



414 Nicollet Mall
Minneapolis, MN 55401

November 16, 2017

—Via Electronic Filing—

Daniel P. Wolf
Executive Secretary
Minnesota Public Utilities Commission
121 7th Place East, Suite 350
St. Paul, MN 55101

**RE: Permit Amendment Request for a portion of the Black Dog Natural Gas Pipeline Project
Docket No. G002/GP-16-656**

Dear Mr. Wolf:

On March 7, 2017 the Public Utilities Commission granted Northern States Power Company, a Minnesota corporation, doing business as Xcel Energy, a Route Permit for the Black Dog Natural Gas Pipeline Project (Project). Condition 12 in the Rout Permit states that the Permittee may apply to the Commission for an amendment of the route designation or to conditions specified in the permit in accordance with the requirements and procedures of Minnesota Rule 7852.3400.

As noted in previous project update reports the project team has experienced significant challenges with the horizontal directional drill (HDD) under Black Dog Lake and the railroad tracks. The crew has made numerous attempts to complete the HDD however, after multiple unsuccessful attempts to complete the drill, the Project team and pipeline contractor determined that the HDD, as initially planned, is no longer a viable installation option.

The Project team developed and evaluated a number of preliminary alignment and installation alternatives to complete the remaining segment of the pipeline and reached out to stakeholder agencies for feedback on the most viable of the alternatives. Based on this evaluation the team has selected a preferred alternative, which involves installing the pipeline within the south access road to the Black Dog Plant. This alignment would place approximately 2,250 feet of the pipeline outside of the approved route for this project. The installation method and associated impacts also differ from what was initially identified in the permit application. A majority of the proposed pipeline alignment will be installed via open trench installation rather than horizontal directional drilling. More detail regarding the proposed change is included in the enclosed report.

Xcel Energy is requesting approval of the proposed Permit Amendment as described in more detail in the attached report, aerial maps and Plan and Profile drawings.

Please contact me at ellen.l.heine@xcelenergy.com or 612-330-6073 if you have questions or would like further information regarding this matter.

Sincerely,

A handwritten signature in blue ink that reads "Ellen Heine". The signature is written in a cursive style with a small flourish at the end.

Ellen Heine
Sr. Land Agent
Xcel Energy

**Permit Amendment Request for the
Black Dog Natural Gas Pipeline Project
PUC Docket No. G002/GP-16-656**

Xcel Energy requests permission to alter its Black Dog Natural Gas Pipeline Project (Project) from the approved permitted Route and alignment as it crosses Black Dog Lake in the City of Burnsville, Dakota County, Minnesota. Due to significant challenges encountered with the horizontal directional drill beneath Black Dog Lake, Xcel Energy proposes adjusting the alignment of the pipeline as described below and shown in the attached aerial maps and Plan and Profile drawings. This request is made under Condition 12 (Permit Amendment) of the Route Permit for Construction of a Large Natural Gas Pipeline and Associated Facilities issued to Xcel Energy on March 7th, 2017 under Docket No. G002/GP-16-565.

Background and Summary of Requested Permit Amendment

Approximately 1.7 miles of pipeline installation has been completed on the Project to date; from the Northern Natural Gas Cedar Station to a point about 3000 feet northwest into the Tennesioux Park corridor (station 80+00 on the enclosed plan set). The remaining 0.5 miles (approx. 2600 feet) of pipe was planned and permitted to be installed via horizontal directional drilling (HDD). This HDD segment began at the Black Dog Plant and, after crossing beneath Black Dog Lake, the Met Council sanitary sewer main and the Union Pacific Railroad, exited in the Tennesioux Park Corridor (see attached Overview Map).

Drilling of the HDD segment commenced in April 2017. Early in the drilling process weather conditions, particularly frequent rains and high river levels elevating Black Dog Lake levels, complicated the drilling operation and impacted the boring schedule. Later several additional difficulties were encountered, including equipment getting stuck or damaged and much slower than expected drill progress. These challenges were due to the complexity of the bore path and challenging soil conditions, which included a mix of areas of rocky cobble and areas of saturated sandy collapsing soils. In an attempt to minimize environmental impacts and find more consolidated material to drill through the contractor and engineering team developed deeper and straighter drill path options. Numerous attempts were made to complete the HDD which required several equipment replacements and changes to drilling mud pressures and drill speeds. However, all of these drill paths met with conditions that would have prevented successful pipe pull of this size and length. In October, after multiple unsuccessful attempts to complete the drill it was determined the HDD, as initially planned, was no longer a viable installation option.

The Project team developed several alignment and installation alternatives for completing the remaining segment of the pipeline. These alternatives were evaluated based on anticipated human and environmental impacts, constructability (construction challenges/constraints or opportunities), permitting and approvals needed, cost, and estimated completion schedule. The Project team consulted with stakeholder agencies to identify the most viable of the alternatives. Based on this evaluation the current proposed alternative/alignment was selected.

Description of Proposed Permit Amendment

Alignment and Route

The requested Permit Amendment involves a change in pipeline alignment, a portion of which is located outside the Approved Route, and a change in installation methods. The portion which is outside of the Approved Route is almost entirely located on NSP owned property (approximately 60 feet crosses beneath Union Pacific Railroad land). The alignment is shown in the enclosed aerial maps and revised Plan and Profile sheets (dated November 10, 2017). Starting at the Black Dog Plant the pipeline follows the

previously approved alignment for approximately 200 feet before angling SW behind the flood berm within the Black Dog Plant yard, passing outside of the permitted Route. When it reaches the former rail spur (now the gravel heavy haul road for the Black Dog Plant) which runs adjacent to the high-water road, the pipeline will turn south and be installed within the existing gravel road. Upon reaching the bridge that spans the channel connecting the Lyndale (west) and Cedar (east) sides of Black Dog Lake, the pipeline will outlet from the road to the east side of the bridge. The pipe will be attached to the east, downstream, side of bridge for approximately 88 feet. After spanning the channel, the pipeline will return to the heavy haul road and continue southeast until it reaches the transmission line access road. At this point it will turn and follow the transmission line access road to the east until it reaches the edge of the electric transmission line corridor. The pipe will then angle back toward the southeast, cross over the Met Council sanitary pipe, under the Union Pacific Railroad (UPR) tracks, and then run up the southwest side of the Tennesioux Park Corridor to the point where it connects with the previously installed section of the pipeline.

The new alignment deviates from the approved alignment at Station 80+00 (as identified in the enclosed Plan sheets) for a total length of approximately 3,850 feet before terminating at the approved endpoint near Station 118+47 (at the Black Dog Plant). This proposed alignment results in approximately 2,250 feet of pipeline being located outside of the Approved Route.

Installation Method

In the Approved alignment this entire segment of pipe was to be installed via horizontal directional drilling (HDD) which would have avoided any construction impacts at the surface for this part of the pipeline. In the Proposed alignment pipe will be installed using open trenching in all locations except at the bridge over Black Dog Lake, where the plan is to attach the pipe to the east side of the bridge, and at the Union Pacific Railroad crossing, where the installation will be done via auger bore. The auger bore requires a pit to be dug on each side of the crossing. Drilling equipment is then set up in the pit and a path is drilled in horizontally with the auger, with the pipe is inserted directly behind it. No drilling mud is needed with this installation method.

The new alignment will require approximately 3,600 feet of open trench workspace that covers approximately 110,200 square feet (2.5 acres) of land. In addition, for the auger bore under the UPR tracks, an entry pit (approximately 60' x 30') and an exit pit (approximately 30' x 20') totaling approximately 2,400 square feet

Analysis of Potential Impacts on the Human and Natural Environment

The permanent and temporary rights-of-way within the requested alignment will be impacted during construction of the Project. The impact will be short-term, as the construction period, including restoration, is not expected to exceed 6-7 months. No tree clearing is expected to be necessary for this requested alignment.

Above ground piping installation will be completed on the existing bridge span across Black Dog Lake. This bridge is owned by Xcel Energy and the general public does not have access to it. Installation will be completed using standard pipeline construction techniques and the pipe will be located within the profile of the bridge on the downstream side of flowage. Doing so creates no additional flood impact to the river and adds barriers between the pipe and any floating debris that may occur during a significant flood event.

A wetland delineation was completed recently to identify edge of wetland and quantify temporary wetland impacts. A copy of the wetland report is enclosed. Construction crews will limit open trench impacts within the wetlands to a 40-foot-wide-construction corridor necessary to dig the trench, install the pipeline, and restore contours to pre-construction conditions to the extent practicable. In order to minimize compaction and rutting of wetland soils, which could affect wetland hydrology and revegetation, equipment operation in wetlands will be minimized and temporary construction mats will be installed as necessary. Soil characteristics also can be changed during construction due to inadvertent mixing of topsoil and subsoil during clearing and trenching. To prevent such mixing in unsaturated wetlands, topsoil will be removed from directly over the trench and stockpiled for restoration as close as feasible to its original horizon. Any excess or soils unsuitable for backfilling will be properly managed for beneficial re-use elsewhere or disposal at a permitted facility. Xcel's SPCC Plan provides restrictions and mitigation measures to limit potential impacts associated with the release of fuels, lubricants, or other potentially toxic materials used during routine construction.

Natural Heritage data for the area does not show any incidences of protected species within the requested alignment. Construction crews will continue to follow Special Conditions (#6.0 b and c) from the Route Permit regarding use of wildlife sensitive erosion control and measures to minimize the potential for impacts to Blanding's turtles within pipeline trenches.

The Stormwater Pollution Prevention Plan (SWPPP) will be updated to include all necessary information related to the requested alignment. The SWPPP will continue to state that no construction stormwater may be discharged to a fen as required in Special Condition 6.0 a.

Tables 1 and 2 below summarize the impacts of the requested alignment and route change and the related temporary workspace. The first column of Table 1 provides environmental data on the Approved alignment. The second column provides environmental data on the requested alignment and route change.

Table 1. Summary Comparison of Requested Alignment and Route Change Segment for the Black Dog Natural Gas Pipeline Project

	Units	(1) Approved Alignment	(2) Requested Alignment and Route Change	(3) Other Relevant Information
Total Length of Segment	Feet	2900	3850	
Length of Segment outside of approved Route width	Feet	0	2250	The segment which is located outside of the approved Route is located almost entirely on NSP-owned land. A small segment is beneath the Union Pacific Railroad.
Length Parallel to Existing Rights-of-Way	Feet	1350	3850	Requested alignment follows existing roads, overhead electrical transmission lines, the Met Council sanitary sewer and the UPR

Table 1. Summary Comparison of Requested Alignment and Route Change Segment for the Black Dog Natural Gas Pipeline Project

	Units	(1) Approved Alignment	(2) Requested Alignment and Route Change	(3) Other Relevant Information
Public Roads Crossed	No.	0	0	Requested alignment is located within the NSP-owned heavy haul road
Parcels Crossed	No.	5	6	Requested alignment crosses parcels owned by the City of Burnsville, the UPR and NSP. The additional parcel impacted in the requested alignment is owned by NSP.
Privately Owned Parcels Crossed	No.	0	0	
Length crossing a lake, stream or other waterway	Feet	600	55	The Approved alignment crossed beneath Black Dog Lake; Requested alignment crosses above Black Dog Lake at the bridge on the heavy haul road
Land Use				
Forested Land Crossed	Feet	621	0	
Forest clearing required	Acres	0	0	No tree clearing is needed for the proposed alignment
Agricultural Land Crossed	Feet	0	0	
Developed Land Crossed	Feet	1560	3850	Maintained transmission line right-of-way, railroad, access roads and plant roads and yard are considered to be developed.
Length of Wetlands Crossed	Feet	850	290	
Amount of Wetland Temporarily Disturbed	Acres	0	0.156	This includes temporary disturbance area for the entry pit for the auger bore beneath the UPR

Table 2. Human and Natural Environmental Impacts of the Requested Alignment Change Segment for the Black Dog Natural Gas Pipeline Project

Human Settlement	The requested permit amendment will not have an increased impact on human settlement as compared to the Approved alignment. There will be temporary above ground construction activities adjacent to private properties within the Tennesioux Park corridor, but the area will be restored to City of Burnsville requirements.
Existence and Density of Populated Areas	The requested permit amendment will not impact any additional populated areas as compared to the Approved alignment.
Existing and Planned future land use	The requested alignment will not result in any permanent changes to existing or future land use.
Management Plans	The requested alignment will not result in any changes to existing management plans.
Natural Environment	The requested alignment will increase the amount of developed low to medium intensity and open space categories and reduce the amount of deciduous forest and open water categories that the pipeline crosses.
Public and Designated Lands (including but not limited to natural areas, wildlife habitat, water, recreational lands)	The requested alignment will result in temporary disturbance of land that is owned by NSP but managed as part of the Minnesota Valley National Wildlife Refuge. Disturbed areas will be restored in consultation with Refuge staff.
Lands of historic, archaeological, and cultural significance	The requested permit amendment will not impact any previously documented historic, archaeological, or cultural resources.
Economies within the alternative, such as agricultural, commercial or industrial, forestry, recreational, and mining operations	The requested permit amendment will not impact any economic activities.
Use of existing rights-of-way and right-of-way sharing or paralleling	This alignment would increase the amount of right-of-way sharing or paralleling by approximately 2,500 feet.
Pipeline cost and accessibility	The proposed alignment results in a higher cost than what was anticipated at the time the Route Permit was issued, however, due to difficulties with the HDD, cost is expected to be less than the cost would be to successfully install the pipeline within the proposed alignment. The proposed alignment makes the pipeline much more accessible for future maintenance and inspection.
Natural resources and features	The requested alignment will temporarily impact more wetlands than the Approved alignment, but will reduce the potential for future impacts to Black Dog Lake for pipeline maintenance or repairs. Construction of the requested alignment will not result in any impacts to groundwater resources or surface water resources, including nearby calcareous fens.

Table 2. Human and Natural Environmental Impacts of the Requested Alignment Change Segment for the Black Dog Natural Gas Pipeline Project

<p>Extent to which impacts are subject to mitigation through regulatory control and permit conditions</p>	<p>Impacts for construction of the pipeline are temporary. Wetland, flood fringe and shoreland impacts are subject to City of Burnsville regulatory control and any mitigation required by the City. Impacts related to trenching or construction dewatering are subject to regulatory control from the MN Pollution Control Agency and the MN DNR</p>
<p>Cumulative potential effects of related or anticipated future pipeline constructions</p>	<p>The requested permit amendment will have no change.</p>

Other Approvals and Reviews

The Project team has maintained regular communication with stakeholder agencies regarding the challenges with the HDD and possible alternative alignments and installation methods. We have notified these stakeholders of the proposed alignment and installation method and will continue to work with them as we move forward with the requested Permit Amendment.

Xcel Energy has submitted an application to the City of Burnsville for a Conditional Use Permit (CUP) for work within the flood fringe and shoreland overlay areas. The alignment, as approved in the March 7, 2017 Route Permit, and as amended in September, would not have included any above ground soil disturbance in the floodplain flood fringe or shoreland overlay so at that time we were advised that a CUP was not required. The requested alignment will require an amendment to the Pipeline Easement with the City, which will be completed following PUC approval.

Some construction dewatering is expected to be necessary for work near the wetland/flood fringe. The project team has been in contact with DNR staff regarding this and will obtain all necessary approvals prior to any temporary dewatering. Xcel Energy has obtained a Water Crossing License from the MN DNR for the approved alignment. We will work with DNR Lands and Minerals staff to amend the license to reflect the new proposed crossing at the bridge.

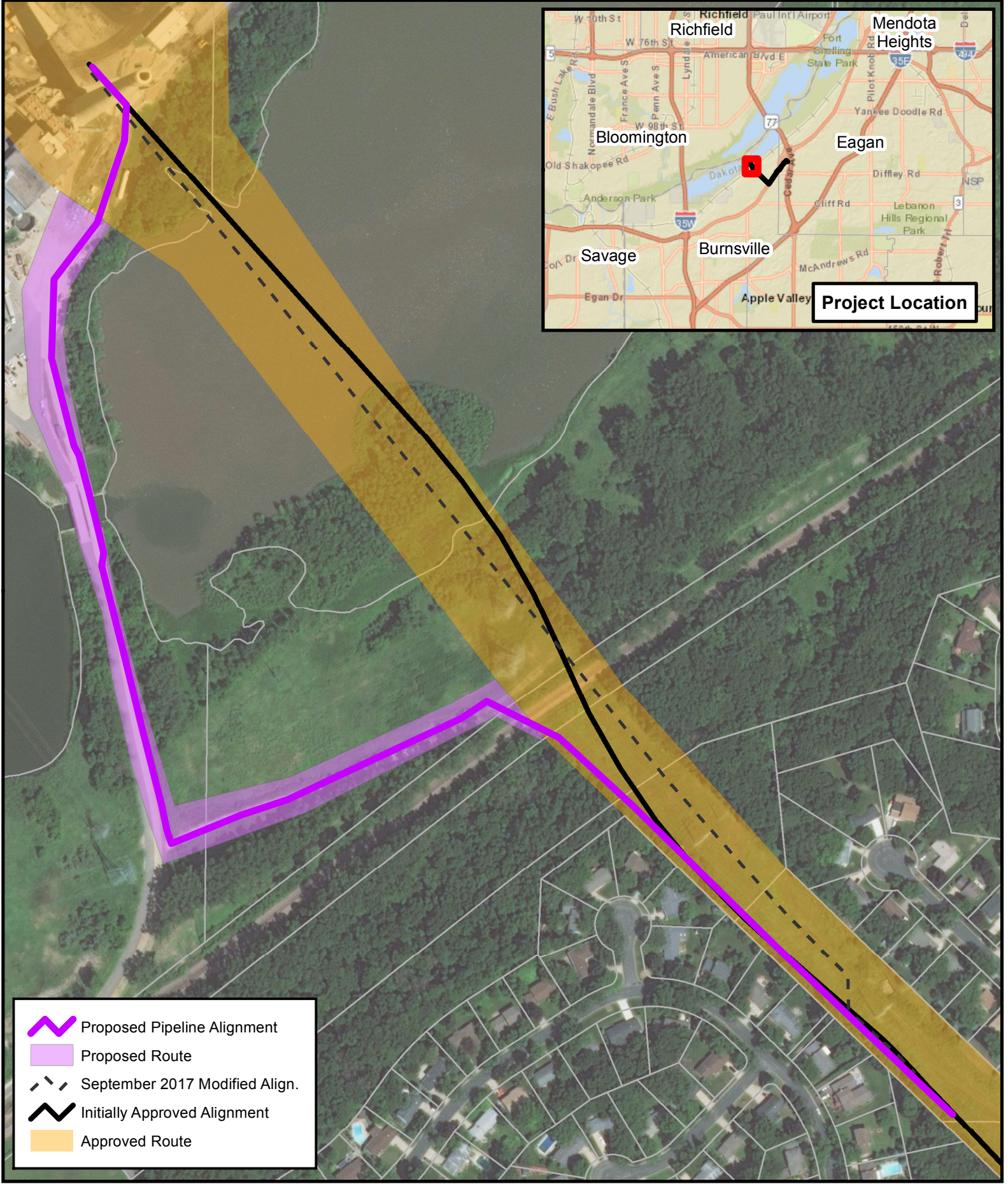
As noted above, the SWPPP will need to be updated to include the construction impacts associated with the requested alignment. The SWPPP will be updated prior to starting construction on any new areas. We will provide a draft of the updated SWPPP to the Lower Minnesota River Watershed District for review as was done with the previous version.






Xcel Energy has requested a modification to the crossing permit from the Union Pacific Railroad to address the change in crossing depth beneath the railroad tracks.

The Metropolitan Council (Met Council) sewer main that parallels the railroad tracks is located on NSP land by easement; therefore an encroachment agreement from Met Council is not required. We are, however, coordinating with the Met Council to ensure that the requested alignment does not cause any concerns related to the sanitary main.

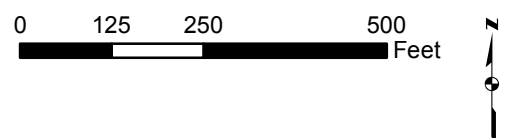
Xcel Energy requests approval of the Permit Amendment as described above and shown in the enclosed maps and plans.

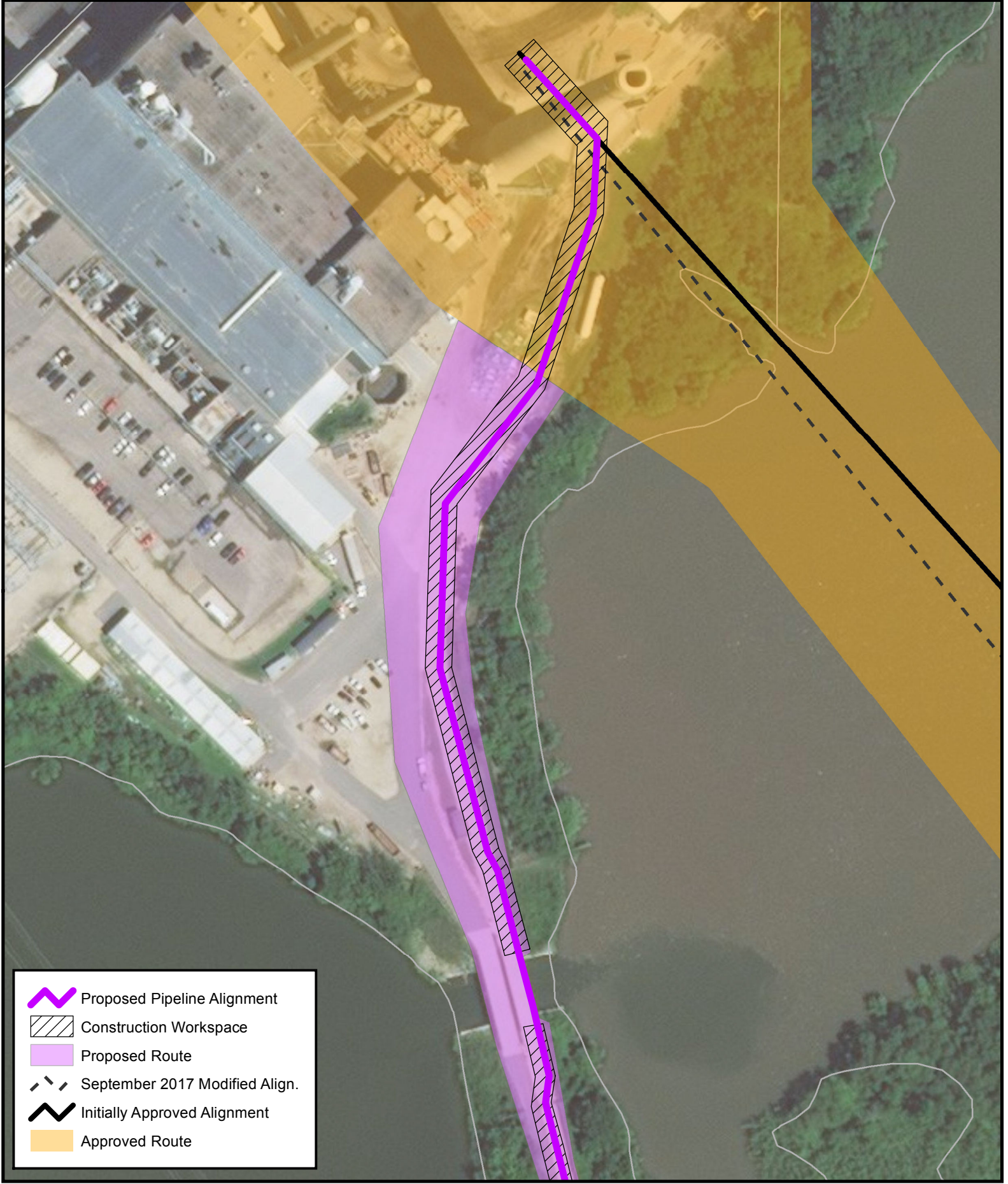
Aerial Project Maps









-  Proposed Pipeline Alignment
-  Proposed Route
-  September 2017 Modified Align.
-  Initially Approved Alignment
-  Approved Route

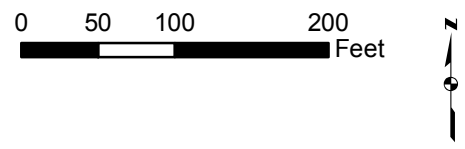
Overview Map for the Black Dog Natural Gas Pipeline Project Permit Amendment Request

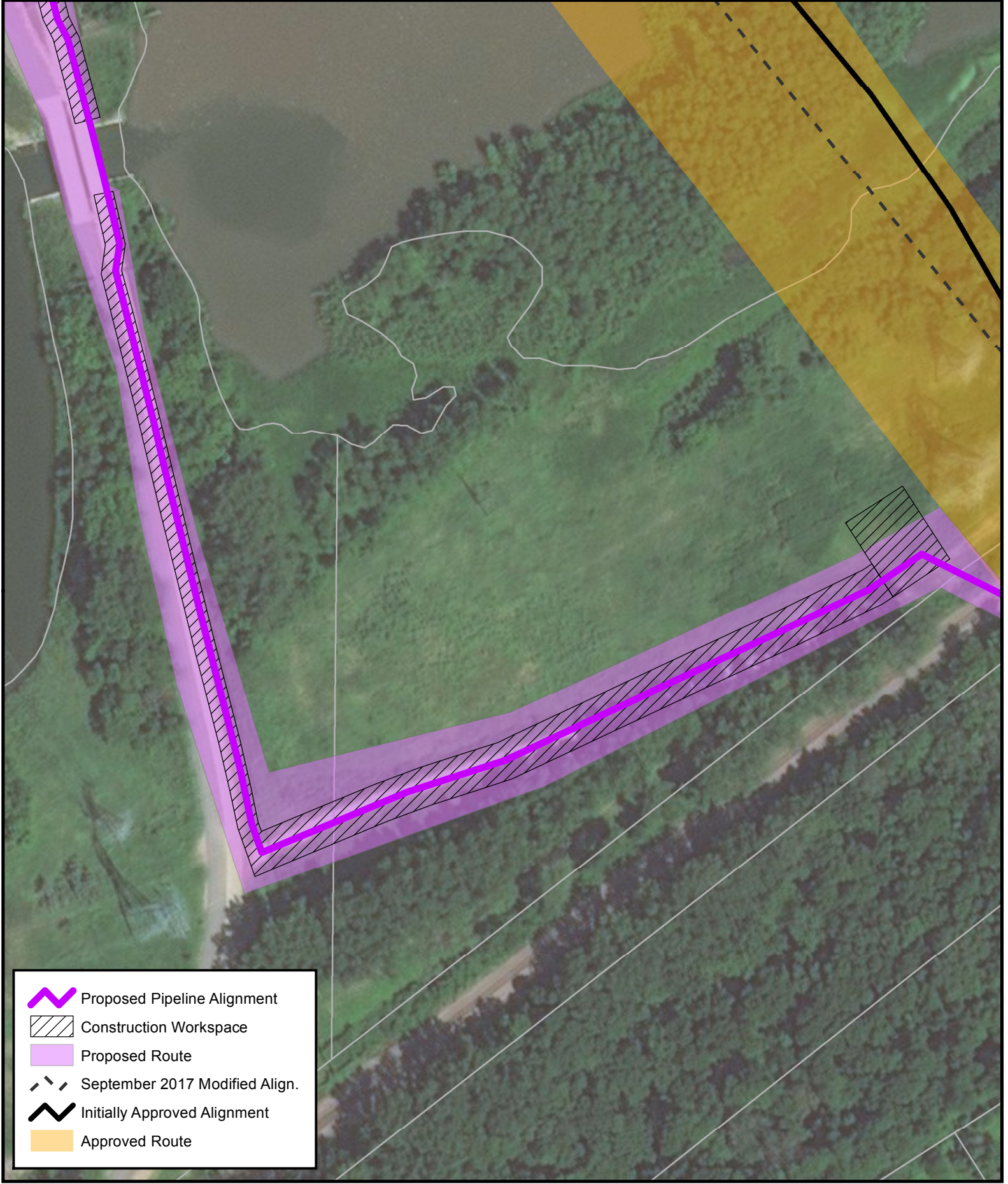










-  Proposed Pipeline Alignment
-  Construction Workspace
-  Proposed Route
-  September 2017 Modified Align.
-  Initially Approved Alignment
-  Approved Route

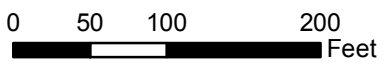
Alignment and Route Modification
Black Dog Natural Gas Pipeline Project
Permit Amendment Request Map 1 of 3

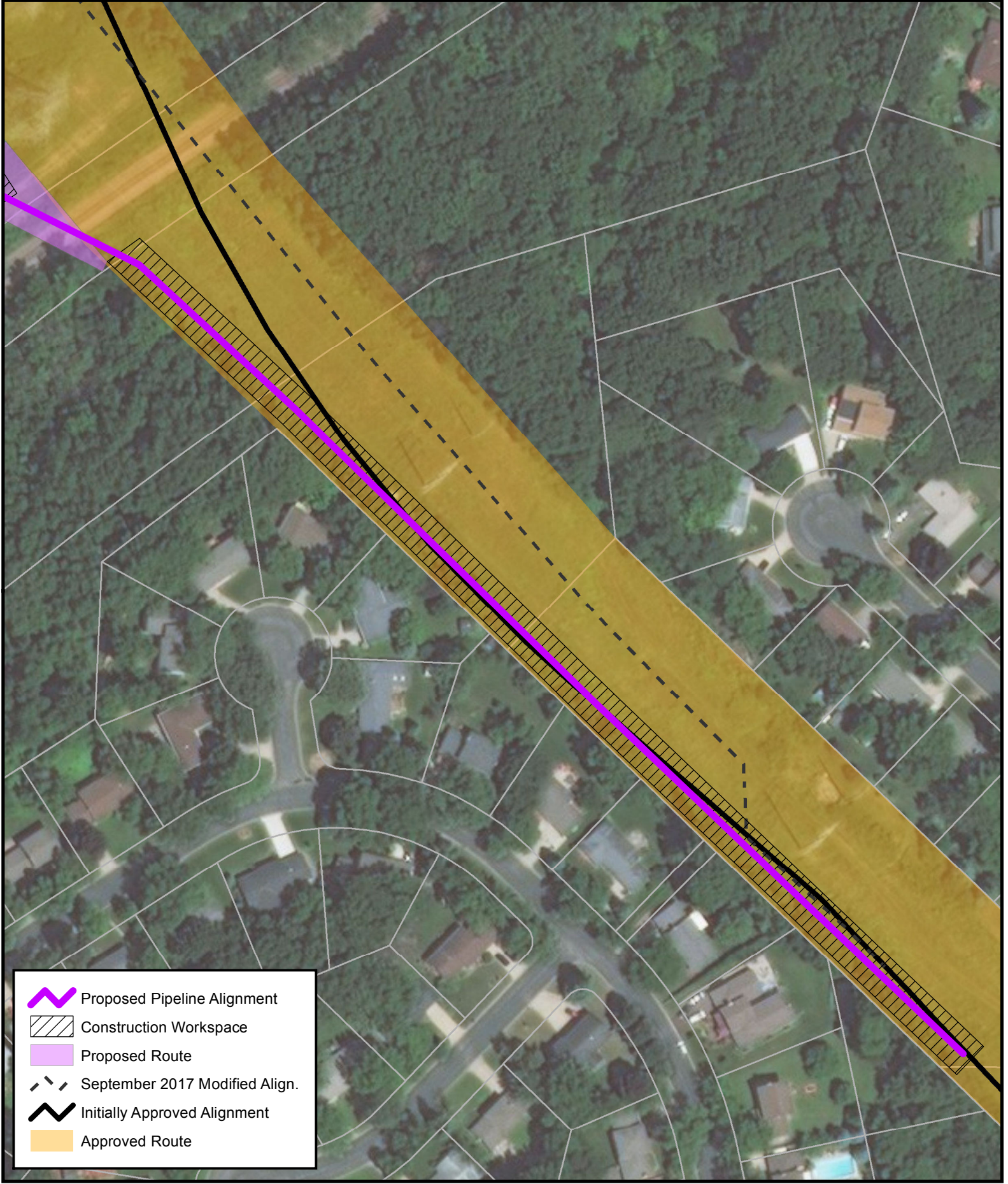










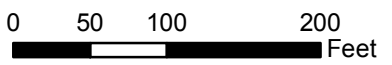
-  Proposed Pipeline Alignment
-  Construction Workspace
-  Proposed Route
-  September 2017 Modified Align.
-  Initially Approved Alignment
-  Approved Route

Alignment and Route Modification
Black Dog Natural Gas Pipeline Project
Permit Amendment Request Map 2 of 3

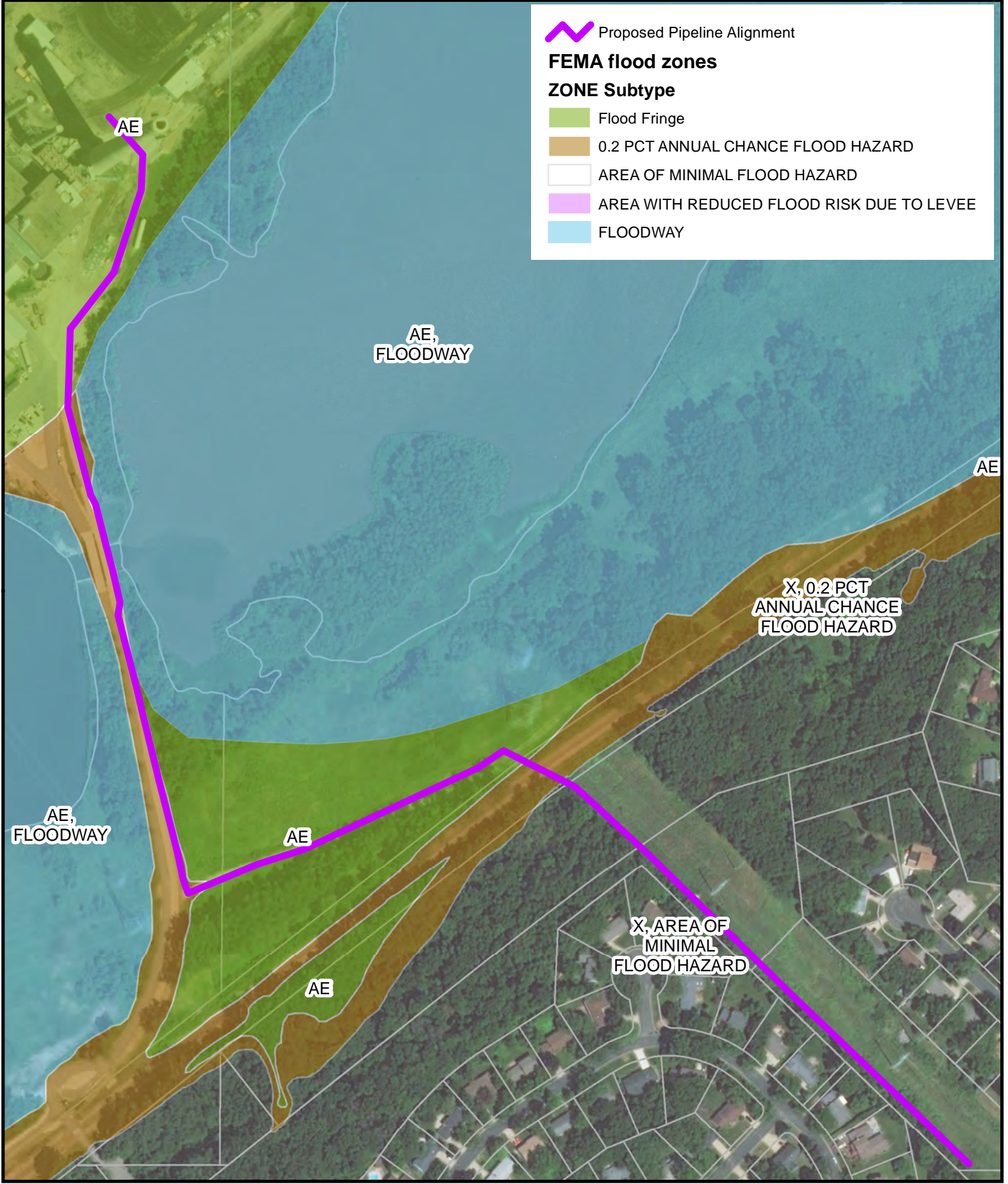




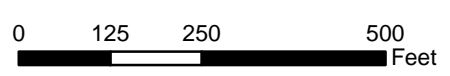
	Proposed Pipeline Alignment
	Construction Workspace
	Proposed Route
	September 2017 Modified Align.
	Initially Approved Alignment
	Approved Route

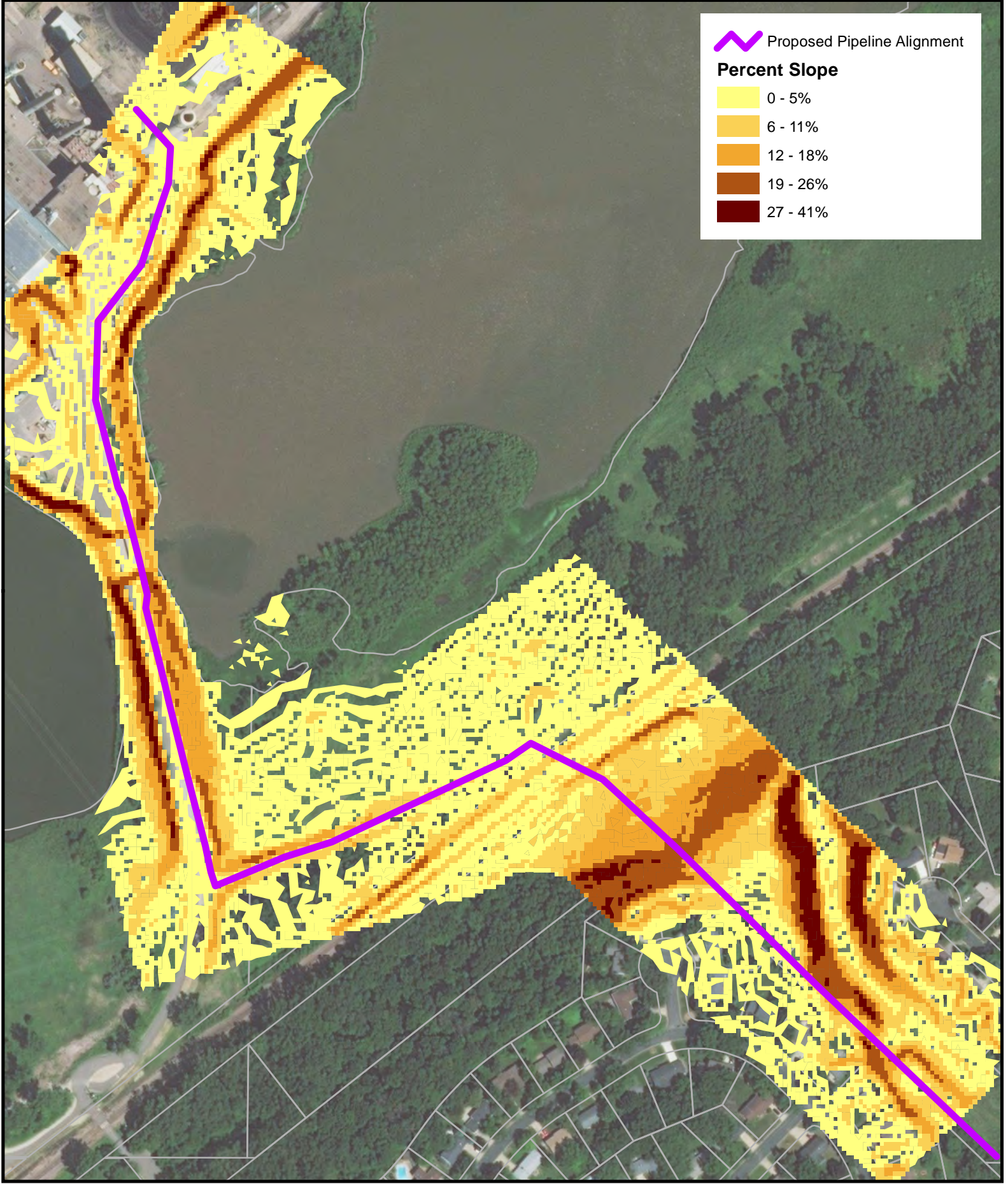


Alignment and Route Modification
Black Dog Natural Gas Pipeline Project
Permit Amendment Request Map 3 of 3

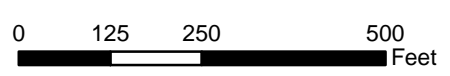


**Black Dog Natural Gas Pipeline Project
Alignment Modification
Project Area Flood Zones**

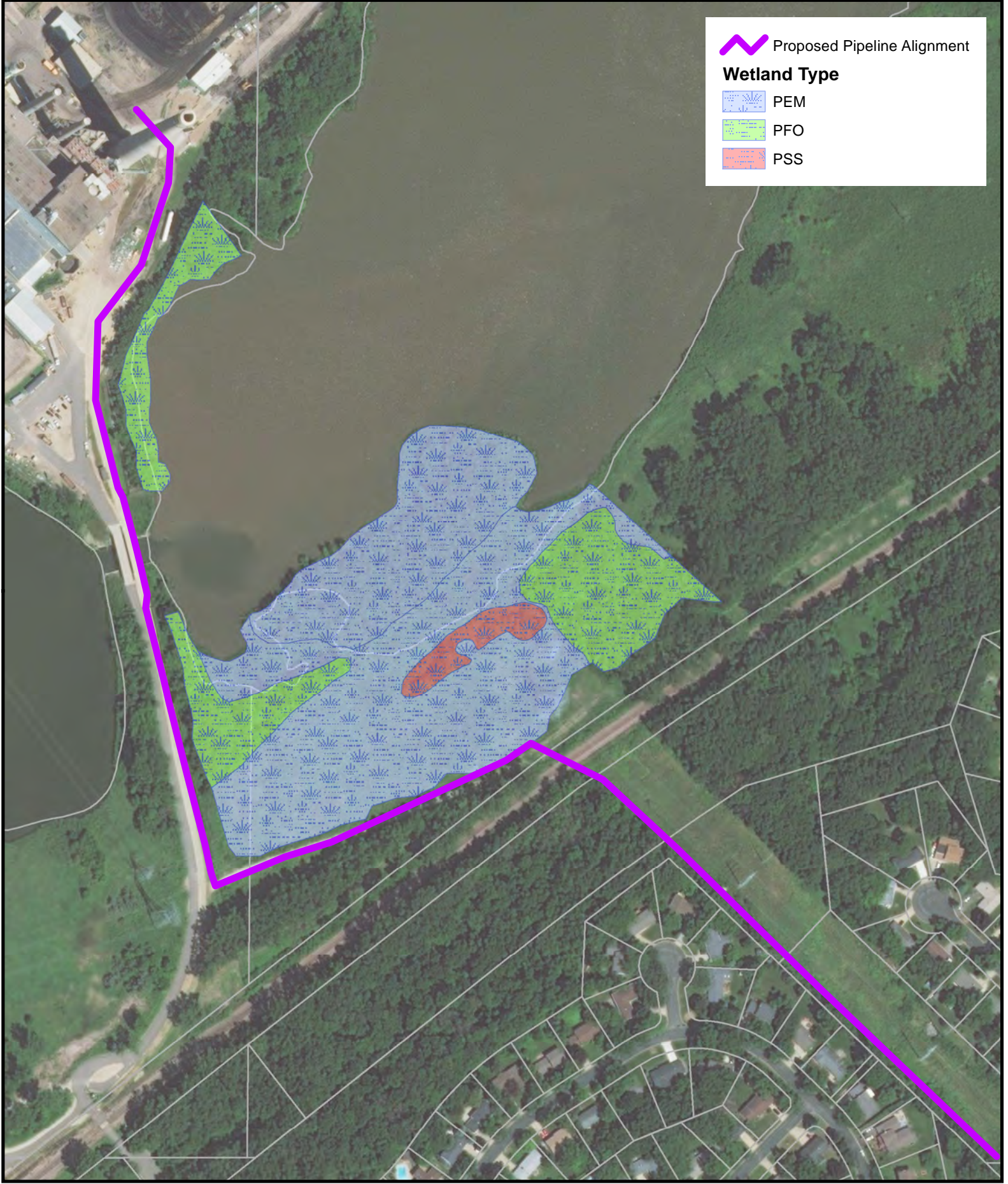




Black Dog Natural Gas Pipeline Project Alignment Modification Project Area Slopes



November 2017



Black Dog Natural Gas Pipeline Project Alignment Modification Project Area Wetlands

