



**US Army Corps
of Engineers.**

Vicksburg District
4155 Clay Street
Vicksburg, MS 39183-3435
www.mvk.usace.army.mil



Public Notice

APPLICATION NO.:	MVK-2017-884
EVALUATOR:	Ms. Kristi Hall
PHONE NO.:	(601) 631-7528
E-MAIL:	Kristina.W.Hall@usace.army.mil
DATE:	August 17, 2018
EXPIRATION DATE:	September 7, 2018

Interested parties are hereby notified that the U.S. Army Corps of Engineers, Vicksburg District, and the Arkansas Department of Environmental Quality are considering an application for a Department of the Army permit and State water quality certification for the work described herein. Comments should be forwarded to the Vicksburg District, Attention: CEMVK-OD-F, at the above address, and the Arkansas Department of Environmental Quality, Post Office Box 8913, Little Rock, Arkansas 72219-8913, and must reach these offices by the cited expiration date.

Law Requiring a Permit: Section 404 of the Clean Water Act (33 U.S.C. 1344), which applies to discharges of dredged and / or fill material into waters of the United States.

Name of Applicant:
Mr. Bill Bowdon
Performance Proppants, LLC

401 Edwards Street, Suite 1107
Shreveport, Louisiana 71101

Name of Agent:
Mr. Taylor Simoneaux
Providence Engineering and
Environmental Group, LLC
1201 Main Street
Baton Rouge, Louisiana 70802 72211

Location of Work: Sections 25 and 36, T19S-R27W, Section 1, T20S-R27W, Sections 30 and 31, T19S-R26W, and Sections 5 and 6, T20S-R26W, Miller County, and Sections 29, 30, 31, and 32, T19S-R26W, and Section 5, T20S-R26W, Lafayette County, Latitude 33.0621, Longitude -93.8398, within the Red River watershed (8-digit USGS HUC 11140201), Arkansas.

Description of Work: (See enclosed map and drawings.)

The following descriptions of the proposed project and associated impacts are based upon information provided by the applicant.

The applicant is applying for a Department of the Army permit to conduct regulated activities in jurisdictional wetlands and streams for the purpose of sand mining and processing. The project would include: a wet processing plant, dry processing plant, natural gas pipeline, and mining pits A, B and C. The applicant proposes to excavate to a depth of 30 feet. No dredging or mining activities would take place within Section 10 waters.

Area	Total Area (acres)	Temporary Impacts		
		Other Waters (feet)	PEM Wetlands (Acres)	PFO Wetlands (Acres)
Pipeline	7.07	77 linear feet	0.00	0.00
Conveyor	1.20	253 linear feet	0.11	0.00
Wet Plant	44.70	0.00	0.00	0.00
Dry Plant	12.01	0.00	0.00	0.00
Phase 1 Mine Area	434.75	0.00	0.00	0.00
Phase 2 Mine Area	248.20	0.00	0.00	0.00
Phase 3 Mine Area	297.82	0.00	0.00	0.00
Total	1,045.75	330	0.11	0.0

Area	Total Area (acres)	Permanent Impacts		
		Other Waters	PEM Wetlands (Acres)	PFO Wetlands (Acres)
Pipeline	7.07	0.00	0.00	0.00
Conveyor	1.20	0.00	0.00	0.02
Wet Plant	44.70	394 linear feet	1.08	0.00
Dry Plant	12.01	0.00	0.00	0.00
Phase 1 Mine Area	434.75	5.69 acres (other waters) / 3,407 linear feet (non RPW)	2.97	8.45
Phase 2 Mine Area	248.20	10.69 Acres (other waters)	26.62	0.08
Phase 3 Mine Area	297.82	20.15 acres (other waters) / 150 linear feet (non RPW)	10.65	2.39
Total	1,045.75	36.53 acres (other waters)/ 3,951 linear feet	41.32	10.94

The vegetative communities within the project area consist of emergent and forested wetlands. Typical dominant vegetation for emergent wetlands include: Smartweed (*Persicaria* sp.), Alligator weed (*Alternanthera philoxeroides*- OBL), Golden crown grass (*Paspalum dilatatum*- FAC), Lizard's tail (*Saururus cernuus*- OBL) and White edge sedge (*Carex debilis*- FACW). Dominant vegetation within forested wetlands include: Black willow (*Salix nigra*- OBL), Willow oak (*Quercus phellos*- FACW), and Eastern cottonwood (*Populus deltoids*- FACW). Soil within the project site consists of Billyhaw, Kiomatia, Oklared, Severn and Water.

The applicant proposes to mitigate for the unavoidable loss of jurisdictional impacts through the purchase of credits from a commercial mitigation bank, which services the project area.

Upon reviewing this notice, you should write to this office to provide your opinion of the impacts this work will have on the natural and human environment and address any mitigation you believe is necessary to offset these impacts. Other comments are welcome, but the above information will further our review of the applicant's plan as proposed. Comments of a general nature are not as helpful as those specific to the impacts of the subject project.

State Water Quality Permit: The State Pollution Control Agency must certify that the described work will comply with the State's water quality standards and effluent limitations before a Corps permit is issued.

Cultural Resources: The Regulatory Archaeologist has reviewed the latest published version of the National Register of Historic Places, state lists of properties determined eligible, and other sources of information. The following is current knowledge of the presence or absence of historic properties and the effects of the proposed undertaking upon these properties. An historic properties investigation has been conducted within the permit area. No sites determined eligible for or listed on the National Register of Historic Places are within the permit area or affected area.

Endangered Species: Our initial finding is that the proposed work may affect the following species: Interior least tern. Further coordination with the U.S. Fish and Wildlife Service will be conducted as part of the permit review process.

Floodplain: In accordance with 44 CFR Part 60 (Floodplain Management and Use), participating communities are required to review all proposed development to determine if a floodplain development permit is required. Floodplain administrators should review the proposed development described in this public notice and apprise this office of any flood plain development permit requirements. The project is partially located within the 100 year floodplain.

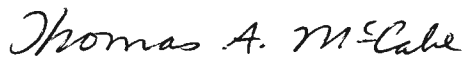
Evaluation Factors: The decision whether or not to issue a permit will be based

upon an evaluation of the probable impact of the proposed activity on the public interest. That decision will reflect the national concern for both protection and utilization of important resources. The benefits which may be expected to accrue from the proposal must be balanced against its expected adverse effects. All factors which may be relevant to the proposal will be considered; among these are conservation, economics, aesthetics, general environmental concerns, historic values, fish and wildlife values, flood damage prevention, land use classification, navigation, recreation, water supply, water quality, energy needs, safety, food requirements and, in general, the needs and welfare of the people. Evaluation of the proposed activity will include application of the guidelines published by the Environmental Protection Agency under authority of Section 404(b) of the Clean Water Act.

Public Involvement: The purpose of this notice is to solicit comments from the public; Federal, State, and local agencies and officials; Indian Tribes; and other interested parties. These comments will be used to evaluate the impacts of this project. All comments will be considered and used to help determine whether to issue the permit, deny the permit, or issue the permit with conditions, and to help us determine the amount and type of mitigation necessary. This information will be used in our Environmental Assessment or Impact Statement. Comments are also used to determine the need for a public hearing.

Opportunity for a Public Hearing: Any person may make a written request for a public hearing to consider this permit application. This request must be submitted by the public notice expiration date and must clearly state why a hearing is necessary. Failure of any agency or individual to comment on this notice will be interpreted to mean that there is no objection to the proposed work. Please bring this announcement to the attention of anyone you know who might be interested in this matter.

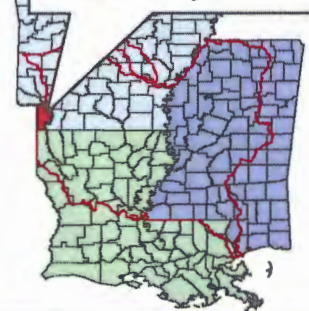
Notification of Final Permit Actions: Each month, the final permit actions from the preceding month are published on the Vicksburg District Regulatory web page. To access this information, you may follow the link from the Regulatory web page, <http://www.mvk.usace.army.mil/Missions/Regulatory.aspx>.


Thomas A. McCabe
Chief, Evaluation Section
Regulatory Branch



1:22,000

Miller & Lafayette Co., AR



31 July 2018

MVK-2017-884

Jurisdictional Determination
Proposed Sand Mining Operation
Miller & Lafayette County, Arkansas

**Preliminary
Jurisdictional Determination**

Prepared by
Arel Simpson



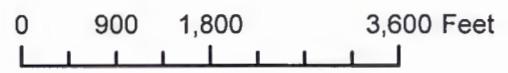
Project Site



**US Army Corps
of Engineers**



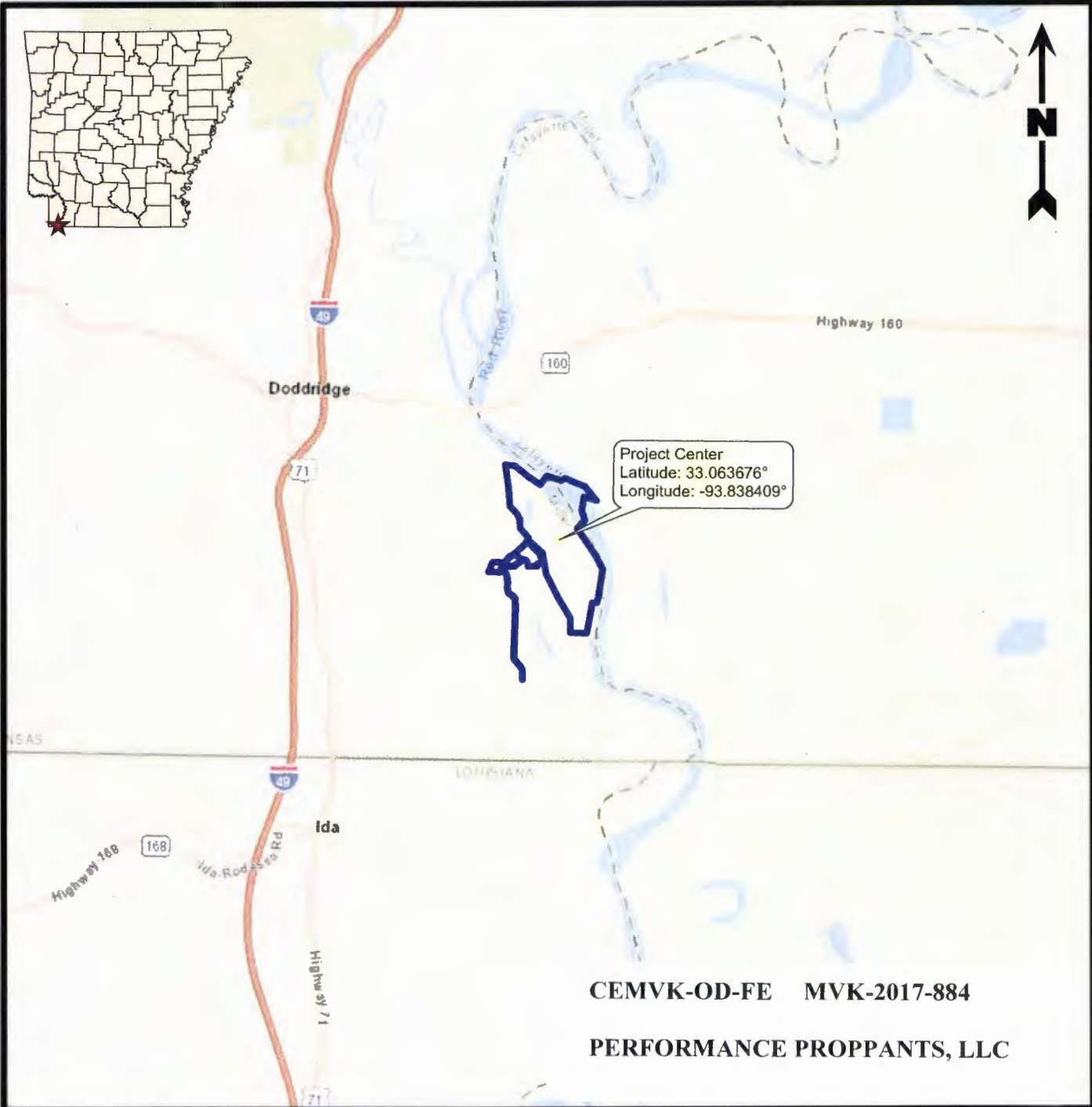
**Regulatory Branch
Enforcement Section**



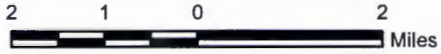
Enclosure 1

Legend


- Project Boundary A (1,199.08 Ac.)
- Project Boundary B (102.85 Ac.)
- Project Boundary C (15.14 Ac.)
- Dike Field
- Non-RPW Streams (6,628 L.F.)
- Wetlands (82.07 Ac.)
- Other Waters (54.45 Ac.)
- Section 10/404 Wetlands & Other Waters (9.04 Ac.)



CEMVK-OD-FE MVK-2017-884
PERFORMANCE PROPPANTS, LLC



Legend

 Project Area (1,056.32 Acres)

Reference

Base map comprised of ESRI StreetMap USA data.

Vicinity Map

Section 10/404 Permit Application
 Miller County, Arkansas

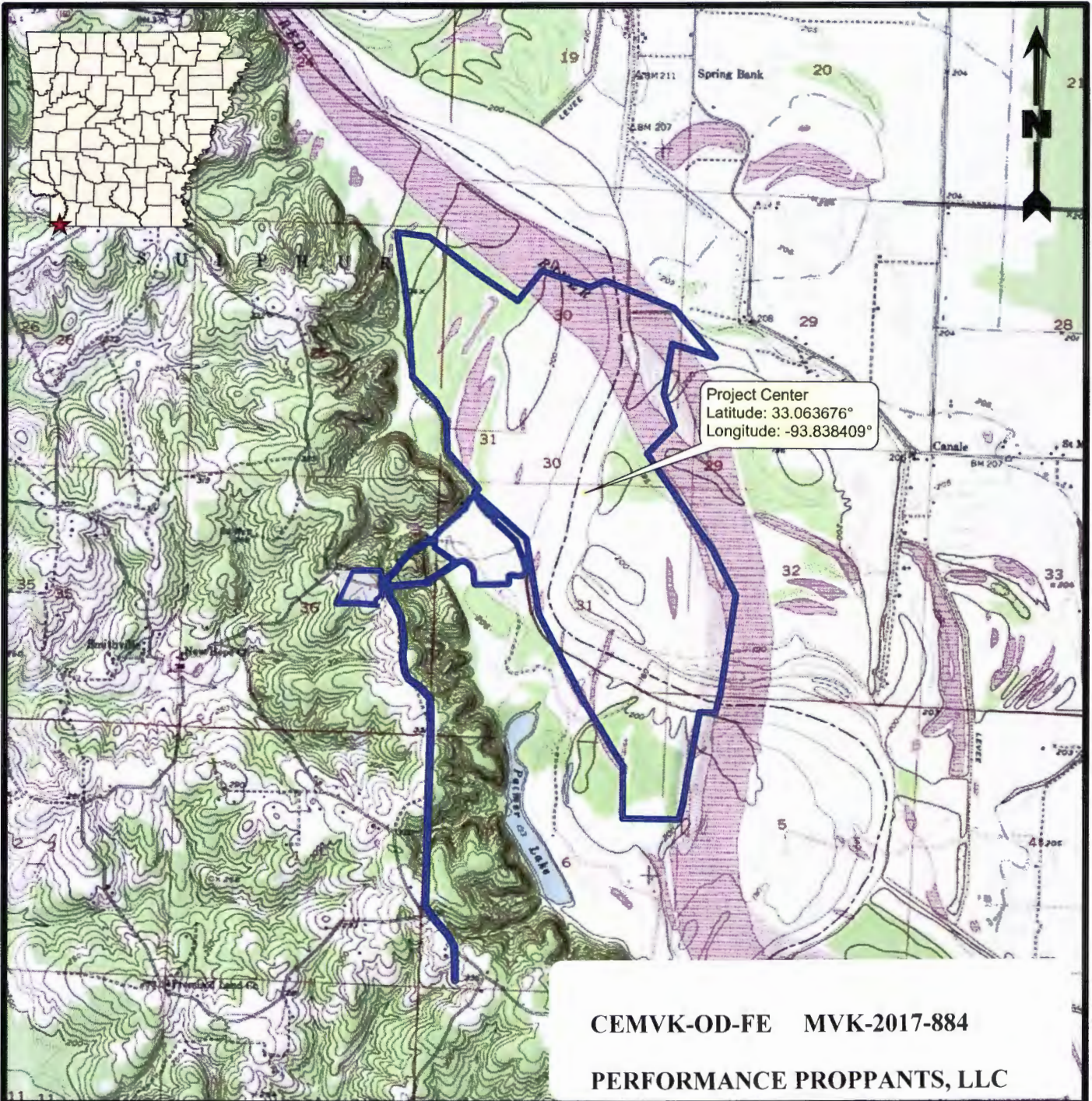
Performance Proppants, LLC
 River Ridge Ranch



Drawn By	LMM	05/20/18
Checked By	LMH	05/20/18
Approved By	TS	05/20/18

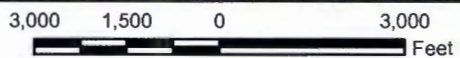
Project Number	1148-003-001
Drawing Number	1148-003-001-A055

1
Figure




CEMVK-OD-FE MVK-2017-884

PERFORMANCE PROPPANTS, LLC



Legend

 Project Area (1,056.32 Acres)

Reference

Base map comprised of United States Geological Survey 7.5-minute topographic maps, "Doddridge, AR" and "Doddridge SE, AR".

Site Location Map

Section 10/404 Permit Application
Miller County, Arkansas

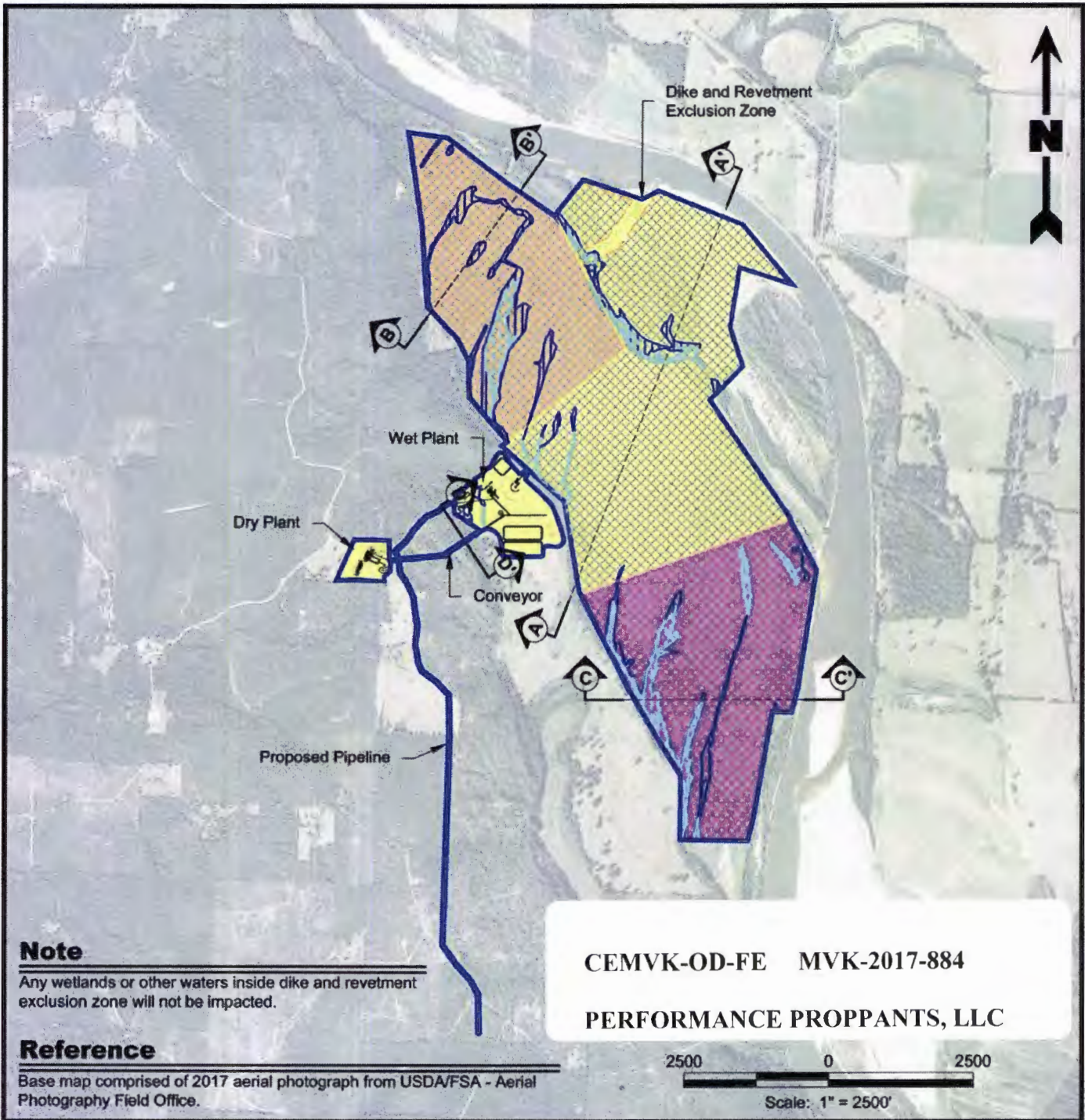
Performance Proppants, LLC
River Ridge Ranch



PROVIDENCE

Drawn By	LMM	05/20/18
Checked By	LMH	05/20/18
Approved By	TS	05/20/18

Project Number	2 Figure
1148-003-001	
Drawing Number	
1148-003-001-A056	



Note

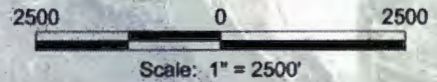
Any wetlands or other waters inside dike and revetment exclusion zone will not be impacted.

Reference

Base map comprised of 2017 aerial photograph from USDA/FSA - Aerial Photography Field Office.

CEMVK-OD-FE MVK-2017-884

PERFORMANCE PROPPANTS, LLC



Legend

- Project Area (1,056.32 Acres)
- Dike and Revetment Exclusion Zone (10.57 Acres)
- Impacted Jurisdictional Wetlands (52.37 Acres)
- Temporary Impacted Jurisdictional Wetlands (0.12 Acre)
- Impacted Other Waters of The U.S. (36.55 Acres)
- Temporary Impacted Other Waters of The U.S. (0.04 Acre)
- Phase 1 Area (499.73 Acres) - Excludes Dike and Revetment Area
- Phase 2 Area (248.20 Acres)
- Phase 3 Area (297.82 Acres)
- Proposed Excavation Area

Site Plan

Section 10/404 Permit Application
Miller County, Arkansas

Performance Proppants, LLC
River Ridge Ranch



Drawn By	LMM	08/13/18
Checked By	LMH	08/13/18
Approved By	TS	08/13/18

Project Number	3
1148-003-001	
Drawing Number	Figure
1148-003-001-A057	

See Figure 4b

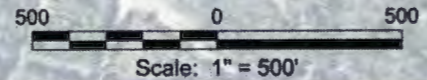


Temporary Impact Other Waters
(32 Linear Feet)

Proposed Pipeline (10,920 Linear Feet)

Temporary Impact Other Waters
(45 Linear Feet)

Pipeline Point of Beginning
Latitude: -93.846557°
Longitude: 33.035559°



CEMVK-OD-FE MVK-2017-884
PERFORMANCE PROPPANTS, LLC






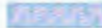




Note

Any wetlands or other waters inside dike and revetment exclusion zone will not be impacted.

Reference

Base map comprised of 2017 aerial photograph from USDA/FSA - Aerial Photography Field Office.

Legend

-  Project Area (1,056.32 Acres)
-  Dike and Revetment Exclusion Zone (10.57 Acres)
-  Impacted Jurisdictional Wetlands (12.50 Acres)
-  Temporary Impacted Jurisdictional Wetlands (0.12 Acre)
-  Impacted Other Waters of The U.S. (5.01 Acres)
-  Temporary Impacted Other Waters of The U.S. (0.04 Acre)
-  Phase 1 Area (499.73 Acres) - Excludes Dike and Revetment Area
-  Phase 2 Area (248.20 Acres)
-  Phase 3 Area (297.82 Acres)
-  Proposed Excavation Area

**Site Plan
Phase I**

Section 10/404 Permit Application
Miller County, Arkansas

Performance Proppants, LLC
River Ridge Ranch



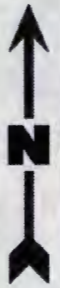
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Checked By	TS	08/13/18
Approved By	TS	08/13/18

Project Number
1148-003-001

Drawing Number
1148-003-001-A058

4a
Figure

See Figure 4c



Proposed Pipeline (10,920 Linear Feet)

Note

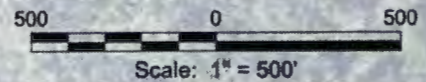
Any wetlands or other waters inside dike and revetment exclusion zone will not be impacted.

Reference











Base map comprised of 2017 aerial photograph from USDA/FSA - Aerial Photography Field Office.

CEMVK-OD-FE MVK-2017-884

PERFORMANCE PROPPANTS, LLC



Legend

-  Project Area (1,056.32 Acres)
-  Dike and Revetment Exclusion Zone (10.57 Acres)
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-  Phase 3 Area (297.82 Acres)
-  Proposed Excavation Area

**Site Plan
Phase I**

Section 10/404 Permit Application
Miller County, Arkansas

Performance Proppants, LLC
River Ridge Ranch



Drawn By	LMM	08/13/18
Checked By	TS	08/13/18
Approved By	TS	08/13/18

Project Number	4b Figure
1148-003-001	
Drawing Number	
1148-003-001-A059	

CEMVK-OD-FE MVK-2017-884

PERFORMANCE PROPPANTS, LLC

Pipeline Point of Ending
Latitude: -93.846392°
Longitude: 33.061083°

Wet Plant

Permanent Conversion PFO Wetlands
(0.01 Acre)

Temporarily Impacted PEM Wetlands
(0.10 Acre)

Temporary Impacted Other Waters
(88 Linear Feet)

Temporary Impacted Other Waters
(89 Linear Feet)

Dry Plant

Permanent Impacted
Other Waters
(395 Linear Feet)

Temporary Impacted Other
Waters (33 Linear Feet)

Temporary Impacted Other Waters
(43 Linear Feet)

Proposed Pipeline (10,920 Linear Feet)

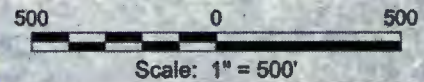
See Figure 4d

Note

Any wetlands or other waters inside dike and revetment exclusion zone will not be impacted.

Reference

Base map comprised of 2017 aerial photograph from USDA/FSA - Aerial Photography Field Office.



Legend

- Project Area (1,056.32 Acres)
- Dike and Revetment Exclusion Zone (10.57 Acres)
- Impacted Jurisdictional Wetlands (12.50 Acres)
- Temporary Impacted Jurisdictional Wetlands (0.12 Acre)
- Impacted Other Waters of The U.S. (5.01 Acres)
- Temporary Impacted Other Waters of The U.S. (0.04 Acre)
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- Phase 2 Area (248.20 Acres)
- Phase 3 Area (297.82 Acres)
- Proposed Excavation Area

**Site Plan
Phase I**

Section 10/404 Permit Application
Miller County, Arkansas

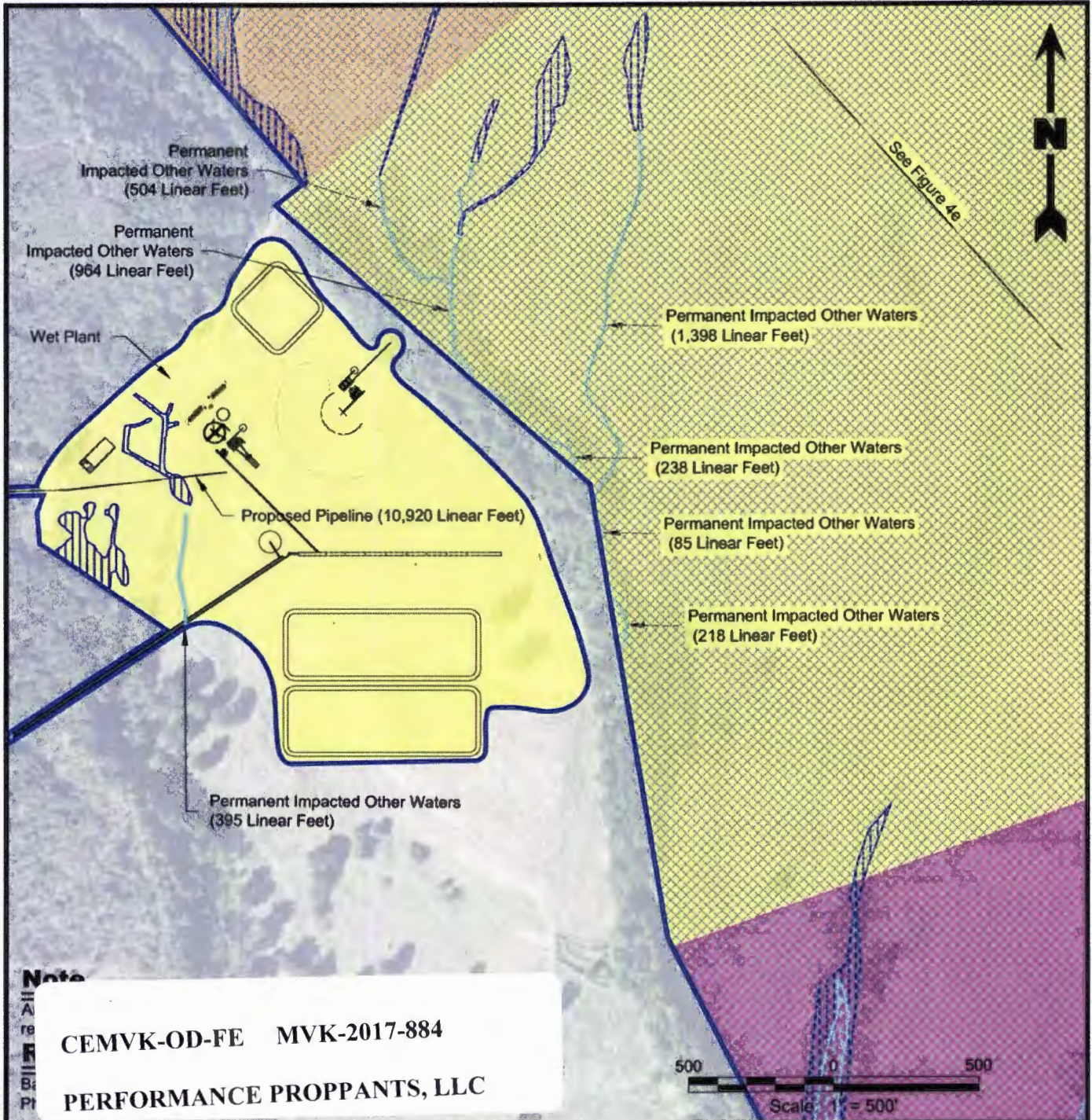
Performance Proppants, LLC
River Ridge Ranch



Drawn By	LMM	08/13/18
Checked By	TS	08/13/18
Approved By	TS	08/13/18

Project Number	1148-003-001
Drawing Number	1148-003-001-A060

4c
Figure



Legend

- Project Area (1,056.32 Acres)
- Dike and Revetment Exclusion Zone (10.57 Acres)
- Impacted Jurisdictional Wetlands (12.50 Acres)
- Temporary Impacted Jurisdictional Wetlands (0.12 Acre)
- Impacted Other Waters of The U.S. (5.01 Acres)
- Temporary Impacted Other Waters of The U.S. (0.04 Acre)
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- Phase 2 Area (248.20 Acres)
- Phase 3 Area (297.82 Acres)
- Proposed Excavation Area

**Site Plan
Phase I**

Section 10/404 Permit Application
Miller County, Arkansas

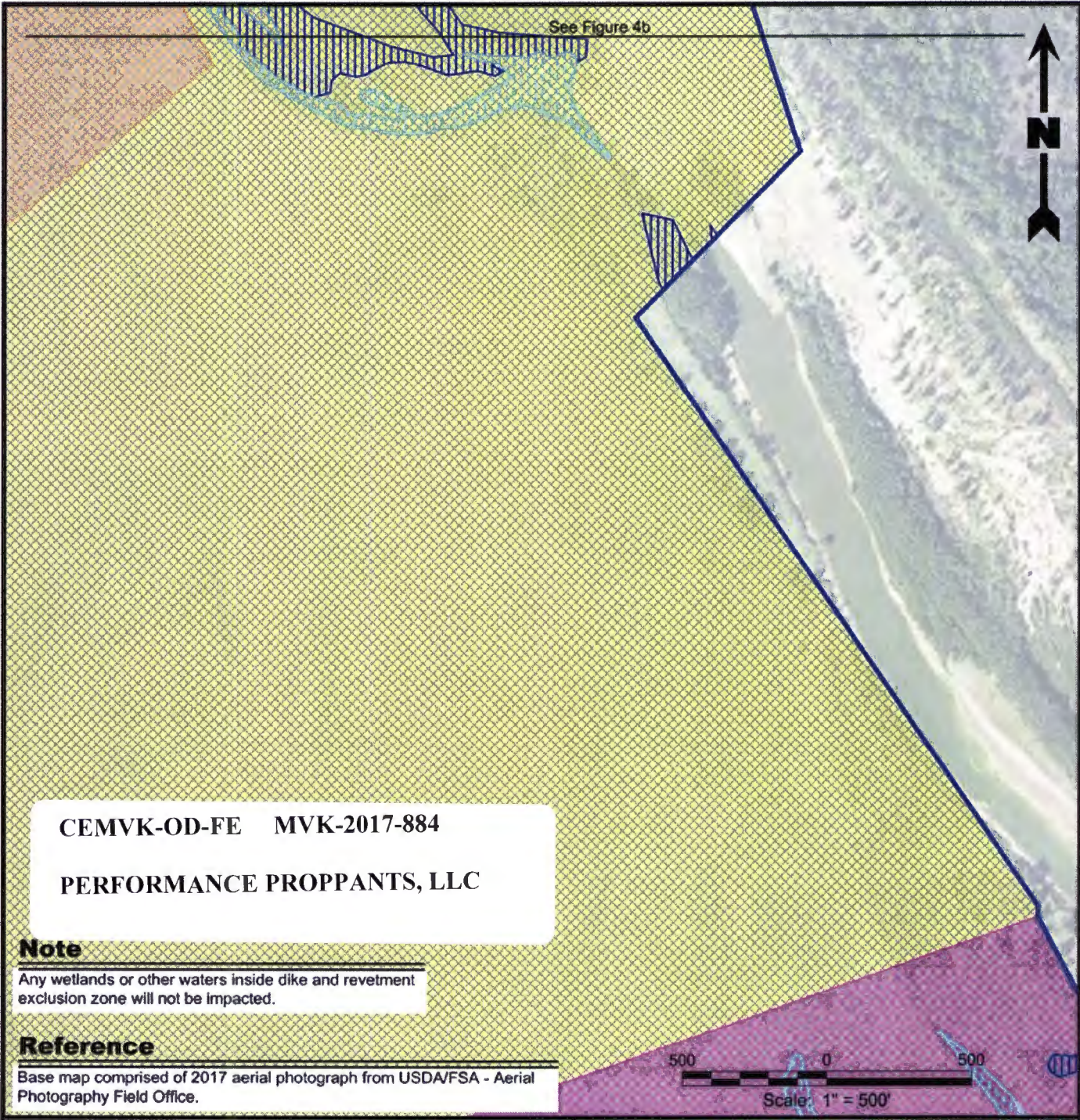
Performance Proppants, LLC
River Ridge Ranch



Drawn By	LMM	08/13/18
Checked By	TS	08/13/18
Approved By	TS	08/13/18

Project Number	1148-003-001
Drawing Number	1148-003-001-A061

4d
Figure



Legend

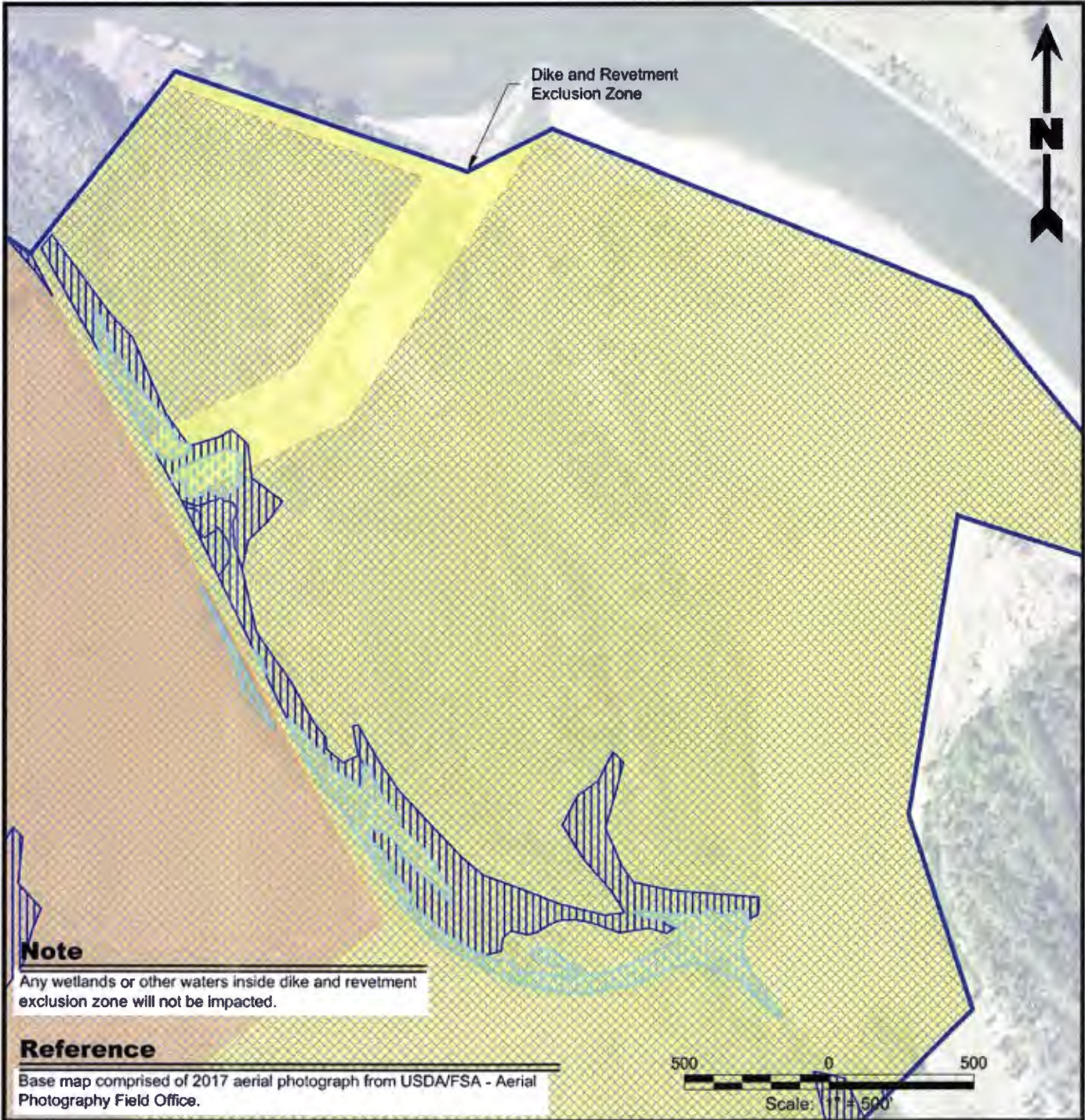
	Project Area (1,056.32 Acres)
	Dike and Revetment Exclusion Zone (10.57 Acres)
	Impacted Jurisdictional Wetlands (12.50 Acres)
	Temporary Impacted Jurisdictional Wetlands (0.12 Acre)
	Impacted Other Waters of The U.S. (5.01 Acres)
	Temporary Impacted Other Waters of The U.S. (0.04 Acre)
	Phase 1 Area (499.73 Acres) - Excludes Dike and Revetment Area
	Phase 2 Area (248.20 Acres)
	Phase 3 Area (297.82 Acres)
	Proposed Excavation Area

**Site Plan
Phase I**

Section 10/404 Permit Application
Miller County, Arkansas

Performance Proppants, LLC
River Ridge Ranch

	Drawn By	LMM	08/13/18
	Checked By	TS	08/13/18
	Approved By	08/13/18	05/20/18
Project Number		1148-003-001	
Drawing Number		1148-003-001-A062	
			4e
			Figure



Note

Any wetlands or other waters inside dike and revetment exclusion zone will not be impacted.

Reference

Base map comprised of 2017 aerial photograph from USDA/FSA - Aerial Photography Field Office.



Legend

- Project Area (1,056.32 Acres)
- Dike and Revetment Exclusion Zone (10.57 Acres)
- Impacted Jurisdictional Wetlands (12.50 Acres)
- Temporary Impacted Jurisdictional Wetlands (0.12 Acre)
- Impacted Other Waters of The U.S. (5.01 Acres)
- Temporary Impacted Other Waters of The U.S. (0.04 Acre)
- Phase 1 Area (499.73 Acres) - Excludes Dike and Revetment Area
- Phase 2 Area (248.20 Acres)
- Phase 3 Area (297.82 Acres)
- Proposed Exc Area

**Site Plan
Phase I**

Section 10/404 Permit Application
Miller County, Arkansas

Performance Proppants, LLC
River Ridge Ranch



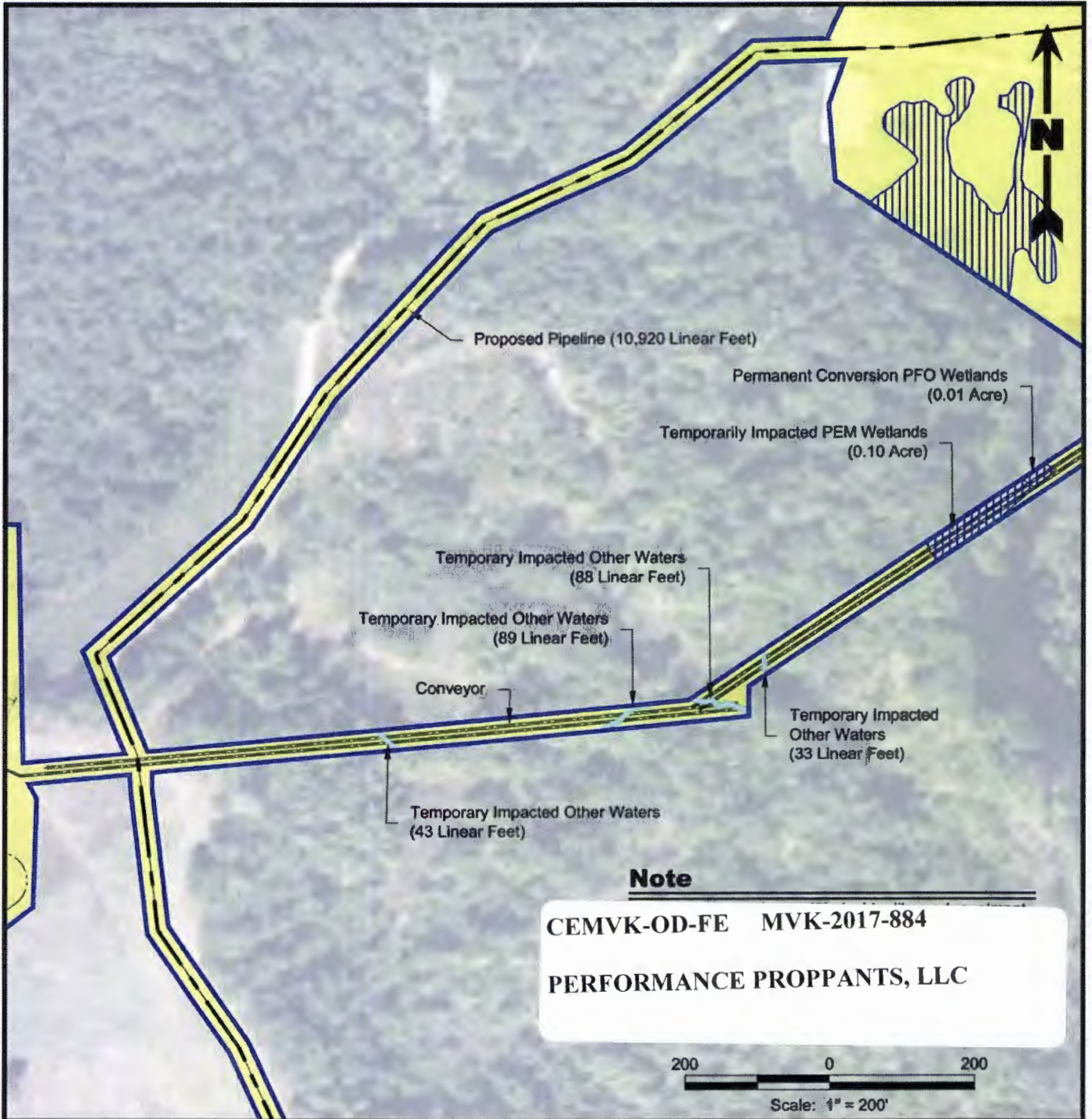
Drawn By	LMM	08/13/18
Checked By	TS	08/13/18
Approved By	TS	08/13/18
Project Number		



CEMVK-OD-FE MVK-2017-884

PERFORMANCE PROPPANTS, LLC

Providence Engineering and Environmental Group LLC



Legend

- Project Area (1,056.32 Acres)
- Dike and Revetment Exclusion Zone (10.57 Acres)
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- Phase 3 Area (297.82 Acres)
- Proposed Excavation Area

**Site Plan
Phase I**

Section 10/404 Permit Application
Miller County, Arkansas

Performance Proppants, LLC
River Ridge Ranch



Drawn By	LMM	08/13/18
Checked By	TS	08/13/18
Approved By	TS	08/13/18

Project Number	1148-003-001
Drawing Number	1148-003-001-A064

4g
Figure

See Figure 5b

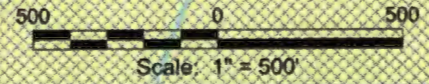


Note

Any wetlands or other waters inside dike and revetment exclusion zone will not be impacted.

Reference

Base map comprised of 2017 aerial photograph from USDA/FSA - Aerial Photography Field Office.



Legend

-  Project Area (1,056.32 Acres)
-  Dike and Revetment Exclusion Zone (10.57 Acres)
-  Impacted Jurisdictional Wetlands (26.71 Acres)
-  Impacted Other Waters of The U.S. (10.67 Acres)
-  Phase 1 Area (499.73 Acres) - Excludes Dike and Revetment Area
-  Phase 2 Area (248.20 Acres)
-  Phase 3 Area (297.82 Acres)
-  Proposed Excavation Area

**Site Plan
Phase II**

Section 10/404 Permit Application
Miller County, Arkansas

Performance Proppants, LLC
River Ridge Ranch



Drawn By	LMM	08/13/18
Checked By	TS	08/13/18
Approved By	TS	08/13/18

5a
Figure

CEMVK-OD-FE MVK-2017-884

PERFORMANCE PROPPANTS, LLC

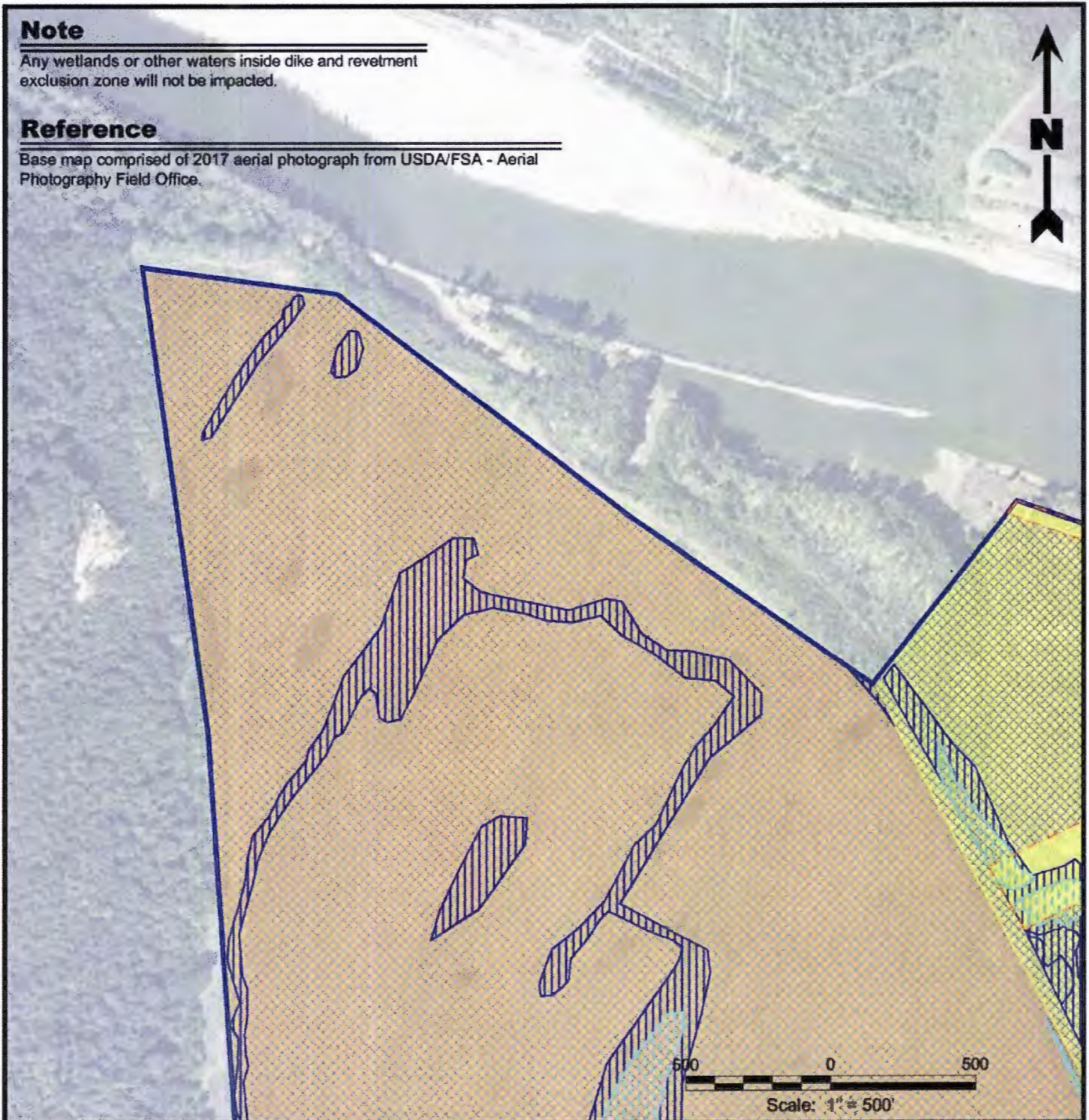
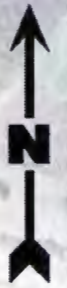
Providence Engineering and Environmental Group, LLC

Note

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Reference

Base map comprised of 2017 aerial photograph from USDA/FSA - Aerial Photography Field Office.



Legend

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- Proposed Excavation Area

**Site Plan
Phase II**

Section 10/404 Permit Application
Miller County, Arkansas

Performance Proppants, LLC
River Ridge Ranch



Drawn By	LMM	05/20/18
Checked By	TS	05/20/18
Approved By	TS	05/20/18

CEMVK-OD-FE MVK-2017-884

PERFORMANCE PROPPANTS, LLC

5b

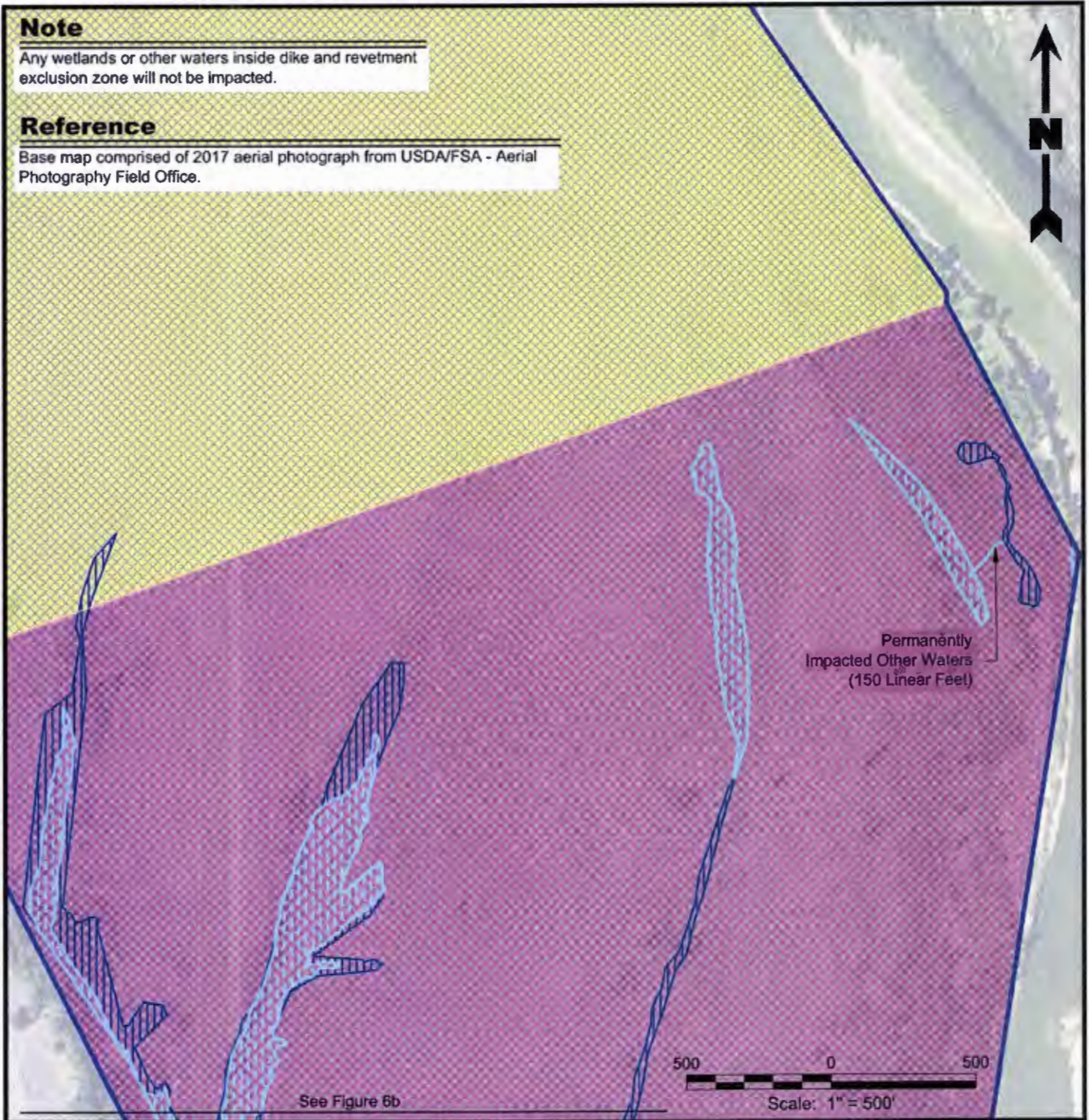
Figure

Note

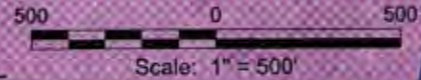
Any wetlands or other waters inside dike and revetment exclusion zone will not be impacted.

Reference

Base map comprised of 2017 aerial photograph from USDA/FSA - Aerial Photography Field Office.



See Figure 6b



Legend

- Project Area (1,056.32 Acres)
- Dike and Revetment Exclusion Zone (10.57 Acres)
- Impacted Jurisdictional Wetlands (13.04 Acres)
- Impacted Other Waters of The U.S. (20.14 Acres)
- Phase 1 Area (499.73 Acres) - Excludes Dike and Revetment Area
- Phase 2 Area (248.20 Acres)
- Phase 3 Area (297.82 Acres)
- Proposed Excavation Area

**Site Plan
Phase III**

Section 10/404 Permit Application
Miller County, Arkansas

Performance Proppants, LLC
River Ridge Ranch



Drawn By	LMM	08/13/18
Checked By	TS	08/13/18
Approved By	TS	08/13/18

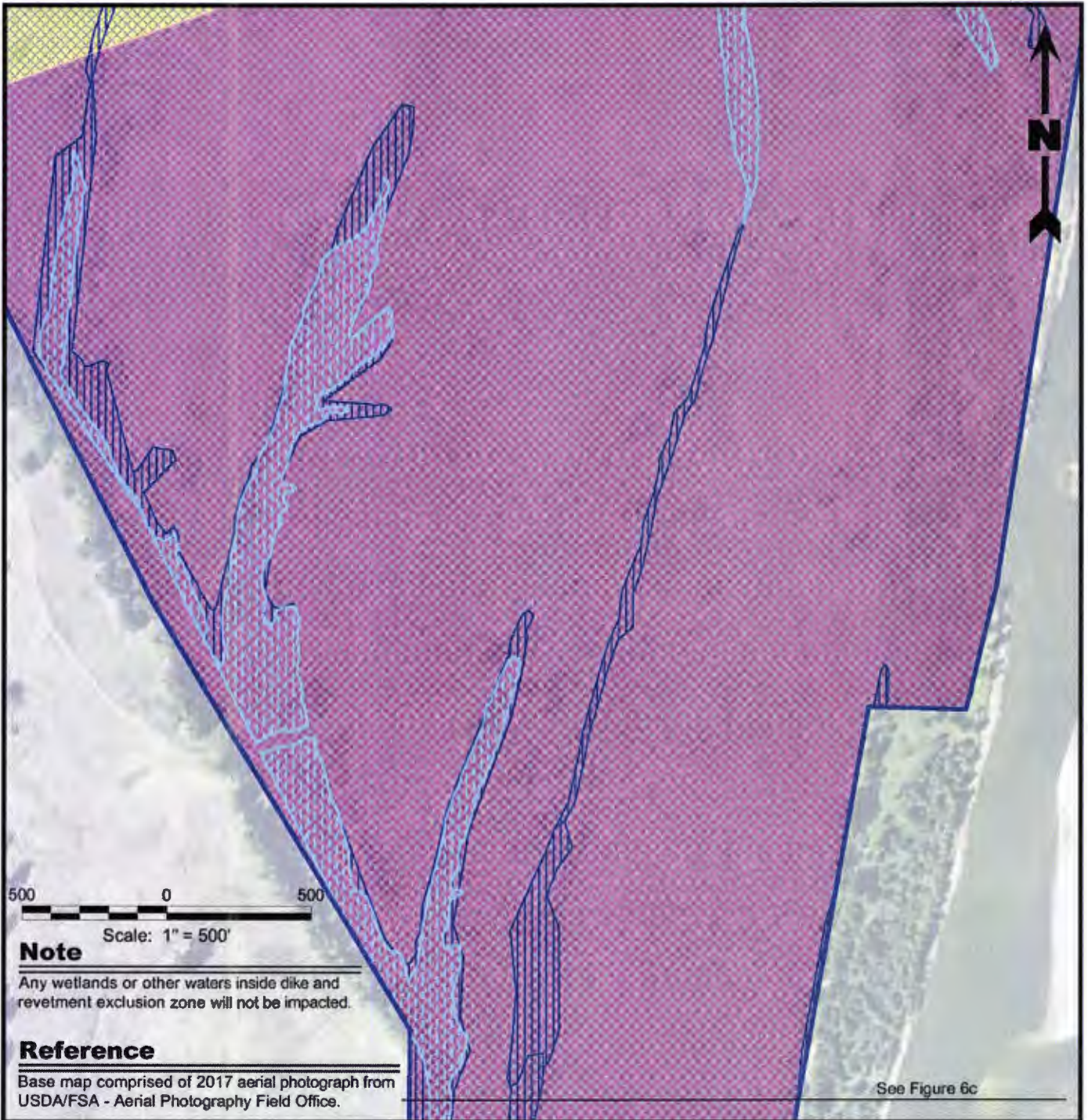
6a

Figure

CEMVK-OD-FE MVK-2017-884

PERFORMANCE PROPPANTS, LLC

Providence Engineering and Environmental Group LLC



500 0 500
 Scale: 1" = 500'

Note
 Any wetlands or other waters inside dike and revetment exclusion zone will not be impacted.

Reference
 Base map comprised of 2017 aerial photograph from USDA/FSA - Aerial Photography Field Office.

See Figure 6c

Legend

- Project Area (1,056.32 Acres)
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**Site Plan
 Phase III**

Section 10/404 Permit Application
 Miller County, Arkansas

Performance Proppants, LLC
 River Ridge Ranch



Drawn By	LMM	05/20/18
Checked By	TS	05/20/18
Approved By	TS	05/20/18

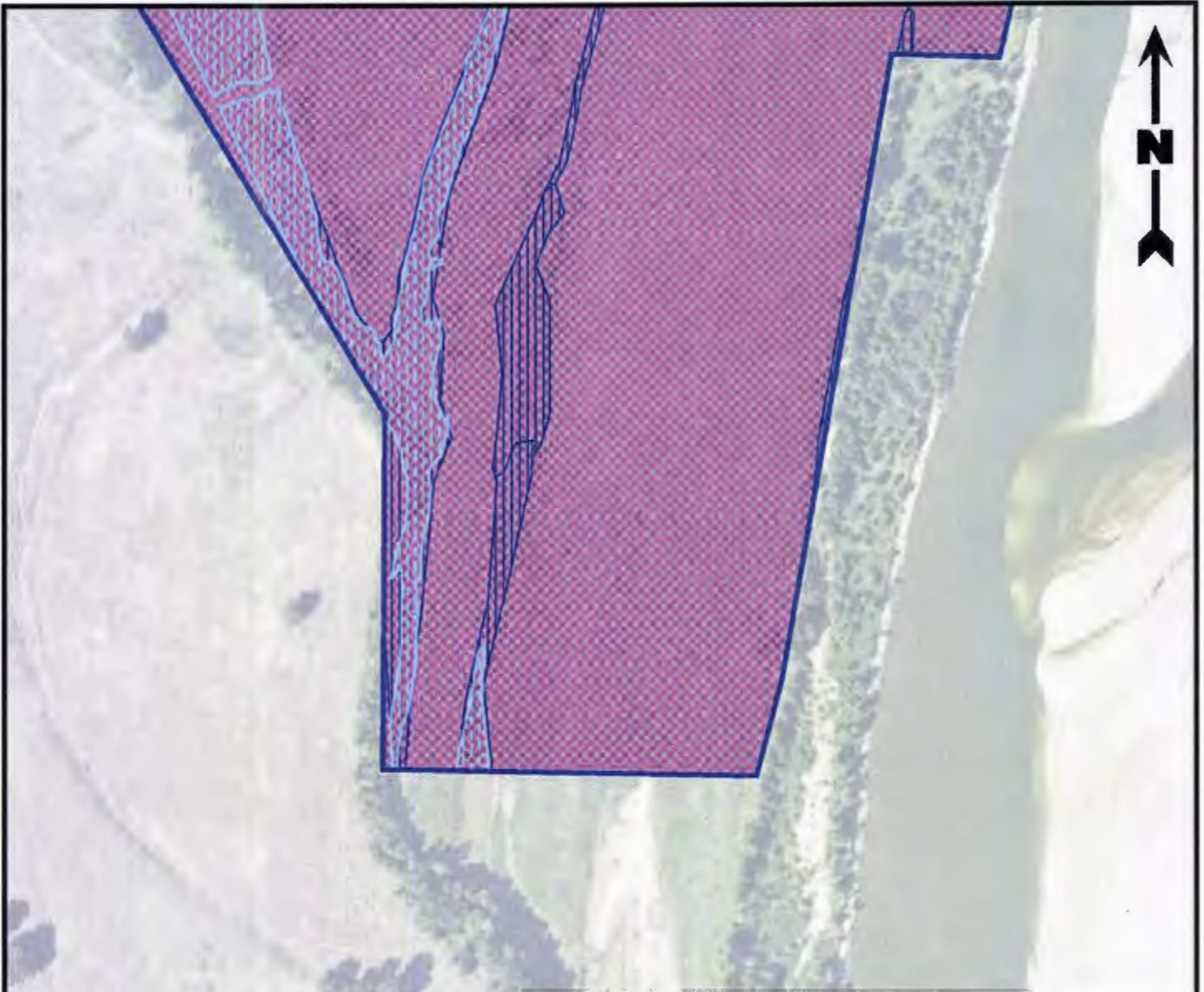
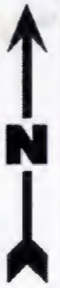
Project Number

CEMVK-OD-FE MVK-2017-884

6b

Figure

PERFORMANCE PROPPANTS, LLC



CEMVK-OD-FE MVK-2017-884

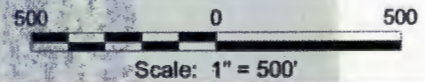
PERFORMANCE PROPPANTS, LLC

Note

Any wetlands or other waters inside dike and revetment exclusion zone will not be impacted.

Reference

Base map comprised of 2017 aerial photograph from USDA/FSA - Aerial Photography Field Office.



Legend

- Project Area (1,056.32 Acres)
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**Site Plan
Phase III**

Section 10/404 Permit Application
Miller County, Arkansas

Performance Proppants, LLC
River Ridge Ranch

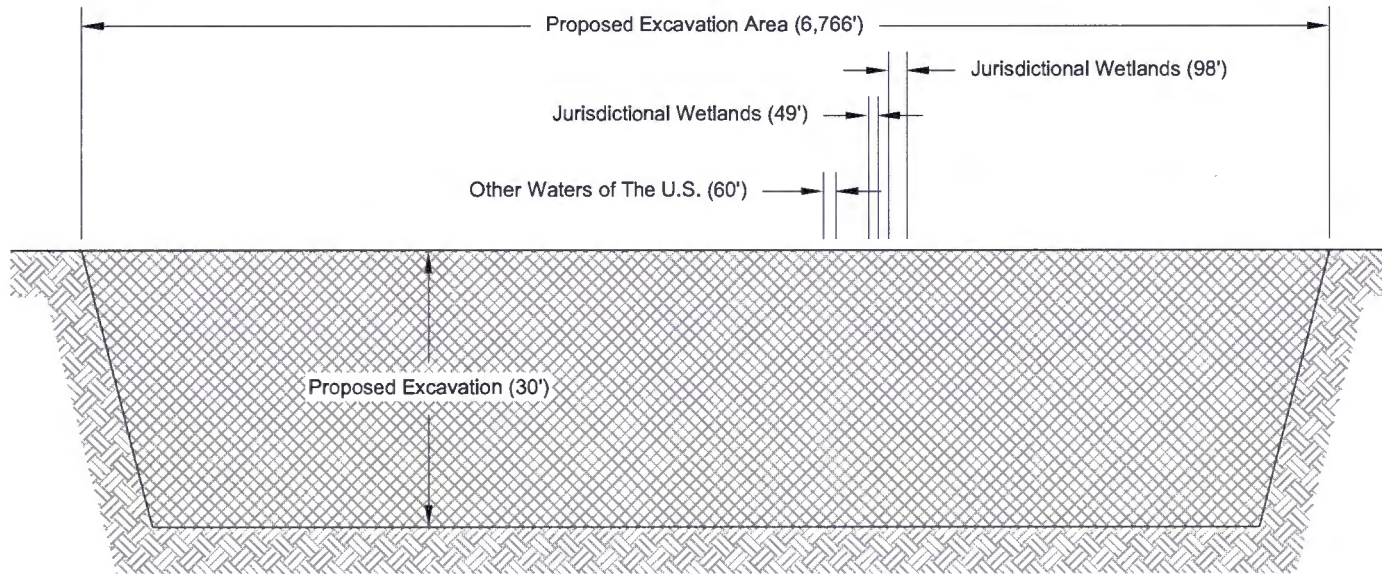


PROVIDENCE

Drawn By	LMM	05/20/18
Checked By	TS	05/20/18
Approved By	TS	05/20/18

Project Number	1148-003-001
Drawing Number	1148-003-001-A054

6c
Figure

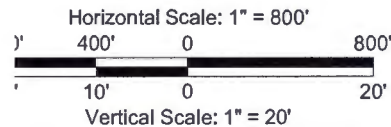


Cross Section A-A'

Horizontal Scale: 1" = 800'
Vertical Scale: 1" = 20'

CEMVK-OD-FE MVK-2017-884

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Cross Section A-A'

Section 10/404 Permit Application
Miller County, Arkansas

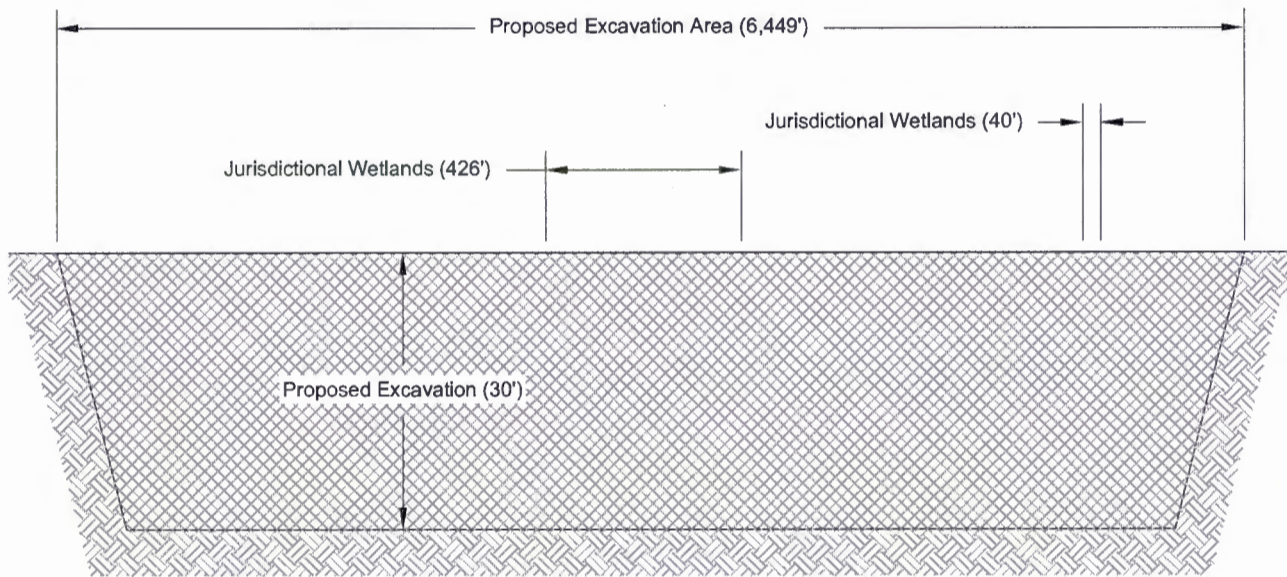
Performance Proppants, LLC
River Ridge Ranch



Drawn By	LMM	05/08/18
Checked By	LMH	05/08/18
Approved By	TS	05/08/18

Project Number	1148-003-001
Drawing Number	1148-003-001-A022

7a
Figure



Cross Section B-B'

Horizontal Scale: 1" = 400'
 Vertical Scale: 1" = 20'

Cross Section B-B'

Section 10/404 Permit Application
 Miller County, Arkansas

Performance Proppants, LLC
 River Ridge Ranch



PROVIDENCE

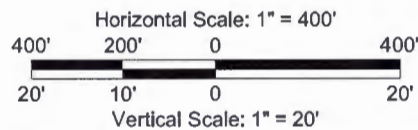
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Checked By	LMH	05/08/18
Approved By	TS	05/08/18

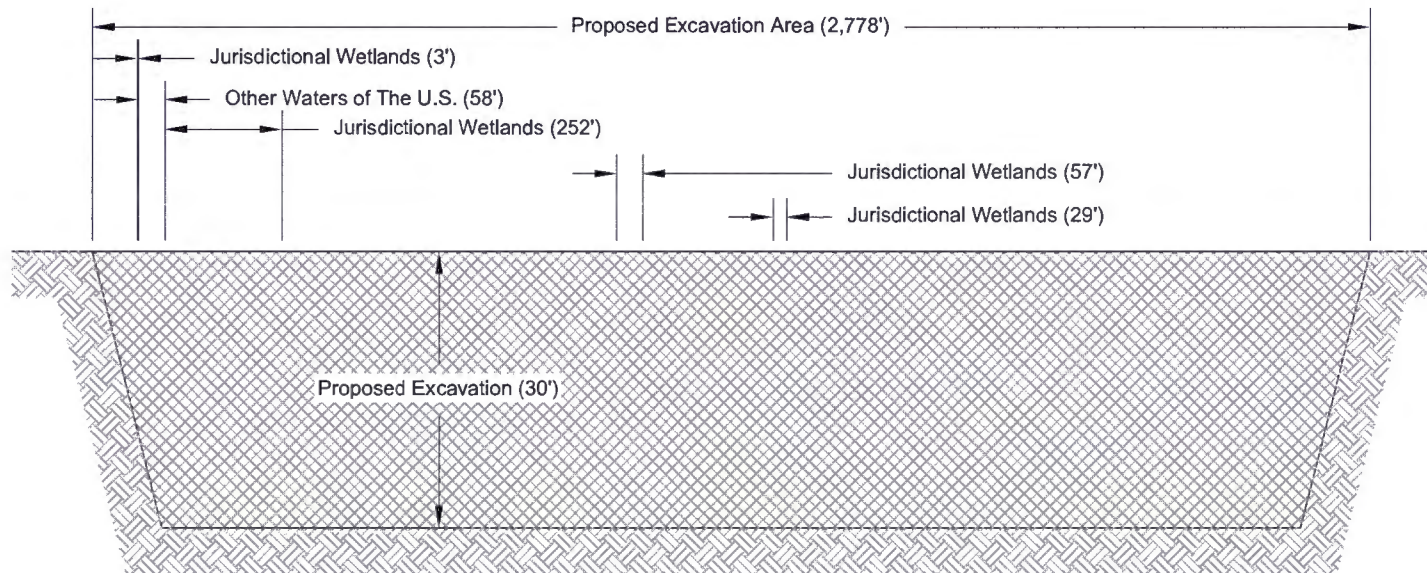
Project Number	1148-003-001
Drawing Number	1148-003-001-A035

7b
 Figure

CEMVK-OD-FE MVK-2017-884

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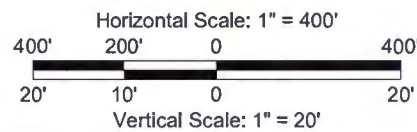
Cross Section C-C'

Horizontal Scale: 1" = 400'

Vertical Scale: 1" = 20'

CEMVK-OD-FE MVK-2017-884

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Cross Section C-C'

Section 10/404 Permit Application
Miller County, Arkansas

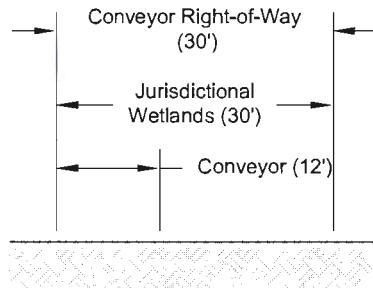
Performance Proppants, LLC
River Ridge Ranch



Drawn By	LMM	05/08/18
Checked By	LMH	05/08/18
Approved By	TS	05/08/18

Project Number	1148-003-001
Drawing Number	1148-003-001-A036

7c
Figure

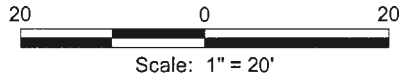


Cross Section D-D'

Scale: 1" = 20'

CEMVK-OD-FE MVK-2017-884

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Cross Section D-D'

Section 10/404 Permit Application
Miller County, Arkansas

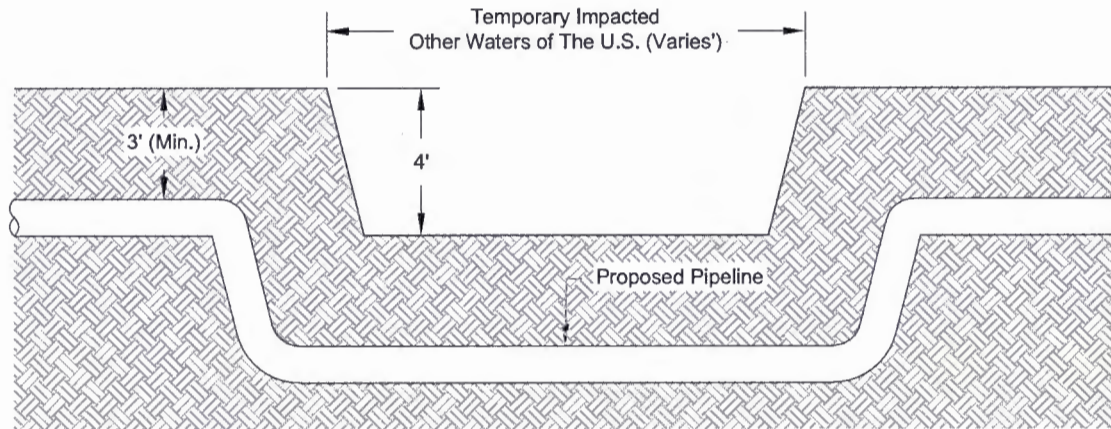
Performance Proppants, LLC
River Ridge Ranch



Drawn By	LMM	05/08/18
Checked By	LMH	05/08/18
Approved By	TS	05/08/18

Project Number	1148-003-001
Drawing Number	1148-003-001-A037

7d
Figure

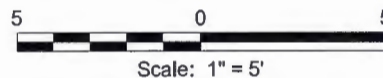


Typical Pipeline Profile

Scale: 1" = 5'

CEMVK-OD-FE MVK-2017-884

PERFORMANCE PROPPANTS, LLC



Typical Pipeline Profile

Section 10/404 Permit Application
Miller County, Arkansas

Performance Proppants, LLC
River Ridge Ranch



Drawn By	LMM	05/08/18
Checked By	LMH	05/08/18
Approved By	TS	05/08/18

Project Number	1148-003-001
Drawing Number	1148-003-001-A038

7e
Figure