

*File Copy*

FHWA-TN-EIS-86-02-F  
FEDERAL HIGHWAY ADMINISTRATION  
REGION IV



DEPARTMENT OF TRANSPORTATION

**FINAL**

***ENVIRONMENTAL  
IMPACT STATEMENT***

PROPOSED KIRBY PARKWAY  
FROM SPLIT OAK DRIVE TO STAGE ROAD  
AND SYCAMORE VIEW ROAD EXTENSION FROM  
MULLINS STATION ROAD TO KIRBY PARKWAY IN  
MEMPHIS, SHELBY COUNTY, TENNESSEE

FHWA-TN-EIS-86-02-F  
Federal Highway Administration  
Region IV

PROPOSED KIRBY PARKWAY  
FROM SPLIT OAK DRIVE TO STAGE ROAD  
AND SYCAMORE VIEW ROAD EXTENSION FROM  
MULLINS STATION ROAD TO KIRBY PARKWAY IN MEMPHIS,  
SHELBY COUNTY, TENNESSEE

FINAL ENVIRONMENTAL IMPACT STATEMENT / SECTION 4(f)  
SUBMITTED PURSUANT TO 42 U.S.C. 4332(2)(c),  
AND 49 U.S.C. 303(c)

U. S. DEPARTMENT OF TRANSPORTATION  
FEDERAL HIGHWAY ADMINISTRATION  
AND  
TENNESSEE DEPARTMENT OF TRANSPORTATION

COOPERATING AGENCY  
U. S. ARMY CORPS OF ENGINEERS

8-21-91

Date of Approval

*Robert A. Radtke, P.E.*  
For FHWA

The following persons may be contacted for additional information concerning this document.

Federal

Mr. Dennis C. Cook  
Division Administrator  
Federal Highway Administration  
249 Cumberland Bend Drive  
Metro Center  
Nashville, Tennessee 37228  
Telephone: (615) 736-5394

State

Mr. Charles E. Bush  
Civil Engineering Manager 2  
Environmental Planning Office  
Tennessee Department of Transportation  
900 James K. Polk Building  
Nashville, Tennessee 37243-0334  
Telephone: (615) 741-3653

The proposed action would result in the construction of two major streets having six lanes on both existing and new location. The project length is approximately 10 miles.

## CHAPTER V

### SECTION 4(F) EVALUATIONS

The Draft Environmental Impact Statement (DEIS) described the proposed project's impacts to three (3) properties which would be covered by Section 4(f) of the Department of Transportation Act of 1966, as amended by Section 138 of the Federal Aid Highway Act of 1968. They were: Whitten Park; the Shelby Forest Trails; and the Shelby Farms Forest Natural Areas. After evaluating the DEIS and the comments received as a result of circulating the document and the public hearing, the preferred alternative was selected. This alternative will avoid all of these Section 4(f) properties except the Shelby Forest Trails. Since the Trails extend through the entire length of the forested area along the Wolf River, it is not possible to avoid them and it is not feasible to go around the Shelby Farms property. It will not be necessary to take any of the trails, however, crossing over them would constitute a use of the 4(f) property.

The preferred alternative will avoid the Shelby Farms Forest Natural Areas by crossing the Wolf River at the Walnut Grove Road Bridge location. All of the other 4(f) properties in Shelby Farms will be avoided. It will also avoid taking any property from Whitten Park since an 80-foot strip was reserved for the proposed improvement.

## 5.1 Section 4(f) Evaluation for the Shelby Forest Trails

### 5.1.1 Statement of Determination

The Tennessee Department of Transportation (TDOT), with funding made available through the Federal Highway Administration (FHWA) is planning for the construction of Kirby Parkway from Split Oak Drive to Messick Road and from Humphreys Boulevard to Stage Road with an extension of Sycamore View Road from Mullins Station Road to Kirby Parkway in Memphis, Shelby County. The length of the project is approximately 10 miles and is located in the East Memphis area (See Figure 1).

There are a number of recreational trails in the bottomland hardwoods which is known as Shelby Farms Forest (See Figure 12). All of the design alternatives under consideration for the proposed project (See Figure 2) would cross these trails. Therefore, they impact recreational facilities, requiring a determination under Section 4(f) of the Department of Transportation Act of 1966, as amended by Section 138 of the Federal Aid Highway Act of 1968.

Section 4(f) declares it "...to be the national policy that special effort should be made to preserve the natural beauty of the countryside and public park and recreation lands, wildlife and waterfowl refuges, and historic sites". Section 4(f) further requires that "...the secretary shall not approve any program or project which requires the use of any publicly owned land from a public park, recreation area, or wildlife and waterfowl refuge of national, state, or local

significance as determined by the federal, state or local officials having jurisdiction thereof, or any land from a historic site of national, state or local significance as so determined by such officials unless: (1) there is no feasible or prudent alternative to the use of such land, and (2) such program includes all possible planning to minimize harm to such park, recreation area, wildlife and waterfowl refuge, or historic site resulting from such use."

#### 5.1.2 Description of the Proposed Action

The portion of the proposed project which impacts the Shelby Forest Trails would be built within a 114-foot right-of-way. It would have six traffic lanes, a raised median and sidewalks with curbs and gutters.

The Preferred Alternative will cross the Wolf River at the existing Walnut Grove Road Bridge. The bridge would have to be widened. This alternative would be bounded to the north by the Shelby Farms Forest Natural Area North and would cross one trail.

The purpose and need for the entire project was discussed in Chapter I. Chapter II contains the description of the complete project which includes alternatives SF-1, SF-2, SF-3, and SF-4.

#### 5.1.3 Description of the Section 4(f) Resource

##### 5.1.3.1 Trail Description

The remnant of a once vast bottomland hardwood forest remains along the margin of the Wolf River as a greenbelt. As the local inhabitants walked in these areas, a

series of trails were created. The quality of these trails vary from crude and difficult to use trails along much of the length of the river to well developed and easily used trails like the ones which are maintained in the Shelby Farms areas.

There are two types of trails (See Figure 12) in Shelby Farms: those used for hiking and bicycling and those used for motorized vehicles such as motorcycles and all terrain vehicles (ATV's). The trails to the south of Walnut Grove Road are for hiking and bicycling while those to the north are used by motorized vehicles.

#### 5.1.3.2 Activities and Usage

The hiking trails, which are located between Germantown Boulevard and Walnut Grove Road are used by individuals as well as organized groups. Some of the groups which use the trails are school groups, church groups, scout troupes, and birding clubs. Some of the trails are relatively flat and are sometimes used by elderly and physically impaired individuals.

The trails provide a resource for a wide range of activities. These activities generally fall into one or both of two categories; recreational and educational. Walking the trails provide exercise and enjoyment of nature to many. Some utilize the habitat around the trails to study and observe the plant and animal life. There is some overnight camping along the trails.

The trails between Walnut Grove Road and Mullins Station Road are utilized by individuals on motorized vehicles, either motorbikes or all terrain vehicles (ATV's).

Although the trails were developed and are maintained by Shelby County, their use is not supervised. No records are maintained as to the number of individuals using the trails. They have, however observed that the spring and fall are the seasons with the highest usage.

#### 5.1.4 Impacts on the Section 4(f) Resource

There were four (4) design alternatives which impact the recreational trails (See Figure 12). These alternatives cross the trails at three (3) different locations. SF-1 (a thru d) alternatives cross the trails through an area known as Shelby Farms Forests. SF-2 (a and b) alternatives cross them at a narrowing of the greenbelt near the landfill. SF-3 and SF-4 (a and b) cross them at the existing Walnut Grove Road location.

Alternatives SF-1 and SF-2 would cross the Wolf River on a new location but SF-3 and SF-4 would cross it at the existing Walnut Grove Road bridge location. Therefore, the noise increase impacts from SF-3 and SF-4 would be less than those for SF-1 and SF-2 because there is already a disturbance due to the existing bridge.

The other impacts are discussed separately by alternative.

#### 5.1.4.1 SF-1 Alternative

The SF-1 alternatives would have crossed the Shelby Farms area through a 413-acre woodland known as the Shelby Farms Forest. This would cause the alignment to cross two (2) hiking trails (See Figure 12). There were four (4) bridge design concepts for this alternative. One of the bridge designs, which was designated the SF-1a alternative, would span the trail nearest the Wolf River, but it would completely block the other trail. The other three (3) bridge designs, designated SF-1b, SF-1c, and SF-1d, would span both trails.

Other than completely blocking a trail, as with SF-1a alternative, the main impact to the trails would be visual. The construction of the project would require the cutting of some of the vegetation which would alter the view from the trails. The bridge itself would also alter the view. While some of the vegetation would regrow, the bridge would remain a permanent alteration of the area.

The construction of the project would cause temporary disruptions in the use of the trails.

#### 5.1.4.2 SF-2 Alternative

The SF-2 alternatives would have crossed the Section 4(f) Resource near the landfill (See Figure 12). At this location, the trails have merged into one trail. This is due to the narrowing of the woodlands at this location.

Both of the alternatives, SF-2a and SF-2b, would have spanned the trail. As with the SF-1 alternatives, the main



impact to the trail would be visual due to the construction of a permanent overhead bridge structure as well as the cutting of vegetation during construction. There would also be construction disruption to the use of the trail.

These alternatives differ by the angle which they cross the trails. The SF-2a alternative crosses at nearly a 90° angle. The SF-2b alternative crosses at a skew angle. This would increase the impact on the trails because the structure would be wider.

#### 5.1.4.3 SF-3 and SF-4 Alternatives

These alternatives would have crossed the Section 4(f) Resource at the existing Walnut Grove Road Bridge location (See Figure 12). This would require the bridge to be widened. There is one trail under the bridge.

The widening of an existing structure would cause less disturbances to the woodland area than the construction of a new bridge. There would; however, be some damage to the vegetation during the construction phase. Disruptions to the use of the trail would also occur during construction.

#### 5.1.5 Avoidance Alternatives

The trails in the woodland on the northern margins of the Wolf River extend beyond the borders of Shelby Farms. However to avoid the trails that are within Shelby Farms, two (2) alternatives were investigated. These alternatives would direct traffic from Kirby Parkway onto proposed Humphreys Boulevard, and then to the existing facilities to the east or west of Shelby Farms.

An alternative to the west of Shelby Farms would require the use of Humphreys Boulevard, Walnut Grove Road, I-240, and I-40 (See Figure 13). An alternative to the east of Shelby Farms would use the proposed Humphreys Boulevard, Germantown Parkway, and I-40 (See Figure 13).

Both alternatives would defeat the purpose of the proposed project (See Section 1.1). Memphis Road Planning is based on the one-mile grid concept, use of either alternative would leave a gap in that system between Humphreys Boulevard and Stage Road. Part of the purpose of the project was to provide a near north-south route which would help relieve traffic problems on the existing transportation system in the vicinity of the project. Using the existing streets would not accomplish this objective. These alternatives would also add to the length of travel and travel time for those using Kirby Parkway.

#### 5.1.6 Measures to Minimize Harm

Cutting of the trees near the Wolf River will be held to the minimum necessary for the bridge construction. The provisions of the Standard Specifications for Road and Bridge Construction will be followed throughout the term of the project construction.

The elimination of bikeways for the proposed project will result in a narrower section crossing the trails. If any trails are blocked or destroyed due to construction, they will be restored to be compatible with the existing trails.

The structure which will be built over the trails will have sufficient clearance for users to pass under them.

#### 5.1.7 Coordination

Initial coordination was sent to various Federal, regional, State, and local agencies and officials on February 1, 1984, for their review and comment. A discussion of the coordination with these agencies and their responses are in Chapter VI. Of those responding to the initial coordination, no comments were offered as to the recreational trails.

After the initial coordination phase was completed the recreational trails were identified as a Section 4(f) resource. Also, there was growing opposition to crossing the woodlands containing the hiking trails. In a response to this, the County has been involved in developing alternate routes through the Shelby Farms area.

In a meeting held on January 29, 1987, the County indicated they wanted to provide for both human and animal movements through the woodland area. They also wanted an underpass for the loop road near the woodlands. The Tennessee Department of Transportation agreed to develop alternatives which provided this. It was also decided not to provide noise walls due to the visual impact, maintenance, additional right-of-way required, and a feeling that the noise impact was not significant.

In a meeting held on October 11, 1988, county officials said that "After all studies have been completed and the results have been presented for public review and comment,

Shelby County will support the alternatives that best meets the need of the community as it relates to traffic and environment".

After completion of the Draft Environmental Impact Statement, it was distributed to various Federal, State, local and private agencies for their review and response. This includes coordination with the Headquarters of the Department of the Interior and those agencies under that Department. In addition, a public hearing was held on December 19, 1988. The results of these activities can be found in section 6.3.

The City of Memphis and the Shelby County Government, which includes the agencies responsible for the various park facilities, had expressed support for the Preferred Alternative.

#### 5.1.8 Preferred Alternative

The Preferred Alternative will cross the Wolf River at the existing Walnut Grove Road Bridge location. It will proceed westward along Walnut Grove Road to a point north of the shooting range where it turns northward toward its connection with Whitten Road. About midway between Walnut Grove Road and Mullins Station Road, Kirby Parkway intersects with the Sycamore View Road extension portion of the alternative (See Figure 2.1).

Since the project will cross the trails at the Walnut Grove Road bridge location, the impact would be less than at

a location which would require a bridge across the Wolf River on new location. This will also require a loss of less forested area than any of the other alternatives considered. This alternative will minimize the adverse impacts to the trails.

The noise levels for this alternative would increase by 13 dBA from 62 dBA to 75 dBA.

#### 5.1.9 EVALUATION

Recreational trails extend the entire length of the Shelby Farms property along the margins of the Wolf River (See Figure 12). The extent of these trails makes it impossible to build a facility through Shelby Farms without crossing them.

As a result, alternatives were developed and studied to either avoid Shelby Farms or to minimize harm to the Section 4(f) property. The alternatives to minimize harm are shown on Figure 12 and those to avoid Shelby Farms are shown on Figure 13.

The alternatives to avoid Shelby Farms were not selected due to the extensive redirection of traffic as well as the increased distance and driving time required to go around the property. The existing facilities are already extensively used and have traffic problems of their own.

Alternative SF-1 was not selected because it crossed another Section 4(f) property, the Shelby Farms Forest Natural Area South. In addition, it would cross two trails

which would require a new bridge to be built over the Wolf River and the trails.

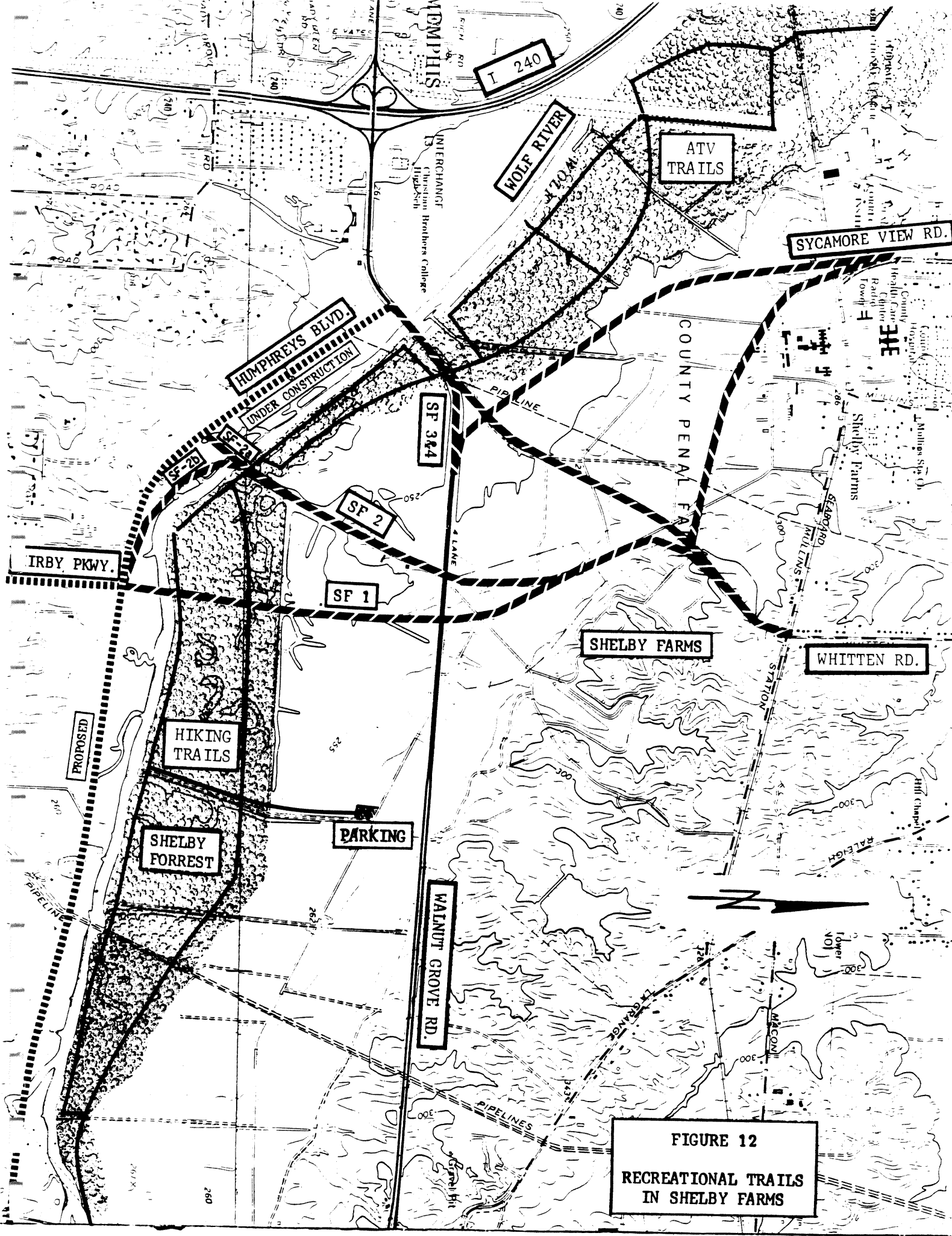
Alternative SF-2 would also have required a new bridge to be built over the Wolf River and the trails. Its alignment would cross an old landfill which could present serious environmental problems. It would require the use of the Perpetual Open Space Conservation Easement, on the south side of the Wolf River, which was required by the Section 401 certification of the 404 permit for Humphreys Boulevard.

Alternatives SF-3&4 were not selected since they would both require the use of another Section 4(f) property, the Shelby Farms Forest Natural Area North.

Like Alternatives SF-3&4, the Preferred Alternative also crosses the Wolf River at the existing Walnut Grove Road Bridge location. However, its alignment was modified to avoid the Shelby Farms Forest Natural Area. This alternative minimizes the impacts to the recreational trails. It will cross only one trail. The crossing will be at a location where the trail is already crossed by a bridge. The additional bridge width necessary to build the preferred alternative would be less than having to build an entire bridge on a new location.

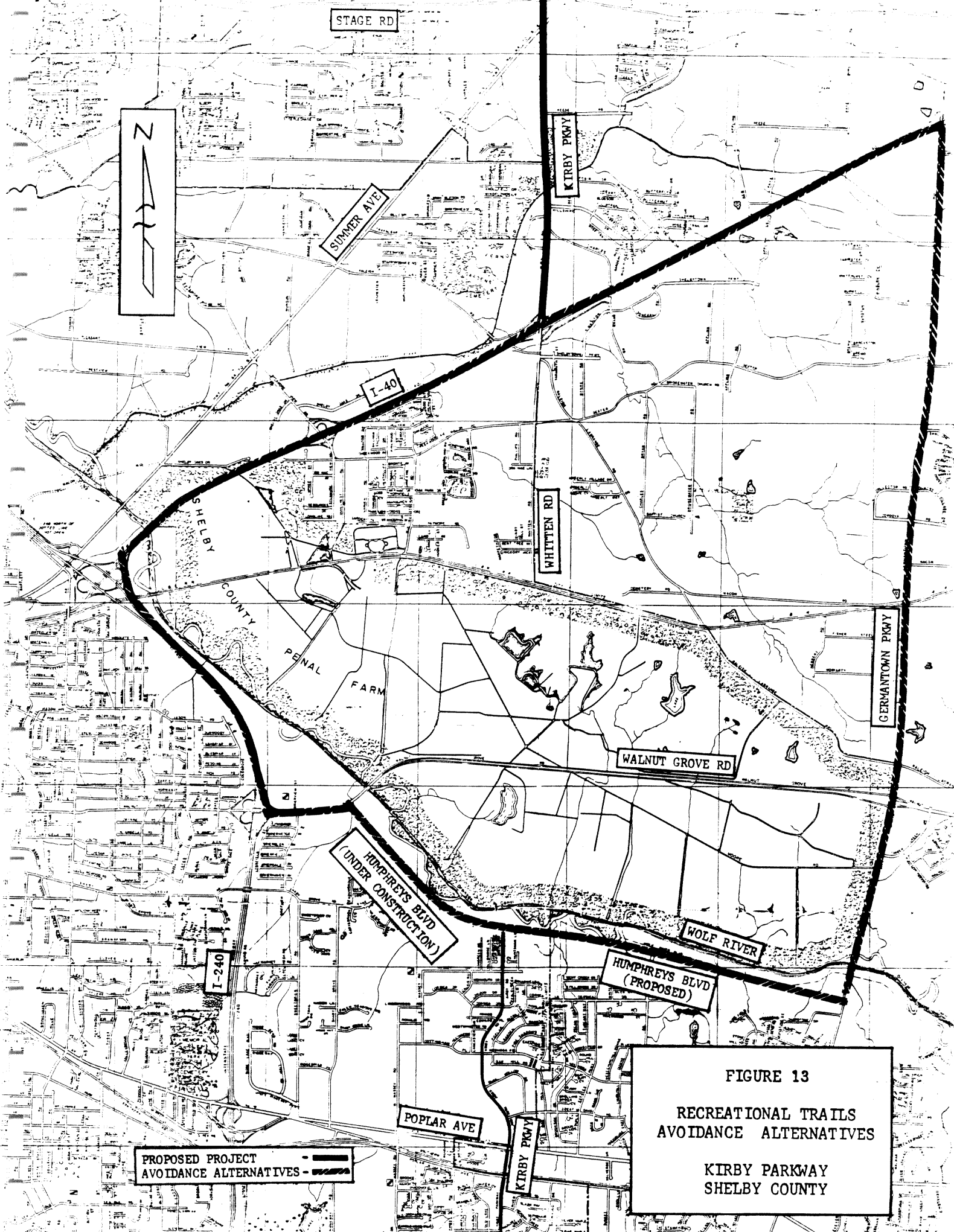
Based upon the above considerations, there is no feasible and prudent alternative to the use of land from the Recreational Trails and the proposed action includes all possible planning to minimize harm to the trails resulting from such use.

**CHAPTER 5 FIGURES**



**FIGURE 12**  
**RECREATIONAL TRAILS**  
**IN SHELBY FARMS**





PROPOSED PROJECT  
 AVOIDANCE ALTERNATIVES -

FIGURE 13  
 RECREATIONAL TRAILS  
 AVOIDANCE ALTERNATIVES  
 KIRBY PARKWAY  
 SHELBY COUNTY