Haley Griffith (adpce.ad)

From: Haley.Griffith@arkansas.gov
Subject: RE: City of Morrilton Pre-Application

From: Melissa Vaught <mvaught@olsson.com>
Sent: Wednesday, July 9, 2025 7:13 AM
To: Jennifer Pearson (adpce.ad) <Jennifer.Pearson@arkansas.gov>
Cc: Bill Sadler (adpce.ad) <bill.r.sadler@arkansas.gov>; Richard Bennett (adpce.ad) <richard.bennett@arkansas.gov>; Andrew Pruitt <apruitt@olsson.com>; Paul Crawford <pcrawford@olsson.com>
Subject: RE: City of Morrilton Pre-Application

Jenny – Good morning. The attached soils map and soils descriptions were obtained from the NCRS Web Soil Survey (https://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx).

If you have further questions or need anything additional for your review of the pre-application, please let me know.

Thank you,

Melissa Vaught, P.E.
C 210.219.2335

3537 N. Steele Blvd, Suite 310
Fayetteville, AR 72703
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From: Jennifer Pearson (adpce.ad) <Jennifer.Pearson@arkansas.gov>
Sent: Tuesday, July 8, 2025 2:35 PM
To: Melissa Vaught <mvaught@olsson.com>
Cc: Bill Sadler (adpce.ad) <Bill.R.Sadler@arkansas.gov>; Richard Bennett (adpce.ad) <Richard.Bennett@arkansas.gov>
Subject: City of Morrilton Pre-Application

Hi Melissa,

I'm reviewing part of the City of Morrilton pre-application. Would you please provide a copy of the reference document, the reference document title and publication information, or a Uniform Resource Locator (URL) to the reference materials from the Natural Resources Conservation Service (US Department of Agriculture (USDA), 2024) that is discussed in the first paragraph of section 3.1 Site Soil Conditions in the pre-application narrative?

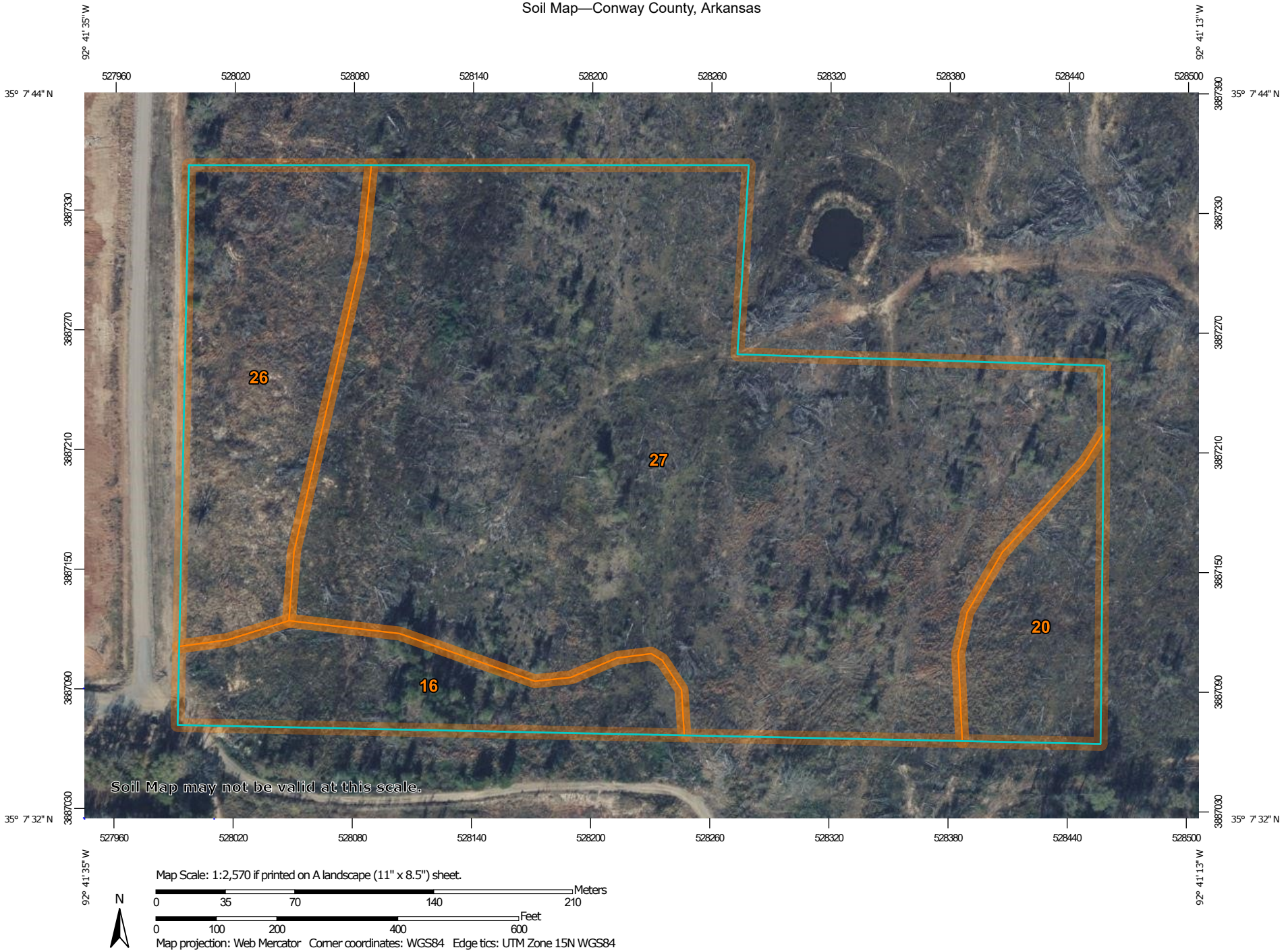
Whichever one of those you are able to email to me, I'll then make sure the email response and reference is attached to the ePortal submission.

Thank you,

Jenny Pearson, P.G. | Professional Geologist
Energy & Environment | Office of Land Resources
Assessment & Remediation | Groundwater Branch
5301 Northshore Drive | North Little Rock, AR 72118
t: 501.682.0598 | e: jennifer.pearson@arkansas.gov

ARKANSAS
ENERGY & ENVIRONMENT

Soil Map—Conway County, Arkansas



Map Scale: 1:2,570 if printed on A landscape (11" x 8.5") sheet.

N

Meters: 0 35 70 140 210

Feet: 0 100 200 400 600

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 15N WGS84

MAP LEGEND

Area of Interest (AOI)

- Area of Interest (AOI)

Soils

- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features

- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features

- Streams and Canals

Transportation

- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background

- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Conway County, Arkansas
Survey Area Data: Version 23, Sep 9, 2024

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Nov 19, 2020—Nov 28, 2020

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
16	Linker fine sandy loam, 3 to 8 percent slopes	2.6	9.0%
20	McKamie silt loam, 8 to 12 percent slopes	1.9	6.8%
26	Muskogee silt loam, 1 to 3 percent slopes	4.3	15.0%
27	Muskogee silt loam, 3 to 8 percent slopes	19.6	69.2%
Totals for Area of Interest		**28.4**	**100.0%**

Conway County, Arkansas

27—Muskogee silt loam, 3 to 8 percent slopes

Map Unit Setting

National map unit symbol: lzbj
Elevation: 300 to 800 feet
Mean annual precipitation: 26 to 57 inches
Mean annual air temperature: 49 to 73 degrees F
Frost-free period: 205 to 265 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Muskogee and similar soils: 90 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Muskogee

Setting

Landform: Stream terraces
Landform position (three-dimensional): Riser
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Silty and clayey alluvium

Typical profile

A - 0 to 13 inches: silt loam
Bt1 - 13 to 34 inches: silty clay loam
Bt2 - 34 to 81 inches: silty clay

Properties and qualities

Slope: 3 to 8 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Moderately well drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: About 12 to 24 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: High (about 10.5 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3e
Hydrologic Soil Group: C/D
Ecological site: F118AY003AR - Rarely Flooded Terrace
Hydric soil rating: No

Minor Components

Wrightsville

Percent of map unit: 5 percent
Landform: Stream terraces
Ecological site: R118AY004AR - Clayey Flood Plain
Hydric soil rating: Yes

Aqualfs

Percent of map unit: 5 percent
Landform: Depressions
Down-slope shape: Concave
Across-slope shape: Convex
Hydric soil rating: Yes

Data Source Information

Soil Survey Area: Conway County, Arkansas
Survey Area Data: Version 23, Sep 9, 2024

Conway County, Arkansas

26—Muskogee silt loam, 1 to 3 percent slopes

Map Unit Setting

National map unit symbol: lzbh
Elevation: 300 to 800 feet
Mean annual precipitation: 26 to 57 inches
Mean annual air temperature: 49 to 73 degrees F
Frost-free period: 205 to 265 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Muskogee and similar soils: 90 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Muskogee

Setting

Landform: Stream terraces
Landform position (three-dimensional): Tread
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Silty and clayey alluvium

Typical profile

A - 0 to 13 inches: silt loam
Bt1 - 13 to 34 inches: silty clay loam
Bt2 - 34 to 81 inches: silty clay

Properties and qualities

Slope: 1 to 3 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Moderately well drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: About 12 to 24 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: High (about 10.5 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2e
Hydrologic Soil Group: C/D
Ecological site: F118AY003AR - Rarely Flooded Terrace
Hydric soil rating: No

Minor Components

Wrightsville

Percent of map unit: 5 percent
Landform: Stream terraces
Ecological site: R118AY004AR - Clayey Flood Plain
Hydric soil rating: Yes

Aqualfs

Percent of map unit: 5 percent
Landform: Depressions
Down-slope shape: Concave
Across-slope shape: Convex
Hydric soil rating: Yes

Data Source Information

Soil Survey Area: Conway County, Arkansas
Survey Area Data: Version 23, Sep 9, 2024

Conway County, Arkansas

16—Linker fine sandy loam, 3 to 8 percent slopes

Map Unit Setting

National map unit symbol: 2sp0t
Elevation: 190 to 2,720 feet
Mean annual precipitation: 45 to 58 inches
Mean annual air temperature: 55 to 63 degrees F
Frost-free period: 200 to 260 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Linker and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Linker

Setting

Landform: Hills, mountains
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Mountaintop, interfluve
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Loamy residuum weathered from sandstone

Typical profile

Ap - 0 to 4 inches: fine sandy loam
E - 4 to 14 inches: fine sandy loam
Bt1 - 14 to 24 inches: sandy clay loam
Bt2 - 24 to 37 inches: sandy clay loam
R - 37 to 47 inches: bedrock

Properties and qualities

Slope: 3 to 8 percent
Depth to restrictive feature: 20 to 40 inches to lithic bedrock
Drainage class: Well drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Sodium adsorption ratio, maximum: 0.1
Available water supply, 0 to 60 inches: Low (about 5.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3e
Hydrologic Soil Group: C

Ecological site: R118AY002AR - Loamy Upland
Hydric soil rating: No

Minor Components

Mountainburg

Percent of map unit: 11 percent
Landform: Hills
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Interfluve
Down-slope shape: Convex
Across-slope shape: Convex
Ecological site: F118AY001AR - Shallow Upland
Hydric soil rating: No

Enders

Percent of map unit: 4 percent
Landform: Hills
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Interfluve
Down-slope shape: Convex
Across-slope shape: Convex
Ecological site: F118AY005AR - Clayey Upland
Hydric soil rating: No

Data Source Information

Soil Survey Area: Conway County, Arkansas
Survey Area Data: Version 23, Sep 9, 2024

Conway County, Arkansas

20—McKamie silt loam, 8 to 12 percent slopes

Map Unit Setting

National map unit symbol: lzb9
Elevation: 50 to 250 feet
Mean annual precipitation: 26 to 57 inches
Mean annual air temperature: 49 to 73 degrees F
Frost-free period: 205 to 265 days
Farmland classification: Not prime farmland

Map Unit Composition

Mckamie and similar soils: 100 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Mckamie

Setting

Landform: Stream terraces
Landform position (three-dimensional): Riser
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Clayey alluvium

Typical profile

A - 0 to 8 inches: silt loam
Bt - 8 to 43 inches: clay
C - 43 to 63 inches: silty clay

Properties and qualities

Slope: 8 to 12 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: High (about 9.8 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6e
Hydrologic Soil Group: D
Ecological site: F118AY005AR - Clayey Upland

Hydric soil rating: No

Data Source Information

Soil Survey Area: Conway County, Arkansas
Survey Area Data: Version 23, Sep 9, 2024