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National Environmental Policy Act (NEPA) Environmental Assessment

Broadband Equity, Access, and Deployment Program

October 2023

NTIA

DEPARTMENT OF COMMERCE
UNITED STATES OF AMERICA

Environmental Assessment

Western Boundary and Pawhuska Indian Village Fiber Optic Line

Department of Commerce

National Telecommunications and Communications Service

October 2023

Osage County, Oklahoma

Prepared for:
The Osage Nation
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1.0 Executive Summary

This Environmental Assessment (EA) has been written to assess the installation of new buried and aerial fiber optic lines within the Osage Nation Tribal Land in Osage County, Oklahoma. The entirety of Osage County lies within the Osage Nation Tribal Land. This EA will analyze two (2) main routes as part of the entire proposed action. The main routes are the Western Boundary and the Pawhuska Indian Village. The routes will be installed within existing Rights-of-way (ROW) of State Highway 60, within other existing road ROWs, and along powerlines for the Pawhuska Indian Village in Osage County, Oklahoma. The proposed action mentioned in this EA will include both lines for analysis. The purpose of this EA is to evaluate the potential environmental impacts associated with the proposed action.

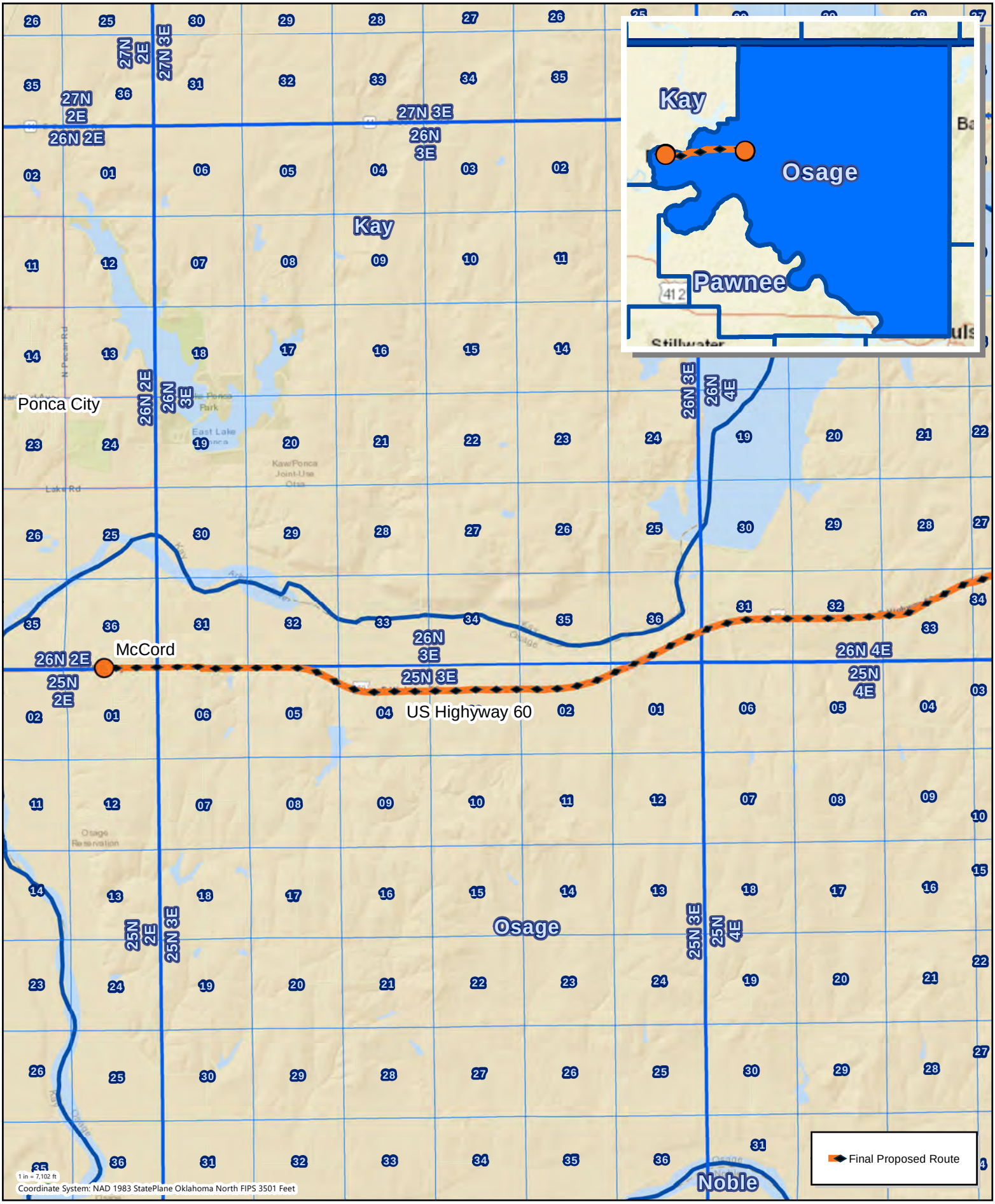
Western Boundary

The proposed Western Boundary buried fiber optic line will be installed within the existing ROW of a portion of State Highway 60 on alternating sides of the highway. The installation for the Western Boundary will mainly be done by trenching but will require boring at certain water features, more specifically described in section 4.4.1. The ROW for State Highway 60 within the Western Boundary is typically 160', however it does vary in width between 90' and 300'.

The proposed route of the fiber optic line is approximately 25.07 miles in length and will begin in McCord, Oklahoma in Section 36-26N-2E I.M. and terminate just east of Burbank, Oklahoma in Section 31-26N-6E I.M at the intersection of State Highways 18 and 60. The proposed ROW is 20'. This route will traverse multiple sections described in *Table 1.0.1 Western Boundary Fiber Optic Route Legal Descriptions.*

Table 1.0.1 Western Boundary Fiber Optic Route Legal Descriptions

Legal Description		
Section	**Township**	**Range**
01, 02, 03, 04, 05, & 06	25N	3E
36	26N	2E
31 & 36	26N	3E
25, 31, 32, 33, 34, 35, & 36	26N	4E
27, 28, 29, 30, 31, 32, 33, 34, 35, & 36	26N	5E



REAGAN SMITH

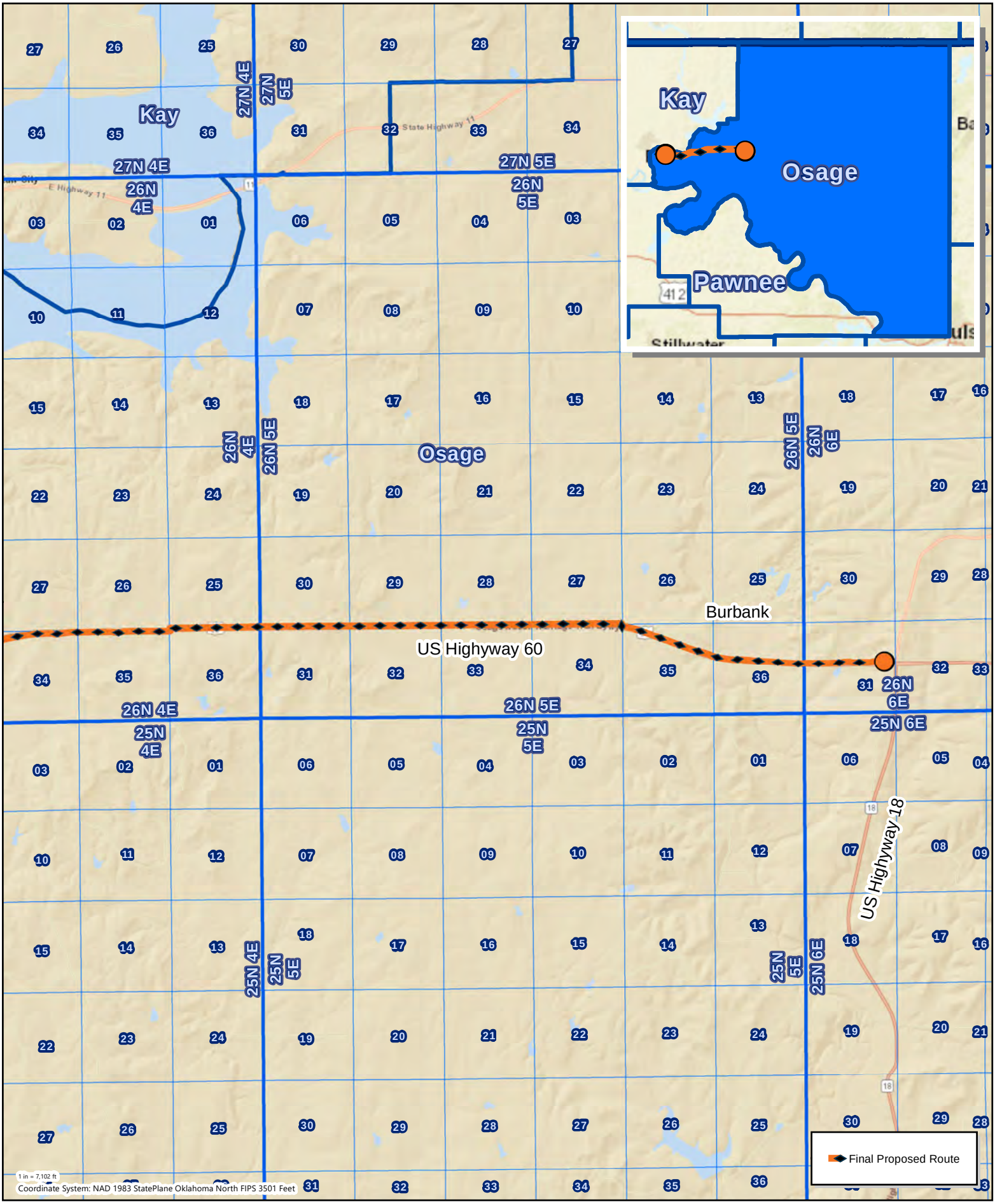
Overall View Plat

Osage Nation Broadband Environmental Analysis

Osage Nation
Osage County, Oklahoma

Author: JD

Date: 10/4/2023



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Overall View Plat

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Osage Nation
Osage County, Oklahoma

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Date: 10/4/2023

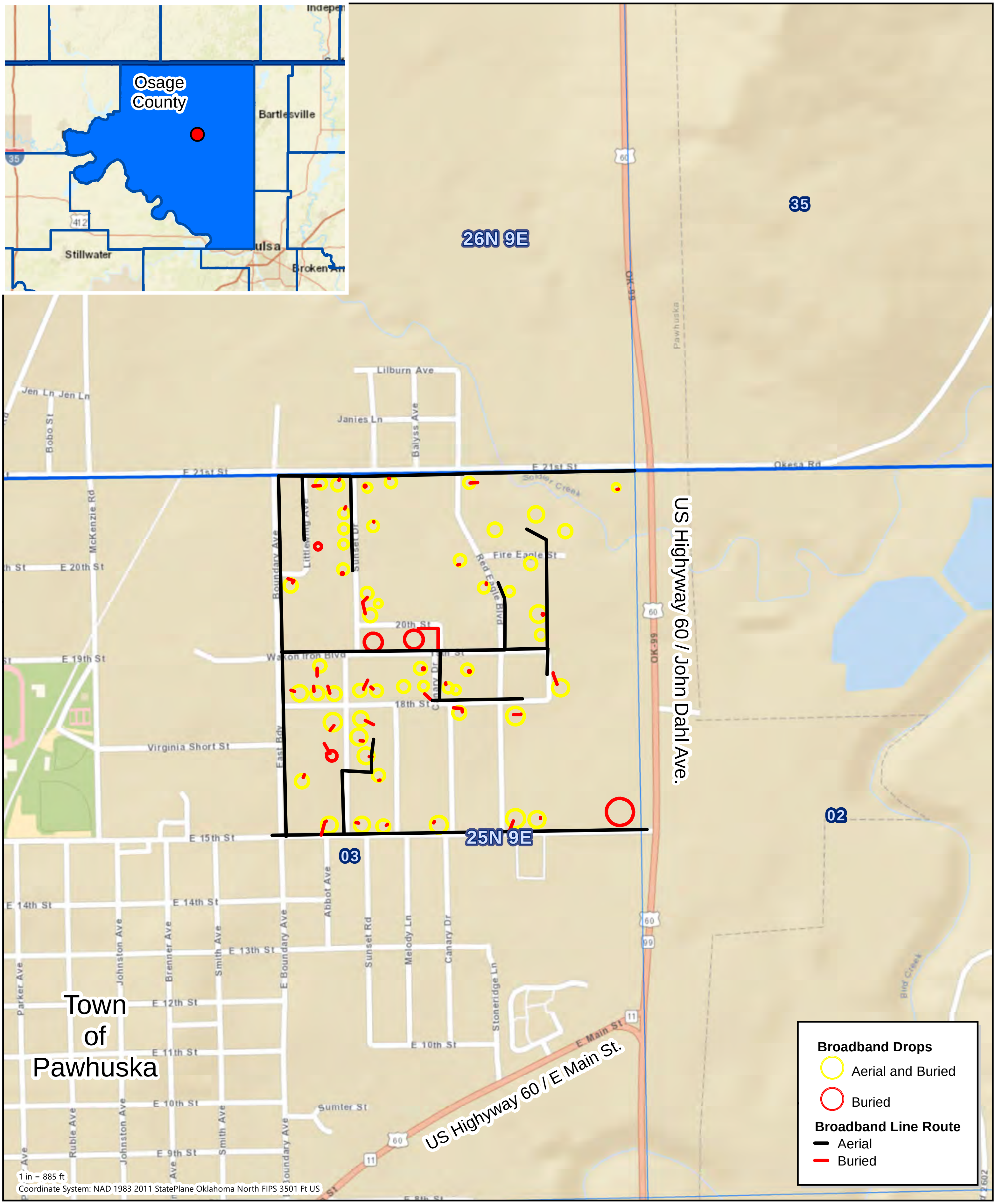
Pawhuska Indian Village

The proposed Pawhuska Indian Village fiber optic line will be installed along existing power line infrastructure utilizing existing power poles and road ROWs on alternating sides of the road. The proposed route of the fiber optic line is approximately 2.76 miles in length. The existing road ROW is approximately 20' throughout the proposed action area.

This proposed action is restricted to neighborhood roads between 21st St. south to E 15th St. and from Boundary Ave. east to John Dahl Ave within Pawhuska, Oklahoma. The route will traverse one section described in *Table 1.0.2 Pawhuska Indian Village Fiber Optic Route Legal Descriptions.*

Table 1.0.2 Pawhuska Indian Village Fiber Optic Route Legal Descriptions

Legal Description		
Section	**Township**	**Range**
03	25N	09E



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Overall View Plat - Pawhuska Indian Village

Osage Nation Broadband Environmental Analysis

Osage Nation

Section 03-25N-09W IM, Osage County, Oklahoma

This map is a user generated static output from Land Scout and is for reference only. Data layers that appear on this map may or may not be accurate, current, or otherwise reliable.

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Author: JD

Date: 8/24/2023

The proposed action pertaining to the **Western Boundary** line is within rural areas in Osage County, along state highway ROWs, adjacent to county roads, pastures, paved surfaces, and occasional lawns. Furthermore, the existing ROW is maintained and mowed regularly (vegetation below 8"). The landscape surrounding the immediate project area is flat to moderately sloping. There will not be above ground structures constructed as the intention is to bury the fiber optic line. The fiber optic cable installation will be placed along newly established, underground routes with high capacity, ducts, and vaults. Installation depths for the new buried optic fiber line will typically be thirty-six (36) inches, with potential boring sites at 10' in depth.

The proposed action pertaining to the **Pawhuska Indian Village** line will traverse urban areas in Osage County, along residential neighborhoods, paved surfaces, city road ROWs, lawns, and roadways. Furthermore, the existing city road ROW is maintained and mowed regularly (vegetation below 8"). The landscape surrounding the immediate project area is flat to moderately sloping. There will not be above ground structures constructed as the intention is to use existing infrastructure (powerlines) or bury the fiber optic line. A large portion of the fiber optic cable installation will be both, suspended from existing power poles and buried along existing city road ROWs (approximately 2.10 miles), while a few will only be buried (approximately .21 miles). Installation depths for the newly buried optic fiber line will typically be thirty-six (36) inches. The proposed buried fiber optic lines will be used for connecting privatized housing to the fiber optic line from existing power poles, therefore surface disturbance will be minimal.

2.0 Purpose and Need

Broadband refers to various high-capacity transmission technologies such as fiber optic cable, that transmit data, voice, and video across long distances at high speeds. Broadband is always connected and allows for high-quality and quick access to information, teleconferencing, data transmission, and more in various capacities, including healthcare, education, and technological development. Fiber optic cables are a common medium of transmission for broadband and will be installed for this proposed action.

The need for the fiber optic line and associated ROW is to provide fiber optic connectivity to tribal businesses, government customers, and residential customers in Osage County. This will fulfill a need by enhancing connectivity and processing speeds in a community currently lacking fiber optic capability. National Telecommunications and Information Administration's (NTIA) programs and policy making focus largely on expanding broadband Internet access in America. NTIA administers grant programs that further the deployment and use of broadband and other technologies in America. Funding for the project was obtained by an NTIA grant received by the Osage Nation.

This EA will assess the potential effects of the proposed action which consists of installation of the fiber optic line within a twenty-foot right-of-way. The purpose of this site-specific EA is to adequately document and analyze the environmental effects of the proposed action.

This EA was written in accordance with 40 CFR 1502.10 through 1502.18 as required by the National Telecommunications and Information Administration. The procedural provisions of NEPA were followed according to 40 CFR 1500 - 1508.

If this EA finds that the proposed action will not result in potential significant environmental consequences, the conclusion would be a "**finding of no significant impact**" and the proposed action may proceed. The installation of the fiber optic line along the proposed route would be approved by the NTIA.

Western Boundary

The purpose of the proposed action is to install a fiber optic cable along State Highway 60 commencing in McCord, Oklahoma in Section 36-25N-2E I.M. The line will then continue east along State Highway 60, ultimately terminating east of Burbank, Oklahoma in Section 31-26N-6E I.M at the intersection of State Highways 18 and 60. This construction and installation will connect the proposed fiber optic line to the larger Osage Nation broadband network located in Grayhorse, Oklahoma (Grayhorse Fiber Project). This extension of the Grayhorse Fiber Project will create a fiber optic connection from the Pawhuska Data Center to the western side of Osage County.

Pawhuska Indian Village

The purpose of the proposed action is to install a fiber optic cable for each potential household within the Indian Village in Pawhuska, Oklahoma in Section 03-25N-09E I.M. This construction and installation will connect the proposed fiber optic line to the Osage Nation broadband network, Calix Optical Network via the Pawhuska Indian Village PON Cabinet as part of a Fiber-to-the-Premise solution.

3.0 Description of Proposed Action and Alternatives

3.1 Introduction

This section will discuss: 1) the methods used to determine the alternatives selected, 2) a list of the alternatives investigated, and 3) a discussion of each alternative including the proposed action.

Process Used to Formulate the Alternatives

The method used to develop the alternatives considered was consultation with the proponent and the NTIA.

3.2 Proposed Action

Alternative A – Installation of Fiber Optic Line on Proposed Route

Western Boundary

The proposed action requires construction and installation of a subterranean fiber optic line approximately 25.07 miles in length. A 20-foot ROW will be utilized for installation resulting in a total of 60.78 acres of temporary workspace. The permanent right-of-way will be 1' in width, resulting in a 3.04 acreage of permanent ROW. The construction phase of the project will require the use of machinery and other equipment such as plows, trenchers, backhoes, and horizontal directional boring rigs. The requisite trenching will typically result in disturbance of less than one (1) foot in width. All creeks, streams, ponds, and wetlands will be horizontally directionally bored. Prior to construction, a right-of-way agreement for temporary and permanent ROW use will be obtained with the Department of Transportation.

The construction phase of the project will take approximately 140 days. The proposed action is within the existing ROW of State Highway 60 from McCord to Burbank in Osage County, Oklahoma. Once the construction phase of the project is complete, no other surface disturbance or maintenance is expected. The operational phase of the project will not require any on-site personnel or equipment. All operations will be completed electronically.

The Fiber optic line will be installed at a depth of 36 inches (typically). At boring locations, the fiber optic line will be buried at a typical depth of 10 feet with a right-of-way width of 1 foot. Construction crews will work to flag and then plow the proposed route. A trencher will be utilized to create a trench at approximately 1' wide and 36 inches deep. Thence a truck will follow closely and lay the conduit with a spool. Drilling will take place under roads and driveways and the conduit will be pulled through the open holes. Conduits will be coupled to create one continuous conduit from vault to vault at each mile road. Vaults are buried at the intersections. The lines will then be blown clean of water and debris in preparation for the fiber optic line. Using high pressure air, the crew will blow fiber into the conduit and complete the process by splicing the line.

Pawhuska Indian Village

The proposed action is within an existing neighborhood in Pawhuska, Oklahoma located in Osage County. The proposed action requires construction and installation of a fiber optic line approximately 2.76 miles in length. A 20-foot ROW will be utilized for installation resulting in 6.69 acres of temporary workspace. The permanent right-of-way will be 1' in width, resulting in a 0.33 acreage of permanent ROW. The construction phase of the project will require the use of machinery and other equipment such as

boom lifts, plows, trenchers, backhoes, and horizontal directional boring rigs. The requisite trenching will typically result in disturbance of less than one (1) foot in width. Prior to construction, a right-of-way agreement for temporary and permanent ROW use will be obtained with the Department of Transportation.

The construction phase of the project will take approximately 110 days. Once the construction phase is completed, no other surface disturbance is expected. The operational phase of the project will not require any on-site personnel or equipment. All operations will be completed electronically.

Installation of the aerial fiber optic line will require lashing the fiber optic line on existing power poles. Construction crews will hoist wrapping machines and a cassette to wrap the new fiber optic line around the existing power pole line.

Installation of the buried fiber optic line within this portion of the proposed action will be the same as the installation procedure for the Western Boundary lines.

3.3 No Action Alternative

Alternative B – No Action

Under the No Action Alternative, an alternative that is required to be addressed by law, no potential long term or short-term adverse impacts would occur to the natural environment if the fiber optic line construction were not conducted. However potentially adverse socioeconomic impacts would occur. The communities would potentially be underserved and as a result, local government, businesses, and residents would not receive improved connectivity and increased internet speeds. The Osage Nation would continue without enhancements of internet, telemedicine, education opportunities, and ecommerce that could benefit the overall community.

3.4 Alternatives Considered but Eliminated from Further Discussion

Alternatives were not considered if the alternative violated any local, State, or Federal regulation, were expressly denied by regulatory agencies, or were otherwise unreasonable.

4.0 Description of the Affected Environment

4.1 Noise

The Oklahoma Department of Transportation (ODOT) was used for Osage County, Oklahoma to assess the annual average daily traffic (AADT). The AADT measures the average daily traffic volume of a road or highway over an entire year.

Western Boundary

The route for the proposed action for the Western Boundary is comprised mostly of rural land along a state highway with occasional residences in the vicinity. The proposed route had an average of 2,900 AADT counts for the year 2021 in accordance with information acquired from ODOT. The ODOT estimated 30% of vehicles were single unit trucks (delivery trucks, haul vehicles, and motor homes), 7% were combo trucks (trailer and semi-trailer), and the remainder are common passenger vehicles. Any effects associated with noise will be temporary in nature and will be confined to the construction phase. These potential effects would be noise associated with equipment such as plows, trenchers, backhoes, and horizontal directional boring rigs. All construction will take place during the day, typically between 7 a.m. and 6 p.m.

Pawhuska Indian Village

The route for the proposed action for the Pawhuska Indian Village is within the city limits of Pawhuska, Oklahoma. More specifically, within a residential area with multiple residences and tribal buildings in the vicinity. The proposed action route has consistent traffic typical for residential areas. The proposed action route had an average of 3,033 AADT counts for the year 2021 in accordance with information acquired from ODOT. The ODOT estimates 7% of vehicles were single unit trucks, 10% were combo trucks, and the remainder are common passenger vehicles. Any effects associated with noise will be temporary in nature and will be confined to the construction phase. These potential effects would be noise associated with equipment such as boom lifts, plows, trenchers, and backhoes. All construction will take place during the day, typically between 7 a.m. and 6 p.m.

4.2 Air Quality

The Clean Air Act (CAA) of 1970 requires that states adopt ambient air quality standards. The CAA (42 USC 7401 et seq.) establishes ambient air quality standards, permit requirements for both stationary and mobile sources, and standards for acid deposition and stratospheric ozone (O3) protection. The standards have been established in order to protect the public from potentially harmful amounts of pollutants. Under the CAA, the U.S. Environmental Protection Agency (USEPA) establishes primary and secondary air quality standards. Primary air quality standards protect public health, including the health of “sensitive populations, such as people with asthma, children, and other adults.” Secondary air quality standards protect public welfare by promoting ecosystem health and preventing decreased visibility and damage to crops and structures.

Fugitive dust refers to particulate matter that enters the atmosphere without passing through a stack or duct designed to direct its flow first. Fugitive dust has been linked to various respiratory health issues, including aggravated asthmas, chronic bronchitis, emphysema, and chronic obstructive pulmonary disease. Sources of fugitive dust include paved and unpaved roads, agricultural fields and tiling operations, unenclosed storage piles, quarries, and construction sites. Installation of the proposed action has the potential to contribute to fugitive dust within the project boundaries. The

equipment used for the installation will cause some soil disturbance releasing fugitive dust into the air.

USEPA has set National Ambient Air Quality Standards (NAAQS) for the following six criteria pollutants: O3, particulate matter (PM2.5, PM10), nitrogen dioxide (NO2), carbon monoxide (CO), sulfur dioxide (SO2), and lead (Pb). Greenhouse gases (GHG), water vapor, carbon dioxide, methane, nitrous oxide, and O3 are also regulated and have been linked to global climate change.

According to the USEPA, no counties in Oklahoma are classified as nonattainment areas for criteria pollutants. Due to its rural nature, Osage County maintains good air quality and visibility throughout the year.

4.3 Geology and Soils

Geology

Western Boundary

The proposed action for the Western Boundary is located in the Northern Limestone-Cuesta Plains geomorphic province of Oklahoma. This province consists of thin Permian limestone cuestas above broad shale plains. Elevation across the entire proposed action ranges from ~1,100' maximum in the east portion of the proposed action to a minimum of ~940' in the central portion of the proposed action, and an elevation of ~1,080 on the west portion.

Pawhuska Indian Village

The proposed action for the Pawhuska Indian Village is located in the Eastern Sandstone Cuesta Plains geomorphic province of Oklahoma. This province consists of Pennsylvanian sandstones forming cuestas that overlook broad shale plains. Elevation across the entire proposed action ranges from approximately 800' to a maximum of approximately 810' in the project area.

Soils

The Natural Resources Conservation Service (NRCS) Web Soil Survey and the NRCS Soil Survey for Osage County, Oklahoma, was used to determine the soils present in the proposed action (See Appendix I – Soil Survey Plat).

Western Boundary

The majority of the proposed action within the Western Boundary lies in Bethany-Pawhuska complex and Dougherty loamy fine sand. However, the project also crosses sections of the following soil or complex types; Grainola-Shidler complex, Eufaula loamy fine sand, Norge-Pawhuska complex, Agra-Ashport, Westsum-Shidler-Apperson complex, and Braman silt loam.

Pawhuska Indian Village

The majority of the proposed action lies in Parsons silt loam and Coyle loam. However, the project also crosses sections of the following soil or complex types; Agra silt loam, Wynona silty clay loam, Osage silty clay, Lightning silt loam, Verdigris silt loam and Braman silt loam.

Prime Farmland

The Farmland Protection Policy Act (FPPA) states that federal agencies must "minimize the extent to which federal programs contribute to the unnecessary conversion of farmland to nonagricultural uses…" The USDA is responsible for protecting significant agricultural lands from irreversible conversions that result in the loss of an essential food or environmental resource. Prime farmland is characterized as land with the best physical and chemical characteristics for the production of food, feed, forage, fiber, and oilseed crops. This land either is used for food or fiber crops or is available for those crops, and not urban, built-up land, or a water area. The soil qualities, growing season, and moisture supply are those needed for a well-managed soil to economically produce a sustained, high yield of crops.

Western Boundary

The fiber optic line for the Western Boundary will be constructed within an existing highway ROW that is consistently mowed and maintained. A large portion of the proposed action will traverse areas considered prime farmland according to mapped data (See Prime Farmland Plats—Appendix J). However, the highway ROW is not utilized as farmland and will not be utilized as farmland in the future due to the maintenance required to maintain the highway ROW.

Pawhuska Indian Village

The fiber optic line for the Pawhuska Indian Village will be constructed within an urban area with existing infrastructure and will be located within existing city road ROWs that are consistently mowed and maintained. Notwithstanding the project area being within city limits, a large portion of the proposed action will traverse areas considered prime farmland according to mapped data (See Prime Farmland Plats—Appendix J). However, the project location is not utilized as farmland and will not be utilized as farmland in the future due to urbanization and the maintenance required to maintain the existing infrastructure.

4.4 Water Resources

4.4.1 Surface Water

Western Boundary

A field survey conducted on March 27, 2023, by Reagan Smith personnel identified fifteen (15) surface water features within or adjacent to the proposed action for

the Western Boundary. (See Water Feature Plats—Appendix F). Seven (7) ephemeral water features were observed along the route on or near the ROW of the proposed action. The majority of the ephemeral water features observed did not have surface water at time of survey. Four (4) intermittent water features were observed along the route on or near the ROW of the proposed action. The intermittent water features on the route for the proposed action were observed to have low standing or flowing water. Four (4) perennial water features were observed along the route on or near the ROW of the proposed action. The perennial water features observed had prominent standing water. Three of the four perennial water features are named streams. All water features will be bored for the installation of the fiber optic line.

Table 4.4.1.1 Western Boundary Water Features

Feature Reference Number	Feature Description	Feature Type	Boring recommended
1	Unnamed feature created by and for Highway ROW drainage	Ephemeral Drainage	Yes
2	Unnamed feature passing under Highway ROW via culvert	Intermittent Stream	Yes
3	Unnamed feature created by and for Highway ROW drainage	Ephemeral Drainage	Yes
4	Walt Colby Creek	Perennial Stream	Yes
5	Unnamed feature passing under Highway ROW via culvert	Intermittent Stream	Yes
6	Unnamed feature, doesn't appear to cross Highway	Perennial Stream	Yes
7	Charlie Creek	Perennial Stream	Yes
8	Unnamed feature created by and for Highway ROW drainage	Ephemeral Stream	Yes
9	Unnamed feature created by and for Highway ROW drainage	Ephemeral Stream	Yes
10	Unnamed feature with large concrete culvert under Highway	Ephemeral Stream	Yes
11	Unnamed feature with concrete culvert under Highway	Intermittent Stream	Yes
12	Unnamed feature draining upland portions	Ephemeral Drainage	Yes
13	Unnamed feature with large concrete culvert under Highway	Ephemeral Stream	Yes
14	Salt Creek	Perennial Stream	Yes
15	Unnamed feature with concrete culvert under Highway	Intermittent Stream	Yes

Pawhuska Indian Village

A field survey conducted on March 29, 2023, by Reagan Smith personnel identified two (2) surface water features within or adjacent to the proposed action. (See Prime Water Feature Plats—Appendix F). Both water features were observed as intermittent water features along or near the ROW of the proposed action. The intermittent water features on the route for the proposed action were observed to have low standing or flowing water. All water features are aerially traversed with the use of existing power poles, which will be utilized for the installation.

Table 4.4.1.2 Pawhuska Indian Village Water Features along ROW

Feature Reference Number	Feature Description	Feature Type	Boring recommended
1	Unnamed feature created by and for Highway ROW drainage	Intermittent Stream	No
2	Unnamed feature passing under Highway ROW via culvert	Intermittent Stream	No

4.4.2 Groundwater

An aquifer is an underground layer of water-bearing, permeable rock, rock features, or unconsolidated materials. Groundwater from aquifers can be extracted using a water well. Precipitation eventually recharges water into the porous rock of the aquifer.

According to information gathered from Oklahoma Water Resources Board, the **Western Boundary** line intersects the Arkansas River aquifer, an alluvium and terrace aquifer of Quaternary Age. While the **Pawhuska Indian Village** intersects the Ada-Vamoosa aquifer, a sedimentary bedrock aquifer of Pennsylvanian age.

Due to the nature and depth of installation for the proposed action within the proposed action, there will not be a direct encounter with ground water resources. Along the **Western Boundary** route, 27 groundwater wells are noted to be within 500’ of the line. Within the **Pawhuska Indian Village,** there are no groundwater wells within the 500’ vicinity of the line.

These groundwater wells are used for domestic or public water supply purposes. These can include consumption, domestic livestock, irrigation, industrial, municipal, and recreational purposes. These ground waters range in first water depths of 17’-90’. Installation depths of the proposed action will typically be thirty-six (36) inches. At potential boring sites depths may reach ten (10) feet.

4.4.3 Storm Water

Storm water refers to rainfall or melted snow that runs off impervious surfaces such as rooftops, streets, sidewalks, and parking lots. Impervious, or hard surfaces prevent the storm water from naturally soaking into the ground, where the soil would filter out pollutants. As the runoff flows over the land or impervious surfaces, it accumulates debris, chemicals, sediment or other pollutants that could adversely affect water quality. Common pollutants include vehicle exhaust products, brake and tire dust, oil and grease, sediment, salt and fertilizers and pesticides, pet waste, and litter. Because storm water is untreated, these pollutants enter our water way. Best management practices to control and manage storm water can include structure devices, maintenance procedures, and management practices that prevent or reduce the harmful effects of storm water runoff, such as pollution, erosion, and flooding. More specific to this project, best management practices can include detention and infiltration ponds, wide grass ditches, catch basins and culverts.

4.4.4 Coastal Zone, Estuary and Inter-tidal Areas

No Coastal Zones, Estuaries or Inter-tidal Areas are in proximity to the proposed action.

4.4.5 Floodplains

The Flood Insurance Rate Maps (FIRM) were reviewed for the proposed action at the Federal Emergency Management Agency (FEMA) website (See Appendix G - Floodplain Plats).

Western Boundary

The proposed action crosses several different types of flood zones. The majority of the proposed action is within an unmapped area as delineated by FEMA. An unmapped area indicates an undetermined flood zone and is usually very sparsely populated. The ROW commences in section 36-26N-2E I.M. near McCord, OK in an unshaded FEMA Zone X. Unshaded Zone X is defined as minimal risk areas. The ROW proceeds approximately 5.8 miles east then traverses through Zone AE in Section 01-25N-3E I.M. This is considered a high-risk flood zone on a FEMA Flood Map due to its elevation and proximity to floodplains, lakes, rivers, and/or other bodies of water. At approximately one mile east of the Zone AE in section 31-26N-4E I.M., the ROW traverses Zone A – a shaded special flood hazard area inundated by 100-year flood. In this Zone A, there is a bridge crossing Charlie Creek – with a base flood elevation determined at 940 feet. Another Zone A is traversed at about 4.5 miles east of the previous zone, in Section 35-26N-4E, with a drainage also connecting to Charlie Creek. The final flood zone traversed, commences in Section 36-26N-5E, approximately 6.6 miles east of the previous zone and one mile west

of the termination point of the ROW. This a Zone A, 100-year floodplain. (See Appendix G – Floodplain Plats).

Pawhuska Indian Village

The proposed action crosses a Zone A, 100-year floodplain on the NW boundary of our proposed action along E 21st Street. This floodplain has a 1% annual chance of flooding. The majority of the proposed action is located outside of known floodplains according to FEMA (See Appendix G – Floodplain Plats).

4.4.6 Wild and Scenic Rivers

No Wild and Scenic Rivers are in proximity to the proposed action.

4.5 Biological Resources

4.5.1 Vegetation

Western Boundary

The proposed action is located in the Central Great Plains & Flint Hills Level III Ecoregion and Cross Timbers Transition & Flint Hills Level IV Ecoregion.

According to the EPA potential natural vegetation for the Cross Timbers Transition Ecoregion consists of "mixed grass prairie (dominants: little bluestem, side-oats grama, blue grama, and Indiangrass), cross timbers (dominants: blackjack oak, post oak, hickory, and little bluestem), and tall grass prairie (dominants: big bluestem, little bluestem, switchgrass, and Indiangrass). In the early 19th century, stream banks supported hardwood forests. Since the early 19th century, the abundance of upland trees has greatly increased, the number of upland tree species has increased, and many riparian forests and wetlands have been degraded or lost due to channelization or land use changes. Today, on uplands: scattered oaks, hickories, and increasingly, eastern redcedar occur. In riparian areas: cottonwood, willow, elm, ash, walnut, and pecan are common."

According to the EPA potential natural vegetation for the Flint Hills Ecoregion consists of "tall grass prairie (dominants: big bluestem, little bluestem, switchgrass, and Indiangrass). Today, on shallow, moisture deficient soils: short grasses such as blue grama, sideoats grama, and hairy grama as well as prickly pear occur. Along the margins of breaks and on steep, rocky outcrops: side-oats grama is found. In narrow riparian areas: bottomland forests containing cottonwood, hackberries, elms, and oaks are common."

The plant community within the proposed action's ROW has been altered from reseeding, mowing, and herbicides used for weeds and tree control. During the field assessment the following plant species were observed: bermudagrass (*Cynodon dactylon*), crabgrass (*Digitaria sanguinals*), johnsongrass (*Sorghum halepense*), big bluestem (*Andropogon gerardii*), Eastern redbud (*Cercis*

canadensis), post oak (*Quercus stellata*), blackjack oak (*Quercus marilandica*), Eastern red cedar (*Juniperus virginiana*) as well as other forbs and grasses.

Pawhuska Indian Village

The proposed action is located in the Cross Timbers Level III Ecoregion and Northern Cross Timbers Level IV Ecoregion

According to the EPA potential natural vegetation for the Northern Cross Timers Ecoregion is a mosaic of oak savanna, scrubby oak forest (post oak, blackjack oak, and understory grasses), eastern redcedar, and tall grass prairie (dominants: big bluestem, little bluestem, switchgrass, and Indiangrass). Native on porous, course-textured soils derived from sandstone are post oak, blackjack oak, and understory grasses. Tall grass prairie naturally occurs on fine-textured soils derived from limestone or shale. Today, livestock farming is the main land use in this Ecoregion. Streams are typically shallow and have sandy substrates; they are habitat poor.

The plant community within the proposed action's ROW has been altered from reseeding, mowing, herbicides used for weeds and tree control, and urbanization. During the field assessment the following plant species were observed: bermudagrass (*Cynodon dactylon*), as well as other forbs and grasses.

4.5.2 Wildlife

In Osage County, specifically the proposed action area, migratory waterfowl such as ducks, herons, shorebirds, and geese are known to frequent areas around rivers, streams, ponds, wetlands, and lakes. Additionally, wildlife attracted to these areas include beaver and otter. Upland game birds such as wild turkey, bobwhite quail, and dove species are plentiful and can be found in agricultural and prairie lands. Birds such as bald eagle, northern harrier, red-tailed hawk, red-bellied woodpecker, Carolina chickadee, tufted titmouse, and numerous warblers and sparrows are also common. Mammals include white-tailed deer, bobcat, coyote, fox, rabbit, raccoon, squirrel, skunk and opossum.

4.5.3 Threatened and Endangered Species

Consultation with the U.S. FWS was completed through using the Information for Planning and Consultation (IPaC) website. IPaC is a project planning tool that streamlines the USFWS environmental review process. (Appendix K – Information for Planning and Consultation)

	Table 4.5.3 Sensitive Species Evaluation
	Endangered, Threatened, and Sensitive Species **NTIA Broadband Grant** **Western Boundary and Pawhuska Indian Village Fiber Optic Line, Osage County, Oklahoma**

Species	Status	Environmental Baseline for Potential Habitat	Potential Habitat Presence/Species Potential for Occurrence within the Project Area
MAMMAL **Tricolored Bat** *(Perimyotis subflavus)* 	**Proposed Endangered** (Federal)	**Tricolored Bats** inhabit landscapes that are partly open, with large trees and plentiful woodland edges. They are found in a variety of terrestrial habitats, including grasslands, old fields, orchards, urban areas, and woodlands, especially hardwood. In spring, summer, and fall, they primarily roost among live and dead leaf clusters of live or recently dead deciduous hardwood trees. In addition, they have been observed roosting among pine needles, eastern red cedar, rock crevices, and within artificial roosts like barns, beneath porch roofs, bridges, and concrete bunkers. They forage along forest edges and over ponds and waterways for small insects, such as leafhoppers, ground beetles, flies, small moths, and flying ants. During the winter, tricolored bats hibernate in caves and mines; although, in the southern United States, where caves are sparse, tricolored bats often hibernate in road-associated culverts, as well as tree cavities and abandoned water wells.	No potential habitat present. Some potential for occurrence within the project boundaries. The tricolored bat is a sensitive species within the project boundaries of the **Western Boundary** and the **Pawhuska Indian Village**.
BIRD **Red Knot** *(Calidris canutus rufa)* 	**Threatened** (Federal)	**Red Knots** breed in the high Arctic on dry upland tundra, including weathered sandstone ridges, upland areas with scattered willows and poppy, moist marshy slopes & flats in foothills, well-drained slopes hummocked with Dryas ssp. and upland glacial gravel close to streams or ponds. Outside of the breeding season, the species is strictly coastal, frequenting tidal mudflats or sandflats, sandy beaches of sheltered coasts, rocky shelves, bays, lagoons and harbors, and occasionally oceanic beaches and saltmarshes.	No potential habitat present. Some potential for occurrence of flying through the project boundaries. The red knot is a sensitive species within the project boundaries of the **Western Boundary** the **Pawhuska Indian Village**.
BIRD ***Piping Plover*** *(Charadrius melodus)* 	**Threatened** (Federal)	**Piping Plovers** breed on sandy beaches along the Atlantic Coast from Canada to North Carolina, along the sand and gravel shores of Lakes Michigan, Huron, and Superior in Michigan, and along Lakes Superior and Michigan in Wisconsin, and on river sandbars and islands, barren shorelines of inland lakes, and alkali wetlands in the northern Great Plains of Canada and the United States. Wintering primarily along Gulf Coast beaches from Florida to Mexico, along the Atlantic Coast from North Carolina to Florida, and on Caribbean islands. Piping Plovers often roost on beaches huddled down in the sand, or behind driftwood or clumps of seaweed and other debris. They also roost among debris in wash-over passes created by hurricanes and storms on barrier islands and peninsulas.	No potential habitat present. Some potential for occurrence of flying through the project boundaries. The piping plover is a sensitive species within the project boundaries of the **Western Boundary** the **Pawhuska Indian Village.**
INSECT **American Burying Beetle** *(Nicrophorus americanus)* 	**Threatened** (Federal)	**American burying beetles** are the largest carrion-feeding insects in North America, growing up to 35 mm in length. They have a pronotum, a shield-like area just behind the head. They also have a small orange patch on their face between the eyes. In males this patch is square, while it is triangular in females. They are largely confined to areas with the least human influence. American burying beetles thrive in areas with an abundance of carrion and have been found in grasslands, scrublands, and forest edges.	Potential for preferred habitat present. Low potential for occurrence within the project boundaries. The American burying beetle is a sensitive species within the project boundaries of the **Western Boundary** the **Pawhuska Indian Village.**
INSECT **Monarch Butterfly** *(Danaus plexippus)* 	**Candidate** (Federal)	**Monarch Butterfly** life cycles relies on milkweed host plants, typically those from Asclepias spp. The milkweed is a host for Monarch eggs and supply larvae through their first 5 larval instars, and also provides effective chemical defense against predators. The life cycle of the Monarch is completely dependent on milkweed species. Up to five generations of Monarch's can live and die during summer months, with the final generation migrating in the fall to Mexico to overwinter.	Vegetation maintenance regime limits potential of habitat. No potential habitat present, proposed action falls within Monarch range. The monarch butterfly is a sensitive species within the project boundaries of the **Western Boundary** the **Pawhuska Indian Village.**

	Table 4.5.3 Sensitive Species Evaluation
	Endangered, Threatened, and Sensitive Species **NTIA Broadband Grant** **Western Boundary and Pawhuska Indian Village Fiber Optic Line, Osage County, Oklahoma**

Species	Status	Environmental Baseline for Potential Habitat	Potential Habitat Presence/Species Potential for Occurrence within the Project Area
REPTILE **Alligator Snapping Turtle** *(Macrochelys temminckii)* 	**Proposed Threatened** (Federal)	**Alligator Snapping Turtle** is the largest species of freshwater turtle. They are almost exclusively aquatic and tend to stay submerged and motionless for so long that algae begins to grow on their shells. They can go up to 50 minutes before needing to resurface for air. Except for egg-laying females, these turtles almost never go on land. Preferred habitats are river systems, lakes, and wetlands. For feeding, they will dupe their prey by laying on the riverbed, opening its jaw, and wiggling its tongue, having its prey believe the tongue is a worm and the prey swim right into its mouth. They can also actively search for prey by tasting chemicals in the water that are indicative of a particular species.	Potential for preferred habitat present. Low potential for occurrence within the project boundaries. The alligator snapping turtle is a sensitive species within the project boundaries of the **Western Boundary**.

4.5.4 Critical or Threatened / Endangered Habitat

Western Boundary

American Burying Beetle (*Nicrophorus americanus*) - Threatened (Federal)

Environmental Baseline: Habitat requirements for the American Burying Beetle, particularly reproductive habitat requirements, are not fully understood at this time. The American Burying Beetle is found in a variety of habitat types including oak-pine woodlands, open fields, oak-hickory forest, open grasslands, and edge habitat.

Bald Eagle (*Haliaeetus leucocephalus*) - Protected (Federal)

Environmental Baseline: Bald Eagles occur from Baja California and Florida north to Newfoundland and Alaska. They are nearly always found near water, along rivers, lakes, or the seacoast and coastal marshes, reservoirs, and large lakes. They also pass over mountains and plains during migration. The northern and interior populations may migrate to open water in the winter months. Bald Eagles breed throughout much of North America. Breeding pairs in Oklahoma have been sighted along the Arkansas River beginning in early March and the young fledging through August. Wintering Eagles begin arriving in Oklahoma in November and early December. Their numbers peak in January and February, and most birds have left for their northern breeding grounds by the end of March. Lakes with the highest concentration of eagles are Kaw, Keystone, Texoma, Tenkiller, Ft. Gibson, Grand, Canton, Great Salt Plains, Tishomingo and Spavinaw.

Tricolored Bat (*Perimyotis subflavus*) - Proposed Endangered (Federal)

Environmental Baseline: Tricolored Bats inhabit landscapes that are partly open, with large trees and plentiful woodland edges. They are found in a variety of terrestrial habitats, including grasslands, old fields, orchards, urban areas, and woodlands, especially hardwood. They have been observed roosting among pine needles, eastern red cedar, rock, crevices, and within artificial roosts like barns, beneath porch roofs, bridges, and concrete bunkers.

Monarch Butterfly *(Danaus plexippus)* – Candidate (Federal)

Environmental Baseline: Monarch butterflies are found across North America wherever suitable feeding, breeding, and overwintering habitat exists. They are one of the few migratory insects, traveling great distances between summer

breeding habitat and winter habitat where they spend several months inactive. In the spring the monarchs will migrate north, feeding and breeding in the southern U.S. In summer they range as far north as southern Canada. In the fall the eastern population migrates to the cool, high mountains of central Mexico and the western population migrates to coastal California, where they spend the winter. Monarchs will lay their eggs on milkweed, their only caterpillar host plant. After three to five days, the caterpillar hatches and feeds exclusively on milkweed. As the caterpillars grow, they molt several times over roughly a two-week period and then form a chrysalis in which they undergrow metamorphosis. After approximately two weeks, the adult butterfly emerges. The adult monarchs feed on nectar from a wide range of blooming native plants, including milkweed.

Alligator Snapping Turtle (*Macrochelys temminckii*) - Proposed Threatened (Federal)

Environmental Baseline: Preferred habitats are river systems, lakes, and wetlands. Except for egg-laying females, these turtles almost never go on land. They are almost exclusively aquatic and tend to stay submerged and motionless for so long that algae begins to grow on their shells. They can go up to 50 minutes before needing to resurface for air.

Pawhuska Indian Village

American Burying Beetle (*Nicrophorus americanus*) - Threatened (Federal)

Environmental Baseline: Habitat requirements for the American Burying Beetle, particularly reproductive habitat requirements, are not fully understood at this time. The American Burying Beetle is found in a variety of habitat types including oak-pine woodlands, open fields, oak-hickory forest, open grasslands, and edge habitat.

Bald Eagle (*Haliaeetus leucocephalus*) - Protected (Federal)

Environmental Baseline: Bald Eagles occur from Baja California and Florida north to Newfoundland and Alaska. They are nearly always found near water, along rivers, lakes, or the seacoast and coastal marshes, reservoirs, and large lakes. They also pass over mountains and plains during migration. The northern and interior populations may migrate to open water in the winter months. Bald Eagles breed throughout much of North America. Breeding pairs in Oklahoma have been sighted along the Arkansas River beginning in early March and the young fledging through August. Wintering Eagles begin arriving in Oklahoma in November and

early December. Their numbers peak in January and February, and most birds have left for their northern breeding grounds by the end of March. Lakes with the highest concentration of eagles are Kaw, Keystone, Texoma, Tenkiller, Ft. Gibson, Grand, Canton, Great Salt Plains, Tishomingo and Spavinaw.

Monarch Butterfly *(Danaus plexippus)* – Candidate (Federal)

Environmental Baseline: Monarch butterflies are found across North America wherever suitable feeding and breeding habitat exists. They are one of the few migratory insects, traveling great distances between summer breeding habitat and winter habitat where they spend several months inactive. In the spring the monarchs will migrate north, feeding and breeding in the southern U.S. In summer they range as far north as southern Canada. In the fall the eastern population migrates to the cool, high mountains of central Mexico and the western population migrates to coastal California, where they spend the winter. Monarchs will lay their eggs on milkweed, their only caterpillar host plant. After three to five days, the caterpillar hatches and feeds exclusively on milkweed. As the caterpillars grow, they molt several times over roughly a two-week period and then form a chrysalis in which they undergrow metamorphosis. After approximately two weeks, the adult butterfly emerges. The adult monarchs feed on nectar from a wide range of blooming native plants, including milkweed.

4.5.5 Wetland Habitats

Under Executive Order 11990, each agency shall provide leadership and shall take action to minimize the destruction, loss or degradation of wetlands, and to preserve and enhance the natural and beneficial values of wetlands in carrying out the agency's responsibilities for conducting Federal activities and programs affecting land use, including but not limited to water and related land resources planning, regulating and licensing activities.

The U.S. Fish and Wildlife Service National Wetland Inventory (NWI) maps were consulted for the proposed action. According to the NWI maps, the proposed action will cross a variety of water features. The method used in this Environmental Assessment to determine if an area is a wetland has been described in Section D of the USACE Wetlands Delineation Manual. Generally, in order to be classified as a wetland an area being observed must satisfy three criteria: hydrophytic vegetation, hydric soils, and wetland hydrology. (Appendix D – National Wetland Inventory Plats)

All potential wetland areas will be directionally bored to avoid any loss of habitat or negative effects.

5.0 Historic and Cultural Resources

Western Boundary

The Osage Nation Historic Preservation Office (ONHPO) conducted field surveys for the area of potential effect (APE) within the proposed action route on 12/19/2022, 12/20/2022, 1/9/2023-1/11/2023, 1/17/2023, 1/19/2023, and 1/20/2023. The ONHPO's survey team included: Caitlin Eileen Nichols, Deseray Helton Wrynn, Audra Whitehurse, Eden Hemming, Michaela Conway, and Robert Murie. Background file search was conducted by Audra Whitehurse on 12/14/2022. The team conducted a background file search, pedestrian survey, and shovel testing. A total of 189 shovel tests were conducted. Two previous archaeological surveys intersect with the current APE. Within one mile of the study area, 29 previously recorded archaeological sites are on record at the Oklahoma Archeological Survey (OAS). The team found no marked landmark properties or historic properties located within the APE or within one mile of the APE from the present survey and previous surveys. According to ONHPO no historic properties eligible or potential eligible for the National Register of Historic Places were located within or near the current APE.

Pawhuska Indian Village

The ONHPO conducted field surveys for the APE of the proposed action route on 5/3/2023-5/5/2023. The ONHPO's survey team included: Eden Hemming, Audra Whitehurse, and Colleen A. Bell. Of the 34 shovel tests the team conducted, 12 shovel tests were positive for cultural material. The artifacts collected consisted of fragments of a large mammal and a single whiteware sherd. Other material observed but not collected were possible road gravel, modern clear glass, modern plastic, iron nails, unidentifiable iron pieces, broken wire, milk glass, brick pieces, a piece of linoleum, asphalt chunks, a piece of Styrofoam, and a piece of clay sewer pipe. The materials observed were not greater than 50 years of age, therefore were not collected. According to ONHPO, there are no properties eligible for nor listed on the National Register of Historic Places within the proposed APE for the Pawhuska Village Drops Project.

5.1 Aesthetic and Visual Resources

The visual environment of the proposed action within the **Western Boundary** is consistent with a typical state highway ROW in Oklahoma. The proposed action will traverse areas consistently mowed and maintained with no aesthetic or visual goals. The proposed action will result in a subterranean fiber optic line being installed. Thus, during the construction phase, machinery such as trenchers, backhoes, plows, and horizontal directional boring rigs will be utilized temporarily. During the operation phase the line will not be recognizable and will not impact aesthetic and visual resources.

The visual environment of the proposed action within the **Pawhuska Indian Village** is consistent with a typical neighborhood within an urbanized city. The aerial portion of the

proposed action will traverse areas with existing power line infrastructure as well as areas that are consistently mowed and maintained with no aesthetic or visual goals. The buried portion of the proposed action will require the use of machinery such as trenchers, backhoes, boom lifts, and plows will be utilized temporarily. During the operation phase, the line will not be recognizable and will not impact aesthetic and visual resources.

5.2 Land Use

The entire proposed action within the **Western Boundary** is within the existing ROW for State Highway 60. The proposed action for these two portions is within a rural area in Osage County, adjacent to county roads, occasional lawns, pastures, and paved surfaces. Furthermore, the existing ROW is maintained by herbicide applications and mowed regularly (below 8”).

The proposed action does not traverse any municipal zones and the surrounding area is largely rural.

The entirety of the proposed action within the **Pawhuska Indian Village** is within an existing 20’ road ROW located within Pawhuska city limits. The proposed action is within an urban area in Osage County, with both residential and commercial infrastructure. Some infrastructure located within the proposed project area consists of houses, tribal facilities, maintained lawns, ROWs, paved surfaces, and roadways. Furthermore, the existing city road ROW is maintained by herbicide applications and mowed regularly (below 8”).

5.3 Infrastructure

Generally, Osage County is rural with small farming communities and rural residences scattered throughout. Within the proposed action area for the **Western Boundary** there is limited infrastructure development and little urban development. Communities within the vicinity of the proposed action are served by multiple municipal services including police, fire, water, power, and other utilities.

As the **Western Boundary** line begins, it intersects the town of McCord, Oklahoma where within is a community volunteer fire department. The line continues east on State Highway 60, into a more rural area and as it nears its center point, the line transcends a second fire department, the Osage Cove Fire District Association. The line nears its end point after intersecting through a second town, Burbank, Oklahoma. No police departments are marked to be within the line. The nearest police department is approximately 3.20 miles northwest from where the line begins, in Ponca City, Ok.

The **Pawhuska Indian Village** proposed action sits only within the town of Pawhuska, Oklahoma which contains both a police and fire department. It runs within the existing city road ROW throughout Pawhuska city limits. Public roads will be utilized for traffic associated with the construction of the proposed action. Traffic resulting from the proposed action will be limited to the construction phase.

5.4 Socioeconomic Resources

This section discusses socioeconomic characteristics such as population, housing, demographics, employment, and economic trends within the analysis area.

Table 5.4 Osage County Census Data 2020

Category	Osage County	
	Population	%
Hispanic/Latino	2,017	4.4%
White	28,420	62%
Black or African American	5,042	11%
American Indian/Alaska Native	6,876	15%
Asian	229	0.5%
Native Hawaiian and Other Pacific Islander	46	0.1%
Other Race and Two or More Races	3,209	7%
Total Population	45,839	100%

Employment & Income

The proposed action will be implemented in Osage County, Oklahoma. The 2021 per capita income for Osage County was $27,562, slightly lower than the estimated per capita for Oklahoma, which is $30,976. The 2021 median household income for Osage County was $54,036 compared to the median household income for Oklahoma, which was $56,956. Approximately 12.3 % of the total county population lives below the poverty line, slightly less than the state rate of 15.6%.

Environmental Justice

Executive Order 12898 directs federal agencies to consider environmental justice in connection with their programs and activities. It requires federal agencies to "...analyze the environmental effect, including human health, economic and social effects of federal actions, including effects on minority communities and low-income communities, when such analysis is required by the National Environmental Policy Act of 1969 (NEPA)..."

Furthermore, it states that "...each Federal agency shall make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies or activities on minority populations and low-income populations ... " Memorandum accompanying E.O. 12898, February 4, 1994

In order to advance environmental justice, BIA and other federal agencies should pursue fair treatment and meaningful involvement of minority and low-income populations. Fair treatment means such groups should not bear a disproportionately high share of negative environmental consequences from federal programs, policies, decisions or operations. Meaningful involvement means federal officials actively promote opportunities for public participation and federal decisions can be materially affected by participating groups and individuals.

Demographic Trends

Racial distributions in Osage County are similar to the state of Oklahoma as a whole. Osage County's racial distribution is very similar to the state of Oklahoma with only a small increase in American Indians and a decrease in Hispanic or Latino and Asian alone.

Human Health and Safety

Osage County is dominated by farmland and grazed pastures with residents living in rural communities. The Osage County Sheriff's department as well as several local agencies provide law enforcement services. Fire and emergency response are the responsibilities of municipal fire departments in nearby communities.

Fire and emergency response are the responsibilities of municipal fire departments in nearby communities of the **Western Boundary** line, such as McCord and Burbank.

Fire and emergency response are the responsibilities of municipal fire departments within the Pawhuska Indian Village of Pawhuska, Oklahoma.

The Environmental Protection Agency (EPA) specifies chemical reporting requirements under Title III of the Superfund Amendments and Reauthorization Act (SARA), as amended. No chemicals subject to reporting under SARA Title III (hazardous materials) in an amount greater than 10,000 pounds would be used, produced, stored, transported, or disposed of annually in association with the proposed action. Furthermore, no extremely hazardous substances, as defined in 40 CFR 355, in threshold planning quantities would be used, produced, stored, transported, or disposed of in association with the proposed action.

6 Analysis of Environmental Impacts

6.1 Noise

Alternative A – Installation of Fiber Optic Line on Proposed Route

Western Boundary

The proposed action route is along State Highway 60 Western Boundary, where ODOT recorded the AADT for the year 2021 to be 2,900. Under the proposed action, noise would be temporarily increased by the use of the construction equipment during the installation period. These potential effects would be noise associated with equipment such as plows, trenchers, backhoes, and horizontal directional boring rigs. However, the noise increase will only be temporary and will take place during the day, typically between 7 a.m. and 6 p.m.

During the operational phase there will not be any noise associated with the proposed action. No potential adverse impacts to noise are expected.

Pawhuska Indian Village

The proposed action route along the Pawhuska Indian Village is within Pawhuska city limits, where ODOT recorded the ADAT for the year 2021 to be 3,033. Under the proposed action, noise would be temporarily increased by the use of the construction equipment during the installation period. These potential effects would be noise associated with equipment such as boom lifts, plows, trenchers, and backhoes. However, the noise increase will only be temporary and will take place during the day, typically between 7 a.m. and 6 p.m.

During the operational phase there will not be any noise associated with the proposed action. No potential adverse impacts to noise are expected.

Alternative B – No Action

Due to the fact that the project would not be implemented under the No Action Alternative, there would be no potential impact of noise.

6.2 Air Quality

Alternative A – Installation of Fiber Optic Line on Proposed Route

Under the proposed action, there would be an increase in emissions only during the construction phase of the project. However, the construction phase of the project is temporary, and the limited emissions associated with the proposed action would not produce significant increases in criteria pollutants, GHGs, or HAPs. The proposed action would not adversely affect air quality within the region. Emissions from construction equipment are expected but would not impact attainment status based on any of the Primary and Secondary National Ambient Air Quality Standards for criteria pollutants or other regulated air emissions. During construction the Osage Nation will ensure all

construction contractors adhere to the fugitive dust mitigation measures as required by the road permitting authorities as described within the installation permits.

During the operational phase there will not be any emissions, air quality effects, or fugitive dust effects associated with the proposed action. No potential adverse impacts to air quality are expected.

Alternative B – No Action

Due to the fact that the project would not be implemented under the No Action Alternative, there would be no potential impacts on air quality.

6.3 Geology and Soils

Geology

Alternative A – Installation of Fiber Optic Line on Proposed Route

Under the proposed action there would be no potential impact on the geology of the project area. Although trenching would occur, it is not the requisite depth or width to impact geological resources.

Due to the implementation of the construction method described above, surface drainage patterns would not be affected by the proposed action. Erosion control techniques will be implemented when necessary.

During the operational phase there will not be any geological effects associated with the proposed action. No potential adverse impacts to geology are expected.

Alternative B – No Action

Due to the fact that the project would not be implemented under the No Action Alternative, there would be no potential impacts to geology.

Soils

Alternative A – Installation of Fiber Optic Line on Proposed Route

The proposed action will require trenching. All trenches will be backfilled with source material resulting in no adverse potential impacts or changes to soil resources or profile. Areas that may require more concentrated erosion control and mitigation measures have been identified. Mitigation efforts will be implemented as necessary in potential areas for erosion. (See Appendix I – Soil Survey Plats).

During the operational phase there will not be any soil effects associated with the proposed action. No potential adverse impacts to soil are expected.

Alternative B—No Action

Due to the fact that the project would not be implemented under the No Action Alternative, there would be no potential impacts to soils.

Prime Farmland

Alternative A – Installation of Fiber Optic Line on Proposed Route

Under the proposed action, there will not be a reduction of usable farmland during construction or operation. Due to the fact that the project area is not within agricultural land use, no potential significant adverse impacts to agricultural resources are anticipated and no potential significant impacts to USDA-designated Prime Farmland soils are anticipated during the construction phase.

During the operational phase there will not be any negative effects to farmland associated with the proposed action. No potential adverse impacts to geology are expected.

Alternative B – No Action

Due to the fact that the project would not be implemented under the No Action Alternative, there would be no impacts to agriculture or Prime Farmland.

6.4 Water Resources

6.4.1 Surface Water

Alternative A – Installation of Fiber Optic Line on Proposed Route

Western Boundary

A field survey conducted on March 27, 2023 by Reagan Smith personnel identified fifteen (15) surface water features within or adjacent to the proposed action (see Appendix F – Water Features Plats). Seven (7) ephemeral water features were observed along the route on or near the ROW of the proposed action. Four (4) intermittent water features were observed along the route on or near the ROW of the proposed action. Four (4) perennial water features were observed along the route on or near the ROW of the proposed action.

During the construction phase of the proposed project, all surface water features will be horizontally directionally bored therefore, no negative impacts to surface water features are anticipated.

There will be no negative impacts to surface water features during the operational phase of the proposed project.

Pawhuska Indian Village

A field survey conducted on March 29, 2023, by Reagan Smith personnel identified two (2) surface water features within or adjacent to the proposed action (see Appendix F – Water Features Plats). Both water features were observed as intermittent water features, along or near the ROW of the proposed action.

During the construction phase of the proposed project, existing power lines crossing aerially along all surface water features will be utilized for the installation of the fiber optic line. Therefore, no negative impacts to surface water features are anticipated.

There will be no negative impacts to surface water features during the operational phase of the proposed project.

Alternative B – No Action

Due to the fact that the project would not be implemented under the No Action Alternative, there would be no potential impacts to surface water features.

6.4.2 Groundwater

Alternative A – Installation of Fiber Optic Line on Proposed Route

Due to the nature and depth of installation for the proposed action within the **Western Boundary**, the proposed action will not directly encounter ground water resources. Along the **Western Boundary** route, 27 groundwater wells are noted to be within 500' of the line. The **Pawhuska Indian Village** does not have any groundwater wells within the 500' vicinity of the line.

The ground water wells within 500' of the proposed action, range in first water depths of 17'-90'. Installation depths of the proposed action will typically be thirty-six (36) inches. At potential boring sites depths may reach ten (10) feet. Due to installation depths and construction methods, there will be no potential impacts to groundwater resources during the construction phase.

During the operational phase, there will not be groundwater effects associated with the proposed action. No potential adverse impacts to groundwater are expected.

Alternative B – No Action

Due to the fact that the project would not be implemented under the No Action Alternative, there would be no potential impacts to groundwater resources.

6.4.3 Storm Water

Alternative A – Installation of Fiber Optic Line on Proposed Route

During construction, best management practices will be implemented to control and manage storm water. These best management practices may include detention and infiltration ponds, wide grass ditches, catch basins and culverts.

During the operational phase, stormwater runoff would be affected due to the fact that all surface disturbance would be backfilled and leveled to its original contours and vegetation.

Alternative B – No Action

Due to the fact that the project would not be implemented under the No Action Alternative, there would not be any adverse effects related to storm water.

6.4.4 Coastal Zone, Estuary, and Inter-tidal Areas

Alternative A – Installation of Fiber Optic Line on Proposed Route

There are no coastal zones, estuaries, or inter-tidal areas within the vicinity of the proposed action. Due to this there will be no potential negative impacts to coastal zones, estuaries, or inter-tidal areas during the construction phase nor operational phase.

Alternative B – No Action

Due to the fact that the project would not be implemented under the No Action Alternative, there would be no potential impacts to coastal zones, estuaries, or inter-tidal areas.

6.4.5 Floodplains

Alternative A – Installation of Fiber Optic Line on Proposed Route

Western Boundary

The proposed action traverses mapped Zone AE and Zone A Floodplains. The proposed action is subterranean in nature and will not result in any above ground structures. No portion of the proposed action will affect base flood elevations. Due to this there will be no potential negative impacts to floodplains during the construction phase.

There will be no negative impacts to floodplains associated with the proposed action during the operational phase.

Pawhuska Indian Village

The proposed action traverses mapped Zone A Floodplain. The proposed action is subterranean in nature and will not result in any above ground structures. No portion of the proposed action will affect base flood elevations. Due to this there will be no potential negative impacts to floodplains during the construction phase.

There will be no negative impacts to floodplains associated with the proposed action during the operational phase.

Alternative B – No Action

Due to the fact that the project would not be implemented under the No Action Alternative, there would be no potential impacts to floodplains.

6.4.6 Wild and Scenic Rivers

Alternative A – Installation of Fiber Optic Line on Proposed Route

There are wild or scenic rivers within the vicinity of the proposed action. Due to the proposed action being horizontally, directionally bored along water features or aerially installed using existing infrastructure, there will be no potential negative impacts to wild or scenic rivers during the construction phase nor operational phase.

Alternative B – No Action

Due to the fact that the project would not be implemented under the No Action Alternative, there would be no potential impacts to wild or scenic rivers.

6.5 Biological Resources

6.5.1 Threatened and Endangered Species

Alternative A – Installation of Fiber Optic Line on Proposed Route
Per the analysis provided in Sections 4.5.1 & 4.5.2, a determination of "**no effect**" on all federally listed and proposed species has been made for this project area, other than the American Burying Beetle. It is not anticipated that there will be negative impacts to threatened and endangered species; however, in the event that species are encountered, work in that area will immediately be suspended and the USFWS immediately consulted.

During the operational phase, there will not be an effect to threatened or endangered species.

Alternative B – No Action
Due to the fact that the project would not be implemented under the No Action Alternative, there would be no potential impacts to threatened or endangered species.

6.5.2 American Burying Beetle (*Nicrophorus americanus)* – Threatened (Federal)

Alternative A – Installation of Fiber Optic Line on Proposed Route

Western Boundary

Potential Direct, Indirect, and Cumulative Effects: Potential direct, indirect, and cumulative effects are possible. The proposed action lies within the American Burying Beetle active range. However, according to the USFWS ABB Survey Guidance

published May 2018 due to active mowing and herbicide applications of the existing Highway ROW, the habitat would be considered unfavorable.

Project Analysis: The proposed fiber optic line will be installed within the State Highway 60 right-of-way. The landscape within and surrounding the immediate project area is flat to moderately sloping. Furthermore, the existing ROW is maintained and mowed regularly (below 8").

Available Surveys: The proposed action is within rural areas in Osage County along pastures, occasional lawns, ROWs, paved surfaces, and roadways. A site evaluation was performed on March 27, 2023 by Reagan Smith personnel. The site evaluation indicated that the project area is maintained such that habitat potential is low for the American burying beetle. The proposed action lies within the American burying beetle active range. However, according to the USFWS ABB Survey Guidance published May 2018 due to active mowing and herbicide applications of the existing Highway ROW, the habitat would be considered unfavorable. Surveys conducted by ONHI indicate no occurrences within the proposed action route. (See Appendix M – Oklahoma Natural Heritage Inventory)

Determination: The habitat within and surrounding the project traverses' areas on the surface that are not suitable for the American Burying Beetle. Due to the actions, effects on the American burying beetle are possible; however, any incidental take that may occur as a result of the Action is not prohibited under the Action Section 4(d) rule adopted for this species at 50 CFR §17.47(d). A determination of "may affect, but take not prohibited" has been issued for the American burying beetle by the NTIA Environmental Program Officer base upon information provided. FWS concurrence was assumed based upon no objection to this determination within 30 days of receipt of their verification letter. (Appendix L – American Burying Beetle Determination Letter). During the operational phase there are no potential adverse impacts to the American Burying Beetle.

<u>Pawhuska Indian Village</u>

Potential Direct, Indirect, and Cumulative Effects: Potential direct, indirect, and cumulative effects are possible. The proposed action lies within the American Burying Beetle active range, but according to the USFWS ABB Survey Guidance published May 2018 due to urbanization, infrastructure, active mowing, and herbicide applications of the existing ROW, the habitat would be considered unfavorable.

Project Analysis: The proposed fiber optic line will be installed within an urbanized area of Pawhuska, OK with pre-existing infrastructure. The landscape within and surrounding the immediate project area is flat to moderately sloping. Furthermore, the existing ROW is maintained and mowed regularly (below 8").

Available Surveys: A site evaluation was performed on March 29, 2023 by Reagan Smtih personnel. The site evaluation indicated that the project area is maintained such that habitat potential is low for the American Burying Beetle. The proposed action is within an urban area in Pawhuska city limits with neighborhoods, lawns, ROWs, paved surfaces, and roadways. The proposed action lies within the American Burying Beetle active range. However, according to the USFWS ABB Survey Guidance published May 2018 due to urbanization, active mowing (vegetation height less than 8"), herbicide applications, and infrastructure, within the existing ROWs, the habitat would be considered unfavorable. Surveys conducted by ONHI indicate 11 occurrences within the vicinity of the proposed project area, but no occurrences within the proposed action route. (See Appendix M – Oklahoma National Heritage Inventory Documentation).

Determination: The habitat within and surrounding the project traverses' areas on the surface that are unfavorable for the American Burying Beetle. Due to the actions and unfavorable habitat, which would preclude impacts to the American burying beetle. A determination of "no effect" has been issued for the American burying beetle by the NTIA Environmental Program Officer. (Appendix L – American Burying Beetle Determination Letter)

The proposed project is subterranean in nature with no additional surface disturbance anticipated during the operational phase. Additionally, during the operational phase only electronic and data transmission will occur through the installed fiber optic line. Therefore, there will not be an effect to the American burying beetle associated with the proposed action during the operational phase.

Alternative B – No Action

Due to the fact that the project would not be implemented under the No Action Alternative, there would be no potential impacts to the American Burying Beetle.

6.5.3 Bald Eagle (*Haliaeetus leucocephalus*) – Protected (Federal)

Alternative A – Installation of Fiber Optic Line on Proposed Route

Western Boundary

Potential Direct, Indirect, and Cumulative Effects: Potential direct, indirect, and cumulative effects are not expected. The proposed action is not anticipated to impact or affect preferred habitat as the fiber optic line is subterranean and avoids active nest sites.

Project Analysis: The proposed fiber optic line will be installed within the existing ROW of Highway 60. The landscape within and surrounding the project area is flat to moderately sloping. Furthermore, the existing ROW is maintained and mowed regularly (below 8").

Available Surveys: The proposed action is within rural areas in Osage County along pastures, occasional lawns, ROWs, paved surfaces, and roadways. The project area is located within the known range for the Bald Eagle. A site evaluation was performed on March 27, 2023 by Reagan Smith personnel. No presence of the bald eagle was observed. Surveys conducted by ONHI indicate occurrences within the vicinity. No potential nest sites observed in vicinity of the proposed action.

Determination: The installation of the fiber optic line will be of subterranean nature and will avoid any nests therefore, cumulative and indirect effects will not occur. A determination of **"no effect"** has been issued by the NTIA Environmental Program Officer.
During the operational phase there are no potential adverse impacts to the Bald Eagle.

Pawhuska Indian Village

Potential Direct, Indirect, and Cumulative Effects: Potential direct, indirect, and cumulative effects are not expected. The proposed action is not anticipated to impact or affect preferred habitat as the fiber optic line is subterranean and will be installed along existing powerlines with no tree removal necessary, avoiding any potential active nest sites.

Project Analysis: The proposed fiber optic line will be installed within the existing ROW of Highway 60. The landscape within and surrounding the project area is flat to moderately sloping. Furthermore, the existing ROW is maintained and mowed regularly (below 8").

Available Surveys: The proposed action is within an urban area in Pawhuska city limits with neighborhoods, lawns, ROWs, paved surfaces, and roadways. The project area is located within the known range for the bald eagle. A site evaluation was performed on March 29, 2023 by Reagan Smith personnel. No presence of the bald eagle was observed. Surveys conducted by ONHI indicate occurrences within the vicinity. No potential nest sites observed in vicinity of the proposed action.

Determination: The installation of the fiber optic line will be of subterranean nature and will avoid any nests therefore, cumulative and indirect effects will not occur. A determination of **"no effect"** has been issued by the NTIA Environmental Program Officer.
During the operational phase there are no potential adverse impacts to the Bald Eagle.

Alternative B – No Action
Due to the fact that the project would not be implemented under the No Action Alternative, there would be no potential impacts to the bald eagle.

6.5.4 Monarch Butterfly *(Danaus plexippus)*

Alternative A – Installation of Fiber Optic Line on Proposed Route

Western Boundary

Potential Direct, Indirect, and Cumulative Effects: Potential direct, indirect, and cumulative effects are possible. The proposed action lies within the Monarch butterfly's active range. Vegetation maintenance regimes limit the potential of habitat within the existing State Highway ROW. Due to urbanization, infrastructure, active mowing, and herbicide applications of the existing State Highway ROW, the habitat would be considered unfavorable.

Project Analysis: The proposed fiber optic line will be installed within the State Highway 60 right-of-way. The landscape within and surrounding the immediate project area is flat to moderately sloping. Furthermore, the existing ROW is maintained and mowed regularly (below 8").

Available Surveys: A site evaluation was performed on March 27, 2023 by Reagan Smith personnel. The project area is located within the known range for the Monarch Butterfly. The proposed action is within rural areas in Osage County along pastures, occasional lawns, ROWs, paved surfaces, and roadways. Surveys conducted by ONHI indicate no occurrences within the vicinity.

Determination: The habitat within and surrounding the project traverses' areas on the surface that are not suitable for the Monarch Butterfly. Due to the actions, effects on the Monarch Butterfly are possible; however, vegetation maintenance regimes on existing State Highway ROWs make this an unsuitable habitat for breeding. A determination of "not likely to adversely affect" has been issued for the Monarch Butterfly by the NTIA Environmental Program Officer.

During the operational phase there are no potential adverse impacts to the Monarch Butterfly

Pawhuska Indian Village

Potential Direct, Indirect, and Cumulative Effects: Potential direct, indirect, and cumulative effects are possible. The proposed action lies within the Monarch butterfly's active range. Vegetation maintenance regimes limit the potential of habitat within the existing road ROW. Due to urbanization, infrastructure, active mowing, and herbicide applications of the existing road ROW, the habitat would be considered unfavorable.

Project Analysis: The proposed action is within an urban area in Pawhuska city limits with neighborhoods, lawns, ROWs, paved surfaces, and roadways. The landscape within and surrounding the immediate project area is flat to moderately sloping. Furthermore, the existing road ROW is maintained and mowed regularly (below 8").

Available Surveys: A site evaluation was performed on March 29, 2023 by Reagan Smith personnel. The proposed action is within an urban area in Pawhuska city limits with neighborhoods, lawns, ROWs, paved surfaces, and roadways. Surveys conducted by ONHI indicate no occurrences within the vicinity.

Determination: The habitat within and surrounding the project traverses' areas on the surface that are not suitable for the Monarch Butterfly. Due to the actions, effects on the Monarch Butterfly are possible; however, vegetation maintenance regimes on existing State Highway ROWs make this an unsuitable habitat for breeding. A determination of "not likely to adversely affect" has been issued for the Monarch Butterfly by the NTIA Environmental Program Officer.

During the operational phase there are no potential adverse impacts to the Monarch Butterfly

Alternative B – No Action
Due to the fact that the project would not be implemented under the No Action Alternative, there would be no potential impacts to the Monarch Butterfly.

6.5.5 Tricolored Bat (*Perimyotis subflavus)* - Proposed Endangered (Federal)

Alternative A – Installation of Fiber Optic Line on Proposed Route

Western Boundary
Potential Direct, Indirect, and Cumulative Effects: Potential direct, indirect, and cumulative effects are not expected. The proposed action is not anticipated to cause potential disturbance to their preferred habitat as the fiber optic line will avoid structures and no tree removal will be necessary.

Project Analysis: The proposed fiber optic line will be installed within the Highway 60 right-of-way. The landscape within and surrounding the project area is flat to moderately sloping. Furthermore, the existing ROW is maintained and mowed regularly (below8").

Available Surveys: A site evaluation was performed on March 27, 2023 by Reagan Smith personnel. The proposed action is within rural areas in Osage County with maintained pastures, occasional lawns, ROWs, and paved surfaces and roadways. No roost trees were observed in the vicinity of the proposed action and no tree removal will be required. Surveys conducted by ONHI indicate an occurrence within the vicinity.

Determination: Due to the fiber optic line's subterranean nature and avoidance of roost sites, cumulative and indirect effects will not occur. A determination of **"no effect"** has been issued by the NTIA Environmental Program Officer.

During the operational phase there are no potential adverse impacts to the tricolored bat.

Alternative B – No Action
Due to the fact that the project would not be implemented under the No Action Alternative, there would be no potential impacts to the tricolored bat.

6.5.6 Alligator Snapping Turtle (*Macrochelys temminckii)* – Proposed Threatened (Federal)

Alternative A – Installation of Fiber Optic Line on Proposed Route

Western Boundary
Potential Direct, Indirect, and Cumulative Effects: Potential direct, indirect, and cumulative effects are not expected. The proposed action is not anticipated to cause potential disturbance to their preferred habitat as the fiber optic line will avoid any disturbance within aquatic areas.
Project Analysis: The proposed fiber optic line will be installed within the Highway 60 right-of-way. The landscape within and surrounding the project area is flat to moderately sloping. Furthermore, the existing ROW is maintained and mowed regularly (below8").

Available Surveys: The proposed action is within rural areas in Osage County with maintained pastures, occasional lawns, ROWs, and paved surfaces and roadways. A site evaluation was performed on March 27, 2023 by Reagan Smith personnel. No presence of the alligator snapping turtle was observed. Surveys conducted by ONHI indicate an occurrence within the vicinity.

Determination: Due to the fiber optic line avoiding disturbance within aquatic areas, cumulative and indirect effects will not occur. A determination of **"no effect"** has been issued by the NTIA Environmental Program Officer.
During the operational phase there are no potential adverse impacts to the American snapping turtle.
Alternative B – No Action
Due to the fact that the project would not be implemented under the No Action Alternative, there would be no potential impacts to the American snapping turtle.

Determination of Effect Summary:
A determination of **"no effect"** on all federally listed and proposed species has been made for the proposed action.

Table 6.5 Sensitive Species Evaluation

Endangered, Threatened, and Sensitive Species
NTIA Broadband Grant
Western Boundary and Pawhuska Indian Village Fiber Optic Line, Osage County, Oklahoma

Species	Status	Environmental Baseline for Potential Habitat	Potential Habitat Presence/Species Potential for Occurrence within the Project Area	Observed Occurrences in Proposed Action	Species Analysis Required	Determination of Effect
MAMMAL **Tricolored Bat** *(Perimyotis subflavus)* 	**Proposed Endangered** (Federal)	**Tricolored Bats** inhabit landscapes that are partly open, with large trees and plentiful woodland edges. They are found in a variety of terrestrial habitats, including grasslands, old fields, orchards, urban areas, and woodlands, especially hardwood. In spring, summer, and fall, they primarily roost among live and dead leaf clusters of live or recently dead deciduous hardwood trees. In addition, they have been observed roosting among pine needles, eastern red cedar, rock crevices, and within artificial roosts like barns, beneath porch roofs, bridges, and concrete bunkers. They forage along forest edges and over ponds and waterways for small insects, such as leafhoppers, ground beetles, flies, small moths, and flying ants. During the winter, tricolored bats hibernate in caves and mines; although, in the southern United States, where caves are sparse, tricolored bats often hibernate in road-associated culverts, as well as tree cavities and abandoned water wells.	No potential habitat present. Some potential for occurrence within the project boundaries. The tricolored bat is a sensitive species within the project boundaries of the **Western Boundary** and the **Pawhuska Indian Village** as noted in the IPaC letter. **(Appendix K - Information for Planning and Consultation)**	ONHI recorded occurrences near the vicinity of the **Western Boundary** only.	Due to an ONHI recorded occurrence, the tri-colored bat was further analyzed in Sections 4.5.4 and 6.5.4.	Based on our analysis of the tri-colored bat, a determination of **"no effect"** has been issued.
BIRD **Red Knot** *(Calidris canutus rufa)* 	**Threatened** (Federal)	**Red Knots** breed in the high Arctic on dry upland tundra, including weathered sandstone ridges, upland areas with scattered willows and poppy, moist marshy slopes & flats in foothills, well-drained slopes hummocked with Dryas ssp. and upland glacial gravel close to streams or ponds. Outside of the breeding season, the species is strictly coastal, frequenting tidal mudflats or sandflats, sandy beaches of sheltered coasts, rocky shelves, bays, lagoons and harbors, and occasionally oceanic beaches and saltmarshes.	No potential habitat present. Some potential for occurrence of flying through the project boundaries. The red knot is a sensitive species within the project boundaries of the **Western Boundary** and the **Pawhuska Indian Village** as noted in the IPaC letter. **(Appendix K - Information for Planning and Consultation)**	No recorded occurrences from ONHI near the vicinity of any of the project boundaries.	No further analysis will be required for this species.	**"no effect"**
BIRD ***Piping Plover*** *(Charadrius melodus)* 	**Threatened** (Federal)	**Piping Plovers** breed on sandy beaches along the Atlantic Coast from Canada to North Carolina, along the sand and gravel shores of Lakes Michigan, Huron, and Superior in Michigan, and along Lakes Superior and Michigan in Wisconsin, and on river sandbars and islands, barren shorelines of inland lakes, and alkali wetlands in the northern Great Plains of Canada and the United States. Wintering primarily along Gulf Coast beaches from Florida to Mexico, along the Atlantic Coast from North Carolina to Florida, and on Caribbean islands. Piping Plovers often roost on beaches huddled down in the sand, or behind driftwood or clumps of seaweed and other debris. They also roost among debris in wash-over passes created by hurricanes and storms on barrier islands and peninsulas.	No potential habitat present. Some potential for occurrence of flying through the project boundaries. The piping plover is a sensitive species within the project boundaries of the **Western Boundary** and the **Pawhuska Indian Village** as noted in the IPaC letter. **(Appendix K - Information for Planning and Consultation)**	No recorded occurrences from ONHI near the vicinity of any of the project boundaries.	No further analysis will be required for this species.	**"no effect"**

Table 6.5 Sensitive Species Evaluation

Endangered, Threatened, and Sensitive Species
NTIA Broadband Grant
Western Boundary and Pawhuska Indian Village Fiber Optic Line, Osage County, Oklahoma

Species	Status	Environmental Baseline for Potential Habitat	Potential Habitat Presence/Species Potential for Occurrence within the Project Area	Observed Occurrences in Proposed Action	Species Analysis Required	Determination of Effect
INSECT **American Burying Beetle** *(Nicrophorus americanus)* 	**Threatened** (Federal)	**American burying beetles** are the largest carrion-feeding insects in North America, growing up to 35 mm in length. They have a pronotum, a shield-like area just behind the head. They also have a small orange patch on their face between the eyes. In males this patch is square, while it is triangular in females. They are largely confined to areas with the least human influence. American burying beetles thrive in areas with an abundance of carrion and have been found in grasslands, scrublands, and forest edges.	Low potential for preferred habitat present. Low potential for occurrence within the project boundaries. The American burying beetle is a sensitive species within the project boundaries of the **Western Boundary** and the **Pawhuska Indian Village** as noted in the IPaC letter. **(Appendix K - Information for Planning and Consultation)**	ONHI recorded occurrences near the vicinity of the **Pawhuska Indian Village**.	Due to an ONHI occurrence and a potential for preferred habitat, the American burying beetle was further analyzed in Sections 4.5.4 and 6.5.2.	Based on our analysis of the American burying beetle, a determination of **"not likely to adversely affect"** has been issued. **(Appendix L – ABB Determination Letter)**
INSECT **Monarch Butterfly** *(Danaus plexippus)* 	**Candidate** (Federal)	**Monarch Butterfly** life cycles rely on milkweed host plants, typically those from Asclepias spp. The milkweed is a host for Monarch eggs and supply larvae through their first 5 larval instars, and also provides effective chemical defense against predators. The life cycle of the Monarch is completely dependent on milkweed species. Up to five generations of Monarch's can live and die during summer months, with the final generation migrating in the fall to Mexico to overwinter.	The proposed action falls within Monarch range. Vegetation maintenance regime limits potential of habitat. The monarch butterfly is a sensitive species within the project boundaries of the **Western Boundary** and the **Pawhuska Indian Village** as noted in the IPaC letter. **(Appendix K – Information for Planning and Consultation)**	No recorded occurrences from ONHI near the vicinity of any of the project boundaries	Due to the monarch butterfly being a candidate species, further analysis is presented in Section 4.5.4 and 6.5.4.	Based on our analysis of the Monarch Butterfly, a determination of **"not likely to adversely affect"** has been issued.
REPTILE **Alligator Snapping Turtle** *(Macrochelys temminckii)* 	**Proposed Threatened** (Federal)	**Alligator Snapping Turtle** is the largest species of freshwater turtle. They are almost exclusively aquatic and tend to stay submerged and motionless for so long that algae begins to grow on their shells. They can go up to 50 minutes before needing to resurface for air. Except for egg-laying females, these turtles almost never go on land. Preferred habitats are river systems, lakes, and wetlands. For feeding, they will dupe their prey by laying on the riverbed, opening its jaw, and wiggling its tongue, having its prey believe the tongue is a worm and the prey swim right into its mouth. They can also actively search for prey by tasting chemicals in the water that are indicative of a particular species.	Potential for preferred habitat present. Low potential for occurrence within the project boundaries. The alligator snapping turtle is a sensitive species within the project boundaries of the **Western Boundary** only as noted in the IPaC letter. **(Appendix K – Information for Planning and Consultation)**	ONHI recorded occurrences near the vicinity of the **Western Boundary** only.	The alligator snapping turtle was further analyzed in Sections 4.5.4 and 6.5.5.	Based on our analysis of the alligator snapping turtle, a determination of **"no effect"** has been issued.

6.5.7 Critical Habitat

Alternative A – Installation of Fiber Optic Line on Proposed Route

Per the analysis provided in Sections 4.5.1 & 4.5.2, a determination of "**no effect**" on all federally listed and proposed species has been made for the project area. Due to this determination, there will be no potential negative impacts to critical habitat during the construction phase nor operational phase.

Alternative B – No Action

Due to the fact that the project would not be implemented under the No Action Alternative, there would be no potential impacts to critical or threatened habitat.

6.5.8 Wetland Habitats

Alternative A – Installation of Fiber Optic Line on Proposed Route

The U.S. Fish and Wildlife Service National Wetland Inventory maps were consulted for the proposed action. According to the NWI maps, the proposed action traverses areas mapped as potential wetlands. All wetland areas within the **Western Boundary** will be horizontally, directionally bored. All wetland areas within the **Pawhuska Indian Village** will be installed aerially along existing infrastructure (powerlines). Therefore, no potential negative impacts to wetland habitats will occur during the construction phase (see Appendix D - National Wetland Inventory Plats)

During the operational phase there are no potential adverse impacts to wetland habitats.

Wetland Determination

Due to the proposed action avoiding construction within potential wetland areas, no discharge of dredged and fill material would occur for the proposed action during construction.

Alternative B – No Action

Due to the fact that the project would not be implemented under the No Action Alternative, there would be no negative potential impacts to wetlands.

6.6 Historic and Cultural Resources

Western Boundary

The ONHPO team conducted a background file search, pedestrian survey, and shovel testing for the proposed action's APE within the Osage Nation tribal land. A total of 189 shovel tests were conducted. Two previous archaeological surveys intersect with the current APE. Within one mile of the study area, 29 previously recorded archaeological sites are on record at the Oklahoma Archeological Survey

(OAS). The team found no marked landmark properties or historic properties located within the APE or within one mile of the APE from the present survey and previous surveys. Due to the findings of no historic properties eligible or potential eligible for the National Register of Historic Places located within or near the current APE according to ONHPO, no further archeological concern is warranted within the proposed action.

Pawhuska Indian Village

The ONHPO conducted 34 shovel tests for the proposed action's APE within the Osage Nation tribal land and found 12 shovel tests to be positive for cultural material. The artifacts collected consisted of fragments of a large mammal and a single whiteware sherd. Other material observed but not collected were possible road gravel, modern clear glass, modern plastic, iron nails, unidentifiable iron pieces, broken wire, milk glass, brick pieces, a piece of linoleum, asphalt chunks, a piece of Styrofoam, and a piece of clay sewer pipe. The materials observed were not greater than 50 years of age, therefore were not collected. Due to the findings of no properties eligible for nor listed on the National Register of Historic Places within the proposed APE, according to ONHPO, no further archeological concern is warranted within the proposed action.

Alternative B – No Action

Due to the fact that the project would not be implemented under the No Action Alternative, there would be no negative potential impacts to Native American traditional, cultural, or religious resources.

6.7 Aesthetic and Visual Resources

Alternative A – Installation of Fiber Optic Line on Proposed Route

The proposed action would have no potential long-term visual impacts during the construction phase. Short term visual effects would be due to machinery used for construction and will be temporary in nature. During the operational phase the fiber optic line will be entirely subterranean. Due to this, there will be no potential negative impacts to the aesthetic and visual resources.

Alternative B – No Action

Due to the fact that the project would not be implemented under the No Action Alternative, there would be no impact on aesthetic and visual resources.

6.8 Land Use

Alternative A – Installation of Fiber Optic Line on Proposed Route

Western Boundary

The entirety of the proposed action is within the existing ROW of State Highway 60. The ROW is frequently mowed and maintained. The proposed action would not alter the current land use along the proposed route. Therefore, there will be no potential negative impacts to land use during the construction phase nor the operational phase.

Pawhuska Indian Village

The entirety of the proposed action is within an existing neighborhood in Pawhuska, Oklahoma. The ROW is frequently mowed and maintained. The proposed action would not alter the current land use along the proposed route. Therefore, there will be no potential negative impacts to land use during the construction phase nor the operational phase.

Alternative B – No Action

Due to the fact that the project would not be implemented under the No Action Alternative, there would be no impact on land use.

6.9 Infrastructure

Alternative A – Installation of Fiber Optic Line on Proposed Route

Due to the construction phase requiring the use of machinery, there will be a temporary effect on traffic and drivers as speed limits might lower temporarily.

During the operational phase, the proposed action will increase broadband connectivity across multiple communities in Osage County, Oklahoma. Therefore, there will be potential positive impacts to infrastructure by creating facilitated access to found nearby businesses.

Alternative B – No Action

Due to the fact that the project would not be implemented under the No Action Alternative, the Broadband connectivity would not be improved resulting in potential negative impacts to infrastructure.

6.10 Socioeconomic Resources

Socioeconomics

Alternative A – Installation of Fiber Optic Line on Proposed Route

Due to the construction phase requiring a crew for installment, there will be socioeconomic benefits associated with the proposed action. The crew will also have

a need for supplies, materials, food, and lodging in the surrounding area. Potential direct impacts would include increased spending by contractors and workers for materials, supplies, food, and lodging in the surrounding area, which would be subject to sales and lodging taxes. Other state and local tax payments and fees would be incurred with a small percentage of these revenues distributed back to the local economies.

During the operational phase of the proposed action, there will likely be a result of direct economic benefits associated with commercial activities, better education, increased ecommerce, and more jobs. The socioeconomic resources of the proposed action would be positively impacted. Accessibility to connecting with businesses more easily will positively impact the socioeconomics of Osage County as well.

Alternative B – No Action

Due to the fact that the project would not be implemented under the No Action Alternative, there would not be an increase in spending by contractors and workers for materials, supplies, food, and lodging in the surrounding area.

Environmental Justice

Alternative A – Installation of Fiber Optic Line on Proposed Route

The proposed action will have positive impacts on the Osage Nation of Oklahoma, a minority group residing within the community, during the construction phase. The proposed action will provide more job opportunities during the construction phase.

During the operational phase, the proposed action has the potential to benefit the minority group due to the introduction of new fiber connectivity. The Osage Nation will be able to provide increased infrastructure with faster internet speeds to businesses, homes, and individuals. This will create access to better education, more employment and easier healthcare access.

Alternative B – No Action

Due to the fact that the project would not be implemented under the No Action Alternative, the Osage Nation would not be able to utilize faster internet connectivity for the benefit of tribal members, creating potential negative impacts to the Osage Nation, a minority population. The No Action alternative would prohibit this under-served society from obtaining the benefits of enhanced communication, telemedicine, educational, and employment opportunities.

Employment & Income

Alternative A – Installation of Fiber Optic Line on Proposed Route

During the construction phase and operational phase, impacts to socioeconomic resources of the proposed action would be positive with no adverse impacts to the employment and income of the local area. Any increase in workers would result in a short-term increase in population in the project area required for short-term

operations and would create an incremental increase in demand for services and infrastructure within Osage County.

Implementation of the proposed action would likely result in direct and indirect economic benefits associated with industrial and commercial activities. Direct impacts would include increased spending by contractors and workers for materials, supplies, food, and lodging in the surrounding area, which would be subject to sales and lodging taxes. Other state and local tax payments and fees would be incurred with a small percentage of these revenues distributed back to the local economies. Wages due to employment would also impact per capita income for those who were previously unemployed or underemployed. Indirect benefits would include increased spending from increased construction materials, as well as a slight increase in generated taxes from the short-term operations.

Due to internet accessibility under the operational phase, the citizens of Osage county will benefit in accessing employment opportunities online.

The proposed action will incrementally add to existing and future socioeconomic impacts in the general area.

Alternative B – No Action

Due to the fact that the project would not be implemented under the No Action alternative, there would be no change in employment or income. This underserved community would not have greater opportunities for employment under the "No Action" alternative, possibly negatively affecting the Osage Tribe.

6.11 Human Health and Safety

Alternative A – Installation of Fiber Optic Line on Proposed Route

During the construction phase, the proposed action would introduce minor hazards to public health and safety due to machinery brought in during construction and installation of the fiber optic line. The introduction of the minor hazards will only be temporary and will have no long-term effect on human health and safety.

All traffic would be confined to approved routes and conform to established load restrictions and speed limits for state and county roadways and haul permits would be acquired as appropriate.

During the operational phase, the community will have access to managing their healthcare online and finding nearby healthcare facilities. This will aid in the increase of the quality of human health within the community. Better healthcare services will be more easily accessible with the implementation of improved network connectivity. The quality of safety within the community will increase with the accessibility to provide weather alerts, traffic alerts, and amber alerts via higher speed internet connection.

Alternative B – No Action

Due to the fact that the project would not be implemented under the No Action Alternative, there may be negative impacts on public health due to the lack of telemedicine opportunities and healthcare may not be easily accessible. There may also be negative impacts to the quality of safety as internet connection will not be as reliable to send out weather alerts, traffic alerts, or amber alerts.

Hazardous Materials

Alternative A – Installation of Fiber Optic Line on Proposed Route

The proposed action would not require storage or use of any hazardous materials. During the construction phase of the proposed action, materials, and trash from the demolition activities will be hauled off and disposed of properly by the contractors. The proposed action will have no potential adverse impacts associated with hazardous materials.

During the operational phase, there will be no potential adverse impacts associated with hazardous materials.

Alternative B – No Action

Due to the fact that the project would not be implemented under the No Action Alternative, there would be no potential impacts involving hazardous materials.

Climate Change

Alternative A – Installation of Fiber Optic Line on Proposed Route

The proposed project will not have any potential measurable effects causing climate change due to the surface disturbance associated with the proposed action being associated with already established thoroughfares and rights-of-way. The installation involved with this project will have negligible effects on the local environment. The proposed action will not produce significant increases in criteria pollutants, GHGs, or HAPs. The proposed action would not adversely affect emissions occurring within the region. Emissions from construction equipment are expected but would not impact attainment status based on any of the Primary and Secondary National Ambient Air Quality Standards for criteria pollutants or other regulated air emissions.

During the operational phase, there will be no potential adverse impacts to climate change associated with the proposed action.

Alternative B – No Action

Due to the fact that the project would not be implemented under the No Action Alternative, there would be no potential impacts on climate change.

6.12 Cumulative impacts

Potential environmental impacts may accumulate either over time or in combination with similar events in the area. Unrelated and dissimilar activities may also have potential negative impacts on critical elements, thereby contributing to the cumulative degradation of the environment.

The proposed action is expected to have no potential effect on land use patterns and the human and natural environment, due to the short nature of disturbance and passive nature of operations. There is currently no future development associated with this property.

Based on the existing air quality of Osage County, the proposed action would not produce significant increases in criteria pollutants, GHGs, or HAPs. The proposed action would not adversely affect emissions occurring within the region. Emissions from construction equipment are expected but would not impact attainment status based on any of the Primary and Secondary National Ambient Air Quality Standards for criteria pollutants or other regulated air emissions.

7 Applicable Environmental Permits and Regulatory Requirements

Table 7-1 Potential Applicable Statutory, Regulatory, and Other Requirements

Potentially Applicable Requirement	Relevant Project Information
All Resources	
National Environmental Policy Act (NEPA) of 1969 42 U.S.C. § 4321 et seq.	*Compliance achieved by Environmental Assessment and issuance of FONSI Letter*
Vegetation, Wildlife, and Fish	
Endangered Species Act of 1973 16 U.S.C. § 1531 et seq.	*See sections 4.5.2, 4.5.3 & 6.5* *IPaC letter in Appendix K*
Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act) of 1976 16 U.S.C. 1801 et seq.	*N/A*
Bald Eagle and Golden Eagle Protection Act (Eagle Act) of 1940 16 U.S.C. § 668-668d	*The proposed action within the **Western Boundary** does provide nesting habitat favored by the Bald Eagle or Golden Eagle. Bald and Golden Eagles may fly over the project area. Report from the ONHI confirms occurrences of the bald eagle within the project area however, due to the absence of usable nest sites within the proposed action ROW there will be no effect.* *The proposed action within the **Pawhuska Indian Village** does not provide nesting habitat favored by the Bald Eagle or Golden Eagle. Bald and Golden Eagles may fly over the project area. Report from the ONHI confirms no occurrences of the bald eagle within the project area however, due to the absence of usable nest sites within the proposed action ROW there will be no effect.*

Migratory Bird Treaty Act (MBTA) of 1918 16 U.S.C. § 703-712 Responsibilities to Federal Agencies to Protect Migratory Birds Executive Order 13186	*Fifteen (15) Birds of Conservation Concern are listed for the Oaks and Prairies (Bird Conservation Region 21), where the project occurs within the **Western Boundary and Pawhuska Indian Village** in Osage County, Oklahoma. Breeding bird surveys conducted near the site (Foraker Route) found five (5) species from that list: 1) Chimney Swift (Chaetura pelagica), 2) Red-headed Woodpecker (Melanerpes erythrocephalus), 3)Henslow's Sparrow (Centronyx henslowii), 4)Loggerhead Shrike (Lenius ludovicianus), and 5)Little Blue Heron (Ergetta caerulea). Twenty-five (25) Birds of Conservation Concern are listed for the Eastern Tallgrass Prairie (Bird Conservation Region 22), where the project also occurs within the **Western Boundary** in Osage County, Oklahoma. Breeding bird surveys conducted near the site (Foraker Route) found eight (8) species from that list: 1)Chimney Swift (Chaetura pelagica), 2)Red-headed Woodpecker (Melanerpes erythrocephalus), 3)Henslow's Sparrow (Centronyx henslowii), 4)Loggerhead Shrike (Lenius ludovicianus), 5)Eastern Whip-poor-will (Antrostomus vociferus), 6)Grasshopper Sparrow (Ammodramus savannadrum), 7)Short-eared Owl (Asio flammeus), and 8)Upland Sandpiper (Sternula antelabrum). The USWS's IPaC list of birds of conservation concern and additional desktop analyses were also considered.* *The proposed action will result in new surface disturbance. However, no direct, indirect, or cumulative potential impacts to migratory birds are anticipated to occur as a consequence to the proposed action due to negligible impacts and/or changes to habitat, nesting trees or sites, or feeding grounds being disturbed.*
Fish and Wildlife Conservation Act 16 U.S.C. § 2901 et seq. Fish and Wildlife Coordination Act 16 U.S.C. § 661 et seq.	*N/A*

Waters, Wetlands, and Floodplain Protection	
Clean Water Act 33 U.S.C. § 1251 et seq. Floodplain/Wetlands Environmental Review Requirements 10 CFR 1022.12 Floodplain Management Executive Order 11988 Protection of Wetlands Executive Order 11990	*Compliance with these regulations is explained within the Environmental Assessment.*
Coastal Zone Management Act (CZMA) 16 U.S.C. § 1451 et seq.	*N/A*
Air Quality and Greenhouse Gases	
The Clean Air Act, as revised in 1990 42 U.S.C. § 4701	*See Sections 4.2 & 6.2*
Final Mandatory Reporting of Greenhouse Gases Rule 40 CFR 98 Federal Leadership in Environmental, Energy, and Economic Performance Executive Order 13514	*N/A*

Cultural and Historic Resources	
Antiquities Act of 1906 16 U.S.C. § 431-433 Historic Sites Act of 1935 16 U.S.C. § 461-467 National Historic Preservation Act (NHPA), as amended, inclusive of Section 106 54 U.S.C. § 306108 et seq. Archaeological Data Preservation Act of 1974 (16 U.S.C. § 469 – 469-1) Archaeological Resources Protection Act of 1979, as amended. 16 U.S.C. § 469 a-c Native American Graves Protection and Repatriation Act 25 U.S.C. § 3001 et seq. Indian Sacred Sites Executive Order 13007 American Indian Religious Freedom Act of 1978 (42 U.S.C. § 1996)	*See Sections 5.0 & 6.6*
Noise, Public Health, and Safety	
Noise Control Act of 1972 42 U.S.C. § 4901 et seq.	*See Sections 4.1, 4.2, 6.1 & 6.11*
Spill Prevention Control and Countermeasures Rule 40 CFR 112 Comprehensive Environmental Response, Compensation, and Liability Act 42 U.S.C. § 9601 et seq. Resource Conservation and Recovery Act 42 U.S.C. § 6901 et seq.	*N/A*
The Toxic Substances Control Act 15 U.S.C. 2601 et seq.	*N/A*

Federal Communications Commission (FCC)	*N/A*
Environmental Justice	
Environmental Justice	*See Sections 5.4 & 6.10*
State, County, and Local Plan Consistency	
List Any State, County or Local Planning agencies	Proponent working in conjunction with ODOT.

8 Consultations

Western Boundary

Agency and Name	Consultation	Status
United States Fish and Wildlife Service	ESA Section 7 Consultation	Complete: IPaC Letter received 3/17/23 (see Appendix K) & American Burying Beetle Determination Letter received 4/19/23 (see Appendix L)
Oklahoma Natural Heritage Inventory	T&E Species Occurrences	Letter received 4/18/23 (see Appendix M)

Pawhuska Indian Village

Agency and Name	Consultation	Status
United States Fish and Wildlife Service	ESA Section 7 Consultation	Complete: IPaC Letter received 5/04/23 (see Appendix K) & American Burying Beetle Determination Letter received 5/4/23 (Appendix L)
Oklahoma Natural Heritage Inventory	T&E Species Occurrences	Letter received 5/3/23 (see Appendix M)

9 Public Comment

NTIA conducted a public comment period for the EA. Public notice was placed in the Pawhuska Journal Capital, a local newspaper of general circulation. The notice of the proposal and EA was also posted on NTIA's website for national exposure. The notice described the proposed project and comment process and provided guidance on where to view the document and federal points of contact. The comment period began on November 22, 2023, and concluded on December 21, 2023. No comments were received by the NTIA.

10 References

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APPENDIX A – List of Preparers

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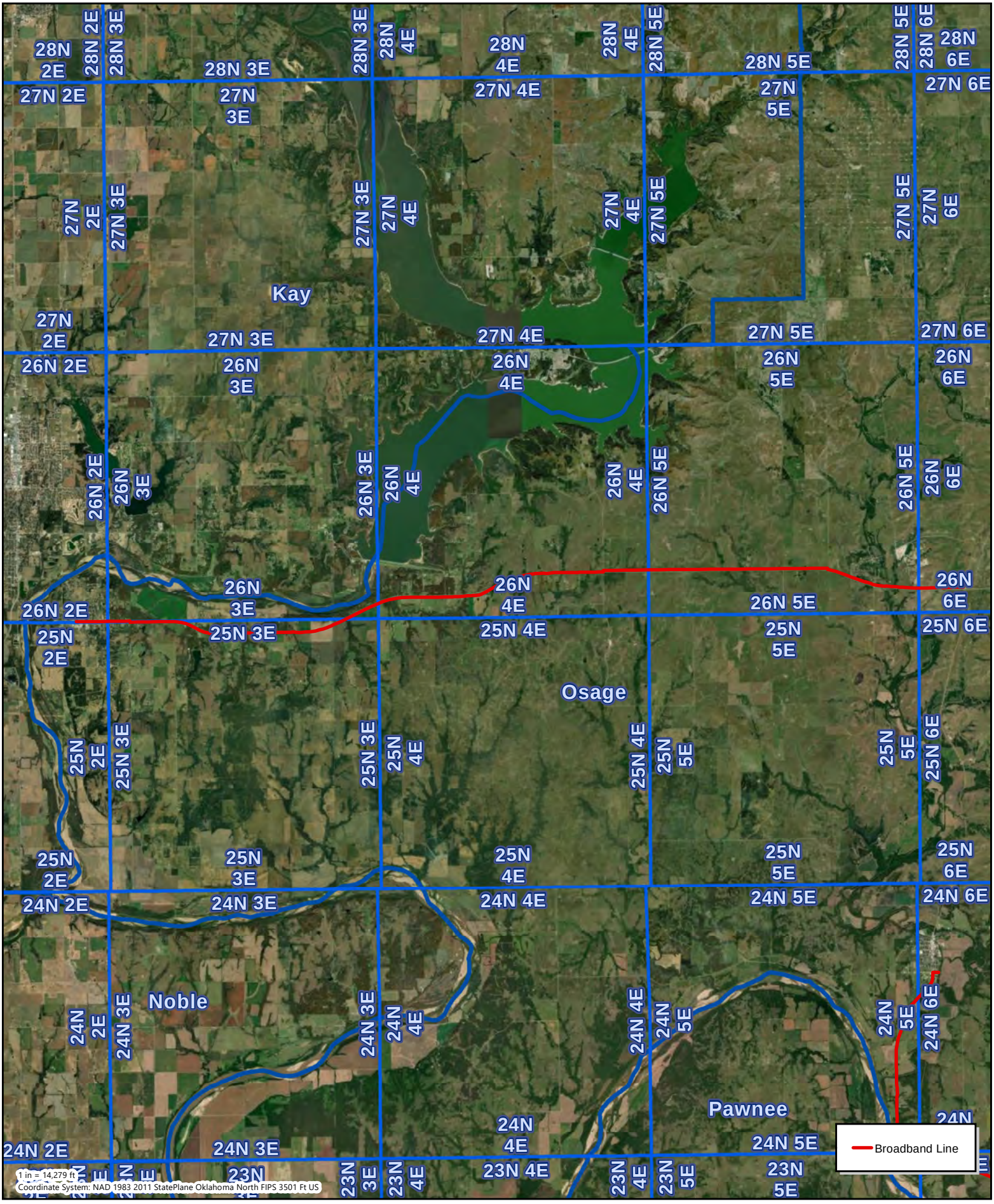
Prepared By: Valeria Escareno **Date:** 01/05/2024

Valeria Escareno
Environmental & Permitting Specialist

APPENDIX B – Project Aerial Plats

Western Boundary



REAGAN SMITH

Project Aerial Plat -Western Boundary

Osage Nation Broadband Environmental Analysis

Osage Nation
Osage County, Oklahoma

This map is a user generated static output from Land Scout and is for reference only. Data layers that appear on this map may or may not be accurate, current, or otherwise reliable.

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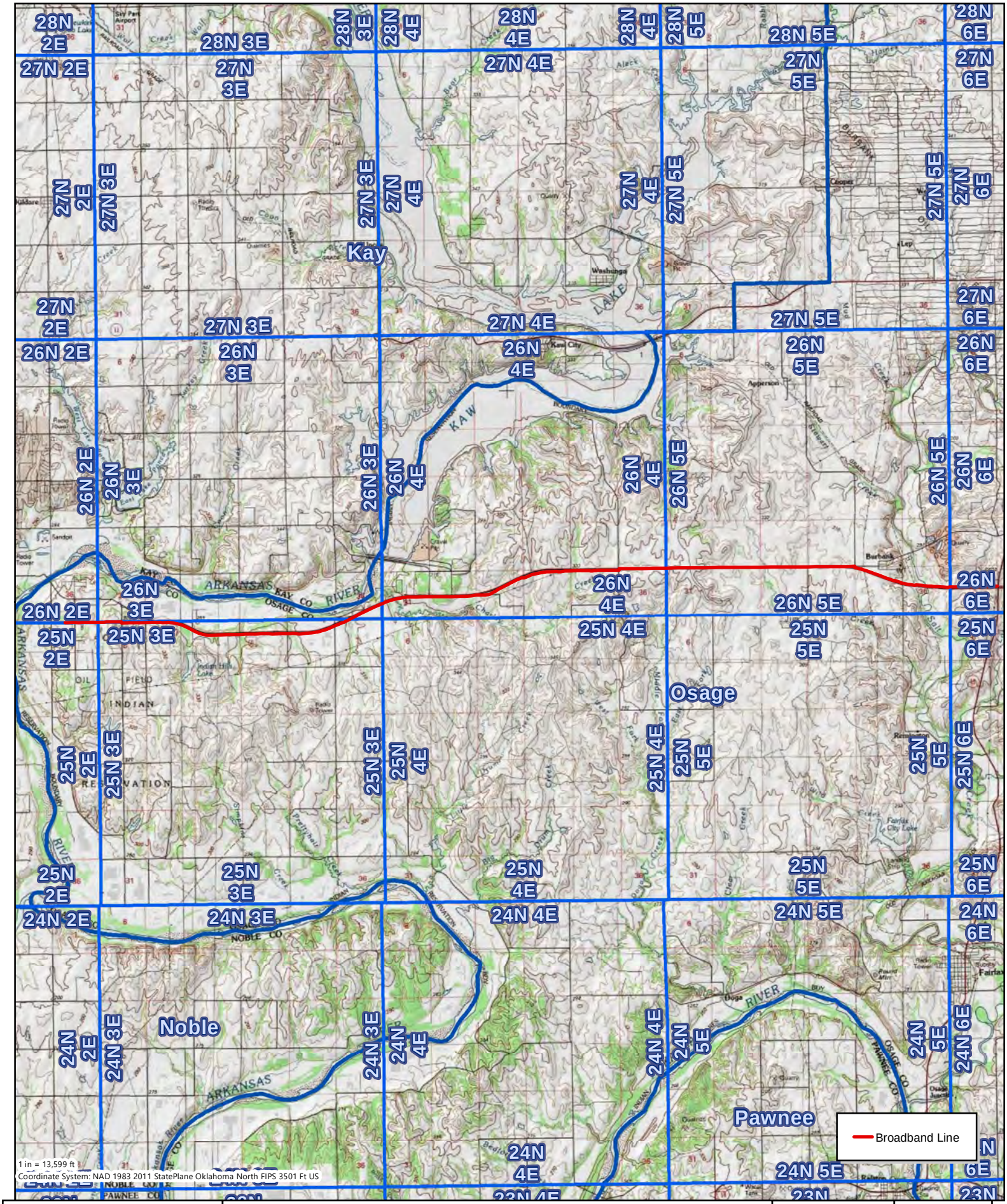
Date: 4/20/2023



REAGAN SMITH

Project Topographic Plat - Western Boundary
Osage Nation Broadband Environmental Analysis
Osage Nation
Osage County, Oklahoma

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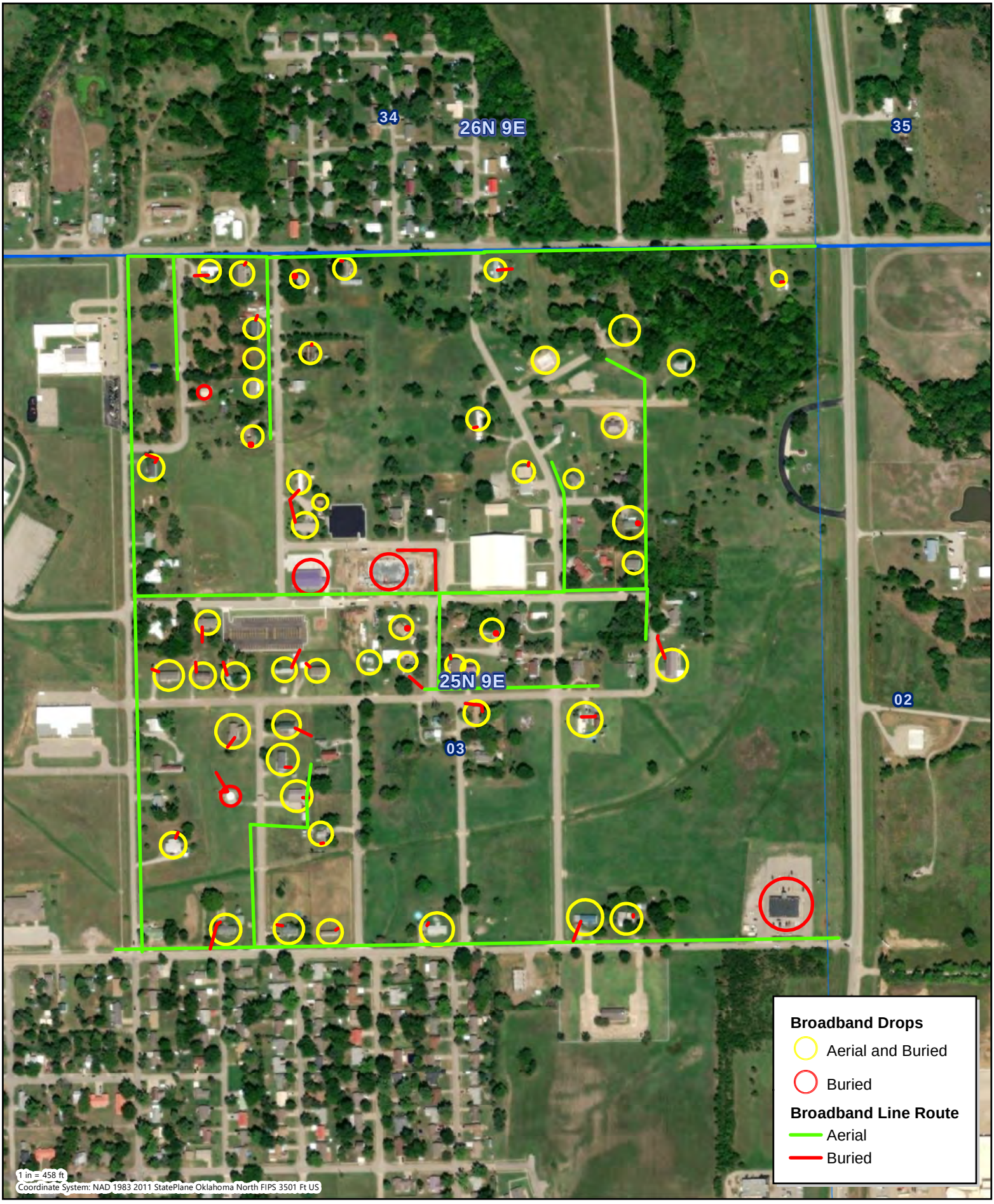
Date: 6/8/2023

Pawhuska Indian Village



REAGAN SMITH

Project Aerial Plat - Pawhuska Indian Village

Osage Nation Broadband Environmental Analysis

Osage Nation

Section 03-25N-09W IM, Osage County, Oklahoma

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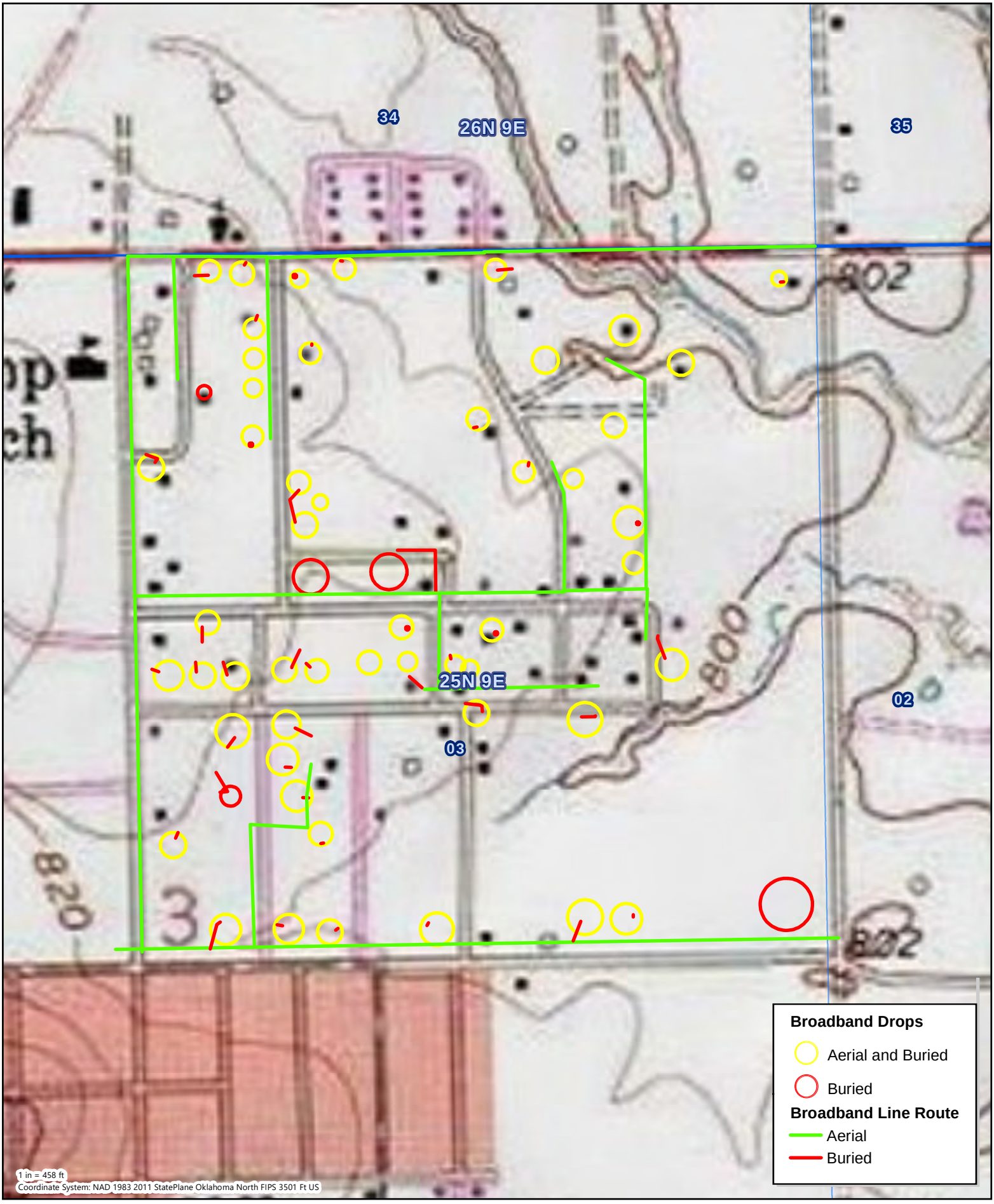
Author: JD

Date: 8/9/2023



REAGAN SMITH

Project Topographic Plat - Pawhuska Indian Village
Osage Nation Broadband Environmental Analysis
Osage Nation
Section 03-25N-09W IM, Osage County, Oklahoma

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Author: JD

Date: 8/9/2023

APPENDIX C – Typical Bore Plat

*Due to the magnitude of water features with anticipated boring sites, a typical boring plat is included to demonstrate what this will look like.

REAGAN SMITH

Typical Bore Plat

Osage Nation Broadband Environmental Analysis

Osage Nation
Osage County, Oklahoma

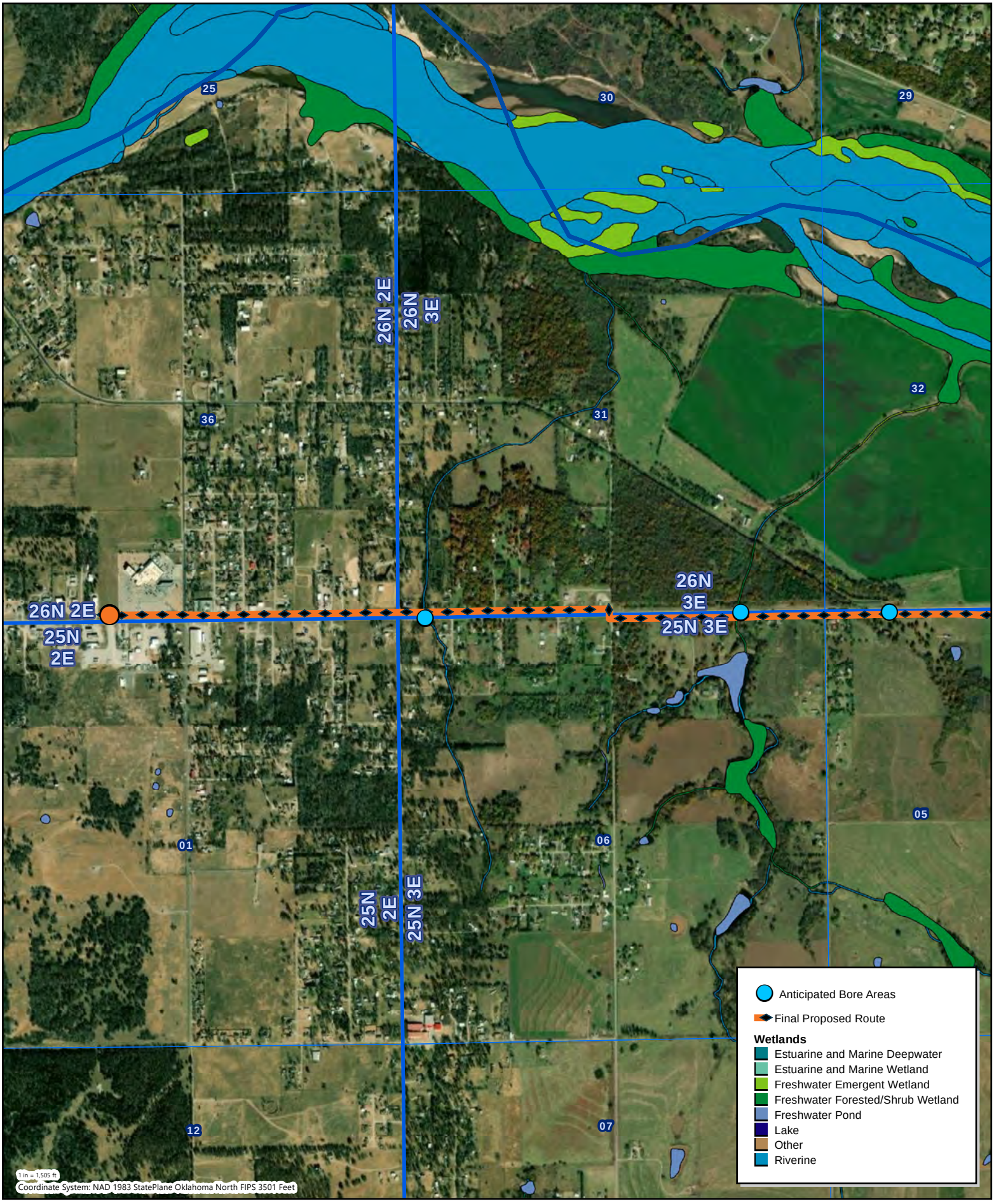
N

Author: JD

Date: 10/6/2023

Appendix D – National Wetland Inventory Plats

Western Boundary



REAGAN SMITH

National Wetland Inventory Plat - Western Boundary

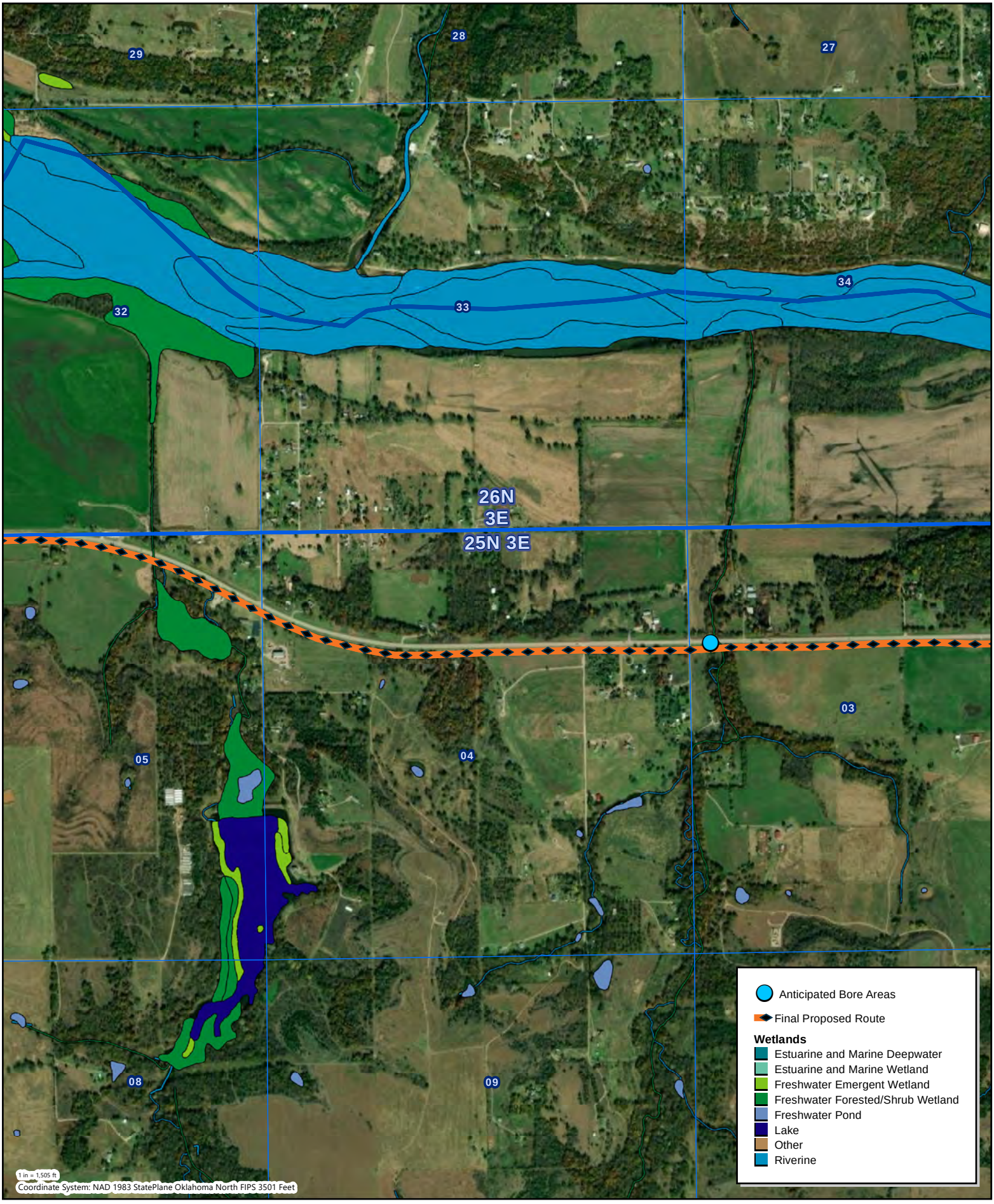
Osage Nation Broadband Environmental Analysis

Osage Nation
Osage County, Oklahoma

N

Author: JD

Date: 10/3/2023



REAGAN SMITH

National Wetland Inventory Plat - Western Boundary

Osage Nation Broadband Environmental Analysis

Osage Nation
Osage County, Oklahoma

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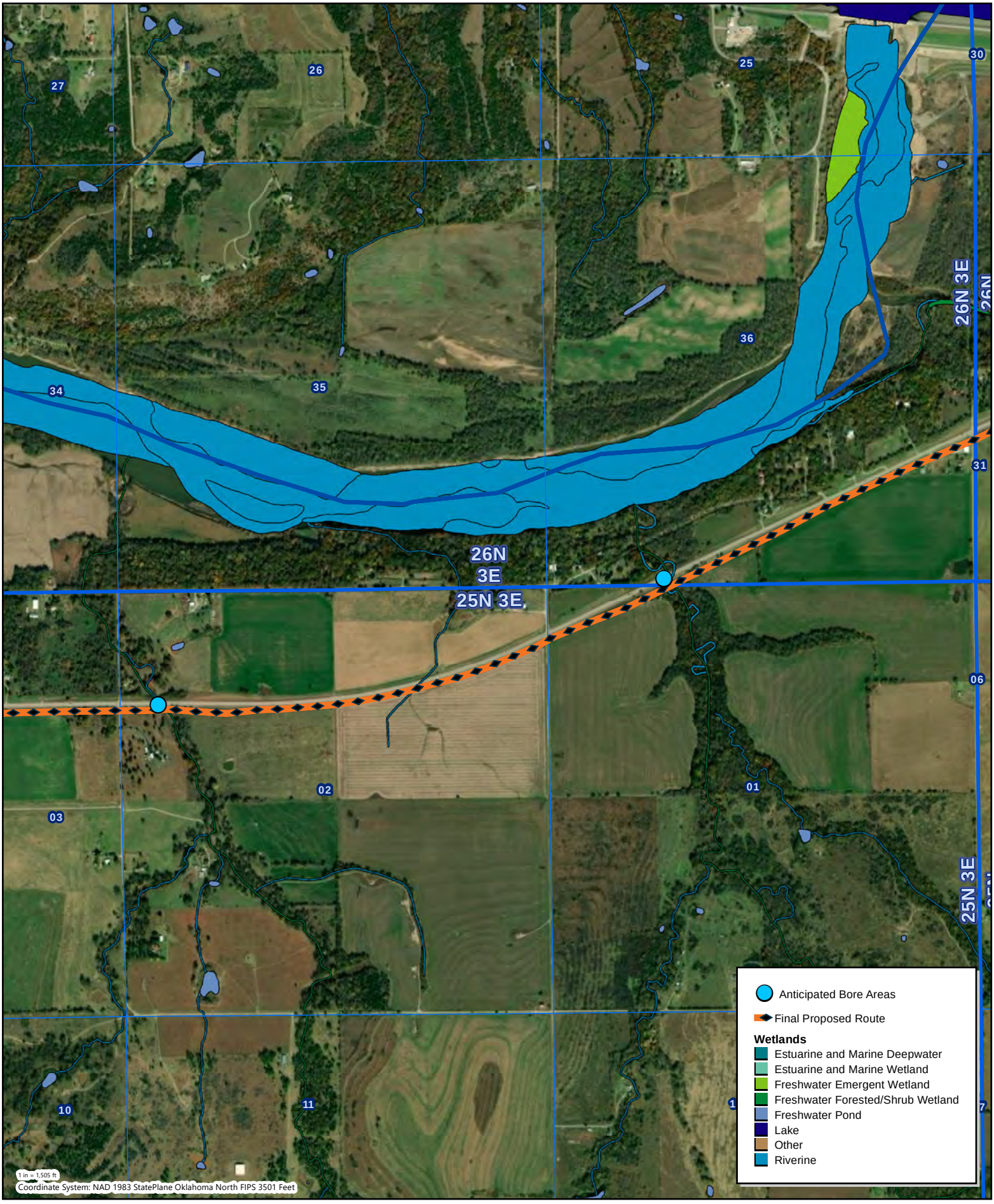
Author: JD

Date: 10/3/2023



REAGAN SMITH

National Wetland Inventory Plat - Western Boundary

Osage Nation Broadband Environmental Analysis

Osage Nation
Osage County, Oklahoma

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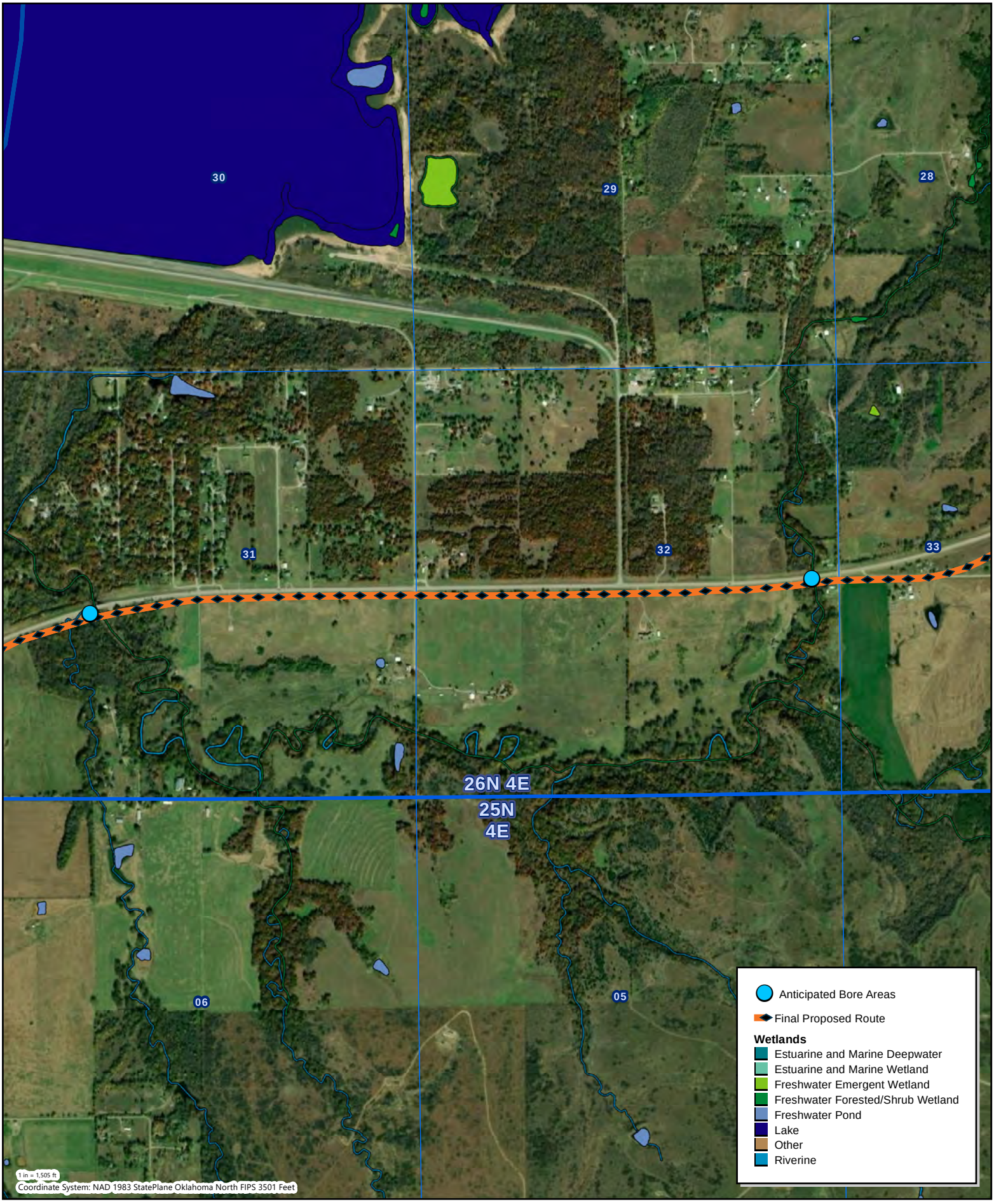
Author: JD

Date: 10/3/2023



REAGAN SMITH

National Wetland Inventory Plat - Western Boundary

Osage Nation Broadband Environmental Analysis

Osage Nation
Osage County, Oklahoma

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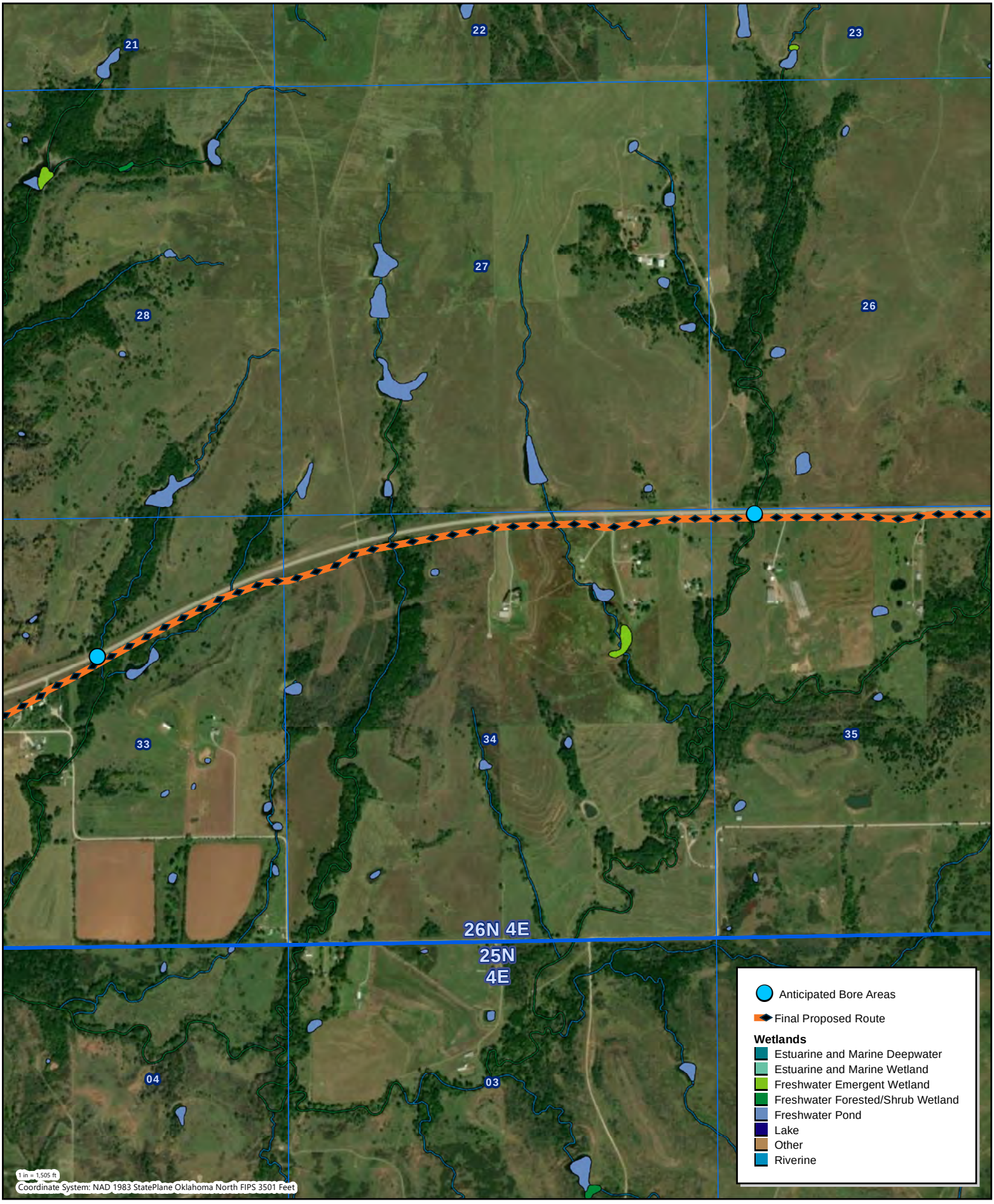
Author: JD

Date: 10/3/2023



REAGAN SMITH

National Wetland Inventory Plat - Western Boundary

Osage Nation Broadband Environmental Analysis

Osage Nation
Osage County, Oklahoma

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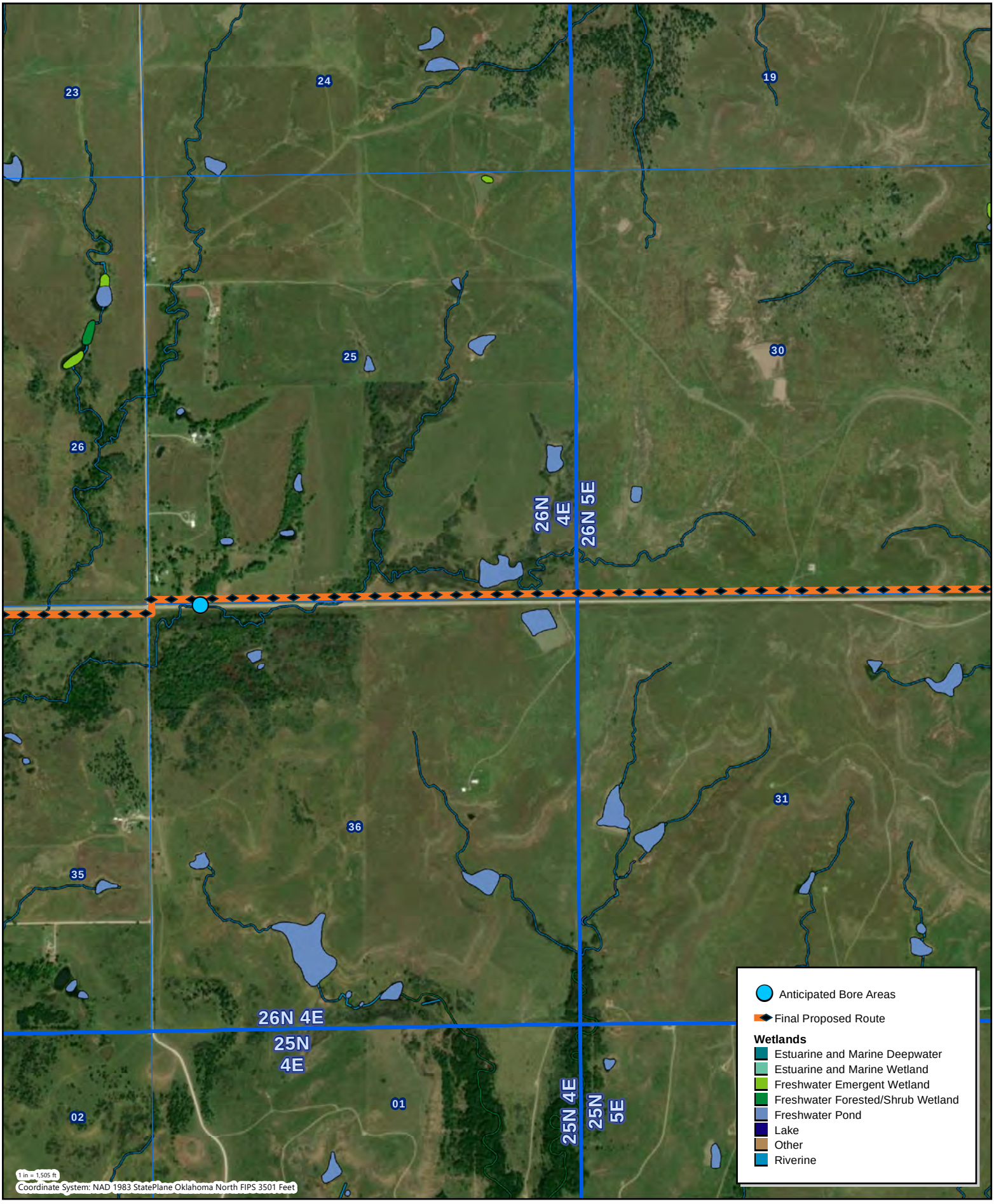
Date: 10/3/2023



REAGAN SMITH

National Wetland Inventory Plat - Western Boundary

Osage Nation Broadband Environmental Analysis

Osage Nation
Osage County, Oklahoma

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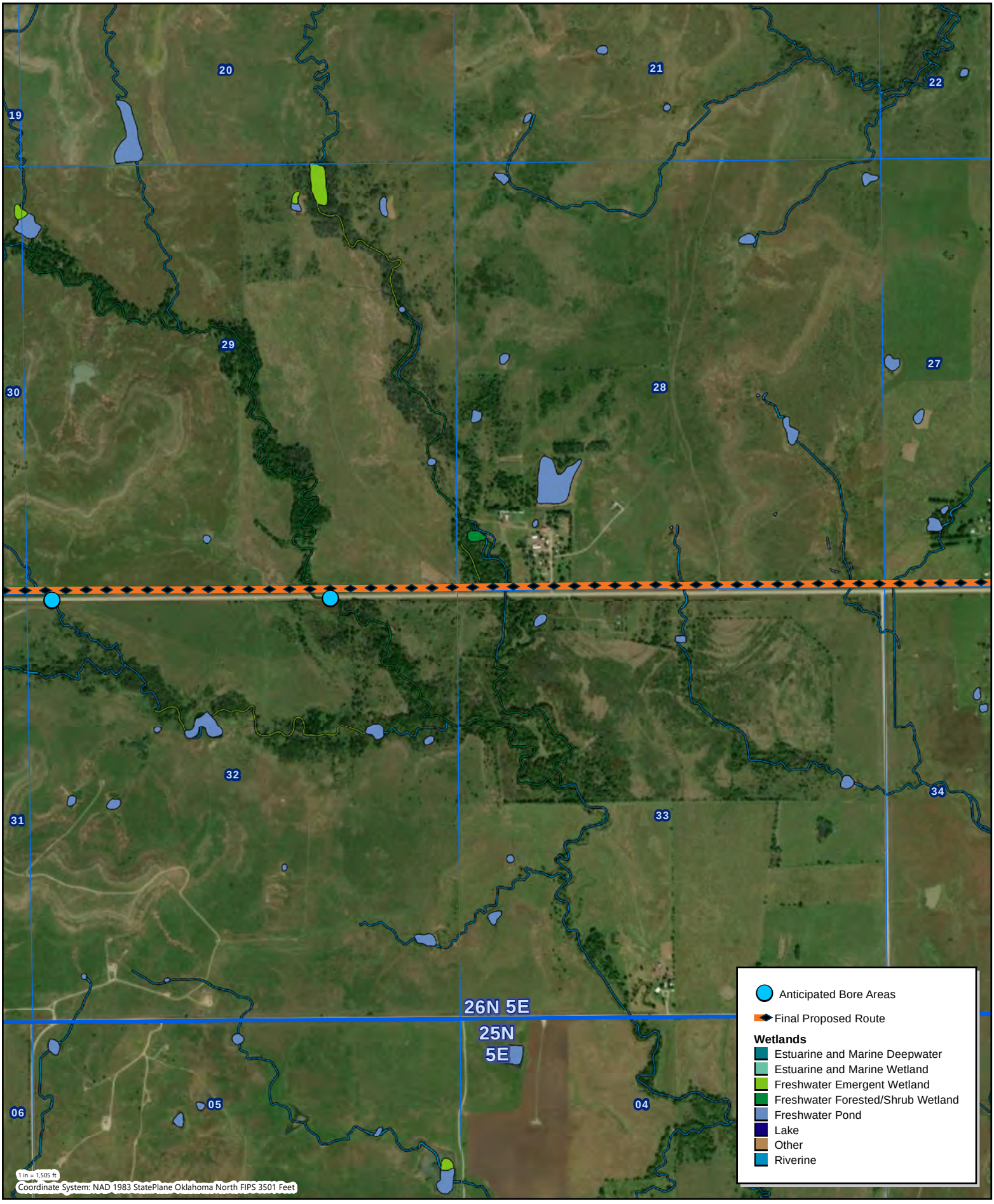
Author: JD

Date: 10/3/2023



REAGAN SMITH

National Wetland Inventory Plat - Western Boundary

Osage Nation Broadband Environmental Analysis

Osage Nation
Osage County, Oklahoma

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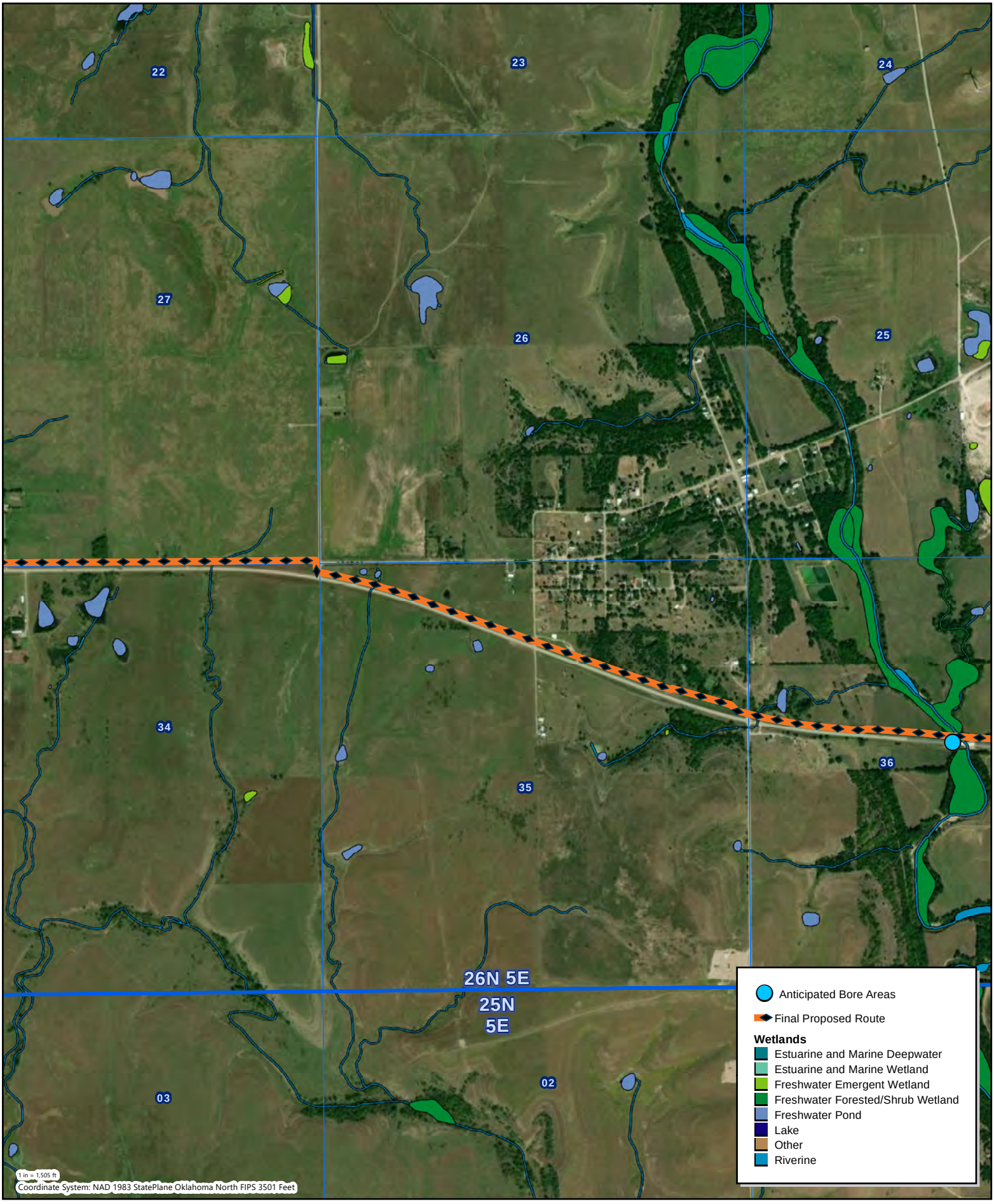
Author: JD

Date: 10/3/2023



REAGAN SMITH

National Wetland Inventory Plat - Western Boundary

Osage Nation Broadband Environmental Analysis

Osage Nation
Osage County, Oklahoma

This map is a user generated static output from Land Scout and is for reference only. Data layers that appear on this map may or may not be accurate, current, or otherwise reliable.

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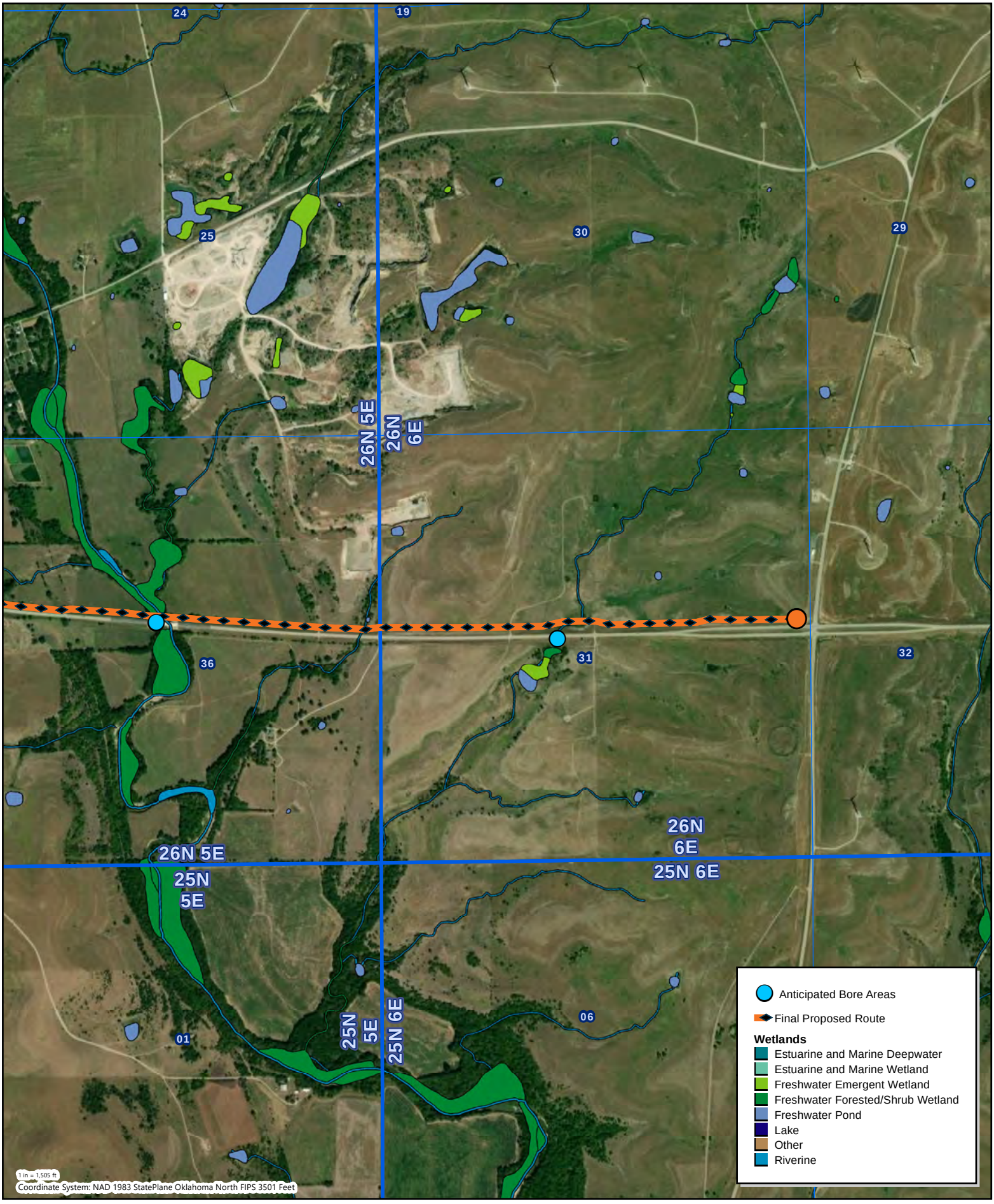
Date: 10/3/2023



REAGAN SMITH

National Wetland Inventory Plat - Western Boundary

Osage Nation Broadband Environmental Analysis

Osage Nation
Osage County, Oklahoma

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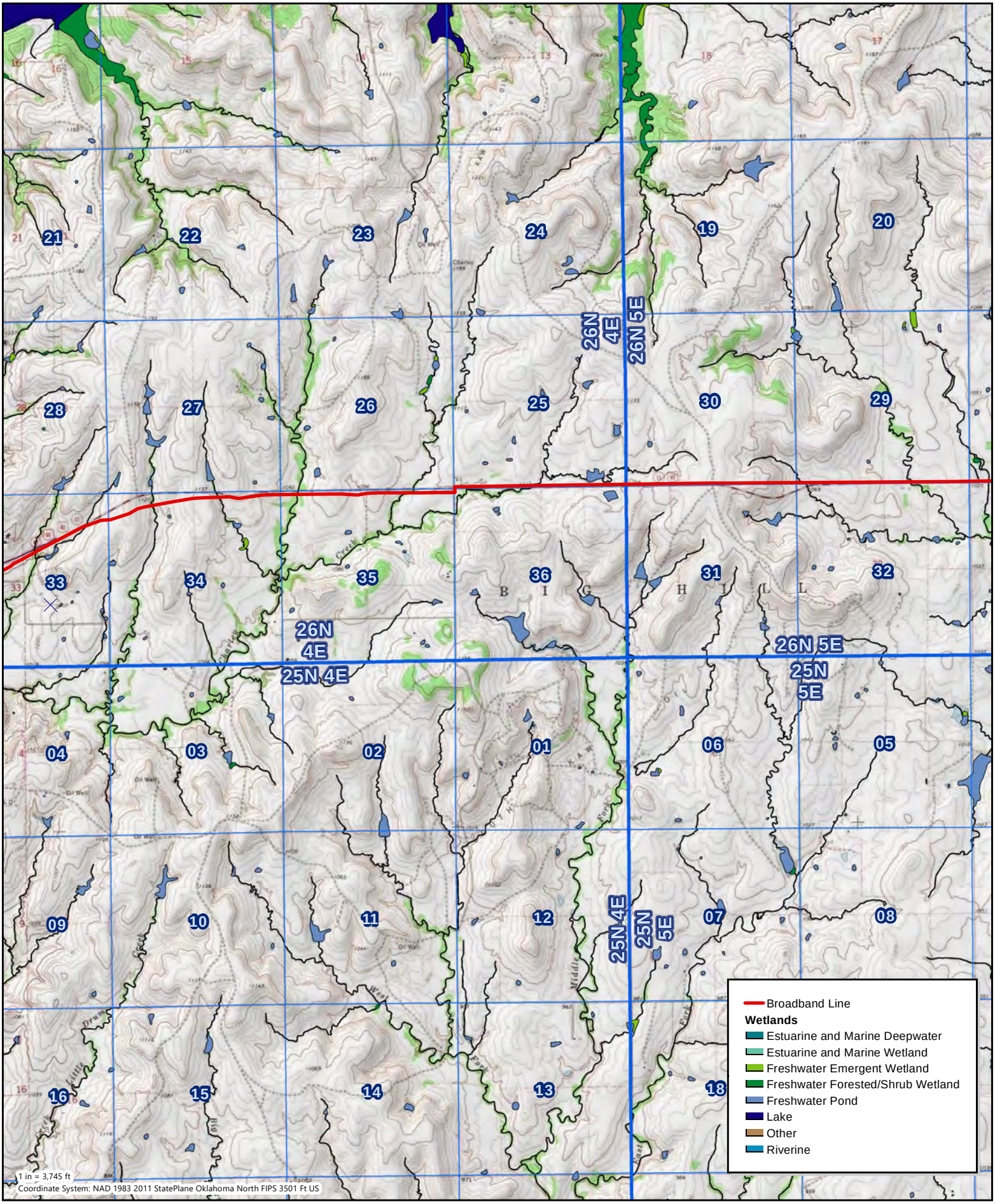
Date: 10/3/2023



REAGAN SMITH

National Wetland Inventory and Floodplain Plat - Western Boundary

Osage Nation Broadband Environmental Analysis

Osage Nation
Osage County, Oklahoma

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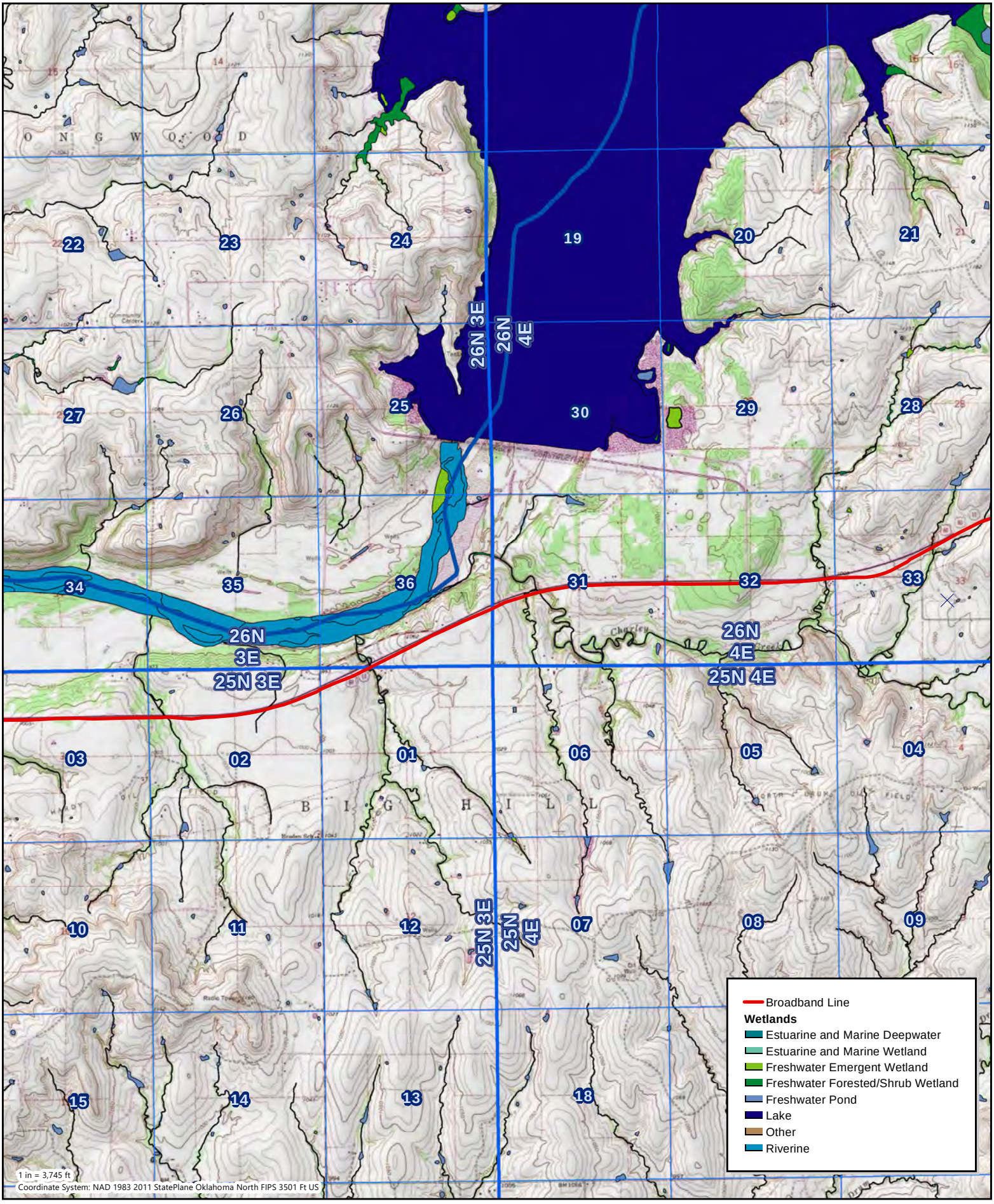
Author: SH

Date: 4/20/2023



REAGAN SMITH

National Wetland Inventory and Floodplain Plat - Western Boundary

Osage Nation Broadband Environmental Analysis

Osage Nation
Osage County, Oklahoma

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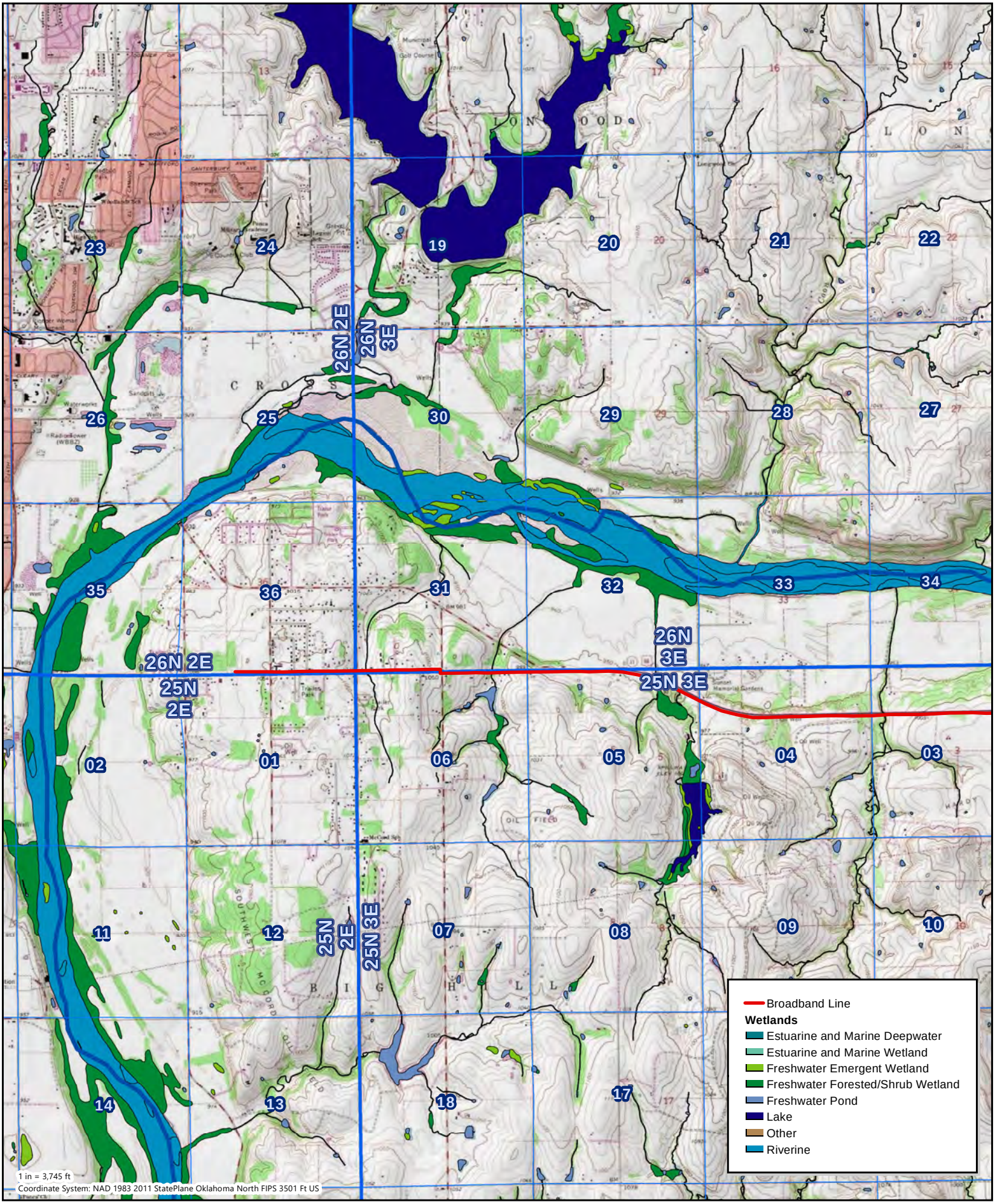

REAGAN SMITH

National Wetland Inventory and Floodplain Plat - Western Boundary

Osage Nation Broadband Environmental Analysis
Osage Nation
Osage County, Oklahoma

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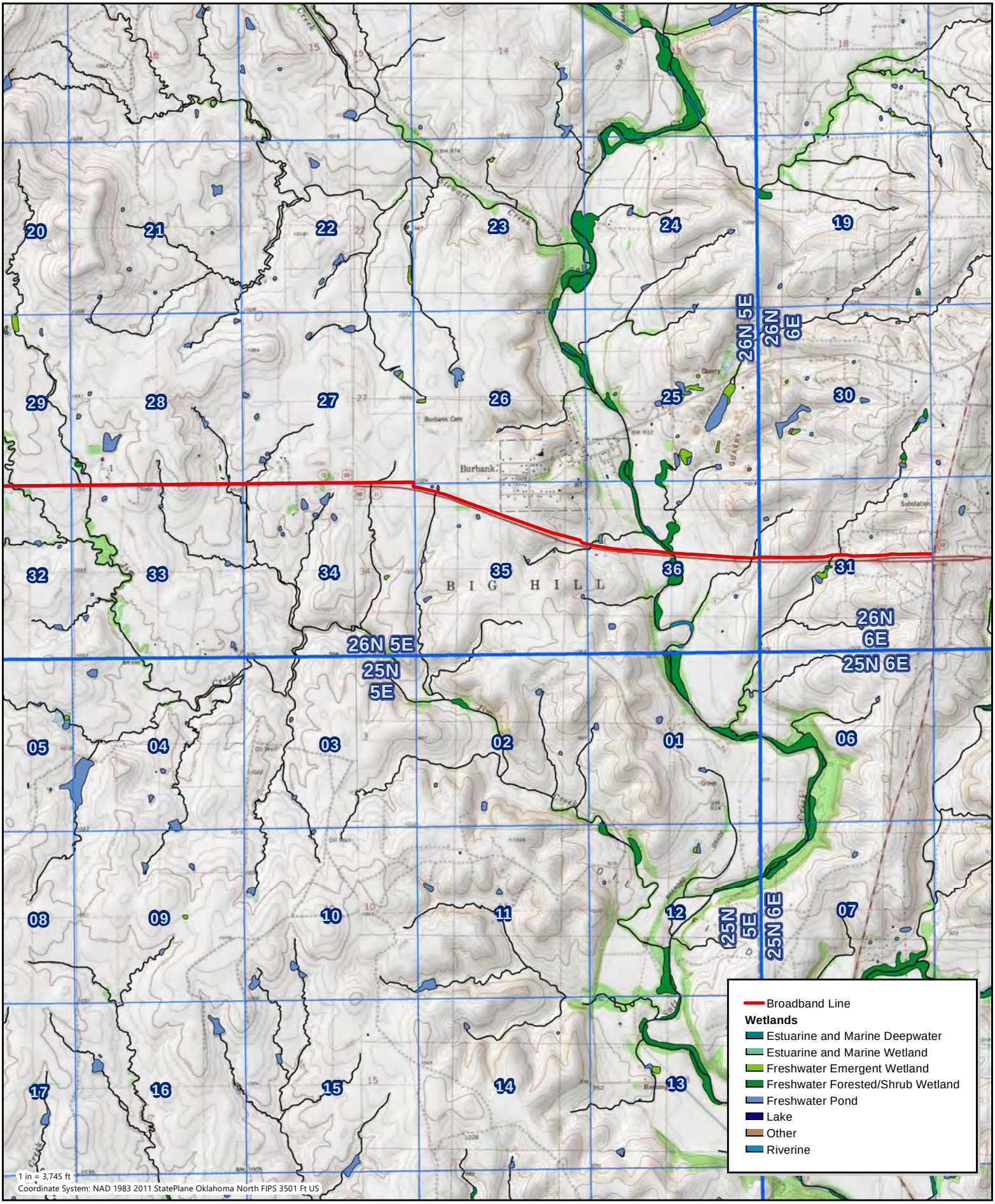

REAGAN SMITH

National Wetland Inventory and Floodplain Plat - Western Boundary

Osage Nation Broadband Environmental Analysis

Osage Nation
Osage County, Oklahoma

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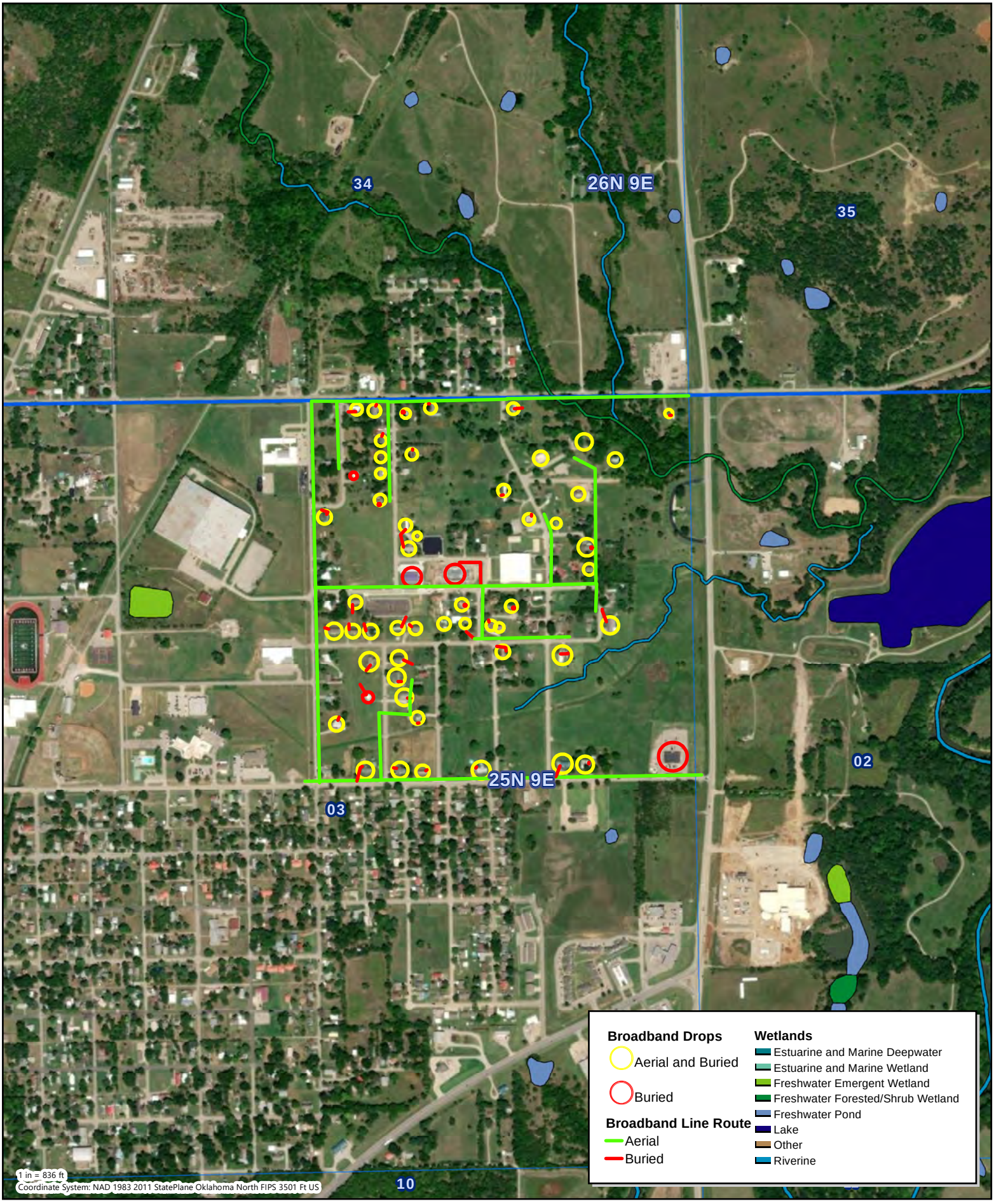
Date: 4/20/2023

Pawhuska Indian Village



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National Wetland Inventory Plat - Aerial - Pawhuska Indian Village

Osage Nation Broadband Environmental Analysis

Osage Nation

Section 03-25N-09W IM, Osage County, Oklahoma

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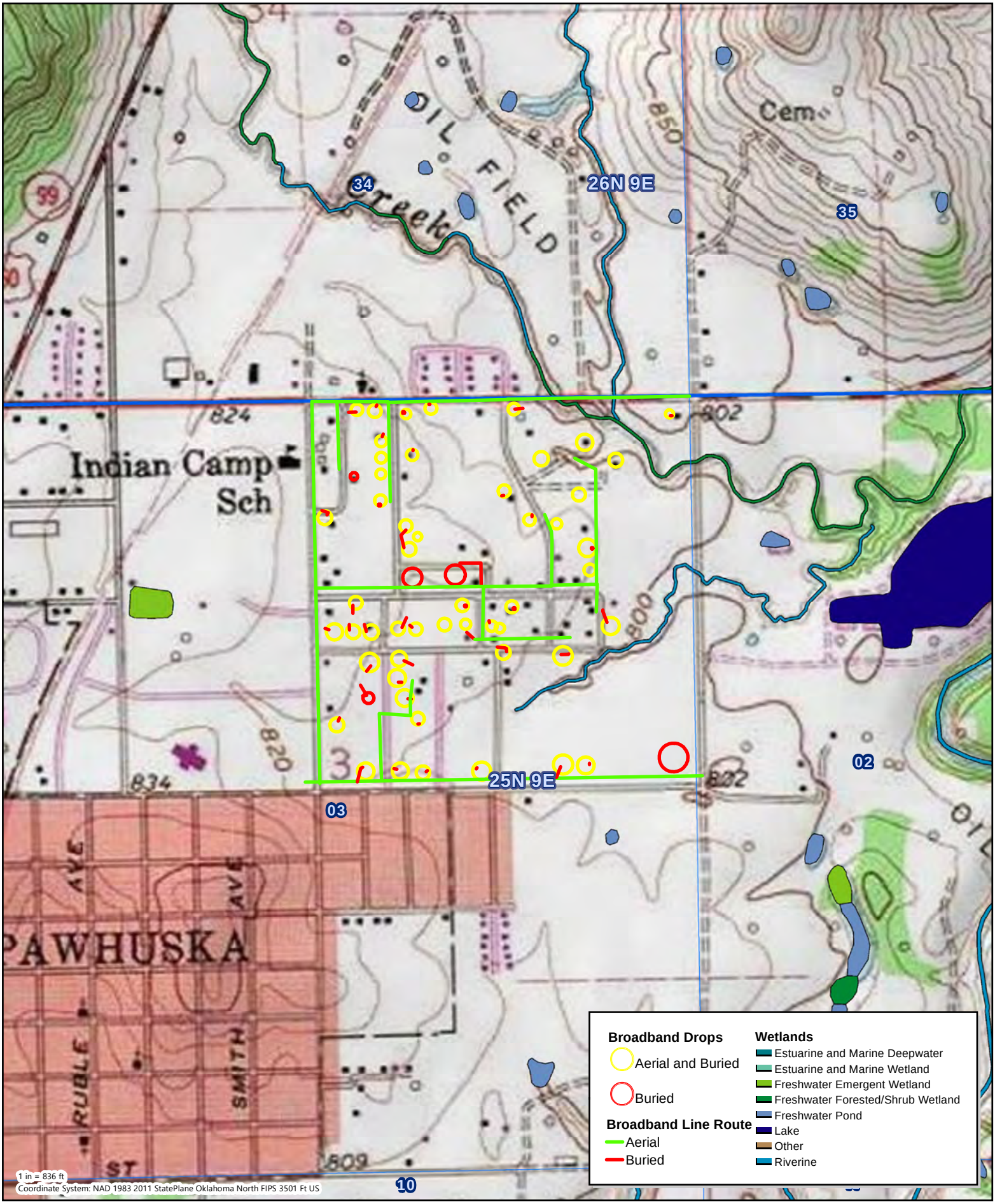
Date: 8/9/2023



REAGAN SMITH

National Wetland Inventory Plat - Topo - Pawhuska Indian Village

Osage Nation Broadband Environmental Analysis

Osage Nation

Section 03-25N-09W IM, Osage County, Oklahoma

N

Path: G:\MXD_GUIDES\RS2017\EA_PAWUSKA_COMMUNITY.mxd

Author: JD

Date: 8/9/2023

Appendix E – Site Photographs

Western Boundary

Water Feature 1.

Water Feature 2.

Water Feature 3.

Water Feature 4.

Water Feature 5.

Water Feature 6.

Water Feature 7.

Water Feature 8.

Water Feature 9.

Water Feature 10.

Water Feature 11.

Water Feature 12.

Water Feature 13.

Water Feature 14.

Water Feature 15.

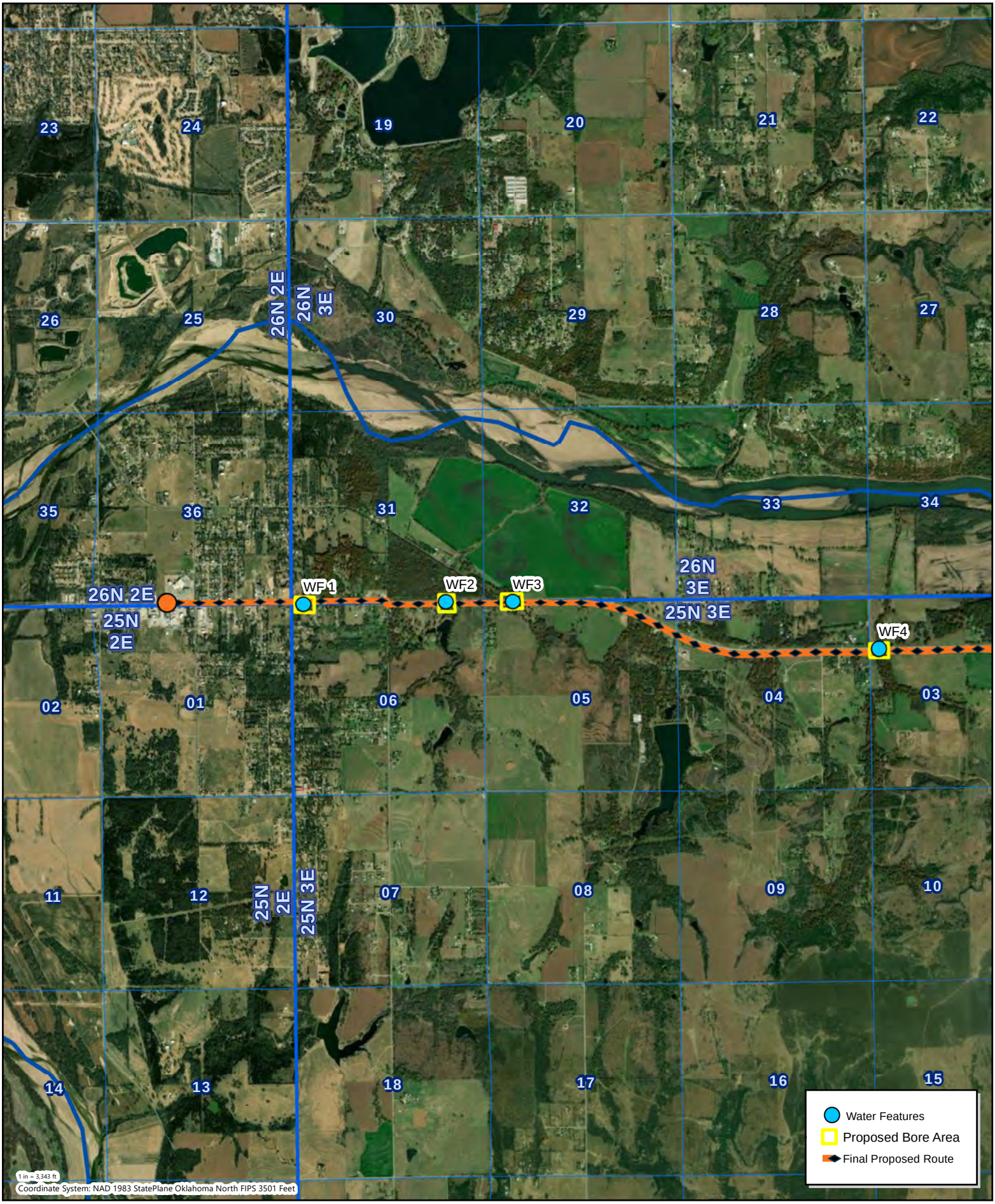
Pawhuska Indian Village

Water Feature 1 (Creek to the East)

Water Feature 2 (Creek to the West)

APPENDIX F – Water Features Plats

Western Boundary



REAGAN SMITH

Water Feature Plat

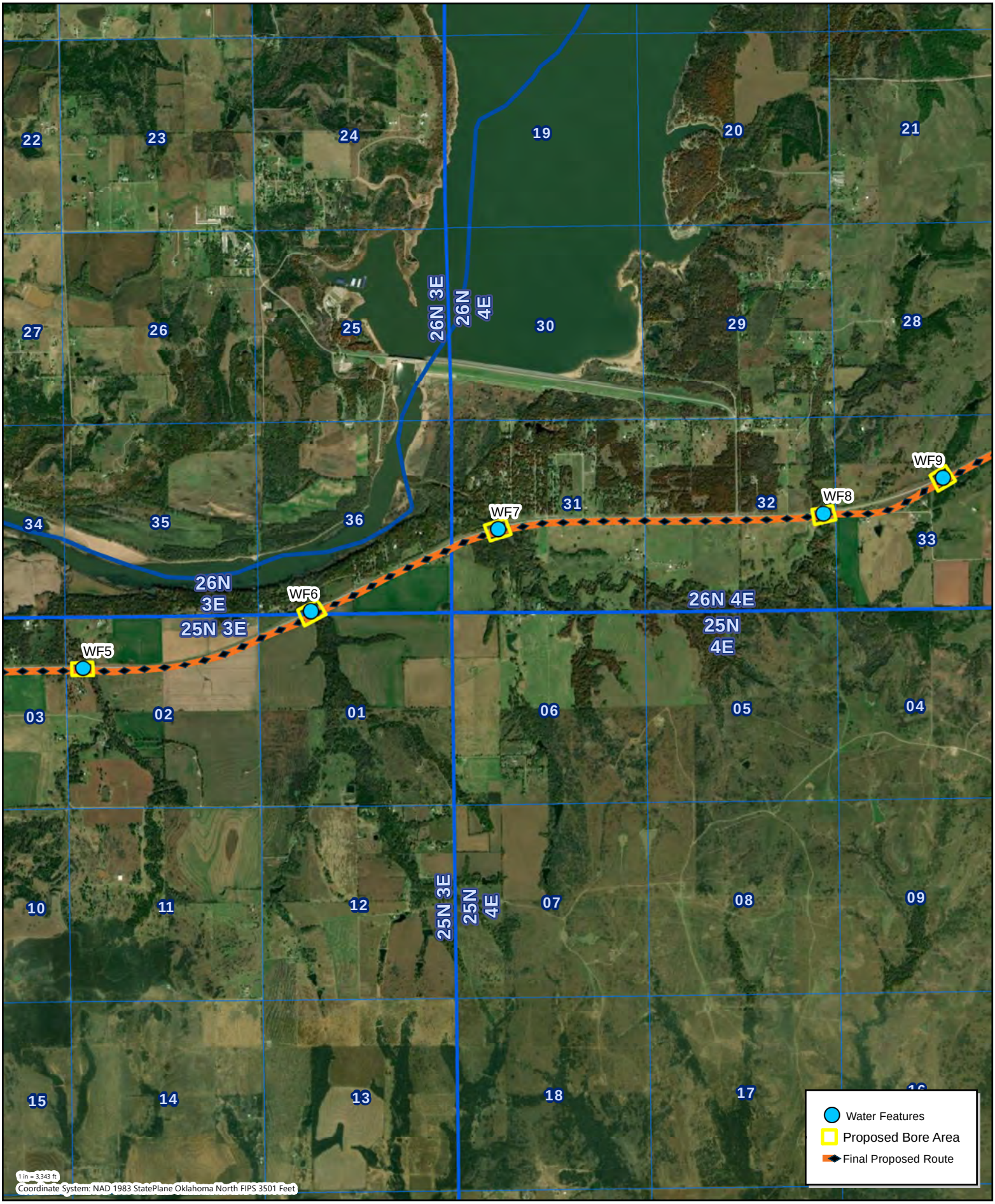
Osage Nation Broadband Environmental Analysis

Osage Nation
Osage County, Oklahoma

N

Author: JD

Date: 10/4/2023



REAGAN SMITH

Water Feature Plat

Osage Nation Broadband Environmental Analysis

Osage Nation
Osage County, Oklahoma

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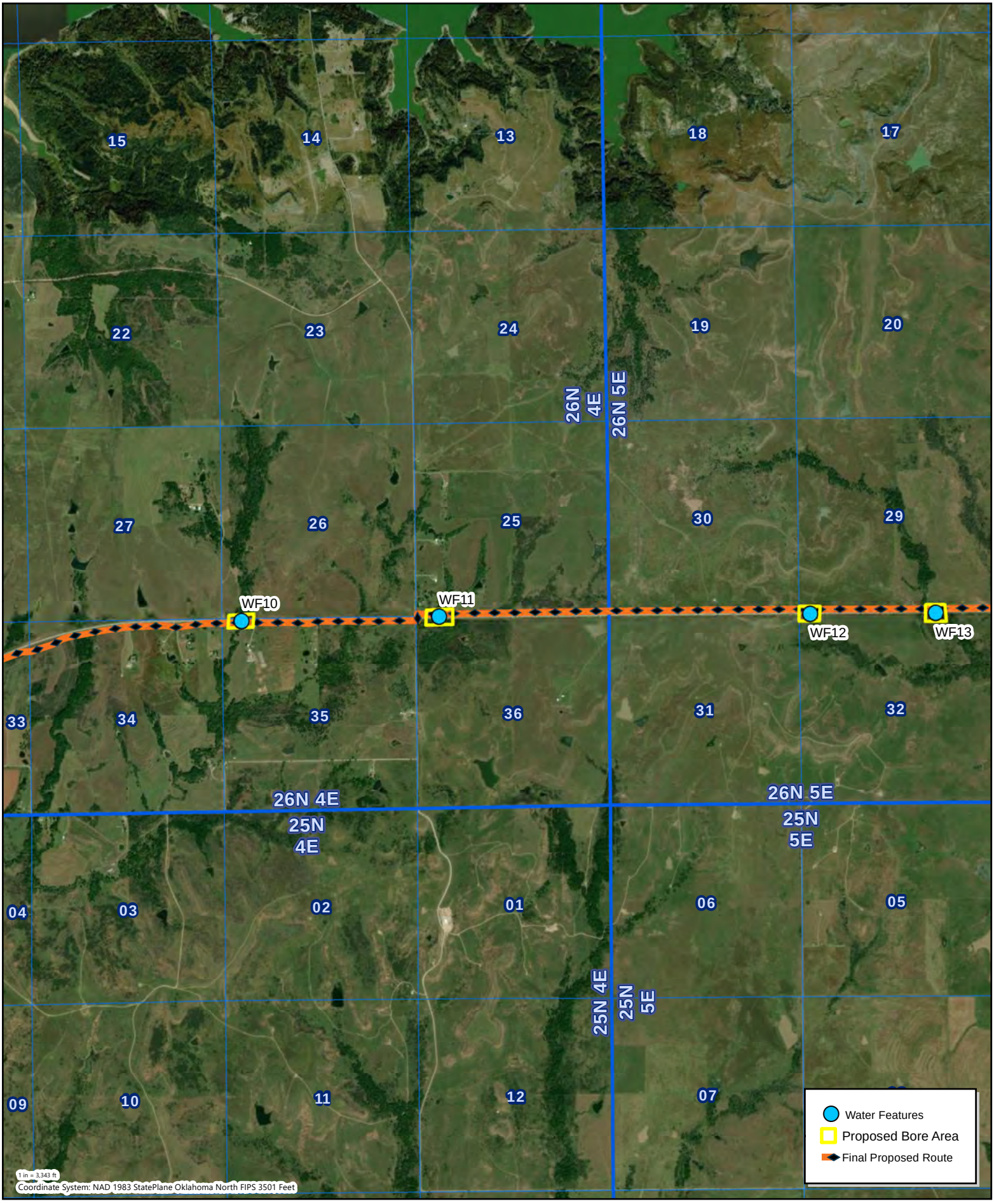
Author: JD

Date: 10/4/2023



REAGAN SMITH

Water Feature Plat

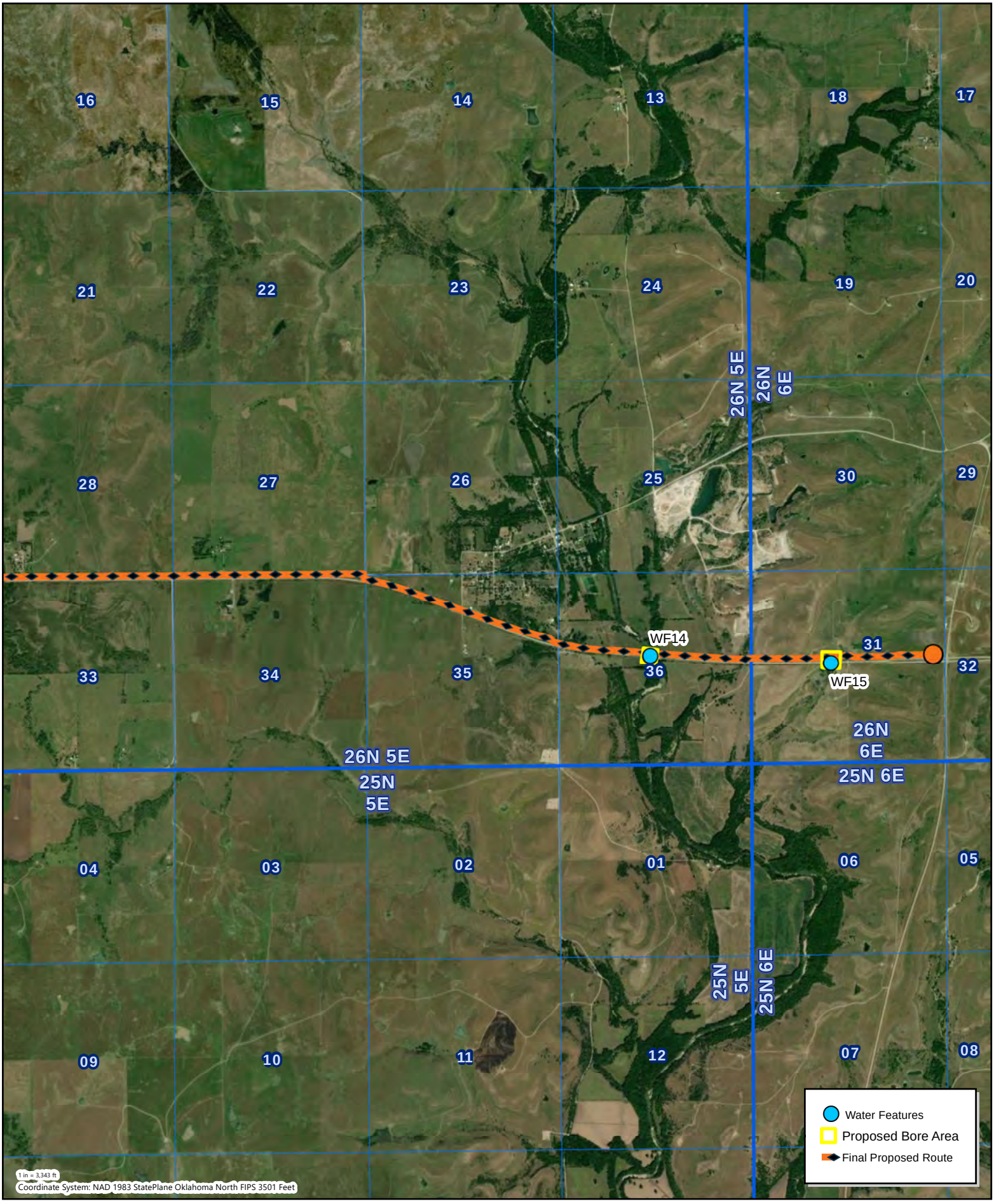
Osage Nation Broadband Environmental Analysis

Osage Nation
Osage County, Oklahoma

N

Author: JD

Date: 10/4/2023



REAGAN SMITH

Water Feature Plat

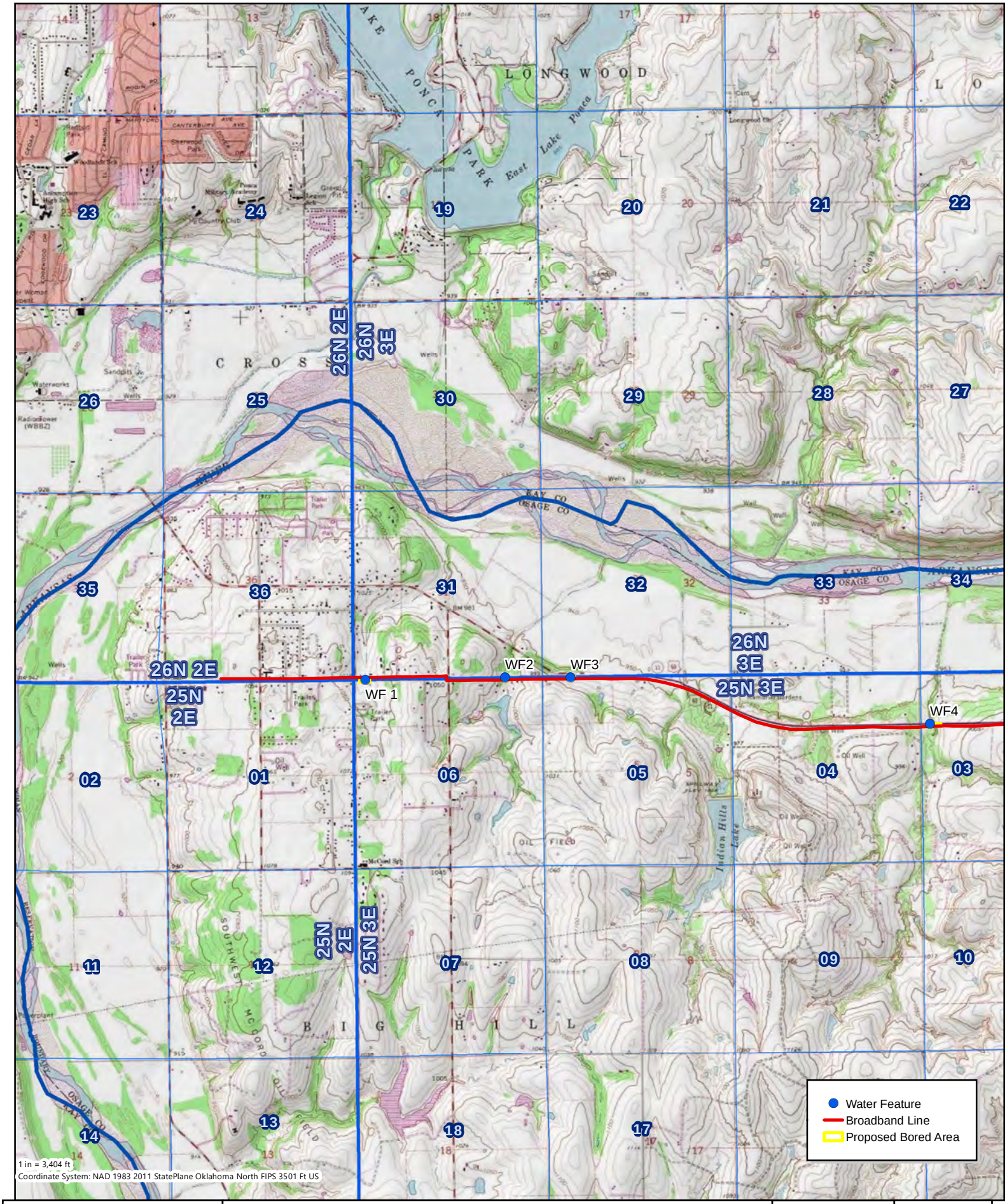
Osage Nation Broadband Environmental Analysis

Osage Nation
Osage County, Oklahoma

N

Author: JD

Date: 10/4/2023



REAGAN SMITH

Surface Water Feature Plat - Western Boundary

Osage Nation Broadband Environmental Analysis

Osage Nation

Osage County, Oklahoma

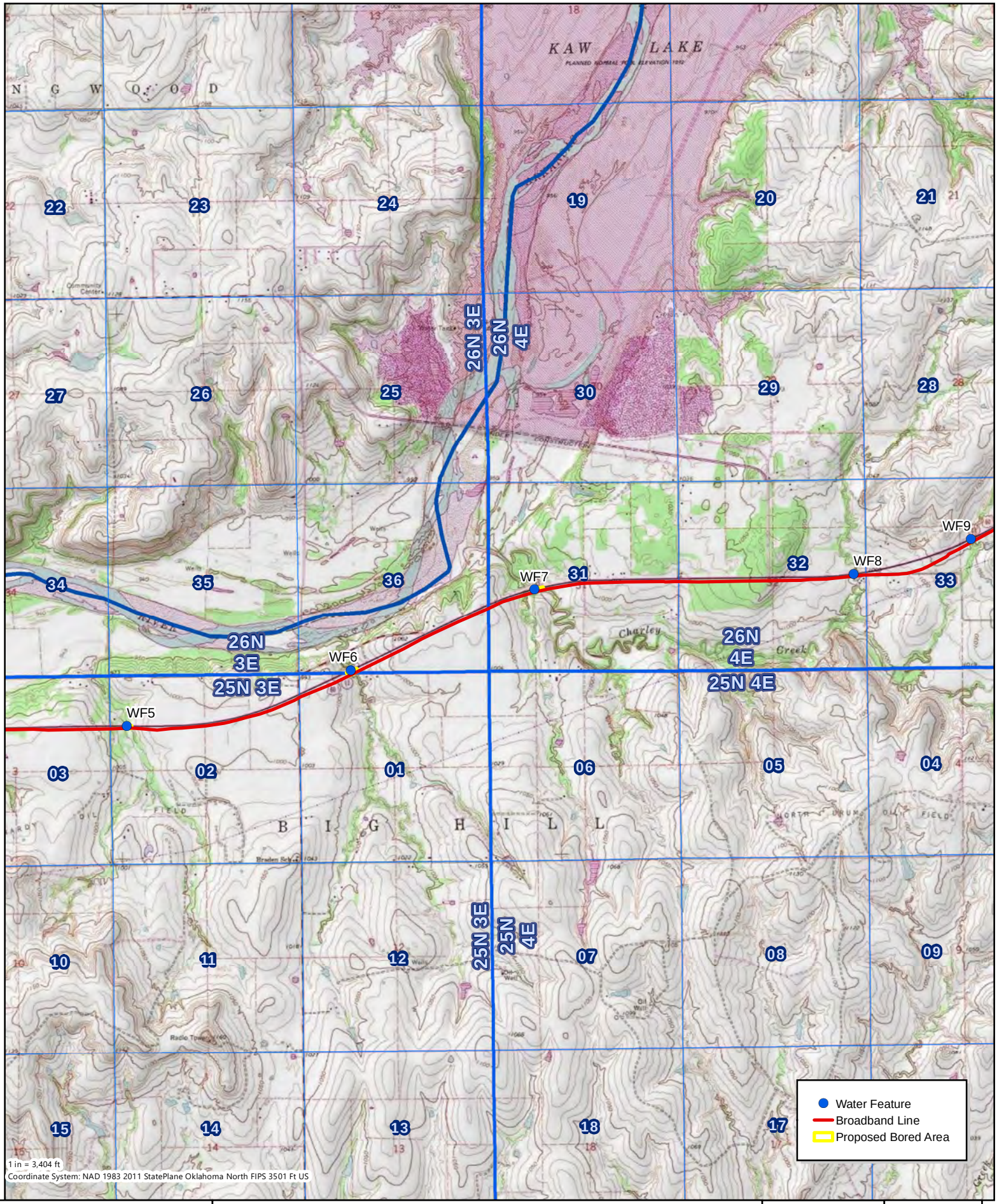
This map is a user generated static output from Land Scout and is for reference only. Data layers that appear on this map may or may not be accurate, current, or otherwise reliable.

N

Path: G:\MXD_GUIDES\RS2017\EA_OSAGE_BROADBAND_WESTERNBOUNDARY.mxd

Author: SH

Date: 5/23/2023



REAGAN SMITH

Surface Water Feature Plat - Western Boundary

Osage Nation Broadband Environmental Analysis

Osage Nation

Osage County, Oklahoma

This map is a user generated static output from Land Scout and is for reference only. Data layers that appear on this map may or may not be accurate, current, or otherwise reliable.

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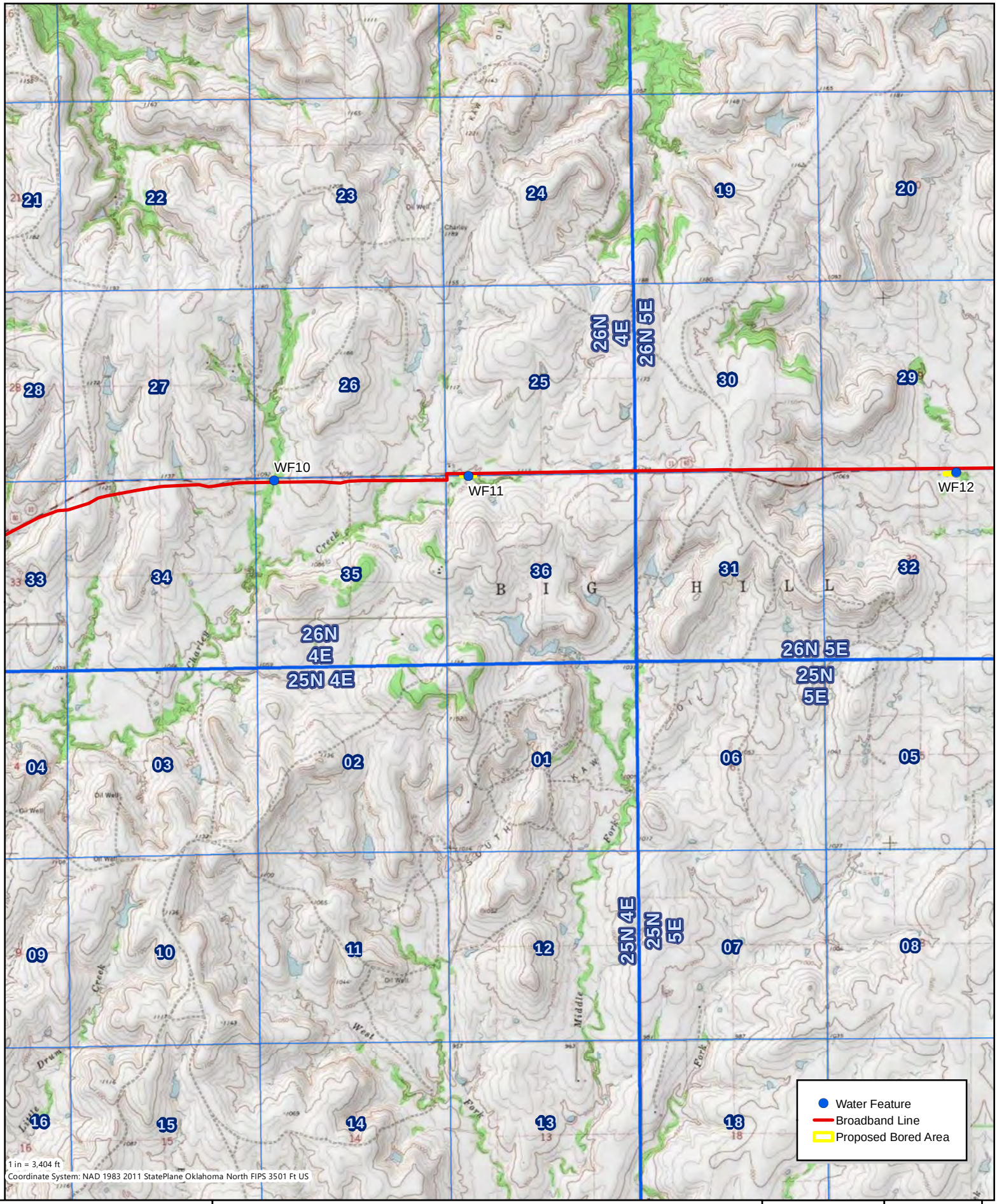
Author: SH

Date: 5/23/2023



REAGAN SMITH

Surface Water Feature Plat - Western Boundary

Osage Nation Broadband Environmental Analysis

Osage Nation

Osage County, Oklahoma

This map is a user generated static output from Land Scout and is for reference only. Data layers that appear on this map may or may not be accurate, current, or otherwise reliable.

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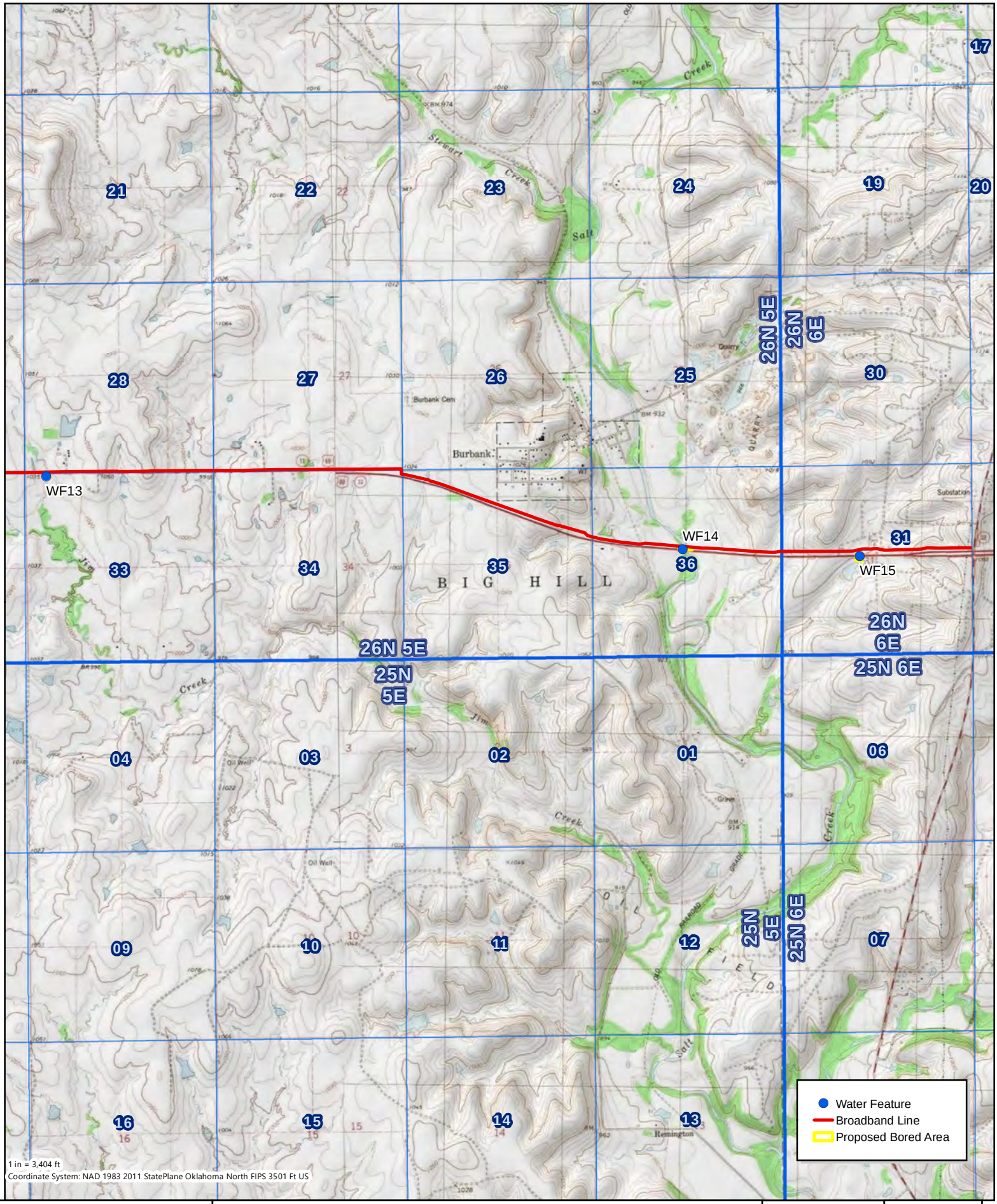
Author: SH

Date: 5/23/2023



REAGAN SMITH

Surface Water Feature Plat - Western Boundary

Osage Nation Broadband Environmental Analysis

Osage Nation

Osage County, Oklahoma

This map is a user generated static output from Land Scout and is for reference only. Data layers that appear on this map may or may not be accurate, current, or otherwise reliable.

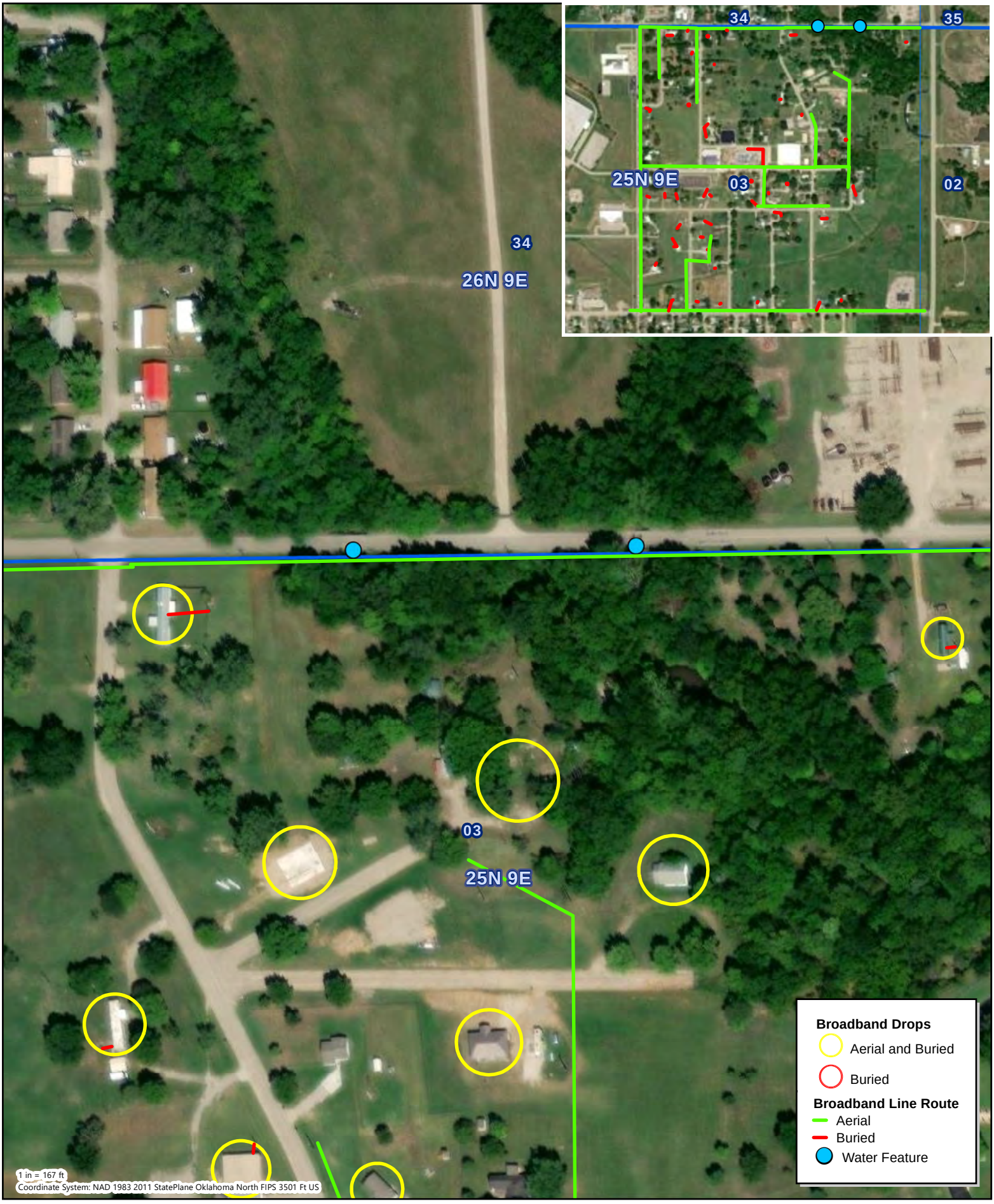
N

Path: G:\MXD_GUIDES\RS2017\EA_OSAGE_BROADBAND_WESTERNBOUNDARY.mxd

Author: SH

Date: 5/23/2023

Pawhuska Indian Village



REAGAN SMITH

Water Features Plat - Aerial - Pawhuska Indian Village

Osage Nation Broadband Environmental Analysis

Osage Nation

Section 03-25N-09W IM, Osage County, Oklahoma

N

Path: G:\MXD_GUIDES\RS2017\EA_PAWUSKA_COMMUNITY.mxd

Author: JD

Date: 8/9/2023

REAGAN SMITH

Water Features Plat - Topographic - Pawhuska Indian Village

Osage Nation Broadband Environmental Analysis

Osage Nation

Section 03-25N-09W IM, Osage County, Oklahoma

N

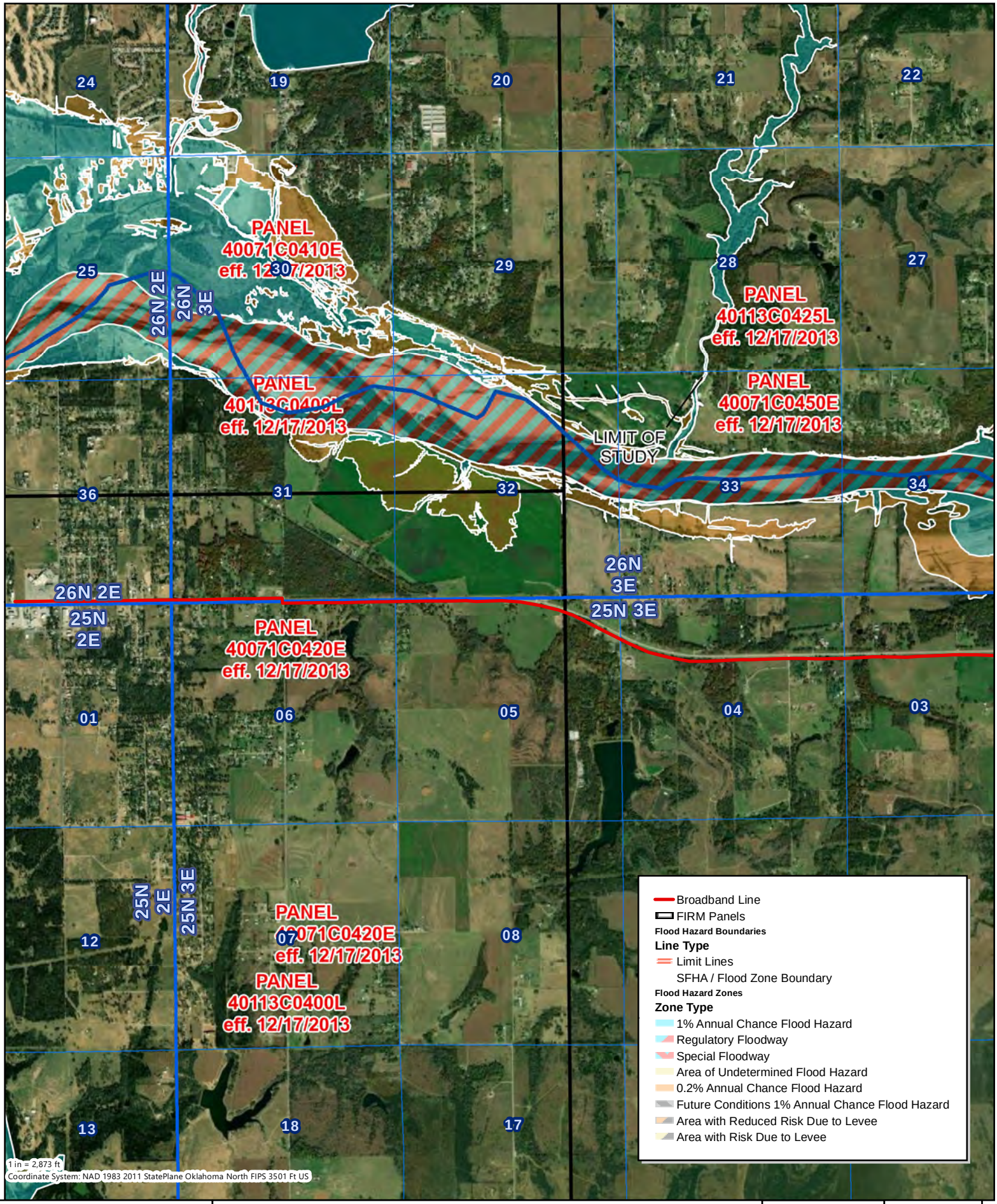
Path: G:\MXD_GUIDES\RS2017\EA_PAWUSKA_COMMUNITY.mxd

Author: JD

Date: 8/9/2023

APPENDIX G – Floodplain Plats

Western Boundary



Broadband Line
FIRM Panels
Flood Hazard Boundaries
Line Type
Limit Lines
SFHA / Flood Zone Boundary
Flood Hazard Zones
Zone Type
1% Annual Chance Flood Hazard
Regulatory Floodway
Special Floodway
Area of Undetermined Flood Hazard
0.2% Annual Chance Flood Hazard
Future Conditions 1% Annual Chance Flood Hazard
Area with Reduced Risk Due to Levee
Area with Risk Due to Levee

REAGAN SMITH

Floodplain Plat - Western Boundary

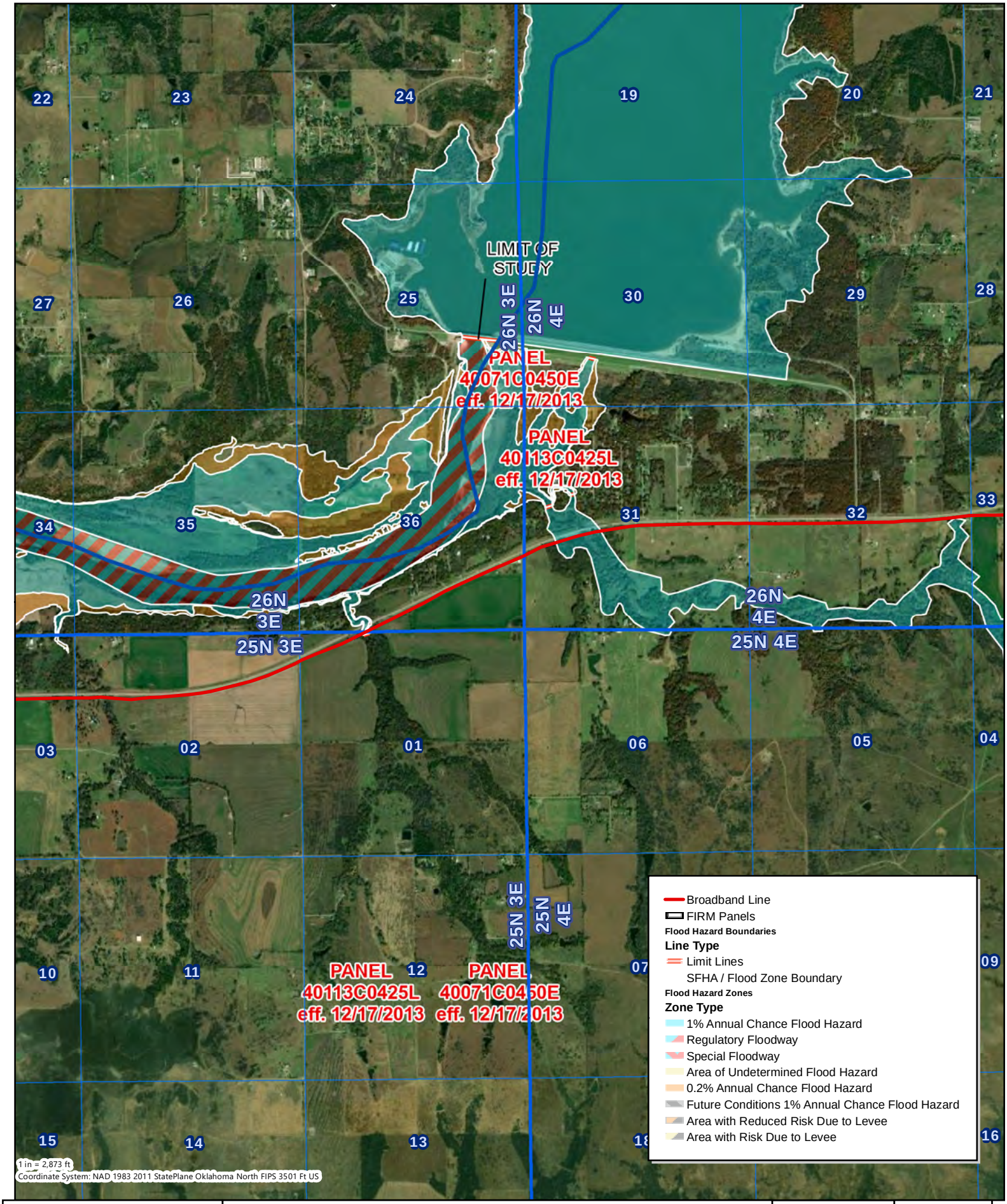
Osage Nation Broadband Environmental Analysis
Osage Nation
Osage County, Oklahoma

N

Path: G:\MXD_GUIDES\RS2017\EA_OSAGE_BROADBAND_WESTERNBOUNDARY.mxd

Author: SH

Date: 5/23/2023



REAGAN SMITH

Floodplain Plat - Western Boundary

Osage Nation Broadband Environmental Analysis

Osage Nation

Osage County, Oklahoma

This map is a user generated static output from Land Scout and is for reference only. Data layers that appear on this map may or may not be accurate, current, or otherwise reliable.

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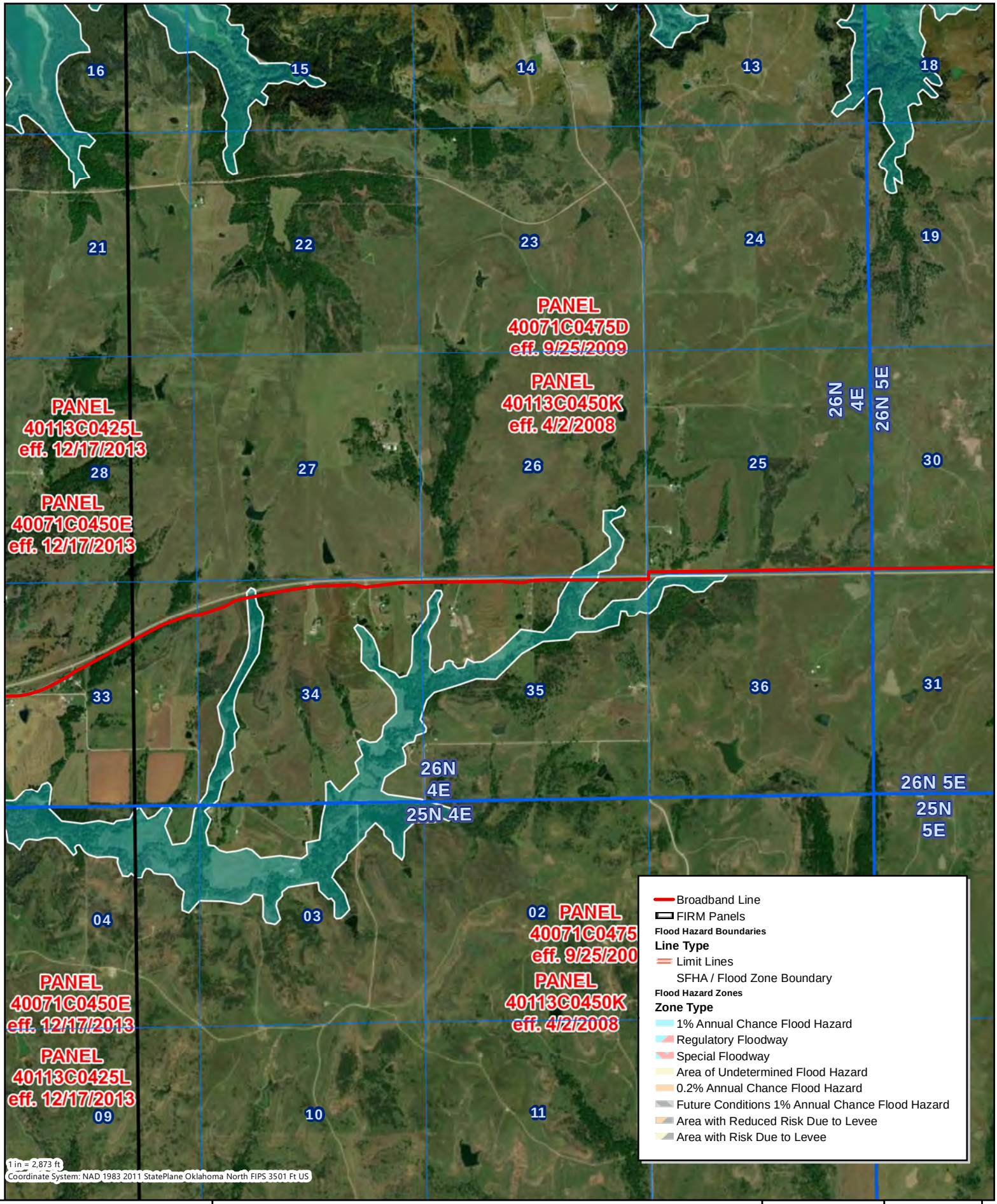
Author: SH

Date: 5/23/2023



REAGAN SMITH

Floodplain Plat - Western Boundary

Osage Nation Broadband Environmental Analysis

Osage Nation

Osage County, Oklahoma

This map is a user generated static output from Land Scout and is for reference only. Data layers that appear on this map may or may not be accurate, current, or otherwise reliable.

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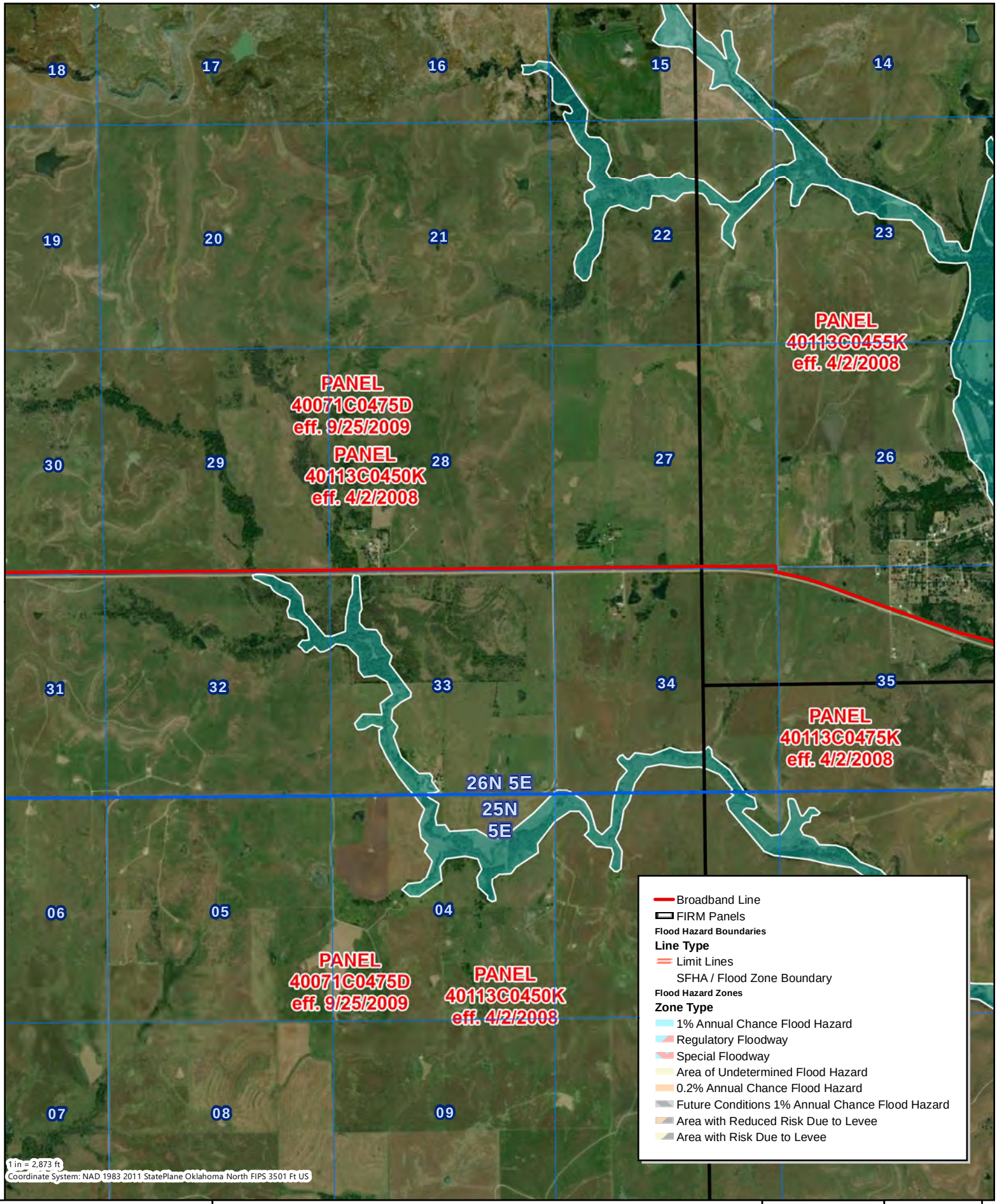
Author: SH

Date: 5/23/2023



REAGAN SMITH

Floodplain Plat - Western Boundary

Osage Nation Broadband Environmental Analysis

Osage Nation

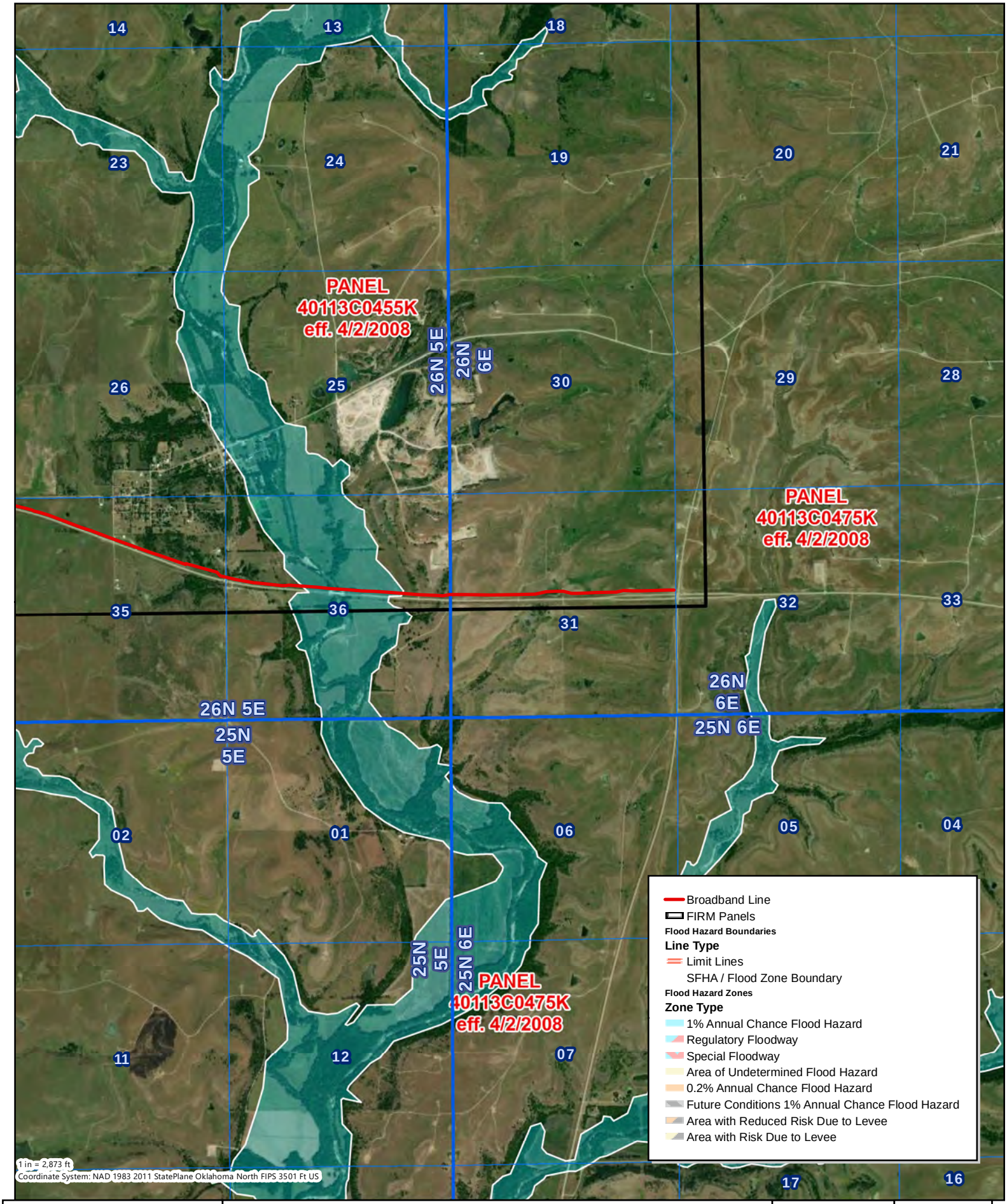
Osage County, Oklahoma

N

Path: G:\MXD_GUIDES\RS2017\EA_OSAGE_BROADBAND_WESTERNBOUNDARY.mxd

Author: SH

Date: 5/23/2023



REAGAN SMITH

Floodplain Plat - Western Boundary

Osage Nation Broadband Environmental Analysis

Osage Nation

Osage County, Oklahoma

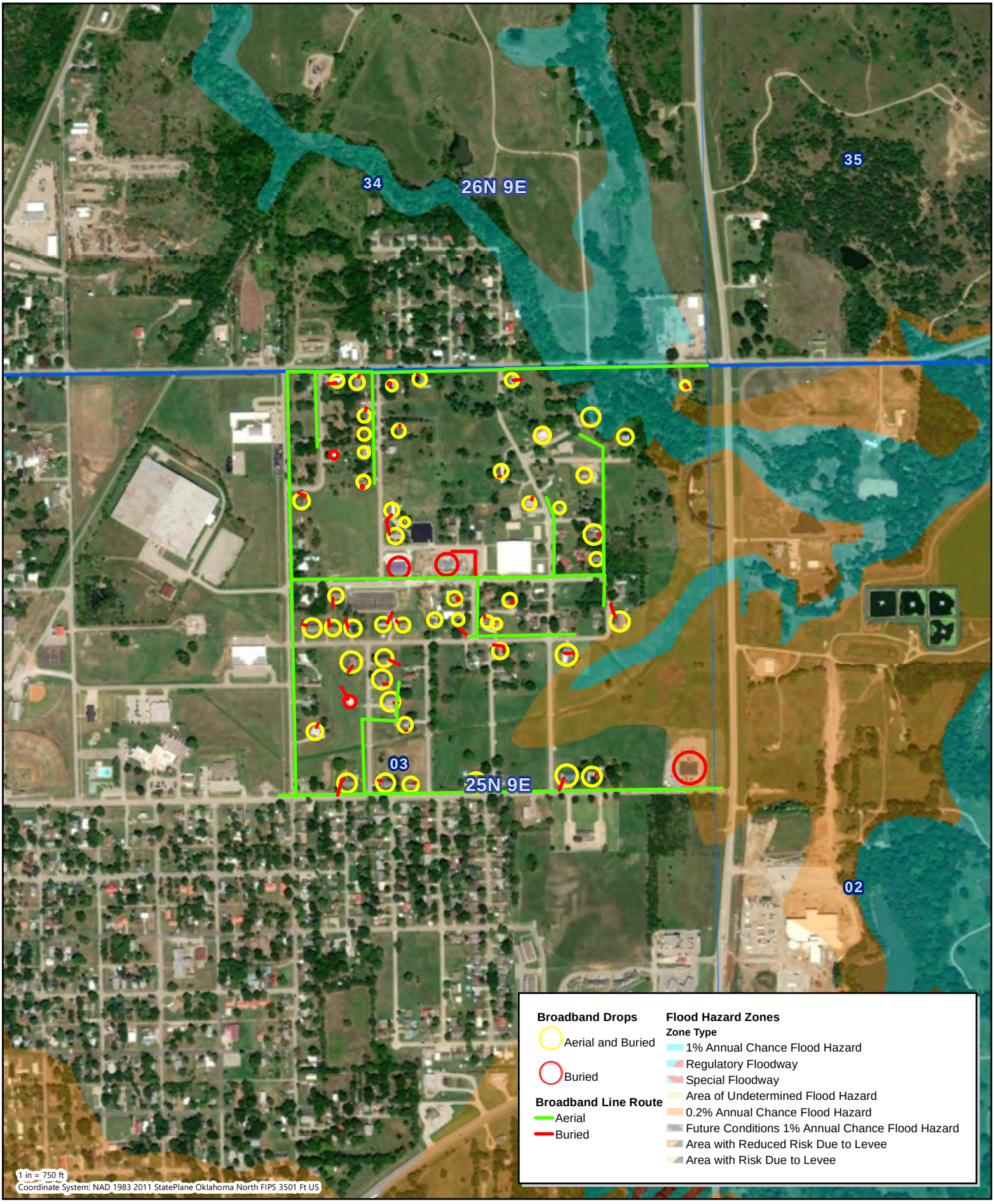
N

Path: G:\MXD_GUIDES\RS2017\EA_OSAGE_BROADBAND_WESTERNBOUNDARY.mxd

Author: SH

Date: 5/23/2023

Pawhuska Indian Village



REAGAN SMITH

Floodplain Plat - Pawhuska Indian Village

Osage Nation Broadband Environmental Analysis

Osage Nation

Section 03-25N-09W IM, Osage County, Oklahoma

N

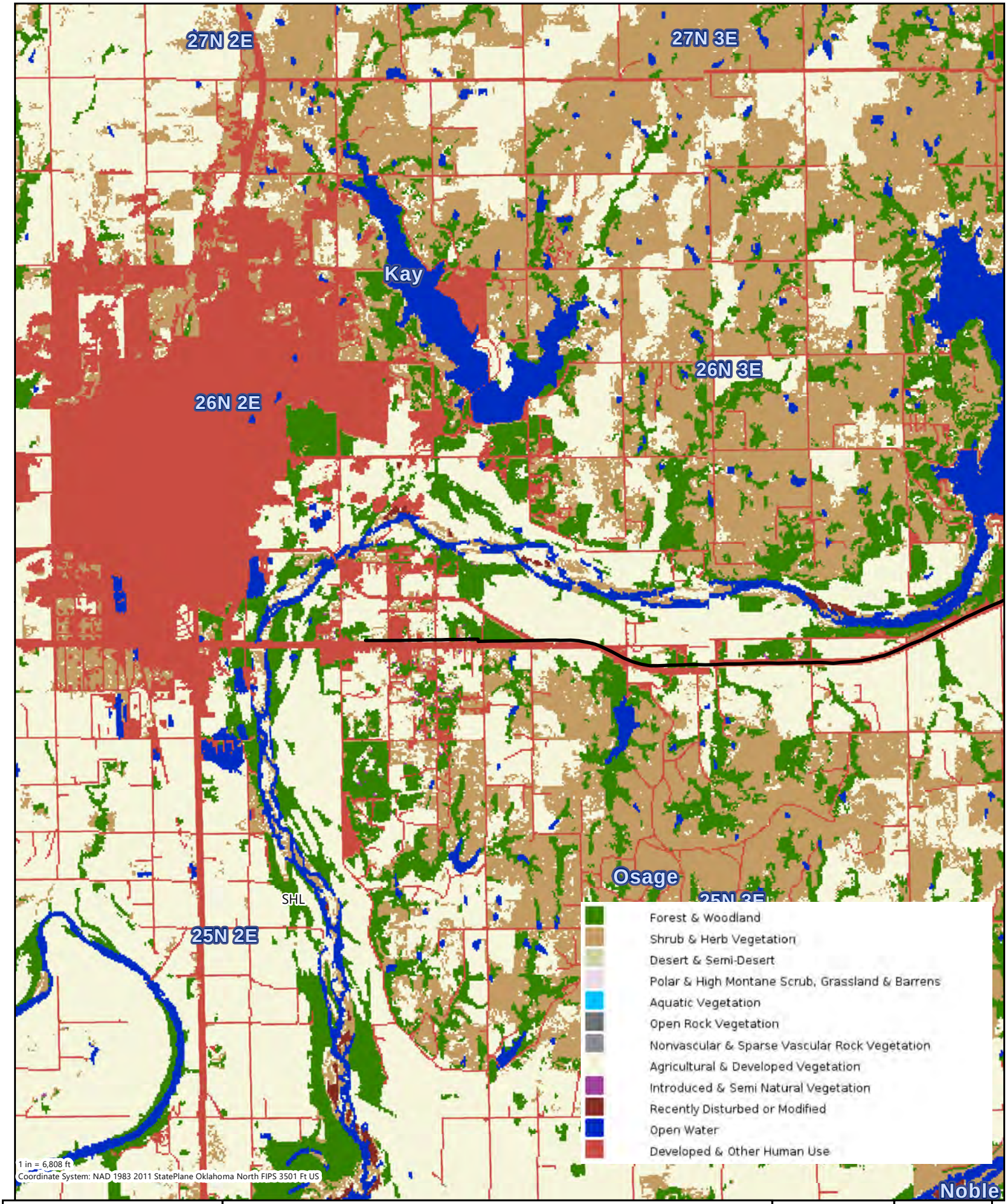
Path: G:\MXD_GUIDES\RS2017\EA_PAWUSKA_COMMUNITY.mxd

Author: JD

Date: 8/9/2023

APPENDIX H – Vegetation Cover/Land Use Plats

Western Boundary



REAGAN SMITH

Vegetation Cover/Land Use Plat - Western Boundary

Osage Nation Broadband Environmental Analysis

Osage Nation
Osage County, Oklahoma

This map is a user generated static output from Land Scout and is for reference only. Data layers that appear on this map may or may not be accurate, current, or otherwise reliable.

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Path: G:\MXD_GUIDES\RS2017\EA_OSAGE_BROADBAND_HIGHWAY60.mxd

Author: SH

Date: 4/20/2023

REAGAN SMITH

Vegetation Cover/Land Use Plat - Western Boundary

Osage Nation Broadband Environmental Analysis

Osage Nation
Osage County, Oklahoma

N

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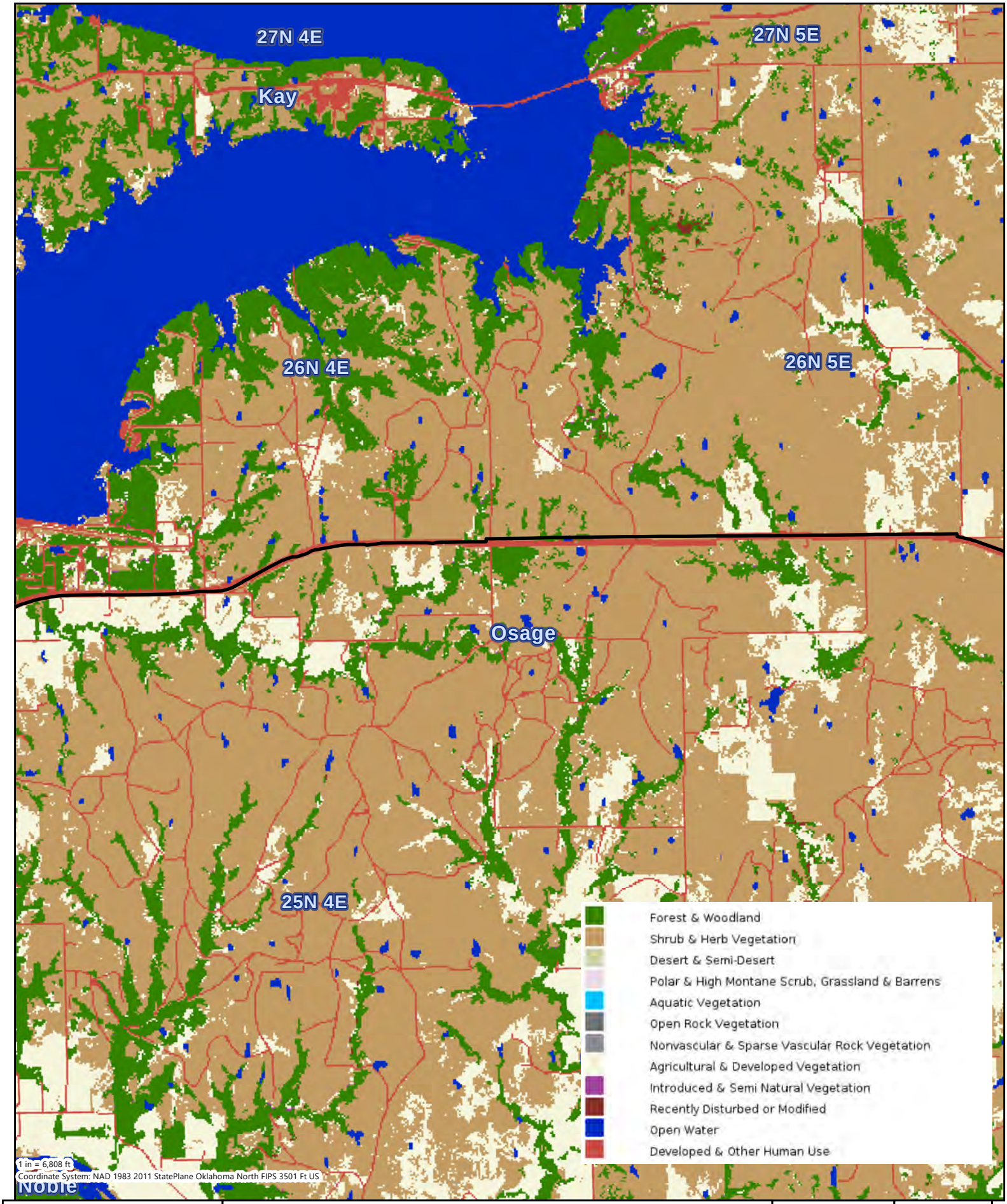
Author: SH

Date: 4/20/2023



REAGAN SMITH

Vegetation Cover/Land Use Plat - Western Boundary

Osage Nation Broadband Environmental Analysis

Osage Nation
Osage County, Oklahoma

N

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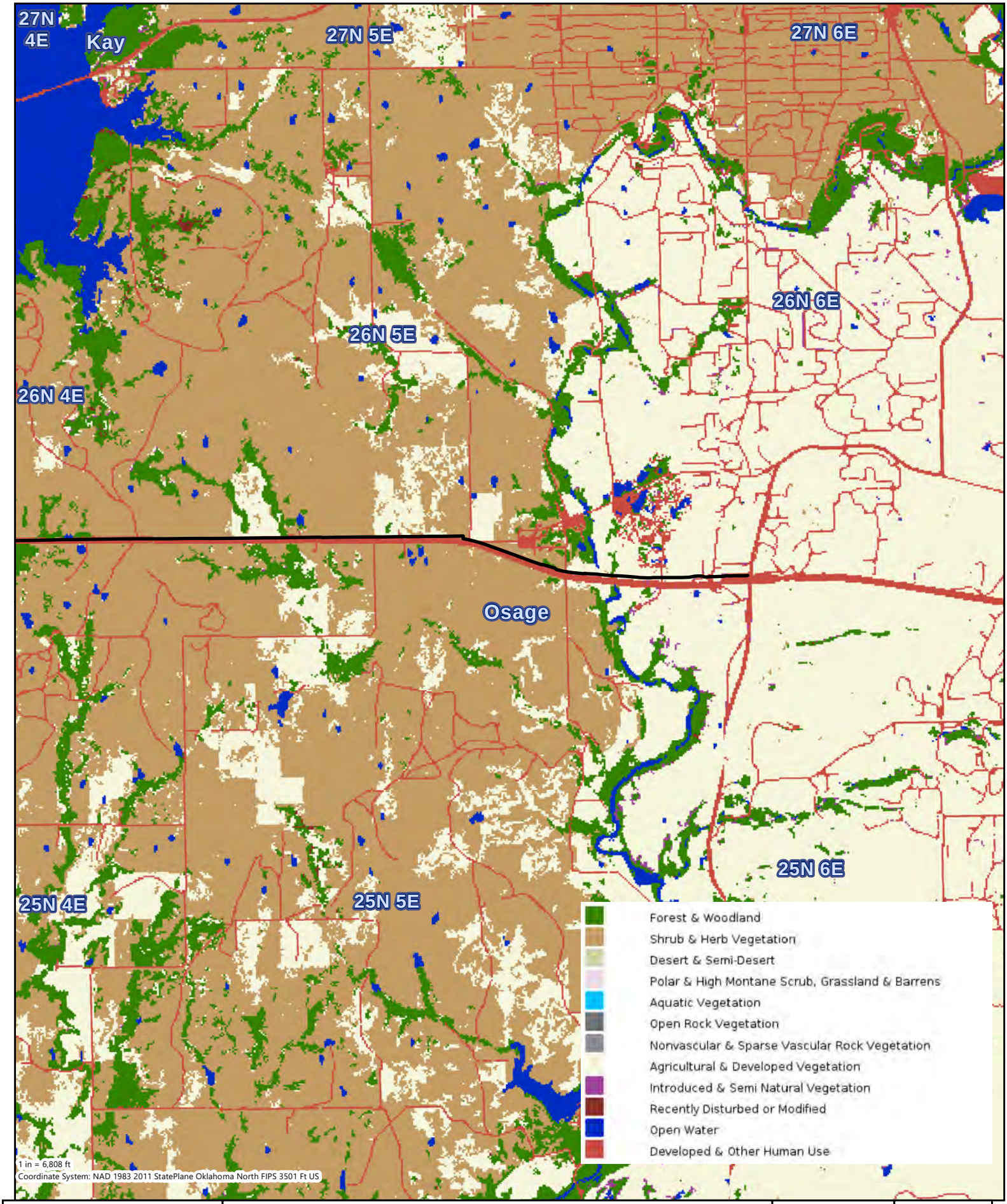
Author: SH

Date: 4/20/2023



REAGAN SMITH

Vegetation Cover/Land Use Plat - Western Boundary

Osage Nation Broadband Environmental Analysis

Osage Nation
Osage County, Oklahoma

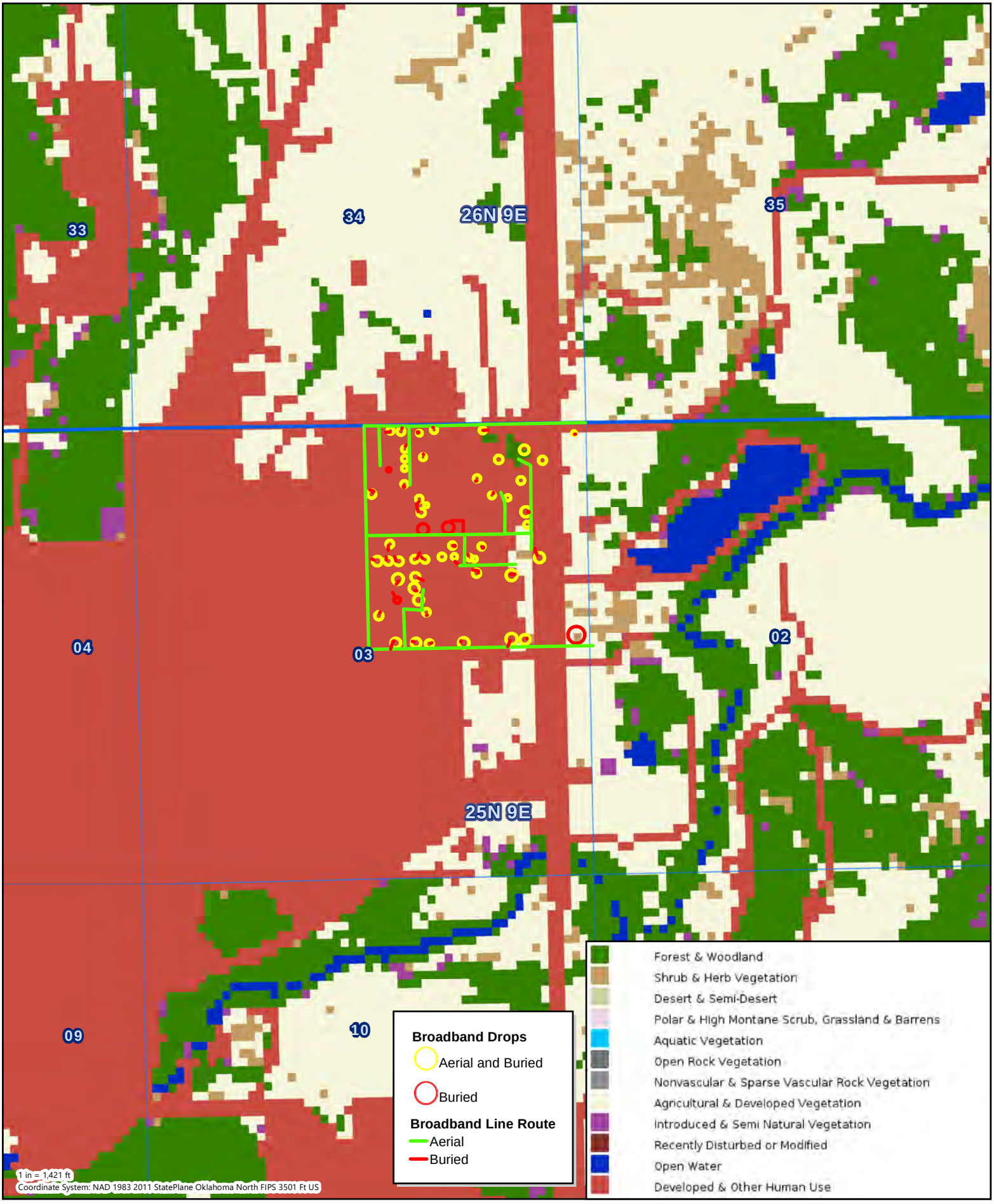
N

Path: G:\MXD_GUIDES\RS2017\EA_OSAGE_BROADBAND_HIGHWAY60.mxd

Author: SH

Date: 4/20/2023

Pawhuska Indian Village



REAGAN SMITH

Vegetation Cover/Land Use Plat - Pawhuska Indian Village

Osage Nation Broadband Environmental Analysis

Osage Nation

Section 03-25N-09W IM, Osage County, Oklahoma

N

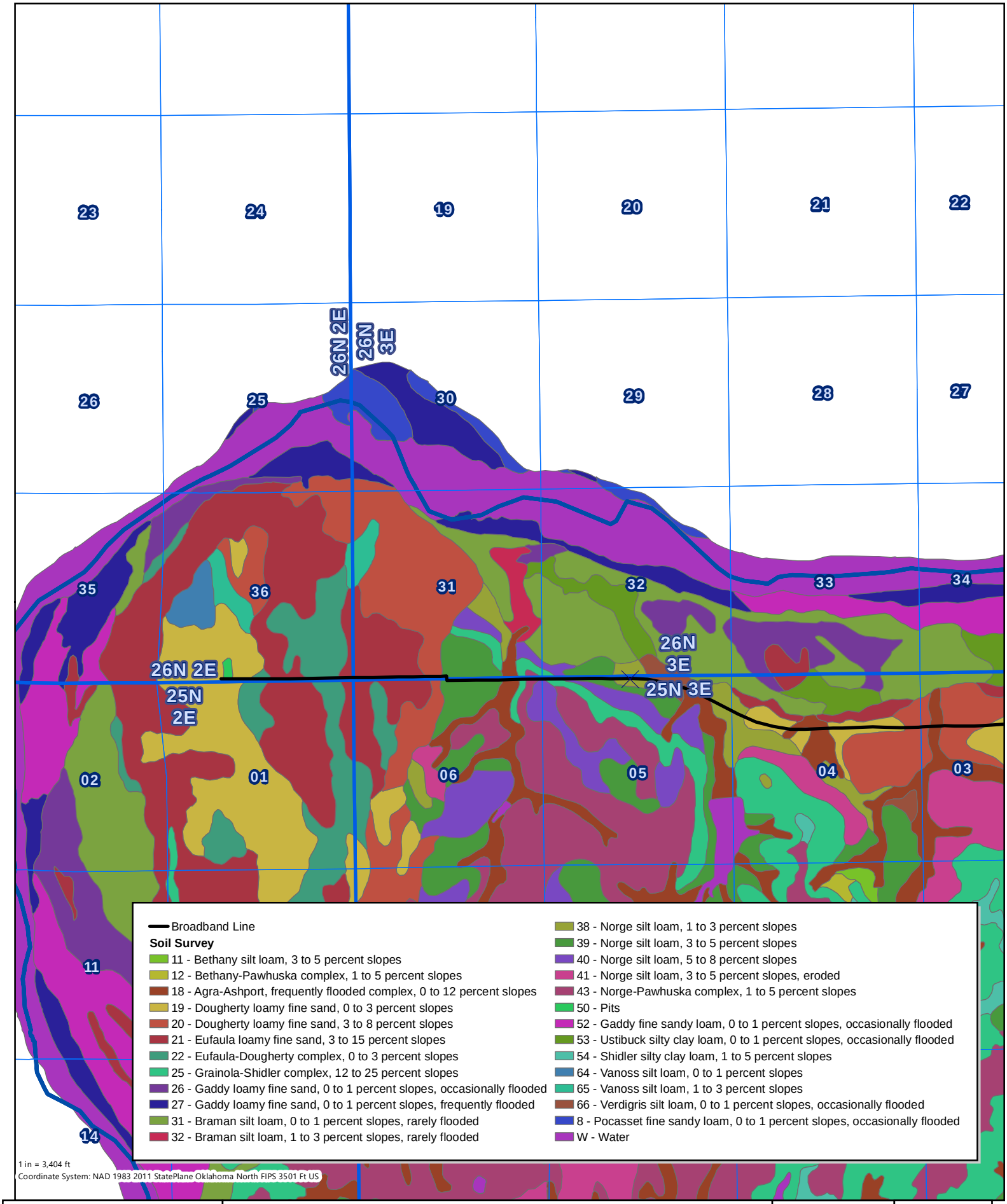
Path: G:\MXD_GUIDES\RS2017\EA_PAWUSKA_COMMUNITY.mxd

Author: JD

Date: 8/9/2023

APPENDIX I – Soil Survey Plats

Western Boundary



REAGAN SMITH

Soil Survey Plat - Western Boundary

Osage Nation Broadband Environmental Analysis

Osage Nation

Osage County, Oklahoma

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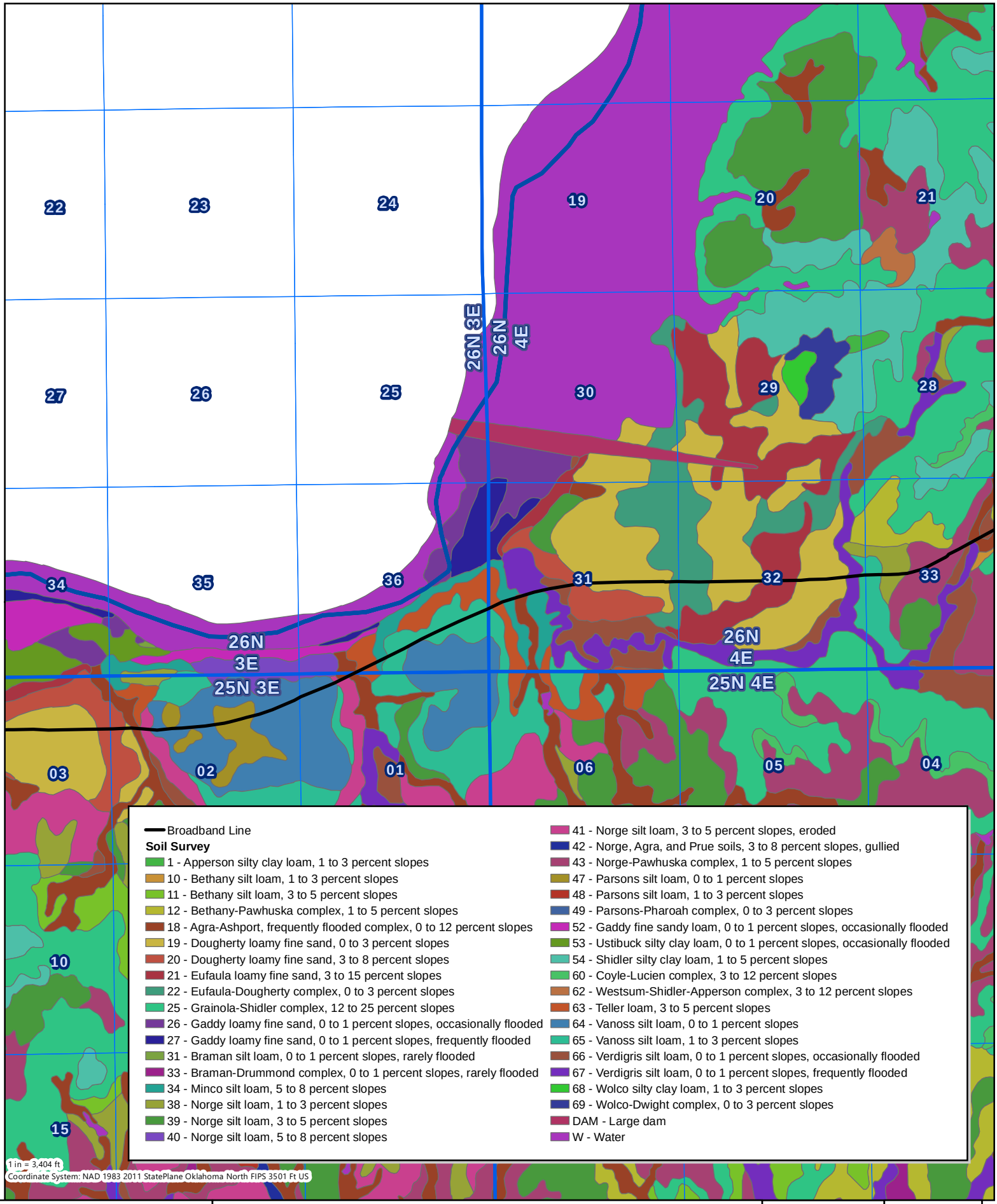
Date: 5/23/2023



REAGAN SMITH

Soil Survey Plat - Western Boundary

Osage Nation Broadband Environmental Analysis

Osage Nation

Osage County, Oklahoma

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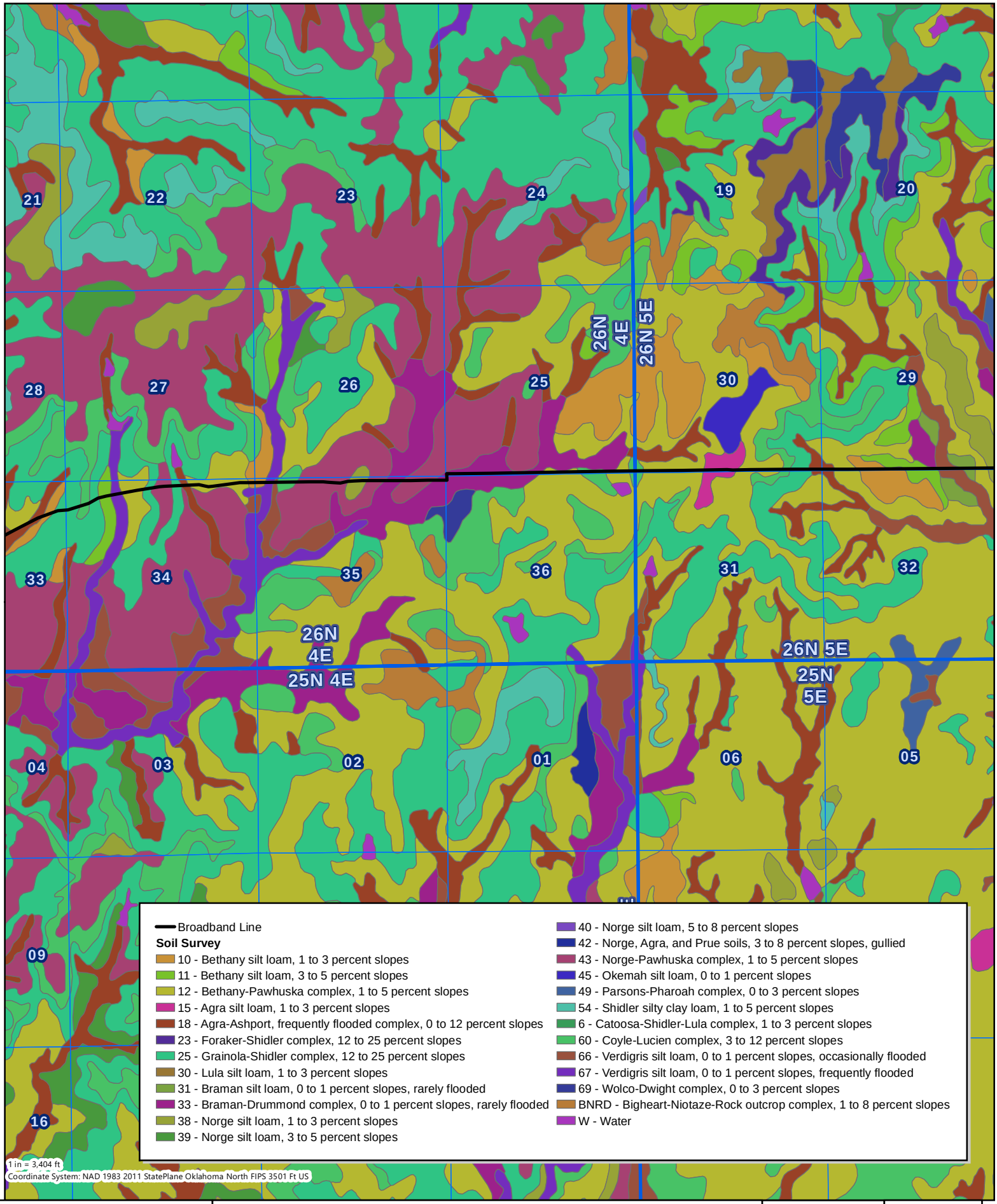
Author: SH

Date: 5/23/2023



REAGAN SMITH

Soil Survey Plat - Western Boundary

Osage Nation Broadband Environmental Analysis

Osage Nation

Osage County, Oklahoma

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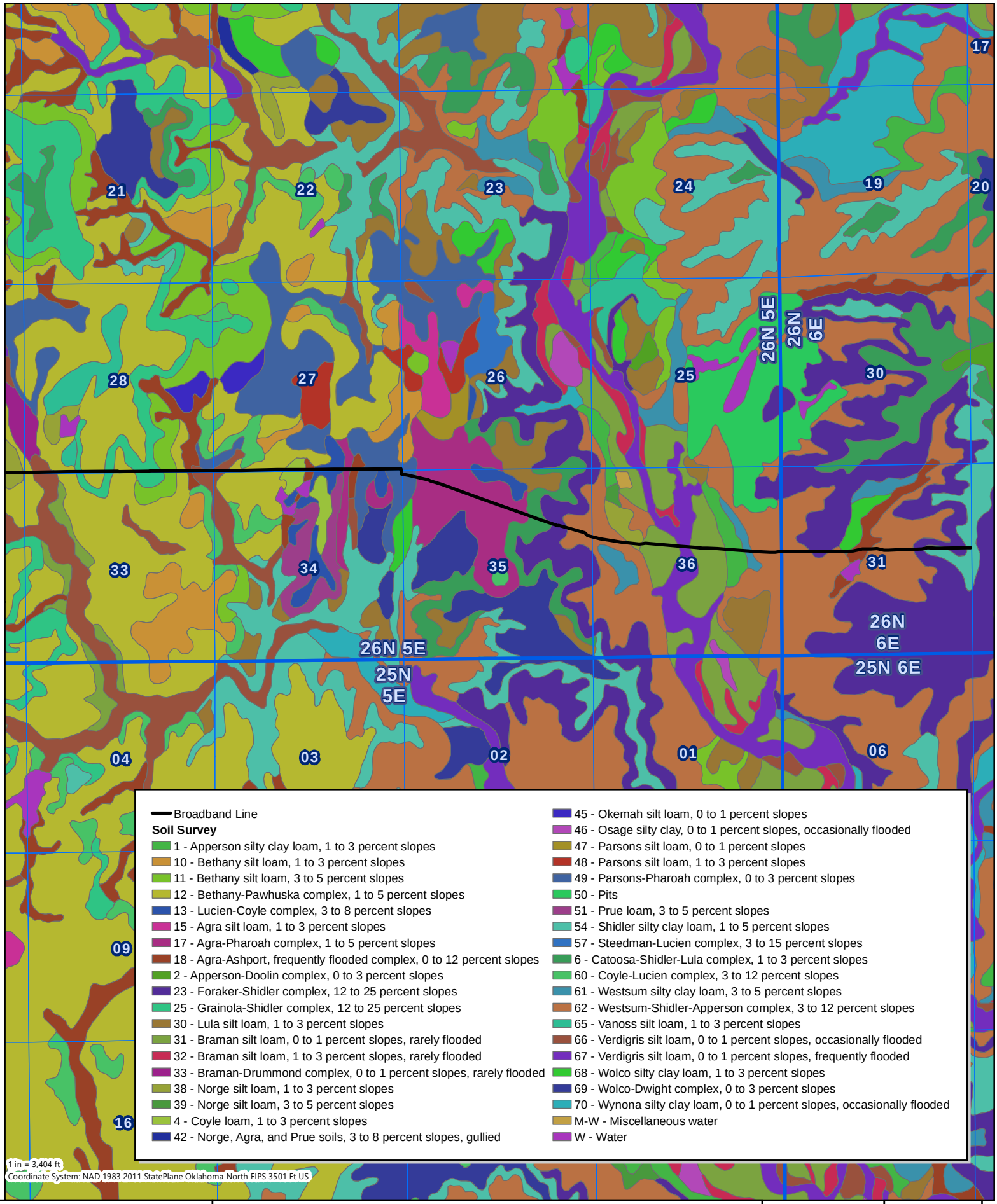
Author: SH

Date: 5/23/2023



REAGAN SMITH

Soil Survey Plat - Western Boundary

Osage Nation Broadband Environmental Analysis

Osage Nation

Osage County, Oklahoma

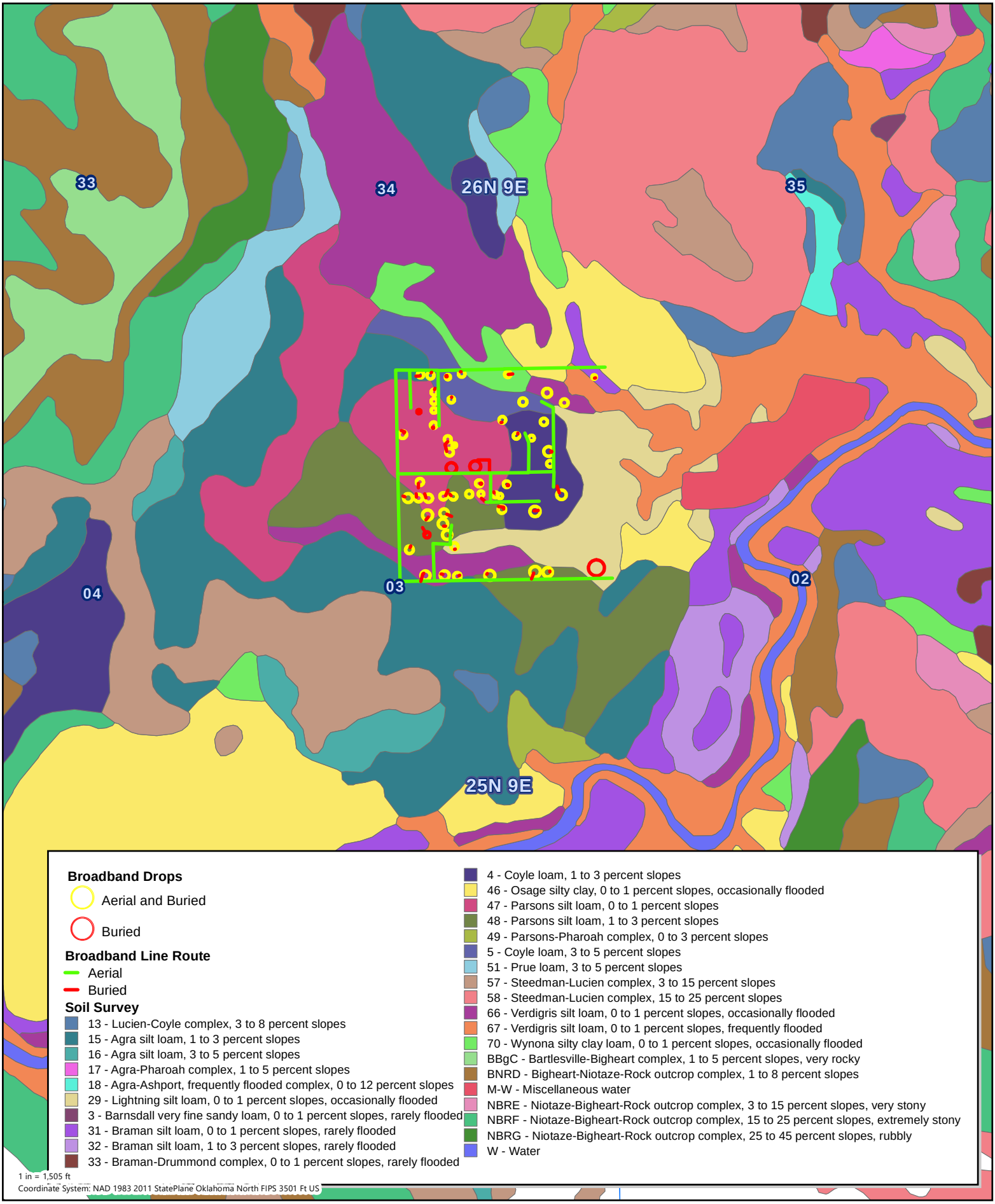
N

Path: G:\MXD_GUIDES\RS2017\EA_OSAGE_BROADBAND_WESTERNBOUNDARY.mxd

Author: SH

Date: 5/23/2023

Pawhuska Indian Village



Broadband Drops

- Aerial and Buried
- Buried

Broadband Line Route

- Aerial
- Buried

Soil Survey

- 13 - Lucien-Coyle complex, 3 to 8 percent slopes
- 15 - Agra silt loam, 1 to 3 percent slopes
- 16 - Agra silt loam, 3 to 5 percent slopes
- 17 - Agra-Pharoah complex, 1 to 5 percent slopes
- 18 - Agra-Ashport, frequently flooded complex, 0 to 12 percent slopes
- 29 - Lightning silt loam, 0 to 1 percent slopes, occasionally flooded
- 3 - Barnsdall very fine sandy loam, 0 to 1 percent slopes, rarely flooded
- 31 - Braman silt loam, 0 to 1 percent slopes, rarely flooded
- 32 - Braman silt loam, 1 to 3 percent slopes, rarely flooded
- 33 - Braman-Drummond complex, 0 to 1 percent slopes, rarely flooded
- 4 - Coyle loam, 1 to 3 percent slopes
- 46 - Osage silty clay, 0 to 1 percent slopes, occasionally flooded
- 47 - Parsons silt loam, 0 to 1 percent slopes
- 48 - Parsons silt loam, 1 to 3 percent slopes
- 49 - Parsons-Pharoah complex, 0 to 3 percent slopes
- 5 - Coyle loam, 3 to 5 percent slopes
- 51 - Prue loam, 3 to 5 percent slopes
- 57 - Steedman-Lucien complex, 3 to 15 percent slopes
- 58 - Steedman-Lucien complex, 15 to 25 percent slopes
- 66 - Verdigris silt loam, 0 to 1 percent slopes, occasionally flooded
- 67 - Verdigris silt loam, 0 to 1 percent slopes, frequently flooded
- 70 - Wynona silty clay loam, 0 to 1 percent slopes, occasionally flooded
- BBgC - Bartlesville-Bigheart complex, 1 to 5 percent slopes, very rocky
- BNRD - Bigheart-Niotaze-Rock outcrop complex, 1 to 8 percent slopes
- M-W - Miscellaneous water
- NBRE - Niotaze-Bigheart-Rock outcrop complex, 3 to 15 percent slopes, very stony
- NBRF - Niotaze-Bigheart-Rock outcrop complex, 15 to 25 percent slopes, extremely stony
- NBRG - Niotaze-Bigheart-Rock outcrop complex, 25 to 45 percent slopes, rubbly
- W - Water

1 in = 1,505 ft

Coordinate System: NAD 1983 2011 StatePlane Oklahoma North FIPS 3501 Ft US

REAGAN SMITH

Soil Survey Plat - Pawhuska Indian Village

Osage Nation Broadband Environmental Analysis

Osage Nation

Section 03-25N-09W IM, Osage County, Oklahoma

N

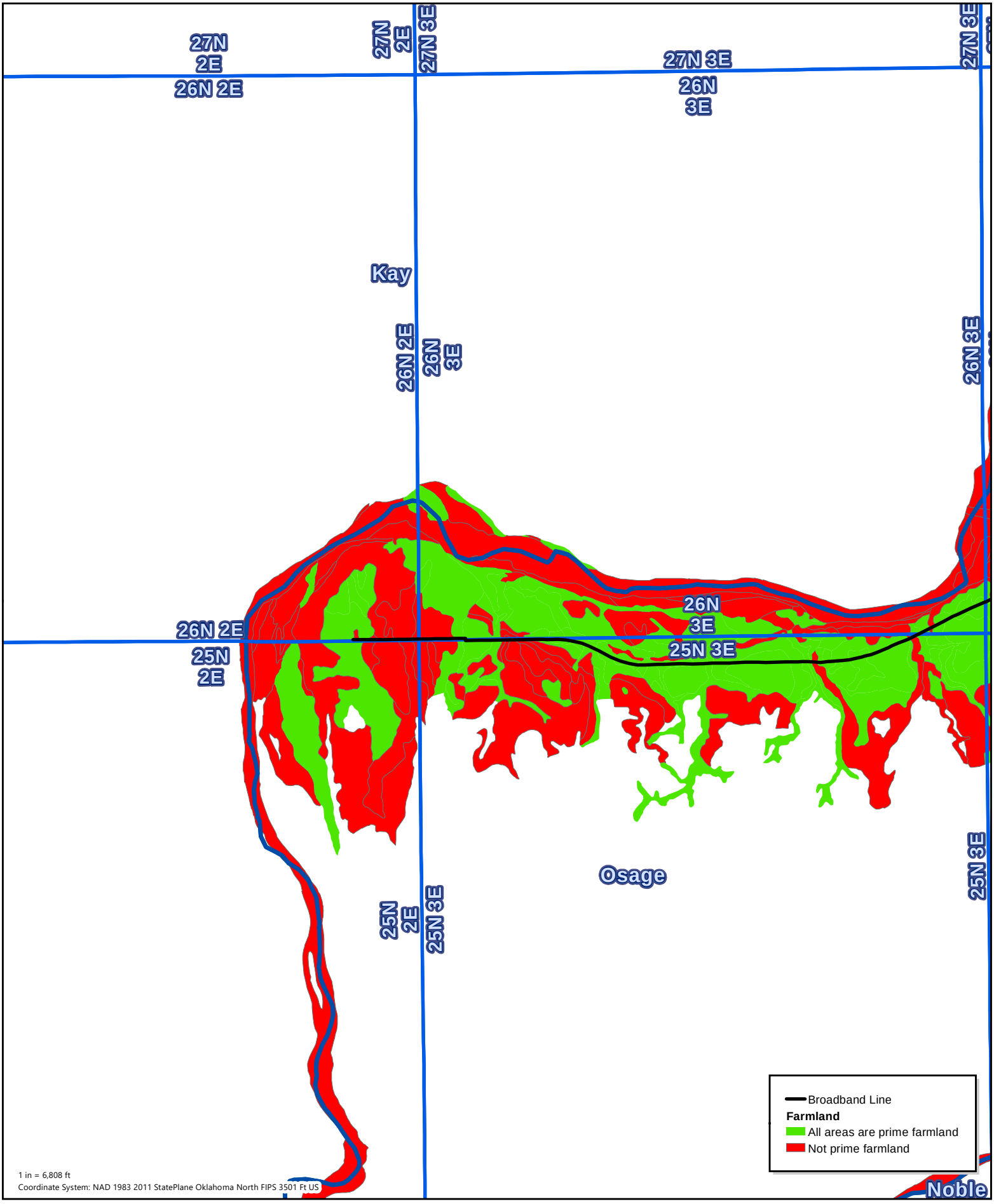
Path: G:\MXD_GUIDES\RS2017\EA_PAWUSKA_COMMUNITY.mxd

Author: JD

Date: 8/9/2023

APPENDIX J – Prime Farmland Plats

Western Boundary



REAGAN SMITH

Prime Farmland Plat - Western Boundary

Osage Nation Broadband Environmental Analysis

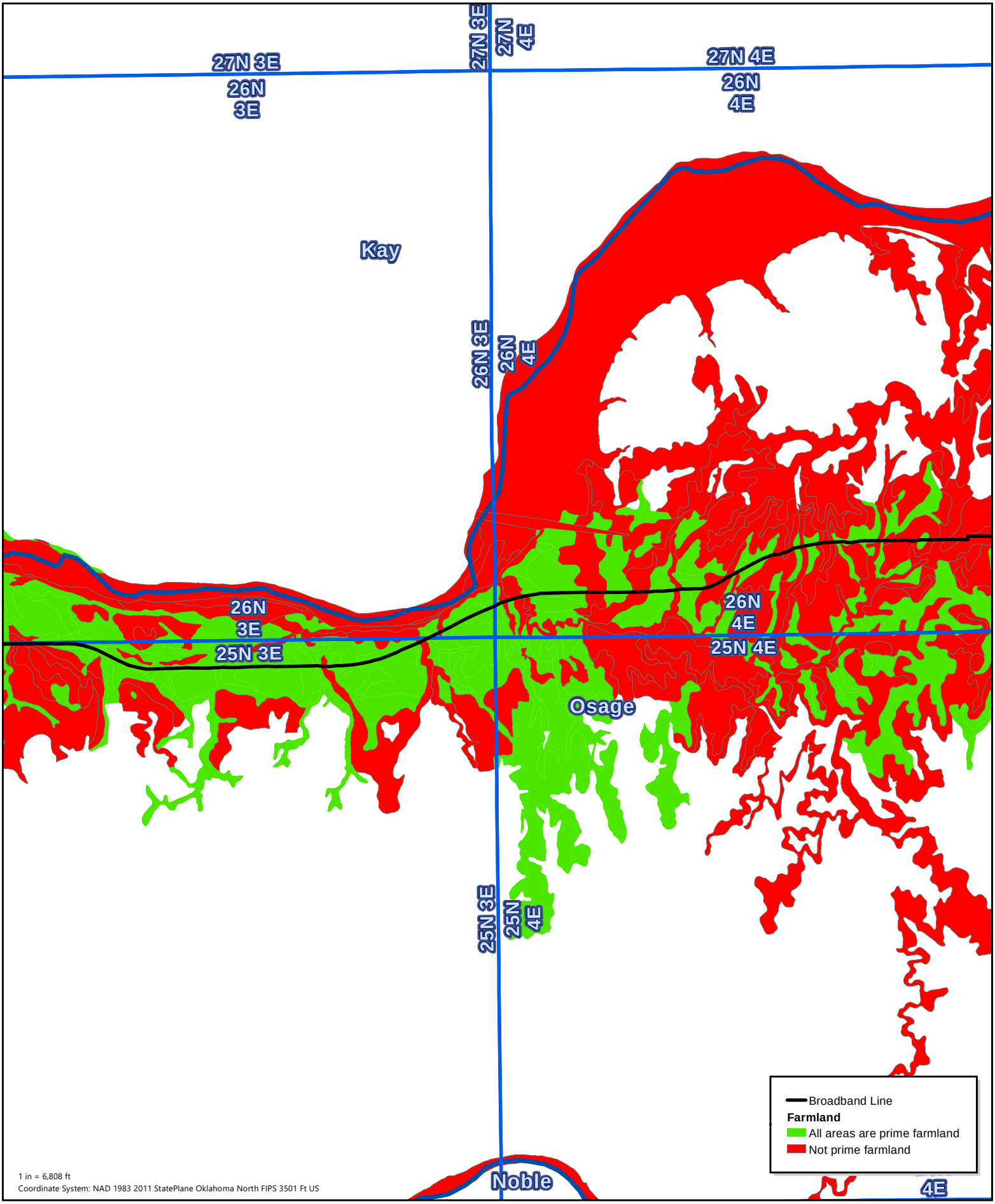
Osage Nation
Osage County, Oklahoma

N

Path: G:\MXD_GUIDES\RS2017\EA_OSAGE_BROADBAND_HIGHWAY60.mxd

Author: SH

Date: 4/20/2023



REAGAN SMITH

Prime Farmland Plat - Western Boundary

Osage Nation Broadband Environmental Analysis

Osage Nation
Osage County, Oklahoma

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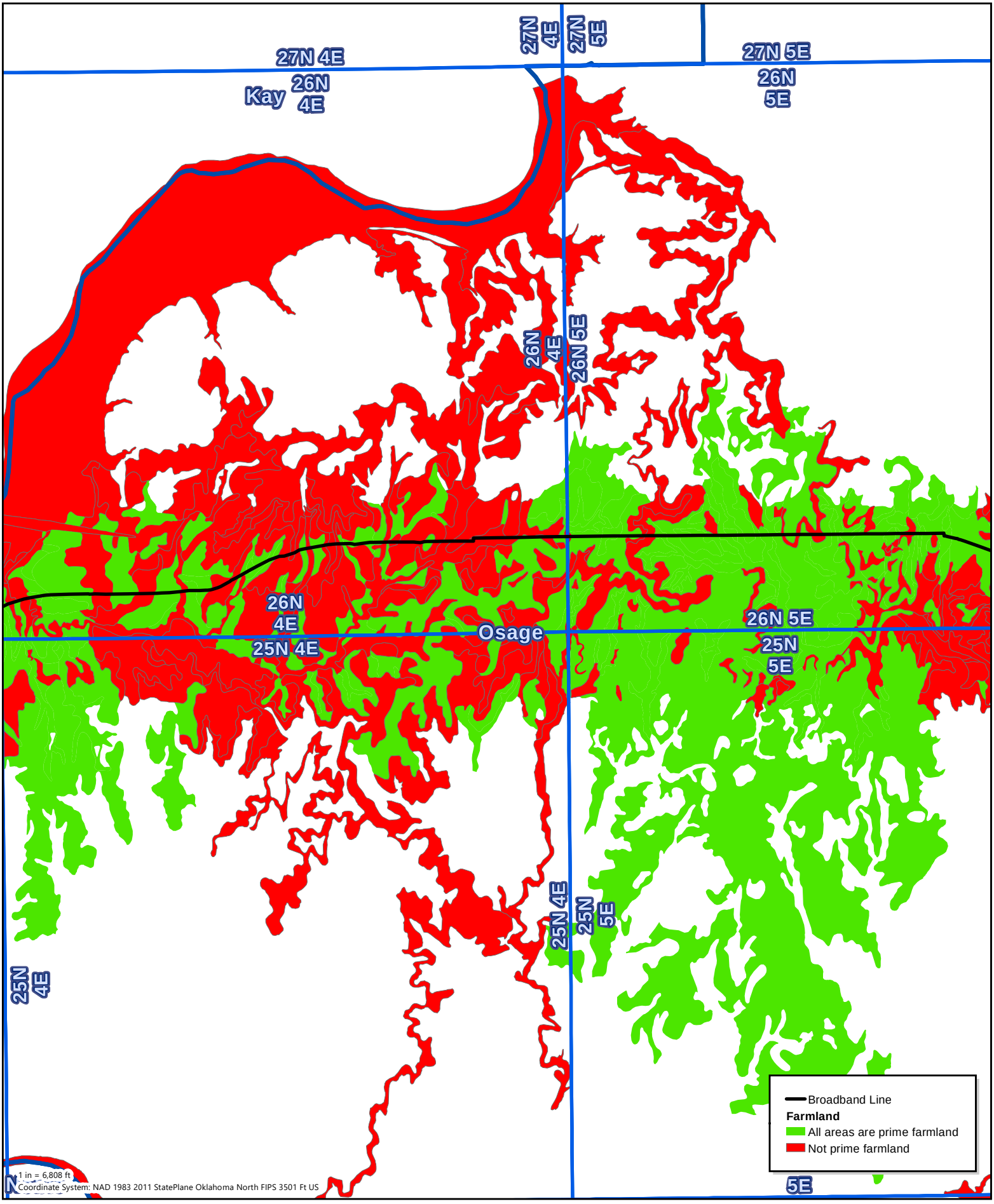
Path: G:\MXD_GUIDES\RS2017\EA_OSAGE_BROADBAND_HIGHWAY60.mxd

Author: SH

Date: 4/20/2023



REAGAN SMITH

Prime Farmland Plat - Western Boundary

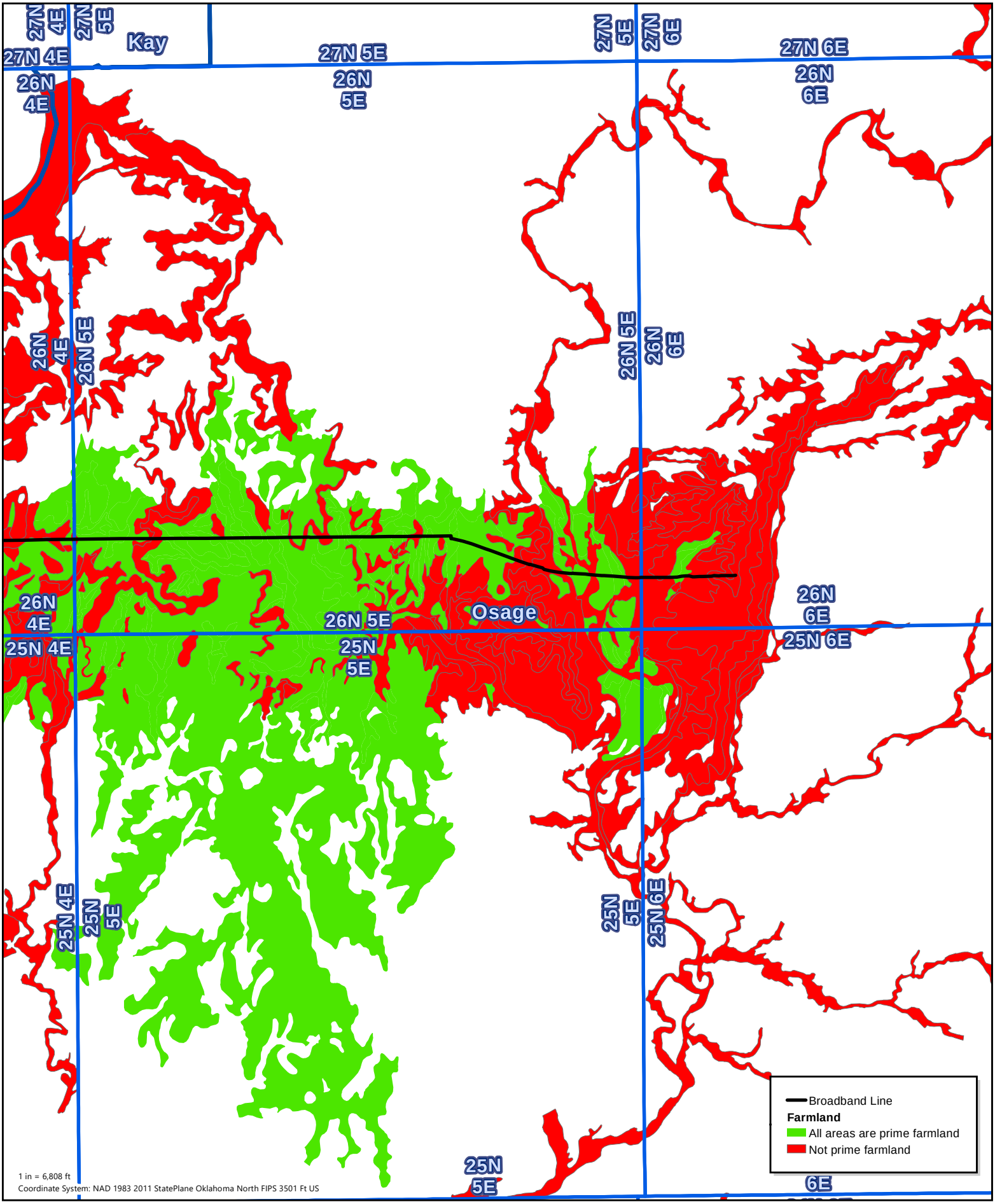
Osage Nation Broadband Environmental Analysis

Osage Nation
Osage County, Oklahoma

Path: G:\MXD_GUIDES\RS2017\EA_OSAGE_BROADBAND_HIGHWAY60.mxd

Author: SH

Date: 4/20/2023



REAGAN SMITH

Prime Farmland Plat - Western Boundary

Osage Nation Broadband Environmental Analysis

Osage Nation

Osage County, Oklahoma

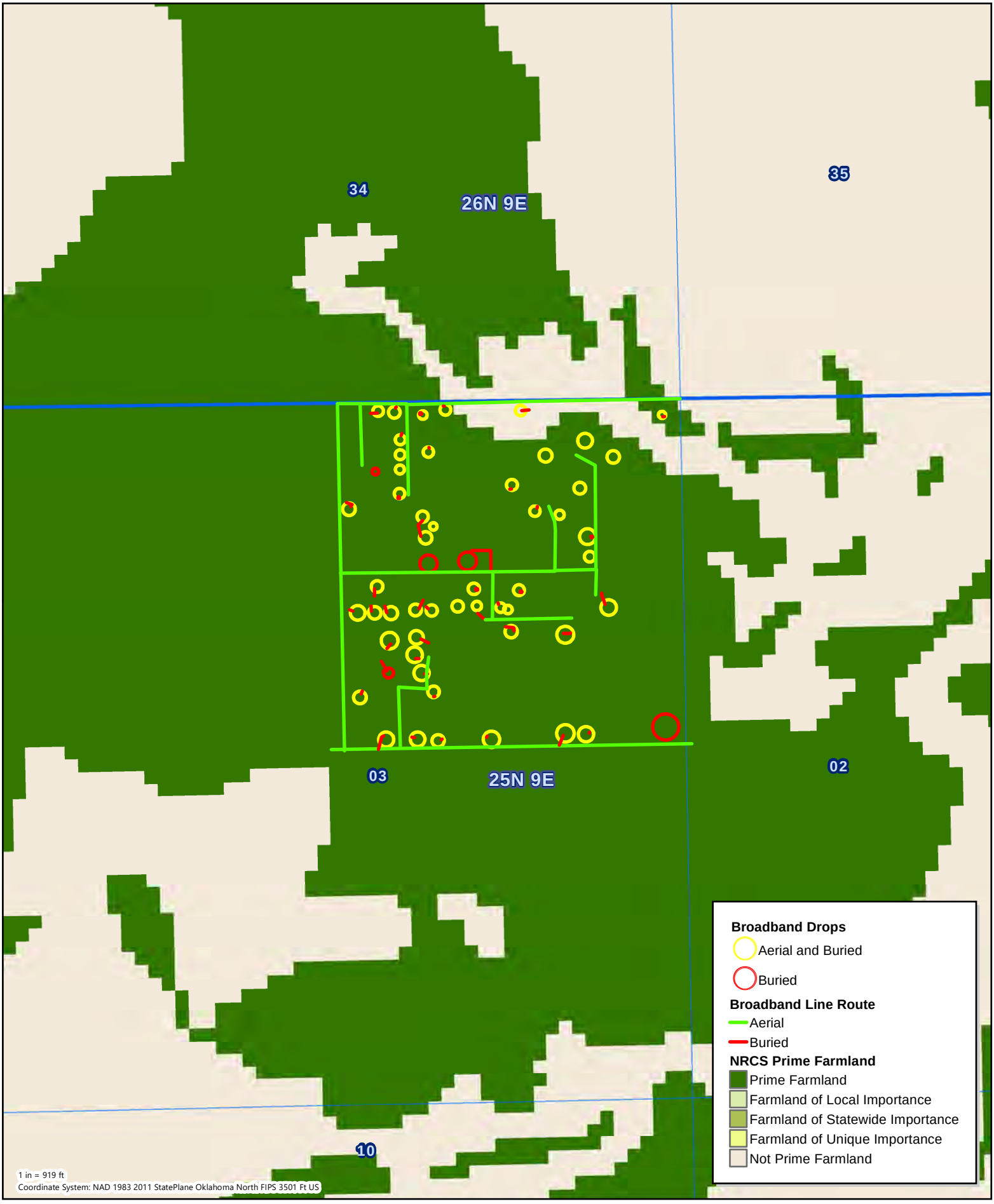
N

Path: G:\MXD_GUIDES\RS2017\EA_OSAGE_BROADBAND_HIGHWAY60.mxd

Author: SH

Date: 4/20/2023

Pawhuska Indian Village



REAGAN SMITH

Prime Farmland Plat - Pawhuska Indian Village

Osage Nation Broadband Environmental Analysis

Osage Nation

Section 03-25N-09W IM, Osage County, Oklahoma

N

Path: G:\MXD_GUIDES\RS2017\EA_PAWUSKA_COMMUNITY.mxd

Author: JD

Date: 8/9/2023

APPENDIX K – Information for Planning and Consultation

Western Boundary

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Oklahoma Ecological Services Field Office
9014 East 21st Street
Tulsa, OK 74129-1428
Phone: (918) 581-7458 Fax: (918) 581-7467

In Reply Refer To: March 16, 2023
Project Code: 2023-0056852
Project Name: HWY 60 W Boundary Pathway

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological

evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF

Migratory Birds: In addition to responsibilities to protect threatened and endangered species under the Endangered Species Act (ESA), there are additional responsibilities under the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA) to protect native birds from project-related impacts. Any activity, intentional or unintentional, resulting in take of migratory birds, including eagles, is prohibited unless otherwise permitted by the U.S. Fish and Wildlife Service (50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)). For more information regarding these Acts see https://www.fws.gov/birds/policies-and-regulations.php.

The MBTA has no provision for allowing take of migratory birds that may be unintentionally killed or injured by otherwise lawful activities. It is the responsibility of the project proponent to comply with these Acts by identifying potential impacts to migratory birds and eagles within applicable NEPA documents (when there is a federal nexus) or a Bird/Eagle Conservation Plan (when there is no federal nexus). Proponents should implement conservation measures to avoid or minimize the production of project-related stressors or minimize the exposure of birds and their resources to the project-related stressors. For more information on avian stressors and recommended conservation measures see https://www.fws.gov/birds/bird-enthusiasts/threats-to-birds.php.

In addition to MBTA and BGEPA, Executive Order 13186: *Responsibilities of Federal Agencies to Protect Migratory Birds*, obligates all Federal agencies that engage in or authorize activities that might affect migratory birds, to minimize those effects and encourage conservation measures that will improve bird populations. Executive Order 13186 provides for the protection of both migratory birds and migratory bird habitat. For information regarding the implementation of Executive Order 13186, please visit https://www.fws.gov/birds/policies-and-regulations/executive-orders/e0-13186.php.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Code in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List
- USFWS National Wildlife Refuges and Fish Hatcheries
- Migratory Birds
- Wetlands

OFFICIAL SPECIES LIST

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Oklahoma Ecological Services Field Office
9014 East 21st Street
Tulsa, OK 74129-1428
(918) 581-7458

PROJECT SUMMARY

Project Code: 2023-0056852
Project Name: HWY 60 W Boundary Pathway
Project Type: Maintenance/Modification - Below Ground Communications Lines
Project Description: Broadband Environmental Assessment
Project Location:

The approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@36.6798106,-96.86725834187106,14z

Counties: Kay and Osage counties, Oklahoma

ENDANGERED SPECIES ACT SPECIES

There is a total of 6 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

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1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

MAMMALS

NAME	STATUS
Tricolored Bat *Perimyotis subflavus* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/10515	Proposed Endangered

BIRDS

NAME	STATUS
Piping Plover *Charadrius melodus* Population: [Atlantic Coast and Northern Great Plains populations] - Wherever found, except those areas where listed as endangered. There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/6039	Threatened
Red Knot *Calidris canutus rufa* There is **proposed** critical habitat for this species. Species profile: https://ecos.fws.gov/ecp/species/1864	Threatened

REPTILES

NAME	STATUS
Alligator Snapping Turtle *Macrochelys temminckii* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/4658	Proposed Threatened

INSECTS

NAME	STATUS
American Burying Beetle *Nicrophorus americanus*	Threatened
Population: Wherever found, except where listed as an experimental population No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/66	
Monarch Butterfly *Danaus plexippus*	Candidate
No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9743	

CRITICAL HABITATS

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

USFWS NATIONAL WILDLIFE REFUGE LANDS AND FISH HATCHERIES

Any activity proposed on lands managed by the National Wildlife Refuge system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

THERE ARE NO REFUGE LANDS OR FISH HATCHERIES WITHIN YOUR PROJECT AREA.

MIGRATORY BIRDS

Certain birds are protected under the Migratory Bird Treaty Act[1] and the Bald and Golden Eagle Protection Act[2].

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures, as described below.

---

1. The Migratory Birds Treaty Act of 1918.
2. The Bald and Golden Eagle Protection Act of 1940.
3. 50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)

The birds listed below are birds of particular concern either because they occur on the USFWS Birds of Conservation Concern (BCC) list or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ below. This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the E-bird data mapping tool (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found below.

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON
Bald Eagle *Haliaeetus leucocephalus* This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.	Breeds Sep 1 to Aug 31
Chimney Swift *Chaetura pelagica* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Mar 15 to Aug 25
Little Blue Heron *Egretta caerulea* This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA	Breeds Mar 10 to Oct 15

NAME	BREEDING SEASON
Red-headed Woodpecker *Melanerpes erythrocephalus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 10 to Sep 10
Rusty Blackbird *Euphagus carolinus* This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA	Breeds elsewhere

PROBABILITY OF PRESENCE SUMMARY

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read and understand the FAQ "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is 0.25/0.25 = 1; at week 20 it is 0.05/0.25 = 0.2.
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

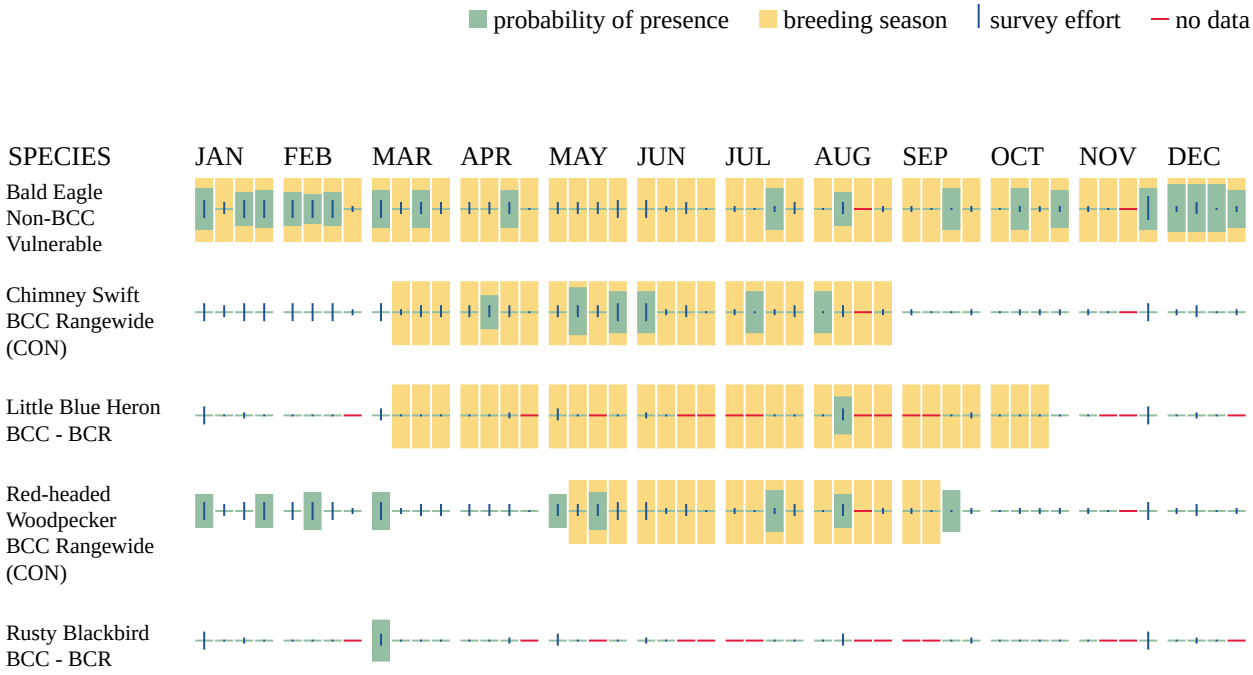
Breeding Season (■)

Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

Survey Effort (|)
Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

No Data (–)
A week is marked as having no data if there were no survey events for that week.

Survey Timeframe
Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.



Additional information can be found using the following links:

- Birds of Conservation Concern https://www.fws.gov/program/migratory-birds/species
- Measures for avoiding and minimizing impacts to birds https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds
- Nationwide conservation measures for birds https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf

MIGRATORY BIRDS FAQ

Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.

Nationwide Conservation Measures describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. Additional measures or permits may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the list of migratory birds that potentially occur in my specified location?
The Migratory Bird Resource List is comprised of USFWS Birds of Conservation Concern (BCC) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (Eagle Act requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the Rapid Avian Information Locator (RAIL) Tool.

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?
The probability of presence graphs associated with your migratory bird list are based on data provided by the Avian Knowledge Network (AKN). This data is derived from a growing collection of survey, banding, and citizen science datasets.

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

How do I know if a bird is breeding, wintering or migrating in my area?
To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may query your location using the RAIL Tool and look at the range maps provided for birds in your area at the bottom of the profiles provided for each bird in your results. If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are Birds of Conservation Concern (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the Eagle Act requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

Details about birds that are potentially affected by offshore projects
For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the Northeast Ocean Data Portal. The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the Diving Bird Study and the nanotag studies or contact Caleb Spiegel or Pam Loring.

What if I have eagles on my list?
If your project has the potential to disturb or kill eagles, you may need to obtain a permit to avoid violating the Eagle Act should such impacts occur.

Proper Interpretation and Use of Your Migratory Bird Report
The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the "no data" indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of

certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ "Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds" at the bottom of your migratory bird trust resources page.

WETLANDS

Impacts to NWI wetlands and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local U.S. Army Corps of Engineers District.

Please note that the NWI data being shown may be out of date. We are currently working to update our NWI data set. We recommend you verify these results with a site visit to determine the actual extent of wetlands on site.

WETLAND INFORMATION WAS NOT AVAILABLE WHEN THIS SPECIES LIST WAS GENERATED. PLEASE VISIT HTTPS://WWW.FWS.GOV/WETLANDS/DATA/MAPPER.HTML OR CONTACT THE FIELD OFFICE FOR FURTHER INFORMATION.

IPAC USER CONTACT INFORMATION

Agency: Reagan Smith
Name: Valeria Escareno
Address: 3909 N. Classen Blvd.
City: Oklahoma City
State: OK
Zip: 73118
Email valeriaescareno@gmail.com
Phone: 4052869326

Pawhuska Indian Village

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Oklahoma Ecological Services Field Office
9014 East 21st Street
Tulsa, OK 74129-1428
Phone: (918) 581-7458 Fax: (918) 581-7467

In Reply Refer To: April 04, 2023
Project Code: 2023-0064296
Project Name: Pawhuska Indian Village Fiber Optic Line

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological

evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF

Migratory Birds: In addition to responsibilities to protect threatened and endangered species under the Endangered Species Act (ESA), there are additional responsibilities under the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA) to protect native birds from project-related impacts. Any activity, intentional or unintentional, resulting in take of migratory birds, including eagles, is prohibited unless otherwise permitted by the U.S. Fish and Wildlife Service (50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)). For more information regarding these Acts see https://www.fws.gov/birds/policies-and-regulations.php.

The MBTA has no provision for allowing take of migratory birds that may be unintentionally killed or injured by otherwise lawful activities. It is the responsibility of the project proponent to comply with these Acts by identifying potential impacts to migratory birds and eagles within applicable NEPA documents (when there is a federal nexus) or a Bird/Eagle Conservation Plan (when there is no federal nexus). Proponents should implement conservation measures to avoid or minimize the production of project-related stressors or minimize the exposure of birds and their resources to the project-related stressors. For more information on avian stressors and recommended conservation measures see https://www.fws.gov/birds/bird-enthusiasts/threats-to-birds.php.

In addition to MBTA and BGEPA, Executive Order 13186: *Responsibilities of Federal Agencies to Protect Migratory Birds*, obligates all Federal agencies that engage in or authorize activities that might affect migratory birds, to minimize those effects and encourage conservation measures that will improve bird populations. Executive Order 13186 provides for the protection of both migratory birds and migratory bird habitat. For information regarding the implementation of Executive Order 13186, please visit https://www.fws.gov/birds/policies-and-regulations/executive-orders/e0-13186.php.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Code in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List
- USFWS National Wildlife Refuges and Fish Hatcheries
- Migratory Birds
- Wetlands

OFFICIAL SPECIES LIST

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Oklahoma Ecological Services Field Office
9014 East 21st Street
Tulsa, OK 74129-1428
(918) 581-7458

PROJECT SUMMARY

Project Code: 2023-0064296
Project Name: Pawhuska Community Line Osage Broadband project
Project Type: Federal Grant / Loan Related
Project Description: Osage Nation Broadband expansion within Pawhuska city limits
Project Location:

The approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@36.67664525,-96.32306587114668,14z

Counties: Osage County, Oklahoma

ENDANGERED SPECIES ACT SPECIES

There is a total of 5 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

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1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

MAMMALS

NAME	STATUS
Tricolored Bat *Perimyotis subflavus* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/10515	Proposed Endangered

BIRDS

NAME	STATUS
Piping Plover *Charadrius melodus* Population: [Atlantic Coast and Northern Great Plains populations] - Wherever found, except those areas where listed as endangered. There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/6039	Threatened
Red Knot *Calidris canutus rufa* There is **proposed** critical habitat for this species. Species profile: https://ecos.fws.gov/ecp/species/1864	Threatened

INSECTS

NAME	STATUS
American Burying Beetle *Nicrophorus americanus*	Threatened
Population: Wherever found, except where listed as an experimental population No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/66	
Monarch Butterfly *Danaus plexippus*	Candidate
No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9743	

CRITICAL HABITATS

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

USFWS NATIONAL WILDLIFE REFUGE LANDS AND FISH HATCHERIES

Any activity proposed on lands managed by the National Wildlife Refuge system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

THERE ARE NO REFUGE LANDS OR FISH HATCHERIES WITHIN YOUR PROJECT AREA.

MIGRATORY BIRDS

Certain birds are protected under the Migratory Bird Treaty Act[1] and the Bald and Golden Eagle Protection Act[2].

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures, as described below.

---

1. The Migratory Birds Treaty Act of 1918.
2. The Bald and Golden Eagle Protection Act of 1940.
3. 50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)

The birds listed below are birds of particular concern either because they occur on the USFWS Birds of Conservation Concern (BCC) list or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ below. This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the E-bird data mapping tool (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found below.

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON
Bald Eagle *Haliaeetus leucocephalus* This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.	Breeds Sep 1 to Jul 31
Chimney Swift *Chaetura pelagica* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Mar 15 to Aug 25

NAME	BREEDING SEASON
Henslow's Sparrow *Ammodramus henslowii* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/3941	Breeds elsewhere
Red-headed Woodpecker *Melanerpes erythrocephalus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 10 to Sep 10

PROBABILITY OF PRESENCE SUMMARY

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read and understand the FAQ "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is 0.25/0.25 = 1; at week 20 it is 0.05/0.25 = 0.2.
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

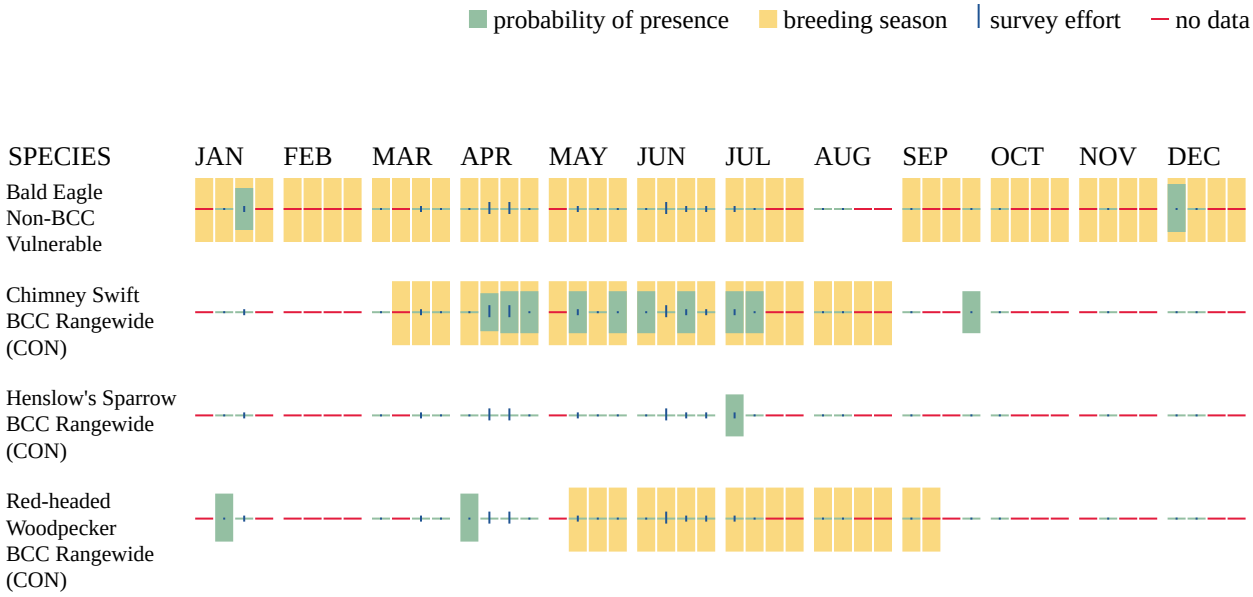
Breeding Season (■)

Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

Survey Effort (|)
Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

No Data (–)
A week is marked as having no data if there were no survey events for that week.

Survey Timeframe
Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.



Additional information can be found using the following links:

- Birds of Conservation Concern https://www.fws.gov/program/migratory-birds/species
- Measures for avoiding and minimizing impacts to birds https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds
- Nationwide conservation measures for birds https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf

MIGRATORY BIRDS FAQ

Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.
Nationwide Conservation Measures describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very

helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. Additional measures or permits may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the list of migratory birds that potentially occur in my specified location?
The Migratory Bird Resource List is comprised of USFWS Birds of Conservation Concern (BCC) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (Eagle Act requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the Rapid Avian Information Locator (RAIL) Tool.

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?
The probability of presence graphs associated with your migratory bird list are based on data provided by the Avian Knowledge Network (AKN). This data is derived from a growing collection of survey, banding, and citizen science datasets.

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

How do I know if a bird is breeding, wintering or migrating in my area?
To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may query your location using the RAIL Tool and look at the range maps provided for birds in your area at the bottom of the profiles provided for each bird in your results. If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are Birds of Conservation Concern (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the Eagle Act requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

Details about birds that are potentially affected by offshore projects
For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the Northeast Ocean Data Portal. The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the Diving Bird Study and the nanotag studies or contact Caleb Spiegel or Pam Loring.

What if I have eagles on my list?
If your project has the potential to disturb or kill eagles, you may need to obtain a permit to avoid violating the Eagle Act should such impacts occur.

Proper Interpretation and Use of Your Migratory Bird Report
The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the "no data" indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of

certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ "Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds" at the bottom of your migratory bird trust resources page.

WETLANDS

Impacts to NWI wetlands and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local U.S. Army Corps of Engineers District.

Please note that the NWI data being shown may be out of date. We are currently working to update our NWI data set. We recommend you verify these results with a site visit to determine the actual extent of wetlands on site.

WETLAND INFORMATION WAS NOT AVAILABLE WHEN THIS SPECIES LIST WAS GENERATED. PLEASE VISIT HTTPS://WWW.FWS.GOV/WETLANDS/DATA/MAPPER.HTML OR CONTACT THE FIELD OFFICE FOR FURTHER INFORMATION.

IPAC USER CONTACT INFORMATION

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State: OK
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APPENDIX L – American Burying Beetle Determination Letter

Western Boundary

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Oklahoma Ecological Services Field Office
9014 East 21st Street
Tulsa, OK 74129-1428
Phone: (918) 581-7458 Fax: (918) 581-7467

In Reply Refer To:
Project code: 2023-0071296
Project Name: West Boundary

April 19, 2023

Subject: Verification letter for 'West Boundary' project under the October 15, 2020, Programmatic Biological Opinion on Final 4(d) Rule for the American burying beetle and Activities Excepted from Take Prohibitions (50 CFR § 17.47(d), Federal Register Citation 85 FR 65241).

Dear Valeria Escareno:

The U.S. Fish and Wildlife Service (Service) received on **April 19, 2023** your effect determination(s) for the 'West Boundary' (the Action) using the American burying beetle (*Nicrophorus americanus*) determination key within the Information for Planning and Consultation (IPaC) system.

This determination key assists users in determining whether a Federal action is consistent with the activities analyzed in the Service's October 15, 2020, Programmatic Biological Opinion (PBO). The PBO addresses activities excepted from incidental "take"[1] prohibitions applicable to the American burying beetle under the Endangered Species Act of 1973 (Act) (87 Stat.884, as amended; 16 U.S.C. 1531 et seq.).

Based upon your IPaC submission, the Action is consistent with activities analyzed in the PBO. The Action may affect the American burying beetle; however, any incidental take that may occur as a result of the Action is not prohibited under the Act Section 4(d) rule adopted for this species at 50 CFR §17.47(d). **Unless the Service advises you within 30 days of the date of this letter that your IPaC-assisted determination was incorrect, this letter verifies that the PBO satisfies and concludes your responsibilities for this Action under Act Section 7(a)(2) with respect to the American burying beetle.**

Please report any changes to the information about the Action that you submitted in IPaC, the results of any American burying beetle surveys conducted in the Action area, and any dead, injured, or sick American burying beetles that are found during Action implementation. If the Action is not completed within one year of the date of this letter, you must update and resubmit the information required in the IPaC key.

This IPaC-assisted determination allows you to rely on the PBO for compliance with Act Section 7(a)(2) only for the American burying beetle.

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[1]Take means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct (Act, Section 3(19)).

This letter covers only the American burying beetle. It **does not** apply to the following ESA-protected species that also may occur in the Action area:

- Alligator Snapping Turtle *Macrochelys temminckii* Proposed Threatened
- Monarch Butterfly *Danaus plexippus* Candidate
- Piping Plover *Charadrius melodus* Threatened
- Red Knot *Calidris canutus rufa* Threatened
- Tricolored Bat *Perimyotis subflavus* Proposed Endangered

If your project may affect additional listed species, you must evaluate additional DKeys for other species, or submit a request for consultation for the additional species to your local Ecological Services Field Office.

Action Description
You provided to IPaC the following name and description for the subject Action.

1. Name

West Boundary

2. Description

The following description was provided for the project 'West Boundary':

> Underground Fiber Optic

The approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@36.68617895,-96.92120955265261,14z

QUALIFICATION INTERVIEW

1. Is the action authorized, funded, or being carried out by a Federal agency?

   Yes

2. Have you determined that the proposed action will have “no effect” on the American burying beetle? (If you are unsure select "No")

   No

3. Will your activity **purposefully take** American burying beetles?

   No

4. Is your project wholly inside the 4d rule Analysis Area? For areas of your project occurring inside the Analysis Area (New England, Northern Plains, Southern Plains), your project may qualify for exemptions. For areas of your project occurring outside the Analysis Area, all incidental take is exempted according to the ABB 4d Rule.

   Automatically answered
   No

5. Is American burying beetle suitable habitat present within the action area?

   Yes

6. Will suitable habitat be affected by the proposed action? Suitable habitat may be impacted if the action involves soil disturbance, use of vehicles or heavy equipment, artificial lighting, vegetation removal, use of herbicides, pesticides, other hazardous chemicals.

   Yes

PROJECT QUESTIONNAIRE

Please select the activity that best matches your proposed action.

11. Soil disturbance related to communication infrastructure construction and maintenance

If you chose 13 above, please describe below. If you did not choose 13 above, please type "0".

0

Estimate the total acres of suitable American burying beetle habitat that may be affected.

46.1

Please estimate the total number of acres of **temporary impacts** to American burying beetle habitat. See definitions

46.1

Please estimate the total number of acres of **permanent impacts** to American burying beetle habitat. See definitions

0

IPAC USER CONTACT INFORMATION

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LEAD AGENCY CONTACT INFORMATION

Lead Agency: National Telecommunications and Information Administration

Pawhuska Indian Village

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Oklahoma Ecological Services Field Office
9014 East 21st Street
Tulsa, OK 74129-1428
Phone: (918) 581-7458 Fax: (918) 581-7467

In Reply Refer To: May 04, 2023
Project code: 2023-0064296
Project Name: Pawhuska Indian Village Fiber Optic Line

Subject: Consistency letter for 'Pawhuska Community Line Osage Broadband project' project for a No Effect determination for the American burying beetle

Dear Caleb Calhoun:

The U.S. Fish and Wildlife Service (Service) received on **May 04, 2023** your effect determination(s) for the 'Pawhuska Community Line Osage Broadband project' (the Action) using the American burying beetle (*Nicrophorus americanus*) determination key within the Information for Planning and Consultation (IPaC) system.

The Service developed this system in accordance with the Endangered Species Act of 1973 (ESA) (87 Stat.884, as amended; 16 U.S.C. 1531 et seq.)
Based on your consideration of the Action and the assistance in the Service's American burying beetle determination key, you have determined that your proposed action will have No Effect on the American burying beetle.

Your agency has met consultation requirements for these species by informing the Service of your "no effect" determination. No further consultation for this project is required for the American burying beetle. This consistency letter confirms you may rely on effect determinations you reached by considering the American burying beetle DKey to satisfy agency consultation requirements under Section 7(a) (2) of the Endangered Species Act of 1973 (87 Stat. 884, as amended 16 U.S.C. 1531 et seq.; ESA).

Coordination with your local Ecological Services Office is complete for the American burying beetle. If your project may affect additional listed species, please contact your local Ecological Services Field Office for assistance with those species. Thank you for considering Federally-listed species during your project planning.

This letter covers only the American burying beetle. It **does not** apply to the following ESA-protected species that also may occur in the Action area:

- Monarch Butterfly *Danaus plexippus* Candidate
- Piping Plover *Charadrius melodus* Threatened

- Red Knot *Calidris canutus rufa* Threatened
- Tricolored Bat *Perimyotis subflavus* Proposed Endangered

If your project may affect additional listed species, you must evaluate additional DKeys for other species, or submit a request for consultation for the additional species to your local Ecological Services Field Office.

The Service recommends that your agency contact the Service or re-evaluate the project in IPaC if: 1) the scope or location of the proposed project is changed significantly, 2) new information reveals that the action may affect listed species or designated critical habitat; 3) the action is modified in a manner that causes effects to listed species or designated critical habitat; or 4) a new species is listed or critical habitat designated. If any of the above conditions occurs, additional consultation should take place before project changes are final or resources committed.

Action Description
You provided to IPaC the following name and description for the subject Action.

1. Name

Pawhuska Community Line Osage Broadband project

2. Description

The following description was provided for the project 'Pawhuska Community Line Osage Broadband project':

> Osage Nation Broadband expansion within Pawhuska city limits

The approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@36.67664525,-96.32306587114668,14z

QUALIFICATION INTERVIEW

1. Is the action authorized, funded, or being carried out by a Federal agency?

   Yes

2. Have you determined that the proposed action will have “no effect” on the American burying beetle? (If you are unsure select "No")

   No

3. Will your activity **purposefully take** American burying beetles?

   No

4. Is your project wholly inside the 4d rule Analysis Area? For areas of your project occurring inside the Analysis Area (New England, Northern Plains, Southern Plains), your project may qualify for exemptions. For areas of your project occurring outside the Analysis Area, all incidental take is exempted according to the ABB 4d Rule.

   Automatically answered
   Yes

5. Is American burying beetle suitable habitat present within the action area?

   No

PROJECT QUESTIONNAIRE

Please select the activity that best matches your proposed action.

11. Soil disturbance related to communication infrastructure construction and maintenance

If you chose 13 above, please describe below. If you did not choose 13 above, please type "0".

0

IPAC USER CONTACT INFORMATION

Agency: Reagan Smith, INC.
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State: OK
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LEAD AGENCY CONTACT INFORMATION

Lead Agency: National Telecommunications and Information Administration

APPENDIX M – Oklahoma Natural Heritage Inventory

OBS Ref. 2023-176-BUS-RSE

Valeria Escareno, April 18, 2023

We have reviewed occurrence information on federal and state threatened, endangered or candidate species currently in the Oklahoma Natural Heritage Inventory database for the following location you provided:

Sec. 1-T25N-R2E, Sec. 36-T26N-R2E, Sec. 31, 32, 33, 34, 35, and 36-T26N-R3E, Sec. 1, 2, 3, 4, 5, and 6-T25N-R3E, Sec. 25, 26, 27, 31, 32, 33, 34, 35, and 36-T26N-R4E, Sec. 27, 28, 29, 30, 31, 32, 33, 34, 35, and 36-T26N-R5E, and Sec. 31-T26N-R6E, Osage County

We found 21 occurrences of relevant species within the vicinity of the project location as described.

Species Name	Common Name	Federal Status
Notropis girardi	**Arkansas River shiner**	**Threatened**
County	***TRS***	***Count***
Kay	Sec. 16-T25N-R2E	1
Perimyotis subflavus	**Tricolored Bat**	**Proposed Endangered**
County	***TRS***	***Count***
Kay	Sec. 25-T26N-R2E	1
Kay	Sec. 27-T26N-R2E	1
Macrochelys temminckii	**Alligator Snapping Turtle**	**Proposed Threatened**
County	***TRS***	***Count***
Kay	Sec. 18-T26N-R3E	1
Kay	Sec. 21-T25N-R2E	1
Haliaeetus leucocephalus	**Bald Eagle**	**Protected**
County	***TRS***	***Count***
Osage	Sec. 14-T25N-R2E	1
Kay	Sec. 23-T25N-R2E	1
Osage	Sec. 12-T25N-R3E	1
Osage	Sec. 18-T25N-R6E	1
Kay	Sec. 35-T26N-R2E	1
Kay	Sec. 30-T26N-R3E	2
Kay	Sec. 33-T26N-R3E	1
Kay	Sec. 35-T26N-R3E	1
Osage	Sec. 36-T26N-R3E	1
Kay	Sec. 3-T26N-R4E	1
Osage	Sec. 15-T26N-R4E	1
Osage	Sec. 11-T26N-R5E	1
Osage	Sec. 15-T26N-R5E	1
Osage	Sec. 7-T26N-R6E	1
Kay	Sec. 33-T27N-R4E	1

Additionally, absence from our database does not preclude such species from occurring in the area.

If you have any questions about this response, please send me an email, or call us at the number given below.

Although not specific to your project, you may find the following links helpful.

ONHI, guide to ranking codes for endangered and threatened species:

http://www.oknaturalheritage.ou.edu/content/biodiversity-info/ranking-guide/

Information regarding the Oklahoma Natural Areas Registry:
https://okregistry.wordpress.com/

Kristin Comolli
Oklahoma Natural Heritage Inventory
(405) 325-4700
kcomolli@ou.edu

OBS Ref. 2023-204-BUS-RSE

Caleb Calhoun, May 3, 2023

We have reviewed occurrence information on federal and state threatened, endangered or candidate species currently in the Oklahoma Natural Heritage Inventory database for the following location you provided:

Sec. 3-T25N-R9E, Osage County

We found 11 occurrences of relevant species within the vicinity of the project location as described.

Species Name	Common Name	Federal Status
Nicrophorus americanus	**American Burying Beetle**	**Threatened**
County	***TRS***	***Count***
Osage	Sec. 2-T25N-R9E	2
Osage	Sec. 23-T25N-R9E	1
Osage	Sec. 25-T25N-R9E	1
Osage	Sec. 35-T25N-R9E	1
Osage	Sec. 8-T26N-R9E	1
Osage	Sec. 9-T26N-R9E	3
Osage	Sec. 21-T26N-R9E	2

Additionally, absence from our database does not preclude such species from occurring in the area.

If you have any questions about this response, please send me an email, or call us at the number given below.

Although not specific to your project, you may find the following links helpful.

ONHI, guide to ranking codes for endangered and threatened species:
http://www.oknaturalheritage.ou.edu/content/biodiversity-info/ranking-guide/

Information regarding the Oklahoma Natural Areas Registry:
https://okregistry.wordpress.com/

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