



October 21, 2019
Updated May 15, 2020
Revised June 22, 2020

Incidental Take Authorization Coordinator
Illinois Department of Natural Resources
Division of Natural Heritage
One Natural Resources Way
Springfield, IL 62702

RE: Conservation Plan for reduction of potential impacts to the Franklin's ground squirrel, the rusty patched bumble bee, the upland sandpiper, and the loggerhead shrike from proposed pipeline maintenance work along BP's US Pipeline & Logistics, Inc.'s Manhattan S. to Wilmington and No. 1 System buried pipelines within/adjacent to the Midewin National Tallgrass Prairie Property, Will County, Illinois

To Whom It May Concern:

On behalf of BP US Pipelines & Logistics, Inc. (BP), the Parsons Corporation (Parsons) is submitting this Conservation Plan to the Illinois Department of Natural Resources (IDNR) in order to illustrate best management practices and other strategies that are intended to reduce impacts to several state-threatened and -endangered species during pipeline maintenance activities. The species of concern include the Franklin's ground squirrel (*Poliocitellus franklinii*), rusty patched bumble bee (*Bombus affinis*) (also federally listed), loggerhead shrike (*Lanius ludovicianus*), and upland sandpiper (*Bartramia longicauda*). While BP plans to implement several best management practices and strategies to reduce impacts as described in the plan below, BP understands that there may be unavoidable impacts while performing otherwise lawful pipeline maintenance activities and, therefore, requests an Incidental Take Authorization (ITA).

BP anticipates having pipeline maintenance activities in the project area during the ITA duration. The pipeline maintenance activities may include repairs related to corrosion, anomalies, or installation of cathodic protection equipment. Pipeline maintenance activities often require excavation of soils to expose the buried pipeline.

The Illinois Natural Heritage Database indicates element occurrence representation (EOREP) of three of the species of concern within the project area. During a habitat survey in August 2018, Parsons biologists determined that portions of the project areas could provide suitable habitat for the Franklin's ground squirrel. Additionally, a trapping survey of a small portion of the project area was conducted between May 21st and 23rd, 2019, and yielded 1 observation of a Franklin's ground squirrel.

Please contact me if you have any questions or require additional information. I can be reached at 314-412-8039 or at Lindsey.Postaski@parsons.com.

Sincerely,

A handwritten signature in cursive script that reads 'Lindsey Postaski'.

Lindsey Postaski, PWS
Senior Scientist

cc: Tom Antenucci, Brian Stone, Kim Overstreet, and Jeff Turner, BP
Diane Hoeting, and Laura Green, Parsons
Jeremy Andreen, EN Engineering

**CONSERVATION PLAN FOR THE
FRANKLIN'S GROUND SQUIRREL
RUSTY PATCHED BUMBLE BEE
LOGGERHEAD SHRIKE
UPLAND SANDPIPER
ALONG BP'S MANHATTAN S. TO WILMINGTON AND No. 1 SYSTEM
PIPELINES, WITHIN/ADJACENT TO THE MIDWIN NATIONAL
TALLGRASS PRAIRIE PROPERTY, WILL COUNTY, IL**

To: Illinois Department of Natural Resources

For: Reduction of potential impacts to the Franklin's ground squirrel, the rusty patched bumble bee, the upland sandpiper, and the loggerhead shrike from proposed pipeline maintenance work along BP US Pipelines & Logistics, Inc.'s Manhattan S. to Wilmington and No. 1 System buried pipelines in Will County, Illinois

Project proposed by:

**BP US Pipelines & Logistics, Inc.
30 South Wacker Drive, Floor 10 South
Chicago, Illinois 60606**



Plan prepared by:

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**October 2019
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CONSERVATION PLAN

(Application for an Incidental Take Authorization)
Per 520 ILCS 10/5.5 and 17 Ill. Adm. Code 1080

150-day minimum required for public review, biological and legal analysis, and permitting

PROJECT APPLICANT: BP US Pipelines & Logistics, Inc. (BP)

PROJECT NAME: BP's Manhattan S. to Wilmington and No. 1 System Pipelines, within and adjacent to the Midewin National Tallgrass Prairie Property, Will County, IL

COUNTY: Will County

AMOUNT OF IMPACT AREA:

It is important to note that while this conservation plan describes best management practices that, when implemented, will minimize and mitigate impacts to the species of concern during pipeline maintenance activities and is applicable to the entirety of the project area pipeline maintenance activities may occur on no areas of, few areas of, multiple areas of, or all of the project area during the project duration. BP does not yet know where, for example, dents, corrosion, or other anomalies may be detected on its pipelines, which will require immediate or other time sensitive repairs. There is also a potential that there will be zero take over the next 25 years if no anomalies or corrosion maintenance areas are identified and no work required on these pipelines. The maximum extent of potential is estimated at 102 acres (41 hectares). However, it is highly improbable that the entire project area would be disturbed during the 25-year period covered by this Conservation Plan.

1. INTRODUCTION

BP has indicated a need to perform pipeline maintenance activities along a buried pipeline corridor in Will County, IL. Pipeline maintenance activities are needed on buried pipelines to reduce the potential of pipeline failure and may include the installation of cathodic protection systems and the repair of pipeline anomalies. The pipeline corridor includes locations of IDNR occurrence records of the protected Franklin's ground squirrel (*Poliocitellus franklinii*), loggerhead shrike (*Lanius ludovicianus*), and upland sandpiper (*Bartramia longicauda*), and potential habitat for the rusty patched bumble bee (*Bombus affinis*).

Because there exists a potential of a take, BP seeks an Incidental Take Authorization from IDNR for unavoidable takes of the species of concern during otherwise lawful pipeline maintenance activities.

This Conservation Plan was developed to describe practices that, when implemented, will minimize and mitigate impacts to the species of concern during pipeline maintenance activities. The plan was developed in accordance with the requirements outlined in Title 17, Chapter 1(c), Section 1080 of the Illinois Administrative Code (Incidental Taking of Endangered or Threatened Species), which allows the Illinois Department of Natural Resources (IDNR) to grant an Incidental Take Authorization for the taking of species listed as endangered or threatened by the State of Illinois with an approved Conservation Plan.

2. DESCRIPTION OF IMPACT

2.1. PROJECT LOCATION

The project area consists of a 50-foot wide construction right-of-way (ROW) over both BP's Manhattan S. - Wilmington petroleum products pipeline and their No. 1 System crude oil pipeline. The pipelines are roughly 300-ft apart and run parallel for much of their route through the Midewin Prairie. The project area begins at an oil storage facility immediately south of Manhattan, IL, and continues south-southwest along the eastern boundary of the Midewin National Tallgrass Prairie and the western boundary of the Wauponsee Glacial Multi-use Recreational Trail until W Arsenal Road, where the project area continues due west on the north side of W Arsenal Road until the intersection of W Arsenal Road and Symerton Road. At the intersection of W Arsenal Road and Symerton Road, only one buried pipeline, the BP No. 1 System crude oil pipeline, continues due west along the north side of W Arsenal Road until its intersection with IL-53. The estimated linear feet within the project area is 55,000. Approximately 21,000 feet of this is located in the western section and contains only one pipeline. BP holds a 50-ft wide easement containing each pipeline. The project area for this ITA includes a 50-ft wide construction ROW for each pipeline. The estimated combined project area for both ROWs is 4,450,000 square feet, or 102 acres (41 hectares).

The project area is contained within a utility corridor, which includes the two BP active pipelines, an abandoned BP pipeline, a petroleum pipeline operated by a third party, overhead power transmission lines operated by ComEd, and/or a combination of these. BP has 50-ft wide easements for each pipeline through the project area. Where applicable BP has a blanket easement, however, BP defends 50 feet of ROW containing BP pipelines. As such, BP maintains operational control for their pipeline systems. The easements allow for access, staging, excavation, and maintenance. BP holds easements executed on July 26, 1929, and allowing the right upon, over, and through the proposed action area to construct, operate, or maintain the pipeline; including the right of ingress and to egress from such pipeline with no defined width.

Site access down BP's ROW is generally believed to be the least invasive way to access maintenance areas, especially with intent to preserve. Travel widths would be limited to a defined pathway. There may be extraneous circumstances where a shorter, more direct route to a work site may be more efficient and reduce the potential for impact. Alternative routes would be determined on a case by case basis if and when a maintenance activity would arise. BP would implement the same BMPs for impact minimization, and obtain other necessary approvals, if a temporary alternative access route is used. BP will use the reroutes, previously covered under ITA #192, for access to the pipeline ROW from county/township roads when

feasible. Access to the No. 1 system along W. Arsenal Road will be via existing gravel driveway/gravel pad off of W. Arsenal Road.

It is important to note that while this conservation plan describes best management practices that, when implemented, will minimize and mitigate impacts to the species of concern during pipeline maintenance activities and is applicable to the entirety of the project area, pipeline maintenance activities may occur on no areas of, few areas of, or multiple areas of during the project duration. BP does not yet know where, for example, dents, corrosion, or other anomalies may be detected on its pipelines, which could require immediate or other time sensitive repairs. There is also a potential that there will be zero take over the next 25 years if no anomalies or corrosion maintenance areas are identified and no work required on these pipelines. It is highly improbable that the entire project area would be disturbed during the 25-year period covered by this Conservation Plan.

A figure showing the project area is provided as **Attachment A**.

2.2. BIOLOGICAL DATA

Franklin's Ground Squirrel (*Poliocitellus franklinii*)

The Franklin's ground squirrel occurs in the central United States. Its range extends from northwestern Indiana, northern and central Illinois and southern Wisconsin west to northern Kansas, Nebraska, North and South Dakota in the United States and Manitoba, Saskatchewan, and Alberta in Canada (Ostroff and Finck, 2003). In Illinois, Franklin's ground squirrels have been documented to occur in 33 counties (Hofmann, 2008). Here, Franklin's ground squirrels occur in old fields, railroad rights-of-way, cemetery prairies, brushy fields, fence rows, and ditch banks (Martin et al., 2003).

The Franklin's ground squirrel lives in small, loosely knit colonies. The Franklin's ground squirrel prefers tallgrass habitats, savannah-like habitats, woodland edges, fence rows, abandoned/fallow fields, roadsides, and railroad rights-of-way. In Illinois, the occurrence of the Franklin's ground squirrel has been associated with smooth brome (*Bromus inermis*), a tallgrass species. The Franklin's ground squirrel is typically found in areas where there is an absence of disturbance, particularly an absence of mowing (NatureServe, 2018).

In addition to tall grasses, the Franklin's ground squirrel requires an area in which it can construct an adequate burrow system. Each burrow is home to only one or two squirrels during the spring and summer. Burrow systems may be extensive with multiple entrance holes. Burrows are often found in areas with a noticeable berm or embankment and are often concealed in dense vegetation. Burrows tend to be deep and well-drained to provide protection from the elements and extreme temperatures. From September to April, burrows are used as hibernacula. The winter survival rate of hibernating adult Franklin's ground squirrels is 33-42 percent, with lower juvenile survival rates. In the springtime, following the hibernation period, Franklin's ground squirrels will breed. Yearly, Franklin's ground squirrels have a single litter of 6-9 pups.

The Franklin's ground squirrel is diurnal and spends 90 percent of its lifetime underground in burrows. Time outside of its burrows is typically spent searching for food, establishing home ranges and searching for mates. The Franklin's ground squirrel is omnivorous, feeding on green plants, roots, seeds, fruit, insects, amphibians, bird eggs and young birds, young mammals, and carrion (Illinois Natural History Survey, 2018). It feeds heavily on green plants (dandelion, stinging nettle, white clover) and roots during spring, animal material (eggs, small rodents, frogs) during midsummer, then seeds and fruits during late summer.

Predators of the Franklin's ground squirrel include badger, coyote, red fox, dogs, mink, long-tailed weasel, striped skunk, red-tail hawk, and snakes. The life expectancy of Franklin's ground squirrel is typically longer for females at 4 to 5 years, and shorter for males at 1 to 2 years.

Suitable habitat within the proposed project areas has been identified by IDNR. A figure showing IDNR data, documenting recorded observations of the Franklin's ground squirrel at and in the vicinity of the project area (Illinois Department of Natural Resources, 2019), is provided as **Attachment B**. United States Geological Survey (USGS) Gap Analysis data showing potential suitable habitat for the Franklin's ground squirrel (U.S. Geological Survey, 2018) is provided as **Attachment C**.

Between August 7th and 9th, 2018, Parsons biologists performed visual surveys at and in the vicinity of three locations adjacent to the project area to characterize the habitat types and vegetation communities and to assess the potential for threatened and endangered species occurrences. The visual surveys yielded

17 observations of ground burrows; ground burrows could be inhabited by a range of species. It was determined that portions of the surveyed areas could provide suitable habitat for the Franklin's ground squirrel.

Additionally, a trapping survey was conducted between May 21st and 23rd, 2019. The survey set traps in the project area and yielded 1 observation of a Franklin's ground squirrel.

Rusty Patched Bumble Bee (*Bombus affinis*)

The rusty patched bumble bee is both state and federally listed as endangered. They have entirely black heads, and the workers and drones have a rusty, reddish patch centrally located on the abdomen.

Historically, the rusty patched bumble bee was distributed across the eastern United States and upper Midwest. Since 2000, it has been reported from only 13 states and one Canadian province: Illinois, Indiana, Iowa, Maine, Maryland, Massachusetts, Minnesota, North Carolina, Ohio, Pennsylvania, Tennessee, Virginia, Wisconsin and Ontario, Canada (US Fish and Wildlife Service, 2019). The current highest densities of the rusty patched bumble bee are found in southern Wisconsin and northern Illinois (US Fish and Wildlife Service, 2019; Szymanski, 2016).

The rusty patched bumble bee is eusocial, forming colonies consisting of a single queen, female workers and male drones. Healthy colonies may consist of up to a thousand individual workers in a season. Solitary queens initiate a colony in early spring and progress the colony with the production of workers throughout the summer. In late summer/early fall, the queen produces males and new queens. The males and the new queens disperse to mate and the original founding queen, males, and workers die. After mating, the new queens go into diapause (a form of hibernation) over winter, starting a new colony in early spring (US Fish and Wildlife Service, 2017; US Fish and Wildlife Service, 2019).

Queens typically establish their colony nests in abandoned rodent cavities or clumps of grasses, one to four feet below ground. However, queens overwinter in small chambers in loose soils and/or leaf litter just a few centimeters below the ground, or in compost or rodent hill/mounds. Overwintering is often associated with woodland edges, which provides proximity to nectar and pollen from spring wildflowers and early blooming trees and shrubs.

Generally, rusty patched bumble bees occupy grasslands and tallgrass prairies. They require areas that can provide nectar and pollen from flowers, nesting sites, and overwintering sites for queens. Because such habitats have largely been lost due to urbanization, the rusty patched bumble bee is in danger of becoming extinct. The decline of the rusty patched bumble bee is in line with other pollinators in North America; it is estimated that more than 50 percent of native bee species are declining, and 24 percent are in serious peril (Kopek and Burd, 2017).

Maps showing recorded observations of the rusty patched bumble bee and USGS Gap Analysis probable suitable habitat have not been included in this conservation plan, as no USGS Gap Analysis data is available from the USGS. However, according to the USFWS, the entirety of the project area is located within either a High Potential Zone or a Primary Dispersal Zone. Per USFWS consultation, areas that are mowed too frequently to allow development of diverse wildflower resources (like the pipeline ROW) are not likely to provide suitable habitat for the rusty patched bumble bee for nesting, overwintering, or foraging. Because the project area likely does not contain suitable habitat for the rusty patched bumble bee, an effects determination of "no effect" was anticipated from USFWS as part of Section 7 consultation. A figure showing USFWS data, documenting the high potential zone of the rusty patched bumble bee at and in the vicinity of the project area, is provided as **Attachment B**. USFWS correspondence is included in **Attachment D**.

Loggerhead Shrike (*Lanius ludovicianus*)

The state-endangered loggerhead shrike is a robin-sized songbird with a chunky, big head with a thick, hooked bill. Its coloring is a gray head with a black mask that wraps across the top of the bill. There are prominent white flashes in the wings which are visible in flight and rest. From a distance, it can be confused with the northern mockingbird. Its song is weak and may sound like a hiccup.

It can be described as a songbird with the behavior of a raptor. The loggerhead shrike eats small animals, including insects, birds, amphibians, small mammals, and reptiles. Insects are primarily consumed during the nesting season, while vertebrates make up higher proportions of its diet in the winter. It is known to

impale its prey on the thorns of barbed wire, trees, and shrubs or pinch its prey between two branches of a tree, saving the meal for later.

Its habitat includes grasslands, prairies, farmland, and other open areas where it has access to prey. It prefers areas with interspersed trees, shrubs, or hedgerows. Adults are often found perched on exposed twigs or powerlines.

Nests are built 2.5-4 feet above the ground (Cornell Lab of Ornithology, 2017) and as high as 5-30 feet above the ground (Audubon, 2019) in dense, often thorny, shrubs or trees, when available. In Illinois, most nests are found in tree lines containing Osage-orange, honey locust, and red cedar (Smith, 1991). Trees with thorns or thorn-like structures are key habitat features, as this species impales its prey near prominent perches. Nests are generally 6 inches in diameter on the outside, 4 inches in diameter on the inside, and 3 inches deep. They are cup-shaped and are constructed with twigs, forbs, and bark strips and lined with soft materials, such as lichen, moss, grass, flowers, feathers, fur, string, or cloth. There are 5-6 eggs per clutch, with 1 or 2 broods per year. Females can sometimes breed with different males if producing a second brood in one season (Cornell Lab of Ornithology, 2017). Early laying dates occur from late March in southern Illinois to mid-April in the northern regions, lasting until early July (Illinois Natural History Survey 2019a). Generally, nesting activities occur mid-March to late-July.

The Cornell Lab of Ornithology rates the population as in “steep decline.” The decline of the population may be caused by the ingestion of pesticide-laced prey from agricultural fields, collision with vehicles, urbanization, habitat destruction, and livestock grazing (Cornell Lab of Ornithology, 2017).

Suitable areas within the proposed project areas have been identified by IDNR. A figure showing IDNR data, documenting recorded observations of the loggerhead shrike at and in the vicinity of the project area, is provided as **Attachment B**. USGS Gap Analysis data showing potential suitable habitat for the loggerhead shrike is provided as **Attachment C**.

Upland Sandpiper (*Bartramia longicauda*)

The state-endangered upland sandpiper is a tall, skinny sandpiper with a thin neck and small head. It is speckled brown with a short, thin bill (Cornell Lab of Ornithology, 2017b).

The upland sandpiper is an uncommon migrant and summer resident throughout Illinois. Upland sandpipers generally arrive in Illinois around mid-April. Nesting activities begin 2-3 weeks after arrival and eggs are produced from mid-May through June. Nests are constructed on the ground in dense grass, very well hidden. The upland sandpiper produces 4 eggs, which are incubated for approximately twenty-one days by both the male and female. Fall migration begins as early as July. However, generally, upland sandpipers leave Illinois in September, wintering as far south as central Argentina and Uruguay (Illinois Natural History Survey, 2019b).

The diet of the upland sandpiper consists largely of grasshoppers, crickets, beetles, ants, snails, earthworms, and millipedes.

The upland sandpiper is an obligate grassland species. Generally, upland sandpipers favor level topography with a minimum of tall vegetation edges and proportionately high acreages of agricultural crops that resembles the structure of prairie grasslands. In Illinois, upland sandpipers prefer stands of Kentucky bluegrass (*Poa pratensis*) and other tame grass species as opposed to tallgrass prairie, and preferred older (>5 year) plantings of tame grasses and forbs (Nature Serve, 2019).

Suitable areas within the proposed project areas have been identified by IDNR. A figure showing IDNR data, documenting recorded observations of the upland sandpiper at and in the vicinity of the project area, is provided as **Attachment B**. USGS Gap Analysis data showing potential suitable habitat for the upland sandpiper is provided as **Attachment C**.

2.3. DESCRIPTION OF PROJECT ACTIVITIES AND IMPACTS

The project includes pipeline maintenance activities. While pipelines may require a variety of maintenance activities to allow them to function safely and with low risk of failure, and while the exact activities cannot yet be known by BP, however for the purpose of this permit application, three main types of pipeline maintenance activities are expected. Those three types include (1) cathodic protection installations (2) repair of pipe anomalies and (3) recoating of the pipeline. Estimated dimensions of example individual pipeline maintenance activities are provided in **Table 2.3-A**.

Table 2.3-A: Potential Project Activities and Impacts

POTENTIAL ACTIVITY	EXAMPLE WORKSPACE LENGTH (FT)	EXAMPLE WORKSPACE WIDTH (FT)	EXAMPLE TOTAL WORKSPACE IMPACT AREA (FT ²) ^{1,2}	PROBABLE CONSTRUCTION DURATION (DAYS)
Cathodic Protection Installations	400	25	10,000	4
Repair of pipe anomalies	60	60	3,600	4
Recoating of pipeline	400	60	24,000	12

¹Workspaces include all necessary work areas including, but not limited to, excavation, laydown, stockpiling, and silt fencing areas.

²Excavations within the workspace will likely be 4-6 feet deep.

Structures

No new above-ground structures are anticipated, with the exception of possible anode junction boxes. Anode junction boxes have footprints of 2 ft X 2 ft and stand approximately 4 ft tall. They are installed at infrequent intervals along the pipeline during certain corrosion protection maintenance activities.

Schedule

Pipeline maintenance activities will be conducted when required by the USDOT Pipelines and Hazardous Materials Safety Administration. BP has planned maintenance work for the summer of 2020 to implement AC mitigation at three locations on their No. 1 System to reduce potential for corrosion. IDNR will be notified by BP prior to the commencement of this work as well as future pipeline maintenance activities. Furthermore, a conservation report will be completed and delivered to IDNR by the end of the calendar year of each year during the project duration.

Some project activities may occur simultaneously.

Table 2.3-B: Example Pipeline Maintenance Project Schedule

PROJECT COMPONENT	SCHEDULE
Hold contractor environmental and safety training and pre-job meeting; stake pipeline and work area limits.	Week 1
Mobilize to site.	Week 1
Install erosion and sediment control measures.	Week 1
Excavate a trench to expose pipeline, storing topsoil and subsoil separately. Sandblast the pipe and recoat.	Weeks 1-2
Backfill excavations.	Week 2
Regrade and de-compact work areas.	Week 2
Complete site restoration/re-vegetation.	Week 2

The conservation plan proposes Incidental Take Authorization coverage for pipeline maintenance activities within the project area for a period of 25 years. This time period will be referred to as the "project duration."

2.4. ANTICIPATED ADVERSE EFFECTS**Physical Disturbance**

It is anticipated that construction activities may disturb the species of concern and that species of concern may potentially be harmed due to the use of heavy equipment and the removal of soil. Active individuals may be injured or killed in the unlikely event that they are unable to escape from the path of heavy machinery. The eggs or young of ground nesting birds, such as the upland sandpiper could be damaged if crushed by construction equipment. Hibernating animals in burrows (both the Franklin's ground squirrel and rusty patched bumble bee use burrows) may be injured or killed if burrows are destroyed during the removal of soil or caved in by the weight of overhead vehicles.

Noise and Vibration

It is anticipated that noise and vibrations associated with construction activities may induce stress in the species of concern, which may impact biological success.

Habitat Disturbance

Disturbance to soil and vegetation during construction activities may impact foraging, sheltering, and reproductive success of the species of concern. Additionally, soil compaction from heavy equipment and road construction could impact the ability of the Franklin's ground squirrel and the rusty patched bumble bee to burrow in certain areas. Nesting locations for the upland sandpiper could be disturbed or crushed, and nests or young could be harmed.

Take Estimate without Avoidance, Minimization and Mitigation Measures

Takes are acts against protected species, such as harming, hunting, shooting, pursuing, luring, wounding, etc. Takes can occur during construction if individuals are run over by trucks and construction equipment, crushed in burrows under the weight of overhead equipment, or stressed by reduced access to food, shelter, and habitat.

Local population surveys have not been conducted for the species of concern within the project area, and, therefore, the population sizes of the species of concern that could be impacted by project activities are not known. Furthermore, BP does not know how many locations within the project area will be used for pipeline maintenance activities over the course of the project duration, nor the size of those locations. No areas of, few areas of, multiple areas of, or all of the project area could be impacted by pipeline maintenance activities during the project duration. Where feasible, BP will conduct drone surveys of their pipeline ROWs to try to identify potential suitable habitat for the Franklin ground squirrel, rusty patched bumble bee, upland sandpiper, and loggerhead shrike and to identify high risk areas. BP will also coordinate directly with USDA and IDNR to obtain species survey data for the areas crossed by their ROWs.

Franklin's Ground Squirrel

For the Franklin's ground squirrel, there is a moderate risk of incidental take. As a highly mobile species, it is unlikely that maintenance activities would result in injury or death. The Franklin's ground squirrel would be most vulnerable to a take during the hibernation season, as construction equipment could collapse/destroy active burrows, crushing hibernating Franklin's ground squirrels. Overall, the number of takes will be reduced due to minimization efforts (described in **Section 3.1**), but, as the number of individual pipeline maintenance activities and the total area of disturbance to suitable habitat is unknown, a take estimate cannot be calculated. Considering the small footprint of each maintenance activity, the overall quantity and quality of habitat should not be diminished on a scale that results in jeopardy to the species.

The Franklin's ground squirrel has recorded densities of 10-20 individuals per hectare with peak densities of 30 individuals per hectare (Banfield, 1974; Schwartz and Schwartz, 1981). Generally, populations of Franklin's ground squirrel fluctuate greatly from year to year with fluctuations likely influenced by local natural or man-made disturbances (Huebschmann, 2007). In some cases, populations may reduce to near disappearance from an immediate area. In those instances, the area may be repopulated, at least in part, by dispersers from nearby populations.

As an example, one can consider a repair of a dent in a pipeline. The repair would likely disturb an area of about 60ft X 60ft, a total of 3,600 ft², or 0.0334 hectares. Even with 30 individuals per hectare, approximately 1 individual would be impacted. While the number and size of disturbance from pipeline maintenance activities are unknown at this time, it is reasonable to expect that one-to-two repairs may occur per year during the project duration. One-to-two repairs of this size within Franklin's ground squirrel habitat, for instance, could result in the taking of 25-50 individuals over the duration of 25 years. Considering typical population size, litter size, survival rates, and restoration of habitat conditions, such a loss to the Franklin's ground squirrel population could be recouped each breeding cycle within the project duration.

If the entirety of the potential impact area, defined as a 50-ft wide construction ROW comprising 102 acres (41 hectares), constituted suitable Franklin's ground squirrel habitat and if the entirety of the project area was disturbed over the course of the project duration and if the density of Franklin's ground squirrels is assumed to be 10-20 individuals per hectare, 413-826 individuals could be taken as a result of project activities.

However, it is improbable that the entire 50-ft construction ROW has suitable habitat for the Franklin's ground squirrel and that the entire area would be impacted over the next 25 years. BP estimates that at most, 10% (4.1 hectares) of the area would be disturbed (excluding use of the ROW for site access/travel). Under this same set of assumptions, the potential impact would be 41-82 individuals impacted. Out of an abundance of caution for the species and to help ensure a healthy population of Franklin's ground squirrel, BP will not exceed 25 takes per the duration of the ITA. If BP approaches 25 takes, BP will initiate adaptive management practices detailed in **Section 3.5** contained herein.

Rusty Patched Bumble Bee

For the rusty patched bumble bee, there is a low risk of incidental take. As a highly mobile species, is unlikely that maintenance activities would results in injury or death. Rusty patch bumble bee queens would be most vulnerable to ground-disturbing maintenance activities while it is in diapause during the winter months; however, overwintering sites are usually associated with woodland areas, so the probability of ground-disturbing maintenance activities impacting an overwintering queen on a maintained right-of-way is unlikely. Overall, the number of takes will be reduced due to minimization efforts (described in **Section 3.1**), but, as the number of individual pipeline maintenance activities and the total area of disturbance to suitable habitat is unknown, a take estimate cannot be calculated. Considering the small footprint of each maintenance activity, the overall quantity and quality of habitat should not be diminished on a scale that results in jeopardy to the species.

The population size of the rusty patched bumble bee is unknown (NatureServe 2019b). To date, there has been only one documented observation of a rusty patched bumble bee in Will County, Illinois. Furthermore, sources of information regarding population densities of other bee species in Will County were not able to be found. Since site-specific information for the rusty patched bumble bee is insufficient to estimate abundance, take estimates are based on a range of nest densities estimates derived for a close relative, the buff-tailed bumble bee (*Bombus terrestris*). Nest density estimates for the buff-tailed bumble bee range from 14-45 nests/km² (0.14-0.45 nests/hectare).

If the entirety of the potential impact area, defined as a 50-ft wide construction ROW comprising 102 acres (41 hectares), constituted suitable rusty patched bumble bee habitat and if the entirety of the project area was disturbed over the course of the project duration and if the density of rusty patched bumble bee nests is assumed to be 0.14-0.45 nests/hectare, 5-18 nests could be taken as a result of project activities.

However, it is improbable that the entire 50-ft construction ROW has suitable habitat for the rusty patched bumble bee and would be affected over the next 25 years. BP estimates that at most, 10% (4.1 hectares) of the area would be disturbed (excluding use of the ROW for site access/travel). Under this same set of assumptions, the potential impact area would result in 0-2 nests impacted. Because the rusty patch bumble bee only seasonally (mid-March to mid-October) nests in upland grassland habitat (the primary habitat within the project area), pipeline maintenance activities conducted late-October to early-March may result in zero takes of the rusty patched bumble bee. Out of an abundance of caution for the species and to help ensure a healthy population of the rusty patched bumble bee, BP will not exceed 5 nest takes per the duration of the ITA/conversation plan. If BP approaches 5 nest takes, BP will initiate adaptative management practices detailed in **Section 3.5** contained herein.

Though the entirety of the project area is located within either a High Potential Zone or a Primary Dispersal Zone, according to the US Fish and Wildlife Service, per USFWS consultation, areas that are mowed too frequently to allow development of diverse wildflower resources (like the pipeline ROW) are not likely to provide suitable habitat for the rusty patched bumble bee for nesting, overwintering, or foraging. Because the project area likely does not contain suitable habitat for the rusty patched bumble bee, an effects determination of “no effect” is included from USFWS as part of Section 7 consultation.

Loggerhead Shrike

For the loggerhead shrike, there is a low risk of incidental take. As a highly mobile species, it is unlikely that maintenance activities would result in injury or death. The loggerhead shrike would be most vulnerable to a take during the nesting season, as construction equipment could destroy nests, eggs, and young; however, disturbances to nesting birds would be avoided by implementing mitigation measures. Additionally, the loggerhead shrike nests in thorny trees and shrubs, which are not present within the maintained pipeline right-of-way. Loggerhead shrikes are not observed to overwinter in parts of its range that sustain snow for more than 30 days (US Fish and Wildlife Service, 2000), and they migrate south in September to November. If pipeline maintenance activities occurred during the winter months, before spring in-migration occurs in March and April, takes of loggerhead shrikes would likely be zero.

Overall, the number of takes will be reduced due to minimization efforts (described in **Section 3.1**), but, as the number of individual pipeline maintenance activities and the total area of disturbance to suitable habitat is unknown, a take estimate cannot be calculated. Considering the small footprint of each maintenance

activity, the overall quantity and quality of habitat should not be diminished on a scale that results in jeopardy to the species.

The local population size of the loggerhead shrike is unknown. In a 1992 study, the relative abundance of loggerhead shrikes was determined to be variable (0-29 shrikes/county surveyed), seventy-five percent of which were observed in nine southeastern counties (Clay, Clinton, Hamilton, Jefferson, Lawrence, Marion, Richland, Wayne, and White) (Smith and Kruse 1992). Densities of breeding shrikes were also variable: 0.62 pairs/km of roadside in Alabama, 0.29 birds/km of roadside in South Carolina, 0.18 pairs/km of roadside in eastern Washington, 0.17-0.21 birds/km of roadside in eastern Texas, 0.11-0.14 pairs/km of roadside in southwestern Iowa, and 0.11-0.15 pairs/km of roadside in Minnesota (USFWS, 2000).

If the entirety of the potential impact area, defined as a 50-ft wide construction ROW, with a distance of 16.76 km, constituted suitable loggerhead shrike habitat and if the entirety of the project area was disturbed over the course of the project duration and if the density of loggerhead shrike is assumed to be 0.11-0.62 pairs/km, 1-10 pairs could be taken as a result of project activities.

However, it is improbable that the entire 50-ft construction ROW has suitable habitat for the loggerhead shrike and would be affected over the next 25 years. BP estimates that at most, 10% (1.7 km) of the area would be disturbed (excluding use of the ROW for site access/travel). Under this same set of assumptions, the potential impact area would result in 1 pair impacted. Because the loggerhead shrike out-migrates from the region September-November and does not return until March-April, early autumn-early spring pipeline maintenance activities may result in zero takes of the loggerhead shrike. Out of an abundance of caution for the species and to help ensure a healthy population of the loggerhead shrike, BP will not exceed 2 pair takes (4 individuals) per the duration of the ITA/conversation plan. If BP approaches 2 pair takes, BP will initiate adaptative management practices detailed in **Section 3.5** contained herein.

Clutch sizes in one study ranged from an average of 5.0 to 6.7, with the percentage of nests that hatched and fledged at least one young ranging from 25 percent (in Manitoba) to 73 percent (in Minnesota) (Wiggins, 2005). Considering typical population size, clutch size, nesting success, and restoration of habitat conditions, and assuming that disturbance and its resulting takes are distributed over time, such a loss to the loggerhead shrike population could be recouped within the project duration or within 1 breeding cycle following.

Upland Sandpiper

For the upland sandpiper, there is a low risk of incidental take. As a highly mobile species, it is unlikely that maintenance activities would result in injury or death. The upland sandpiper would be most vulnerable to a take during the nesting season, as construction equipment could destroy nests, eggs, and young; however, the Everyday Work Area Survey, described in **Section 3.1** would reduce the risk of a take. However, it is more likely that the project will result in a temporary loss of nesting habitat than the direct mortality of individual birds.

Overall, the number of takes will be reduced due to minimization efforts (described in **Section 3.1**), but, as the number of individual pipeline maintenance activities and the total area of disturbance to suitable habitat is unknown, a take estimate cannot be calculated. Considering the small footprint of each maintenance activity, the overall quantity and quality of habitat should not be diminished on a scale that results in jeopardy to the species.

The local population size of the upland sandpiper is unknown. Densities of 0.6-6.1 ha/nest have been documented and suggest loose grouping (NatureServe 2019a). In the central portion of its range, breeding densities of up to 20 pairs/sq mi have been recorded (NatureServe 2019a).

If the entirety of the potential impact area, defined as a 50-ft wide construction ROW comprising 102 acres (0.15 sq mi), constituted suitable upland sandpiper habitat and if the entirety of the project area was disturbed over the course of the project duration and if the density of upland sandpiper is assumed to be 20 pairs per sq mi, 3 pairs could be taken as a result of project activities that occur during the nesting season (April-July).

However, it is improbable that the entire 50-ft construction ROW has suitable habitat for the upland sandpiper and would be affected over the next 25 years. BP estimates that at most, 10% (0.015 sq mi) of the area would be disturbed (excluding use of the ROW for site access/travel). Under this same set of

assumptions, the potential impact area would be less than 1 pair impacted. Because the upland sandpiper out-migrates from the region starting in mid-July and remains south for up to 8 months, early autumn-early spring pipeline maintenance activities may result in zero takes of the upland sandpiper. Out of an abundance of caution for the species and to help ensure a healthy population of the upland sandpiper, BP will not exceed 1 pair take (2 individuals) per the duration of the conservation plan. If BP approaches 1 pair take, BP will initiate adaptive management practices detailed in **Section 3.5** contained herein.

Considering typical population size, clutch size, nesting success, and restoration of habitat conditions, and assuming that disturbance and its resulting takes are distributed over time, such a loss to the upland population could be recouped within the project duration or within 1 breeding cycle following.

Table 2.3-C: Take Estimates without Avoidance, Minimization and Mitigation Measures Based on ROW

POTENTIAL ACTIVITY	FRANKLIN'S GROUND SQUIRREL	RUSTY PATCHED BUMBLE BEE ¹	LOGGERHEAD SHRIKE ²	UPLAND SANDPIPER ³
100% Disturbance of 50-ft wide ROW	413-826 individuals	0-18 nests	0-10 pairs	0-3 pairs
10% Disturbance of 50-ft wide ROW	41-82 individuals	0-2 nests	1 pair	<1 pair
BP not to exceed for duration of permit	25 individuals	5 nests	2 pairs	1 pair

¹ Because the rusty patch bumble bee seasonally (mid-March to mid-October) nests in upland grassland habitat (the primary habitat within the project area), pipeline maintenance activities conducted during the late-October to early March may result in zero takes of the rusty patched bumble bee.

² Because the loggerhead shrike out-migrates from the region September-November and does not return until March-April, early autumn-early spring pipeline maintenance activities may result in zero takes of the loggerhead shrike.

³ Because the upland sandpiper out-migrates from the region starting in mid-July and remains south for up to 8 months, early autumn-early spring pipeline maintenance activities may result in zero takes of the upland sandpiper.

Table 2.3-D: Take Estimates without Avoidance, Minimization and Mitigation Measures based on Activity

POTENTIAL ACTIVITY	EXAMPLE WORKSPACE LENGTH (FT)	EXAMPLE WORKSPACE WIDTH (FT)	EXAMPLE TOTAL WORKSPACE IMPACT AREA (FT ²)	ESTIMATED TAKE PER ACTIVITY			
				FRANKLIN'S GROUND SQUIRREL	RUSTY PATCHED BUMBLE BEE ¹	LOGGERHEAD SHRIKE ²	UPLAND SANDPIPER ³
Cathodic Protection Installations	400	25	10,000	1-2 individual(s)	0-4 nests	0-1 pair	0-1 pair
Repair of pipe anomalies	60	60	3,600	1 individual	0-2 nests	0-1 pair	0-1 pair
Recoating of pipeline	400	60	24,000	2-5 individuals	0-10 nests	0-1 pair	0-1 pair

¹ Because the rusty patch bumble bee seasonally (mid-March to mid-October) nests in upland grassland habitat (the primary habitat within the project area), pipeline maintenance activities conducted during the late-October to early March may result in zero takes of the rusty patched bumble bee.

² Because the loggerhead shrike out-migrates from the region September-November and does not return until March-April, early autumn-early spring pipeline maintenance activities may result in zero takes of the loggerhead shrike.

³ Because the upland sandpiper out-migrates from the region starting in mid-July and remains south for up to 8 months, early autumn-early spring pipeline maintenance activities may result in zero takes of the upland sandpiper.

3. AVOIDANCE, MINIMIZATION, AND MITIGATION MEASURES

3.1. AVOIDANCE AND MINIMIZATION

Several measures will be implemented to reduce the number of takes of the species of concern and are described below.

Drone Survey

Where feasible, BP will conduct drone surveys of their pipeline ROWs to assess the area for the presence of suitable habitat for the Franklin ground squirrel, rusty patched bumble bee, upland sandpiper, and loggerhead shrike and to identify high risk areas for take. If suitable habitat is identified with the drone surveys, BP would consider completing a walkover of their ROWs to assess high risk areas for take and to supplement information obtained from drone surveys.

Training

Before construction activities occur, a pre-construction kick-off meeting will be held with key stakeholders, including the construction crew. During this meeting, a field biologist will speak to the crew about the identification of the species of concern, regulations protecting the species, where the species may be found, avoidance areas, travel restrictions for equipment and vehicles, and necessary recording and reporting procedures in the case a take occurs during construction. “

A copy of the education materials can be provided to IDNR upon request.

Pre-Event Trapping Survey

Pre-event trapping surveys will not be conducted, as they cause stress to the species. Furthermore, trapping does not provide population density data, only presence/absence, and BP is assuming species presence based on information from IDNR, USGS, and field assessments.

Everyday Access Survey

At the start of each work day during a pipeline maintenance event, a field biologist will perform a survey of the access path for species of concern ahead of the lead vehicle. Any burrows, nests, or sightings will be recorded (to be included in the final project report to IDNR) and flagged. The general vicinity of flagged burrows, nests, or sightings will be avoided by vehicles to the maximum extent practicable. In the event an active upland sandpiper or loggerhead shrike nest is observed during the access survey, the field biologist will monitor the nest for stressed/detrimental behavior that would threaten nest success during maintenance activities. All active upland sandpiper and loggerhead shrike nests will be avoided.

Everyday Work Area Survey

At the start of each work day, a field biologist will perform a survey of the work area for any burrows or species of concern. Any burrows, nests, or sightings will be recorded (to be included in final project report to IDNR) and flagged. The general vicinity of flagged burrows, nests, and sightings will be avoided by vehicles to the maximum extent practicable. Furthermore, when in the vicinity of flagged burrows, nests, or sightings, excavation will progress with extreme care, such as with reduced excavation speed, to minimize potential takes. In the event an active upland sandpiper or loggerhead shrike nest is observed during the work area survey, the field biologist will monitor the nest for stressed/detrimental behavior that would threaten nest success during maintenance activities. All active upland sandpiper and loggerhead shrike nests will be avoided.

Manual Relocation

If a Franklin's ground squirrel is within the work area, it will be encouraged to flee using gestures such as clapping and yelling. If the individual will not vacate the site, manual relocation may be necessary to avoid a take. A field biologist will use a trap to relocate the individual offsite, not more than 500 feet and not across a roadway and released into an area of suitable habitat. The incident will be recorded. All permits for handling protected species will be acquired.

Nesting birds or hibernating queen bees will not be manually relocated.

Soil Stockpiling

The potential of Franklin's ground squirrels colonizing fresh soil stockpiles during construction activities will be addressed in several ways.

1. Soil stockpiles will be limited in size. For instance, during AC mitigation cable installations, soil stockpiles will be very small (less than two feet tall) windrows running parallel to the pipeline.
2. Soil stockpiling will be limited in duration. For instance, for AC mitigation cable installations, anode bed installations, and pipeline repairs, soil stockpiles are anticipated to exist for only 3 days.
3. Soil stockpiles will be inspected and managed. The on-site biologist will inspect the soil stockpiles for inhabitation by species of concern daily. If it is discovered that species of concern (especially the Franklin's ground squirrel) are burrowing into the soil stockpiles, they will be encouraged to vacate from the piles, if possible. If habitation of the soil stockpiles is observed to be a recurring problem, methods will be used to reduce the chances of recolonization of the piles, such as hanging noise-makers (e.g. tin pie pans) or covering the piles with geotextile fabric or tarps. If a squirrel will not leave the soil stockpile while being hazed, it will be attempted to be coerced out using baited traps and then relocated offsite.

Tree and Shrub Clearing

In the unlikely event a tree or shrub needs to be removed prior to a maintenance activity, a field biologist will survey the tree for nests. If the nest is determined to belong to, or has the potential to belong to, a loggerhead shrike, maintenance will be suspended until the end of the loggerhead shrike nesting/breeding season.

Project Schedule

Pipeline maintenance activity events will have accelerated schedules to reduce impacts to the species of concern. Accelerated schedules may be achieved by scheduling work crews to work 10-hour days and 6-day weeks. Increased construction presence during the construction phase of each pipeline maintenance activity event may additionally act to deter species of concern from immediate reoccupation of the impacted area, which could reduce the chances of vehicle-animal interaction.

To reduce potential takes, when practicable, maintenance activities will take place outside of hibernating and/or nesting/breeding times for the species of concern in areas where suitable habitat for the species of concern is present. However, construction may need to occur during these times to address emergency pipeline repairs and comply with USDOT regulation.

Noise and Vibration

The species of concern may react to noise and vibration by sensing approaching vehicles, emerging from hiding, and fleeing the site. While such flight behavior is speculative, noise and vibration could reduce total takes and will be not be minimized.

Habitat Restoration

Soil compaction from heavy equipment could impact burrowing Franklin's ground squirrels and rusty patched bumble bees. If soil compaction is determined to have occurred or is likely to occur in the area, BP will use best management practices to remedy the situation.

To minimize the impacts of vegetation loss, all individual pipeline maintenance activities will be evaluated for vegetation disturbance following construction and any necessary decompaction practices. Areas with intact vegetation will be left as-is. Areas that have evident disturbance will be seeded with a seed mix consisting of 10 lbs/acre annual rye, 15 lbs/acre smooth brome grass, and 30 lbs/acre oats, along with crimped-in mulching or equivalent. This seed mix was directed by the Midewin National Tallgrass Prairie and will be used throughout the project area, even if specific parcels are outside of the Midewin National Tallgrass Prairie. Successful post-construction re-vegetation will facilitate continued use of the area by the

species of concern. To ensure the re-establishment of vegetation, the project area will be monitored as required by any applicable Illinois NPDES permits.

3.2. ROW MANAGEMENT

As a management strategy, the pipeline easement will continue to be mowed at a frequency intended to arrest the colonization of woody vegetation.

3.3. MITIGATION

Incidental Take Authorization requires that the Conservation Plan minimizes and mitigates the impact caused by the taking to the maximum extent practicable (Illinois Endangered Species Protection Act, 520 ILCS 10).

A mitigation ratio of 2.5:1 is proposed for this project based on the approximate land value in the area of \$7,800 per acre.

3.3.1 Planned Maintenance Activity - 2020

BP's only planned maintenance work within the project area at this time involves three corrosion maintenance locations: 1) a 375 ft long area along the No. 1 system parallel to W. Arsenal Rd. where buried anodes are proposed; 2) an 850-ft long lay of an AC mitigation copper wire with remote monitoring unit (RMU)/solid state decoupling (SSD) device on a small post; and 3) a 1,500-ft long lay of an AC mitigation copper wire with RMU/SSD device on a small post. Estimated area of disturbance (excluding site access down the ROW) would be 0.6 acres. BP proposes to pay mitigation for 0.6 acres this year.

BP would pay additional mitigation fees at the time when future maintenance work, if any, is identified on these ROWs. Mitigation fees would cover areas of excavation/other disturbance but would not include site access paths within BP's ROW easement. BP would commit to having a biologist walk the corridor ahead of any equipment, to relocate wildlife, if identified within the access route. According to coordination with IDNR for another project in the vicinity in 2019, the approximate land value in the area is \$7,800 per acre. Mitigation of 0.6 acres for 2020 work, at \$7,800/acre, is \$11,700 (0.6 x 7,800 x 2.5).

BP estimates that only 10% of the entire 102 acres within BP's 50-ft wide construction ROWs within the project area would ever be disturbed over 25 years. BP proposes to pay mitigation fees as work is planned over the 25-year period, if the work area is deemed to contain suitable habitat for Franklin's ground squirrel as determined by subsequent drone survey or field survey. BP proposes to use the same price per acre of land value. Prior to an individual pipeline maintenance activity, BP will hire a biologist to survey the activity's area and determine if the area constitutes suitable habitat for one or multiple species of concern. Once the individual pipeline maintenance activity has concluded, the area of disturbance will be surveyed. The mitigation payment will be based on the area of suitable habitat that was disturbed during the individual pipeline maintenance activity multiplied by the 2.5:1 mitigation ratio based on \$7,800/acre. BP proposes to mitigate with a monetary payment to IDNR within 90 days of the completion of individual pipeline maintenance activities within the project area and project duration.

For example, if, during the project duration of 25 years, there are 12 individual pipeline maintenance activities, BP will make 12 payments to IDNR, one for each individual pipeline maintenance activity based on that activity's disturbance within suitable habitat of a species of concern. Likewise, if, even with an approved ITA, no maintenance activities take place within the project area during the project duration, no mitigation payment will be made to IDNR, as there were no impacts to habitat or individuals of species of concern.

Please see the **Table 3.3-A** below as an example of the mitigation scheme.

Table 3.3-A: Example Compensatory Mitigation

EXAMPLE SITE NAME	EXAMPLE DATE OF ACTIVITY CONCLUSION	EXAMPLE SIZE OF DISTURBED SUITABLE HABITAT (FT ²)	MITIGATION RATE PER 43,560 FT ²	EXAMPLE MITIGATION COST	EXAMPLE DUE DATE OF PAYMENT TO IDNR
Pipeline Maintenance Activity Site 1	05-01-2020	10,000	\$7,800 X 2.5	\$4,476.58	07-30-2020
Pipeline Maintenance Activity Site 2	09-20-2026	6,500	\$7,800 X 2.5	\$2,909.78	12-19-2026
Pipeline Maintenance Activity Site 3	06-22-2029	4,500	\$7,800 X 2.5	\$2,014.46	09-10-2029
Total		21,000		\$9,400.82	

If a location within the project area involves multiple individual pipeline maintenance activities within the project duration, the area will be mitigated only once. For instance, a dent in a pipeline may be repaired, which involves mitigating for the area of disturbed suitable habitat. If three years later another dent is detected at the same location and repairs are again needed, mitigation will not be initiated for disturbed suitable habitat, unless the area of disturbance exceeds the previous area of disturbance, in which case the excess disturbed suitable habitat will be mitigated.

Likewise, some of the project area overlaps area covered under a separate ITA (for the Franklin's ground squirrel only). This area was mitigated under ITA #192 and will not be mitigated again within the duration of this ITA.

3.4. MONITORING

According to IDNR, post-construction monitoring to determine the effectiveness of minimization and mitigation measures is required by the Illinois Endangered Species Protection Act. To fulfill this requirement, BP is prepared to complete post-construction surveys for each species as described below. In the event a species of concern is found or observed during post-construction monitoring of the project area, BP will notify IDNR. In addition to species-specific post-construction monitoring, the project area will be monitored by BP after construction to evaluate the successful re-establishment of habitat in areas where suitable habitat was present prior to construction. Monitoring will commence following construction and will continue until at least 70% of the vegetation has been reestablished.

To further monitor the protected species on a broader level, BP will coordinate with IDNR and USDA (Midewin National Tallgrass Prairie) to link data collection efforts. In collaboration with IDNR and USDA, BP, when feasible, may adapt/expand data collection methodologies to better complement data collection efforts being conducted by IDNR and USDA. This level of coordination will aim to enhance the knowledge of protected species while facilitate BP's compliance with post-construction monitoring.

Franklin's Ground Squirrel

If suitable habitat is present, one post-construction burrow survey will occur within 1 field season of an individual pipeline maintenance activity. No greater than 6 total surveys will be performed during the term of the permit within the project area. Surveys will be conducted in accordance with IDNR-approved survey protocols. Reports regarding each survey will be supplied to the Incidental Take Authorization Coordinator of IDNR by the end of the calendar year of each survey.

Rusty Patched Bumble Bee

If suitable habitat is present and construction occurs mid-March to mid-October, when the rusty patched bumble bee has the potential to be nesting in upland grass habitat (the primary habitat within the project area), one post-construction visual survey will occur within 1 field season of an individual pipeline maintenance activity. No greater than 6 total surveys will be performed during the term of the permit within the project area. Surveys will be conducted in accordance with USFWS-recommended survey protocols. Reports regarding each survey will be supplied to the Incidental Take Authorization Coordinator of IDNR by the end of the calendar year of each survey. If construction occurs late-October to early-March, when the rusty patched bumble bee is overwintering in woodland edge habitats (not present within the project area), no post-construction survey will be conducted.

Loggerhead Shrike

If suitable habitat is present and construction occurs mid-March to mid-September, when the loggerhead shrike has the potential to be foraging in upland grass habitat (the primary habitat within the project area), one post-construction survey will occur within 1 field season of an individual pipeline maintenance activity. No greater than 6 total surveys will be performed during the term of the permit within the project area. Surveys will be conducted in accordance with IDNR-approved survey protocols. Reports regarding each survey will be supplied to the Incidental Take Authorization Coordinator of IDNR by the end of the calendar year of each survey. If construction occurs late-September to early-March, when the loggerhead shrike has out-migrated from the region, no post-construction survey will be conducted.

Upland Sandpiper

If suitable habitat is present and construction occurs mid-March to mid-July, when the upland sandpiper has the potential to be nesting or foraging in upland grass habitat (the primary habitat within the project area), one post-construction survey will occur within 1 field season of an individual pipeline maintenance activity. No greater than 6 total surveys will be performed during the term of the permit within the project area. Surveys will be conducted in accordance with IDNR-approved survey protocols. Reports regarding each survey will be supplied to the Incidental Take Authorization Coordinator of IDNR by the end of the calendar year of each survey. If construction occurs late-July to early-March, when the upland sandpiper has out-migrated from the region, no post-construction survey will be conducted.

3.5. ADAPTIVE MANAGEMENT

BP will alter plans accordingly if new information is discovered prior to or during construction that is likely to impact the effectiveness of this plan. Any changed circumstances or new information will be reported to IDNR, along with proposed modifications to the conservation plan.

Conservative estimates are that 10% of the pipelines' 50-ft wide construction ROWs would be disturbed by construction activities (not inclusive of site access) over 25 years, taking into account future tool run/ILI repairs and AC mitigation/corrosion protection. This permit covers take of 25 Franklin's ground squirrel individuals, 5 rusty patch bumble bee nests, 4 loggerhead shrike individuals (2 pairs), and 2 upland sandpiper individuals (1 pair). If at any point, it is determined that more than the estimated number of maintenance activities are required or more than the estimated number of species may be taken, BP will re-engage and consult with IDNR and/or other third parties at that time.

As more data regarding local populations and available habitat of the Franklin's ground squirrel, rusty patched bumble bee, loggerhead shrike, and upland sandpiper becomes available, BP will alter plans accordingly if more robust avoidance or minimization measures are necessary.

If necessary, BP would adjust construction plans to reduce the potential for take during the remainder of the construction period. BP would scale the required repair to the bare minimum footprint with the potential use of trench boxes, mini-excavators, and/or reduced construction ROW widths. Equipment travel down the ROW could be limited to just the excavation equipment. Construction crews could carpool during site access to limit equipment on the ROW. Work limits would be flagged on site, and BP would provide personnel to walk ahead of equipment to survey for protected species.

3.6. FUNDING VERIFICATION

The proposed conservation plan measures will be fully funded by BP. BP will fully incorporate this conservation plan into its construction plans and training programs.

4. ALTERNATIVE ACTIONS

During project planning, BP sought to develop a project plan that avoided and minimized environmental impacts to the greatest extent practicable while still meeting the purpose and needs of the project. The preferred plan is described in the sections above. Two non-preferred alternatives are described below.

4.1. ALTERNATIVE A – DELAY CONSTRUCTION

As an alternative, BP considered delaying pipeline maintenance activities. This alternative was considered non-preferred because it would allow the pipeline to exist for a longer period of time in a compromised state, potentially leading to a loss of pipeline integrity. Furthermore, delaying construction would not reduce impacts on the species of concern, as construction activities in the future would cause similar, if not greater, impacts. BP must also remain in compliance with the United States Department of Transportation (USDOT) Hazard Liquids Pipeline Integrity Management regulations.

4.2. ALTERNATIVE B – NO ACTION

The second non-preferred alternative that was considered was no-action. Under this alternative, maintenance activities would not occur. While there would be no impacts from construction in this scenario, if BP does not conduct the proposed preventative maintenance, corrosion or compromised sections of pipeline could result in a loss of pipe integrity. This reduced pipe integrity could result in failure of the pipeline and significant impacts to species of concern and their habitats. Furthermore, if BP follows this alternative and does not implement preventative maintenance, it may violate the US Department of Transportation's Pipeline and Hazardous Materials Safety Administration requirements.

5. NOTIFICATIONS

5.1. NOTIFICATIONS TO IDNR

IDNR will be notified by BP prior to the commencement of construction. Furthermore, a conservation report will be completed and delivered to IDNR by the end of the calendar year of each year of the 25-year Incidental Take Authorization.

5.2. PUBLIC NOTICE

A copy of the draft Public Notice is provided in **Attachment E**.

6. CONTINUED SPECIES VIABILITY

The number of individual pipeline maintenance activities performed, and the total disturbed suitable habitat is not known at this time, and, therefore, the estimated number of takes of the species of concern cannot be calculated. BP's activities are temporary in nature. No new development is proposed in the pipeline easements which would permanently alter habitat for the Franklin's ground squirrel, rusty patched bumble bee, loggerhead shrike, or upland sandpiper. However, thanks to the best management practices that will be implemented to reduce impacts, the small disturbance caused by potential activities relative to the vast habitat along the utility corridor and the adjacent Midewin National Tallgrass Prairie, and the temporary nature of the proposed maintenance activities, the proposed project is unlikely to cause a reduction in the likelihood of survival or recovery of the species of concern or the habitat essential to their existence in the state of Illinois. More information regarding the probability of each species' survival is provided below.

Franklin's Ground Squirrel

The project will not reduce the likelihood of survival or recovery of the Franklin's ground squirrel within the State of Illinois. Although **Section 2.4-Franklin's Ground Squirrel** indicates that, based on the 10% estimate, 62-124 individuals may be taken as a result of project activities, the number of takes is likely to be much smaller, as the entirety of the project area does not constitute suitable Franklin's ground squirrel habitat and the entirety of the project area will not likely be disturbed by project activities. Furthermore, best management practices, as described above will be employed, which will reduce the takings of Franklin's ground squirrels.

Because the project area is adjacent to or within the Midewin National Tallgrass Prairie, a large area of intact grassland and largely suitable habitat for the Franklin's ground squirrel, project areas that experience disturbance may be repopulated, at least in part, by dispersers from nearby populations.

Furthermore, as individual pipeline maintenance activities will likely be distributed over the project duration, and as individual pipeline maintenance activities will include restoration of the soil contours and revegetation, Franklin's ground squirrels may repopulate disturbed lands within project area even within the project duration. Because individual pipeline maintenance activities are small and generally isolated, the larger population has the potential to remain abundant and distribute to an area where a member of the population has been taken.

Rusty Patched Bumble Bee

The project will not reduce the likelihood of survival or recovery of the rusty patched bumble bee within the State of Illinois. Because the project area is adjacent to or within the Midewin National Tallgrass Prairie, a large area of intact grassland and largely suitable summer habitat for the rusty patched bumble bee, project areas that experience disturbance may be repopulated, at least in part, by dispersers from nearby populations. Although **Section 2.4-Rusty Patched Bumble Bee** indicates that, based on the 10% estimate, 1-3 nests may be taken as a result of project activities, the number of takes is likely to be much smaller, as the entirety of the project area does not constitute suitable rusty patched bumble bee and the entirety of the project area will not likely be disturbed by project activities.

Furthermore, as individual pipeline maintenance activities will likely be distributed over the project duration, and as individual pipeline maintenance activities will include restoration of the soil contours and revegetation, the rusty patched bumble bee may repopulate disturbed lands within project area even within the project duration. Because individual pipeline maintenance activities are small and generally isolated, the larger population has the potential to remain abundant and distribute to an area where a member of the population has been taken. Lastly, because hibernating queens use soils near woodlands, the open nature of the ROW will reduce the likelihood that project activities will impact the continued viability of the species.

Lastly, several areas within Illinois that have been identified by the USFWS as High Potential Zones, areas in which the rusty patched bumble bee is likely to be present where suitable habitat is present. Any takes that may occur during the course of the project may be recouped by populations that may exist within these High Potential Zones throughout the State of Illinois.

Loggerhead Shrike

The project will not reduce the likelihood of survival or recovery of the loggerhead shrike within the State of Illinois, as the loggerhead shrike can be found in 59 counties throughout Illinois. Because the loggerhead shrike is migratory within Will County, project activities that take place during the winter season, do not remove nesting habitat, and preserve or restore hunting grounds will result in zero takes and will not impact continued viability of the species.

Project activities that take place during the loggerhead shrike's summer residence in Will County could be impacted by project activities. As noted in **Section 2.4-Loggerhead Shrike**, based on the 10% estimate, takes could range from 0-1 pairs (4 individuals) for the entire project area, although actual takes are likely to be less, as the entirety of the project area is unlikely to be disturbed, and the entirety of the project area does not constitute suitable habitat for the loggerhead shrike.

Because the project area is adjacent to or within the Midewin National Tallgrass Prairie, a large area of intact grassland and largely suitable habitat for the loggerhead shrike, project areas that experience disturbance may be repopulated, at least in part, by dispersers from nearby populations.

Furthermore, as individual pipeline maintenance activities will likely be distributed over the project duration, and as individual pipeline maintenance activities will include restoration of the soil contours and revegetation, loggerhead shrikes may repopulate disturbed lands within project area even within the project duration. Because individual pipeline maintenance activities are small and generally isolated, the larger population has the potential to remain abundant and distribute to an area where a member of the population has been taken, and the takes will not likely impair continued species viability.

Upland Sandpiper

The project will not reduce the likelihood of survival or recovery of the upland sandpiper within the State of Illinois, as the upland sandpiper can be found in 25 counties throughout Illinois. Additionally, the nearby Midewin National Tallgrass Prairie supports the state's largest population of upland sandpipers. Because the upland sandpiper is migratory, project activities that take place during the winter season and preserve or restore nesting habitat will result in zero takes and will not impact continued viability of the species.

Project activities that take place during the upland sandpiper's summer residence in Will County could be impacted by project activities. As noted in **Section 2.4-Upland Sandpiper**, based on the 10% estimate, takes indicate less than 1 pair (2 individuals) for the entire project area, although actual takes are likely to be less, as the entirety of the project area is unlikely to be disturbed, and the entirety of the project area does not constitute suitable habitat for the species.

Because the project area is adjacent to or within the Midewin National Tallgrass Prairie, a large area of intact grassland and largely suitable habitat for the species, project areas that experience disturbance may be repopulated, at least in part, by dispersers from nearby populations.

Furthermore, as individual pipeline maintenance activities will likely be distributed over the project duration, and as individual pipeline maintenance activities will include restoration of the soil contours and revegetation, the species may repopulate disturbed lands within project area even within the project duration. Because individual pipeline maintenance activities are small and generally isolated, the larger population has the potential to remain abundant and distribute to an area where a member of the population has been taken, and the takes will not likely impair continued species viability.

7. IMPLEMENTING AGREEMENT

In order to ensure compliance with the conditions described in the Incidental Take Authorization for the species of concern, BP agrees to implement the measures described in this Conservation Plan. BP will implement the following actions:

- Ensure that all tasks are completed as described in the Conservation Plan.
- Ensure that all maps are accurate and up-to-date showing areas of suitable habitat and the locations of burrows and sightings.
- Coordinate training for all construction personnel from a qualified biologist with knowledge of the species of concern and linear construction projects.
- Obtain a "No Effect" determination from USFWS for the rusty-patched bumble bee. Attachment D.
- Conduct daily inspections of the area for the species of concern during the construction phase of individual pipeline maintenance activities.
- Report to IDNR any sightings of species of concern.
- Comply with all pertinent Federal, State, and local regulations pertinent to this project and to the execution of the Conservation Plan.
- Provide copies of Federal authorizations that could affect the terms and conditions of any Incidental Take Authorization by IDNR for this project.

- Ensure that revegetation occurs in the disturbed areas.
- Send a conservation report to the Incidental Take Authorization Coordinator at IDNR by the end of the calendar year of each year of the 25-year Incidental Take Authorization.

The participants hereby certify that they have the legal authority to carry out their respective obligations and responsibilities under the Conservation Plan.

Jeffrey R. Turner

Signature - Jeff Turner
BP US Pipeline & Logistics, Inc.

6/22/2020

Date

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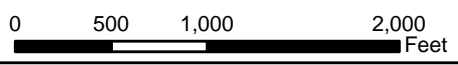
ATTACHMENT A:
POTENTIAL ACTION AREA MAPS



BP Start Location



Potential Action Area



BP U.S. Pipelines & Logistics

**Joliet Arsenal Property
Potential Action Area Map #1**

Will County, Illinois

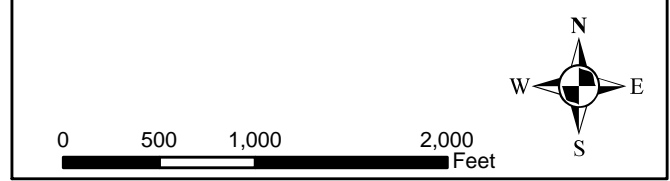
May 2020



2443 Crowne Point Drive; Sharonville, OH 45241; 513-326-3040



 Potential Action Area



**BP U.S. Pipelines
& Logistics**

**Joliet Arsenal Property
Potential Action Area Map #2**


Will County, Illinois

May 2020

PARSONS

2443 Crowne Point Drive; Sharonville, OH 45241; 513-326-3040



 Potential Action Area



**BP U.S. Pipelines
& Logistics**

**Joliet Arsenal Property
Potential Action Area Map #3**


Will County, Illinois

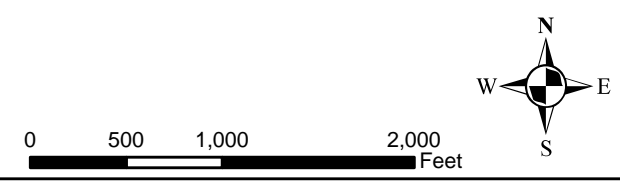
May 2020



2443 Crowne Point Drive; Sharonville, OH 45241; 513-326-3040



 Potential Action Area



**BP U.S. Pipelines
& Logistics**

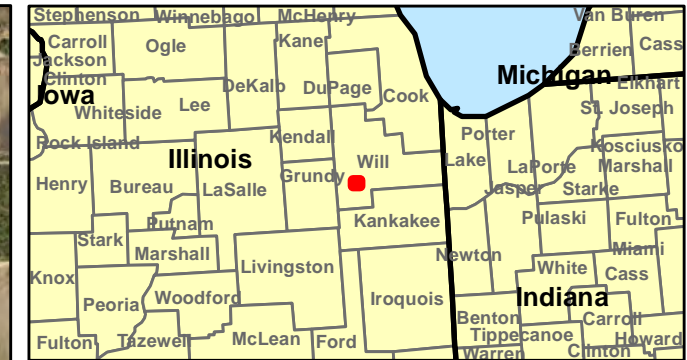
**Joliet Arsenal Property
Potential Action Area Map #4**

Will County, Illinois

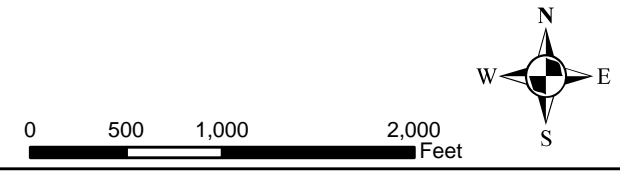
May 2020



2443 Crowne Point Drive; Sharonville, OH 45241; 513-326-3040



Potential Action Area



BP U.S. Pipelines & Logistics

**Joliet Arsenal Property
Potential Action Area Map #5**

Will County, Illinois

May 2020



2443 Crowne Point Drive; Sharonville, OH 45241; 513-326-3040

ATTCHMENT B:

**AREA MAPS WITH IDNR ELEMENT OCCURRENCE
REPRESENTATIONS/USFWS HIGH POTENTIAL ZONE**

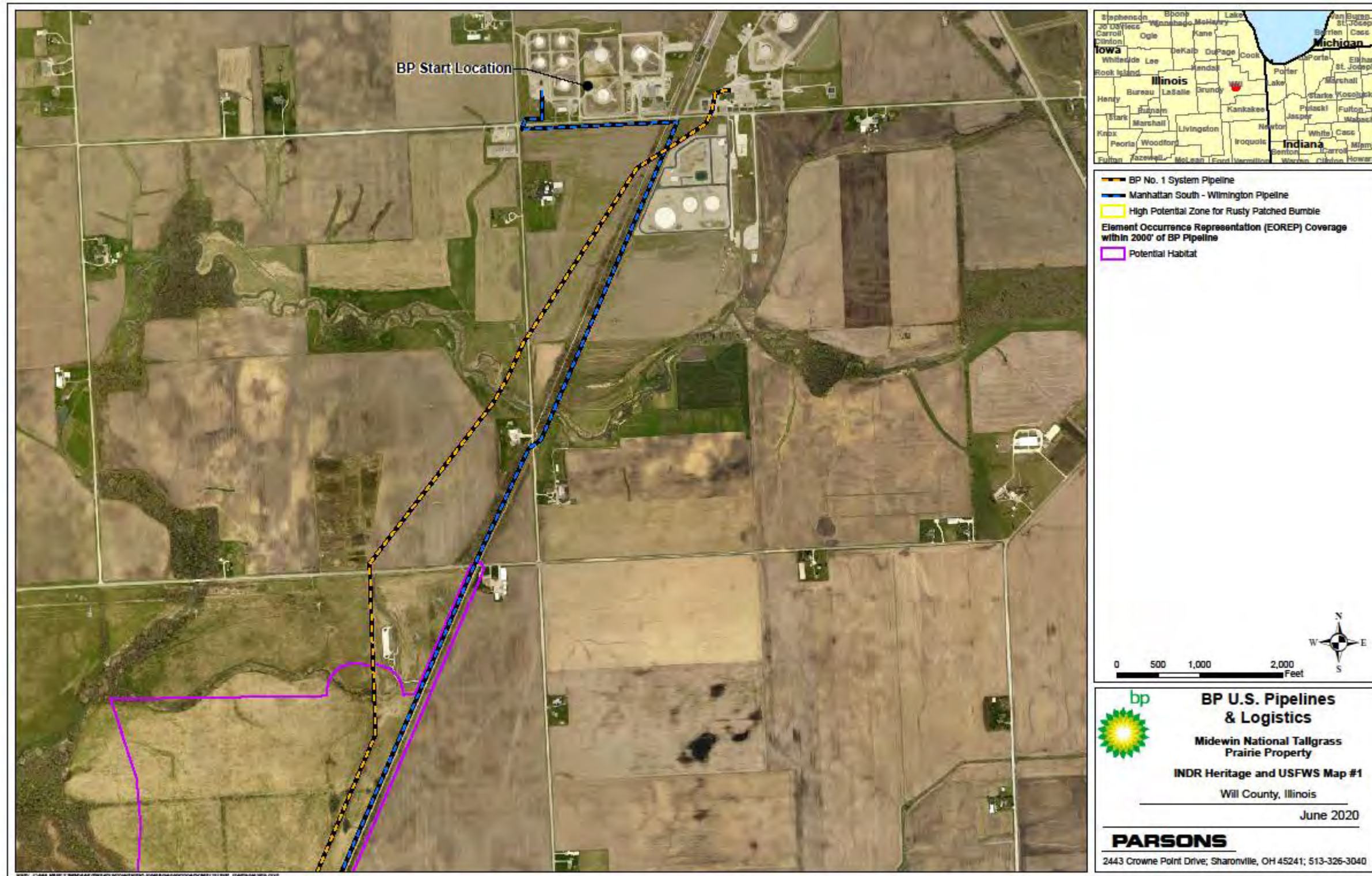


Figure B-1: Aerial map 1 of 5, showing the northwest-most portion of the project area.

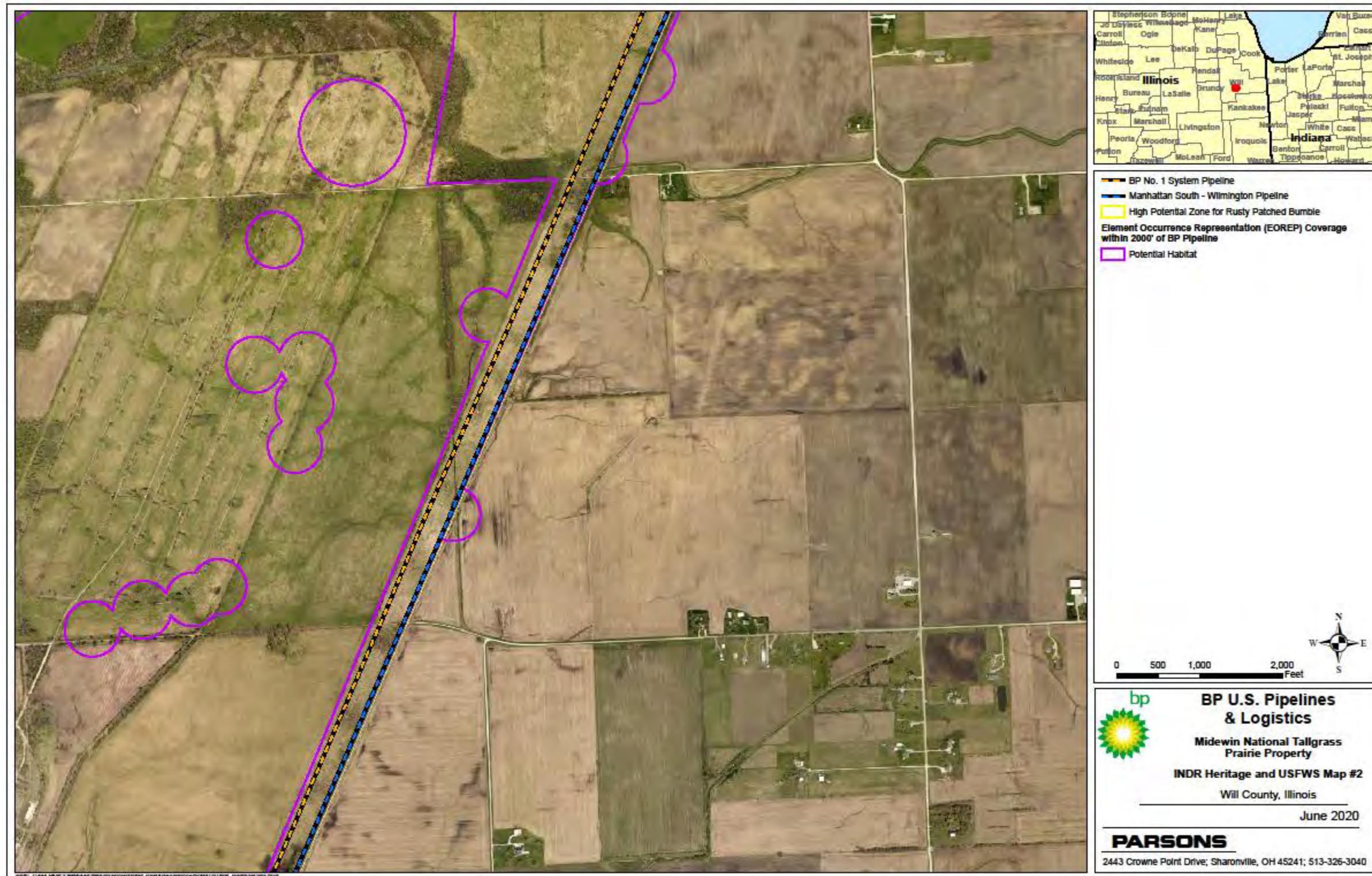


Figure B-2: Aerial map 2 of 5, showing an area south-southwest of Figure A-1.

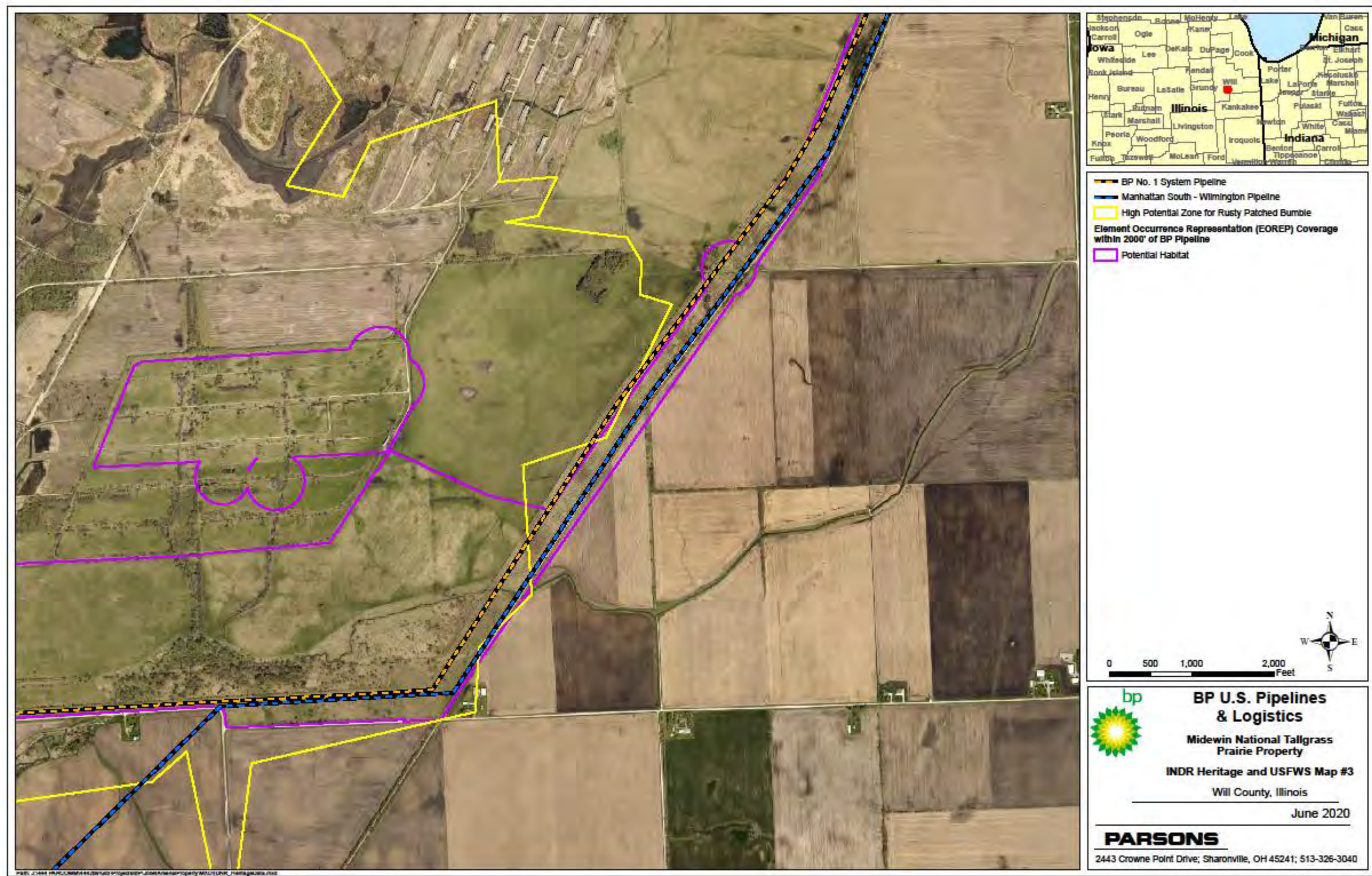


Figure B-3: Aerial map 3 of 5, showing an area south-southwest of Figure A-2.

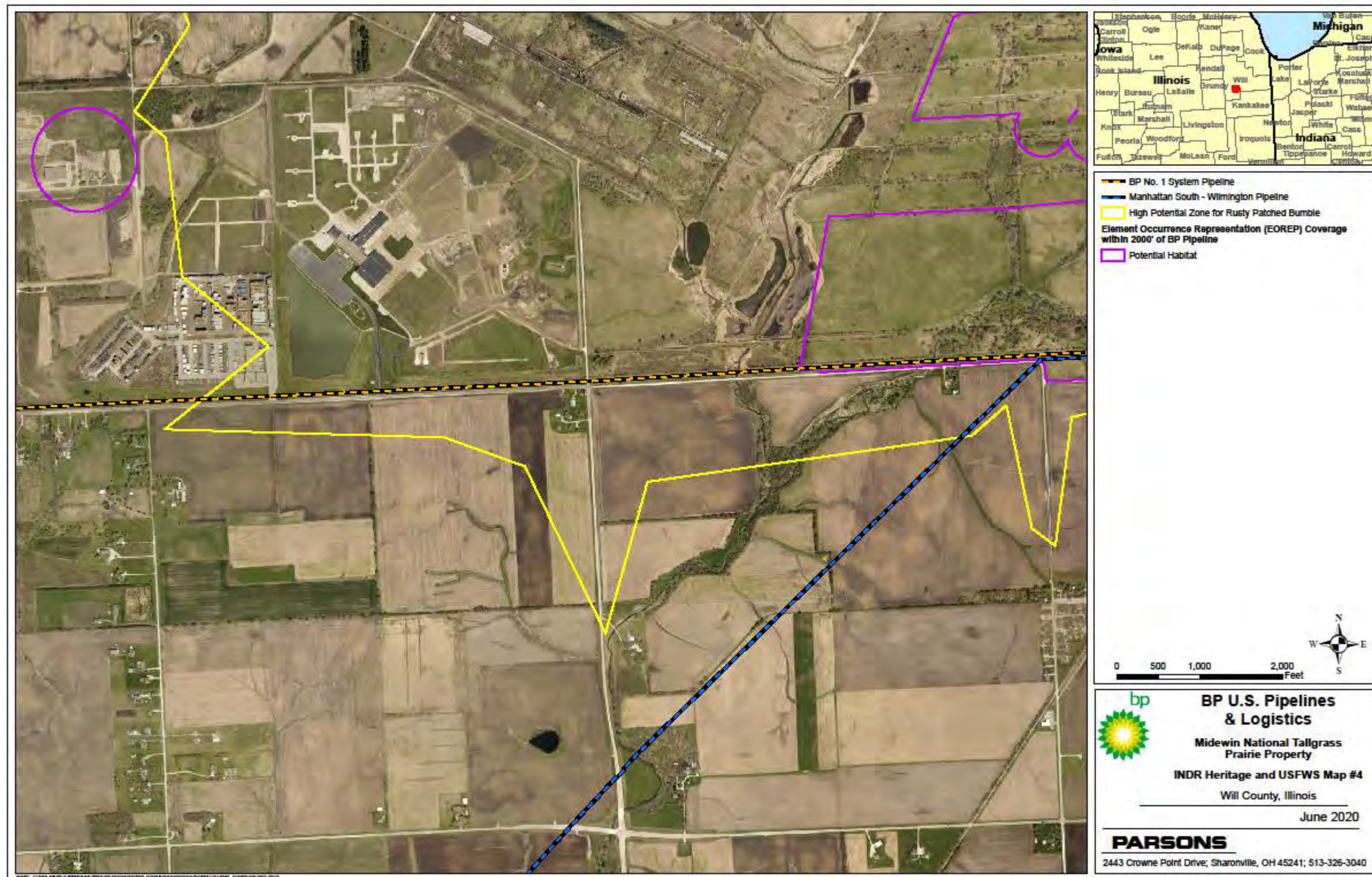


Figure B-4: Aerial map 4 of 5, showing the area west of Figure A-3.

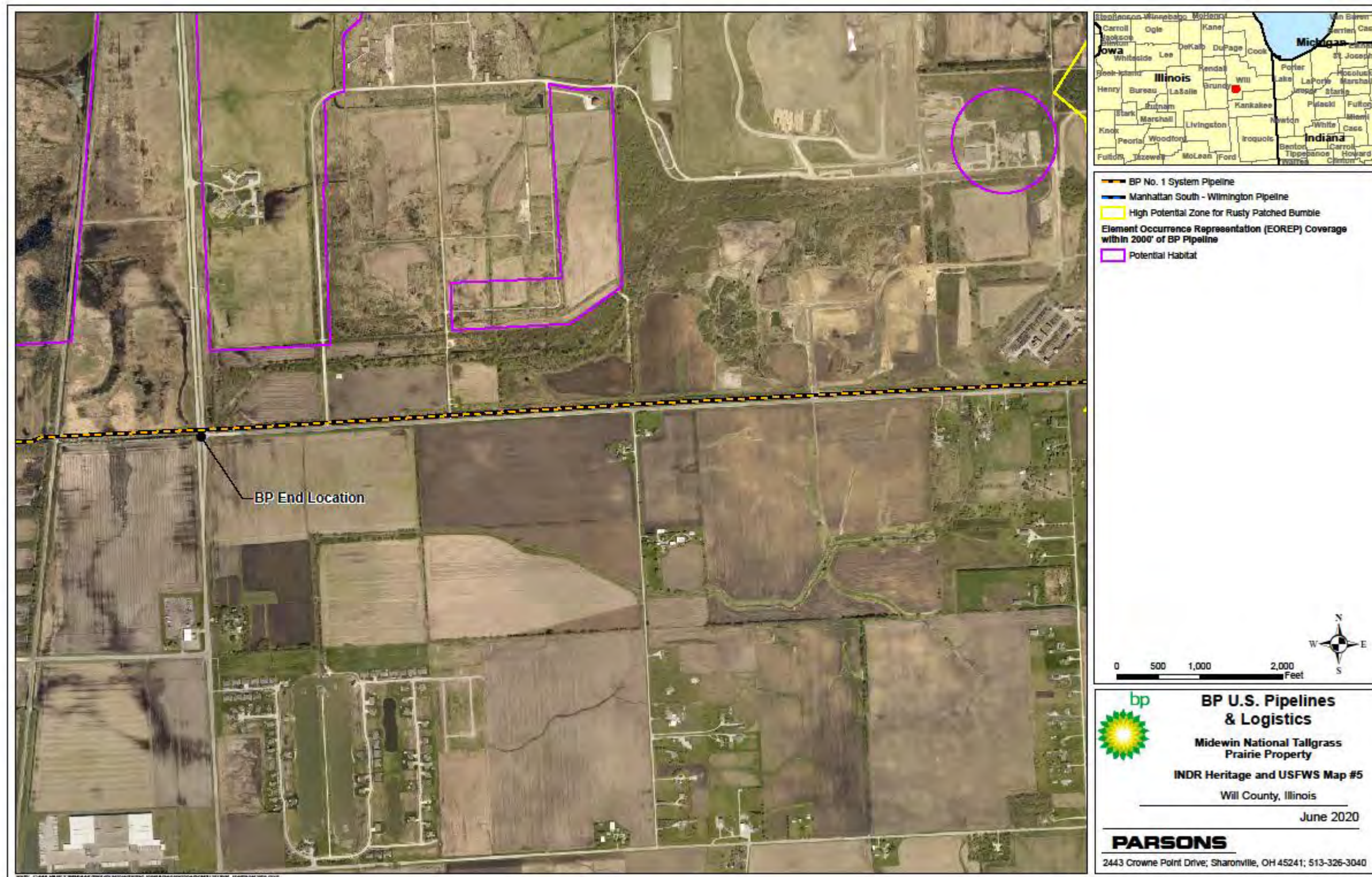


Figure B-5: Aerial map 5 of 5, showing the area west of Figure A-4.

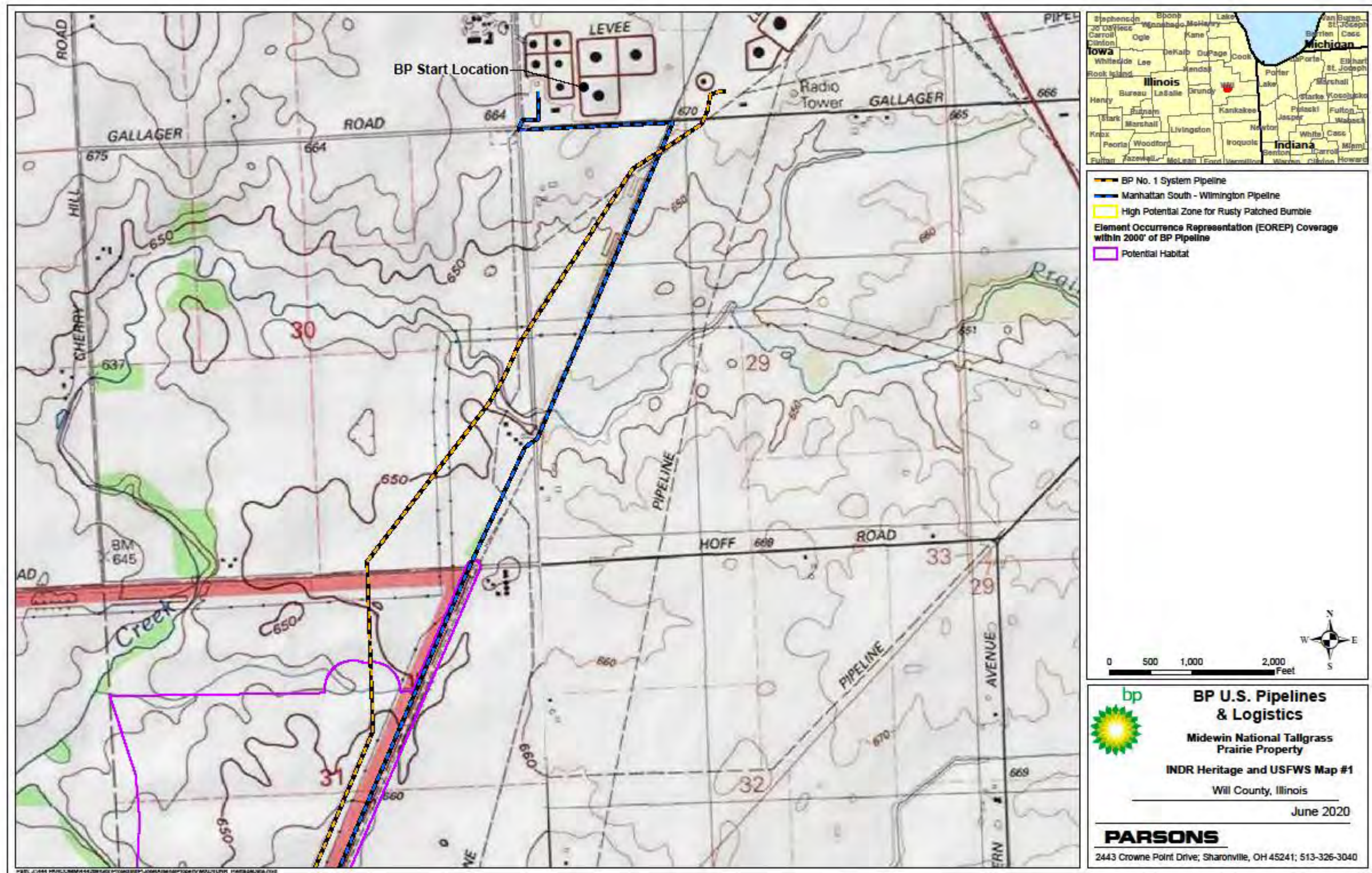


Figure B-6: Topographic map 1 of 5, showing the area south-southwest of Figure A-5.

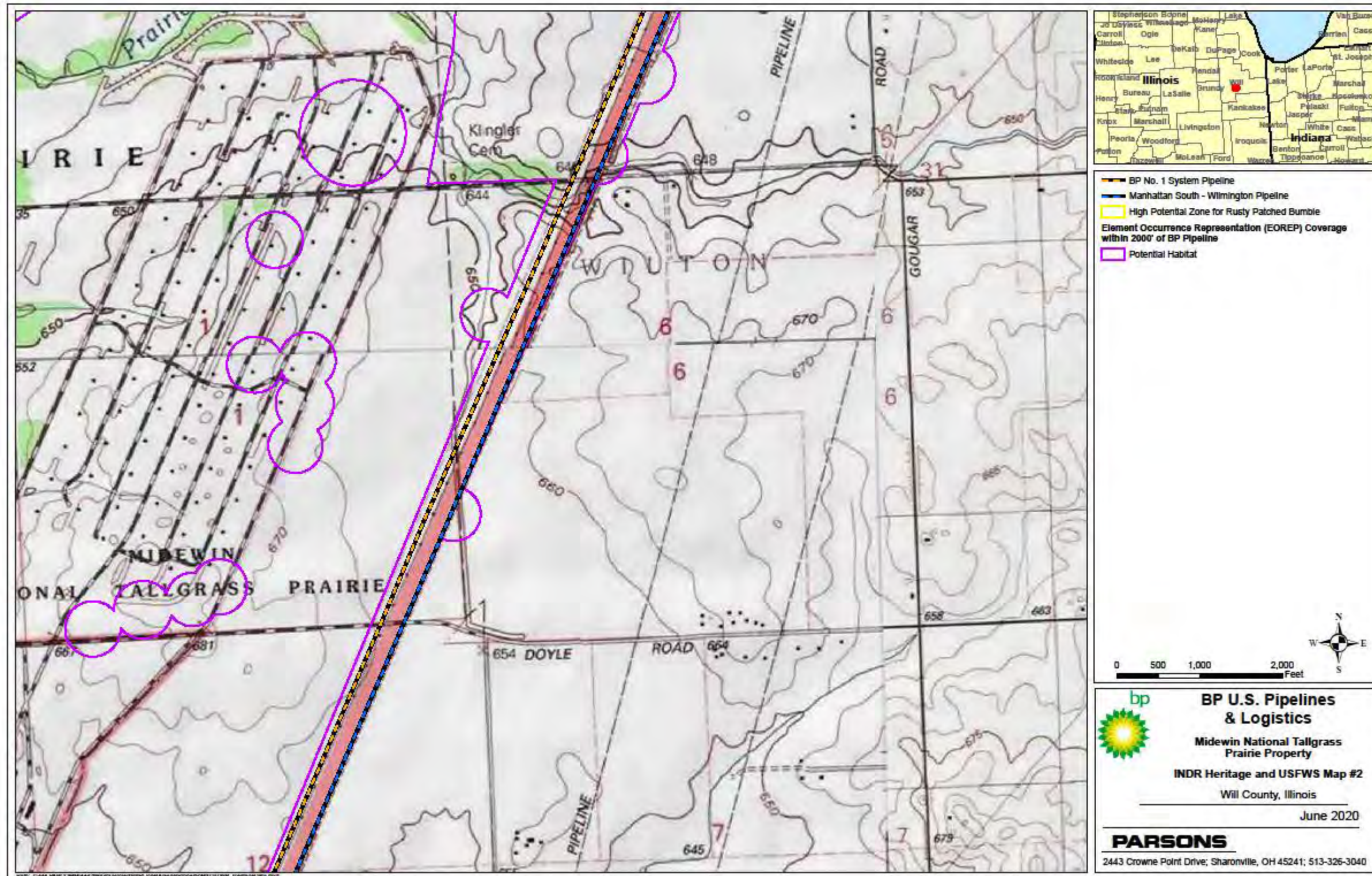


Figure B-7: Topographic map 2 of 5, showing the area south-southwest of Figure A-6.

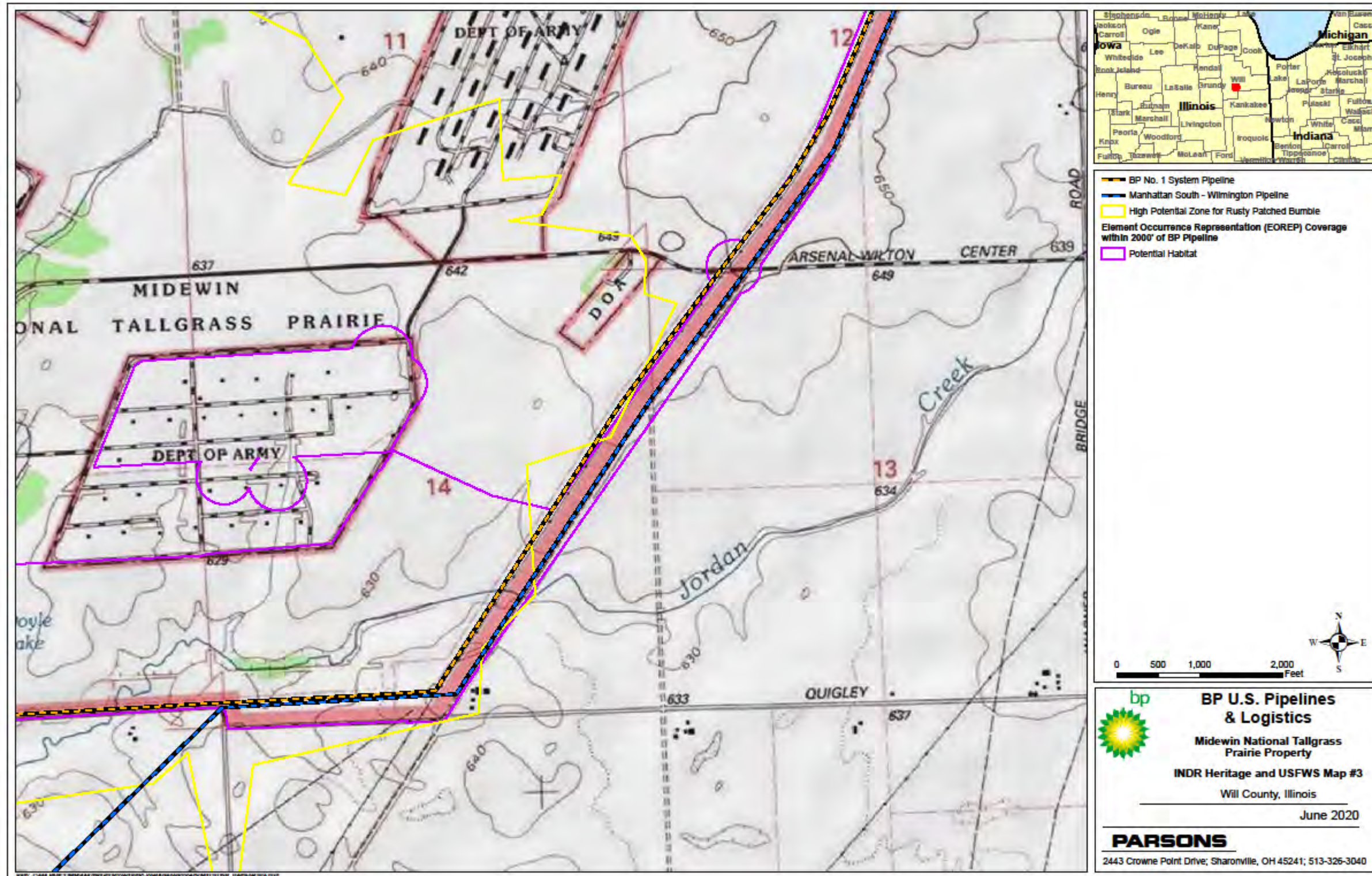


Figure B-8: Topographic map 3 of 5, showing the area south-southwest of Figure A-9.

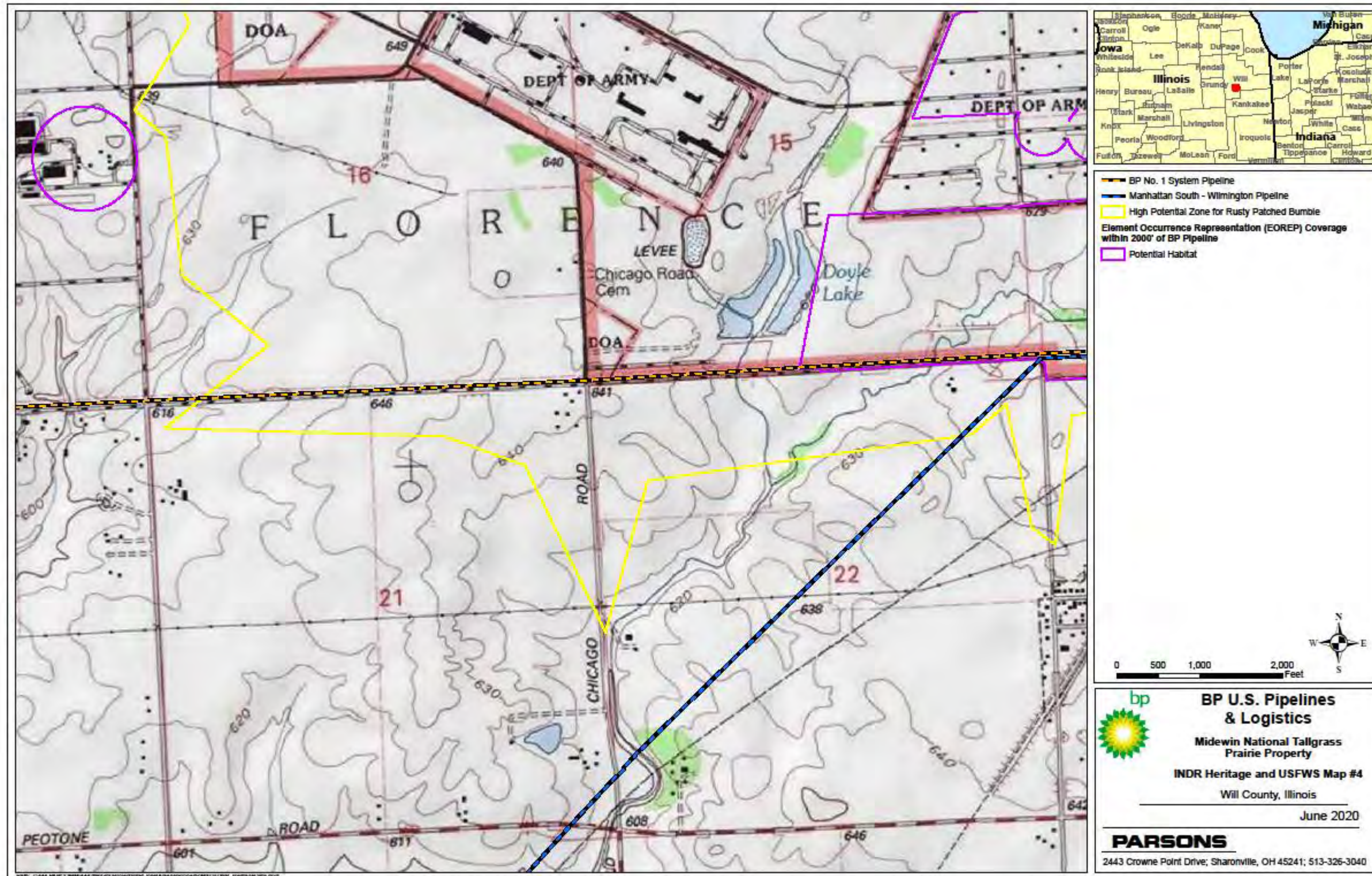
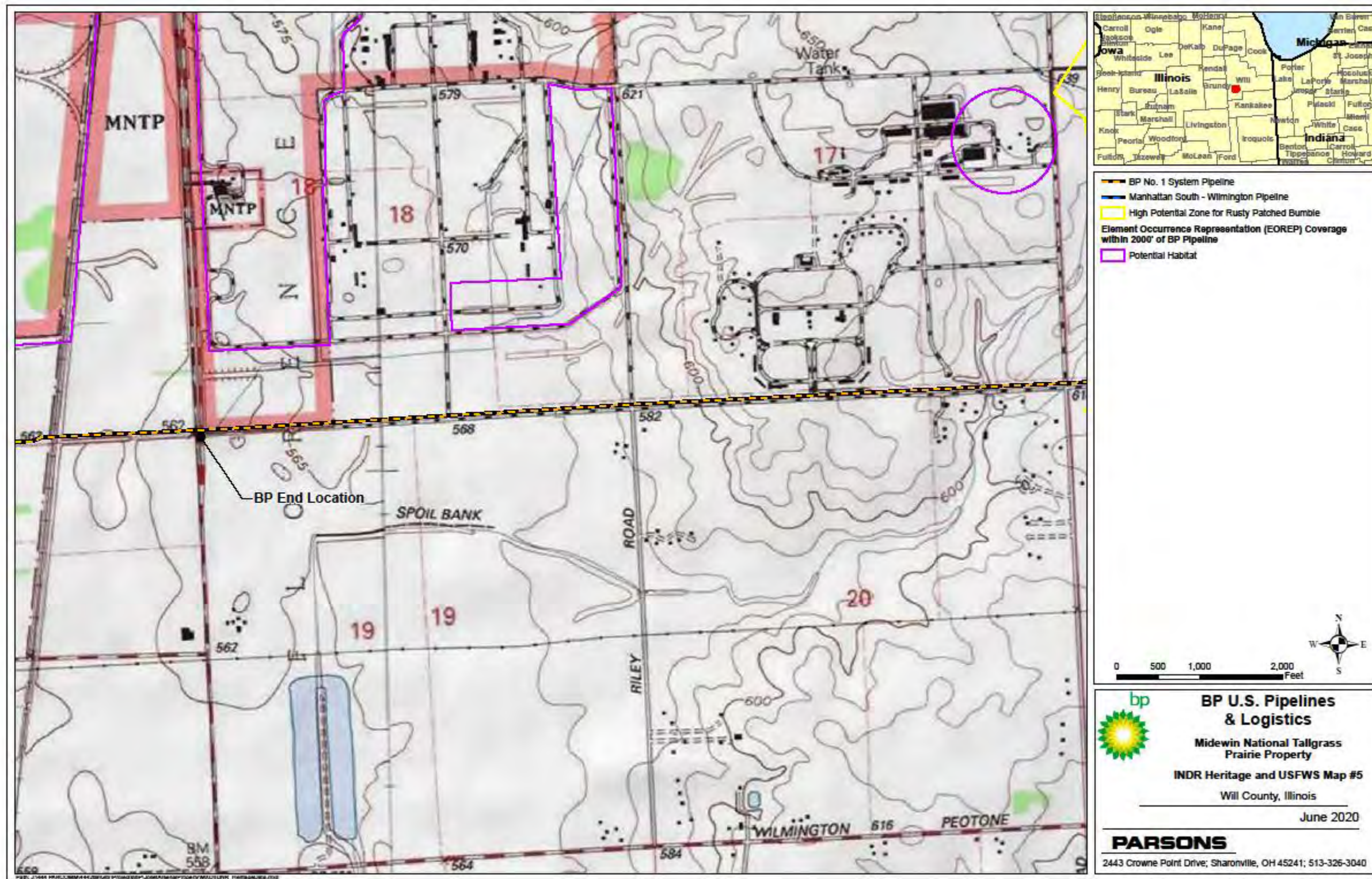


Figure B-9: Topographic map 4 of 5, showing the area west of Figure A-8.



ATTACHMENT C:

USGS GAP ANALYSIS MAPS

The United States Geological Survey produced a database of probable suitable habitat locations for wildlife species across the United States. The suitability of habitat was determined by combining species preference for elevation, land cover, forest edge, forest type, hydrography, and human impact avoidance. The probable suitable habitat has not been ground-truthed at every location. Below are maps showing probable suitable habitat for the Franklin's ground squirrel, the loggerhead shrike, and the upland sandpiper.

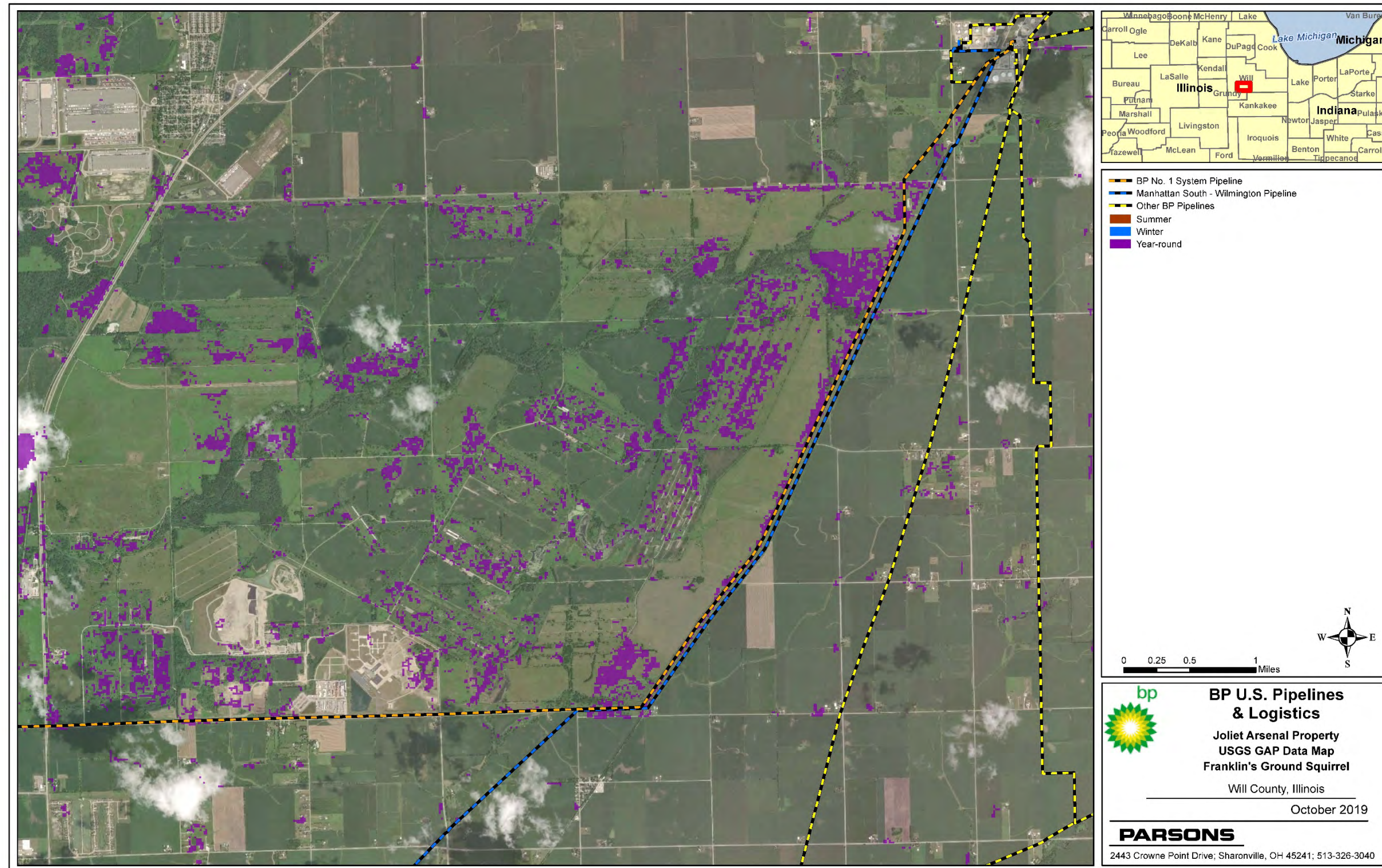


Figure C-1: USGS GAP Analysis aerial map showing suitable habitat for the Franklin's ground squirrel.

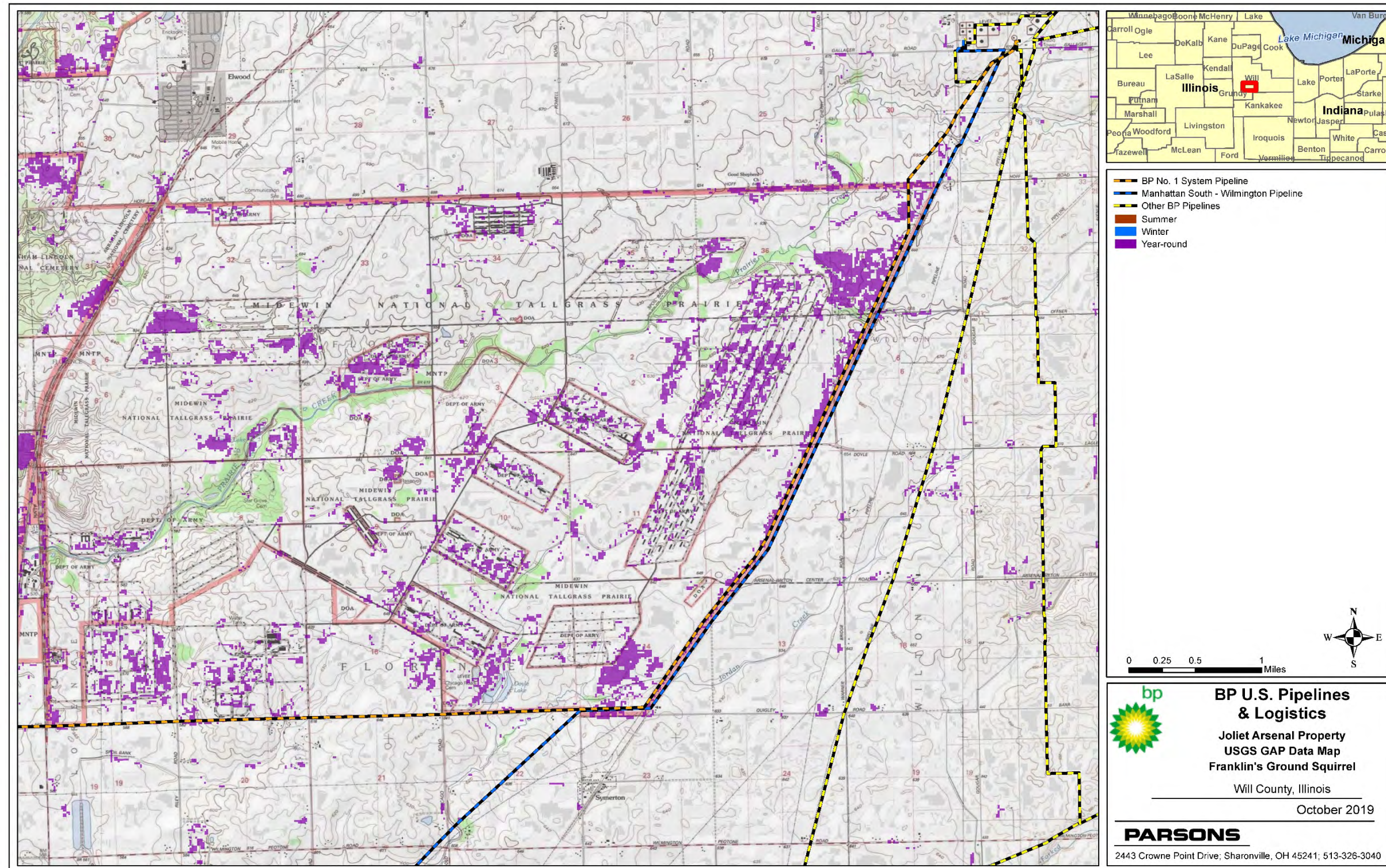


Figure C-2: USGS GAP Analysis topographic map showing suitable habitat for the Franklin's ground squirrel.

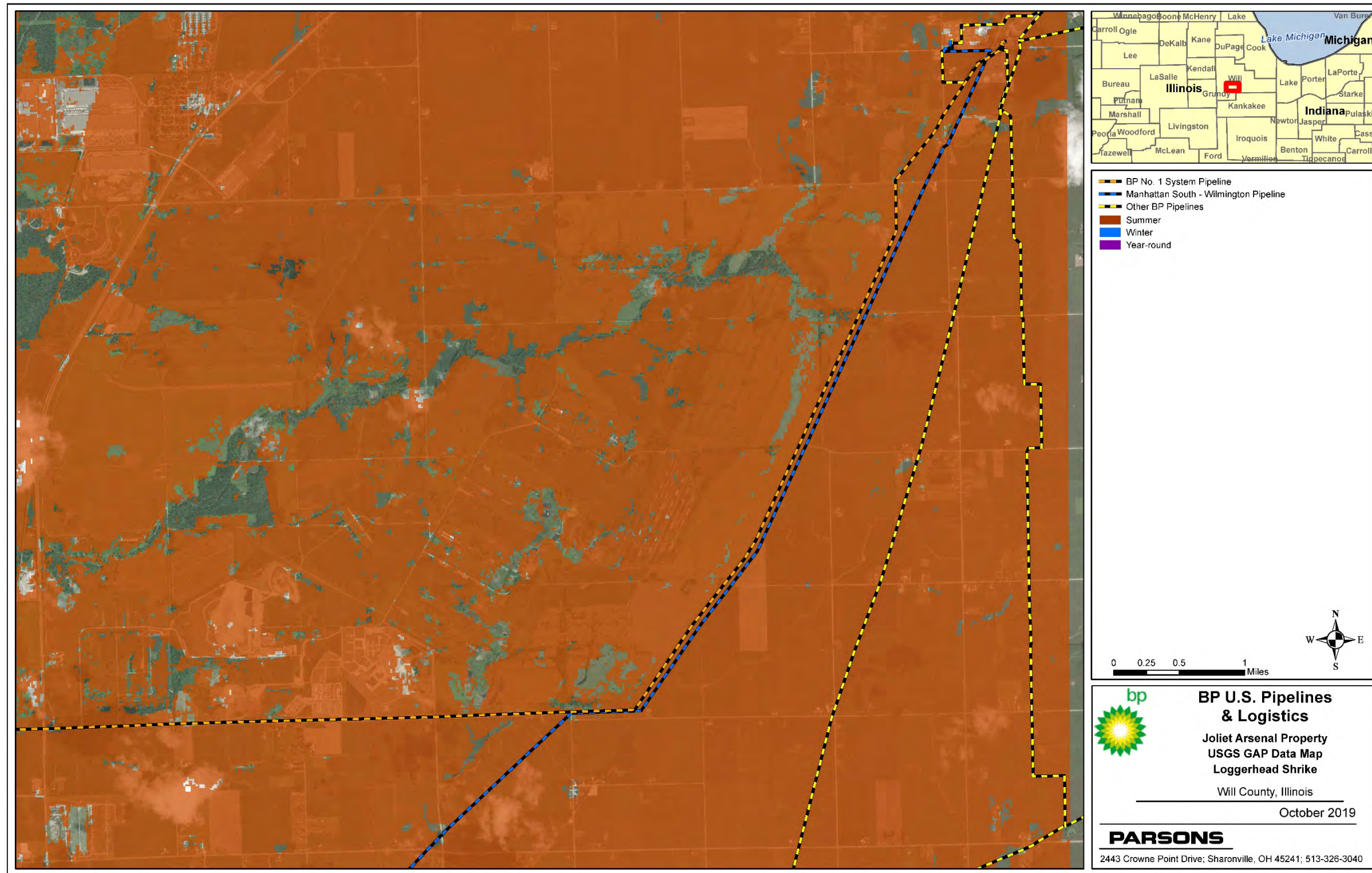


Figure C-3: USGS GAP Analysis aerial map showing suitable habitat for the loggerhead shrike.

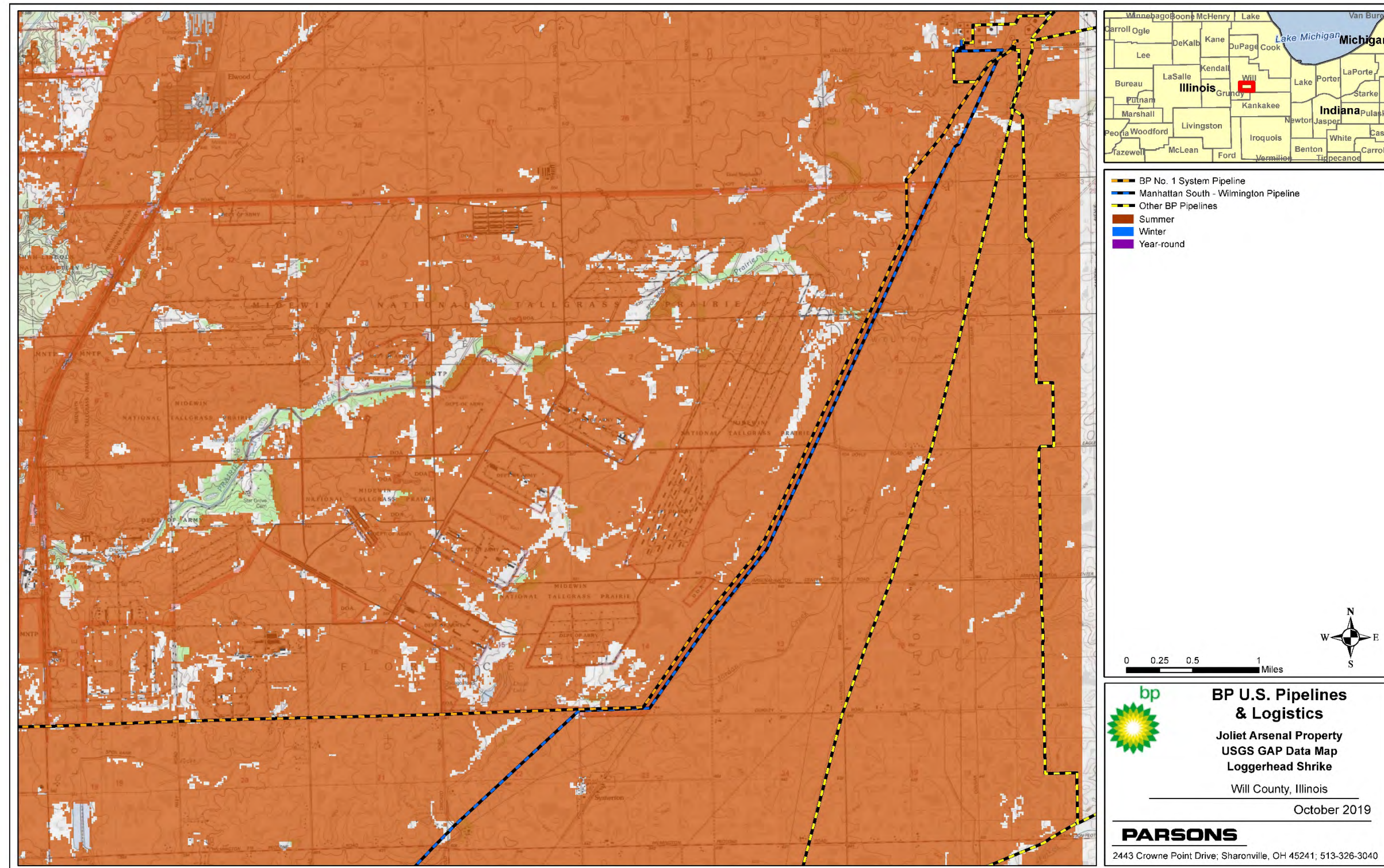


Figure C-4: USGS GAP Analysis topographic map showing suitable habitat for the loggerhead shrike.



Figure C-5: USGS GAP Analysis aerial map showing suitable habitat for the upland sandpiper.

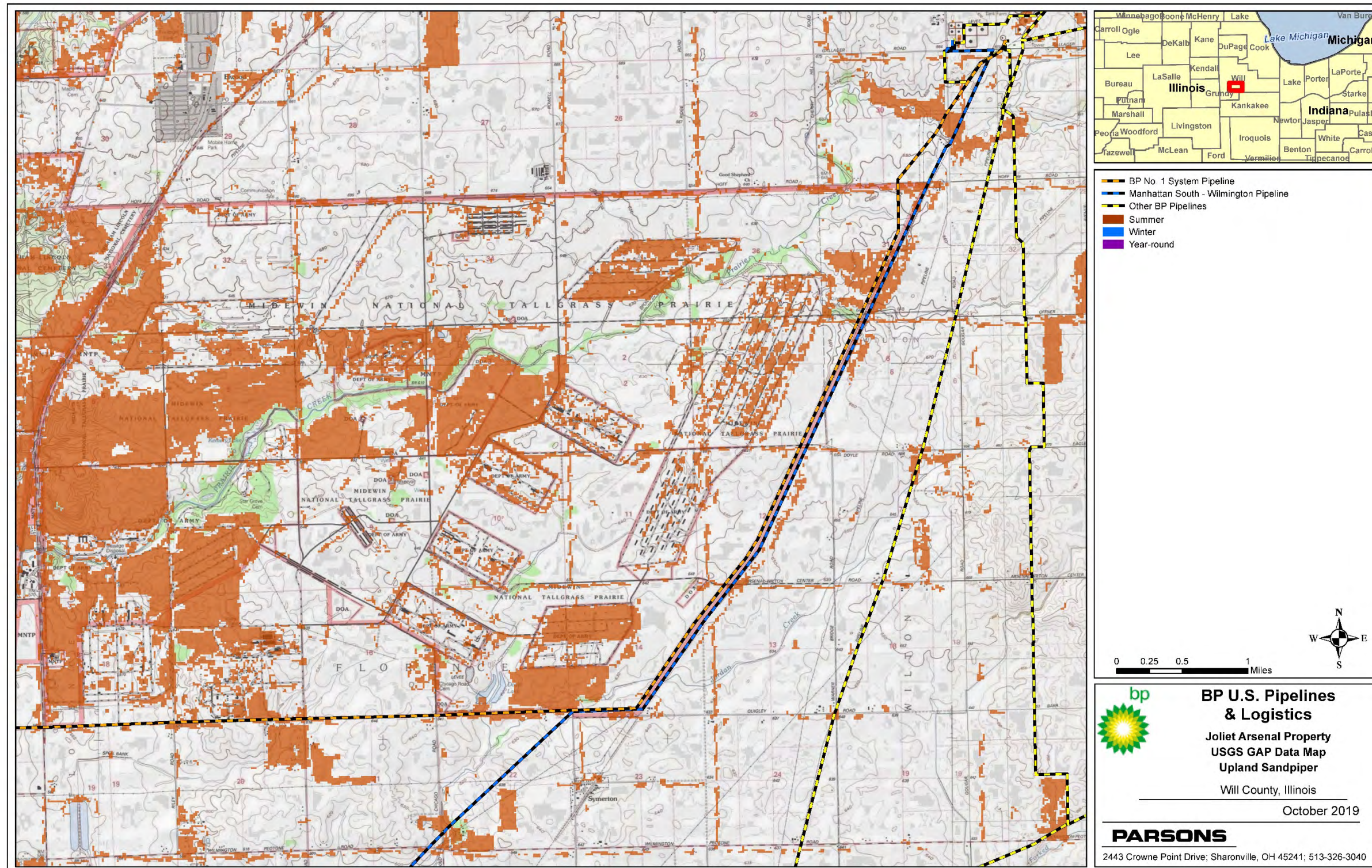


Figure C-6: USGS GAP Analysis topographic map showing suitable habitat for the upland sandpiper.

ATTACHMENT D:
USFWS CORRESPONDENCE LETTER

From: [Cirton, Shawn](#)
To: [Green, Laura](#)
Cc: [Redmer, Mike](#)
Subject: Re: [EXTERNAL] RE: BP USPL Section 7 ESA Determination Request - Midewin National Tallgrass Prairie
Date: Wednesday, June 3, 2020 6:10:35 PM
Attachments: [image003.png](#)
[image002.png](#)

Based on the information that you've provided, the project areas are all located outside of the high potential zone for the RPBB, located at Midewin National Tallgrass Prairie. Therefore, section 7 consultation is not required for the species. An effects determination was not provided for the RPBB. However, a "no effect" determination would be warranted for the proposed actions.

*Shawn Cirton
Fish and Wildlife Biologist
U.S. Fish and Wildlife Service
Chicago Illinois Field Office
230 South Dearborn Street, Suite 2938
Chicago, IL 60604
(847)366-2345*

From: Green, Laura <Laura.Green@parsons.com>
Sent: Tuesday, June 2, 2020 9:56 AM
To: Cirton, Shawn <shawn_cirton@fws.gov>
Subject: [EXTERNAL] RE: BP USPL Section 7 ESA Determination Request - Midewin National Tallgrass Prairie

Hi Shawn,

I'm following up to see if you had any questions on the Section 7 determination letters I emailed a few weeks ago, regarding BP's ROW corridor in and around the Midewin National Tallgrass Prairie Property?

Feel free to call me if you would like to discuss further.

Thanks,
Laura

Laura Green
Principal Geologist
10 S. Riverside Plaza, Ste. 400, Chicago, IL 60606
laura.green@parsons.com - c: 262.893.4041 | f: 312.930.0018



From: Green, Laura

Sent: Thursday, May 7, 2020 3:10 PM

To: Cirton, Shawn <shawn_cirton@fws.gov>

Cc: Hoeting, Diane <Diane.Hoeting@parsons.com>; Jeremy Andreen <jeremy.andreen@bp.com>; Stone, Brian V <Brian.Stone@bp.com>; Ronk, Christopher <Christopher.Ronk@bp.com>; Kimberly Overstreet - BP (Kimberly.Overstreet@bp.com) <kimberly.overstreet@bp.com>

Subject: BP USPL Section 7 ESA Determination Request - Midewin National Tallgrass Prairie

Mr. Cirton,

Thank you for taking the time last week to discuss the potential presence of the Rusty Patched Bumble Bee (RPBB) in the vicinity of BP's pipelines located in Will County, IL. As discussed BP is pursuing a 25-year ITA from INDR to cover potential future maintenance activities (if needed) on both their crude pipeline and product pipeline from their Manhattan Station through the Midewin National Tallgrass Prairie Property. Additionally, BP has some upcoming maintenance work on their crude pipeline within the Midewin National Tallgrass Prairie. We have reviewed the red zone locations to confirm that the maintenance activities fall outside the red zone for the RPBB. Attached for your review are Section 7 determination requests for the upcoming maintenance work and for the ROW pipeline corridors covered under the 25-year ITA proposal.

Please let me know if you have questions or concerns.

Thanks,
Laura

Laura Green
Principal Geologist
10 S. Riverside Plaza, Ste. 400, Chicago, IL 60606
laura.green@parsons.com - c: 262.893.4041 | f: 312.930.0018



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ATTACHMENT E
DRAFT PUBLIC NOTICE

Public Notice

Applicant – BP US Pipelines & Logistics (BP), 30 S. Wacker Dr., Chicago, IL 60606 is applying for an Incidental Take Authorization from the Illinois Department of Natural Resources (IDNR).

BP proposes to perform pipeline maintenance activities on its existing buried pipelines beginning at an oil storage facility immediately south of Manhattan, IL and continues south-southwest along the eastern boundary of the Midewin National Tallgrass Prairie in Will County, IL, as required by and in compliance with U.S. Department of Transportation Hazardous Liquids Pipeline Integrity Management Regulations.

The project area consists of a 50-foot right-of-way for each of BP's Manhattan-Wilmington petroleum products pipeline and BP No. 1 System crude oil pipeline, which run parallel to, and approximately 300 feet from one another. The project area begins at an oil storage facility immediately south of Manhattan, IL, and continues south-southwest along the eastern boundary of the Midewin National Tallgrass Prairie and the western boundary of the Wauponsee Glacial Multi-use Recreational Trail until W Arsenal Road, where the project area continues due west on the north side of W Arsenal Road until the intersection of W Arsenal Road and Symerton Road. At the intersection of W Arsenal Road and Symerton Road, only one buried pipeline, the BP No. 1 System crude oil pipeline, continues due west along the north side of W Arsenal Road until its intersection with IL-53. The project area is contained within a utility corridor, which includes the two BP active pipelines, an abandoned BP pipeline, a petroleum pipeline operated by a third party, overhead power transmission lines operated by ComEd, and/or a combination of these

IDNR reported that the state-threatened Franklin's ground squirrel (*Poliocitellus franklinii*), rusty patched bumble bee (*Bombus affinis*) (also federally listed), loggerhead shrike (*Lanius ludovicianus*), and upland sandpiper (*Bartramia longicauda*) is known to occur in the vicinity of the project. Because of the non-zero probability of a take, IDNR recommended that BP consider applying for an Incidental Take Authorization (ITA) for the Franklin's ground squirrel, rusty patched bumble bee, loggerhead shrike and upland sandpiper in accordance with 17 Ill Adm. Code Part 1080.

To minimize potential impact to the protected species, the operator will accelerate work activities to limit the duration of construction activities, employ a biologist at the site to survey the site daily for signs of species of concern within the work area, and reduce the work area to the greatest extent practicable. Furthermore, to contribute to the conservation of the species, BP will provide compensatory mitigation to IDNR for its potential impacts to the species of concern, calculated based on the actual area of disturbance to suitable habitat.

A copy of the Conservation Plan can be viewed at the Wilmington Public Library, located at 201 S Kankakee St. Wilmington, IL 60481; Phone: (815) 476-2834 OR on the IDNR webpage at <https://www.dnr.illinois.gov/conservation/NaturalHeritage/Pages/Incidental-Take-authorizations.aspx> (ITA #213).

Public comments regarding the Conservation Plan should be addressed to Illinois Department of Natural Resources, Office of Resource Conservation, Incidental Take Authorization Coordinator, One Natural Resources Way, Springfield, IL 62702-1271 or sent via email to DNR.ITAcordinator@illinois.gov. Written comments on the Conservation Plan may be submitted to the above address by August 14, 2020.