PL&M		sandy clay loam

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.<sup>2</sup>Location: PL=Pore Lining, M=Matrix.**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)**

- ☐ Histosol (A1)  
☐ Histic Epipedon (A2)  
☐ Black Histic (A3)  
☐ Hydrogen Sulfide (A4)  
☐ Stratified Layers (A5)  
☐ Organic Bodies (A6) (LRR P, T, U)  
☐ 5 cm Mucky Mineral (A7) (LRR P, T, U)  
☐ Muck Presence (A8) (LRR U)  
☐ 1 cm Muck (A9) (LRR P, T)  
☐ Depleted Below Dark Surface (A11)  
☐ Thick Dark Surface (A12)  
☐ Coast Prairie Redox (A16) (MLRA 150A)  
☐ Sandy Mucky Mineral (S1) (LRR O, S)  
☐ Sandy Gleyed Matrix (S4)  
☐ Sandy Redox (S5)  
☐ Stripped Matrix (S6)  
☐ Dark Surface (S7) (LRR P, S, T, U)

- ☐ Polyvalue Below Surface (S8) (LRR S, T, U)  
☐ Thin Dark Surface (S9) (LRR S, T, U)  
☐ Loamy Mucky Mineral (F1) (LRR O)  
☐ Loamy Gleyed Matrix (F2)  
☒ Depleted Matrix (F3)  
☐ Redox Dark Surface (F6)  
☐ Depleted Dark Surface (F7)  
☒ Redox Depressions (F8)  
☐ Marl (F10) (LRR U)  
☐ Depleted Ochric (F11) (MLRA 151)  
☐ Iron-Manganese Masses (F12) (LRR O, P, T)  
☐ Umbric Surface (F13) (LRR P, T, U)  
☐ Delta Ochric (F17) (MLRA 151)  
☐ Reduced Vertic (F18) (MLRA 150A, 150B)  
☐ Piedmont Floodplain Soils (F19) (MLRA 149A)  
☐ Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

- ☐ 1 cm Muck (A9) (LRR O)  
☐ 2 cm Muck (A10) (LRR S)  
☐ Reduced Vertic (F18) (outside MLRA 150A,B)  
☐ Piedmont Floodplain Soils (F19) (LRR P, S, T)  
☐ Anomalous Bright Loamy Soils (F20)  
**(MLRA 153B)**  
☐ Red Parent Material (TF2)  
☐ Very Shallow Dark Surface (TF12)  
☐ Other (Explain in Remarks)

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

**Restrictive Layer (if observed):**

Type: \_\_\_\_\_

Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes <sup>X</sup>\_\_\_\_\_ No \_\_\_\_\_

Remarks: Site meets hydric soil criteria.

**WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region**

Project/Site: Bryant Parkway Alternative B City/County: Bryant / Saline Sampling Date: 10/4/2018  
 Applicant/Owner: City of Bryant State: AR Sampling Point: DP 2  
 Investigator(s): Cassie Schmidt Section, Township, Range: Sec 34, T 1S, R14W  
 Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): convex Slope (%): 1  
 Subregion (LRR or MLRA): \_\_\_\_\_ Lat: 34.587952 Long: -92.487065 Datum: NAD83  
 Soil Map Unit Name: 20- Savannah fine sandy loam, 1-3% slopes NWI classification: N/A

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>	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u>
Hydric Soil Present? Yes _____ No <u>X</u>	
Wetland Hydrology Present? Yes _____ No <u>X</u>	
Remarks: Site fails to meet all three wetland criteria.	

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b> <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Marl Deposits (B15) <b>(LRR U)</b> <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <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)		<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Sphagnum moss (D8) <b>(LRR T, U)</b>
<b>Field Observations:</b> Surface Water Present? Yes _____ No <u>X</u> Depth (inches): _____ Water Table Present? Yes _____ No <u>X</u> Depth (inches): <u>&gt;8"</u> Saturation Present? Yes _____ No <u>X</u> Depth (inches): <u>&gt;8"</u> (includes capillary fringe)		<b>Wetland Hydrology Present? Yes _____ No <u>X</u></b>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: Site fails to meet wetland hydrology criteria.		



**VEGETATION (Four Strata) – Use scientific names of plants.**Sampling Point: DP 2

Tree Stratum (Plot size: <u>30'</u> radius )	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. loblolly pine, Pinus taeda	20	Y	FAC	Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A)
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata: <u>6</u> (B)
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>33</u> (A/B)
4. _____	_____	_____	_____	<b>Prevalence Index worksheet:</b> 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 = _____
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
20 = Total Cover				<b>Hydrophytic Vegetation Indicators:</b> <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 <sup>1</sup> <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
50% of total cover: <u>10</u> 20% of total cover: <u>4</u>				
Sapling/Shrub Stratum (Plot size: _____ )				
1. _____	_____	_____	_____	
2. None Observed	_____	_____	_____	
3. _____	_____	_____	_____	<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	<b>Definitions of Four Vegetation Strata:</b>  <b>Tree</b> – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.  <b>Sapling/Shrub</b> – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.  <b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.  <b>Woody vine</b> – All woody vines greater than 3.28 ft in height.
_____ = Total Cover				
50% of total cover: _____ 20% of total cover: _____				
Herb Stratum (Plot size: <u>5'</u> radius )				
1. sericea lespedeza, Lespedeza cuneata	15	Y	FACU	
2. Canada goldenrod, Solidago altissima	10	Y	FACU	<b>Hydrophytic Vegetation Present?</b> Yes _____ No <u>X</u>
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	<b>Woody Vine Stratum</b> (Plot size: <u>30'</u> radius )
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
12. _____	_____	_____	_____	<b>Hydrophytic Vegetation Present?</b> Yes _____ No <u>X</u>
25 = Total Cover				
50% of total cover: <u>12.5</u> 20% of total cover: <u>5</u>				
Woody Vine Stratum (Plot size: <u>30'</u> radius )				
1. blackberry, Rubus sp.*	40	Y	FACU	
2. roundleaf greenbrier, Smilax rotundifolia	20	Y	FAC	<b>Hydrophytic Vegetation Present?</b> Yes _____ No <u>X</u>
3. Japanese honeysuckle, Lonicera japonica	20	Y	FACU	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
80 = Total Cover				
50% of total cover: <u>40</u> 20% of total cover: <u>16</u>				

Remarks: (If observed, list morphological adaptations below).

**Site fails to meet hydrophytic vegetation criteria.**

Of the 11 species of Rubus listed in Arkansas for the AGCP Region, the majority (55%) are FACU or UPL.

**SOIL**Sampling Point: DP 2**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 <sup>1</sup>	Loc <sup>2</sup>		
0-8	10 YR 4/3	80	7.5 YR 5/6	10	C	M		clay loam, extremely rocky

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.<sup>2</sup>Location: PL=Pore Lining, M=Matrix.**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)**

- |  |   |
|--|---|
| <input type="checkbox"/> Histosol (A1)                         | <input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)                 |
| <input type="checkbox"/> Histic Epipedon (A2)                  | <input type="checkbox"/> Thin Dark Surface (S9) (LRR S, T, U)                       |
| <input type="checkbox"/> Black Histic (A3)                     | <input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)                           |
| <input type="checkbox"/> Hydrogen Sulfide (A4)                 | <input type="checkbox"/> Loamy Gleyed Matrix (F2)                                   |
| <input type="checkbox"/> Stratified Layers (A5)                | <input type="checkbox"/> Depleted Matrix (F3)                                       |
| <input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)     | <input type="checkbox"/> Redox Dark Surface (F6)                                    |
| <input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U) | <input type="checkbox"/> Depleted Dark Surface (F7)                                 |
| <input type="checkbox"/> Muck Presence (A8) (LRR U)            | <input type="checkbox"/> Redox Depressions (F8)                                     |
| <input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)             | <input type="checkbox"/> Marl (F10) (LRR U)   |
| <input type="checkbox"/> Depleted Below Dark Surface (A11)     | <input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)                           |
| <input type="checkbox"/> Thick Dark Surface (A12)              | <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)                  |
| <input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A) | <input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)                         |
| <input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)   | <input type="checkbox"/> Delta Ochric (F17) (MLRA 151)                              |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4)              | <input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)                     |
| <input type="checkbox"/> Sandy Redox (S5)                      | <input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)                |
| <input type="checkbox"/> Stripped Matrix (S6)                  | <input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D) |
| <input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)    |   |

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

- |  |
|--|
| <input type="checkbox"/> 1 cm Muck (A9) (LRR O)                        |
| <input type="checkbox"/> 2 cm Muck (A10) (LRR S)                       |
| <input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)    |
| <input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T) |
| <input type="checkbox"/> Anomalous Bright Loamy Soils (F20)            |
| <b>(MLRA 153B)</b>   |
| <input type="checkbox"/> Red Parent Material (TF2)                     |
| <input type="checkbox"/> Very Shallow Dark Surface (TF12)              |
| <input type="checkbox"/> Other (Explain in Remarks)                    |

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.**Restrictive Layer (if observed):**Type: too rocky (old stream bed?)Depth (inches): 8"Hydric Soil Present? Yes \_\_\_\_\_ No <sup>X</sup> \_\_\_\_\_Remarks: Site fails to meet hydric soil criteria.



**WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region**

Project/Site: Bryant Parkway Alternative B City/County: Bryant / Saline Sampling Date: 10/4/2018  
 Applicant/Owner: City of Bryant State: AR Sampling Point: DP 3  
 Investigator(s): Cassie Schmidt Section, Township, Range: Sec 34, T 1S, R14W  
 Landform (hillslope, terrace, etc.): partially wooded patch in field Local relief (concave, convex, none): none Slope (%): 2  
 Subregion (LRR or MLRA): \_\_\_\_\_ Lat: 34.591274 Long: -92.485439 Datum: NAD83  
 Soil Map Unit Name: 32 - Udorthents NWI classification: N/A

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>	<b>Is the Sampled Area within a Wetland?</b> Yes _____ No <u>X</u>
Remarks: Site fails to meet all three wetland criteria.  Data point collected within lowest point within the wooded area.	

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b> <u>Primary Indicators (minimum of one is required; check all that apply)</u>		<u>Secondary Indicators (minimum of two required)</u>	
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Marl Deposits (B15) <b>(LRR U)</b> <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Sphagnum moss (D8) <b>(LRR T, U)</b>	
<b>Field Observations:</b> Surface Water Present? Yes _____ No <u>X</u> Depth (inches): _____ Water Table Present? Yes _____ No <u>X</u> Depth (inches): <u>&gt;18"</u> Saturation Present? Yes _____ No <u>X</u> Depth (inches): <u>&gt;18"</u> (includes capillary fringe)		<b>Wetland Hydrology Present?</b> Yes _____ No <u>X</u>	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:			
Remarks: Site fails to meet wetland hydrology criteria.			

**VEGETATION (Four Strata) – Use scientific names of plants.**Sampling Point: DP 3

Tree Stratum (Plot size: <u>30'</u> radius )	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. <u>black willow, Salix nigra</u>	<u>80</u>	<u>Y</u>	<u>OBL</u>	Number of Dominant Species That Are OBL, FACW, or FAC: <u>4</u> (A)
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata: <u>8</u> (B)
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>50</u> (A/B)
4. _____	_____	_____	_____	<b>Prevalence Index worksheet:</b> 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 = _____
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
<u>80</u> = Total Cover 50% of total cover: <u>40</u> 20% of total cover: <u>16</u>				<b>Hydrophytic Vegetation Indicators:</b> <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 <sup>1</sup> <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
<b>Sapling/Shrub Stratum</b> (Plot size: _____ )				
1. _____	_____	_____	_____	
2. <u>None Observed</u>	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
_____ = Total Cover 50% of total cover: _____ 20% of total cover: _____				<b>Definitions of Four Vegetation Strata:</b>  <b>Tree</b> – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.  <b>Sapling/Shrub</b> – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.  <b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.  <b>Woody vine</b> – All woody vines greater than 3.28 ft in height.
<b>Herb Stratum</b> (Plot size: <u>5'</u> radius )				
1. <u>sericea lespedeza, Lespedeza cuneata</u>	<u>10</u>	<u>Y</u>	<u>FACU</u>	
2. <u>Canada goldenrod, Solidago altissima</u>	<u>10</u>	<u>Y</u>	<u>FACU</u>	
3. <u>blackberry, Rubus sp.*</u>	<u>10</u>	<u>Y</u>	<u>FACU</u>	
4. <u>green bulrush, Scirpus atrovirens</u>	<u>10</u>	<u>Y</u>	<u>OBL</u>	<b>Hydrophytic Vegetation Present?</b> Yes _____ No <u>X</u>
5. <u>woolgrass, Scirpus cyperinus</u>	<u>10</u>	<u>Y</u>	<u>OBL</u>	
6. <u>Japanese honeysuckle, Lonicera japonica</u>	<u>10</u>	<u>Y</u>	<u>FACU</u>	
7. <u>common boneset, Eupatorium perfoliatum</u>	<u>10</u>	<u>Y</u>	<u>FACW</u>	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	<b>Hydrophytic Vegetation Present?</b> Yes _____ No <u>X</u>
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
12. _____	_____	_____	_____	
<u>70</u> = Total Cover 50% of total cover: <u>35</u> 20% of total cover: <u>14</u>				
<b>Woody Vine Stratum</b> (Plot size: _____ )				<b>Hydrophytic Vegetation Present?</b> Yes _____ No <u>X</u>
1. _____	_____	_____	_____	
2. <u>None Observed</u>	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	<b>Hydrophytic Vegetation Present?</b> Yes _____ No <u>X</u>
_____ = Total Cover 50% of total cover: _____ 20% of total cover: _____				
Remarks: (If observed, list morphological adaptations below).				
Site fails to meet hydrophytic vegetation criteria.				
Of the 11 species of Rubus listed in Arkansas for the AGCP Region, the majority (55%) are FACU or UPL.				



**SOIL**Sampling Point: DP 3**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 <sup>1</sup>	Loc <sup>2</sup>		
0-6	7.5 YR 4/6	80						clay loam; mixed soils
	7.5 YR 4/3	20						
6-12	7.5 YR 3/2	80						clay loam; mixed soils
	7.5 YR 4/6	20						
12-18	7.5 YR 4/1	80	7.5 YR 5/8	20	C	M		clay loam

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.<sup>2</sup>Location: PL=Pore Lining, M=Matrix.**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)**

- |   |  |
|---|--|
| <input type="checkbox"/> Histosol (A1)                                  | <input type="checkbox"/> Polyvalue Below Surface (S8) ( <b>LRR S, T, U</b> )                 |
| <input type="checkbox"/> Histic Epipedon (A2)                           | <input type="checkbox"/> Thin Dark Surface (S9) ( <b>LRR S, T, U</b> )                       |
| <input type="checkbox"/> Black Histic (A3)                              | <input type="checkbox"/> Loamy Mucky Mineral (F1) ( <b>LRR O</b> )                           |
| <input type="checkbox"/> Hydrogen Sulfide (A4)                          | <input type="checkbox"/> Loamy Gleyed Matrix (F2)  |
| <input type="checkbox"/> Stratified Layers (A5)                         | <input type="checkbox"/> Depleted Matrix (F3)  |
| <input type="checkbox"/> Organic Bodies (A6) ( <b>LRR P, T, U</b> )     | <input type="checkbox"/> Redox Dark Surface (F6)   |
| <input type="checkbox"/> 5 cm Mucky Mineral (A7) ( <b>LRR P, T, U</b> ) | <input type="checkbox"/> Depleted Dark Surface (F7)  |
| <input type="checkbox"/> Muck Presence (A8) ( <b>LRR U</b> )            | <input type="checkbox"/> Redox Depressions (F8)  |
| <input type="checkbox"/> 1 cm Muck (A9) ( <b>LRR P, T</b> )             | <input type="checkbox"/> Marl (F10) ( <b>LRR U</b> )   |
| <input type="checkbox"/> Depleted Below Dark Surface (A11)              | <input type="checkbox"/> Depleted Ochric (F11) ( <b>MLRA 151</b> )                           |
| <input type="checkbox"/> Thick Dark Surface (A12)                       | <input type="checkbox"/> Iron-Manganese Masses (F12) ( <b>LRR O, P, T</b> )                  |
| <input type="checkbox"/> Coast Prairie Redox (A16) ( <b>MLRA 150A</b> ) | <input type="checkbox"/> Umbric Surface (F13) ( <b>LRR P, T, U</b> )                         |
| <input type="checkbox"/> Sandy Mucky Mineral (S1) ( <b>LRR O, S</b> )   | <input type="checkbox"/> Delta Ochric (F17) ( <b>MLRA 151</b> )                              |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4)                       | <input type="checkbox"/> Reduced Vertic (F18) ( <b>MLRA 150A, 150B</b> )                     |
| <input type="checkbox"/> Sandy Redox (S5)                               | <input type="checkbox"/> Piedmont Floodplain Soils (F19) ( <b>MLRA 149A</b> )                |
| <input type="checkbox"/> Stripped Matrix (S6)                           | <input type="checkbox"/> Anomalous Bright Loamy Soils (F20) ( <b>MLRA 149A, 153C, 153D</b> ) |
| <input type="checkbox"/> Dark Surface (S7) ( <b>LRR P, S, T, U</b> )    |  |

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

- |   |
|---|
| <input type="checkbox"/> 1 cm Muck (A9) ( <b>LRR O</b> )                        |
| <input type="checkbox"/> 2 cm Muck (A10) ( <b>LRR S</b> )                       |
| <input type="checkbox"/> Reduced Vertic (F18) ( <b>outside MLRA 150A,B</b> )    |
| <input type="checkbox"/> Piedmont Floodplain Soils (F19) ( <b>LRR P, S, T</b> ) |
| <input type="checkbox"/> Anomalous Bright Loamy Soils (F20)                     |
| <b>(MLRA 153B)</b>  |
| <input type="checkbox"/> Red Parent Material (TF2)                              |
| <input type="checkbox"/> Very Shallow Dark Surface (TF12)                       |
| <input type="checkbox"/> Other (Explain in Remarks)                             |

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.**Restrictive Layer (if observed):**

Type: \_\_\_\_\_

Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes \_\_\_\_\_ No <sup>X</sup> \_\_\_\_\_

Remarks: Site fails to meet hydric soil criteria.

**WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region**

Project/Site: Bryant Parkway Alternative B City/County: Bryant / Saline Sampling Date: 10/4/2018  
 Applicant/Owner: City of Bryant State: AR Sampling Point: DP 4  
 Investigator(s): Cassie Schmidt Section, Township, Range: Sec 34, T 1S, R14W  
 Landform (hillslope, terrace, etc.): emergent wetland Local relief (concave, convex, none): none Slope (%): 1  
 Subregion (LRR or MLRA): \_\_\_\_\_ Lat: 34.591940 Long: -92.482648 Datum: NAD83  
 Soil Map Unit Name: 32 - Udorthents NWI classification: N/A

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 <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes <u>X</u> No _____
Hydric Soil Present? Yes <u>X</u> No _____	
Wetland Hydrology Present? Yes <u>X</u> No _____	
Remarks: Site meets all three wetland criteria.	

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b> <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input checked="" type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Aquatic Fauna (B13) <input checked="" type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Marl Deposits (B15) ( <b>LRR U</b> ) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <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 checked="" type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)		<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input checked="" type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Sphagnum moss (D8) ( <b>LRR T, U</b> )
<b>Field Observations:</b> Surface Water Present? Yes <u>X</u> No _____ Depth (inches): <u>0-2"</u> Water Table Present? Yes <u>X</u> No _____ Depth (inches): <u>4"</u> Saturation Present? Yes <u>X</u> No _____ Depth (inches): <u>surface</u> (includes capillary fringe)		<b>Wetland Hydrology Present?</b> Yes <u>X</u> No _____
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:  Remarks: Site meets wetland hydrology criteria.  Hydrology appears to be maintained by hillside seep actively supplying water.		

**VEGETATION (Four Strata) – Use scientific names of plants.**Sampling Point: DP 4

Tree Stratum (Plot size: <u>30'</u> radius )	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. <u>black willow, Salix nigra</u>	<u>10</u>	<u>Y</u>	<u>OBL</u>	Number of Dominant Species That Are OBL, FACW, or 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. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	<b>Prevalence Index worksheet:</b> 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 = _____
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
<u>10</u> = Total Cover 50% of total cover: <u>5</u> 20% of total cover: <u>2</u>				
<b>Sapling/Shrub Stratum (Plot size: <u>15'</u> radius )</b>				
1. <u>sweetgum, Liquidambar styraciflua</u>	<u>10</u>	<u>Y</u>	<u>FAC</u>	<b>Hydrophytic Vegetation Indicators:</b> <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 <sup>1</sup> <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
<u>10</u> = Total Cover 50% of total cover: <u>5</u> 20% of total cover: <u>2</u>				
<b>Herb Stratum (Plot size: <u>5'</u> radius )</b>				
1. <u>woolgrass, Scirpus cyperinus</u>	<u>50</u>	<u>Y</u>	<u>OBL</u>	<b>Definitions of Four Vegetation Strata:</b>  <b>Tree</b> – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.  <b>Sapling/Shrub</b> – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.  <b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.  <b>Woody vine</b> – All woody vines greater than 3.28 ft in height.
2. <u>common rush, Juncus effusus</u>	<u>10</u>	<u>N</u>	<u>OBL</u>	
3. <u>bushy bluestem, Andropogon glomeratus</u>	<u>10</u>	<u>N</u>	<u>FACW</u>	
4. <u>broadleaf cattail, Typha latifolia</u>	<u>10</u>	<u>N</u>	<u>OBL</u>	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
12. _____	_____	_____	_____	
<u>80</u> = Total Cover 50% of total cover: <u>40</u> 20% of total cover: <u>16</u>				
<b>Woody Vine Stratum (Plot size: _____ )</b>				
1. _____	_____	_____	_____	<b>Hydrophytic Vegetation Present?</b> Yes <u>x</u> No _____
2. <u>None Observed</u>	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover 50% of total cover: _____ 20% of total cover: _____				
Remarks: (If observed, list morphological adaptations below). <b>Site meets hydrophytic vegetation criteria.</b>				



**SOIL**Sampling Point: DP 4**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 <sup>1</sup>		
0-18	10 YR 5/1	60	7.5 YR 5/8	20	C	M&PL	sandy clay loam
	Gley 1 7/10Y	10					clay

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.<sup>2</sup>Location: PL=Pore Lining, M=Matrix.**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)**

- |  |   |
|--|---|
| <input type="checkbox"/> Histosol (A1)                         | <input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)                 |
| <input type="checkbox"/> Histic Epipedon (A2)                  | <input type="checkbox"/> Thin Dark Surface (S9) (LRR S, T, U)                       |
| <input type="checkbox"/> Black Histic (A3)                     | <input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)                           |
| <input type="checkbox"/> Hydrogen Sulfide (A4)                 | <input type="checkbox"/> Loamy Gleyed Matrix (F2)                                   |
| <input type="checkbox"/> Stratified Layers (A5)                | <input checked="" type="checkbox"/> Depleted Matrix (F3)                            |
| <input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)     | <input type="checkbox"/> Redox Dark Surface (F6)                                    |
| <input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U) | <input type="checkbox"/> Depleted Dark Surface (F7)                                 |
| <input type="checkbox"/> Muck Presence (A8) (LRR U)            | <input type="checkbox"/> Redox Depressions (F8)                                     |
| <input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)             | <input type="checkbox"/> Marl (F10) (LRR U)   |
| <input type="checkbox"/> Depleted Below Dark Surface (A11)     | <input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)                           |
| <input type="checkbox"/> Thick Dark Surface (A12)              | <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)                  |
| <input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A) | <input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)                         |
| <input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)   | <input type="checkbox"/> Delta Ochric (F17) (MLRA 151)                              |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4)              | <input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)                     |
| <input type="checkbox"/> Sandy Redox (S5)                      | <input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)                |
| <input type="checkbox"/> Stripped Matrix (S6)                  | <input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D) |
| <input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)    |   |

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

- |  |
|--|
| <input type="checkbox"/> 1 cm Muck (A9) (LRR O)                        |
| <input type="checkbox"/> 2 cm Muck (A10) (LRR S)                       |
| <input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)    |
| <input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T) |
| <input type="checkbox"/> Anomalous Bright Loamy Soils (F20)            |
| <b>(MLRA 153B)</b>   |
| <input type="checkbox"/> Red Parent Material (TF2)                     |
| <input type="checkbox"/> Very Shallow Dark Surface (TF12)              |
| <input type="checkbox"/> Other (Explain in Remarks)                    |

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.**Restrictive Layer (if observed):**

Type: \_\_\_\_\_

Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes <sup>X</sup>\_\_\_\_\_ No \_\_\_\_\_

Remarks: Site meets hydric soil criteria.

**WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region**

Project/Site: Bryant Parkway Alternative B City/County: Bryant / Saline Sampling Date: 10/4/2018  
 Applicant/Owner: City of Bryant State: AR Sampling Point: DP 5  
 Investigator(s): Cassie Schmidt Section, Township, Range: Sec 34, T 1S, R14W  
 Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): none Slope (%): 2  
 Subregion (LRR or MLRA): \_\_\_\_\_ Lat: 34.591974 Long: -92.482654 Datum: NAD83  
 Soil Map Unit Name: 32 - Udorthents NWI classification: N/A

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>	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u>
Hydric Soil Present? Yes _____ No <u>X</u>	
Wetland Hydrology Present? Yes _____ No <u>X</u>	
Remarks: Site fails to meet all three wetland criteria.	

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b> <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Marl Deposits (B15) <b>(LRR U)</b> <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <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)		<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Sphagnum moss (D8) <b>(LRR T, U)</b>
<b>Field Observations:</b> Surface Water Present? Yes _____ No <u>X</u> Depth (inches): _____ Water Table Present? Yes _____ No <u>X</u> Depth (inches): <u>&gt;18"</u> Saturation Present? Yes _____ No <u>X</u> Depth (inches): <u>&gt;18"</u> (includes capillary fringe)		<b>Wetland Hydrology Present? Yes _____ No <u>X</u></b>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: Site fails to meet wetland hydrology criteria.		



**VEGETATION (Four Strata) – Use scientific names of plants.**Sampling Point: DP 5

Tree Stratum (Plot size: _____ )	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. _____	_____	_____	_____	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</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>0</u> (A/B)
2. None Observed	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
_____ = Total Cover				<b>Prevalence Index worksheet:</b> 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 = _____
50% of total cover: _____ 20% of total cover: _____				
_____ = Total Cover				
50% of total cover: _____ 20% of total cover: _____				
_____ = Total Cover				
50% of total cover: _____ 20% of total cover: _____				
_____ = Total Cover				
50% of total cover: _____ 20% of total cover: _____				
<b>Sapling/Shrub Stratum (Plot size: _____ )</b> 1. _____ 2. None Observed 3. _____ 4. _____ 5. _____ 6. _____ 7. _____ 8. _____ _____ = Total Cover 50% of total cover: _____ 20% of total cover: _____				<b>Hydrophytic Vegetation Indicators:</b> <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 <sup>1</sup> <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
_____ = Total Cover				
50% of total cover: _____ 20% of total cover: _____				
_____ = Total Cover				
50% of total cover: _____ 20% of total cover: _____				
_____ = Total Cover				
50% of total cover: _____ 20% of total cover: _____				
_____ = Total Cover				
<b>Herb Stratum (Plot size: 5' radius)</b> 1. sericea lespedeza, Lespedeza cuneata 30 Y FACU 2. dallisgrass, Paspalum dilatatum 10 N FAC 3. bahiagrass, Paspalum notatum 30 Y FACU 4. bushy bluestem, Andropogon glomeratus 10 N FACW 5. _____ 6. _____ 7. _____ 8. _____ 9. _____ 10. _____ 11. _____ 12. _____ _____ = Total Cover 50% of total cover: <sup>40</sup> _____ 20% of total cover: <sup>16</sup> _____				<b>Definitions of Four Vegetation Strata:</b>  <b>Tree</b> – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.  <b>Sapling/Shrub</b> – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.  <b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.  <b>Woody vine</b> – All woody vines greater than 3.28 ft in height.   <b>Hydrophytic Vegetation Present?</b> Yes _____ No <sup>x</sup> _____
_____ = Total Cover				
50% of total cover: <sup>40</sup> _____ 20% of total cover: <sup>16</sup> _____				
_____ = Total Cover				
50% of total cover: _____ 20% of total cover: _____				
_____ = Total Cover				
50% of total cover: _____ 20% of total cover: _____				
_____ = Total Cover				
<b>Woody Vine Stratum (Plot size: _____ )</b> 1. _____ 2. None Observed 3. _____ 4. _____ 5. _____ _____ = Total Cover 50% of total cover: _____ 20% of total cover: _____				<b>Hydrophytic Vegetation Present?</b> Yes _____ No <sup>x</sup> _____
_____ = Total Cover				
50% of total cover: _____ 20% of total cover: _____				
_____ = Total Cover				
50% of total cover: _____ 20% of total cover: _____				
_____ = Total Cover				
50% of total cover: _____ 20% of total cover: _____				
_____ = Total Cover				
Remarks: (If observed, list morphological adaptations below). <b>Site fails to meet hydrophytic vegetation criteria.</b>				

**SOIL**Sampling Point: DP 5**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 <sup>1</sup>	Loc <sup>2</sup>		
0-2	10 YR 3/2	100						clay loam
2-8	10 YR 4/3	95	7.5 YR 5/6	5	C	M		clay loam
8-18	10 YR 4/3	40						clay loam; mixed soils
	7.5 YR 5/8	30						clay loam; mixed soils
	Gley 1 7/10Y	30						clay

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.<sup>2</sup>Location: PL=Pore Lining, M=Matrix.**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)**

- ☐ Histosol (A1)  
☐ Histic Epipedon (A2)  
☐ Black Histic (A3)  
☐ Hydrogen Sulfide (A4)  
☐ Stratified Layers (A5)  
☐ Organic Bodies (A6) **(LRR P, T, U)**  
☐ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**  
☐ Muck Presence (A8) **(LRR U)**  
☐ 1 cm Muck (A9) **(LRR P, T)**  
☐ Depleted Below Dark Surface (A11)  
☐ Thick Dark Surface (A12)  
☐ Coast Prairie Redox (A16) **(MLRA 150A)**  
☐ Sandy Mucky Mineral (S1) **(LRR O, S)**  
☐ Sandy Gleyed Matrix (S4)  
☐ Sandy Redox (S5)  
☐ Stripped Matrix (S6)  
☐ Dark Surface (S7) **(LRR P, S, T, U)**

- ☐ Polyvalue Below Surface (S8) **(LRR S, T, U)**  
☐ Thin Dark Surface (S9) **(LRR S, T, U)**  
☐ Loamy Mucky Mineral (F1) **(LRR O)**  
☐ Loamy Gleyed Matrix (F2)  
☐ Depleted Matrix (F3)  
☐ Redox Dark Surface (F6)  
☐ Depleted Dark Surface (F7)  
☐ Redox Depressions (F8)  
☐ Marl (F10) **(LRR U)**  
☐ Depleted Ochric (F11) **(MLRA 151)**  
☐ Iron-Manganese Masses (F12) **(LRR O, P, T)**  
☐ Umbric Surface (F13) **(LRR P, T, U)**  
☐ Delta Ochric (F17) **(MLRA 151)**  
☐ Reduced Vertic (F18) **(MLRA 150A, 150B)**  
☐ Piedmont Floodplain Soils (F19) **(MLRA 149A)**  
☐ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

- ☐ 1 cm Muck (A9) **(LRR O)**  
☐ 2 cm Muck (A10) **(LRR S)**  
☐ Reduced Vertic (F18) **(outside MLRA 150A,B)**  
☐ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**  
☐ Anomalous Bright Loamy Soils (F20)  
**(MLRA 153B)**  
☐ Red Parent Material (TF2)  
☐ Very Shallow Dark Surface (TF12)  
☐ Other (Explain in Remarks)

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

**Restrictive Layer (if observed):**

Type: \_\_\_\_\_

Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes \_\_\_\_\_ No <sup>X</sup> \_\_\_\_\_

Remarks: Site fails to meet hydric soil criteria.

**WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region**

Project/Site: Bryant Parkway Alternative B City/County: Bryant / Saline Sampling Date: 10/4/2018  
 Applicant/Owner: City of Bryant State: AR Sampling Point: DP 6  
 Investigator(s): Cassie Schmidt Section, Township, Range: Sec 26, T 1S, R14W  
 Landform (hillslope, terrace, etc.): forested wetland at toe of slope Local relief (concave, convex, none): concave Slope (%): 0  
 Subregion (LRR or MLRA): \_\_\_\_\_ Lat: 34.600717 Long: -92.477828 Datum: NAD83  
 Soil Map Unit Name: 32 - Udorthents 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 \_\_\_\_\_, 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 _____	Is the Sampled Area within a Wetland? Yes <u>X</u> No _____
Hydric Soil Present? Yes <u>X</u> No _____	
Wetland Hydrology Present? Yes <u>X</u> No _____	
Remarks: Site meets all three wetland criteria.	

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b> <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input checked="" type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Aquatic Fauna (B13) <input checked="" type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Marl Deposits (B15) ( <b>LRR U</b> ) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <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)		<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input checked="" type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Sphagnum moss (D8) ( <b>LRR T, U</b> )
<b>Field Observations:</b> Surface Water Present? Yes <u>X</u> No _____ Depth (inches): <u>0-1"</u> Water Table Present? Yes <u>X</u> No _____ Depth (inches): <u>16"</u> Saturation Present? Yes <u>X</u> No _____ Depth (inches): <u>surface</u> (includes capillary fringe)		<b>Wetland Hydrology Present?</b> Yes <u>X</u> No _____
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:  Remarks: Site meets wetland hydrology criteria.  Hydrology appears to be maintained from possible stream located to southeast and off site.		



**VEGETATION (Four Strata) – Use scientific names of plants.**Sampling Point: DP 6

Tree Stratum (Plot size: <u>30'</u> radius )	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. <u>black willow, Salix nigra</u>	<u>50</u>	<u>Y</u>	<u>OBL</u>	Number of Dominant Species That Are OBL, FACW, or FAC: <u>8</u> (A)  Total Number of Dominant Species Across All Strata: <u>8</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
2. <u>loblolly pine, Pinus taeda</u>	<u>30</u>	<u>Y</u>	<u>FAC</u>	
3. <u>sweetgum, Liquidambar styraciflua</u>	<u>20</u>	<u>Y</u>	<u>FAC</u>	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	<b>Prevalence Index worksheet:</b> 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 = _____
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
_____ = Total Cover 50% of total cover: <u>50</u> 20% of total cover: <u>20</u>				<b>Hydrophytic Vegetation Indicators:</b> <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 <sup>1</sup> <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
<b>Sapling/Shrub Stratum (Plot size: <u>15'</u> radius )</b>				
1. <u>sweetgum, Liquidambar styraciflua</u>	<u>20</u>	<u>Y</u>	<u>FAC</u>	
2. <u>common buttonbush, Cephalanthus occidentalis</u>	<u>20</u>	<u>Y</u>	<u>OBL</u>	
3. <u>red maple, Acer rubrum</u>	<u>10</u>	<u>Y</u>	<u>FAC</u>	<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	<b>Definitions of Four Vegetation Strata:</b>  <b>Tree</b> – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.  <b>Sapling/Shrub</b> – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.  <b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.  <b>Woody vine</b> – All woody vines greater than 3.28 ft in height.
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
_____ = Total Cover 50% of total cover: <u>25</u> 20% of total cover: <u>10</u>				<b>Hydrophytic Vegetation Present?</b> Yes <u>x</u> No _____
<b>Herb Stratum (Plot size: <u>5'</u> radius )</b>				
1. <u>woolgrass, Scirpus cyperinus</u>	<u>5</u>	<u>N</u>	<u>OBL</u>	
2. <u>common rush, Juncus effusus</u>	<u>40</u>	<u>Y</u>	<u>OBL</u>	
3. <u>spike rush, Eleocharis sp.</u>	<u>20</u>	<u>Y</u>	<u>OBL</u>	<b>Hydrophytic Vegetation Present?</b> Yes <u>x</u> No _____
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	<b>Hydrophytic Vegetation Present?</b> Yes <u>x</u> No _____
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	<b>Hydrophytic Vegetation Present?</b> Yes <u>x</u> No _____
12. _____	_____	_____	_____	
_____ = Total Cover 50% of total cover: <u>32.5</u> 20% of total cover: <u>13</u>				
<b>Woody Vine Stratum (Plot size: _____ )</b>				
1. _____	_____	_____	_____	<b>Hydrophytic Vegetation Present?</b> Yes <u>x</u> No _____
2. <u>None Observed</u>	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	<b>Hydrophytic Vegetation Present?</b> Yes <u>x</u> No _____
_____ = Total Cover 50% of total cover: _____ 20% of total cover: _____				
_____ = Total Cover 50% of total cover: _____ 20% of total cover: _____				
_____ = Total Cover 50% of total cover: _____ 20% of total cover: _____				

Remarks: (If observed, list morphological adaptations below).

Site meets hydrophytic vegetation criteria.

Of the 19 species of Eleocharis listed in Arkansas for the AGCP Region, the majority (68%) are OBL (and the rest are listed as FACW).

**SOIL**

Sampling Point: DP 6

**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 <sup>1</sup>		
0-10	10 YR 5/1	60	7.5 YR 5/8	40	C	M&PL	clay loam
10-20	10 YR 5/1	80	7.5 YR 5/8	20	C	M&PL	clay loam

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.<sup>2</sup>Location: PL=Pore Lining, M=Matrix.**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)**

- |  |   |
|--|---|
| <input type="checkbox"/> Histosol (A1)                         | <input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)                 |
| <input type="checkbox"/> Histic Epipedon (A2)                  | <input type="checkbox"/> Thin Dark Surface (S9) (LRR S, T, U)                       |
| <input type="checkbox"/> Black Histic (A3)                     | <input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)                           |
| <input type="checkbox"/> Hydrogen Sulfide (A4)                 | <input type="checkbox"/> Loamy Gleyed Matrix (F2)                                   |
| <input type="checkbox"/> Stratified Layers (A5)                | <input checked="" type="checkbox"/> Depleted Matrix (F3)                            |
| <input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)     | <input type="checkbox"/> Redox Dark Surface (F6)                                    |
| <input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U) | <input type="checkbox"/> Depleted Dark Surface (F7)                                 |
| <input type="checkbox"/> Muck Presence (A8) (LRR U)            | <input type="checkbox"/> Redox Depressions (F8)                                     |
| <input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)             | <input type="checkbox"/> Marl (F10) (LRR U)   |
| <input type="checkbox"/> Depleted Below Dark Surface (A11)     | <input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)                           |
| <input type="checkbox"/> Thick Dark Surface (A12)              | <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)                  |
| <input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A) | <input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)                         |
| <input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)   | <input type="checkbox"/> Delta Ochric (F17) (MLRA 151)                              |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4)              | <input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)                     |
| <input type="checkbox"/> Sandy Redox (S5)                      | <input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)                |
| <input type="checkbox"/> Stripped Matrix (S6)                  | <input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D) |
| <input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)    |   |

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

- |  |
|--|
| <input type="checkbox"/> 1 cm Muck (A9) (LRR O)                        |
| <input type="checkbox"/> 2 cm Muck (A10) (LRR S)                       |
| <input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)    |
| <input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T) |
| <input type="checkbox"/> Anomalous Bright Loamy Soils (F20)            |
| <b>(MLRA 153B)</b>   |
| <input type="checkbox"/> Red Parent Material (TF2)                     |
| <input type="checkbox"/> Very Shallow Dark Surface (TF12)              |
| <input type="checkbox"/> Other (Explain in Remarks)                    |

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.**Restrictive Layer (if observed):**

Type: \_\_\_\_\_

Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes <sup>X</sup>\_\_\_\_\_ No \_\_\_\_\_

Remarks: Site meets hydric soil criteria.

**WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region**

Project/Site: Bryant Parkway Alternative B City/County: Bryant / Saline Sampling Date: 10/4/2018  
 Applicant/Owner: City of Bryant State: AR Sampling Point: DP 7  
 Investigator(s): Cassie Schmidt Section, Township, Range: Sec 26, T1S, R14W  
 Landform (hillslope, terrace, etc.): cleared area (side of trail) in woods Local relief (concave, convex, none): convex Slope (%): 1  
 Subregion (LRR or MLRA): \_\_\_\_\_ Lat: 34.600770 Long: -92.477918 Datum: NAD83  
 Soil Map Unit Name: 32 - Udorthents NWI classification: N/A

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>	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u>
Hydric Soil Present? Yes _____ No <u>X</u>	
Wetland Hydrology Present? Yes _____ No <u>X</u>	
Remarks: Site fails to meet all three wetland criteria.	

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b> <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Marl Deposits (B15) ( <b>LRR U</b> ) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <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)		<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Sphagnum moss (D8) ( <b>LRR T, U</b> )
<b>Field Observations:</b> Surface Water Present? Yes _____ No <u>X</u> Depth (inches): _____ Water Table Present? Yes _____ No <u>X</u> Depth (inches): <u>&gt;18"</u> Saturation Present? Yes _____ No <u>X</u> Depth (inches): <u>&gt;18"</u> (includes capillary fringe)		<b>Wetland Hydrology Present? Yes _____ No <u>X</u></b>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: Site fails to meet wetland hydrology criteria.		



Tree Stratum (Plot size: _____ )	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)
2. None Observed	_____	_____	_____	Total Number of Dominant Species Across All Strata: <u>2</u> (B)
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>50</u> (A/B)
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
_____ = Total Cover				
50% of total cover: _____ 20% of total cover: _____				
<b>Prevalence Index worksheet:</b>				
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 = _____				
<b>Hydrophytic Vegetation Indicators:</b>				
<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 <sup>1</sup>				
<input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)				
<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.				
<b>Definitions of Four Vegetation Strata:</b>				
<b>Tree</b> – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.				
<b>Sapling/Shrub</b> – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.				
<b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.				
<b>Woody vine</b> – All woody vines greater than 3.28 ft in height.				
<b>Hydrophytic Vegetation Present?</b> Yes _____ No <sup>x</sup> _____				
Remarks: (If observed, list morphological adaptations below).				
Site fails to meet hydrophytic vegetation criteria; prevalence index cannot be used as indicators of wetland hydrology are not present.				
*Of the 11 species of Rubus listed in Arkansas for the AGCP Region, the majority (55%) are FACU or UPL.				

**SOIL**Sampling Point: DP 7**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 <sup>1</sup>	Loc <sup>2</sup>		
0-18	10 YR 3/3	100						loam

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.<sup>2</sup>Location: PL=Pore Lining, M=Matrix.**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)**

- |  |   |
|--|---|
| <input type="checkbox"/> Histosol (A1)                         | <input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)                 |
| <input type="checkbox"/> Histic Epipedon (A2)                  | <input type="checkbox"/> Thin Dark Surface (S9) (LRR S, T, U)                       |
| <input type="checkbox"/> Black Histic (A3)                     | <input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)                           |
| <input type="checkbox"/> Hydrogen Sulfide (A4)                 | <input type="checkbox"/> Loamy Gleyed Matrix (F2)                                   |
| <input type="checkbox"/> Stratified Layers (A5)                | <input type="checkbox"/> Depleted Matrix (F3)                                       |
| <input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)     | <input type="checkbox"/> Redox Dark Surface (F6)                                    |
| <input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U) | <input type="checkbox"/> Depleted Dark Surface (F7)                                 |
| <input type="checkbox"/> Muck Presence (A8) (LRR U)            | <input type="checkbox"/> Redox Depressions (F8)                                     |
| <input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)             | <input type="checkbox"/> Marl (F10) (LRR U)   |
| <input type="checkbox"/> Depleted Below Dark Surface (A11)     | <input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)                           |
| <input type="checkbox"/> Thick Dark Surface (A12)              | <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)                  |
| <input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A) | <input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)                         |
| <input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)   | <input type="checkbox"/> Delta Ochric (F17) (MLRA 151)                              |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4)              | <input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)                     |
| <input type="checkbox"/> Sandy Redox (S5)                      | <input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)                |
| <input type="checkbox"/> Stripped Matrix (S6)                  | <input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D) |
| <input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)    |   |

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

- |  |
|--|
| <input type="checkbox"/> 1 cm Muck (A9) (LRR O)                        |
| <input type="checkbox"/> 2 cm Muck (A10) (LRR S)                       |
| <input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)    |
| <input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T) |
| <input type="checkbox"/> Anomalous Bright Loamy Soils (F20)            |
| <b>(MLRA 153B)</b>   |
| <input type="checkbox"/> Red Parent Material (TF2)                     |
| <input type="checkbox"/> Very Shallow Dark Surface (TF12)              |
| <input type="checkbox"/> Other (Explain in Remarks)                    |

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.**Restrictive Layer (if observed):**

Type: \_\_\_\_\_

Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes \_\_\_\_\_ No <sup>X</sup> \_\_\_\_\_

Remarks: Site fails to meet hydric soil criteria.

**WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region**

Project/Site: Bryant Parkway Alternative B City/County: Bryant / Saline Sampling Date: 10/4/2018  
 Applicant/Owner: City of Bryant State: AR Sampling Point: DP 8  
 Investigator(s): Cassie Schmidt Section, Township, Range: Sec 26, T1S, R14W  
 Landform (hillslope, terrace, etc.): PEM at lowest corner of field Local relief (concave, convex, none): concave Slope (%): 0  
 Subregion (LRR or MLRA): \_\_\_\_\_ Lat: 34.603165 Long: -92.476944 Datum: NAD83  
 Soil Map Unit Name: 32 - Udorthents NWI classification: N/A

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 <u>X</u> No _____ Hydric Soil Present? Yes <u>X</u> No _____ Wetland Hydrology Present? Yes <u>X</u> No _____	<b>Is the Sampled Area within a Wetland?</b> Yes <u>X</u> No _____
Remarks: Site meets all three wetland criteria.	

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b> <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input checked="" type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Aquatic Fauna (B13) <input checked="" type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Marl Deposits (B15) <b>(LRR U)</b> <input checked="" type="checkbox"/> Saturation (A3) <input checked="" type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <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)		<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input checked="" type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input checked="" type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Sphagnum moss (D8) <b>(LRR T, U)</b>
<b>Field Observations:</b> Surface Water Present? Yes <u>X</u> No _____ Depth (inches): <u>0-5"</u> Water Table Present? Yes <u>X</u> No _____ Depth (inches): <u>surface</u> Saturation Present? Yes <u>X</u> No _____ Depth (inches): <u>surface</u> (includes capillary fringe)		<b>Wetland Hydrology Present?</b> Yes <u>X</u> No _____
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:  Remarks: Site meets wetland hydrology criteria.		



Tree Stratum (Plot size: _____ )	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or 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. None Observed	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
			_____ = Total Cover	<b>Prevalence Index worksheet:</b> 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 = _____
50% of total cover: _____			20% of total cover: _____	
<b>Sapling/Shrub Stratum</b> (Plot size: _____ )				
1. _____	_____	_____	_____	
2. None Observed	_____	_____	_____	<b>Hydrophytic Vegetation Indicators:</b> <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 <sup>1</sup> <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
			_____ = Total Cover	
50% of total cover: _____			20% of total cover: _____	
<b>Herb Stratum</b> (Plot size: 5' radius )				<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. barnyardgrass, Echinochloa crus-galli	10	N	FACW	
2. switchgrass, Panicum virgatum	50	Y	FAC	
3. broadleaf cattail, Typha latifolia	10	N	OBL	
4. flat sedge, Cyperus sp.*	30	Y	FACW	<b>Definitions of Four Vegetation Strata:</b>  <b>Tree</b> – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.  <b>Sapling/Shrub</b> – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.  <b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.  <b>Woody vine</b> – All woody vines greater than 3.28 ft in height.
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
12. _____	_____	_____	_____	
			100 = Total Cover	
50% of total cover: 50			20% of total cover: 20	
<b>Woody Vine Stratum</b> (Plot size: _____ )				<b>Hydrophytic Vegetation Present?</b> Yes <u>X</u> No _____
1. _____	_____	_____	_____	
2. None Observed	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
			_____ = Total Cover	
50% of total cover: _____			20% of total cover: _____	
Remarks: (If observed, list morphological adaptations below). Site meets hydrophytic vegetation criteria.				
*Of the 30 species of Cyperus listed in Arkansas for the AGCP Region, 90% are FAC or wetter, with the majority being FACW.				

**SOIL**Sampling Point: DP 8**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 <sup>1</sup>	Loc <sup>2</sup>		
0-2	10 YR 3/2	40						silty clay loam
	10 YR 4/2	60						
2-6	10 YR 5/4	100						silty clay loam
6-18	10 YR 2/1	80	10 YR 5/8	20	C	M		silty clay loam

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.<sup>2</sup>Location: PL=Pore Lining, M=Matrix.**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)**

- ☐ Histosol (A1)  
☐ Histic Epipedon (A2)  
☐ Black Histic (A3)  
☒ Hydrogen Sulfide (A4)  
☐ Stratified Layers (A5)  
☐ Organic Bodies (A6) (LRR P, T, U)  
☐ 5 cm Mucky Mineral (A7) (LRR P, T, U)  
☐ Muck Presence (A8) (LRR U)  
☐ 1 cm Muck (A9) (LRR P, T)  
☐ Depleted Below Dark Surface (A11)  
☐ Thick Dark Surface (A12)  
☐ Coast Prairie Redox (A16) (MLRA 150A)  
☐ Sandy Mucky Mineral (S1) (LRR O, S)  
☐ Sandy Gleyed Matrix (S4)  
☐ Sandy Redox (S5)  
☐ Stripped Matrix (S6)  
☐ Dark Surface (S7) (LRR P, S, T, U)

- ☐ Polyvalue Below Surface (S8) (LRR S, T, U)  
☐ Thin Dark Surface (S9) (LRR S, T, U)  
☐ Loamy Mucky Mineral (F1) (LRR O)  
☐ Loamy Gleyed Matrix (F2)  
☐ Depleted Matrix (F3)  
☐ Redox Dark Surface (F6)  
☐ Depleted Dark Surface (F7)  
☐ Redox Depressions (F8)  
☐ Marl (F10) (LRR U)  
☐ Depleted Ochric (F11) (MLRA 151)  
☐ Iron-Manganese Masses (F12) (LRR O, P, T)  
☐ Umbric Surface (F13) (LRR P, T, U)  
☐ Delta Ochric (F17) (MLRA 151)  
☐ Reduced Vertic (F18) (MLRA 150A, 150B)  
☐ Piedmont Floodplain Soils (F19) (MLRA 149A)  
☐ Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

- ☐ 1 cm Muck (A9) (LRR O)  
☐ 2 cm Muck (A10) (LRR S)  
☐ Reduced Vertic (F18) (outside MLRA 150A,B)  
☐ Piedmont Floodplain Soils (F19) (LRR P, S, T)  
☐ Anomalous Bright Loamy Soils (F20)  
**(MLRA 153B)**  
☐ Red Parent Material (TF2)  
☐ Very Shallow Dark Surface (TF12)  
☐ Other (Explain in Remarks)

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

**Restrictive Layer (if observed):**

Type: \_\_\_\_\_

Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes <sup>X</sup>\_\_\_\_\_ No \_\_\_\_\_

Remarks: Site meets hydric soil criteria.

**WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region**

Project/Site: Bryant Parkway Alternative B City/County: Bryant / Saline Sampling Date: 10/4/2018  
 Applicant/Owner: City of Bryant State: AR Sampling Point: DP 9  
 Investigator(s): Cassie Schmidt Section, Township, Range: Sec 26, T1S, R14W  
 Landform (hillslope, terrace, etc.): maintained field Local relief (concave, convex, none): none Slope (%): 0-1  
 Subregion (LRR or MLRA): \_\_\_\_\_ Lat: 34.603141 Long: -92.476841 Datum: NAD83  
 Soil Map Unit Name: 32 - Udorthents NWI classification: N/A

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>	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u>
Hydric Soil Present? Yes <u>X</u> No _____	
Wetland Hydrology Present? Yes _____ No <u>X</u>	
Remarks: Site fails to meet all three wetland criteria.	

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b> <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Marl Deposits (B15) ( <b>LRR U</b> ) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <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)		<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Sphagnum moss (D8) ( <b>LRR T, U</b> )
<b>Field Observations:</b> Surface Water Present? Yes _____ No <u>X</u> Depth (inches): _____ Water Table Present? Yes _____ No <u>X</u> Depth (inches): <u>&gt;18"</u> Saturation Present? Yes _____ No <u>X</u> Depth (inches): <u>&gt;18"</u> (includes capillary fringe)		<b>Wetland Hydrology Present?</b> Yes _____ No <u>X</u>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: Site fails to meet wetland hydrology criteria.		



**VEGETATION (Four Strata) – Use scientific names of plants.**Sampling Point: DP 9

Tree Stratum (Plot size: _____ )	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or 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. None Observed	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
_____ = Total Cover				<b>Prevalence Index worksheet:</b> 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 = _____
50% of total cover: _____ 20% of total cover: _____				
_____ = Total Cover				
50% of total cover: _____ 20% of total cover: _____				
_____ = Total Cover				
50% of total cover: _____ 20% of total cover: _____				
_____ = Total Cover				
50% of total cover: _____ 20% of total cover: _____				
<b>Sapling/Shrub Stratum (Plot size: _____ )</b> 1. _____ 2. None Observed 3. _____ 4. _____ 5. _____ 6. _____ 7. _____ 8. _____ _____ = Total Cover 50% of total cover: _____ 20% of total cover: _____				<b>Hydrophytic Vegetation Indicators:</b> <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 <sup>1</sup> <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
_____ = Total Cover				
50% of total cover: _____ 20% of total cover: _____				
_____ = Total Cover				
50% of total cover: _____ 20% of total cover: _____				
_____ = Total Cover				
50% of total cover: _____ 20% of total cover: _____				
_____ = Total Cover				
<b>Herb Stratum (Plot size: 5' radius )</b> 1. broomsedge bluestem, <i>Andropogon virginicus</i> 30 Y FAC 2. sericea lespedeza, <i>Lespedeza cuneata</i> 50 Y FACU 3. annual ragweed, <i>Ambrosia artemisiifolia</i> 10 N FACU 4. switchgrass, <i>Panicum virgatum</i> 10 N FAC 5. _____ 6. _____ 7. _____ 8. _____ 9. _____ 10. _____ 11. _____ 12. _____ _____ = Total Cover 50% of total cover: <u>50</u> 20% of total cover: <u>20</u>				<b>Definitions of Four Vegetation Strata:</b>  <b>Tree</b> – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.  <b>Sapling/Shrub</b> – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.  <b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.  <b>Woody vine</b> – All woody vines greater than 3.28 ft in height.
_____ = Total Cover				
50% of total cover: _____ 20% of total cover: _____				
_____ = Total Cover				
50% of total cover: _____ 20% of total cover: _____				
_____ = Total Cover				
50% of total cover: _____ 20% of total cover: _____				
_____ = Total Cover				
<b>Woody Vine Stratum (Plot size: _____ )</b> 1. _____ 2. None Observed 3. _____ 4. _____ 5. _____ _____ = Total Cover 50% of total cover: _____ 20% of total cover: _____				<b>Hydrophytic Vegetation Present?</b> Yes _____ No <u>x</u>
_____ = Total Cover				
50% of total cover: _____ 20% of total cover: _____				
_____ = Total Cover				
50% of total cover: _____ 20% of total cover: _____				
_____ = Total Cover				
50% of total cover: _____ 20% of total cover: _____				
_____ = Total Cover				
Remarks: (If observed, list morphological adaptations below). <b>Site fails to meet hydrophytic vegetation criteria; prevalence index cannot be used as indicators of wetland hydrology are not present.</b>				

## SOIL

Sampling Point: DP 9

**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 <sup>1</sup>	Loc <sup>2</sup>		
0-4	10 YR 4/2	100						sandy clay loam
4-18	10 YR 4/2	80	7.5 YR 6/8	10	C	M		sandy clay loam
	Gley 1 7/10Y	10						clay; mixed soils

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.<sup>2</sup>Location: PL=Pore Lining, M=Matrix.**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)**

- |  |   |
|--|---|
| <input type="checkbox"/> Histosol (A1)                         | <input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)                 |
| <input type="checkbox"/> Histic Epipedon (A2)                  | <input type="checkbox"/> Thin Dark Surface (S9) (LRR S, T, U)                       |
| <input type="checkbox"/> Black Histic (A3)                     | <input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)                           |
| <input type="checkbox"/> Hydrogen Sulfide (A4)                 | <input type="checkbox"/> Loamy Gleyed Matrix (F2)                                   |
| <input type="checkbox"/> Stratified Layers (A5)                | <input checked="" type="checkbox"/> Depleted Matrix (F3)                            |
| <input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)     | <input type="checkbox"/> Redox Dark Surface (F6)                                    |
| <input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U) | <input type="checkbox"/> Depleted Dark Surface (F7)                                 |
| <input type="checkbox"/> Muck Presence (A8) (LRR U)            | <input type="checkbox"/> Redox Depressions (F8)                                     |
| <input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)             | <input type="checkbox"/> Marl (F10) (LRR U)   |
| <input type="checkbox"/> Depleted Below Dark Surface (A11)     | <input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)                           |
| <input type="checkbox"/> Thick Dark Surface (A12)              | <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)                  |
| <input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A) | <input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)                         |
| <input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)   | <input type="checkbox"/> Delta Ochric (F17) (MLRA 151)                              |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4)              | <input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)                     |
| <input type="checkbox"/> Sandy Redox (S5)                      | <input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)                |
| <input type="checkbox"/> Stripped Matrix (S6)                  | <input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D) |
| <input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)    |   |

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

- ☐ 1 cm Muck (A9) (LRR O)
- ☐ 2 cm Muck (A10) (LRR S)
- ☐ Reduced Vertic (F18) (outside MLRA 150A,B)
- ☐ Piedmont Floodplain Soils (F19) (LRR P, S, T)
- ☐ Anomalous Bright Loamy Soils (F20)
- (MLRA 153B)**
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

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

**Restrictive Layer (if observed):**

Type: \_\_\_\_\_

Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes <sup>X</sup>\_\_\_\_\_ No \_\_\_\_\_

Remarks: Site meets hydric soil criteria.

**WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region**

Project/Site: Bryant Parkway Alternative B City/County: Bryant / Saline Sampling Date: 10/4/2018  
 Applicant/Owner: City of Bryant State: AR Sampling Point: DP 10  
 Investigator(s): Cassie Schmidt Section, Township, Range: Sec 26, T1S, R14W  
 Landform (hillslope, terrace, etc.): PEM at lowest corner of field Local relief (concave, convex, none): concave Slope (%): 0  
 Subregion (LRR or MLRA): \_\_\_\_\_ Lat: 34.605476 Long: -92.475279 Datum: NAD83  
 Soil Map Unit Name: 32 - Udorthents NWI classification: N/A

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 <u>X</u> No _____ Hydric Soil Present? Yes <u>X</u> No _____ Wetland Hydrology Present? Yes <u>X</u> No _____	<b>Is the Sampled Area within a Wetland?</b> Yes <u>X</u> No _____
Remarks: Site meets all three wetland criteria.	

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b> <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input checked="" type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Aquatic Fauna (B13) <input checked="" type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Marl Deposits (B15) <b>(LRR U)</b> <input checked="" type="checkbox"/> Saturation (A3) <input checked="" type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <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 checked="" type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)		<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input checked="" type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Sphagnum moss (D8) <b>(LRR T, U)</b>
<b>Field Observations:</b> Surface Water Present? Yes <u>X</u> No _____ Depth (inches): <u>0-4"</u> Water Table Present? Yes <u>X</u> No _____ Depth (inches): <u>surface</u> Saturation Present? Yes <u>X</u> No _____ Depth (inches): <u>surface</u> (includes capillary fringe)		<b>Wetland Hydrology Present?</b> Yes <u>X</u> No _____
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:  Remarks: Site meets wetland hydrology criteria.		



**VEGETATION (Four Strata) – Use scientific names of plants.**Sampling Point: DP 10

Tree Stratum (Plot size: <u>30'</u> radius )	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. <u>black willow, Salix nigra</u>	<u>10</u>	<u>Y</u>	<u>OBL</u>	Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A)
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata: _____ (B)
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)
4. _____	_____	_____	_____	<b>Prevalence Index worksheet:</b> 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 = _____
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
<u>10</u> = Total Cover 50% of total cover: <u>5</u> 20% of total cover: <u>2</u>				<b>Hydrophytic Vegetation Indicators:</b> <input checked="" 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 <sup>1</sup> <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
<b>Sapling/Shrub Stratum</b> (Plot size: _____ )				
1. _____	_____	_____	_____	
2. <u>None Observed</u>	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
_____ = Total Cover 50% of total cover: _____ 20% of total cover: _____				<b>Definitions of Four Vegetation Strata:</b>  <b>Tree</b> – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.  <b>Sapling/Shrub</b> – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.  <b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.  <b>Woody vine</b> – All woody vines greater than 3.28 ft in height.
<b>Herb Stratum</b> (Plot size: <u>5'</u> radius )				
1. <u>fowl mannagrass, Glyceria striata</u>	<u>10</u>	<u>N</u>	<u>OBL</u>	
2. <u>broadleaf cattail, Typha latifolia</u>	<u>50</u>	<u>Y</u>	<u>OBL</u>	
3. <u>woolgrass, Scirpus cyperinus</u>	<u>10</u>	<u>N</u>	<u>OBL</u>	
4. <u>primrose-willow, Ludwigia sp.*</u>	<u>20</u>	<u>Y</u>	<u>OBL</u>	
5. _____	_____	_____	_____	<b>Hydrophytic Vegetation Present?</b> Yes <u>x</u> No _____
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	<b>Woody Vine Stratum</b> (Plot size: _____ )
11. _____	_____	_____	_____	
12. _____	_____	_____	_____	
<u>90</u> = Total Cover 50% of total cover: <u>45</u> 20% of total cover: <u>18</u>				
_____ = Total Cover 50% of total cover: _____ 20% of total cover: _____				
<b>Remarks:</b> (If observed, list morphological adaptations below). <b>Site meets hydrophytic vegetation criteria.</b>  <b>*Of the 18 species of Ludwigia listed in Arkansas for the AGCP Region, 93% are OBL.</b>				

**SOIL**Sampling Point: DP 10**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 <sup>1</sup>	Loc <sup>2</sup>		
0-8	10 YR 3/2	95	7.5 YR 5/8	5	C	M		clay loam
8-12	Gley 1 3/10Y	95						clay loam

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.<sup>2</sup>Location: PL=Pore Lining, M=Matrix.**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)****Indicators for Problematic Hydric Soils<sup>3</sup>:**

- |  |  |   |
|--|--|---|
| <input type="checkbox"/> Histosol (A1)<br><input type="checkbox"/> Histic Epipedon (A2)<br><input type="checkbox"/> Black Histic (A3)<br><input checked="" type="checkbox"/> Hydrogen Sulfide (A4)<br><input type="checkbox"/> Stratified Layers (A5)<br><input type="checkbox"/> Organic Bodies (A6) <b>(LRR P, T, U)</b><br><input type="checkbox"/> 5 cm Mucky Mineral (A7) <b>(LRR P, T, U)</b><br><input type="checkbox"/> Muck Presence (A8) <b>(LRR U)</b><br><input type="checkbox"/> 1 cm Muck (A9) <b>(LRR P, T)</b><br><input type="checkbox"/> Depleted Below Dark Surface (A11)<br><input type="checkbox"/> Thick Dark Surface (A12)<br><input type="checkbox"/> Coast Prairie Redox (A16) <b>(MLRA 150A)</b><br><input type="checkbox"/> Sandy Mucky Mineral (S1) <b>(LRR O, S)</b><br><input type="checkbox"/> Sandy Gleyed Matrix (S4)<br><input type="checkbox"/> Sandy Redox (S5)<br><input type="checkbox"/> Stripped Matrix (S6)<br><input type="checkbox"/> Dark Surface (S7) <b>(LRR P, S, T, U)</b> | <input type="checkbox"/> Polyvalue Below Surface (S8) <b>(LRR S, T, U)</b><br><input type="checkbox"/> Thin Dark Surface (S9) <b>(LRR S, T, U)</b><br><input type="checkbox"/> Loamy Mucky Mineral (F1) <b>(LRR O)</b><br><input type="checkbox"/> Loamy Gleyed Matrix (F2)<br><input type="checkbox"/> Depleted Matrix (F3)<br><input type="checkbox"/> Redox Dark Surface (F6)<br><input type="checkbox"/> Depleted Dark Surface (F7)<br><input checked="" type="checkbox"/> Redox Depressions (F8)<br><input type="checkbox"/> Marl (F10) <b>(LRR U)</b><br><input type="checkbox"/> Depleted Ochric (F11) <b>(MLRA 151)</b><br><input type="checkbox"/> Iron-Manganese Masses (F12) <b>(LRR O, P, T)</b><br><input type="checkbox"/> Umbric Surface (F13) <b>(LRR P, T, U)</b><br><input type="checkbox"/> Delta Ochric (F17) <b>(MLRA 151)</b><br><input type="checkbox"/> Reduced Vertic (F18) <b>(MLRA 150A, 150B)</b><br><input type="checkbox"/> Piedmont Floodplain Soils (F19) <b>(MLRA 149A)</b><br><input type="checkbox"/> Anomalous Bright Loamy Soils (F20) <b>(MLRA 149A, 153C, 153D)</b> | <input type="checkbox"/> 1 cm Muck (A9) <b>(LRR O)</b><br><input type="checkbox"/> 2 cm Muck (A10) <b>(LRR S)</b><br><input type="checkbox"/> Reduced Vertic (F18) <b>(outside MLRA 150A,B)</b><br><input type="checkbox"/> Piedmont Floodplain Soils (F19) <b>(LRR P, S, T)</b><br><input type="checkbox"/> Anomalous Bright Loamy Soils (F20)<br><b>(MLRA 153B)</b><br><input type="checkbox"/> Red Parent Material (TF2)<br><input type="checkbox"/> Very Shallow Dark Surface (TF12)<br><input type="checkbox"/> Other (Explain in Remarks) |
|--|--|---|

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.**Restrictive Layer (if observed):**

Type: \_\_\_\_\_

Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes <sup>X</sup>\_\_\_\_\_ No \_\_\_\_\_

Remarks: Site meets hydric soil criteria.

**WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region**

Project/Site: Bryant Parkway Alternative B City/County: Bryant / Saline Sampling Date: 10/4/2018  
 Applicant/Owner: City of Bryant State: AR Sampling Point: DP 11  
 Investigator(s): Cassie Schmidt Section, Township, Range: Sec 26, T1S, R14W  
 Landform (hillslope, terrace, etc.): field edge Local relief (concave, convex, none): none Slope (%): 1  
 Subregion (LRR or MLRA): \_\_\_\_\_ Lat: 34.605559 Long: -92.475175 Datum: NAD83  
 Soil Map Unit Name: 32 - Udorthents NWI classification: N/A

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>	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u>
Hydric Soil Present? Yes _____ No <u>X</u>	
Wetland Hydrology Present? Yes _____ No <u>X</u>	
Remarks: Site fails to meet all three wetland criteria.	

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b> <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Marl Deposits (B15) <b>(LRR U)</b> <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <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)		<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Sphagnum moss (D8) <b>(LRR T, U)</b>
<b>Field Observations:</b> Surface Water Present? Yes _____ No <u>X</u> Depth (inches): _____ Water Table Present? Yes _____ No <u>X</u> Depth (inches): <u>&gt;18"</u> Saturation Present? Yes _____ No <u>X</u> Depth (inches): <u>&gt;18"</u> (includes capillary fringe)		<b>Wetland Hydrology Present? Yes _____ No <u>X</u></b>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: Site fails to meet wetland hydrology criteria.		



**VEGETATION (Four Strata) – Use scientific names of plants.**Sampling Point: DP 11

Tree Stratum (Plot size: _____ )	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. <u>None Observed</u>	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
_____ = Total Cover				
50% of total cover: _____ 20% of total cover: _____				
<b>Sapling/Shrub Stratum</b> (Plot size: _____ )				
1. _____	_____	_____	_____	
2. <u>None Observed</u>	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
_____ = Total Cover				
50% of total cover: _____ 20% of total cover: _____				
<b>Herb Stratum</b> (Plot size: <u>5' radius</u> )				
1. <u>goldenrod, Solidago altissima</u>	50	Y	FACU	
2. <u>sericea lespedeza, Lespedeza cuneata</u>	50	Y	FACU	
3. <u>daisy fleabane, Erigeron annuus</u>	10	N	FACU	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
12. _____	_____	_____	_____	
110 = Total Cover				
50% of total cover: <u>55</u> 20% of total cover: <u>22</u>				
<b>Woody Vine Stratum</b> (Plot size: _____ )				
1. _____	_____	_____	_____	
2. <u>None Observed</u>	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover				
50% of total cover: _____ 20% of total cover: _____				
<p>Remarks: (If observed, list morphological adaptations below).</p> <p><b>Site fails to meet hydrophytic vegetation criteria.</b></p>				

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

**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 = \_\_\_\_\_

**Hydrophytic Vegetation Indicators:**

☐ 1 - Rapid Test for Hydrophytic Vegetation

☐ 2 - Dominance Test is >50%

☐ 3 - Prevalence Index is ≤3.0<sup>1</sup>

☐ Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)

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

**Definitions of Four Vegetation Strata:**

**Tree** – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

**Sapling/Shrub** – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

**Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

**Woody vine** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** Yes \_\_\_\_\_ No x

## SOIL

Sampling Point: DP 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 <sup>1</sup>	Loc <sup>2</sup>		
0-2	10 YR 4/2	100						loamy sand
2-18	10 YR 4/2	60						loam; mixed soils
	10 YR 4/3	30						loam; mixed soils
	10 YR 5/8	10						loam; mixed soils not concentrations

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.<sup>2</sup>Location: PL=Pore Lining, M=Matrix.**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)**

- |  |   |
|--|---|
| <input type="checkbox"/> Histosol (A1)                         | <input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)                 |
| <input type="checkbox"/> Histic Epipedon (A2)                  | <input type="checkbox"/> Thin Dark Surface (S9) (LRR S, T, U)                       |
| <input type="checkbox"/> Black Histic (A3)                     | <input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)                           |
| <input type="checkbox"/> Hydrogen Sulfide (A4)                 | <input type="checkbox"/> Loamy Gleyed Matrix (F2)                                   |
| <input type="checkbox"/> Stratified Layers (A5)                | <input type="checkbox"/> Depleted Matrix (F3)                                       |
| <input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)     | <input type="checkbox"/> Redox Dark Surface (F6)                                    |
| <input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U) | <input type="checkbox"/> Depleted Dark Surface (F7)                                 |
| <input type="checkbox"/> Muck Presence (A8) (LRR U)            | <input type="checkbox"/> Redox Depressions (F8)                                     |
| <input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)             | <input type="checkbox"/> Marl (F10) (LRR U)   |
| <input type="checkbox"/> Depleted Below Dark Surface (A11)     | <input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)                           |
| <input type="checkbox"/> Thick Dark Surface (A12)              | <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)                  |
| <input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A) | <input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)                         |
| <input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)   | <input type="checkbox"/> Delta Ochric (F17) (MLRA 151)                              |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4)              | <input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)                     |
| <input type="checkbox"/> Sandy Redox (S5)                      | <input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)                |
| <input type="checkbox"/> Stripped Matrix (S6)                  | <input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D) |
| <input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)    |   |

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

- |  |
|--|
| <input type="checkbox"/> 1 cm Muck (A9) (LRR O)                        |
| <input type="checkbox"/> 2 cm Muck (A10) (LRR S)                       |
| <input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)    |
| <input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T) |
| <input type="checkbox"/> Anomalous Bright Loamy Soils (F20)            |
| <b>(MLRA 153B)</b>   |
| <input type="checkbox"/> Red Parent Material (TF2)                     |
| <input type="checkbox"/> Very Shallow Dark Surface (TF12)              |
| <input type="checkbox"/> Other (Explain in Remarks)                    |

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.**Restrictive Layer (if observed):**

Type: \_\_\_\_\_

Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes \_\_\_\_\_ No <sup>X</sup> \_\_\_\_\_

Remarks: Site fails to meet hydric soil criteria.

**WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region**

Project/Site: Bryant Parkway Alternative B City/County: Bryant / Saline Sampling Date: 10/5/2018  
 Applicant/Owner: City of Bryant State: AR Sampling Point: DP 12  
 Investigator(s): Cassie Schmidt Section, Township, Range: Sec 26, T1S, R14W  
 Landform (hillslope, terrace, etc.): wooded area near small creek Local relief (concave, convex, none): none Slope (%): 2  
 Subregion (LRR or MLRA): \_\_\_\_\_ Lat: 34.610539 Long: -92.476842 Datum: NAD83  
 Soil Map Unit Name: 29 - Tiak silt loam, 3-8% slopes NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes \_\_\_\_\_ 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>	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u>
Hydric Soil Present? Yes _____ No <u>X</u>	
Wetland Hydrology Present? Yes <u>X</u> No _____	
Remarks: Site fails to meet all three wetland criteria.	

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b> <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Marl Deposits (B15) <b>(LRR U)</b> <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Presence of Reduced Iron (C4) <input checked="" type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <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)		<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Sphagnum moss (D8) <b>(LRR T, U)</b>
<b>Field Observations:</b> Surface Water Present? Yes _____ No <u>X</u> Depth (inches): _____ Water Table Present? Yes _____ No <u>X</u> Depth (inches): <u>&gt;18"</u> Saturation Present? Yes _____ No <u>X</u> Depth (inches): <u>&gt;18"</u> (includes capillary fringe)	<b>Wetland Hydrology Present? Yes <u>X</u> No _____</b>	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: Site meets wetland hydrology criteria.		



**VEGETATION (Four Strata) – Use scientific names of plants.**Sampling Point: DP 12

Tree Stratum (Plot size: <u>30'</u> radius )	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. <u>pignut hickory, Carya glabra</u>	<u>20</u>	<u>Y</u>	<u>FACU</u>	Number of Dominant Species That Are OBL, FACW, or FAC: <u>4</u> (A)  Total Number of Dominant Species Across All Strata: <u>9</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>44</u> (A/B)
2. <u>Shumard's oak, Quercus shumardii</u>	<u>30</u>	<u>Y</u>	<u>FAC</u>	
3. <u>white oak, Quercus alba</u>	<u>30</u>	<u>Y</u>	<u>FACU</u>	
4. <u>sweetgum, Liquidambar styraciflua</u>	<u>10</u>	<u>N</u>	<u>FAC</u>	
5. <u>water oak, Quercus nigra</u>	<u>10</u>	<u>N</u>	<u>FAC</u>	<b>Prevalence Index worksheet:</b> 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 = _____
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
<u>100</u> = Total Cover 50% of total cover: <u>50</u> 20% of total cover: <u>20</u>				<b>Hydrophytic Vegetation Indicators:</b> <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 <sup>1</sup> <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
<b>Sapling/Shrub Stratum</b> (Plot size: <u>15'</u> radius )				
1. <u>pignut hickory, Carya glabra</u>	<u>10</u>	<u>Y</u>	<u>FACU</u>	
2. <u>American beautyberry, Callicarpa americana</u>	<u>30</u>	<u>Y</u>	<u>FACU</u>	
3. <u>eastern redcedar, Juniperus virginiana</u>	<u>5</u>	<u>N</u>	<u>FACU</u>	<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	<b>Definitions of Four Vegetation Strata:</b>  <b>Tree</b> – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.  <b>Sapling/Shrub</b> – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.  <b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.  <b>Woody vine</b> – All woody vines greater than 3.28 ft in height.
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
<u>45</u> = Total Cover 50% of total cover: <u>22.5</u> 20% of total cover: <u>9</u>				<b>Hydrophytic Vegetation Present?</b> Yes _____ No <u>X</u>
<b>Herb Stratum</b> (Plot size: <u>5'</u> radius )				
1. <u>eastern poison ivy, Toxicodendron radicans</u>	<u>10</u>	<u>Y</u>	<u>FAC</u>	
2. <u>slender woodoats, Chasmanthium laxum</u>	<u>40</u>	<u>Y</u>	<u>FACW</u>	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
12. _____	_____	_____	_____	
<u>50</u> = Total Cover 50% of total cover: <u>25</u> 20% of total cover: <u>10</u>				
<b>Woody Vine Stratum</b> (Plot size: <u>30'</u> radius )				
1. <u>Japanese honeysuckle, Lonicera japonica</u>	<u>5</u>	<u>Y</u>	<u>FACU</u>	
2. <u>roundleaf greenbrier, Smilax rotundifolia</u>	<u>5</u>	<u>Y</u>	<u>FAC</u>	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>10</u> = Total Cover 50% of total cover: <u>5</u> 20% of total cover: <u>2</u>				

Remarks: (If observed, list morphological adaptations below).

**Site fails to meet hydrophytic vegetation criteria.**

**SOIL**

Sampling Point: DP 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 <sup>1</sup>	Loc <sup>2</sup>		
0-4	10 YR 4/3	100						silt loam
4-8	10 YR 6/3	50						silt loam
	10 YR 5/6	50						silt loam; may be redox features or mixed soils
8-18	10 YR 6/2	20						silt loam
	10 YR 5/6	80						silt loam; appears to be mixed soils

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.<sup>2</sup>Location: PL=Pore Lining, M=Matrix.**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)**

- |  |   |
|--|---|
| <input type="checkbox"/> Histosol (A1)                         | <input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)                 |
| <input type="checkbox"/> Histic Epipedon (A2)                  | <input type="checkbox"/> Thin Dark Surface (S9) (LRR S, T, U)                       |
| <input type="checkbox"/> Black Histic (A3)                     | <input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)                           |
| <input type="checkbox"/> Hydrogen Sulfide (A4)                 | <input type="checkbox"/> Loamy Gleyed Matrix (F2)                                   |
| <input type="checkbox"/> Stratified Layers (A5)                | <input type="checkbox"/> Depleted Matrix (F3)                                       |
| <input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)     | <input type="checkbox"/> Redox Dark Surface (F6)                                    |
| <input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U) | <input type="checkbox"/> Depleted Dark Surface (F7)                                 |
| <input type="checkbox"/> Muck Presence (A8) (LRR U)            | <input type="checkbox"/> Redox Depressions (F8)                                     |
| <input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)             | <input type="checkbox"/> Marl (F10) (LRR U)   |
| <input type="checkbox"/> Depleted Below Dark Surface (A11)     | <input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)                           |
| <input type="checkbox"/> Thick Dark Surface (A12)              | <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)                  |
| <input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A) | <input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)                         |
| <input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)   | <input type="checkbox"/> Delta Ochric (F17) (MLRA 151)                              |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4)              | <input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)                     |
| <input type="checkbox"/> Sandy Redox (S5)                      | <input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)                |
| <input type="checkbox"/> Stripped Matrix (S6)                  | <input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D) |
| <input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)    |   |

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

- |  |
|--|
| <input type="checkbox"/> 1 cm Muck (A9) (LRR O)                        |
| <input type="checkbox"/> 2 cm Muck (A10) (LRR S)                       |
| <input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)    |
| <input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T) |
| <input type="checkbox"/> Anomalous Bright Loamy Soils (F20)            |
| <b>(MLRA 153B)</b>   |
| <input type="checkbox"/> Red Parent Material (TF2)                     |
| <input type="checkbox"/> Very Shallow Dark Surface (TF12)              |
| <input type="checkbox"/> Other (Explain in Remarks)                    |

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.**Restrictive Layer (if observed):**

Type: \_\_\_\_\_

Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes \_\_\_\_\_ No <sup>X</sup> \_\_\_\_\_

Remarks: Site fails to meet hydric soil criteria.

**WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region**

Project/Site: Bryant Parkway Alternative B City/County: Bryant / Saline Sampling Date: 10/5/2018  
 Applicant/Owner: City of Bryant State: AR Sampling Point: DP 13  
 Investigator(s): Cassie Schmidt Section, Township, Range: Sec 26, T1S, R14W  
 Landform (hillslope, terrace, etc.): forested wetland Local relief (concave, convex, none): none Slope (%): 0  
 Subregion (LRR or MLRA): \_\_\_\_\_ Lat: 34.609277 Long: -92.476149 Datum: NAD83  
 Soil Map Unit Name: 3 - Amy silt loam, 0-1% slopes, frequently flooded NWI classification: N/A

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 <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes <u>X</u> No _____
Hydric Soil Present? Yes <u>X</u> No _____	
Wetland Hydrology Present? Yes <u>X</u> No _____	
Remarks: Site meets all three wetland criteria.	

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b> <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input checked="" type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Aquatic Fauna (B13) <input checked="" type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Marl Deposits (B15) ( <b>LRR U</b> ) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input checked="" type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input checked="" type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Presence of Reduced Iron (C4) <input checked="" type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <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 checked="" type="checkbox"/> Water-Stained Leaves (B9)		<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input checked="" type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input checked="" type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input checked="" type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Sphagnum moss (D8) ( <b>LRR T, U</b> )
<b>Field Observations:</b> Surface Water Present? Yes <u>X</u> No _____ Depth (inches): <u>0-0.5"</u> Water Table Present? Yes <u>X</u> No _____ Depth (inches): <u>4"</u> Saturation Present? Yes <u>X</u> No _____ Depth (inches): <u>surface</u> (includes capillary fringe)		<b>Wetland Hydrology Present? Yes <u>X</u> No _____</b>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:  Remarks: Site meets wetland hydrology criteria.  Surface water only present in a few locations as puddles.		

**VEGETATION (Four Strata) – Use scientific names of plants.**Sampling Point: DP 13

Tree Stratum (Plot size: <u>30'</u> radius )	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. black willow, <i>Salix nigra</i>	10	N	OBL	Number of Dominant Species That Are OBL, FACW, or FAC: <u>7</u> (A)  Total Number of Dominant Species Across All Strata: <u>8</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>88</u> (A/B)
2. pignut hickory, <i>Carya glabra</i>	30	Y	FACU	
3. sweetgum, <i>Liquidambar styraciflua</i>	20	Y	FAC	
4. Shumard's oak, <i>Quercus shumardii</i>	10	N	FAC	
5. green ash, <i>Fraxinus pennsylvanica</i>	30	Y	FACW	<b>Prevalence Index worksheet:</b> 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 = _____
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
100 = Total Cover 50% of total cover: <u>50</u> 20% of total cover: <u>20</u>				<b>Hydrophytic Vegetation Indicators:</b> <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 <sup>1</sup> <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
<b>Sapling/Shrub Stratum (Plot size: <u>15'</u> radius )</b>				
1. sweetgum, <i>Liquidambar styraciflua</i>	10	Y	FAC	
2. American elm, <i>Ulmus americana</i>	10	Y	FAC	
3. Chinese privet, <i>Ligustrum sinense</i>	10	Y	FAC	<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	<b>Definitions of Four Vegetation Strata:</b>  <b>Tree</b> – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.  <b>Sapling/Shrub</b> – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.  <b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.  <b>Woody vine</b> – All woody vines greater than 3.28 ft in height.
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
30 = Total Cover 50% of total cover: <u>15</u> 20% of total cover: <u>6</u>				<b>Hydrophytic Vegetation Present?</b> Yes <u>x</u> No _____
<b>Herb Stratum (Plot size: <u>5'</u> radius )</b>				
1. Virginia dayflower, <i>Commelina virginica</i>	20	Y	FACW	
2. smartweed, <i>Persicaria sp.*</i>	10	Y	OBL	
3. _____	_____	_____	_____	<b>Hydrophytic Vegetation Present?</b> Yes <u>x</u> No _____
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	<b>Hydrophytic Vegetation Present?</b> Yes <u>x</u> No _____
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	<b>Hydrophytic Vegetation Present?</b> Yes <u>x</u> No _____
12. _____	_____	_____	_____	
30 = Total Cover 50% of total cover: <u>15</u> 20% of total cover: <u>6</u>				
<b>Woody Vine Stratum (Plot size: _____ )</b>				
1. _____	_____	_____	_____	<b>Hydrophytic Vegetation Present?</b> Yes <u>x</u> No _____
2. None Observed	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	<b>Hydrophytic Vegetation Present?</b> Yes <u>x</u> No _____
_____ = Total Cover 50% of total cover: _____ 20% of total cover: _____				
Remarks: (If observed, list morphological adaptations below). <b>Site meets hydrophytic vegetation criteria.</b>				
<b>*Of the 14 species of Persicaria listed in Arkansas for the AGCP Region, all are FAC or wetter, with the majority (50%) being OBL.</b>				



**SOIL**

Sampling Point: DP 13

**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 <sup>1</sup>		
0-6	10 YR 4/2	85	7.5 YR 4/6	15	C	M	silty clay loam
6-18	10 YR 5/2	75	7.5 YR 4/6	25	C	M	silty clay loam

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.<sup>2</sup>Location: PL=Pore Lining, M=Matrix.**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)**

- ☐ Histosol (A1)  
☐ Histic Epipedon (A2)  
☐ Black Histic (A3)  
☐ Hydrogen Sulfide (A4)  
☐ Stratified Layers (A5)  
☐ Organic Bodies (A6) (LRR P, T, U)  
☐ 5 cm Mucky Mineral (A7) (LRR P, T, U)  
☐ Muck Presence (A8) (LRR U)  
☐ 1 cm Muck (A9) (LRR P, T)  
☐ Depleted Below Dark Surface (A11)  
☐ Thick Dark Surface (A12)  
☐ Coast Prairie Redox (A16) (MLRA 150A)  
☐ Sandy Mucky Mineral (S1) (LRR O, S)  
☐ Sandy Gleyed Matrix (S4)  
☐ Sandy Redox (S5)  
☐ Stripped Matrix (S6)  
☐ Dark Surface (S7) (LRR P, S, T, U)

- ☐ Polyvalue Below Surface (S8) (LRR S, T, U)  
☐ Thin Dark Surface (S9) (LRR S, T, U)  
☐ Loamy Mucky Mineral (F1) (LRR O)  
☐ Loamy Gleyed Matrix (F2)  
☒ Depleted Matrix (F3)  
☐ Redox Dark Surface (F6)  
☐ Depleted Dark Surface (F7)  
☐ Redox Depressions (F8)  
☐ Marl (F10) (LRR U)  
☐ Depleted Ochric (F11) (MLRA 151)  
☐ Iron-Manganese Masses (F12) (LRR O, P, T)  
☐ Umbric Surface (F13) (LRR P, T, U)  
☐ Delta Ochric (F17) (MLRA 151)  
☐ Reduced Vertic (F18) (MLRA 150A, 150B)  
☐ Piedmont Floodplain Soils (F19) (MLRA 149A)  
☐ Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

- ☐ 1 cm Muck (A9) (LRR O)  
☐ 2 cm Muck (A10) (LRR S)  
☐ Reduced Vertic (F18) (outside MLRA 150A,B)  
☐ Piedmont Floodplain Soils (F19) (LRR P, S, T)  
☐ Anomalous Bright Loamy Soils (F20)  
**(MLRA 153B)**  
☐ Red Parent Material (TF2)  
☐ Very Shallow Dark Surface (TF12)  
☐ Other (Explain in Remarks)

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

**Restrictive Layer (if observed):**

Type: \_\_\_\_\_

Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes <sup>X</sup> \_\_\_\_\_ No \_\_\_\_\_

Remarks: Site meets hydric soil criteria.

**WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region**

Project/Site: Bryant Parkway Alternative B City/County: Bryant / Saline Sampling Date: 10/5/2018  
 Applicant/Owner: City of Bryant State: AR Sampling Point: DP 14  
 Investigator(s): Cassie Schmidt Section, Township, Range: Sec 26, T1S, R14W  
 Landform (hillslope, terrace, etc.): wooded area near creek Local relief (concave, convex, none): none Slope (%): 3  
 Subregion (LRR or MLRA): \_\_\_\_\_ Lat: 34.608284 Long: -92.475373 Datum: NAD83  
 Soil Map Unit Name: 22 - Savannah fine sandy loam, 3-8% slopes NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes \_\_\_\_\_ 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>	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u>
Hydric Soil Present? Yes _____ No <u>X</u>	
Wetland Hydrology Present? Yes _____ No <u>X</u>	
Remarks: Site fails to meet all three wetland criteria.	

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b> <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Marl Deposits (B15) <b>(LRR U)</b> <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <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)		<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Sphagnum moss (D8) <b>(LRR T, U)</b>
<b>Field Observations:</b> Surface Water Present? Yes _____ No <u>X</u> Depth (inches): _____ Water Table Present? Yes _____ No <u>X</u> Depth (inches): <u>&gt;18"</u> Saturation Present? Yes _____ No <u>X</u> Depth (inches): <u>&gt;18"</u> (includes capillary fringe)		<b>Wetland Hydrology Present? Yes _____ No <u>X</u></b>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: Site fails to meet wetland hydrology criteria.		

**VEGETATION (Four Strata) – Use scientific names of plants.**Sampling Point: DP 14

Tree Stratum (Plot size: <u>30'</u> radius )	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. <u>pignut hickory, Carya glabra</u>	<u>30</u>	<u>Y</u>	<u>FACU</u>	Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</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>40</u> (A/B)
2. <u>American elm, Ulmus americana</u>	<u>5</u>	<u>N</u>	<u>FAC</u>	
3. <u>loblolly pine, Pinus taeda</u>	<u>50</u>	<u>Y</u>	<u>FAC</u>	
4. <u>sweetgum, Liquidambar styraciflua</u>	<u>5</u>	<u>N</u>	<u>FAC</u>	
5. <u>water oak, Quercus nigra</u>	<u>10</u>	<u>N</u>	<u>FAC</u>	<b>Prevalence Index worksheet:</b> 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 = _____
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
_____ = Total Cover 50% of total cover: <u>50</u> 20% of total cover: <u>20</u>				
<b>Sapling/Shrub Stratum (Plot size: <u>15'</u> radius )</b>				
1. <u>white oak, Quercus alba</u>	<u>5</u>	<u>Y</u>	<u>FACU</u>	<b>Hydrophytic Vegetation Indicators:</b> <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 <sup>1</sup> <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
2. <u>American beautyberry, Callicarpa americana</u>	<u>5</u>	<u>Y</u>	<u>FACU</u>	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
_____ = Total Cover 50% of total cover: <u>5</u> 20% of total cover: <u>2</u>				
<b>Herb Stratum (Plot size: <u>5'</u> radius )</b>				
1. <u>eastern poison ivy, Toxicodendron radicans</u>	<u>5</u>	<u>Y</u>	<u>FAC</u>	<b>Definitions of Four Vegetation Strata:</b>  <b>Tree</b> – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.  <b>Sapling/Shrub</b> – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.  <b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.  <b>Woody vine</b> – All woody vines greater than 3.28 ft in height.
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	<b>Hydrophytic Vegetation Present?</b> Yes _____ No <sup>x</sup> _____
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
_____ = Total Cover 50% of total cover: <u>2.5</u> 20% of total cover: <u>1</u>				
<b>Woody Vine Stratum (Plot size: _____ )</b>				
1. _____	_____	_____	_____	
2. <u>None observed</u>	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover 50% of total cover: _____ 20% of total cover: _____				
Remarks: (If observed, list morphological adaptations below). <b>Site fails to meet hydrophytic vegetation criteria.</b>  <b>Pine needles and shade preventing herbaceous growth.</b>				

**SOIL**

Sampling Point: DP 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 <sup>1</sup>	Loc <sup>2</sup>		
0-6	10 YR 4/2	100						silt loam
6-20	10 YR 5/3	100						silt loam

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.<sup>2</sup>Location: PL=Pore Lining, M=Matrix.**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)**

- ☐ Histosol (A1)  
☐ Histic Epipedon (A2)  
☐ Black Histic (A3)  
☐ Hydrogen Sulfide (A4)  
☐ Stratified Layers (A5)  
☐ Organic Bodies (A6) (LRR P, T, U)  
☐ 5 cm Mucky Mineral (A7) (LRR P, T, U)  
☐ Muck Presence (A8) (LRR U)  
☐ 1 cm Muck (A9) (LRR P, T)  
☐ Depleted Below Dark Surface (A11)  
☐ Thick Dark Surface (A12)  
☐ Coast Prairie Redox (A16) (MLRA 150A)  
☐ Sandy Mucky Mineral (S1) (LRR O, S)  
☐ Sandy Gleyed Matrix (S4)  
☐ Sandy Redox (S5)  
☐ Stripped Matrix (S6)  
☐ Dark Surface (S7) (LRR P, S, T, U)

- ☐ Polyvalue Below Surface (S8) (LRR S, T, U)  
☐ Thin Dark Surface (S9) (LRR S, T, U)  
☐ Loamy Mucky Mineral (F1) (LRR O)  
☐ Loamy Gleyed Matrix (F2)  
☐ Depleted Matrix (F3)  
☐ Redox Dark Surface (F6)  
☐ Depleted Dark Surface (F7)  
☐ Redox Depressions (F8)  
☐ Marl (F10) (LRR U)  
☐ Depleted Ochric (F11) (MLRA 151)  
☐ Iron-Manganese Masses (F12) (LRR O, P, T)  
☐ Umbric Surface (F13) (LRR P, T, U)  
☐ Delta Ochric (F17) (MLRA 151)  
☐ Reduced Vertic (F18) (MLRA 150A, 150B)  
☐ Piedmont Floodplain Soils (F19) (MLRA 149A)  
☐ Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

- ☐ 1 cm Muck (A9) (LRR O)  
☐ 2 cm Muck (A10) (LRR S)  
☐ Reduced Vertic (F18) (outside MLRA 150A,B)  
☐ Piedmont Floodplain Soils (F19) (LRR P, S, T)  
☐ Anomalous Bright Loamy Soils (F20)  
**(MLRA 153B)**  
☐ Red Parent Material (TF2)  
☐ Very Shallow Dark Surface (TF12)  
☐ Other (Explain in Remarks)

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

**Restrictive Layer (if observed):**

Type: \_\_\_\_\_

Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes \_\_\_\_\_ No <sup>X</sup> \_\_\_\_\_

Remarks: Site fails to meet hydric soil criteria.



**WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region**

Project/Site: Bryant Parkway Alternative B City/County: Bryant / Saline Sampling Date: 10/5/2018  
 Applicant/Owner: City of Bryant State: AR Sampling Point: DP 15  
 Investigator(s): Cassie Schmidt Section, Township, Range: Sec 26, T1S, R14W  
 Landform (hillslope, terrace, etc.): wooded area Local relief (concave, convex, none): convex Slope (%): 3  
 Subregion (LRR or MLRA): \_\_\_\_\_ Lat: 34.608136 Long: -92.474417 Datum: NAD83  
 Soil Map Unit Name: 22 - Savannah fine sandy loam, 3-8% slopes NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes \_\_\_\_\_ 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 <u>X</u> No _____ Hydric Soil Present? Yes _____ No <u>X</u> Wetland Hydrology Present? Yes _____ No <u>X</u>	<b>Is the Sampled Area within a Wetland?</b> Yes _____ No <u>X</u>
Remarks: Site fails to meet all three wetland criteria.	

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b> <u>Primary Indicators (minimum of one is required; check all that apply)</u> <div style="display: flex; flex-wrap: wrap;"> <div style="width: 50%;"> <input type="checkbox"/> Surface Water (A1)  <input type="checkbox"/> High Water Table (A2)  <input type="checkbox"/> Saturation (A3)  <input type="checkbox"/> Water Marks (B1)  <input type="checkbox"/> Sediment Deposits (B2)  <input type="checkbox"/> Drift Deposits (B3)  <input type="checkbox"/> Algal Mat or Crust (B4)  <input type="checkbox"/> Iron Deposits (B5)  <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)  <input type="checkbox"/> Water-Stained Leaves (B9)         </div> <div style="width: 50%;"> <input type="checkbox"/> Aquatic Fauna (B13)  <input type="checkbox"/> Marl Deposits (B15) <b>(LRR U)</b>  <input type="checkbox"/> Hydrogen Sulfide Odor (C1)  <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)  <input type="checkbox"/> Presence of Reduced Iron (C4)  <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)  <input type="checkbox"/> Thin Muck Surface (C7)  <input type="checkbox"/> Other (Explain in Remarks)         </div> </div>		<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Sphagnum moss (D8) <b>(LRR T, U)</b>
<b>Field Observations:</b> Surface Water Present? Yes _____ No <u>X</u> Depth (inches): _____ Water Table Present? Yes _____ No <u>X</u> Depth (inches): <u>&gt;18"</u> Saturation Present? Yes _____ No <u>X</u> Depth (inches): <u>&gt;18"</u> (includes capillary fringe)		<b>Wetland Hydrology Present?</b> Yes _____ No <u>X</u>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:  Remarks: Site fails to meet wetland hydrology criteria.		

**VEGETATION (Four Strata) – Use scientific names of plants.**Sampling Point: DP 15

Tree Stratum (Plot size: <u>30'</u> radius )	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. <u>pignut hickory, Carya glabra</u>	<u>20</u>	<u>Y</u>	<u>FACU</u>	Number of Dominant Species That Are OBL, FACW, or 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>red maple, Acer rubrum</u>	<u>20</u>	<u>Y</u>	<u>FAC</u>	
3. <u>loblolly pine, Pinus taeda</u>	<u>30</u>	<u>Y</u>	<u>FAC</u>	
4. <u>sweetgum, Liquidambar styraciflua</u>	<u>20</u>	<u>Y</u>	<u>FAC</u>	
5. <u>white oak, Quercus alba</u>	<u>10</u>	<u>N</u>	<u>FACU</u>	<b>Prevalence Index worksheet:</b> 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 = _____
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
_____ = Total Cover 50% of total cover: <u>50</u> 20% of total cover: <u>20</u>				<b>Hydrophytic Vegetation Indicators:</b> <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 <sup>1</sup> <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
<b>Sapling/Shrub Stratum</b> (Plot size: <u>15'</u> radius )				
1. <u>sweetgum, Liquidambar styraciflua</u>	<u>10</u>	<u>Y</u>	<u>FAC</u>	
2. <u>coralberry, Symphoricarpos orbiculatus</u>	<u>10</u>	<u>Y</u>	<u>FACU</u>	
3. _____	_____	_____	_____	<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	<b>Definitions of Four Vegetation Strata:</b>  <b>Tree</b> – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.  <b>Sapling/Shrub</b> – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.  <b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.  <b>Woody vine</b> – All woody vines greater than 3.28 ft in height.
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	<b>Hydrophytic Vegetation Present?</b> Yes <u>x</u> No _____
12. _____	_____	_____	_____	
_____ = Total Cover 50% of total cover: _____ 20% of total cover: _____				
<b>Herb Stratum</b> (Plot size: _____ )				
1. _____	_____	_____	_____	<b>Woody Vine Stratum</b> (Plot size: <u>30'</u> radius )
2. <u>None observed</u>	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	10 = Total Cover 50% of total cover: <u>5</u> 20% of total cover: <u>2</u>
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	10 = Total Cover 50% of total cover: <u>5</u> 20% of total cover: <u>2</u>
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
12. _____	_____	_____	_____	
_____ = Total Cover 50% of total cover: _____ 20% of total cover: _____				<b>Hydrophytic Vegetation Present?</b> Yes <u>x</u> No _____
<b>Woody Vine Stratum</b> (Plot size: <u>30'</u> radius )				
1. <u>grape, Vitis sp.*</u>	<u>10</u>	<u>Y</u>	<u>FAC</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	10 = Total Cover 50% of total cover: <u>5</u> 20% of total cover: <u>2</u>
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
_____ = Total Cover 50% of total cover: <u>5</u> 20% of total cover: <u>2</u>				<b>Hydrophytic Vegetation Present?</b> Yes <u>x</u> No _____
<b>Woody Vine Stratum</b> (Plot size: <u>30'</u> radius )				
1. <u>grape, Vitis sp.*</u>	<u>10</u>	<u>Y</u>	<u>FAC</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	10 = Total Cover 50% of total cover: <u>5</u> 20% of total cover: <u>2</u>
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
_____ = Total Cover 50% of total cover: <u>5</u> 20% of total cover: <u>2</u>				<b>Hydrophytic Vegetation Present?</b> Yes <u>x</u> No _____
<b>Woody Vine Stratum</b> (Plot size: <u>30'</u> radius )				
1. <u>grape, Vitis sp.*</u>	<u>10</u>	<u>Y</u>	<u>FAC</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	10 = Total Cover 50% of total cover: <u>5</u> 20% of total cover: <u>2</u>
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
_____ = Total Cover 50% of total cover: <u>5</u> 20% of total cover: <u>2</u>				<b>Hydrophytic Vegetation Present?</b> Yes <u>x</u> No _____
<b>Woody Vine Stratum</b> (Plot size: <u>30'</u> radius )				
1. <u>grape, Vitis sp.*</u>	<u>10</u>	<u>Y</u>	<u>FAC</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	10 = Total Cover 50% of total cover: <u>5</u> 20% of total cover: <u>2</u>
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
_____ = Total Cover 50% of total cover: <u>5</u> 20% of total cover: <u>2</u>				<b>Hydrophytic Vegetation Present?</b> Yes <u>x</u> No _____
<b>Woody Vine Stratum</b> (Plot size: <u>30'</u> radius )				
1. <u>grape, Vitis sp.*</u>	<u>10</u>	<u>Y</u>	<u>FAC</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	10 = Total Cover 50% of total cover: <u>5</u> 20% of total cover: <u>2</u>
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
_____ = Total Cover 50% of total cover: <u>5</u> 20% of total cover: <u>2</u>				<b>Hydrophytic Vegetation Present?</b> Yes <u>x</u> No _____
<b>Woody Vine Stratum</b> (Plot size: <u>30'</u> radius )				
1. <u>grape, Vitis sp.*</u>	<u>10</u>	<u>Y</u>	<u>FAC</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	10 = Total Cover 50% of total cover: <u>5</u> 20% of total cover: <u>2</u>
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
_____ = Total Cover 50% of total cover: <u>5</u> 20% of total cover: <u>2</u>				<b>Hydrophytic Vegetation Present?</b> Yes <u>x</u> No _____
<b>Woody Vine Stratum</b> (Plot size: <u>30'</u> radius )				
1. <u>grape, Vitis sp.*</u>	<u>10</u>	<u>Y</u>	<u>FAC</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	10 = Total Cover 50% of total cover: <u>5</u> 20% of total cover: <u>2</u>
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
_____ = Total Cover 50% of total cover: <u>5</u> 20% of total cover: <u>2</u>				<b>Hydrophytic Vegetation Present?</b> Yes <u>x</u> No _____
<b>Woody Vine Stratum</b> (Plot size: <u>30'</u> radius )				
1. <u>grape, Vitis sp.*</u>	<u>10</u>	<u>Y</u>	<u>FAC</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	10 = Total Cover 50% of total cover: <u>5</u> 20% of total cover: <u>2</u>
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
_____ = Total Cover 50% of total cover: <u>5</u> 20% of total cover: <u>2</u>				<b>Hydrophytic Vegetation Present?</b> Yes <u>x</u> No _____
<b>Woody Vine Stratum</b> (Plot size: <u>30'</u> radius )				
1. <u>grape, Vitis sp.*</u>	<u>10</u>	<u>Y</u>	<u>FAC</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	10 = Total Cover 50% of total cover: <u>5</u> 20% of total cover: <u>2</u>
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
_____ = Total Cover 50% of total cover: <u>5</u> 20% of total cover: <u>2</u>				<b>Hydrophytic Vegetation Present?</b> Yes <u>x</u> No _____
<b>Woody Vine Stratum</b> (Plot size: <u>30'</u> radius )				
1. <u>grape, Vitis sp.*</u>	<u>10</u>	<u>Y</u>	<u>FAC</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	10 = Total Cover 50% of total cover: <u>5</u> 20% of total cover: <u>2</u>
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
_____ = Total Cover 50% of total cover: <u>5</u> 20% of total cover: <u>2</u>				<b>Hydrophytic Vegetation Present?</b> Yes <u>x</u> No _____
<b>Woody Vine Stratum</b> (Plot size: <u>30'</u> radius )				
1. <u>grape, Vitis sp.*</u>	<u>10</u>	<u>Y</u>	<u>FAC</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	10 = Total Cover 50% of total cover: <u>5</u> 20% of total cover: <u>2</u>
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
_____ = Total Cover 50% of total cover: <u>5</u> 20% of total cover: <u>2</u>				<b>Hydrophytic Vegetation Present?</b> Yes <u>x</u> No _____
<b>Woody Vine Stratum</b> (Plot size: <u>30'</u> radius )				
1. <u>grape, Vitis sp.*</u>	<u>10</u>	<u>Y</u>	<u>FAC</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	10 = Total Cover 50% of total cover: <u>5</u> 20% of total cover: <u>2</u>
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
_____ = Total Cover 50% of total cover: <u>5</u> 20% of total cover: <u>2</u>				<b>Hydrophytic Vegetation Present?</b> Yes <u>x</u> No _____
<b>Woody Vine Stratum</b> (Plot size: <u>30'</u> radius )				
1. <u>grape, Vitis sp.*</u>	<u>10</u>	<u>Y</u>	<u>FAC</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	10 = Total Cover 50% of total cover: <u>5</u> 20% of total cover: <u>2</u>
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
_____ = Total Cover 50% of total cover: <u>5</u> 20% of total cover: <u>2</u>				<b>Hydrophytic Vegetation Present?</b> Yes <u>x</u> No _____
<b>Woody Vine Stratum</b> (Plot size: <u>30'</u> radius )				
1. <u>grape, Vitis sp.*</u>	<u>10</u>	<u>Y</u>	<u>FAC</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	10 = Total Cover 50% of total cover: <u>5</u> 20% of total cover: <u>2</u>
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
_____ = Total Cover 50% of total cover: <u>5</u> 20% of total cover: <u>2</u>				<b>Hydrophytic Vegetation Present?</b> Yes <u>x</u> No _____
<b>Woody Vine Stratum</b> (Plot size: <u>30'</u> radius )				
1. <u>grape, Vitis sp.*</u>	<u>10</u>	<u>Y</u>	<u>FAC</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	10 = Total Cover 50% of total cover: <u>5</u> 20% of total cover: <u>2</u>
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
_____ = Total Cover 50% of total cover: <u>5</u> 20% of total cover: <u>2</u>				<b>Hydrophytic Vegetation Present?</b> Yes <u>x</u> No _____
<b>Woody Vine Stratum</b> (Plot size: <u>30'</u> radius )				
1. <u>grape, Vitis sp.*</u>	<u>10</u>	<u>Y</u>	<u>FAC</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	10 = Total Cover 50% of total cover: <u>5</u> 20% of total cover: <u>2</u>
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
_____ = Total Cover 50% of total cover: <u>5</u> 20% of total cover: <u>2</u>				<b>Hydrophytic Vegetation Present?</b> Yes <u>x</u> No _____
<b>Woody Vine Stratum</b> (Plot size: <u>30'</u> radius )				
1. <u>grape, Vitis sp.*</u>	<u>10</u>	<u>Y</u>	<u>FAC</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	10 = Total Cover 50% of total cover: <u>5</u> 20% of total cover: <u>2</u>
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
_____ = Total Cover 50% of total cover: <u>5</u> 20% of total cover: <u>2</u>				<b>Hydrophytic Vegetation Present?</b> Yes <u>x</u> No _____
<b>Woody Vine Stratum</b> (Plot size: <u>30'</u> radius )				
1. <u>grape, Vitis sp.*</u>	<u>10</u>	<u>Y</u>	<u>FAC</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	10 = Total Cover 50% of total cover: <u>5</u> 20% of total cover: <u>2</u>
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
_____ = Total Cover 50% of total cover: <u>5</u> 20% of total cover: <u>2</u>				<b>Hydrophytic Vegetation Present?</b> Yes <u>x</u> No _____
<b>Woody Vine Stratum</b> (Plot size: <u>30'</u> radius )				
1. <u>grape, Vitis sp.*</u>	<u>10</u>	<u>Y</u>	<u>FAC</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	10 = Total Cover 50% of total cover: <u>5</u> 20% of total cover: <u>2</u>
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
_____ = Total Cover 50% of total cover: <u>5</u> 20% of total cover: <u>2</u>				<b>Hydrophytic Vegetation Present?</b> Yes <u>x</u> No _____
<b>Woody Vine Stratum</b> (Plot size: <u>30'</u> radius )				
1. <u>grape, Vitis sp.*</u>	<u>10</u>	<u>Y</u>	<u>FAC</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	10 = Total Cover 50% of total cover: <u>5</u> 20% of total cover: <u>2</u>
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
_____ = Total Cover 50% of total cover: <u>5</u> 20% of total cover: <u>2</u>				<b>Hydrophytic Vegetation Present?</b> Yes <u>x</u> No _____
<b>Woody Vine Stratum</b> (Plot size: <u>30'</u> radius )				
1. <u>grape, Vitis sp.*</u>	<u>10</u>	<u>Y</u>	<u>FAC</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	10 = Total Cover 50% of total cover: <u>5</u> 20% of total cover: <u>2</u>
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
_____ = Total Cover 50% of total cover: <u>5</u> 20% of total cover: <u>2</u>				<b>Hydrophytic Vegetation Present?</b> Yes <u>x</u> No _____
<b>Woody Vine Stratum</b> (Plot size: <u>30'</u> radius )				
1. <u>grape, Vitis sp.*</u>	<u>10</u>	<u>Y</u>	<u>FAC</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	10 = Total Cover 50% of total cover: <u>5</u> 20% of total cover: <u>2</u>
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
_____ = Total Cover 50% of total cover: <u>5</u> 20% of total cover: <u>2</u>				<b>Hydrophytic Vegetation Present?</b> Yes <u>x</u> No _____
<b>Woody Vine Stratum</b> (Plot size: <u>30'</u> radius )				
1. <u>grape, Vitis sp.*</u>	<u>10</u>	<u>Y</u>	<u>FAC</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	10 = Total Cover 50% of total cover: <u>5</u> 2

**SOIL**Sampling Point: DP 15**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 <sup>1</sup>	Loc <sup>2</sup>		
0-4	10 YR 3/2	100						silt loam
4-18	10 YR 4/3	100						sandy loam

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.<sup>2</sup>Location: PL=Pore Lining, M=Matrix.**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)****Indicators for Problematic Hydric Soils<sup>3</sup>:**

- |   |   |   |
|---|---|---|
| <input type="checkbox"/> Histosol (A1)<br><input type="checkbox"/> Histic Epipedon (A2)<br><input type="checkbox"/> Black Histic (A3)<br><input type="checkbox"/> Hydrogen Sulfide (A4)<br><input type="checkbox"/> Stratified Layers (A5)<br><input type="checkbox"/> Organic Bodies (A6) <b>(LRR P, T, U)</b><br><input type="checkbox"/> 5 cm Mucky Mineral (A7) <b>(LRR P, T, U)</b><br><input type="checkbox"/> Muck Presence (A8) <b>(LRR U)</b><br><input type="checkbox"/> 1 cm Muck (A9) <b>(LRR P, T)</b><br><input type="checkbox"/> Depleted Below Dark Surface (A11)<br><input type="checkbox"/> Thick Dark Surface (A12)<br><input type="checkbox"/> Coast Prairie Redox (A16) <b>(MLRA 150A)</b><br><input type="checkbox"/> Sandy Mucky Mineral (S1) <b>(LRR O, S)</b><br><input type="checkbox"/> Sandy Gleyed Matrix (S4)<br><input type="checkbox"/> Sandy Redox (S5)<br><input type="checkbox"/> Stripped Matrix (S6)<br><input type="checkbox"/> Dark Surface (S7) <b>(LRR P, S, T, U)</b> | <input type="checkbox"/> Polyvalue Below Surface (S8) <b>(LRR S, T, U)</b><br><input type="checkbox"/> Thin Dark Surface (S9) <b>(LRR S, T, U)</b><br><input type="checkbox"/> Loamy Mucky Mineral (F1) <b>(LRR O)</b><br><input type="checkbox"/> Loamy Gleyed Matrix (F2)<br><input type="checkbox"/> Depleted Matrix (F3)<br><input type="checkbox"/> Redox Dark Surface (F6)<br><input type="checkbox"/> Depleted Dark Surface (F7)<br><input type="checkbox"/> Redox Depressions (F8)<br><input type="checkbox"/> Marl (F10) <b>(LRR U)</b><br><input type="checkbox"/> Depleted Ochric (F11) <b>(MLRA 151)</b><br><input type="checkbox"/> Iron-Manganese Masses (F12) <b>(LRR O, P, T)</b><br><input type="checkbox"/> Umbric Surface (F13) <b>(LRR P, T, U)</b><br><input type="checkbox"/> Delta Ochric (F17) <b>(MLRA 151)</b><br><input type="checkbox"/> Reduced Vertic (F18) <b>(MLRA 150A, 150B)</b><br><input type="checkbox"/> Piedmont Floodplain Soils (F19) <b>(MLRA 149A)</b><br><input type="checkbox"/> Anomalous Bright Loamy Soils (F20) <b>(MLRA 149A, 153C, 153D)</b> | <input type="checkbox"/> 1 cm Muck (A9) <b>(LRR O)</b><br><input type="checkbox"/> 2 cm Muck (A10) <b>(LRR S)</b><br><input type="checkbox"/> Reduced Vertic (F18) <b>(outside MLRA 150A,B)</b><br><input type="checkbox"/> Piedmont Floodplain Soils (F19) <b>(LRR P, S, T)</b><br><input type="checkbox"/> Anomalous Bright Loamy Soils (F20)<br><b>(MLRA 153B)</b><br><input type="checkbox"/> Red Parent Material (TF2)<br><input type="checkbox"/> Very Shallow Dark Surface (TF12)<br><input type="checkbox"/> Other (Explain in Remarks) |
|---|---|---|

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.**Restrictive Layer (if observed):**

Type: \_\_\_\_\_

Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes \_\_\_\_\_ No <sup>X</sup> \_\_\_\_\_

Remarks: Site fails to meet hydric soil criteria.

**WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region**

Project/Site: Bryant Parkway Alternative B City/County: Bryant / Saline Sampling Date: 10/5/2018  
 Applicant/Owner: City of Bryant State: AR Sampling Point: DP 16  
 Investigator(s): Cassie Schmidt Section, Township, Range: Sec 26, T1S, R14W  
 Landform (hillslope, terrace, etc.): forested wetland Local relief (concave, convex, none): none Slope (%): 0  
 Subregion (LRR or MLRA): \_\_\_\_\_ Lat: 34.608383 Long: -92.474618 Datum: NAD83  
 Soil Map Unit Name: 22 - Savannah fine sandy loam, 3-8% slopes NWI classification: N/A

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 <u>X</u> No _____ Hydric Soil Present? Yes <u>X</u> No _____ Wetland Hydrology Present? Yes <u>X</u> No _____	<b>Is the Sampled Area within a Wetland?</b> Yes <u>X</u> No _____
Remarks: Site meets all three wetland criteria.	

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b> <u>Primary Indicators (minimum of one is required; check all that apply)</u> <div style="display: flex; flex-wrap: wrap;"> <div style="width: 50%;"> <input type="checkbox"/> Surface Water (A1)  <input type="checkbox"/> High Water Table (A2)  <input type="checkbox"/> Saturation (A3)  <input type="checkbox"/> Water Marks (B1)  <input type="checkbox"/> Sediment Deposits (B2)  <input type="checkbox"/> Drift Deposits (B3)  <input type="checkbox"/> Algal Mat or Crust (B4)  <input type="checkbox"/> Iron Deposits (B5)  <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)  <input checked="" type="checkbox"/> Water-Stained Leaves (B9)         </div> <div style="width: 50%;"> <input type="checkbox"/> Aquatic Fauna (B13)  <input type="checkbox"/> Marl Deposits (B15) <b>(LRR U)</b>  <input type="checkbox"/> Hydrogen Sulfide Odor (C1)  <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)  <input type="checkbox"/> Presence of Reduced Iron (C4)  <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)  <input type="checkbox"/> Thin Muck Surface (C7)  <input type="checkbox"/> Other (Explain in Remarks)         </div> </div>		<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input checked="" type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Sphagnum moss (D8) <b>(LRR T, U)</b>
<b>Field Observations:</b> Surface Water Present? Yes _____ No <u>X</u> Depth (inches): _____ Water Table Present? Yes _____ No <u>X</u> Depth (inches): <u>&gt;18"</u> Saturation Present? Yes _____ No <u>X</u> Depth (inches): <u>&gt;18"</u> (includes capillary fringe)	<b>Wetland Hydrology Present?</b> Yes <u>X</u> No _____	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:  Remarks: Site meets wetland hydrology criteria.		



**VEGETATION (Four Strata) – Use scientific names of plants.**Sampling Point: DP 16

Tree Stratum (Plot size: <u>30'</u> radius )	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. American elm, <i>Ulmus americana</i>	20	Y	FAC	Number of Dominant Species That Are OBL, FACW, or FAC: <u>6</u> (A)  Total Number of Dominant Species Across All Strata: <u>6</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
2. loblolly pine, <i>Pinus taeda</i>	30	Y	FAC	
3. sweetgum, <i>Liquidambar styraciflua</i>	30	Y	FAC	
4. water oak, <i>Quercus nigra</i>	20	Y	FAC	
5. _____	_____	_____	_____	<b>Prevalence Index worksheet:</b> 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 = _____
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
_____ = Total Cover 50% of total cover: <u>50</u> 20% of total cover: <u>20</u>				<b>Hydrophytic Vegetation Indicators:</b> <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 <sup>1</sup> <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
<b>Sapling/Shrub Stratum</b> (Plot size: <u>15'</u> radius )				
1. American elm, <i>Ulmus americana</i>	10	Y	FAC	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	<b>Definitions of Four Vegetation Strata:</b>  <b>Tree</b> – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.  <b>Sapling/Shrub</b> – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.  <b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.  <b>Woody vine</b> – All woody vines greater than 3.28 ft in height.
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	<b>Hydrophytic Vegetation Present?</b> Yes <u>x</u> No _____
12. _____	_____	_____	_____	
_____ = Total Cover 50% of total cover: <u>5</u> 20% of total cover: <u>2</u>				
<b>Herb Stratum</b> (Plot size: _____ )				
1. _____	_____	_____	_____	<b>Woody Vine Stratum</b> (Plot size: <u>30'</u> radius )
2. None observed	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	1. roundleaf greenbrier, <i>Smilax rotundifolia</i> 10 Y FAC
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	_____ = Total Cover 50% of total cover: _____ 20% of total cover: _____
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
12. _____	_____	_____	_____	
_____ = Total Cover 50% of total cover: _____ 20% of total cover: _____				<b>Hydrophytic Vegetation Present?</b> Yes <u>x</u> No _____
<b>Woody Vine Stratum</b> (Plot size: <u>30'</u> radius )				
1. roundleaf greenbrier, <i>Smilax rotundifolia</i>	10	Y	FAC	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	_____ = Total Cover 50% of total cover: <u>5</u> 20% of total cover: <u>2</u>
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	

Remarks: (If observed, list morphological adaptations below).  
 Site meets hydrophytic vegetation criteria.  
  
 Pine needles and shade preventing herbaceous growth.

**SOIL**Sampling Point: DP 16**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 <sup>1</sup>	Loc <sup>2</sup>		
0-4	10 YR 4/2	90	7.5 YR 5/8	10	C	M		silt loam
4-12	10 YR 5/2	80	7.5 YR 5/8	20	C	M		clay loam
12-18	10 YR 6/2	80	10 YR 5/8	20	C	M		sandy loam

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.<sup>2</sup>Location: PL=Pore Lining, M=Matrix.**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)**

- |   |  |
|---|--|
| <input type="checkbox"/> Histosol (A1)                                  | <input type="checkbox"/> Polyvalue Below Surface (S8) ( <b>LRR S, T, U</b> )                 |
| <input type="checkbox"/> Histic Epipedon (A2)                           | <input type="checkbox"/> Thin Dark Surface (S9) ( <b>LRR S, T, U</b> )                       |
| <input type="checkbox"/> Black Histic (A3)                              | <input type="checkbox"/> Loamy Mucky Mineral (F1) ( <b>LRR O</b> )                           |
| <input type="checkbox"/> Hydrogen Sulfide (A4)                          | <input type="checkbox"/> Loamy Gleyed Matrix (F2)  |
| <input type="checkbox"/> Stratified Layers (A5)                         | <input checked="" type="checkbox"/> Depleted Matrix (F3)                                     |
| <input type="checkbox"/> Organic Bodies (A6) ( <b>LRR P, T, U</b> )     | <input type="checkbox"/> Redox Dark Surface (F6)   |
| <input type="checkbox"/> 5 cm Mucky Mineral (A7) ( <b>LRR P, T, U</b> ) | <input type="checkbox"/> Depleted Dark Surface (F7)  |
| <input type="checkbox"/> Muck Presence (A8) ( <b>LRR U</b> )            | <input type="checkbox"/> Redox Depressions (F8)  |
| <input type="checkbox"/> 1 cm Muck (A9) ( <b>LRR P, T</b> )             | <input type="checkbox"/> Marl (F10) ( <b>LRR U</b> )   |
| <input type="checkbox"/> Depleted Below Dark Surface (A11)              | <input type="checkbox"/> Depleted Ochric (F11) ( <b>MLRA 151</b> )                           |
| <input type="checkbox"/> Thick Dark Surface (A12)                       | <input type="checkbox"/> Iron-Manganese Masses (F12) ( <b>LRR O, P, T</b> )                  |
| <input type="checkbox"/> Coast Prairie Redox (A16) ( <b>MLRA 150A</b> ) | <input type="checkbox"/> Umbric Surface (F13) ( <b>LRR P, T, U</b> )                         |
| <input type="checkbox"/> Sandy Mucky Mineral (S1) ( <b>LRR O, S</b> )   | <input type="checkbox"/> Delta Ochric (F17) ( <b>MLRA 151</b> )                              |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4)                       | <input type="checkbox"/> Reduced Vertic (F18) ( <b>MLRA 150A, 150B</b> )                     |
| <input type="checkbox"/> Sandy Redox (S5)                               | <input type="checkbox"/> Piedmont Floodplain Soils (F19) ( <b>MLRA 149A</b> )                |
| <input type="checkbox"/> Stripped Matrix (S6)                           | <input type="checkbox"/> Anomalous Bright Loamy Soils (F20) ( <b>MLRA 149A, 153C, 153D</b> ) |
| <input type="checkbox"/> Dark Surface (S7) ( <b>LRR P, S, T, U</b> )    |  |

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

- |   |
|---|
| <input type="checkbox"/> 1 cm Muck (A9) ( <b>LRR O</b> )                        |
| <input type="checkbox"/> 2 cm Muck (A10) ( <b>LRR S</b> )                       |
| <input type="checkbox"/> Reduced Vertic (F18) ( <b>outside MLRA 150A,B</b> )    |
| <input type="checkbox"/> Piedmont Floodplain Soils (F19) ( <b>LRR P, S, T</b> ) |
| <input type="checkbox"/> Anomalous Bright Loamy Soils (F20)                     |
| <b>(MLRA 153B)</b>  |
| <input type="checkbox"/> Red Parent Material (TF2)                              |
| <input type="checkbox"/> Very Shallow Dark Surface (TF12)                       |
| <input type="checkbox"/> Other (Explain in Remarks)                             |

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.**Restrictive Layer (if observed):**

Type: \_\_\_\_\_

Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes <sup>X</sup>\_\_\_\_\_ No \_\_\_\_\_

Remarks: Site meets hydric soil criteria.

**WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region**

Project/Site: Bryant Parkway Alternative B City/County: Bryant / Saline Sampling Date: 10/5/2018  
 Applicant/Owner: City of Bryant State: AR Sampling Point: DP 17  
 Investigator(s): Cassie Schmidt Section, Township, Range: Sec 35, T1S, R14W  
 Landform (hillslope, terrace, etc.): forested wetland Local relief (concave, convex, none): none Slope (%): 0-1  
 Subregion (LRR or MLRA): \_\_\_\_\_ Lat: 34.597070 Long: -92.481068 Datum: NAD83  
 Soil Map Unit Name: 23 - Savannah-Urban land complex, 3-8% slopes NWI classification: N/A

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 <u>X</u> No _____ Hydric Soil Present? Yes <u>X</u> No _____ Wetland Hydrology Present? Yes <u>X</u> No _____	<b>Is the Sampled Area within a Wetland?</b> Yes <u>X</u> No _____
Remarks: Site meets all three wetland criteria.	

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b> <u>Primary Indicators (minimum of one is required; check all that apply)</u>		<u>Secondary Indicators (minimum of two required)</u>	
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input checked="" type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input checked="" type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Marl Deposits (B15) <b>(LRR U)</b> <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input checked="" type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Sphagnum moss (D8) <b>(LRR T, U)</b>	
<b>Field Observations:</b> Surface Water Present? Yes _____ No <u>X</u> Depth (inches): _____ Water Table Present? Yes _____ No <u>X</u> Depth (inches): <u>&gt;18"</u> Saturation Present? Yes _____ No <u>X</u> Depth (inches): <u>&gt;18"</u> (includes capillary fringe)		<b>Wetland Hydrology Present?</b> Yes <u>X</u> No _____	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:			
Remarks: Site meets wetland hydrology criteria.			

**VEGETATION (Four Strata) – Use scientific names of plants.**Sampling Point: DP 17

Tree Stratum (Plot size: <u>30'</u> radius )	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. American elm, <i>Ulmus americana</i>	10	N	FAC	Number of Dominant Species That Are OBL, FACW, or FAC: <u>6</u> (A)
2. loblolly pine, <i>Pinus taeda</i>	5	N	FAC	
3. sweetgum, <i>Liquidambar styraciflua</i>	20	Y	FAC	Total Number of Dominant Species Across All Strata: <u>6</u> (B)
4. pignut hickory, <i>Carya glabra</i>	10	N	FACU	
5. red maple, <i>Acer rubrum</i>	60	Y	FAC	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
6. black willow, <i>Salix nigra</i>	5	N	OBL	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
110 = Total Cover				<b>Prevalence Index worksheet:</b> 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 = _____
50% of total cover: <u>55</u> 20% of total cover: <u>22</u>				
<b>Sapling/Shrub Stratum</b> (Plot size: <u>15'</u> radius )				
1. red maple, <i>Acer rubrum</i>	10	Y	FAC	
2. Chinese privet, <i>Ligustrum sinense</i>	20	Y	FAC	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	<b>Hydrophytic Vegetation Indicators:</b> <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 <sup>1</sup> <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
30 = Total Cover				
50% of total cover: <u>15</u> 20% of total cover: <u>6</u>				<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
<b>Herb Stratum</b> (Plot size: <u>5'</u> radius )				
1. smartweed, <i>Persicaria sp.*</i>	10	Y	OBL	<b>Definitions of Four Vegetation Strata:</b>  <b>Tree</b> – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.  <b>Sapling/Shrub</b> – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.  <b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.  <b>Woody vine</b> – All woody vines greater than 3.28 ft in height.
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
12. _____	_____	_____	_____	
10 = Total Cover				<b>Hydrophytic Vegetation Present?</b> Yes <u>x</u> No _____
50% of total cover: <u>5</u> 20% of total cover: <u>2</u>				
<b>Woody Vine Stratum</b> (Plot size: <u>30'</u> radius )				
1. roundleaf greenbrier, <i>Smilax rotundifolia</i>	20	Y	FAC	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
20 = Total Cover				
50% of total cover: <u>10</u> 20% of total cover: <u>4</u>				
Remarks: (If observed, list morphological adaptations below). <b>Site meets hydrophytic vegetation criteria.</b>  <b>*Of the 14 species of Persicaria listed in Arkansas for the AGCP Region, all are FAC or wetter, with the majority (50%) being OBL.</b>				



## SOIL

Sampling Point: DP 17

**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 <sup>1</sup>	Loc <sup>2</sup>		
0-2	10 YR 4/3	100						silt loam
2-6	10 YR 4/2	70	5 YR 4/6	30	C	M		sandy loam
6-18	5 YR 5/6	90	10 YR 6/4	20	C	M		sand

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.<sup>2</sup>Location: PL=Pore Lining, M=Matrix.**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)**

- ☐ Histosol (A1)  
☐ Histic Epipedon (A2)  
☐ Black Histic (A3)  
☐ Hydrogen Sulfide (A4)  
☐ Stratified Layers (A5)  
☐ Organic Bodies (A6) (LRR P, T, U)  
☐ 5 cm Mucky Mineral (A7) (LRR P, T, U)  
☐ Muck Presence (A8) (LRR U)  
☐ 1 cm Muck (A9) (LRR P, T)  
☐ Depleted Below Dark Surface (A11)  
☐ Thick Dark Surface (A12)  
☐ Coast Prairie Redox (A16) (MLRA 150A)  
☐ Sandy Mucky Mineral (S1) (LRR O, S)  
☐ Sandy Gleyed Matrix (S4)  
☐ Sandy Redox (S5)  
☐ Stripped Matrix (S6)  
☐ Dark Surface (S7) (LRR P, S, T, U)

- ☐ Polyvalue Below Surface (S8) (LRR S, T, U)  
☐ Thin Dark Surface (S9) (LRR S, T, U)  
☐ Loamy Mucky Mineral (F1) (LRR O)  
☐ Loamy Gleyed Matrix (F2)  
☒ Depleted Matrix (F3)  
☐ Redox Dark Surface (F6)  
☐ Depleted Dark Surface (F7)  
☐ Redox Depressions (F8)  
☐ Marl (F10) (LRR U)  
☐ Depleted Ochric (F11) (MLRA 151)  
☐ Iron-Manganese Masses (F12) (LRR O, P, T)  
☐ Umbric Surface (F13) (LRR P, T, U)  
☐ Delta Ochric (F17) (MLRA 151)  
☐ Reduced Vertic (F18) (MLRA 150A, 150B)  
☐ Piedmont Floodplain Soils (F19) (MLRA 149A)  
☐ Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

- ☐ 1 cm Muck (A9) (LRR O)  
☐ 2 cm Muck (A10) (LRR S)  
☐ Reduced Vertic (F18) (outside MLRA 150A,B)  
☐ Piedmont Floodplain Soils (F19) (LRR P, S, T)  
☐ Anomalous Bright Loamy Soils (F20)  
**(MLRA 153B)**  
☐ Red Parent Material (TF2)  
☐ Very Shallow Dark Surface (TF12)  
☐ Other (Explain in Remarks)

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

**Restrictive Layer (if observed):**

Type: \_\_\_\_\_

Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes <sup>X</sup> \_\_\_\_\_ No \_\_\_\_\_

Remarks: Site meets hydric soil criteria.

**WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region**

Project/Site: Bryant Parkway Alternative B City/County: Bryant / Saline Sampling Date: 10/5/2018  
 Applicant/Owner: City of Bryant State: AR Sampling Point: DP 18  
 Investigator(s): Cassie Schmidt Section, Township, Range: Sec 35, T1S, R14W  
 Landform (hillslope, terrace, etc.): wooded area Local relief (concave, convex, none): convex Slope (%): 3  
 Subregion (LRR or MLRA): \_\_\_\_\_ Lat: 34.598611 Long: -92.479173 Datum: NAD83  
 Soil Map Unit Name: 25 - Smithdale loamy sand, 3-8% slopes NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes \_\_\_\_\_ 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>	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u>
Hydric Soil Present? Yes _____ No <u>X</u>	
Wetland Hydrology Present? Yes _____ No <u>X</u>	
Remarks: Site fails to meet all three wetland criteria.	

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b> <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Marl Deposits (B15) <b>(LRR U)</b> <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <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)		<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Sphagnum moss (D8) <b>(LRR T, U)</b>
<b>Field Observations:</b> Surface Water Present? Yes _____ No <u>X</u> Depth (inches): _____ Water Table Present? Yes _____ No <u>X</u> Depth (inches): <u>&gt;18"</u> Saturation Present? Yes _____ No <u>X</u> Depth (inches): <u>&gt;18"</u> (includes capillary fringe)		<b>Wetland Hydrology Present? Yes _____ No <u>X</u></b>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: Site fails to meet wetland hydrology criteria.		

**VEGETATION (Four Strata) – Use scientific names of plants.**Sampling Point: DP 18

Tree Stratum (Plot size: <u>30'</u> radius )	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. <u>pignut hickory, Carya glabra</u>	<u>20</u>	<u>Y</u>	<u>FACU</u>	Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A)  Total Number of Dominant Species Across All Strata: <u>6</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>50</u> (A/B)
2. <u>white oak, Quercus alba</u>	<u>30</u>	<u>Y</u>	<u>FACU</u>	
3. <u>loblolly pine, Pinus taeda</u>	<u>10</u>	<u>N</u>	<u>FAC</u>	
4. <u>sweetgum, Liquidambar styraciflua</u>	<u>40</u>	<u>Y</u>	<u>FAC</u>	
5. _____	_____	_____	_____	<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species <u>85</u> x 3 = <u>255</u> FACU species <u>60</u> x 4 = <u>240</u> UPL species _____ x 5 = _____ Column Totals: <u>145</u> (A) <u>495</u> (B)  Prevalence Index = B/A = <u>3.4</u>
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
_____ = Total Cover 50% of total cover: <u>50</u> 20% of total cover: <u>20</u>				<b>Hydrophytic Vegetation Indicators:</b> <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 <sup>1</sup> <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
<b>Sapling/Shrub Stratum</b> (Plot size: <u>15'</u> radius )				
1. <u>sweetgum, Liquidambar styraciflua</u>	<u>20</u>	<u>Y</u>	<u>FAC</u>	
2. <u>white oak, Quercus alba</u>	<u>10</u>	<u>Y</u>	<u>FACU</u>	
3. _____	_____	_____	_____	<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	<b>Definitions of Four Vegetation Strata:</b>  <b>Tree</b> – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.  <b>Sapling/Shrub</b> – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.  <b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.  <b>Woody vine</b> – All woody vines greater than 3.28 ft in height.
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	<b>Hydrophytic Vegetation Present?</b> Yes _____ No <u>X</u>
12. _____	_____	_____	_____	
_____ = Total Cover 50% of total cover: <u>15</u> 20% of total cover: <u>6</u>				
<b>Herb Stratum</b> (Plot size: _____ )				
1. _____	_____	_____	_____	<b>Woody Vine Stratum</b> (Plot size: <u>30'</u> radius )
2. <u>None observed</u>	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	1. <u>roundleaf greenbrier, Smilax rotundifolia</u> <u>15</u> <u>Y</u> <u>FAC</u> 2. _____ 3. _____ 4. _____ 5. _____ _____ = Total Cover 50% of total cover: <u>7.5</u> 20% of total cover: <u>3</u>
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	1. <u>roundleaf greenbrier, Smilax rotundifolia</u> <u>15</u> <u>Y</u> <u>FAC</u> 2. _____ 3. _____ 4. _____ 5. _____ _____ = Total Cover 50% of total cover: <u>7.5</u> 20% of total cover: <u>3</u>
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
12. _____	_____	_____	_____	
_____ = Total Cover 50% of total cover: _____ 20% of total cover: _____				<b>Hydrophytic Vegetation Present?</b> Yes _____ No <u>X</u>
<b>Woody Vine Stratum</b> (Plot size: <u>30'</u> radius )				
1. <u>roundleaf greenbrier, Smilax rotundifolia</u>	<u>15</u>	<u>Y</u>	<u>FAC</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	1. <u>roundleaf greenbrier, Smilax rotundifolia</u> <u>15</u> <u>Y</u> <u>FAC</u> 2. _____ 3. _____ 4. _____ 5. _____ _____ = Total Cover 50% of total cover: <u>7.5</u> 20% of total cover: <u>3</u>
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
_____ = Total Cover 50% of total cover: <u>7.5</u> 20% of total cover: <u>3</u>				<b>Hydrophytic Vegetation Present?</b> Yes _____ No <u>X</u>
<b>Woody Vine Stratum</b> (Plot size: <u>30'</u> radius )				
1. <u>roundleaf greenbrier, Smilax rotundifolia</u>	<u>15</u>	<u>Y</u>	<u>FAC</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	1. <u>roundleaf greenbrier, Smilax rotundifolia</u> <u>15</u> <u>Y</u> <u>FAC</u> 2. _____ 3. _____ 4. _____ 5. _____ _____ = Total Cover 50% of total cover: <u>7.5</u> 20% of total cover: <u>3</u>
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
_____ = Total Cover 50% of total cover: <u>7.5</u> 20% of total cover: <u>3</u>				<b>Hydrophytic Vegetation Present?</b> Yes _____ No <u>X</u>
<b>Woody Vine Stratum</b> (Plot size: <u>30'</u> radius )				
1. <u>roundleaf greenbrier, Smilax rotundifolia</u>	<u>15</u>	<u>Y</u>	<u>FAC</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	1. <u>roundleaf greenbrier, Smilax rotundifolia</u> <u>15</u> <u>Y</u> <u>FAC</u> 2. _____ 3. _____ 4. _____ 5. _____ _____ = Total Cover 50% of total cover: <u>7.5</u> 20% of total cover: <u>3</u>
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
_____ = Total Cover 50% of total cover: <u>7.5</u> 20% of total cover: <u>3</u>				<b>Hydrophytic Vegetation Present?</b> Yes _____ No <u>X</u>
<b>Woody Vine Stratum</b> (Plot size: <u>30'</u> radius )				
1. <u>roundleaf greenbrier, Smilax rotundifolia</u>	<u>15</u>	<u>Y</u>	<u>FAC</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	1. <u>roundleaf greenbrier, Smilax rotundifolia</u> <u>15</u> <u>Y</u> <u>FAC</u> 2. _____ 3. _____ 4. _____ 5. _____ _____ = Total Cover 50% of total cover: <u>7.5</u> 20% of total cover: <u>3</u>
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
_____ = Total Cover 50% of total cover: <u>7.5</u> 20% of total cover: <u>3</u>				<b>Hydrophytic Vegetation Present?</b> Yes _____ No <u>X</u>
<b>Woody Vine Stratum</b> (Plot size: <u>30'</u> radius )				
1. <u>roundleaf greenbrier, Smilax rotundifolia</u>	<u>15</u>	<u>Y</u>	<u>FAC</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	1. <u>roundleaf greenbrier, Smilax rotundifolia</u> <u>15</u> <u>Y</u> <u>FAC</u> 2. _____ 3. _____ 4. _____ 5. _____ _____ = Total Cover 50% of total cover: <u>7.5</u> 20% of total cover: <u>3</u>
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
_____ = Total Cover 50% of total cover: <u>7.5</u> 20% of total cover: <u>3</u>				<b>Hydrophytic Vegetation Present?</b> Yes _____ No <u>X</u>
<b>Woody Vine Stratum</b> (Plot size: <u>30'</u> radius )				
1. <u>roundleaf greenbrier, Smilax rotundifolia</u>	<u>15</u>	<u>Y</u>	<u>FAC</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	1. <u>roundleaf greenbrier, Smilax rotundifolia</u> <u>15</u> <u>Y</u> <u>FAC</u> 2. _____ 3. _____ 4. _____ 5. _____ _____ = Total Cover 50% of total cover: <u>7.5</u> 20% of total cover: <u>3</u>
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
_____ = Total Cover 50% of total cover: <u>7.5</u> 20% of total cover: <u>3</u>				<b>Hydrophytic Vegetation Present?</b> Yes _____ No <u>X</u>
<b>Woody Vine Stratum</b> (Plot size: <u>30'</u> radius )				
1. <u>roundleaf greenbrier, Smilax rotundifolia</u>	<u>15</u>	<u>Y</u>	<u>FAC</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	1. <u>roundleaf greenbrier, Smilax rotundifolia</u> <u>15</u> <u>Y</u> <u>FAC</u> 2. _____ 3. _____ 4. _____ 5. _____ _____ = Total Cover 50% of total cover: <u>7.5</u> 20% of total cover: <u>3</u>
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
_____ = Total Cover 50% of total cover: <u>7.5</u> 20% of total cover: <u>3</u>				<b>Hydrophytic Vegetation Present?</b> Yes _____ No <u>X</u>
<b>Woody Vine Stratum</b> (Plot size: <u>30'</u> radius )				
1. <u>roundleaf greenbrier, Smilax rotundifolia</u>	<u>15</u>	<u>Y</u>	<u>FAC</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	1. <u>roundleaf greenbrier, Smilax rotundifolia</u> <u>15</u> <u>Y</u> <u>FAC</u> 2. _____ 3. _____ 4. _____ 5. _____ _____ = Total Cover 50% of total cover: <u>7.5</u> 20% of total cover: <u>3</u>
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
_____ = Total Cover 50% of total cover: <u>7.5</u> 20% of total cover: <u>3</u>				<b>Hydrophytic Vegetation Present?</b> Yes _____ No <u>X</u>
<b>Woody Vine Stratum</b> (Plot size: <u>30'</u> radius )				
1. <u>roundleaf greenbrier, Smilax rotundifolia</u>	<u>15</u>	<u>Y</u>	<u>FAC</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	1. <u>roundleaf greenbrier, Smilax rotundifolia</u> <u>15</u> <u>Y</u> <u>FAC</u> 2. _____ 3. _____ 4. _____ 5. _____ _____ = Total Cover 50% of total cover: <u>7.5</u> 20% of total cover: <u>3</u>
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
_____ = Total Cover 50% of total cover: <u>7.5</u> 20% of total cover: <u>3</u>				<b>Hydrophytic Vegetation Present?</b> Yes _____ No <u>X</u>
<b>Woody Vine Stratum</b> (Plot size: <u>30'</u> radius )				
1. <u>roundleaf greenbrier, Smilax rotundifolia</u>	<u>15</u>	<u>Y</u>	<u>FAC</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	1. <u>roundleaf greenbrier, Smilax rotundifolia</u> <u>15</u> <u>Y</u> <u>FAC</u> 2. _____ 3. _____ 4. _____ 5. _____ _____ = Total Cover 50% of total cover: <u>7.5</u> 20% of total cover: <u>3</u>
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
_____ = Total Cover 50% of total cover: <u>7.5</u> 20% of total cover: <u>3</u>				<b>Hydrophytic Vegetation Present?</b> Yes _____ No <u>X</u>
<b>Woody Vine Stratum</b> (Plot size: <u>30'</u> radius )				
1. <u>roundleaf greenbrier, Smilax rotundifolia</u>	<u>15</u>	<u>Y</u>	<u>FAC</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	1. <u>roundleaf greenbrier, Smilax rotundifolia</u> <u>15</u> <u>Y</u> <u>FAC</u> 2. _____ 3. _____ 4. _____ 5. _____ _____ = Total Cover 50% of total cover: <u>7.5</u> 20% of total cover: <u>3</u>
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
_____ = Total Cover 50% of total cover: <u>7.5</u> 20% of total cover: <u>3</u>				<b>Hydrophytic Vegetation Present?</b> Yes _____ No <u>X</u>
<b>Woody Vine Stratum</b> (Plot size: <u>30'</u> radius )				
1. <u>roundleaf greenbrier, Smilax rotundifolia</u>	<u>15</u>	<u>Y</u>	<u>FAC</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	1. <u>roundleaf greenbrier, Smilax rotundifolia</u> <u>15</u> <u>Y</u> <u>FAC</u> 2. _____ 3. _____ 4. _____ 5. _____ _____ = Total Cover 50% of total cover: <u>7.5</u> 20% of total cover: <u>3</u>
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
_____ = Total Cover 50% of total cover: <u>7.5</u> 20% of total cover: <u>3</u>				<b>Hydrophytic Vegetation Present?</b> Yes _____ No <u>X</u>
<b>Woody Vine Stratum</b> (Plot size: <u>30'</u> radius )				
1. <u>roundleaf greenbrier, Smilax rotundifolia</u>	<u>15</u>	<u>Y</u>	<u>FAC</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	1. <u>roundleaf greenbrier, Smilax rotundifolia</u> <u>15</u> <u>Y</u> <u>FAC</u> 2. _____ 3. _____ 4. _____ 5. _____ _____ = Total Cover 50% of total cover: <u>7.5</u> 20% of total cover: <u>3</u>
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
_____ = Total Cover 50% of total cover: <u>7.5</u> 20% of total cover: <u>3</u>				<b>Hydrophytic Vegetation Present?</b> Yes _____ No <u>X</u>
<b>Woody Vine Stratum</b> (Plot size: <u>30'</u> radius )				
1. <u>roundleaf greenbrier, Smilax rotundifolia</u>	<u>15</u>	<u>Y</u>	<u>FAC</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	1. <u>roundleaf greenbrier, Smilax rotundifolia</u> <u>15</u> <u>Y</u> <u>FAC</u> 2. _____ 3. _____ 4. _____ 5. _____ _____ = Total Cover 50% of total cover: <u>7.5</u> 20% of total cover: <u>3</u>
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
_____ = Total Cover 50% of total cover: <u>7.5</u> 20% of total cover: <u>3</u>				<b>Hydrophytic Vegetation Present?</b> Yes _____ No <u>X</u>
<b>Woody Vine Stratum</b> (Plot size: <u>30'</u> radius )				
1. <u>roundleaf greenbrier, Smilax rotundifolia</u>	<u>15</u>	<u>Y</u>	<u>FAC</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	1. <u>roundleaf greenbrier, Smilax rotundifolia</u> <u>15</u> <u>Y</u> <u>FAC</u> 2. _____ 3. _____ 4. _____ 5. _____ _____ = Total Cover 50% of total cover: <u>7.5</u> 20% of total cover: <u>3</u>
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
_____ = Total Cover 50% of total cover: <u>7.5</u> 20% of total cover: <u>3</u>				<b>Hydrophytic Vegetation Present?</b> Yes _____ No <u>X</u>
<b>Woody Vine Stratum</b> (Plot size: <u>30'</u> radius )				
1. <u>roundleaf greenbrier, Smilax rotundifolia</u>	<u>15</u>	<u>Y</u>	<u>FAC</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	1. <u>roundleaf greenbrier, Smilax rotundifolia</u> <u>15</u> <u>Y</u> <u>FAC</u> 2. _____ 3. _____ 4. _____ 5. _____ _____ = Total Cover 50% of total cover: <u>7.5</u> 20% of total cover: <u>3</u>
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
_____ = Total Cover 50% of total cover: <u>7.5</u> 20% of total cover: <u>3</u>				<b>Hydrophytic Vegetation Present?</b> Yes _____ No <u>X</u>
<b>Woody Vine Stratum</b> (Plot size: <u>30'</u> radius )				
1. <u>roundleaf greenbrier, Smilax rotundifolia</u>	<u>15</u>	<u>Y</u>	<u>FAC</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	1. <u>roundleaf greenbrier, Smilax rotundifolia</u> <u>15</u> <u>Y</u> <u>FAC</u> 2. _____ 3. _____ 4. _____ 5. _____ _____ = Total Cover 50% of total cover: <u>7.5</u> 20% of total cover: <u>3</u>
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
_____ = Total Cover 50% of total cover: <u>7.5</u> 20% of total cover: <u>3</u>				<b>Hydrophytic Vegetation Present?</b> Yes _____ No <u>X</u>
<b>Woody Vine Stratum</b> (Plot size: <u>30'</u> radius )				
1. <u>roundleaf greenbrier, Smilax rotundifolia</u>	<u>15</u>	<u>Y</u>	<u>FAC</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	1. <u>roundleaf greenbrier, Smilax rotundifolia</u> <u>15</u> <u>Y</u> <u>FAC</u> 2. _____ 3. _____ 4. _____ 5. _____ _____ = Total Cover 50% of total cover: <u>7.5</u> 20% of total cover: <u>3</u>
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
_____ = Total Cover 50% of total cover: <u>7.5</u> 20% of total cover: <u>3</u>				<b>Hydrophytic Vegetation Present?</b> Yes _____ No <u>X</u>
<b>Woody Vine Stratum</b> (Plot size: <u>30'</u> radius )				
1. <u>roundleaf greenbrier, Smilax rotundifolia</u>	<u>15</u>	<u>Y</u>		

**SOIL**Sampling Point: DP 18**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 <sup>1</sup>	Loc <sup>2</sup>		
0-2	10 YR 3/2	100						silt loam & root wad
2-14	7.5 YR 4/4	95	7.5 YR 6/1	5	D	M		loamy sand; mixed soils
14-18	7.5 YR 4/4	70	7.5 YR 6/1	30	D	M		loamy sand; mixed soils

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.<sup>2</sup>Location: PL=Pore Lining, M=Matrix.**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)**

- |   |  |
|---|--|
| <input type="checkbox"/> Histosol (A1)                                  | <input type="checkbox"/> Polyvalue Below Surface (S8) ( <b>LRR S, T, U</b> )                 |
| <input type="checkbox"/> Histic Epipedon (A2)                           | <input type="checkbox"/> Thin Dark Surface (S9) ( <b>LRR S, T, U</b> )                       |
| <input type="checkbox"/> Black Histic (A3)                              | <input type="checkbox"/> Loamy Mucky Mineral (F1) ( <b>LRR O</b> )                           |
| <input type="checkbox"/> Hydrogen Sulfide (A4)                          | <input type="checkbox"/> Loamy Gleyed Matrix (F2)  |
| <input type="checkbox"/> Stratified Layers (A5)                         | <input type="checkbox"/> Depleted Matrix (F3)  |
| <input type="checkbox"/> Organic Bodies (A6) ( <b>LRR P, T, U</b> )     | <input type="checkbox"/> Redox Dark Surface (F6)   |
| <input type="checkbox"/> 5 cm Mucky Mineral (A7) ( <b>LRR P, T, U</b> ) | <input type="checkbox"/> Depleted Dark Surface (F7)  |
| <input type="checkbox"/> Muck Presence (A8) ( <b>LRR U</b> )            | <input type="checkbox"/> Redox Depressions (F8)  |
| <input type="checkbox"/> 1 cm Muck (A9) ( <b>LRR P, T</b> )             | <input type="checkbox"/> Marl (F10) ( <b>LRR U</b> )   |
| <input type="checkbox"/> Depleted Below Dark Surface (A11)              | <input type="checkbox"/> Depleted Ochric (F11) ( <b>MLRA 151</b> )                           |
| <input type="checkbox"/> Thick Dark Surface (A12)                       | <input type="checkbox"/> Iron-Manganese Masses (F12) ( <b>LRR O, P, T</b> )                  |
| <input type="checkbox"/> Coast Prairie Redox (A16) ( <b>MLRA 150A</b> ) | <input type="checkbox"/> Umbric Surface (F13) ( <b>LRR P, T, U</b> )                         |
| <input type="checkbox"/> Sandy Mucky Mineral (S1) ( <b>LRR O, S</b> )   | <input type="checkbox"/> Delta Ochric (F17) ( <b>MLRA 151</b> )                              |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4)                       | <input type="checkbox"/> Reduced Vertic (F18) ( <b>MLRA 150A, 150B</b> )                     |
| <input type="checkbox"/> Sandy Redox (S5)                               | <input type="checkbox"/> Piedmont Floodplain Soils (F19) ( <b>MLRA 149A</b> )                |
| <input type="checkbox"/> Stripped Matrix (S6)                           | <input type="checkbox"/> Anomalous Bright Loamy Soils (F20) ( <b>MLRA 149A, 153C, 153D</b> ) |
| <input type="checkbox"/> Dark Surface (S7) ( <b>LRR P, S, T, U</b> )    |  |

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

- |   |
|---|
| <input type="checkbox"/> 1 cm Muck (A9) ( <b>LRR O</b> )                        |
| <input type="checkbox"/> 2 cm Muck (A10) ( <b>LRR S</b> )                       |
| <input type="checkbox"/> Reduced Vertic (F18) ( <b>outside MLRA 150A,B</b> )    |
| <input type="checkbox"/> Piedmont Floodplain Soils (F19) ( <b>LRR P, S, T</b> ) |
| <input type="checkbox"/> Anomalous Bright Loamy Soils (F20)                     |
| <b>(MLRA 153B)</b>  |
| <input type="checkbox"/> Red Parent Material (TF2)                              |
| <input type="checkbox"/> Very Shallow Dark Surface (TF12)                       |
| <input type="checkbox"/> Other (Explain in Remarks)                             |

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.**Restrictive Layer (if observed):**

Type: \_\_\_\_\_

Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes \_\_\_\_\_ No <sup>X</sup> \_\_\_\_\_

Remarks: Site fails to meet hydric soil criteria.



**WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region**

Project/Site: Bryant Parkway Alternative B City/County: Bryant / Saline Sampling Date: 10/5/2018  
 Applicant/Owner: City of Bryant State: AR Sampling Point: DP 19  
 Investigator(s): Cassie Schmidt Section, Township, Range: Sec 35, T1S, R14W  
 Landform (hillslope, terrace, etc.): forested wetland Local relief (concave, convex, none): concave Slope (%): 0-1  
 Subregion (LRR or MLRA): \_\_\_\_\_ Lat: 34.598614 Long: -92.479237 Datum: NAD83  
 Soil Map Unit Name: 25 - Smithdale loamy sand, 3-8% slopes NWI classification: N/A

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 <u>X</u> No _____ Hydric Soil Present? Yes <u>X</u> No _____ Wetland Hydrology Present? Yes <u>X</u> No _____	<b>Is the Sampled Area within a Wetland?</b> Yes <u>X</u> No _____
Remarks: Site meets all three wetland criteria.	

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b> <u>Primary Indicators (minimum of one is required; check all that apply)</u> <div style="display: flex; flex-wrap: wrap;"> <div style="width: 50%;"> <input checked="" type="checkbox"/> Surface Water (A1)  <input checked="" type="checkbox"/> High Water Table (A2)  <input checked="" type="checkbox"/> Saturation (A3)  <input checked="" type="checkbox"/> Water Marks (B1)  <input type="checkbox"/> Sediment Deposits (B2)  <input type="checkbox"/> Drift Deposits (B3)  <input type="checkbox"/> Algal Mat or Crust (B4)  <input checked="" type="checkbox"/> Iron Deposits (B5)  <input checked="" type="checkbox"/> Inundation Visible on Aerial Imagery (B7)  <input checked="" type="checkbox"/> Water-Stained Leaves (B9)         </div> <div style="width: 50%;"> <input checked="" type="checkbox"/> Aquatic Fauna (B13)  <input type="checkbox"/> Marl Deposits (B15) <b>(LRR U)</b>  <input checked="" type="checkbox"/> Hydrogen Sulfide Odor (C1)  <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)  <input type="checkbox"/> Presence of Reduced Iron (C4)  <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)  <input type="checkbox"/> Thin Muck Surface (C7)  <input type="checkbox"/> Other (Explain in Remarks)         </div> </div>		<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input checked="" type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input checked="" type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input checked="" type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Sphagnum moss (D8) <b>(LRR T, U)</b>
<b>Field Observations:</b> Surface Water Present? Yes <u>X</u> No _____ Depth (inches): <u>0-8"</u> Water Table Present? Yes <u>X</u> No _____ Depth (inches): <u>surface</u> Saturation Present? Yes <u>X</u> No _____ Depth (inches): <u>surface</u> (includes capillary fringe)		<b>Wetland Hydrology Present?</b> Yes <u>X</u> No _____
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:  Remarks: Site meets wetland hydrology criteria.  Frogs and iron sheen on the water surface present.		

**VEGETATION (Four Strata) – Use scientific names of plants.**Sampling Point: DP 19

Tree Stratum (Plot size: <u>30'</u> radius )	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. American elm, <i>Ulmus americana</i>	10	N	FAC	Number of Dominant Species That Are OBL, FACW, or FAC: <u>4</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>100</u> (A/B)
2. loblolly pine, <i>Pinus taeda</i>	10	N	FAC	
3. sweetgum, <i>Liquidambar styraciflua</i>	60	Y	FAC	
4. pignut hickory, <i>Carya glabra</i>	10	N	FACU	
5. red maple, <i>Acer rubrum</i>	10	N	FAC	<b>Prevalence Index worksheet:</b> 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 = _____
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
100 = Total Cover 50% of total cover: <u>50</u> 20% of total cover: <u>20</u>				<b>Hydrophytic Vegetation Indicators:</b> <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 <sup>1</sup> <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
<b>Sapling/Shrub Stratum</b> (Plot size: <u>15'</u> radius )				
1. sweetgum, <i>Liquidambar styraciflua</i>	10	Y	FAC	
2. common buttonbush, <i>Cephalanthus occidentalis</i>	20	Y	OBL	
3. _____	_____	_____	_____	<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	<b>Definitions of Four Vegetation Strata:</b>  <b>Tree</b> – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.  <b>Sapling/Shrub</b> – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.  <b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.  <b>Woody vine</b> – All woody vines greater than 3.28 ft in height.
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
30 = Total Cover 50% of total cover: <u>15</u> 20% of total cover: <u>6</u>				<b>Hydrophytic Vegetation Present?</b> Yes <u>x</u> No _____
<b>Herb Stratum</b> (Plot size: <u>5'</u> radius )				
1. woolgrass, <i>Scirpus cyperinus</i>	50	Y	OBL	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	<b>Hydrophytic Vegetation Present?</b> Yes <u>x</u> No _____
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	<b>Hydrophytic Vegetation Present?</b> Yes <u>x</u> No _____
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
50 = Total Cover 50% of total cover: <u>25</u> 20% of total cover: <u>10</u>				<b>Hydrophytic Vegetation Present?</b> Yes <u>x</u> No _____
<b>Woody Vine Stratum</b> (Plot size: _____ )				
1. _____	_____	_____	_____	
2. None observed	_____	_____	_____	
3. _____	_____	_____	_____	<b>Hydrophytic Vegetation Present?</b> Yes <u>x</u> No _____
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
_____ = Total Cover 50% of total cover: _____ 20% of total cover: _____				<b>Hydrophytic Vegetation Present?</b> Yes <u>x</u> No _____
<b>Remarks:</b> (If observed, list morphological adaptations below). <b>Site meets hydrophytic vegetation criteria.</b>				

## SOIL

Sampling Point: DP 19

## 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 <sup>1</sup>	Loc <sup>2</sup>		
0-2	10 YR 4/2	100						silt loam
2-6	10 YR 5/2	70	7.5 YR 5/6	30	C	M&PL		sandy loam
6-18	10 YR 6/4	50	7.5 YR 5/6	10	C	PL		sand
	10 YR 6/2	40						

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.<sup>2</sup>Location: PL=Pore Lining, M=Matrix.

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

- |  |   |
|--|---|
| <input type="checkbox"/> Histosol (A1)                         | <input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)                 |
| <input type="checkbox"/> Histic Epipedon (A2)                  | <input type="checkbox"/> Thin Dark Surface (S9) (LRR S, T, U)                       |
| <input type="checkbox"/> Black Histic (A3)                     | <input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)                           |
| <input checked="" type="checkbox"/> Hydrogen Sulfide (A4)      | <input type="checkbox"/> Loamy Gleyed Matrix (F2)                                   |
| <input type="checkbox"/> Stratified Layers (A5)                | <input type="checkbox"/> Depleted Matrix (F3)                                       |
| <input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)     | <input type="checkbox"/> Redox Dark Surface (F6)                                    |
| <input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U) | <input type="checkbox"/> Depleted Dark Surface (F7)                                 |
| <input type="checkbox"/> Muck Presence (A8) (LRR U)            | <input type="checkbox"/> Redox Depressions (F8)                                     |
| <input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)             | <input type="checkbox"/> Marl (F10) (LRR U)   |
| <input type="checkbox"/> Depleted Below Dark Surface (A11)     | <input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)                           |
| <input type="checkbox"/> Thick Dark Surface (A12)              | <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)                  |
| <input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A) | <input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)                         |
| <input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)   | <input type="checkbox"/> Delta Ochric (F17) (MLRA 151)                              |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4)              | <input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)                     |
| <input type="checkbox"/> Sandy Redox (S5)                      | <input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)                |
| <input type="checkbox"/> Stripped Matrix (S6)                  | <input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D) |
| <input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)    |   |

Indicators for Problematic Hydric Soils<sup>3</sup>:

- ☐ 1 cm Muck (A9) (LRR O)
- ☐ 2 cm Muck (A10) (LRR S)
- ☐ Reduced Vertic (F18) (outside MLRA 150A,B)
- ☐ Piedmont Floodplain Soils (F19) (LRR P, S, T)
- ☐ Anomalous Bright Loamy Soils (F20)
- (MLRA 153B)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

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

## Restrictive Layer (if observed):

Type: \_\_\_\_\_

Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes <sup>X</sup>\_\_\_\_\_ No \_\_\_\_\_

Remarks: Site meets hydric soil criteria.

**WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region**

Project/Site: Bryant Parkway Alternative B City/County: Bryant / Saline Sampling Date: 10/5/2018  
 Applicant/Owner: City of Bryant State: AR Sampling Point: DP 20  
 Investigator(s): Cassie Schmidt Section, Township, Range: Sec 26, T1S, R14W  
 Landform (hillslope, terrace, etc.): wooded area Local relief (concave, convex, none): convex Slope (%): 3  
 Subregion (LRR or MLRA): \_\_\_\_\_ Lat: 34.607787 Long: -92.473942 Datum: NAD83  
 Soil Map Unit Name: 22 - Savannah fine sandy loam, 3-8% slopes NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes \_\_\_\_\_ 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 <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u>
Hydric Soil Present? Yes _____ No <u>X</u>	
Wetland Hydrology Present? Yes _____ No <u>X</u>	
Remarks: Site fails to meet all three wetland criteria.	

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b> <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Marl Deposits (B15) ( <b>LRR U</b> ) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <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)		<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Sphagnum moss (D8) ( <b>LRR T, U</b> )
<b>Field Observations:</b> Surface Water Present? Yes _____ No <u>X</u> Depth (inches): _____ Water Table Present? Yes _____ No <u>X</u> Depth (inches): <u>&gt;18"</u> Saturation Present? Yes _____ No <u>X</u> Depth (inches): <u>&gt;18"</u> (includes capillary fringe)		<b>Wetland Hydrology Present?</b> Yes _____ No <u>X</u>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: Site fails to meet wetland hydrology criteria.		



**VEGETATION (Four Strata) – Use scientific names of plants.**Sampling Point: DP 20

Tree Stratum (Plot size: <u>30'</u> radius )	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>pignut hickory, Carya glabra</u>	<u>30</u>	<u>Y</u>	<u>FACU</u>	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</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>60</u> (A/B)
2. <u>American elm, Ulmus americana</u>	<u>20</u>	<u>Y</u>	<u>FAC</u>	
3. <u>loblolly pine, Pinus taeda</u>	<u>10</u>	<u>N</u>	<u>FAC</u>	
4. <u>sweetgum, Liquidambar styraciflua</u>	<u>20</u>	<u>Y</u>	<u>FAC</u>	
5. <u>white oak, Quercus alba</u>	<u>20</u>	<u>Y</u>	<u>FACU</u>	<b>Prevalence Index worksheet:</b> 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 = _____
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
100 _____ = Total Cover 50% of total cover: <u>50</u> 20% of total cover: <u>20</u>				<b>Hydrophytic Vegetation Indicators:</b> <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 <sup>1</sup> <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
<b>Sapling/Shrub Stratum</b> (Plot size: <u>15'</u> radius )				
1. <u>sweetgum, Liquidambar styraciflua</u>	<u>10</u>	<u>Y</u>	<u>FAC</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	<b>Definitions of Four Vegetation Strata:</b>  <b>Tree</b> – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.  <b>Sapling/Shrub</b> – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.  <b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.  <b>Woody vine</b> – All woody vines greater than 3.28 ft in height.
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	<b>Hydrophytic Vegetation Present?</b> Yes <u>x</u> No _____
12. _____	_____	_____	_____	
_____ = Total Cover 50% of total cover: _____ 20% of total cover: _____				
<b>Herb Stratum</b> (Plot size: _____ )				
1. _____	_____	_____	_____	<b>Hydrophytic Vegetation Present?</b> Yes <u>x</u> No _____
2. <u>None observed</u>	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	<b>Hydrophytic Vegetation Present?</b> Yes <u>x</u> No _____
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	<b>Hydrophytic Vegetation Present?</b> Yes <u>x</u> No _____
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
12. _____	_____	_____	_____	
_____ = Total Cover 50% of total cover: _____ 20% of total cover: _____				<b>Hydrophytic Vegetation Present?</b> Yes <u>x</u> No _____
<b>Woody Vine Stratum</b> (Plot size: _____ )				
1. _____	_____	_____	_____	
2. <u>None observed</u>	_____	_____	_____	
3. _____	_____	_____	_____	<b>Hydrophytic Vegetation Present?</b> Yes <u>x</u> No _____
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover 50% of total cover: _____ 20% of total cover: _____				
Remarks: (If observed, list morphological adaptations below). <b>Site meets hydrophytic vegetation criteria.</b>  <b>Pine needles and shade preventing herbaceous growth.</b>				

**SOIL**Sampling Point: DP 20**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 <sup>1</sup>	Loc <sup>2</sup>		
0-6	10 YR 4/2	100						loam

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.<sup>2</sup>Location: PL=Pore Lining, M=Matrix.**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)**

- |  |   |
|--|---|
| <input type="checkbox"/> Histosol (A1)                         | <input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)                 |
| <input type="checkbox"/> Histic Epipedon (A2)                  | <input type="checkbox"/> Thin Dark Surface (S9) (LRR S, T, U)                       |
| <input type="checkbox"/> Black Histic (A3)                     | <input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)                           |
| <input type="checkbox"/> Hydrogen Sulfide (A4)                 | <input type="checkbox"/> Loamy Gleyed Matrix (F2)                                   |
| <input type="checkbox"/> Stratified Layers (A5)                | <input type="checkbox"/> Depleted Matrix (F3)                                       |
| <input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)     | <input type="checkbox"/> Redox Dark Surface (F6)                                    |
| <input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U) | <input type="checkbox"/> Depleted Dark Surface (F7)                                 |
| <input type="checkbox"/> Muck Presence (A8) (LRR U)            | <input type="checkbox"/> Redox Depressions (F8)                                     |
| <input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)             | <input type="checkbox"/> Marl (F10) (LRR U)   |
| <input type="checkbox"/> Depleted Below Dark Surface (A11)     | <input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)                           |
| <input type="checkbox"/> Thick Dark Surface (A12)              | <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)                  |
| <input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A) | <input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)                         |
| <input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)   | <input type="checkbox"/> Delta Ochric (F17) (MLRA 151)                              |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4)              | <input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)                     |
| <input type="checkbox"/> Sandy Redox (S5)                      | <input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)                |
| <input type="checkbox"/> Stripped Matrix (S6)                  | <input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D) |
| <input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)    |   |

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

- |  |
|--|
| <input type="checkbox"/> 1 cm Muck (A9) (LRR O)                        |
| <input type="checkbox"/> 2 cm Muck (A10) (LRR S)                       |
| <input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)    |
| <input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T) |
| <input type="checkbox"/> Anomalous Bright Loamy Soils (F20)            |
| <b>(MLRA 153B)</b>   |
| <input type="checkbox"/> Red Parent Material (TF2)                     |
| <input type="checkbox"/> Very Shallow Dark Surface (TF12)              |
| <input type="checkbox"/> Other (Explain in Remarks)                    |

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.**Restrictive Layer (if observed):**Type: roots throughoutDepth (inches): 6"Hydric Soil Present? Yes \_\_\_\_\_ No <sup>X</sup> \_\_\_\_\_**Remarks:**

Site fails to meet hydric soil criteria.

Several locations were attempted, all data points were too "rooty" to dig past 6"

**WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region**

Project/Site: Bryant Parkway Alternative B City/County: Bryant / Saline Sampling Date: 10/5/2018  
 Applicant/Owner: City of Bryant State: AR Sampling Point: DP 21  
 Investigator(s): Cassie Schmidt Section, Township, Range: Sec 35, T1S, R14W  
 Landform (hillslope, terrace, etc.): wooded area Local relief (concave, convex, none): convex Slope (%): 2  
 Subregion (LRR or MLRA): \_\_\_\_\_ Lat: 34.596486 Long: -92.481048 Datum: NAD83  
 Soil Map Unit Name: 2 - Amy silt loam, 0-1% slopes NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes \_\_\_\_\_ 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 <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u>
Hydric Soil Present? Yes <u>X</u> No _____	
Wetland Hydrology Present? Yes _____ No <u>X</u>	
Remarks: Site fails to meet all three wetland criteria.	

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b> <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Marl Deposits (B15) ( <b>LRR U</b> ) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <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)		<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input checked="" type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Sphagnum moss (D8) ( <b>LRR T, U</b> )
<b>Field Observations:</b> Surface Water Present? Yes _____ No <u>X</u> Depth (inches): _____ Water Table Present? Yes _____ No <u>X</u> Depth (inches): <u>&gt;18"</u> Saturation Present? Yes _____ No <u>X</u> Depth (inches): <u>&gt;18"</u> (includes capillary fringe)		<b>Wetland Hydrology Present?</b> Yes _____ No <u>X</u>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: Site fails to meet wetland hydrology criteria.		

**VEGETATION (Four Strata) – Use scientific names of plants.**Sampling Point: DP 21

Tree Stratum (Plot size: <u>30'</u> radius )	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. <u>water oak, Quercus nigra</u>	<u>20</u>	<u>Y</u>	<u>FAC</u>	Number of Dominant Species That Are OBL, FACW, or FAC: <u>6</u> (A)
2. <u>sweetgum, Liquidambar styraciflua</u>	<u>20</u>	<u>Y</u>	<u>FAC</u>	
3. <u>loblolly pine, Pinus taeda</u>	<u>60</u>	<u>Y</u>	<u>FAC</u>	Total Number of Dominant Species Across All Strata: <u>6</u> (B)
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	<b>Prevalence Index worksheet:</b> 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 = _____
8. _____	_____	_____	_____	
<u>100</u> = Total Cover 50% of total cover: <u>50</u> 20% of total cover: <u>20</u>				
<b>Sapling/Shrub Stratum (Plot size: <u>15'</u> radius )</b>				
1. <u>sweetgum, Liquidambar styraciflua</u>	<u>10</u>	<u>Y</u>	<u>FAC</u>	<b>Hydrophytic Vegetation Indicators:</b> <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 <sup>1</sup> <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	<b>Definitions of Four Vegetation Strata:</b>  <b>Tree</b> – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.  <b>Sapling/Shrub</b> – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.  <b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.  <b>Woody vine</b> – All woody vines greater than 3.28 ft in height.
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	<b>Hydrophytic Vegetation Present?</b> Yes <u>x</u> No _____
8. _____	_____	_____	_____	
<u>10</u> = Total Cover 50% of total cover: <u>5</u> 20% of total cover: <u>2</u>				
<b>Herb Stratum (Plot size: <u>5'</u> radius )</b>				
1. <u>eastern poison ivy, Toxicodendron radicans</u>	<u>5</u>	<u>Y</u>	<u>FAC</u>	<b>Hydrophytic Vegetation Present?</b> Yes <u>x</u> No _____
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	<b>Hydrophytic Vegetation Present?</b> Yes <u>x</u> No _____
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	<b>Hydrophytic Vegetation Present?</b> Yes <u>x</u> No _____
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	<b>Hydrophytic Vegetation Present?</b> Yes <u>x</u> No _____
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	<b>Hydrophytic Vegetation Present?</b> Yes <u>x</u> No _____
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	<b>Hydrophytic Vegetation Present?</b> Yes <u>x</u> No _____
12. _____	_____	_____	_____	
<u>5</u> = Total Cover 50% of total cover: <u>2.5</u> 20% of total cover: <u>1</u>				
<b>Woody Vine Stratum (Plot size: <u>30'</u> radius )</b>				
1. <u>roundleaf greenbrier, Smilax rotundifolia</u>	<u>10</u>	<u>Y</u>	<u>FAC</u>	<b>Hydrophytic Vegetation Present?</b> Yes <u>x</u> No _____
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	<b>Hydrophytic Vegetation Present?</b> Yes <u>x</u> No _____
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	<b>Hydrophytic Vegetation Present?</b> Yes <u>x</u> No _____
6. _____	_____	_____	_____	
<u>10</u> = Total Cover 50% of total cover: <u>5</u> 20% of total cover: <u>2</u>				
Remarks: (If observed, list morphological adaptations below). <b>Site meets hydrophytic vegetation criteria.</b>  <b>Pine needles and shade preventing herbaceous growth.</b>				

**SOIL**

Sampling Point: DP 21

**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 <sup>1</sup>	Loc <sup>2</sup>		
0-2	10 YR 3/2	100						loam
2-12	10 YR 4/2	90	7.5 YR 5/6	10	C	M		loamy sand

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.<sup>2</sup>Location: PL=Pore Lining, M=Matrix.**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)**

- |  |   |
|--|---|
| <input type="checkbox"/> Histosol (A1)                         | <input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)                 |
| <input type="checkbox"/> Histic Epipedon (A2)                  | <input type="checkbox"/> Thin Dark Surface (S9) (LRR S, T, U)                       |
| <input type="checkbox"/> Black Histic (A3)                     | <input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)                           |
| <input type="checkbox"/> Hydrogen Sulfide (A4)                 | <input type="checkbox"/> Loamy Gleyed Matrix (F2)                                   |
| <input type="checkbox"/> Stratified Layers (A5)                | <input type="checkbox"/> Depleted Matrix (F3)                                       |
| <input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)     | <input type="checkbox"/> Redox Dark Surface (F6)                                    |
| <input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U) | <input type="checkbox"/> Depleted Dark Surface (F7)                                 |
| <input type="checkbox"/> Muck Presence (A8) (LRR U)            | <input type="checkbox"/> Redox Depressions (F8)                                     |
| <input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)             | <input type="checkbox"/> Marl (F10) (LRR U)   |
| <input type="checkbox"/> Depleted Below Dark Surface (A11)     | <input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)                           |
| <input type="checkbox"/> Thick Dark Surface (A12)              | <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)                  |
| <input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A) | <input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)                         |
| <input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)   | <input type="checkbox"/> Delta Ochric (F17) (MLRA 151)                              |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4)              | <input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)                     |
| <input checked="" type="checkbox"/> Sandy Redox (S5)           | <input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)                |
| <input type="checkbox"/> Stripped Matrix (S6)                  | <input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D) |
| <input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)    |   |

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

- ☐ 1 cm Muck (A9) (LRR O)
- ☐ 2 cm Muck (A10) (LRR S)
- ☐ Reduced Vertic (F18) (outside MLRA 150A,B)
- ☐ Piedmont Floodplain Soils (F19) (LRR P, S, T)
- ☐ Anomalous Bright Loamy Soils (F20)
- (MLRA 153B)**
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

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

**Restrictive Layer (if observed):**

Type: \_\_\_\_\_

Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes <sup>X</sup> \_\_\_\_\_ No \_\_\_\_\_

Remarks: Site meets hydric soil criteria.



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***Bryant Parkway, Alternative B***

# **APPENDIX E**

## **Site Photographs**



**▲ Wetland 1 (PEM)—Emergent wetland exhibiting standing water located near south end of Study Area.**



**▲ DP 1—Hydric soil with a depleted matrix was observed at DP 1 within Wetland 1.**



**▲ OW 1—An ephemeral stream located east of Wetland 1. View facing upstream to the west.**



**▲ OW 1—Section of the ephemeral stream located north of Wetland 1. View facing upstream to the north.**



**▲ Wetland 2 (PEM)—Emergent wetland exhibiting standing water located north of Airport hangars.**



**▲ DP 4—Hydric soil with a depleted matrix was observed at DP 4 within Wetland 2.**





▲ Wetland 3 (PFO)—Forested wetland exhibiting drift deposits located near west edge of Study Area.



▲ DP 17—Hydric soil with a depleted matrix (4" thick) was observed at DP 17 within Wetland 3.



▲ OW 2a—View of substrate (primarily silt) within this unnamed tributary to Crooked Creek.



▲ OW 2b—An ephemeral stream located within Wetland 3. View facing upstream to the southeast.



▲ Wetland 4a (PFO)—Forested wetland located northeast of Wetland 3.



▲ DP 19—Soil within Wetland 4 met hydric soil criteria as the wetland exhibited a hydrogen sulfide odor.





▲ Wetland 4b (PEM)—This emergent wetland is located immediate adjacent to Wetland 4a.



▲ OW 3—An ephemeral stream located northeast of Wetland 4. View facing upstream to the southeast.



▲ OW 4a—An ephemeral stream that crosses through the center of the Study Area. View facing north.



▲ OW 4a—East end of ephemeral stream OW 4a. View facing upstream to the southeast.



▲ Wetland 5 (PFO)—This forested wetland is located 0.27 mi. northwest of the north end of the runway.



▲ Wetland 5 (PFO)—This forested wetland exhibited standing water, saturation, and a high water table.





▲ DP 6—Hydric soil with a depleted matrix was observed at DP 6 within Wetland 5.



▲ Wetland 6 (PEM)—An emergent wetland exhibiting standing water located north of Wetland 5.



▲ DP 8—Soil within Wetland 6 met hydric soil criteria as the wetland exhibited a hydrogen sulfide odor.



▲ Wetland 7 (PEM)—An emergent wetland exhibiting standing water located north of Wetland 6.



▲ DP 10—Hydric soil with redox depressions and a hydrogen sulfide odor was observed at Wetland 7.



▲ Wetland 7 (PEM)—An emergent wetland exhibiting standing water located north of Wetland 6.





**▲ Wetland 8 (PFO)—A forested wetland located in the floodplain south of Crooked Creek.**



**▲ DP 16—Hydric soil with a depleted matrix was observed at DP 16 within Wetland 8.**



**▲ OW 5a, Crooked Creek—A perennial stream located south of Wetland 9. View facing upstream to the west.**



**▲ OW 5b, Crooked Creek—A perennial stream located south of Wetland 9. View facing upstream to the west.**



**▲ OW 5a, Crooked Creek—View facing SW toward S bank of OW 5 at confluence w/ unnamed tributary.**



**▲ OW 6—An ephemeral stream located at N end of Study Area. View facing downstream to the south.**



**▲OW 6—An ephemeral stream located at N end of Study Area. View facing upstream to the north.**



**▲OW 6—An ephemeral stream located at N end of Study Area. View facing downstream to the south.**

**Bryant Parkway, Alternative B**

# APPENDIX F

## Weather History Data

<https://www.wunderground.com/history/daily/us/ar/bryant/KARBRYAN6/>



(L) Search Locations Log in (/login)... Recent Cities

	Adams, AR ★ 🏠	Talihina, OK (weather/us/ok/talihina/34.76,-95.08)	Edgerton, KS (weather/us/ks/edgerton/38.76,-95.02)	Smithville, OK (weather/us/ok/smithville/34.76,-95.08)
★ ( <b>memorized favorites</b> )				

Elev 259ft 34.73 °N, 92.22 °W

**Adams, AR ★ 🏠**

📶 46° ADAMS STATION (/HISTORY/DAILY/US/AR/LITTLE-ROCK/KLIT/DATE/2018-10-16?CM VEN=LOCALWX PWSDASH) | CHANGE ➤

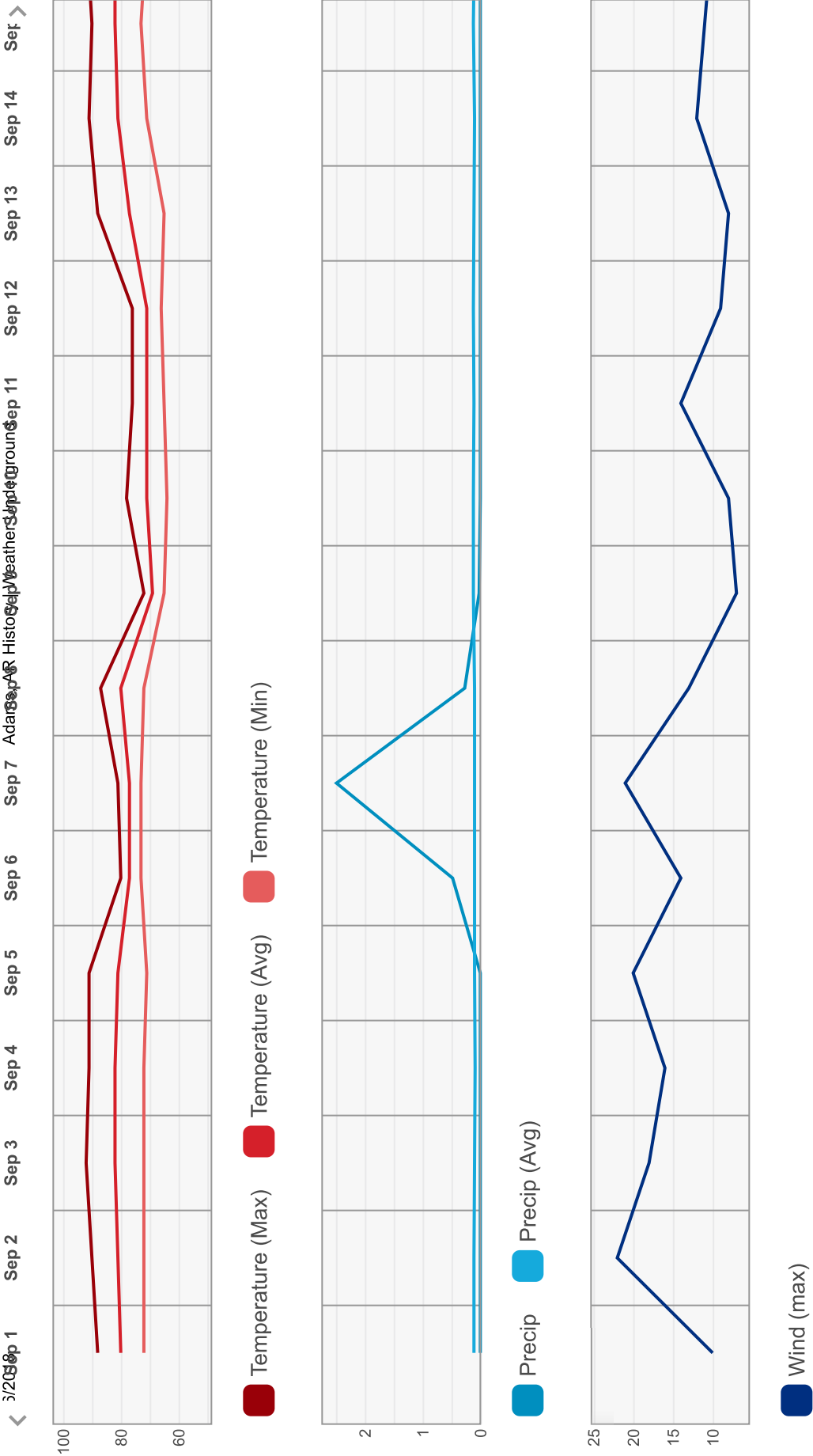
HISTORY (/HISTORY/DAILY/US/AR/LITTLE-ROCK/KLIT/DATE/2018-10-16).

- TODAY (/WEATHER/US/AR/BRYANT)
- HOURLY (/HOURLY/US/AR/BRYANT)
- 10-DAY (/FORECAST/US/AR/BRYANT)
- CALENDAR (/CALENDAR/US/AR/LITTLE-ROCK/KLIT/DATE/2018-10)
- HISTORY (/HISTORY/DAILY/US/AR/LITTLE-ROCK/KLIT/DATE/2018-10-16)
- WUNDERMAP (/WUNDERMAP?LAT=34.72888947&LON=-92.22444153)

Daily
Weekly
Monthly

2018
View





# Summary

Temperature (° F)	Max	Average	Min	Sum
Max Temperature	94	84	73	-
Avg Temperature	84	76	67	-

Min Temperature

61

54

-

Precipitation (Inches)

Average

Min

Sum

Precipitation

0.26

0

6.94

Dew Point (° F)

Average

Min

Sum

Dew Point

69

53

-

# Daily Observations

Time	Temperature (° F)			Dew Point (° F)			Humidity (%)			Wind Speed (mph)			Pressure (Hg)			Precipitation (in)		
	Max	Avg	Min	Max	Avg	Min	Max	Avg	Min	Max	Avg	Min	Max	Avg	Min	Max	Avg	Min
Sep																		
1	88	80	72	74	72	71	100	-	59	10	-	0	30.09	-	29.98	-	0.00	-
2	90	81	72	75	73	72	100	-	59	22	-	4	30.08	-	29.99	-	0.00	-
3	92	82	72	74	72	70	100	-	49	18	-	0	30.14	-	30.03	-	0.00	-
4	91	82	72	73	72	70	100	-	52	16	-	0	30.14	-	30.02	-	0.00	-
5	91	81	71	73	71	69	100	-	52	20	-	0	30.12	-	29.99	-	0.00	-
6	80	77	73	78	75	72	100	-	87	14	-	5	30.05	-	29.95	-	0.48	-
7	81	77	73	77	75	73	100	-	97	21	-	0	30	-	29.91	-	2.49	-
8	87	80	72	76	74	72	100	-	70	13	-	0	29.93	-	29.8	-	0.27	-
9	72	69	65	72	68	66	100	-	84	7	-	0	29.96	-	29.84	-	0.02	-

Appendix H: PJD & Wetland Delineation Report - Page 114 of 118

Time	Temperature (° F)			Dew Point (° F)			Humidity (%)		Wind Speed (mph)			Pressure (Hg)		Precipitation (in)				
10	78	71	64	66	64	63	100	-	69	8	-	4	30.06	-	29.95	-	0.00	-
11	76	71	65	67	65	62	100	-	69	14	-	0	30.14	-	30.04	-	0.00	-
12	76	71	66	71	68	67	100	-	82	9	-	4	30.15	-	30.06	-	0.00	-
13	88	77	65	73	69	65	100	-	55	8	-	0	30.13	-	30.02	-	0.00	-
14	91	81	71	74	72	71	100	-	56	12	-	0	30.09	-	29.99	-	0.00	-
15	90	82	73	72	70	68	87	-	56	11	-	0	30.08	-	29.96	-	0.00	-
16	92	82	71	75	71	67	94	-	52	10	-	0	30	-	29.89	-	0.00	-
17	93	83	73	75	73	69	100	-	46	10	-	0	30	-	29.91	-	0.00	-
18	94	84	73	75	73	70	94	-	52	6	-	0	30.01	-	29.9	-	0.00	-
19	94	84	73	76	74	69	100	-	46	10	-	0	30.01	-	29.9	-	0.00	-
20	93	83	73	74	72	70	94	-	46	13	-	0	30.02	-	29.91	-	0.00	-
21	92	82	71	75	73	71	100	-	56	23	-	0	30.09	-	29.97	-	0.94	-
22	71	67	62	72	65	62	100	-	93	20	-	6	30.12	-	30.03	-	1.79	-
23	67	65	63	66	64	63	100	-	93	10	-	6	30.04	-	29.94	-	0.26	-
24	81	73	65	76	70	65	100	-	79	8	-	0	29.97	-	29.87	-	0.05	-
25	87	78	68	74	72	68	100	-	57	12	-	0	30.04	-	29.91	-	0.23	-
26	73	67	60	72	64	53	100	-	63	17	-	0	30.13	-	30	-	0.03	-
27	65	61	56	60	58	56	100	-	84	17	-	0	30.09	-	30.02	-	0.38	-
28	74	64	54	63	60	55	100	-	68	9	-	0	30.2	-	30.08	-	0.00	-





(L)

Search Locations

Log in (/logi...)



Recent Cities

★ (/member/favorites)

Edgerton, KS (weather/us/ks/edgerton/38.76,-95.02) Talihina, OK (weather/us/ok/talihina/34.76,-95.08) Smithville, OK (weather/l

Elev 259ft 34.73 °N, 92.22 °W

# Adams, AR ★ ↗

46° ADAMS STATION (/HISTORY/DAILY/US/AR/LITTLE-ROCK/KLIT/DATE/2018-10-16?CM\_VEN=LOCALWX\_PWSDASH) | [CHANGE](#) ✓

[HISTORY \(/HISTORY/DAILY/US/AR/LITTLE-ROCK/KLIT/DATE/2018-10-16\)](#)

- [TODAY \(/WEATHER/US/AR/BRYANT\)](#)
- [HOURLY \(/HOURLY/US/AR/BRYANT\)](#)
- [10-DAY \(/FORECAST/US/AR/BRYANT\)](#)
- [CALENDAR \(/CALENDAR/US/AR/LITTLE-ROCK/KLIT/DATE/2018-10\)](#)
- [HISTORY \(/HISTORY/DAILY/US/AR/LITTLE-ROCK/KLIT/DATE/2018-10-16\)](#)
- [WUNDERMAP \(/WUNDERMAP?LAT=34.72888947&LON=-92.22444153\)](#)

Daily

Weekly

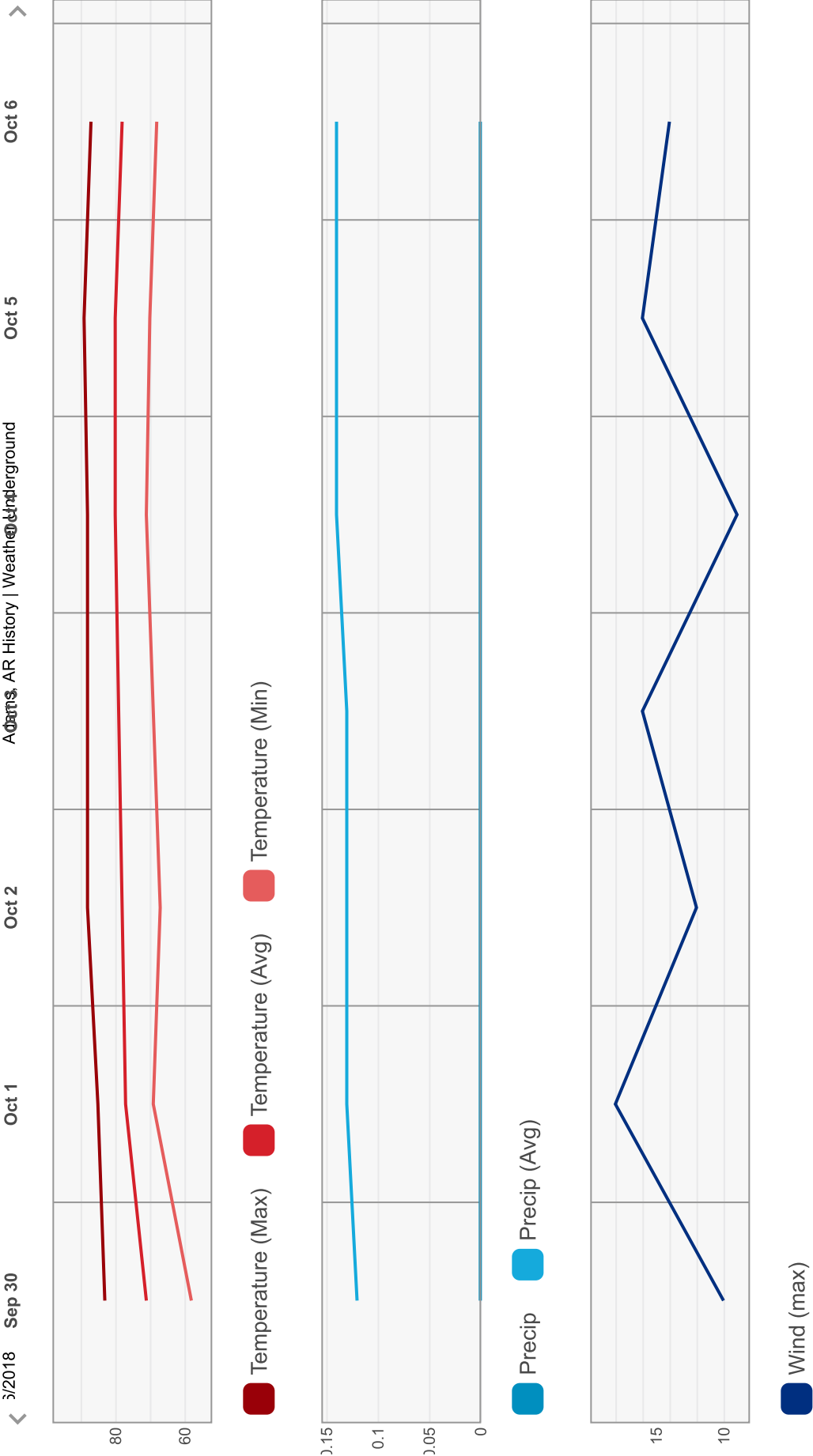
Monthly

October

1

2018

View



# Summary

Temperature (° F)	Max	Average	Min	Sum
Max Temperature	89	80	71	-
Avg Temperature	87	78	67	-

Temperature (° F)		Max	Average	Min	Sum	▲
Min Temperature		83	71	58	-	
Precipitation (Inches)		Max	Average	Min	Sum	▲
Precipitation		0	0	0	0	
Dew Point (° F)		Max	Average	Min	Sum	▲
Dew Point		75	71	58	-	

# Daily Observations

Time	Temperature (° F)			Dew Point (° F)			Humidity (%)			Wind Speed (mph)			Pressure (Hg)			Precipitation (in)		
	Sep	Max	Avg	Min	Max	Avg	Min	Max	Avg	Min	Max	Avg	Min	Max	Avg	Min	Max	Avg
30		83	71	58	71	65	58	100	-	58	10	-	0	30.23	-	30.13	-	0.00
1		85	77	69	73	71	69	100	-	65	18	-	0	30.23	-	30.12	-	0.00
2		88	78	67	75	71	68	100	-	55	12	-	0	30.19	-	30.07	-	0.00
3		88	79	69	74	72	70	100	-	59	16	-	0	30.08	-	29.96	-	0.00
4		88	80	71	75	73	69	100	-	63	9	-	0	30.11	-	29.99	-	0.00
5		89	80	70	75	73	71	100	-	56	16	-	0	30.06	-	29.96	-	0.00
6		87	78	68	72	70	68	100	-	53	14	-	0	30.06	-	29.97	-	0.00