

In addition, neither of the Indianapolis North alternatives could connect to Rockies Express' three customers located south of Indianapolis without long laterals causing additional environmental impact. In particular, Rockies Express has made commitments to deliver natural gas to Citizen Gas and Coke Utility and Indiana Gas in Morgan County, Indiana and ANR Pipeline Company in Shelby County, Indiana. To meet the needs of these customers with a route north of Indianapolis, Rockies Express would have to build lateral pipelines to interconnect these pipeline systems. These laterals would increase the areas that would be affected by crossing at least an additional 25 miles of land. These laterals could run north to south through the suburban and urban areas of Indianapolis, but would likely run south of the city from west to east affecting many of the same areas in Putnam, Hendricks, Morgan, Johnson, and Shelby Counties.

Based on the above analysis neither of the alternative routes provides a clear environmental advantage over the Project. While the northern route alternatives would be adjacent to existing rights-of-way for greater lengths than the Project route to the south, there exists numerous locations where there is little or no room to install the pipeline without encroaching on much larger numbers of existing residences. Because the other environmental concerns raised by commentors and analyzed above do not differ significantly across the three alternatives, the alternative routes do not provide a clear environmental advantage.

3.4.5 Johnson County North Alternative

During the development of the REX East Project, Rockies Express considered two routes through Johnson County, Indiana. The preliminary route crossed seven existing or planned developments located south of Indianapolis, Indiana. In order to avoid platted residential and commercial developments, Rockies Express relocated the pipeline to a less residential area farther south in Johnson County. This route was incorporated into the Project route prior to filing the Certificate Application. During public meetings held on the EIS in Indiana, several residents asked for the northern Johnson County route to be reconsidered. This northern route is referred to as the Johnson County North Alternative in this discussion.

Figure 3.4.5-1 shows the Johnson County North Alternative in relation to the Project route. At MP 307.4, the Johnson County North Alternative would leave the Project route and proceed east for four miles across a mixture of agricultural and forested lands to the White River. After crossing the White River, the Johnson County North Alternative would proceed southeast for five miles across a mixture of agricultural and forested lands to a point approximately one mile northwest of Bargsville, Ohio. From there it would proceed across agricultural lands in a generally easterly direction for 23 miles, bypassing Franklin, Ohio to the north (by two miles) before rejoining the Project route at MP 348.9.

An environmental comparison of the Project route and Johnson County North Alternative is presented in table 3.4.5-1. The Project route slightly reduces the number of structures located within 100 feet of the centerline; and avoids planned residential and commercial developments. Although the Project route would be slightly longer, it follows existing easements for 3 miles. The Project route crosses through slightly more agricultural land, and similar lengths of wetlands. The Project route crosses one less waterbody than the Johnson County North Alternative and would impact slightly more forested land (0.3 mile). Overall, the environmental impacts are similar. The main differences are that the Project route would cross fewer planned developments, fewer structures would be located within 100 feet of the centerline, and it would be collocated with an existing right-of-way for 3 more miles than the Johnson County North Alternative. Weighing these advantages against the slight increase in forest impacts, we determined that the Project route was preferable to the alternative route.

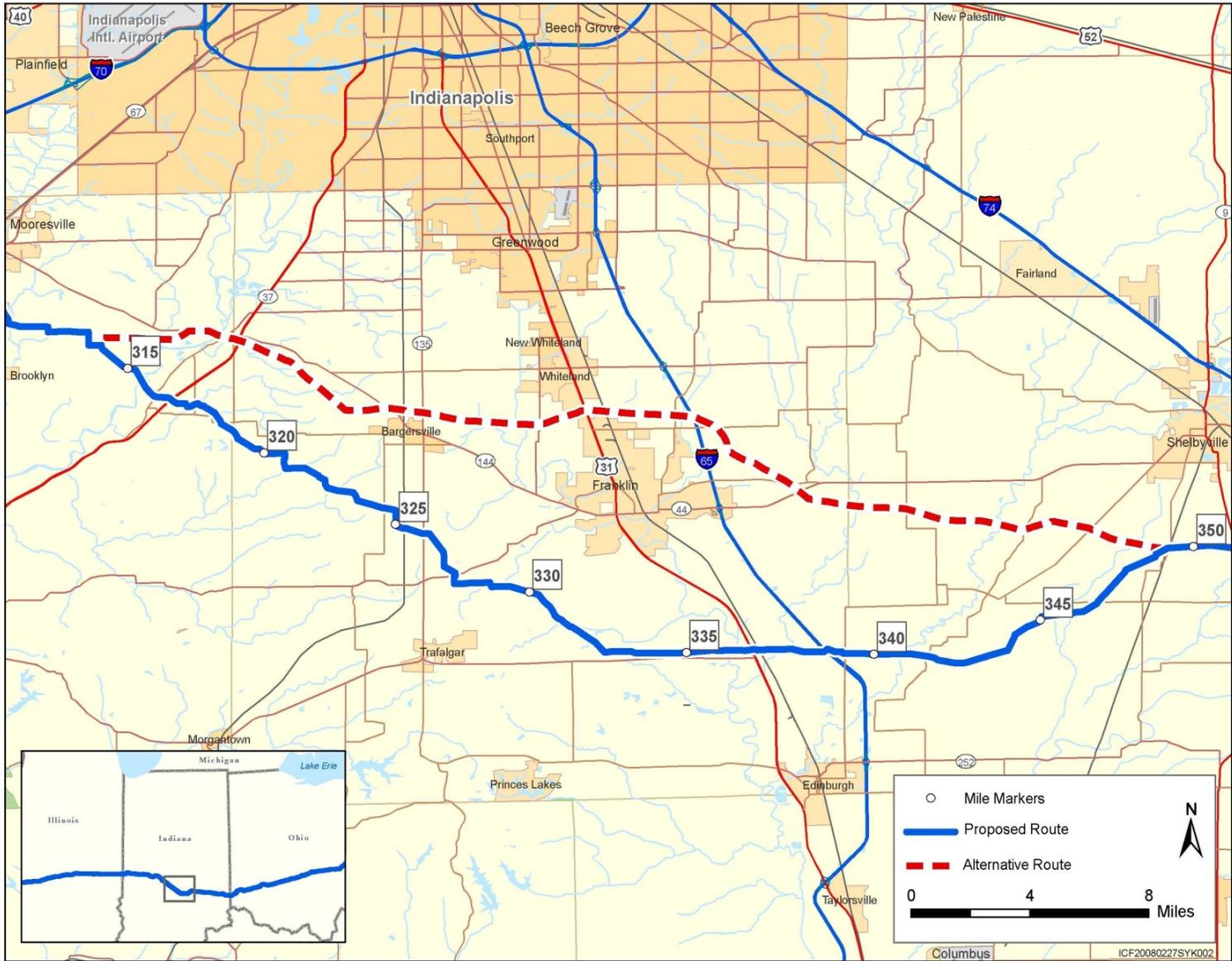


Figure 3.4.5-1
Johnson County North Alternative

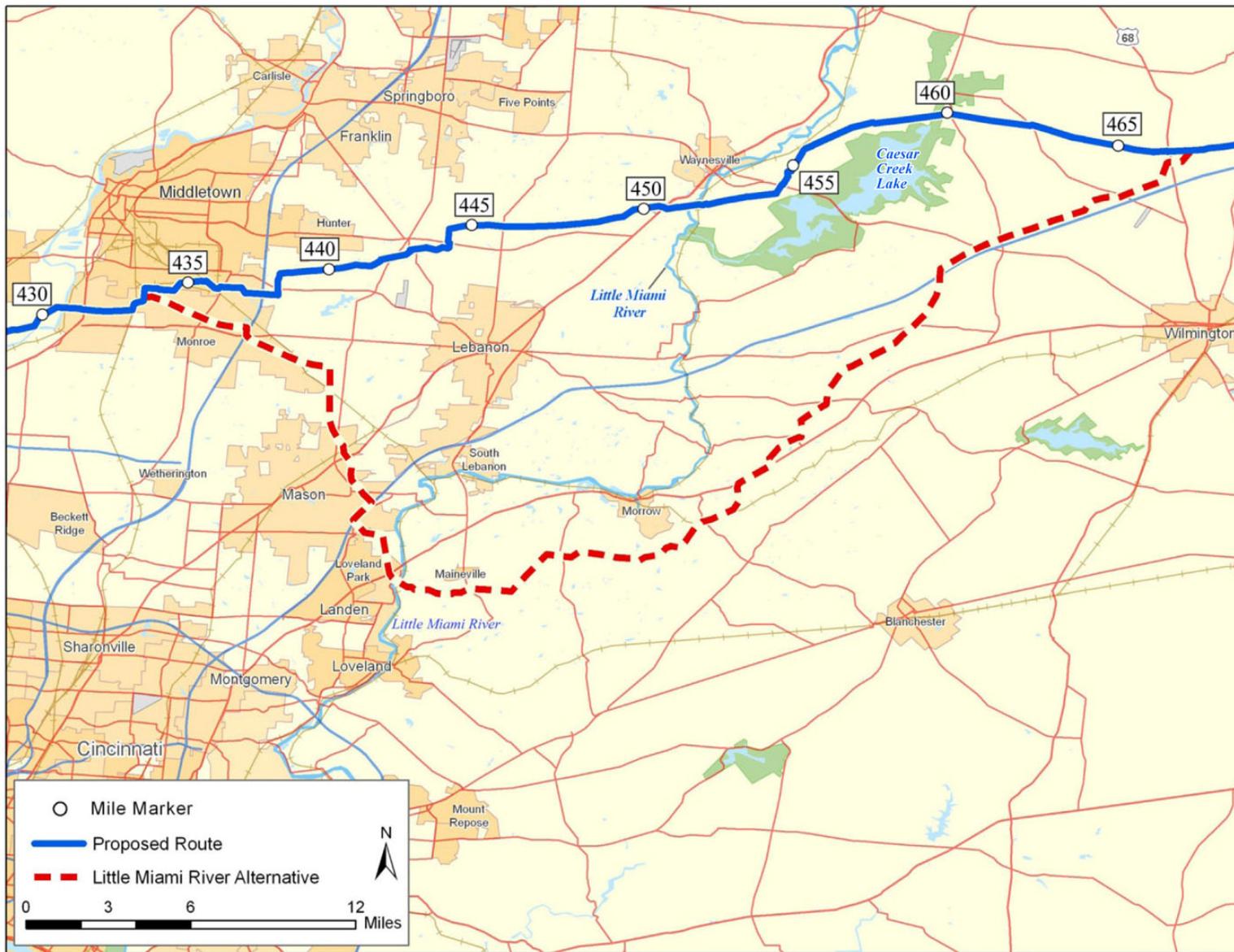
Table 3.4.5-1 Comparison of the Project Route to the Corresponding Segment of the Johnson County North Alternative (MP 307.4 to MP 348.9)				
Environmental Factor	Unit	Project Route	Johnson County North Alternative	Source
Total Length	miles	35.1	31.5	Digital Route
Adjacent to Existing Pipeline Right-of-Way (percent)	miles	3.0 (8.5)	0 (0)	Field Review
Wetlands Crossed	miles	0.61	0.60	FWS, 2007f
Waterbody Crossings	no.	14	15	ESRI (2005a;c)
Agricultural Land Crossed	miles	32.8	29.5	USGS, 2001
Forest Land Crossed	miles	1.9	1.6	USGS, 2001
Existing Structures Within 100 Feet of Centerline	no.	8	10	Rockies Express, Google Earth 2007
Planned Residential or Commercial Developments	miles	0	4	Rockies Express, 2007

3.4.6 Little Miami River Alternative

The REX East Project would cross the Little Miami River at MP 451.3 in Warren County, Ohio. Rockies Express proposes to use HDD at the crossing. The river is a designated Wild and Scenic River pursuant to Section 2(a)(ii) of the Wild and Scenic River Act. The State of Ohio is responsible for the day-to-day management of the river and the NPS is the Federal river-administering Agency. The river is also listed in the Ohio State Scenic Rivers Program as an Outstanding State Water. The OEPA also has designated the river as an exceptional warmwater fisheries habitat. The river extends south approximately 100 miles from Clark County, Ohio to the Ohio River. At the REX East crossing, the Little Miami is designated recreational, and recognized for the following outstandingly remarkable values (ORVs): Aquatic and Terrestrial Floral and Fauna, Historic and Archaeological, Geologic, Scenic, and Recreational attributes.

We asked Rockies Express to evaluate a route alternative that would avoid or minimize crossing the designated portion of the river. One alternative that was identified would be routed to the north to avoid all designated segments, but would cross the densely populated suburbs of Dayton, Ohio and therefore was not considered further. An alternative to the south to avoid all designated segments was also not evaluated in detail because the designation extends to the confluence with the Ohio River in Cincinnati. This southern route would also cross densely populated areas and add significant length to the project. An alternative was identified that would cross the Little Miami River at a different river segment that is also designated recreational. We evaluated this second alternative, called the Little Miami River Route Alternative, in more detail.

Figure 3.4.6-1 shows the Little Miami River Route Alternative in relation to the Project route. The alternative would deviate from the Rockies Express' Project route at MP 432.9, follow a transmission line to the southeast and south for about 15.2 miles, and cross the Little Miami River at a point where it parallels an existing transmission line crossing. The alternative route would then continue to the east and northeast following the transmission line for nearly 8 miles. The alternative would join Penn Central Railroad, continuing two miles where it would meet State Route 22. The alternative would then continue across open farm lands for 9 miles. At that point, it would run adjacent to Interstate 71 for 7 miles. Near Interchange 50, the route alternative would turn north and rejoin the REX East Project route at MP 467.2.



ICF20082403SYK002

Figure 3.4.6-1
Little Miami River Route Alternative

Table 3.4.6-1 provides an environmental comparison of the Project route and the Little Miami River Alternative. As shown, the alternative is 12.3 miles longer than the Project route and would follow existing corridors for 68.5 percent of its length, compared to 92.7 percent for the Project route. Compared to the Project route, the route alternative would cross 10 more waterbodies, 5.5 more miles of cultivated land, 3.7 more miles of forest, and 0.8 more mile of commercial land. The Project route and route alternative would cross a roughly equivalent length of wetlands. The two routes are also distinguished in terms of their proximity to existing residences. There are substantially more residences within 50 feet of the construction work area for the route alternative (see table 3.4.6-1).

Table 3.4.6-1				
Comparison of the Little Miami River Route Alternative to the Corresponding Segment of the Project Route (MP 432.9 to MP 467.2)				
Environmental Factor	Unit	Project Route	Little Miami River Route Alternative	Source
Total Length	miles	34.3	46.6	Digital Route
Length Adjacent to Existing Right-of-Way (percent)	miles	31.8 (92.7)	31.9 (68.5)	Digital Route
Wetlands Crossed	miles	0.15	0.17	FWS, 2007f
Waterbody Crossings	no.	21	31	ESRI, 2005a;c
Cultivated Lands Crossed	miles	30.0	35.5	USGS, 2001
Forest Land Crossed	miles	3.9	7.6	USGS, 2001
Commercial Land Crossed	miles	0.1	0.9	USGS, 2001
Residences Within 50 Feet of Construction Work Area	no.	6	77	Rockies Express
Federal Land Crossed (Caesar Creek State Park)	mile	0.3	0.0	ESRI, 2005b

Based on the comparison above, the REX East Project route would result in fewer environmental impacts. The Project route minimizes the total land area affected by the project and maximizes the use of existing rights-of-way.

At the proposed crossing, Rockies Express plans to use HDD to cross the Little Miami River, which would preserve the water quality and integrity of the riverbanks. In addition, Rockies Express would not clear any large trees between the entrance and exit point of the drilling, which would protect the scenic properties of the river. A geotechnical study of the crossing found soil and bedrock materials suitable for successful HDD installation. Because of the impacts other types of construction methods would have on the protected resources, any open cut construction method across the Little Miami River would not be acceptable as part of a contingency plan in case of an HDD failure. Rockies Express has committed to using microtunneling in case of an HDD failure. Microtunneling, described in section 2, is another trenchless method which would avoid surface impacts. We recommended in section 4.3.4 that Rockies Express develop a contingency plan utilizing the alternative route and crossing location evaluated here, in case both the HDD and microtunneling fail. We further recommend that Rockies Express not construct in the Project segment between MP 432.9 to MP 467.2 until the HDD has been successfully installed.

3.4.7 Mowrey Alternative

Dean and Nancy Mowrey submitted comments asking us to evaluate a route alternative in Warren and Clinton Counties, Ohio that would reroute the pipeline south of Caesar Creek Lake to follow the

existing Dominion Transmission, Inc. pipeline corridor. The Mowreys have expressed various concerns about the environmental impacts of a new pipeline right-of-way through their community. They point out that the Project route would affect forests, waterbodies, wetlands, endangered species habitat, and historically significant property.

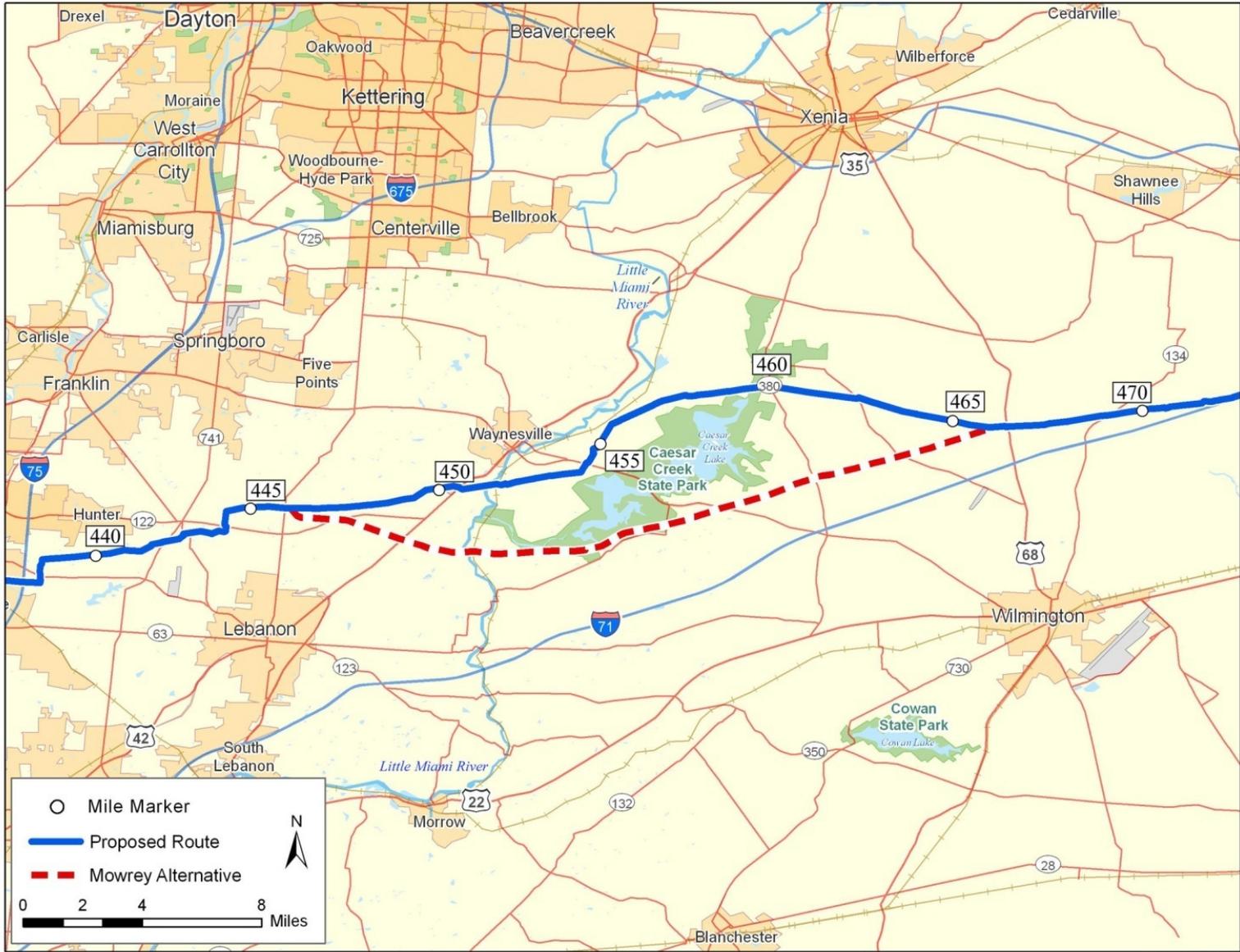
The 19.6-mile route alternative identified by the Mowreys would deviate from the Project route at MP 446.0 and follow the existing pipeline right-of-way southeast from the Project route. It would follow this existing pipeline right-of-way for nearly the entire length of the alternative. As shown in figure 3.4.7-1, from MP 446.0 the route alternative would run to the southeast for approximately 2.5 miles before crossing U.S. Route 42. It would continue to the southeast through a large forested area for approximately 1.5 miles and then turn to the east to cross the Little Miami River between North Waynesville Road and Corwin Road. The alternative would continue following the existing right-of-way east for approximately 3.0 miles before crossing into Caesar Creek State Park just south of Caesar Creek Lake. It would then turn to the northeast through Caesar Creek State Park for 2.6 miles. After departing the park, the route alternative would continue to the northeast across State Route 73 through forested and agricultural areas for approximately 6.0 miles before rejoining the Project route near MP 466.2.

Table 3.4.7-1 provides a comparison of the environmental impacts of the Project route and the Mowrey Route Alternative. The Mowrey Route Alternative would be 0.6 mile shorter, would affect two fewer wetlands would come within 50 feet of 8 fewer residences and would follow an existing right-of-way for 98 percent of its length. It would also cross five additional waterbodies, 2.8 additional miles of forested land, and 2.3 additional miles within Caesar Creek State Park.

Along the Project route, Rockies Express would cross the Little Miami River by HDD from one agricultural field to another. This would eliminate the need to clear trees and would preserve the scenic quality of this designated Wild and Scenic River. The crossing at the Mowrey Route Alternative has extensive riparian forest on either side of the river. On the west side of the river, Rockies Express would have to clear forest to set up the HDD.

The environmental analysis of the alternatives shows a trade-off of environmental impacts. While the Mowrey Route Alternative would cross more waterbodies and forested land, as well as more land within Caesar Creek State Park, it would come within 50 feet of fewer residences and would be collocated with an existing right-of-way and affect previously disturbed areas. The Mowrey Route Alternative crossing of the Little Miami River may also clear forest along the west side of this Wild and Scenic River. Further revision of the Mowrey Route Alternative, however, may reduce these impacts. For example, an agricultural field suitable for an HDD site on the west bank of the Little Miami River is located approximately 500 feet south of the existing right-of-way followed by the Mowrey Route Alternative. In addition, the existing right-of-way crosses an agricultural field approximately 1,600 feet from the east bank of the river. An HDD site could be located in this field without the need to clear any forest. If the HDD crossing was extended into this agricultural field, forest land cleared would be reduced by approximately 0.9 acre, assuming a standard HDD workspace size.

The environmental consequences of the Mowrey Route Alternative and the Project route each have their trade-offs, but are overall comparable. Consequently, we do not have a compelling environmental reason to recommend the incorporation of this route alternative into the REX East Project.



ICF20071108SYK001

Figure 3.4.7-1
Mowrey Route Alternative

Table 3.4.7-1
Comparison of the Mowrey Route Alternative to the
Corresponding Segment of the Project Route
(MP 446.0 to MP 466.2)

Environmental Factor	Unit	Project Route	Mowrey Route Alternative	Source
Total Length	miles	20.2	19.6	Digital Route
Length Adjacent to Existing Right-of-Way (percent)	miles	5.6 (27.7)	19.3 (98.4)	Digital Route
Wetlands Crossed	miles	<0.1	<0.1	FWS, 2007f
Waterbody Crossings	no.	12	17	ESRI, 2005a;c
Cultivated Land Crossed	miles	15.6	12.1	USGS, 2001
Forest Land Crossed	miles	3.5	6.3	USGS, 2001
Residential Land Crossed	miles	0.0	<0.1	USGS, 2001
Commercial Land Crossed	miles	0.0	0.0	USGS, 2001
Residences Within 50 Feet of Construction Work Area <u>a/</u>	no.	13	5	Alignment Sheets and Aerial Photography
Federal Parkland Crossed (Caesar Creek State Park)	miles	0.3	2.6	Aerial Photography

3.4.8 Deer Creek Lake State Park Alternative

The Project route would cross Deer Creek Lake State Park in Pickaway County, Ohio between MP 499.9 and MP 500.8. The Huntington District of COE manages the park. In correspondence with Rockies Express, COE requested that Rockies Express consider an alternative route that would follow the existing TETCO easement across the park. In their comments on the draft EIS, the COE asked that we also consider a “No Action” alternative that would avoid the Deer Creek Lake State Park. The Big Darby Creek Alternative, discussed in section 3.4.9, would avoid the State Park.

As shown in figure 3.4.8-1, the 5.2 mile route alternative, called the Deer Creek Lake State Park Route Alternative, would deviate from the Project route at MP 496.9 and rejoin the Project route at MP 502.6. From MP 496.9, the Deer Creek State Park Route Alternative would cross agricultural land for approximately 1.7 miles before intersecting the state park. Inside the park, the route alternative would cross 1.1 miles of forested land, 0.2 mile of open water in Deer Creek Lake, and an existing campground. The alternative route would exit the park and continue east-northeast across Deer Creek Road and Yankeetown Pike for approximately 1.2 miles before rejoining the Project route near MP 502.6.

Table 3.4.8-1 compares the route alternatives using available electronic. Data presented in this table for the Project route may not match other survey-based data presented in this EIS such as in appendix G in order to allow for a direct comparison. Based on this comparison, the environmental impacts of the route alternative and the Project route would be very similar. The route alternative would require crossing one additional waterbody, 0.2 mile of open water on Deer Creek Lake, and 0.5 mile of additional forested land. The alternative route is slightly shorter, impacts less cultivated land, and avoids creating a new right-of-way through Deer Creek Lake State Park by collocating with the existing TETCO pipeline corridor. However, the alternative route runs through the middle of the park and would interrupt operation of the park during construction. Expanding the existing right-of-way would require relocating or removing several camp sites, would be within 50 feet of Clark Run Lake, and within 150 feet of a

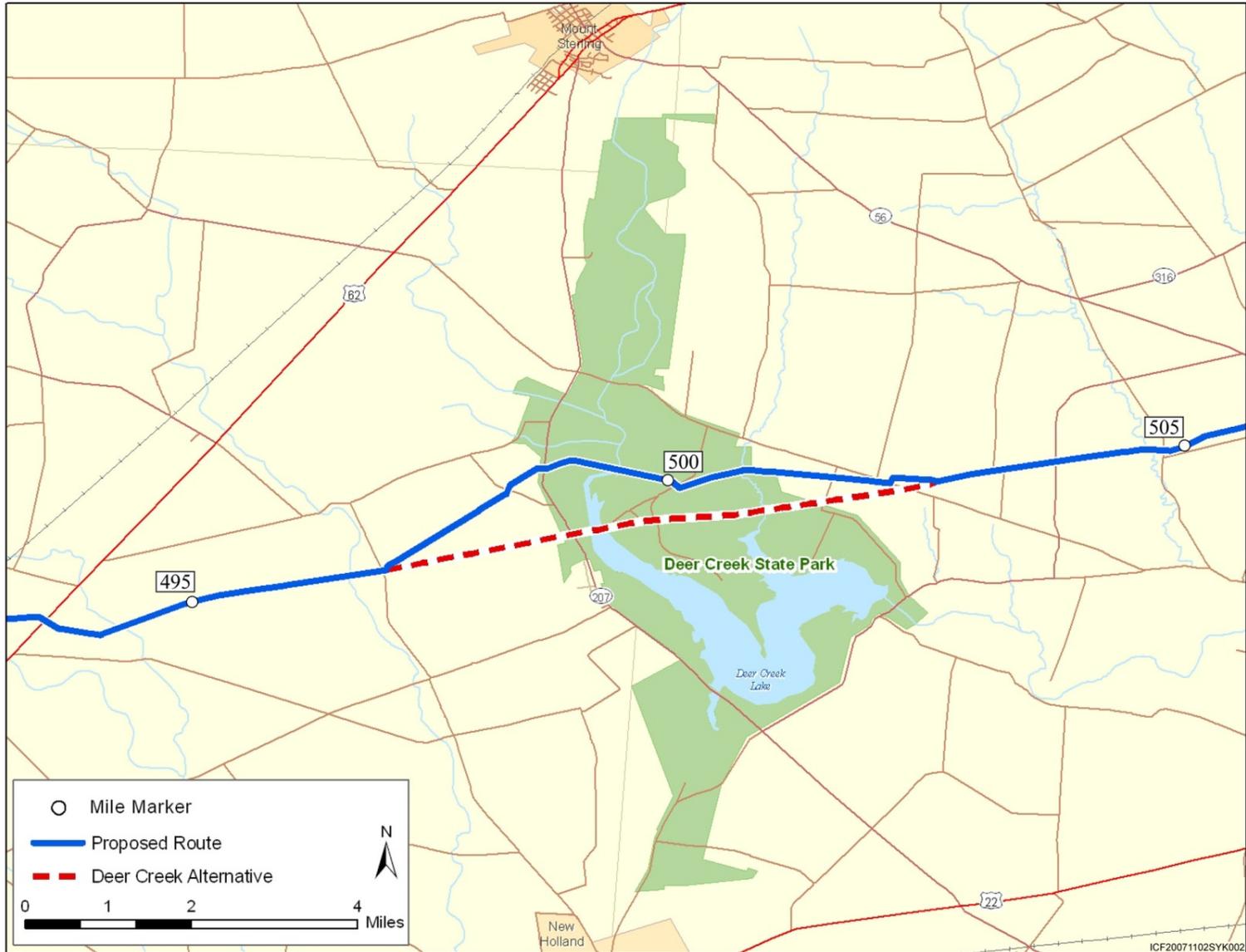


Figure 3.4.8-1
Deer Creek Lake State Park Route Alternative

Table 3.4.8-1
Comparison of the Deer Creek Lake State Park Route Alternative to the
Corresponding Segment of the Project Route
(MP 496.9 to MP 502.6)

Environmental Factor <u>b/</u>	Unit	Project Route	Deer Creek Lake State Park Route Alternative	Source
Total Length	miles	5.5	5.2	Digital Route
Length Adjacent to Existing Right-of-Way (percent)	miles	0.0 (0)	5.2 (100)	Digital Route
Wetlands Crossed	miles	<0.1	0.1	FWS, 2007f
Waterbody Crossings	no.	5	6	ERSI, 2005a;c
Cultivated Land Crossed	miles	4.3	3.1	USGS, 2001
Forest Land Crossed	miles	1.2	1.7 <u>a/</u>	USGS, 2001
Commercial Land Crossed	miles	0.0	0.0	USGS, 2001
Residences Within 50 Feet of Construction Work Area	no.	0	0	Alignment Sheets and Aerial Photography
Federal Parkland Crossed (Deer Creek Lake State Park)	miles	2.2	2.4	ESRI, 2005b
Recreational Areas Crossed	no.	0	2	Deer Creek State Park Map

a/ Impacts to forested habitat may be reduced through the use of an HDD at Deer Creek Lake.

b/ Impacts to cultural resources could not be compared because surveys were not conducted along the alternative route.

basketball and volleyball court. The alternative route would also cross several hiking and horse riding trails. The Project route crosses the northern portion of the Deer Creek Lake State Park near the park entrance. Visitors would notice construction activities on their way into the park, but construction would not affect facilities such as camp grounds and recreational facilities. The alternative route would require crossing Deer Creek Lake while the Project route would cross north of Deer Creek Lake, but would cross Deer Creek. Rockies Express would use an HDD to cross Deer Creek along the Project route to avoid impacts to riparian areas.

We have confirmed with Deer Creek Lake State Park officials and COE that they prefer the Project route to the alternative route. We agree that the Project route is preferable because it lessens the impacts to visitor use of the Park by avoiding facilities such as campgrounds and recreational areas.

3.4.9 Big Darby Creek Alternative

The REX East Project would cross Big Darby Creek at MP 507.6 in Pickaway County, Ohio. Rockies Express proposes to cross the creek using HDD. Big Darby Creek is approximately 86 miles long and crosses through Union, Madison, Franklin, and Pickaway Counties in Ohio. Big Darby Creek is a designated Wild and Scenic River pursuant to Section 2(a)(ii) of the Wild and Scenic Rivers Act. The State of Ohio is responsible for the day-to-day management of the river. The NPS is the Federal river-administering Agency. Big Darby Creek’s free-flowing condition, water quality, and ORVs are protected by the Act. The creek’s ORVs include its diverse fish and mussel communities.

To avoid impacts to Big Darby Creek, we evaluated the shortest route alternative that would eliminate the need to cross the Creek. That alternative, shown in figure 3.4.9-1, would run south of the Project route and cross the Scioto River south of its confluence with Big Darby Creek. The alternative would start by heading east and then southeast from MP 494.1 of the REX East Project route paralleling Bloomingburg New Holland Road for 4.4 miles. It would then run north of the town of New Holland where it would join and run adjacent to the Penn Central right-of-way for 14.5 miles, except for small deviations to avoid the town of Atlanta and the hamlets of Woodlyn and Kinderhook. The route alternative would cross the Scioto River, continue east through agricultural areas and sparse residential development south of Circleville, Ohio, and then turn northeast. Near Stoutsville, Ohio, the alternative would follow an abandoned railroad for 4.6 miles. West of the town of Amanda, it would run adjacent to State Route 22 for 2.6 miles. The alternative would then leave the road and head to the northeast for 6.3 miles, where it would rejoin the Project route at MP 533.9.

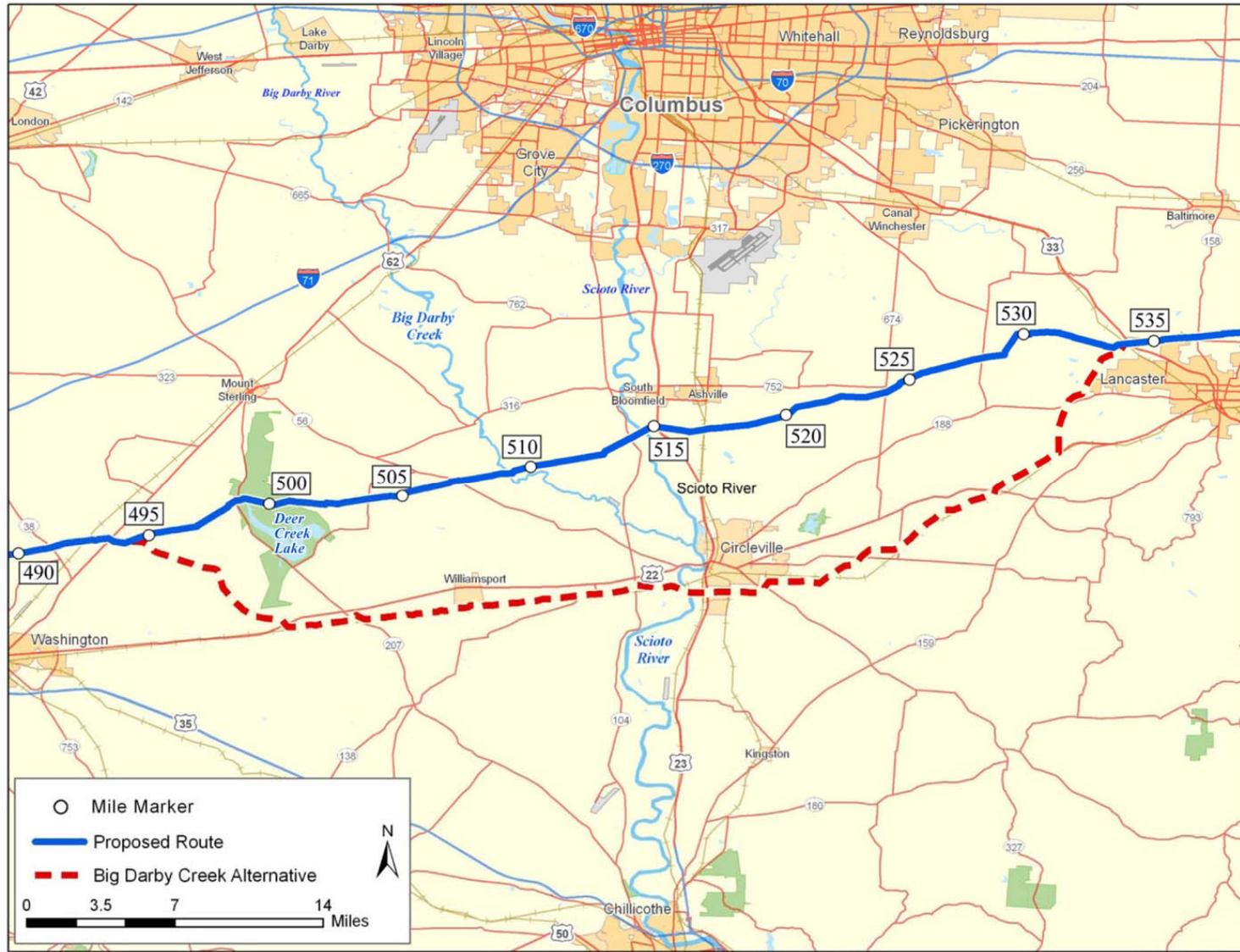
Table 3.4.9-1 provides an environmental comparison of the Big Darby Creek Route Alternative and the Project route. The Project route would be 5.8 miles shorter than the alternative. The additional length of the alternative crosses cultivated and commercial land. The alternative maximizes length along existing rights-of-way and crosses one less waterbody. It also avoids 0.1 mile of forested land crossed and almost 0.1 mile of residential land crossed. The alternative would also avoid crossing Deer Creek State Park, which is managed by the Huntington District COE. We believe that the primary impacts to Deer Creek State Park would mainly result in temporary disturbance to park visitors during construction and long term impacts to forested areas. These impacts would be mitigated as described in section 4.

Although the route alternative is longer, it would avoid Big Darby Creek and Deer Creek State Park. However, Rockies Express proposes to cross Big Darby Creek by HDD. A successful HDD would not disturb the banks, vegetation, or water quality of the creek, and would protect the scenic values of the river. A geotechnical study for the HDD stated that the soils and rock in the area are generally considered suitable for an HDD. However, the study points out that cobbles and boulder size materials may be encountered within a layer of unconsolidated materials found above the limestone bedrock. The boulder/cobble zone may be problematic during drilling operations. Rockies Express has committed to using microtunneling, a trenchless crossing method, if the HDD is unsuccessful. Other alternative construction methods would cause permanent impacts to the scenic resources of Big Darby Creek and would not be acceptable as a contingency plan.

Based on the analysis presented above, we conclude the REX East Project route is environmentally preferable provided that an HDD crossing of Big Darby Creek is successful. Because the avoidance of Deer Creek State Park would result in increased length and associated impacts, we do not believe the No-Action Alternative for Deer Creek State Park is environmentally preferable for the REX East Project. Open-cut crossing methods, if used, could cause permanent impacts that would degrade Big Darby Creek's ORVs. Therefore, we recommend in section 4.3.4 that Rockies Express use the alternative route and crossing location analyzed here if a successful HDD or microtunnel can not be completed. We further recommend that Rockies Express not construct in the Project segment between MP 494.1 to MP 533.9 until the HDD has been successfully installed.

3.4.10 Barnesville Reservoir Alternative

The REX East Project's route filed in the application involved a 515-foot crossing of the Barnesville Reservoir in Belmont County, Ohio. The Village of Barnesville, U.S. Senator George Voinovich, U.S. Congressman Charles Wilson, and various citizens expressed concern over the possible contamination and damage that pipeline construction or rupture could cause to the water supply. Rockies Express adopted a route to avoid Barnesville Reservoir and cross Slope Creek, a tributary, 0.7 mile south



ICF20082403SYK004

Figure 3.4.9-1
Big Darby Creek Route Alternative

Table 3.4.9-1
Comparison of the Big Darby Creek Route Alternative to the
Corresponding Segment of the Project Route
(MP 494.1 to MP 533.9)

Environmental Factor	Unit	Project Route	Big Darby Creek Route Alternative	Source
Total Length	miles	40.1	45.9	Digital Route
Length Adjacent to Existing Right-of-Way (percent)	miles	17.7 (44.1)	25.0 (54.0)	Digital Route
Wetlands Crossed	miles	0.2 <u>a/</u>	<0.1 <u>a/</u>	FWS, 2007f; USGS, 2001
Waterbody Crossings	no.	32	31	ESRI, 2005a,c
Cultivated Lands Crossed	miles	37.1	42.2	USGS, 2001
Forest Land Crossed	miles	2.5	2.4	USGS, 2001
Commercial Land Crossed	miles	<0.1	0.2	USGS, 2001
Residences Within 50 Feet of Construction Work Area	no.	5	5	Rockies Express
Federal Parkland Crossed (Deer Creek Lake State Park)	miles	2.2	0.0	ESRI, 2005b
<u>a/</u> NWI maps were not digitally available for 25.5 miles of the Project route and 36.6 miles of the Big Darby Creek Route Alternative. Instead, National Landcover data were used to estimate wetland impacts where NWI maps were not available.				

(downstream) of the Reservoir. This is considered part of the Project route, as presented and analyzed throughout section 4. The original route is referred to as the Barnesville Reservoir Alternative in this discussion.

Figure 3.4.10-1 shows the Barnesville Reservoir Alternative in relation to the Project route. The Barnesville Reservoir Alternative would leave the Project route at MP 619.8 and proceed in a generally easterly direction across a mixture of agricultural and forested lands, and (at MP 622.0) the Barnesville Reservoir itself, before rejoining the Project route at MP 625.4.

Table 3.4.10-1 provides an environmental comparison of the Barnesville Reservoir Alternative and the Project route. As shown, the Project route is 0.4 mile longer than the Barnesville Reservoir Alternative and would not follow any existing corridors, whereas the Barnesville Reservoir Alternative would parallel an existing right-of-way for 80 percent of its length. However, compared to the Barnesville Reservoir Alternative, the Project route would cross two fewer wetlands, 18 fewer waterbodies, but 0.1 mile more cultivated land and 0.3 mile more forested land.

Based on the analysis above, which indicates that the Project route is environmentally preferable, and concerns over possible water supply contamination with the Barnesville Reservoir Alternative, we have assessed the impacts of the Project route in the final EIS. However, since a lack of field surveys prevents a meaningful comparison of impacts on threatened and endangered species, we have included a recommendation in section 4.7.1 that Rockies Express complete threatened and endangered species surveys prior to construction.

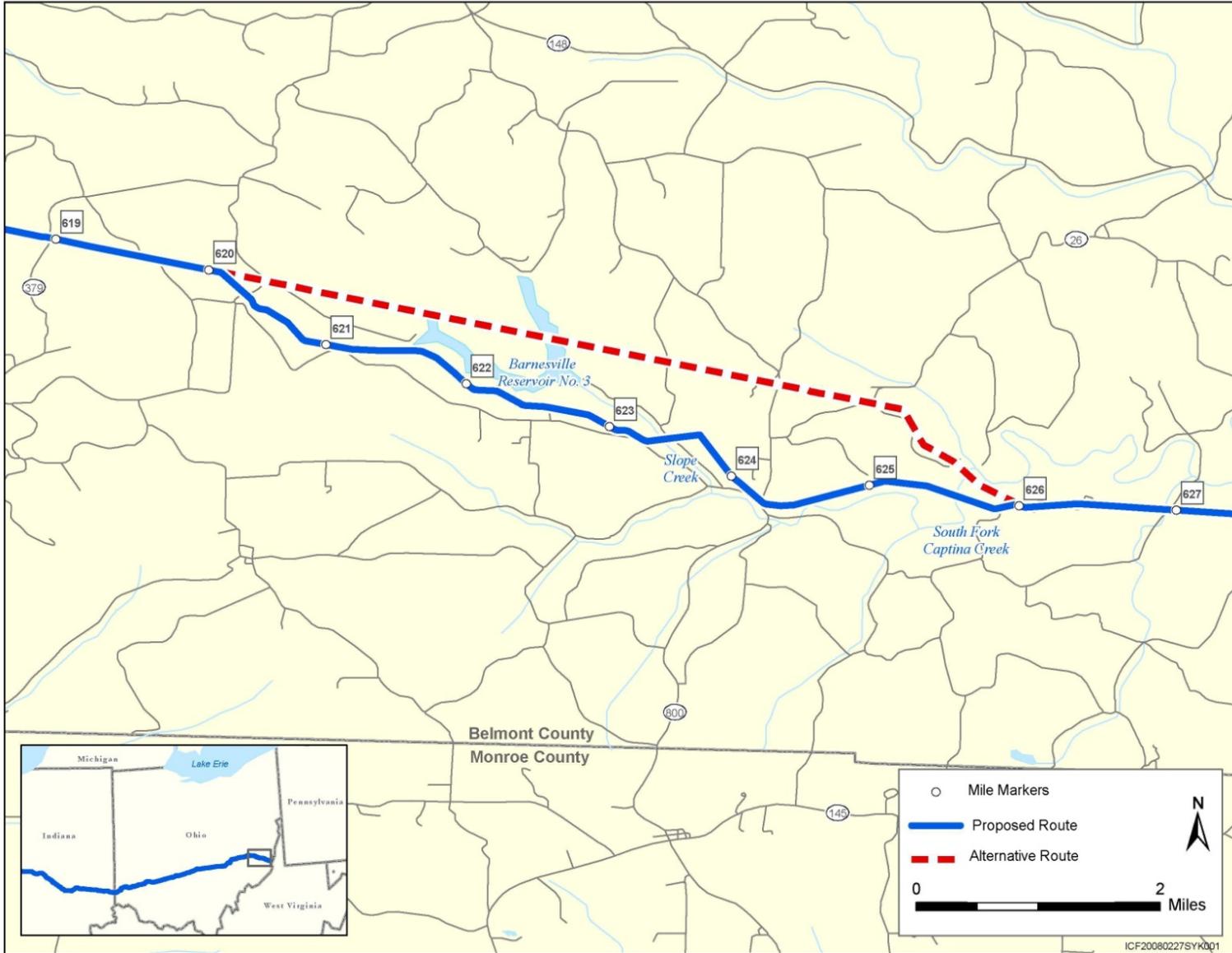


Figure 3.4.10-1
Barnesville Reservoir Alternative

Environmental Factor	Unit	Project Route	Barnesville Reservoir Alternative	Source
Total Length	miles	6.0	5.6	Digital Route
Length Adjacent to Existing Right-of-Way (percent)	miles	0.0 (0)	4.5 (80)	Digital Route, Alignment Sheets, USGS
Wetlands Crossed	miles	0	2	Field delineations, National Wetland Inventory Data
Waterbody Crossings	no.	3	21	ESRI 2005c, Alignment Sheets, USGS
Cultivated Lands Crossed	miles	3.8	3.7	Alignment Sheets, USGS LULC Data
Forest Land Crossed	miles	2.2	1.9	Alignment Sheets, USGS LULC Data
Commercial Land Crossed	miles	0.0	0.0	Alignment Sheets, USGS LULC Data
Residences Within 50 Feet of Construction Work Area	no.	0	0	Rockies Express

3.5 ROUTE VARIATIONS

Route variations are short deviations less than 5 miles long from the Project route that would potentially avoid or reduce Project impacts on specific localized resources, such as individual residences or site-specific environmental conditions. Since Rockies Express filed its application on April 30, 2007, three categories of potential route variations have been considered during our review of the Project:

- (1) route variations that Rockies Express has already incorporated into the Project route evaluated in section 4 of this EIS;
- (2) route variations that have been requested by landowners, but a reasonable and feasible variation could not be identified for evaluation; and
- (3) route variations that have been requested by landowners where reasonable and feasible variations could be identified for evaluation.

After filing its application, Rockies Express filed five supplements making a total of 145 minor changes to the Project route alignment in response to comments from resource agencies and landowners, and in response to more detailed engineering studies. The route changes made prior to the draft EIS include 57 route variations in a supplement filed on July 9, 2007 and 78 route variations in a supplement filed on July 23, 2007. The 78 route variations addressed in the July 23 filing are summarized in appendix E, table E-2. After the draft EIS, Rockies Express developed 11 additional route variations. These included a route variation associated with a change in the Hamilton CS filed in a supplement on January 4, 2008, a route variation associated with a new construction method over the Sny Levee filed on January 14, 2008, and 9 additional route variations filed on January 14, 2008. The 9 route variations in the January 14 filing are summarized in appendix E, table E-3. These 145 variations were made to achieve better construction conditions, address site-specific constraints, or minimize impacts to a specific environmental feature or residence. All 145 of these variations have been incorporated into the Project route evaluated in this EIS and are generally not described individually beyond the information provided in table E-2 unless a landowner asked us to review it. These are addressed in the sections below.

In some cases, feasible route variations to avoid a resource of concern stated by a landowner are not necessary to protect the resource of concern. For example, we have observed on previous pipeline projects that impacts to endangered species habitat such as the Indiana bat, cultural resources, and field drainage tiles can be effectively mitigated. We address these landowner concerns by including recommendations that require Rockies Express to complete all necessary threatened and endangered species and cultural resource surveys and consultations, and to evaluate appropriate route variations or other measures to avoid impacts to those species or features, prior to construction (see sections 4.7 and 4.10). We include another recommendation for pipeline construction in the event karst terrain is discovered (see section 4.1.3). We do not believe additional alternatives analyses or recommendations are needed to address landowner concerns about field drainage tiles, because we conclude that Rockies Express' AIMP would be adequate to protect, conserve, and restore agricultural lands that may be affected by construction and operation of the Project pipeline (see section 4.8.2 and appendix I).

In other cases, a feasible route variation could not be identified that would avoid or minimize impacts to the resource of concern. Table 3.5-1 summarizes comments received for which no feasible variation could be identified. The resource issues raised in these comments are addressed in section 4 by conditions and mitigation measures that will minimize or protect the resource of concern.

Table 3.5-1			
Summary of the FERC Review of Landowner Comments for Which No Feasible or Environmentally Preferable Route Variation Was Identified			
Landowner Last Name	Approximate Milepost	Summary of Comments	Summary of the FERC Review
Maguire	66	The pipeline location has maximized the potential impact on her home and surrounding land. Ms. Maguire is generally opposed to the pipeline going through her property.	The Project route closely parallels an existing pipeline right-of-way across the Maguire property. Moving the Project route away from this existing right-of-way would result in additional environmental impacts. Further, Rockies Express has agreed to reduce the construction area at this location to address the landowner's concerns.
Oster	78	The Oster property is a small family farm in Scott Co, IL. Ms. Oster is generally opposed to the pipeline going through her property.	The Project route closely parallels an existing pipeline right-of-way across the Oster property. Moving the Project route away from this existing right-of-way would result in additional environmental impacts.
Burtle	116	Mr. Burtle cites concerns about drainage tiles and pipeline depth of cover. There are two existing pipeline rights-of-way on his property and he states that a third pipeline would shut down his farming operations.	The Project route would be located on the north side of the existing pipeline right-of-way through Mr. Burtle's property. Construction of the pipeline would result only in temporary impacts to his farming operations and a reroute would not result in any environmental advantages to the Project route.
Bearden	164	Mr. Bearden did not identify any specific environmental concerns in his comment; however, he notes that his property has had 159 years of continuous farming on 80 acres.	Because no specific environmental concerns were identified in the comment and the Project route would cross agricultural lands which would only be temporarily impacted, no reroute was considered.
Parks	243	Mr. Parks is concerned about impacts to topsoil, crop production, and drainage tiles from the pipeline crossing his farm.	The mitigation measures to address Mr. Parks' concerns are discussed in section 4.8.2. Since these measures would ensure restoration of agricultural productivity, we did not consider a route variation.

Table 3.5-1 (continued)

Summary of the FERC Review of Landowner Comments for Which No Feasible or Environmentally Preferable Route Variation Was Identified

Landowner Last Name	Approximate Milepost	Summary of Comments	Summary of the FERC Review
Anderson	305	The Andersons expressed concerns that the Project route would disrupt a possible historical gravesite. They also cited flooding, erosion, and siltation impacts associated with the proposed crossing of McCracken Creek.	Rockies Express has been unable to verify that the gravestone is <i>in situ</i> . Additional fieldwork and consultation with the IN SHPO is being conducted. See section 4.10 for our mitigation measures related to cultural resources.
Jacobs	312	Ms. Jacobs objects to the Project route cutting across her property. She cites soil disruption, drainage issues, a natural spring, wildlife, and future development as potential issues, and suggests rerouting the pipeline along Pennington Rd.	Moving the pipeline route so that it would parallel Pennington road would impact other property owners. The mitigation measures described in 4.8.2 would address soil disruption and drainage issues. As the pipeline crosses through predominantly agricultural land, there would not be any environmental advantage to rerouting the pipeline. The spring could not be located on available maps. Section 4.3.1 recommends Rockies Express identify all springs within 150 feet and describes the mitigation measures that would protect springs or seeps.
Marley	321	Mr. Marley is generally opposed to the pipeline on his property and cites concerns about impacts on the property's abundant wildlife and other environmental features such as tree stands, creeks, and cliffs.	The pipeline is routed through the southern portion of the Marley property. The pipeline, as currently routed, minimizes the potential impacts, though it does pass through a small stand of trees.
Ballard	331	The Ballards object to the pipeline crossing through Indiana Classified Forest on their property.	We could not identify a route variation that would reduce forested impacts. We have made a recommendation in section 4.4 to reduce the right-of-way width to 75 feet.
Shobe	362	The Shobes state that 25 acres of their land are enrolled in a government Conservation Reserve Program (CRP).	The Project route crosses agricultural and forested areas on the Shobe's property. Impacts to CRP and active agricultural land would be mitigated as described in sections 4.4 and 4.8.2. A minor pipeline route variation would not avoid these forested areas on or near this property; therefore a reroute was not considered.
Hudnall	377	The Hudnalls object to the pipeline through their property and cite numerous environmental resources (e.g., water supply, archeological sites, etc.) that would be impacted by the pipeline.	The portion of Indiana where the Hudnall's property is located is dominated by hilly topography and intermittent areas of forest and agriculture. The current route through their property would only pass through a small portion of forested area and wouldn't adversely impact the water supply. A reroute to avoid these resources on the Hudnall's property wouldn't result in any environmental benefits.
Davis	388	The Davises expressed concerns about the Project's impacts on aesthetics, future development, and forested areas on their property.	Due to houses and other development, the route can not be shifted north. A shift to the south would increase forest impacts.

Table 3.5-1 (continued)

Summary of the FERC Review of Landowner Comments for Which No Feasible or Environmentally Preferable Route Variation Was Identified

Landowner Last Name	Approximate Milepost	Summary of Comments	Summary of the FERC Review
Isaacs	389	The Issacs expressed concern that the pipeline route would be located within 50 feet of their residence and suggested a possible reroute to the south of their property along with 3 other route variations.	Rockies Express adopted the landowner's suggestion to shift the route south so that the house is not within 50 feet and the driveway is not affected. We considered but did not evaluate the other variations proposed by the Isaacs because they would affect more forested land and be closer to nearby residences.
Orschell	394	Mr. Orschell cites impacts to features such as wetlands, water wells, wildlife, historical cemeteries, Indian artifacts, and Princeton windblown sand areas. He recommends a pipeline reroute to collocate the pipeline with the existing TETCO pipeline corridor near Indianapolis.	The proposed pipeline route cuts across an agricultural field and does not appear to directly impact the resources identified in the comment. Consequently, a route variation was not evaluated. The Indy North 2 Route Alternative discussed in section 3.4.4 follows the TETCO pipeline corridor.
Beckman and Benoit	408	At the public comment meeting on the draft EIS in Trenton, OH, Mr. Benoit expressed concerns related to safety and property damage. He proposed an alternative route that would cross the undeveloped property for sale and parallel the existing TETCO right-of-way.	The landowner's concerns could not be substantiated. We confirmed that the Project route follows the TETCO right-of-way in this area.
Knau	419	William and Mary Lou Knau expressed concern about the creation of a new pipeline easement on their property and requested that the pipeline easement stay within the nearby existing Duke Energy easement.	The Duke Energy easement is bordered on the south by a stream which would prevent a reroute. Along Gardner Road, which runs perpendicular to the Project route, numerous houses are found close together that would prevent the pipeline from being rerouted to the north or south away from the Duke Energy easement. Rockies Express has agreed to increase the bore length for crossing Gardiner Road to avoid damage to large trees. They would also use the Duke Energy power line corridor for temporary workspace and reduce the permanent easement to 35 feet.
Sanders Financial Property	419	Mr. Sanders owns 90 acres of land. He is concerned that the pipeline going through his property will limit his ability to build on residential lots.	The pipeline crosses the Sanders property along the southern edge of a forested area. Although no construction is allowed along the 50-foot permanent easement, a considerable amount of land remains for construction on residential plots.
Stegemiller	441	Mr. Stegemiller is generally opposed to the current pipeline alignment in a field south of his house. He would prefer collocation with an existing right-of-way north of his property boundary.	The Project route deviates from paralleling the existing TETO right-of-way in this area due to the proximity of residences. Following the easement would affect new landowners and increase impacts to residential property.

Table 3.5-1 (continued)

Summary of the FERC Review of Landowner Comments for Which No Feasible or Environmentally Preferable Route Variation Was Identified

Landowner Last Name	Approximate Milepost	Summary of Comments	Summary of the FERC Review
Thorman	447	Mr. Thorman is a developer and expressed concerns about proximity of the pipeline to a proposed housing development.	Mr. Thorman's property is divided into northern and southern parcels by two existing pipeline rights-of-way. The Project route would be collocated with one of these pipeline routes and therefore would minimize additional impacts.
Vonderhaar	447	The Vonderhaars are concerned about future development and desirability of their lot.	The Project route cannot be adjusted to the north or south due to existing residential development. Consequently, a preferable route variation could not be identified.
Burton	450	Mr. Burton asked for the Project to be routed to follow the existing right-of-way south of his property.	The Project route deviates from the existing right-of-way due to encroachment of buildings on either side of the right-of-way where it crosses Highway 42 south of this property and to set up an appropriate location for the HDD of the Little Miami River. We believe that the impacts to his property would be mitigated by the measures described in section 4.8.2.
Stout	451	The Stouts note that their property is highly desirable as a future scenic residential property. The Project route will diminish the value of the land; therefore, Rockies Express should utilize the existing TETCO pipeline easement or build along the south side of the easement.	The only possible route variation which could be considered was to extend the HDD crossing under the Little Miami River to beyond the Stout's property. However, this variation was deemed unfeasible due to hilly terrain on the property. The Mowrey Alternative would avoid this property. See section 3.4.7 for the evaluation of the Mowrey Alternative.
Hartman	456	Mr. Hartman states the Project would affect numerous drainage tiles, his water, and electric lines, and would be close to his home. He would like the pipeline routed to the far side of the drainage near the bike trail.	The route variation suggested by Mr. Hartman is not preferable because it would add additional length to the Project, since the reroute would go in the opposite direction (northwest) than the general trend of the Project in this area (northeast). Damage to drainage tiles, water and electric lines would be repaired per our recommended mitigation measures in sections 4.8.2 and 2.3.
Miller	495	Mr. Miller states his land is enrolled in farm protection programs and is concerned about impact to fields, wildlife habitat, and aquifers.	The AIMP should minimize impacts to fields and agricultural production. The Project route is located entirely on agricultural land. A route variation would not avoid the resources of concern. Additionally, the Project route is located along the property edge.
Billings	524	The Project route crosses the entire length of Mr. Billings' farm. He is concerned the Project may harm his horse breeding business and affect the future development of his land. He asks that the Project follow the existing pipeline easement north of his property.	Construction of the Project would temporarily affect Mr. Billings' farm and horses. We have made a recommendation in section 4.8.2 to specifically address the impacts to horse farms. We believe this and other mitigation measures for agricultural land address Mr. Billings' concerns.

Table 3.5-1 (continued)

Summary of the FERC Review of Landowner Comments for Which No Feasible or Environmentally Preferable Route Variation Was Identified

Landowner Last Name	Approximate Milepost	Summary of Comments	Summary of the FERC Review
Messerly	542	The Messerlys are concerned about a historic barn and the future value of their property. In comments on the draft EIS, they submitted a map requesting that the pipeline cross to the south side of the existing TETCO pipelines near Darfus Road rather than 800 feet from the road on their property.	The barn would not be affected by the Project route. The Project route is located near the edge of the property boundary and should not limit future development. The landowner's variation would remove a line of trees and a structure. We do not find this to be environmentally preferable and therefore do not recommend the variation to be incorporated into the route.
Hartley	574	Mr. Hartley is concerned that the proposed pipeline route cuts through his property at an angle. He is generally opposed to the pipeline crossing through his property.	The pipeline route follows an existing right-of-way through a small portion of Mr. Hartley's wooded property. Because it is following an existing right-of-way, the impacts are minimized; therefore, a reroute is not environmentally preferable.
Tysinger	577	The Tysingers are concerned about impacts to a water well, crops, and five operating oil wells.	Construction of the pipeline would only temporarily impact their farming operation. Water or oil wells were not identified in field surveys.
Khune	578	Lawrence and Shirley Khune object to the pipeline traversing their property. The proposed route would impact woods and wildlife on their property. The owners cite concerns involving proximity to residences and suggest a reroute through Blue Rock State Park.	There is no clear environmental advantage in shifting the route through the Blue Rock State Park; the whole area is forested with scattered residential development. Therefore, this route variation was not considered. Please refer to section 4.4 and section 4.5 for a complete discussion of mitigation measures for these resources.
Smith	578	The Project route passes 75 yards from Mr. Smith's residence. He cites concerns about safety and a decrease in property value, and suggests a reroute through Blue Rock State Park.	There is no clear environmental advantage in shifting the route through the Blue Rock State Park; the whole area is forested with scattered residential development. Therefore, a reroute was not considered.
Costello	597	The Costellos object to the pipeline crossing through their property and cite proximity to their residence and intersection with power lines. They suggest a more southerly route through the abandoned strip mines owned by Ohio Power.	The Project route would pass through the northern portion of the Costello property and would be a sufficient distance (600 feet) from their residence. The pipeline would not intersect the powerline on their property. Moving the right-of-way to the south would impact forested areas and adjacent property owners who are not already affected. Therefore, a reroute is not environmentally preferable.
Stillion	600	The Stillions cite concerns about diminishing value of their land, the potential for future development, impacts to cattle, and impacts to water supply.	The Project route follows an existing pipeline right-of-way through their property. Any reroute to the north or south would result in a greater impact to adjacent landowners and additional impacts to forested areas. Therefore, a reroute is not environmentally preferable.

Table 3.5-1 (continued)

Summary of the FERC Review of Landowner Comments for Which No Feasible or Environmentally Preferable Route Variation Was Identified

Landowner Last Name	Approximate Milepost	Summary of Comments	Summary of the FERC Review
Paulsen	602	Mr. Paulsen states that the Project route crosses 41 feet from his home and 27 feet from his water well.	The Project route follows an existing easement and is approximately 40 feet from his home. A reroute in this area would cause forest fragmentation and affect more forested land. Therefore, a reroute is not environmentally preferable. Measures to mitigate impacts to residential properties are discussed in section 4.8.3 and to wells in section 4.3.1.
Potts	607	Landowners own and operate White Oak Exotic Hunting Preserve on their property. They are concerned about the pipeline's impact on premier deer hunting sites and want the pipeline moved to the north side of existing transmission lines.	The Potts property is addressed in detail in the section 4.8.5 under the special land use and recreation section. The FERC has recommended that Rockies Express to coordinate with the Potts to determine the best time for construction on their property in order to lessen effects on business and revenue at White Oak Exotic Hunting Preserve.
Fuller	618	Mr. Fuller expresses concerns about how the pipeline will hinder access to veins of coal and stripping rights on his property.	The Project route appears to be following an exiting right-of-way across the southern portion of property. A minor route variation would impact more forested areas and is not environmentally preferable. Coal mining is addressed in section 4.1.2.
Kemp	620	Mr. Kemp requests that the proposed route be shifted on his property to avoid impacts to a hay field and future building sites.	Mr. Kemp's route variation would cross more forested land and is not environmentally preferable.
Forni	638	Mr. Forni is opposed to the pipeline on his property and its affects on water, timber, drainage, cropland, and pastures. He believes the proximity to high tension power lines and long wall mining in the area might pose safety concerns.	Mr. Forni's environmental concerns are addressed by the AIMP for OH; refer to section 4.8.4 for discussion of specific mitigation procedures. We believe crossing areas of long wall mining and collocating with power lines may be constructed safely. These concerns are discussed in sections 4.1.2 and 4.12 respectively.

The following route variations were evaluated in more detail after conducting a preliminary review of their environmental impacts and technical feasibility. In total, we received 27 landowner comments for which we could identify a potentially feasible route variation. Each of these variations is discussed in separate sections below and shown in the maps in appendix J. Some of the route variations have been recommended as changes to the Project route.

3.5.1 McCarroll Route Variation (MP 290.5 to MP 291.3)

Landowner David McCarroll in Hendricks County, Indiana wrote to us with concerns about the effect pipeline construction would have to the forested area on his farm that contains wetlands, a stream, and the endangered Indiana bat. Mr. McCarroll has denied Rockies Express survey access, but hired Keramida Environmental, Inc. to conduct a bat survey. Mist nets were monitored for five hours on two nights in June 2007. Ten bats were netted including six lactating female Indiana bats.

We reviewed the alignment to determine if an alternative route could be developed to avoid the forested area. The Project route would approach the forested area on Mr. McCarroll's property from the northwest and cross 0.12 mile of the forest at a narrow edge of the forested area. The forest extends to the east and north widening to nearly 0.25 mile. The west side of the forested area is cleared for residential development within 0.10 mile of the Project route. Upon reviewing the area in the field and on aerial photography, an alternative route that would avoid the forested area was not found. A shift to the northeast would increase the length of forest crossed and a shift to the southwest would encroach upon houses (see figure J-1 in appendix J). Mr. McCarroll suggested a route variation that would follow the edge of his property. This route would not minimize forested impacts and would affect new landowners. Mr. McCarroll's route variation would deviate from the project route at MP 290.5 and head due east crossing two forested areas of approximately 0.2 mile in length. It would circle around his property adding 0.7 mile to the Project length on adjoining landowner properties before rejoining the Project route at MP 291.3. McCarroll's route variation is not environmentally preferable because it has greater forested impacts and it increases total acreage of land disturbed.

In section 4.7.1, we have recommended that Rockies Express consult with FWS on tree clearing where bats are observed in order to minimize impacts on Indiana bats and their habitat. Because the Indiana bat was found on Mr. McCarroll's property, the mitigation measures described in section 4.7.1 to avoid adverse effects would be implemented. In addition, surveys have not been completed to confirm that the Project route would cross a stream or wetlands on the McCarroll property. Should these features be encountered, Rockies Express would follow its Procedures to minimize impacts to waterbodies and wetland areas.

While reviewing the property in the field, however, we identified a route variation to minimize land use impacts to the farmed area located southeast of the forested parcel. The FERC variation, which we evaluated in the draft EIS, is approximately 0.9 mile long, slightly longer than the 0.8 mile corresponding segment of the Project route (see table 3.5.1-1). Instead of crossing the field diagonally to the southeast, the variation would follow the forest/field edge for 0.19 mile, turn south along the line between two crop fields, and return to the REX East Project route to cross the road. Both the FERC variation and Project route would cross agricultural land.

Environmental Factor	Unit	Project Route	FERC Variation	McCarroll's Variation	Source
Pipeline Length	mile	0.8	0.9	1.1	Digital Route
Wetlands Crossed	no.	1	1	unknown	NWI Data
Waterbody Crossings	no.	1	1	1	USGS Topographic Maps
Forested Land Crossed	mile	0.1	0.1	0.2	Aerial Photography
Agricultural Lands Crossed	mile	0.7	0.8	0.9	Aerial Photography

In their comments on the draft EIS, Rockies Express stated that the incorporation of the FERC variation on McCarroll's property would require manual welding of pipe fittings, which could add two to six days to their construction schedule. However, a letter from Mr. McCarroll's representatives on February 21, 2008 compared the loss of two days on Rockies Express' construction schedule with the permanent loss of an endangered species, and suggested that the FERC, at a minimum, require the route variation proposed in the draft EIS.

The FERC variation is preferred because it would cross along the edges of fields that would minimize disruption to agricultural activities. Therefore, **we recommend that:**

- **Prior to the start of construction from MP 291.0 to MP 291.3, Rockies Express incorporate into the Project route the FERC Variation for the McCarroll property as depicted in appendix J, figure J-1 in this EIS. Rockies Express should file with the Secretary updated alignment sheets.**

3.5.2 Rogers Route Variation (MP 300.5 to MP 301.0)

During the scoping period, Century 21 Realty Group submitted written comments on behalf of landowners Otis and Louise Rogers of Hendricks County, Indiana, stating the property was actively for sale for residential development. They were concerned that the REX East Project would have a negative effect on the value of the property and ability to develop the property. South State Road 39 forms the eastern boundary of the property. The Project route would cross diagonally through the property from the northwest to southeast. Currently, the Project route would affect agricultural land. Rockies Express filed correspondence indicating that the Rogers sold the property to Mr. John Hall, who plans to develop a golf course community on the property. Mr. Hall proposed a route variation to Rockies Express that would avoid the property. According to Rockies Express, this route variation would have affected new landowners.

We identified a route variation to minimize the diagonal bisection of the property and allow a larger continuous parcel for residential development. The route variation we identified would remain on Mr. Hall's property. The variation would deviate from the Project route at MP 300.5 and head south along the western boundary of the property for 0.1 mile. It would then turn to the southeast and then east to avoid forested areas to the south and reconnect with the Project route at MP 301.0 before crossing South State Road 39. The variation is less than 0.1 mile longer than the half mile segment along the Project route. The route variation appears to avoid one of the two small wetland areas crossed by the Project, although fieldwork has not been completed to confirm this. The variation also crosses entirely through an agricultural field. The variation would add 22 acres to the portion of property to the north of the Project route for residential development. The variation also addresses Mr. Hall's planned use of the property.

Rockies Express stated that Mr. Hall is developing the property for recreational and not residential purposes, and thus the variation is not needed. They also note that they believe the variation would be difficult to construct and require more additional temporary workspace. In the correspondence notes between Rockies Express and the landowner, it is noted that Mr. Hall is planning to build the "Jack Nicholson Golf Community Subdivision" which indicates the use would be mixed residential and recreational. Along the route variation, the temporary workspaces would impact what is currently agricultural land and would be fully restored. We believe the route variation addresses the concerns of the landowner and therefore, **we recommend that:**

- **Prior to the start of construction from MP 300.5 to MP 301.0, Rockies Express incorporate into the Project route the route variation for the Rogers property as depicted in appendix J, figure J-2 in this EIS. Rockies Express should file with the Secretary updated alignment sheets.**

3.5.3 Gladden Route Variation (MP 302.5 to MP 305.2)

During the public comment period on the draft EIS, Mr. Morey Gladden expressed concerns about the Project crossing the McCracken Creek and the "Miracle springs" area. The Project route

crosses several small tributaries to McCracken Creek between MP 301.4 and MP 304.0, crosses McCracken Creek at MP 304.4, and then several more tributaries between MP 304.6 and MP 305.6. Mr. Gladden asked the FERC to consider a variation that avoids McCracken Creek and the Miracle springs.

We identified a potential route variation (Appendix J, figure J-3) that would diverge from the Project route at MP 302.5, travel primarily to the south and slightly east through 0.5 mile of agricultural land and 0.1 mile of forest and then follow the boundary of a cultivated field for 0.2 mile. The route variation would continue traveling to the east for 0.4 mile to cross Interstate 70 and then run along mostly agricultural land for approximately 1 mile, towards the east. It would then cross through 0.2 mile of forest and rejoin the Project route at MP 305.2. According to table G-2 in appendix G, the Project route crosses 12 waterbodies, including McCracken Creek, between MP 302.5 and MP 305.2. Through interpretation of available aerial photography, it appears that the route variation would cross the same number of waterbodies and would not avoid McCracken Creek. The “Miracle springs” area referred to in Mr. Gladden’s letter could not be located.

The route variation is 0.4 mile longer than the Project route. Both alignments primarily cross agricultural and forested land, and the same number of waterbodies. The route variation would affect several landowners who are not currently on the right-of-way. Since the route variation does not present a clear environmental advantage in reducing the impacts of concern, is slightly longer and would affect several new landowners, we find the Project route preferable to the variation. Section 4.3.3 and 4.3.4 discuss the impacts to and mitigation measures for waterbody crossings.

3.5.4 Parker Route Variations (MP 317.8 to MP 318.5)

During scoping, landowner Dan Parker submitted written comments expressing concern that the REX East Project route would cross at an angle through his farm and cut it in half. The Project route would cross six of Mr. Parker’s parcels in Morgan County, Indiana at an angle for a total of 0.75 mile. In the draft EIS, we recommended an alternative route that would alleviate potential impacts to Mr. Parker’s farming operation by following property lines. In January 2008, the FERC visited Mr. Parker’s property in response to written comments submitted during the draft comment period, which discussed his dissatisfaction with both the Project route and FERC’s route variation. While in the field, Mr. Parker identified a reroute he believed would best address his concerns.

As shown in appendix J, figure J-4, the route variation we evaluated and presented in the draft EIS would follow the tree line towards a barn on the property that is off Big Bend Road. It would then turn directly south passing on the property line between parcels IN-MN-19.001 and IN-MN-20.001. It would continue south crossing Big Bend Road and between two crop fields not owned by Mr. Parker. Approximately 0.21 mile from the road crossing, the route variation would turn east to follow on the inside of a tree line on the adjacent property. The variation would rejoin the Project route before crossing County Road 950 East.

Mr. Parker’s route variation would diverge from the Project route at MP 317.8 and travel east for 0.5 mile along his northern property boundary. The variation would make a 90 degree turn to the south to follow Mr. Parker’s property boundary across Big Bend Rd. for 0.75 mile, then head east for 0.2 mile on the inside of a tree line before rejoining the Project route at MP 318.5.

Table 3.5.4-1 compares the two variations and the Project route. Each of the variations would cross a waterbody. The Parker Variation crosses a wetland and forested area that the other routes do not. The Parker variation would pass within 100 feet of a residence and two barns. The FERC Variation would pass within 100 feet of Mr. Parker’s residence. The Chastains own the home closest to the Parker

Table 3.5.4-1 Comparison of the Parker Alternatives, MP 317.8 to MP 318.5					
Environmental Factor	Unit	Project Route	FERC Variation	Parker's Variation	Source
Total Length	miles	1.1	1.2	1.4	Digital Route
Wetlands Crossed	feet	0	0	130	FWS, 2007f
Waterbody Crossings	no.	1	1	1	USGS Topographic Maps
Cultivated Land Crossed	mile	0.8	0.9	0.8	Aerial Photography
Forest Land Crossed	mile	0	0	0.3	Aerial Photography
Open/Herbaceous Land Crossed	mile	0.3	0.3	0.3	Aerial Photography
Structures Within 100 Feet of the Centerline	no.	0	1	3	Rockies Express, Aerial Photography

Variation. They wrote to express concerns that the Parker Variation would affect their home, a drainage area, and a pond. The Parker Variation would affect additional forested, wetland, and residences, and is not environmentally preferable.

Rockies Express believes our route variation offers no environmental advantage and would be difficult to construct. We believe our variation is environmentally comparable to the Project route and would minimize land use issues when compared to the Project route. Therefore, **we recommend that:**

- **Prior to the start of construction from MP 318.1 to MP 318.5, Rockies Express incorporate into the Project route the FERC's Parker Variation for the Parker property as depicted in appendix J, figure J-4 in this EIS. Rockies Express should file with the Secretary updated alignment sheets.**

3.5.5 Alverson Route Variation (MP 370.0 to MP 370.6)

Decatur County, Indiana landowner Bernice Alverson submitted a written comment expressing concern that the pipeline would disturb Native American relics, a wooded area, and field drainage tiles. Ms. Alverson suggests the pipeline be re-routed to follow existing rights-of-way. We first reviewed the Project route to see if existing rights-of-way could be utilized, but none were identified within a mile of the property. Our analysis of major route alternatives to use existing rights-of-way north of Indianapolis to avoid Decatur County is presented above in section 3.4.3. The Project route crosses the Alverson's properties from MP 370.0 to MP 371.0. Approximately 0.15 mile of the route is forested while the remainder is agricultural. We identified a route variation that would avoid the forested area.

The route variation avoids the forested area by diverting south from the Project route near MP 370.0 and continuing along the southern boundary of the property before heading north to avoid structures and rejoin the Project route at MP 370.6. It is approximately 0.1 mile longer than the Project route. Cultural resource surveys have not been completed on this property at this time. Impacts to field drainage tiles and other concerns related to agricultural productivity are addressed in section 4.8.2.

Rockies Express filed comments demonstrating that the landowner's trustee supports the proposed route over the route variation. Rockies Express' analysis of the route variation concludes that the variation could result in additional forest clearing. However, we believe that the route variation can be constructed adjacent to the forested parcel along the southern boundary with minimal clearing of trees. The Project route would cut through a forested patch causing forest fragmentation and unavoidable

permanent loss of trees. Because the route variation would avoid the wooded area of the Alverson's property; **we recommend that:**

- **Prior to the start of construction from MP 370.0 to MP 370.6, Rockies Express incorporate into the Project route the route variation for the Alverson properties as depicted in appendix J, figure J-5, specifically avoiding to the maximum extent practicable, the removal of trees located adjacent to the southern boundary of the Alverson property. Rockies Express should file with the Secretary updated alignment sheets.**

3.5.6 Brattain Route Variation (MP 376.3 to MP 376.8)

During the public comment meetings on the draft EIS in Greensburg, IN, Jimmy Brattain expressed concerns about the proximity of the pipeline to his residence and that of his neighbors, the impact to the value of his land, as well as where it crosses an area of rough terrain and streams. The Project route crosses a heavily wooded area and passes within 160 feet of at least two residences. Mr. Brattain proposed a variation that would shift the alignment slightly to the north to distance it from the residences in the area.

We developed a route variation, shown in appendix J, figure J-6, that would address Mr. Brattain's concerns. The route variation would shift the alignment approximately 100 feet to the north of the Project route starting at MP 376.7. The variation would parallel the proposed route for 0.5 mile before rejoining it at MP 376.8. The Project route and the Brattain route variation would have similar forested impacts and would both cross the area of rough terrain and streams. However, our route variation would distance the pipeline from two residences in the area by approximately 100 feet to address Mr. Brattain's concerns. Because our route variation does not result in any additional environmental impacts, we recommend that:

- **Prior to the start of construction from MP 376.3 to MP 376.8, Rockies Express incorporate into the Project route the route variation for the Brattain property as depicted in appendix J, figure J-6 in this EIS. Rockies Express should file with the Secretary updated alignment sheets.**

3.5.7 Yane Route Variation (MP 380.4 to MP 380.6)

Monica and Gary Yane, of Franklin County, Indiana, provided written comments against the route of the pipeline on their property. They suggested that the pipeline be routed along an existing right-of-way. In section 3.4.3, we evaluate major route alternatives that would avoid Franklin County by following existing pipeline rights-of-way north of Indianapolis. These alternatives are not environmentally preferable. Therefore, we identified a route variation that would minimize the impacts on the Yane property.

In written comments submitted on the draft EIS, Monica Yane expressed concern that the Project route would affect their pond, which is supplied by a 5-acre wooded watershed. Mrs. Yane stated that this pond is their potable water source. They treat the water for bacteria, but do not have to worry about siltation or chemical pollutants. Mrs. Yane states that the Project route would cross 150 feet of the watershed that supplies their pond. Upon review of aerial photography, it appears that the Project would likely cross the pond's watershed.

Figure J-7 in appendix J shows that the route alternative would start at MP 380.4 to continue in a southeast direction and rejoin the Project route at MP 380.6. The Project route makes a wide-angle turn

in the cleared area of the Yane property. Both the Project route and route variation would cross 0.1 mile of forested property. The route alternative, however, would eliminate the turn in the center of the property and is slightly shorter than the Project route.

During the public meeting in Greensburg, Indiana, Mrs. Yane stated that she preferred the route variation to the route proposed by Rockies Express. Rockies Express filed comments stating that the route variation would not eliminate the wide-angle turn, but would instead shift it to the forested area. We acknowledge this, and note that the turn would clear the edge of the forest close to the cleared area and adjacent to the power line right-of-way. Based on the landowner's concerns and our comparison of the two routes, we believe that our route variation is environmentally preferable. Therefore, **we recommend that:**

- **Prior to the start of construction from MP 380.4 to MP 380.6, Rockies Express incorporate into the Project route the route variation for the Yane property, as depicted in appendix J, figure J-7 in this EIS. Rockies Express should file with the Secretary updated alignment sheets and site-specific erosion and spill control measures to protect the Yane's pond from contamination and siltation.**

3.5.8 Reynolds Route Variation (MP 381.5 to MP 382.7)

In response to comments received from landowner Daron Reynolds that the Project route would cross karst features and would impact the Indiana bat on his property, we evaluated two possible route variations to mitigate these potential impacts. Both route variations would depart from the Project route at approximately MP 381.5. They would both roughly parallel the Project route for approximately 0.3 mile until approaching Salt Creek, where they would split. The southern route variation would parallel Bullfork Road east across the creek and would then turn slightly to the northeast before rejoining the Project route near MP 382.7. The northern route variation would cross Salt Creek approximately 0.2 mile north of Bullfork Road and would run east along an existing telephone line right-of-way and then northeast before rejoining the Project route near MP 382.7.

To evaluate the engineering feasibility and environmental impacts of these route variations, we examined each of the Reynolds Route Variations in the field. Based on these field observations, it was determined that the Project route through the Reynolds property would be preferable to the Reynolds Route Variations. Both the southern and northern route variations would require constructing the pipeline across steep banks of the Salt Creek floodplain and along the bank of a stream that feeds into Salt Creek. Although the Project route would also cross Salt Creek, it would cross in a location characterized by shallower grade banks. Additionally, it would not require construction along the stream that feeds into Salt Creek. Neither of the route variations would offer an environmental advantage over the Project route. All three would pass through the same approximate amount of forested and agricultural land.

Consequently, we are not recommending a route variation on the Reynold's property. In response to landowner concerns about karst features, we recommend in section 4.1 that in the event karst features are discovered during construction, Rockies Express stop work to develop route variations or mitigation measures to avoid potential damage to the pipeline.

3.5.9 Morgan Route Variation (MP 383.1 to MP 384.0)

Landowner Carolyn Morgan of Franklin County, Indiana expressed concern over the project impacts to soil, water, and Indiana bat habitat on her property. The Project route crosses forested and agricultural fields on her property. We identified a route variation that would follow an existing power line right-of-way to minimize further fragmentation of forested land.

As shown in appendix J, figure J-8, the route variation would deviate from the Project route at MP 383.1 on the Freas' property to continue following a powerline right-of-way to the northeast. It would follow the powerline for 0.8 mile to the eastern edge of the Morgan's property. It would then turn southeast to cross State Road 229 and rejoin the Project route at MP 384.0 as it continues in a southeasterly direction. The route variation and Project route would both cross the same four waterbodies and associated riparian forested areas. The route variation would minimize impacts to the forested areas by collocating the pipeline with the existing right-of-way to reduce fragmentation. This is particularly important on the Morgan's property where the Project route would separate a 2-acre parcel between the two rights-of-way.

Rockies Express stated that they don't believe our route variation offers a clear environmental advantage, although they agree that the route would reduce forest impacts and be collocated with an existing right-of-way for 90 percent of the route. During the public meeting at Greensburg, IN, Ms. Morgan stated she preferred the route variation because it increased the distance of the pipeline from her home. We also believe that it reduces environmental impacts by collocating with an existing easement. Therefore, **we recommend that:**

- **Prior to the start of construction from MP 383.1 to MP 384.0, Rockies Express incorporate into the Project route the route variation for the Morgan property as depicted in appendix J, figure J-8 in this EIS. Rockies Express should file with the Secretary updated alignment sheets.**

3.5.10 Bane and Lecher Variation (MP 385.5 to MP 387.2)

Bob Bane and Betty and Robert Lecher are neighboring landowners in Franklin County, Indiana who wrote several comment letters asking that the pipeline be rerouted north to avoid Walnut Fork Creek. Their primary concern was the proposed crossing of the creek in a highly erodable and flood-prone area. In a letter dated November 7, 2007 the Lechers indicated that the area between MP 386 and MP 387 on their property is designated as a FEMA floodway. During a site visit in January 2008 after heavy rains, we observed Walnut Fork Creek had flooded the roadway and adjacent areas.

Mr. Bane proposed a route variation that would avoid crossing Walnut Fork Creek, alleviating concerns of additional flooding, erosion, and creek bed scour. As shown in appendix J, figure J-9, route variation deviates from the Project route at MP 385.5 to go north of a pond and continue east along forested land for 1.1 miles before crossing Pipe Creek and Pipe Creek Road. The route variation then travels southeast for 0.6 mile to rejoin the Project route at MP 387.2. The variation is less than 0.1 mile longer than the Project route and affects roughly the same amount of forested land. The route variation would result in one fewer wetland and waterbody crossing. The route variation would pass within 100 feet of a structure and affect new landowners.

Rockies Express previously proposed mainline valve number 20 at MP 386.6, which is within the floodplain. In their February 11, 2008 filing, they revised the location to an upland area at MP 388.9 near St. Mary's Road. In the Response to Environmental Information Request dated February 08, 2008, Rockies Express expressed its intent to bore under Walnut Fork Creek and the adjacent Pipe Creek Road. A bore would avoid direct impacts to the waterbody and its banks. We believe that a bore construction method, following the Project route, would address the concerns of the Banes and Lechers, without affecting new landowners. Although Rockies Express stated this intent on February 8, 2008, the revised table of waterbodies crossed by the Project (appendix G, table G-2) filed on February 29, 2008 does not reflect this intent. Therefore, **we recommend that:**

- **Prior to the start of construction, Rockies Express file with the Secretary for review and written approval a site-specific construction plan for an extended bore to cross Walnut Fork Creek and Pipe Creek Road.**

3.5.11 White Route Variation (MP 395.1 to MP 395.8)

Laura White of Franklin County, Indiana wrote in opposition to the REX East Project crossing her property. The REX East Project would cross agricultural fields, two waterbodies, and a driveway on her property, as shown in appendix J, figure J-10. It also makes two turns on her property that increase the total impacted area. We found a variation that would minimize the crossing length by 0.1 mile. The route variation would cross agricultural fields, one waterbody, and a driveway on her property.

In its comments on the draft EIS, Rockies Express stated they were considering a modification to the Project route on the White property in order to avoid cultural resource sites. Rockies Express surveyed north of the Project route and found that the cultural resource sites continued in this area. They did not survey the route variation. Because surveys have not been completed that indicate any specific resource impacts associated with our route variation from MP 395.1 to MP 395.8 we are maintaining our recommended variation, because it is environmentally preferable. Therefore, **we recommend that:**

- **Prior to the start of construction from MP 383.1 to MP 384.0, Rockies Express incorporate into the Project route the route variation for the White property as depicted in appendix J, figure J-10 in this EIS. Rockies Express should file with the Secretary updated alignment sheets.**

3.5.12 Schulte, Oetzel, and Stirn Route Variation (MP 401.5 to MP 402.4)

David Oetzel and Harry and Barbara Shulte are neighbors in Franklin County, Indiana and wrote to ask that the pipeline be moved to the southern edge of their property. They expressed concerns for the aesthetics and future use of their land, as well as their neighbor, Mr. and Mrs. Caruso. We identified a route variation that would follow the southern edge of the property boundaries and increase the distance of the Project to residences.

The Project route would bisect 6 parcels of land between MP 401.5 and MP 402.0, and the centerline would encroach within approximately 31 feet of the residence at MP 401.7 (see table 4.8.3-1). The Project route would cross agricultural areas and maintained grass yards. The route variation would turn south from MP 401.5 along the edge of an agricultural field on Mr. Losekamp's property for 0.1 mile and then turn east along the south boundary of the field. It would dip farther south to cross across a residential driveway, and then parallel it to then cross Johnson Fork Road. The route variation would continue east along the southern edge of the properties owned by the Carusos, Mr. Oetzel, and the Schultes. It would rejoin the Project route near MP 402.0 approximately 250 feet from Sharptown Road on the Schulte property. The route variation would stay at least 100 feet from all residences in the area.

In its comments on the draft EIS, Rockies Express stated that easement agreements were already signed with some of the landowners affected by the variation. They further noted that the route variation may require more additional temporary workspace. In a letter dated March 1, 2008, David and Jocelyn Oetzel wrote that they prefer the route be towards the south end of their property as depicted by our variation to minimize impacts to drainage tiles. Ms. Schulte wrote in a letter dated March 2, 2008 stating that she also preferred the route variation despite the signed easement with Rockies Express.

A neighboring property owner, Mr. Stirn, expressed concerns about the Project route affecting a nearby forested parcel from which he has observed bats. In response to this comment, we extended the

route variation described above so that it would minimize clearing of trees in the forested area by aligning the route along the edge of the forest. From MP 402.0 the modified route variation would follow the proposed route for 400 feet and then diverge to orient the pipeline towards the southern edge of the forested parcel at MP 402.2. The variation would then continue east between two forested parcels until it rejoined the project route at MP 402.4 on the east side of the forest. The full Schulte, Oetzal, and Stirn route variation is shown in appendix J, figure J-11.

Mr. Stirn further requested that we consider a route variation that would traverse the empty field north of Sharptown Road. He expressed concern about the Project effect to current and planned residences, and to the well located on his property. Mr. Stirn's variation would affect new landowners who have not had the opportunity to comment. It would also add additional length and acres of disturbed land to relocate the pipeline to the north when the overall alignment travels in a southerly direction in this area. We believe the recommended route variation, shown in figure J-11, adequately addresses the concerns of the Project's impact to residential development. Section 4.3.1 discusses the mitigation measures that would ensure that potable water supplies are not permanently damaged.

The Schulte, Oetzal, and Stirn Route Variation reduces impacts to landuse and forested areas, and is preferred by the affected landowners. However, this route variation affects one new landowner who may not have been notified of the route variation. Therefore, **we recommend that:**

- **Prior to the start of construction from MP 401.5 to MP 402.4, Rockies Express file:**
 - a. **Documentation of consultations with the newly affected landowner(s) regarding an easement agreement for the route variation from MP 401.5 to MP 402.4, as depicted in appendix J, figure J-11 of this EIS; OR**
 - b. **Documentation of consultation with Schulte, Oetzal, and Stirn to identify an alternative route variation on their property which would address their concerns.**

Rockies Express should file with the Secretary for review and written approval by the Director of OEP revised alignment sheets, and a summary of the resources (e.g., forests, wetlands, sensitive species, and cultural resources) affected by the revised route.

3.5.13 Minges and Schoenharl Route Variation (MP 405.1 to MP 405.9)

Landowners Leo Minges and Paul and Muriel Schoenharl of Butler County, Ohio provided written comments on the Project route and the potential impacts to forested areas, waterbodies, and wildlife habitat on their property. We reviewed the Project route and found that it would fragment two forested areas greater than 20 acres connected to other large forested patches nearby. FWS has expressed concern about forest fragmentation and impacts to migratory birds near these MPs (see section 4.5). We found a route variation that would avoid fragmenting these forests and follow the existing TETCO pipeline.

The route variation would deviate from the Project route at MP 405.1 by heading due south and then east along the edge of a forested area for 0.3 mile. It would then head southeast across an agricultural field to join the TETCO pipeline. The route variation would then cross briefly into James and Lisa Diersing's property before crossing into Mark and Jody Stenger's property to follow this existing right-of-way for 0.16 mile through the second forested patch. The route variation would then cross another field before rejoining the Project route across California Road at MP 405.9. The route variation would cross one waterbody and no wetlands while the Project route would cross five waterbodies and one

wetland. The route variation is about 0.15 mile longer than the Project route, but avoids environmentally sensitive areas.

In comments on the draft EIS, Rockies Express stated that Mr. Schoenharl and Mr. Minges had signed easement agreements and prefer the Project route. Rockies Express noted that the route variation would reduce impacts to forested areas and increase collocation with existing easements. However, they believe that the mitigation measures described in their Plan and Procedures would appropriately mitigate these concerns. We spoke with Mr. Minges in February 2008. He said he was not aware of the route variation in the draft EIS until he had already signed the easement agreement.

Also in support of the variation, FWS has identified the forests in this area as an area of concern for forest fragmentation. Because our route variation reduces forest fragmentation by following existing easements, we believe the route variation is environmentally preferable and **we recommend that:**

- **Prior to the start of construction from MP 405.1 to MP 405.9, Rockies Express incorporate into the Project route the route variation for the Minges and Schoenharl properties as depicted in appendix J, figure J-12 in this EIS. Rockies Express should file with the Secretary updated alignment sheets.**

3.5.14 Maus Route Variation (MP 406.2 to MP 406.5)

Edgar and Sarajane Maus are landowners in Butler County, Ohio who wrote in with concerns that the pipeline would cross through their front yard, within 20 feet of their residence. A review of the residential mitigation plans in appendix D shows the pipeline would be within 50 feet of their home. They proposed that the pipeline be placed on the south side of the existing TETCO Pipeline before it enters their property.

As shown in appendix J, figure J-13 the route variation would cross to the south side of the TETCO pipelines in the open field owned by the Lilies near MP 406.2. The route variation would parallel the existing easement to the south until reaching the open field owned by the Schumates to the east of the Maus' home near MP 406.5. The environmental effects would be similar for either route and the length would be the same. Crossing the existing pipelines would temporarily affect more land, but the land is open fields. The route variation would increase the distance from the Project centerline to the Maus' house and increase the distance from the construction work area for their neighbor at MP 406.35. Therefore, **we recommend that:**

- **Prior to the start of construction from MP 406.2 to MP 406.5, Rockies Express incorporate into the Project route the route variation for the Maus property as depicted in appendix J, figure J-13 in this EIS. Rockies Express should file with the Secretary updated alignment sheets.**

3.5.15 Walther Route Variation (MP 413.7 to MP 414.8)

Landowner Hilda Walther submitted comments stating that the Project route would cause undue impact to her farming operations and was rerouted onto her property instead of following the existing TETCO pipeline right-of-way, we evaluated two possible route variations in response to these concerns. Both Walther route variations would depart from the Project route at approximately MP 413.7 and would parallel the Project route for approximately 0.25 mile. After crossing U.S. Route 27, both route variations would head east for approximately 0.25 mile before turning to the north. Walther Route Variation A would head to the north for 0.50 mile and cross Minton Road before rejoining the Project route at approximately MP 414.7. Walther Route Variation B would head to the north for 0.15 mile and would

then turn to the northwest and parallel an existing power line right-of-way for 0.20 mile. Variation B would then turn to the north and follow the existing power line right-of-way across Minton Road before rejoining the Project route near MP 414.8.

Our review indicates that the Walther Route Variations would not result in an environmental advantage relative to the Project route. Both route variations would require constructing the pipeline through forested areas, whereas the Project route would be constructed primarily through agricultural land. Walther Route Variation B also would require constructing the pipeline near an existing cemetery. Additionally, based on a field review of the TETCO pipeline right-of-way, it was determined that the original reroute onto the Walther property was unavoidable because there would not be sufficient space along the TETCO pipeline right-of-way to construct the pipeline. In the years following installation of the TETCO pipeline, a small neighborhood was constructed along the right-of-way making it infeasible to construct an additional pipeline within the right-of-way.

Based on our review and field observations, we find the Project route preferable to the route variations identified near the Walther property.

3.5.16 Storck-Stump and Hesford Route Variation (MP 417.8 to MP 418.4)

Landowner Charlene Storck-Stump wrote to us with concerns that the REX East Project will bisect her rectangular property in Butler County, Ohio. She stated that the Project route would cross under an existing powerline easement on her property and create a strip of land between the pipeline and powerline easements that would be useless for future development. Ms. Storck-Stump is not opposed to the Project crossing her property and proposes a variation that would be parallel to the powerline easement until it reached the northeastern boundary of her property. Her neighbors, John and Linda Hesford, also wrote asking that the pipeline be routed along the existing power line easement. They point out that the Project route deviates from the power line to avoid a large pond near MP 418.4, but as a result cuts through a forested parcel.

As shown in appendix J, figure J-14, the Storck-Stump and Hasford route variation would deviate from the Project route near MP 417.8 where the pipeline would cross to the north of the existing power line. The variation would continue to parallel the north side of the power line easement for 0.3 mile east-northeast, parallel and adjacent to the power line easement in the Storck-Stump property and continue for another 0.1 mile adjacent to the power line easement in a neighboring property. The route variation would rejoin the Project route and avoid the large pond, by turning sharply to the north to follow the Storck-Stump forested lot until reaching the Project route near MP 418.4. When heading north to rejoin the Project route, the route variation would be in the field so as to avoid the removal of trees.

The Storck-Stump and Hesford route variation would measure approximately 250 feet longer than the proposed route. The Project route would fragment the forested parcel by crossing through 0.2 mile of forest. The route variation would maximize the use of existing easements and reduce additional forest fragmentation. For these reasons, we believe the route variation would be environmentally preferable and address these landowner's concerns. However, this route variation affects one new landowner who may not have been notified of the route variation. Therefore, we recommend that:

- **Prior to the start of construction from MP 417.8 to MP 418.4, Rockies Express file:**
 - a. **Documentation of consultations with the newly affected landowner regarding an easement agreement for the route variation from MP 417.8 to MP 418.4, as depicted in appendix J, figure J-14 of this EIS; OR**

- b. Documentation of consultation with Stork-Stump and Hesford to identify an alternative route variation on their property which would address their concerns.**

Rockies Express should file with the Secretary for review and written approval by the Director of OEP revised alignment sheets, and-a summary of the resources (e.g., forests, wetlands, sensitive species, and cultural resources) affected by the revised route.

3.5.17 Chase Route Variation (MP 426.1 to MP 426.3)

We received comments from Ms. Becky Chase with concerns about the removal of trees she believes may be Indiana bat habitat or important wildlife habitat near MP 426. There is a forested patch of property located between Gephart Road, Hawkins Road, and Trenton Road, as indicated by Ms. Chase, although she is not identified as a landowner. In this area, the Project route follows along an existing power line until it reaches the forested area. The route deviates from the power line right-of-way to avoid residences at the corner of Hawkins Road and Gephart Road by turning east and bisecting the small forested plot. We have identified a small route variation that would avoid the forested area.

As shown in appendix J, figure J-15, the Chase route variation would deviate from the route at MP 426.1 by turning to the northeast to cross in an agricultural field far enough away from the forested patch as to not require tree removal. It would then cross Gephart Road and run south in another agricultural field to rejoin the Project route at MP 426.3. The Project route would cross 0.1 mile of forested land and less than 0.1 mile of agricultural land. The route variation would be nearly 0.2 mile long, cross only agricultural land, and avoid this forested patch. Therefore, **we recommend that:**

- **Prior to the start of construction from MP 426.1 to MP 426.3, Rockies Express incorporate into the Project route the Chase route variation, as depicted in appendix J, figure J-15 in this EIS. Rockies Express should file with the Secretary updated alignment sheets.**

3.5.18 Forman Route Variation (MP 441.3 to MP 442.5)

John Forman, the owner of the Hunt-Forman Farm in Franklin County, Ohio wrote in with concerns about impacts to his farm which is listed on the National Register of Historical Places (NRHP). The Hunt-Forman Farm has both agricultural and architectural significance. It is associated with the development of breeding techniques for the Poland China breed of swine and is a prime example of 19th century architecture. Mr. Forman expressed concerns that the proposed route would bisect his farm, interfering with the contributing landscape and jeopardizing the farm's overall historic character.

Mr. Forman proposed a route variation which avoids his historic property. As shown in appendix J, figure J-16, the variation would diverge from the Project route at MP 441.3 to travel east and slightly north for approximately 1 mile, crossing mostly agricultural land and a 0.1 mile patch of forest before heading north along property owned by the Warren County Park District and rejoining the Project route at MP 442.52. This variation is identified as "Forman's Variation" in figure J-16.

We identified a revision of Mr. Forman's proposed variation to reduce land use impacts while maintaining a southerly route to avoid the farm. Our revised Forman variation also diverges from the Project route at MP 441.3 and travels to the northeast for 0.5 mile, north of Forman's Route Variation, to cross State Road 741. It then travels for 0.4 mile along the dividing line between two cultivated fields and traverses 0.1 mile of forested land. Our modification turns sharply to the north to parallel the outside of Forman's eastern property boundary before rejoining the Project route at MP 442.5. This variation is

identified as “Revised Forman Variation A” in figure J-16. As shown in Table 3.5.17-1, Variation A is

Environmental Factor	Unit	Project Route	Forman’s Variation	Revised Forman Variation A	Revised Forman Variation B	Source
Total Length <u>a/</u>	miles	1.2	1.4	1.3	1.4	Digital Route
Length Adjacent to Existing Right-of-Way (percent)	mile	0.8 (0.7)	0.0 (0.0)	0.0 (0.0)	0.4 (0.3)	Digital Route
Length on Historic Property	mile	0.5	0.0	0.0	0.7	Alignment Sheets
Cultivated Land Crossed	miles	0.8	1.0	1.0	1.2	Aerial Imagery
Forest Land Crossed	mile	0.2	0.2	0.2	0.2	Aerial Imagery
Residences Within 50 Feet of Construction Work Area	no.	0	0	0	0	Aerial Imagery

a/ All route variations have the same start and end MP along the Project route for comparison of impacts. This may mean that the route variation includes portions of the route in common with the Project route.

0.1 mile longer than the Project route and crosses slightly more cultivated land with no additional forested impacts. The revised variation reduces impacts to neighboring landowners by keeping the right-of-way closer to property boundaries. Although both routes cross the same amount of forested land, the Project route would remove edge forest that is adjacent to the existing easement and Forman’s Variations would affect an unfragmented forested parcel.

Because both of these variations affected new landowners who have not yet had the opportunity to comment on the Project, we identified another route variation within the Hunt-Forman Farm. This variation is labeled “Revised Forman Variation B” in figure J-16. This variation would traverse the farm parallel to the southern boundary hedge row, cross the eastern boundary hedge row to the adjacent field, and then turn to the northeast to rejoin the Project route. This variation would cross 0.2 miles more of the historic property than the Project route, but would only cross one hedgerow rather than three hedgerows as the Project does. This route variation would minimize the long-term visual effect of the Project to the historic properties.

At this time, a determination of effect on this property has not been completed. We recommend in section 4.10.1 that Rockies Express file the assessment of effects and develop a treatment plan, if necessary. Because these variations are environmentally comparable, we do not recommend Rockies Express adopt one at this time. If a treatment plan is necessary that avoids or minimizes impacts, we would likely recommend one of these variations for incorporation into the Project route.

3.5.19 Frye Route Variation (MP 452.7 to MP 453.8)

We received a comment letter from an attorney for landowners Don and Richard Frye in Warren County, Ohio. The Fryes are concerned about the Project’s impact to the water quality and quantity of ground and surface water that service their homes and farms. Rockies Express did not identify a well or spring along the Project route in this area. However, the Project crosses three waterbodies and the Wellhead Protection Area (WPA) for the Village of Waynesville, Ohio at MP 453.5. We identified a route variation that would avoid crossing these waterbodies.

The Project route would cross through agricultural fields and would impact four waterbodies. The Project route is collocated with the TETCO pipelines. As shown in appendix J, figure J-17, the route variation would turn south from the Project route at MP 452.7 to join a power line right-of-way. It follows the power line right-of-way for 1.0 mile until it joins the Project route at MP 453.8. Based on a review of aerial photography, the route variation does not appear to cross any waterbodies. The route variation reduces impacts to water on the property, but may increase impacts to the WPA. However, the potential impacts and risk of spills into the WPA would be minimized by adhering to Rockies Express' Plan and Procedures and SPCC Plan, as described in section 4.3. Section 4.3.1 recommends that Rockies Express file consultations with applicable agencies regarding construction within WPAs.

Rockies Express filed comments stating that the Waynesville WPA is not crossed between MPs 452.7 and 453.8, although table 4.3.1-2, which Rockies Express stated is correct and requires no revisions (filing dated February 25, 2008) states that the Waynesville WPA is crossed for 0.1 mile at MP 453.5. Rockies Express believes that the route variation does not offer a clear environmental advantage. However, we believe that collocation with the power line right-of-way would be environmentally preferable, and therefore, **we recommend that:**

- **Prior to the start of construction from MP 452.7 to MP 453.8, Rockies Express incorporate into the Project route the Frye route variation as depicted in appendix J, figure J-17 in this EIS. Rockies Express should file with the Secretary updated alignment sheets. This information should also be provided concurrently to the Village of Waynesville, Ohio Waste and Water Division of the Utilities Department, and other applicable agencies regarding construction in the WPA.**

3.5.20 Jones and Mowrey Route Variation (MP 458.1 to MP 458.9)

Landowners Daniel Jones and Dean and Nancy Mowrey of Warren County, Ohio submitted comments expressing concerns about the construction of the pipeline through their properties. The Mowreys, whose property is immediately to the southwest of the Jones property, expressed concerns about the impacts to riparian and forested areas (section 3.4.7 evaluates a major route alternative suggested by the Mowreys). Mr. Jones expressed concerns about Indiana bat habitat and the impacts to a maple trees tapped by Wilson Friendly Maple Farm for syrup production. To minimize these impacts, we identified an evaluated a route variation in the draft EIS that would follow the Jones and Mowrey property boundaries.

As shown in appendix J, figure J-18, the route variation would deviate from the Project route at MP 458.1 (labeled "FERC's Mowrey and Jones Variation" in figure J-18). It would follow the northwestern boundary of the Mowrey property through a forested area for 0.13 mile and then turn to the east and continue through the forested area for another 0.12 mile. It would then depart the forested area and continue to the southeast through an agricultural area along the boundary with the Jones property for 0.5 mile. At Compton Road it would turn sharply to the northeast and parallel the road through an agricultural area for 0.30 mile before rejoining the Project route at MP 458.9.

Both the Project route and the route variation would be constructed primarily through agricultural and forested areas (see table 3.5.20-1). The Project route would be constructed through 0.2 mile of forested area and the route variation would be constructed through 0.25 mile of forested area. Although these differences are relatively minor, the route variation would avoid the forested area on the Jones property, but not forested impacts in general. In Rockies Express' response to the draft EIS, it states that the route variation avoids maple trees on the Mowrey's property, but removes a greater amount of trees on Mr. Jones' property. Rockies Express committed to reducing the construction right-of-way width along the proposed route to 110-foot wide which would avoid 20 productive maples trees.

In response, we modified our route variation that was depicted in the draft EIS to start at the boundary between Mowrey and Jones and run southeast in an agricultural field and then parallel Compton Rd (“Revised Draft EIS Variation” in table 3.5.20-1 and “FERC’s Revised Mowrey and Jones Variation” in figure J-18). This revised route variation would reduce land use impacts and eliminate 0.1 mile of forested crossing on Jone’s property. The impacts on the Mowrey property from the revised route

**Table 3.5.20-1
Comparison of the Jones and Mowrey Route Variations, MP 458.1 to MP 458.9**

Environmental Factor	Unit	Project Route	Draft EIS Variation	Revised Route Variation	Source
Total Length	miles	0.8	1.1	1.0	Digital Route
Cultivated Land Crossed	miles	0.5	0.85	0.8	Aerial Photography
Forest Land Crossed	miles	0.2	0.25	0.2	Aerial Photography

a/ All route variations have the same start and end MP along the Project route for comparison of impacts. This may mean that the route variation includes portions of the route in common with the Project route.

variation would be the same as those from the Project route, but the route variation would be located along the property boundary rather than cutting across it.

We recommend in section 4.8.2 that Rockies Express reduce the construction right-of-way width to 75 feet to protect the maple trees. The revised route variation would further reduce the removal of trees, therefore, **we recommend that:**

- **Prior to the start of construction from MP 458.1 to MP 458.9, Rockies Express incorporate into the Project route the revised route variation for the Mowrey and Jones properties as depicted in appendix J, figure J-18 in this EIS. Rockies Express should file with the Secretary updated alignment sheets.**

3.5.21 Rowe Variation (MP 459.8 to MP 460.0)

Catherine and John Rowe submitted several comment letters to the FERC regarding a reroute that was adopted by Rockies Express after the draft EIS was published. They are concerned about the Project route’s impact to their horse farm operations and a firehouse located across the street from their house. At the time the draft EIS was published, the Project route cut diagonally across one end of their property for 0.2 mile and then continued to the east across Mound Road through residential and agricultural lands. On January 14, 2008, Rockies Express filed 9 route variations including one from MP 460.9 to MP 462.6. The justification for this reroute was to address concerns of Ohio farmers. This change aligned the Project route along the property boundaries of farms from MP 460.7 to MP 461.6. However, the Project route now crosses 0.3 mile through the Rowe’s property by making a turn and traveling the full length of their horse farm. This change would affect all three of the Rowe’s horse pastures. The Project route then crosses Mound Road through the parking lot of the Chester Township Fire Department station. We have identified a route variation which would follow part of the route as it was described in the draft EIS.

As shown in appendix J, figure J-19, Rowe route variation would deviate from the Project route at MP 459.8 to continue in a northeast direction across an agricultural field for 0.16 mile. The route variation would then head east to cross State Road 380 and continue southeast across agricultural fields for 0.1 mile to rejoin the Project route at MP 460.0. The Rowe route variation is 0.30 mile long and

would pass through nearly 61 feet of a forest patch. The Project route is also 0.30 mile long. We find the Rowe route variation to be environmentally preferable, because it reduces impact to the Rowe's horse farm operations and avoids construction on the Chester Township Fire Department's property. Therefore, **we recommend that:**

- **Prior to the start of construction from MP 459.8 to MP 460.0, Rockies Express incorporate into the Project route the Rowe route variation as depicted in appendix J, figure J-19 in this EIS. Rockies Express should file with the Secretary updated alignment sheets.**

3.5.22 Kile Variation (MP 477.1 to MP 477.5)

In comments submitted during the scoping period, landowners David and Ronald Kile expressed concern about the siting of the Project route in the immediate vicinity of their homestead. Specifically, the Project would be constructed within an area that currently supports barns and bins used in their farming operations. The Project route is collocated with multiple TETCO pipelines and is located between their home and a metering station for the TETCO pipeline. In response to their comment, we developed a route variation that would remain on the Kile property, but would avoid the areas of concern.

As shown in appendix J, figure J-20, the route variation is 0.44 mile long, only 0.04 mile longer than the corresponding Project route. The variation would deviate from the TETCO easement approximately 0.2 mile from County Road 14 and turn to the north to parallel the road for 0.20 mile. The variation then turns southeast for 0.2 mile to cross County Road 14 and rejoin the Project route. The Project route crosses agricultural and residential land, while the variation is located completely on agricultural land.

In its comments on the draft EIS, Rockies Express stated that they reached an easement agreement with the landowners. They noted that the variation did not offer significant environmental benefits over the Project route. However, on January 6, 2008 we received a letter from the Kile's indicating they were under the assumption that there was no possibility for a reroute along their property and expressed their support for the variation. Our review indicates that the Kile Route Variation would not result in additional impacts to environmentally sensitive areas or other landowners. Because both routes have similar impacts and the landowner has indicated a preference for the route variation we are maintaining the recommendation and **we recommend that:**

- **Prior to the start of construction from MP 477.1 to MP 477.5, Rockies Express incorporate into the Project route the route variation for the Kile property as depicted in appendix J, figure J-20 in this EIS. Rockies Express should file with the Secretary updated alignment sheets.**

3.5.23 Scothorn and Petty Route Variation (MP 521.9 to MP 523.3)

Tom and Linda Scothorn and Richard and Sandy Petty are neighboring landowners in Pickaway County, Ohio. During the draft EIS comment period, the Scothorns noted concerns about the Project alignment requiring the clearing of a heavily wooded area and impacting springs and streams on their property. Both neighbors state that the current alignment would have a negative effect on their property value and ability to develop in the future. The Project route would cross in close proximity to residences and structures on both properties. The Pettys and Scothorns suggest that the pipeline be rerouted to follow an existing right-of-way north of their land. Although it is the FERC's preference to follow existing rights-of-way, in this case, a number of houses are located near the existing easement making it difficult to site a new pipeline in an adjacent corridor.

A second variation identified by the Scothorns would deviate from the Project route at MP 521.9 and cross to the south of the existing pipeline easements on the property of Linda and Ann Hay. This variation is shown as the “Scothorn and Petty Variation” in appendix J, figure J-21. The reroute would travel east across an agricultural field along the Hay’s northern property boundary for 0.4 mile before entering the Scothorn’s property where it would cross approximately 256 feet of forest edge and continue east across a second crop field. Approximately 0.1 mile after crossing Ringgold Northern Road, the pipeline would turn southeast cutting through the narrowest point of a forested area and waterbody. Then the variation would make a bend around the forested area and travel another 0.2 mile across a field to rejoin the Project route at MP 523.3.

The Scothorn and Petty route variation is 0.1 mile longer than the Project route. Both routes would affect forest and cross a waterbody. However, the route variation avoids crossing a 0.1 mile stretch of heavily wooded area on the east side of the Scothorn’s property. Although the proposed route variation is slightly longer and affects a new land owner, it reduces forested impacts and is considered environmentally preferable. However, this route variation affects two new landowners who may not have been notified of the route variation. Therefore, we recommend that:

- **Prior to the start of construction from MP 521.9 to MP 523.3, Rockies Express file:**
 - a. **Documentation of consultations with the newly affected landowner(s) regarding an easement agreement for the route variation from MP 521.9 to MP 523.3, as depicted in appendix J, figure J-21 of this EIS; OR**
 - b. **Documentation of consultation with Scothorn and Petty to identify an alternative route variation on their properties which would address their concerns.**

Rockies Express should file with the Secretary for review and written approval by the Director of OEP revised alignment sheets, and a summary of the resources (e.g., forests, wetlands, sensitive species, and cultural resources) affected by the revised route.

3.5.24 Noll Route Variation (MP 555.4 to MP 557.3)

In comments submitted during the scoping period, landowner David Noll expressed concerns about the routing of the Project across his property. As shown in figure J-22 in appendix J, the Project route between Ohio Route 383 and Buckeye Valley Road would primarily follow the existing TETCO pipeline right-of-way. This right-of-way, while on Mr. Noll’s and several nearby landowners’ property, crosses through several forested areas that contain steep slopes, wetland areas, and sites where surveys found artifacts used by Native Americans. Mr. Noll expressed concerns that construction along the alignment proposed in the draft EIS would adversely affect these areas as well as impact the septic system and leach field that serves his house. Mr. Noll also expressed concerns that the Project route would temporarily disrupt his cattle-farming operation during construction by impeding livestock access to food and water. We evaluated two possible route variations in response to these concerns.

Along with his comments, Mr. Noll provided a route variation to minimize the impact to these resources. This route variation, called Noll Route Variation A, as shown in figure J-22 in appendix J, was evaluated in the draft EIS along with a second variation, Noll Route Variation B, that we developed to avoid the septic system and leach field but remain on Mr. Noll’s property. In the draft EIS, we concluded that Noll Route Variation A would be environmentally preferable because it would cross 0.3 fewer acres of forested lands, would cross two fewer waterbodies, and would cross 0.04 fewer mile of wetlands than the corresponding segment of the Project route. The draft EIS therefore recommended that Rockies

Express adopt Noll Route Variation A into the Project route. On February 19, 2008, Rockies Express identified a route variation very similar to Noll Route Variation A to avoid the cultural resources that surveys identified on Mr. Noll's property. In their February 29, 2008 filing, Rockies Express stated they would adopt this variation into the Project route. This variation would address many of the environmental concerns stated by Mr. Noll, although surveys indicate it would still cross eligible cultural resource sites. Rockies Express is committed to mitigating adverse effects to all unavoidable eligible sites (see section 4.10.5). Table 3.5.24-1 provides a comparison of the environmental data for all four route variations – the alignment proposed in the draft EIS, Noll Route Variation A, Noll Route Variation B, and the Project route with adopted variation. We agree that the route variation adopted by Rockies Express is environmentally preferable and addresses Mr. Noll's concerns. However, Rockies Express did not submit revised alignment sheets adopting this route variation. Therefore, **we recommend that:**

- **Prior to the start of construction from MP 555.4 to MP 557.3, Rockies Express file with the Secretary revised alignment sheets to incorporate into the Project route the Rockies Express Noll Route Variation (i.e., the proposed route) as depicted in appendix J, figure J-22 in this EIS.**

Table 3.5.24-1 Comparison of the Noll Route Variations, MP 555.4 to MP 557.3						
Environmental Factor	Unit	Alignment Proposed in the draft EIS	Noll Route Variation A	Noll Route Variation B	Project Route (with adopted variation)	Source
Total Length	miles	1.9	2.0	1.9	2.2	Digital Route
Length Adjacent to Existing Right-of-Way (percent)	miles	1.5 (82.0)	0.00 (0.0)	0.64 (33.5)	0.0 (0.0)	Digital Route
Wetlands Crossed	miles	0.04	0.00	0.00	0.00	FWS, 2007f
Waterbody Crossings	no.	4	2	4	1	ESRI, 2005a,c
Cultivated Land Crossed	miles	1.5	1.9	1.7	2.2	USGS, 2001
Forest Land Crossed	miles	0.4	0.1	0.2	0	USGS, 2001
Residences Within 50 Feet of Construction Work Area	no.	0	0	0	0	Aerial Imagery
a/ Noll Route Variation B includes portions that are in common with the Project route to allow for comparison with Noll Route Variation A.						

3.5.25 Shaffer (Steele) Route Variations (MP 623.3 to MP 624.4)

Landowner Donna Shaffer (Steele) of Belmont County, Ohio expressed concern about the impact of pipeline construction on forested areas within her property and the safety of pipeline construction. Her property is situated in an area defined by rolling topography that she indicates is susceptible to landslides. She is concerned that pipeline construction through her property would increase the likelihood of landslides due to vegetation removal on the hills. To avoid these impacts, we identified a route variation that would be south of the Project route and would avoid the forested and hilly areas of concern.

As shown in appendix J, figure J-23, the "FERC's Shaffer Variation" would deviate from the Project route at MP 623.3. It would head to the south across Johnson-Ridge Road and then turn to the southeast through an agricultural field approximately 0.05 mile south of Johnson-Ridge Road. It would continue through this agricultural field for approximately 0.4 mile while paralleling the edge of a forested

area and crossing into Richard Miller’s property. It would then turn to the east and cross through a small forested area and head across Rock River Road. It would continue to the east into David and Emma Yoder’s property while paralleling Johnson-Ridge Road through a partially forested area for 0.4 mile before crossing Somerton Highway and rejoining the Project route at MP 624.4.

In comments received on the draft EIS, we discovered that our route variation would be within 50 feet of a schoolhouse located on Rock River Road and would pass through a wetland area. Rockies Express noted that the route variation would parallel and require clearing trees along Captina Creek. Rockies Express stated that the mitigation measures included in its Plan would address many of the landowner concerns.

We visited this site in January 2008 and also reviewed a route variation proposed by Ms. Shaffer that is north of the Project route called the “Northern Variation.” The northern variation would continue to follow the Project Route for 0.3 mile until MP 623.6 and then head east for 0.2 mile across the back of the Shaffer’s property. Upon reaching the tree line it would turn south for 0.2 mile then cut across a sparsely forested area for 0.4 mile until rejoining the Project route on the east side of Somerton Highway.

The revised FERC route variation would be slightly longer but would have 0.3 mile less forested impacts (appendix J, figure J-23). The northern variation would be the same length as the Project route, but would have more forest impacts than our revised variation. As shown in table 3.5.25-1, the Project route and each of the variations would be constructed primarily through agricultural and forested areas.

Environmental Factor	Unit	Project Route	FERC Variation	Northern Variation	Revised FERC Variation	Source
Pipeline Length	miles	1.1	1.1	1.1	1.2	Digital Route
Total number of Wetlands	no.	0	0	1	1	NWI Data, Alignment Sheets
Waterbody Crossings	no.	2	3	2	2	Alignment Sheets
Forested Land Crossed	mile	0.5	0.2	0.4	0.2	Aerial Photography
Agricultural Lands Crossed	mile	0.6	0.9	0.7	1.0	Aerial Photography
Landowners Affected	no.	4	11	5	5	Alignment Sheets

The Project route would require construction through 0.5 mile of forested area; the revised route variation would require construction through 0.2 mile of forested area. Additionally, the revised route variation would avoid the hilly topography mentioned in Ms. Shaffer’s letter. Because the revised route variation would impact less forested area and avoid the steep topography on Ms. Shaffer’s land, we believe the route variation would be environmentally preferable and address these landowner’s concerns. However, this route variation affects one new landowner who may not have been notified of the route variation. Therefore, **we recommend that:**

- **Prior to the start of construction from MP 623.3 to MP 624.4, Rockies Express file:**
 - a. **Documentation of consultations with the newly affected landowner(s) regarding an easement agreement for the route variation from MP 623.3 to MP 624.4, as depicted in appendix J, figure J-23 of this EIS; OR**

b. Documentation of consultation with Shaffer to identify an alternative route variation on their property which would address their concerns.

Rockies Express should file with the Secretary for review and written approval by the Director of OEP revised alignment sheets, and-a summary of the resources (e.g., forests, wetlands, sensitive species, and cultural resources) affected by the revised route.

3.5.26 Residences at MP 384.3 and 384.4

The REX East Project route would pass in very close proximity to two residences at MP 384.3 and MP 384.4. Near MP 384, the Project route would cross Stacey Road and travel in a straight line through two houses and small forested patches. In the draft EIS a variation was proposed to distance pipeline construction from the residences at these mileposts. The variation, labeled the “FERC’s MP 384 Variation” in figure J-24 in appendix J shifted the route to the south side of Stacey Road onto cultivated fields without additional environmental impacts. This route variation is 0.2 mile long.

In the response to the FERC’s environmental information request dated February 8, 2008, Rockies Express identified a route variation, similar to our route variation located along the south side of Stacey Road, but with fewer pipe turns. Rockies Express’ route variation (labeled “REX’s Revised MP 384 Variation” in appendix J, figure J-24) would diverge from the Project route at MP 383.9, cross State Road 229, and travel southeast for 0.3 mile across agricultural land on Myra and Robert Ripperger’s property. The variation would then travel east for 0.4 mile to cross Marshall Road and rejoin the Project route at MP 384.4. The variation and corresponding segment of the Project route are both 0.7 mile long. The Rockies Express route variation would cross 284 feet less of forested land, affect two fewer landowners, and avoid residences within 50 feet of the right-of-way. Rockies Express’ proposed variation is preferable to FERC’s route variation because it has fewer pipe turns which require additional temporary workspaces. Rockies Express committed to adopting this route variation, but has not filed new alignment sheets. Also, the route variation would need to be revised to start where the recommended Morgan variation ends near MP 384.0. This change would avoid a crossing of a small forested area. Therefore, **we recommend that:**

- **Prior to the start of construction from MP 384.0 to MP 384.4, Rockies Express incorporate into the Project route the REX’s Revised MP 384 Variation for residences at MP 384.3 and MP 384.4 as depicted in appendix J, figure J-24 in this EIS. This route variation should be similar to that shown in the February 19, 2008 filing, but start at MP 384.0. Rockies Express should file with the Secretary updated alignment sheets.**

3.5.27 McCarty Route Variations or House at MP 446.8 (MP 446.5 to MP 447.4)

Jeff and Maureen McCarty of Warren County, Ohio wrote in to express concerns about the proximity of the pipeline to their residence and their general opposition to construction on their property. In the draft EIS, we identified two possible route variations to shift the pipeline either north or south to distance the pipeline construction from the McCarty home by over 100 feet. These are shown as the “FERC’s Northern Variation” and the “FERC’s Southern Variation” in appendix J, figure J-25.

In the Rockies Express filing dated February 19, 2008 Rockies Express, in consultation with affected landowners, identified a route variation that would collocate with an existing right-of-way. This variation would deviate from the Project route at MP 446.4 just before Weisenberger Road and head southeast for 0.4 mile crossing a small forested area and then turn northeast following an existing pipeline right-of-way for another 0.6 mile to rejoin the Project route at MP 447.4. We modified this variation to further minimize environmental impacts. Our variation of the Rockies Express route variation shown as

the “FERC’s Revised McCarty Variation in figure J-25, would diverge from the Project route at MP 446.5 on Anna M. Vonderhaar’s property and cross Weisenberger Road to travel southeast across the McCarty’s agricultural field for 0.18 mile. The variation would differ from Rockies Express’ route variation by paralleling the southern property boundary along the inside of a tree line that separates two farmed fields for approximately 295 feet before following the existing right-of-way to the northeast through agricultural land on Mr. John Sulfsted’s property for 0.6 mile. The variation would rejoin the Project route at MP 447.4.

Both the route variation and the Project route are approximately 1.0 mile in length and would follow existing rights-of-way (table 3.5.27-1). Rockies Express’ route variation would cross 734 feet of forest whereas our revised variation would cross 156 feet of forested land. In comparison, the Project route would cross 2,334 feet of forest. Both variations would place the pipeline approximately 400 feet from the McCarty residence.

Environmental Factor	Unit	Project Route	Draft EIS Northern Variation	Draft EIS Southern Variation	Rockies Express Reroute	FERC Variation of Rockies Express Reroute	Source
Pipeline Length	miles	0.87	0.95	0.99	1.0	0.94	Digital route
Total number of Wetlands	no.	1	0	1	1	1	NWI Data, Alignment Sheets
Waterbody Crossings	no.	2	2	2	2	2	Alignment Sheets
Forest Land Crossed	feet	2,334	1,505	1,482	734	156	Aerial Photography
Agricultural Land Crossed	feet	2,731	2,282	3,003	4,286	4,250	Aerial Photography
Landowners Affected	no.	5	5	5	5	5	Alignment Sheets

In the February 19, 2008 filing, Rockies Express stated they would adopt their route variation, but it is not included in the revised alignment sheet. Further, our revised route variation would further reduce environmental impacts. Therefore, **we recommend that:**

- **Prior to the start of construction from MP 446.5 to MP 447.4, Rockies Express incorporate into the Project route the FERC’s Revised McCarty Variation for the McCarty’s property as depicted in Appendix J, figure J-25 in this EIS. Rockies Express should file with the Secretary updated alignment sheets And provide a landowner notification package to the newly affected landowner(s).**

3.6 ABOVEGROUND FACILITY SITE ALTERNATIVES

We considered alternative aboveground site locations for compressor and meter stations to avoid or minimize impacts to forested land, wetlands, and waterbodies, and to locate the facility as far as practicable from noise-sensitive areas (NSAs). The location of aboveground facilities should also consider the presence of suitable access roads and the location of ancillary facilities, such as electric distribution lines. For most of the compressor and meter stations, the Project compressor and meter

station sites are on agricultural land, far from NSAs and residential developments, and would not adversely affect sensitive environmental resources as discussed in section 4.

In filings dated September 17, 2007 and September 28, 2007, Rockies Express changed the locations of the following aboveground facilities: (1) the Bainbridge Compressor Station near MP 279.8 in Putnam County, Indiana; (2) the Hamilton Compressor Station near MP 435.6 in Butler County, Ohio; (3) the Chandlersville Compressor Station near MP 575.0 in Muskingham County, Ohio; and (4) the Clarington Meter Station at MP 640.1 in Monroe County, Ohio. Each of these changes involved minor relocations of the aboveground facility locations, along with corresponding minor changes to the pipeline routes. None of the changes were made for environmental reasons. All of the changes have been incorporated into the proposed action evaluated in this EIS.

Of the seven compressor stations proposed for the Project, we received landowner comments on two locations: the Hamilton and Bainbridge Compressor Stations. For the other five sites, we did not receive any landowner comments or identify any significant issues which would require further evaluation of alternative locations. The change made to the Hamilton Compressor Station location both before and after the draft EIS was published, is evaluated further below in order to address landowner comments that we received on the original proposed location. The change to Bainbridge Compressor Station site is also discussed below, as are two alternative locations for the site added in response to landowner concerns about potential noise impacts from operation of the station.

3.6.1 Hamilton Compressor Station Site Alternatives

We conducted further evaluation of the Hamilton Compressor Station based on several concerns by landowners near Hamilton. In their April 2007 application, Rockies Express proposed to locate the Hamilton Compressor Station near MP 443 (MP 443 Site). In a subsequent filing prior to the publication of the draft EIS in September 2007, Rockies Express proposed a revised location at the AK Steel property (AK Steel Site). Rockies Express revised the location again on January 4, 2008 due to a Consent Decree issued by the EPA for the AK Steel property. Rockies Express relocated the Hamilton Compressor station to its proposed site near MP 447 called the New Bern Site.

As shown in figure 3.6.1-1, the New Bern Site is approximately 1.5 miles to the east of the AK Steele Site, and approximately 2.0 miles east from the MP 443 Site and is adjacent to Interstate 75. The nearest residence would be 0.4 mile away. In contrast, the nearest residence to the AK Steel Site would be 0.5 mile away. The MP 443 Site would have been in a residential area located 0.25 mile from the nearest residence. Many landowners, including Mary Detcher, submitted comments expressing concern about the proximity of the MP 443 Site to residential areas.

As discussed further in section 4.11.2, operation of the proposed Hamilton Compressor Station at New Bern would comply with the FERC's 55 dBA L_{dn} noise limit at the nearest NSA and so would not result in a significant noise impact. Operation of the compressor station at the AK Steel Site location would increase existing noise levels at NSAs by less than 1 dBA. This increase would not result in a significant noise impact.

Table 3.6.1-1 shows the environmental considerations of each site. The New Bern Site would encompass approximately 19.3 acres, of which approximately 16.3 acres are agricultural land, 1.8 acres are forested land, and 1.2 acres are commercial land. In contrast, the AK Steel Site would encompass approximately 11.9 acres, of which approximately 11.8 acres are agricultural and 0.1 acres are forested. The Alternative Hamilton Compressor Station at MP 443 Site would have encompassed approximately 15.2 acres of agricultural, forested, and developed land.

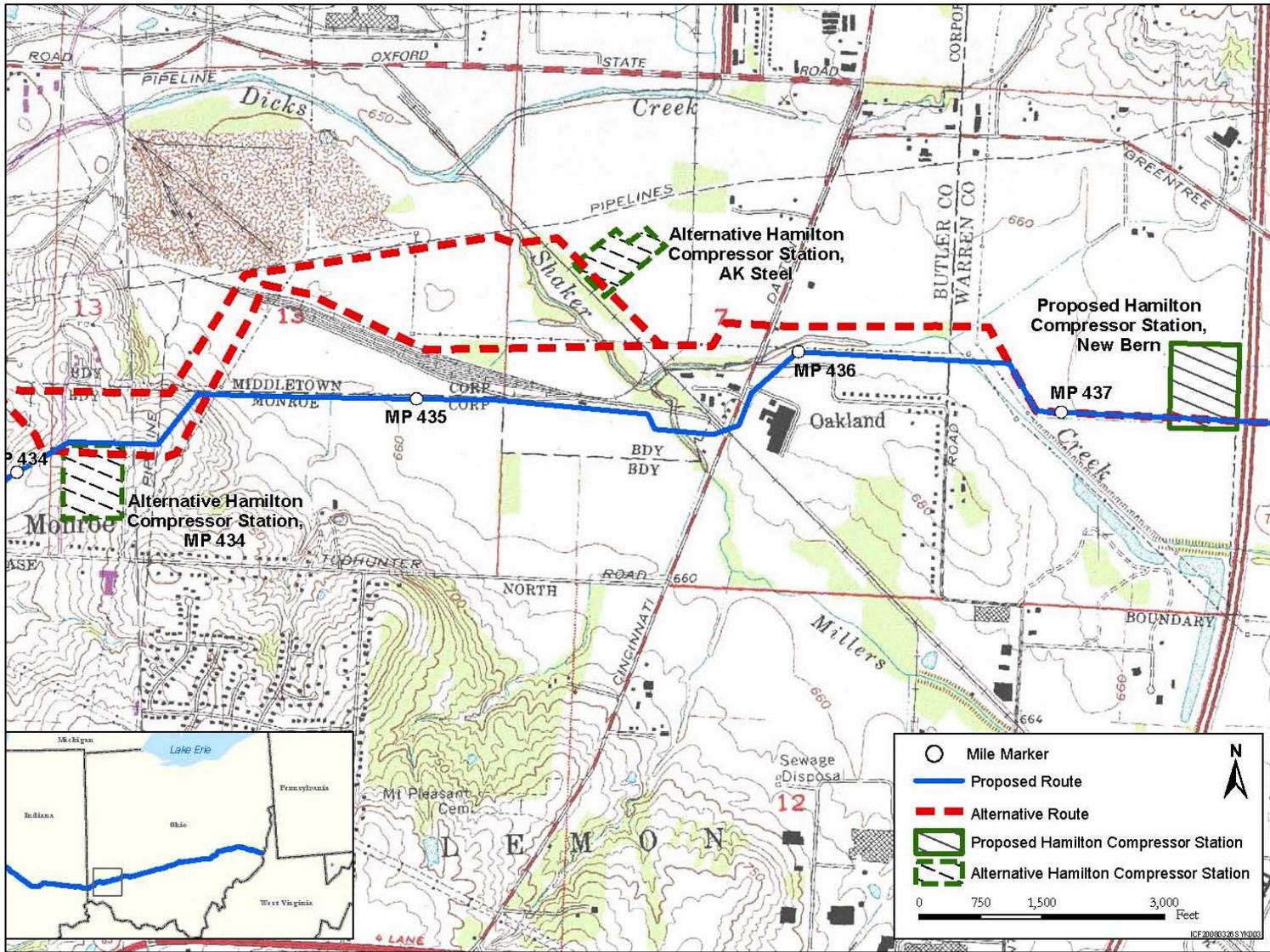


Figure 3.6.1-1
Hamilton Compressor Station Alternatives

Environmental Factor	Unit	Proposed Site (New Bern)	MP 443 Site	AK Steel Site	Source
Footprint Size	acres	19.3	14.0	11.9	Digital data
Total number of NWI Mapped Wetlands	no.	1	0	0	NWI Data
Wetland Area On Site	acres	2.5	0	0	NWI Data
Waterbodies Affected	no.	1	0	0	ESRI, 2005a, b; Alignment Sheets
Agricultural Lands Affected	acres	16.3	13.7	11.8	LULC Data, Alignment Sheets
Forest Land Affected	acres	1.8	0.3	0.1	LULC Data, Alignment Sheets
Commercial Land Affected	acres	1.2	0	0	LULC Data, Alignment Sheets
Landowners Affected	no.	1	1	1	Alignment Sheets

The proposed Hamilton Compressor Station at New Bern contains a wetland (2.5 acres in size) and a waterbody, but is in an area of flat topography that would require few changes to land contours to accommodate construction. In contrast, the AK Steel Site does not have any known sensitive areas within 0.5 mile, and, based on field observations, is sufficiently set back from the nearest road and would be shielded by an existing stand of trees, and is in an area of flat topography. The Alternative Hamilton Compressor Station at MP 343 Site would have been located in a hilly area that would have required more substantial grading and topographic changes to accommodate the station and related access than the other sites.

Although there is some environmental advantage to the AK Steel Site, the Consent Decree represents an unknown environmental risk. Thus, we agree with the proposed New Bern Site location because it addresses resident concerns and is located away from residential areas.

3.6.2 Bainbridge Compressor Station Site Alternatives

We conducted additional analysis of the Bainbridge Compressor Station sites based on landowner concerns about the proximity of the proposed locations to NSAs (which include houses). We analyzed the original location proposed by Rockies Express near MP 279.8 and the new location proposed by Rockies Express near MP 277.3. Based on comments received on the newly proposed location, we analyzed two alternative locations: one approximately 1.3 miles northwest of the new proposed location near MP 276 and a second approximately 3 miles east of the original proposed location near MP 282.6. Of the four locations, only the original location would not be located along the current Project route. It would be located less than 0.10 mile south of the current Project route. The other three locations would not require any reroute of the pipeline in order to construct the compressor station.

As shown in figure 3.6.2-1, the original proposed location near MP 279.8 would have been located in a relatively flat, predominantly agricultural area that would have been partially shielded from the surrounding community by a forested area to the south and east of the proposed site. The new proposed location near MP 277.3 would also be located within a relatively flat, agricultural area, but would not be shielded by any nearby forested areas. The alternative location near MP 276 would be located in a setting similar to the new proposed location. It would be located in a relatively flat, agricultural area that would be largely unshielded from the surrounding community. Although both this alternative location and the new proposed location would have the potential to affect the local viewshed, the implementation of mitigation measures, such as planting trees for visual and noise screening would



Figure 3.6.2-1
Bainbridge Compressor Station Alternatives

minimize the impacts. The alternative location near MP 282.6 would be located in an agricultural and forested area that would be shielded partially in most directions by an existing forested area. This alternative location is the only site that may require clearing of forested area; approximately 2.6 acres would be located within the project site boundary.

The major distinction between the four sites would be their proximity to NSAs. The original proposed location would have been located approximately 1,100 feet from one NSA and 1,700-1,800 feet from an additional four NSAs. The new proposed location would be within 900 to 1,300 feet of four NSAs and within 2,200 to 2,800 feet of an additional six NSAs. The alternative location near MP 276 would be within 1,460 feet of two NSAs; 1,980 feet of a third NSA; and 3,220 feet of a fourth NSA. The alternative location near MP 282.6 would be approximately 1,000 feet from one NSA; 1,300 to 1,600 feet from four NSAs; and 1,900 to 2,100 feet from six NSAs. However, we would expect that the impacts to these NSAs would be lessened by the forested area that lies in between the proposed site and all of the NSAs. As discussed in more detail in section 4.11.2, operations of the Bainbridge Compressor Station at the proposed new location are expected to comply with the FERC noise limit at each of these NSAs.

The four locations would differ in their required access road lengths and locations. All four access roads would be constructed through agricultural areas. The original location would require a 0.04 mile permanent access road from the compressor station to North Washington Street. The new proposed location would require that a 0.1 mile permanent road be built from the compressor station to North County Road 25W. The alternative location near MP 276 would require that a new permanent road approximately 0.5 mile in length be built from the compressor station to U.S. Highway 36. The alternative location near MP 282.6 would require a 0.5 mile permanent access road to County Road 600 East. Although the access roads for each location would vary in length, the impacts associated with traffic increases would be negligible. Therefore, we do not believe this difference in access roads significantly favors one location over the other.

In the draft EIS, we asked Rockies Express to provide updated resource analyses for the alternative compressor station sites at MP 276 and MP 282. Rockies Express also filed information on February 19, 2008 stating that these locations were not feasible because the increased distance between either the alternative and other compressor stations could not be supported. Due to engineering constraints, these alternatives are not recommended. The Project incorporates the new location proposed by Rockies Express near MP 277.3.

3.7 CONCLUSIONS

Table 3.7-1 summarizes all of the route variations that were recommended to be incorporated into the Project route. We identified 27 route alternatives or variations to consider in detail. Of those, we recommend 22 to be incorporated into the Project route, three of which Rockies Express has agreed to adopt in previous filings. These route variations were recommended to further avoid or minimize impacts to important environmental resources or minimize impacts to landowners. Together the route variations would add less than 1.4 mile to the Project length but would reduce forest impacts by approximately 0.9 mile crossed. A full discussion of each variation and alternative can be found above in sections 3.5.

Table 3.7-1				
Summary of Route Variations Recommended for Incorporation into the Project Route				
Route Variation/ Alternative	Milepost	County, State	Summary	Change in Length (miles)
McCarroll Route Variation; section 3.5.1, appendix J, figure J-1	290.5 to 291.3	Hendricks, Indiana	We determined that no route variation could avoid the forested area; however, a route variation to minimize the impacts to farmed lands was analyzed. This route variation would follow the edge of the farmed area rather than crossing it diagonally.	+0.1
Rogers Route Variation; section 3.5.2, appendix J, figure J-2	300.5 to 301.0	Hendricks, Indiana	We identified a route variation that would avoid bisecting the property diagonally and allow for a larger continuous parcel for residential development.	+ < 0.1
Parker Route Variation; section 3.5.4, appendix J, figure J-4	318.1 to 318.5	Morgan, Indiana	We identified a route variation that would predominantly follow the boundaries of Mr. Parker's fields and is environmentally preferable to Mr. Parker's Variation.	+ < 0.1
Alverson Route Variation; section 3.5.5, appendix J, figure J-5	370.0 to 370.6	Decatur, Indiana	We identified a route variation that should minimize the risk of encountering artifacts by constructing the pipeline within routinely disturbed agricultural areas and avoiding the relatively undisturbed forested areas.	+ 0.1
Brattain Route Variation; section 3.5.6, appendix J, figure J-6	376.3 to 376.8	Decatur, Indiana	We identified a route variation that would parallel the proposed route but increase the distance to two residences. The variation has the same environmental impacts as the Project route, and is preferred by the landowner.	+ < 0.1
Yane Route Variation; section 3.5.7, appendix J, figure J-7	380.4 to 380.6	Franklin, Indiana	We evaluated a route variation that would cross slightly less land on their property than the Project route.	- < 0.1
Morgan Route Variation; section 3.5.9, appendix J, figure J-8	383.1 to 384.0	Franklin, Indiana	We evaluated a route variation that would follow an existing powerline right-of-way and minimize further fragmentation of forested land on the property.	+ < 0.1
White Route Variation; section 3.5.11, appendix J, figure J-10	395.1 to 395.8	Franklin, Indiana	We evaluated a route variation that would shorten the distance across her property by 0.1 mile and avoid crossing one waterbody.	- 0.1
Schulte, Oetzel, and Stirn Route Variation; section 3.5.12, appendix J, figure J-11	401.5 to 402.0	Franklin, Indiana	We developed a route variation that would follow the southern edge of their properties and increase the distance of the Project to residences.	+ 0.1
Minges and Schoenharl Route Variation; section 3.5.13, appendix J, figure J-12	405.1 to 405.9	Butler, Ohio	We analyzed a route variation that would avoid forest fragmentation by following the existing TETCO pipeline easement.	+ 0.2
Maus Route Variation; section 3.5.14, appendix J, figure J-13	406.2 to 406.5	Butler, Ohio	We evaluated a route variation on the property that would distance the pipeline further from the Maus' residence and lessen the burden on their neighbors.	0

Table 3.7-1 (continued)				
Summary of Route Variations Recommended for Incorporation into the Project Route				
Route Variation/ Alternative	Milepost	County, State	Summary	Change in Length (miles)
Storck-Stump and Hasford Route Variation; section 3.5.16, appendix J, figure J-14	417.8 to 418.4	Butler, Ohio	We evaluated a route variation on this property that would reduce forest fragmentation and maximize collocation; therefore, it is considered environmentally preferable.	+ < 0.1
Chase Route Variation; section 3.5.17, appendix J, figure J-15	426.1 to 426.3	Butler, Ohio	We evaluated a route variation in this area that would avoid forested areas with potential Indiana bat or important wildlife habitat.	+ < 0.1
Frye Route Variation; section 3.5.19; appendix J, figure J-17	452.7 to 453.8	Warren, Ohio	The route variation would minimize the concerns on the Frye property, but crosses a Wellhead Protection Area (WPA).	+ 0.3
Jones and Mowrey Route Variation; section 3.5.20, appendix J, figure J-18	458.1 to 458.9	Warren, Ohio	In the draft EIS we evaluated a route variation that would follow the Jones and Mowrey property boundaries. The route variation would avoid all forested areas on the Jones property and minimize impacts on the Mowrey property by following the property boundary. A revised route variation was identified that would reduce land use impacts and forested land crossed.	+ 0.2
Rowe Route Variation; section 3.5.21, appendix J, figure J-19	460.9 to 461.2	Clinton, Ohio	We evaluated a route variation for this property that is considered environmentally preferable because it reduces impacts to the Rowe's horse farm operations and avoids construction on the Chester Township Fire Department's property.	0
Kile Route Variation; section 3.5.22, appendix J, figure J-20	477.1 to 477.5	Fayette, Ohio	We developed a route variation that would avoid an area of concern without adding additional impacts to sensitive environmental areas or other landowners.	+ < 0.1
Scothorn and Petty Route Variation; section 3.4.23, appendix J, figure J-21	521.9 to 523.3	Pickaway, Ohio	We evaluated a route variation that would minimize forested impacts and is therefore considered environmentally preferable.	+ 0.1
Noll Route Variation; section 3.5.24, appendix J, figure J-22	555.4 to 557.3	Perry, Ohio	Rockies Express stated that it would adopt this variation into the Project route. It addresses all environmental concerns identified by the landowner and was developed to avoid cultural resources; however, more surveys are pending.	+ 0.1
Shaffer (Steele) Route Variation; section 3.5.25, appendix J, figure J-23	623.3 to 624.4	Belmont, Ohio	We evaluated a revised route variation to distance the pipeline from a schoolhouse while still avoiding the forested and hilly areas of concern.	+ < 0.1
MP 384 Route Variation; section 3.5.26, appendix J, figure J-24	383.9 to 384.5	Franklin, Indiana	Rockies Express committed to adopting a route variation, similar to our original variation in the draft, EIS which would require less temporary work space and minimize forested land crossed.	0

Table 3.7-1 (continued)

Summary of Route Variations Recommended for Incorporation into the Project Route

Route Variation/ Alternative	Milepost	County, State	Summary	Change in Length (miles)
McCarty Route Variation; section 3.5.27; appendix J, figure J-25	446.5 to 447.4	Warren, Ohio	In the draft EIS we identified two route variations that would distance the pipeline from the McCarty residence. A third variation, identified by Rockies and modified by FERC, would maximize collocation and reduce environmental impacts.	+ < 0.1